

# Dell OpenManage Port Information Guide

## Version 7.4



# 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

The Dell OpenManage Port Information document helps system administrators and technicians to identify the ports used by the Dell OpenManage systems management software, standard operating system services, and other agent applications.

## Server Build and Update Utility Deprecated

The System Build and Update Utility (SBUU) provides one-to-one deployment and single-server update capabilities in the pre-operating system environment.

Server Build and Update Utility (SBUU) will be deprecated in the future releases. We recommend using Lifecycle Controller2 as replacement for SBUU. You can use the Lifecycle Controller GUI by pressing F10 during Power-On-Self-Test (POST). Lifecycle Controller provides improved capabilities such as:

- Configuring the system hardware.
- Installing an operating system and hypervisor deployment.
- Updating the firmware and BIOS on systems as well as several maintenance and serviceability capabilities in a pre-operating system environment.

The Lifecycle Controller is embedded on all 11G and later servers. No tools or downloads are required to use the capabilities of Lifecycle Controller. For more information, see the following documents available at [dell.com/support/manuals](http://dell.com/support/manuals):

- *Dell Lifecycle Controller 2 Version <Version Number> User's Guide*
- *Dell Lifecycle Controller 2 Web Services Interface Guide*
- *Lifecycle Controller Integration Best Practices*

## IT Assistant Deprecated

Starting Systems Management 7.2, the availability of IT Assistant on the SMTD DVD is removed. Contact service provider to download the web version of IT Assistant associated to Systems Management 7.2 release. IT Assistant will not be available in releases following 7.2.

We recommend to use Dell OpenManage Essentials as replacement for ITA. Dell OpenManage Essentials provides improved capabilities such as:

- Discovering and inventoring the systems.
- Monitoring systems' health.
- Viewing and managing system alerts.
- Performing system updates.
- Viewing hardware inventory and compliance reports.

For more information regarding Dell OpenManage Essentials, contact your service provider.

# Accessing Documents From Dell Support Site

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

- From the following links:
  - For all Systems Management documents — [dell.com/softwaresecuritymanuals](http://dell.com/softwaresecuritymanuals)
  - For Enterprise Systems Management documents — [dell.com/openmanagemanuals](http://dell.com/openmanagemanuals)
  - For Remote Enterprise Systems Management documents — [dell.com/esmmanuals](http://dell.com/esmmanuals)
  - For Serviceability Tools documents — [dell.com/serviceabilitytools](http://dell.com/serviceabilitytools)
  - For Client Systems Management documents — [dell.com/OMConnectionsClient](http://dell.com/OMConnectionsClient)
  - For OpenManage Connections Enterprise Systems Management documents — [dell.com/OMConnectionsEnterpriseSystemsManagement](http://dell.com/OMConnectionsEnterpriseSystemsManagement)
  - For OpenManage Connections Client Systems Management documents — [dell.com/OMConnectionsClient](http://dell.com/OMConnectionsClient)
- From Dell Support site as follows:
  - Go to [dell.com/support/manuals](http://dell.com/support/manuals).
  - In the **Tell us about your Dell system** section, under **No**, select **Choose from a list of all Dell products** and click **Continue**.
  - In the **Select your product type** section, click **Software and Security**.
  - 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**
  - To view the document, click the required product version.
- Using search engines as follows:
  - Type the name and version of the document in the **Search** box.


## Other Documents You May Need

In addition to this guide, you can access the following guides.

- The *Dell Systems Software Support Matrix* provides information about the various Dell systems, the operating systems supported by these systems, and the Dell OpenManage components that can be installed on these systems.
- The *Dell OpenManage Server Administrator Installation Guide* contains instructions to help you install Dell OpenManage Server Administrator.
- The *Dell OpenManage Management Station Software Installation Guide* contains instructions to help you install Dell OpenManage management station software that includes Baseboard Management Utility, DRAC Tools, and Active Directory Snap-In.
- The *Dell OpenManage Server Administrator SNMP Reference Guide* documents the Simple Network Management Protocol (SNMP) management information base (MIB). The SNMP MIB defines variables that extend the standard MIB to cover the capabilities of systems management agents.
- The *Dell OpenManage Server Administrator CIM Reference Guide* documents the Common Information Model (CIM) provider, an extension of the standard management object format (MOF) file. The CIM provider MOF documents supported classes of management objects.

- The *Dell OpenManage Server Administrator Messages Reference Guide* lists the messages that are displayed in your **Server Administrator** home page Alert log or on your operating system's event viewer. This guide explains the text, severity, and cause of each Instrumentation Service Alert message that Server Administrator issues.
- The *Dell OpenManage Server Administrator Command Line Interface User's Guide* documents the complete command line interface for Server Administrator, including an explanation of CLI commands to view system status, access logs, create reports, configure various component parameters, and set critical thresholds.
- The *Integrated Dell Remote Access Controller User's Guide* provides detailed information on configuring and using the iDRAC.
- The *Dell Chassis Management Controller User's Guide* provides detailed information on installing, configuring and using CMC.
- The *Dell Online Diagnostics User's Guide* provides complete information on installing and using Online Diagnostics on your system.
- The *Dell OpenManage Baseboard Management Controller Utilities User Guide* provides additional information about using Server Administrator to configure and manage your system's BMC.
- The *Dell OpenManage Server Administrator Storage Management User's Guide* is a comprehensive reference guide for configuring and managing local and remote storage attached to a system.
- The *Dell Remote Access Controller Racadm User's Guide* provides information about using the racadm command-line utility.
- The *Dell Remote Access Controller 5 User's Guide* provides complete information about installing and configuring a DRAC 5 controller and using DRAC 5 to remotely access an inoperable system.
- The *Dell Update Packages User's Guide* provides information about obtaining and using Dell Update Packages as part of your system update strategy.
- The *Dell OpenManage Server Update Utility User's Guide* provides information about obtaining and using the Server Update Utility (SUU) to update your Dell systems or to view the updates available for any systems listed in the Repository.
- The *Dell Management Console User's Guide* has information about installing, configuring, and using Dell Management Console. Dell Management Console is a Web-based systems management software that enables you to discover and inventory devices on your network. It also provides advanced functions, such as health and performance monitoring of networked devices and patch management capabilities for Dell systems.
- The *Dell OpenManage Essentials User's Guide* has information about installing, configuring, and using Dell OpenManage Essentials. OpenManage Essentials is a hardware management application that provides a comprehensive view of Dell systems, devices, and components in the enterprise's network.
- The *Dell Lifecycle Controller User Guide* provides information on setting up and using the Unified Server Configurator to perform systems and storage management tasks throughout your system's lifecycle. You can use the Unified Server Configurator to deploy an operating system, configure a Redundant Array of Independent Disks (RAID), and run diagnostics to validate the system and attached hardware. Remote Services capabilities enable automated system platform discovery by management consoles and enhance remote operating system deployment capabilities. These capabilities are exposed through the web services based hardware management interface provided by the Lifecycle Controller firmware.
- The *Glossary* for information on terms used in this document.

## 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.

## Ports

The following tables list the ports used by the Dell OpenManage systems management software, standard operating system services and other agent applications.

-  **NOTE:** Ports with the right configuration are necessary to allow Dell OpenManage systems management software to connect to a remote device through firewalls.
-  **NOTE:** The systems management software version mentioned indicate the minimum version of the product required to use that port.
-  **NOTE:** CIM ports are dynamic. See the Microsoft knowledge base at [support.microsoft.com](http://support.microsoft.com) for information on CIM port usage.
-  **NOTE:** If you are using a firewall, you must open all ports listed in the following tables to ensure that Dell OpenManage applications function correctly.

## Dell OpenManage Essentials

### Management Stations

**Table 1. Supported Protocols and Ports on Management Stations**

| Port Number | Protocol    | Port Type | Maximum Encryption Level | Direction | Usage                             |
|-------------|-------------|-----------|--------------------------|-----------|-----------------------------------|
| 25          | SMTP        | TCP       | None                     | In/Out    | Optional e-mail alert action      |
| 162         | SNMP        | UDP       | None                     | In        | Event reception through SNMP      |
| 1433        | Proprietary | TCP       | None                     | In/Out    | Optional remote SQL server access |
| 2607        | HTTPS       | TCP       | 128 - bit SSL            | In/Out    | Web GUI                           |
| 1278        | HTTP        | TCP       | None                     | In/Out    | To launch OME console over HTTP   |

### Managed Nodes

**Table 2. Supported Protocols and Ports on Managed Nodes**

| Port Number | Protocol | Port Type | Maximum Encryption Level | Direction | Usage   |
|-------------|----------|-----------|--------------------------|-----------|---|
| 22          | SSH      | TCP       | 128 - bit                | In/Out    | Contextual application launch – SSH client Remote |

| Port Number | Protocol           | Port Type | Maximum Encryption Level | Direction | Usage   |
|-------------|--------------------|-----------|--------------------------|-----------|---|
|             |                    |           |                          |           | software updates to Server Administrator— for systems supporting Linux operating systems<br>Performance monitoring in Linux systems   |
| 80          | HTTP               | TCP       | None                     | In/Out    | Contextual application launch— PowerConnect console   |
| 135         | RPC                | TCP/ UDP  | None                     | In/Out    | Remote software update transfer to Server Administrator— for systems supporting Windows operating systems<br>Remote Command Line — for systems supporting Windows operating systems |
| 139         | NetBIOS            | TCP       | None                     | In/Out    | Remote Software Update (for Windows operating systems)  |
| 161         | SNMP               | UDP       | None                     | In/Out    | SNMP query management   |
| 443         | Proprietary/ WSMAN | TCP       | None                     | In/Out    | iDRAC/OMSA communication  |

| Port Number | Protocol    | Port Type | Maximum Encryption Level | Direction | Usage   |
|-------------|-------------|-----------|--------------------------|-----------|---|
| 623         | RMCP        | UDP       | None                     | In/Out    | IPMI access through LAN   |
| 1433        | Proprietary | TCP       | None                     | In/Out    | Optional remote SQL server access   |
| 3389        | RDP         | TCP       | 128 - bit SSL            | In/Out    | Contextual application launch— Remote desktop to Windows terminal services  |
| 6389        | Proprietary | TCP       | None                     | In/out    | EMC storage discovery and inventory. Enables communication between a host system (through NaviCLI/ NaviSec CLI or Navisphere host agent) and a Navisphere Array Agent on a Storage system |

## Dell Chassis Management Controller


Table 3. Supported Protocols and Ports

| Port Number | Protocols | Port Type | Maximum Encryption Level | Direction | Usage              | Configurable |
|-------------|-----------|-----------|--------------------------|-----------|--------------------|--------------|
| 20          | FTP       | TCP       | None                     | Out       | FTP data client    | No           |
| 21          | FTP       | TCP       | None                     | Out       | FTP command client | No           |
| 22          | SSH       | TCP       | 128-bit                  | In        | SSH server         | Yes          |

| Port Number | Protocols | Port Type | Maximum Encryption Level | Direction | Usage                          | Configurable |
|-------------|-----------|-----------|--------------------------|-----------|--------------------------------|--------------|
| 23          | Telnet    | TCP       | None                     | In        | Telnet server                  | Yes          |
| 25          | SMTP      | TCP       | None                     | Out       | SMTP client                    | No           |
| 53          | DNS       | TCP       | None                     | Out       | DNS client                     | No           |
| 67*         | DHCP      | UDP       | None                     | Out       | DHCP client                    | No           |
| 68*         | DHCP      | UDP       | None                     | In        | DHCP client                    | No           |
| 69          | TFTP      | UDP       | None                     | Out       | TFTP client                    | No           |
| 80          | HTTP      | TCP       | None                     | In        | HTTP server                    | Yes          |
| 161         | SNMP      | UDP       | None                     | In        | SNMP Agent (server)            | No           |
| 162         | SNMP      | UDP       | None                     | Out       | SNMP trap client               | No           |
| 443         | HTTPS     | TCP       | 128-bit                  | In        | HTTPS server                   | Yes          |
| 514         | Syslog    | TCP       | None                     | Out       | Syslog client                  | Yes          |
| 636         | LDAP      | TCP       | SSL                      | Out       | LDAPS, Active Directory client | Yes          |
| 3269        | LDAP      | TCP       | None                     | Out       | Active Directory client        | No           |

\* When a DHCP client connects to a DHCP server, the source port is 68 and the destination port is 67. When the DHCP server responds to the DHCP client, the source port is 67 and destination port is 68. The CMC acts as a DHCP client.

## OpenManage Integration for VMware vCenter

 **NOTE:** When deploying the Server Administrator agent using the Fix non-compliant vSphere hosts link available from the Compliance window in the Dell Management Center, the OpenManage Integration for VMware vCenter starts the http Client service and enables port 8080 on and releases after ESXi 5.0 to download OMSA VIB and install it. Once the OMSA installation is completed, the service automatically stops and the port is closed.

## Virtual Appliance

Table 4. Supported Protocols and Ports on Virtual Appliance

| Port Number | Protocols  | Port Type | Maximum Encryption Level | Direction | Usage                    | Configurable |
|-------------|------------|-----------|--------------------------|-----------|--------------------------|--------------|
| 21          | FTP        | TCP       | None                     | Out       | FTP command client       | No           |
| 53          | DNS        | TCP       | None                     | Out       | DNS client               | No           |
| 80          | HTTP       | TCP       | None                     | Out       | Dell Online Data Access  | No           |
| 80          | HTTP       | TCP       | None                     | In        | Administration Console   | No           |
| 162         | SNMP Agent | UDP       | None                     | In        | SNMP Agent (server)      | No           |
| 443         | HTTPS      | TCP       | 128-bit                  | In        | HTTPS server             | No           |
| 443         | WSMAN      | TCP       | 128-bit                  | In/Out    | iDRAC/OMSA communication | No           |
| 4433        | HTTPS      | TCP       | 128-bit                  | In        | Auto Discovery           | No           |
| 2049        | NFS        | UDP/TCP   | None                     | All       | Public Share             | No           |
| 4001-4004   | NFS        | UDP/TCP   | None                     | All       | Public Share             | No           |
| 5432        | Postgres   | TCP       | 128-bit                  | All       | PostgreSQL               | No           |
| 11620       | SNMP Agent | UDP       | None                     | In        | SNMP Agent (server)      | No           |

## Managed Nodes

Table 5. Supported Protocols and Ports on Managed Nodes

| Port Number | Protocols | Port Type | Maximum Encryption Level | Direction | Usage                           | Configurable |
|-------------|-----------|-----------|--------------------------|-----------|---------------------------------|--------------|
| 50          | RMCP      | UDP/TCP   | 128-bit                  | Out       | Remote Mail Check Protocol      | No           |
| 51          | IMP       | UDP/TCP   | None                     | N/A       | IMP Logical Address Maintenance | No           |

| Port Number | Protocols | Port Type | Maximum Encryption Level | Direction | Usage   | Configurable |
|-------------|-----------|-----------|--------------------------|-----------|---|--------------|
| 68          | BOOTP     | UDP       | None                     | Out       | Bootstrap Protocol Client   | No           |
| 69          | TFTP      | UDP       | 128-bit                  | All       | Trivial File Transfer   | No           |
| 111         | NFS       | UDP/TCP   | 128-bit                  | In        | SUN Remote Procedure Call (Portmap)                                       | No           |
| 162, 11620  | SNMP      | UDP       | None                     | Out       | Hardware Events   | No           |
| 443         | WSMAN     | TCP       | 128-bit                  | In        | iDRAC/OMSA communication  | No           |
| 443         | HTTPS     | TCP       | 128-bit                  | IN        | HTTPS server  | No           |
| 631         | IPP       | UDP/TCP   | None                     | Out       | Internet Printing Protocol (IPP)  | No           |
| 4433        | HTTPS     | TCP       | 128-bit                  | Out       | Auto Discovery  | No           |
| 2049        | NFS       | UDP       | None                     | All       | Public Share  | No           |
| 4001-4004   | NFS       | UDP       | None                     | All       | Public Share  | No           |
| 5353        | mDNS      | UDP/TCP   |                          | All       | Multicast DNS   | No           |
| 8080        | HTTPS     | TCP       |                          | In        | HTTP server; downloads the OMSA VIB and fixes non-compliant vSphere hosts | No           |

## Dell OpenManage Server Administrator

Table 6. Supported Protocols and Ports

| Port Number | Protocols | Port Type | Version | Maximum Encryption Level | Direction | Usage         | Configurable |
|-------------|-----------|-----------|---------|--------------------------|-----------|---------------|--------------|
| 22          | SSH       | TCP       | 2.0     | 128-bit                  | In/Out    | Remote Server | Yes          |

| Port Number | Protocols | Port Type | Version | Maximum Encryption Level | Direction | Usage  | Configurable |
|-------------|-----------|-----------|---------|--------------------------|-----------|--|--------------|
|             |           |           |         |                          |           | Administrator Command Line (for IT Assistant or Dell OpenManage Essentials). Remote Software Update feature (for Linux operating systems.)                 |              |
| 25          | SMTP      | TCP       | 2.0     | None                     | In/Out    | Optional e-mail alert messages from Server Administrator   | No           |
| 135         | RPC       | TCP/      | 2.0     | None                     | In/Out    | CIM management queries   | No           |
| 135         | RPC       | TCP/      | 2.0     | None                     | In/Out    | Remote Server Administrator Command Line (for IT Assistant or Dell OpenManage Essentials). Remote software update feature (for Windows operating systems.) | No           |

| Port Number | Protocols | Port Type | Version  | Maximum Encryption Level | Direction | Usage  | Configurable |
|-------------|-----------|-----------|----------|--------------------------|-----------|--|--------------|
| 139         | NetBIOS   | TCP       | 2.0      | None                     | In/Out    | Remote Server Administration or Command Line (for IT Assistant or Dell OpenManage Essentials). Remote Software Update (for Windows operating systems.) | No           |
| 161         | SNMP      | UDP       | 1.x, 2.0 | None                     | In/Out    | SNMP query management  | No           |
| 162         | SNMP      | UDP       | 1.x, 2.0 | None                     | Out       | SNMP trap event  | No           |
| 443         | HTTPS     | TCP       | 7.x      | 128-bit SSL              | In/Out    | Remote Management using Web Server to connect to OpenWSMAN/WinRM)  | Yes          |
| 445         | NetBIOS   | TCP       | 2.0      | None                     | In/Out    | Remote software updates to Server Administration (for Windows operating systems.)  | No           |
| 1311        | HTTPS     | TCP       | 1.x      | 128-bit SSL              | In/Out    | Web GUI  | Yes          |

| Port Number | Protocols | Port Type | Version | Maximum Encryption Level | Direction | Usage                            | Configurable |
|-------------|-----------|-----------|---------|--------------------------|-----------|----------------------------------|--------------|
| 1311        | HTTPS     | TCP       | 7.x     | 128-bit SSL              | In/Out    | Server Administration or Web GUI | Yes          |
| 1024-65535  | DCOM      | TCP/UDP   | 2.0     | None                     | In/Out    | CIM/WMI query management         | Yes          |

## Dell OpenManage Storage Management

Table 7. Supported Protocols and Ports

| Port Number | Protocol | Port Type | Version | Maximum Encryption Level | Direction | Usage  | Configurable |
|-------------|----------|-----------|---------|--------------------------|-----------|--|--------------|
| 5554        | TCP      | TCP       | 4.x     | None                     | In/Out    | Personal agent to transfer data between LSI IDE solution server and client | No           |

## Dell OpenManage Client Instrumentation

Table 8. Supported Protocols and Ports

| Port Number | Protocols    | Port Type | Version  | Maximum Encryption Level | Direction | Usage                    | Configurable |
|-------------|--------------|-----------|----------|--------------------------|-----------|--------------------------|--------------|
| 20          | HTTP and FTP | TCP       | 7.x      | None                     | In/Out    | Flash BIOS communication | No           |
| 21          | HTTP and FTP | TCP       | 7.x      | None                     | In/Out    | Flash BIOS communication | No           |
| 80          | HTTP and FTP | TCP       | 7.x      | None                     | In/Out    | Flash BIOS communication | No           |
| 135         | DCOM         | TCP/UDP   | 7.x, 8.x | None                     | In/Out    | Monitoring and           | No           |

| Port Number                          | Protocols | Port Type | Version  | Maximum Encryption Level | Direction | Usage                                    | Configurable |
|--------------------------------------|-----------|-----------|----------|--------------------------|-----------|--|--------------|
|                                      |           |           |          |                          |           | configuration through WMI                |              |
| 135                                  | DCOM      | TCP       | 7.x, 8.x | None                     | Out       | Event transmission through WMI           | No           |
| 161                                  | SNMP      | UDP       | 8.1      | None                     | In/Out    | SNMP query management                    | No           |
| 162                                  | SNMP      | UDP       | 8.1      | None                     | Out       | SNMP trap event                          | No           |
| 1024-65535<br>(Dynamically assigned) | DCOM      | TCP/UDP   | 7.x, 8.x | None                     | In/Out    | Monitoring and configuration through WMI |              |

## Dell OpenManage Baseboard Management Utility

Table 9. Supported Protocols and Ports

| Port Number | Protocols | Port Type | Version | Maximum Encryption Level | Direction | Usage   | Configurable |
|-------------|-----------|-----------|---------|--------------------------|-----------|---|--------------|
| 623         | Telnet    | TCP       | 1.x     | None                     | In/Out    | Accepts incoming Telnet connections                           | Yes          |
| 623         | RMCP      | UDP       | 1.x     | None                     | In/Out    | Basic BMC commands : server status, power up/down, and so on. | No           |
| 623         | RMCP      | UDP       | 1.x     | None                     | In/Out    | Basic BMC commands and console redirection                    | No           |

# Dell Management Console

Table 10. Supported Protocols and Ports

| Port Number                            | Protocol | Port Type | Version     | Maximum Encryption Level | Direction | Usage   | Configurable |
|--|----------|-----------|-------------|--------------------------|-----------|---|--------------|
| 22                                     | SSH      | TCP       | 1.x – 2.0.3 | 128-bit                  | None      | SSH client Remote software updates to Server Administrator—for systems supporting Linux operating systems Performance monitoring in Linux systems | Yes          |
| 23                                     | Telnet   | TCP       | 1.x – 2.0.3 | None                     | In/Out    | Telnet to Linux device  | No           |
| 25                                     | SMTP     | TCP       | 1.x – 2.0.3 | None                     | In/Out    | Optional e-mail alert action from Dell Management Console   | No           |
| 67,68, 69, 4011                        | PXE      | UDP       |             |                          |           | PXE and DHCP  |              |
| 68                                     | UDP      | UDP       | 1.x – 2.0.3 | None                     | In/Out    | Wake-on-LAN   | Yes          |
| 53, 80, 135, 137, 139, 150, 1433, 2500 |          | TCP       |             |                          |           | Symantec Console – Console using a remote computer  |              |
| 80                                     | HTTP     | TCP       | 1.x – 2.0.3 | None                     | In/Out    | Application launch—PowerConnect Console   | No           |
|  | ICMP     |           |             |                          |           | Ping  |              |
| 135, 137, 139, 445                     |          | TCP/UDP   |             |                          |           | Non-HTTP communications (for example, client package)   |              |

| Port Number | Protocol                            | Port Type | Version     | Maximum Encryption Level | Direction | Usage  | Configurable |
|-------------|-------------------------------------|-----------|-------------|--------------------------|-----------|--|--------------|
|             |                                     |           |             |                          |           | download using UNC)  |              |
| 135         | RPC/DCOM                            | TCP/UDP   | 1.x – 2.0.3 | None                     | In/Out    | WMI/CIM management queries   | No           |
| 138         |                                     | UDP       |             |                          |           | NS client installation   |              |
| 161         | SNMP                                | UDP       | 1.x – 2.0.3 | None                     | In/Out    | SNMP query management  | No           |
| 162         | SNMP                                | UDP       | 1.x – 2.0.3 | None                     | In/Out    | SNMP Event Reception and Trap Forwarding                                 | No           |
| 389         | LDAP                                | TCP       | 1.x – 2.0.3 | 128-bit                  | In/Out    | Domain authentication for IT Assistant log on                            | No           |
| 401-402     |                                     | TCP/UDP   |             |                          | In/Out    | Deployment Solution: is used to tickle the Aclient                       |              |
| 443         | Proprietary / Symantec Agent, WSMAN | TCP       | 1.x – 2.0.3 | None                     | In/Out    | EMC storage discovery and inventory, Symantec Agent after installation   | No           |
| 445         |                                     | UDP       |             |                          |           | Non-HTTP communications (for example, client package download using UNC) |              |
| 623         | RMCP                                | UDP       | 1.x – 2.0.3 | None                     | In/Out    | IPMI, WS-MAN, and ASF management   | No           |
| 664         | RMCP                                | UDP       |             |                          | In/Out    | Secure ASF management  | Yes          |
| 1010        | PXE                                 | TCP       |             |                          |           | Deployment Solution: PXE configuration to                                |              |

| Port Number            | Protocol    | Port Type | Version     | Maximum Encryption Level | Direction | Usage   | Configurable |
|------------------------|-------------|-----------|-------------|--------------------------|-----------|---|--------------|
|                        |             |           |             |                          |           | talk with PXE configuration Service   |              |
| 1011                   |             | TCP       |             |                          |           | Monitor Solution  |              |
| 2070-2073, 1758, 1759  | PXE         | UDP       |             |                          |           | Deployment Solution: PXE for TFTP and MFTTP transfer of PXE image   |              |
| 3389                   | RDP         | TCP       | 1.x – 2.0.3 | 128-bit SSL              | In/Out    | Application launch— Remote desktop to Windows terminal services   | Yes          |
| 3829, 4949, 4950, 4951 |             | TCP       |             |                          |           | Used by Symantec Deployment Solutions and PCT Real Time to communicate between PCTWiz and RTDestAgent and to search for RTDestAgent |              |
| 4952                   |             | TCP       |             |                          |           | Deployment Solutions communication used for managing the connection drops   |              |
| 6389                   | Proprietary | TCP       | 1.x – 2.0.3 | None                     | In/Out    | Enables communication between a host system (through NaviCLI/   | No           |

| Port Number  | Protocol | Port Type | Version | Maximum Encryption Level | Direction | Usage   | Configurable  |
|--------------|----------|-----------|---------|--------------------------|-----------|---|---|
|              |          |           |         |                          |           | NaviSecCLI or Navisphere Host Agent) and a Navisphere Array Agent on a storage system |   |
| 8080         |          |           |         |                          |           | Deployment Solutions Web Console  |   |
| 16992        |          |           |         |                          | Out       | AMT management unsecure   | No  |
| 16993        |          |           |         |                          | Out       | AMT management secure   | No  |
| 16994        |          |           |         |                          | Out       | AMT management redirection service unsecure   | No  |
| 16995        |          |           |         |                          | Out       | AMT management redirection service secure   | No  |
| 50120-50124  |          |           |         |                          |           | Task Server   |   |
| 52028, 52029 |          | TCP       |         |                          |           | NS Client Multicast   |   |
| 1024 - 65535 | DCOM     | TCP/UDP   | Unknown | None                     | In/Out    | WMI query management (random port)  | OS - <a href="http://msdn.microsoft.com/enus/library/ms809327.aspx">msdn.microsoft.com/enus/library/ms809327.aspx</a> |

# Dell OpenManage Powercenter

## Management Stations

Table 11. Supported Protocols and Ports on Management Stations

| Port Number | Protocol  | Port Type | Maximum Encryption Level | Direction | Usage                                    |
|-------------|-----------|-----------|--------------------------|-----------|--|
| 6443        | Postgres  | TCP       | None                     | All       | PostgreSQL                               |
| 8643        | HTTPS     | TCP       | 256 bit AES              | In/Out    | Web GUI                                  |
| 25          | SMTP      | TCP       | None                     | In/Out    | E-mail alert action                      |
| 162         | SNMP Trap | UDP       | None                     | In/Out    | SNMP Event Reception and Trap Forwarding |

## Managed Nodes

Table 12. Supported Protocols and Ports on Managed Nodes


| Port Number | Protocol   | Port Type | Maximum Encryption Level | Direction | Usage                 |
|-------------|------------|-----------|--------------------------|-----------|-----------------------|
| 161         | SNMP Agent | UDP       | 56 bit DES               | In/Out    | SNMP query management |
| 443         | WSMAN      | TCP       | 256 bit AES              | In/Out    | Chassis communication |
| 623         | RMCP/RMCP+ | UDP       | 128 bit AES              | In/Out    | IPMI access over LAN  |

## iDRAC7

Table 13. Supported Protocols and Ports

| Port Number | Protocols                | Configurable |
|-------------|--------------------------|--------------|
| 22          | SSH                      | Yes          |
| 23          | Telnet                   | Yes          |
| 25*         | SMTP                     | Yes          |
| 53          | DNS                      | No           |
| 68          | DHCP-assigned IP address | No           |
| 69          | TFTP                     | No           |
| 80          | HTTP                     | Yes          |

| Port Number | Protocols   | Configurable |
|-------------|---|--------------|
| 123         | NTP   | No           |
| 161         | SNMP Agent  | No           |
| 162*        | SNMP trap   | Yes          |
| 443         | HTTPS   | Yes          |
| 445         | Common Internet File System (CIFS)  | No           |
| 623         | RMCP/ RMCP+   | Yes          |
| 636         | LDAP Over SSL (LDAPS)   | No           |
| 2049        | Network File System (NFS)   | No           |
| 3269        | LDAPS for Global Catalog (GC)   | No           |
| 5900        | Virtual Console Keyboard and mouse redirection, Vlrtual Media, Virtual Folders, Remote File Share | Yes          |
| 5985        | Open WS Man   | No           |
| 8155        | GUI Data Server   | No           |

 **NOTE:** SNMP and SMTP ports can be configured, if the firmware version is 1.5x.5x or greater.

## iDRAC6 for Rack and Tower Servers

**Table 14. Supported Protocols and Ports**

| Port Number | Protocols                | Configurable |
|-------------|--------------------------|--------------|
| 22          | SSH                      | Yes          |
| 23          | Telnet                   | Yes          |
| 25          | SMTP                     | No           |
| 53          | DNS                      | No           |
| 68          | DHCP-assigned IP address | No           |
| 69          | TFTP                     | No           |
| 80          | HTTP                     | Yes          |
| 161         | SNMP Agent               | No           |
| 162         | SNMP Trap                | No           |
| 443         | HTTPS                    | Yes          |
| 623         | RMCP/RMCP+               | No           |
| 636         | LDAPS                    | No           |

| Port Number | Protocols                     | Configurable |
|-------------|-------------------------------|--------------|
| 5900        | Virtual Console/Virtual Media | Yes          |
| 3269        | LDAPS for global catalog (GC) | No           |

## iDRAC for Blade Servers

Table 15. Supported Protocols and Ports

| Port Number | Protocols                | Port Type | Version | Maximum Encryption Level | Direction | Usage  | Configurable |
|-------------|--------------------------|-----------|---------|--------------------------|-----------|--|--------------|
| 22          | Secure Shell (SSH)       | TCP       | 1.30    | 128-bit SSL              | In/Out    | Secure CLI management                                      | Yes          |
| 23          | Telnet                   | TCP       | 1.0     | None                     | In/Out    | Optional Telnet-based CLI management                       | Yes          |
| 25          | SMTP                     | TCP       | 1.0     | None                     | In/Out    | Optional e-mail alert messages                             | No           |
| 53          | DNS                      | UDP       | 1.0     | None                     | In/Out    | Dynamic DNS registration of host name assigned within DRAC | No           |
| 68          | DHCP-assigned IP address | UDP       | 1.0     | None                     | In/Out    | DHCP assigned IP address                                   | No           |
| 69          | TFTP                     | UDP       | 1.0     | None                     | In/Out    | Firmware update through Trivial FTP                        | No           |
| 80          | HTTP                     | TCP       | 1.0     | None                     | In/Out    | Redirected to HTTPS  | Yes          |
| 162         | SNMP traps               | UDP       | 1.0     | None                     | Out       | SNMP trap event  | No           |
| 443         | HTTPS                    | TCP       | 1.0     | 128-bit SSL              | In/Out    | Web management GUI   | Yes          |
| 623         | RMCP/RMCP+               | UDP       | 1.0     | 128-bit SSL              | In/Out    | IPMI over LAN  | No           |
| 636         | LDAPS                    | TCP       | 1.0     | 128-bit SSL              | In/Out    | Optional ADS authentication                                | No           |

| Port Number | Protocols                          | Port Type | Version | Maximum Encryption Level | Direction | Usage                                      | Configurable |
|-------------|------------------------------------|-----------|---------|--------------------------|-----------|--|--------------|
| 3269        | LDAPS for global catalog (GC)      | TCP       | 1.0     | 128-bit SSL              | In/Out    | Optional ADS authentication                | No           |
| 3668, 3669  | Virtual Media Service              | TCP       | 1.0     | None-SSL                 | In/Out    | For the Virtual Media transfer             | Yes          |
| 3670, 3671  | Virtual Media Secure Service       | TCP       | 1.0     | SSL                      | In/Out    | For Virtual Media redirection and transfer | Yes          |
| 5900        | Console Redirection keyboard/mouse | TCP       | 1.0     | None-SSL                 | In/Out    | For mouse and keyboard redirection         | Yes          |
| 5901        | Console Redirection video          | TCP       | 1.0     | None-SSL                 | In/Out    | For video redirection                      | Yes          |

## iDRAC6 Enterprise for Blade Servers

Table 16. Supported Protocols and Ports

| Port Number | Protocols | Port Type | Version | Maximum Encryption Level | Direction | Usage                                 | Configurable |
|-------------|-----------|-----------|---------|--------------------------|-----------|---------------------------------------|--------------|
| 22          | SSH       | TCP       | 1.30    | 128-bit SSL              | In/Out    | Secure CLI management                 | Yes          |
| 23          | Telnet    | TCP       | 1.0     | None                     | In/Out    | Optional Telnet-based CLI management  | Yes          |
| 25          | SMTP      | TCP       | 1.0     | None                     | In/Out    | Optional e-mail alert messages        | No           |
| 53          | DNS       | UDP       | 1.0     | None                     | In/Out    | Dynamic DNS registration of host name | No           |

| Port Number | Protocols                          | Port Type | Version | Maximum Encryption Level | Direction | Usage                                      | Configurable |
|-------------|------------------------------------|-----------|---------|--------------------------|-----------|--|--------------|
|             |                                    |           |         |                          |           | assigned within DRAC                       |              |
| 68          | DHCP-assigned IP address           | UDP       | 1.0     | None                     | In/Out    | DHCP assigned IP address                   | No           |
| 69          | TFTP                               | UDP       | 1.0     | None                     | In/Out    | Firmware update through Trivial FTP        | No           |
| 80          | HTTP                               | TCP       | 1.0     | None                     | In/Out    | Redirected to HTTPS                        | Yes          |
| 162         | SNMP trap                          | UDP       | 1.0     | None                     | Out       | SNMP trap event                            | No           |
| 443         | HTTPS                              | TCP       | 1.0     | 128-bit SSL              | In/Out    | Web management CLI                         | Yes          |
| 623         | RMCP/RMCP+                         | UDP       | 1.0     | 128-bit SSL              | In/Out    | IPMI over LAN                              | No           |
| 636         | LDAPS                              | TCP       | 1.0     | 128-bit SSL              | In/Out    | Optional ADS authentication                | No           |
| 3269        | LDAPS for global catalog (GC)      | TCP       | 1.0     | 128-bit SSL              | In/Out    | Optional ADS authentication                | No           |
| 3668, 3669  | Virtual Media Service              | TCP       | 1.0     | Non-SSL                  | In/Out    | For Virtual Media transfer                 | No           |
| 3670, 3671  | Virtual Media Secure Service       | TCP       | 1.0     | SSL                      | In/Out    | For Virtual Media redirection and transfer | No           |
| 5900        | Console Redirection keyboard/mouse | TCP       | 1.0     | Non-SSL                  | In/Out    | For mouse and keyboard redirection         | Yes          |

| Port Number | Protocols                 | Port Type | Version | Maximum Encryption Level | Direction | Usage                 | Configurable |
|-------------|---------------------------|-----------|---------|--------------------------|-----------|-----------------------|--------------|
| 5901        | Console Redirection video | TCP       | 1.0     | Non-SSL                  | In/Out    | For video redirection | Yes          |

## Dell Remote Access Configuration Tool (DRACT)

Table 17. Supported Protocols and Ports

| Port Number | Protocols | Port Type | Version | Maximum Encryption Level | Direction | Usage  | Configurable |
|-------------|-----------|-----------|---------|--------------------------|-----------|--|--------------|
| 443         | HTTPS     | TCP       | 1.0     | 128-bit SSL              | In/Out    | Web management GUI and remote racadm CLI utility | No           |

## Digital KVM

Table 18. Supported Protocols and Ports

| Port Number | Protocols   | Port Type | Version | Maximum Encryption Level | Direction | Usage                              | Configurable |
|-------------|-------------|-----------|---------|--------------------------|-----------|------------------------------------|--------------|
| 2068        | Proprietary | TCP       | 1.0     | 128-bit SSL              | In/Out    | Video redirection – keyboard/mouse | No           |
| 3668        | Proprietary | TCP       | 1.0     | None                     | In/Out    | Virtual Media                      | No           |
| 8192        | Proprietary | TCP       | 1.0     | None                     | In/Out    | Video redirection to client viewer | No           |

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Table 19. Supported Protocols and Ports

| Port Number | Protocols | Port Type | Version | Maximum Encryption Level | Direction | Usage  | Configurable |
|-------------|-----------|-----------|---------|--------------------------|-----------|--|--------------|
| 22          | SSHv2     | TCP       | 1.30    | 128-bit SSL              | In/Out    | Optional Secure Shell (SSH) CLI management                 | Yes          |
| 23          | Telnet    | TCP       | 1.0     | None                     | In/Out    | Optional Telnet CLI management                             | Yes          |
| 25          | SMTP      | TCP       | 1.0     | None                     | In/Out    | Optional e-mail alert messages                             | No           |
| 53          | DNS       | UDP       | 1.0     | None                     | In/Out    | Dynamic DNS registration of host name assigned within DRAC | No           |
| 68          | DHCP      | UDP       | 1.0     | None                     | In/Out    | DHCP assigned IP address                                   | No           |
| 69          | TFTP      | UDP       | 1.0     | None                     | In/Out    | Firmware update through Trivial FTP                        | No           |
| 80          | HTTP      | TCP       | 1.0     | None                     | In/Out    | Web GUI redirected to HTTPS                                | Yes          |
| 161         | SNMP      | UDP       | 1.0     | None                     | In/Out    | SNMP query management                                      | No           |
| 162         | SNMP      | UDP       | 1.0     | None                     | Out       | SNMP trap event  | No           |

| Port Number | Protocols                     | Port Type | Version | Maximum Encryption Level | Direction | Usage  | Configurable |
|-------------|-------------------------------|-----------|---------|--------------------------|-----------|--|--------------|
| 443         | HTTPS                         | TCP       | 1.0     | 128-bit SSL              | In/Out    | Web management GUI and remote racadm CLI utility | No           |
| 623         | RMCP/RMCP+                    | UDP       | 1.0     | 128-bit SSL              | In/Out    | IPMI over LAN                                    | No           |
| 636         | LDAPS                         | TCP       | 1.0     | 128-bit SSL              | In/Out    | Optional ADS authentication                      | No           |
| 3269        | LDAPS for global catalog (GC) | TCP       | 1.0     | 128-bit SSL              | In/Out    | Optional ADS authentication                      | No           |
| 3668        | Proprietary                   | TCP       | 1.0     | None                     | In/Out    | Virtual Media Service                            | Yes          |
| 3669        | Proprietary                   | TCP       | 1.0     | 128-bit SSL              | In/Out    | Virtual Media Secure Service                     | Yes          |
| 5900        |                               | TCP       | 1.0     | 128-bit SSL              | Out       | Console Redirection: keyboard/mouse              | Yes          |
| 5901        |                               | TCP       | 1.0     | 128-bit SSL              | In        | Console Redirection: Video                       | Yes          |

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Table 20. Supported Protocols and Ports

| Port Number | Protocols | Port Type | Version | Maximum Encryption Level | Direction | Usage                           | Configurable |
|-------------|-----------|-----------|---------|--------------------------|-----------|---------------------------------|--------------|
| 22          | SSHv2     | TCP       | 1.30    | 128-bit                  | In/Out    | Optional Secure Shell (SSH) CLI | Yes          |

| Port Number | Protocols  | Port Type | Version | Maximum Encryption Level | Direction | Usage   | Configurable |
|-------------|------------|-----------|---------|--------------------------|-----------|---|--------------|
|             |            |           |         |                          |           | management  |              |
| 23          | Telnet     | TCP       | 1.0     | None                     | In/Out    | Optional Telnet CLI management  | Yes          |
| 25          | SMTP       | TCP       | 1.0     | None                     | In/Out    | Optional e-mail alert messages  | No           |
| 53          | DNS        | UDP       | 1.20    | None                     | In/Out    | Dynamic Domain name server (DNS) registration of the host name assigned within DRAC | No           |
| 68          | DHCP       | UDP       | 1.0     | None                     | In/Out    | DHCP assigned IP address  | No           |
| 69          | TFTP       | UDP       | 1.0     | None                     | In/Out    | Firmware update through Trivial FTP   | No           |
| 80          | HTTP       | TCP       | 1.0     | None                     | In/Out    | Web GUI redirected to HTTPS   | Yes          |
| 161         | SNMP Agent | UDP       | 1.0     | None                     | In/Out    | SNMP query management   | No           |
| 162         | SNMP       | UDP       | 1.0     | None                     | Out       | SNMP trap event   | No           |
| 443         | HTTPS      | TCP       | 1.0     | 128-bit SSL              | In/Out    | Web management GUI and remote RACADM CLI utility                                    | Yes          |

| Port Number | Protocols                    | Port Type | Version | Maximum Encryption Level                | Direction | Usage   | Configurable |
|-------------|------------------------------|-----------|---------|---|-----------|---|--------------|
| 636         | LDAP                         | TCP       | 1.0     | 128-bit SSL                             | In/Out    | Optional Active Directory Services (ADS) authentication | No           |
| 3269        | LDAP for global catalog (GC) | TCP       | 1.0     | 128-bit SSL                             | In/Out    | Optional ADS authentication                             | No           |
| 3668        | Proprietary                  | TCP       | 1.0     | None                                    | In/Out    | CD or diskette virtual media service                    | Yes          |
| 5869        | Proprietary                  | TCP       | 1.0     | None                                    | In/Out    | Remote RACADM spcmp server                              | No           |
| 5900        | Proprietary                  | TCP       | 1.0     | 128bit RC4, Keyboard/mouse traffic only | In/Out    | Console redirection                                     | Yes          |

## DRAC/MC

Table 21. Supported Protocols and Ports

| Port Number | Protocols | Port Type | Version | Maximum Encryption Level | Direction | Usage                          | Configurable |
|-------------|-----------|-----------|---------|--------------------------|-----------|--------------------------------|--------------|
| 23          | Telnet    | TCP       | 1.0     | None                     | In/Out    | Optional Telnet CLI management | Yes          |
| 25          | SMTP      | TCP       | 1.0     | None                     | In/Out    | Optional e-mail alert messages | No           |
| 53          | DNS       | UDP       | 1.0     | None                     | In/Out    | Dynamic DNS registration       | No           |

| Port Number | Protocols                       | Port Type | Version | Maximum Encryption Level | Direction | Usage  | Configurable |
|-------------|---------------------------------|-----------|---------|--------------------------|-----------|--|--------------|
|             |                                 |           |         |                          |           | of host name assigned within DRAC                |              |
| 68          | DHCP                            | UDP       | 1.0     | None                     | In/Out    | DHCP assigned IP address                         | No           |
| 69          | TFTP                            | UDP       | 1.0     | None                     | In/Out    | Firmware update through Trivial FTP              | No           |
| 80          | HTTP                            | TCP       | 1.0     | None                     | In/Out    | Web GUI redirected to HTTPS                      | Yes          |
| 161         | SNMP Agent                      | UDP       | 1.0     | None                     | In/Out    | SNMP query management                            | No           |
| 162         | SNMP trap                       | UDP       | 1.0     | None                     | Out       | SNMP trap event                                  | No           |
| 389         | Active Directory authentication | TCP       | 1.0     | None                     | In/Out    | Optional ADS authentication                      | No           |
| 443         | HTTPS                           | TCP       | 1.0     | 128-bit SSL              | In/Out    | Web management GUI and remote racadm CLI utility | No           |
| 636         | Active Directory authentication | TCP       | 1.0     | 128-bit SSL              | In/Out    | Optional ADS authentication                      | No           |
| 3269        | Active Directory authentication | TCP       | 1.0     | 128-bit SSL              | In/Out    | Optional ADS authentication                      | No           |