Dell OpenManage Network Manager Version 6.0

Quickstart Guide

Notes and Cautions

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

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

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Quick Start

The following sections outline the steps to install a typical Dell OpenManage Network Manager system and its subsequent first use. Because the software described here is both powerful and flexible, this quickstart cannot describe all the details of available installations. Instead, this Guide refers to those descriptions elsewhere or in online help. It also includes a Installing and System Startup, below. A typical installation includes the following:

- Installing and System Startup
- Configuring Dell OpenManage Network Manager Users
- Discover Your Network
- Resource Management
- Configuration Management
- Fault Management - Problem Diagnosis
- Performance Management - Troubleshooting
- Create Reports
- Collaborative Diagnosis

NOTE:

Before you begin installing Dell OpenManage Network Manager, make sure your hardware and network are correctly configured. For more about that, see the Dell OpenManage Network Manager *User Guide*

Pre-Installation Checklist

The following helps you avoid trouble in your OpenManage Network Manager installation.

Pre-Installation

- Select devices (IP addresses) and ports to monitor.
- Select IP address for your server.
  - Configure its IP address as a management station and receiver of SNMP traps on each device.
- Determine IP range of devices being discovered.
- Verify firewalls have open ports between devices and your server. Best practice is to take down the firewall, install the application, then put it back up.
- Review device documentation and release notes.

Other Software to Install

Install these: ActivePerl (then reboot your host), Latest Adobe Flash player, Latest Adobe Reader. You will also need access to an FTP / TFTP server.

NOTE:

You must disable User Account Control if installing on Windows Server 2008. Temporarily disable the system firewall or any anti-virus software prior to installing, too. Install this software and the wizard will walk you through initial setup. Dell OpenManage Network Manager installs as a service and starts automatically. Refer to the *User Guide* and release notes for additional setup information.

Installation

Installation host—Log in as an administrative user. An administrative user can write to the installation target directory. Do *not* log in with user name *admin*, *administrator*, or a name that contains spaces on Windows, or as user *root* on Linux.

You now cannot install as user *administrator* on Windows or *root* on Linux. The installer confirms you are not one of those users. If you attempt this or other prohibited practices, you may see a message like the following:

The installer cannot run on your configuration:

- Please verify that you are not logged in using the windows "Administrator" account or with the linux "root" account.

- The installation supports 64 bit Windows and Linux architectures.

- If this is a Windows upgrade that was previously installed with The Administrator account, contact your server administrator to perform the steps below. These may vary based on the Windows operating system.

1. As an administrator, create a new user and place that user in the administrator group.

2. In Windows Explorer, navigate to the target installation directory and change ownership of all directories, subdirectories and files to the new administrator user. Do this by right clicking the directory and select Properties > Security > Advanced > Owner tab. Then add the new administrator user as an owner. Make sure to check the check box for "Replace owner for sub-containers and objects."

3. After applying the changes, login as the new administrator user and proceed with the upgrade.

If you are upgrading from a Windows installation you already installed as user *administrator*, you must change the ownership of the OpenManage Network Manager installation directories to another user with administrative permissions before you upgrade.

Windows 2012—When installing on this platform, right click `win_install.exe` and select *Properties* > *Compatibility*. Select compatibility mode for Windows 7 /Vista.

Directories—The source directory should not be the same as installation target directory

Fixed IP Address—OpenManage Network Manager requires a static IP address.

CAUTION:
You must have root access to install on Linux, but do not install as user *root* (or user *dorado*).

Starting OpenManage Network Manager (After installation)

Database Running, Connected—Make sure your database is running. MySQL installs automatically as a service (daemon).. Do not install on Linux with MySQL already installed (uninstall any included MySQL first).

Start Application Server—If you installed this software as a service and application server is down, in Windows right-click the startappserver icon, and start application server. This icon may prematurely indicate application server has started. *Workaround:* Wait a little, and the application server will catch up to the icon.

When initiated from the tray icon, startup changes its color from red to yellow to green, when complete. Once the icon has turned green, the web client may display the message "The server is currently starting up. This page will refresh when the server has fully started." This message indicates the application server requires extra time to start. When the message does occur connect the web browser again after a few minutes.

Login—Default OpenManage Network Manager login is *admin*, password *admin*.

CAUTION:
The first time you start the application after you install it, you may have to wait some additional minutes for Application to completely start. One indication you have started viewing your web client too soon is that the Quick Navigation portlet does not appear properly. **Workaround**: Force Redcell to re-initialize the admin user. To do that: Login as Admin. Go To > Control Panel > Users and Organizations. Select and edit the Admin user. Edit any field (Middle Name for example). Save. Sign out. Log back in with admin.

For Successful Discovery (After startup) Have the Following:

Connectivity—Ensure application server has connectivity to devices to discover. One easy way to do this is to ping the discovery target from application server.

Device Login/Passwords—Needed for discovery targets. Typically these include SNMP communities and CLI login / password combinations. Determine what version of SNMP you are using, too.

Device Access—Insure OpenManage Network Manager's host is authorized to manage to the device(s). When necessary, configure devices' ACLs to admit this application's access / management.

Backup / Restore / Deploy (After device discovery)

FTP/TFTP Server—Make sure an external FTP/TFTP server is running and has network access to the target device(s). Typically FTP/TFTP servers must be on the same side of firewalls as managed devices. OpenManage Network Manager's internal FTP/TFTP server is for testing only. If these are separate processes, configure them so they write to the same directory.

Alarms / Monitoring

Minimize Network Traffic—Configure "chatty" devices to quiet down. Use *Suppress Alarms* to keep performance at acceptable levels, and configure database archiving so the database does not fill up.

NOTE:

Some OpenManage Network Manager features do not work without internet access. In particular: Maps, because the maps OpenManage Network Manager uses need internet access to retrieve maps and plot locations. But if you do not need functioning map portlet(s), then running OpenManage Network Manager without internet access works well as long as the network is properly configured and resolves the localhost name to application server's IP address.

Installing and System Startup

Initiate installation by opening `index.html` then clicking the *install* link (or by executing `win_install.exe` [Windows], or linux_install [Linux]). Click through the installation wizard, accepting the license and making the appropriate entries.

NOTE:

Firewalls and applications already on your host may interfere with the correct operation of this software. You must disable Microsoft's IIS, for one example. To see all the ports where such interference can occur, see the *OMNM User Guide*. **Also:** The installation wizard controls the presence of its console. To see the console's contents, look in the installation's target directory for install.log.

During installation, one screen lets you select the application's memory size. Best practice is to select the largest available after 1 - 4 GB is set aside for the operating system.

NOTE:

You can reset the selected memory size after installation too, with the following properties in \owareapps\installprops\lib\installed.properties:

```
oware.server.min.heap.size=1024m
oware.server.max.heap.size=1024m
```

When you have installed and successfully deployed Dell OpenManage Network Manager, you can continue to the next steps. See the Dell OpenManage Network Manager *User Guide* for step-by-step instructions for a typical installation. For more complex installations, consult the OpenManage Network Manager's first chapter of the *User Guide*.

Finally, you must do the following to see Dell OpenManage Network Manager:

1 If you did not install it as a service, manually start application server. You can use the *Start* > menu in Windows, or simply type `startappserver` in a command shell.

If it is installed as a service, and the tray icon is red, right-click that icon and select *Start*. Application server monitors your network even when the client is not running.

2  If it is not already running, start the web server. Right-click the tray icon for web server and select *Start service*.

NOTE:

On Linux start (or stop) the webserver with scripts startportal.sh start (or startportal.sh stop) located in the oware/synergy/tomcat-x.x.x/bin directory.

3 To see the client interface, open a browser, and enter this in the URL field:

```
http://[hostname or host IP address]:8080.
```

NOTE:

Screen resolution must equal or exceed 1280 x 1080 pixels.

4 Log in for the first time as *admin* (password *admin*).

5 Dell OpenManage Network Manager should appear with the standard set of page configurations for your package. You can typically reconfigure these defaults. See the *User Guide* for guidance about how to do that.

NOTE:

Instead of `oware`, *in Unix systems type* `. /etc/.dsienv` *—[dot][space]/etc/[dot]dsienv)*

Configuring Dell OpenManage Network Manager Users

As an Administrator, you can configure Users, and Roles to identify support teams (examples: administration, engineering and operations) and configure permissions. After creating them, add Users to roles which configure their permissions for access and action. The following describes how to do this.

How To:

Add Users and connect them to Roles

Add Users with the following steps:

1 Click *Go to* > *Control Panel* and navigate to Portal > Users.

2 Click the *Add* > *User* menu item at the top of the *Users* screen.

3 Enter the details of the new user. If you are editing an existing user, more fields appear. *Screen Name*, and *Email Address* are required. Optionally, you can enter *Name*, *Job Title*, and so on.

4 After you click *Save* notice that the right panel expands to include additional information. Make sure you specify a *Password*.

5 Notice that if you are editing an existing user, or creating a new one, you can use the links on the right to configure connections with *Roles*. Roles, in particular, configure the OpenManage Network Manager functional permissions for that user. For example the group of *Operators* would likely have more limited capabilities than *Administrators*.

6 Click *Save* again, and the user you just configured should appear listed in the *Users* screen when you select *View* > *All Users*.

7 To assign a user to a role, click *Action* > *Permissions* and check the appropriate box next to the role. Configure OpenManage Network Manager functional permissions for these roles in Roles.

How To:

Add and Configure User Roles / Permissions

Add and configure User Roles with the following steps:

1 Click *Go to* > *Control Panel* and navigate to Portal > Roles.

2 Click the *Add* tab under the heading at the top of the page, and select Regular *Roles*. Notice that you can also add roles that configure permissions for sites.

3 Enter the details of the new role (*Name*, *Title*, *Description*), then *Save* it.

4 Click Portal > Roles' *View All* button to see a list of available roles, including the one you added.

5 By clicking the *Action* icon to the right of any listed Role, you can also select the role's permissions to alter web portal access in a subsequent screen.

6 Click *Add* to add permissions. Click the checkboxes to enable the type of permission desired.

7 To do more with Dell OpenManage Network Manager's functional permissions, go to the Redcell > Permission Manager, and click to open this screen.

8 The Role to Permission mapping screen appears. Click the *Edit* button to the right of listed Roles to see and configure available permissions.

9 Click *Advanced* to see available permissions organized by *Read*, *Write*, *Execute*, *Add* or *Delete* actions.

10 After you have selected permissions, click *Apply* to accept them and add them to the role.

Notice that you can revisit this role, manage it and its membership with the *Action* button to the right of the role. You can also add users to the group by selecting and editing that user.

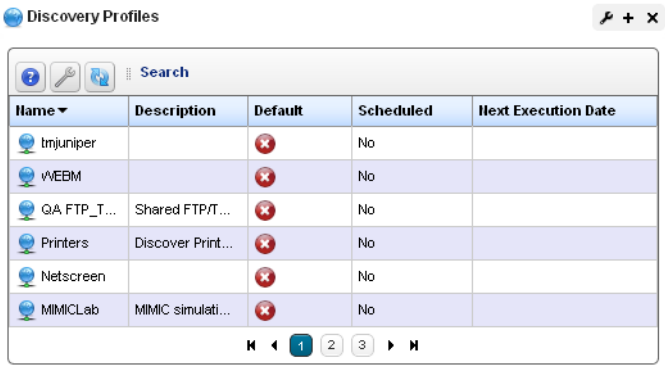
How To:

Discover Your Network

To begin managing resources in your network, you must discover them to store their information in the application database. This begins either with the *Resource Discovery* Quick Navigation button or the *Discovery Profiles* portlet.

Discovery profiles configure equipment discovery for Dell OpenManage Network Manager.

The summary view displays the *Name*, *Description*, *Default* (the green check indicates the default profile), whether the profile is *Scheduled* and *Next Execution Date* for scheduled discovery. Follow these steps to start discovering equipment on your network.



1 Right click the Discovery Profiles list and select New.

2 The Discovery Profile Editor appears, with a step-by-step set of screens to configure resource discovery. You can navigate through it by clicking the screen tab names at the top, or by clicking the Next button at the bottom of the page.

General

3 **General Parameters** — Set the Name, Description and whether this profile is the baseline discovery default.

4 **Profile Options** — Select the Device Naming Format and other parameters for discovery.

Network

5 After you click Next, the Network screen appears.

Network Type and Addresses — Select the type of entry in the pick list (IP Address(es), CIDR Address, Hostname, SNMP Broadcast, Subnet).

NOTICE

(For IPv4) You can specify an IP Address range by separating the beginning and end with a dash. For example: 192.168.1.1 - 192.168.1.240.

The tooltips in the data entry field describe what valid entries look like.

6 **Authentication** — Here, you can Create New, or Choose Existing authentications to add to discovery. Authentications appear with Edit / Delete icons and Up / Down arrows on their right. The Up / Down arrows reorder them so the application tries the top authentication first, then the next, and so on.

If you have an authentication like admin/abc123 and one that is identical with an enable-level login / password (admin/abc123/enable/enable123), make sure the enable authentication appears first in the list, otherwise, you will discover the device, but not access its enable functionality.

The Edit icon opens the authentication editor. Click the arrows to arrange the order in which credentials are tried (top first). Ordering only applies when two credentials are of the same type.

Actions

7 **Actions** — Here, you can configure Actions to run as part of discovery. The application executes these in top-to-bottom order.

Inspection

8 **Inspect** lets you preview the application's access to devices. Click *Start Inspection* to begin the process that validates the device is available, and the application has the correct credentials.

When they are successful, the authentications appear in a nested tree under the Discover checkbox.

9 **Save** — Click *Save* to preserve the profile. You can then right-click it to select *Execute* and begin discovery. If you select *Execute* from the profile editor, the application does not save the profile to execute later.

Results

10 **Execute** — Clicking *Execute* begins discovery, after you confirm, the message traffic between Dell OpenManage Network Manager and the device appears on the Results screen.

This is a standard Audit screen whose results appear in the Audit Trails portlet.

11 A message (Discovery Profile Execute is complete) appears in the Messages at the bottom left of the status bar.

NOTICE

You can also schedule discovery profiles to run periodically, updating your Dell OpenManage Network Manager database with any network changes.

12 The devices in your network now appear in the Managed Resources portlet, and elsewhere (in Topology, for example).

NOTE:

The application automatically adds discovered devices to the default ICMP (ping) monitor.

Incomplete Discovery

If the device is detected and responds to ping, but does not respond to Dell OpenManage Network Manager actions (for example: Adaptive CLI), you may have only partially discovered it. Right-click the device in the Managed Resources portlet and select Direct Access > Telnet. If that menu option does not exist, it is only partially discovered. Right-click to edit the device, and add a Telnet Management Interface and Authentication in those two tabs of the editor.Dell OpenManage Network Manager automatically adds discovered devices to the default ICMP monitor.

Install Perl

If you install Perl to take advantage of this application's Perl Scripting capabilities, you must install it on the path on the application server host.

NOTE:

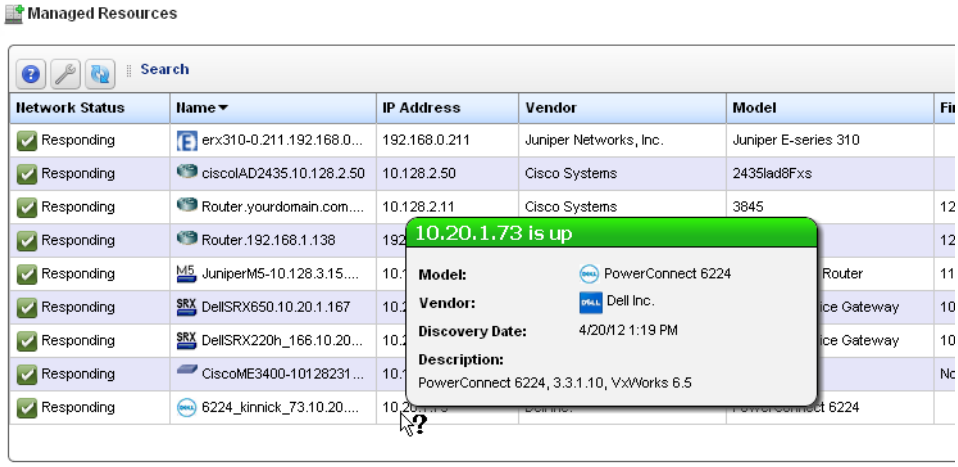
We recommend Perl version 5.10 or later. Some applications also require Perl as well as the Perl module Net::Telnet.

This application does not package Perl. If you want to use the Perl scripting features, you must make sure your system has Perl installed. You can find information about Perl at www.perl.com. Follow the downloads link to find the recommended distribution for your specific platform.

You can find one of the recommended Perl packages from ActiveState at: www.activestate.com/activeperl/.

Resource Management

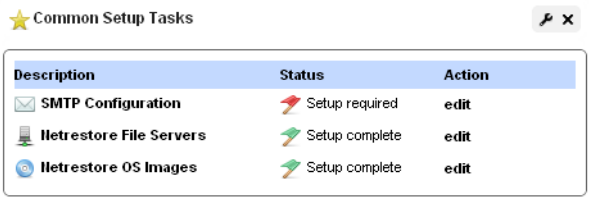
The Managed Resource portlet displays all the devices you have discovered.



Right-clicking a listed resource displays a menu with options described in the *User Guide*.

Common Setup Tasks

This portlet appears on the first page after you sign in, and reminds you of the following common tasks:



- SMTP Configuration—This configures how Dell OpenManage Network Manager sends notification e-mails.

Netrestore File Servers—See Configure an FTP/TFTP Server setup instructions below, or its description in the *User Guide*.

A red flag appears with the "Setup required" message in the *Status* column when these are not configured. Configuring them displays a green flag with the "Setup complete" message. Click the *edit* link in the *Action* column to open editors for each of these.

Quick Navigation

The Quick Navigation portlet lets you quickly click some links to basic tasks:

Resource Discovery—Discover devices in your network. See Discover Your Network on page 9 or the *User Guide* for details

Link Discovery—After you have discovered resources, this discovers their connections. See the *User Guide* for more information.

Backup Config Files—This lets you back up discovered devices' configuration files. Before you can use this feature, you must have servers configured as described in Configuration Management below, or the *User Guide*.

OS Image Upload—Upload firmware updates for devices. See the *User Guide* for more about these capabilities.

Deploy OS Image—This deploys firmware updates. To deploy images, you must have File Servers configured, as described above for Backup. See the *User Guide* for details.

License Management—This lets you see, update and manage the licensed capabilities of Dell OpenManage Network Manager. See the *User Guide* for details.

NOTICE

To import a license when application server is not running, type `oware` then `licenseimporter [license file path]` on a command line.

Configuration Management

Dell OpenManage Network Manager lets you manage device configurations. Before you begin that management, you must first configure an Configure an FTP/TFTP Server to get or send such configurations from / to devices. After configuring the Configure an FTP/TFTP Server, you can do Do Configuration File Backup / Restore described below.

How To:
Configure an FTP/TFTP Server

Follow these steps to configure a server:

1. Click either the Common Setup Tasks portlet's Netrestore File Servers link, or right click and select *New* in the File Servers portlet.
2. After entering all required details click *Save* to save new file server.
3. Optionally click *Test* to validate the new file server is working.

How To:
Do Configuration File Backup / Restore

Provided you have permissions, you can backup configuration file(s) for a single device or group of devices, either on demand or as scheduled. Follow these steps:

1. In the default Dell OpenManage Network Manager screen layout, go to the Configuration Management > Summary page.
2. In the Managed Resources portlet, select (click on) a Managed Resource of interest.
3. Right-click on selected resource in the Managed Resources portlet, and then click *File Management* > *Restore* or *Backup*. See the *OMNM User Guide* for more details.
4. Enter the information needed to create the backup or restoration.
5. Optionally click *Add Schedule* to schedule the backup task. See the *OMNM User Guide* for details.
6. Click *Execute* to immediately do backup or *Save* to save the configured backup to run later.

How To:
Restore a single configuration to many target devices

The following steps describe restoring a single configuration to many discovered devices without overwriting those devices' essential information.

1. Back up a single device's configuration that is nearest to the kind you would like to see generally.
2. Right-click this backed up file in the File Management portlet, and *Promote* it so it appears in the Image Repository portlet.
3. Right-click > Edit the promoted configuration in the Image Repository.
4. Name the file, and, if necessary, configure a filter In the *General Parameters* tab of the editor.

5 In the *Configuration* tab, locate the parameters you want to preserve in discovered devices when you restore this file. This can include items like the device's DNS Hostname, IP Address, and so on. Delete the file's specifics and double-click to insert the *Target Params* in place of these variables.

6 Save the configuration.

7 Right-click to deploy this configuration.

8 You can check *Generate and save for configuration only* if you simply want to configure deployment for later, and save for now. You can also optionally name a label for the deployed files.

9 Select the devices, or groups of devices to which you want to deploy.

10 Click *Save*, *Execute* or *Add Schedule* depending on your desired outcome.

11 If you click *Execute*, you will have to confirm this action.

When Dell OpenManage Network Manager performs the restoration (deploy), it reads the Target Params from those discovered for each device, inserts those in the config file, then restores it, device by device, skipping any that do not pass the filter set up in step 4.

Fault Management - Problem Diagnosis

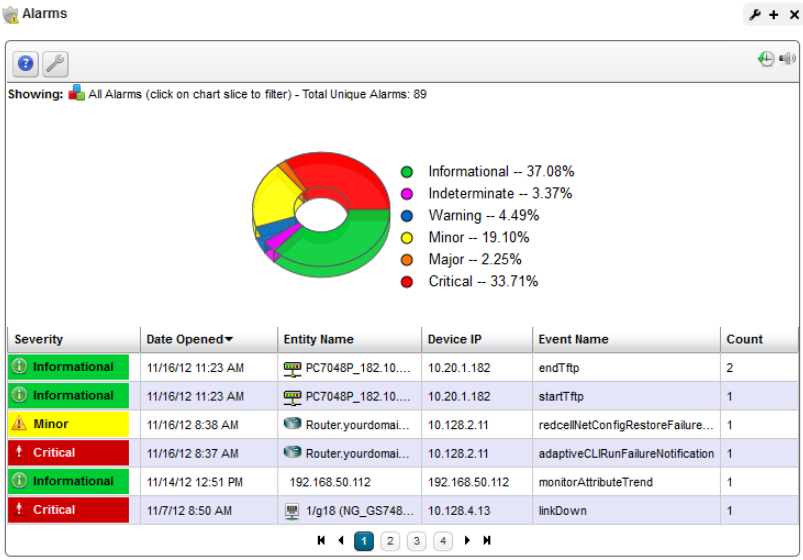
Dell OpenManage Network Manager lets you diagnose network problems with its Alarms viewer, and lets you monitor performance with its Performance Management - Troubleshooting capabilities, as described below. The following briefly outlines these capabilities.

Alarms

Alerts about network performance issues can include alarms about the following:

- Excessive interface utilization
- Unexpectedly high CPU load
- Loss of available memory
- Slow response time

- Excessive interface errors



When you receive an alarm you can take any of the following action on the alarm itself, or the target of the alarm:

- Assign User
- Acknowledge Alarm
- Unacknowledge Alarm
- Clear Alarm
- Show Performance

Follow these steps to get started:

1. Click to go to the *Alarms* page from the default screens.
2. In the Alarms portlet, click on an Alarm of interest.

NOTICE

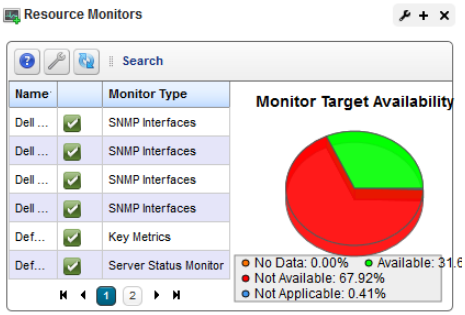
If your Alarms portlet displays a graph of different alarm types, clicking on a particular alarm severity filters the list below to only display that severity. Click again to undo the filter effect.

3. Right-click on the selected alarm, and then click *Acknowledge Alarm* to take ownership of the alarm.
4. Right-click then click *Assign User* to select a user owner for the alarm.
5. Right-click then click *Clear Alarm* to remove the alarm from list.
6. Click the plus (+) in the upper right corner of the Alarms portlet to go into Expanded mode where you can view more details about an alarm.

Performance Management - Troubleshooting

In addition to troubleshooting faults, you can also monitor device performance with Dell OpenManage Network Manager.

Monitors



Monitors display some critical performance metrics for devices on the network, including:

- Network availability
- Bandwidth capacity utilization
- Buffer usage and errors
- CPU and memory utilization
- Interface errors and discards
- Network latency
- Node and interface status

To get started using monitors, follow these steps:

1. Click the Performance Management > Summary page, and find the Resource Monitors portlet on that page.
2. Hover the cursor over a Monitor of interest to see a tooltip of details about it.
3. Click to select a Monitor of interest.
4. Right-click the selected monitor in the Resource Monitors portlet, and then click *Open* to edit its details, including enabling/disabling it.

Dashboard Views

With permissions, you can view the performance data collected by the monitors, in graphical and tabular form including:

- Excessive interface utilization
- Unexpectedly high CPU load
- Loss of available memory
- Slow response time
- Excessive interface errors

To view this data, follow these steps:

1. Click the Performance Management > Summary page and find the Top Problem Nodes portlet. (

2 Hover the cursor over a Device/Interface of interest to see a tooltip of details about its status.

3 Right-click and select *Show Key Metrics*, or *Show Performance* which opens a dashboard.

How To:

Create Reports

If your want to automate month-end reports Dell OpenManage Network Manager lets you schedule either recurring reports or a single scheduled occurrence. With the correct permissions, you can run Inventory Reports on demand or as scheduled. You can use the Reports to troubleshoot and monitor performance and historical data that has been collected during the operation of the network.

1 Find the Reports portlet.

2 Click to select a Report of interest.

3 Right-click, and then click *Execute* to run report

4 Report generation runs in the background. When it is complete, a message appears in the *My Alerts* tab at the bottom left corner.

5 Click on Messages tab to open, then click on the Report of interest and click on the View Details icon at the right end of entry, to view completed report.

Collaborative Diagnosis

Once Dell OpenManage Network Manager notifies you about a network problem with Fault Management - Problem Diagnosis or Create Reports, you can consult with other network experts through Dell OpenManage Network Manager's built-in chat system. You can even meet online with more than one user, and share the problem report, or alarm. See the Dell OpenManage Network Manager *User Guide* for the specifics about how to do this.

Some examples of easy solutions provided by chat:

- You cannot use an FTP server. Asking a coworker with Dell OpenManage Network Manager's chat reveals it is out of commission. Because you can share specific servers as a chat attachment, there's never a question about which server you are discussing.
- Confirm the format of a report. Again, attaching the report to chat lets coworkers see exactly what you are talking about, and quickly.
- When a report reveals a problem, you can attach it to chat, and consult with coworkers about solutions.
- You can similarly attach schedules to chat to make sure everyone agrees they are correct.
- What you can do with a single chat session is also true of Dell OpenManage Network Manager's "conferences" which amount to collaborative chat sessions, attended by more than one other person.