

# Understanding ZENworks Linux Management - Dell Edition

Novell® ZENworks® Linux Management - Dell Edition is the first fully integrated Linux systems management solution for Dell PowerEdge\* servers. ZENworks Linux Management - Dell Edition lets you manage Dell PowerEdge servers using ZENworks Linux Management capabilities combined with the Dell OpenManage\* toolkit capabilities. Whether you use SUSE® Linux Enterprise Server or Red Hat\* Enterprise Linux on your PowerEdge servers, you can deploy and maintain hardware, operating systems, and applications from a single administrative console—the ZENworks Control Center.

The following sections provide information about Novell ZENworks Linux Management - Dell Edition:

- ♦ [Chapter 1, “A Quick Tutorial on Basic ZENworks Linux Management Features,”](#) on page 21
- ♦ [Chapter 2, “Using ZENworks Linux Management with Dell PowerEdge Servers,”](#) on page 33



# A Quick Tutorial on Basic ZENworks Linux Management Features

# 1

Novell® ZENworks® Linux Management - Dell Edition is designed to let you efficiently manage a large number of Linux devices (servers and workstations) with as little configuration effort as possible.

To help you get started managing with ZENworks, this tutorial provides a brief overview of the major tasks you can perform. The first three sections help you set up a management structure based on best practices, and register devices in your system. You should review these three sections first, in the order presented:

- ◆ [Section 1.1, “Organizing Devices: Folders and Groups,” on page 21](#)
- ◆ [Section 1.2, “Creating Registration Keys and Rules,” on page 23](#)
- ◆ [Section 1.3, “Setting Up ZENworks Administrator Accounts,” on page 24](#)

The remaining sections provide concepts you should be familiar with to successfully manage your devices. You can work on these sections in any order you'd like.

- ◆ [Section 1.4, “Delivering Software Packages,” on page 25](#)
- ◆ [Section 1.5, “Delivering Content Using File Bundles,” on page 26](#)
- ◆ [Section 1.6, “Defining and Locking Down Device Configuration Settings,” on page 27](#)
- ◆ [Section 1.7, “Using Preboot Services,” on page 28](#)
- ◆ [Section 1.8, “Collecting Software and Hardware Inventory,” on page 28](#)
- ◆ [Section 1.9, “Managing Remote Devices,” on page 28](#)
- ◆ [Section 1.10, “Monitoring Events,” on page 29](#)
- ◆ [Section 1.11, “Generating Reports,” on page 30](#)

## 1.1 Organizing Devices: Folders and Groups

Using the ZENworks Control Center, you can manage devices by configuring settings and assignments directly on the device objects. However, this approach is not very efficient unless you have only a few devices to manage. To optimize management of a large number of devices, ZENworks lets you organize devices into folders and groups.

You can create folders and groups at any time. However, the best practice is to create the folders and groups you need before you register devices in your ZENworks Management Zone. This is because you can set up registration keys and rules that automatically add devices to the appropriate folders and groups when they register (see [Section 1.2, “Creating Registration Keys and Rules,” on page 23](#)).

The following sections explain folders and groups and how to create them:

- ◆ [Section 1.1.1, “Folders,” on page 22](#)

- ◆ [Section 1.1.2, “Groups,” on page 22](#)
- ◆ [Section 1.1.3, “Folders vs. Groups,” on page 23](#)

## 1.1.1 Folders

Your ZENworks Management Zone includes two default folders for devices: Servers and Workstations. You can create additional folders within each of these folders to further organize devices.

Folders let you control which ZENworks system configuration settings are applied to which devices, including how often a device refreshes its information from the ZENworks Object Store, what information a device includes in its log files, and whether or not a device can be managed remotely.

You can define the configuration settings at the ZENworks Management Zone, on folders, or on individual devices. Because configuration settings can be defined on folders, you can place similar devices in the same folder and then define the configuration settings on the folder. All devices in the folder inherit the folder configuration settings, which override any settings made at the Management Zone level.

For example, assume that you have 30 SUSE® Linux Enterprise Servers in your environment and 10 Red Hat Enterprise Linux servers. You want to apply different system configuration settings to the two types of servers, so you create two folders (*/Servers/SUSE* and */Servers/RedHat*) and place the appropriate servers in each folder. Because you have more SUSE servers than Red Hat servers, you configure the settings at the Management Zone level to accommodate the SUSE servers. Then, you configure the settings on the */Servers/RedHat* folder to accommodate the Red Hat servers and override the settings on the Management Zone.

To create a folder:

- 1 In the ZENworks Control Center, click the *Devices* tab.
- 2 If you want to create a folder for servers, click the *Servers* folder.  
or  
If you want to create a folder for workstations, click the *Workstations* folder.
- 3 Click *New > Folder* to display the New Folder dialog box.
- 4 Type the name of the new folder, then click OK.

For more information, see [Appendix B, “Naming Conventions in the ZENworks Control Center,” on page 475](#).


## 1.1.2 Groups

A group is a collection of devices that share similar requirements. The devices might require the same software packages, the same operating system or application configuration settings, or the same inventory collection schedule.

For example, of the 30 SUSE and 10 Red Hat servers mentioned in the [Folders](#) section, 10 SUSE servers and 5 Red Hat servers might be dedicated to the Accounting department. As such, they all require the same accounting software. Because groups can be assigned software packages, you could create an Accounting group, add the 15 servers to the group, and then assign the appropriate accounting software packages to the group.

The advantage to making an assignment to a group is that all devices contained in that group receive the assignment, yet you only need to make the assignment one time. In addition, a device can belong to any number of unique groups, and the assignments and associations from multiple groups are additive. For example, if you assign a device to group A and B, it inherits the software packages assigned to both groups.

To create a group:

- 1 In the ZENworks Control Center, click the *Devices* tab.
- 2 If you want to create a group for servers, click the *Servers* folder.  
or  
If you want to create a group for workstations, click the *Workstations* folder.
- 3 Click *New > Server Group* (or *New > Workstation Group* for workstations) to launch the Create New Group Wizard.
- 4 Follow the prompts to create the group and add devices to it. For information about what you need to supply at each step of the wizard, click the  icon.

### 1.1.3 Folders vs. Groups

As a general rule, you should manage system configuration settings through folders, and manage assignments (software packages, policies, etc.) through groups. This allows you to efficiently manage devices with similar configuration settings by placing them in the same folder and defining the configuration settings on the folder. However, all devices in the folder might not have the same software package or policy requirements. Therefore, you can organize the devices into groups and assign the appropriate bundles and policies to each group.

The most successful management strategy uses both folders and groups to create a hierarchy and organization that is easy to manage. A good folder organization enables you to import devices into a folder so they automatically inherit the correct system configuration settings. A good group organization makes it easy to assign bundles and policies to devices.

## 1.2 Creating Registration Keys and Rules

You can manually add devices to folders and groups, but this can be a burdensome task if you have a large number of devices or if you are consistently registering new devices. The best way to manage a large number of devices is to have them automatically added to the correct folders and groups when they register. To accomplish this, you can use registration keys, registration rules, or both.

Both registration keys and registration rules let you assign a name, folder, and group memberships to a device. However, there are differences between keys and rules that you should be aware of before choosing whether you want to use one or both methods for registration.

- ♦ **Registration Keys:** A registration key is an alphanumeric string that you manually define or randomly generate. During installation of the ZENworks Agent on a device, the registration key must be input manually or through a response file (see “[Automating Installation of the ZENworks Agent](#)” in the *Novell ZENworks 7 Linux Management - Dell Edition Installation Guide*). When the device connects to a ZENworks Server for the first time, the device is given a name according to the defined naming scheme and then added to the folder and groups defined within the key.


You can create one or more registration keys to ensure that servers and workstations are placed in the desired folders and groups. For example, you might want to ensure that all of the Sales department's devices are added to the `/Workstations/Sales` folder but are divided into three different groups (`SalesTeam1`, `SalesTeam2`, `SalesTeam3`) depending on their team assignments. You could create three different registration keys and configure each one to add the Sales workstations to the `/Workstations/Sales` folder and the appropriate team group. As long as each device uses the correct registration key, it is added to the appropriate folder and group.

- ◆ **Registration Rules:** If you don't want to enter a registration key during installation, or if you want devices to be automatically added to different folders and groups based on predefined criteria (for example, operating system type, CPU, or IP address), you can use registration rules.

ZENworks includes a default registration rule for servers and another one for workstations. If a device registers without a key, the default registration rules are applied to determine the folder and group assignments. The two default rules cause all servers to be added to the `/Servers` folder and all workstations to the `/Workstations` folder. The device hostname is used for its name. You cannot delete these two default rules, but you can modify the naming scheme and the folder and groups to which the servers and workstations are added.

The two default rules are designed to ensure that no server or workstation registration fails. You can define additional rules that enable you to filter devices as they register and add them to different folders and groups. If, as recommended in [Section 1.1.3, "Folders vs. Groups," on page 23](#), you've established folders for devices with similar configuration settings and groups for devices with similar assignments, newly registered devices automatically receive the appropriate configuration settings and assignments.

To create registration keys or rules:

- 1 In the ZENworks Control Center, click the *Configuration* tab.
- 2 To create a new registration key, in the Registration Keys section, click *New > Registration* to start the Create New Registration Key Wizard.  
or  
To create a new registration rule, in the Default Registration Rules section, click *New* to start the Create New Default Rule Wizard.
- 3 Follow the prompts to create the key or rule. For information about what you need to supply at each step of the wizard, click the  icon.

For more detailed information about registering devices, see [Part III, "Device Registration," on page 75](#).

## 1.3 Setting Up ZENworks Administrator Accounts

During installation, a default Administrator account is created. This account provides rights to administer all of your ZENworks system.

You can create additional administrator accounts that provide full access to your ZENworks system. You can also create accounts that limit administrative rights to specific folders (device folders, policy folders, bundle folders, and report folders).

To limit administrator rights, you assign an account rights at the folder level. The root folders are /Bundles, /Devices, /Policies, and /Reports. Rights assigned at a root folder are effective in all subfolders (for example, /Bundles/Workstations) unless specifically overridden at the subfolder level.

Depending on the administrative functions you want an administrator to be able to perform, you can give an account one of the following levels of rights:

- ♦ **All:** Provides create, delete, and modify rights to all objects within the folder.
- ♦ **Modify:** Provides rights to edit existing objects only.
- ♦ **View:** Provides rights to view object information.

For example, if you want an administrator to be able to view bundles that are located in the /Bundles folder and create, delete, or modify bundles in the /Bundles/Workstations folder, you would assign the administrator View rights to the /Bundles folder and All rights to the /Bundles/Workstation folder.

To create an administrator account:

- 1 In the ZENworks Control Center, click the *Configuration* tab.
- 2 In the Administrators list, click *New* to display the Add New Administrator dialog box.
- 3 Provide a username and password for the account, then click *OK* to add the account to the Administrators list.

The administrator can change the password the first time he or she logs in by clicking the key icon located next to the Logout link in the upper right corner of the ZENworks Control Center.

The newly created administrator account is granted View rights to all objects in the Management Zone. To grant additional rights, or to limit the administrator's rights to specific folders only, you need to modify the rights.

- 4 In the *Administrators* list, click the administrator account to display the account details.
- 5 Modify the assigned rights. For information about the options on the page, click *Help* or see [Chapter 7, “ZENworks Administrator Accounts,” on page 61](#).
- 6 When you are finished modifying the rights, click *Apply* to save the changes.

## 1.4 Delivering Software Packages

Software packages are delivered to devices through the use of RPM bundles and catalogs.

An RPM bundle is a grouping of one or more software packages. Bundles contain one or more files that are installed to particular locations on a device, plus information about the bundle, such as version, description, what applications must also be present for it to be installed, and more. A catalog is a group of bundles.

The fundamental difference between RPM bundles and catalogs is that the software in bundles is automatically installed, but users can choose whether or not to install the software included in catalogs. Catalogs are displayed in the ZENworks Linux Management Updater Client, which is part of the ZENworks Agent. For more information, see [Section 6.3, “Using the Software Updater, Installer, and Remover from Users’ Managed Devices,” on page 50](#).

You can define both the deployment schedule and the installation schedule for a bundle. The deployment schedule determines when the bundle's software packages are copied to the device. The installation schedule determines when the packages are installed on the device.


You can also create bundle groups. A bundle group is simply a group of bundles, similar to a catalog. However, installation of bundles in groups is automatic, just like installation of individual bundles.

The following sections contain additional information:

- ♦ [Section 1.4.1, “Bundles,” on page 26](#)
- ♦ [Section 1.4.2, “Catalogs,” on page 26](#)

## 1.4.1 Bundles

To create a bundle:


- 1 In the ZENworks Control Center, click the *Bundles* tab.
- 2 In the *Bundle* list, click *New > Bundle* to display the Create New Bundle Wizard.
- 3 Select *RPM Package Bundle* (the default option), then click *Next*.
- 4 Follow the prompts to create the bundle and assign it to devices. For information about what you need to supply at each step of the wizard, click the  icon.

When assigning the bundle to devices, you can lessen your management overhead by assigning the bundle to groups of devices rather than to individual devices. For more information about device groups, see [Section 1.1, “Organizing Devices: Folders and Groups,” on page 21](#).

For more detailed information about using bundles and bundle groups to deliver software to devices, see [Chapter 18, “Using RPM and File Bundles,” on page 179](#).

## 1.4.2 Catalogs

To create a catalog:

- 1 In the ZENworks Control Center, click the *Bundles* tab.
- 2 In the *Bundle* list, click *New > Catalog* to display the Create New Catalog Wizard.
- 3 Follow the prompts to create the catalog, add bundles to it, and assign it to devices. For information about what you need to supply at each step of the wizard, click the  icon.

When assigning the catalog to devices, you can lessen your management overhead by assigning the catalog to groups of devices rather than to individual devices. For more information about device groups, see [Section 1.1, “Organizing Devices: Folders and Groups,” on page 21](#).


For more detailed information about delivering software to devices, see [Chapter 19, “Using Catalogs,” on page 229](#).

## 1.5 Delivering Content Using File Bundles

A File bundle lets you create a bundle containing one or more files of any type and distribute them to assigned devices. For example, you can include configuration files or data files in file bundles. A file bundle is useful to distribute any files that are not part of an RPM package.

To create a File bundle:

- 1 In the ZENworks Control Center, click the *Bundles* tab.
- 2 In the *Bundle* list, click *New > Bundle* to display the Create New Bundle Wizard.

- 3 Select *File bundle*, then click *Next*.
- 4 Follow the prompts to create the File bundle and assign it to devices. For information about what you need to supply at each step of the wizard, click the  icon.

When assigning the bundle to devices, you can lessen your management overhead by assigning the bundle to groups of devices rather than to individual devices. For more information about device groups, see [Section 1.1, “Organizing Devices: Folders and Groups,” on page 21](#).

For more detailed information about using bundles and bundle groups to deliver software to devices, see [Chapter 18, “Using RPM and File Bundles,” on page 179](#).

## 1.6 Defining and Locking Down Device Configuration Settings

Through the use of policies, you can control and lock down the configuration settings for the following applications:

- ◆ Epiphany Web browser
- ◆ Evolution™ e-mail client
- ◆ GNOME\*


Additionally, you can create policies that run applications on a device, or perform modifications to a text-based configuration file using regular expressions.

You can apply individual policies to devices. You can also add policies to policy groups and apply the policy groups to devices.

Some policies are singular, meaning that only one instance of the policy can apply to the device. Other policies are plural, meaning that multiple instances can apply. Because a device inherits policy assignments from any groups or folders in which it is a member, conflicting assignments can occur. In this case, ZENworks determines the effective policies by first applying any device-assigned policies, then any group-assigned policies, and then any folder-assigned policies.

You can define the schedule for policies. The schedule determines when a policy is applied to a device.

To create a policy:

- 1 In the ZENworks Control Center, click the *Policies* tab.
- 2 In the *Policies* list, click *New > Policy* to display the Create New Policy Wizard.
- 3 Follow the prompts to create the policy and assign it to devices. For information about what you need to supply at each step of the wizard, click the  icon.

When assigning the policy to devices, you can lessen your management overhead by assigning the policy to groups of devices rather than to individual devices. For more information about device groups, see [Section 1.1, “Organizing Devices: Folders and Groups,” on page 21](#).

For more detailed information about using policies and policy groups to control and lock down device settings, see [Part IV, “Policy Management,” on page 97](#).

## 1.7 Using Preboot Services

Preboot Services allows you to automatically or manually do any of the following to a device when it boots up:

- ◆ Configure the BIOS, BMC, RAID, and DRAC settings for Dell PowerEdge servers using a Dell Configuration bundle.
- ◆ Run scripted installations on the device, such as AutoYaST and kickstart
- ◆ Run ZENworks scripts on the device
- ◆ Make an image of the device's hard drives and other storage devices
- ◆ Restore an image to the device
- ◆ Apply an existing image to multiple devices

To accomplish these tasks automatically through the ZENworks Control Center, you need to have PXE (Preboot Execution Environment) enabled on your devices, and have prebootable tasks configured and assigned to the devices. Then, the devices can automatically implement these tasks when they boot. For instructions, see [Part VI, “Preboot Services,” on page 267](#).

## 1.8 Collecting Software and Hardware Inventory

Hardware and software inventory is automatically collected from each device. The hardware inventory includes details such as operating system, RAM, BIOS version, network adaptors, CD-ROM manufacturer, and a host of additional information. The software inventory includes a complete list of all installed packages, as well as all ZENworks-install bundles.

To view a device's hardware and software inventory:

- 1 In the ZENworks Control Center, click the *Devices* tab.
- 2 Click the *Servers* or *Workstations* folder to open it.
- 3 Click a device to display the device's Summary page.
- 4 Click the *Inventory* tab.

You can also roll up device inventory to a ZENworks 7 inventory database. For more information about collecting software and hardware inventory, see [Part VII, “Hardware and Software Inventory,” on page 405](#).

## 1.9 Managing Remote Devices

Sometimes you need to physically perform a task on a remote workstation or server. To do so, ZENworks lets you remotely manage a device through the ZENworks Control Center. When remotely managing a device, there are three modes of operation: Remote Control, Remote View, and Remote Login.

- ◆ **Remote Control:** Lets you take control of the device's desktop and perform tasks as if you were physically located at the device.
- ◆ **Remote View:** Lets you observe the device's desktop and activity.

- ♦ **Remote Login:** Lets you log in to the device, opening a new graphical session without disturbing the user on the device. The user cannot view your Remote Login session.

To manage a remote device:

- 1 In the ZENworks Control Center, click the *Devices* tab.
- 2 Click the *Servers* or *Workstations* folder to open it.
- 3 Click a device to display the device's Summary page.
- 4 In the Workstation Tasks list or Servers Tasks list (located in the upper left corner of the ZENworks Control Center), click *Remote Control Workstation* or *Remote Control Server* to open the Remote Management dialog box.
- 5 Select the remote management operation you want to perform: *Remote Control*, *Remote View*, or *Remote Login*, then click *OK*.

The remote session appears. If you receive an error message stating that additional plug-ins are required, see “[Administration Workstation Requirements](#)” in the *Novell ZENworks 7 Linux Management - Dell Edition Installation Guide*.

For more information about managing remote devices, see “[Remote Management](#)” on page 419.

## 1.10 Monitoring Events

The ZENworks system generates messages each time a management task is performed. For example, when the ZENworks Agent enforces a policy on a device, it generates an event message. Or, when the ZENworks Server is unable to register a new device, it generates an event message. Depending on the severity level (normal, warning, or critical) of the event and the item type (device, bundle, policy, etc.) for which the event was generated, the event can be displayed in various locations in the ZENworks Control Center.

The following sections provide a brief overview of event monitoring and message logging:

- ♦ [Section 1.10.1, “Hot List,” on page 29](#)
- ♦ [Section 1.10.2, “Event Log,” on page 29](#)
- ♦ [Section 1.10.3, “System Event Log,” on page 30](#)
- ♦ [Section 1.10.4, “Message Logs,” on page 30](#)

For more information about message logs, see [Part IX, “Event Monitoring,” on page 433](#).

### 1.10.1 Hot List

The Hot List displays all events that generated an error (critical or warning). An error event remains in the list until you acknowledge it.

To access the Hot List:

- 1 In the ZENworks Control Center, click the *Home* tab.

### 1.10.2 Event Log

Each device, policy, and bundle has an Event Log that displays all of the event messages generated for the item, regardless of severity level (normal, warning, or critical).

The Event Log for a device displays all events that applied to the device. For example, if a bundle or policy is applied to the device, the Event Log displays a message for the event.

The Event Log for a bundle or policy displays all events that applied to the bundle or policy. For example, if a bundle is individually applied to four devices, four messages are displayed in the Event Log, one for each device.

To access an Event Log:

- 1 In the ZENworks Control Center, click the *Devices* tab, *Bundles* tab, or *Policies* tab, depending on whether you want to view events for a device, bundle, or policy.
- 2 Click the desired device, bundle, or policy to display its Summary page.

The Event Log is located near the bottom of the Summary page.

### 1.10.3 System Event Log

Each ZENworks Server has a System Event Log that displays all of the event messages generated for tasks performed by the server, regardless of the event's severity level (normal, warning, or critical). For example, it displays messages for all bundles that the server has applied to devices that it manages.

To access a System Event Log:

- 1 In the ZENworks Control Center, click the *Devices* tab, then click a ZENworks Server to display its Summary page.

The System Event Log is located near the bottom of the Summary page.

### 1.10.4 Message Logs

The events that are displayed in the ZENworks Control Center can also be logged to files on disk. The ZENworks Agent can log event messages (the ones that appear in a device's Event Log) to a file on the device's local disk; message logs for all managed devices can also be rolled up to a central log file on the ZENworks Server.

The ZENworks Server can log messages (the ones that appear in the server's System Event Log) to a file on the server's local disk.

For more information about message logs, see [Part IX, "Event Monitoring," on page 433](#).

## 1.11 Generating Reports

You can generate reports to display bundle and device information, such as the bundle delivery information for each device or the devices registered in the last 24 hours. The ZENworks Control Center provides several predefined reports and lets you create new reports. You can export the reports to XML, CVS, or HTML formats.

ZENworks Linux Management - Dell Editions lets you generate reports specific to your Dell PowerEdge servers.

To generate a report:

- 1 In the ZENworks Control Center, click the *Reports* tab.

The Reports list includes three default folders: *Bundle Reports*, *Dell Reports*, and *Device Reports*. Each of these folders contains a set of predefined reports you can run. You can also run all of the reports in a folder by selecting the folder.

- 2** Select the *Device Reports* folder by clicking the box in front of it.
- 3** Click *Generate* to generate the six device reports.

You can print each of the reports. You can also export them to XML, CSV, and HTML formatted files.

For more information about reports, see [Part X, “Reports,” on page 455](#).



# Using ZENworks Linux Management with Dell PowerEdge Servers

# 2

By combining Novell® ZENworks® Linux Management capabilities with the Dell OpenManage toolkit capabilities, you can configure and manage your Dell PowerEdge servers from out of the box through the entire server life cycle. Whether you use SUSE® Linux Enterprise Server or Red Hat Enterprise Linux on your PowerEdge servers, you can deploy and maintain hardware, operating systems, and applications from a single administrative console—the ZENworks Control Center.


ZENworks Linux Management - Dell Edition provides the following features to help you deploy and manage Dell PowerEdge servers in your ZENworks system:

- ◆ [Section 2.1, “Configuring PowerEdge Servers using Dell Configuration Bundles,” on page 33](#)
- ◆ [Section 2.2, “Obtaining, Configuring, and Updating PowerEdge Servers Using Dell Update Package Bundles,” on page 34](#)
- ◆ [Section 2.3, “Using Advanced Dell Inventory Information,” on page 36](#)
- ◆ [Section 2.4, “Using Advanced Dell Inventory Reports,” on page 36](#)

## 2.1 Configuring PowerEdge Servers using Dell Configuration Bundles

Dell Configuration bundles let you configure the BIOS, BMC, RAID, and DRAC settings on Dell PowerEdge servers and create a Dell utility partition. You can also select to run another Preboot Services bundle after these configurations are complete. Dell Configuration bundles let you configure a bare-metal PowerEdge server and quickly and easily put the server into production.

To create a Dell Configuration bundle:

- 1 In the ZENworks Control Center, click the *Policies* tab.
- 2 In the *Policies* list, click *New > Policy* to display the Create New Policy Wizard.
- 3 Select *Preboot bundle*, then click *Next*.
- 4 Select *Dell Configuration bundle*, then click *Next*.
- 5 Follow the prompts to create the policy and assign it to devices. For information about what you need to supply at each step of the wizard, click the  icon.

When assigning the policy to devices, you can lessen your management overhead by assigning the policy to groups of devices rather than to individual devices. For more information about device groups, see [Section 1.1, “Organizing Devices: Folders and Groups,” on page 21](#).

For more detailed information about using a Dell Configuration policy to configure Dell PowerEdge servers, see [Section 27.1, “Using Dell Configuration Bundles,” on page 343](#).

## 2.2 Obtaining, Configuring, and Updating PowerEdge Servers Using Dell Update Package Bundles

Dell Update Package bundles let you update and configure hardware and system settings (including BIOS, DRAC, RAID, BMC, and FRMW configurations) on Dell PowerEdge servers. After you obtain Dell Update Packages from Dell by using the mirroring capabilities of ZENworks Linux Management - Dell Edition, you can easily assign the Dell Update Package bundles that are automatically created to PowerEdge servers in your ZENworks system. It is easy for you to determine if an updated Dell Update Package is available for PowerEdge servers in your system and deliver the update. ZENworks Linux Management - Dell Edition helps you manage and update your PowerEdge servers through the entire server lifecycle.

The following sections contain additional information:

- [Section 2.2.1, “Obtaining Dell Update Packages from Dell,” on page 34](#)
- [Section 2.2.2, “Assigning Dell Update Package Bundles to Configure and Update PowerEdge Servers,” on page 34](#)
- [Section 2.2.3, “Determining If Newer Dell Package Updates Are Available for PowerEdge Servers,” on page 35](#)
- [Section 2.2.4, “Deploying a Newer Dell Update Package,” on page 36](#)

### 2.2.1 Obtaining Dell Update Packages from Dell

You can mirror Dell Update Packages from the Dell FTP site to your ZENworks server or you can mirror the CDs you receive from Dell Support.

Dell Update Packages let you update and configure hardware and system settings (including BIOS, DRAC, RAID, BMC, and FRMW configurations) on Dell PowerEdge servers.


To mirror Dell Update Packages from the Dell FTP site or from a CD, you create and configure an XML configuration file and then use the `zlmirror` command line utility. The first time you mirror Dell Update Packages, all available packages are mirrored; subsequent mirror sessions obtain upgraded packages only. After the mirroring operation is complete, the Dell Update Packages are automatically bundled and display in the ZENworks Control Center on the Bundles page. You then assign the Dell Update Package bundles to devices just as you would with other bundles.

For more detailed information and step-by-step instructions, see [Section 22.4, “Mirroring Dell Update Packages to Your ZENworks Server,” on page 259](#)

### 2.2.2 Assigning Dell Update Package Bundles to Configure and Update PowerEdge Servers

After the mirroring operation is complete, the Dell Update Packages are automatically bundled and display in the ZENworks Control Center on the Bundles page. To install them on PowerEdge servers in your ZENworks system, you must assign them to devices using the Assign Bundle Wizard in the ZENworks Control Center.

To assign a Dell Update Package bundle:

- 1 In the ZENworks Control Center, click the *Bundles* tab, then click the underlined link next to the folder containing the Dell Update Packages that was created during the mirroring process.
- 2 Select the desired Dell Update Package bundle by clicking the box next to its name, click *Action*, then click *Assign Bundle* to launch the Assign Bundle Wizard.
- 3 Follow the prompts to create the Dell Update Package bundle and assign it to devices. For information about what you need to supply at each step of the wizard, click the  icon.

When assigning the bundle to devices, you can lessen your management overhead by assigning the policy to groups of devices rather than to individual devices. For more information about device groups, see [Section 1.1, “Organizing Devices: Folders and Groups,” on page 21](#).

For more detailed information, see [Section 20.2, “Assigning Dell Update Package Bundles,” on page 243](#).

### 2.2.3 Determining If Newer Dell Package Updates Are Available for PowerEdge Servers

After you run a mirror session and obtain updated Dell Update Packages, it is easy to determine if a newer Dell Update Package is available for installation on Dell PowerEdge servers in your ZENworks system.

To determine if there are updated Dell Update Package bundles available for the servers in your system:

- 1 In the ZENworks Control Center, click the *Devices* tab, then click *Servers*.

A link in the Dell Updates column indicates whether there is a Dell Update Package bundle available in the ZENworks package repository for each Dell PowerEdge server in the list. An update is available in the following situations:

- ♦ If a Dell Update Package exists in the ZENworks package repository but it is not assigned to that specific server model.
  - ♦ If a specific Dell Update Package is already assigned to the device, but an updated package has been mirrored and is available in the ZENworks package repository.
- 2 Click the link to view the name of the Dell Update Package bundle appropriate for the device.
  - 3 If the appropriate Dell Update Package bundle is not yet assigned to the device, continue with [Section 20.2, “Assigning Dell Update Package Bundles,” on page 243](#).

or

If the appropriate Dell Update Package bundle is already assigned to the device, continue with [Section 20.4, “Deploying an Updated Version of a Dell Update Package Bundle,” on page 248](#).

For more information, see [Section 20.3, “Determining If Newer Dell Package Updates Are Available for PowerEdge Servers,” on page 247](#)

## 2.2.4 Deploying a Newer Dell Update Package

If a specific Dell Update Package is already assigned to the device, but an updated package has been mirrored and is available in the ZENworks package repository, you can deploy the updated version of the package.

- 1 In the ZENworks Control Center, click the *Bundles* tab, click the underlined link next to the folder containing the Dell Update Packages that was created during the mirroring process.
- 2 Click the underlined link in the Name column to display the bundle's *Summary* page.
- 3 Click the Details page.
- 4 Use the Version drop-down list to select the desired version number, then click Deploy.

For more information, see [Section 20.4, “Deploying an Updated Version of a Dell Update Package Bundle,”](#) on page 248.

## 2.3 Using Advanced Dell Inventory Information

Advanced Dell inventory information lets you display inventory information specific to Dell PowerEdge servers. This advanced inventory information helps you determine when PowerEdge configuration settings need to be updated.

For more information, see [Chapter 29, “Reviewing the Device Inventory,”](#) on page 409.

## 2.4 Using Advanced Dell Inventory Reports

Advanced Dell reports let you run reports specific to Dell PowerEdge servers to find devices that do not have valid Dell Update Packages installed or to show devices with Dell applications installed (per device or per device model).

For more information, see [Section 38.2.1, “Using Templates to Create Dell Reports,”](#) on page 463.