Novell ZENworks® Configuration Management

10

SYSTEM ADMINISTRATION
REFERENCE

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Contents

About This Guide

This *Novell ZENworks 10 Configuration Management System Administration Reference* provides information about general administrative tasks required to manage your Novell® ZENworks® 10 system. The information in this guide is organized as follows:

Audience

This guide is intended for ZENworks Configuration Management administrators.

Feedback

We want to hear your comments and suggestions about this manual and the other documentation included with this product. Please use the User Comments feature at the bottom of each page of the online documentation, or go to the Novell Documentation Feedback site (http://www.novell.com/documentation/feedback.html) and enter your comments there.

Additional Documentation

ZENworks Configuration Management is supported by other documentation (in both PDF and HTML formats) that you can use to learn about and implement the product. For additional documentation, see the ZENworks 10 Configuration Management documentation Web site (http://www.novell.com/documentation/zcm10).

Documentation Conventions

In Novell documentation, a greater-than symbol (>) is used to separate actions within a step and items in a cross-reference path.

A trademark symbol (®, ™, etc.) denotes a Novell trademark. An asterisk (*) denotes a third-party trademark.

When a single pathname can be written with a backslash for some platforms or a forward slash for other platforms, the pathname is presented with a backslash. Users of platforms that require a forward slash, such as Linux*, should use forward slashes as required by your software.

ZENworks Control Center

1

You use ZENworks® Control Center to configure system settings and perform management tasks in your Management Zone.

ZENworks Control Center is installed on all ZENworks Servers in the Management Zone. You can perform all management tasks on any ZENworks Server.

The following sections provide information about using ZENworks Control Center:

1.1 Accessing ZENworks Control Center

1 Using a Web browser that meets the requirements listed in "Administration Browser Requirements" in the *ZENworks 10 Installation Guide*, enter the following URL:

`https://ZENworks_Server_Address`

Replace *ZENworks_Server_Address* with the IP address or DNS name of the ZENworks Server. ZENworks Control Center requires an HTTPS connection; HTTP requests are redirected to HTTPS.

The login dialog box is displayed.

2 In the *Username* field, type `Administrator`.

3 In the *Password* field, type the Administrator password created during installation.

4 Click *Login* to display ZENworks Control Center.

1.2 Accessing ZENworks Control Center through Novell iManager

ZENworks Configuration Management includes a Novell® plug-in module (.npm) that you can use to access ZENworks Control Center from Novell iManager, which is a management console used by a number of other Novell products.

The ZENworks Control Center plug-in supports iManager 2.7 only. It does not support iManager 2.6 or 2.5; it will install to these versions but will not work.

To install the ZENworks Control Center plug-in for iManager:

1 On the server where iManager is located (or on a device that has access to the iManager server), open a Web browser to the ZENworks download page:

https://*server*/zenworks-setup

where *server* is the DNS name or IP address of a ZENworks Server.

2 In the left navigation pane, click *Administrative Tools*.

3 Click *zcc.npm* and save the file to a location on the iManager server.

4 Follow the instructions in the *Novell iManager 2.7 Administration Guide* (http://www.novell.com/documentation/imanager27/imanager_admin_27/data/b8qrsg0.html) to install and configure the plug-in module.

5 Log into iManager.

6 Click the ZENworks icon at the top of the page.

7 Enter the ZENworks Control Center URL:

```
https://ZENworks_Server_Address
```

Replace *ZENworks_Server_Address* with the IP address or DNS name of the ZENworks Server.

8 Click the ZENworks icon to launch ZENworks Control Center.

1.3 Navigating ZENworks Control Center

The following Bundles page represents a standard view in ZENworks Control Center.

Figure 1-1   *ZENworks Control Center*
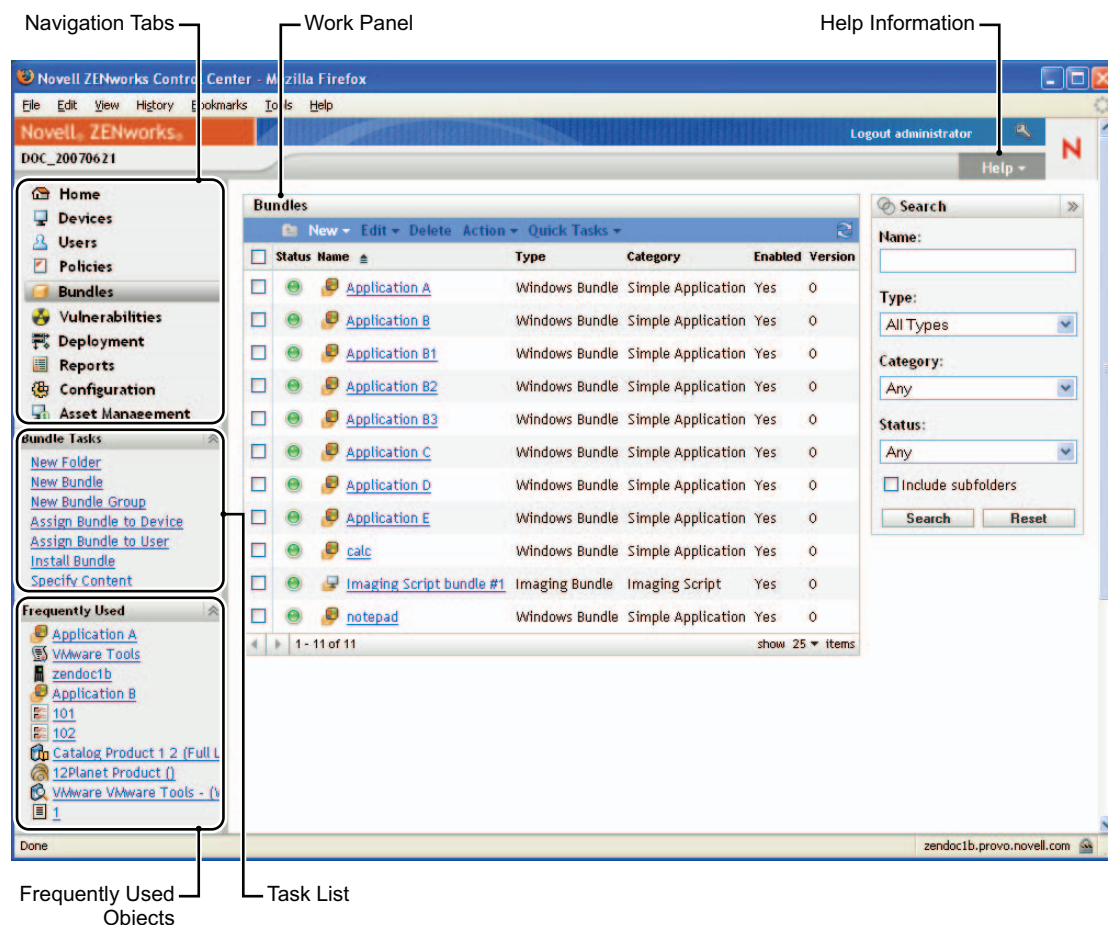
Navigation Tabs: The tabs in the left pane let you navigate among the functional areas of ZENworks. For example, the Bundles page shown above lets you manage tasks associated with software distribution and imaging.

Task List: The task list in the left pane provides quick access to the most commonly performed tasks for the current page. The task list changes for each page. For example, the task list on the Bundles page displays bundle-related tasks and the task list on the Devices page displays device-related tasks.

Frequently Used Objects: The Frequently Used list in the left pane displays the 10 objects that you have accessed most often, from most used to least used. Clicking an object takes you directly to the details page for the object.

Work Panel: The work panels are where you monitor and manage your ZENworks system. The panels change depending on the current page. In the above example, there are two work panels: Bundles and Search. The Bundles panel lists the software and imaging bundles that have been created; you use this panel to manage the bundles. The Search panel lets you filter the Bundles panel based on criteria such as a bundle's name, type, category, or status.

Help Information: The *Help* button links to Help topics that provide information about the current page. The *Help* button links change depending on the current page.

1.4 Changing the Timeout Value for ZENworks Control Center

By default, ZENworks Control Center has a 30-minute timeout value. If you leave ZENworks Control Center idle on your computer for more than 30 minutes, you are prompted to log in again before continuing. You can increase or decrease the timeout value, or you can specify that ZENworks Control Center never times out.

To change the timeout value, you modify two XML files on the ZENworks Server. The change applies only to ZENworks Control Center on the server. If you want to change the timeout for ZENworks Control Center on other ZENworks Servers, you need to change the XML files on those servers.

1 On the ZENworks Server, open the `web.xml` file in a text editor.

  ◆ Windows server path: `\Novell\ZENworks\share\tomcat\webapps\ zenworks\WEB-INF\web.xml`

  ◆ Linux server path: `opt/novell/zenworks/share/tomcat/webapps/ zenworks/WEB-INF/web.xml`

2 Locate the `<session-timeout>` entry.

3 Increase or decrease the timeout value, as needed.

  Specify the timeout value in minutes. The larger the timeout value, the longer ZENworks Control Center retains the memory resources, which might have a negative impact on the long-term performance of the device where you have launched ZENworks Control Center.

4 Save the `web.xml` file.

5 Open the `config.xml` file in a text editor.

  The `config.xml` file is located in the same directory as the `web.xml` file:

  ◆ Windows server path: `\Novell\ZENworks\share\tomcat\webapps\ zenworks\WEB-INF\config.xml`

  ◆ Linux server path: `opt/novell/zenworks/share/tomcat/webapps/ zenworks/WEB-INF/config.xml`

6 Locate the `<setting id="timeout">` entry.

7 Set the timeout value to the same number as you entered in the `web.xml` file.

8 Save the `config.xml` file.

9 Restart the ZENworks Server by restarting the zen-server service. See Chapter 3, "ZENworks Server," on page 29 for instructions if necessary.

Administrators

2

During installation of ZENworks® Configuration Management, a default ZENworks administrator account (named Administrator) is created. This account provides rights to administer all of your Management Zone.

You can create additional administrator accounts that provide full access to your zone. You can also create accounts with limited rights. For example, you could create an administrator account that enables the administrator to assign bundles to devices but doesn't allow the administrator to create bundles. Or, you could create an administrator account that allows access to all management tasks except those pertaining to your Management Zone configuration (user sources, registration, configuration settings, and so forth).

You can use ZENworks Control Center (ZCC) or the zman command line utility to create and modify administrator accounts. The following procedures explain how to perform these tasks using ZCC. If you prefer the zman command line utility, see "Administrator Commands" in "ZENworks 10 Configuration Management Command Line Utilities Reference".

The following sections contain additional information:

2.1 Managing Administrator Accounts

The following sections help you create and manage administrator accounts:

2.1.1 Creating Administrators

To create an administrator account:

1 In ZCC, click the *Configuration* tab.

Configuration	Registration	System Information	Asset Inventory	System Updates	Asset Management

Management Zone Settings

Server Hierarchy

Administrators

New Edit ▾ Delete

☐ Name ≜	Full Name	Username in User Source

No items available.

User Sources

Licenses

2 In the Administrators panel, click *New* to display the Add New Administrator dialog box.

Add new Administrator

There are two ways to create an Administrator:

◉ Create a new Administrator providing name and password.

Administrator Name:

Full Name:

Password:

Retype Password:

◯ Based on user(s) in a user source
will use the same credential defined in Authoritative source.

Add Remove

☐ Name	In Folder

No items selected, click add to select items

☐ Give this Administrator the same rights as I have.
Fields marked with an asterisk are required.

OK   Cancel

3 Fill in the fields.

The Add New Administrator dialog box lets you create a new administrator account by providing a name and password, or you can create a new administrator based on an existing user in the user source. Optionally, you can give the new administrator the same rights that the logged-in administrator has.

Create a New Administrator by Providing Name, Password: Select this option if you want to create a new administrator account by manually specifying the name and password.

Administrator login names with Unicode* characters are case-sensitive. Make sure that you use the correct case for each character in the login name when it contains Unicode characters.

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 ZENworks Control Center.

Based on User(s) in a User Source: Select this option if you want to create a new administrator account based on user information from your user source. To do so, click *Add*, then browse for and select the user you want.

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.

Give this Administrator the Same Rights as I Have: Select this option to assign the new administrator the same rights that you have as the currently-logged in administrator.

4 When finished filling in the above fields, click *OK* to add the new administrator.

You can also use the `admin-create` command in zman to create an administrator account. For more information, see "Administrator Commands" in "ZENworks 10 Configuration Management Command Line Utilities Reference".

2.1.2 Deleting Administrators

1 In ZCC, click the *Configuration* tab.

2 In the Administrators panel, select the check box in front of the administrator's name, then click *Delete*.

You can also use the `admin-delete` command in zman to delete an administrator account. For more information, see "Administrator Commands" in "ZENworks 10 Configuration Management Command Line Utilities Reference".

2.1.3 Renaming Administrators

1 In ZCC, click the *Configuration* tab.

2 In the Administrators panel, select the check box in front of the administrator's name, click *Edit*, then click *Rename*.

3 Specify the new name, then click *OK*.

You can also use the `admin-rename` command in zman to rename an administrator account. For more information, see "Administrator Commands" in "ZENworks 10 Configuration Management Command Line Utilities Reference".

2.1.4 Changing Administrator Passwords

1 In ZCC, click the *Configuration* tab.

2 In the Administrators panel, select the check box in front of the administrator, click *Edit*, then click *Set Password* to display the Change Administrator Password Dialog box.

3 Fill in the fields, then click *OK*.

2.2 Managing Administrator Rights

The following sections help you manage existing administrator accounts and their assigned rights:

- Section 2.2.1, "Assigning Super Administrator Rights," on page 18
- Section 2.2.2, "Adding Assigned Rights," on page 18
- Section 2.2.3, "Modifying Assigned Rights," on page 18
- Section 2.2.4, "Removing Assigned Rights," on page 19

2.2.1 Assigning Super Administrator Rights

A Super Administrator has all right to perform all actions in ZCC. For more information about all of the rights that a Super Administrator has, see Section 2.3, "Rights Descriptions," on page 19. If you grant an administrator Super Administrator rights, any assigned rights that have been allowed, denied, or not set are overridden.

1 In ZCC, click the *Configuration* tab.

2 Click the administrator in the *Name* column of the Administrators panel.

3 Select the *Super Administrator* check box.

2.2.2 Adding Assigned Rights

1 In ZCC, click the *Configuration* tab.

2 Click the administrator in the *Name* column of the Administrators panel.

3 Click *Add*, then click an item from the drop-down list.

4 Fill in the fields.

   For more information, see Section 2.3, "Rights Descriptions," on page 19.

5 Click *OK*.

You can also use the `admin-rights-set` command in zman to add assigned rights for an administrator account. For more information, see "Administrator Commands" in "ZENworks 10 Configuration Management Command Line Utilities Reference".

2.2.3 Modifying Assigned Rights

1 In ZCC, click the *Configuration* tab.

2 Click the administrator in the *Name* column of the Administrators panel.

3 Select the check box in front of the assigned right.

4 Click *Edit*, then modify the settings.

   For more information, see Section 2.3, "Rights Descriptions," on page 19.

5 Click *OK*.

2.2.4 Removing Assigned Rights

1 In ZCC, click the *Configuration* tab.

2 Click the administrator in the Name column of the Administrators pane.

3 Select the check box in front of the assigned right.

4 Click *Delete*.

You can also use the `admin-rights-delete` command in zman to delete assigned rights for an administrator account. For more information, see "Administrator Commands" in "ZENworks 10 Configuration Management Command Line Utilities Reference".

2.3 Rights Descriptions

When you create additional administrator accounts you can provide full access to your zone or you can create accounts with limited rights. For example, you could create an administrator account that enables the administrator to assign bundles to devices but doesn't allow the administrator to create bundles. Or, you could create an administrator account that allows access to all management tasks except those pertaining to your Management Zone configuration (user sources, registration, configuration settings, and so forth). For information about creating additional administrators, see "Creating Administrators" on page 15.

You can also add, modify, or remove the assigned rights of an existing administrator. For more information, see Section 2.2.2, "Adding Assigned Rights," on page 18, Section 2.2.3, "Modifying Assigned Rights," on page 18, or Section 2.2.4, "Removing Assigned Rights," on page 19.

The following sections contain additional information about the various rights that you can assign:

- Section 2.3.1, "Administrator Rights," on page 19
- Section 2.3.2, "Bundle Rights," on page 20
- Section 2.3.3, "Contract Management Rights," on page 20
- Section 2.3.4, "Device Rights," on page 21
- Section 2.3.5, "Document Rights," on page 22
- Section 2.3.6, "Inventoried Device Rights," on page 22
- Section 2.3.7, "License Management Rights," on page 23
- Section 2.3.8, "Policy Rights," on page 23
- Section 2.3.9, "Quick Task Rights," on page 24
- Section 2.3.10, "Remote Management Rights," on page 24
- Section 2.3.11, "Reporting Rights," on page 25
- Section 2.3.12, "User Rights," on page 25
- Section 2.3.13, "ZENworks User Group Rights," on page 26
- Section 2.3.14, "Zone Rights," on page 26

2.3.1 Administrator Rights

The Administrator Rights dialog box lets you allow the selected administrator to grant rights to other administrators and to create or delete administrator accounts for your Management Zone.

The following rights are available:

- **Grant Rights:** Allow or deny the administrator the rights necessary to grant rights to other administrators.
- **Create/Delete:** Allow or deny the administrator the rights necessary to create or delete administrator accounts.

2.3.2 Bundle Rights

The Bundle Rights dialog box lets you select folders containing bundles, then modify the rights associated with those folders.

Bundles

To select the folder that contains the bundles for which you want to assign rights, click *Add* to display the Subjects dialog box, then browse for and select the folders for which you want to assign rights.

Bundle Rights

The *Privileges* section lets you grant the selected administrator rights to create or modify bundles, create or modify groups, and create or modify folders.

The following rights are available:

- **Modify:** Allow or deny the administrator the rights necessary to modify existing bundles.
- **Create/Delete:** Allow or deny the administrator the rights necessary to create or delete bundles.
- **Modify Groups:** Allow or deny the administrator the rights necessary to modify existing groups.
- **Create/Delete Groups:** Allow or deny the administrator the rights necessary to create or delete groups.
- **Modify Group Membership:** Allow or deny the administrator the rights necessary to modify the list of bundles contained in bundle groups.
- **Modify Folder:** Allow or deny the administrator the rights necessary to modify folders.
- **Create/Delete Folders:** Allow or deny the administrator the rights necessary to create or delete folders.

2.3.3 Contract Management Rights

The Contract Management Rights dialog box lets you select folders containing contracts, then modify the rights associated with contracts and folders.

Contract Management

To select the folder that contains the contracts for which you want to assign rights, click *Add* to display the Subjects dialog box, then browse for and select the folders for which you want to assign rights.

Privileges

- **Modify:** Allow or deny the administrator the rights necessary to modify the existing contracts.
- **Create/Delete:** Allow or deny the administrator the rights necessary to create or delete contracts.
- **Modify Folder:** Allow or deny the administrator the rights necessary to modify folders.
- **Create/Delete Folders:** Allow or deny the administrator the rights necessary to create or delete folders.

2.3.4 Device Rights

The Device Rights dialog box lets you select folders containing devices, then modify the rights associated with those folders.

Devices

To select the folder that contains the devices for which you want to assign rights, click *Add* to display the Subjects dialog box, then browse for and select the folders for which you want to assign rights.

Device Rights

The *Privileges* section lets you grant the selected administrator rights to work with devices, including device groups and folders, allowing the administrator to assign policies and bundles to devices.

The following rights are available:

- **Modify:** Allow or deny the administrator the rights necessary to modify the existing device objects.
- **Create/Delete:** Allow or deny the administrator the rights necessary to create or delete device objects.
- **Modify Groups:** Allow or deny the administrator the rights necessary to modify existing groups.
- **Create/Delete Groups:** Allow or deny the administrator the rights necessary to create or delete groups.
- **Modify Group Membership:** Allow or deny the administrator the rights necessary to modify the list of devices contained in device groups.
- **Modify Folder:** Allow or deny the administrator the rights necessary to modify folders.
- **Create/Delete Folders:** Allow or deny the administrator the rights necessary to create or delete folders.
- **Modify Settings:** Allow or deny the administrator the rights necessary to modify device settings.
- **Assign Policies:** Allow or deny the administrator the rights necessary to assign polices to devices.
- **Assign Bundles:** Allow or deny the administrator the rights necessary to assign bundles to devices.

2.3.5 Document Rights

The Document Rights dialog box lets you select folders containing documents, then modify the rights associated with documents and folders.

Documents

To select the folder that contains the documents for which you want to assign rights, click *Add* to display the Subjects dialog box, then browse for and select the folders for which you want to assign rights.

Privileges

- **Modify:** Allow or deny the administrator the rights necessary to reassign existing documents.
- **Create/Delete:** Allow or deny the administrator the rights necessary to import or delete documents.
- **Modify Folder:** Allow or deny the administrator the rights necessary to modify folders.
- **Create/Delete Folders:** Allow or deny the administrator the rights necessary to create or delete folders.

2.3.6 Inventoried Device Rights

The Inventoried Device Rights dialog box lets you select folders containing devices, then modify the rights associated with those folders.

Devices

To select the folder that contains the inventoried devices for which you want to assign rights, click *Add* to display the Subjects dialog box, then browse for and select the folders for which you want to assign rights.

Inventoried Device Rights

The *Privileges* section lets you grant the selected administrator rights to work with inventoried devices, including device groups and folders.

The following rights are available:

- **Modify:** Allow or deny the administrator the rights necessary to modify existing inventoried device objects.
- **Create/Delete:** Allow or deny the administrator the rights necessary to create or delete inventoried device objects.
- **Modify Groups:** Allow or deny the administrator the rights necessary to modify existing groups.
- **Create/Delete Groups:** Allow or deny the administrator the rights necessary to create or delete groups.
- **Modify Group Membership:** Allow or deny the administrator the rights necessary to modify the list of devices contained in device groups.
- **Modify Folder:** Allow or deny the administrator the rights necessary to modify folders.

- ◆ **Create/Delete Folders:** Allow or deny the administrator the rights necessary to create or delete folders.
- ◆ **Modify Settings:** Allow or deny the administrator the rights necessary to modify inventoried device settings.

2.3.7 License Management Rights

The License Management Rights dialog box lets you select folders containing licenses, then modify the rights associated with licenses and folders.

License Management

To select the folder that contains the licenses for which you want to assign rights, click *Add* to display the Subjects dialog box, then browse for and select the folders for which you want to assign rights.

Privileges

- ◆ **Modify:** Allow or deny the administrator the rights necessary to modify the existing licenses.
- ◆ **Create/Delete:** Allow or deny the administrator the rights necessary to create or delete licenses.
- ◆ **Modify Folder:** Allow or deny the administrator the rights necessary to modify folders.
- ◆ **Create/Delete Folders:** Allow or deny the administrator the rights necessary to create or delete folders.

2.3.8 Policy Rights

The Policy Rights dialog box lets you select folders containing policies, then modify the rights associated with those folders.

Policies

To select the folder that contains the policies for which you want to assign rights, click *Add* to display the Subjects dialog box, then browse for and select the folders for which you want to assign rights.

Policy Rights

The *Privileges* section lets you grant the selected administrator rights to work with policies, including device groups and folders.

The following rights are available:

- ◆ **Modify:** Allow or deny the administrator the rights necessary to modify the existing policies.
- ◆ **Create/Delete:** Allow or deny the administrator the rights necessary to create or delete policies.
- ◆ **Modify Groups:** Allow or deny the administrator the rights necessary to modify existing groups.
- ◆ **Create/Delete Groups:** Allow or deny the administrator the rights necessary to create or delete groups.

- **Modify Group Membership:** Allow or deny the administrator the rights necessary to modify the list of policies contained in policy groups.

- **Modify Folders:** Allow or deny the administrator the rights necessary to modify folders.

- **Create/Delete Folders:** Allow or deny the administrator the rights necessary to create or delete folders.

2.3.9 Quick Task Rights

The Quick Tasks Rights dialog box lets you select folders containing devices, then modify the Quick Task rights associated with those folders.

Quick Tasks are tasks that appear in ZCC task lists (for example, Server Tasks, Workstation Tasks, Bundles Tasks, and so forth). When you click a task, either a wizard launches to step you through the task or a dialog box appears in which you enter information to complete the task.

You can use the Quick Tasks Rights dialog box to allow or deny the selected administrator the rights to perform certain tasks using Quick Tasks.

Devices

To select the folder that contains the device for which you want to assign rights, click *Add* to display the Subjects dialog box, then browse for and select the folders for which you want to assign rights.

Quick Task Rights

The following rights are available:

- **Shutdown/Reboot/Wake Up Devices:** Specify whether the administrator can shut down, reboot, or wake up the devices in the folders you selected in the list.

- **Execute Processes:** Allow or deny the administrator the rights necessary to execute processes on the devices.

- **Refresh ZENworks Adaptive Agent:** Allow or deny the administrator the rights necessary to refresh the ZENworks Adaptive Agent on devices.

- **Install/Launch Bundles:** Allow or deny the administrator the rights necessary to install or launch bundles. The administrator must also have Assign Bundles rights for devices to install or launch bundles using Quick Task options.

- **Apply Image:** Allow or deny the administrator the rights necessary to apply an image to devices.

- **Take Image:** Allow or deny the administrator the rights necessary to take an image of a device.

- **Inventory:** Allow or deny the administrator the rights necessary to inventory devices.

2.3.10 Remote Management Rights

The Remote Management Rights dialog box lets you select folders containing devices and users, then modify the Remote Management rights associated with those folders. Granting Remote Execute rights allows the administrator to execute processes in the system space.

Devices/Users

To select the folder that contains the devices and users for which you want to assign rights, click *Add* to display the Subjects dialog box, then browse for and select the folders for which you want to assign rights.

Remote Management Rights

The following rights are available:

- **Remote View:** Allow or deny the administrator the rights necessary to remotely view devices.
- **Remote Diagnostics:** Allow or deny the administrator the rights necessary to perform remote diagnostic procedures on devices.
- **Remote Execute:** Allow or deny the administrator the rights necessary to remotely execute processes on devices.
- **Transfer files:** Allow or deny the administrator the rights necessary to transfer files to or from devices.
- **Remote Control:** Allow or deny the administrator the rights necessary to remotely control devices.

2.3.11 Reporting Rights

The Reporting Rights dialog box lets you allow or deny the administrator the rights to create, delete, execute, or publish reports.

2.3.12 User Rights

The User Rights dialog box lets you select folders containing users, then modify the rights associated with those folders.

Users

To select the folder that contains the users for which you want to assign rights, click *Add* to display the Subjects dialog box, then browse for and select the folders for which you want to assign rights.

User Rights

The *Privileges* section lets you grant the selected administrator rights to work with devices, including device groups and folders, allowing the administrator to assign policies and bundles to devices.

The following rights are available:

Modify ZENworks Group Membership: Allow or deny the rights necessary to modify ZENworks group membership. If you select this option, you must also grant rights to *Modify ZENworks Group Membership* under *ZENworks User Group Rights*.

Assign Policies: Allow or deny the administrator the rights necessary to assign policies to users.

Assign Bundles: Allow or deny the administrator the rights necessary to assign bundles to users.

2.3.13 ZENworks User Group Rights

The ZENworks User Group Rights dialog box lets you allow or deny the administrator the rights to create, delete, or modify groups and to modify group membership.

The following rights are available:

- **Modify Groups:** Allow or deny the administrator the rights necessary to modify existing groups.
- **Create/Delete Groups:** Allow or deny the administrator the rights necessary to create or delete groups.
- **Modify ZENworks Group Membership:** Allow or deny the administrator the rights necessary to modify the ZENworks group membership. If you select this option, you must also grant rights to *Modify ZENworks Group Membership* under *User Rights*.
- **Assign Policies:** Allow or deny the administrator the rights necessary to modify the list of policies contained in policy groups.
- **Assign Bundles:** Allow or deny the administrator the rights necessary to modify the list of bundles contained in policy groups.

2.3.14 Zone Rights

The Zone Rights dialog box lets you modify the administrator's rights to administer settings in your ZENworks Management Zone.

- **Modify User Sources:** Allow or deny the administrator the rights necessary to modify user sources.

  A user source is an LDAP directory that contains the users to whom you want to distribute ZENworks content. When you define a user source, you also define the source containers from which you want to read users and user groups.

  Modifying user sources includes adding, removing, or renaming user sources and assigning policies or bundles to user sources.
- **Create/Delete User Sources:** Allow or deny the administrator the rights necessary to create or delete user sources.
- **Modify Settings:** Allow or deny the administrator the rights necessary to modify your Management Zone settings.

  The Management Zone settings let you manage the global configuration settings for your Management Zone. These global configuration settings are inherited by other objects (devices, users, and folders) within your Management Zone and remain in effect unless they are overridden on those objects.
- **Modify Zone Infrastructure:** Allow or deny the administrator the rights necessary to modify Zone infrastructure.
- **Configure Registration:** Allow or deny the administrator the rights necessary to configure device registration.

  Registration lets you manage the various configuration settings for registering devices as managed devices in the Management Zone. Registration lets you create registration keys or registration rules to help you register devices. A registration key lets you apply group and

folder assignments to devices as they register. A registration rule lets you apply group and folder assignments to folders if the device meets the rule criteria.

- **Discovery:** Allow or deny the administrator the rights necessary to manage discovery tasks.
- **Approve Updates:** Allow or deny the administrator the rights necessary to approve updates.
- **Apply Updates:** Allow or deny the administrator the rights necessary to apply updates.
- **Deployment:** Allow or deny the administrator the rights necessary to perform deployment operations.

  Deployment lets you discover network devices and deploy the ZENworks Adaptive Agent to them so that they become managed devices in your Management Zone.

ZENworks Server

<div style="text-align: right; font-size: 3em;">3</div>

The ZENworks® Server is the backbone of the ZENworks system. It communicates with the ZENworks Adaptive Agent on managed devices to deliver software, apply policies, collect inventory, and perform other management tasks. It stores content to be delivered to devices and images to be used for imaging devices. It communicates with other ZENworks Servers to replicate content throughout the servers and distribution points in the system.

The following sections provide additional information about the ZENworks Server:

3.1 ZENworks Services on a Windows Server

When running on a Windows* server, a ZENworks Server includes the following services:

Table 3-1 *ZENworks Services on Windows*

Service	Service Name	Description
Proxy DHCP Service	novell-proxydhcp	Used with a standard DHCP server to inform PXE-enabled devices of the IP address of the Novell® TFTP server.
TFTP Service	novell-tftp	Used by PXE-enabled devices to request files that are needed to perform imaging tasks.
ZENworks Agent Service	zenworkswindowsservice novell-zmd	Used to enable the server as a managed device.
ZENworks Datastore	dbsrv10	Embedded database used for storing ZENworks objects and resources.
ZENworks Loader	zenloader	Used for loading and controlling the Java* services that perform ZENworks Server tasks.
ZENworks Preboot Policy Service	novell-zmgprebootpolicy	Used by PXE-enabled devices to check for assigned preboot policies and work.
ZENworks Preboot Service	novell-pbserv	Used to provide imaging services to a device. This includes sending and receiving image files, discovering assigned Preboot bundles, acting as session master for multicast imaging, and so forth.
ZENworks Remote Management	nzrwinvnc	Used to enable remote management of the server.

Service	Service Name	Description
ZENworks Server	zenserver	Used for communicating with the ZENworks Agent.
ZENworks Services Monitor	zenwatch	Used to monitor the status of the ZENworks services.
ZENworks Imaging Agent	ziswin	Used to save and restore image-safe data on the server (as a managed device). Only runs when launched by the ZENworks Agent.

The services reside in the `\novell\zenworks\bin` directory on a ZENworks Server. Refer to the following sections for instructions to help you control the ZENworks services:

3.1.1 Checking the Status of a ZENworks Service

1 On the server, click *Start*, select *Administrative Tools > Services*, then review the status of the services listed in Table 3-1 on page 29.

3.1.2 Starting a ZENworks Service

1 On the server, click *Start*, select *Administrative Tools > Services*.

2 Select the service you want to start (see Table 3-1 on page 29), then click *Start the service.*

3.1.3 Stopping a ZENworks Service

1 On the server, click *Start*, select *Administrative Tools > Services*.

2 Select the service you want to start (see Table 3-1 on page 29), then click *Start the service.*

3.2 ZENworks Services on a Linux Server

The ZENworks Server includes the following services:

Table 3-2 *ZENworks Services on Linux*

Service	Service Name	Description
Proxy DHCP Service	novell-proxydhcp	Used with a standard DHCP server to inform PXE-enabled devices of the IP address of the Novell TFTP server.
TFTP Service	novell-tftp	Used by PXE-enabled devices to request files that are needed to perform imaging tasks.

Service	Service Name	Description
ZENworks Agent Service	novell-zmd	Used to enable the server as a managed device.
ZENworks Loader	novell-zenloader	Used for loading and controlling the Java services that perform ZENworks Server tasks.
ZENworks Preboot Policy Service	novell-zmgprebootpolicy	Used by PXE-enabled devices to check for assigned preboot policies and work.
ZENworks Preboot Service	novell-pbserv	Used to provide imaging services to a device. This includes sending and receiving image files, discovering assigned Preboot bundles, acting as session master for multicast imaging, and so forth.
ZENworks Server	novell-zenserver	Used for communicating with the ZENworks Agent.
ZENworks Services Monitor	novell-zenmntr	Used to monitor the status of the ZENworks services.
ZENworks Imaging Agent	novell-zenagent	Used to save and restore image-safe data on the server (as a managed device). Only runs when launched by the ZENworks Agent.

The services reside in the `/etc/init.d` directory. Refer to the following sections for instructions to help you control the ZENworks services:

- Section 3.2.1, "Checking the Status of a ZENworks Service," on page 31
- Section 3.2.2, "Starting a ZENworks Service," on page 31
- Section 3.2.3, "Stopping a ZENworks Service," on page 32
- Section 3.2.4, "Restarting a ZENworks Service," on page 32

3.2.1 Checking the Status of a ZENworks Service

1 At the server command prompt, enter the following command:

```
/etc/init.d/servicename status
```

Replace *servicename* with the name of the service as listed in Table 3-2 on page 30.

3.2.2 Starting a ZENworks Service

1 At the server command prompt, enter the following command:

```
/etc/init.d/servicename start
```

Replace *servicename* with the name of the service as listed in Table 3-2 on page 30.

2 To start all services, use the following command:

```
/opt/novell/zenworks/bin/novell-zenworks-configure Start
```

3.2.3 Stopping a ZENworks Service

To stop a service, use the following command:

```
/etc/init.d/servicename stop
```

Replace *servicename* with the name of the service as listed in Table 3-2 on page 30.

3.2.4 Restarting a ZENworks Service

To restart a service that is already running, use the following command:

```
/etc/init.d/servicename restart
```

Replace *servicename* with the name of the service as listed in Table 3-2 on page 30.

3.3 Uninstalling a ZENworks Server

Instructions for uninstalling a ZENworks Server are provided in "Uninstalling Configuration Management" in the *ZENworks 10 Installation Guide*.

Server Hierarchy

4

Your Management Zone's server hierarchy determines the relationships among the ZENworks®
Servers and Content Distribution Points. These relationships control the flow of content and
information within the zone.

4.1 Understanding Server Hierarchy Relationships

The following sections explain the possible relationships between ZENworks Servers and between
ZENworks Servers and Content Distribution Points:

4.1.1 ZENworks Servers: Peer Versus Parent/Child Relationships

By default, each ZENworks Server that you add to the system is created as a peer to all other
ZENworks Servers. Being in a peer relationship enables a ZENworks Server to:

- Have direct write access to the ZENworks database so that it can add information (inventory, messages, and status).
- Retrieve device configuration information directly from the database.
- Pull content (bundles and policies) from any ZENworks Server.

Direct write access to the ZENworks database requires a JDBC*/ODBC connection. If a ZENworks
Server is located on the network such that it cannot effectively access the ZENworks database via a
JDBC/ODBC connection, you can configure the ZENworks Server as a child of another ZENworks
Server that does have direct write access to the database. Being in a child relationship requires a
ZENworks Server to:

- Use HTTP to roll up inventory, message, and status information to its parent ZENworks Server, which then writes the information to the database.
- Retrieve device configuration information through its parent ZENworks Server.

In general, you should try to maintain peer relationships between your ZENworks Servers unless
your network connections do not allow it.

4.1.2 Content Distribution Point Relationships

A Content Distribution Point is a managed device that is able to distribute content (bundles and policies) to other devices. When you set up a device to function as a Content Distribution Point, you must specify a ZENworks Server as its parent. The Content Distribution Point receives all content from its parent ZENworks Server.

4.2 Demoting a ZENworks Server

To make a ZENworks Server a child of another server:

1 In ZENworks Control Center, click the *Configuration* tab.

2 In the Server Hierarchy panel, select the check box in front of the ZENworks Server you want to make a child.

3 Click *Move* to display the *Move Device* dialog box.

4 Select the ZENworks Server you want to be the parent server.

5 Click *OK*.

4.3 Promoting a ZENworks Server

To make a child ZENworks Server a peer to your other ZENworks Servers:

1 In ZENworks Control Center, click the *Configuration* tab.

2 In the Server Hierarchy panel, select the check box in front of the ZENworks Server you want to make a child.

3 Click *Move* to display the *Move Device* dialog box.

4 Select *None*.

5 Click *OK*.

4.4 Changing the Inventory Roll-Up Schedule

Each ZENworks Server gathers inventory information from the devices that use it as a collection server. Typically, the ZENworks Server then adds the information to the ZENworks database so that it can be viewed in ZENworks Control Center. However, if a ZENworks Server has been demoted to a child of another ZENworks Server, it no longer has access to the ZENworks database.

The inventory roll-up schedule determines how often a child ZENworks Server sends collected inventory information to its parent ZENworks Server. The parent then includes the information in the ZENworks database.

The default inventory roll-up schedule is every 5 minutes. To change the schedule:

1 In ZENworks Control Center, click the *Configuration* tab.

2 In the Server Hierarchy panel, select the check box in front of the child ZENworks Server whose inventory roll-up schedule you want to change.

3 Click *Action > Edit Inventory Rollup Schedule*.

4 Use the *Days*, *Hours*, and *Minutes* fields to specify how often you want the inventory rolled up.

5 Click *OK*.

4.5 Changing the Message Roll-Up Schedule

Each ZENworks Server gathers messages (errors, warning, informational, and so forth) from the devices that use it as a collection server. Typically, the ZENworks Server then adds the messages to the ZENworks database so that it can be viewed in ZENworks Control Center. However, if a ZENworks Server has been demoted to be a child of another ZENworks Server, it no longer has access to the ZENworks database.

The message roll-up schedule determines how often a child ZENworks Server sends collected messages to its parent ZENworks Server. The parent then includes the messages in the ZENworks database.

The default message roll-up schedule is every 5 minutes. To change the schedule:

1 In ZENworks Control Center, click the *Configuration* tab.

2 In the Server Hierarchy panel, select the check box in front of the child ZENworks Server whose message roll-up schedule you want to change.

3 Click *Action > Edit Message Rollup Schedule*.

4 Use the *Days*, *Hours*, and *Minutes* fields to specify how often you want the messages rolled up.

5 Click *OK*.

4.6 Changing the Status Roll-Up Schedule

Each ZENworks Server gathers policy and bundle status information from the devices that use it as a collection server. Typically, the ZENworks Server then adds the status information to the ZENworks database so that it can be viewed in ZENworks Control Center. However, if a ZENworks Server has been demoted to be a child of another ZENworks Server, it no longer has access to the ZENworks database.

The status roll-up schedule determines how often a child ZENworks Server sends collected status information to its parent ZENworks Server. The parent then includes the status information in the ZENworks database.

The default status roll-up schedule is every 5 minutes. To change the schedule:

1 In ZENworks Control Center, click the *Configuration* tab.

2 In the Server Hierarchy panel, select the check box in front of the child ZENworks Server whose status roll-up schedule you want to change.

3 Click *Action > Edit Status Rollup Schedule*.

4 Use the *Days*, *Hours*, and *Minutes* fields to specify how often you want the status information rolled up.

5 Click *OK*.

Content Repository

<div style="text-align: right; font-size: 3em;">5</div>

Each ZENworks® Server contains a content repository. The content repository stores all bundle and policy content that has been replicated to the server and any images that have been captured and stored to the server.

The content repository is self-maintaining. Whenever you add a bundle or policy, the bundle or policy content is added to the appropriate content repositories based upon the replication settings. Whenever you remove a bundle or policy or change which servers host its content, the bundle or policy content is also removed from the appropriate servers.

If necessary, you can move the content repository to a different location. The following sections provide instructions:

5.1 Changing the Location of the Content Repository on a Windows Server

The content repository is found in the following location on a Windows server:

installation_path\zenworks\work\content-repo

1 Make sure that the disk drive you want to use is attached to the server and is properly formatted.

   You do not need to specify a drive letter, but the server must recognize the hardware.

2 To make sure that there is no content in the default location (*installation_path*\zenworks\work\content-repo), do one of the following:

   - If you need to save the content that is now in this directory, rename the existing directory and create a new directory named content-repo.

      You can later copy the content from this renamed directory to the new content repository location (see Step 9).

   - If you do not need any of the content in the existing content-repo directory, delete the directory and re-create it.

   - If the content-repo directory is not present in the path given above, create the path and directory.

   An empty content-repo directory must exist to be the pointer to the new content repository location.

3 Click *Start*, right-click the *My Computer* icon, then select *Manage*.

   You can also click *Start*, then enter compmgmt.msc at the *Run* command line.

4 Select *Disk Management* under the *Storage* section in the left pane.

   The disk drive you selected in Step 1 should be displayed.

5 Right-click the partition of the disk drive that you want to use as your content repository, then select *Change Driver Letter and Paths*.

This is the disk drive that you will mount to the `content-repo` directory.

6 Click *Add*.

This displays the Add Drive Letter or Path dialog box.

7 Select *Mount in the Following Empty NTFS Folder*, then browse for and select the `content-repo` directory:

`installation_path\zenworks\work\content-repo`

8 Click *OK* as necessary to exit and save the configuration change.

9 If necessary (see Step 2), copy the files from the old renamed `content-repo` directory to the new `content-repo` directory.

This copies the files to the hard drive that you selected for your new content repository.

5.2 Changing the Location of the Content Repository on a Linux Server

You can store your data on a network share such as NFS, SMB, or CIFS and mount the share in your `content-repo` directory to access your data.

5.2.1 Mounting a Share

After configuring a share on a remote machine, you can mount it from `/var/opt/novell/zenworks/content-repo` using the following command:

```
mount -t cifs -o username=username //example.machine.com/share_name /var/opt/novell/zenworks/content-repo
```

In the command, `//example.machine.com/share-name` is the share to mount and `/var/opt/novell/zenworks/content-repo` is the mount point.

If you only need to store the data from part of your content repository on another share, you can also do that. For example, if you to store your ZENworks image files on another share, you could use the following command:

```
mount -t cifs -o username=username //example.machine.com/share_name /var/opt/novell/zenworks/content-repo/images
```

Or, to store bundle and policy content on another share, you could use the following command:

```
mount -t cifs -o username=username //example.machine.com/share_name /var/opt/novell/zenworks/content-repo/content
```

5.2.2 Unmounting a Share

This mount is temporary; the share is unmounted when the operating system is shut down or rebooted. You can also use the following command to manually unmount the share:

```
umount /var/opt/novell/zenworks/content-repo
```

5.2.3 Creating a Permanent Mount

To ensure that the mount occurs each time the Linux server starts, you must add an entry to your `/etc/fstab` configuration file using the following command:

```
//example.machine.com/share_name /var/opt/novell/zenworks/content-repo cifs credentials=path_to_credentials_file 0 0
```

The credentials file contains a username and password. For more information, see the `mount.cifs(8)` man page. The format of the file is:

```
username=value
```

```
password=value
```

A symbolic link can also be created on your local hard drive if you want to store your data elsewhere on your local device. See the `ln(1)` man page for more information about how to symbolically link directories.

5.2.4 Moving Existing Content to the New Repository

After you change the location of a content repository by mounting a new share, any content in the old location is no longer available. To make it available, you must move it to the new repository.

Content Replication

6

When you add a bundle or policy that contains files, the files are uploaded to the content repository on the ZENworks® Server. In addition, the ZENworks database is updated to reflect the addition of the bundle or policy and its content.

ZENworks Servers and Content Distribution Points, collectively referred to as content servers, periodically read the ZENworks database to discover new bundles and policies. Each content server that does not have the bundle or policy content retrieves it from the content server where it resides.

There are a variety of settings you can use to control how content is replicated among content servers in your zone. You can:

- Specify whether content is replicated to new content servers by default.

- Manually include content on or exclude content from content servers.

- Schedule how often replication occurs.

- Set a limit, or throttle, on the maximum amount of content that is replicated per second from one content server to another.

For information about performing these tasks, see the following sections:

- Section 6.1, "Replicating Content to New Content Servers," on page 41
- Section 6.2, "Including or Excluding Content," on page 42
- Section 6.3, "Modifying the Replication Schedule," on page 44
- Section 6.4, "Throttling the Content Replication Rate," on page 45

6.1 Replicating Content to New Content Servers

By default, when a new content server (ZENworks Server or Content Distribution Point) is added to the zone, all bundle and policy content is replicated to that content server. You can, however, choose not to replicate specific bundle or content policy.

For example, assume that you have a bundle for Microsoft* Office. You've included it on specific content servers and don't want it replicated to additional servers. To keep this from happening, you would modify the Microsoft Office bundle's replication settings to exclude replication to new content servers.

1 In ZENworks Control Center, go to the details page for the bundle or policy whose replication setting you want to modify.

2 Click the *Content Servers* tab.

   The Replication Settings panel displays whether new content servers are included (receive the content) or excluded (don't receive the content).

3 In the Replication Settings panel, click *Edit* to display the Include/Exclude New Servers dialog box.

4 Select *Included* to include new servers in replication of the content.

   or

Select *Excluded* to exclude new servers.

5 Click *OK* to save the changes.

6.2 Including or Excluding Content

The default replication setting determines whether content is automatically replicated to new content servers (see Section 6.1, "Replicating Content to New Content Servers," on page 41). You configure the setting for each bundle or policy. If you choose to include a bundle's or policy's content on new content servers, it is replicated to all new servers; likewise, if you choose to exclude the content, it is not replicated to any new servers.

In some cases, the default replication settings might not give you the desired replication scope for your content, or the scope might change. If this occurs, you can manually include content on or exclude it from specific content servers. There are three ways to do this:

6.2.1 Managing a Single Piece of Content on Multiple Content Servers

This section provides instructions for managing the replication of a single bundle's or policy's content to multiple content servers. If you want to manage the replication of the content for multiple bundles or policies to a single content server, see Section 6.2.2, "Managing Multiple Pieces of Content on a Single Content Server," on page 43.

1 In ZENworks Control Center, go to the details page for the bundle or policy whose content replication you want to manage.

2 Click the *Content Servers* tab.

The Replication Status panel displays all content servers in the zone. If the bundle or policy content is included on a content server, the *Included* column displays a ✔ icon.

3 To change the replication status for a content server, select the check box in front of the server, then click *Include* to include the content on the server or click *Exclude* to exclude the content from the server.

As you include or exclude content servers, you should be aware of the following replication rules:

- If a ZENworks Server is the parent server for one or more Content Distribution Points, you can't exclude the content from the ZENworks Server without first excluding it from the Content Distribution Points.
- If you only have one ZENworks Server in your Management Zone, you can't exclude the content from it.
- You can't include a Content Distribution Point without first including the Distribution Point's parent ZENworks Server.

6.2.2 Managing Multiple Pieces of Content on a Single Content Server

This section provides instructions for managing the replication of the content for multiple bundles or policies to a single content servers If you want to manage the replication of a single bundle's or policy's content to multiple content servers, see Section 6.2.1, "Managing a Single Piece of Content on Multiple Content Servers," on page 42.

1 In ZENworks Control Center, go to the details page for the content server whose content replication you want to manage.

2 Click the *Content* tab.

The Replication Settings panel displays all bundles and policies in the zone. If the bundle or policy content is included on the content server, the Included column displays a ✔ icon.

3 To change the replication status for a bundle or policy, select the check box in front of the bundle or policy, then click *Include* to include its content on the server or click *Exclude* to exclude its content from the server.

As you include or exclude content from the server, you should be aware of the following replication rules:

- If a ZENworks Server is the parent server for one or more Content Distribution Points, you can't exclude the content from the ZENworks Server without first excluding it from the Content Distribution Points.

- If you only have one ZENworks Server in your Management Zone, you can't exclude the content from it.

- You can't include a Content Distribution Point without first including the Distribution Point's parent ZENworks Server.

6.2.3 Managing Multiple Pieces of Content on Multiple Content Servers

You can use the Specify Content Wizard to include or exclude multiple pieces of content on multiple content servers. For example, you might have four bundles that you want included on only two of your four content servers. Rather than managing the replication for the individual bundles (see Section 6.2.1, "Managing a Single Piece of Content on Multiple Content Servers," on page 42) or the individual content servers (see Section 6.2.2, "Managing Multiple Pieces of Content on a Single Content Server," on page 43), you can use the wizard to manage the replication for all four bundles and content servers at one time.

1 In ZENworks Control Center, click the *Devices* tab, then click the *Servers* folder to open it.

2 In the *Server Tasks* list in the left navigation pane, click *Specify Content* to launch the wizard.

3 Follow the prompts to complete the wizard.

If you need more information about a wizard page, click the *Help* button or refer to the following table.

Wizard Page	Details
Include or Exclude Content Servers/Distribution Points	Move the content servers on which you want to include the content to the *Included* list. Move the content servers on which you want to exclude the content to the *Excluded* list.
	As you include or exclude content servers you should be aware of the following replication rules:
	◆ If a ZENworks Server is the parent server for one or more Content Distribution Points, you can't exclude content from the ZENworks Server without also excluding it from the Content Distribution Points.
	◆ If you only have one ZENworks Server in your Management Zone, you can't exclude the content from it.
	◆ You can't include a Content Distribution Point without also including the Distribution Point's parent ZENworks Server.
New Servers Added to the System page	Select whether the content is included on or excluded from content servers added in the future.
Select Content to Update page	Identify the content you want affected by moving it from the *Available Content* list to the *Selected Content* list.

You can also launch the Specify Content Wizard from the following locations:

◆ Bundles page

◆ Policies page

◆ Configuration page > Server Hierarchy panel

6.3 Modifying the Replication Schedule

By default, a ZENworks Server checks for new or removed content every 5 minutes. If you do not add or remove bundles and policies very often, you might want to decrease the frequency of the schedule.

A ZENworks Server uses up to five threads to update the content in its repository during a replication cycle. If the current replication cycle does not complete before the next scheduled cycle, the schedule is ignored and replication automatically continues into the next cycle.

1 In ZENworks Control Center, click the *Configuration* tab.

2 In the Management Zone Settings panel, click *Content > Content Replication*.

3 For the *Primary Server Recurring Content Replication Schedule*, use the *Days*, *Hours*, and *Minutes* fields to set the schedule.

You can use any combination of the fields. For example, to specify every 30 hours, you can enter 30 hours or 1 day, 6 hours.

4 Click *Apply* or *OK* to save the schedule.

6.4 Throttling the Content Replication Rate

The content replication throttling rate determines the maximum amount of content (in kilobytes per second) that a ZENworks Server transfers when replicating content to other content servers or when distributing content to managed devices.

By default, no throttling rate is imposed, which means that a ZENworks Server uses all available bandwidth. To set a throttling rate:

1 In ZENworks Control Center, click the *Configuration* tab.

2 In the Management Zone Settings panel, click *Content > Content Replication*.

3 In the *Primary Server Output Throttling in KB/Sec* list, select the throttling rate you want.

   This rate applies to all ZENworks Servers in your zone. You cannot set individual throttling rates.

4 Click *Apply* or *OK* to save the changes.

Content Delivery

7

Content delivery, or distribution, refers to the process of transferring bundle and policy content from a content server (ZENworks Server® or Content Distribution Point) to a managed device.

There are a variety of settings you can use to determine how content is delivered to managed devices. You can:

- ◆ Set up Closest Server rules that determine from which content server a managed device downloads its content.
- ◆ Schedule times, referred to as delivery blackout dates, when content cannot be downloaded by managed devices.
- ◆ Decide how often you want managed devices to look for new content to download.

For information about performing these tasks, see the following sections:

7.1 Setting Up Closest Server Rules

When you have multiple content servers, you can use the Closest Server rules to determine from which content server a managed device downloads content. The Closest Server rules let you map devices to content servers based on network addresses (DNS names and IP addresses).

For example, you can create a rule that maps all devices that fall within the IP address range of 123.45.678.1 to 123.45.678.100 to ContentServer1.

The following sections provide information and instructions for setting up Closest Server rules:

7.1.1 Understanding Closest Server Rules

You can configure Closest Server rules at three levels: Management Zone, device folder, and device. However, each device can have only one Closest Server rule applied to it. A device's effective rule is determined as follows:

1. **Device Settings:** Evaluate all rules that are set on the device. If the device meets a rule's criteria, that rule becomes the device's effective rule.

2. **Folder settings:** If no device rule applies, evaluate all rules that are set on the device's parent folder. If the device meets a rule's criteria, that rule becomes the device's effective rule. If not, evaluate the rules on the next folder up the hierarchy.

3. **Management Zone:** If no folder rule applies, evaluate all rules that are set in the Management Zone. If the device meets a rule's criteria, that rule becomes the device's effective rule. If not, apply the default rule to the device.

4. **Default Rule:** If no device, folder, or Management Zone rule applies, apply the default rule to the device. The default rule is simply a listing of all content servers in the order you want devices to contact them.

7.1.2 Creating Closest Server Rules

1 Launch ZENworks Control Center.

2 To create a Closest Server rule for your Management Zone, click the *Configuration* tab, then click *Infrastructure Management* (in the Management Zone Settings panel) > *Closest Server Rules*.

or

To create a Closest Server rule for a device folder, open the folder's details page, then click *Settings* > *Infrastructure Management* (in the Settings panel) > *Closest Server Rules*.

or

To create a Closest Server rule for a device, open the device's details page, then click *Settings* > *Infrastructure Management* (in the Settings panel) > *Closest Server Rules*.

Devices > Workstations > zendocwks1 > **Closest Server Rules**

🖥 **zendocwks1**

Closest Server Rules	☒
Configure the setting for how the primary user is determined.	
Current: (Not Configured) (Override settings)	

Add
Edit
Move Up
Move Down
Remove

Close

3 If you are creating Closest Server rules on a device or device folder, click *Override settings* to activate the Closest Server Rules panel.

4 Click *Add* to display the Rule Construction dialog box

Complete the following steps to define the rule:

4a In the *Rule Name* field, specify a name for the rule.

4b Using the *Rule Logic* fields, create the rule expression.

An expression consists of a criteria option, operator, and value. For example:

`DNS Name Filter equal to *.novell.com`

`DNS Name Filter` is the criteria option, `equal to` is the operator, and `*.novell.com` is the value. In the above example, the Closest Server rule is applied only to devices whose DNS name ends with `.novell.com`.

If necessary, you can use NOT to perform a logical negation of the expression. For example:

`NOT DNS Name Filter equal to *.novell.com`

In the above example, the Closest Server rule is applied only to devices whose DNS name does not end with `.novell.com`.

You can use more than one expression for the rule. For example:

```
DNS Name Filter equal to provo.novell.com or
IP Address equal to 123.45.678.12/24
```

The criteria options you can use are listed below.

Option	Explanation
DNS Name Filter	Matches DNS names that meet the filter criteria. You can specify an exact filter or use a question mark (?) or an asterisk (*) as a wildcard to match one or more characters in the DNS name. A ? matches one character and an * matches one or more characters. Examples: provo.novell.com: Matches all devices in the provo subdomain of the novell.com top-level domain. *.novell.com: Matches all devices in the novell.com top-level domain, including any devices in subdomains. provo?.novell.com: Matches all devices in the provo1 and provo 2 subdomains of the novell.com top-level domain; does not match devices in the provo12 subdomain.
IP Address /n	Matches IP addresses that fall within the specified CIDR (Classless Inter-Domain Routing) block. With CIDR, the dotted decimal portion of the IP address is interpreted as a 32-bit binary number that has been broken into four 8-bit bytes. The number following the slash (/n) is the prefix length, which is the number of shared initial bits, counting from the left side of the address. The /n number can range from 0 to 32, with 8, 16, 24, and 32 being commonly used numbers. Examples: 123.45.678.12/16: Matches all IP addresses that start with 123.45. 123.45.678.12/24: Matches all IP addresses that start with 123.45.678.

4c In the *Content Servers* box, click *Add* to add ZENworks Servers and Content Distribution Points to the list.

4d If necessary, use the *Move Up* and *Move Down* buttons to reorder the *Collection Server* list.

The order in which the ZENworks Servers are listed is the order in which a device contacts them. If the first ZENworks Server is not available, the second server is contacted, and so on.

4e When you are finished, click *OK* to add the rule to the *Closest Server Rules* list.

5 Repeat Step 2 to create additional rules.

6 If necessary, when you are finished creating rules, use the *Move Up* and *Move Down* buttons to reorder the rules in the *Closest Server Rules* list.

The rules are evaluated in the order they are listed. You should place the rules in the order you want them evaluated.

7.1.3 Configuring the Closest Server Default Rule

1 In ZENworks Control Center, click the *Configuration* tab, then click *Infrastructure Management* (in the Management Zone Settings panel) > *Closest Server Default Rule*.
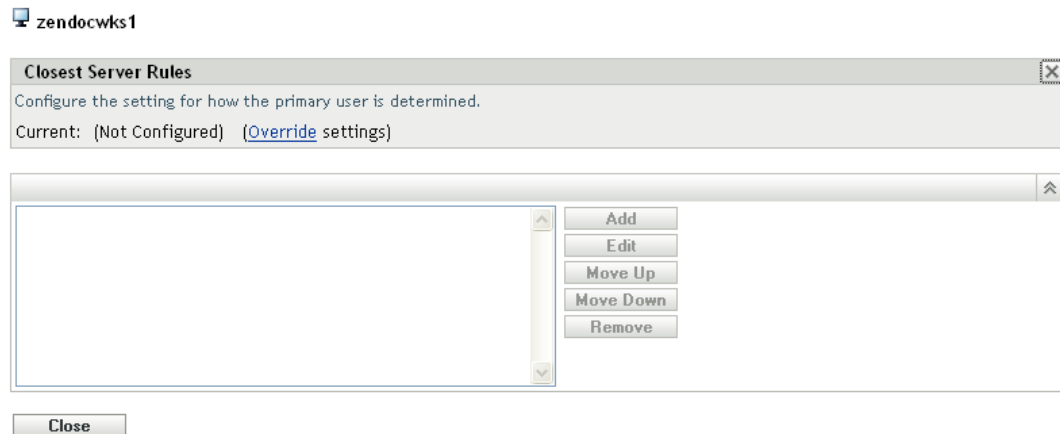
Configuration > **Closest Server Default Rule**

| **Closest Server Default Rule** | [X] |
| Configure the setting for how managed devices determine their closest server using the default rule. | |

Collection Servers:

/Devices/Servers/zendoc1a   Move Up / Move Down

Content Servers:

/Devices/Servers/zendoc1a   Move Up / Move Down

Configuration Servers:

/Devices/Servers/zendoc1a   Move Up / Move Down

OK   Apply   Reset   Cancel

The *Content Servers* list includes all ZENworks Servers and Content Distribution Points in your zone. You cannot add or remove content servers from the list. However, you can reorder the list to reflect the order in which you want the servers contacted by devices.

2 Use the *Move Up* and *Move Down* buttons to reorder the *Content Servers* list.

3 When you are finished reordering the list, click *OK* or *Apply* to save the changes.

7.2 Scheduling Delivery Blackout Dates

If there are times when you don't want managed devices to download content, you can create a content blackout schedule. Schedules can be defined at the following levels:

- **Management Zone:** The schedule is inherited by all devices.
- **Device Folder:** The schedule is inherited by all devices within the folder and its subfolders. Overrides the Management Zone blackout schedule.
- **Device:** The schedule applies only to the device for which it is defined. Overrides any schedules set at the Management Zone and folder levels.

A blackout schedule can include one or more time periods. For example, you could create a schedule that prevents content from being delivered one Sunday from 7:00 p.m. to 9:00 p.m or each Sunday from 7:00 p.m. to 9:00 p.m.

To create a content blackout schedule:

1 Launch ZENworks Control Center.

2 To create a content blackout schedule for your Management Zone, click the *Configuration* tab, then click *Content* (in the Management Zone Settings panel) > *Content Blackout Schedule*.
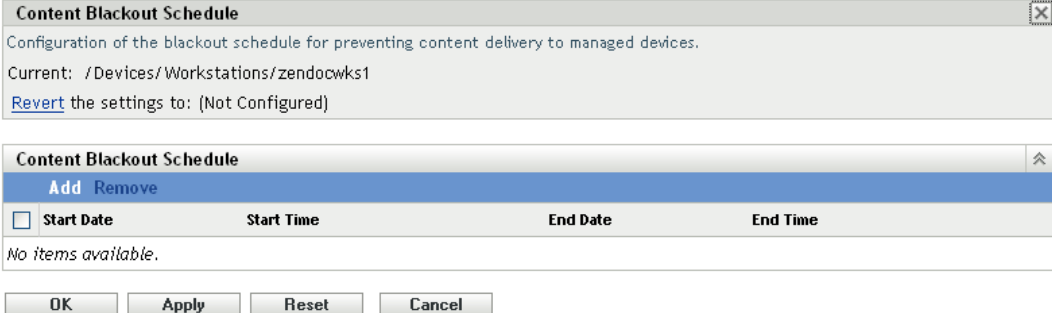
or

To create a content blackout schedule for a device folder, open the folder's details page, click *Settings* > *Content* (in the Settings panel) > *Content Blackout Schedule*.

or

To create a content blackout schedule for a device, open the device's details page, click *Settings* > *Content* (in the Settings panel) > *Content Blackout Schedule*.

Devices > Workstations > zendocwks1 > **Content Blackout Schedule**

🖥 **zendocwks1**

Content Blackout Schedule ☒
Configuration of the blackout schedule for preventing content delivery to managed devices.
Current: /Devices/Workstations/zendocwks1
Revert the settings to: (Not Configured)

Content Blackout Schedule ⌃
Add Remove

	Start Date	Start Time	End Date	End Time
☐				

No items available.

[OK] [Apply] [Reset] [Cancel]

3 If you are creating content blackout schedules for a device or device folder, click *Override settings* to activate the Content Blackout Schedule panel.

4 Click *Add* to display the Specify Blackout Time Period dialog box, then fill in the following fields:

Start Date: Select the first date you want to include in the schedule.

End Date: Select the last date you want to include in the schedule. The blackout time period (specified by the start and end times) occurs each day from the start date to the end date.

Start Time: Select the hour you want the blackout time period to start each day.

End Time: Select the hour you want the blackout time period to end each day. If you want the blackout time period to extend for 24 hours, select the same time as the start time.

5 Click *OK* to save the blackout period.

6 Repeat Step 4 to create additional blackout periods.

7 When you are finished, click *OK* or *Apply* to save the schedule.

7.3 Setting the Device Refresh Schedule

At device startup, the ZENworks Adaptive Agent contacts a ZENworks Server to refresh its information. If information changes after startup, the Adaptive Agent must refresh its information before the changes can show up on the device.

If the refreshed information indicates that there is new content to be downloaded, the Adaptive Agent contacts its content server and begins the download process.

You can use the device refresh schedule to determine how often a device contacts a ZENworks Server to update bundle, policy, configuration, and registration information. Schedules can be defined at the following levels:

- ◆ **Management Zone:** The schedule is inherited by all devices.

- ◆ **Device Folder:** The schedule is inherited by all devices within the folder and its subfolders. Overrides the Management Zone blackout schedule.

- ◆ **Device:** The schedule applies only to the device for which it is defined. Overrides any schedules set at the Management Zone and folder levels.

To create a device refresh schedule:

1 Launch ZENworks Control Center.

2 To create a device refresh schedule for your Management Zone, click the *Configuration* tab, then click *Device Management* (in the Management Zone Settings panel) > *Device Refresh Schedule*.

or

To create a device refresh schedule for a device folder, open the folder's details page, then click *Settings* > *Device Management* (in the Settings panel) > *Device Refresh Schedule*.

or

To create a device refresh schedule for a device, open the device's details page, then click *Settings* > *Content* (in the Settings panel) > *Device Refresh Schedule*.

3 If you are creating a device refresh schedule for a device or device folder, click *Override settings* to activate the Device Refresh Schedule panel, the choose from the following schedules:

Manual Refresh: If you want a device refreshed only when its user manually initiates the refresh, select *Manual Refresh,* then click *Apply*. Users can initiate a refresh by clicking the ZENworks icon located in the desktop's notification area (system tray).

Timed Refresh: Select *Timed Refresh* if you want to establish a refresh schedule. There are two schedules you can use: the Full Refresh Schedule and the Partial Refresh Schedule.

- **Full Refresh Schedule:** The full refresh schedule defines how often you want a device to update all of its information from the ZENworks Server, including bundle, policy, setting, and registration information. Use the following fields to create the full refresh schedule:

  - **Days, Hours, Minutes:** Specifies the amount of time between refreshes. For example, to set a refresh interval of 8.5 hours, you would specify 0 Days, 8 Hours, 30 Minutes. The default is 12 hours.

  - **Random Time to Wait:** Select this option to ensure that multiple devices that have the same refresh schedule do not all initiate their refresh at the same time. For example, if you have 1000 devices with the same refresh schedule, you might overburden your ZENworks Server. By selecting this option, the device waits a randomly generated amount of time before initiating its refresh. Use the *Minimum* and *Maximum* fields to specify the range (in seconds) for the randomly generated time.

- **Partial Refresh Schedule:** The partial refresh schedule defines how often you want a device to update its policy, configuration setting, and registration information from the ZENworks Server. Bundle information is not updated.

  In the *Days*, *Hours*, and *Minutes* fields, specify the amount of time between refreshes. For example, to set a refresh interval of 3 hours, you would specify 0 Days, 3 Hours, 0 Minutes. The default is 2 hours.

The refresh interval is not reset until the device refresh is complete. For example, assume you set a refresh interval of 8 hours. The device's first refresh occurs at 6:00 p.m. and takes 13 seconds to complete. The second refresh occurs at 2:00:13 a.m. (8 hours after the refresh was completed at 6:00:13). If the second refresh takes 15 seconds to complete, the third refresh occurs at 10:00:28 a.m.

4 When you are finished, click *OK* or *Apply* to save the schedule.

Content Distribution Points

8

If you want to improve content access for a group of devices without creating another ZENworks® Server, you can create a Content Distribution Point. For example, if you have devices that are accessing a ZENworks Server outside of their network segment, you can create a Content Distribution Point within the network segment to service those devices.

You can promote any managed device to be a Content Distribution Point. A Content Distribution Point provides the same content delivery service as a ZENworks Server but requires only the Content Distribution Point module that is installed with the ZENworks Adaptive Agent. The module is inactive until you promote the managed device to be a Content Distribution Point.

When you create a Content Distribution Point, you assign a ZENworks Server as its parent content server. The Content Distribution Point downloads content from its parent ZENworks Server only. Therefore, any content you want hosted on a Content Distribution Point must also be hosted on its parent ZENworks Server.

8.1 Creating a Content Distribution Point

1 In ZENworks Control Center, click the *Configuration* tab.

2 In the Server Hierarchy panel, select the ZENworks Server that you want to serve as the new Content Distribution Point's parent content server.
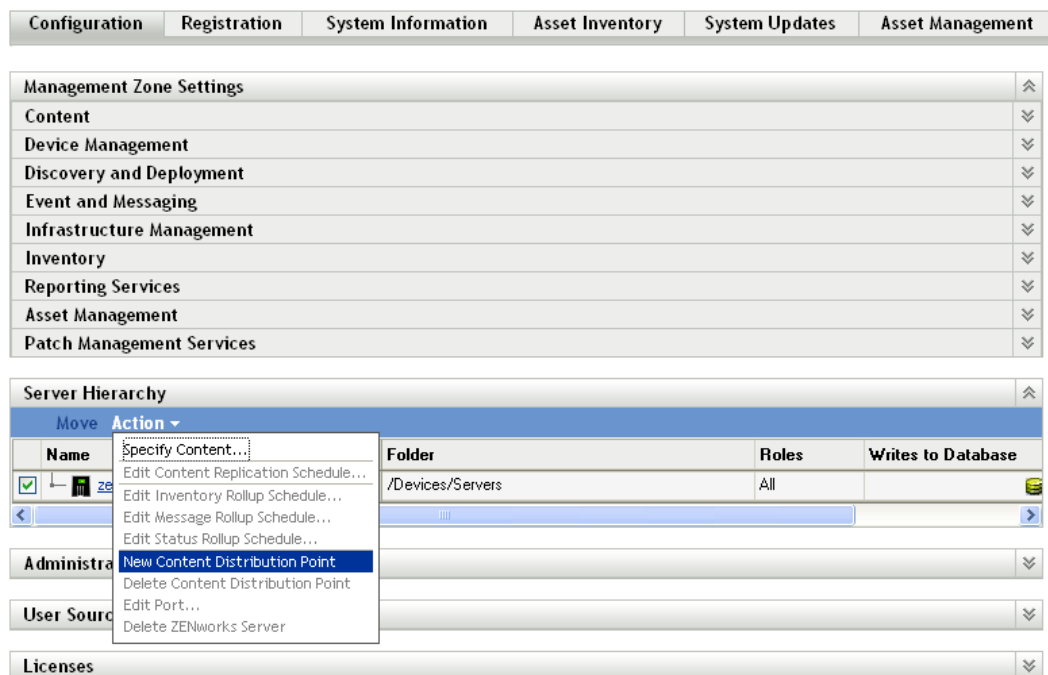
3 Click *Action > New Content Distribution Point* to display the New Content Distribution Point dialog box.

4 If desired, change the default port number (80) to the port number you want the device to use for content replication HTTP requests.

5 In the *Device* field, click 🔍 to browse for and select the desired device.

6 Click *OK* to promote the device to be a Content Distribution Point.

In the Server Hierarchy panel, the new Content Distribution Point is added as a child of the ZENworks Server.
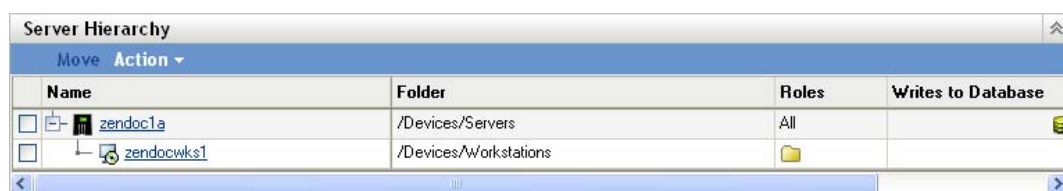
For information about controlling the content that is replicated to the Content Distribution Point, see Chapter 6, "Content Replication," on page 41.

8.2 Deleting a Content Distribution Point

Deleting a Content Distribution Point does not remove the device as a managed device. It only disables the device as a Content Distribution Point and removes the content from the device.

1 In ZENworks Control Center, click the *Configuration* tab.

2 In the Server Hierarchy panel, select the Content Distribution Point that you want to delete.

3 Click *Action > Delete Content Distribution Point*.

4 Click *OK* to confirm the deletion.

The Content Distribution Point is removed from the Server Hierarchy panel.

IMPORTANT: If you established any Closest Server rules to direct managed devices to the Content Distribution Point, you should rework your rules. For more information, see Section 7.1, "Setting Up Closest Server Rules," on page 47.

8.3 Modifying the Content Replication Schedule

By default, a Content Distribution Point checks for new or removed content every 5 minutes. You can change the replication schedule. For example, you might want to increase the time between replication cycles if you are not adding content very often to your system or if the connection between the Content Distribution Point and its parent ZENworks Server is slow.

A Content Distribution Point uses up to five threads to update the content in its repository during a replication cycle. If the current replication cycle does not complete before the next scheduled cycle, the schedule is ignored and replication automatically continues into the next cycle.

To modify the schedule:

1 In ZENworks Control Center, click the *Configuration* tab.

2 In the Server Hierarchy panel, select the Content Distribution Point whose schedule you want to modify.

3 Click *Action > Edit Content Replication Schedule*.

4 Use the *Days*, *Hours*, and *Minutes* fields to set the schedule.

You can use any combination of the fields. For example, to specify every 30 hours, you can enter 30 hours or 1 day, 6 hours.

5 Click *OK* to save the new schedule.

8.4 Specifying the Content to Host

By default, a Content Distribution Point includes the same content as its parent ZENworks Server. If you want to limit the content that it hosts, you can exclude content from being replicated to it.

If you want to include content that its parent ZENworks Server does not have, you must first add the content to the parent ZENworks Server.

For additional information and instructions about how to specify the content to be hosted on a Content Distribution Point, see Section 6.2, "Including or Excluding Content," on page 42.

User Sources

9

Novell® ZENworks® Configuration Management enables you to assign content to users as well as devices. Device-assigned content is available whenever the device is running and connected to the network; user-assigned content is available only when the user is logged in to the Management Zone. For example, if you assign a bundle to a user, the bundle is available only after the user logs in.

Unlike devices, users are not defined in your Management Zone. Instead, you connect to the LDAP directory that you want to use as your authoritative user source. If necessary, you can connect to multiple directories.

The following sections provide instructions to define user sources:

9.1 Prerequisites

❑ **Minimum directory version:** Novell eDirectory™ 8.7.3 or Microsoft Active Directory* on Windows 2000 SP4.

❑ **Minimum LDAP version:** LDAPv3

❑ **Minimum user account rights:** Read rights.
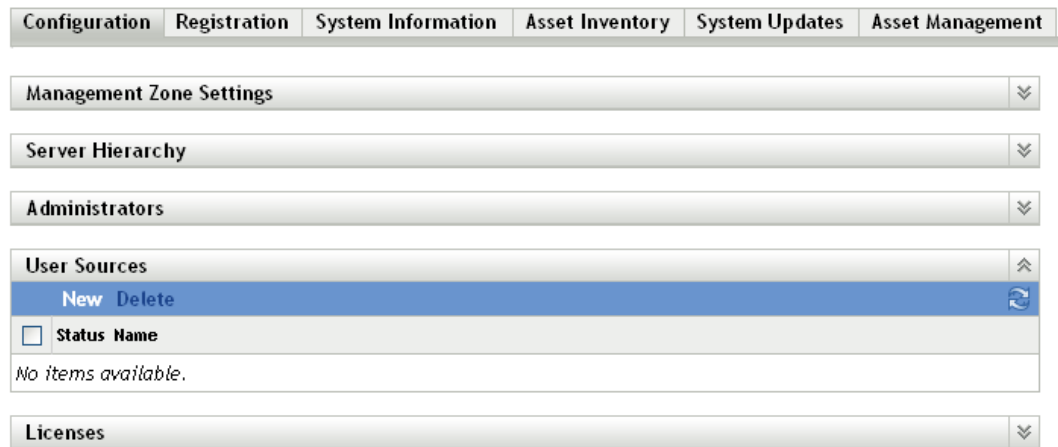
For Active Directory, you can use a basic user account. This provides sufficient read access to the directory.

For eDirectory, you need inheritable read rights to the following attributes: CN, O, OU, C, DC, GUID, and Object Class. You can assign the rights at the directory's root context or at another context you designate as the ZENworks root context.

❑ **DNS name resolution:** With Active Directory, your ZENworks Servers (in particular, the DNS clients on the ZENworks Server) must be able to resolve the DNS name of each Active Directory domain defined as a user source. Otherwise, users from the Active Directory domain cannot log in to the ZENworks Management Zone.

9.2 Adding a User Source

1 In ZENworks Control Center, click the *Configuration* tab.

2 In the User Sources panel, click *New* to launch the Create New User Source Wizard.

3 Follow the prompts to create the connection to the user source.

For information about each of the wizard pages, click the *Help* button or refer to the following table.

Wizard Page	Details
Connection Information page	Specify the information required to create a connection to the LDAP directory: ◆ **Address:** Specify the IP address or DNS hostname of the server where the LDAP directory resides. ◆ **Use SSL:** By default, this option is enabled. Disable the option if the LDAP server is not using the SSL (Secure Socket Layer) protocol. ◆ **Port:** This field defaults to the standard SSL port (636) or non-SSL port (389) depending on whether the *Use SSL* option is enabled or disabled. If your LDAP server is listening on a different port, select that port number. ◆ **Root Context:** The root context establishes the point in the directory where you can begin to browse for user containers. Specifying a root context can enable you to browse less of the directory, but it is optional. If you don't specify a root context, the directory's root container becomes the entry point.

Credentials page	Specify a username and password for accessing the directory:
	
	◆ **Username:** Specify the username for a user that has read-only access to the directory. The user can have more than read-only access, but read-only access is all that is required and recommended.
	
	For Novell eDirectory access, use standard LDAP notation. For example:
	
	`cn=admin_read_only,ou=users,o=mycompany`
	
	For Microsoft Active Directory, use standard domain notation. For example:
	
	`AdminReadOnly@mycompany.com`
	
	◆ **Password:** Specify the password for the user you specified in the Username field.

Wizard Page	Details
User Containers page	After you connect to an LDAP directory as a user source, you can define the containers within the directory that you want exposed. The number of user containers you define is determined by how much of the directory you want to expose. Consider the following example:

Assume you want to enable all users in the Accounting and Sales containers to receive ZENworks content. In addition, you want to be able to access the user groups located in the Accounting, Sales, and Groups containers in order to distribute content based on those groups. To gain access to the users and groups, you have two options:

  - You can add MyCompany/EMEA as a user container, in which case all containers located below EMEA would be visible in ZENworks Control Center, including the Servers and Services containers. Only users and user groups located in the EMEA containers would be visible (servers and services would not), but the structure would still be exposed.

  - You can add MyCompany/EMEA/Accounting as one user container, MyCompany/EMEA/Sales as a second container, and MyCompany/EMEA/Groups as a third container. Only these containers would become visible as folders beneath the MyCompany directory reference in ZENworks Control Center.

To add the containers where users reside:

1. Click *Add* to display the Add User Container dialog box.

2. In the *Context* field, click to browse for and select the desired container.

3. In the *Display Name* field, specify the name you want used for the user container when it is displayed in ZENworks Control Center.

4. Click *OK* to add the container to the list.

9.3 Deleting a User Source

When you delete a source, all assignments and messages for the source's users are removed. You cannot undo a source deletion.
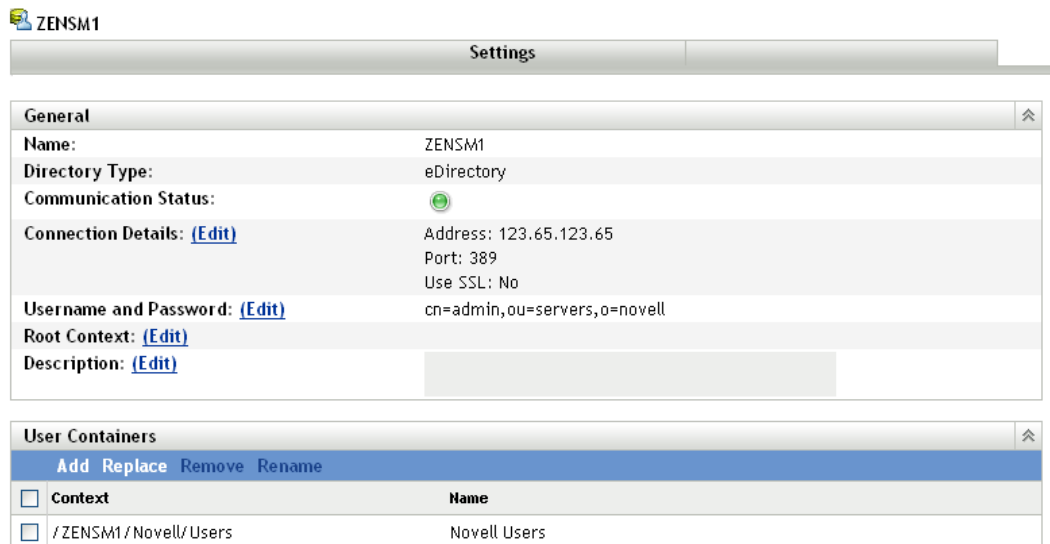
1 In ZENworks Control Center, click the *Configuration* tab.

2 In the User Sources panel, select the check box in front of the user source, then click *Delete*.

3 Click *OK* to confirm the deletion.

9.4 Adding a Container from a User Source

After you've defined a user source in your Management Zone, you can add containers from that source at any time.

1 In ZENworks Control Center, click the *Configuration* tab.

2 In the User Sources panel, click the user source.

Configuration > **ZENSM1**

ZENSM1

| | Settings | |

General

Name:	ZENSM1
Directory Type:	eDirectory
Communication Status:	●
Connection Details: (Edit)	Address: 123.65.123.65
	Port: 389
	Use SSL: No
Username and Password: (Edit)	cn=admin,ou=servers,o=novell
Root Context: (Edit)	
Description: (Edit)	

User Containers

Add Replace Remove Rename

| ☐ Context | Name |
| ☐ /ZENSM1/Novell/Users | Novell Users |

3 In the User Containers panel, click *Add* to display the Add User Container dialog box, then fill in the following fields:

Context: Click 🔍 to browse for and select the container you want to add.

Display Name: Specify the name you want used for the user container when it is displayed in ZENworks Control Center. The name cannot be the same as the name of any other user containers.

4 Click *OK* to add the user container.

The container, and its users and user groups, is now available on the *Users* page.

User Authentication 10

The following sections provide information about authentication of users to a ZENworks®
Management Zone.

10.1 User Source Authentication

By default, a user is automatically authenticated to the Management Zone when he or she logs in to
an LDAP directory (Novell® eDirectory™ or Microsoft* Active Directory) that has been defined as
a user source in the Management Zone. User authentication to ZENworks can occur only if the
user's LDAP directory (or the user's LDAP directory context) is defined as a user source in
ZENworks.

The ZENworks Adaptive Agent integrates with the Windows Login or Novell Login client to
provide a single login experience for users. When users enter their eDirectory or Active Directory
credentials in the Windows or Novell client, they are logged in to the Management Zone if the
credentials match the ones in a ZENworks user source. Otherwise, a separate ZENworks login
screen prompts the user for the correct credentials.

For example, assume that a user has accounts in two eDirectory trees: Tree1 and Tree2. Tree1 is
defined as a user source in the Management Zone, but Tree2 is not. If the user logs in to Tree1, he or
she is automatically logged in to the Management Zone. However, if the user logs in to Tree2, the
Adaptive Agent login screen appears and prompts the user for the Tree1 credentials.

10.2 Credential Storage

ZENworks uses Novell CASA (Common Authentication Services Adapter) to enable single sign-on.
When the ZENworks Adaptive Agent authenticates a user to the Management Zone via the
credentials entered in the Microsoft client, Novell client, or ZENworks login screen, the username
and password is stored in the secure CASA vault on the user's device.

CASA is installed with the ZENworks Adaptive Agent. It includes the CASA Manager, an interface
used to manage the credentials in the storage vault. The CASA Manager is available from the Start >
Program Files > Novell CASA menu. Generally, you or the device's user should not need to use the
CASA Manager. When a user's credentials change in their LDAP directory, they are updated in the
CASA storage vault the next time the user logs in. If you do run the CASA Manager, you are
prompted to install the GTK# Library. If you choose to install the library (which is necessary to run
the CASA Manager), you are directed to a Novell Website from which you can install it.

Do not remove CASA from the managed device. If you do not want the CASA Manager displayed
to users, you can remove the Novell CASA folder from the Start > Program Files menu.

10.3 Disabling ZENworks User Authentication

By default, if a user source is defined in the ZENworks Management Zone, the ZENworks Adaptive Agent attempts to authenticate a user to the zone whenever he or she logs in through the Microsoft or Novell client.

If necessary, you can disable user authentication to the zone. For example, you might have some users that only receive device-assigned content so you don't want the overhead of having them logged in to the zone.

To disable user authentication to the zone:

1 Locate the following key in the registry on the user's device:

HKEY_LOCAL_MACHINE\SOFTWARE\Novell\ZENworks\ZenLgn

2 (Conditional) If you want to disable login, add the following DWORD value:

Value name: DisablePassiveModeLogin

Value data: Any non-zero value (for example, 1, 2, 3, 100)

With login disabled, no attempt is made to authenticate to the Management Zone when the user logs in through the Microsoft or Novell client.

3 (Conditional) If you want to disable the ZENworks login prompt that appears if login through the Microsoft client or Novell client fails, add the following DWORD value:

Value name: DisablePassiveModeLoginPrompt

Value data: Any non-zero value (for example, 1, 2, 3, 100)

Normally, the Adaptive Agent attempts to authenticate the user to the zone by using the credentials entered in the Microsoft or Novell client. If login fails, the ZENworks login prompt is displayed in order to give the user an opportunity to authenticate with different credentials. This value setting disables the ZENworks login prompt.

ZENworks System Updates

The System Updates feature allows you to obtain updates to the Novell® ZENworks® Configuration Management software on a timely basis, and you can schedule automatic downloads of the updates.

Software updates are provided at the Interim Release level and you can choose whether to apply each update after viewing its content. Each subsequent interim release contains all of the previous interim releases.

You can also download the latest Product Recognition Update (PRU) to update your knowledgebase so that ZENworks Inventory can recognize newer software.

When you select to update your ZENworks software, it can be updated globally in one step or in stages on all devices in the Management Zone that have the software installed. You can use ZENworks Control Center to track the successes and failures per device for each software update.

The following figure illustrates the System Updates main page:

Figure 11-1 *System Updates Panels (System Update Overview and System Update Staging Groups)*
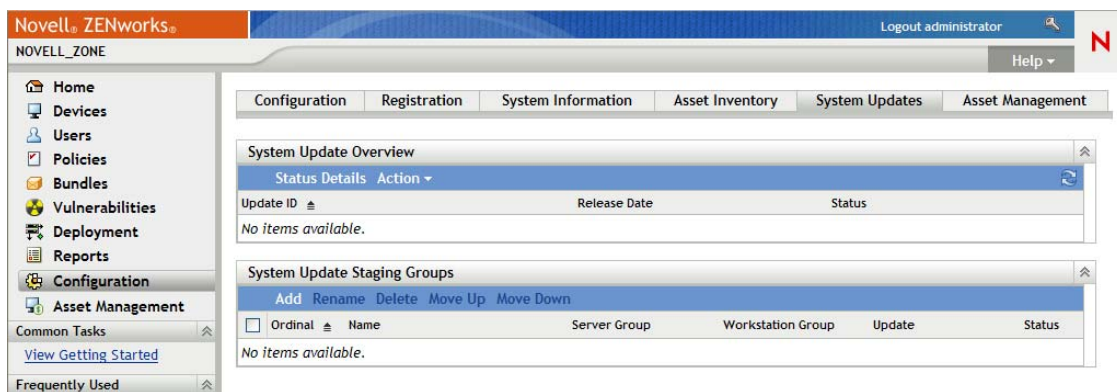
Review the following sections to set up and manage system updates to your ZENworks Configuration Management software:

11.1 Configuring System Updates

Review the following to configure your system update process:

11.1.1 Creating System Update Staging Groups

System update staging groups are optional. However, they allow you to send an update in stages, such as to a test group first, then to your servers, and then to all of your workstations. You can also set up e-mail notifications to let you know when each stage has completed.

Staging groups come in pairs, one for servers and the other for workstations. This provides you flexibility in performing the update on both your servers and workstations at the same time by populating both pairs, or separately by only populating one or the other for the stage.

The following scenario explains how you can set up a set of stages to first update your test devices, then servers, and then workstations:

1. Add a system update staging group named Test Group 1, then add your test servers to the *Test Group 1* stage in the *Server Group* column and your test workstations to the *Test Group 1* stage in the *Workstation Group* column. In other words, you can perform the test on both server and workstation test devices at the same time.

2. Add a system update staging group named Servers 1, then add your production servers to the *Servers 1* stage in the *Server Group* column. Do not populate the *Servers 1* stage in the *Workstation Group* column.

3. Implement the first stage for your test devices by authorizing and applying the update to the test staging group.

4. When you are satisfied with the results of the test update, implement the *Servers 1* stage.

   The remaining devices on your network that are applicable to the update (such as your production workstations) are automatically updated after the final stage has completed (in this case, *Servers 1*).

   You don't need to place your production workstations in a stage to get them updated. The updates are automatically applied to any workstation qualifying for the update after the last stage has completed. However, you can stage your workstation updates if you want to do them in groups over time.

   Keep in mind that any update containing workstation-level software might also be applicable to your servers because all Windows Primary Servers in your Management Zone are managed devices.

To configure and manage update staging groups, do the following:

- "Creating and Populating a System Update Staging Group" on page 69
- "Viewing the Details of a Staging Group" on page 71
- "Renaming a Staging Group" on page 71
- "Deleting a Staging Group" on page 72

Creating and Populating a System Update Staging Group

Following are some of the reasons for creating system update staging groups:

- Testing the system update on certain devices before applying it to your production environment
- Grouping your Primary Servers:
  - You can include all servers in one group so they can be updated at the same time.

    or
  - You can group your servers in several staging groups so that the update process isn't too intensive for the Primary Server being used to perform the updates.
- Grouping your managed workstations:
  - You can group the workstations in several staging groups so that the update process isn't too intensive for the Primary Server being used to perform the updates.

    or
  - If you use one of the options that automatically moves the updating process from one staging group to the next, if you have a group for your Primary Servers, and if you want to update all of your managed workstations at once, you do not need to create a system update staging group for your workstations because after the last staging group has been processed, all other devices in the Management Zone running the applicable software are updated.

To create and populate system update staging groups:

1 In ZENworks Control Center, click *Configuration* in the left pane, then click the *System Updates* tab.

2 In the System Updates Staging Groups panel, click *Add*.

3 In the Add dialog box, specify a staging group name, then click *OK*.
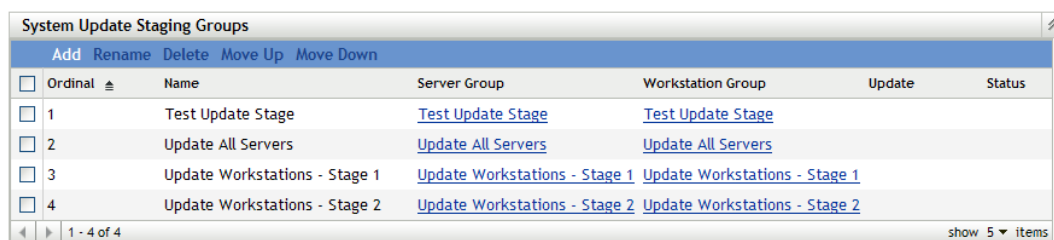
The staging group's name is displayed in all three columns (*Name*, *Server Group*, and *Workstation Group*).

Stage1 is the default group name. Staging groups appear as device folders on the *Devices* tab, so you should specify names that will help you to know a folder's purpose.

You might want to include something like "Staging Group" at the beginning of the name to sort the groups in the devices listing in ZENworks Control Center.

For information about naming in ZENworks Control Center, see Appendix A, "Naming Conventions in ZENworks Control Center," on page 95.

The following graphic illustrates staging group names in this panel:

Ordinal ▲	Name	Server Group	Workstation Group	Update	Status
1	Test Update Stage	Test Update Stage	Test Update Stage		
2	Update All Servers	Update All Servers	Update All Servers		
3	Update Workstations - Stage 1	Update Workstations - Stage 1	Update Workstations - Stage 1		
4	Update Workstations - Stage 2	Update Workstations - Stage 2	Update Workstations - Stage 2		

System Update Staging Groups

Add Rename Delete Move Up Move Down

1 - 4 of 4   show 5 ▾ items

4 To add servers to the staging group, go to the System Updates Staging Groups panel, click the staging group's name in the *Server Group* column, then do the following:

    4a In the *Members* panel, click *Add*.

        If this is a staging group for testing a system update, you can add your test workstations (see Step 5) into the same group as the test servers.

    4b In the Select Members dialog box, browse for and select the servers, then click *OK*.
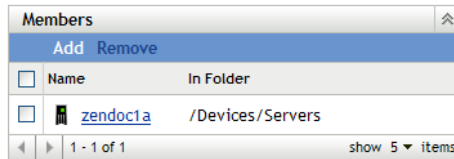
    4c To return to the System Updates page from the Membership panel for server devices, click *Configuration* in the left pane, then click the *System Updates* tab.

5 (Optional) To add workstations to the staging group, go to the System Updates Staging Groups panel, click the staging group's name in the *Workstation Group* column, then do the following:

    5a In the *Members* panel, click *Add*.

        It is not required that you add production workstations into the current stage if you want all of them to be updated at the same time because all devices that are not updated up through the last staging group are automatically updated after that last stage has finished.

    5b In the Select Members dialog box, browse for and select the workstations, then click *OK*.

    5c To return to the System Updates page from the Membership panel for server devices, click *Configuration* in the left pane, then click the *System Updates* tab.

6 Repeat Step 2 through Step 5 until you have created all of your staging groups.

Keep in mind that you can have both servers and workstations in the same staging group, or in different groups, and that you can split your servers and workstations into multiple staging groups for each type.

7 If you need to reorder the sequence of the staging groups, select a group, then click either *Move Up* or *Move Down*.

If you are using one of the groups for test purposes, make sure that it is first in the listing.

You should also update your Primary Servers before updating your managed workstations.

Viewing the Details of a Staging Group

1 In ZENworks Control Center, click *Configuration* in the left pane, then click the *System Updates* tab.

2 In the System Updates Staging Groups panel, click the staging group's name to display the following:

Devices > Servers > Test Update Stage

Test Update Stage

Summary	Relationships	Vulnerabilities

General	⌄
Object type:	Server Group
GUID:	6178749d7c2394d82db58d980f360d1a
Description: (Edit)	

Members		⌄
Add Remove		
☐ Name	In Folder	
☐ 🖥 zendoc1a	/Devices/Servers	
◁ ▷ 1 - 1 of 1		show 5 ▼ items

The *Summary* tab is the only tab that is applicable to an update stage.

Renaming a Staging Group

1 In ZENworks Control Center, click *Configuration* in the left pane, then click the *System Updates* tab.

2 In the System Updates Staging Groups panel, click the check box for the staging group to be renamed.

3 Click *Rename*.

4 In the Rename dialog box, specify the new name, then click *OK*.

The staging group's name is changed in all three columns (*Name*, *Server Group*, and *Workstation Group*).

For information about naming in ZENworks Control Center, see Appendix A, "Naming Conventions in ZENworks Control Center," on page 95.
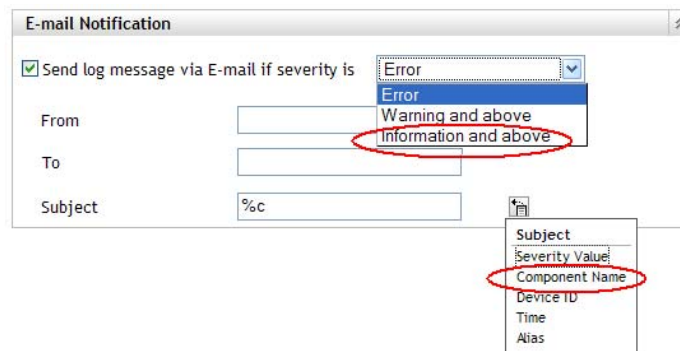
Deleting a Staging Group

1 In ZENworks Control Center, click *Configuration* in the left pane, then click the *System Updates* tab.

2 In the System Updates Staging Groups panel, click the check box for one or more of the staging groups to be deleted.

3 Click *Delete*.

11.1.2 Setting Up E-Mail Notifications

In conjunction with using stages, you can set up e-mail notifications for when each stage has completed. When you apply an update, you can specify to use the e-mail notifications.

1 In ZENworks Control Center, click *Configuration* in the left pane, then click the *Configuration* tab.

2 Click *Management Zone Settings* to expand its options, click *Events and Messaging*, then select *Centralized Message Logging* to display the E-mail Notification panel:

3 In the E-mail Notification panel, fill in the fields:

Send Log Message Via E-mail If Severity Is: Select *Information and Above*, which triggers the e-mail to be sent when the stage provides information to the ZENworks database.

From: Either specify your administrator e-mail address, or type `System Update Stage Notice`.

To: Specify your administrator e-mail address.

This is the person you want to be notified when the stage ends.

Subject: Select the *Component Name* option from the drop-down box.

This causes the System Update component to be displayed in the subject line. Information on the completed stage is displayed in the body of the e-mail. For example:

```
Subject: Informational [7/24/07 2:12:12 PM]: server1 Loader.Content
Import
Device Alias: server1
Device IP Address: 123.456.78.9
Informational: [7/24/07 2:12:12 PM]: server1 Loader.Content Import
AddContentHandler.MSG_ADD_CONTENT_SUCCESS
AddContentHandler.MSG_ADD_CONTENT_SUCCESS{/var/opt/novell/
zenworks/tmp/sutmp.0/1185344677573/system-update.msi}
Additional Information: ba90523bb48ff7f8cdf2ffc88a3bfaf7
```

11.1.3 Scheduling System Update Downloads

You have two scheduling options for downloading system updates:

- **No Schedule:** With this scheduling option selected, the only way you can obtain software updates is to do so manually on the *System Updates* tab.
- **Recurring:** Allows you to specify how often you want to check for and download the system updates. When updates are available, they are automatically downloaded from Novell when the schedule fires.

To schedule ZENworks Configuration Management software updates:

1 In ZENworks Control Center, click *Configuration* in the left pane, then click the *Configuration* tab.

2 Click *Management Zone Settings* to expand its options, click *Infrastructure Management* to expand its options, then select *System Update Download Schedule*.

The following graphic illustrates the *Recurring* schedule options:

3 To exclude scheduling of software updates (the default), click the down-arrow in the *Schedule Type* field, select *No Schedule*, click *Apply* to save the schedule change, then skip to Step 6.

With this option selected, you must download the updates manually. For more information, see Section 11.1.4, "Downloading System Updates Manually," on page 74.

4 To set a recurring schedule for downloading and updating your ZENworks software, click the down-arrow in the *Schedule Type* field, select *Recurring*, then do the following:

    4a To have the schedule repeat from daily through weekly, select one or more check boxes for the days of the week that are displayed.

    4b To set the time of day for the download to occur, use the *Start Time* field to specify the time.

    4c For further scheduling options, click *More Options*, then use the following as necessary:

        ◆ **Process Immediately if Device Unable to Execute on Schedule:** Do not use this option for system updates. It only applies to bundles that you create in ZENworks Control Center.

        ◆ **Use Coordinated Universal Time:** Causes the schedule to interpret the times you specify as UTC instead of local time.

        ◆ **Start at a Random Time Between Start and End Times:** Allows the download to occur at a random time between the time you specify here and the time you specified in Step 4b. Fill in the *End Time* fields.

        ◆ **Restrict Schedule Execution to the Following Date Range:** In addition to the other options, you can specify the days when the updates can occur.

    4d When you have finished configuring the recurring schedule, click *Apply* to save the schedule change.

5 (Optional) To revert to the last saved schedule, click *Reset*.

6 To exit this page, click *OK* when you are finished configuring the schedule.

The last schedule change is also saved.

11.1.4 Downloading System Updates Manually

If you selected not to schedule your downloads, or if you want to perform a download out of schedule:

1 In ZENworks Control Center, click *Configuration* in the left pane, then click the *System Updates* tab.
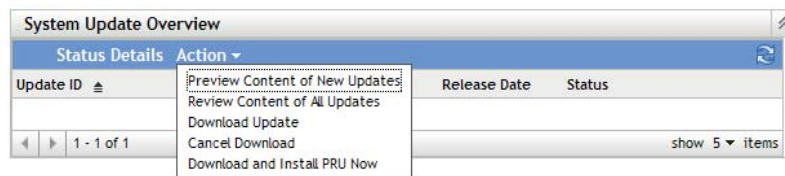
2 In the System Update Overview panel, click *Action > Download Update*.

The update is downloaded from Novell and its status is set to *Downloaded*.

The *Status* column indicates the downloading stages (*Downloading*, *Bundling*, *Syncing*). The following graphics illustrate these three download phases:

Depending on the size of the update, the downloading process can take awhile, especially the *Syncing* phase.

3 To refresh the view to see the download progress (*Status* column), click the *System Updates* tab.

You can also refresh the view by clicking the refresh icon on the upper right of the System Update Overview panel.

The following graphic illustrates what is displayed when the download is complete:

For more information on changing an update's status, see Section 11.2.4, "Authorizing a System Update," on page 80 and Section 11.2.5, "Applying a System Update," on page 81.

4 (Optional) If you want to test the update, set up your update staging groups (see "Creating and Populating a System Update Staging Group" on page 69), then continue with Section 11.2.2, "Testing a System Update," on page 78.

11.2 Applying System Updates

Review the following to test, apply, and manage your system updates:

11.2.1 Determining Whether to Test and Apply a System Update

You can use the following methods to determine whether to test and apply an update:

Viewing the Content of a New System Update Before Downloading It

This option allows you to scroll through a report containing basic information for all new updates, rather than downloading and clicking each update to view its content. This is useful for determining whether to download the update.

To view details of a system update before it is downloaded:

1 In ZENworks Control Center, click *Configuration* in the left pane, then click the *System Updates* tab.

2 In the System Update Overview panel, click *Action > Preview Content of New Updates*.

The available system updates are displayed:

System Update Overview > **Release Details**

⊟   **Build 20070712g**
  ⊟   **Description**
    Build 20070712g
  ⊟   **Release Date**
    Jul 19, 2007
  Summary of Changes

3 To view the details of the system updates, click the plus signs to expand the information.

Reviewing the Content of a Specific Downloaded System Update

This option provides detailed information on the selected update.

1 In ZENworks Control Center, click *Configuration* in the left pane, then click the *System Updates* tab.

2 In the System Update Overview panel, click *Update Status*.

System Update Overview > Update Status > Release Details

System Update Release Details	
Update ID:	Build 20070712g
Release Date:	Jul 19, 2007
Download Date:	Jul 19, 2007
Priority Level:	Optional
Description:	Build 20070712g
Targets:	Windows
Product Version:	10.0.0

System Update Files			
Name ▲	Target Type	File Type	Path
authtokenclient.msi	Workstation	file	${ZENWORKS_HOME}\work\system-update\
authtokenclient.x86_64.msi	Workstation	file	${ZENWORKS_HOME}\work\system-update\
CASA.msi	Workstation	file	${ZENWORKS_HOME}\work\system-update\
CASA.x86_64.msi	Workstation	file	${ZENWORKS_HOME}\work\system-update\
CasaAuthTokenServer.msi	Workstation	file	${ZENWORKS_HOME}\work\system-update\

◀ ▶ 1 - 5 of 91   show 5 ▼ items

3 Click an update item to display the System Update Release Details and the System Update Files panels.

The *Priority Level* field lets you know whether the update is optional.

The System Update Files panel lists the following information on the files contained in the update displayed in the System Update Release Details panel:

Name: This column can be sorted. It lists all of the files contained in the system update.

Target Type: Indicates whether the file is for servers or workstations. However, because Primary Servers are also managed devices, files signified as Workstation might also apply to a ZENworks server.

File Type: Displays the file type, such as "file," "zip," and so on.

Path: Displays the target path for the file.

Reviewing the Content of All System Updates

This option allows you to scroll through a report containing information for all updates, rather than clicking each update to view its content. This is useful for locating updates that contain certain basic information. For more information on an update, see .

To view details of all system updates:

1 In ZENworks Control Center, click *Configuration* in the left pane, then click the *System Updates* tab.

2 In the System Update Overview panel, click *Action > Review Content of All Updates*.

This provides details on all system updates, including those that are new and not yet downloaded, those that are downloaded but not applied, and those that have been successfully applied:

System Update Overview > **Release Details**

```
☐     Build 20070712g
   ☐     Description
              Build 20070712g
   ☐     Release Date
              Jul 19, 2007
        Summary of Changes
```

3 To view the details of the system updates, click the plus signs to expand the information.

11.2.2 Testing a System Update

In order to test a group of devices, you must use a system update staging group in order to prevent the update from being applied to your production environment.

To test an update before applying it to your production devices:

1 Do the following before continuing with Step 2:

    1. Set up one staging group for your test devices.

       You can combine both servers and workstations in the test group.

       To set up the staging group, see Section 11.1.1, "Creating System Update Staging Groups," on page 68.

    2. (Optional) If you need to be notified about the completion of your test staging group, see Section 11.1.2, "Setting Up E-Mail Notifications," on page 72.

2 Obtain the system update to be tested by using one of the methods described in the following sections, then continue with Step 3:

    ◆ Section 11.1.3, "Scheduling System Update Downloads," on page 73

    ◆ Section 11.1.4, "Downloading System Updates Manually," on page 74

3 In ZENworks Control Center, click *Configuration* in the left pane, then click the *System Updates* tab.

4 In the System Update Overview panel, select the check box for the update to be tested:

System Update Overview > **Update Status**

System Update Status

```
Action... ▼
   Set Update to Authorized
   Apply Update to All Devices (Bypassing Staging)
   Advance Through Stages Automatically
   Advance Through Stages Automatically With Notification
   Advance To Next Stage and Notify When Complete
   Clear Update
```

	Status
☑ U	Downloaded
☑ E	

5 Click *Action*, then select *Set Update to Authorized*.

System Update Overview > Update Status

System Update Status

Action... ▾

	Set Update to Authorized		Status
☑	Apply Update to All Devices (Bypassing Staging)		
☑	Advance Through Stages Automatically		Authorized
◀ ▶	Advance Through Stages Automatically With Notification		
	Advance To Next Stage and Notify When Complete		
	Clear Update		
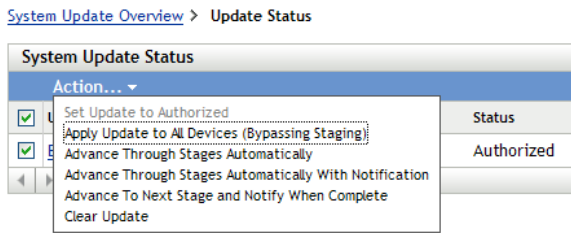
6 Click *Action*, then select *Advance to Next Stage and Notify When Complete*.

This causes your test staging group to be processed without automatically updating production workstations.

7 Verify whether the update was successfully applied:

7a On a Windows device, right-click the ZENworks icon, then select *Show Progress* to open the ZENworks Progress dialog box.

You cannot view the download progress on a Linux device because these devices are not managed in ZENworks Configuration Management and do not have the ZENworks icon.

The progress of downloading the system update MSI files is displayed. When it has finished, the dialog box automatically closes and the *Show Progress* option is dimmed.

After a 5-minute wait, all ZENworks services are closed on the device. Then the MSIs (for Windows) or RPMs (for Linux) are installed and the services are restarted.

7b To verify that the MSIs or RPMs have been installed and the update process is complete, review the following log files:

Windows:

installation_path\novell\zenworks\logs\systemupdate.log

Linux: /var/opt/novell/log/zenworks/SystemUpdate.log

You can also look for the existence of the following file (the same path for both Windows and Linux):

installation_path\novell\zenworks\work\system-update\systemupdate.ini.*timestamp*

7c Test the ZENworks software on the device to ensure that it is working properly.

7d Repeat Step 7a and Step 7c for each test device.

8 Do one of the following:

- If you don't want the update, continue with Section 11.2.3, "Clearing a System Update," on page 80.

- If you want to apply the update, continue with Section 11.2.4, "Authorizing a System Update," on page 80.

11.2.3 Clearing a System Update

To clear out a system update that fails to download, or an update that you do not want to apply:

1 In ZENworks Control Center, click *Configuration* in the left pane, then click the *System Updates* tab.

2 In the System Update Overview panel, click *Update Status* to display the System Update Status page.

3 Select the check boxes for one or more updates.
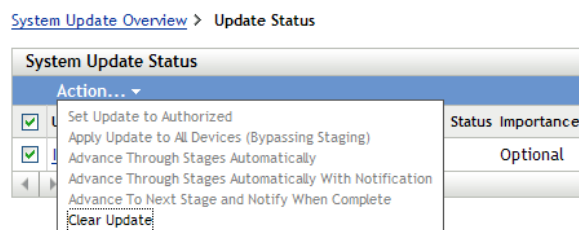
4 Click *Action > Clear Update*.

11.2.4 Authorizing a System Update

"Authorized" means the update is available to be applied. It must be authorized before you can apply it.

1 In ZENworks Control Center, click *Configuration* in the left pane, then click the *System Updates* tab.

2 In the System Update Overview panel, click *Update Status* to display the System Update Status page.

3 Select the check boxes for one or more updates.
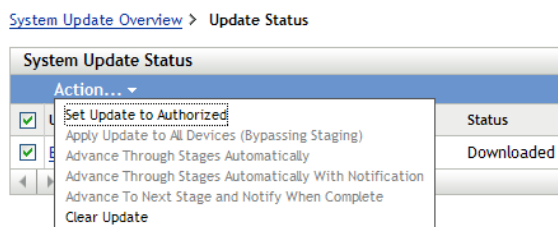
4 Click *Action > Set Update to Authorized*.

After you set this new status, the *Downloaded* status is never displayed again for the update.

11.2.5 Applying a System Update

A system update must be authorized before you can apply it.

After an update has been applied, it cannot be unapplied by using ZENworks. Contact Novell Support (http://www.novell.com/support) for assistance if you need to remove an update.

If a failure occurs in the update process, the process is halted. You can use stages with e-mail notifications for tracking where such a failure might occur.

To apply a system update:

1 If you plan to use e-mail notification, set it up.

For instructions, see Section 11.1.2, "Setting Up E-Mail Notifications," on page 72.

2 In ZENworks Control Center, click *Configuration* in the left pane, then click the *System Updates* tab.

3 In the System Update Overview panel, select the check boxes for one or more updates.
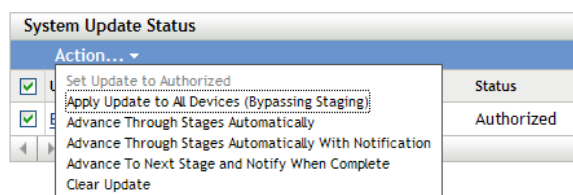
4 Click *Action*, then select one of the following:

- ◆ **Apply Update to All Devices (Bypassing Staging):** Immediately sends the update to all applicable devices without using any update staging groups.

- ◆ **Advance Through Stages Automatically:** Starts the first stage, then automatically starts the next stage when the previous stage has completed. All applicable devices that are not members of a stage are then processed.

- ◆ **Advance Through Stages Automatically with Notification:** Starts the first stage, sends an e-mail notification when it has completed, then automatically starts the next stage, and so on.

- ◆ **Advance to Next Stage and Notify When Complete:** Starts the first stage, sends an e-mail notification when it has completed, then waits. Use this option if you want to manually start each stage. It is useful when your first staging group contains test devices because it allows you to verify the status of the update before applying it to production devices by using the subsequent stages.

11.2.6 Viewing System Update Statuses

After an update has been applied, you can view its status to determine whether further action is needed:
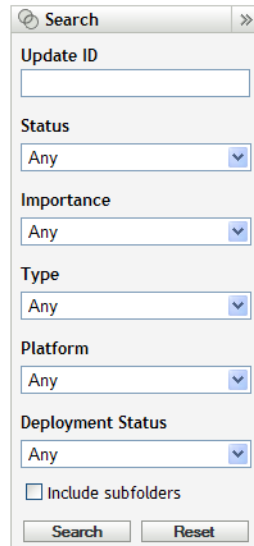
Viewing Specific System Updates

To filter the list to view specific updates:

1 In ZENworks Control Center, click *Configuration* in the left pane, then click the *System Updates* tab.

2 In the System Update Overview panel, click the *Status Details* option.

This displays the System Update Status and the Search panels. The Search panel is shown below:

3 In the *Search* panel, select your search criteria.

The *Update ID* criterion requires the exact ID to return just that one update in the listing.

The *Deployment Status* criterion includes any updates with data in the *Pending*, *Successful*, and *Failed* columns.

You can use other search criteria as needed.

4 Click *Search* to apply the selected criteria.

5 In the System Update Status panel, review the status of the listed updates:

System Update Status									
Action... ▾									↻
☐ Update ID ▲	Release Date	Download Date	Status	Importance	Type	Platform	Pending	Successful	Failed
☐ Interim Release 0	Jan 15, 2006	Jul 17, 2007		Optional	ZENworks Server	Windows	0	0	0
◀ ▶ 1 - 1 of 1							show 25 ▾ items		

Update ID: A unique update name that is established by Novell.

Release Date: When the update was released by Novell.

Download Date: When you downloaded the update to your Management Zone.

Status: There are three possible statuses:

- *Downloaded* is automatically assigned when you download the update.
- *Authorized* is assigned by you.
- *Superseded* is automatically assigned when you download another update that supersedes a previous one. This is used for previous updates because there can be only one update with a status of *Authorized*. Because updates are cumulative, even though one update is superseded, its information is still contained in the update that supersedes it.

Importance: The following ratings are available:

- *Optional* means you are not required to apply the update. It might not be applicable to your use of the ZENworks software.
- *Low Priority* means you can choose not to install the update, because it is not significant to the correct operation of the features and capabilities of your ZENworks Configuration Management system.
- *High Priority* means the update is significant to the correct operation of the features and capabilities of your ZENworks Configuration Management system.

Type: Updates are applicable to the software installed to a particular type of device. They are automatically applied to the correct devices according to the software that is installed on them.

The following types of updates are available:

- Distribution Point
- Inventoried Device
- Managed Server
- Managed Workstation
- ZENworks Server

Platform: Windows is the currently supported platform.

Pending: Displays the number of devices for which the update is pending or is being applied. You can click the number to view the Update Status by Device page for more detail.

Successful: Displays the number of devices for which the update was successfully applied.

Failed: Displays the number of devices for which the update was not successful.

6 If devices failed to update, determine and correct the cause, then restart the update.

For more information on restarting the update process, see Section 11.2.5, "Applying a System Update," on page 81.

7 To return to the full listing, click *Reset*.

Viewing System Updates by Device

1 In ZENworks Control Center, click *Configuration* in the left pane, click the *System Updates* tab, then click the *Status Details* option to display the System Update Status panel:

System Update Overview > Update Status

System Update Status										
Action... ▾										
☐ Update ID ⬘	Release Date	Download Date	Status	Importance	Type	Platform	Pending	Successful	Failed
☐ Interim Release 0	Jan 15, 2006	Jul 17, 2007		Optional	ZENworks Server	Windows	0	0	0

◀ ▶ 1 - 1 of 1   show 25 ▾ items

2 Click a number displayed in the *Pending*, *Successful*, or *Failed* column to display the *Update Status by Device* page:

System Update Overview > Update Status > Status by Device

Update Status by Device		⌃
Device ⬘	Status	In Folder
No items available.		

3 Review the devices that are pending, successfully updated, or failed to be updated by clicking their numbers in the System Updates Status panel.

4 If devices failed to update, determine and correct the cause, then restart the update.

For more information on restarting the update process, see Section 11.2.5, "Applying a System Update," on page 81.

11.3 Downloading and Installing the PRU

Novell provides a Product Recognition Update (PRU) to update your knowledgebase so that ZENworks Inventory can recognize newer software.

If the PRU is not up-to-date, Inventory might return some software as unrecognized. However, you can use the Local Software Products utility to take a fingerprint of the unrecognized software to update your knowledgebase.

To download and install the PRU:

1 In ZENworks Control Center, click *Configuration* in the left pane, then click the *System Updates* tab.

System Update Overview			⌃
Status Details Action ▾			⟳
Update ID ⬘	Preview Content of New Updates	Release Date	Status
	Review Content of All Updates		
	Download Update		
◀ ▶ 1 - 1 of 1	Cancel Download	show 5 ▾ items	
	Download and Install PRU Now		

2 In the System Update Overview panel, click *Action > Download and Install PRU Now*.

The latest PRU is automatically downloaded and installed.

Database Maintenance

12

Novell® ZENworks® 10 Configuration Management allows you to back up and restore the embedded Sybase* SQL Anywhere* database by using the zman command line utility. To back up and restore Remote Sybase SQL Anywhere or Microsoft SQL Server databases, refer to their documentation.

- Section 12.1, "Backing Up the Embedded Sybase SQL Anywhere Database," on page 85
- Section 12.2, "Restoring the Embedded Sybase SQL Anywhere Database," on page 90

12.1 Backing Up the Embedded Sybase SQL Anywhere Database

The embedded Sybase SQL Anywhere database can be backed up to a directory on the local machine or to a network location.

- Section 12.1.1, "Backing Up the Embedded Sybase SQL Anywhere Database on a Windows or Linux Server," on page 85
- Section 12.1.2, "Backing up the Embedded Sybase SQL Anywhere Database Running on a Windows Server to a Network Location on a Remote Windows Machine," on page 86
- Section 12.1.3, "Backing up the Embedded Sybase SQL Anywhere Database Running on a Linux Server to a Network Location on a Remote Linux Machine," on page 88

12.1.1 Backing Up the Embedded Sybase SQL Anywhere Database on a Windows or Linux Server

1 Store the ZENworks administrator name and password by entering the following command at the command prompt:

```
zman admin-store-credential administrator
```

If you do not store the credentials, then you must enter the ZENworks administrator name and password for each zman command.

You can back up the embedded Sybase SQL Anywhere database immediately or schedule the backup to run at a specific time. To back up the embedded Sybase SQL Anywhere database immediately, continue with Step 2. To schedule the backup to run at a specific time, skip to Step 3.

2 To back up the embedded Sybase SQL Anywhere database immediately to a directory on the database server, enter the following command at the command prompt:

```
zman database-backup
complete_path_of_the_backup_directory_on_database_server
```

For example, to back up the database to the `c:\dbbackup` directory on a Windows database server, execute `zman database-backup c:\dbbackup`. To back up the database to the `/root/dbBackup` directory on a Linux database server, execute `zman database-backup /root/dbBackup`.

3 To schedule the backup to run at a specific time every day or on specific days of a month, you need to create a schedule file and run it.

    3a Create a schedule file, `backupschedule`, with the following contents:

```
CREATE EVENT backup_schedule_name
SCHEDULE
specify_the_schedule
```

A sample schedule file to back up the database at a 11 P.M. every day is as follows:

```
CREATE EVENT ZENDBBackup
SCHEDULE
START TIME '11:00 PM' EVERY 24 HOURS
```

A sample schedule file to back up the database at 1:00 A.M on the first, second, third and fourth days of the month is as follows:

```
CREATE EVENT ZENDBBackup1
SCHEDULE
START TIME '1:00 AM'
ON (1,2,3,4)
```

Sample schedule files are available in the `ZENworks_Installation_directory:\Novell\Zenworks\share\zman\samples\database` directory on a Windows server, and in the `/opt/novell/zenworks/share/zman/samples/database` directory on a Linux server.

    3b Enter the following command at the command prompt:

```
zman database-backup complete_path_of_the_backup_directory
backUpSchedule -d SQL_function_call
```

For example, to back up the database to the `c:\dbbackup\day_of_the_week` directory on a Windows server, enter the following command:

```
zman database-backup c:\dbbackup backUpSchedule -d
"DAYNAME(today())"
```

For more information about this command, view the zman man page (man zman) on the device, or see zman(1) in the *ZENworks 10 Configuration Management Command Line Utilities Reference*.

4 Clear the credentials stored in Step 1 by entering the following command at the command prompt:

```
zman admin-clear-credential
```

According to the backup schedule, `zenworks_zone_name.db` and `zenworks_zone_name.log` are created in the database backup directory. The backed-up database is stored in `zenworks_zone_name.db`. The result of the database backup is logged into `zenworks_zone_name.log`.

12.1.2 Backing up the Embedded Sybase SQL Anywhere Database Running on a Windows Server to a Network Location on a Remote Windows Machine

To back up an embedded Sybase SQL Anywhere database that is installed and running on a Windows server to a network location on another Windows machine, you need two machines, a local machine and a remote machine. The local machine is a Windows server having the ZENworks

server components and the embedded Sybase SQL Anywhere database installed. The remote machine is a Windows machine with the network location to which you want to back up the database.

1 Perform the following steps on the local machine:

1a Create an administrative user and specify a password.

For example, you could specify the administrative username as `Administrator` and the password as `novell`.

1b From the desktop *Start* menu, click *Settings*, click *Control Panel*, double-click *Administrative Tools*, then double-click *Services*.

1c Right-click the *Novell ZENworks Datastore* service, then click *Properties*.

1d Click the *Log On* tab.

1e Select *This account*, then specify the name and the password of the administrative user created in Step 1a.

For example, specify the user as `Administrator` and the password as `novell`.

1f Click *OK*.

2 Perform the following steps on the remote machine with the network location where you want to save the backup:

2a Create an account with the same credentials as the user you created in Step 1a.

For example, specify user as `Administrator` and password as `novell`.

2b Provide Read/Write permission on the network location to the user.

To immediately back up the database, continue with Step 3. To schedule the backup to run at a specific time every day or on specific days of a month, skip to Step 4.

3 To immediately back up the database to the network location on the remote machine, enter the following command at the command prompt:

```
zman database-backup
\\IP_address_of_the_remote_machine\backup_directory
```

Where *IP_address_of_the_remote_machine\backup_directory* is the network location on the remote machine.

4 To schedule the backup:

4a Create a schedule file, `backupschedule`, with the following contents:

```
CREATE EVENT backup_schedule_name
SCHEDULE
specify_the_schedule
```

A sample schedule file to back up the database at a 11 P.M. every day is as follows:

```
CREATE EVENT ZENDBBackup
SCHEDULE
START TIME '11:00 PM' EVERY 24 HOURS
```

A sample schedule file to back up the database at 1:00 A.M on the first, second, third, and fourth days of the month is as follows:

```
CREATE EVENT ZENDBBackup1
SCHEDULE
START TIME '1:00 AM'
```

```
ON (1,2,3,4)
```

Sample schedule files are available in the *ZENworks_Installation_directory*\Novell\Zenworks\ share\zman\samples\database directory.

4b Execute the following command at the command prompt:

```
zman database-backup
\\IP_address_of_the_remote_machine\backup_directory
backUpSchedule -d SQL_function_call
```

Where *IP_address_of_the_remote_machine**backup_directory* is the network location on the remote machine.

For more information about this command, view the zman man page (man zman) on the device, or see zman(1) in the *ZENworks 10 Configuration Management Command Line Utilities Reference*.

According to the backup schedule, zenworks_*zone_name*.db and zenworks_*zone_name*.log are created in the network location on the remote machine. The backed-up database is stored in zenworks_*zone_name*.db. The result of the database backup is logged into zenworks_*zone_name*.log.

12.1.3 Backing up the Embedded Sybase SQL Anywhere Database Running on a Linux Server to a Network Location on a Remote Linux Machine

To back up the embedded Sybase SQL Anywhere database that is installed and running on a Linux server to a network location on a Linux machine, you require two machines, a local machine and a remote machine. The local machine is a Linux server having the ZENworks server components and the embedded Sybase SQL Anywhere database installed. The remote machine is a Linux machine having the network location to which you want to back up the database.

1 Create a Samba share on the remote machine.

　　1a Create a user by entering the useradd *user_name* command at the command prompt.

　　1b Log in to the remote machine with the username created in Step 1a, and set the password by using the passwd *specify_the_password* command.

　　1c Create a directory to save the database backup.

　　　　For example, create a directory with the name backup.

　　1d Open the Samba server settings by running the yast2 samba-server command.

　　1e Click the *Shares* tab, then click *Add* to specify the share name and the path to the backup directory created in Step 1c.

　　　　For example, specify the sharename as dbbackup.

　　1f Select the dbbackup share, then click *Edit* to add the following attributes:

　　　　◆ create mask = 0640

　　　　◆ force user = *user_name_created_in_*Step 1a

　　　　◆ guest ok = yes

　　　　◆ public = yes

　　　　◆ wide links = no

* writeable = yes

2 Create a directory on the local machine.

For example, create a directory with the name `zenworks_dbbackup` in `/root.`

3 Mount the Samba share on the `zenworks_dbbackup` directory on the local machine by entering the following command at the command prompt:

```
mount -t smbfs //IP_address of the remote_machine/share_name -o
username=user_name_specified_in_Step1a,password=password_
specified_in_Step_1b
local_directory_name_with_complete_path_created_in_Step2
```

For example:

```
mount -t smbfs //IP_address of the remote_machine/dbbackup -o
username=user_name_specified_in_Step1a,password=password_
specified_in_Step_1b /root/zenworks_dbbackup
```

To immediately back up the database, continue with Step 4. To schedule the backup to run at a specific time every day or on specific days of a month, skip to Step 5.

4 To immediately back up the database to the network location on the remote machine, enter the following command at the command prompt:

```
zman database-backup database_backup_directory
```

For example:

```
zman database-backup /root/zenworks_dbbackup
```

5 To schedule the backup:

5a Create a schedule file, `backupschedule`, with the following contents:
```
CREATE EVENT backup_schedule_name
SCHEDULE
specify_the_schedule
```

A sample schedule file to back up the database at a 11 P.M. every day is as follows:
```
CREATE EVENT ZENDBBackup
SCHEDULE
START TIME '11:00 PM' EVERY 24 HOURS
```

A sample schedule file to back up the database at 1:00 A.M on the first, second, third, and fourth days of the month is as follows:
```
CREATE EVENT ZENDBBackup1
SCHEDULE
START TIME '1:00 AM'
ON (1,2,3,4)
```

Sample schedule files are available in the `ZENworks_Installation_directory:\Novell\Zenworks\ share\zman\samples\database` directory.

5b Enter the following command at the command prompt:

```
zman database-backup database_backup_directory
backUpSchedule -d SQL_function_call
```

For example:

```
zman database-backup /root/zenworks_dbbackup backUpSchedule
-d SQL_function_call
```

For more information about this command, view the zman man page (man zman) on the device, or see zman(1) in the *ZENworks 10 Configuration Management Command Line Utilities Reference*.

According to the backup schedule, zenworks_*zone_name*.db and zenworks_*zone_name*.log are created in the network location on the remote machine (/root/zenworks_dbbackup). The backed-up database is stored in zenworks_*zone_name*.db. The result of the database backup is logged into zenworks_*zone_name*.log.

12.2 Restoring the Embedded Sybase SQL Anywhere Database

The following sections provide information on restoring the backed-up embedded Sybase SQL Anywhere database:

12.2.1 Restoring the Embedded Sybase SQL Anywhere Database on a Windows Server

1 At the Windows server prompt, go to *ZENworks_Installation_directory:*\Novell\Zenworks\share\ASA\win32, and enter the following command:

```
ZenworksWindowsDBRestore.bat
ZENworks_Installation_directory:\Novell\Zenworks\Database
c:\dbBackup\zenworks_zone_name.db
c:\dbBackup\zenworks_zone_name.log
```

2 Press any key when the following message is displayed:

```
Before proceeding, make sure you have backed up any files
in:<Installation directory>:\Novell\ZENworks\database Press any
key to continue.
```

3 Enter Y when the following message is displayed:

```
The following services are dependent on the Novell ZENworks
Datastore service. Stopping the Novell ZENworks Datastore service
will also stop these services: Novell ZENworks Loader, Novell
ZENworks Agent Service, Novell ZENworks Server. Do you want to
continue this operation? (Y/N) [N]:
```

4 Press any key when the following message is displayed:

```
The Novell ZENworks Datastore service was stopped successfully.
Press any key to continue...
```

5 Enter Yes when the following message is displayed:

```
Overwrite <installation
directory>:\Novell\ZENworks\database\zenworks_<zone_name>.db?
(Yes/No/All)
```

6 Enter `Yes` when the following message is displayed:

```
Overwrite <installation
directory>:\Novell\ZENworks\database\zenworks_<zone_name>.log?
(Yes/No/All):
```

The `backupFile` and the `backupLogFile` are copied to
ZENworks_Installation_directory:\Novell\ZENworks\database, and the
database is restored.

12.2.2 Restoring the Embedded Sybase SQL Anywhere Database on a Linux Server

1 Log in to the ZENworks server as `root`.

2 Change to `/opt/novell/zenworks/share/sybase/bin32`, and enter the following
command:

```
./ZenworksLinuxDBRestore.sh -F "/root/dbBackup/
zenworks_zone_name.db"
```

3 Enter `Y` when the following message is displayed:

```
The backup database file will OVERWRITE the existing database. Is
that OK? [y/n]
```

4 Enter `Y` when the following message is displayed:

```
The novell-zenloader needs to be stopped for the database restore
to be performed. Would you like to proceed [y/n]?
```

The `backup` file is copied to `/var/opt/novell/zenworks/database`, and the restore
log file to `/var/opt/novell/log/zenworks/dbrestore.log`. The database is
restored.

ZENworks Server Backup and Restore

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13

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Novell® ZENworks® 10 Configuration Management allows you to back up and restore the configuration files for a ZENworks Server. This enables you to maintain a ZENworks Server's identity and configuration if a server fails or if you need to upgrade to new server hardware.

Only the configuration files are backed up. The content repository (bundle, policy, and image files) is not backed up. In addition, if you are backing up the ZENworks Server that hosts the ZENworks database, the ZENworks database is not backed up. Therefore, in addition to backing up the ZENworks Server (which only needs to be done one time), you should also back up the ZENworks database on a regular basis. For information about backing up the database, see Chapter 12, "Database Maintenance," on page 85.

- Section 13.1, "Backing Up a ZENworks Server," on page 93
- Section 13.2, "Restoring a ZENworks Server," on page 93

13.1 Backing Up a ZENworks Server

When you back up a ZENworks Server, all files in the `Novell\ZENworks\conf` directory on a Windows server or the `etc/opt/novell/zenworks/conf` directory on a Linux server are stored in an encrypted backup file in a location you specify.

1 At a command prompt on the ZENworks Server, enter the following command:

`zman zenserver-backup` *path_to_backup_file_to_create*

For example:

`zman zenserver-backup c:\zcm_backups\zone_backup.bak`

or

`zman zenserver-backup /root/zcm_backups\zone_backup.bak`

2 When prompted, enter a ZENworks administrator name and password.

3 When prompted, enter a passphrase (at least 10 characters) to be used for encrypting the backup file.

Make sure you remember this passphrase. You must enter it if you ever need to restore the server.

13.2 Restoring a ZENworks Server

The following instructions assume the following:

- You have a backup of the ZENworks Server's configuration information. See Section 13.1, "Backing Up a ZENworks Server," on page 93.
- If the ZENworks database resides on the ZENworks Server, you have a backup of the database. See Section 12.1, "Backing Up the Embedded Sybase SQL Anywhere Database," on page 85.

- The bundles and policies that are stored on the ZENworks Server have been replicated to other ZENworks Servers. If not, distribution of a policy or bundle from the restored ZENworks Server will fail.

- The image files that are stored on the ZENworks Server are available on another ZENworks Server. If not, distribution of the image files from the restored ZENworks Server will fail.

1 Reinstall the ZENworks Server using the same IP address and DNS name.

   If you do not use the same IP address and DNS name, any devices that connect to the server need to reregister.

2 Ensure that you have read/write rights to the `Novell\ZENworks\conf` directory on a Windows server or the `etc/opt/novell/zenworks` directory on a Linux server.

3 At a command prompt on the ZENworks Server, enter the following command:

   `zman zenserver-restore` *path_to_backup_file_to_restore*

   For example:

   `zman zenserver-restore c:\zcm_backups\zone_backup.bak`

   or

   `zman zenserver-restore /root/zcm_backups\zone_backup.bak`

4 When prompted, enter a ZENworks administrator name and password.

5 When prompted, enter the passphrase (at least 10 characters) to be used for decrypting the backup file.

   This is the same passphrase that was entered to encrypt the file when backing up the server.

6 (Conditional) If the database is located on the server, restore the database after the ZENworks Server information has been restored. For instructions, see Section 12.2, "Restoring the Embedded Sybase SQL Anywhere Database," on page 90.

7 (Conditional) If you have backups of the image files, restore the files to the `Novell\Zenworks\work\content-repo\images` directory on a Windows server or the `/var/opt/novell/zenworks/content-repo/images` directory on a Linux server.

8 Restart the ZENworks Server.

Naming Conventions in ZENworks Control Center

<div style="text-align:right">A</div>

When you name an object in the ZENworks® Control Center (folders, bundles, bundle groups, and so forth), ensure that the name adheres to the following conventions:

- The name must be unique in the folder.

- Depending on the database being used for the ZENworks database, uppercase and lowercase letters might not create uniqueness for the same name. The embedded database included with ZENworks Configuration Management is case insensitive, so Folder 1 and FOLDER 1 are the same name and cannot be used in the same folder. If you use an external database that is case-sensitive, Folder 1 and FOLDER 1 are unique.

- If you use spaces, you must enclose the name in quotes when entering it on the command line. For example, you must enclose bundle 1 in quotes ("bundle 1") when entering it in the zman utility.

- The following characters are invalid and cannot be used: / \ * ? : " ' < > | ` % ~