Location Awareness Reference

ZENworks® 11 Support Pack 2

October 2013

Novell®

Legal Notices

Novell, Inc., makes no representations or warranties with respect to the contents or use of this documentation, and specifically disclaims any express or implied warranties of merchantability or fitness for any particular purpose. Further, Novell, Inc., reserves the right to revise this publication and to make changes to its content, at any time, without obligation to notify any person or entity of such revisions or changes.

Further, Novell, Inc., makes no representations or warranties with respect to any software, and specifically disclaims any express or implied warranties of merchantability or fitness for any particular purpose. Further, Novell, Inc., reserves the right to make changes to any and all parts of Novell software, at any time, without any obligation to notify any person or entity of such changes.

Any products or technical information provided under this Agreement may be subject to U.S. export controls and the trade laws of other countries. You agree to comply with all export control regulations and to obtain any required licenses or classification to export, re-export or import deliverables. You agree not to export or re-export to entities on the current U.S. export exclusion lists or to any embargoed or terrorist countries as specified in the U.S. export laws. You agree to not use deliverables for prohibited nuclear, missile, or chemical biological weaponry end uses. See the Novell International Trade Services Web page (http://www.novell.com/info/exports/) for more information on exporting Novell software. Novell assumes no responsibility for your failure to obtain any necessary export approvals.

Copyright © 2007-2013 Novell, Inc. All rights reserved. No part of this publication may be reproduced, photocopied, stored on a retrieval system, or transmitted without the express written consent of the publisher.

Novell, Inc.
1800 South Novell Place
Provo, UT 84606
U.S.A.
www.novell.com

Online Documentation: To access the latest online documentation for this and other Novell products, see the Novell Documentation Web page (http://www.novell.com/documentation).

Novell Trademarks

For Novell trademarks, see the Novell Trademark and Service Mark list (http://www.novell.com/company/legal/trademarks/tmlist.html).

Third-Party Materials

All third-party trademarks are the property of their respective owners.

Contents

About This Guide 5

1 What Is Location Awareness? 7

2 Understanding Configuration and Security Locations 9

2.1 Configuration Location . . . 9
2.2 Security Location . . . 9

3 Configuring the Location Awareness Mode 11

3.1 Location Awareness Lite vs. Location Awareness . . . 11
3.1.1 Location Awareness Lite Limitations . . . 11
3.1.2 Location Awareness Mode Transitions . . . 12
3.2 Configuring the Location Awareness Mode for the Zone . . . 12
3.3 Overriding the Zone's Location Awareness Mode Setting on a Device Folder or Device . . . 13

4 Defining and Managing Network Environments 15

4.1 Configuring Administrator Rights . . . 15
4.2 Defining Network Environments . . . 15
4.3 Managing Network Environments . . . 17
4.4 Backing Up Network Environments . . . 18

5 Creating and Managing Locations 19

5.1 Configuring Administrator Rights . . . 20
5.2 Creating Locations . . . 20
5.3 Managing Locations . . . 21
5.4 Location and Network Environment Selection on a Managed Device . . . 23
5.5 Assigning Locations . . . 24
5.6 Startup Location . . . 25

6 Configuring the Closest Server Default Rule 27

7 Adding Closest Servers to Locations 35

7.1 Creating Closest Server Rules for a Location . . . 36
7.2 Creating Closest Server Rules for a Network Environment . . . 42
7.3 Using Closest Server Rules to Create Locations and Network Environments . . . 49

A Documentation Updates 51

A.1 March 2013: Update to ZENworks 11 SP2 (11.2.3) . . . 51
A.2 October 2013: Update to ZENworks 11 SP2 (11.2.4) . . . 51

About This Guide

This *ZENworks 11 SP2 Location Awareness Reference* explains how you can use a device's current location to determine which ZENworks server it connects to, what applications are available, and what security policies are applied to protect the device in its current network environment. The guide includes the following sections:

- Chapter 1, "What Is Location Awareness?," on page 7
- Chapter 2, "Understanding Configuration and Security Locations," on page 9
- Chapter 3, "Configuring the Location Awareness Mode," on page 11
- Chapter 4, "Defining and Managing Network Environments," on page 15
- Chapter 5, "Creating and Managing Locations," on page 19
- Chapter 6, "Configuring the Closest Server Default Rule," on page 27
- Chapter 7, "Adding Closest Servers to Locations," on page 35
- Appendix A, "Documentation Updates," on page 51

Audience

This guide is intended for ZENworks 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.

Additional Documentation

ZENworks 11 SP2 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 11 SP2 documentation Web site (http://www.novell.com/documentation/zenworks11).

1 What Is Location Awareness?

Location awareness is the ZENworks Adaptive Agent's ability to determine its current location and enforce a specific configuration based on that location.

Whether a user is a mobile employee who travels frequently, a corporate office employee, or a work-from-home employee, you want to ensure that the user is connecting to the right ZENworks server, that the correct applications are available, and that the appropriate security policies are being applied to protect the device in its current network environment. ZENworks 11 SP2 allows you to define locations that are used by the ZENworks Adaptive Agent to determine what should be available or enforced on a managed device.

A location can represent a specific place, such as *Corporate Office Building A*, or a type of place, such as *Office*, depending on your configuration and security needs. A location is a collection of network environment definitions. Each network environment definition identifies a set of conditions (gateways, DNS servers, wireless access points, and so on) that, when matched by a device's current network environment, associates the device to the location.

For example, assume that you have an office in New York and an office in Tokyo. Both offices have the same security requirements. You create an *Office* location and associate it with two network environments: *New York Office Network* and *Tokyo Office Network*. Each of these environments is explicitly defined by a set of wireless access point MAC addresses. Whenever the device determines that its current environment matches the *New York Office Network* or *Tokyo Office Network*, it sets its location to *Office* and applies the configuration and security settings associated with that location.

2 Understanding Configuration and Security Locations

A device uses its current network environment to determine both its Configuration location and its Security location.

2.1 Configuration Location

The Configuration location is determined from the device's current network environment and cannot be changed. You can use the Configuration location to determine the following:

- **Closest servers:** The ZENworks servers that the device contacts for authentication, content, collection, and configuration.
- **Bundles:** The bundles that are available.
- **Configuration policies:** The Configuration policies that are enforced.

The Configuration location applies to both Windows and Linux devices.

2.2 Security Location

This location is used only with ZENworks 11SP2 Endpoint Security Management. Like the Configuration location, it is automatically assigned to a device based on the network environment discovered by the device's ZENworks Adaptive Agent.

You can use the Security location to determine the following:

- **Security policies:** The Security policies that are enforced.
- **Bundles:** The bundles that are available.
- **Configuration policies:** The Configuration policies that are enforced.

The Security location applies only to Windows devices. It is not used on Linux devices.

3 Configuring the Location Awareness Mode

You can configure the ZENworks Adaptive Agent to run in Location Awareness Lite mode or in full Location Awareness mode. Both modes are explained in the following sections, as well as how to configure the mode in ZENworks Control Center.

- Section 3.1, “Location Awareness Lite vs. Location Awareness,” on page 11
- Section 3.2, “Configuring the Location Awareness Mode for the Zone,” on page 12
- Section 3.3, “Overriding the Zone’s Location Awareness Mode Setting on a Device Folder or Device,” on page 13

3.1 Location Awareness Lite vs. Location Awareness

Both location awareness modes enable the ZENworks Adaptive Agent to determine a device’s current Configuration and Security locations and enforce the appropriate settings, policies, and bundles:

- **Location Awareness Lite:** The agent uses network information provided by the operating system. This mode has limitations that the full Location Awareness mode does not. See Location Awareness Lite Limitations for details.

  If you use Location Awareness Lite mode and a device also has ZENworks Endpoint Security Management installed and enabled, the device uses Location Awareness mode instead. This occurs because ZENworks Endpoint Security Management and Location Awareness mode use the same ZENworks drivers. The agent detects that the drivers are installed and automatically switches to full Location Awareness mode, regardless of the mode setting.
- **Location Awareness:** The agent installs ZENworks drivers to collect network information. The drivers provide more detailed information than the operating system, which enables the agent to make a more accurate determination of the location.

3.1.1 Location Awareness Lite Limitations

Because Location Awareness Lite does not use the ZENworks drivers and depends solely on the operating system for network information, this mode has limitations that the Location Awareness mode does not. Some limitations appear on all operating systems and some on specific operating systems only.

All Operating Systems

- **Location change latency:** In Location Awareness mode, location changes are event driven. As soon as a ZENworks driver detects a network change, the change is sent to the agent so that the location assignment can be changed immediately (if necessary). In Location Awareness Lite

mode, however, location changes are based on polling. The agent periodically polls the operating system for network information and determines if a location change is required. The result is that location changes are typically slower in Location Awareness Lite mode than in Location Awareness mode.

- **Inaccurate network adapter classification:** As network adapters enumerate to the operating system, they can mask their device type. For example, an 802.11 wireless adapter might indicate that it is an Ethernet device. Modems and cellular devices can also do this. Because of this, any location awareness that is based on network adapter classification can be inaccurate. This is not the case in Location Awareness mode, because the drivers validate the adapter type.

Windows XP and Windows 2003

- **Wireless SSID and MAC address information unavailable:** In Location Awareness Lite mode, both wireless (802.11) SSID and MAC address information is not available. This means that network environment definitions based solely on this information cannot be matched.

Windows Vista, Windows 7, Windows 8, and Windows 2008

- **WLAN service required:** The wireless (802.11) controls require that the WLAN service is installed and running on a device. If the service is disabled, wireless SSID and MAC address information is not available (similar to the Windows XP/2003 issue described above). Any network environment definitions based solely on this information are never matched.

3.1.2 Location Awareness Mode Transitions

When a device transitions from one Location Awareness mode to another, the ZENworks drivers are either installed or removed. Because these are kernel drivers, the device must be rebooted for the change to take effect.

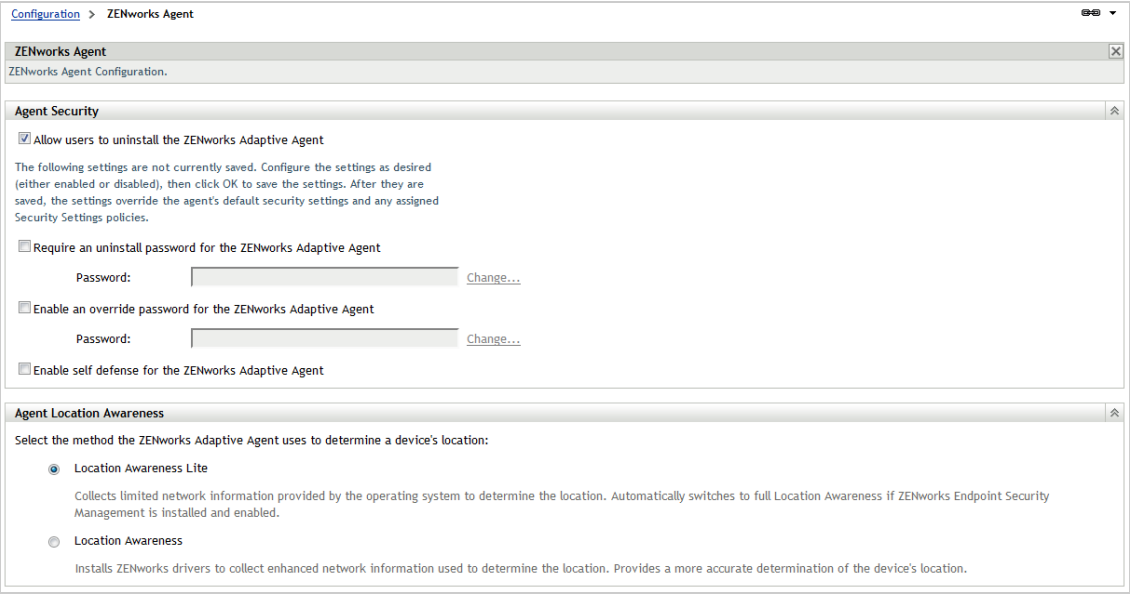
The timing of the reboot is determined by the Reboot Behavior setting in the Agent Features panel.

3.2 Configuring the Location Awareness Mode for the Zone

You can configure the Location Awareness mode at the zone level, device folder level, and device level. The mode you set at the zone level applies to all devices unless it is overridden at the device folder level or device level.

To configure the Location Awareness mode for the zone:

1. In ZENworks Control Center, click *Configuration* to display the Configuration page.
2. In the Management Zone Settings panel, click *Device Management*, then click *ZENworks Agent* to display the ZENworks Agent page.



3 In the Agent Location Awareness panel, select the mode you want:

- **Location Awareness Lite:** The agent uses network information provided by the operating system. This mode has limitations that the full Location Awareness mode does not. See "Location Awareness Lite Limitations" on page 11 for details.

  If you use Location Awareness Lite mode and a device also has ZENworks Endpoint Security Management installed and enabled, the device uses Location Awareness mode instead. This occurs because ZENworks Endpoint Security Management and Location Awareness mode use the same ZENworks drivers. The agent detects that the drivers are installed and automatically switches to full Location Awareness mode, regardless of the mode setting.

- **Location Awareness:** The agent installs ZENworks drivers to collect network information. The drivers provide more detailed information than the operating system, which enables the agent to make a more accurate determination of the location.

4 Click *OK* to save your changes.

3.3 Overriding the Zone's Location Awareness Mode Setting on a Device Folder or Device

You can configure the Location Awareness mode at the device folder level and device level. Configuring the mode at the device folder level overrides the zone setting for all devices in the folder. Configuring the mode at the device level overrides both the zone setting and the device folder setting for the device.

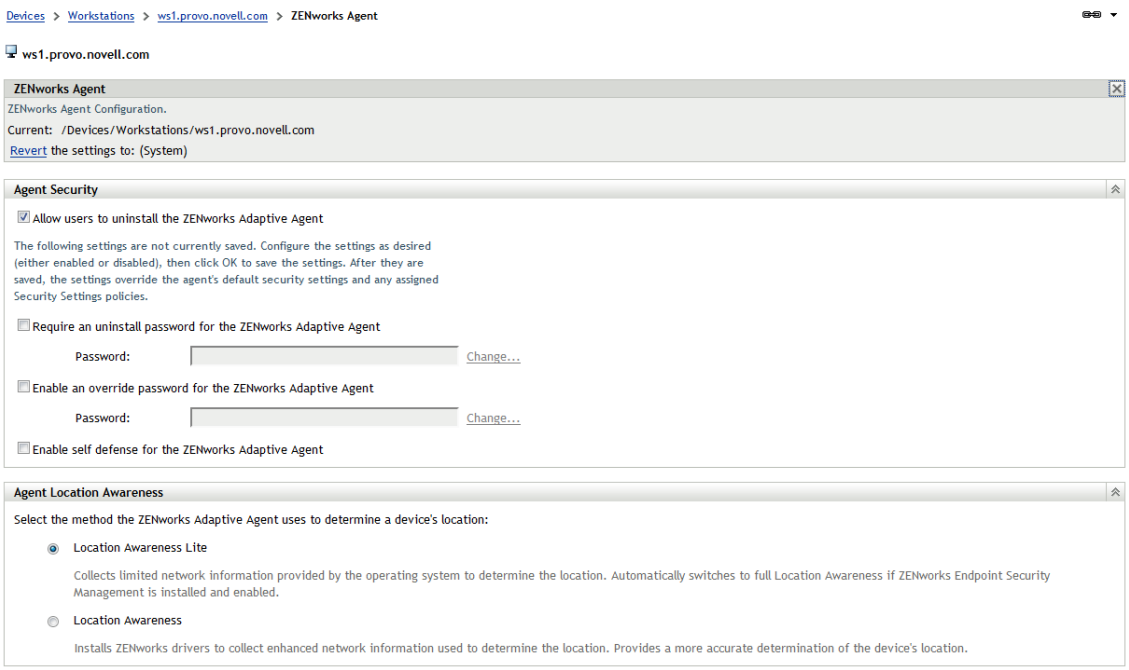
1 In ZENworks Control Center, locate the device folder for which you want to configure the Location Awareness mode, then click *Details* (next to the folder name) to display the folder properties.

or

Locate the device for which you want to configure the Location Awareness mode, then click the device name to display the device properties.

2 Click the *Settings* tab, then click *Device Management* > *ZENworks Agent* to display the ZENworks Agent page.

3 In the ZENworks Agent panel, click *Override settings* to activate the settings.



4 In the Agent Location Awareness panel, select the mode you want:

- **Location Awareness Lite:** The agent uses network information provided by the operating system. This mode has limitations that the full Location Awareness mode does not. See "Location Awareness Lite Limitations" on page 11 for details.

  If you use Location Awareness Lite mode and a device also has ZENworks Endpoint Security Management installed and enabled, the device uses Location Awareness mode instead. This occurs because ZENworks Endpoint Security Management and Location Awareness mode use the same ZENworks drivers. The agent detects that the drivers are installed and automatically switches to full Location Awareness mode, regardless of the mode setting.

- **Location Awareness:** The agent installs ZENworks drivers to collect network information. The drivers provide more detailed information than the operating system, which enables the agent to make a more accurate determination of the location.

5 Click *OK* to save your changes.

4 Defining and Managing Network Environments

Network environment definitions are the building blocks for locations. You can define a network environment while you are creating a location, but we recommend that you define network environments first and then add them as you are creating locations.

- Section 4.1, “Configuring Administrator Rights,” on page 15
- Section 4.2, “Defining Network Environments,” on page 15
- Section 4.3, “Managing Network Environments,” on page 17
- Section 4.4, “Backing Up Network Environments,” on page 18

4.1 Configuring Administrator Rights

In order to create, delete, and modify network environments, you must have the correct administrator rights. Super Administrators automatically receive the correct rights. If you are not a Super Administrator, you must have the Create/Delete right and the Modify right for the Location Rights group.

For more information about assigning rights to administrators, see “Managing Administrators and Administrator Groups” in the *ZENworks 11 ZENworks Control Center Reference*.

4.2 Defining Network Environments

1. In ZENworks Control Center, click *Configuration* > *Locations*.
2. In the Network Environments panel, click *New* to launch the Create New Network Environment Wizard.
3. On the Define Details page, fill in the following fields, then click *Next*:

   Network Environment Name: Provide a name for the network environment. Users never see the name; it displays only in ZENworks Control Center. The name must conform to ZENworks object naming conventions. For details, see “Naming Objects in ZENworks Control Center” in the *ZENworks 11 ZENworks Control Center Reference*.

   Description: Provide optional information about the new environment. This is for your benefit. This information appears only in ZENworks Control Center.

   Download Throttle Rate: Specify the bandwidth throttle rate for distributing content to devices located in this network environment. To maximize performance of your ZENworks Servers and network system, high bandwidth environments can use one set of throttle rates and low bandwidth environments a different set of throttle rates.

   For every location or network environment an effective throttle rate can be set. Content that is being downloaded to a particular location should be downloaded with the set throttle rate. However, if content is being delivered to an end point from a content distribution satellite, the

throttling rate set on the location or network environment is ineffective. The full bandwidth is being used for downloading the content.

The throttle rate can be overridden in a bundle so that high-priority patch and bundle content can be deployed quickly. If you do not specify a throttle rate, the network environment inherits the throttle rate assigned to the location.

Upload Throttle Rate: Specify the bandwidth throttle rate used by managed devices while uploading files to the server. These files can be audit, inventory, status, or message files. The default throttle rate is *0* (zero), which indicates that the devices can use unlimited bandwidth. If you configured the throttle rate for both network environment and location to which network environment is associated, the throttle rate of the network environment takes precedence over the throttle rate of the location.

For example, if the configured upload throttle rate is 200 KB/s and agent is uploading the audit file, then the upload throttle rate is 200 KB/s. Along with the audit file if an inventory file is uploaded at the same time, then the throttle rate is shared between the simultaneous uploads. In this example, the throttle rate for each upload request is 100 KB/s.

Audit Data Upload: Select *Enabled* to enable the devices in associated location or network environment, to upload audit event data to any Satellite Server (Collection role) or Primary Server.

Select *Disabled* to disable the devices in associated location or network environment, from uploading audit event data to any Satellite Server (Collection role) or Primary Server.

Click *Override Location Settings* to override the location settings so that the device uses Audit Data Upload setting configured for the associated network environment.

CIFS Server: Specify a Common Internet File System (CIFS) server that allows you to provide share access to files, printers, serial ports and other communications between nodes on a network. It is used for downloading content from ZENworks Primary Servers and Satellite Servers.

The agent is expecting only one CIFS Server and the format of the CIFS server is `\\164.99.137.82\content-repo\`. For example,`\\mycifsserver.mydomain.com\content-repofolder\` and smb://mycifsserver.mydomain.com\content-repofolder\. For more information about CIFS Server Details, see Configuring the Settings on a Managed Device.

4 On the Network Environment HTTP Proxy Details, fill in the following fields, and then click *Next*:

Proxy IP Address: Specify the IP address for the proxy server.

Port: Specify the port number on which the proxy server must be listening.

Network Segment (in CIDR notation): Specify the IP address of the devices where you want the proxy server to redirect the ZENworks Server. You must specify the range or IP addresses using Classless Inter-Domain Routing (CIDR) notation. For example, 123.45.67.12/16 specifies all IP addresses that start with 123.45. For more information about HTTP proxy, see *ZENworks 11 SP2 HTTP Proxy Reference*.

5 On the Network Environment Details, fill in the following fields, then click *Next*:

Limit to Adapter Type: By default, the network services you define on this page are evaluated against a device's wired, wireless, and dial-up network adapters. If you want to limit the evaluation to a specific adapter type, select *Wired*, *Wireless*, or *Dial Up*.

Minimum Match: Specify the minimum number of defined network services that must be matched in order to select this network environment.

For example, if you define one gateway address, three DNS servers, and one DHCP server, you have a total of five services. You can specify that at least three of those services must match in order to select this network environment.

When specifying a minimum match number, keep the following in mind:

- The number cannot be less than the number of services marked as Must Match.
- The number should not exceed the total number of defined services. If so, the minimum match would never be reached, resulting in the network environment never being selected.

Network Services: The Network Services panel lets you define the network services that the Endpoint Security Agent evaluates to see if it's current network environment matches this network environment. Select the tab for the network service you want to define, click *Add*, then fill in the required information. If a network service includes a *Must Match* option, select the option to require that the network service exist in order to match this network environment.

For detailed information about each service, click the *Help* > *Current Page*.

6 On the Summary page, click *Finish* to add the network environment definition to the list.

4.3 Managing Network Environments

1 In ZENworks Control Center, click *Configuration* > *Locations*.

2 In the Network Environments panel, perform the following tasks to manage network environments:

Task	Steps	Additional Details
Edit a network environment	1. Click the environment name. 2. Modify the fields as desired. If you need help with the options, click the *Help* button. 3. Click *Apply*.	If you choose to exclude the Closest Server Default Rule for a network environment that does not have any closest server rule configured, then the network environment is considered as a disconnected network environment.
Delete a network environment	1. Select the check box in front of the network environment. 2. Click *Delete*.	You cannot delete a network environment that has ZENworks objects associated. To delete a network environment that has ZENworks objects associated, you must first remove the association and then delete the network environment.
Rename a network environment	1. Select the check box in front of the location. 2. Click *Rename* to display the Rename Network Environment dialog box. 3. Specify the new name in the *Name* field, then click *OK*.	The name must conform to the ZENworks object naming conventions. For information about the naming conventions, see "Naming Objects in ZENworks Control Center" in the *ZENworks 11 ZENworks Control Center Reference*.
View the list of locations that include a network environment	1. Click the number in the *Location Reference Count* column.	The Associated Locations dialog box displays all the locations to which this network environment is associated.

Task	Steps	Additional Details
View the list of ZENworks Objects associated to a network environment	1. Click the number in the *Reference Count* column.	The Relationships page displays the ZENworks objects such as policies and bundles that are associated to the network environment. A ZENworks object such as a bundle or policy is associated with a network environment only if it contains a reference to the network environment through system requirement or policy configuration. The list displays the following information: ◆ Name of the associated policy or bundle. ◆ Type of the policy or bundle. ◆ Location of the associated policy or bundle.
Search for a network environment	1. In the *Search* option ( ) of the Network Environments panel, type the string to be used to filter the network environments, then press Enter.	The search string that you specify can contain alphanumeric characters. The Search functionality displays the network environment that has one or more of the following: ◆ Name that contains the specified string. ◆ Reference Count that matches the exact string that you specify. ◆ Location Reference Count that matches the exact string that you specify.
Clear the Search Result	1. Click . next to the *Search* option in the Network Environments panel.	

4.4 Backing Up Network Environments

You can back up the network environments by using the following zman commands:

- **network-environment-export-to-file (neetf):** Exports a network environment's information to an XML-formatted file.
- **network-environment-create (nec):** Creates a network environment from the information contained in the specified XML file.

For more information about these commands and their usage, see "Network Environment Commands" in the *ZENworks 11 Command Line Utilities Reference*.

5 Creating and Managing Locations

Security requirements for a device can differ from location to location. You might, for example, have different personal firewall restrictions for a device located in an airport terminal than for a device located in an office inside your corporate firewall.

To make sure that a device's security requirements are appropriate for whatever location it is in, Endpoint Security Management supports both global policies and location-based polices. A global policy is applied regardless of the device's location. A location-based policy is applied only when the device's current location meets the criteria for a location associated with the policy. For example, if you create a location-based policy for your corporate office and assign it to a laptop, that policy is applied only when the laptop's location is the corporate office.

If you want to use location-based policies, you must first define the locations that make sense for your organization. A location is a place, or type of place, for which you have specific security requirements. For example, you might have different security requirements for when a device is used in the office, at home, or in an airport.

Locations are defined by network environments. Assume that you have an office in New York and an office in Tokyo. Both offices have the same security requirements. Therefore, you create an Office location and associate it with two network environments: New York Office Network and Tokyo Office Network. Each of these environments is explicitly defined by a set of gateway, DNS server, and wireless access point services. Whenever the Endpoint Security Agent determines that its current environment matches the New York Office Network or Tokyo Office Network, it sets its location to Office and applies the security policies associated with the Office location.

Unknown is the default location that is automatically created after you install ZENworks 11 SP2. If ZENworks Adaptive Agent is unable to find a location that matches its current environment, the managed device is associated with the Unknown location. You cannot delete or rename the Unknown location.

The following sections explain how to create locations:

- Section 5.1, "Configuring Administrator Rights," on page 20
- Section 5.2, "Creating Locations," on page 20
- Section 5.3, "Managing Locations," on page 21
- Section 5.4, "Location and Network Environment Selection on a Managed Device," on page 23
- Section 5.5, "Assigning Locations," on page 24
- Section 5.6, "Startup Location," on page 25

5.1 Configuring Administrator Rights

In order to create, delete, and modify network environments, you must have the correct administrator rights. Super Administrators automatically receive the correct rights. If you are not a Super Administrator, you must have the Create/Delete right and the Modify right for the Location Rights group.

For more information about assigning rights to administrators, see "Managing Administrators and Administrator Groups" in the *ZENworks 11 ZENworks Control Center Reference*.

5.2 Creating Locations

When you create a location, you provide a location name and then associate the desired network environments with the location.

1. In ZENworks Control Center, click *Configuration* > *Locations*.
2. In the Locations panel, click *New* to launch the Create New Location Wizard.
3. On the Define Details page, fill in the following fields, then click *Next*:

   Network Environment Name: Provide a name for the network environment. Users never see the name; it displays only in ZENworks Control Center. The name must conform to ZENworks object naming conventions. For details, see "Naming Objects in ZENworks Control Center" in the *ZENworks 11 ZENworks Control Center Reference*.

   Description: Provide optional information about the new environment. This is for your benefit. This information appears only in ZENworks Control Center.

   Download Throttle Rate: Specify the bandwidth throttle rate for distributing content to devices located in this network environment. To maximize performance of your ZENworks Servers and network system, high bandwidth environments can use one set of throttle rates and low bandwidth environments a different set of throttle rates.

   For every location or network environment an effective throttle rate can be set. Content that is being downloaded to a particular location should be downloaded with the set throttle rate. However, if content is being delivered to an end point from a content distribution satellite, the throttling rate set on the location or network environment is ineffective. The full bandwidth is being used for downloading the content.

   The throttle rate can be overridden in a bundle so that high-priority patch and bundle content can be deployed quickly. If you do not specify a throttle rate, the network environment inherits the throttle rate assigned to the location.

   Upload Throttle Rate: Specify the bandwidth throttle rate used by managed devices while uploading files to the server. These files can be audit, inventory, status, or message files. The default throttle rate is *0* (zero), which indicates that the devices can use unlimited bandwidth. If you configured the throttle rate for both network environment and location to which network environment is associated, the throttle rate of the network environment takes precedence over the throttle rate of the location.

   For example, if the configured upload throttle rate is 200 KB/s and agent is uploading the audit file, then the upload throttle rate is 200 KB/s. Along with the audit file if an inventory file is uploaded at the same time, then the throttle rate is shared between the simultaneous uploads. In this example, the throttle rate for each upload request is 100 KB/s.

   Audit Data Upload: Select *Enabled* to enable the devices in associated location or network environment, to upload audit event data to any Satellite Server (Collection role) or Primary Server.

Select *Disabled* to disable the devices in associated location or network environment, from uploading audit event data to any Satellite Server (Collection role) or Primary Server.

CIFS Server: Specify a Common Internet File System (CIFS) server that allows you to provide share access to files, printers, serial ports and other communications between nodes on a network. It is used for downloading content from ZENworks Primary Servers and Satellite Servers.

The agent is expecting only one CIFS Server and the format of the CIFS server is `\\164.99.137.82\content-repo\`. For example,`\\mycifsserver.mydomain.com\content-repofolder\` and smb://mycifsserver.mydomain.com\content-repofolder\. For more information about CIFS Server Details, see Configuring the Settings on a Managed Device.

4 On the Location HTTP Proxy Details, fill in the following fields, and then click *Next*:

Proxy IP Address: Specify the IP address for the proxy server.

Port: Specify the port number on which the proxy server must be listening.

Network Segment (in CIDR notation): Specify the IP address of the devices where you want the proxy server to redirect the ZENworks Server. You must specify the range or IP addresses using Classless Inter-Domain Routing (CIDR) notation. For example, 123.45.67.12/16 specifies all IP addresses that start with 123.45.

For more information about HTTP proxy, see *ZENworks 11 SP2 HTTP Proxy Reference*.

5 On the Assign Network Environments page:

5a Select *Assign existing network Environments to the Location*.

5b Click *Add*, select the network environments you want to define the location, then click *OK* to add them to the list.

5c Click *Next* when you are finished adding network environments.

6 On the summary page, click *Finish* to create the location and add it to the Locations list.

When you add a new location, the *Unknown* location is listed last, and its order cannot be changed.

For more information on how the location and the network environment are selected on a managed device, see Section 5.4, “Location and Network Environment Selection on a Managed Device,” on page 23

The following information is displayed for each location you add to the list:

- **Name:** The name assigned to the location.
- **Reference Count:** The number of ZENworks objects that are associated to a location.

5.3 Managing Locations

The following table lists the tasks you can perform to manage locations:

Task	Steps	Additional Details
Edit a location	1. Click the location name. 2. Modify the fields as desired. If you need help with the options, click the *Help* button. 3. Click *Apply*.	For an *Unknown* location, you can edit only the throttle rate (in the *Details* tab) and the Location Closest Servers settings (in the *Servers* tab). If you choose to exclude the Closest Server default rule and do not configure Configuration and Authentication servers for a location, then the location is considered as a disconnected location. During the next general refresh of the managed device, the location is displayed as Unknown in the ZENworks icon properties page.
Delete a location	1. Select the check box in front of the location. 2. Click *Delete*.	You cannot delete the *Unknown* location. You cannot delete a location that has ZENworks objects associated. To delete a location that has ZENworks objects associated, you must first remove the association and then delete the location.
Rename a location	1. Select the check box in front of the location. 2. Click *Rename* to display the Rename Location dialog box. 3. Specify the new name in the *Name* field, then click *OK*.	The name must conform to the ZENworks object naming conventions. You cannot rename the *Unknown* location. Fpr information about the naming conventions, see "Naming Objects in ZENworks Control Center" in the *ZENworks 11 ZENworks Control Center Reference*. **IMPORTANT:** If the location is referenced by a Location Assignment policy (one of the security policies used with Endpoint Security Management), the Location Assignment policy must be republished before the name change will be reflected on assigned devices. For information about republishing a security policy, see "Publishing Policies" in the *ZENworks 11 SP2 Endpoint Security Policies Reference*.
Reorder the locations	1. Select the check box next to the location you want to move. You can select multiple locations to move at one time. 2. Click *Move Up* or *Move Down* to reposition the location.	The order of the list determines which location is used if the Adaptive Agent matches multiple locations. For more information on how the location and the network environment are selected on a managed device, see Section 5.4, "Location and Network Environment Selection on a Managed Device," on page 23 When you add a new location, the *Unknown* location is listed last, and its order cannot be changed.

Task	Steps	Additional Details
View the list of ZENworks Objects associated to a location	1. Click the number in the *Reference Count* column.	The Relationships page displays the ZENworks objects such as policies and bundles that are associated to the location. A ZENworks object such as a bundle or policy is associated with a location only if it contains a reference to the location through system requirement or policy configuration. The list displays the following information: ◆ Name of the associated policy or bundle. ◆ Type of the policy or bundle. ◆ Location of the associated policy or bundle.
Search for a location	1. In the *Search* option ( ) of the Locations panel, type the string to be used to filter the locations, then press Enter.	The search string that you specify can contain alphanumeric characters. The Search functionality displays the locations with the name that contains the specified string or with the Reference Count that matches the exact string that you specify.
Clear the Search Result	1. Click . next to the *Search* option in the Locations panel.	

5.4 Location and Network Environment Selection on a Managed Device

If you have multiple locations and network environments defined in ZENworks Control Center, the Adaptive Agent on the managed device scans all the defined network environments to identify matched environments. From the identified environments, the Adaptive Agent selects the network environments that have the highest number of matched network services (such as Client IP Address and DNS Servers). The Adaptive Agent then scans the ordered list of locations, identifies the first location that contains any of the selected network environments, and selects the location and the first matched network environment contained within this location.

For example:

The locations defined in ZENworks Control Center are listed in the following order: L1 and L2

The network environments within L1 are listed in the following order: NE1, NE2, and NE4.

The network environments within L2 are listed in the following order: NE2, NE3, and NE4.

The Adaptive Agent on the managed device detects that NE2, NE3 and NE4 all match on the managed device.

If NE2 and NE4 each have two network service matches each, and NE3 has just one network service match, the Adaptive Agent selects NE2 and NE4 because they have the most network service matches. Because NE2 is the first listed network environment in L1, L1 and NE2 are selected as the location and network environment.

NOTE: For a network environment to be considered matched on the managed device, it must meet all the restrictions set in the network environment. These include the *Minimum Match* attribute specified for the network environment and also the *Match Required* attribute specified for the network services within the network environment.

5.5 Assigning Locations

To assign a subset of Locations to a managed device or device folder:

1. Log into ZENworks Control Center and create a few Locations. For more information see, Section 5, "Creating and Managing Locations," on page 19.
2. In the left pane of ZENworks Control Center, click *Devices*.
3. In the *Devices* page, click the *Details* option against either *Servers* or *Workstations*.
4. Click the *Locations* tab.

   NOTE: Unless and until configured, the *Locations* tab will show the current *Location Assignment* set to the Zone, which means that all the locations configured in the Zone will be available to the device or the device contained in the folder, as the case may be.

   Current Assignment indicates the locations inherited by the managed device or the managed device folder. By default, this value is set to Zone or to the parent folder. This indicates that all the locations configured in the Management Zone or assigned to the parent folder are available to the managed device or to the managed device folder.

5. Click *Override Assignment* and then configure the assignment using either of the following options:
   - **Assign all Locations:** Makes all the locations configured in the Management Zone available to the managed device or to the managed device folder.
   - **Assign all Locations and Network Environments:** Enables you to select a subset of locations to be available to the managed device or to the managed device folder.Assign the following Locations and their Network Environments:

   NOTE: *Override Assignment* enables you to clear the last location assignment and create a new assignment

6. Refresh the target device(s) after few minutes.The managed device receives configuration data pertaining to the assigned locations.

Be aware of the following considerations as you create assignments:

- *Unknown Locations* is listed by default and cannot be removed from the list.
- The order of locations cannot be changed. The order defined at the Zone level takes effect in all assignments.
- This assignment is not effective on versions of ZENworks agents prior to ZENworks 11 SP2. Those agents continue to receive configuration data pertaining to all locations defined in the Zone.
- To assign locations to a device or a device folder, the administrator must have the Assign Locations rights in the Device Rights category.

5.6 Startup Location

When a device boot operation is performed, the network interface takes a considerable time to start. This delays the location identification for the device, and so ZENworks uses the default Unknown location. At the time of the device boot and the user login, other ZENworks functions like user source authentication and user refreshes are performed by using the closest servers that are defined at the Unknown location. This might cause a delay in the user login because of the use of an incorrect location, or because of incorrect or unreachable closest servers.

You can use the Startup Location feature to solve this problem. The Startup Location panel allows you to define a startup location for a managed device until the actual location is determined. Startup location can be defined at the Management Zone, device folder, or device level. Managed devices having a startup location with valid or reachable closest servers can contact the appropriate servers during device boot, thus enhancing the user login experience.

1. In ZENworks Control Center, click *Configuration* on the left pane, then click the *Locations* tab.
2. In the Startup Location panel, you can use the following options to select the startup location:
   - **Use last known Location:** The last detected location of the managed device.
   - **Use the following Startup Location:** Select the required startup location and the associated startup network environment for a device. However, selecting the startup network environment is not mandatory.

   If you select *Unknown* as the startup location, then the *Startup Network Environment* option shows all the network environments that are not referenced by a location.
3. In the *Duration to honor startup location* field, select the duration for which you want the agent to stay in the startup location after the device reboot, before it detects the actual location.

   The network or the wireless adapters may take some time to initialize and cause a delay in the detection of the actual location. By selecting a non-zero value in the *Duration to honor the startup location* field, you can prevent the agent from immediately switching to an unknown location from the startup location.The default duration is 2 minutes and you can select values from 0 to 10.

NOTE

- At the Management Zone level, you cannot delete any location that is identified as a startup location, and at the device or folder level, you cannot remove a location from the Location Assignment list which is a part of a startup location.
- To delete a location that is being referenced as a startup location, modify the corresponding startup location setting. You can also click the *Reference Count* for a location to see at which level (Zone, folder, or device) the location is referenced as the startup location.
- The Startup Location feature is applicable only to Windows managed devices.

---

6 Configuring the Closest Server Default Rule

The Closest Server Default rule lets you define the rule that is used by a device to determine the closest authentication, collection, content, and configuration servers when no Closest Server rules have been defined or when none apply. This rule is simply a listing of the servers in the order you want devices to contact them. You cannot add or remove servers from the lists.

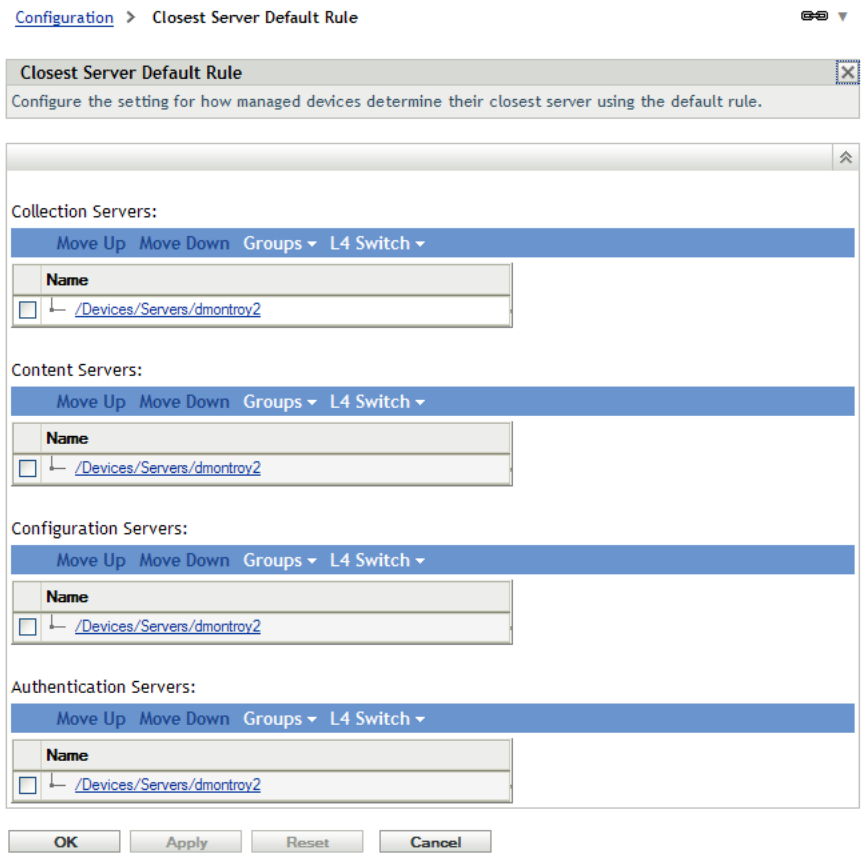
The Closest Server Default rule is applicable for ZENworks Configuration Management 10.2.x/10.3.x and ZENworks 11 SP2 devices. If you do not want the Closest Server Default Rule to be used to determine the closest servers for devices, you can create customized Closest Server rules. You can create the Closest Server rules for ZENworks Configuration 10.2.x/10.3.x devices at three levels: Management zone, device folder, and device. These settings are disabled when you baseline your Management Zone to ZENworks 11 SP2. For a ZENworks 11 SP2 device, the customized closest servers are configured on locations. For detailed information, see Chapter 1, “What Is Location Awareness?,” on page 7.

For Closest Server Default rules, devices that are Satellites are considered as servers and can be listed for selection in the appropriate lists.

By default, all ZENworks Servers function as authentication, collection, content, and configuration servers and are displayed in the appropriate lists. In addition, any devices that are defined with the Content or Imaging roles are also displayed in the Content Servers list, any devices that are defined with the Collection role are also displayed in the Collection Servers list, and any devices that are defined with the Authentication role are also displayed in the Authentication Servers list.

To configure a Closest Server Default rule:

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



2 To configure the servers listed in the any section, do any of the following:

2a (Conditional) You can perform the following tasks to manage individual servers in any of the server lists (Collection, Content, Configuration, and Authentication):

Task	Steps	Additional Details
Reorder the list	1. In the desired server list, select the check box for the server, group, or L4 switch you want to move. 2. Click *Move Up* or *Move Down* as necessary to change its order in the list. 3. Repeat as necessary to order the list.	Placement in the list determines the order in which servers are contacted. The first list item (server, group, or L4 switch) is contacted first, then the second, and so forth. You can order the items in the lists differently. This allows you to spread the workload initiated by devices by placing different servers higher in one list than in the other lists. For example: ◆ **Collection Servers:** Server1, Group1, Server3, L4Switch5 ◆ **Content Servers:** L4Switch5 ◆ **Configuration Servers:** Server3, Server2, Group1 ◆ **Authentication Servers:** Server1, Server2

2b (Conditional) You can use a group to randomize connections to servers. Each time the server list is sent to a device, it is randomized so that not all devices receive the same ordered list.

For example, assume the server list contains the following:

- Server 1
- Group 1 (Server 2, Server 3, Server 4)
- Server 5

One device might receive the following list: Server 1, Server 3, Server 2, Server 4, Server 5.

Another device might receive a different list: Server 1, Server 4, Server 3, Server 2, Server 5.

In all cases, Server 1 is listed first and Server 5 is listed last, but the order of the servers in Group 1 is randomized.

You can perform the following tasks to manage server groups in any of the server lists (Collection, Content, Configuration, and Authentication):

Task	Steps	Additional Details
Create a server group	1. In the desired server list, select the check boxes for the servers you want to include in the group, then click *Groups* > *Create Group from Selection*. or If you want to create an empty group, click *Groups* > *Create Empty Group*. You can add servers to the empty group later using the *Groups* > *Add to Group* option. 2. Specify a name for the group, then click *OK* to add the group to the list. 3. Click *Apply* to make the change effective.	
Add servers to a group	1. In the desired server list, select the check boxes for the servers you want to add to the group. 2. Click *Groups* > *Add to Group*. 3. Do one of the following: ◆ To add the selected servers to a new group, select *Create New* , specify a group name, then click *OK*. ◆ To add the selected servers to an existing group, select a group from the list in the *Select Existing* field, then click *OK*. 4. Click *Apply* to make the change effective.	

Task	Steps	Additional Details
Reorder the list	1. In the server list, select the check box for the server, group, or L4 switch you want to move. 2. Click *Move Up* or *Move Down* as necessary to change its order in the list. 3. Repeat as necessary to order the list.	Placement in the list determines the order in which servers are contacted. The first list item (server, group, or L4 switch) is contacted first, then the second, and so forth. You can order the items in the lists differently. This allows you to spread the workload initiated by devices by placing different servers higher in one list than in the other lists. For example: ◆ **Collection Servers:** Server1, Group1, Server3, L4Switch5 ◆ **Content Servers:** L4Switch5, Server2, Server3, Server1 ◆ **Configuration Servers:** Server3, Server2, Group1 ◆ **Authentication Servers:** Group1, L4Switch5, Server1, Server2
Copy a group from one list to another list	1. In the server list to which you want to copy a group, click *Groups* > *Copy Existing Group*. For example, to copy a group from the Collection Servers list to the Content Servers list, click *Groups* > *Copy Existing Group* in the Content Servers list. 2. Select the desired group from the list, then click *OK* to copy the group. 3. Click *Apply* to make the change effective.	If you copy a group to a list that does not already contain the group's servers, the unlisted servers are removed from the group. For example, if Group1 includes Server1 and Server2 and you copy Group1 to a list that does not include Server1, Server1 is removed from the group.
Remove servers from a group	1. In the server list, expand the group to display its servers. 2. Select the check boxes for the servers that you want to remove from the group. 3. Click *Groups* > *Remove from Group*, then click *OK*. 4. Click *Apply* to make the change effective.	The servers are not removed from the server list, only from the group.
Remove a group	1. In the server list, select the check box for the group you want to remove. 2. Click *Groups* > *Remove Group*, then click *OK*. 3. Click *Apply* to make the change effective.	The group's servers are not removed, only the group.

2c (Conditional) If you have ZENworks Servers that are clustered behind an L4 switch, you can define the L4 switch and add the servers to the definition. This enables the L4 switch to continue to balance the traffic among those servers.

Task	Steps	Additional Details
Create an L4 switch definition	1. In the server list, select the check boxes for the servers to include in the L4 switch definition, then click *L4 Switch > Create L4 Switch Definition from Selection*. or If you want to create an empty L4 switch definition, click *L4 Switch > Create Empty*. You can add servers to the empty definition later using the *L4 Switch > Add to L4 Switch Definition* option. 2. Specify the DNS name or the IP address of the L4 switch, then click *OK* to add the L4 switch to the list. 3. Click *Apply* to make the change effective.	
Add servers to an L4 switch definition	1. In the server list, select the check boxes for the servers you want to add to the L4 switch definition. 2. Click *L4 Switch > Add to L4 Switch Definition*. 3. Do one of the following: ◆ To add the selected servers to a new L4 switch definition, select *Create New* and specify the DNS name or IP address of the L4 switch, then click *OK*. ◆ To add the selected servers to an existing L4 switch definition, select an L4 switch definition from the list in the *Select Existing* field, then click *OK*. 4. Click *Apply* to make the change effective.	

Task	Steps	Additional Details
Reorder the list	1. In the desired server list, select the check box for the server, group, or L4 switch you want to move. 2. Click *Move Up* or *Move Down* as necessary to change its order in the list. 3. Repeat as necessary to order the list.	Placement in the list determines the order in which servers are contacted. The first list item (server, group, or L4 switch) is contacted first, then the second, and so forth. You can order the items in the lists differently. This allows you to spread the workload initiated by devices by placing different servers higher in one list than in the other lists. For example: ◆ **Collection Servers:** Server1, Group1, Server3, L4Switch5 ◆ **Content Servers:** L4Switch5, Server2, Server3, Server1 ◆ **Configuration Servers:** Server3, Server2, Group1 ◆ **Authentication Servers:** Group1, L4Switch5, Server1, Server2
Remove servers from an L4 switch definition	1. In the server list, expand the L4 switch definition to display its servers. 2. Select the check boxes for the servers that you want to remove from the L4 switch definition. 3. Click *L4 Switch* > *Remove from L4 Switch Definition*, then click *OK*. 4. Click *Apply* to make the change effective.	The servers are not removed from the server list, only from the L4 switch definition.
Remove an L4 switch definition	1. In the server list, click *L4 Switch* > *Remove L4 Switch Definition*, then click *OK*. 2. Click *Apply* to make the change effective.	The L4 switch definition's servers are not removed, only the definition.

3 (Optional) You can perform the following tasks to manage the server lists:

Task	Steps	Additional Details
Remove all the Satellites from the server lists of the Closest Server Default rule	1. Click *Remove Current Satellite Servers*.	You can again add the Satellites to the server lists of the default rule by clicking *Add Current Satellites Servers*.
Add the entries of all Satellites in to the server lists of the Closest Server Default rule	1. Click *Add Current Satellite Servers*.	The entries of all Satellites are added in to the server lists depending on the individual roles defined for each Satellite device.
Verify whether all ZENworks Servers are contained in the server lists of the Closest Server Default rule	1. Click *Validate Server Lists*.	If any existing server is missed out from the list, the server is added to the list

4 (Optional) If you want to automatically add new Satellites to the server lists of the Closest Server Default rule and synchronize the settings of the existing Satellites with their corresponding entries in the Closest Server Default rule, select the *New and modified Satellite Servers should be added to the these default rule lists* option. By default, the option is selected.

5 Specify the number of ZENworks servers whose data must be sent to the managed devices at a time. The available options are:

- **Unlimited:** By default, the contact information about all servers listed in the effective rule's lists are sent to the managed devices. In addition, unless excluded in the effective rule, the servers listed in the Closest Server Default rule are appended to the servers listed in the effective rule.
- **Limit to <*a _numeric_value_that_you_specify*> Servers per list:** If you want to converse bandwidth between the server and the managed devices, specify the number of servers whose data must be sent to the managed devices at a time.

NOTE: You can also configure the *Limit Servers Returned to Agent* setting for each Closest Server rule. The limit that you set in the Closest Server rule overrides the limit that you set in the Closest Server Default rule.

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

7 Adding Closest Servers to Locations

When a ZENworks Management Zone includes more than one ZENworks Primary Server or Satellite (collectively referred to as servers), devices need to know which servers to contact for collection, content, configuration, and authentication purposes. These servers are referred to as *closest servers*.

Closest Server rules help you improve load balancing between ZENworks Servers, perform failover, and improve performance when there is a slow link between the managed devices and Servers.

Closest servers can be configured on locations, network environments, and in the Closest Server Default Rule. The Closest servers for network environment override the Closest servers for locations. When a managed device requests its list of closest server, the ZENworks system combines the server lists from the location and default rule (in that order) or network environment and default rule (in that order), and passes the combined list to the device. The managed device contacts the first server in the list and continues down the list until it is able to connect. All of the Closest Server rules are received by the managed device and are cached locally. If the location of a managed device changes, the settings and closest servers rules associated with the new location are applied to the device.

For example, assume that the device detects that it is in NetworkEnvironment1, which is associated with Location1. The closest authentication servers for each of these are defined as follows:

- NetworkEnvironment1: Server4, Server5
- Location: Server4, Server3
- Default Rule: Server1, Server2, Server6

For authentication purposes, a device would receive the following server list. It would attempt to connect to the first one in the list, then the second, and so on until it successfully connected.

- Server4 (network environment)
- Server5 (network environment)
- Server1 (default rule)
- Server2 (default rule)
- Server6 (default rule)

ZENworks allows you to configure a location or network environment to be a disconnected location or network environment. If a managed device detects itself to be in a disconnected location or network environment, it does not contact any of the ZENworks servers or Satellites until the location or network environment of the device changes to a non-disconnected location. For example, if you do not want your laptop to contact any of the ZENworks servers or Satellites when you are using it from your house, define a home location as the disconnected location by performing the following tasks while configuring the location:

- Select the *Exclude the Closest Server Default Rule* option.
- Do not configure any Closest Server rules.

You can create Closest servers for locations and network environment in one of the following ways:

- **Using zman commands:** For detailed information on how to create Closest servers for locations by using zman commands, see "Location Commands" in the ZENworks 11 Command Line Utilities Reference or view the zman man page (`man zman`) on the server. For detailed information on how to create Closest servers for network environment by using zman commands, see "Network Environment Commands" in the ZENworks 11 Command Line Utilities Reference or view the zman man page (`man zman`) on the server.
- **Using ZENworks Control Center:** Review the following sections:
  - Section 7.1, "Creating Closest Server Rules for a Location," on page 36
  - Section 7.2, "Creating Closest Server Rules for a Network Environment," on page 42

7.1 Creating Closest Server Rules for a Location

The Location Closest Servers panel in ZENworks Control Center lets you assign ZENworks Primary Servers and Satellites to the location. When a device detects that it is within the location, it contacts the defined servers. By defining the closest servers for the location, you can reduce wide area network traffic and increase ZENworks performance.

1. In ZENworks Control Center, click *Configuration* > *Locations*.
2. In the Locations panel, click the location to display its details.
3. Click the *Servers* tab.
4. Click *Override* to override the closest server settings from the location.
5. (Conditional) If you do not want the Closest Server Default Rule to be used in determining closest servers, select the *Exclude the Closest Server Default Rule* option.

   Closest servers can also be configured on network environments and in the Closest Server Default Rule. When a managed device requests its list of closest server, the ZENworks system combines the server lists from the network environment, location, and default rule (in that order) and passes the combined list to the device. The managed device contacts the first server in the list and continues down the list until it is able to connect.

   NOTE: If you choose to exclude the Closest Server Default Rule for a location that does not have any closest server rule configured, then the location is considered as a disconnected location.

   ---

6. Configure the closest servers:

   6a Manage individual servers in any of the server lists (Collection, Content, Configuration, Imaging and Authentication):

Task	Steps	Additional Details
Add a server to a list	1. In the desired server list (Collection, Content, Configuration, or Authentication), click *Add*. 2. Browse for and select one or more ZENworks Servers or Satellites. 3. Click *OK* to add the selected servers to the list.	By default, ZENworks Servers support all functions (Collection, Content, Configuration, and Authentication). Therefore, all ZENworks Servers are available for selection in any of the server lists. Satellites, however, can be configured for specific roles (Collection, Content, Imaging, and Authentication). This has the following implications: ◆ When selecting Satellites for the Collection Server list, only those Satellites that are assigned the Collection role are available for selection. ◆ When selecting Satellites for the Authentication Server list, only those Satellites that are assigned the Authentication role are available for selection. ◆ When selecting Satellites for the Content Server list, only those Satellites that are assigned the Content role or Imaging role are available for selection. ◆ Satellites do not fulfill the Configuration role. Therefore, they cannot be added to the Configuration Server list. Satellite roles are configured in the Server Hierarchy panel on the Configuration tab.
Reorder the list	1. In the desired server list, select the check box for the server, group, or L4 switch you want to move. 2. Click *Move Up* or *Move Down* as necessary to change its order in the list. 3. Repeat as necessary to order the list.	Placement in the list determines the order in which servers are contacted. The first list item (server, group, or L4 switch) is contacted first, then the second, and so forth. You can order the items in the lists differently. This allows you to spread the workload initiated by devices by placing different servers higher in one list than in the other lists. For example: ◆ **Collection Servers:** Server1, Group1, Server3, L4Switch5 ◆ **Content Servers:** L4Switch5 ◆ **Configuration Servers:** Server3, Server2, Group1 ◆ **Authentication Servers:** Server1, Server2

Task	Steps	Additional Details
Remove a server from a list	1. In the server list, select the check box for the server you want to remove. 2. Click *Remove*.	

6b Manage server groups in any of the server lists (Collection, Content, Configuration, Imaging and Authentication).

You can use a group to randomize connections to servers. Each time the server list is sent to a device, it is randomized so that not all devices receive the same ordered list.

For example, assume the server list contains the following:

- Server 1
- Group 1 (Server 2, Server 3, Server 4)
- Server 5

One device might receive the following list: Server 1, Server 3, Server 2, Server 4, Server 5.

Another device might receive a different list: Server 1, Server 4, Server 3, Server 2, Server 5.

In all cases, Server 1 is listed first and Server 5 is listed last, but the order of the servers in Group 1 is randomized.

You can perform the following tasks to manage server groups in any of the server lists (Collection, Content, Configuration, and Authentication):

Task	Steps	Additional Details
Create a server group	1. In the desired server list, select the check boxes for the servers you want to include in the group, then click *Groups* > *Create Group from Selection*. or If you want to create an empty group, click *Groups* > *Create Empty Group*. You can add servers to the empty group later using the *Groups* > *Add to Group* option. 2. Specify a name for the group, then click *OK* to add the group to the list. 3. Click *Apply* to make the change effective.	

Task	Steps	Additional Details
Add servers to a group	1. In the desired server list, select the check boxes for the servers you want to add to the group. 2. Click *Groups > Add to Group*. 3. Do one of the following: ◆ To add the selected servers to a new group, select *Create New* , specify a group name, then click *OK*. ◆ To add the selected servers to an existing group, select a group from the list in the *Select Existing* field, then click *OK*. 4. Click *Apply* to make the change effective.	
Reorder the list	1. In the server list, select the check box for the server, group, or L4 switch you want to move. 2. Click *Move Up* or *Move Down* as necessary to change its order in the list. 3. Repeat as necessary to order the list.	Placement in the list determines the order in which servers are contacted. The first list item (server, group, or L4 switch) is contacted first, then the second, and so forth. You can order the items in the lists differently. This allows you to spread the workload initiated by devices by placing different servers higher in one list than in the other lists. For example: ◆ **Collection Servers:** Server1, Group1, Server3, L4Switch5 ◆ **Content Servers:** L4Switch5, Server2, Server3, Server1 ◆ **Configuration Servers:** Server3, Server2, Group1 ◆ **Authentication Servers:** Group1, L4Switch5, Server1, Server2
Copy a group from one list to another list	1. In the server list to which you want to copy a group, click *Groups > Copy Existing Group*. For example, to copy a group from the Collection Servers list to the Content Servers list, click *Groups > Copy Existing Group* in the Content Servers list. 2. Select the desired group from the list, then click *OK* to copy the group. 3. Click *Apply* to make the change effective.	If you copy a group to a list that does not already contain the group's servers, the unlisted servers are removed from the group. For example, if Group1 includes Server1 and Server2 and you copy Group1 to a list that does not include Server1, Server1 is removed from the group.

Task	Steps	Additional Details
Remove servers from a group	1. In the server list, expand the group to display its servers. 2. Select the check boxes for the servers that you want to remove from the group. 3. Click *Groups* > *Remove from Group*, then click *OK*. 4. Click *Apply* to make the change effective.	The servers are not removed from the server list, only from the group.
Remove a group	1. In the server list, select the check box for the group you want to remove. 2. Click *Groups* > *Remove Group*, then click *OK*. 3. Click *Apply* to make the change effective.	The group's servers are not removed, only the group.

6c If you have ZENworks Servers that are clustered behind an L4 switch, you can define the L4 switch and add the servers to the definition. This enables the L4 switch to continue to balance the traffic among those servers.

Manage L4 switches in any of the server lists (Collection, Content, Configuration, and Authentication):

Task	Steps	Additional Details
Create an L4 switch definition	1. In the server list, select the check boxes for the servers to include in the L4 switch definition, then click *L4 Switch* > *Create L4 Switch Definition from Selection*. or If you want to create an empty L4 switch definition, click *L4 Switch* > *Create Empty*. You can add servers to the empty definition later using the *L4 Switch* > *Add to L4 Switch Definition* option. 2. Specify the DNS name or the IP address of the L4 switch, then click *OK* to add the L4 switch to the list. 3. Click *Apply* to make the change effective.	
Add servers to an L4 switch definition	1. In the server list, select the check boxes for the servers you want to add to the L4 switch definition. 2. Click *L4 Switch* > *Add to L4 Switch Definition*. 3. Do one of the following: ◆ To add the selected servers to a new L4 switch definition, select *Create New* and specify the DNS name or IP address of the L4 switch, then click *OK*. ◆ To add the selected servers to an existing L4 switch definition, select an L4 switch definition from the list in the *Select Existing* field, then click *OK*. 4. Click *Apply* to make the change effective.	

Task	Steps	Additional Details
Reorder the list	1. In the desired server list, select the check box for the server, group, or L4 switch you want to move. 2. Click *Move Up* or *Move Down* as necessary to change its order in the list. 3. Repeat as necessary to order the list.	Placement in the list determines the order in which servers are contacted. The first list item (server, group, or L4 switch) is contacted first, then the second, and so forth. You can order the items in the lists differently. This allows you to spread the workload initiated by devices by placing different servers higher in one list than in the other lists. For example: ◆ **Collection Servers:** Server1, Group1, Server3, L4Switch5 ◆ **Content Servers:** L4Switch5, Server2, Server3, Server1 ◆ **Configuration Servers:** Server3, Server2, Group1 ◆ **Authentication Servers:** Group1, L4Switch5, Server1, Server2
Remove servers from an L4 switch definition	1. In the server list, expand the L4 switch definition to display its servers. 2. Select the check boxes for the servers that you want to remove from the L4 switch definition. 3. Click *L4 Switch* > *Remove from L4 Switch Definition*, then click *OK*. 4. Click *Apply* to make the change effective.	The servers are not removed from the server list, only from the L4 switch definition.
Remove an L4 switch definition	1. In the server list, click *L4 Switch* > *Remove L4 Switch Definition*, then click *OK*. 2. Click *Apply* to make the change effective.	The L4 switch definition's servers are not removed, only the definition.

7 Click *Apply* to save your changes.

7.2 Creating Closest Server Rules for a Network Environment

The Network Environment Closest Servers panel in ZENworks Control Center lets you assign ZENworks Primary Servers and Satellites to the network environment. When a device is located within the network environment, it contacts the defined servers. By defining the closest servers for the network environment, you can reduce wide area network traffic and increase ZENworks performance

1 In ZENworks Control Center, click *Configuration* > *Locations*.

2 In the Network Environments panel, click the network environment to display its details.

3 Click the *Servers* tab.

4 Click *Override* to override the closest server settings from the location. The resulting list includes only the servers defined for the network environment and for the Closest Server Default Rule.

5 (Conditional) If you do not want the Closest Server Default Rule to be used in determining closest servers, select the *Exclude the Closest Server Default Rule* option.

Closest servers can also be configured on locations and in the Closest Server Default Rule. When a managed device requests its list of closest server, the ZENworks system combines the server lists from the network environment, location, and default rule (in that order) and passes the combined list to the device. The managed device contacts the first server in the list and continues down the list until it is able to connect. This option excludes the default rule from being included in the server list.

NOTE: If you choose to exclude the Closest Server Default Rule for a network environment that does not have any closest server rule configured, then the network environment is considered as a disconnected network environment.

---

6 Configure the closest servers:

6a Manage individual servers in any of the server lists (Collection, Content, Configuration, Imaging and Authentication):

Task	Steps	Additional Details
Add a server to a list	1. In the desired server list (Collection, Content, Configuration, or Authentication), click *Add*. 2. Browse for and select one or more ZENworks Servers or Satellites. 3. Click *OK* to add the selected servers to the list.	By default, ZENworks Servers support all functions (Collection, Content, Configuration, and Authentication). Therefore, all ZENworks Servers are available for selection in any of the server lists. Satellites, however, can be configured for specific roles (Collection, Content, Imaging, and Authentication). This has the following implications: ◆ When selecting Satellites for the Collection Server list, only those Satellites that are assigned the Collection role are available for selection. ◆ When selecting Satellites for the Authentication Server list, only those Satellites that are assigned the Authentication role are available for selection. ◆ When selecting Satellites for the Content Server list, only those Satellites that are assigned the Content role or Imaging role are available for selection. ◆ Satellites do not fulfill the Configuration role. Therefore, they cannot be added to the Configuration Server list. Satellite roles are configured in the Server Hierarchy panel on the Configuration tab.
Reorder the list	1. In the desired server list, select the check box for the server, group, or L4 switch you want to move. 2. Click *Move Up* or *Move Down* as necessary to change its order in the list. 3. Repeat as necessary to order the list.	Placement in the list determines the order in which servers are contacted. The first list item (server, group, or L4 switch) is contacted first, then the second, and so forth. You can order the items in the lists differently. This allows you to spread the workload initiated by devices by placing different servers higher in one list than in the other lists. For example: ◆ **Collection Servers:** Server1, Group1, Server3, L4Switch5 ◆ **Content Servers:** L4Switch5 ◆ **Configuration Servers:** Server3, Server2, Group1 ◆ **Authentication Servers:** Server1, Server2

Task	Steps	Additional Details
Remove a server from a list	1. In the server list, select the check box for the server you want to remove. 2. Click *Remove*.	

6b Manage server groups in any of the server lists (Collection, Content, Configuration, and Authentication).

You can use a group to randomize connections to servers. Each time the server list is sent to a device, it is randomized so that not all devices receive the same ordered list.

For example, assume the server list contains the following:

- Server 1
- Group 1 (Server 2, Server 3, Server 4)
- Server 5

One device might receive the following list: Server 1, Server 3, Server 2, Server 4, Server 5.

Another device might receive a different list: Server 1, Server 4, Server 3, Server 2, Server 5.

In all cases, Server 1 is listed first and Server 5 is listed last, but the order of the servers in Group 1 is randomized.

Task	Steps	Additional Details
Create a server group	1. In the desired server list, select the check boxes for the servers you want to include in the group, then click *Groups* > *Create Group from Selection*. or If you want to create an empty group, click *Groups* > *Create Empty Group*. You can add servers to the empty group later using the *Groups* > *Add to Group* option. 2. Specify a name for the group, then click *OK* to add the group to the list. 3. Click *Apply* to make the change effective.	

Task	Steps	Additional Details
Add servers to a group	1. In the desired server list, select the check boxes for the servers you want to add to the group. 2. Click *Groups > Add to Group*. 3. Do one of the following: ◆ To add the selected servers to a new group, select *Create New* , specify a group name, then click *OK*. ◆ To add the selected servers to an existing group, select a group from the list in the *Select Existing* field, then click *OK*. 4. Click *Apply* to make the change effective.	
Reorder the list	1. In the server list, select the check box for the server, group, or L4 switch you want to move. 2. Click *Move Up* or *Move Down* as necessary to change its order in the list. 3. Repeat as necessary to order the list.	Placement in the list determines the order in which servers are contacted. The first list item (server, group, or L4 switch) is contacted first, then the second, and so forth. You can order the items in the lists differently. This allows you to spread the workload initiated by devices by placing different servers higher in one list than in the other lists. For example: ◆ **Collection Servers:** Server1, Group1, Server3, L4Switch5 ◆ **Content Servers:** L4Switch5, Server2, Server3, Server1 ◆ **Configuration Servers:** Server3, Server2, Group1 ◆ **Authentication Servers:** Group1, L4Switch5, Server1, Server2
Copy a group from one list to another list	1. In the server list to which you want to copy a group, click *Groups > Copy Existing Group*. For example, to copy a group from the Collection Servers list to the Content Servers list, click *Groups > Copy Existing Group* in the Content Servers list. 2. Select the desired group from the list, then click *OK* to copy the group. 3. Click *Apply* to make the change effective.	If you copy a group to a list that does not already contain the group's servers, the unlisted servers are removed from the group. For example, if Group1 includes Server1 and Server2 and you copy Group1 to a list that does not include Server1, Server1 is removed from the group.

Task	Steps	Additional Details
Remove servers from a group	1. In the server list, expand the group to display its servers. 2. Select the check boxes for the servers that you want to remove from the group. 3. Click *Groups* > *Remove from Group*, then click *OK*. 4. Click *Apply* to make the change effective.	The servers are not removed from the server list, only from the group.
Remove a group	1. In the server list, select the check box for the group you want to remove. 2. Click *Groups* > *Remove Group*, then click *OK*. 3. Click *Apply* to make the change effective.	The group's servers are not removed, only the group.

6c If you have ZENworks Servers that are clustered behind an L4 switch, you can define the L4 switch and add the servers to the definition. This enables the L4 switch to continue to balance the traffic among those servers.

Manage L4 switches in any of the server lists (Collection, Content, Configuration, and Authentication):

Task	Steps	Additional Details
Create an L4 switch definition	1. In the server list, select the check boxes for the servers to include in the L4 switch definition, then click *L4 Switch > Create L4 Switch Definition from Selection*. or If you want to create an empty L4 switch definition, click *L4 Switch > Create Empty*. You can add servers to the empty definition later using the *L4 Switch > Add to L4 Switch Definition* option. 2. Specify the DNS name or the IP address of the L4 switch, then click *OK* to add the L4 switch to the list. 3. Click *Apply* to make the change effective.	
Add servers to an L4 switch definition	1. In the server list, select the check boxes for the servers you want to add to the L4 switch definition. 2. Click *L4 Switch > Add to L4 Switch Definition*. 3. Do one of the following: ◆ To add the selected servers to a new L4 switch definition, select *Create New* and specify the DNS name or IP address of the L4 switch, then click *OK*. ◆ To add the selected servers to an existing L4 switch definition, select an L4 switch definition from the list in the *Select Existing* field, then click *OK*. 4. Click *Apply* to make the change effective.	

Task	Steps	Additional Details
Reorder the list	1. In the desired server list, select the check box for the server, group, or L4 switch you want to move. 2. Click *Move Up* or *Move Down* as necessary to change its order in the list. 3. Repeat as necessary to order the list.	Placement in the list determines the order in which servers are contacted. The first list item (server, group, or L4 switch) is contacted first, then the second, and so forth. You can order the items in the lists differently. This allows you to spread the workload initiated by devices by placing different servers higher in one list than in the other lists. For example: ◆ **Collection Servers:** Server1, Group1, Server3, L4Switch5 ◆ **Content Servers:** L4Switch5, Server2, Server3, Server1 ◆ **Configuration Servers:** Server3, Server2, Group1 ◆ **Authentication Servers:** Group1, L4Switch5, Server1, Server2
Remove servers from an L4 switch definition	1. In the server list, expand the L4 switch definition to display its servers. 2. Select the check boxes for the servers that you want to remove from the L4 switch definition. 3. Click *L4 Switch* > *Remove from L4 Switch Definition*, then click *OK*. 4. Click *Apply* to make the change effective.	The servers are not removed from the server list, only from the L4 switch definition.
Remove an L4 switch definition	1. In the server list, click *L4 Switch* > *Remove L4 Switch Definition*, then click *OK*. 2. Click *Apply* to make the change effective.	The L4 switch definition's servers are not removed, only the definition.

7 Click *Apply* to save your changes.

7.3 Using Closest Server Rules to Create Locations and Network Environments

1 Log in to ZENworks Control Center.

2 Click *Configuration* > *Locations*.

3 In the *Locations* panel, click *New*.

4 Specify the location name. For example, Location1.

5 (Optional) Specify a description and throttle rate.

6. Click *Next*.
7. Select *Create and assign Network Environment to the Location*, then click *Next*.
8. (Optional) Change the network environment name.
9. (Optional) Specify a description and throttle rate for the network environment.
10. Click *Next*.
11. Select any of the following parameters or a combination of parameters and then click *Add* to configure the relevant settings:
    - Gateway
    - DNS Servers
    - DHCP Servers
    - WINS Servers
    - Dial-up Connections
    - Adapters
    - Access Points
    - Client IP Address
    - Client DNS Settings

    You can also specify the *Minimum Match* and *Match Required* values where applicable.
12. Click *Next*.
13. Review the details on the *Summary* page, then click *Finish*. The newly created location, Location1, is added to the *Locations* list.
14. Click *Location1*.
15. Click the *Servers* tab.
16. Select the *Exclude the Closest Server Default Rule* option.
17. Add a *Collection* server, a *Content* server, a *Configuration* server, and an *Authentication* server for the location.
18. Click *Apply*.

On the Macintosh managed device:

1. Log in to the managed device as `root`.
2. Refresh the device.
3. Right-click the ZENworks icon and click *Show Properties*.
4. Click *Server*. The configured location, Location1, is applied to the Macintosh device and is displayed in the *Servers* tab.

A Documentation Updates

This section contains information on documentation content changes that were made in this Location Awareness Reference for Novell ZENworks 11 SP2. The information can help you to keep current on updates to the documentation.

The documentation for this product is provided on the Web in two formats: HTML and PDF. The HTML and PDF documentation are both kept up-to-date with the changes listed in this section.

If you need to know whether a copy of the PDF documentation that you are using is the most recent, the PDF document includes a publication date on the title page.

- Section A.1, "March 2013: Update to ZENworks 11 SP2 (11.2.3)," on page 51
- Section A.2, "October 2013: Update to ZENworks 11 SP2 (11.2.4)," on page 51

A.1 March 2013: Update to ZENworks 11 SP2 (11.2.3)

Updates were made to the following sections:

Location	Update
Chapter 3, "Configuring the Location Awareness Mode," on page 11	Added information about the new Location Awareness mode feature.
Section 4.2, "Defining Network Environments," on page 15	Added information about the CIFS server and Network Environment HTTP proxy.
Section 5.2, "Creating Locations," on page 20	Added information about the CIFS server and Location HTTP proxy.

A.2 October 2013: Update to ZENworks 11 SP2 (11.2.4)

Updates were made to the following sections:

Location	Update
Section 4.2, "Defining Network Environments," on page 15	Added examples for CIFS server and Network Environment HTTP proxy.