ZENworks® 11 Support Pack 4

Upgrade Guide

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About This Guide

This guide includes information about new enhancements in Novell ZENworks 11 SP4 and information to help you successfully upgrade to this release.

The information in this guide is organized as follows:

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 comment on this topic link at the bottom of each page of the online documentation.

Additional Documentation

ZENworks 11 SP4 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 SP4 documentation website (http://www.novell.com/documentation/zenworks114/).

Contents

1 Upgrading the Primary Servers to ZENworks 11 SP4

Using the ZENworks 11 SP4 installation media, you can directly upgrade a Primary Server to ZENworks 11 SP4 if it is using ZENworks 11 SP3 (11.3.0) or later.

If the upgrade installer reports any of the following issues during the upgrade, follow the recommended procedures to resolve the problem:

- **Unsupported ZENworks version:** Upgrade all Primary Servers to ZENworks 11 SP3. Ensure that all Primary Servers in the zone have the same version of ZENworks 11.3.x.

  For more information about upgrading ZENworks, see the ZENworks 11 SP3 Upgrade Guide (https://www.novell.com/documentation/zenworks113/zen11_upgrade/data/bookinfo.html).

- **Unsupported operating systems:** Upgrade the operating systems to a supported version.

  For more information about the discontinued operating systems, see the *ZENworks 11 SP4 System Requirements*.

IMPORTANT: Do not extract the ISO image and use it to install. The installation must be run from an installation DVD.

The following sections provide information about upgrading to ZENworks 11 SP4:

Understanding the Upgrade Installer

- Upgrades all ZENworks 11 SP3 Configuration Management components on the Primary Servers, including Configuration Management, Asset Management, Asset Inventory, Endpoint Security Management, and Patch Management.

- Upgrades the ZENworks database and the Audit database. This occurs when the first server is upgraded.

- After you upgrade the first server to ZENworks 11 SP4, the System Update is available for upgrading the supported versions of ZENworks Satellite Servers and managed devices to ZENworks 11 SP4.

  The time required to complete the upgrade on the first Primary Server depends on the size of the data present in database. For Primary Servers using an Microsoft SQL or Oracle database with more than 200,000 records to be purged, the Upgrade installer provides an option to prune the database before upgrading. For information, see "Database Purging" on page 13.

Database Considerations

Before you perform the upgrade from ZENworks 11 SP3 to ZENworks 11 SP4, consider the following guidelines:

 * If you are using an external database, you need to upgrade or migrate the external database to the supported latest version before upgrading the Primary Server.

   NOTE: If you have Microsoft SQL 2008 R2 running in compatibility mode on the device, you must manually turn off the compatibility mode before you upgrade to ZENworks 11 SP4.

   For more information about the supported database versions, see "Database Requirements", in the ZENworks 11 SP4 System Requirements Guide (http://www.novell.com/documentation/zenworks114/).

 * (Recommended) Select the type of database based on the number of devices in the environment:
   * For environments with up to 3,000 devices, use Embedded Sybase or Remote Sybase.
   * For environments with up to 40,000 devices, use MS SQL or Oracle.
   * For environments with more than 40,000 devices, use Oracle Enterprise Edition (with partitioning). For information about partitioning, see Oracle Enterprise with Partitioning, in the ZENworks 11 SP4 Server Installation Guide.

   If the existing database does not meet the recommendation, migrate the existing database after the upgrade is complete.

 * For upgrading database, you can either upgrade the database on the same device where it is running or you can migrate the database using a third-party upgrade installer.

   If you are using an embedded Sybase database, the ZENworks Upgrade installer will upgrade and rebuild the database.

   NOTE: On a server that hosts an embedded Sybase database, ensure that you have the required free space, equal to the size of the database file.

 * You can only upgrade to a higher version of the same database. You cannot migrate from one database to another using the Upgrade installer.

 * For all external databases, stop the ZENworks services before performing the database upgrade.

Understanding the Upgrade Order

Ensure that you perform the ZENworks 11 SP4 upgrade tasks in the following order:

1. **Upgrade the Operating System:** If the operating system installed on the device is not supported by ZENworks, upgrade the operating system to the latest supported version.

   For more information on the supported operating systems, see "System Requirements"in the *ZENworks 11 SP4 Server Installation Guide*.

   IMPORTANT: Before you perform the upgrade, ensure that you back up the data and the certificate information.

2. **Upgrade ZENworks:** Upgrade ZENworks to the latest version.

   - The ZENworks 11 SP4 upgrade installer can upgrade only the server on which you run it.

   - If you are using an Embedded Sybase database, first upgrade the device that hosts the database, then upgrade the other Primary Servers.

     NOTE: After you upgrade the first Primary Server to ZENworks 11 SP4, all other servers must be upgraded to ZENworks 11 SP4.

   - When you perform the upgrade for the first time in the Management Zone, only one Primary Server can be upgraded at a time. The subsequent upgrade of additional Primary Servers can be done in parallel, or in any order.

     While upgrading the first Primary Server, you must stop the ZENworks services on all other Primary Servers. During the upgrade of additional Primary Servers, you must stop the services on those servers that have not been upgraded. If you do not stop the services, the database might be affected.

     NOTE: The Schema and License information will be updated only during the first Primary Server upgrade, not during the subsequent server upgrades.

   - You must upgrade the Primary Servers first; then upgrade the Satellite Servers and agents in the zone.

     IMPORTANT: When upgrading additional Primary Servers in the zone, ensure that the Novell ZENworks Server services are running on the upgraded first Primary Server. If the zone uses Embedded Sybase, the Embedded Sybase services must be running on the upgraded first Primary Server.

Prerequisites

When you upgrade a Primary Server to ZENworks 11 SP4 for the first time in the Management Zone, complete the following tasks before running the upgrade:

- Ensure that the Primary Server that you want to upgrade to ZENworks 11 SP4 meets all the ZENworks 11 SP4 system requirements.

  For more information, see "Primary Server Requirements" in the *ZENworks 11 SP4 Server Installation Guide*.

- Back up the ZENworks database.

- The time required to complete the upgrade on the first Primary Server depends on the size of the data present in database. If the first Primary Server upgrade is on a device that is using an Microsoft SQL or Oracle database, then run the upgrade in a test environment (with server data similar to the production environment). This is to calculate the outage time of the production server.

- Ensure that there is no high CPU utilization or memory utilization during the first Primary Server upgrade.

- Stop all ZENworks services on any Primary Server that is not being upgraded in order to prevent the database from being accessed during the upgrade. Otherwise, this might result in the database going into a nonrecoverable state.

  - For information about stopping ZENworks services:

    - **On a Windows Primary Server:** See "ZENworks Services on a Windows Server"in the *ZENworks 11 SP4 Primary Server and Satellite Reference*.

- **On a Linux Primary Server:** See "ZENworks Services on a Linux Server" in the *ZENworks 11 SP4 Primary Server and Satellite Reference*.

When you upgrade the first server, then the System Update is available to upgrade the ZENworks Satellite Servers and managed devices to ZENworks 11 SP4.

- Ensure that the server hosting the database is running with an active database.

- On a Linux Primary Server, ensure that the `c3p0`, the hibernate logs for ZENLoader, and ZENServer are disabled prior to the upgrade. For more information, see TID 7015032 (https://www.novell.com/support/kb/doc.php?id=7015032).

- Ensure that the time on the server and the database are synchronized (time difference must be less than 2 minutes).

NOTE:

- If the time difference is more than 2 minutes and less than 24 hours, a warning message is displayed during the upgrade.

- If the time difference is more than 24 hours, an error message is displayed.

- Ensure that the Windows Primary Servers have Windows Installer 4.5 or later versions installed and running.

- Ensure that all fixed ports are free during the upgrade. If the fixed ports are blocked, the upgrade can not proceed. For the list of ports, see "TCP and UDP Ports Used by ZENworks Primary Servers" in *ZENworks 11 SP4 Primary Server and Satellite Reference*.

- If you have obtained the ZENworks upgrade software as an ISO image download, do one of the following to create the upgrade DVD:
  - "Using Windows to Create a ZENworks Installation DVD from an ISO Image" on page 10
  - "Using Linux to Create a ZENworks Installation DVD from an ISO Image" on page 10

IMPORTANT: Do not extract and use the ISO image for upgrading to ZENworks 11 SP4.

Using Windows to Create a ZENworks Installation DVD from an ISO Image

1 Download the ZENworks 11 SP4 upgrade ISO image from the Novell Download website (http://download.novell.com/) to a temporary location on your Windows device.

2 Burn the ISO image to a DVD.

Using Linux to Create a ZENworks Installation DVD from an ISO Image

1 Download the ZENworks 11 SP4 upgrade ISO image from the Novell Download website (http://www.novell.com/) to a temporary location on your Linux device.

2 Mount the ISO image by using the following command:

```
mount -o loop /tempfolderpath/isoimagename.iso mountpoint
```

Replace *tempfolderpath* with the path of the temporary folder, replace *isoimagename* with the ZENworks ISO file name, and replace *mountpoint* with the path of the file system location where you want to mount the image. The path specified by *mountpoint* must already exist.

For example:

```
mount -o loop /zcm11/ZCM11upgr.iso /zcm11/upgrade
```

Upgrading the Primary Servers

You can upgrade by using a graphical user interface (GUI) program or a command line (Linux only).

- "Using the GUI to Upgrade Linux and Windows Servers" on page 11
- "Using a Command Line to Upgrade a Linux Server" on page 18
- "Running ZENworks Diagnostic Center to Verify the Database Schema" on page 20

IMPORTANT

- Do not use the ZENworks System Update to upgrade the Primary Servers to ZENworks 11 SP4.

  Before upgrading the ZENworks server on a Windows device, run the Windows Update on the device to ensure that all the available updates are installed on the device. Subsequently, disable the Windows Update to ensure that there are no further updates on the device when you upgrade the ZENworks server on the device. Windows Update can be enabled after upgrading ZENworks.

- Disable the Linux Update to ensure that there are no further updates on the device when you upgrade the ZENworks server on the device.

Using the GUI to Upgrade Linux and Windows Servers

Perform the following procedure on the Primary Server that you want to upgrade to ZENworks 11 SP4 if all the prerequisites explained in "Prerequisites" on page 9 are met:

1 To start the ZENworks 11 SP4 upgrade program:

- **Linux:** Open a Linux terminal, browse to the root of the ZENworks 11 SP4 installation media, then enter the `sh setup.sh` command.
- **Windows:** Do one of the following:
  - Browse to the root of the ZENworks 11 SP4 installation media, then double-click `setup.exe`.
  - Open a DOS window, browse to the root of the ZENworks 11 SP4 installation media, then enter the `setup.exe` command.

2 During upgrade, see Table 1-1, "Upgrade Information," on page 12 for details on the upgrade data.

  If you are using the GUI upgrade, you can also click the **Help** button for similar information.

3 Do one of the following on the Windows device:

- If you selected to reboot automatically (you selected the **Yes, restart the system** option during the upgrade; see "Restarting the Server (applicable only for Windows)" on page 15), continue with Step 5 after the booting process has completed and the services have started.
- If you selected to reboot manually (you selected the **No, I will restart the system myself** option during the upgrade; see "Restarting the Server (applicable only for Windows)" on page 15), wait for the upgrade to complete and the services to start in order to verify it in Step 4.

4 After the upgrade is complete and the ZENworks services are restarted, do any of the following to verify that ZENworks 11 SP4 is running:

- **Check the Windows services by using the GUI:**

  On the server, click **Start**, select **Administrative Tools** > **Services**, then review the status of the **Novell ZENworks Loader** and **Novell ZENworks Server** services.

  If the services are not running, start them. Right-click the **Novell ZENworks Server** service, select **Start**, right-click the **Novell ZENworks Loader** service, then select **Start**.

  Alternatively, you can use the **Restart** option for **Novell ZENworks Server** to stop all of the related services, which stops and then starts each of them in their correct order, including **Novell ZENworks Loader**.

- **Launch ZENworks Control Center:**

  Use the following URL to open ZENworks Control Center in a web browser on any device in your network:

  https://*DNS_name_or_IP_address_of_Primary_Server:port_number*/zenworks

- **Check the Linux services by using the specific service command:**

  On the server, run the following commands:

  ```
  /etc/init.d/novell-zenserver status
  ```

  ```
  /etc/init.d/novell-zenloader status
  ```

  If the services are not running, run the following commands to start the ZENworks services:

  ```
  /etc/init.d/novell-zenserver start
  ```

  ```
  /etc/init.d/novell-zenloader start
  ```

- **Check the Linux services by using the configuration command:**

  On the server, run the following command:

  ```
  /opt/novell/zenworks/bin/novell-zenworks-configure -c SystemStatus
  ```

  ZENworks services and their statuses are displayed.

  To start the services, run the following command:

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

5 To upgrade another Primary Server, repeat from Step 1.

IMPORTANT: Repeat these steps until all Primary Servers in the Management Zone are upgraded.

The Table 1-1 on page 12 provides the upgrade information for upgrading from ZENworks 11 SP3 to ZENworks 11 SP4.

Table 1-1 *Upgrade Information*

Upgrade Information	Explanation
License agreement	The Upgrade installer does not proceed if the license agreement is not accepted.

Upgrade Information	Explanation
ZENworks Prerequisites	If the required prerequisites are not met, the upgrade procedure does not continue. The requirements that are not met are displayed (GUI) or listed (command line). For more information, see "System Requirements" in the *ZENworks 11 SP4 Server Installation Guide*. If the.NET prerequisite is not met, you can click the **ZENworks** link in the description to install the runtime version that is bundled with ZENworks. Ensure that you install Microsoft .NET 4.0 SP1 framework and all its latest updates. After .NET is installed, the ZENworks upgrade proceeds. **NOTE:** You must reboot the device after the installation of .NET 4.0.
Upgrade Type	Select **Yes** if this is the first Primary Server in the Management Zone to be upgraded, else select **No**. If you select **Yes**, you are prompted for the zone administrator credentials. or If you select **No,** perform the steps listed in Table 1-2, "Upgrade Information - Upgrade of additional Primary Servers," on page 16.

Database Purging	The time required to complete the upgrade of the first Primary Server depends on the size of the data present in the database. On Primary Servers that are using an Microsoft SQL or Oracle Enterprise database, the upgrade installer checks the size of unwanted inventory data that can be purged. If there are more than 200,000 records to be purged, the Upgrade installer gives an option to purge the database before upgrading the Primary Server. For other database types, if there are less than 200,000 records to be purged, this page does not open.
	
	◆ **Purge the database now:** If this option is selected, the wizard will continue with purging the database. After the database is purged, re-initiate the upgrade process.
	
	Configure the following settings for purging:
	
	  ◆ **Remove the deleted products and components older than x day(s):** Specify the number of days after which to purge deleted product and component data. The default value is 180 days.
	
	  ◆ **Remove the inventory history data older than x day(s):** Specify the number of days after which to purge the inventory history. The default value is 180 days.
	
	  ◆ **Remove the Software Application Usage data older than x day(s):** Specify the number of days after which to purge the software application usage data collected for Asset Management. The default value is 180 days.
	
	  ◆ **Remove the Network Software Usage data older than x day(s):** Specify the number of days after which to purge the network software usage data collected for Asset Management. The default value is 180 days.
	
	  ◆ **Remove the Web Application Usage data older than x day(s):** Specify the number of days after which to purge the Web application usage data collected for Asset Management. The default value is 180 days.
	
	IMPORTANT: If the purging process is interrupted, the database might become inconsistent.
	
	◆ **Continue without purging the database:** If this option is selected, the wizard continues with the upgrade process.

Upgrade Information	Explanation
ZENworks Diagnostic Center	Verify the database using ZENworks Diagnostic Center. For more information, see "Running ZENworks Diagnostic Center to Verify the Database Schema" on page 20.
	NOTE: Verify the database before you upgrade the first Primary Server to ZENworks 11 SP4. You will not be prompted to verify the database for the subsequent server upgrades.
	After you verify the database, select **Yes, I have verified the database schema using ZDC.** This option confirms that you have verified the ZENworks database schema is correct.
Tablespace for ZENworks Database (applicable for Oracle database)	ZENworks 11 SP4 upgrade can use the tablespace that is already configured in 11.3.x or, you can choose to configure the new tablespaces for tables data and indexes. ZENworks 11 SP4 upgrade will automatically move the database objects to the new tablespaces.
ZENworks Services Optimization	If ZENworks services are not configured for high performance, this page is displayed. You can select **Yes** to reconfigure the ZENworks Services setting during installation or select **No** to ignore.
	If you select **Yes**, then the ZENworks upgrade installer increases the RAM configuration settings for ZENServer and ZENloader.
Pre-upgrade summary	The following fields are displayed in the summary:
	ZENworks Home Directory: Displays the location on the Primary Server where the ZENworks software that is being upgraded is installed.
	Zone Name: Displays the name of the Management Zone to which this server belongs.
	Upgrade Database: Indicates the upgrade status of the ZENworks database and automatically checks whether it needs to be upgraded or not.
	To make changes to any information, click **Previous**.
Upgrading process	The upgrade process takes several minutes, depending on the capabilities of the hardware and size of data in the database.
	During the upgrade, you can click **Cancel** to stop, which leaves changes in the files that were upgraded up to that point. For more information on what to do after canceling, contact Novell Support (http://www.novell.com/support/).

Upgrade Information	Explanation

Upgrading errors	If there are errors during the upgrade, this page is displayed. For detailed information, see the log files in the following locations:
	
	On Windows
	
	    ◆ `%ZENWORKS_HOME%\logs`
	
	`%ZENWORKS_HOME%\logs\ZENworks_Upgrade_<TimeStamp>.log.xml`
	
	        ◆ `%ZENWORKS_HOME%\logs\loader-messages.log`
	
	        ◆ `%ZENWORKS_HOME%\logs\system-update-import.log`
	
	`%ZENWORKS_HOME%\logs\system-update\<Update GUID>`
	
	        ◆ `%ZENWORKS_HOME%\logs\pre-global-actions.log`
	
	        ◆ `%WINDOWS_SYSTEM_DRIVE%\tmp\err.log`
	
	On Linux
	
	    ◆ `/var/opt/novell/log/zenworks`
	
	`/var/opt/novell/log/zenworks/ZENworks_Upgrade_<TimeStamp>.log.xml`
	
	`/var/opt/novell/log/zenworks/system-update/<Update GUID>`
	
	        ◆ `/var/opt/novell/log/zenworks/loader-messages.log`
	
	        ◆ `/var/opt/novell/log/zenworks/system-update-import.log`
	
	        ◆ `/var/opt/novell/log/zenworks/pre-global-actions.log`
	
	        ◆ `/tmp/err.log`
	
	Resolve the errors and restart the upgrade.

Post-upgrade actions	Choose to run the ZENworks System Status utility to launch the ZENworks services heartbeat check before closing the upgrade program. The results are posted in the upgrade log file.
Restarting the Server (applicable only for Windows)	Upon a successful upgrade on a Windows Primary Server, you can select between rebooting immediately or later: ◆ **Yes, Restart the System:** If you select this option, the server is rebooted to complete the upgrade process. ◆ **No, I Will Restart the System Myself:** If you select this option, the upgrade process finishes when you reboot the server for the next time. **IMPORTANT:** Reboot the server to complete the upgrade process.
Upgrade completion	The actions you selected previously are performed, including: ◆ Upgrading the ZENworks database (done when the first Primary Server is upgraded). ◆ Upgrading all ZENworks components installed on the Primary Server. ◆ Importing System Update into the zone so that you can upgrade the managed devices in the zone.

Table 1-2 *Upgrade Information - Upgrade of additional Primary Servers*

Installation Information	Explanation
Primary Server and Zone Credentials	You are prompted for the details of the Primary Server that is already upgraded, the Zone credentials, and the SSL port number.
ZENworks Database Details	(Conditional) If the device cannot connect to the database through the Primary Server that is already upgraded, you are prompted for the details to connect directly to the database.
Port Number	A few ports that might be blocked by your firewall need to be opened. You can open them now or you can manually open them later.
Pre-upgrade summary	**WARNING:** Before the Pre-upgrade summary page is displayed, the ZENworks services will be stopped on the server. If you cancel the upgrade at this time, you will need to restart the ZENworks services manually. The following fields are displayed in the summary: **ZENworks Home Directory:** Displays the location on the Primary Server where the ZENworks software that is being upgraded is installed. **Zone Name:** Displays the name of the Management Zone to which this server belongs. **Upgrade Database:** Indicates whether the ZENworks database will be upgraded. Its status is automatically checked by the program to see whether it needs to be upgraded.
Upgrading process	The upgrade process takes several minutes, depending on the capabilities of the hardware.

Installation Information	Explanation
Errors during upgrade	If there are errors during the upgrade, this page is displayed. For detailed information, see the log files in the following locations:

On Windows

- `%ZENWORKS_HOME%\logs`

`%ZENWORKS_HOME%\logs\ZENworks_Upgrade_<TimeStamp>.log.xml`

- `%ZENWORKS_HOME%\logs\loader-messages.log`
- `%ZENWORKS_HOME%\logs\system-update-import.log`

`%ZENWORKS_HOME%\logs\system-update\<Update GUID>`

- `%ZENWORKS_HOME%\logs\pre-global-actions.log`
- `%WINDOWS_SYSTEM_DRIVE%\tmp\err.log`

On Linux

- `/var/opt/novell/log/zenworks`

`/var/opt/novell/log/zenworks/ZENworks_Upgrade_<TimeStamp>.log.xml`

`/var/opt/novell/log/zenworks/system-update/<Update GUID>`

- `/var/opt/novell/log/zenworks/loader-messages.log`
- `/var/opt/novell/log/zenworks/system-update-import.log`
- `/var/opt/novell/log/zenworks/pre-global-actions.log`
- `/tmp/err.log`

You must resolve the errors and restart the upgrade.

Post-upgrade actions	Before closing the upgrade program, you can run the ZENworks System Status utility to launch a heartbeat check of the ZENworks services. The results are listed in the installation log.
Restarting the Server (applicable only for Windows)	After the upgrade on a Windows Primary Server, you can select either to reboot immediately or later: ◆ **Yes, Restart the System:** Reboots the server to complete the upgrade process. ◆ **No, I Will Restart the System Myself:** Completes the upgrade process, when you reboot the server the next time. **IMPORTANT:** You must reboot the server to complete the upgrade process.
Upgrade completion	The actions you selected previously are performed, including: ◆ Upgrading the ZENworks database (done when the first Primary Server is upgraded). ◆ Upgrading all ZENworks components installed on the Primary Server. ◆ Importing System Update into the zone so that you can upgrade the managed devices in the zone.

Using a Command Line to Upgrade a Linux Server

Perform the following on the Primary Server that you want to upgrade from ZENworks 11 SP3 (11.3.x) to ZENworks 11 SP4:

1 Ensure that the upgrade prerequisites are met, as explained in "Prerequisites" on page 9.

2 Start the ZENworks 11 SP4 upgrade program, open a Linux terminal, browse to the root of the upgrade media, then enter the following command:

   ```
   ./setup.sh --console
   ```

   or

   ```
   ./setup.sh -e
   ```

3 Select the language. English is the default language. Select the number corresponding to your language, then press **Enter** to continue.

4 Review the introduction, then press **Enter** to continue.

TIP: Type `back` and press **Enter** to return to a previous installation option to make the changes. Type `quit` to exit the wizard.

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5 To accept the end-user license agreement (EULA), type `1`, then press **Enter**.

6 To accept the license agreement, type `1`, then press **Enter**.

   If you disagree, the upgrade wizard quits.

7 The Prerequisite check page is displayed. If there are any warning or error messages, resolve the errors, then press **Enter** to continue.

8 Type **1** if this is the first Primary Server to be upgraded; otherwise, type `2`, then press **Enter**.

9 (Conditional) If you typed `1` in the previous page, you will be prompted for the zone administrator credentials. Specify details, then press **Enter** and continue with Step 11.

10 (Conditional) If you typed `2` in the previous page, you will be prompted for the details of the upgraded Primary Server and the zone administrator credentials. Specify the required details, then press **Enter**.

   ◆ (Conditional) If the device connects to the Primary Server, continue with Step 17.

   ◆ (Conditional) If the device unable to connect to the Primary Server, you will be prompted for the database details. Specify the details and continue with Step 17.

11 At the end of the **Enter the zone administrative user's name** line, press **Enter** to accept the default (Administrator), or specify an administrator name, then press **Enter**.

12 Specify a password for the administrator, then press **Enter**.

   If the device connects to the database server, continue with Step 13. If not, you will be prompted for the database details. Specify the database details, then press **Enter**.

13 Run ZENworks Diagnostic Center to verify the database. For more information, see "Running ZENworks Diagnostic Center to Verify the Database Schema" on page 20.

NOTE: Verify the database before you upgrade the first Primary Server to ZENworks 11 SP4. You do not need to verify the database for the subsequent server upgrades.

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14 Confirm that you have verified the ZENworks database schema by using the ZENworks Diagnostic Center. Press **Y** to continue.

   You need to confirm to proceed with the upgrade.

15 Stop the ZENworks services on all other Primary Servers, then press **Enter** to stop the services on the local server.

Before the upgrade, you should stop the services on all Primary Servers in the Management Zone.

Except for the database service, no ZENworks service should be running during the upgrade process.

16 If ZENworks services are not configured for high performance, select `1` to reconfigure the ZENworks services setting during installation or select `2` to ignore.

17 Review the pre-upgrade summary, then press **Enter** to continue.

If you are upgrading the other Primary Servers in the Management Zone, the upgrade starts when you press **Enter** in this step.

18 When **Upgrade Complete** is displayed, press **Enter** to continue.

If errors are displayed, see the installation logs in the `/var/opt/novell/log/zenworks` or `/var/opt/novell/log/zenworks/systemupdate/<Update GUID>` file.

19 Do any of the following to verify that ZENworks 11 SP4 is running:

- **Check the Linux services by using the specific service commands**

  On the server, run the following commands:

  `/etc/init.d/novell-zenserver status`

  `/etc/init.d/novell-zenloader status`

  If the services are not running, run the following commands to start the ZENworks services:

  `/etc/init.d/novell-zenserver start`

  `/etc/init.d/novell-zenloader start`

- **Check the Linux services by using the configuration command**

  On the server, run the following commands:

  `/opt/novell/zenworks/bin/novell-zenworks-configure -c SystemStatus`

  ZENworks services and their status are listed.

  To start the services, run the following command:

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

- **Run ZENworks Control Center**

  Use the following URL to open the ZENworks Control Center in a web browser on any device in your network:

  https://*<DNS name of the Primary_Server>/zenworks*

  or

  https://*<IP address of the Primary_Server>/zenworks*

20 To upgrade another Primary Server, repeat from Step 2.

For information on the post-upgrade tasks, see "Completing Post-Installation Tasks" in the *ZENworks 11 SP4 Server Installation Guide*.

Running ZENworks Diagnostic Center to Verify the Database Schema

The first time you upgrade any Primary Server to ZENworks 11 SP4, you must verify the database schema. Do not perform this procedure for the subsequent server upgrades.

Verifying an Embedded Sybase or OEM Sybase Database Schema

1 At the Primary Server's console prompt, run the following commands:

- **On Windows**

  `cd to MEDIA_ROOT\Common\tools\zdc`

  `zdc_verifyDB.bat`

- **On Linux**

  `cd to MEDIA_PATH/Common/tools/zdc`

  `./zdc_verifyDB`

ZENworks Diagnostic Center runs the diagnostic tests and generates the results in HTML format. On a Windows Primary Server, the reports are stored in the following location: `%ZENWORKS_HOME%\logs\zdcreports\%SESSION%`

On a Linux Primary Server the reports are stored in the following location:

`/var/opt/novell/log/zenworks/zdcreports`

To view the reports, open `index.html`, located in the `report` directory.

The complete log of diagnostic tests is stored in the following locations:

On Windows: `%ZENWORKS_HOME%\logs\zdcreports\zdc_zen11_verify_%SESSION%.log`

On Linux: `/var/opt/novell/log/zenworks/zdcreports`

Verifying an External Database Schema

Perform the following steps to verify an external database schema such as external Sybase, Microsoft SQL, or Oracle database schema:

1 At the Primary Server's console prompt, run the following commands:

- **On Windows**

  `cd to MEDIA_PATH/Common/tools/zdc`

  `zdc_verifyDB.bat -d check`

- **On Linux**

  `cd to MEDIA_PATH/Common/tools/zdc`

  `./zdc_verifyDB -d check`

  NOTE: The `-d check` parameter must be used only when you migrate the database from one device to another. Do not use the `-d check` parameter if the database is upgraded on the same device.

2 Specify the type of database. Type the relevant number based on the database type:

- ◆ (1) Sybase
- ◆ (2) MS-SQL
- ◆ (3) Oracle

3 Specify the database details, based on the selected database (Microsoft SQL, Sybase, or Oracle).

> **NOTE:** If you are using an Microsoft SQL database, based on the type of authentication you choose to log in, enter the user name in the relevant format:
>
> - ◆ Windows Authentication: *<name>@<domain>*
> - ◆ SQL Server Authentication: *<name>*

4 (Conditional) If the database is Remote Sybase, enter the Database Engine Name.

ZENworks Diagnostic Center runs the diagnostic tests and generates the results in HTML format. On a Windows Primary Server the reports are stored in the following location: `%ZENWORKS_HOME%\logs\zdcreports\%SESSION%`

On a Linux Primary Server the reports are stored in the following location:

`/var/opt/novell/log/zenworks/zdcreports`

To view the reports, open `index.html`, located in the `report` directory.

The complete log of diagnostic tests is stored in the following locations:

On Windows: `%ZENWORKS_HOME%\logs\zdcreports\zdc_zen11_verify_%SESSION%.log`

On Linux: `/var/opt/novell/log/zenworks/zdcreports`

Troubleshooting

If the ZENworks Server Upgrade fails, you must rectify the problem and re-run the ZENworks Upgrade Installer.

- ◆ You must re-run the Upgrade Installer on the same server where the upgrade was started.
- ◆ If the upgrade fails during the post-package upgrade database action, then on re-running and after zone authentication, the pre-upgrade Summary page displays and the upgrade proceeds to perform the database actions.
- ◆ If Embedded Sybase database is used, ensure that the `.dbR` and `.logR` files are deleted from the database folder before re-running the Upgrade Installer.

The following sections provide solutions to the problems that you might encounter while upgrading the ZENworks Primary Server:

- ◆ "During the Upgrade of any Windows Primary Server, Windows Explorer Automatically Restarts a Few Times" on page 22
- ◆ "When ZENworks Upgrade is launched, if the database is executing any transactions, it might conflict with the upgrade process" on page 22
- ◆ "While using an Oracle database, during the upgrade or database creation, the TNS error message is displayed" on page 23
- ◆ "While using an MS-SQL database, during the upgrade or database creation, there are connection issues" on page 23
- ◆ "Incorrect values displayed for the inventory records to be pruned" on page 23

During the Upgrade of any Windows Primary Server, Windows Explorer Automatically Restarts a Few Times

Explanation: During the upgrade of any Windows Primary Server, Windows Explorer automatically restarts a few times and the command prompt window with the following message is automatically launched:

```
For each prompt presented, press 'enter' to accept the <default>
value, type 'back' to return to the previous action, or type
'quit' to exit.
```

Action: Ignore the messages.

When ZENworks Upgrade is launched, if the database is executing any transactions, it might conflict with the upgrade process

Source: ZENworks 11 SP4; Upgrade

Explanation: When the ZENworks Upgrade is launched, if the database is executing any transactions, it might conflict with the upgrade process.

Action: Kill the database session that conflicts with the upgrade process. Perform the following steps, to kill a database session:

1 Log in to the database as a system user and launch the SQL client.

2 Execute one of the following scripts, based on the database type:

- Oracle:

```
select 'ALTER SYSTEM KILL SESSION
'''||SID||''','''||SERIAL#||'''';' AS "Drop
Query",b.sql_text,a.* from gv$session a, gv$sql b where
(case when a.sql_id is null then a.prev_sql_id else
a.sql_id end)=b.sql_id and a.program='JDBC Thin Client'
and a.logon_time< (sysdate-3/60/24) and
a.username='<<ZENWORKSUSER>>';
```

Where:

ZENWORKSUSER is the ZENworks database user name.

- MS SQL:

```
select 'KILL '+cast(spid as varchar(100)) as "Drop Query",
r.text,s.* from sys.sysprocesses s cross apply
sys.dm_exec_sql_text (sql_handle) r where
s.program_name='jTDS' and s.spid!=@@spid and s.login_time
< dateadd(minute,-3,getdate()) and
s.loginame='<<ZENWORKSUSER>>';
```

Where:

ZENWORKSUSER is the ZENworks database user name.

- SQL Anywhere:

```
SELECT 'Drop connection '+cast(sa_conn_info.Number as
varchar(100))+';' as "Drop Query", sa_conn_info.Number
AS connection_number, DB_NAME( DBNumber ) AS
database_name, sa_conn_info.name AS connection_name,
sa_conn_info.userid, CONNECTION_PROPERTY( 'LoginTime',
Number ) as "Login Time", CONNECTION_PROPERTY(
'LastStatement', Number ) As "Query" FROM sa_conn_info()
where sa_conn_info.Number != @@spid and
CONNECTION_PROPERTY( 'LoginTime', Number ) <
dateadd(minute,-3,getdate()) and
userid='<<ZENWORKSUSER>>';
```

Where

`ZENWORKSUSER` is the ZENworks database user name.

While using an Oracle database, during the upgrade or database creation, the TNS error message is displayed

Source: ZENworks 11 SP4; Upgrade

Explanation: While using an Oracle database during the upgrade or database creation, you get an error message: **TNS:listener could not find available handler with matching protocol stack**.

Action: Increase the maximum load for dedicated connections, which is determined by the PROCESSES parameter. If the issue persists, contact Novell Technical Support.

While using an MS-SQL database, during the upgrade or database creation, there are connection issues

Source: ZENworks 11 SP4; Upgrade

Explanation: While using an MS-SQL database, during the upgrade or database creation, there are connection issues with the following error message:

```
org.hibernate.exception.JDBCConnectionException: Cannot open
connection
Caused by: java.sql.SQLException: I/O Error: Connection reset
Caused by: java.net.SocketException: Connection reset
```

Action: Run `select * from sys.configurations where name='user connections'`

By default, the maximum connection is 32,767. You can adjust it to *Number of Primary Servers * 200*.

For more information on how to configure the user connections, see http://technet.microsoft.com/en-us/library/ms187030.aspx.

Check whether the MS-SQL server has high CPU utilization and database server load. Contact Novell Technical support for further assistance.

Incorrect values displayed for the inventory records to be pruned

Source: ZENworks 11 SP4; Upgrade

Explanation:	When you opt for pruning in the Upgrade wizard, the number of records specified for deletion is displayed in the Pre-prune summary page.
	For example, if you have marked 8,000,000 records out of the total 10,000,000 records for pruning, then 8,000,000 of 10,000,000 is displayed in the **number of records specified for deletion** field.
	After successful pruning, when you relaunch the Upgrade wizard for pruning, the Database Pruning page displays an incorrect value in the **Total number of records found to be deleted** field.
	For example, if 8,000,000 inventory records have been deleted out of 10,000,000 inventory records, then the ideal value to be displayed in the **Total number of records found to be deleted** field is 200,000.
	Currently, an incorrect value is displayed. As a result, there is a mismatch in the values displayed for deleted Inventory records and for Inventory records that are yet to be deleted.
Action:	There is no workaround.

An error occurs when you delete a folder with a long name

Source:	ZENworks 11 SP4; Upgrade
Explanation:	In a ZENworks zone that uses an SQL Server database, when you try to delete a ZENworks object (for example, device or folder) that has a name which exceeds 900 bytes, you will receive the following error:

```
com.novell.zenworks.datamodel.exceptions.InternalDataModelExcepti
on: org.hibernate.exception.GenericJDBCException: Operation
failed. The index entry of length 912 bytes for the index
'idx_zZENObject_Name' exceeds the maximum length of 900 bytes.
```

Action:	Ensure that the length of ZENworks Object names in the zone does not exceed 900 bytes. For more information, see https://technet.microsoft.com/en-us/library/ms191241%28v=sql.105%29.aspx.

Installing ZENworks 11 SP4 or Upgrading from ZENworks 11 SP3 to ZENworks 11 SP4 fails in a Windows environment

Source:	ZENworks 11 SP4; Upgrade
Explanation:	When you try to upgrade from ZENworks 11 SP3 to ZENworks 11 SP4 or when you try to install ZENworks 11 SP4, upgrade or install fails.
Action:	Disable the adapter and start the upgrade again. To disable the adapter:

1. Navigate to the **Device Manager** in your device.
2. Select **Network Adapters** from the Device Manager window.
3. Click the **View** tab.
4. Select **Show Hidden Devices**.
5. Right-click **Microsoft ISATAP Adapter**, and select **Disable** from the available options.

Upgrade fails after the System Update is successfully completed in a Windows environment

Source: ZENworks 11 SP4; Upgrade

Explanation: If you have not disabled the adapter as explained in the Installing ZENworks 11 SP4 or Upgrading from ZENworks 11 SP3 to ZENworks 11 SP4 fails in a Windows environment troubleshooting scenario, the upgrade will fail after the system update is successfully completed in a Windows environment.

Action: If you see the ExecuteZENUpdaterConfigureAction complete message in the logs (`%ZENWORKS_HOME%/logs/ZENworks_Upgrade` log), execute the following commands to complete the upgrade successfully:

- `novell-zenworks-configure -c "UpdateZENServerRolesConfigureAction"`
- `novell-zenworks-configure -c "NCCRegisterConfigureAction"`

2 Updating Satellites and Managed Devices to ZENworks 11 SP4

You can update the managed devices and Satellite Servers to ZENworks 11 SP4 if they have ZENworks 11 and later versions installed.

To update the managed devices and Satellite Servers to ZENworks 11 SP4, review the following sections:

Prerequisites for Updating Satellite Servers or Managed Devices

Before updating a Satellite Server or managed device from a supported ZENworks version to ZENworks 11 SP4, you must complete the following tasks:

NOTE: For information about the supported versions, see the ZENworks 11 SP4 Readme.

- ◆ Ensure that the device meets the minimum system requirements for ZENworks 11 SP4.

  For more information on managed device requirements, see "ZENworks 11 SP4 System Requirements".
- ◆ Ensure that the Microsoft .NET 4.0 SP1 or later framework and its latest updates are installed and running on the device.
- ◆ Ensure that the Windows Installer 4.5 or later version is installed.
- ◆ Ensure that all the Primary Servers in the zone have been upgraded to ZENworks 11 SP4.
- ◆ If you choose to deploy the System Update in stages, ensure that the stage that you create contains at least one stage member (an individual device and a group that contain devices).
- ◆ Ensure that the Update for ZENworks (11 SP4) displays in the Available System Updates list in ZCC. If it is not available, then run the following command to import the update:

  ```
  zman sui <install media\ISO>:\Common
  ```

Updating Satellite Servers and Managed Devices

To update Satellite Servers or managed devices, use the System Update feature. For detailed information, see the *ZENworks 11 SP4 System Updates Reference*.

If you encounter any issues while deploying the ZENworks update on the managed devices, see the following log files:

Windows: *installation_path*\novell\zenworks\logs\system-update\5011040000fc50000000002015073012\system-update.log

Linux: /var/opt/novell/log/zenworks/system-update/5011040000fc50000000002015073012/system-update.log

In the upgrade log file path, 5011040000fc50000000002015073012 indicates the System Update GUID.

NOTE

- After updating from an older version of ZENworks on which ZENworks Patch Management is installed, DAU might fail on newly added devices until the next Patch Management subscription is updated.

  After the DAU bundle is updated by the subscription and the version is incremented by the same, this issue will be resolved. This issue does not impact the existing ZENworks 11.x.x agents as they already have the analyze.exe module installed on them. Therefore, they continue to execute the old DAU and receive an updated patch agent when the subscription service updates the DAU bundle.

- If you demote a Satellite Server before performing an update, you need to ensure that the demotion is successful before you proceed with the update.

Known Limitations

- Error messages or warnings might be incorrectly logged in ZENworks Control Center during the upgrade of a managed device from ZENworks Configuration Management 10.3.4 to ZENworks 11 even if the upgrade is successful.

  Action: Ignore the error messages and refresh the managed device.

3 Appliance Migration

To migrate a ZENworks 11 SP3 Appliance to ZENworks 11 SP4, you copy the ZENworks data and appliance network settings from the ZENworks 11 SP3 Appliance, deploy the ZENworks 11 SP4 Appliance, and then transfer the ZENworks 11 SP3 data to the ZENworks 11 SP4 Appliance.

In a multi-appliance ZENworks system, the order of migration is important only if you are using the embedded Sybase database. In this case, you need to migrate the appliance with the database first, followed by any other appliances. If you are using the remote Sybase database or an external database, you can migrate appliances in any order.

Summary:

- Verify ZENworks 11 SP3 Appliance system integrity with ZENworks Diagnostic Center
- Prepare a new virtual disk for the migration called `vastorage`
- Copy the ZENworks 11 SP3 Data using migration utility to virtual disk (`vastorage`)
- Deploy and Configure ZENworks 11 SP4 Appliance
- Attach the `vastorage` disk to ZENworks 11 SP4 Appliance
- Migrate the ZENworks 11 SP3 data to ZENworks 11 SP4 Appliance
- Mount any additional ZENworks 11 SP3 repository disks to the ZENworks 11 SP4 Appliance
- Configure ZENworks 11 SP4 Appliance using the ZENworks Appliance console

The following sections provide information on how to migrate ZENworks 11 SP3 Virtual Appliance to ZENworks 11 SP4 Virtual Appliance:

- "Preparing the ZENworks 11 SP3 Appliance for Migration" on page 29
- "Copying the ZENworks 11 SP3 Data" on page 30
- "Deploying and Configuring the ZENworks 11 SP4 Appliance" on page 31
- "Migrating ZENworks 11 SP3 Data to ZENworks 11 SP4 Appliance" on page 32
- "Post migration" on page 33

Preparing the ZENworks 11 SP3 Appliance for Migration

Complete the following steps to prepare the appliance for migration:

1 Check the Primary Server's health by using ZENworks Diagnostic Center:

    1a Download the *ZENworks 11 SP3 version* of the Diagnostic Center to the appliance.

       You can download the `ZENworksDiagnosticCenter.zip` file from the *ZENworks 11 SP3 download site*.

    1b Extract the `ZENworksDiagnosticCenter.zip` file to the appliance.

    1c Run the `zdc` command.

       For help running the Diagnostic Center, see *Running ZDC* in the *ZENworks 11 SP4 Command Line Utilities Reference*.

2 Add a new virtual hard disk "`vastorage`" to the ZENworks 11 SP3 Appliance.

The new hard disk is used to copy the ZENworks 11 SP3 data and network settings.

Calculate the size of new hard disk based on the below directories:

- database (`/var/opt/novell/zenworks/database`) if the appliance hosts the Embedded Sybase
- content-repo (`/var/opt/novell/zenworks/content-repo`)
- downloads (`/opt/novell/zenworks/install/downloads`)
- collection (`/var/opt/novell/zenworks/collection`)
- Allocate another 20 GB extra space additionally.

IMPORTANT

- If any of the directories are part of the mounted disk partition, then its size can be ignored while calculating the new disk size.
- The new hard disk (`/vastorage`) would continue to exist post migration on ZENworks 11 SP4 Appliance and not transient for the migration process only.

3 Back up the Primary Server configuration files, the Primary Server's content repository and the ZENworks databases if they reside on the appliance.

(Optional) If the database resides on the appliance, you can take the snapshot of the appliance.

For information, see *ZENworks 11 SP4 System Backup*.

4 If the ZENworks 11 SP3 Appliance was configured with an additional or external disk for content repository, then ensure that you mount the disk on the ZENworks 11 SP4 Appliance.

For example, `/dev/sdb1` mounted to `/var/opt/novell/zenworks`

5 Continue with the next task, *Copying the ZENworks 11 SP3 Data*.

Copying the ZENworks 11 SP3 Data

The ZENworks Appliance Migration Utility copies the ZENworks 11 SP3 data and the appliance network settings to the new virtual disk called `vastorage`, used to migrate to the ZENworks 11 SP4 Appliance.

IMPORTANT: After the data and network settings are copied from the appliance to `vastorage`, the Primary Server is no longer available for use. You should not start this part of the process until you are ready to complete the entire process (ZENworks 11 SP4 Appliance deployment and data migration).

1 Download the *ZENworks 11 SP4 version* of the Migration Utility to the machine hosting the ZENworks 11 SP3 Appliance.

You can download the `ApplianceMigrationUtility.iso` file from the *ZENworks 11 SP4 download site*.

2 Stop the ZENworks services on all other Primary Servers in the zone to ensure that no files that need to be copied are in use by one of the services.

You do not have to shut down the ZENworks services on the appliance you are migrating. The Appliance Migration Utility does that automatically.

For help shutting down the services, see *Stopping the ZENworks Services* in the *ZENworks 11 SP4 Primary Server and Satellite Reference*.

3 Copy the Primary Server's data and network settings to the new hard disk:

   3a On the ZENworks 11 SP3 Appliance create the `/ApplianceMU` directory and mount the `ApplianceMigrationUtility.iso` to this directory.

   3b In a terminal window, change to the `ApplianceMU` directory on the mounted ISO.

   3c Login to the Appliance System as root, then run the script `./ApplianceMigrationUtility.sh` to start the migration utility.

      Do not run the `./ApplianceMigrationUtility.sh` script remotely using SSH connection.

   3d Follow the prompts to copy the ZENworks data to the new hard disk mounted under `/vastorage`.

      If multiple hard disks are detected, then list of hard disks is displayed. Ensure that you chose the empty hard disk. If you select the wrong hard disk it will be formatted.

      If the new hard disk is not large enough, then an error message and the utility will exit. Add space to the hard disk and then run the utility again.

      The **Copying Files** dialog window is displayed during the migration process.

   3e When the utility has finished copying the data, disk gets un-mounted from the ZENworks 11 SP3 Appliance automatically.

      Ensure that you have collected the details about the disk file name and its storage location.

      For log details, see `/tmp/ApplianceMigrationUtility.log` file.

   3f Shutdown the ZENworks 11 SP3 Appliance and detach the new migration disk (`/vastorage`) from the ZENworks 11 SP3 Appliance.

      If applicable, also detach the ZENworks repository disk (/var/opt/novell/zenworks) from the ZENworks 11 SP3 Appliance.

4 Continue with the next task, *Deploying and Configuring the ZENworks 11 SP4 Appliance*.

Deploying and Configuring the ZENworks 11 SP4 Appliance

You need to deploy the ZENworks 11 SP4 Appliance to migrate the existing appliance and then configure the ZENworks 11 SP4 Appliance with the ZENworks 11 SP3 data and network settings, that was copied earlier to `vastorage` disk.

IMPORTANT: The new appliance (ZENworks 11SP4) should be hosted on the same network as the ZENworks 11SP3 appliance.

---

1 Deploy the appliance as instructed in *Deploying the Appliance* in the *ZENworks Appliance 11 SP4 Deployment and Administration Reference* and do not attach the new hard disk.

   Do NOT power on the appliance at this time.

2 Take note of the ZENworks 11 SP3 Appliance RAM size and configure the ZENworks 11 SP4 Appliance with the same RAM size.

3 Attach the migration hard disk (`/vastorage`) as reference in *"Copying the ZENworks 11 SP3 Data" on page 30* (ZENworks 11 SP3 data) to the ZENworks 11 SP4 Appliance.

4 Power on the ZENworks 11 SP4 Appliance and wait till credential screen appears.

5 Specify the *root* and *zenadmin* passwords for the ZENworks 11 SP4 Appliance.

The Appliance Configuration utility automatically populates the identity and network details for the ZENworks 11 SP4 Appliance from the ZENworks 11 SP3 data and continues booting the appliance. When the process is complete, on the Appliance console the URL is displayed.

6 If the ZENworks 11 SP3 Appliance was using an external content repository, then attach the corresponding disk to ZENworks 11SP4 Appliance.

To configure the external disk, perform the following:

6a After restarting the ZENworks 11 SP4 Appliance, log into the appliance as `root` and stop the ZENworks services.

If the appliance hosts the Embedded Sybase, then Sybase services (sybase-asa and sybase-audit-asa) should be running.

`/etc/init.d/sybase-asa status`

`/etc/init.d/sybase-audit-asa status`

6b Mount the disk partition on the ZENworks 11 SP4 Appliance at original structure.

For example, if ZENworks 11 SP3 had `sdb1` mounted to `/var/opt/novell/zenworks`, then this disk would appear in ZENworks 11 SP4 as `sdc`, which needs to be mounted to `/var/opt/novell/zenworks` directory.

6c After the hard disk is mounted, ensure that `/etc/fstab` is updated with mounted partition correctly. You may use YaST partitioner to mount the disk partition to correct ZENworks directory.

For information about mounting a content repository, see *Creating a Permanent Mount* in the *ZENworks 11 SP4 Primary Server and Satellite Reference*.

6d Ensure that new mounted directory has required permissions. To modify the permissions, run the `permissions.sh` script.

7 Take note of the URLs displayed in the console, then continue with the next task, *Migrating ZENworks 11 SP3 Data to ZENworks 11 SP4 Appliance*.

Migrating ZENworks 11 SP3 Data to ZENworks 11 SP4 Appliance

After you have deployed and configured the ZENworks 11 SP4 Appliance, you are ready to migrate ZENworks 11 SP3 data to the appliance.

1 In the supported browser, launch the URL that is displayed in the Appliance console.

For example, `https://<ipAddress>:9443`

2 Log in to ZENworks Appliance with the *root* or *zenadmin* credentials as configured in *Deploying and Configuring the ZENworks 11 SP4 Appliance* under *Step 5 on page 32*.

3 Verify that all of the migration requirements are met, select the **I have verified that all necessary steps have been completed** check box, then click **Next** to display the ZENworks Management Zone credential screen.

If all of the migration requirements are not met, click **Cancel**, complete the requirements, then log into the ZENworks Appliance console again to complete the migration.

IMPORTANT

If the appliance is a second Primary Server and database is an Embedded Sybase, then you must ensure that sybase services (`sybase-asa` and sybase-audit-asa) on the first Primary Server are started.

4 Specify the ZENworks administrator credentials (for example, *administrator* and password) to access the ZENworks Management Zone, then click **Finish**.

The ZENworks migration begins and it might take several minutes. The migration process will continue in the background even if you close the browser or the browser times out.

5 When the ZENworks migration is finished, click **Close** to display the ZENworks Appliance configuration summary screen.

6 Click **Open ZENworks Control Center** to see your migrated data and continue managing your ZENworks system.

Post migration

 The NTP related configuration will not be migrated. Hence, you need to manually configure the NTP settings in the ZENworks 11 SP4 Appliance again. You must logged into appliance console as `root` to configure the NTP settings.

If NTP settings are not configured, a time sync warning message is displayed during ZENworks Console (ZCC) login.

 Run ZDC to verify the migrated ZENworks 11 SP4 Appliance System.

 Ensure that all ZENworks services are running: `novell-zenworks-configure -c SystemStatus`

4 Migrating a ZENworks 11 SP3 Primary Server from Linux to ZENworks 11 SP4 Appliance

ZENworks only supports appliance-to-appliance migration. Migration from a non-appliance server to an appliance is supported only for the Linux operating system. To migrate a Linux Primary Server to ZENworks Appliance perform the steps detailed in this chapter:

* "Migrating from a Virtual 11 SP3 ZENworks Primary Server to 11 SP4 ZENworks Appliance" on page 35
* "Migrating from a Physical 11 SP3 ZENworks Primary Server to 11 SP4 ZENworks Appliance" on page 35

Migrating from a Virtual 11 SP3 ZENworks Primary Server to 11 SP4 ZENworks Appliance

To migrate from a virtual ZENworks Server to ZENworks Appliance:

1 Create the `ZENworks-release` text file in the `/etc/` location on the ZENworks 11 SP3 Server. In the `ZENworks-release` text file, type `ZENworks 11 SP4 Appliance`.

or

Download the LinuxToApplianceMigration.zip file. Extract the zip file and copy the ZENworks-release file to the `/etc/` location on the ZENworks 11 SP3 server.

2 Follow the steps detailed in Chapter 3, "Appliance Migration," on page 29.

> **IMPORTANT:** This section provides information on how to migrate from a ZENworks 11 SP3 Appliance to a ZENworks 11 SP4 Appliance. However, for this scenario, you need to consider the ZENworks 11 SP3 Appliance as the virtual ZENworks 11 SP3 Server.

After you complete the steps, the virtual ZENworks Server is migrated to the ZENworks 11 SP4 Appliance and the appliance is up and running.

Migrating from a Physical 11 SP3 ZENworks Primary Server to 11 SP4 ZENworks Appliance

ZENworks 11 SP4 Appliance stores ZENworks data in an external virtual disk. ZENworks 11 SP3 data needs to be copied onto a new virtual disk and later the same disk should be attached to the ZENworks 11 SP4 Appliance.

To copy ZENworks 11 SP3 data to the new virtual disk, temporarily mount the disk onto a Linux device that is in the same hypervisor as the ZENworks 11 SP4 Appliance. You need to do this because the appliance cannot be powered on before copying the data.

IMPORTANT: No changes will be made to the Linux device on which the disk is mounted.

Prerequisites

Prior to performing the migration from a ZENworks Server to ZENworks Appliance, you need to ensure that the following prerequisites are met:

- The hypervisor where the ZENworks 11 SP4 Appliance will be deployed should have a Linux device that is available to temporarily mount the hard disk drive.

- `Passwordless SSH` should be enabled from the ZENworks 11 SP3 Server to the temporary Linux device. For more information, refer the *Linux website*.

Procedure

1. Deploy the ZENworks 11 SP4 Appliance. Do not power on.

2. Add a new virtual hard disk to the ZENworks 11 SP4 Appliance.

3. Calculate the size of the new hard disk based on the following directories:
   - `database (/var/opt/novell/zenworks/database)` if the appliance hosts the embedded Sybase database.
   - `content-repo (/var/opt/novell/zenworks/content-repo)`
   - `downloads (/opt/novell/zenworks/install/downloads)`
   - `collection (/var/opt/novell/zenworks/collection)`

   Additionally, allocate another 20 GB of extra space.

   If any of the directories are a part of the mounted-disk partition, then its size can be ignored while calculating the new disk size.

4. Detach the newly added virtual disk from the ZENworks 11 SP4 Appliance and attach it to a Linux device in the hypervisor.

5. Check the health of the Primary Server by using ZENworks Diagnostic Center:

   5a. Download ZENworks 11 SP3 Diagnostic Center to the appliance. You can download the `ZENworksDiagnosticCenter.zip` file from the *ZENworks 11 SP3 download site*.

   5b. Extract the `ZENworksDiagnosticCenter.zip` file to the appliance.

   5c. Run ZENworks Diagnostic Center.

      For information on how to run ZENworks Diagnostic Center, see Running ZDC in the ZENworks 11 SP4 Command Line Utilities Reference.

6. Back up the ZENworks databases and stop the ZENworks services on all the other Primary Servers in the zone to ensure that files that need to be copied are not in use by any of the services. You do not have to shut down the ZENworks services on the appliance that you are migrating as the `LinuxToApplianceMigration script` does that automatically. For information on how to shut down the services, see Stopping the ZENworks Services in the *ZENworks 11 SP4 Primary Server and Satellite Reference*.

7. Enable `Passwordless SSH` from the ZENworks 11 SP3 Server to the Linux device to which the virtual hard disk is attached.

8. Copy and unzip the contents of the LinuxToApplianceMigration.zip file (using the unzip `LinuxToApplianceMigration.zip` command) onto ZENworks 11 SP3 Server. The contents of the `LinuxToApplianceMigration.zip` file will be extracted to the `LinuxToApplianceMigration` folder. In a terminal window, change to the `LinuxToApplianceMigration` directory.

9 Edit the `NvlVAinit` file in the `LinuxToApplianceMigration` folder with the following variables:

* `CONFIG_VAINIT_HOSTNAME=""(FQDN)`
* `CONFIG_VAINIT_IPADDRESS="dhcp" or "ipaddress"`

  IMPORTANT: If you have used the DHCP option to obtain the IP address, you need to type `dhcp`, and if you have used a static IP address, you need to specify the IP address in the `0.0.0.0` format

* `CONFIG_VAINIT_TIMEZONE=" " (ex: Asia/Kolkata)`
* `CONFIG_VAINIT_GATEWAY="0.0.0.0"`
* `CONFIG_VAINIT_NETWORK_MASK="0.0.0.0`
* `CONFIG_VAINIT_SEARCH_DOMAINS="domain"`
* `CONFIG_VAINIT_DNS_SERVER="0.0.0.0"`
* `CONFIG_VAINIT_DNS_SERVER_2="0.0.0.0"`
* `CONFIG_VAINIT_DNS_SERVER_3="0.0.0.0`

The ZENworks 11 SP3 device details should be provided for the above fields to ensure that the network identity is also migrated.

10 Run the `LinuxToApplianceMigration.sh` command with the following command line arguments:

* **ip:** IP address of the Linux device on which the virtual hard disk is mounted.
* **username:** User name of the Linux device on which the virtual hard disk is mounted. The user should have administrator privileges.
* **device:** The name of the virtual disk that was attached to the temporary Linux device. Example: `/dev/sdb, /dev/sdc` etc.

  IMPORTANT: In a terminal window, change to the `LinuxToApplianceMigration` directory and run `LinuxToApplianceMigration.sh`. Check the `LinuxToApplianceMigration.log` for any errors.

11 Shutdown the ZENworks 11 SP3 Server.

12 Remove the added virtual hard drive from the temporary Linux device, attach it to the ZENworks 11 SP4 Appliance server, and then power on the appliance.

13 Continue by following *step 4 (https://www.novell.com/documentation/zenworks114/ zen11_upgrade/data/b1g4yqtl.html)* onwards from the "Deploying and Configuring the ZENworks 11 SP4 Appliance" on page 31.

After you complete these steps, the ZENworks Server is migrated from Linux to ZENworks 11 SP4 Appliance and the appliance is up and running.

If any failure occurs during the data copy process, you can power on the ZENworks 11 SP3 Server machine. The ZENworks 11 SP3 Server will be up and running.

5 Considerations for Managing ZENworks Configuration Management 10.3.4 Managed Devices

ZENworks 11 allows you to manage ZENworks Configuration Management 10.2.*x*/10.3.*x* managed devices from ZENworks 11 Primary Servers. Review the following sections to understand the considerations for managing ZENworks Configuration Management 10.2.*x*/10.3.*x* managed devices from the ZENworks 11 Primary Servers:

- "Preparing the ZENworks 11 SP4 Server to Manage ZENworks Configuration Management 10.3.4 Managed Devices" on page 39
- "Creating and Managing Closest Server Rules for ZENworks Configuration 10.3.4 Devices" on page 40
- "Known Limitations" on page 50

Preparing the ZENworks 11 SP4 Server to Manage ZENworks Configuration Management 10.3.4 Managed Devices

A ZENworks 11 server is compatible with ZENworks Configuration Management 10.3.*x* managed devices. However, a newly installed ZENworks 11 server cannot provide component management functionality to ZENworks 10.3.*x* managed devices communicating with it unless these steps are taken.

1 Copy the following files from a ZENworks 10.3.*x* server or a system updated ZENworks 11 server in the zone and replace them at the respective location of the newly installed ZENworks 11 server.

On Linux:

```
/opt/novell/zenworks/install/downloads/novell-*.msi
```

```
/opt/novell/zenworks/install/downloads/novell-*.msi.superceded
```

On Windows:

```
%ZENWORKS_HOME%\install\downloads\novell-*.msi
```

```
%ZENWORKS_HOME%\install\downloads\novell-*.msi.superceded
```

Location where the files must be copied on the newly installed ZENworks 11 server:

On Linux:

```
/opt/novell/zenworks/install/downloads/
```

```
/opt/novell/zenworks/install/downloads/
```

On Windows:

```
%ZENWORKS_HOME%\install\downloads\

%ZENWORKS_HOME%\install\downloads\
```

NOTE: On Linux, ensure all the copied files have `zenworks:zenworks` ownership. To set the appropriate ownership for these files, use the following commands:

```
chown zenworks:zenworks /opt/novell/zenworks/install/downloads/novell-*.msi

chown zenworks:zenworks /opt/novell/zenworks/install/downloads/novell-*.msi.superceded
```

Creating and Managing Closest Server Rules for ZENworks Configuration 10.3.4 Devices

When your ZENworks Management Zone includes more than one server (Primary Servers and Satellites), devices need to know which server to contact. The Closest Server Rules panel lets you create rules to determine which servers a device contacts. With respect to Closest Server rules, devices that are configured as Satellites are considered as servers.

The following are basic functions for which devices contact a server:

- ◆ **Collection:** Inventory and message log information is collected from each device, to be viewed in ZENworks Control Center and output to reports. Each ZENworks Primary Server and any Satellite can act as a collection server.
- ◆ **Content:** Content is provided to managed devices. Each ZENworks Primary Server and any Satellite can act as a content server.
- ◆ **Configuration:** Configuration settings and registration information are applied to devices. Only ZENworks Primary Servers can act as configuration servers.
- ◆ **Authentication:** Managed devices contact a ZENworks Server to authenticate to the Management Zone. Each ZENworks Primary Server and any Satellite can act as an authentication server.

A device can contact the same server for all functions, or it can contact different servers for each function. 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 in 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.

The Closest Server Default rule is applicable for ZENworks Configuration Management 10.3.4 and ZENworks 11 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 10.3.4 devices at three levels: Management zone,

device folder, and device. These settings are disabled when you baseline your Management Zone to ZENworks 11. To create a customized Closest Server rule for ZENworks Configuration Management 10.3.4 devices, see "Creating Closest Server Rules for ZENworks Configuration 10.3.4 Devices" on page 41. For a ZENworks 11 device, the customized closest servers are configured on locations. For detailed information, see "Adding Closest Servers to Locations" in the *ZENworks 11 SP4 Location Awareness Reference*.

Refer to the following sections:

- "Creating Closest Server Rules for ZENworks Configuration 10.3.4 Devices" on page 41
- "Backing Up Closest Server Rules for ZENworks Configuration 10.3.4 Devices" on page 50

Creating Closest Server Rules for ZENworks Configuration 10.3.4 Devices

1 Launch ZENworks Control Center.

2 Do one of the following:

- 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**.

- 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**.

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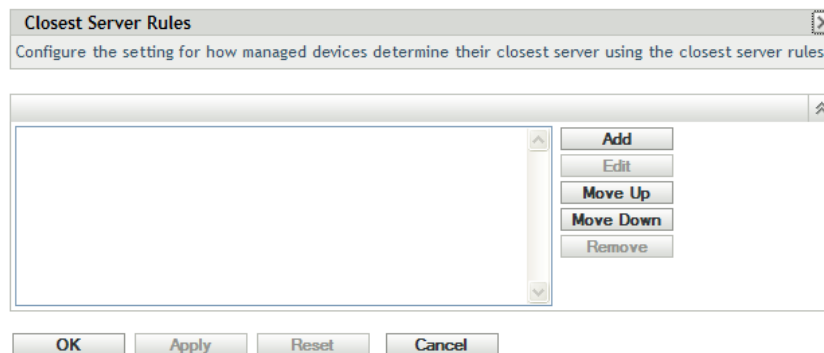
3 Conditional: If you are creating Closest Server rules on a device or device folder, click **Override settings** to activate the Closest Server Rules panel.

The **Override** option (not depicted) displays only at the device and device folder levels.

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

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

The name displays in the Closest Server Rules listing in ZENworks Control Center. To access this listing, click **Configuration** in the left pane, click the **Configuration** tab, click the **Management Zone Settings** panel to open it, click the **Infrastructure Management** section to open it, then click **Closest Server Rules**. All defined rules for the current level are displayed there.

6 If you do not want to append the Closest Server Default rule to the servers you are listing in this Closest Server rule, select the **Exclude the Closest Server Default Rule** check box.

The Closest Server rules feature first uses the servers specified in the rule, then proceeds to any other servers listed in the Closest Server Default rule if the specified servers are not available to the managed device. Therefore, to obtain content only from the servers specified in the rule, select this check box to exclude all other servers.

7 Use the **Rule Logic** fields to 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 192.168.67.12/
24
```

You can use the following criteria:

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: 192.168.67.12/16: Matches all IP addresses that start with 192.168. 192.168.67.12/24: Matches all IP addresses that start with 192.168.67.

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

8a (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
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**.	

8b (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.	

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.

8c (Conditional) If you have ZENworks Servers or Satellites 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.	

Task	Steps	Additional Details

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.	

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

Task	Steps	Additional Details
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.

9 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 default rule are appended to the servers listed in the effective rule.

- **Limit to <number> 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 in the Closest Server Default rule. The limit that you set in the Closest Server rule overrides the limit that you set in the Closest Server Default rule.

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

11 Repeat Step 2 through Step 10 to create additional rules.

12 If necessary, when you are finished creating rules, do the following:

- 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.

- To modify the settings of a rule, select the desired rule, then click **Edit**.

Backing Up Closest Server Rules for ZENworks Configuration 10.3.4 Devices

If your ZENworks Management Zone has complex Closest Server rules configured, you might want to export these rules as part of your backup procedure.

The following zman commands are useful when backing up Closest Server rules:

 * **location-copy-rules (loccp):** Copies Closest Server rules data from a source device or device folder to one or more destination devices or device folders.
 * **location-export-rules-to-file (loctf):** Exports Closest Server rules data (in XML format) to a file. The XML file can be used as input for creating or appending to the Closest Server rules.
 * **location-import-rules-from-file (locff):** Imports Closest Server rules data (in XML format) from a file.

For more information about these commands and their usage, see "Location Rules Commands" in the *ZENworks 11 SP4 Command Line Utilities Reference*. The commands are no longer valid after you baseline your zone to ZENworks 11 SP4.

Known Limitations

 * After upgrading a Primary Server from ZENworks Configuration Management 11 SP2 to ZENworks 11 SP4, the following are not supported:
   * Promoting the managed devices that have a previous version of ZENworks Adaptive Agent (version 10.3.4) installed as a Satellite.
   * Modifying the Satellite roles and settings for the existing 10.2.*x* or 10.3.*x* Satellites
 * If a sandbox-only bundle or policy is assigned to a test user and this user logs in to a 10.2.*x* or a 10.3.*x* managed device that is a part of ZENworks 11 Management Zone, none of the bundle or policy user assignments flows to the device.
 * The behavior of the Install action set of a bundle on a managed device has changed in ZENworks 11 because of the introduction of Bundle Change Management. To understand the behavior, see "How Bundle Versions Affect an Install Action Set" in the *ZENworks 11 SP4 Software Distribution Reference*.

   To comply with the ZENworks 11 Install action set behavior, the execution of the Install action set on a 10.2.*x* managed device that is in a ZENworks 11 Management Zone requires a patch to be applied to the device. For more information on the patch, see the Novell Downloads website (http://download.novell.com/Download?buildid=CCdDG4BfuJs~).