

Hardware and Software Inventory

VI

The following chapters provide information on Novell® ZENworks® Linux Management hardware and software inventory features:

- ♦ Chapter 25, “Inventory Overview,” on page 337
- ♦ Chapter 26, “Reviewing Device Inventory,” on page 339
- ♦ Chapter 27, “Rolling Up Hardware Inventory to the ZENworks 7 Server Management or ZENworks 7 Desktop Management Inventory Database,” on page 345

Inventory Overview

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The Server Inventory component of Novell® ZENworks® Linux Management allows you to collect hardware and software inventory information from local and remote servers or workstations of your enterprise. This inventory information is scanned and stored in a database that can be accessed by the ZENworks administrator.

The Inventory scanning capability of ZENworks Linux Management performs the following tasks:

- ♦ Collects hardware and software inventory information from workstations and servers managed within your enterprise.
- ♦ Stores the inventory information in a database that can be accessed by the ZENworks administrator.
- ♦ Rolls up the hardware inventory data from the database to the ZENworks 7 Server Management or ZENworks 7 Desktop Management Inventory database to view the inventory data at the enterprise level.

Reviewing Device Inventory

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From the ZENworks Control Center you can view the complete hardware and software inventory of servers and workstations. This chapter discusses the following topics:

- ♦ [Section 26.1, “Accessing the Device Inventory,” on page 339](#)
- ♦ [Section 26.2, “Reviewing Device Inventory Summaries,” on page 339](#)
- ♦ [Section 26.3, “Reviewing Hardware \(General\),” on page 340](#)
- ♦ [Section 26.4, “Reviewing Software \(General\),” on page 340](#)
- ♦ [Section 26.5, “Reviewing Hardware Details,” on page 340](#)

26.1 Accessing the Device Inventory

To view a device’s hardware and software inventory:

- 1 In the ZENworks Control Center, click the *Devices* tab.
- 2 Navigate the folder structure to locate the desired device, then click the device to show its details.
- 3 Click the *Inventory* tab.

Refer to the following sections for descriptions of the inventory information:

- ♦ [Section 26.2, “Reviewing Device Inventory Summaries,” on page 339](#)
- ♦ [Section 26.3, “Reviewing Hardware \(General\),” on page 340](#)
- ♦ [Section 26.4, “Reviewing Software \(General\),” on page 340](#)
- ♦ [Section 26.5, “Reviewing Hardware Details,” on page 340](#)

26.2 Reviewing Device Inventory Summaries

The Inventory page provides the following inventory information about each device:

Table 26-1 *Inventory Information for Devices*

Scan Data Item	Description
Last Scan Date	The last time the selected managed device was scanned for inventory information
Alias	The alternative name for the managed device
Host Name	The network name that should resolve to the managed device’s IP address
Mac Address	The hardware address of the managed device’s network interface card
IP Address	The unique address of the managed device on the TCP/IP network
Subnet Mask	The network segment the managed device is on
Location	The server location

26.3 Reviewing Hardware (General)

The Inventory page provides the following general information about the device's hardware. For detailed hardware information, see [Section 26.5, “Reviewing Hardware Details,” on page 340](#).

Table 26-2 *General Information about Device Hardware*

Scan Data Item	Description
Asset Tag	The asset identification number assigned to the machine by the company
Serial Number	A unique number assigned to the machine by the manufacturer
Vendor	The product supplier, such as Compaq or Dell
Operating System	The operating system currently installed on the machine
Code Page	The selected character set of the machine
Visible Memory	Total physical memory available to the operating system
Virtual Memory	Amount of virtual memory assigned

26.4 Reviewing Software (General)

The Inventory page provides the following information about the device's software. Click *Bundles* (Details) or *Packages* (Details) for detailed information about each.

Table 26-3 *General Information about Device Software*

Scan Data Item	Description
Bundles	Software bundled with the server
Packages	Additional software deployed on the server

26.5 Reviewing Hardware Details

The following table provides common device information that might be useful for troubleshooting. For detailed information about each device, click the hardware component name in the interface.

Table 26-4 *Common Device Information*

Inventory Item	Attributes	Description
Batteries	Name	Battery name.
	Manufacturer	Battery manufacturer name.
	Serial Number	Battery serial number.
	Chemistry	The battery chemistry, for example, lithium-ion or nickel metal hydride.

Inventory Item	Attributes	Description
BIOS	Name	BIOS name.
	Manufacturer	BIOS manufacturer name.
	Version	The version or revision level of the BIOS.
Busses	Name	Bus type, such as PCI, ISA, and others.
	Description	Bus description.
CD ROMs	Name	CD-ROM name.
	Manufacturer	CD-ROM manufacturer.
Chassis	Name	Chassis name.
	Manufacturer	Chassis manufacturer.
	Asset Tag	A code for property and product identification.
	Serial Number	Serial number assigned by the manufacturer.
Desktop Monitors	Name	Monitor name. When a monitor is connected through a KVM (keyboard, video, mouse) switch, the system might pass two instances of the desktop monitor. This is because of manufacturing limitations for the device.
	Manufacturer	Monitor manufacturer.
	Model	Identifying information of the monitor.
	Size	Monitor screen size.
Floppy Disks	Name	Floppy disk name.
	Capacity	Floppy disk capacity.
	Description	Floppy disk description.
Keyboards	Name	Keyboard brand name and model.
	Description	Description of the keyboard, such as interface, ergonomics, system requirements, and so on.
Logical Disks	Volume Label	Name of the logical disk volume.
	Filesystem Type	Type of file system, such as File Allocation Table (FAT).
	Filesystem Size	Drive's actual size in MB.
	Available Space	Available space on the logical disk.

Inventory Item	Attributes	Description
Modems	Name	Modem name.
	Manufacturer	Modem manufacturer.
Motherboards	Name	Motherboard name.
	Manufacturer	Motherboard manufacturer name.
	Version	The version of the motherboard.
	Slots	The number of expansion slots in the motherboard for adding more memory, graphic capabilities, and support for special devices.
Network Adapters	Name	Network adapter name.
	Manufacturer	Network adapter manufacturer.
	Maximum Speed	Rate at which the information is transferred over the LAN.
	Mac Address	Short for Media Access Control address, a hardware address that uniquely identifies each node of a network.
Parallel Ports	Name	Port name.
	Description	Port description.
Physical Disks	Name	Disk name.
	Manufacturer	Disk manufacturer.
	Capacity	Capacity of the disk.
	Free Space	Remaining free space on the disk.
Pointing Devices	Name	Pointing device name.
		When a pointing device is connected through a KVM (keyboard, video, mouse) switch, the system might not pass the correct name and configuration of the device, because of manufacturing limitations for the device.
	Buttons	Number of buttons.
	Description	Description of the pointing device.
Power Supplies	Name	Name of the power supply.
	Description	A description of the power supply.
Processors	Name	Processor name.

Inventory Item	Attributes	Description
	Family	The name of the class or group to which the processor belongs, such as Pentium II, Pentium III, and others.
	Speed	The speed at which a microprocessor executes instructions. Every computer contains an internal clock that regulates the rate at which instructions are executed and that synchronizes all the various computer components. Clock speeds are expressed in megahertz (MHz) or gigahertz (GHz).
Serial Ports	Name	Serial port name.
	Description	Serial port description.
Sound Adapters	Name	Sound adapter name.
	Description	A description of the sound adapter.
Video Adapters	Name	Video adapter name.
	Manufacturer	Manufacturer name.

Rolling Up Hardware Inventory to the ZENworks 7 Server Management or ZENworks 7 Desktop Management Inventory Database

You can roll up the hardware inventory data from the Novell® ZENworks® 7 Linux Management database to the ZENworks 7 Server Management or ZENworks 7 Desktop Management Inventory database to view the inventory data at the enterprise level.

Review the following sections:

- ♦ [Section 27.1, “Preparing to Roll Up Inventory,” on page 345](#)
- ♦ [Section 27.2, “Configuring the Inventory Roll-Up Policy,” on page 345](#)
- ♦ [Section 27.3, “Understanding the Roll-Up Process,” on page 347](#)
- ♦ [Section 27.4, “Understanding the Components Involved in the Inventory Roll-Up,” on page 348](#)
- ♦ [Section 27.5, “Viewing the Inventory Data Stored in the ZENworks 7 Server Management or ZENworks 7 Desktop Management Inventory Database,” on page 349](#)

27.1 Preparing to Roll Up Inventory

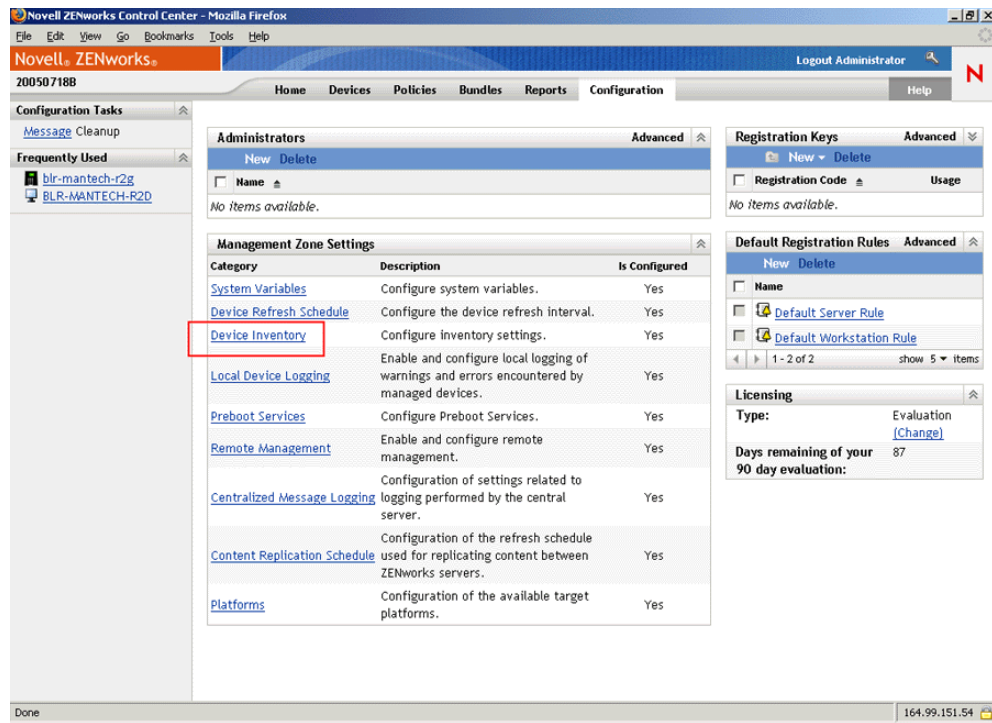
Ensure that the following prerequisites are met:

- ☐ ZENworks 7 Linux Management has been successfully installed.
- ☐ The hardware inventory data has been stored in the ZENworks Linux Management database.
- ☐ The ZEN Loader service is up and running on the ZENworks Linux Management server.
- ☐ The Inventory server and Inventory database components of ZENworks 7 Server Management or ZENworks 7 Desktop Management have been successfully installed and set up.
- ☐ One of the following roles for the ZENworks 7 Inventory server has been configured:
 - ♦ Root Server
 - ♦ Root Server with Workstations
 - ♦ Intermediate Server with Database
 - ♦ Intermediate Server with Database and Workstations
- ☐ The Inventory service is up and running on the ZENworks 7 Server Management or ZENworks 7 Desktop Management Inventory server.

27.2 Configuring the Inventory Roll-Up Policy

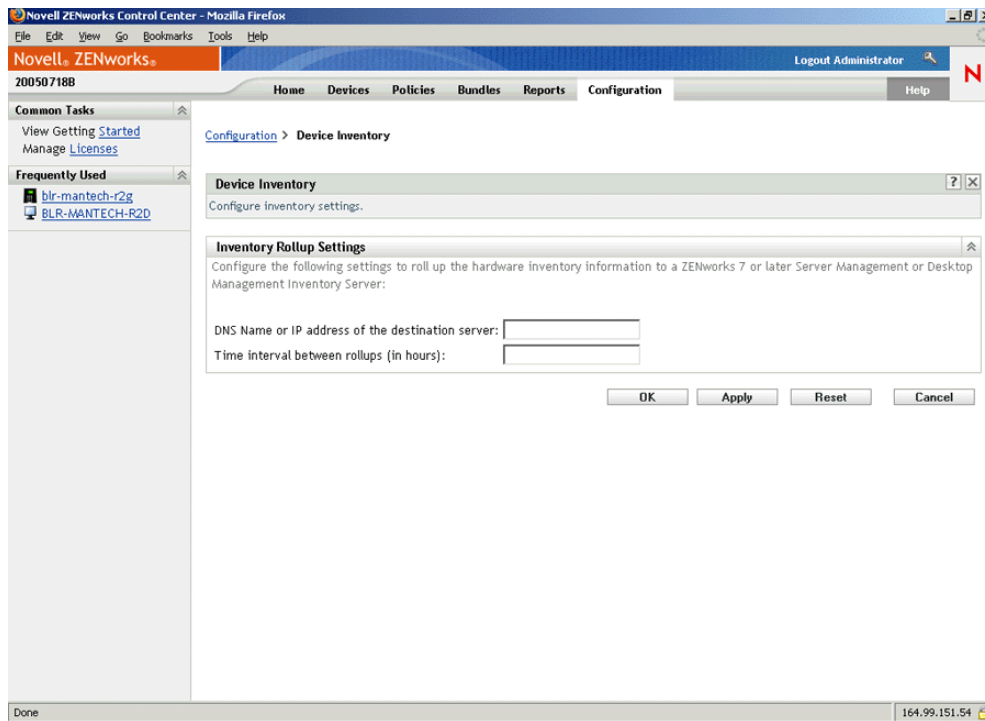
- 1 In the ZENworks Control Center, click *Configuration*.

- 2 In the *Management Zone Settings* pane, click the *Device Inventory* category.



- 3 In the *Inventory Roll-Up Settings* pane, do the following:
 - 3a Specify the DNS name or the IP address of the ZENworks 7 Server Management or ZENworks 7 Desktop Management Inventory server to which you want to roll up the hardware inventory data.

3b Specify the time interval between roll-ups. By default, the time interval is 168 hrs.



4 Click *Apply*, then click *OK*.

27.3 Understanding the Roll-Up Process

ZENworks uses the following process to collect inventory and roll it up to the Inventory server

1. The Sender converts the hardware inventory stored in the ZENworks 7 Linux Management database into .str files, and places the files into the `/var/opt/novell/zenworks/inventory/entmerge` directory.
2. The Sender moves the .str files from the `entmergedir` directory to the `entpushdir` directory, and compresses the files as a .zip file.
3. The Sender sends the .zip file from the `entpushdir` directory to the Receiver on the ZENworks 7 Server Management or ZENworks 7 Desktop Management Inventory server.
4. The Receiver places the .zip files in the `/entpushdir/zipdir` directory.
5. The Receiver copies the .zip files to the `/entpushdir` directory and deletes the .zip files from the `entpushdir\zipdir` directory.
6. The Receiver copies the .zip files to the database directory (`dbdir`) if a database is attached to the Inventory server.
7. The Sender-Receiver logs the status in Novell eDirectory™.

27.4 Understanding the Components Involved in the Inventory Roll-Up

The Sender on the Inventory servers transfer the scan files from the ZENworks 7 Linux Management Inventory server to the ZENworks 7 Server Management or ZENworks 7 Desktop Management Inventory server. The following sections contain more information:

- [Section 27.4.1, “Understanding the Sender,” on page 348](#)
- [Section 27.4.2, “Understanding the Compressed Scan Data File,” on page 348](#)

27.4.1 Understanding the Sender

The Sender is a Java* component that runs on any ZENworks 7 Linux Management server. The Sender is a service loaded by the ZEN Loader.

The flow of information from the Sender in the roll-up of inventory information is as follows:

1. The ZEN Loader starts the Sender on the Inventory server. At the time specified in the Roll-Up Schedule, the Sender moves the scan data files (.str) from the enterprise merge directory (entmergedir) to the enterprise push directory (entpushdir).

The Sender compresses these .str files in the \entpushdir directory of the Inventory server as a .zip file and then deletes the .str files. This .zip file is again compressed with the .prp file into a .zip file. The .prp file is an internal file containing information about the .zip file.

2. Based on the Discard Scan Data Time in the Inventory Service object properties of the Receiver, the Sender deletes the compressed .zip files in the \entpushdir directory that have been created earlier than the specified discard scan data time. This removes unwanted scan information being sent in the roll-up.
3. The Sender sends the compressed .zip files to the Receiver, with the oldest compressed files sent first.
4. The Sender after transferring the .zip file, deletes the compressed files in the \entpushdir directory.

If the Sender is unable to connect to the Receiver, the Sender retries to connect after 10 seconds. The time interval increases exponentially by a factor of 2. After 14 retries, the Sender stops trying to connect to the Receiver. The Sender retries for approximately 23 hours before it discontinues trying. The Sender does not process any other information while it is establishing the connection.

27.4.2 Understanding the Compressed Scan Data File

The Sender compresses the scan data files (.str) into a .zip file. This .zip file is again compressed with the .prp file into a .zip file. The .zip file (containing the .zip files and .prp) is named using the following naming conventions:

scheduledtime_inventoryservername_treename_storedstatus.zip

where *scheduledtime* refers to the date and time when the .zip file is created, *inventoryservername* refers to the Inventory server on which the .zip file was compressed, *treename* refers to the unique tree name in which the .zip file is currently located, *storedstatus* refers to the storage status of the .zip file, and *ZIP* is the file extension for the compressed files. The *storedstatus* displays 0, 1, or 2. 0

indicates the .zip file has not yet been stored. 1 indicates the .zip file will be stored for the first time in the Inventory server. 2 indicates the .zip file has already been stored once

The .zip filename changes depending on if the database is attached to the Inventory server.

The .zip file contains the .zip files and a property file. The property file is named using the following conventions:

scheduledtime_inventoryservername.prp

The property file contains the scheduled time, Inventory server name, and signature. The signature helps to authenticate the .zip file.

Each .zip file can contain a maximum of 50 .str files.

27.5 Viewing the Inventory Data Stored in the ZENworks 7 Server Management or ZENworks 7 Desktop Management Inventory Database

You can view the inventory data stored in the ZENworks 7 Server Management or ZENworks 7 Desktop Management Inventory database using the following Inventory ConsoleOne® utilities:

- ♦ Inventory Query
- ♦ Inventory Reports

For more information on how to invoke and work with these utilities, see the “[Workstation Inventory](#)” section in the *Novell ZENworks 7 Desktop Management Administration Guide* or the “[Server Inventory](#)” section in the *Novell ZENworks 7 Server Management Administration Guide*.