Novell ZENworks® Server Management

6.5

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INSTALLATION GUIDE

August 16, 2006

Novell®

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Novell, Inc.
404 Wyman Street, Suite 500
Waltham, MA 02451
U.S.A.

www.novell.com

Novell ZENworks 6.5 Server Management Installation Guide
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Contents

About This Guide

This guide describes how to install Novell® ZENworks® 6.5 Server Management. The guide is intended for network administrators and is divided into the following sections:

Documentation Conventions

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

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

User Comments

We want to hear your comments and suggestions about this manual and the other documentation included with this product. Please use the User Comment feature at the bottom of each page of the online documentation, or go to www.novell.com/documentation/feedback.html and enter your comments there.

Documentation Updates

For a dated list of updates to this guide, see Appendix L, "Documentation Updates," on page 413.

For the most recent version of this guide, visit the ZENworks 6.5 Web site (http://www.novell.com/documentation/zenworks65/index.html).

Additional Documentation

For the latest documentation on configuring and managing ZENworks 6.5 Server Management, *ZENworks 6.5 Server Management Administration Guide* (http://www.novell.com/documentation/zenworks65/index.html).

Overview

The information in this section includes the following:

1 What Is ZENworks Server Management?

Novell® ZENworks® 6.5 Server Management is an integrated system for managing multiple servers throughout a multiple-platform, enterprise-wide network. Server Management consists of several components that can be used together or separately, depending on your network management needs.

For the latest version of this guide, see the *ZENworks 6.5 Server Management Installation Guide* (http://www.novell.com/documentation/zenworks65/index.html) on the Web.

For information on upgrading, see "Upgrade" on page 117.

Support Pack 2 (SP2) for ZENworks 6.5 Server Management has been released. For more information, see Chapter 10, "ZENworks 6.5 Server Management Support Packs," on page 149.

Review the following sections to determine which Server Management components to install:

- "Policy-Enabled Server Management" on page 17
- "Management and Monitoring Services" on page 22

Policy-Enabled Server Management

ZENworks Server Management provides management roles for your network servers:

Component	Description
Policy and Distribution Services	Policy and Distribution Services ensures consistent configuration and behavior of NetWare®, Windows*, Linux*, and Solaris* servers by establishing policies that define particular server configuration and behavior based on specific conditions. In addition, you can use Policy and Distribution Services to automatically distribute and install new and updated software, individual executable files, databases, documents, text files, and so on, to servers anywhere in your network.
Server Inventory	Server Inventory gathers a complete record of all hardware and software from inventoried NetWare and Windows servers anywhere in your network. By accessing a centralized Inventory database from ConsoleOne®, you can query, view, or generate reports on the inventory information. Inventory information can be rolled up across servers for large networks.
Remote Management	Remote Management enables you to control NetWare and Windows servers located anywhere in your network from ConsoleOne, as if you were at the server console. The Remote Management Agent installed on each managed server ensures that Remote Management sessions are secure.

If you have a Linux-only environment, see ZENworks Linux Management on the ZENworks 6.5 Web site (http://www.novell.com/documentation/zenworks65/index.html).

For more help in determining which Policy-Enabled Server Management components you might want to install:

- "Policy and Distribution Services Server Roles" on page 18
- "Server Inventory Server Roles" on page 19
- "Remote Management Terminology" on page 21

Policy and Distribution Services Server Roles

Although you can install Policy and Distribution Services objects to only one tree at a time, you can install Policy and Distribution Services software to all NetWare and Windows servers in your network in one run of the installation program. Therefore, you can set up the roles for each of these servers during installation.

You can also install Policy and Distribution Services software to any NetWare or Windows server when running the installation program, regardless of the server's Novell eDirectory™ tree or Microsoft* domain, because you can browse both trees and domains during installation.

Policy and Distribution Services software can even be installed to servers that are not in a tree or domain by inserting the *ZENworks 6.5 Server Management Program* CD on that server and installing directly.

There are two Tiered Electronic Distribution objects that define the role of a server. The role you select determines what software is installed on the server. The objects are Distributors, Databases, and Subscribers. The following sections explain their roles.

Distributor Servers and Databases

The Distributor server does much of the distribution work. It compiles software and policy packages and distributes them to other servers.

To initially install Policy and Distribution Services, choose one server that exceeds the minimum server requirements and make it the Distributor server. This can be either a NetWare or Windows server (see "NetWare Server Requirements" on page 45 or "Windows Server Requirements" on page 46).

You are not required to always use this server as a Distributor, because it will also have the Subscriber software installed on it. Therefore, you can simply select any server that exceeds the minimum server requirements for first-time installation purposes.

If you later need to reassign Distributions created on this first Distributor to another Distributor, you can do so in ConsoleOne by right-clicking a Distribution object and selecting Assign New Distributor. However, all files on the first Distributor that pertain to the Distribution being reassigned must be copied to or already exist on the files system of the new Distributor.

For related information, see "Deleting a Distributor Object and How Its Distributions Are Affected" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

Subscriber Servers

The Subscriber servers receive distributions of policies and software. You can manage your network's servers by installing the Subscriber software on every server.

Make a note of all servers that you want to manage with Policy and Distribution Services. You need to install the Subscriber software on each of these servers.

For large or complex networks, we recommend that you install Subscriber software incrementally to groups of servers. For example, you might want to roll out Policy and Distribution Services in phases.

To install Subscriber software to your servers incrementally, determine installation groupings for your servers. You will install to the first group of servers using the instructions in this *Installation Guide*.

You can install to the other groups of servers later using the instructions in "Post-Installation Setup" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

Server Inventory Server Roles

Server Inventory lets you gather complete hardware and software inventory information for all NetWare and Windows servers in your network. Using a centralized database, the network administrator can query, view, or report this inventory information using Novell ConsoleOne. ZENworks 6.5 Server Management also provides roll-up of inventory information across servers for large networks.

The following sections describe the components of Server Inventory.

- **Management console:** A Windows workstation or server running Novell ConsoleOne with ZENworks Server Management Server Inventory ConsoleOne snap-ins installed. The management console provides the interface where you manage and administer your network.

  For more information about the system requirements of the management console, see "Installation Machine and Management Workstation Requirements" on page 39.

- **Inventoried servers:** A server whose hardware and software data you want to scan and maintain in a central repository. To gather complete hardware and software inventory for a server, you must install the Inventory Agent on that server.

  Identify the inventoried servers and determine each server's Distinguished Name (DN).

  IMPORTANT: For Windows servers, the server's DNS short name must be the same as the server's name. Either rename Windows servers where the server's name does not match its DNS short name before running the installation, or do not select these servers for installation of Server Inventory.

  For more information about the system requirements of the inventoried server, see "Installation Machine and Management Workstation Requirements" on page 39.

- **Inventory server:** A server where you run the Inventory service. The Inventory server collects the inventory data from a group of inventoried servers and loads it into the Inventory database. If you want to collect the inventory for the Inventory server, you must install the Inventory Agent on the Inventory server.

  Identify the servers that you want to be your Inventory servers.

- **Database server:** A server where your Inventory database is running. The database can run on an Inventory server or on a different server.

  An Inventory database is repository of inventory data for all the inventoried servers.

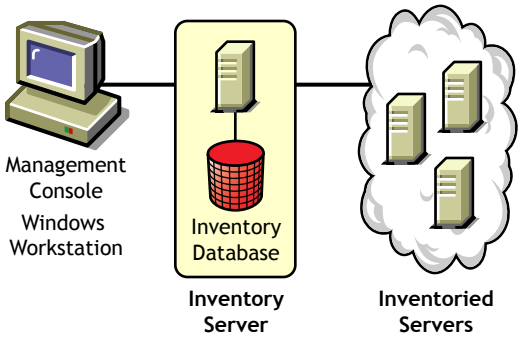
  During installation, you need to identify the server where you want the database files to reside. The Inventory database and related database files are installed on the servers you specify. You can install the database on the same server as you have selected for the Inventory server or on to a different server.

If you choose to install the Sybase database and it is already running on the server, be sure to quit the database process by entering Q at the Sybase prompt, before proceeding with the installation program.

- **XML Proxy server:** If you want to send or roll up the scan data to an Inventory server that is across the firewall, you must configure a NetWare or Windows server to run the XML Proxy service.

  During the ZENworks Server Management installation program, you need to identify the server where you want to run the XML Proxy Service.

The focus of the *Installation Guide* is to set up a pilot system so that you can better understand ZENworks Server Management Server Inventory. The pilot system consists of a management console, an Inventory server, an Inventory database running Sybase*, and one or more inventoried servers, as shown below.



This setup has the following features:

- The Inventory server and the inventoried servers reside on the same Novell eDirectory tree.
- The Inventory server has inventoried servers attached to it.
- The Inventory server has an Inventory database attached to it.

The Inventory scanning cycle is as follows:

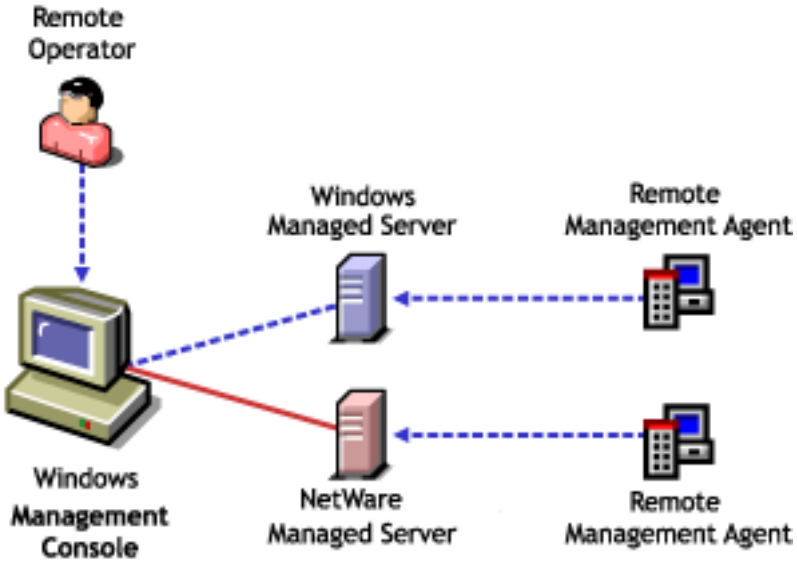
1. The Inventory scanner sends hardware and software information from the inventoried servers to the Inventory server as per the scan schedule.
2. The Inventory server stores the inventory information in the Inventory database.
3. At the management console, you can view and retrieve the inventory information from the Inventory database using Inventory tools such as Reporting, Summary, etc.

Before you install Server Inventory in your production environment, you must plan and decide the Inventory server tree hierarchy for your company. You should organize your inventory deployment based on your network and information requirements. For detailed information, see "Server Inventory" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

Remote Management Terminology

ZENworks 6.5 Server Management Remote Management enables you to control and manage remote NetWare 5.1/6/6.5 or Windows 2000/2003 servers from your computer. Using Remote Management, you can remotely diagnose and resolve problems that would otherwise require visits to client computers.

The ZENworks Server Management Remote Management setup consists of a Windows machine (called the management console) used to manage one or more remote servers (called managed servers) as shown below:



The following sections describe components of Remote Management.

Management Console

A Windows workstation or server running Novell ConsoleOne with the ZENworks Server Management Remote Management ConsoleOne snap-ins installed. The management console provides the interface to manage and administer your network.

A remote operator is a user who can remotely view, control, and manage servers.

An administrator is a person who has the rights to install Remote Management. All administrators are remote operators, but not all remote operators are administrators.

Management Server

A server with Novell eDirectory and the ZENworks Server Management Distributor components. The eDirectory and Distributor components should be installed only if you want policy-enabled Remote Management. Your management server can be a managed server.

Managed Server

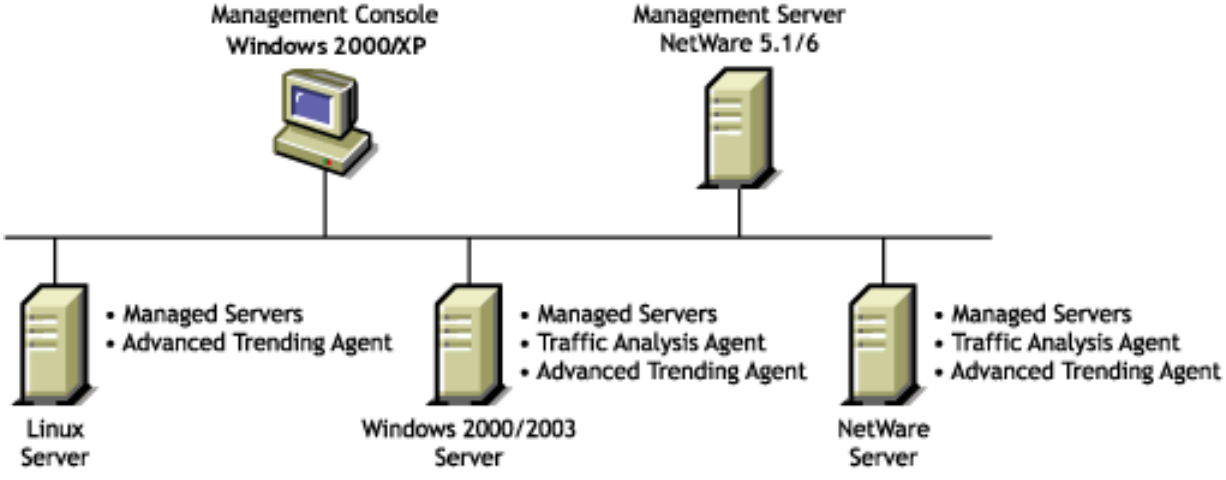
A NetWare 5.1/6/6.5 or Windows 2000/2003 server that you want to remote control or view. To remotely view or control a server, you must install the ZENworks Server Management Remote Management Agent on it.

Management and Monitoring Services

The Management and Monitoring Services component of Novell ZENworks Server Management provides industry standards-based monitoring, management, and reporting for heterogeneous network environments.

Component	Description
Management Site Services	Management Site Services includes automatic network discovery, network topology mapping, alarm management, role-based administration, statistical reporting, and MIB tools.
Traffic Analysis Agent	Traffic Analysis Agent monitors network traffic, captures data, and collects statistics for monitored network segments, nodes, and devices on NetWare and Windows servers. It includes tools to help you review and analyze the gathered data.
Server Management Agent	Server Management Agent provides SNMP-based management agents for NetWare, Windows, and Linux servers. These SNMP-based agents supply real-time server performance data, along with information about server alarms and events. Using Server Management, you can perform tasks such as trending, graphing, and fault management.
Advanced Trending Agent	The Advanced Trending Agent gathers and stores the trend data (historic data) for any parameter instrumented by an SNMP agent, if it is defined by a MIB variable and not just pre-configured MIB variables.

The following diagram illustrates where the ZENworks Server Management components are installed:



The following sections describe components of Management and Monitoring Services:

- “Management Site Services” on page 23
- “Server Management Agent” on page 23
- “Management Console” on page 23
- “Traffic Analysis Agent” on page 23
- “Advanced Trending Agent” on page 23

Management Site Services

Management Site Services includes the following:

- Alarm Management
- Database Administration
- MIB Tools Administration
- Monitoring Services
- Network Discovery
- Reporting
- Role-Based Services
- Topology Mapping
- View Builder
- Unified View for Services
- Database Object Editor
- NetWare Trap Admininstration

Server Management Agent

Monitors all the NetWare, Windows, or Linux servers you want to manage.

Management Console

Novell ConsoleOne on Windows provides the interface where you can manage and administer your network.

Traffic Analysis Agent

Monitors all the traffic on Ethernet, token ring, or Fiber Distributed Data Interface (FDDI) network segments. This agent is available on NetWare and Windows. To monitor the network traffic of a segment, you require only one Traffic Analysis Agent per segment.

Advanced Trending Agent

Gathers and stores the trend data (historic data) for any parameter instrumented by an SNMP agent, if it is defined by a MIB variable. This agent is available on NetWare, Windows, and Linux.

II Preparation

For a successful installation of Novell® ZENworks® Server Management, you need to know and use the following information for fulfilling requirements and installing the software:

- The Novell eDirectory™ tree for the ZENworks objects
- Tree containers where you want the ZENworks objects to be created
- Your network servers' platforms
- Hardware and software requirements for the target servers
- Requirements for the installer and installation machine
- Requirements for the management workstations

The following sections will help you to gather and use the information listed above to prepare for installing Server Management software in your network:

2 Information You Need to Know

The following information is needed for installing any of the Server Management components:

Information Needed	Explanation
eDirectory tree name	You need only one tree for creating and managing ZENworks objects. If you have more than one eDirectory tree in your network, decide which one to use for ZENworks. For ease of management, you can create a "ZENworks" tree dedicated to only ZENworks objects. Then, when schema extensions are needed for ZENworks, they only need to be done on this dedicated tree. For more information on a dedicated ZENworks tree, see "Novell eDirectory Requirement" on page 32 and "Using a ZENworks Tree" (in the *ZENworks 6.5 Desktop Management Administration Guide*). If you do not have eDirectory installed in your network (no NetWare servers), determine which Windows, Linux, or Solaris server you want to have eDirectory installed on.
Installation machine	To install to NetWare and Windows servers, decide if you will use a Windows workstation or a Windows server. You should identify your installation machine, because it needs to fulfill the minimum requirements listed in "Installation Machine and Management Workstation Requirements" on page 39.
Server platforms	These are the servers where you will install the Server Management components. Supported platforms include NetWare, Windows, Linux, and Solaris (depending on the component). For information on which Server Management components are supported on a particular server platform, see the table under "Server Requirements" on page 43.
Target servers	Identify the servers where you will install the Server Management components, and which components will be installed on each server. For more information, see "Overview" on page 15.
Databases	See "Policy and Distribution Services Server Roles" on page 18, "Server Inventory Server Roles" on page 19, and "Management and Monitoring Services" on page 22 for information to help you determine where you want to install databases.

The following sections provide the information you need to know that is specific to a component and its installation method:

- "Policy-Enabled Server Management Information for Installing on NetWare and Windows Servers" on page 28
- "Policy and Distribution Services Information for Installing on Linux and Solaris Servers" on page 28

Policy-Enabled Server Management Information for Installing on NetWare and Windows Servers

You need to know the following information before running the installation program:

Information Needed	Explanation
eDirectory containers for the ZENworks objects	We recommend that you create containers to enhance your ability to manage the ZENworks objects. You learn about the recommended containers in "eDirectory Container Requirements" on page 34, and instructions for creating the containers are provided in "Creating the ZENworks Containers" on page 37.
Distributor servers	You need at least one server to have the Distributor software installed on it. See "Policy and Distribution Services Server Roles" on page 18 for information to help you determine where you want to install Distributors.

Policy and Distribution Services Information for Installing on Linux and Solaris Servers

You need to know the following information before running the installation script:

Information Needed	Explanation
Server DNS name	The installation script must be able to authenticate to a server that holds a replica of the eDirectory tree where you want Distributor and/or Subscriber objects created. This could be a Linux, Solaris, NetWare, or Windows server. You must know either the fully qualified DNS hostname or the IP address of the server in order for the installation script to identify it in your network. For example: `Server1.Servers.novell.com`
Username	To enable the installation script to authenticate to the eDirectory server, you must know the fully distinguished username and password for a user with Admin-equivalent rights to the tree. For example: `admin.novell`

Information Needed	Explanation

Object contexts	You need to determine the eDirectory context where you want the installation script to create Distributor and Subscriber objects. You can only use an existing container. Therefore, you might want to create a container before running the installation script. For example:
	
	`Distributors.ZENworks.Novell`
	`Linux.Subscribers.ZENworks.Novell`
	`Solaris.Subscribers.ZENworks.Novell`
	
	If you have already installed Policy and Distribution Services on NetWare or Windows servers, the eDirectory tree might already have the necessary containers for the Distributor and Subscriber objects.

Distributor object name	If the Linux or Solaris server where you are installing Policy and Distribution Services will function as a Distributor, you must choose a unique name for the Distributor object. The name you choose should retain the Linux or Solaris server's identity. For example: `Distributor-Linux-01`
Subscriber object name	If the Linux or Solaris server where you are installing Policy and Distribution Services will function as a Subscriber, you must choose a unique name for the Subscriber object. The name you choose should retain the Linux or Solaris server's identity. For example: `Subscriber-Solaris-02`
Database object's DN	If you want a Distributor that you are installing to write to a database, you need to know the database object's DN, such as: `database.novell`

When providing object names during installation, you need to include the object's context with the object name. For example:

```
Distributor-Linux-01.Distributors.ZENworks.Novell
```

IMPORTANT: Do not use double-byte or extended characters in the object names or object contexts.

3 Prerequisites

This section lists common requirements that must be met before you begin to install the ZENworks Server Management software:

- “Installation User Rights” on page 31
- “Novell eDirectory Requirement” on page 32
- “eDirectory Container Requirements” on page 34
- “DNS Requirement” on page 38

After meeting the general ZENworks Server Management installation requirements listed in this section, continue with “Server Requirements” on page 43.

Installation User Rights

The network account of the user who installs any component of ZENworks Server Management must have the following rights in order to perform the installation:

- ❑ Supervisor rights at the root of the tree to extend the eDirectory schema

  Extending the schema needs to be done only once, no matter how many ZENworks Server Management components you install. Also, if you have multiple trees, you only need to extend the schema on the trees where you will be installing ZENworks objects.

- ❑ Supervisor rights at the root of the tree to make the Distributor a trustee of Root during installation

  Creation of some ZENworks objects includes adding trustees to the root of the tree. However, trustees can be manually added after installation if the installation user does not have sufficient rights to the root of the tree during installation.

- ❑ Read and Create rights in any containers where ZENworks objects are created
- ❑ File rights to all NetWare servers where ZENworks Server Management components will be installed
- ❑ Administrator rights to all Windows servers where ZENworks Server Management components will be installed
- ❑ Administrator rights to the Windows workstation where the ZENworks Server Management snap-ins to Novell ConsoleOne® will be installed

Novell eDirectory Requirement

Server Management is administered using eDirectory objects. Therefore, Server Management requires that eDirectory be installed somewhere in your network. If you have NetWare in your network, you already have eDirectory available.

If you have more than one eDirectory tree in your network, decide which tree you want to use for managing the ZENworks Server Management objects, which are created in the tree you select for Server Management installation.

However, for ease of management, you can create a dedicated "ZENworks" tree for installing and managing ZENworks objects. For more information on how ZENworks Desktop Management uses a dedicated ZENworks tree, see "Using a ZENworks Tree" in the *ZENworks 6.5 Desktop Management Administration Guide*.

IMPORTANT: If you have Desktop Management installed to a dedicated ZENworks tree, you must use that same tree for Server Management if you intend to create Desktop Application Distributions.

In you have a non-NetWare network, eDirectory only needs to be installed on one Windows, Linux, or Solaris server.

Do the following to meet the eDirectory requirement:

- "eDirectory Minimums by Platform" on page 32
- "Checking the eDirectory Version" on page 32
- "Upgrading eDirectory on NetWare Servers" on page 33
- "Upgrading eDirectory on Windows Servers" on page 33
- "Installing or Upgrading eDirectory on Linux or Solaris Servers" on page 34

eDirectory Minimums by Platform

Where you need to fulfill the eDirectory requirement, the minimum version required by Server Management depends on the platform and which version of eDirectory you have installed.

For all supported NetWare, Windows 2000, Linux, and Solaris server platforms, the following applies:

- **If eDirectory 8.6*.x* is installed:** Only version 8.6.2 is supported.
- **If eDirectory 8.7*.x* is installed:** Only versions 8.7.1 and 8.7.3 or later are supported.

  Version 8.7.3 for Windows is provided on the *ZENworks 6.5 Companion 1* CD.

For a Windows Server 2003 server (such as in a Windows-centric network), to install eDirectory on that platform, it must be version 8.7.3 or later in order for Server Management to work with that server.

Checking the eDirectory Version

To determine whether you have eDirectory installed, or which version is installed:

- "Checking on NetWare" on page 33
- "Checking on Windows" on page 33
- "Checking on Linux and Solaris" on page 33

Checking on NetWare

1. On a NetWare server's console prompt, enter:

   version

   or

   modules ds

The version of eDirectory is displayed with other information.

Checking on Windows

1. On a Windows server, click Start > Settings > Control Panel.
2. Select Add/Remove Programs.
3. Scroll to view the Novell eDirectory entry, which displays its version.

Checking on Linux and Solaris

1. On a Linux or Solaris server, run ndsstat.

   The ndsstat utility displays information related to eDirectory servers, such as the eDirectory tree name, the fully distinguished server name, and the eDirectory version. In the following example, eDirectory 8.7.1 is the product version (marketing string), and 10510.65 is the binary version (internal build number).

```
osg-dt-srv17:/>ndsstat
Tree Name: SNMP-HPUX-RASH
Server Name: .CN=osg-dt-srv17.O=novell.T=SNMP-HPUX-RASH.
Binary Version: 10510.65
Root Most Entry Depth: 0
Product Version: NDS/Unix - NDS eDirectory v8.7.1 [DS]
```

   For information on running ndsstat, see the ndsstat man page (ndsstat.1m).

Upgrading eDirectory on NetWare Servers

If version 8.6.2 or 8.7.1 or later is not installed on a NetWare server, see your eDirectory documentation (http://www.novell.com/documentation) for instructions on upgrading a NetWare server to version 8.7.1 or 8.7.3.

Upgrading eDirectory on Windows Servers

If version 8.6.2, 8.7.1, or 8.7.3 or later is not installed a Windows 2000/2003 server (where needed), and you need to install or upgrade eDirectory:

1. Novell eDirectory must be licensed. You can download the files you need for the eDirectory 8.7*.x* evaluation license from the Novell eDirectory 8.7.x Evaluation License Download Web site (http://www.novell.com/products/edirectory/licenses/eval_87.html). Novell eDirectory 8.7.3 for Windows that is on the *ZENworks 6.5 Companion 1* CD includes a licensing wizard that prompts for these files during installation.

   For more information about purchasing or upgrading eDirectory, see Novell eDirectory (http://www.novell.com/products/nds).

2 On the main installation menu, click Companion Programs and Files > Novell eDirectory for Windows 2K, which asks you to load the *ZENworks 6.5 Companion 1* CD and then proceeds to unzip the eDirectory installation files.

IMPORTANT: When you are prompted to accept an extraction location (the default is c:\docume~1\admini~1\locals~1\temp), this …\temp directory might contain many files. Therefore, add to the path something similar to …Temp\eDirInstall so that you can easily locate the setup.exe file for installing eDirectory.

3 Follow the installation program's instructions.

You will be asked for the evaluation license that you downloaded in Step 1.

4 If you need to install Novell Certificate Server™ and LDAP as part of eDirectory on an inventory server, see Novell Product Documentation (http://www.novell.com/documentation) for instructions.

Installing or Upgrading eDirectory on Linux or Solaris Servers

If version 8.6.2, 8.7.1, or 8.7.3 or later is not installed a Windows 2000/2003 server (where needed), and you need to install or upgrade eDirectory:

1 See the eDirectory documentation Web site (http://www.novell.com/documenatation/edir873/index.html).

2 Under the Installation Guide heading, click:

Installing or Upgrading Novell eDirectory on Linux

or

Installing or Upgrading Novell eDirectory on Solaris

3 Follow the instructions.

eDirectory Container Requirements

ZENworks Server Management is directory-enabled, which means that its eDirectory objects are created in the eDirectory tree during installation, allowing you to use those objects to configure and manage Server Management.

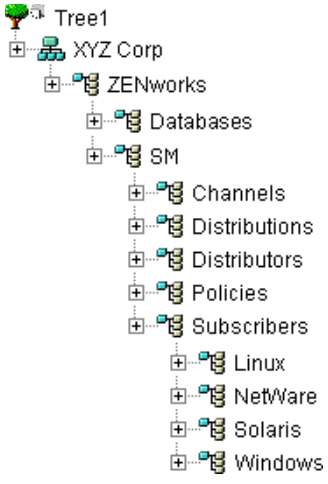
The default container for installing Server Management objects is the container where the servers' NCP objects reside. We recommend that when you have the option to change it, you do not use the default container. If you are using a dedicated ZENworks tree, it will not have any NCP objects in it, so you will need to select the context.

You should create specific ZENworks object containers before starting the installation. The following sections will help you to do this:

- "Containers for ZENworks Objects" on page 35
- "Creating the ZENworks Containers" on page 37

Containers for ZENworks Objects

For ease of management, we recommend that you place all of your ZENworks objects in containers similar to the following:



Most of these containers only apply to Policy and Distribution Services. For example, Server Management would use the SM container, Desktop Management would use a DM container, HandHeld Management would use an HM container, but all ZENworks products could use the Databases container.

If Server Inventory or Management and Monitoring Services is installed using a Standalone Pre-configure option, they require a location for the Server Package object. The Policies container shown above is recommended.

All other Server Inventory or Management and Monitoring Services objects are automatically placed in the same container as the server's NCP Server object, unless you are using a ZENworks tree. In that case, the context in the server's tree where its NCP Server object resides is displayed. However, if that same context does not exist in the ZENworks tree, you must change it, because the program does not create these eDirectory contexts.

Other issues concerning where to place ZENworks objects in a tree:

- "Location of the ZENworks Container" on page 35
- "Operating-System-Specific Containers" on page 36
- "Dedicated ZENworks Tree" on page 36

Location of the ZENworks Container

When not using a dedicated ZENworks tree, the ZENworks container should be placed as high in the tree as possible, because the full tree path from the root to where you have user-definable policies is limited to 64 characters. Long paths to where user-defined policies are stored could cause them to have only a few characters available to name them.

In the illustration, SM represents Server Management. Other ZENworks products could use similar abbreviations, such as DM for Desktop Management and HM for Handhelds Management. These short abbreviations help to minimize use of the 64 characters.

A dedicated ZENworks tree can help in reducing the number of characters used, because the ZENworks Organizational Unit isn't necessary.

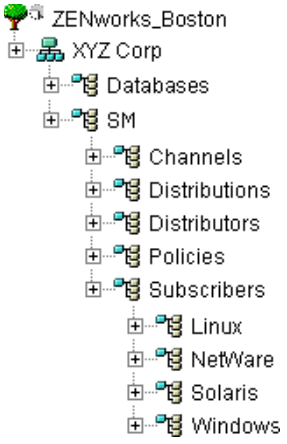
Operating-System-Specific Containers

Only one Service Location Package (containing the Tiered Electronic Distribution policy) can be associated with a given container. In order to set up multiple Tiered Electronic Distribution policies that allow you to define default operating system-specific values for attributes in the Subscriber (and Distributor) objects, you would need the Subscriber objects to be grouped so that you could apply platform-specific Tiered Electronic Distribution policies.

Therefore, we recommend that you place your Subscriber objects in operating system-specific containers, as shown in the illustration.

Dedicated ZENworks Tree

NCP server objects would not exist in a dedicated ZENworks tree. An example of how you can organize a dedicated ZENworks tree:



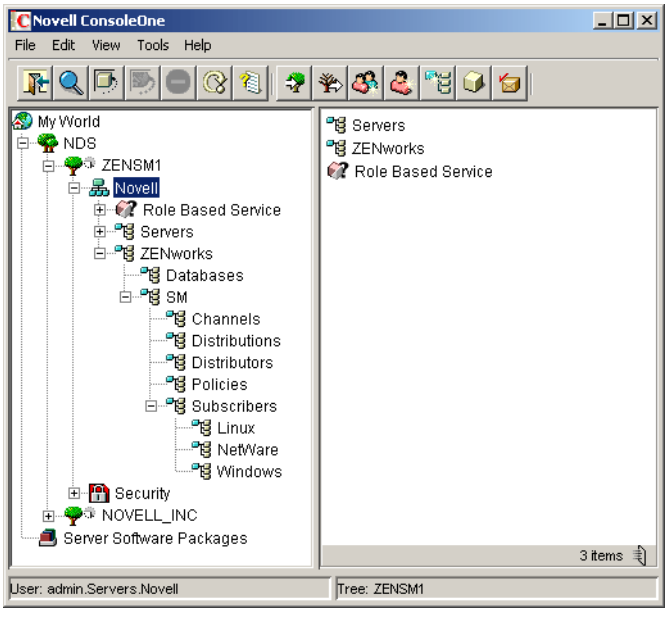
A tree dedicated to ZENworks objects has the following benefits:

- Improved management in having fewer objects in the tree.
- You won't need to extend the schema on your production tree when you have new ZENworks schema extensions to apply.
- Because the ZENworks OU isn't necessary, and your tree would likely have ZENworks as part of its name, such as ZENworks_Boston, everything can be moved up one level.
- By excluding the ZENworks container, you can have seven more usable characters within the 65 character limit, such as for more descriptive ZENworks object names.

Creating the ZENworks Containers

If you want to use a dedicated ZENworks tree, you must create that tree before beginning the following procedure.

1. Start ConsoleOne from the copy installed on your workstation.
2. In ConsoleOne, select the tree where you want the Server Management objects created.



3. Right-click the context where you want to create the Server Management containers, then click New > Object.

   This should be as high in the tree as possible.
4. Select Organizational Unit, then click OK.
5. (Optional) Specify ZENworks for the container name, then click OK.

   IMPORTANT: Do not use double-byte or extended characters in object names.
6. Right-click the ZENworks container (or parent Organization, such as “Novell” in the example in Step 2), then click New > Object.
7. Create OUs similar in name and arrangement to those depicted in Step 2.
8. Continue with “DNS Requirement” on page 38.

DNS Requirement

DNS names are not required for installing ZENworks Server Management in a NetWare-only environment. However, if you install Server Management software to even one Windows, Linux, or Solaris server in your network, DNS is required.

Management and Monitoring Services does not require DNS.

If you need DNS and do not have it in use for the Windows, Linux, or Solaris servers where you will install Server Management software (only Policy and Distribution Services, Server Inventory, and Remote Management), see Appendix C, “Ensuring Successful DNS Name Resolution,” on page 319 for information on setting it up.

If DNS is in use on your network, you must have a DNS name server that can perform forward and reverse hostname resolution for all servers where ZENworks Server Management components are installed. This information is also covered under Appendix C, “Ensuring Successful DNS Name Resolution,” on page 319.

4 Installation Machine and Management Workstation Requirements

Some requirements are shared by both installation and management machines, and some are specific to a machine's role:

- "General Workstation Requirements" on page 39
- "Installation-Specific Machine Requirements" on page 40
- "Management-Specific Workstation Requirements" on page 40

After completing the workstation requirements, continue with "Server Requirements" on page 43.

General Workstation Requirements

The following requirements must be met by both installation and management workstations:

- ❑ Pentium* III processor or later

  Includes other Pentium-compatible processors.

- ❑ At least 256 MB RAM with virtual memory (swap space) enabled (additional RAM will improve ConsoleOne performance on the management workstation)

- ❑ Novell Client™ 4.90 Support Pack 1a

  To determine the current version on your workstation, right-click NetWare Services in the system tray, then click Novell Client Properties.

  To install: Insert the *ZENworks 6.5 Companion 1* CD and on the main installation menu, click Companion Programs and Files > Novell Client, which uses a link on that CD to the Novell Software Downloads Web site where you can obtain the executable.

  or

  Download the latest Novell Client for any version of Windows from Novell Software Downloads (http://download.novell.com).

- ❑ (Optional) Internet Explorer 5.5 SP2 or later for the ability to view the product Readme (an HTML file) during installation, and Novell documentation on the Web after installation

  To determine your version in Internet Explorer, click Help, then click About Internet Explorer.

  Two versions of Internet Explorer are available to meet ConsoleOne and Novell iManager requirements:

  - Internet Explorer 5.5
  - Internet Explorer 6

  To download, see Internet Explorer (http://www.microsoft.com/windows/ie/default.asp).

- Automatic character encoding for creating and displaying extended characters in eDirectory object names

  In Internet Explorer, click View > Encoding, then select Auto-Select.

- ConsoleOne 1.3.6 or later for creating ZENworks-specific containers in eDirectory before installation and for managing Server Management after installation

  You can have the ConsoleOne snap-ins for ZENworks Server Management installed on multiple workstations during the installation process, so that you can manage ZENworks Server Management from each of those workstations. To do so, make sure you have installed ConsoleOne from the *ZENworks 6.5 Companion 1* CD on each workstation where you want the snap-ins to be installed.

  For instructions to install ConsoleOne, see "Installing ConsoleOne 1.3.6" on page 41.

- 70 MB free disk space for a local workstation installation of ConsoleOne

Installation-Specific Machine Requirements

Installation of Server Management requires access to your target eDirectory tree from your installation machine (a workstation or a server). In addition, the following minimum requirements must be met:

- Windows 2000 (Professional SP4 or Server SP4), Windows Server 2003 (Standard or Enterprise Editions), or Windows XP Professional SP1a
- Windows display screen area set to at least 1024 x 768 to accommodate the Installation Wizard
- Access to a DNS name server

  For more information, see Appendix C, "Ensuring Successful DNS Name Resolution," on page 319.

Management-Specific Workstation Requirements

ZENworks Server Management uses ConsoleOne for administration of ZENworks objects in eDirectory. After installation, any workstation where you run ConsoleOne to manage ZENworks Server Management must meet the following minimum requirements:

- Windows 2000 Professional SP4 or Windows XP Professional SP1a

  Windows servers (2000/2003) can also be used as a management workstation if it has Novell Client 4.9 installed.

  IMPORTANT: ZENworks Server Management does not support using a server's console to run an instance of ConsoleOne installed on that NetWare server. To use the server's installation of ConsoleOne, you must map a drive from a workstation to that server and run ConsoleOne from the workstation.

- ❑ (Optional) Access to iManager 2.0.2, 2.5, or later installed on a NetWare, Windows, Linux, or Solaris[1] server

  [1] For ZENworks 6.5 SP1 and SP2, the Server Management snap-ins are not supported on Solaris servers.

  In addition to ConsoleOne, you can use iManager to manage the Tiered Electronic Distribution objects used by Policy and Distribution Services. For plug-in installation instructions, see "Web-Based Management for Policy and Distribution Services" on page 89.

  WARNING: Earlier versions of iManager cannot be used with ZENworks 6.5 Server Management.

  Also, if you plan to upgrade incrementally, you need to maintain the older version of iManager that you are using to manage ZENworks for Servers 3.*x* in order to continue to manage those servers. Because you cannot have two different versions of iManager installed to the same machine, select a different machine for installing iManager 2.*x*.

  To install iManager on a Windows machine: Insert the *ZENworks 6.5 Companion 1* CD and on the main installation menu, click Companion Programs and Files > Novell iManager, which automatically executes the installation file from that CD.

  IMPORTANT: For a Windows Server 2003 machine, iManager 2.0.2 or 2.5 requires eDirectory 8.7.3; however, eDirectory does not need to be installed on this Windows machine, it only needs to be available somewhere on the network for iManager to access.

  To install iManager on other platforms:

  - For NetWare 6, iManager 2.0.2 installation is available on the *ZENworks 6.5 Companion 1* CD. Browse for \Novell iManager\iMan_202_NW60_Standalone.exe to run the installation program for installing to NetWare 6. This file is also available from Novell Software Downloads (http://download.novell.com).
  - For NetWare 6.5, iManager 2.0.2 installation is only available by upgrading NetWare 6.5 to Suport Pack 1 or later.
  - For Linux or Solaris, you must download the iManager installation file from Novell Software Downloads (http://download.novell.com).

- ❑ (Remote Management only) IP protocol stack

Installing ConsoleOne 1.3.6

Because you administer ZENworks Server Management primarily through ConsoleOne, you must have ConsoleOne 1.3.6 installed on at least one workstation or server before you install ZENworks Server Management. To determine your current version in ConsoleOne, click Help, then click About ConsoleOne.

To install ConsoleOne:

1. Insert the *ZENworks 6.5 Companion 1* CD and on the main installation menu, click Companion Programs and Files > Novell ConsoleOne.

   This runs the executable from the *ZENworks 6.5 Companion 1* CD, displaying the WinZip Self-Extractor dialog box.

2. Click Setup.

   After the files have been extracted, the installation program starts.

3. Click Next to begin the installation.

4. Review the License Agreement, then click Accept.

5. Browse to and select the location where you want to install ConsoleOne, then click Next twice.

   - On a NetWare server, you might choose sys:\public\mgmt.
   - On a Windows server or workstation, you might choose c:\novell.

   If you have an older version of ConsoleOne installed on the workstation that you use for a previous version of ZENworks Server Management, you can specify a different path. For example, change the \1.2 directory to \1.3 or \1.3.6.

6. Select any languages in addition to English that you want to install, then click Next twice.

7. After reviewing the summary of products to be installed, click Finish.

   Objects are analyzed and the installation is performed.

8. When the installation completes, click Close.

9. Repeat these steps for each machine where you want to have access to Server Management through ConsoleOne.

   IMPORTANT: ZENworks Server Management does not support running ConsoleOne in a NetWare server's graphical console from the instance of ConsoleOne installed on that NetWare server. To use a NetWare server's installation of ConsoleOne, you must map a drive from a workstation to that server and run ConsoleOne from the workstation. However, this is slower than running ConsoleOne directly from a workstation.

5 Server Requirements

ZENworks 6.5, 6.5 SP1, and 6.5 SP2 Server Management software components are supported on the following server platforms with minimum support/service packs:

Supported Server Platforms for Installing the Software	Policy and Distribution Services	Server Inventory	Remote Management	Management and Monitoring Services
NetWare 5.1 Sp5, SP6, SP7, or SP8 [1]	Yes	Yes [2]	Yes	Yes
NetWare 6 SP4 or SP5	Yes	Yes	Yes	Yes
NetWare 6.5 SP1.1, SP2, SP3, or SP4 [1]	Yes	Yes	Yes	Yes
Linux [3]	Yes	No	No	Yes [4]
Solaris 9	Yes	No	No	No
Windows 2000 Server SP4 or Windows 2000 TS	Yes	Yes	Yes	Yes [4]
Windows Server 2003 ES, AS, and TS	Yes	Yes	Yes	Yes [4]
Novell Open Enterprise Server (OES) [5]	Yes	Yes	Yes	Yes
Citrix* Metaframe [6]	No	Yes	Yes	Yes [4]

[1] NetWare 5.1 SP8 and NetWare 6.5 SP3 and SP4 are supported only by ZENworks 6.5 Support Pack 1 (SP1) or later. NetWare 6.5 SP1.1 is supported only by ZENworks 6.5 SP1 and SP2. NetWare 6.5 with one of the listed support packs is not supported by ZENworks 6.5.*x*.

[2] Supported only for the Inventory Agent.

[3] Includes:

SUSE® LINUX Enterprise Server 8
SUSE LINUX Enterprise Server 9, SP1, SP2
SUSE LINUX Standard Server 8
SUSE LINUX Standard Server 9, SP1, SP2
Red Hat* Advanced Server 2.1
Red Hat Enterprise Server 2.1
Red Hat Enterprise Linux AS 3, 4
Red Hat Enterprise Linux ES 3, 4

[4] Supported only for the Server Management Agent and the Advanced Trending Agent.

[5] Novell OES is not supported in ZENworks 6.5.

In ZENworks 6.5 SP1:

- **OES NetWare:** Supported only for Policy and Distribution Services Subscriber servers, the Inventory Agent, the Management and Monitoring Services agents, and Management and Monitoring Services site servers.
- **OES Linux:** Supported only for Policy and Distribution Services Subscriber servers and the Management and Monitoring Services agents.

In ZENworks 6.5 SP2:

- **OES NetWare SP1:** All Server Management components are supported.
- **OES Linux SP1:** Supported only for Policy and Distribution Services Subscriber servers and the Management and Monitoring Services agents.

[6] In ZENworks 6.5 SP1 and SP2, supported only for managed servers and the Inventory Agent.

For more information on SP1 or SP2, see Chapter 10, "ZENworks 6.5 Server Management Support Packs," on page 149.

Server requirements are organized by platform under the following headings:

- "Policy-Enabled Server Management" on page 44
- "Management and Monitoring Services" on page 53

Policy-Enabled Server Management

This section contains the minimum server requirements for Policy and Distribution Services, Server Inventory, and Remote Management:

- "General Server Requirements" on page 44
- "NetWare Server Requirements" on page 45
- "Windows Server Requirements" on page 46
- "Linux and Solaris Server Requirements" on page 48
- "Role-Specific Server Requirements" on page 50

General Server Requirements

The following sections provide general requirements information:

- "Mixed eDirectory Environments" on page 45
- "NetWare Support Packs" on page 45
- "Windows Service Packs" on page 45

Mixed eDirectory Environments

ZENworks Server Management can run in a mixed eDirectory environment. For example, your network might have both eDirectory 8.*x* and NDS® 6.*x* or 7.*x* installed.

eDirectory 8.6.2 or 8.7.1 or later is required for ZENworks Server Management so that its objects can be placed in the tree during installation of the product. eDirectory must be installed with the master replica somewhere in your network, but not necessarily on a server where you are installing the ZENworks Server Management software.

The only requirement for any Policy and Distribution Services server is that it can communicate with the server where the eDirectory master replica (of the partition where its NCP Server object resides) is installed. Therefore, you do not need to install eDirectory on each server where you will install Policy and Distribution Services. However, Server Inventory requires eDirectory to be running on each Inventory server.

NetWare Support Packs

To determine the current Support Pack version on a NetWare server, enter:

```
version
```

at the server console prompt.

You can download Support Packs from Novell Support (http://support.novell.com).

Windows Service Packs

To determine the Service Pack level on a Windows server, right-click My Computer, then click Properties.

You can download Service Packs from Microsoft (http://www.microsoft.com).

NetWare Server Requirements

Following are the common NetWare minimum requirements for Policy and Distribution Services and Server Inventory:

Requirement	Policy and Distribution Services	Inventory Server	Inventory Agent Server
Novell eDirectory	8.6.2 or 8.7.1 [1]	8.6.2 or 8.7.1	8.6.2 or 8.7.1
Cache for the Policy and Distribution database file	32 MB	N/A	N/A
Free Disk Space	35 MB for Policy and Distribution Services files	100 MB for inventory with database; 25 MB for inventory alone	N/A
Disk Space for ConsoleOne Snap-Ins	70 MB	70 MB	N/A
Database File Location	Any volume other than sys:	Any volume other than sys:	N/A
IP Address	N/A	Valid IP address and IP Services installed	Valid address

Requirement	Policy and Distribution Services	Inventory Server	Inventory Agent Server
Subscriber	N/A	N/A	Object and software only (Server Inventory, Inventory Agent, and Remote Management) For more information, see "Installation on NetWare and Windows" on page 61.
Server CPU Type	Pentium III [2] To enhance Policy and Distribution Services efficiency, it is more important to increase the amount of RAM than to increase the processor speed.	Pentium III	Pentium III

[1] For more information, see "Novell eDirectory Requirement" on page 32.

[2] Wherever Pentium is mentioned in these requirements, all Pentium-compatible processors are included.

Following are the platform-specific NetWare minimum requirements for Policy and Distribution Services and Server Inventory:

Requirement	Policy and Distribution Services	Server Inventory
NetWare 5.1: Support Pack Version	5	5 [1]
NetWare 6: Support Pack Version	4	4
NetWare 6.5: Support Pack Version	1a	1a
NetWare 5.1: Server RAM	Policy/Distribution: 384 MB; 512 MB is recommended for larger deployments of Policy and Distribution Services.	384 MB; 512 MB is recommended
NetWare 6/6.5: Server RAM	512 MB	512 MB

[1] Only for Inventory Agent.

Windows Server Requirements

The following information applies to all Windows versions:

- **DNS:** All target Windows servers should have fully qualified DNS names. For more information, see "DNS Requirement" on page 38.

  IMPORTANT: For Windows servers, the server's DNS short name must be the same as the server's name. Either rename Windows servers where the server's name does not match its DNS short name before running the installation, or do not select these servers for installing Server Inventory.

- **Windows-Centric Network Environment:** You can run Policy and Distribution Services in a Windows-centric network when you install eDirectory 8.7.1 on at least one Windows 2000 server, such as a Distributor server. To install eDirectory on a Windows Server 2003 server, eDirectory 8.7.3 is required.

  Installing eDirectory on a Windows server allows you to manage the ZENworks eDirectory objects in a Windows-centric network. All of the Windows servers in your network do not require eDirectory, just one server.

- **Local Windows Server Installation:** In order to install locally on a Windows 2000/2003 server, that server must have the required Novell Client running. Otherwise, the installation program will not run on that instance of Windows.

  However, you can install to a Windows server that does not have Novell Client running on it, but not locally. Just run the installation program on a workstation that does have the client running, then on the Server Selection page, browse for and select the Windows server that doesn't have the client so that you can install ZENworks 6.5 Server Management to it.

- **Mixed Network Environment:** ZENworks Server Management can run in a mixed eDirectory environment. For example, your network might have both eDirectory 8.*x* and NDS 6.*x* or 7.*x* installed.

  eDirectory 8.6.2 or 8.7.1 or later is required for ZENworks Server Management so that its objects can be placed in the tree during installation of the product. eDirectory must be installed with the master replica somewhere in your network, but not necessarily on a server where you are installing the ZENworks Server Management software.

  The only requirement for any Policy and Distribution Services server is that it can communicate with the server where the eDirectory master replica (of the partition where its NCP Server object resides) is installed. Therefore, you do not need to install eDirectory on each server where you will install Policy and Distribution Services. However, Server Inventory requires eDirectory to be running on each Inventory server.

Following are the common Windows minimum requirements for Policy and Distribution Services and Server Inventory:

Requirement	Policy and Distribution Services	Server Inventory
Server CPU Type	Pentium III	Pentium III
Server RAM	512 MB	512 MB
Free Disk Space	35 MB	100 MB for inventory with database; 25 MB for inventory alone
Disk Space for ConsoleOne Snap-Ins	50 MB	50 MB
eDirectory	N/A	N/A
Subscriber	N/A	Object and software only (Server Inventory, Inventory Agent, and Remote Management) For more information, see "Installation on NetWare and Windows" on page 61.

Following are the platform-specific minimum requirements for the Server Management components:

Requirement	Policy and Distribution Services	Server Inventory
Windows 2000 Service Pack Version [1]	4	4

[1] No service pack is required for Windows Server 2003.

Linux and Solaris Server Requirements

Meet the following requirements before running the installation script:

- "Hardware and Software Requirements" on page 48
- "Server Accessibility Requirements" on page 49
- "Management Requirements" on page 49

Hardware and Software Requirements

Following are the minimum system requirements for Policy and Distribution Services on Linux or Solaris servers. Server Inventory and Remote Management cannot be installed on Linux or Solaris.

Requirement	Linux	Solaris
Operating System Version	Distributions supported: SUSE LINUX Enterprise Server 8 SUSE LINUX Enterprise Server 9 SUSE LINUX Standard Server 8 SUSE LINUX Standard Server 9 Red Hat Advanced Server 2.1 Red Hat Enterprise Server 2.1 Red Hat Enterprise Linux AS 3 Red Hat Enterprise Linux ES 3	9 (the release level Is displayed by the `uname -r` command)
Machine Type	IBM* compatible PC	Sun* Microsystems
Supported Processors	Intel* for Linux	SPARC* for Solaris
Server RAM	128 MB minimum; 256 MB recommended	256 MB minimum
Server CPU Type	200 MHz Pentium or faster	N/A
Free Space for Policy and Distribution Services Files	150 MB	195 MB

IMPORTANT: The hostname of the Linux or Solaris server where you install Policy and Distribution Services must be the same as its DNS short name.

Server Accessibility Requirements

The following might need to be set up for accessing a Linux or Solaris server:

- "Samba" on page 49
- "DNS Hostname" on page 49

Samba

Although Samba is not needed for installing Policy and Distribution Services to a Linux or Solaris server, if you plan to access the Linux or Solaris Subscriber server from a Windows machine via a mapped drive, you must configure Samba on the Subscriber server to provide the shared folders.

DNS Hostname

If you edit the tednode.properties configuration file, the installation script used to install Policy and Distribution Services on Linux and Solaris servers (see "Installation on Linux and Solaris" on page 94) displays the fully qualified DNS hostname of the local Linux or Solaris server as obtained from one of the following locations, depending on your system search order:

- DNS (Domain Name System)
- NIS (Network Information Service)
- `/etc/hosts` file on the Linux or Solaris server

The installation script requests confirmation of the displayed information. Without the correct DNS information, Policy and Distribution Services does not function properly on the server. Do one of the following:

- If the DNS entry is correct, type **`y`**, then press Enter.
- If the DNS entry is incorrect:

  1. Type **`n`**, then press Enter.
  2. Specify the correct fully qualified DNS hostname, then press Enter.
  3. Type **`y`** to confirm the modified DNS hostname, then press Enter.

After the DNS entry is correct, the installation script next prompts for the password corresponding to the user you supplied for the user_Name parameter.

The installation script logs its actions in the following file:

```
/var/opt/novell/log/zenworks/zfs-pds-install.log
```

If the installation does not complete successfully, you can print this log file. To look up installation errors, see Appendix G, "Installation Error Messages," on page 357. Resolve the problem and perform a successful installation.

Management Requirements

In addition to fulfilling the server requirements for the Linux or Solaris server where you are installing Policy and Distribution Services, the following requirements must be met somewhere in your network:

- ❑ Novell eDirectory 8.6.2 or 8.7.1 or later must be running on at least one server (NetWare, Windows, Linux, or Solaris) in your network. This is required for installing and managing the Distributor and Subscriber objects that are created for your Linux or Solaris servers.

  For more information, see "Novell eDirectory Requirement" on page 32.

- ❑ At least one NetWare or Windows server is required in your network to support the Server Management database. The Server Management database currently cannot be created on a Linux or Solaris server. The database is optional, but is recommended for historical reporting and for reporting on policies distributed to multiple servers.

  The Server Management database stores log messages for reporting purposes, detailing the successes and failures of Distribution processing and policy statuses. The server where it resides must meet the system requirements listed in "Server Requirements" on page 43.

- ❑ To administer Policy and Distribution Services on Linux or Solaris servers using ConsoleOne, version 1.3.6 must be installed on a Windows workstation. ConsoleOne is required for managing ZENworks Server Management. For information on installing ConsoleOne, see "Installing ConsoleOne 1.3.6" on page 41.

- ❑ To administer Policy and Distribution Services on Linux or Solaris servers using iManager, version 2.0.2 or 2.5 must be installed on a Windows or NetWare server and be accessible from a Windows workstation, or installed on a Linux server where it can be run. iManager is optional, but recommended for managing Distributions using the Tiered Distribution view.

  For more information on installing iManager, see "Management-Specific Workstation Requirements" on page 40.

Role-Specific Server Requirements

Some servers might require additional configuration specific to the Server Management role they play:

- "Inventory Database Server" on page 51
- "Remote Management Servers" on page 52

Inventory Database Server

Following are the minimum requirements for the Inventory Database server only:

Component	Minimum Hardware and Software Requirements
Database	◆ Sybase ASA 8.0.2 is installed automatically when you choose to install the inventory database on: NetWare 6 SP3 NetWare 6.5 Windows 2000 Server SP4 Windows 2003 Standard Edition Windows 2003 Enterprise Edition ◆ Oracle* can be used as an alternative to Sybase. Oracle 8.1.7 on Windows 2000 Server SP4 Oracle9i release 2 on: Windows 2000 Server SP4 Windows 2003 Standard Edition Windows 2003 Enterprise Edition If you have ZENworks 6.5 Desktop Management SP2 installed, you can set up Inventory database on SLES 9 SP1 or Solaris versions supported by Oracle. If you want to achieve a better scalability of concurrent updates by Storer, you must apply Oracle 9i release 2 Patch 6 or later. ◆ MS SQL can be used as an alternative to Sybase: (Recommended) MS SQL version 2000 SP3a

IMPORTANT: Inventory database files should not be installed on an NFS-mounted volume of a NetWare server.

Remote Management Servers

For Remote Management servers, in addition to the basic ZENworks Server Management installation requirements, the following requirements must be met for full Remote Management functionality:

Requirement	Minimum Hardware and Software Requirements
Management Server	See Chapter 5, "Server Requirements," on page 43.
Managed Server	◆ NetWare 5.1/6/6.5 ◆ Windows 2000/2003 ◆ 2 MB hard disk space on the drive where Windows is installed ◆ Internet Explorer 5.x ◆ If you want to install the policy enforcer, you must have the required support pack installed (that contains the required JVM*) and Policy and Distribution Services on your managed server

We recommend that you install Remote Management from the *ZENworks 6.5 Server Management Program* CD. However, if you need to copy the CD structure to a hard drive, the path between the root of the hard drive and the first CD directory can contain only directory names that conform to the 8.3-character DOS file naming convention. If any long directory names exist in the path, the installation program does not work.

Before you can install ZENworks Server Management Remote Management, you must perform the following tasks:

Determining and Preparing the Management Server

After determining the Management Server, you must perform the following tasks:

- ❑ If you want to set up a policy-enabled Remote Management session for Windows 2000/2003 servers, make sure that you have installed the Distributor on the Management server. To install the Distributor, see "Installation on NetWare and Windows" on page 61.

Determining and Preparing the Managed Server

After determining which servers you want to remotely manage, you must perform the following tasks:

- ❑ Make sure that you have uninstalled the Remote Management component that ships with the NetWare client, if installed.
- ❑ If you want to set up Remote Management for Windows 2000/2003 servers through using the Server Remote Management policy, make sure that you have installed the Subscriber on the managed servers. To install the Subscriber, see "Installation on NetWare and Windows" on page 61.

  IMPORTANT: For Windows servers, the server's DNS short name must be the same as the server's name. Either rename Windows servers where the server's name does not match its DNS short name before running the installation, or do not select these servers for installing Remote Management.

Management and Monitoring Services

This section contains the minimum server requirements for Management and Monitoring Services:

General Server Requirements

ZENworks Server Management can run in a mixed eDirectory environment. For example, your network might have both eDirectory 8.*x* and NDS 6.*x* or 7.*x* installed.

For ZENworks 6.5 SP1 and earlier, eDirectory 8.6.2 or 8.7.1 or later is required for ZENworks Server Management so that its objects can be placed in the tree during installation of the product.

For ZENworks 6.5 SP2 and later, eDirectory 8.7.3 or later is required for ZENworks Server Management so that its objects can be placed in the tree during installation of the product.

The server on which the site-server is installed must have a Read-Write replica of eDirectory.

NetWare Server Requirements

Following are the common NetWare minimum requirements for Management and Monitoring Services:

Requirement	Management Server	Server Management Agent Server	Traffic Analysis Agent Server	Advanced Trending Agent Server
Novell eDirectory	8 or later (ZENworks 6.5 SP1 and earlier) 8.7.3 or later (ZENworks 6.5 SP2 and later)	N/A	N/A	N/A
Free Disk Space	170 MB free disk space; extra disk space might be required for discovery or alarm data	1 MB; extra disk space for trending information	1.5 MB; extra disk space for trending information	1.5 MB; extra disk space for trending information
Disk Space for ConsoleOne Snap-Ins (if installed on the server)	50 MB	N/A	N/A	N/A
IP Address	Static	Valid IP/IPX* address	Valid IP/IPX address	Valid IP address (IPX is not supported)
Server CPU Type	Pentium III	Processor meeting OS requirements	Processor meeting OS requirements	Processor meeting OS requirements

Following are the platform-specific NetWare minimum requirements for Management and Monitoring Services:

Requirement	Management Server	Server Management Agent Server	Traffic Analysis Agent Server	Advanced Trending Agent Server
NetWare 5.1: Support Pack Version	6	5	5	5
NetWare 6: Support Pack Version	3	2	2	2
NetWare 6.5: Support Pack Version	N/A	N/A	N/A	N/A
NetWare 5.1: Server RAM	384 MB	128 MB	128 MB	128 MB
NetWare 6: Server RAM	512 MB	256 MB	256 MB	256 MB
NetWare 6.5: Server RAM	1 GB	512 MB	512 MB	512 MB
NetWare 6.5 OES or NetWare 6.5 OES SP1	N/A	512 MB	512 MB	512 MB

Windows Server Requirements

DNS: All target Windows servers should have fully qualified DNS names. For more information, see "DNS Requirement" on page 38.

Following are the common Windows minimum requirements for Management and Monitoring Services:

Windows 2000 or Windows Server 2003 Requirement	Management and Monitoring Services: Server Management Agent	Management and Monitoring Services: Traffic Analysis Agent	Management and Monitoring Services: Advanced Trending Agent
Server CPU Type	250 MHz Pentium	250 MHz Pentium	250 MHz Pentium
Free Disk Space	2.5 MB with extra disk space for trending information	2.5 MB with extra disk space for trending information	2.5 MB with extra disk space for trending information
IP Address	Valid IP/IPX	Valid IP/IPX	Valid IP address (IPX is not supported)

Following are the platform-specific minimum requirements for Management and Monitoring Services:

Windows 2000 or Windows Server 2003 Requirement	Management and Monitoring Services: Server Management Agent	Management and Monitoring Services: Traffic Analysis Agent	Management and Monitoring Services: Advanced Trending
Service Pack Version (ZENworks 6.5 SP1 and earlier) [1]	3 or later	3 or later	3 or later
Service Pack Version (ZENworks 6.5 SP2 and later) [1]	4 or later	4 or later	4 or later
Novell eDirectory	N/A	N/A	N/A
Server RAM	128 MB	128 MB	128 MB

[1] No service pack is required for Windows Server 2003.

Linux Server Requirements

Management and Monitoring Services is not supported on Solaris.

Requirement	Linux
Operating System Version	Distributions supported: SUSE LINUX Enterprise Server 8 SUSE LINUX Enterprise Server 9 SUSE LINUX Standard Server 8 SUSE LINUX Standard Server 9 Red Hat Advanced Server 2.1 Red Hat Enterprise Server 2.1 Red Hat Enterprise Linux AS 3 Red Hat Enterprise Linux ES 3 Perl package v5.6.1 or above must be installed
Machine Type	IBM compatible PC
Supported Processors	Intel for Linux
Server RAM	128 MB minimum; 256 MB recommended
Server CPU Type	200 MHz Pentium or faster
Free Space for Management and Monitoring Services Files	10 MB

Requirement	Linux
SNMP Package for Management and Monitoring Services	net-snmp rpm package version 5.0.6 or above must be installed and must support the dlmod option or ucd-snmp (ucdsnmp) rpm package version 4.2.6 or above must be installed and must support the dlmod option **NOTE:** The snmp agent installed on the device must support the dlmod option. To check, enter: `snmpd -H 2>&1 | grep dlmod` If this returns an empty line, the dlmod option is not supported. Check with your distributor on how to acquire an SNMP version that supports the dlmod option.

Beyond the Linux server where you are installing Management and Monitoring Services, the following requirement must be met somewhere in your network:

- ❑ To administer Management and Monitoring Services on Linux servers using ConsoleOne, version 1.3.6 must be installed on a Windows workstation. ConsoleOne is required for managing ZENworks Server Management. For information on installing ConsoleOne, see "Installing ConsoleOne 1.3.6" on page 41.

Role-Specific Server Requirements

Before you start installing the Management and Monitoring Services software, you must prepare the target Management server, Managed servers, the management console, and the Traffic Analysis agent. For details on preparing each of the systems, refer to the following sections:

Following are the minimum requirements and preparations for Management and Monitoring Services servers:

- "Management Server" on page 56
- "Managed Servers" on page 57
- "Traffic Analysis Agent" on page 57
- "Advanced Trending Agent" on page 57

Management Server

Before you install the Management and Monitoring Services software, you must verify the following:

- Verify that you have access to Windows 2000/XP to install the Management server and Managed servers.
- Verify that all replicas on your tree are in sync. If they are not, errors can occur when installing ZENworks eDirectory objects. It is required that you have a read/write replica of the eDirectory tree on your server.
- Verify that the sys:\etc\hosts file has the proper entry to map the hostname to the IP address.
- Close all applications running on the console to ensure that the installation goes smoothly.

- (Recommended) Verify that Sybase is not running on the server where you will be installing the ZENworks database.

  NOTE: Installing Management and Monitoring Services or Policy and Distribution Services to a server automatically starts Sybase. If you are installing Management and Monitoring Services to a server where you have already installed Policy and Distribution Services, you must stop the Policy and Distribution Services and quit Sybase at the server before installing other services. To quit Sybase, go to the server console, and enter `q` on the Sybase screen.

Managed Servers

Before you install the Management and Monitoring Services software, you must verify the following:

- Authenticate to the tree that contains all the NetWare and Windows 2000/2003 that you want to manage.

  TIP: You do not need to map a drive to all the managed servers, but you need Admin or equivalent rights to the managed servers.

- For Windows 2000/2003 servers, create a shared directory on any drive before installing the management agents, and assign all rights to the share.

  By default, the Windows administrative shares, such as C$ and D$, cannot be used for installing the management agents. You have to manually create a share for installing the agents.

- For Windows 2000/2003, install and configure the SNMP service. For information, see Appendix D, “Installing and Configuring the Windows SNMP Service,” on page 325.

Traffic Analysis Agent

Before you install the software, you must:

- Allocate the appropriate amount of free disk space. To capture one year of trend data, you must have at least 25 MB of free disk space on the server for each monitored Ethernet adapter, and at least 50 MB of disk space on the server for each monitored FDDI ring adapter or token ring adapter.
- Install promiscuous mode LAN drivers on NetWare or promiscuous mode NDISLAN drivers on Windows 2000/2003.
- For Windows 2000/2003, bind TCP/IP to the network segments monitored by the agent.
- For Windows 2000/2003, install and configure the SNMP service. For information, see Appendix D, “Installing and Configuring the Windows SNMP Service,” on page 325.

Advanced Trending Agent

Before you install the Management and Monitoring Services software, you must verify the following:

- Authenticate to the tree that contains all the NetWare and Windows 2000/2003 servers that you want to manage.

  TIP: You do not need to map a drive to all the managed servers, but you need Admin or equivalent rights to the managed servers.

- Allocate the appropriate free disk space. For example, to capture one year of trend data, you must have at least 50 MB of free disk space on your server.

- For Windows 2000/2003 servers, create a shared volume on the drive before installing the management agents.
- For Windows 2000/2003, install and configure the SNMP service. For information, see Appendix D, “Installing and Configuring the Windows SNMP Service,” on page 325.

III Installation

The following sections provide instructions for installing the various components of Novell® ZENworks® 6.5 Server Management:

- Chapter 6, "Policy-Enabled Server Management Installation," on page 61

  Policy-Enabled Server Management (Policy and Distribution Services, Server Inventory, and Remote Management) can be installed on NetWare® and Windows* servers using a graphical interface that is run from the *ZENworks 6.5 Server Management Program* CD.

  Policy and Distribution Services can also be installed on Linux* and Solaris* servers using a script that is available on the *ZENworks 6.5 Server Management Program* CD. Server Inventory and Remote Management cannot be installed on Linux and Solaris.

- Chapter 7, "Management and Monitoring Services Installation," on page 111

  Management and Monitoring Services can be installed on NetWare and Windows servers using a graphical interface that is run from the *ZENworks 6.5 Server Management Program* CD.

  Management and Monitoring Services can also be installed on Linux and Solaris servers using a script that is available on the *ZENworks 6.5 Server Management Program* CD.

To upgrade a previous version of ZENworks to the latest ZENworks support pack, see "Upgrade" on page 117.

For issues dealing with interoperability between ZENworks 6.5 Server Management and ZENworks 6.5 Desktop Management, see "Interoperability" on page 259.

If you want to reinstall ZENworks 6.5 Server Management (which resets configuration information), for NetWare and Windows servers you can use the GUI installation program; for Linux and Solaris servers you should use the installation script (see "Installation on Linux and Solaris" on page 95).

6 Policy-Enabled Server Management Installation

This section provides instructions to help you install Novell® ZENworks® Policy-Enabled Server Management (Policy and Distribution Services, Server Inventory, and Remote Management) where ZENworks has not been previously installed.

If a previous version of ZENworks for Servers exists on any of your servers, you must upgrade those servers. For instructions, see "Upgrade" on page 117.

If you have a mixed operating system environment (such as NetWare, Windows, and Linux or Solaris), you should install to the NetWare® and Windows servers first, because you may need the eDirectory™ instance installed on the NetWare or Windows server for creating the ZENworks eDirectory objects.

You can also use the installation program to reinstall a clean version of ZENworks 7 over itself, such as for resetting a test environment, because reinstalling resets configurations to the defaults that you establish when running the installation program.

Use the following sections to install ZENworks 6.5:

- "Installation on NetWare and Windows" on page 61
- "Installation on Linux and Solaris" on page 95
- "Post-Installation Tasks" on page 98

Installation on NetWare and Windows

The following sections provide instructions for installing Policy-Enabled Server Management to NetWare or Windows servers:

- "Policy-Enabled Server Management" on page 61
- "Web-Based Management for Policy and Distribution Services" on page 90

Policy-Enabled Server Management

To install Policy-Enabled Server Management, do the following in order:

1. "Pre-Installation Checklist" on page 62
2. "Starting the Installation Program" on page 63
3. "Extending the Schema" on page 65
4. "Policy-Enabled Server Management" on page 68
5. "eDirectory Tree for Creating Objects" on page 72
6. "Server Selection" on page 73
7. "File Installation Locations and Options" on page 78

8. “Distributor Object Properties” on page 79
9. “Subscriber Object Properties” on page 81
10. “Database Settings” on page 82
11. “Inventory Standalone Configuration” on page 84
12. “Inventory Proxy Service Configuration” on page 85
13. “Remote Management Configuration” on page 86
14. “Policy and Distribution Services Database Logging” on page 87
15. “Installation Summary” on page 88
16. “Verifying That the Policy and Distributions Services Agents Are Loaded” on page 89

Pre-Installation Checklist

- ❑ Review the Readme for any last-minute information concerning installation.

  Readme_servers.html is located in the \readmes\en directory on the *ZENworks 6.5 Server Management Program* CD, and is also accessible from an installation menu option.

- ❑ Make sure you have fulfilled all of the installation requirements in “Preparation” on page 25.

- ❑ To install from a hard drive instead of the *Program* CD, copy the CD structure to a location on your installation machine’s hard drive.

  We recommend that you install Server Management from the *Program* CD.

  IMPORTANT: If you copy the *Program* CD structure to the installation machine’s hard drive, the path between the root of the hard drive and the first CD directory can contain only directory names that conform to the 8.3-character DOS file naming convention. If any long directory names exist in the path, the installation program will not work.

- ❑ If you are reinstalling Server Inventory, you must perform the following tasks before reinstalling:

  1. Identify the servers that need Server Inventory reinstalled.

  2. Stop the Inventory service.

     - On a NetWare Inventory server: At the server console prompt, enter **`sys:\system\invstop.ncf`**.

       NOTE: If you do not want the Sybase database to be stopped automatically when you stop the Inventory services, comment the `Unload dbsrv8.nlm` line in the sys:\system\invstop.ncf file.

     - On a Windows 2000/2003 Inventory server: In the Control Panel, double-click Administrative Tools > double-click Services > select Novell Inventory Service > click Stop.

  3. Stop the Inventory database.

     - On NetWare: At the Sybase console prompt, press the Q key.
     - On Windows 2000/2003: In the Control Panel, double-click Administrative Tools > double-click Services > select Novell Database - Sybase > click Stop.

  4. If Java has not been unloaded on the target NetWare servers, unload java.nlm (at the server console, enter **`java -exit`**).

  IMPORTANT: This command stops all Java processes running on the server. Verify that all Java processes can be stopped while you are installing Server Management.

- ❑ If you have any instance of Novell ConsoleOne® running on a target server via a mapped drive from a workstation, or running from the installation machine, exit those instances of ConsoleOne before running the installation program.

  If ConsoleOne is running on a target server via a mapped drive on your installation machine, or it is running from the installation machine, the ZENworks Server Management snap-ins for ConsoleOne will fail to be installed at those locations.

- ❑ On the workstation you will use to install Server Management, if you have not already done so, log in to all eDirectory trees where you will be installing Server Management software.

  Authentication: You will automatically be authenticated to all of the target NetWare servers in the trees you are logged in to during installation, so that you can select those servers for installing the Server Management software.

  Schema Extension: You will be extending the schema for ZENworks Server Management on one of these trees. Regardless of where a target server resides, its associated Distributor or Subscriber object is created in the tree where you extended the schema.

  Inventory Trees: Make sure that the eDirectory trees with servers where you want to install the Inventory server or the Inventory database components have the ZENworks Server Management schema extended prior to installing the Inventory software.

  Also, If you want to install Proxy Service along with other Server Inventory or Policy and Distribution Services components to different servers residing on different eDirectory trees, log into the tree having the server where you want to install the other Server Inventory or the Policy and Distribution components.

- ❑ If you will install software to any Windows servers, make sure you have authenticated to the servers or a domain containing the servers.

  This enables you to select Windows servers for installing the Distributor and Subscriber software. However, if you are not logged in to a Windows server before starting the installation, you can authenticate during installation using a username and password in the Add Server dialog box where you select the Windows server for installation.

- ❑ If you will install software to any Windows servers, make sure you have closed the Services window on each Windows server.

  The installation program automatically stops all ZENworks Server Management services. However, the Server Management services cannot be registered if the Services window is left open during installation to the server.

- ❑ If you will be installing the Inventory server component, make sure that the name of the server where you will install the Inventory server and the tree in which the server resides does not contain "#".

Continue with "Starting the Installation Program" on page 63.

Starting the Installation Program

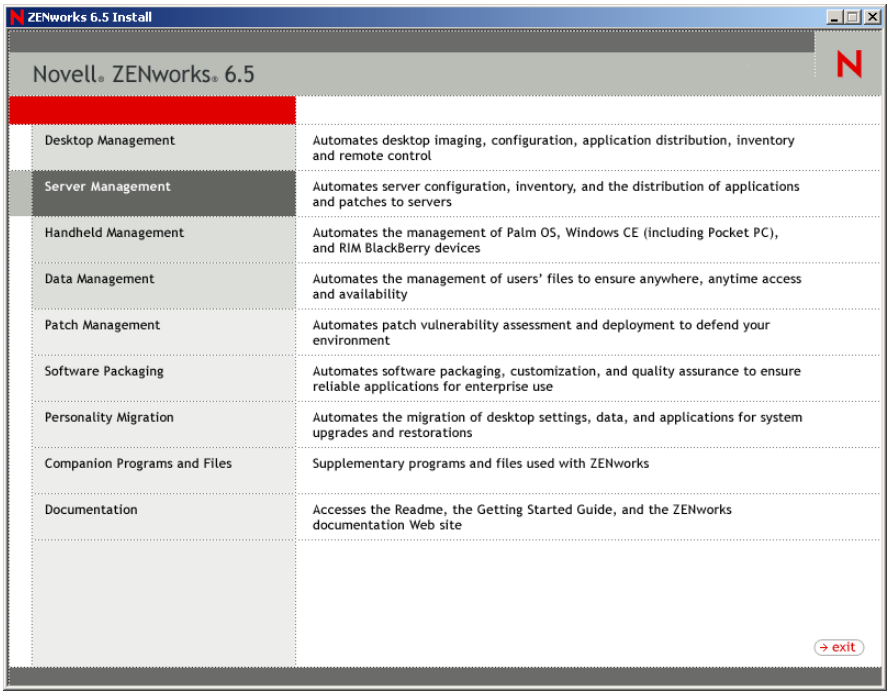
1 Do one of the following to display the main installation menu:

1a If you copied the contents of the *ZENworks 6.5 Server Management Program* CD to a hard drive, run winsetup.exe from that hard drive location.

IMPORTANT: If you copied the *Program* CD structure to the installation machine's hard drive, the path between the root of the hard drive and the first CD directory can contain only directory names that conform to the 8.3-character DOS file naming convention. If any long directory names exist in the path, the installation program will not work.

1b On the installation machine, insert the *ZENworks 6.5 Server Management Program* CD.

The main menu is displayed. If it is not automatically displayed after inserting the CD, run winsetup.exe at the root of the CD.



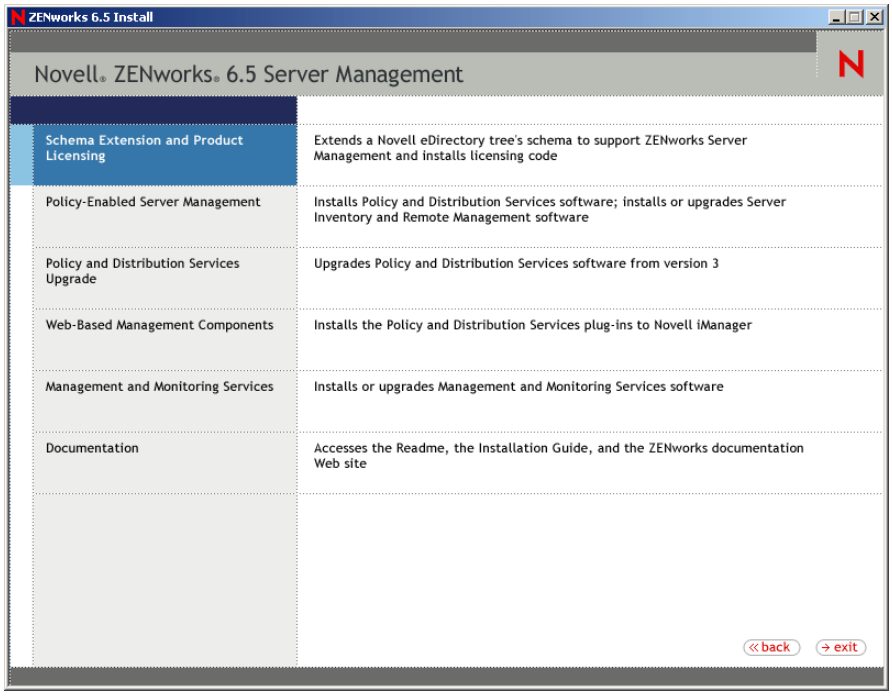
2 Select the Server Management option.

3 Continue with "Extending the Schema" on page 65.

Extending the Schema

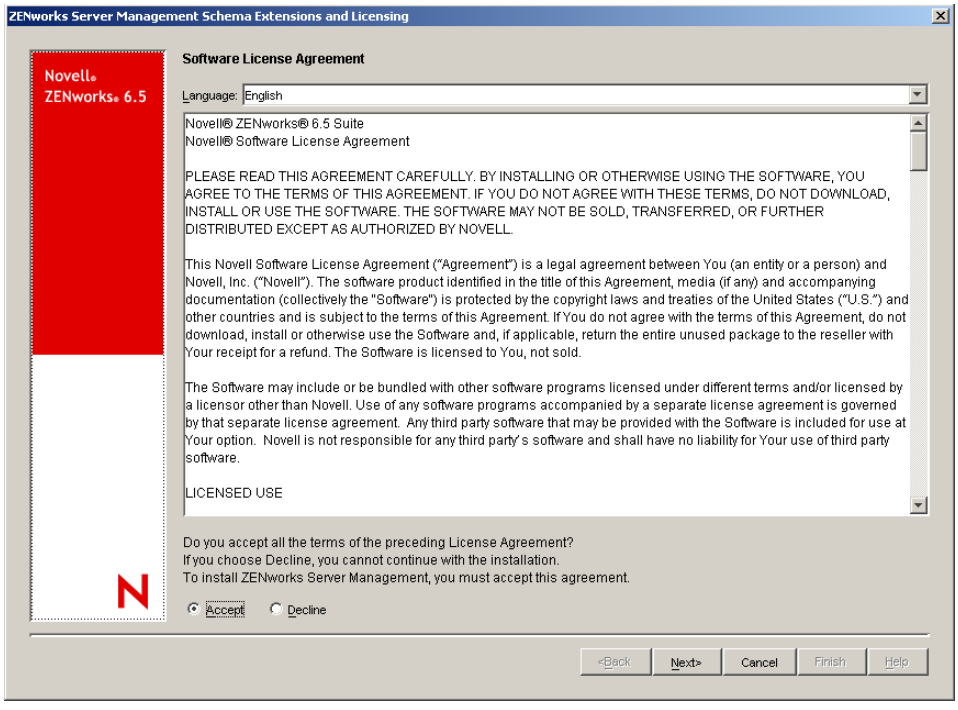
The schema must be extended on the eDirectory tree where you want to create the ZENworks objects.

This menu option can also be used to update a 90-day Evaluation License to a full license by identifying the tree where ZENworks objects have been created and entering a license code.

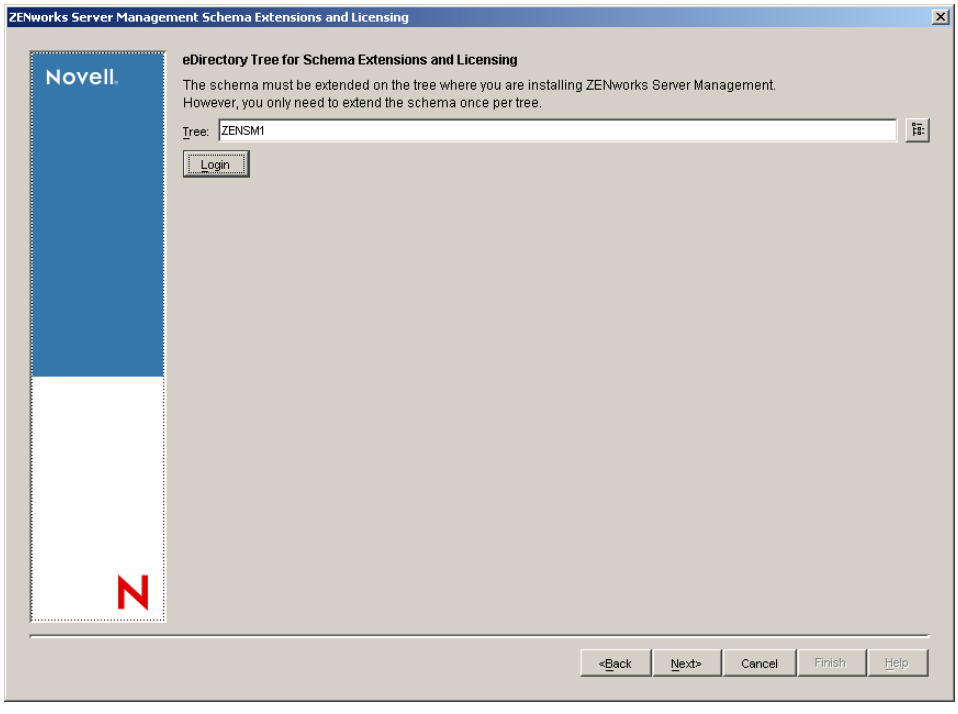


To extend the schema:

1. Select the Server Management option to display the ZENworks Server Management menu.
2. To extend the schema for ZENworks Server Management objects, click Schema Extensions and Product Licensing to display the ZENworks License Agreement page.



3 If you agree with the Software License Agreement, click Accept, then click Next to display the eDirectory Tree for Creating Objects page; otherwise, click Decline and Cancel to exit.

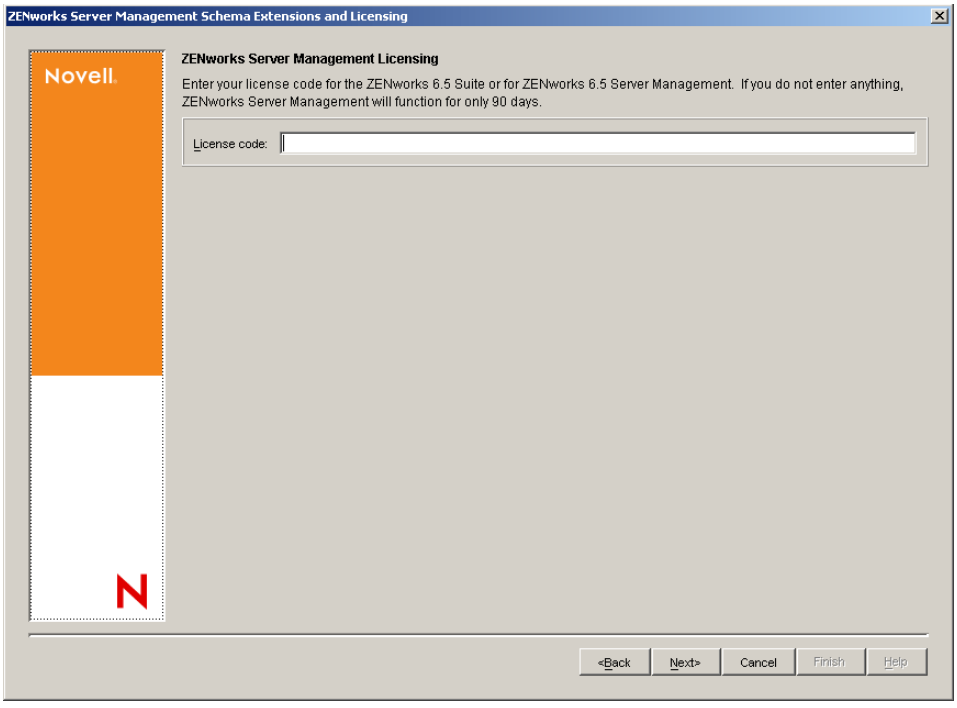


4 Select the tree where you want the ZENworks objects created, then click OK to display the ZENworks Server Management Licensing page.

The Login button allows you to log into the tree if you are not already authenticated.

ZENworks Server Management schema extensions need to be done only once for a tree. If you have multiple trees, you need to extend the schema only on the trees where you will be installing ZENworks objects.

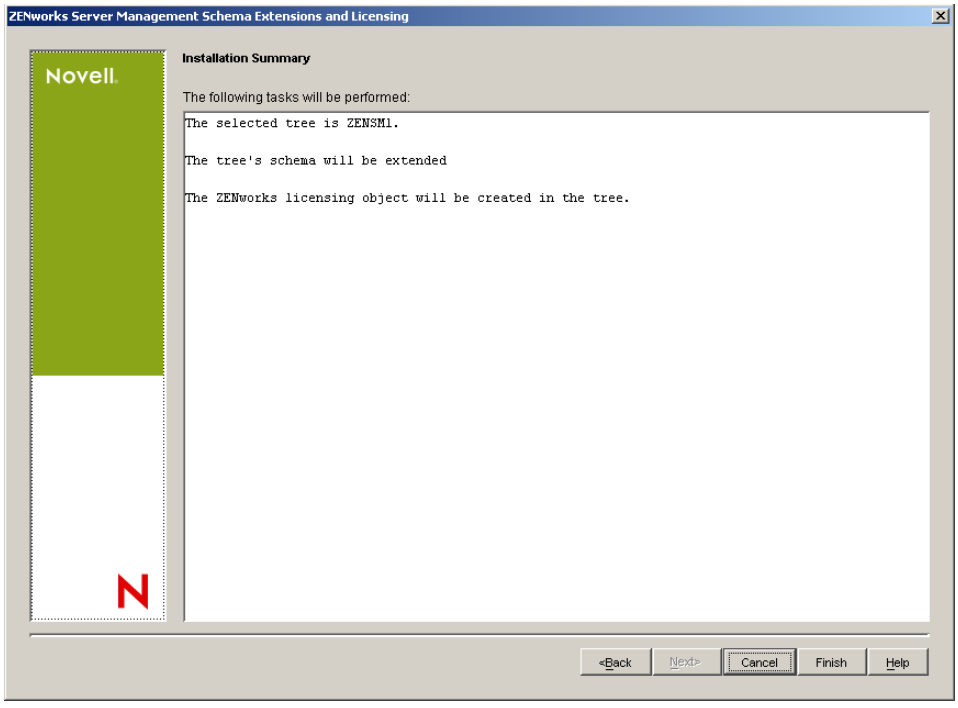
Schema extensions for all ZENworks Server Management components (Policy and Distribution Services, Server Inventory, Remote Management, and Management and Monitoring Services) are installed at the same time when extending the schema.



5 Enter a license code, or leave the field blank and click Next to display the Summary page.

If you leave the field blank, the 90-day Evaluation License is in effect. You can return to this page at a later date to enter a license code.

You should have received the license code when you purchased the product. If not, contact Novell, Inc. (http://www.novell.com/licensing).

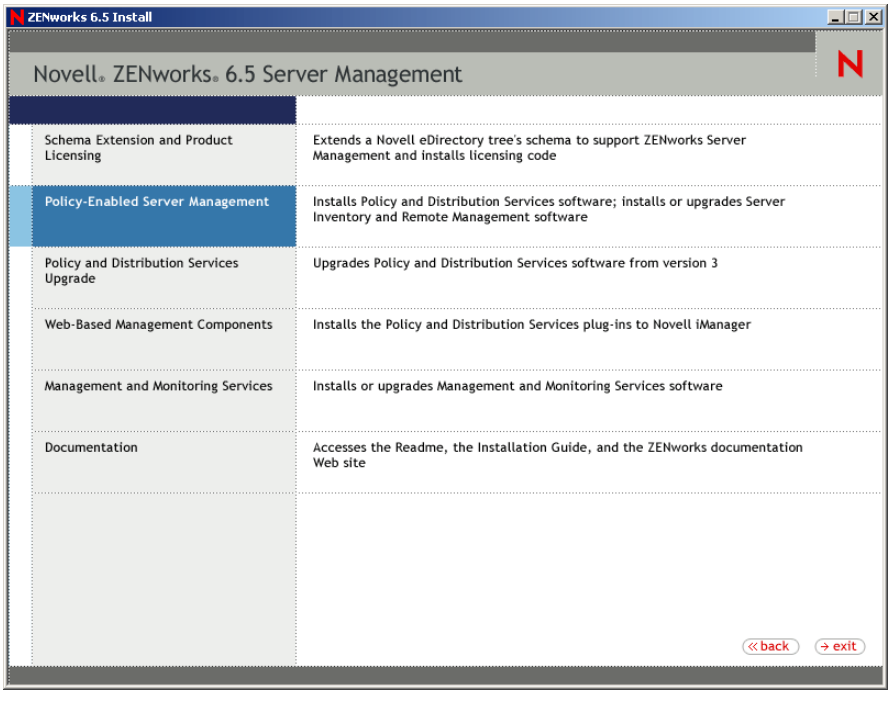


6 To extend the schema, click Finish.

After the schema extension process has completed, the main installation menu is displayed.

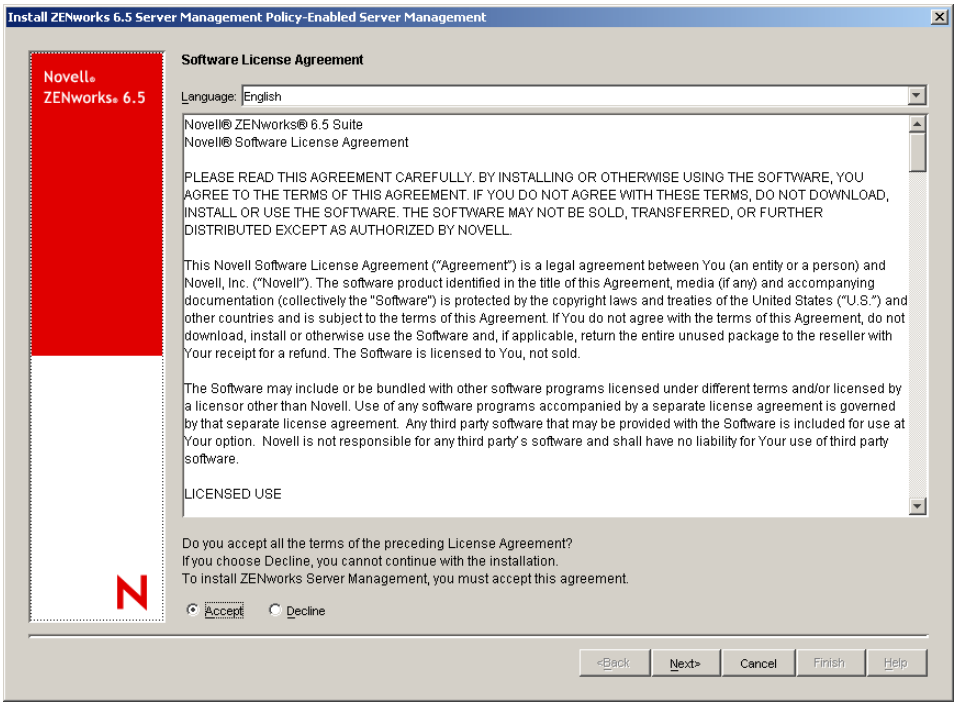
7 Continue with "Policy-Enabled Server Management" on page 68.

Policy-Enabled Server Management

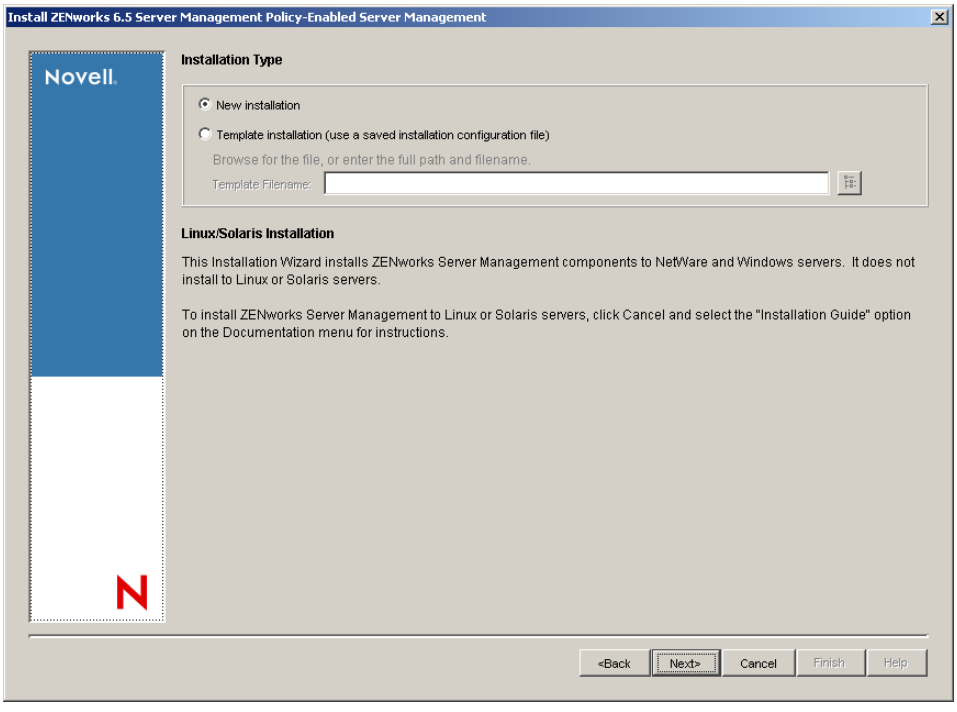


1 Click Policy-Enabled Server Management to start the installation program.

The License Agreement page is the first installation page displayed when the program has loaded.



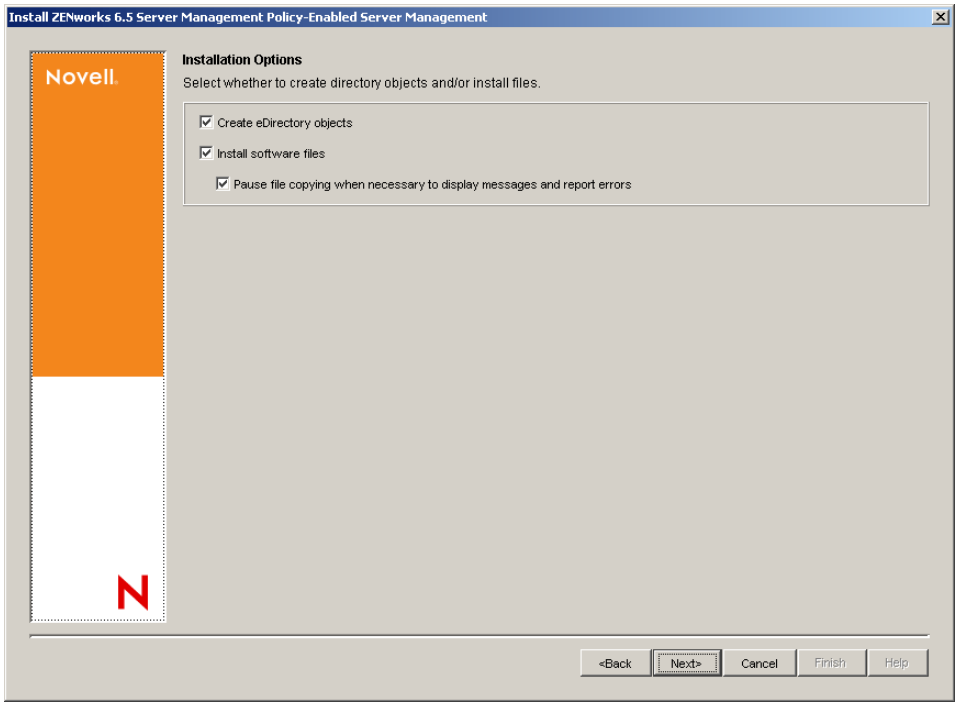
2 If you agree with the Software License Agreement, click Accept, then click Next to display the Installation Type page; otherwise, click Decline and click Cancel to exit.



3 On the Installation Type page, click Next to perform a new installation and display the Installation Options page.

or

To install from a saved installation configuration file, click Template Installation, browse for or specify the path and the filename, then click Next.



4 On the Installation Options page, click Next to accept the defaults and display the eDirectory Tree for Creating Objects page, or configure the options, then click Next.

- **Create eDirectory Objects:**
  - For a first-time installation, this check box must be selected.
  - Select this check box if you want to reinstall Distributor software. This is required for re-creating the Distributor's eDirectory object.
  - Select this check box if you want to install additional Subscribers. This creates the Subscriber's eDirectory object, installs its Subscriber software, and assigns its trusted tree to be the tree that you select in the next installation page.
  - Deselect this check box if you only want to reinstall Subscriber software, such as to a server that already had a Subscriber object created for it.
  - Deselect this check box if you only want to install Subscriber software to a server that does not have a server object in any eDirectory tree, such as a Windows server that is in a Microsoft domain. You can identify its trusted tree in a later installation page.
  - If you want to independently install the ConsoleOne snap-ins, the Inventory Agent, or the Proxy Service, deselect the Create eDirectory Objects check box. You do not need to access an eDirectory tree to install these items.
  - If you install or reinstall the Inventory sever or database, you must select the Create eDirectory Objects check box.

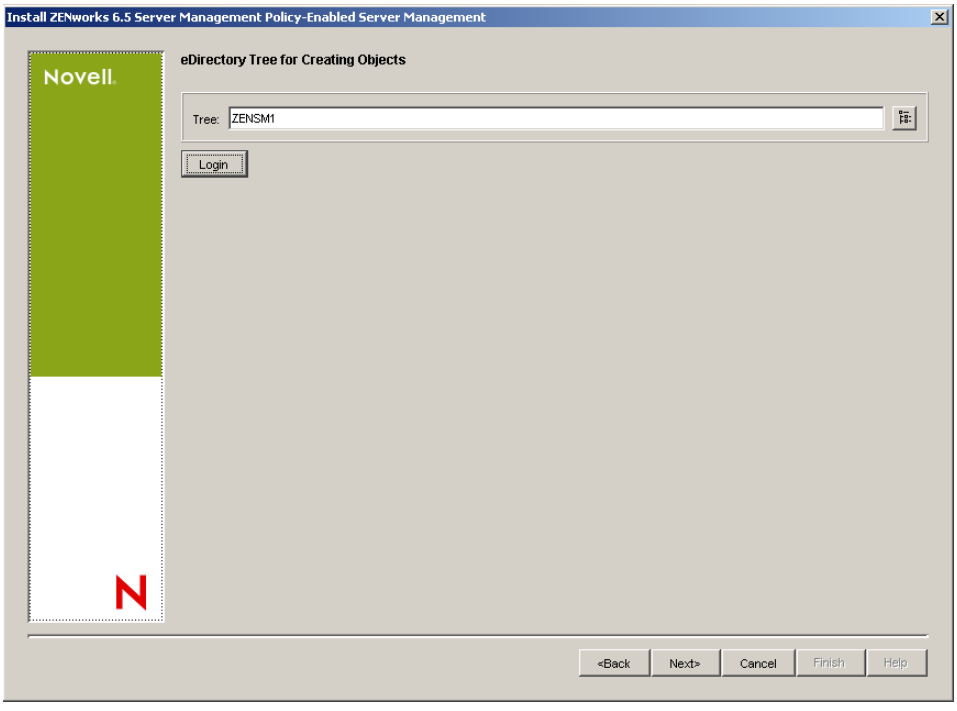
- **Install Software Files:** Must be selected to install the Distributor or Subscriber software. If you are only installing eDirectory objects, deselect this check box. If you install or reinstall the Inventory sever or database, you must select the Install Software Files check box.
- **Pause File Copying When Necessary to Display Messages and Report Errors:** By default, this check box is selected. If you want to have an unattended installation (and check the installation logs later), deselect this check box.

5 Continue with:

- "eDirectory Tree for Creating Objects" on page 72, if the Create eDirectory Objects check box is selected.
- "Server Selection" on page 73, if the Create eDirectory Objects check box is deselected.

eDirectory Tree for Creating Objects

This page is displayed only if you selected the Create eDirectory Objects option on the Installation Options page.



1 Browse for the target tree, click OK, then click Next to display the Server Selection page.

This is the tree where you want the ZENworks objects to be created during installation.

This installation page displays only if you selected installation of ZENworks Server Management objects.

This automatically becomes the trusted tree for all Subscriber servers selected in the next installation page. The trusted tree is where the Subscriber receives its configuration updates.

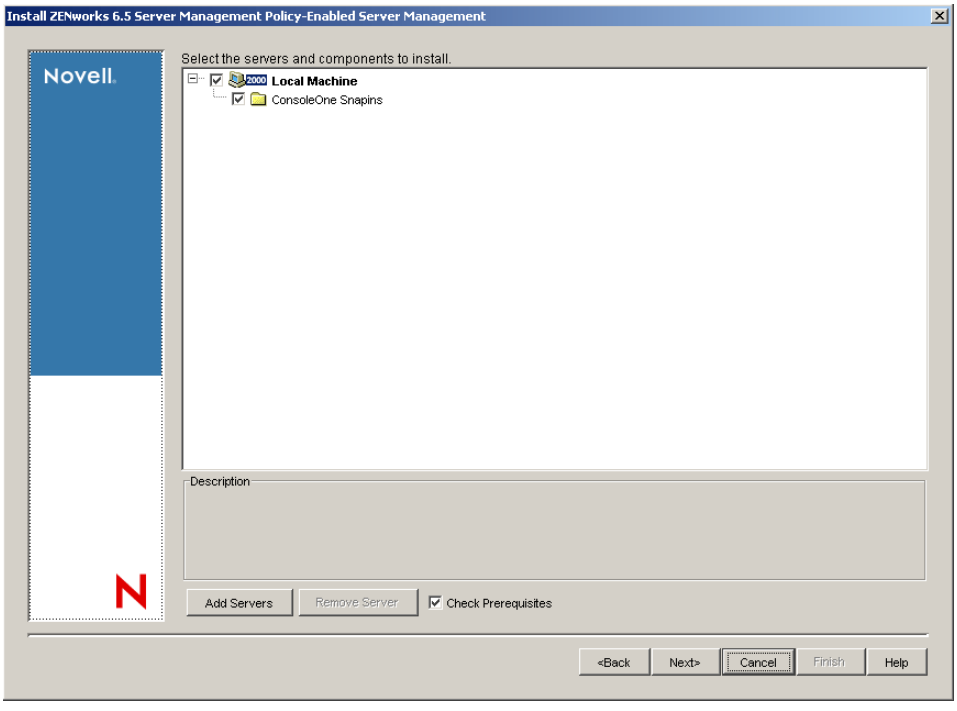
IMPORTANT: If you selected the Create eDirectory Objects check box on the Installation Options page, both NetWare and Windows servers will have eDirectory Subscriber objects created in the tree that you identified in the eDirectory Tree for Creating Objects page. However, if you deselected this check box, you should identify a trusted tree for each Subscriber in the File Installation Paths and Options page.

On the File Installation Paths and Options page, you can create different configurations for different sets of objects. Therefore, you can select objects that might have different installation paths and different trusted trees.

For more information on trusted trees, see "Subscriber Software Configuration and Trusted Trees" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

2 Continue with "Server Selection" on page 73.

Server Selection



1 On the Server Selection page, if you installed ConsoleOne on your installation machine, enable the ConsoleOne Snap-ins check box for Local Machine.

Local Machine refers to the Windows machine you are using to perform the installation.

Workstation: If the local machine is a Windows 2000/XP workstation, you can install only the ZENworks Server Management ConsoleOne snap-ins for Policy and Distribution Services, Server Inventory, and Remote Management.

Server: If the local machine is a Windows 2000 server (with or without eDirectory installed), you can install the following:

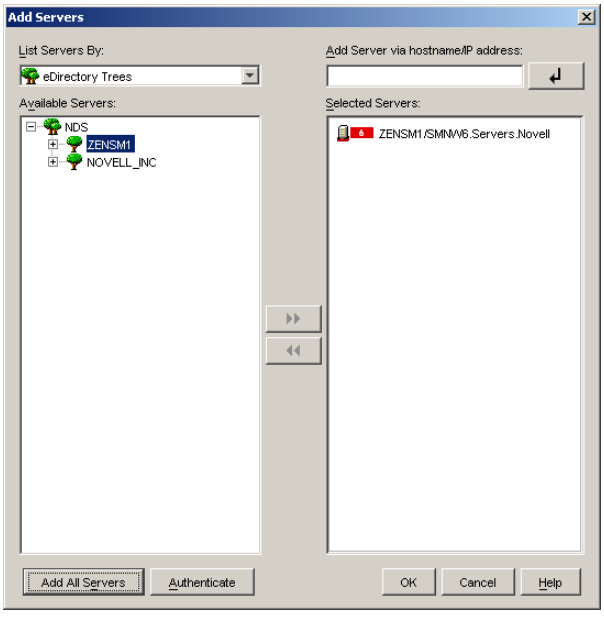
- ZENworks Server Management ConsoleOne snap-ins for Policy and Distribution Services, Server Inventory, and Remote Management
- Remote Management Agent
- Inventory Agent
- Inventory Proxy service
- Inventory database

  IMPORTANT: If you choose to install the Inventory database on a server without eDirectory installed, the database objects are not created automatically. You must manually create the

database objects. For more information, see "Setting Up the Sybase Inventory Database" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

The Inventory server can only be installed on a Windows server that also has eDirectory installed.

2 On the Server Selection page, click Add Servers to display the Add Servers dialog box.



For more information on using the Add Servers dialog box, click its Help button.

3 Browse for the servers where you want to install Server Management software, then click OK.

IMPORTANT: You cannot add a cluster object using this field, or you will receive an "Unknown Host" error. Instead, add cluster objects by browsing for the objects and adding them into the Available Servers box.

The selected servers are displayed below the Local Machine option on the server selection page.

Add Servers dialog box: The Add Servers option displays the Add Servers dialog box, where you can browse for both NetWare and Windows servers by selecting either NetWare trees or Microsoft domains from a drop-down box. You can select servers individually or in multiples (using Ctrl and Shift). You can also select groups of servers by selecting eDirectory containers, Windows workgroups, and Microsoft domains.

IMPORTANT: If you choose to remotely install the Inventory Agent or the Remote Management Agent on a Windows 2003 server configured as Domain Controller, you must specify the hostname or the IP address of the server in the Add Server Via Hostname/IP Address field.

To install to a Windows server that does not have Novell Client running on it (and therefore you cannot install to it locally), browse for and select the Windows server that doesn't have the client so that you can install ZENworks 6.5 Server Management to it.

The Inventory server can only be installed on a Windows server that also has eDirectory installed.

You can choose to install the Inventory database on a server that does not have eDirectory installed, but the database objects will not be created automatically. You must manually create

the database objects. For more information on how to manually create the database objects, see the *Novell ZENworks 6.5 Server Management Administration Guide*.

Make sure you have selected all of the NetWare and Windows servers before exiting the Add Servers dialog box.

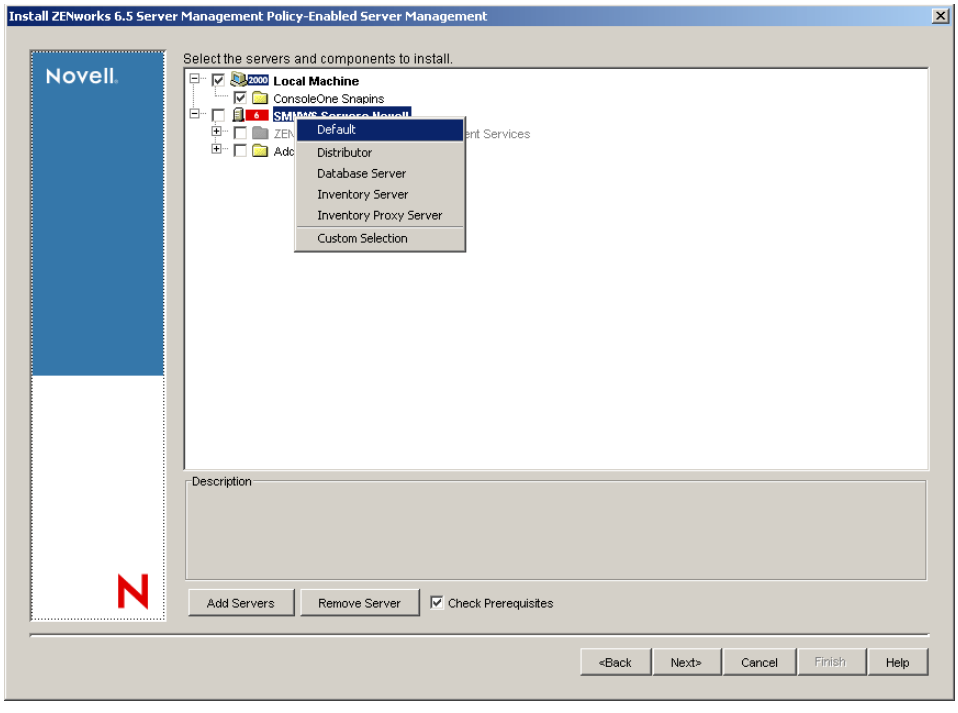
Also browse for the workstations where you want the ConsoleOne snap-ins installed. You must have previously installed ConsoleOne to each of these workstations.

External Subscribers: The installation program requires an eDirectory context for placing Subscriber objects. If you add a Windows server from a Microsoft domain that does not have an eDirectory object, in another installation page you are asked to browse and select an eDirectory context where the Subscriber object can be created and associated with the Windows server.

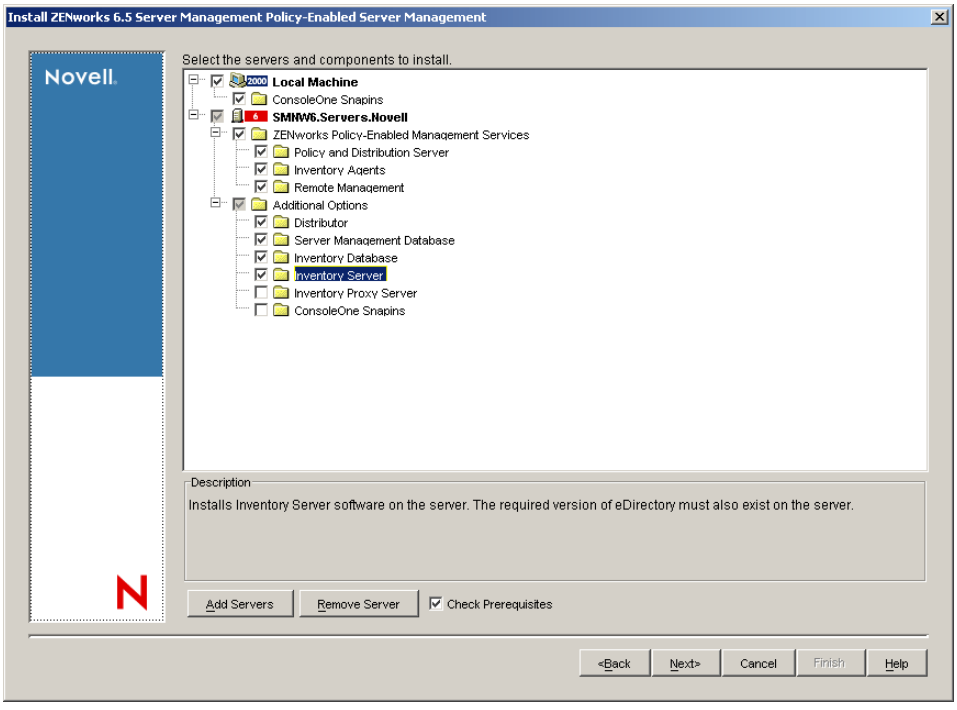
However, if you intend for this Windows server to be used only as an External Subscriber, do not install the Subscriber object and software at that time. Instead, you can later install the Subscriber software locally on that machine (which will not have a Subscriber object), then create the External Subscriber object for it in ConsoleOne. For more information on External Subscribers, see "External Subscribers" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

4 Configure each server listed on this page.

TIP: To quickly configure a specific role or set of roles for one or more servers, select them, right-click the selection, then select the role. The options that apply to that role are automatically selected. Repeat for additional roles.



The following options are available for each server listed.



ZENworks Policy-Enabled Management Services

The following three options are all selected by default. If you want to install the Inventory Agent, you must also select the Policy and Distribution Server option.

- **Policy and Distribution Server:** For each server that you want to be a Subscriber, select this check box.
- **Inventory Agents:** Select this check box for each server that you want to inventory.
- **Remote Management:** Select this check box for each server that you want to remotely manage.

Additional Options

The installation program detects whether these options are already installed on a target server and dims the option label. You can still select the check box to reinstall the component.

- **Distributor:** The Subscriber service is installed automatically to all target servers. Select this check box to also make a server a Distributor.
- **Server Management Database:** This is the Policy and Distribution Services database that the Distributor logs to. You should install it on the same server as the Distributor in order to minimize network traffic for database logging.

  IMPORTANT: You can install the database to multiple servers per run of the installation program; however, you can only install one database per server. On the Database Settings page, you will be able to individually configure each database that is being installed. On the Database Logging page, you will identify which of the databases being installed is to be the one database for initial logging.

- **Inventory Database:** Select this check box for the servers where you want to install the Inventory database to run on Sybase.

  IMPORTANT: If you want to use the Inventory database with an existing Oracle or MS SQL setup, do not select this option during the Server Inventory installation. Follow the steps in "Setting Up the Inventory Database" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

- **Inventory Server:** Select this check box for the server where you want to run the Inventory services.

  WARNING: If you choose to install on servers that are not residing in the tree, but you have logged into the tree and chose to create eDirectory objects, the installation program also creates eDirectory objects in this tree.

- **Inventory Proxy Server:** Select this check box for the servers where you want to install and configure an XML Proxy server.

  If you want to send or roll up the scan data to an Inventory server that is across the firewall, you must configure a NetWare or Windows server to run the XML Proxy service.

- **ConsoleOne Snap-ins:** For any server where you installed ConsoleOne, enable the ConsoleOne Snap-ins check box.

  IMPORTANT: ZENworks Server Management does not support using a server's console to run an instance of ConsoleOne installed on that NetWare server. To use the server's installation of ConsoleOne, you must map a drive from a workstation to that server and run ConsoleOne from the workstation.

You can configure a group of selected servers with the same options by selecting the group and right-clicking the group. This displays the Custom Selection dialog box.

5 When you have finished configuring the selected servers, click Next to display the File Installation Paths and Options page.

If you have invalid DNS names, you could receive an error message asking whether to continue installing using IP addresses. Either fix the DNS name problems, or continue by using IP addresses for the affected servers. For information on configuring DNS, see Appendix C, "Ensuring Successful DNS Name Resolution," on page 319.

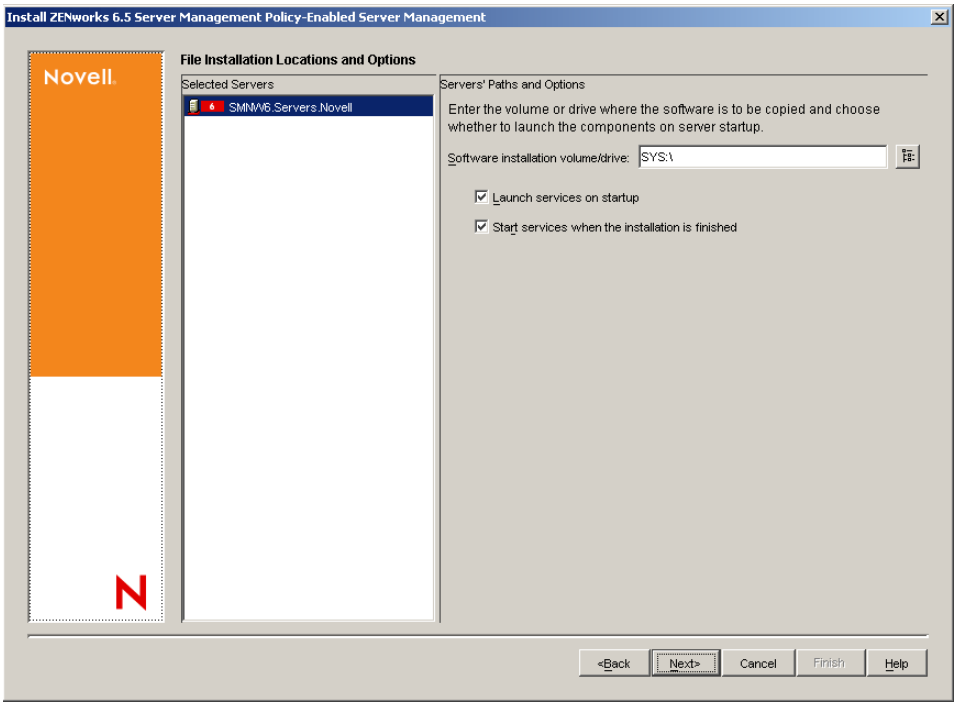
IMPORTANT: 1) During installation, ZENworks Server Management updates .ncf files with installation path information. Because NetWare uses a DOS code page instead of a Windows code page, double-byte or extended characters cannot be used in paths, or the .ncf files will not execute. Therefore, do not use double-byte or extended characters in any part of an installation path, including a NetWare volume name.

2) If you continue with only IP addresses, you must manually enter the correct DNS hostname on the Other tab in the server object properties of these servers in order to use Server Management.

6 Continue with "File Installation Locations and Options" on page 78.

File Installation Locations and Options

This page is displayed only if you chose the ZENworks Policy-Enabled Management Services option for one or more servers. This includes Policy and Distribution Services, Server Inventory, and Remote Management.



1 Click Next to accept the defaults on the File Installation Locations and Options page, or configure the following fields, then click Next to display the Distributor Object Properties page.

Software Installation Volume/Drive: If you change the beginning of the path to a different volume or drive, then all subsequent paths displayed in the installation program automatically matches your change.

IMPORTANT: Do not use double-byte or extended characters in any part of an installation path, including a NetWare volume name.

Each field on this page is configurable per server. You can make configuration changes server by server, or select multiple servers and make the same configuration changes to all of them. For example, you might want the same installation volume for all of your NetWare servers.

Trusted Tree: If you deselected installation of eDirectory objects for ZENworks Server Management, an empty Trusted Tree field is displayed and must be filled in.

When you install the Subscriber software to a server in another tree or in a Microsoft domain, and you do not want to create a Subscriber object in your Distributor's tree, you must identify the trusted tree for the Subscriber server.

The trusted tree has two purposes:

- To locate a Distributor that can give the Tiered Electronic Distribution configuration information to the Subscriber
- To indicate which tree to accept policies from

If you do not select a tree to be recognized as the Subscriber server's trusted tree during installation of only the Subscriber software (no object installation), your Policy Package Distributions cannot extract and be enforced on that Subscriber server, because policies often point to objects in a tree.

Launch Policy and Distribution Services on Startup: Leave this check box selected to have the installation program configure the startup processes to automatically launch Policy and Distribution Services any time a server is started.

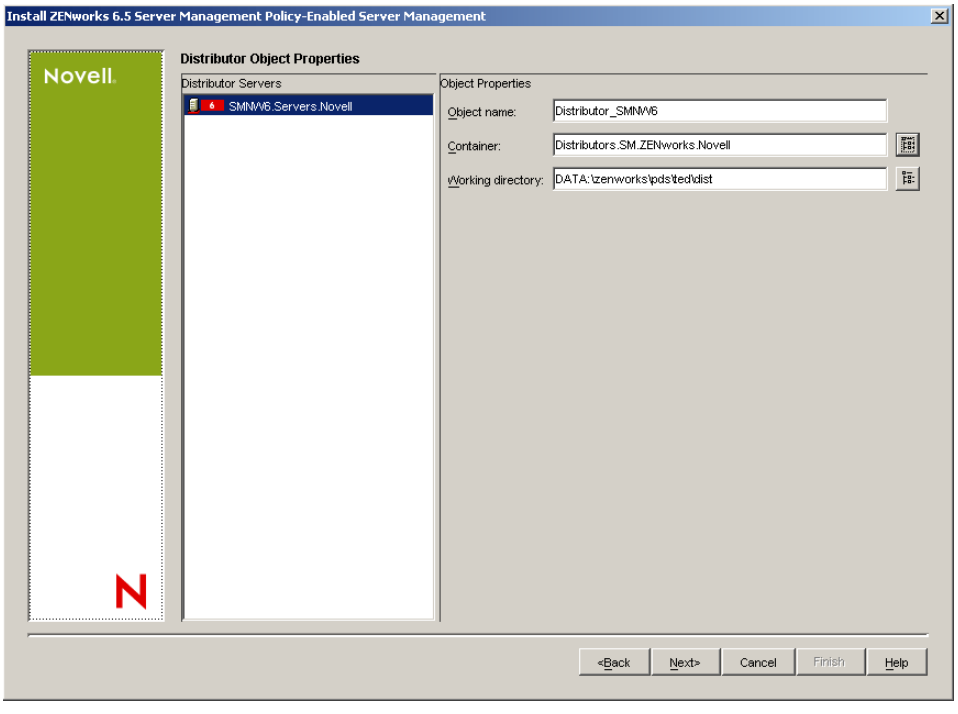
Start Services When the Installation Is Finished: Leave this check box selected, because the Subscribers' passwords are reset when the service starts.

2 Continue with the applicable section for the installation page that is displayed next:

- "Distributor Object Properties" on page 79
- "Subscriber Object Properties" on page 81
- "Database Settings" on page 82
- "Inventory Standalone Configuration" on page 84
- "Inventory Proxy Service Configuration" on page 85
- "Remote Management Configuration" on page 86
- "Policy and Distribution Services Database Logging" on page 87
- "Installation Summary" on page 88

Distributor Object Properties

This page is displayed only if you chose the ZENworks Policy-Enabled Management Services option for one or more servers.



You can change the default settings for Distributors individually, or in groups by selecting multiple Distributors listed in the left pane.

To change the defaults for any of the Distributors:

1. Select one or more Distributors in the left pane, then edit the following fields as necessary:

   - **Object Name:** The default Distributor object name includes the server's name.

     IMPORTANT: Do not use double-byte or extended characters in object names.

     If you want to rename the Distributor objects, we recommend that you maintain the servers' identities in their names, including the fact that they are Distributors.

     To rename each Distributor object, you need to repeat Step 1, because you cannot give the same object name to multiple Distributors.

   - **Container:** The location of the Distributor server's NCP Server object is the default.

     We recommend that you use the containers that you may have created for Distributor objects.

     Where eDirectory is not installed on a Windows server, that server will not have a default container object displayed. You must select a container for the Distributor object.

   - **Working Directory:** For NetWare servers, the default working directory is on the sys: volume.

     If you change any part of the default path, such as a directory name, and that new entry does not yet exist on the server, the Distributor creates that new path the first time it needs to use it.

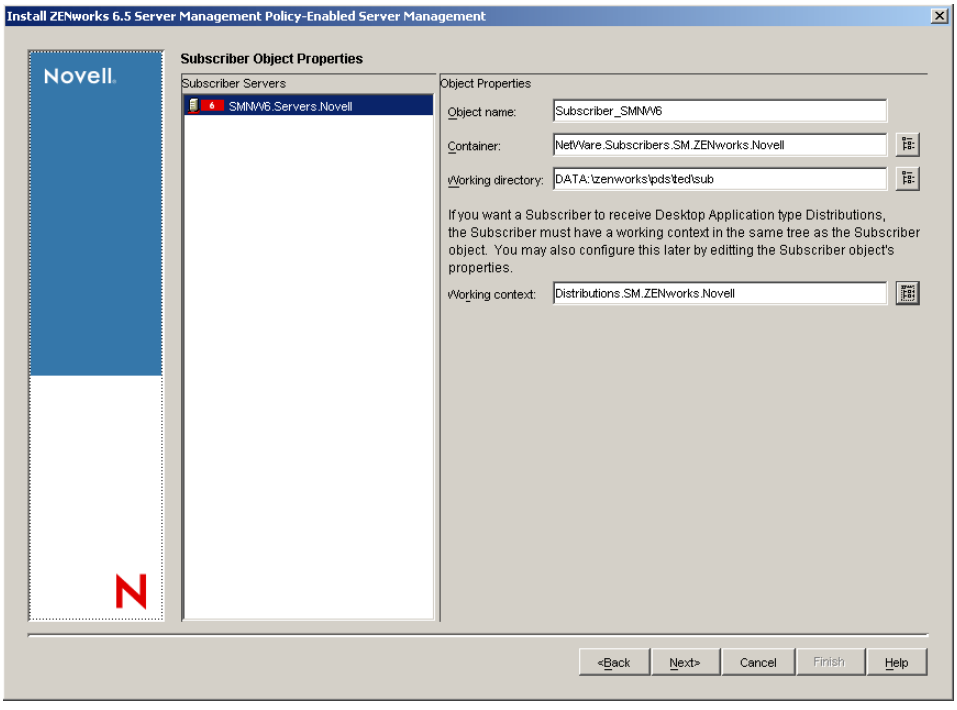
     The default volume on a NetWare server is sys:. If the working directory has the potential to become quite large because you expect to have many very large Distributions and/or many revisions of large Distributions for this Distributor, we recommend that you specify a different volume. For most Distributors, you can retain the sys: volume.

2. Repeat Step 1 for each different Distributor or set of Distributors.
3. Click Next to display the Subscriber Object Properties page.
4. Continue with the applicable section for the installation page that is displayed next:

   - "Subscriber Object Properties" on page 81
   - "Database Settings" on page 82
   - "Inventory Standalone Configuration" on page 84
   - "Inventory Proxy Service Configuration" on page 85
   - "Remote Management Configuration" on page 86
   - "Policy and Distribution Services Database Logging" on page 87
   - "Installation Summary" on page 88

Subscriber Object Properties

This page is displayed only if you chose the ZENworks Policy-Enabled Management Services option for one or more servers.



You can change the default settings for Subscribers individually, or in groups by selecting multiple Subscribers listed in the left pane.

To change the defaults for any of the Subscribers:

1. Select one or more Subscribers in the left pane, then edit the following fields as necessary:

   - **Object Name:** The default Subscriber object name includes the server's name.

     IMPORTANT: Do not use double-byte or extended characters in object names.

     If you want to rename the Subscriber objects, we recommend that you maintain the servers' identities in their names, including the fact that they are Subscribers.

     To rename each Subscriber object, you need to repeat Step 1, because you cannot give the same object name to multiple Subscribers.

   - **Container:** The location of the Subscriber server's NCP Server object is the default.

     If you have created containers for Subscriber objects, we recommend using these containers.

     You should use the same context for all Subscriber servers of the same operating system type. For example, place all NetWare Subscriber servers' objects under a NetWare container and all Windows Subscriber servers' objects under a Windows container.

     Where eDirectory is not installed on a Windows server, that server does not have a default container object displayed. You must select a container for the Subscriber object.

- **Working Directory:** If you change any part of the default path, such as a directory name, and that new entry does not yet exist on the server, the Subscriber creates that new path the first time it needs to use it.

  For NetWare servers, the default working directory is on the sys: volume.

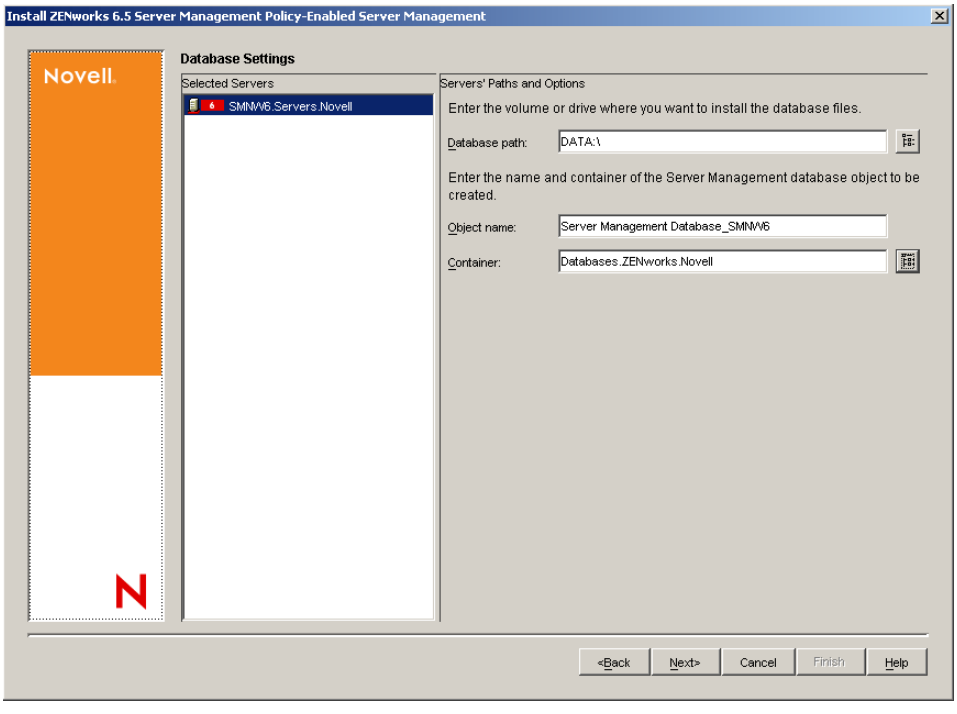
- **Working Context:** If you anticipate Desktop Application Distributions will be received by a Subscriber, browse for where you want related objects to be stored.

  You can add a working context later in ConsoleOne for any Subscriber that receives Desktop Application Distributions.

2. Repeat Step 1 for each different Subscriber or set of Subscribers.
3. Click Next to display the Database Settings page.
4. Continue with the applicable section for the installation page that is displayed next:
   - “Database Settings” on page 82
   - “Inventory Standalone Configuration” on page 84
   - “Inventory Proxy Service Configuration” on page 85
   - “Remote Management Configuration” on page 86
   - “Policy and Distribution Services Database Logging” on page 87
   - “Installation Summary” on page 88

Database Settings

This page is displayed only if you chose to install the Policy and Distribution Services database (the Server Management Database option) or the Server Inventory database (the Inventory Database option) on a server.



1 Click Next to accept the defaults, or for each database being installed, edit the applicable fields:

TIP: You can multiple-select databases to provide the same information for each of them.

Database Path: The default for NetWare servers is sys: and for Windows servers is C:, which you can change.

IMPORTANT: We strongly recommend that for the Server Management database on NetWare servers, you change sys: to another NetWare volume, because database files can become very large.

Object Name: The default name is Server Management Database_*server_name*, which you can change. However, if you select the same container for all database objects, each must have a unique object name.

A database object is not created for the Server Inventory database.

Container: The default container is where the server's NCP Server object resides. We recommend that you use the container that you created for database objects in "eDirectory Container Requirements" on page 34.

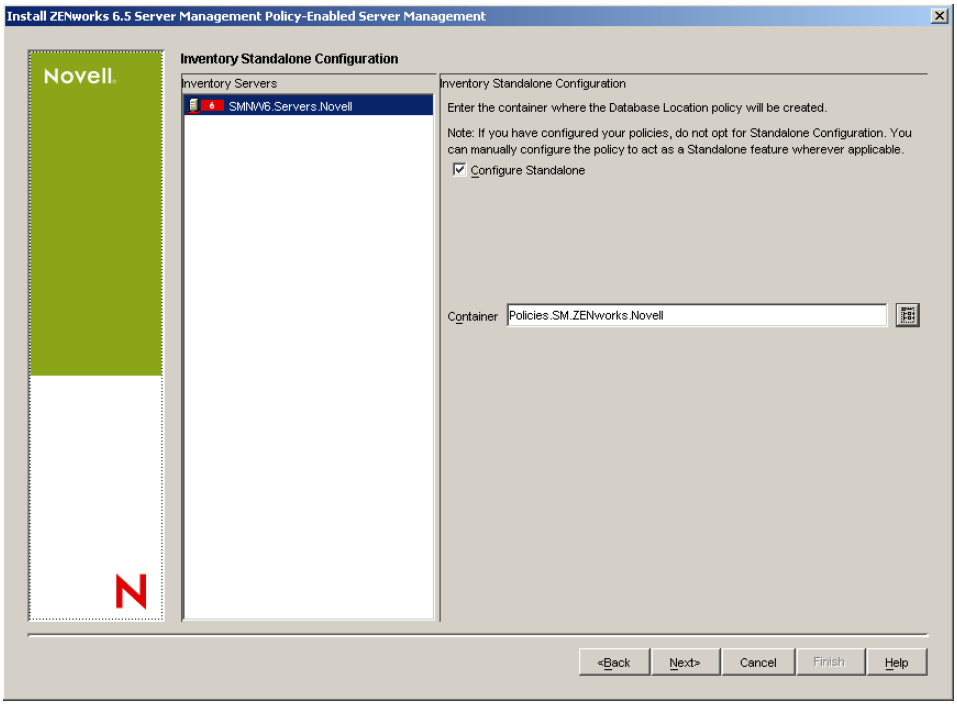
For ease of management, we also recommend that you place all database objects in the same container.

2 Click Next and continue with the applicable section for the installation page that is displayed next:

- "Inventory Standalone Configuration" on page 84
- "Inventory Proxy Service Configuration" on page 85
- "Remote Management Configuration" on page 86
- "Policy and Distribution Services Database Logging" on page 87
- "Installation Summary" on page 88

Inventory Standalone Configuration

This page is displayed only if you chose to install Inventory Server and the Inventory Database on the same server.



1 To automatically create the Server Package and start the Inventory Services, click the Configure Standalone box to enable it.

You can select one or more Inventory servers in the left pane to have the same configuration.

IMPORTANT: If you have already configured Server Package policies for these servers, do not enable the Configure Standalone check box. You can manually configure the policy to act as a standalone feature wherever applicable.

2 To specify the container for the Server Package object, browse for and select the container.

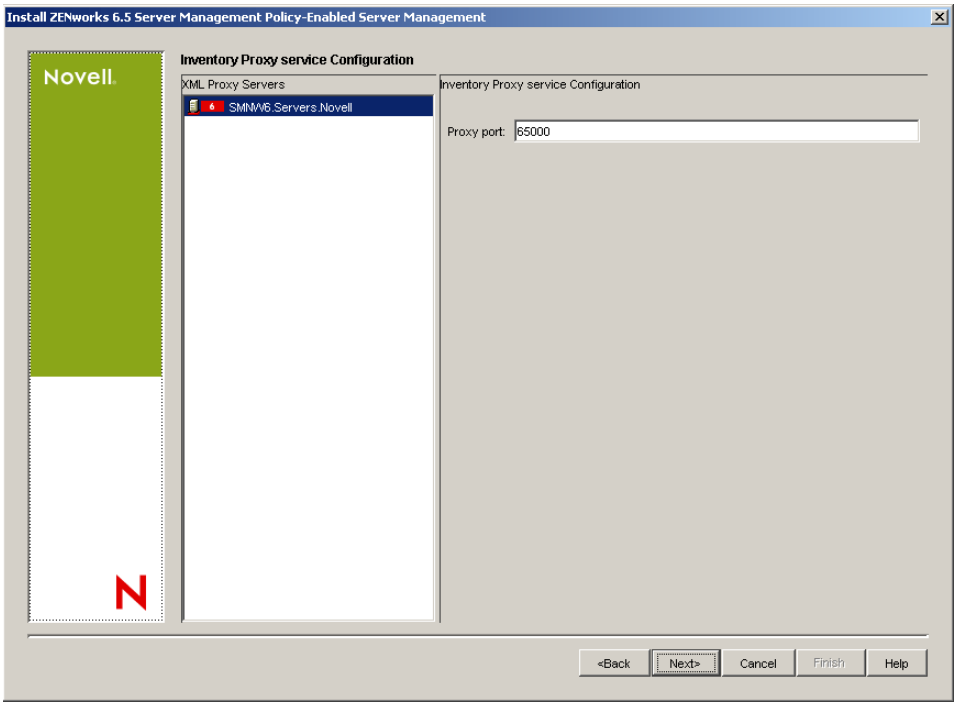
You can select one or more Inventory servers in the left pane to assign the same container for creating the Server Package.

3 Continue with the applicable section for the installation page that is displayed next.

- “Inventory Proxy Service Configuration” on page 85
- “Remote Management Configuration” on page 86
- “Policy and Distribution Services Database Logging” on page 87
- “Installation Summary” on page 88

Inventory Proxy Service Configuration

This page is displayed only if you chose the Inventory Proxy Server option for one or more servers.



1. To configure the port number of the Inventory Proxy service, specify the port number in the Proxy Port field, if you will not use the default port of 65000.

   You can select one or more Inventory Proxy servers in the left pane to assign the same port number.

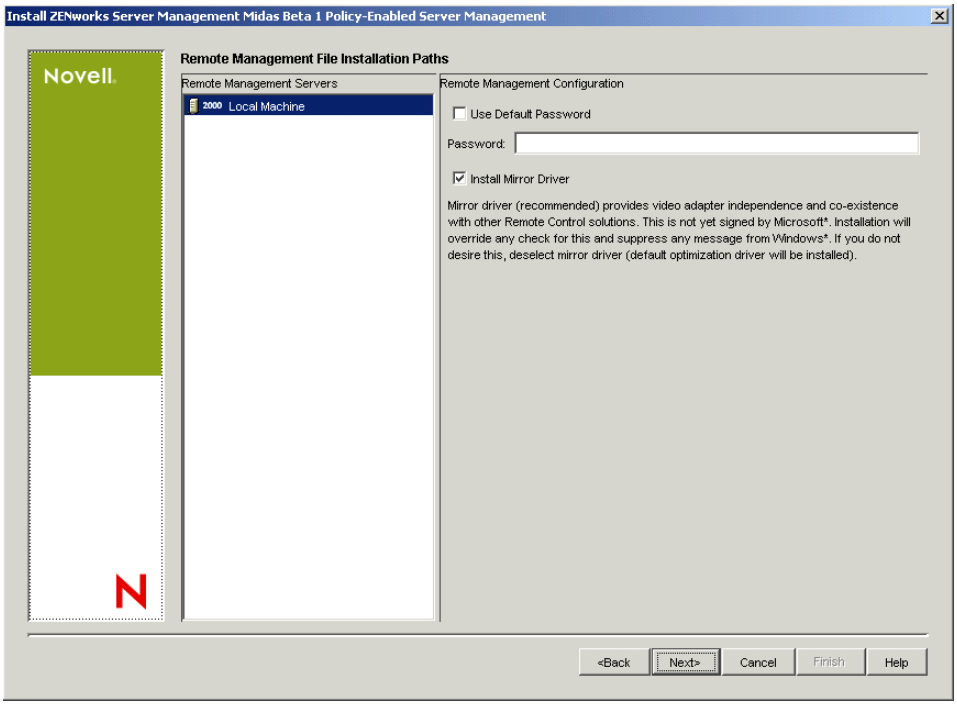
   You must specify a value between 0 and 65535. Ensure that the port number is not used by other services on the server.

2. Continue with the applicable section for the installation page that is displayed next.

   - “Remote Management Configuration” on page 86
   - “Policy and Distribution Services Database Logging” on page 87
   - “Installation Summary” on page 88

Remote Management Configuration

This page is displayed only if you chose the Remote Management option for one or more Windows servers.



Use this dialog box to configure the password for the Remote Management Agent and install Mirror Driver on the managed server. You can either use the default password or specify a password.

1. To set the default password for the Remote Management Agent, select the Use Default Password check box. The default password is novell.
2. To use a password other than the default password, specify another password in the Password field.

   This password is used for establishing a Remote Management session with the managed servers.

   Use a password of ten or fewer ASCII (non-extended) characters. The password is case sensitive and cannot be blank. You can choose to proceed without specifying any password, but you will not be able to establish the Remote Control session with the server.

   WARNING: If a previous installation of ZENworks 6.5 Remote Management Agent is detected on the machine and a password is set, the Password field is not displayed.
3. You can install Mirror Driver only if your target server is a Windows 2000/2003 server. Mirror Driver provides video adapter independence and coexistence with other Remote Control solutions. If this check box is selected, InstallShield overrides video driver checks and suppresses any Windows messages. If you do not want this driver, you can deselect it (optimization will be disabled).

   NOTE: The Mirror Driver is not yet signed by Microsoft.

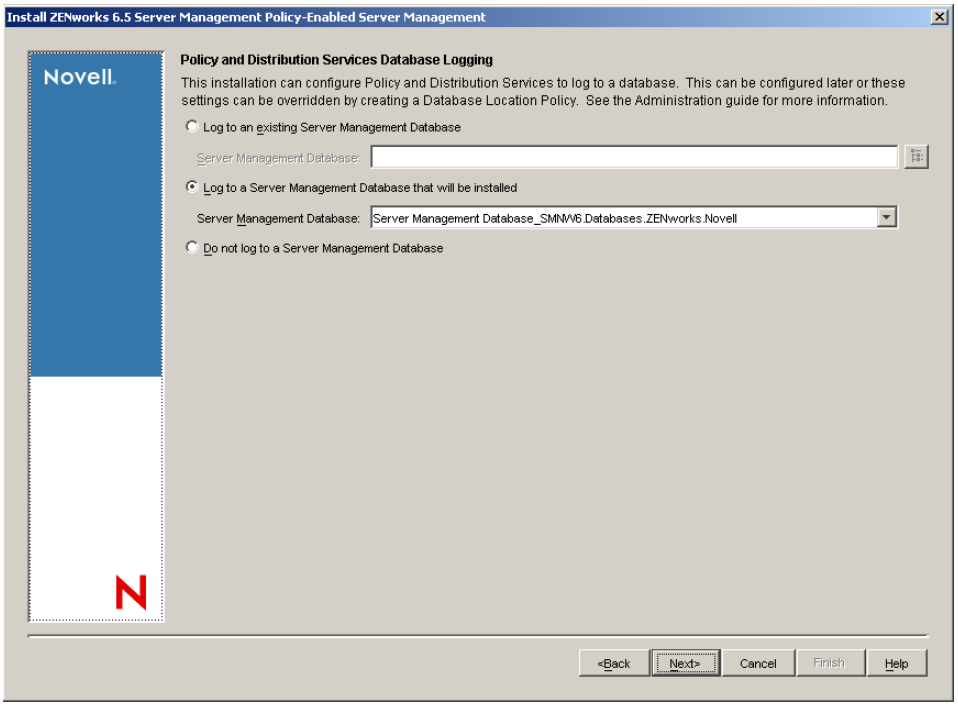
4 Continue with the applicable section for the installation page that is displayed next.

- "Policy and Distribution Services Database Logging" on page 87
- "Installation Summary" on page 88

Policy and Distribution Services Database Logging

This page is displayed only if you chose to install the Policy and Distribution Services database (the Server Management Database option) on a server.

This page eliminates the need to configure a ZENworks Database policy (in the Service Location Package), so that Server Management can begin logging to a database immediately after installing. At your convenience after installation, you can set up the other installed databases by configuring Service Location Packages for each of them so that they can be used by their Distributors.



1 To determine logging for a Server Management database that you configured in a previous installation page, select one of the following:

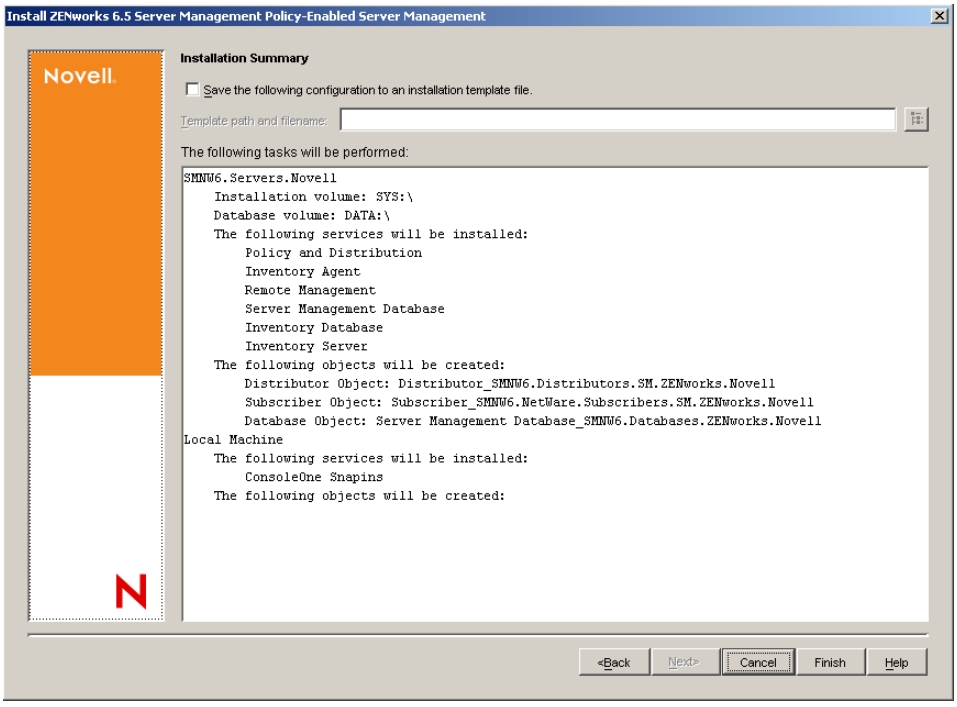
Log to an Existing Server Management Database: Select an existing database file for logging by browsing for and selecting the database object, rather than log to one of the databases being installed.

Log to a Server Management Database That Will Be Installed: One of the database objects that you configured in a previous installation page is displayed. However, you can select a different database object that is being installed by clicking the down-arrow.

Do Not Log to a Server Management Database: You can elect to not log to a database at this time, even though you have configured a database in the previous installation page.

2 Click Next and continue with "Installation Summary" on page 88.

Installation Summary



1 To save the current installation configuration for future use, click the Save the Following Configuration check box, then specify a path and filename for the template file.

TIP: You can use this template file to repeat the ZENworks Server Management installation. It can save time in re-entering information and re-selecting servers. When you rerun the installation using a template, you can make changes to the fields and selected servers in the installation pages that are populated by the template.

2 On the Installation Summary page, click Finish to begin the installation process.

You can click Back to make changes if you discover errors or omissions in the summary.

3 After the installation program has finished, review the installation log file to determine whether any components failed to install.

The log file is located in the installation machine's temporary directory as determined in its Windows environment settings. For example:

`c:\temp\_res`*`nnn`*`.txt`

where *nnn* is increased incrementally each time a new installation log is created.

If you receive error messages during installation, see Appendix G, "Installation Error Messages," on page 357.

4 If necessary, rerun the installation program.

Select only the components that failed to install.

IMPORTANT: A reinstallation does not require the schema to be extended again.

5 After successfully installing the software, click Exit to close the main installation program.

At this time, Server Management objects have been created, the software has been installed, and the Server Management agents should be starting.

6 To verify that the ZENworks processes are running, continue with "Verifying That the Policy and Distributions Services Agents Are Loaded" on page 89.

The following NetWare registry entries are made in \\my server\software\novell\ZENWORKS\zfs\:

PDS
PDSDB
Inventory Database Server
RconsoleJ Agent for NetWare
Inventory Server
Inventory Agent

Verifying That the Policy and Distributions Services Agents Are Loaded

To verify that the Policy and Distributions Services agents are running on the target servers:

- "Verifying on NetWare Servers" on page 89
- "Verifying on Windows Servers" on page 90

Verifying on NetWare Servers

To verify if ZENworks Server Management is running properly on a NetWare server:

1 On the target server's console, press Ctrl+Esc to view the loaded software programs.

For example:

Sybase database
ZENworks (if Policy and Distribution Services is installed)
ZENworks Inventory Service
ZENworks Web Server (if only Inventory Server or Inventory Proxy Service is installed)

2 If the ZENworks item is not displayed, review the following file:

```
...\zenworks\pds\zfs-startup.log
```

This file contains information about why the agent did not start. Use this information to reinstall ZENworks Server Management to the server.

This file is used to log startup problems only.

3 Repeat Step 1 and Step 2 for each NetWare server.

4 If necessary, rerun the installation program (see "Starting the Installation Program" on page 63).

5 Continue with the next applicable section:

- If you have installed to Windows servers, continue with "Verifying on Windows Servers" on page 90.
- To install the Policy and Distribution Services plug-ins for iManager, continue with "Web-Based Management for Policy and Distribution Services" on page 90.
- Or, continue with "Post-Installation Tasks" on page 98.

Verifying on Windows Servers

To verify if ZENworks Server Management is running properly on a Windows server:

1. On the target server, open the Control Panel, double-click Admin Tools > Services, then determine if the following services are running:

   Novell Inventory Service
   Novell Database - Sybase
   Novell ZENworks Service Manager

2. If the services are not displayed, do the following:

   2a Close the Services window.

   2b Click Start, click Run, then enter the following command:

   ```
   zenworks\pds\bin\dservices.bat
   ```

   This stops the ZENworks Server Management services and unregisters them. This is done to make sure clean state exists for registering the services.

   2c Click Start, click Run, then enter the following command:

   ```
   zenworks\pds\bin\sservices.bat
   ```

   This registers the ZENworks Server Management services.

   2d Open the Control Panel, double-click Admin Tools > Services, then start the services.

3. Repeat Step 1 and Step 2 for each Windows server.

4. If necessary, rerun the installation program (see "Starting the Installation Program" on page 63).

5. Continue with the next applicable section:

   - To install the Policy and Distribution Services plug-ins for iManager, continue with "Web-Based Management for Policy and Distribution Services" on page 90.
   - Or, continue with "Post-Installation Tasks" on page 98

Web-Based Management for Policy and Distribution Services

You can use Novell iManager 2.0.2, 2.5, or 2.6 in addition to ConsoleOne 1.3.6 to make some Tiered Electronic Distribution administration and agent monitoring tasks easier. iManager enables you to perform Policy and Distribution Services tasks from any location where a supported version of Internet Explorer is available.

Using iManager, you can:

- Create, modify, and delete Tiered Electronic Distribution objects (Distributor, Subscriber, Distribution, Channel, Subscriber Group, and External Subscriber).
- View a graphical representation of your distribution system, which makes it easy to track a Distribution from Distributor to end node Subscriber, no matter how many parent Subscribers the Distribution passes through. This eliminates the need to go to each server or to read log files.
- Display a browser-based console, called the Remote Web Console, for each Distributor Agent and Policy/Package Agent in your system. From the Remote Web Console, you can review the configuration of any agent, monitor the activities of any agent, and control many agent

functions, such as forcing an action on a Distributor, Subscriber, or Policy Package to happen immediately, and monitoring Distribution, Subscriber, and Policy Package status.

To install Novell iManager 2.0.2, 2.5, or 2.6, see "Management-Specific Workstation Requirements" on page 40.

The iManager plug-ins shipped with ZENworks 6.5 SP1 work with both iManager 2.0.2 and 2.5.

The iManager plug-ins shipped with ZENworks 6.5 SP2 work with iManager 2.0.2, 2.5, and 2.6.

The processes for installing the iManager plug-ins is different for iManager 2.0.2 and iManager 2.5 or 2.6 in ZENworks 6.5 SP2 and earlier:

- "Installing the Plug-ins to iManager 2.0.2" on page 91

  IMPORTANT: If you installed iManager to a Linux or Solaris server, you can use this GUI installation program to install the Policy and Distribution Services plug-ins to iManager on the Linux or Solaris server.

- "Installing the Plug-ins to iManager 2.5 or 2.6" on page 95

Installing the Plug-ins to iManager 2.0.2

1. Make sure that Tomcat and iManager are loaded on the server where you will install the plug-ins.

   If these processes are not running on this server, the authentication performed when clicking Next in Step 5 will fail.

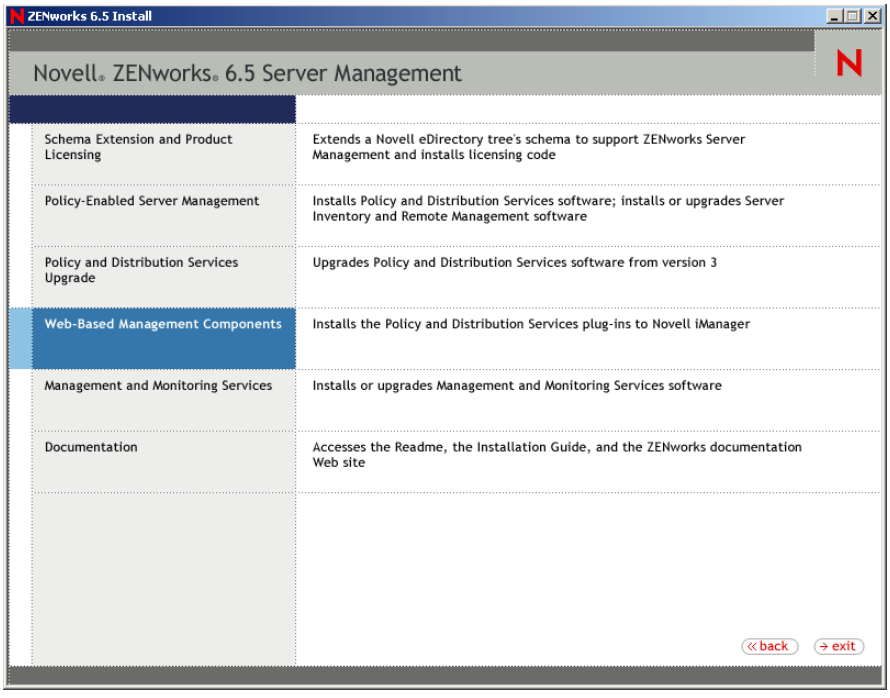
2. Do one of the following to display the main installation menu:

   - If you copied the contents of the *ZENworks 6.5 Server Management Program* CD to a hard drive, run winsetup.exe from that hard drive location.

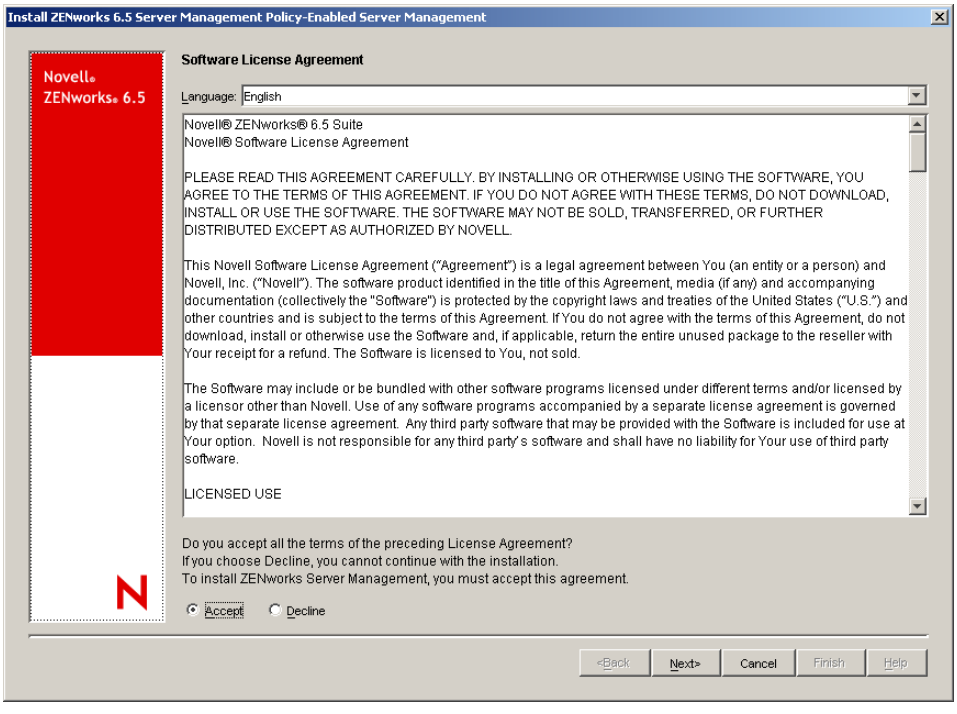
     If you copied the *Program* CD structure to the installation machine's hard drive, the path between the root of the hard drive and the first CD directory can contain only directory names that conform to the 8.3-character DOS file naming convention. If any long directory names exist in the path, the installation program does not work.

   - On the installation machine, insert the *ZENworks 6.5 Server Management Program* CD.

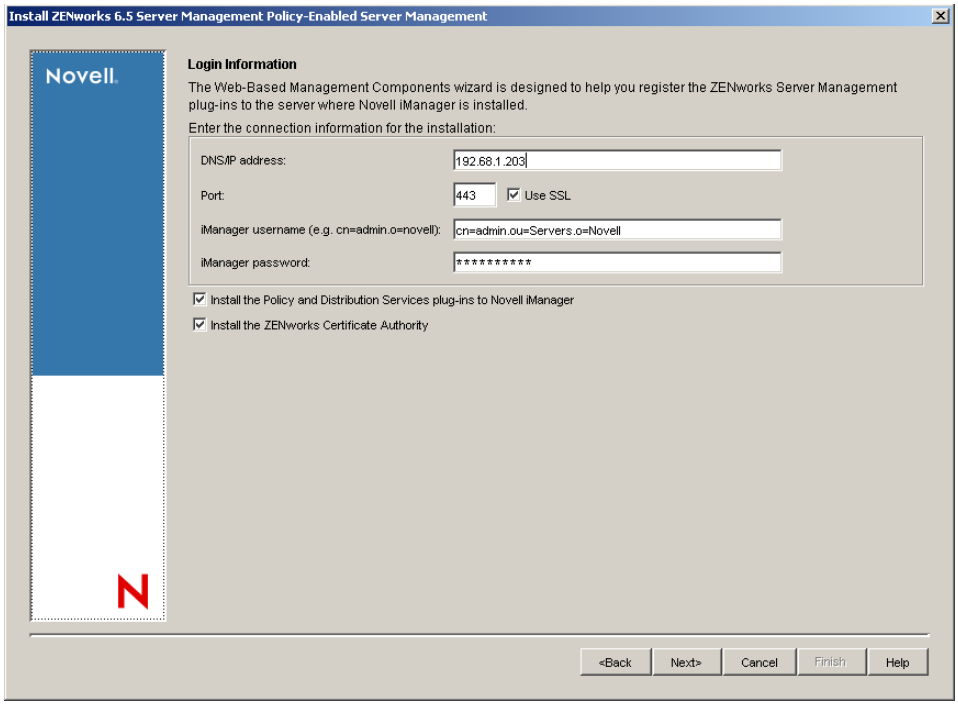
     The startup page is displayed. If the startup page is not automatically displayed after inserting the CD, run winsetup.exe at the root of the CD.



3 Click Web-Based Management Components to display the License Agreement page.



4 Accept the License Agreement, then click Next to view the Login Information page.



5 Fill in the fields:

IMPORTANT: Tomcat and iManager must be loaded on the specified server in order for authentication of the following information to succeed.

DNS/IP Address: Specify the address of the server where iManager is installed.

Port: Specify the port number to use when communicating with iManager. It will most likely be 443 if SSL is used; if not, use 8080.

Use SSL: By default, this check box is not selected. If you have iManager configured to use SSL, you should enable this check box.

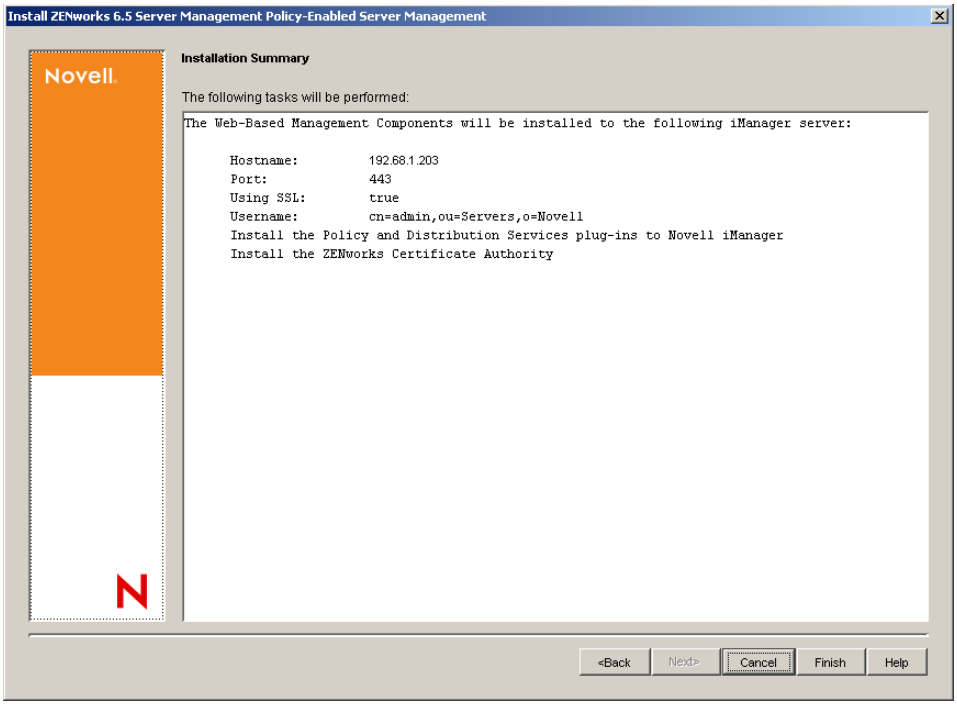
iManager Username: Specify the iManager (fully-distinguished) login name of the user with rights to iManager. This must be entered in the format indicated (for example, cn=admin.o=novell). Installation cannot continue if the username cannot authenticate.

iManager Password: Specify the iManager password of the user running the installation program.

Install the Policy and Distribution Services Plug-ins to Novell iManager: Select the check box to install the Remote Web Console and Tiered Electronic Distribution plug-ins to iManager so that you can manage these components from a Web browser.

Install the ZENworks Certificate Authority: Select the check box to install the ZENworks certificate authority servlet for inter-server communications security. This provides additional security to ensure that data received from outside your secured network is from a trusted source, that it has not been tampered with en route, and that the data received can be trusted by other machines. This is accomplished through the use of signed security certificates and digital signatures.

6 Click Next to view the Summary page.



The installation summary indicates that the selected Web components are installed to the Tomcat installation directory.

7 Click Finish.

8 When the installation has completed, click Yes to view the installation log file.

If the log file contains errors, you can print it for reference. To look up error messages, see Appendix G, "Installation Error Messages," on page 357. Correct the error, then repeat the installation steps.

The ZENworks Server Management role in iManager should still be set up, because the information for it is stored in eDirectory.

To reinstall the Novell Certificate Signer, follow the instructions in the *Novell ZENworks 6.5 Server Management Administration Guide*.

9 After successfully installing the iManager plug-ins, close the log file.

10 For iManager to recognize the new plug-ins, stop Tomcat, then restart Tomcat:

- **NetWare**

  Stop: tc4stop.ncf

  Start: tomcat4.ncf

- **Windows**

  In the Services window, start or stop the Tomcat service.

- **Linux**

  Restart: /etc/init.d/tomcat4 restart

  or:

  Stop: /etc/init.d/tomcat4 stop

  Start: /etc/init.d/tomcat4 start

- **OES Linux**

  Restart: /etc/init.d/novell-tomcat4 restart

  or:

  Stop: /etc/init.d/novell-tomcat4 stop

  Start: /etc/init.d/novell-tomcat4 start

11 Continue with the next applicable section:

- To install on Linux or Solaris servers, continue with "Installation on Linux and Solaris" on page 95
- If you will not install on Linux or Solaris servers, continue with "Post-Installation Tasks" on page 98
- If you performed this task while upgrading, return to "Upgrade the Novell iManager Plug-Ins" on page 204.

Installing the Plug-ins to iManager 2.5 or 2.6

1 Locate the Novell iManager plug-in module (NPM) on the *Novell ZENworks 6.5 Support Pack 2 Companion 1* CD:

```
\Novell iManager\ZFS Plugins NPM\ZFS_PolyDistPlugins.npm
```

2 Follow the instructions in your iManager documentation to install the NPM:

- **iManager 2.5:** see Downloading and Installing an NPM (http://www.novell.com/documentation/imanager25/imanager_install_25/data/bnpta1r.html)
- **iManager 2.6:** see Installing Novell Plug-in Modules (http://www.novell.com/documentation/imanager26/imanager_install_26/data/bnpta1r.html)

3 Continue with the next applicable section:

- To install on Linux or Solaris servers, continue with "Installation on Linux and Solaris" on page 95
- If you will not install on Linux or Solaris servers, continue with "Post-Installation Tasks" on page 98
- If you performed this task while upgrading, return to "Upgrade the Novell iManager Plug-Ins" on page 204.

Installation on Linux and Solaris

This section provides you with instructions for installing Novell ZENworks Server Management on Linux or Solaris servers.

The Policy and Distribution Services component is supported on the Linux and Solaris platforms; however, the Server Inventory and Remote Management components are not.

If your network also includes NetWare and Windows servers, it is easiest to install Policy and Distribution Services to one of those platforms first, as described in "Installation on NetWare and Windows" on page 61, because the database files must be created on NetWare or Windows servers. The database stores log messages for reporting purposes, detailing the successes and failures of distribution processing. If necessary, you can install the Policy and Distribution Services software on the Linux or Solaris servers first, then create the databases afterwards on the NetWare or Windows servers.

An installation script on the *ZENworks 6.5 Server Management Program* CD is used to install the Linux or Solaris version of the software on a single Linux or Solaris server. It also creates the necessary ZENworks objects in Novell eDirectory™. For information on installing or upgrading eDirectory in a Linux-only or Solaris-only environment, see "Installing or Upgrading eDirectory on Linux or Solaris Servers" on page 34.

The most straightforward way to run this script is to insert the *Program* CD into the CD drive of the Linux or Solaris server where you want to install Policy and Distribution Services. Installation solutions that eliminate physically moving from server to server are left to the discretion of the Linux or Solaris administrator.

The Linux or Solaris server where you install Policy-Enabled Server Management can function as a Distributor, a Subscriber, or both:

- **Distributor:** The Distributor Agent gathers and sends the Distributions to Subscriber servers. The Distributions can consist of policies, new and updated software, individual executables, databases, documents, text files, and so on.
- **Subscriber:** The Policy/Package Agent receives and extracts the Distributions. The Policy/Package Agent then enforces the policies, installs the software, updates the files, and so on.

At the Linux or Solaris server where you want to install Policy and Distribution Services:

1. Log in as `root`.
2. If you are running X Windows on the Linux or Solaris server, open an XTerm window.
3. Place the *ZENworks 6.5 Server Management Program* CD in the server's CD drive.
4. Review the Readme for any last-minute information concerning installation.

   Readme_servers.html is located in the \readmes\en directory on the *ZENworks 6.5 Server Management Program* CD.
5. To run the Policy and Distribution Services installation script, do one of the following in an XTerm window:
   - Enter one of the following commands:

     Red Hat Linux: /mnt/cdrom/ZfS/TedPol/*platform*/zfs-pds-install

     SUSE LINUX: /media/cdrom/ZfS/TedPol/*platform*/zfs-pds-install

     where *platform* is either Linux or Solaris.
   - Change to the directory where the Policy and Distribution Services installation script is located:

     `cd /device_directory/ZfS/TedPol/platform`

     where *device_directory* represents the mount point for the CD device and *platform* is either Linux or Solaris.

     Then enter:

     `./zfs-pds-install`
6. Press Enter to display the license agreement, press the Spacebar to scroll through the license agreement, type **`y`**, then press Enter to accept the license agreement.

   The script installs software from the j2re and novell-zen-zfs RPM files.
7. To configure Server Management, respond to the prompts as they are displayed.

The information that you gathered under "Policy and Distribution Services Information for Installing on Linux and Solaris Servers" on page 28 is needed at this time.

Any information that is displayed within parentheses and before the colon represents defaults that are accepted if you press the Enter key. However, you can specify your own information before pressing Enter if the displayed default is not correct.

TIP: If you are using an XTerm window, it should be opened wide enough so that any entry you might make will fit on one line. If your entry wraps, and you need to backspace to change it, you can only backspace to the beginning of the wrapped line. If that happens, press Enter to display the script prompt again if the information you had entered does not represent an acceptable entry.

7a Specify the DNS name of a server where a replica of the eDirectory tree exists. For example:

```
smnw6.novell.com
```

7b Enter the user DN that has admin rights to the root of the tree. For example:

```
admin.servers.novell
```

7c Enter the admin user's password.

Nothing is displayed as you type the password to indicate the characters you are typing.

If you have specified a correct username and password, "Authentication successful" and the tree's name are displayed.

8 If the correct DNS name is displayed within the parentheses, press Enter to accept it.

or

If the correct name is not displayed, enter the correct DNS name before pressing Enter.

If you have DNS set up correctly, the DNS name of the Linux or Solaris server where this script is running should be displayed within the parentheses. For example, SMLX1.provo.novell.com.

9 If you want this server to be a Distributor, type **y** and press Enter.

9a Enter the Distributor object's name. For example:

```
Distributor_SMLX1
```

9b Enter an existing eDirectory container where the Distributor object can be created. For example:

```
Distributors.SM.ZENworks.Novell
```

10 Enter the Subscriber object's name. For example:

```
Subscriber_SMLX1
```

11 Enter an existing eDirectory container where the Subscriber object can be created. For example:

```
Linux.Subscribers.SM.ZENworks.Novell
or
Solaris.Subscribers.SM.ZENworks.Novell
```

Keep your servers in containers named for their platforms. For more information, see "Novell eDirectory Requirement" on page 32.

12 If you already have a ZENworks database installed in your network and want this server to log to it, enter the DN of the database object, such as:

```
Server Management Database_SMNW6.Databases.ZENworks.Novell
```

13 Review the information displayed for how to start the Policy and Distribution Services agent and how to reconfigure if the service does not start.

14 To verify that the agent is running, enter the following:

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

The following agent should be listed:

```
Novell ZENworks Server Management
```

If the agent does not start, review the zfs-startup.log file in the /var/opt/novell/log/zenworks directory.

15 If the installation was successful, repeat these steps on each Linux server.

16 After successfully installing Policy and Distribution Services to the Linux servers, continue with "Post-Installation Tasks" on page 98.

Post-Installation Tasks

After installing the Novell ZENworks Server Management software to NetWare, Windows, Linux, and Solaris servers, there are tasks that cannot be automated within the installation processes that you should perform to complete the installation. The following sections give details about these tasks.

The first section contains tasks that should be done for all of the Server Management components. The other four sections are divided by component, and are listed by the components that can be installed.

Perform the necessary tasks in each of the following sections for the Server Management components you have installed:

- "Policy and Distribution Services" on page 98
- "Server Inventory" on page 102

Policy and Distribution Services

The following tasks are specific to the Policy and Distribution Services component:

- "Restarting the Novell Servlet Gateway on NetWare 5.1 Servers" on page 99

  If you have a Novell Servlet Gateway running on a server where you installed Server Management, you need to restart the gateway's Java process manually.

- "Creating the Policy and Distribution Database" on page 99

  To provide reporting capability for a Linux or Solaris Distributor server, follow these instructions to create a database on a NetWare or Windows server.

- "Configuring the Policy and Distribution Services Agents on Servers with Multiple Network Addresses" on page 100

  If a server where you have installed the Policy and Distribution Services agents has multiple network addresses on your network, follow these instructions.

- "Converting ZENworks for Servers 1.0 or 2 Server Software Packages to Version 6.5" on page 102

If you have ZENworks for Servers 1.0 or 2 Server Software Packages that you want to preserve, they must be converted to version 6.5 using these instructions.

- "Using Policy and Distribution Services" on page 102

  This section contains suggestions on what you can do next with Policy and Distribution Services.

Restarting the Novell Servlet Gateway on NetWare 5.1 Servers

The installation program stops all Java processes before installing ZENworks Server Management. After the Server Management installation has been completed, the installation program attempts to automatically restart all of the Java applications that it had stopped before installing. Occasionally, there are Java process that the installation program cannot restart.

On NetWare 5.1 servers, the Novell Servlet Gateway application cannot be restarted automatically by the installation program. If you have this Java process running on a NetWare 5.1 server where you installed ZENworks, you need to restart it manually.

Creating the Policy and Distribution Database

The Policy and Distribution database stores log messages for reporting purposes, detailing the successes and failures of Distribution processing and policy statuses. The database file currently cannot be created on a Linux or Solaris server. Therefore, if you want database logging by any Linux or Solaris Distributor or by the Policy/Package Agent, you must install the database on a NetWare or Windows server.

If you have not previously installed a database with a Database object in the eDirectory tree where the Linux or Solaris Distributor object resides, and you want database logging for the Linux and Solaris servers, perform the following procedure at a Windows installation machine:

1. If you have not already done so, log in to the eDirectory tree where the Distributor and Subscriber objects were created.
2. Insert the *ZENworks 6.5 Server Management Program* CD.

   The initial installation program window appears. If it does not display automatically after inserting the CD, run winsetup.exe at the root of the CD.
3. Click Server Management, then select Policy-Enabled Server Management.
4. Accept the License Agreement, then click Next.

   New Installation is selected by default.
5. Click Next.

   Policy and Distribution Services is selected by default.
6. Click Next.

   The Create eDirectory Objects and Install Software Files options are selected by default.
7. Click Next.
8. Select the eDirectory tree where you want to create the ZENworks Database object, click OK, then click Next.
9. In the Server Selection dialog box, click Add Servers.

10 If the NetWare or Windows server where you want to create the Policy and Distribution database file has a corresponding eDirectory object, browse the eDirectory tree, then select the Server object.

or

For a Windows server in a Microsoft domain, in the List Servers By drop-down list, click Microsoft Domain, expand the domain, then select the server.

11 Move the selected server from the Available Servers box into the Selected Servers box, then click OK.

12 Back in the Server Selection dialog box, on the line for the selected server, mark the Database column, then click Next.

13 Fill in the fields:

Database Path: Keep in mind that the Policy and Distribution database can become very large.

- On NetWare, the default database path is sys:\zenworks. You should change the database path to use a volume other than sys:.
- On Windows, the default database path is c:\zenworks. Whether this is an appropriate location depends on the size of the C: drive and the space available on other drives on the server.

Object Name: The default object name is ZENworks Database. You can rename it if you plan to install multiple databases.

Container: Browse to and select the container object where you want the ZENworks Database object created. You could place it with other Tiered Electronic Distribution objects, or in the same container where the Server object resides.

14 Click Next.

The installation summary lists the server where the database file is installed and the eDirectory object that is created for it.

15 Click Finish.

16 When the installation is complete, click View Log File to review what the installation program has done.

If the installation log file contains errors, you can print it for reference. To look up installation errors, see Appendix G, "Installation Error Messages," on page 357. Resolve the problem, then repeat the installation successfully.

17 Close the log file, then exit the installation program.

Configuring the Policy and Distribution Services Agents on Servers with Multiple Network Addresses

If a server where you have installed the Policy and Distribution Services agents has multiple network addresses on your network, some additional configuration is necessary before you start the agents. This situation arises when the server has one or both of the following characteristics:

- Multiple NICs
- Multiple DNS hostnames

To ensure that forward and reverse DNS lookups are successful, you need to edit a configuration file for each applicable server. The following steps apply to servers on all supported platforms:

1. Open the following file in a text editor:

   Installation_path\zenworks\zfs-startup.xml

2. Search for the following class:

   ```
   <Class>com.novell.application.zenworks.ted.TED</Class>
   ```

3. Edit the following parameter that is listed under the class:

   ```
   <Parameter Name="Hosts" />
   ```

   If the parameter does not exist, create it and insert it in the parameter list.

   Change it to include the DNS hostnames or IP addresses of your hosts. For example:

   ```
   <Parameter Name="Hosts">192.68.1.203</Parameter>
   ```

   Note the addition of the closing </Parameter> code and the closing > character after the "Hosts" name. Your DNS hostnames and IP addresses go between the codes as show above.

   Do not list those that are bound to the server's NIC card.

   If you list more than one host, your list of DNS hostnames and IP addresses should be delimited by a semicolon (;). For example:

   ```
   <Parameter
   Name="Hosts">192.68.1.203;192.68.1.204;server001.provo.novell.com</
   Parameter>
   ```

   You can mix DNS hostnames and IP addresses in the list.

4. Save your changes, then close the file.

If you have multiple NICs, a server might not recognize the card that is used for your network access as the primary host card. To ensure that the correct NIC is recognized as the primary host:

1. In the text editor, open the following file:

   Installation_path\zenworks\zfs-startup.xml

2. Search for the following class:

   ```
   <Class>com.novell.application.zenworks.ted.TED</Class>
   ```

3. Edit the following parameter that is listed under the class:

   ```
   <Parameter Name="PrimaryHost" />
   ```

   If the parameter does not exist, create it and insert it in the parameter list.

   Change it to include the IP addresses of the proper NIC card. For example:

   ```
   <Parameter Name="PrimaryHost">192.68.1.203</Parameter>
   ```

   Note the addition of the closing </Parameter> code and the closing > character after the "PrimaryHost" name. The IP address goes between the codes as show above.

   If the PrimaryHost parameter already has a DNS hostname, change it to the IP address.

4. Save your changes, then exit the text editor.

Converting ZENworks for Servers 1.0 or 2 Server Software Packages to Version 6.5

If you have Server Software Packages created in ZENworks for Servers 1.0 or 2 that you want to preserve in ZENworks 6.5, they must be converted to version 6.5 after you have installed ZENworks 6.5 Server Management. For instructions, see "Converting Older Server Software Packages to ZENworks 6.5 Server Management" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

Using Policy and Distribution Services

To take full advantage of Policy and Distribution Services, you can further configure your distribution system and server policies by doing the following:

- Determining which Distributions you need, including server policies
- Creating the Distributions and their related Channels
- Determining whether other Distributors are needed
- Installing the other Distributors
- Creating a routing hierarchy for each Distributor
- Configuring parent Subscribers where necessary
- Associating Subscribers with Distribution Channels
- Sending your Distributions

To do this, you will need to understand Policy and Distribution Services, know what Distributions you need, and plan your distribution system. The degree of planning depends on the size and complexity of your network, and the size and frequency of your Distributions.

To understand Policy and Distribution Services, plan how to configure your distribution system, configure server policies, and create new Distributions, see "Post-Installation Setup" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

Server Inventory

The following tasks are specific to the Server Inventory component. You must perform them in the order listed before starting the Server Inventory service on the Inventory server.

1. "Creating the Policy Packages" on page 103
2. "Creating and Configuring the Tiered Electronic Distribution Objects" on page 104
3. "Configuring the Distribution Object for Server Inventory" on page 104
4. (Optional) "Configuring the Inventory Database Object on a NetWare Server" on page 105
5. "Configuring the Policies on the Servers" on page 105
6. "Configuring the Distributor and the Subscriber Object" on page 108
7. (Optional) "Installing the ODBC Drivers" on page 109
8. "Starting the Inventory Services" on page 109

Creating the Policy Packages

Server Inventory requires policy packages in the eDirectory tree that can hold the server policies that you can later configure and enable.

Policy packages are eDirectory objects that contain collections of policies grouped according to the object types. You should create an Organizational Unit (OU) for holding the policy packages.

Consider the following when determining where to place this OU:

- Whether you have partitions in your tree
- The 256-character limit in eDirectory for the full distinguished name
- The search policy is used to locate the policy package

For Server Inventory, create two containers, one for Tiered Electronic Distribution objects and the other for the Server Inventory policy packages.

To create a container:

1. In ConsoleOne, right-click the container where you want the container for the policy packages placed.
2. Click New, click Object, click Organizational Unit, then click OK.
3. Name the container, for example, Policies, then click OK.

IMPORTANT: If you have partitions that are accessed across a WAN, make sure that the Policy Package objects are in the same partition as the Server so that the Policy/Package Agents will load. Also make sure that the Search policy does not require searching outside the partition where the Server object exists.

To determine which Policy Package objects to create, first determine which policies you need.

For Server Inventory, you must create the following policy packages:

- Service Location Package or Server Package
- Distributed Server Package

To create Policy Package objects, review the instructions in the following sections:

- “Creating the Service Location Package” on page 103
- “Creating the Server Package” on page 104
- “Creating the Distributed Server Package” on page 104

Creating the Service Location Package

The Service Location package is required to enable the Database Location policy and to associate the database object with the container under which the Inventory Service object is located.

1. Right-click the policy package’s container, click New, then click Policy Package.

   The Policy Package Wizard is displayed.
2. From the policy Package list, select Service Location Package, then click Next.
3. Specify a name for the Service Location Package.
4. Click Next, then click Finish.

Creating the Server Package

The Server package is required to enable the Database Location policy and to associate the database object with the Inventory Service object of the Inventory server.

IMPORTANT: If you choose to configure the Inventory Standalone Pre-Configuration settings during the installation, the Server Package is automatically created by the Installation program.

To create the Server package:

1. Right-click the policy package's container, click New, then click Policy Package.

   The Policy Package Wizard is displayed.
2. From the policy Package list, select Server Package, then click Next.
3. Specify a name for the Server Package.
4. Click Next, then click Finish.

Creating the Distributed Server Package

The Distributed Server package is required to distribute the Server Inventory policy among the inventoried servers.

1. Right-click the policy package's container, click New, then click Policy Package.

   The Policy Package Wizard is displayed.
2. From the Policy Packages list, select Distributed Server Package, then click Next.
3. Specify a name for the Distributed Server Package.
4. Click Next, then click Finish.

Creating and Configuring the Tiered Electronic Distribution Objects

For Server Inventory, you must create and configure the following Tiered Electronic Distribution objects:

- TED Distribution
- TED Channel

For more information on how to create and configure the Tiered Electronic Distribution objects, see "Tiered Electronic Distribution" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

Configuring the Distribution Object for Server Inventory

You must configure the Distribution object for distributing the Server Inventory policies.

1. From ConsoleOne, right-click the Distribution object, then click Properties.
2. Click the Type tab.
3. Select Policy Package from the Select Type drop-down list.
4. Click Add.
5. Select the Distributed Server package that has the Server Inventory policy.
6. Click the Schedule tab.
7. Modify the schedule.

8 Click Apply, then click Close.

Configuring the Inventory Database Object on a NetWare Server

If you install Sybase on a NetWare server that has CIFS as a default component, the server IP address or DNS name of the Inventory database_*server_name* object might not be configured correctly after the Sybase installation. To configure the database object correctly:

1 Open ConsoleOne, then double-click the inventory database object.

2 At the ZENworks Database page of the database object, enter the server IP address or DNS name of the server where the inventory database is installed.

Configuring the Policies on the Servers

In a Standalone Server scenario, a single server acts as the Inventory server and also the database server. There is no requirement for roll-up of inventory data.

To configure the inventory settings for the Standalone Server:

1 Complete the steps in "Configuring the Database Location Policy" on page 105.

2 Complete the steps in "Configuring the Server Inventory Policy" on page 106.

IMPORTANT: If you choose to install Inventory Server and Inventory Database (Sybase) during the Server Management installation, the Inventory Standalone Configuration dialog box is displayed. If you select the Configure Standalone check box in this dialog box, the installation program automatically creates the Server Package, configures the Database Location policy within the Server Package, and starts the Inventory Services. When the Server Management installation is complete, you need to create only the Server Inventory Policy.

After you configure the Server Inventory policy, the Inventory service automatically starts on a NetWare server. On a Windows 2000/2003 server, you must manually reboot the machine after configuring the policy. The Inventory service starts automatically after the reboot.

To know what policies should be configured for Server Inventory that is deployed in a production environment, see "Server Inventory" in the*Novell ZENworks 6.5 Server Management Administration Guide*.

After configuring the required policies, you must manually start the Inventory service.

Configuring the Database Location Policy

The Database Location policy contains the location of the Inventory database. You can associate the Database object with a container under which the Inventory Service object is located through using the Service Location Package or with an Inventory server through using the Server Package.

NOTE: If you configure the Service Location Package and the Server Package, the Server Package settings override the Service Location Package settings.

To associate the Database object with a container under which the Inventory Service object is located:

1 In ConsoleOne, right-click the Service Location Package, click Properties to display the Policies page.

2 Select the check box under the Enabled column for the ZENworks Database policy.

3 Click Properties to display the Inventory Management page.

4. Browse to the DN of the Inventory Database object (Inventory database_*server_name*), then click OK.

   For a Sybase database, the database object is automatically created during the Server Inventory installation except if you are installing on a Windows 2000/2003 server without eDirectory installed. To manually create the database object, see "Setting Up the Sybase Inventory Database" in the*Novell ZENworks 6.5 Server Management Administration Guide*.

   For an Oracle database, you must create the database object and configure the object. For more information, see "Setting Up the Oracle Inventory Database" in the*Novell ZENworks 6.5 Server Management Administration Guide*.

   For a MS SQL database, you must configure the database object. For more information, see "Setting Up the MS SQL Server 2000 Inventory Database" in the*Novell ZENworks 6.5 Server Management Administration Guide*.

5. Click OK.
6. Click the Associations tab, then click Add.
7. Browse to select the container under which the Inventory Service object is located, then click OK.
8. Click Apply, then click Close.

To associate the Database object with an Inventory server:

1. In ConsoleOne, right-click the Server Package, click Properties to display the Policies page.
2. Select the check box under the Enabled column for the ZENworks Database policy.
3. Click Properties to display the Inventory Management page.
4. Browse to and select the DN of the Inventory Database object (Inventory database_*server_name*), then click OK.

   For a Sybase database, the database object is automatically created during the Server Inventory installation except if you are installing on a Windows 2000/2003 server without eDirectory installed. To manually create the database object, see "Setting Up the Sybase Inventory Database" in the*Novell ZENworks 6.5 Server Management Administration Guide*.

   For an Oracle database, you must create the database object and configure the object. For more information, see "Setting Up the Oracle Inventory Database" in the*Novell ZENworks 6.5 Server Management Administration Guide*.

   For an MS SQL database, you must configure the database object. For more information, see "Setting Up the MS SQL Server 2000 Inventory Database" in the*Novell ZENworks 6.5 Server Management Administration Guide*.

5. Click OK.
6. Click the Associations tab, then click Add.
7. Browse to select an Inventory server object, then click OK.
8. Click Apply, then click Close.

Configuring the Server Inventory Policy

The Server Inventory policy contains the IP address or the DNS name of the Inventory server to which the inventory data is sent. This policy also contains the inventory scanning schedule for the associated inventoried server. You must configure the Server Inventory policy for each inventoried server.

To configure the Server Inventory policy package:

1. In ConsoleOne, right-click the Distributed Server Package, then click Properties to display the Policies tab.
2. Click Policies, then click NetWare or Windows, depending on the operating system of the inventoried server.
3. Select the check box under the Enabled column for the Server Inventory policy.
4. Click Properties to display the Server Inventory Policy page.
5. In the General tab, configure the following settings:
   - **5a** Browse to select the DN of the Inventory Service object.

     This setting specifies that the scanner will send the server scan data to this Inventory server.
   - **5b** Select the DNS name or the IP address of the Inventory server.
   - **5c** If the roll-up is to an Inventory server that is across the firewall, specify the IP address and the port number of the proxy server.
6. (Optional) Customize the Inventory scan for the inventoried servers.
   - **6a** To customize the hardware scan for the inventoried servers, click the Hardware Scan tab and configure the following settings:

     Enable DMI Scan: Includes DMI scanning of Windows inventoried servers.

     Enable WMI Scan: Includes WMI scanning of Windows inventoried servers.
   - **6b** To customize the software scan for the inventoried servers on which Novell ZENworks for Servers 3.0 or ZENworks for Servers 3.0.2 is installed, click the Software Scan tab and configure the following settings:

     IMPORTANT: Do not configure the settings for the inventoried servers that have ZENworks 6.5 Server Management installed.

     Enable Software Scan: Enables software scanning for the Windows inventoried servers associated with the Inventory policy. The scan program collects software information for the inventoried servers and stores it in the Inventory database.

     Custom Scan Editor: Enables you to customize the list of application details to scan for at the Windows inventoried servers. The Inventory scanner scans for the details of the applications listed in the Custom Scan Editor.

     For example, specify the following details in the Custom Scan Editor: Vendor Name=Microsoft; Product Name=Microsoft Office; Product Version=10.0; FileName=winword.exe; File Size=1 MB. The Inventory scanner scans for the winword.exe file having a size of 1 MB on the inventoried servers. If the file is found, the scanner stores "Microsoft;Microsoft Office;10.0" for "winword.exe;1 MB" in the Inventory database.

     Product Identification Number: Enables you to scan for the product identification number of the Microsoft applications installed on the inventoried servers.

6c Click the Configuration Editor tab; if required, modify the settings of the following .ini files.

- **Asset Information:** Scans for vendor-specific information from DMI. For more information on how to configure the Asset Information, see "Scanning for Vendor-Specific Asset Information from DMI" in the *Novell ZENworks 6.5 Server Management Administration Guide*.
- **Zipped Names:** Customizes the hardware scanning of Jaz* and Zip* drives. For more information, see "Customizing the Hardware Scanning Information of Jaz and Zip Drive Vendors" in the *Novell ZENworks 6.5 Server Management Administration Guide*.
- **SWRules:** Configure the SWRules file for the Windows inventoried servers on which Novell ZENworks for Servers 3.0 or ZENworks for Servers 3.0.2 is installed. Do not configure the settings for inventoried servers that have ZENworks 6.5 Server Management installed.

  The SWRules option customizes the software scanning information of vendors and products. For more information, see "Customizing the Software Inventory Information To Be Scanned For ZENworks for Servers 3.X Inventoried Servers"in the *Novell ZENworks 6.5 Server Management Administration Guide*.
- **HWRules:** Customizes the nominal size of monitors. For more information on how to configure the HWRules .ini file, see "Customizing the Hardware Information for Monitor's Size" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

7 Click the Policy Schedule tab.

8 Modify the schedule, click Apply, then click Close.

9 In the Distributed Server Package property page, click the Distribution tab, then click Add.

10 Browse to add the Distribution object, then click OK.

11 Click Apply, then click Close.

12 In ConsoleOne, right-click the Inventory Service object (Inventory Service_*server_name*), click Properties, then click the Inventory Service Object Properties tab.

13 Ensure that the Enable Scan of Machines check box is selected, then click OK.

This setting ensures that scanning is selected for the inventoried servers associated with the selected Inventory server.

Configuring the Distributor and the Subscriber Object

To configure the Distributor and the Subscriber object, see "Tiered Electronic Distribution" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

If the inventoried servers are residing on a different eDirectory tree or on the Windows server that does not have eDirectory installed, you must create and configure External Subscriber object for sending Distributions to Subscribers residing on inventoried servers in other trees. For more information on External Subscribers, see "External Subscribers" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

Installing the ODBC Drivers

Before running the inventory reports, review the following:

- ❑ Make sure that the appropriate ODBC client for Sybase, Oracle, or MS SQL is installed on the machine running ConsoleOne. The ODBC driver will be automatically configured on the machine when you invoke the Inventory report.

  To install the ODBC driver for the Sybase database,

  1. In the *Novell ZENworks 6.5 Companion 2* CD, open the \database drivers directory
  2. Follow the instructions in the ODBCreadme.txt file in the \database drivers directory. The information helps you to set up the address of the Sybase database and verify that you can make a connection

  For Oracle, you must install the appropriate client for ODBC. For example, for Oracle 8i Inventory database, install the Oracle 8i client because Inventory reports are not compatible with either the older or the later version of the client.

  For MS SQL, the client is available on all Microsoft Windows operating system.

- ❑ Make sure that at least MDAC 2.6 SP1 (Microsoft Data Access Component) is installed particularly on a Windows NT machine for running Crystal Reports. Check the version of MDAC on your box: select Control panel > ODBC Data sources > the About tab pane. The minimum version required is 3.520.7326.0. If the version you have does not match the minimum requirement, you need to upgrade the ODBC core components by downloading from Microsoft site (http://microsoft.com/data/download.htm)

Starting the Inventory Services

- On a NetWare server: Enter **`startinv`** at the server console prompt.
- On a Windows server: In the Control Panel, double-click Administrative Tools > Services, select Novell Inventory Service, then click Start.

7 Management and Monitoring Services Installation

This section provides instructions to help you install Novell® ZENworks® Management and Monitoring Services to the following platforms where an older version of ZENworks has not previously been installed:

- "Installation on NetWare and Windows" on page 111
- "Installation on Linux" on page 115

Installation on NetWare and Windows

This section provides instructions to help you install the Management and Monitoring Services component of Novell ZENworks Server Management to NetWare® and Windows servers.

For more information on understanding and planning your Management and Monitoring Services and for advanced setup and administration, see "Management and Monitoring Services" in the Novell ZENworks 6.5 Server Management Administration Guide

The following topics explain the installation procedure in detail:

- "Installing the Server Software" on page 111
- "Installing the ConsoleOne Snap-Ins" on page 113
- "Post-Installation Tasks" on page 113

Installing the Server Software

1. If you haven't already done so, log in with Admin or equivalent rights to the target management server and the container containing the target management server.
2. (Recommended) If Sybase is running on the server on which the database is installed, quit the Sybase engine. To quit Sybase, go to the server console, and enter `q` on the Sybase screen.
3. Insert the *ZENworks 6.5 Server Management Program* CD.

   The startup page appears. If the startup page is not automatically launched after inserting the CD, you can launch it by running winsetup.exe at the root of the CD.

   IMPORTANT: If you copied the *Program* CD structure to the installation machine's hard drive, the path between the root of the hard drive and the first CD directory can contain only directory names that conform to the 8.3-character DOS file naming convention. If any long directory names exist in the path, the installation program will not work.
4. If you have not already done so, extend the schema.

   The schema must be extended on the eDirectory tree where you want to create the ZENworks objects. For more information on how to extend the schema, see "Extending the Schema" on page 65.

5 Click Management and Monitoring Services > Site Management Services and Agents.

If you restart the target Management server after you mapped a drive at the workstation, the installation might no longer recognize the mapped drive. Detach the tree from NetWare Connection, disconnect the mapped drive, and remap the volume.

We recommend that you do not install on the sys: volume of your target Management server.

6 Click Next at the Welcome screen.

7 If you agree with the Software License Agreement, click Yes; otherwise, click No then click Exit Setup to exit.

8 Select the desired ZENworks Server Management components listed in the following table.

IMPORTANT: You need Admin or equivalent rights to target servers. Create a shared folder on all Windows 2000/2003 servers where you are installing the ZENworks agents.

Server Components	Install On
Management Site Services	Management server
Server Management Agent	All NetWare and Windows servers that you want to manage
Traffic Analysis Agent	One server (NetWare or Windows 2000/2003) per segment
Advanced Trending Agent	All NetWare, Windows, and Linux servers that you want to manage

9 Click Next.

10 Select a NetWare server to a management site server, specify the location (volume and path) where the software should be installed, then click Next.

11 Enter the license code if you have not already done so when extending the schema, then Click Next.

12 Specify the database file path.

IMPORTANT: If the selected server has RAM of 4 GB or more, the following error message might be displayed: “Management Site Server requires a minimum of 512 MB of RAM for proper functioning. The server you have selected does not have 512 MB of RAM.” Ignore the message.

13 If you are installing Management and Monitoring Services for the first time, select the option to provide the copy of the empty database files.

If you want to copy Management and Monitoring Services Novell ConsoleOne® snap-ins to the Management Site Server ConsoleOne, select the option to copy the ConsoleOne snap-ins to the Management Site Server.

14 If you do not need to reconfigure your discovery parameters beyond the default settings (for example, using SNMP community names other than PUBLIC), start the autodiscovery process and the back-end services:

14a To start the autodiscovery process, select Start the Autodiscovery Process.

14b To start the back-end services, select Start the Backend Services on the Server.

15 Specify a name for the service locator object and specify the context.

Other management objects also need to be created in this context. If multiple management sites are used, specify a context that is readily accessible. The default name and context are provided based on the Management server you selected in Step 10.

16 Click Next.

17 If you selected to install only Server Management Agent, Traffic Analysis Agent, or Advanced Trending Agent in Step 8, you need to select the site server or specify the IP address, which is used for updating the destination of the traps.

18 Select the NetWare and Windows 2000/2003 servers, the agents to install on each server, and the destination folder for the software, then click Next.

19 Review the summary list of selections you made in the preceding steps. To change a setting, click Back. Otherwise, click Finish to start the installation.

For Managed servers on NetWare, the ZENworks agents are automatically started. For Managed servers on Windows 2000/2003, you must restart Windows 2000/2003 after you install the agents.

IMPORTANT: 1) If you have selected to install the Advanced Trending Agent on a NetWare server, you must restart the NetWare server after installation has completed. To restart the server, enter **`restart server`** at the command prompt.

2) If you have selected to install any of the Management and Monitoring Services agents on a NetWare server that is a Management Site Server, you must restart the Management site server after installation has completed. To restart the server, enter **`restart server`** at the command prompt.

20 If you chose not to start all the back-end services and the autodiscovery process during installation, you need to manually start the back-end services and the autodiscovery process after the installation is completed. To manually start the services, enter **`startmms`** at the command prompt.

21 Continue with the next applicable section:

- To install the ConsoleOne snap-ins for Management and Monitoring Services, continue with "Installing the ConsoleOne Snap-Ins" on page 113.
- Or, continue with "Post-Installation Tasks" on page 113.

Installing the ConsoleOne Snap-Ins

You can install multiple management consoles for accessing data on a management server. You must have Admin rights to the workstation to install the management console software on a Windows 2000/XP workstation.

To install the ZENworks Server Management ConsoleOne software:

1 If you want to install to a remote server, you need to log in as an administrator or a user with Admin equivalent rights.

2 Insert the *ZENworks 6.5 Server Management Program* CD.

If the startup page is not automatically launched after inserting the CD, you can launch it by running winsetup.exe at the root of the CD.

3 Click Management and Monitoring Services > Site Management ConsoleOne Snap-ins.

4 Specify a destination folder for the snap-ins or click Next to accept the default destination folder.

The snap-in files are installed.

5 Select to view the Readme file, then click Finish.

6 Continue with "Post-Installation Tasks" on page 113.

Post-Installation Tasks

After installing the Novell ZENworks Management and Monitoring Services software to NetWare, Windows, and Linux servers, perform the following tasks:

- “Starting the Management Console” on page 114
- “Installing the ODBC Drivers” on page 114

Starting the Management Console

You can begin using the management console to manage and monitor your network after you have started the management server.

To start the management console:

1. Log in to the eDirectory tree containing the Management server.
2. To start ConsoleOne, click ZfS Console in the ZfS Program Group on the Windows Start menu.
3. Start Management and Monitoring Services, then click ZfS Sites to begin managing your network.

   TIP: If you did not start the autodiscovery process and the back-end services during installation, you cannot expand the site and use the Atlas view until you complete the discovery process. To manually start the services on NetWare, at the command prompt enter `startmms`.
4. Expand the site, click Atlas, then click Atlas View.

   or

   Click the + sign to expand the view.

Installing the ODBC Drivers

Before running the Management and Monitoring Services reports you must make sure that the appropriate ODBC client for Sybase on the machine running ConsoleOne. The ODBC driver is automatically configured on the machine when you invoke the report

To install the ODBC driver for the Sybase database,

1. In the *Novell ZENworks 6.5 Companion 2* CD, open the \database drivers directory.
2. Follow the instructions in the ODBCreadme.txt file in the \database drivers directory. The information helps you to set up the address of the Sybase database and verify that you can make a connection.
3. Make sure that at least MDAC 2.6 SP1 (Microsoft Data Access Component) is installed particularly on a Windows NT machine for running Crystal Reports. Check the version of MDAC on your box: select Control panel > ODBC Data sources > the About tab pane. The minimum version required is 3.520.7326.0. If the version you have does not match the minimum requirement, you need to upgrade the ODBC core components by downloading from Microsoft site (http://microsoft.com/data/download.htm).

Installation on Linux

This section provides you with instructions for installing the following agents of Management and Monitoring Services on Linux servers: Server Management Agent and Advance Trending Agent.

You can install Management and Monitoring Services' agents on Linux servers using the Linux installation script on the *ZENworks 6.5 Server Management Program* CD. The installation script is used to install on a single Linux server.

This section provides basic instructions on installing the Management and Monitoring Services' agents on Linux servers. Before you begin this process, you should thoroughly understand and plan your implementation.

You can use the Management and Monitoring Services installation script to install the following agents on a single Linux server:

- **Linux Management Agent:** Manages and monitors Linux servers. This includes fault management and performance management.
- **Advanced Trending Agent:** Collects the trend data for SNMP variables. This includes threshold configuration and SNMP Trap generation.

All the examples provided in the installation steps are case sensitive. Ensure that you copy the values as written in the installation steps.

After you install Management and Monitoring Services' agents on Linux, you must configure the SNMP service on your Linux machine. For more information, see "Configuring the SNMP Service on Linux" on page 117.

At the Linux server where you want to install Management and Monitoring Services' agents:

1. Log in as `root`.
2. Place the *ZENworks 6.5 Server Management Program* CD in the CD drive.

   If auto-mount does not occur, mount the CD drive manually.
3. Review the Readme for any last-minute information concerning installation.

   The product Readme is located in the \document\en directory on the *Program* CD.
4. If you are running X Windows, open an XTerm window on the Linux server console.
5. In the server prompt, change to the directory where the Management and Monitoring Services installation script is located:

   `cd /device_directory/ZfS/SvrMgmt/mms/Linux`

   where *device_directory* represents the mount point for the CD device and *platform* is `Linux`.

   The installation script is named:

   `MMS_Linux_Install.pl`

   NOTE: The font used for the examples in this step is used throughout this section for case-sensitive text that must be typed exactly as provided in the example.
6. To run the Management and Monitoring Services installation script, enter:

   `./MMS_Linux_Install.pl`
7. The Welcome page displays; press Enter to display the next page.
8. Press Enter to display the license agreement, press the Spacebar to scroll through the license agreement, type **`y`**, then press Enter to accept the license agreement.

9 Type one of the numbers, separated by a space or a comma, to specify what you want to install:

1 Linux Management Agent
2 Advanced Trending Agent
3 Both

For example, type **3**, then press Enter.

The Linux Management Agent, Advanced Trending Agent, or both are installed based on the option you select.

10 To confirm your selection, type **y**, then press Enter.

The installation script uses the Red Hat Package Manager (RPM) to install the program files. Installation progress displays on the page.

11 If you selected to install the Advanced Trending Agent in Step 9, at the end of installation, specify the IP address of the server and the community string where the traps need to be sent, then type **q** to quit. You can also add multiple trap targets.

You can manually add the Trap Targets by editing the snmpd.conf file that is used by the snmpd master agent. In order for you to manage alarms from ConsoleOne, you must specify the IP address of the destination machine that will be your site server. You can also specify multiple IP addresses. For more information, see "Management and Monitoring Services" in the *Novell ZENworks 6.5 Server Management Administration Guide*

For Linux Management Agent, you need to manually edit the configuration file. For more information, see the *Novell ZENworks 6.5 Server Management Administration Guide*.

12 Press Enter to continue.

13 Review the log file to determine the success or failure status of the installation.

The installation script logs all the actions in the `/var/opt/novell/zenworks/log/zfs-mms-install.log` file. Open this log file to verify if Management and Monitoring Services is installed successfully on the Linux server.

You can also refer to Appendix G, "Installation Error Messages," on page 357 to troubleshoot specific errors.

14 If the installation was successful, repeat these steps for each Linux server.

After you have installed the Management and Monitoring Services' agents on your Linux server, the installation script automatically starts the Linux Management Agent and the Advanced Trending Agent. However, you can manually start or stop the agents. For more information, see "Starting the Agents on Linux Servers" on page 316 or "Stopping the Agents on Linux Servers" on page 317.

IMPORTANT: Make sure that the line "rocommunity public 127.0.0.1" exists in `/etc/snmp/snmpd.conf` and it is not commented before you start the SNMP Daemon.

Configuring the SNMP Service on Linux

To access the Management and Monitoring Services' agents on the Linux machine, you must configure the SNMP Service on your Linux machine.

The SNMP service on Linux uses the settings that are read from the snmpd.conf file located in the /etc/snmp/ directory. To change the settings of the service, you can directly edit the configuration file. For the service to pick up the configuration changes, restart the SNMP service after you modify the snmpd.conf file.

To configure the SNMP service on Linux and to allow access to the OIDs required by Management and Monitoring Services' agents, you must add the following lines to the snmpd.conf file. For more information on the settings, see man snmpd.conf.

To provide read-only access to all the OIDs in the MIB tree for the local host and the site server, add the following lines in the snmpd.conf file:

```
rocommunity <read_community> localhost .1
rocommunity <read_community> <site_server_IP address> .1
```

To provide write access for the site server, add the following lines in the snmpd.conf file:

```
view mmsWriteView included .1.3.6.1.4.1.23.2.102
view mmsWriteView included .1.3.6.1.2.1.16.18
com2sec mmsWriteUser <site_server_IP address> <write_community>
group mmsWriteGroup v1 mmsWriteUser
group mmsWriteGroup v2 mmsWriteUser
access mmsWriteGroup "" any noauth exact none mmsWriteView none
```

NOTE: You must specify the *<read_community>* in the NXPCON for NetExplorer™ to discover this on the Linux machine.

For the views to display, you must specify the *<read_community>* and the *<write_community>* in the SNMP Properties tab in the Property Page.

IV Upgrade

You can upgrade to Novell® ZENworks® 6.5 Server Management from previous versions of ZENworks for Servers (2 or 3.*x*), or apply the latest ZENworks support pack to version 6.5.

In the following sections, the first provides an upgrade overview, the second describes what's new in ZENworks 6.5 Server Management, the third describes how to upgrade to a support pack, and the others provide upgrade instructions by component:

TIP: For Policy and Distribution Services, you can use the GUI upgrade program to reinstall software. Select the Version 6.5.0 option as the only platform option on the Objects to Upgrade page, then select the servers where you want to reinstall the software. However, objects can only be reinstalled using the GUI installation program (see "Installation on NetWare and Windows" on page 61).

8 Overview

Review the following to understand how to upgrade from Novell® ZENworks® for Servers 2 or 3.*x* to ZENworks 6.5 Server Management, or how to apply the latest ZENworks support pack:

Upgrading from ZENworks for Servers 2

If ZENworks for Servers 2 is installed in the same network as ZENworks 6.5 Server Management, there is no interoperability between those two ZENworks versions. In other words, you cannot do an incremental upgrade from version 2 to version 6.5 and have interoperability between version 6.5 servers and version 2 servers. For more information, see "Interoperability with ZENworks for Servers 2" on page 261.

You can upgrade from ZENworks for Servers 2 to ZENworks 6.5 Server Management, but only indirectly, as outlined in the following sections:

Policy and Distribution Services, Remote Management, and Management and Monitoring Services

There are two methods for upgrading these ZENworks for Servers 2 components to ZENworks 6.5 Server Management:

- **Uninstall Version 2:** Then install ZENworks 6.5 Server Management. You cannot upgrade directly to ZENworks 6.5 Server Management from ZENworks for Servers 2.

  For instructions on uninstalling version 2, see *ZENworks for Servers 2 documentation Web site* (http://www.novell.com/documentation/lg/zfs2/index.html). Under Policy and Distribution Services, click Uninstalling ZENworks for Servers Policy and Distribution Services, and under Management and Monitoring Services, click Uninstalling the Management Site Services and Agents.

- **Upgrade First to Version 3.0.2:** Then upgrade from version 3.0.2 to ZENworks 6.5 Server Management using the instructions in this section.

  For instructions to upgrade to version 3.0.2, go to the *ZENworks for Servers 3.0.2 documentation Web site* (http://www.novell.com/documentation/lg/zfs302/index.html). Under Installation, click Upgrading ZENworks for Servers 2.

If you have Server Software Packages created in ZENworks for Servers 1.0 or 2 that you want to preserve in ZENworks 6.5, they must be converted to version 6.5 after you have upgraded to ZENworks 6.5 Server Management. For more information, see "Converting Older Server Software Packages to ZENworks 6.5 Server Management" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

Continue with "Upgrading from ZENworks for Servers 3.x" on page 121.

Server Inventory

If you do not plan to simply uninstall ZENworks for Servers 2 or ZENworks for Servers 2 SP1, before you upgrade Server Inventory to ZENworks 6.5, perform the following tasks:

- If you want to manage the existing ZENworks for Servers 2 or ZENworks for Servers 2 SP1 servers, make sure that you have made a reliable backup of the existing ZENworks for Servers ConsoleOne.
- Make sure that you have made a reliable backup of the ZENworks for Servers 2 or ZENworks for Servers 2 SP1 Inventory database.
- Understand the new Server Inventory features in ZENworks 6.5 Server Management. For more information, see "Server Inventory" on page 135.
- Make sure that the recommended ZENworks 6.5 Server Inventory system requirements are met. For more information, see Chapter 5, "Server Requirements," on page 43.
- Review the instructions in "Preparation" on page 25.

The ZENworks 6.5 Server Inventory installation program automatically upgrades an existing ZENworks for Servers 2 or ZENworks for Servers 2 SP1 Inventory server and the ConsoleOne snap-ins to ZENworks 6.5. For more information on installing ZENworks 6.5 Server Inventory, see "Policy-Enabled Server Management Installation" on page 61.

IMPORTANT: The existing ZENworks for Servers 2 or ZENworks for Servers 2 SP1 Inventory database cannot be migrated to the ZENworks 6.5 Inventory database.

When the ZENworks 6.5 Inventory Agent is installed on the inventoried server, the existing ZENworks for Servers 2 or ZENworks for Servers 2 SP1 Inventory Agent is uninstalled. If the existing ZENworks for Servers Inventory Agent is not uninstalled, you need to manually uninstall it.

To manually uninstall the ZENworks for Servers 2 or ZENworks for Servers 2 SP1 Inventory Agent on a Netware server:

1. Unload INVSCAN.NLM.
2. From SYS:\SYSTEM, delete the following files:

   INVSCAN.NLM
   INVSCAN.INI
   SCANNER.NCF
3. In SYS:\SYSTEM\AUTOEXEC.NCF, delete the following line:

   ```
   sys:\system\scanner.ncf
   ```

To manually uninstall the ZENworks for Servers 2 or ZENworks for Servers 2 SP1 Inventory Agent on a Windows NT/2000 server:

1. Stop the ZENworks for Servers 2 or ZENworks for Servers 2 SP1 Inventory Agent service.

   In the Windows NT Control Panel, double-click Services, select ZFS Inventory, then click Stop.

   In the Windows 2000 Control Panel, double-click Administrative Tools > Services, select ZFS Inventory, then click Stop.

2. Note the value of the ImagePath key in the HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ZfS Inventory registry entry. The ImagePath key contains the Inventory Agent installation directory.

3. Delete the Inventory Agent installation directory identified in the Image Path key.

4. Delete the HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ZfS Inventory registry entry.

After installing ZENworks 6.5 Server Inventory, follow the instructions in "Post-Installation Tasks" on page 97.

Upgrading from ZENworks for Servers 3.*x*

Review the following sections to learn how to upgrade to ZENworks 6.5 Server Management:

Upgrade Order

ZENworks for Servers 3.*x* components must be upgraded independently to ZENworks 6.5 Server Management components. We recommend the following upgrade order:

1. Extend the Schema (required before upgrading any component).
2. Upgrade Policy and Distribution Services.
3. Upgrade Server Inventory (requires Policy and Distribution Services to be upgraded first).
4. Upgrade Remote Management.
5. Upgrade Management and Monitoring Services.

Upgrade Methods

There are two methods for upgrading the ZENworks for Servers 3.*x* components to ZENworks 6.5 Server Management:

- **GUI Upgrade Wizard:** For NetWare and Windows servers, various options in the wizard that you run from the *Novell ZENworks 6.5 Server Management Program* CD provide upgrading for each of the Server Management components.

  For all platforms, this method must be used to upgrade Distributor and Subscriber objects.

  For Linux and Solaris servers for the Policy and Distribution Services component, upgrading Distributors is done using a script, which detects an existing ZENworks for Servers version

and provides the upgrade option. Distributor objects for Linux or Solaris Distributor servers must be upgraded first using the GUI upgrade program.

- **Server Software Package:** You can use the .cpk file available on the *Novell ZENworks 6.5 Companion 2* CD to upgrade each of the Server Management components for the each of the supported operating systems (except for Distributor objects on Linux and Solaris servers). This method simply requires creation of Software Package Distributions to be sent to the Subscriber servers that you want to upgrade.

  This method does not upgrade Subscriber objects. That must be done using the GUI upgrade program.

IMPORTANT: You must upgrade all of the ZENworks for Servers 3.*x* components that are installed on a server when you upgrade that server to ZENworks 6.5 Server Management. For example, if you upgrade ZENworks for Servers 3.*x* Policy and Distribution Services to ZENworks 6.5 Policy and Distribution Services, but do not upgrade its existing ZENworks 3.0.2 Server Inventory to version 6.5, then Server Inventory will not work on that server until you have upgraded it to version 6.5.

For issues dealing with interoperability between ZENworks 6.5 Server Management and ZENworks 6.5 Desktop Management, see "Interoperability" on page 259.

To review what's new in ZENworks 6.5, see "What's New in the ZENworks 6.5 Server Management Initial Release" on page 125.

Upgrade Instructions

Continue with the applicable upgrade section:

- Chapter 11, "Policy and Distribution Services," on page 185
- Chapter 12, "Server Inventory," on page 223
- Chapter 13, "Remote Management," on page 241
- Chapter 14, "Management and Monitoring Services," on page 247
- Chapter 15, "Upgrading from ManageWise 2.7," on page 257

Upgrading ZENworks 6.5 Server Management to a ZENworks Support Pack

There are three methods for upgrading the ZENworks 6.5 Policy-Enabled Server Management components to a support pack:

- **GUI Wizard:** For NetWare and Windows servers, various menu options in the installation program that you run from the support pack download access wizards for upgrading each of the Server Management components: Policy and Distribution Services, Server Inventory, Remote Management, and Management and Monitoring Services.
- **Script:** For the Policy and Distribution Services component only, upgrading Linux and Solaris servers to a support pack can be done using a script included in the support pack download.
- **Server Software Package:** You can use the .cpk files available in the download file to upgrade the Policy-Enabled Server Management components for the each of the supported operating systems. This method simply requires creation of Software Package Distributions to be sent to the Subscriber servers that you want to upgrade to a support pack.

  You cannot upgrade Management and Monitoring Services using a Server Software Package.

The ZENworks support pack does not upgrade any Novell eDirectory™ objects.

For issues dealing with interoperability between ZENworks 6.5 Server Management and ZENworks 6.5 Desktop Management, see "Interoperability" on page 259.

To review what's new in the support pack, see "What's New in ZENworks 6.5 Server Management Support Pack 1" on page 143.

To upgrade to the support pack, see Chapter 10, "ZENworks 6.5 Server Management Support Packs," on page 149.

9 What's New

The following sections describe what's new in Novell® ZENworks® 6.5 Server Management:

- "What's New in the ZENworks 6.5 Server Management Initial Release" on page 125
- "What's New in ZENworks 6.5 Server Management Support Pack 1" on page 143
- "What's New in ZENworks 6.5 Server Management Support Pack 2" on page 147

What's New in the ZENworks 6.5 Server Management Initial Release

The following sections describe software changes between ZENworks 6.5 Server Management and ZENworks for Serves 3.0.2:

- "General Changes" on page 125
- "Policy and Distribution Services" on page 131
- "Server Inventory" on page 135
- "Remote Management" on page 137
- "Management and Monitoring Services" on page 138

For installation instructions, see "Installation" on page 59.

General Changes

The following sections outline what's new in general for Server Management:

- "Supported Platforms Updated" on page 125
- "ConsoleOne Tools Menu Reorganized" on page 126
- "New File System Standard Used in Upgrading Linux and Solaris Servers" on page 129
- "New Default ZENworks Database Object Names" on page 131

Supported Platforms Updated

Novell ZENworks 6.5 Server Management supports the following platforms:

NetWare® 5.1 SP5, SP6 and SP7
NetWare 6 SP4 and SP5
NetWare 6.5 SP1a and SP2
SUSE® LINUX Enterprise Server 8 and 9
SUSE LINUX Standard Server 8 and 9
Red Hat Advanced Server 2.1
Red Hat Enterprise Server 2.1

Red Hat Enterprise Linux* AS 3
Red Hat Enterprise Linux ES 3
Solaris* 9 (only Policy and Distribution Services)
Windows* 2000 SP4 and Windows Server 2003 (Standard or Enterprise Edition)

For more information, see Chapter 5, “Server Requirements,” on page 43.

The following platforms are generally not supported by ZENworks 6.5 Server Management:

NetWare 4.*x*
NetWare 5.0
Windows NT* 4

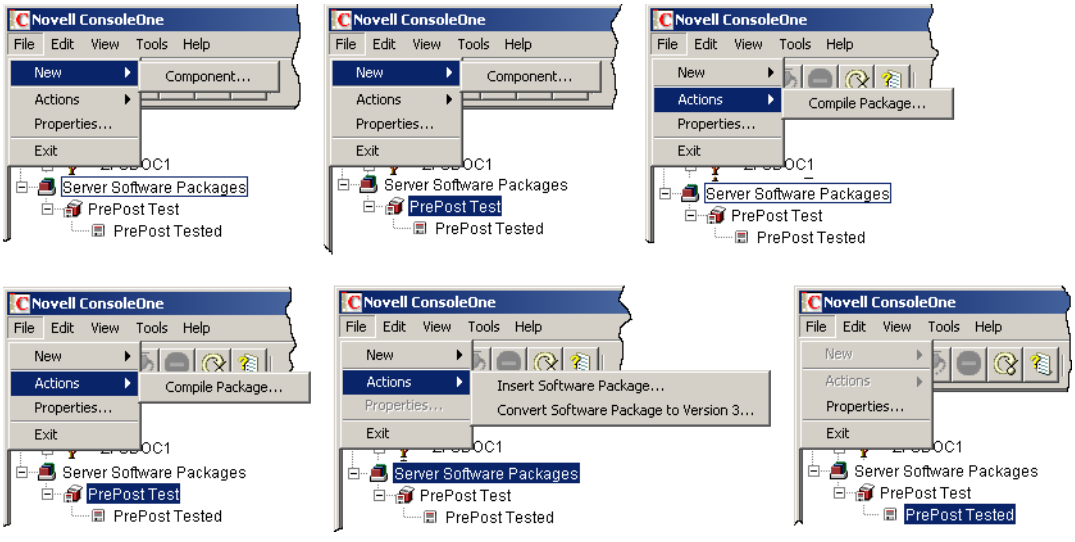
For more information, see Chapter 5, “Server Requirements,” on page 43.

ConsoleOne Tools Menu Reorganized

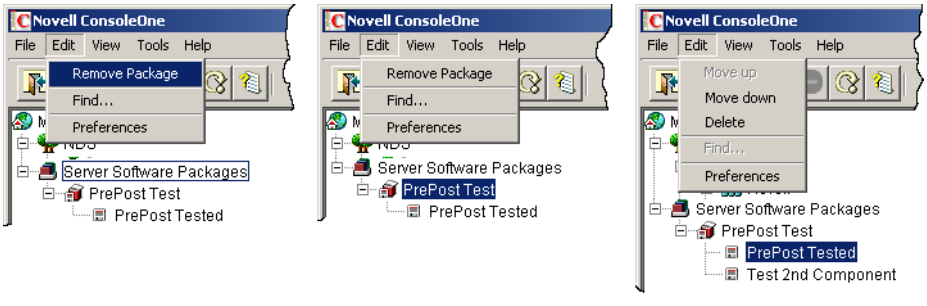
Various Novell ConsoleOne® menu options were moved to different menu locations to improve ease of use. However, when right-clicking a ZENworks 6.5 eDirectory object, the options remain as they were in ZENworks for Servers 3.*x*.

The following illustrations show where menu options now exist. Only the menu options specific to ZENworks Server Management are shown.

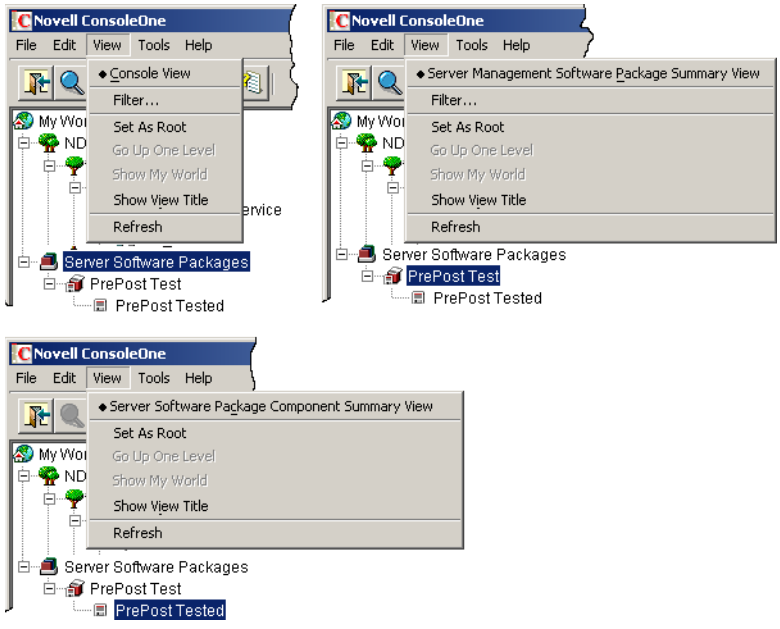
Several options were removed from the File menu, leaving the following:



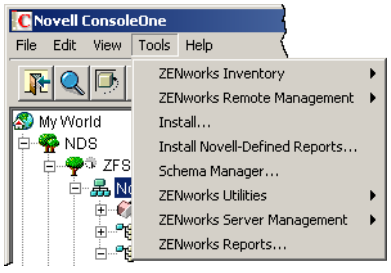
The Edit menu contains the following options:



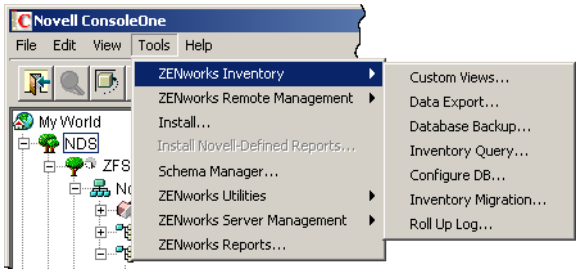
The View menu contains the following options:



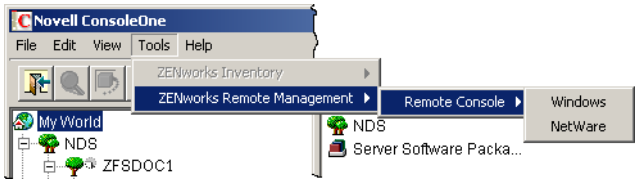
The Tools menu has been expanded and now contains the following options:



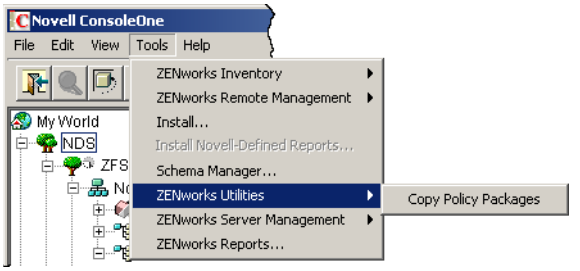
The Tools > ZENworks Inventory menu selection has the following options:



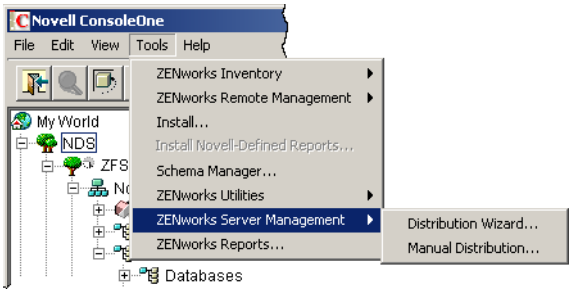
The Tools > ZENworks Remote Management menu selection has the following options:



The Tools > ZENworks Utilities menu selection has the following option:



The Tools > ZENworks Server Management menu selection has the following options:



New File System Standard Used in Upgrading Linux and Solaris Servers

The ZENworks 6.5 Server Management file structure for Policy and Distribution Services has been changed to comply with the Linux File System Standards.

The following sections show the path and filename changes:

- “Service Script” on page 129
- “Log Files” on page 130
- “Working Directories” on page 130
- “Security Directory” on page 130

Service Script

The script that starts and stops Policy and Distribution Services has had its filename changed for version 6.5.

Old	`/etc/init.d/zfs`
New	`/etc/init.d/novell-zfs`

Log Files

The default log file locations and filenames have changed for version 6.5. However, if you are upgrading, the log files remain in the previous location.

Installation Old	`/var/log/ZFSInstall.log`
Installation New	`/var/opt/novell/log/zenworks/zfs-pds-install.log`
Distributor Old	`/usr/ZENworks/PDS/ted/dist/log`
Distributor New	`/var/opt/novell/log/zenworks/zfs-pds-ted.log`
Subscriber Old	`/usr/ZENworks/PDS/ted/sub/log`
Subscriber New	`/var/opt/novell/log/zenworks/zfs-pds-ted.log`
Policy/Package Agent Old	`/usr/ZENworks/PDS/smanager/ZFSINIT.LOG`
Policy/Package Agent New	`/var/opt/novell/log/zenworks/zfs-startup.log`

Working Directories

The default working directories have changed for version 6.5. However, if you are upgrading, the working directories remain unchanged.

Distributor Old	`/usr/ZENworks/PDS/ted/working/dist`
Distributor New	`/var/opt/novell/zenworks/zfs/pds/dist`
Subscriber Old	`/usr/ZENworks/PDS/ted/working/sub`
Subscriber New	`/var/opt/novell/zenworks/zfs/pds/sub`

Security Directory

The location of the security directory has been changed. This is where you manually copy Distributors' certificates for encryption purposes or to establish a Distributor that the Subscriber can trust for receiving Distributions.

Old	`/usr/ZENworks/PDS/ted/security`
New	`/var/opt/novell/zenworks/zfs/pds/security`

New Sybase Version for the ZENworks Databases

Upgrading Policy and Distribution Services from ZENworks for Servers 3.*x* using the graphical upgrade program upgrades the Sybase engine to version 8.0.2, if it is not already at that version.

Upgrading Policy and Distribution Services from ZENworks for Servers 3.*x* using the .cpk file on the *ZENworks 6.5 Companion 2* CD also upgrades Sybase 8.0.2.

If a zfslog.db file exists in ZENworks for Servers 3.*x*, it will not be replaced. If it does not exist, a new file will be installed during the upgrade.

New Default ZENworks Database Object Names

The following shows the old and new default database object names that are provided during installation:

Old Database Name	New Database Name
ZENworks Database	Server Management Database_*server_name*
*server_name*_Inventory Database	Inventory Database_*server_name*

No default name is given when creating a database object in ConsoleOne.

The policy names have not changed for the policies used by these databases.

Policy and Distribution Services

Policy and Distribution Services in ZENworks 6.5 Server Management provides the following new features or enhancements:

- "New Consolidated Start File" on page 131
- "New Linux/Solaris Configuration Utility" on page 132
- "New Consolidated Log File" on page 132
- "New Server Policy: Prohibited File" on page 132
- "New Tiered Electronic Distribution Features" on page 132

New Consolidated Start File

Previously, the zfs.ncf, ted.ncf, and zws.ncf files were used to individually start the separate Policy and Distribution Services processes. In version 6.5, they are combined into one service named ZENworks Server Management.

To start all Policy and Distribution Services processes:

- **NetWare:** Enter **`zfs`** at the server's command prompt.
- **Windows:** Start the Windows service named Novell ZENworks Service Manager.
- **Linux/Solaris:** Enter **`/etc/init.d/novell-zfs start`** at the terminal.

For more information, see Appendix B, "Starting and Stopping Server Management Services," on page 309.

The startup options found in the zfs.ncf, ted.ncf, and zws.ncf files are now contained in the zfs-startup.xml and zfsversion.ncf files. These newer files are located in:

- **NetWare:** \zenworks\zfs-startup.xml and \zenworks\zfsversion.ncf
- **Windows:** \zenworks\zfs-startup.xml and \zenworks\pds\bin\zfsservice.cfg
- **Linux/Solaris:** /opt/novell/zenworks/bin/zfs-pds and /opt/novell/bin/zfs-pds-version

The NetWare console prompt for Server Management now defaults to:

```
ZENworks Server Management >
```

Because of the combined processes, the TED console prompt no longer exists on NetWare servers.

New Linux/Solaris Configuration Utility

A new utility has been provided for Linux and Solaris servers:

```
/opt/novell/bin/zfs-pds-configure
```

This utility has the following functions:

- Allows you to reconfigure your Distributors and Subscribers after they have been installed
- Allows you to quickly reinstall corrupted Distributor and Subscriber objects and code

New Consolidated Log File

For all platforms, the two log files:

```
defaultLog.txt
zfsinit.log
```

have been replaced with:

```
zfs-startup.log
```

After Tiered Electronic Distribution starts up and reads its configuration, all distribution-related logging is done to the ted.log file.

If a ZENworks Server Management policy is defined with a log file specified, the Policy/Package Agent starts logging to the specified file once it reads its policies. At that point, all that is left in zfs-startup.log are ZENworks Web Server messages.

Database logging continues to be made in the zfslog.log file.

New Server Policy: Prohibited File

Server Management has a new policy for the Distributed Server Package: Prohibited File policy. This new policy allows you to monitor and enforce the deletion or moving of unauthorized files from a specified volume/drive or directory.For example, you can automate deletion of .jpg, .mp3, and .avi files from a server. For more information, see "Prohibited File" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

New Tiered Electronic Distribution Features

- "Desktop Application Distribution Enhancements" on page 134

Scalability

Server Management can efficiently process (send/receive/extract) Distributions that are large in size and contain a substantial number of files, such as an entire 4GB volume with greater than 50,000 file entries.

FTP Support of Symbolic Links

Server Management now supports retrieval of symbolic link files. This allows the Linux or Solaris environments to receive FTP files that would be considered invalid on other platforms.

Special Character Handling

Syntax differences (such as characters that are invalid to a platform) are now handled for each supported platform. For invalid characters, the agent properly gathers all files, regardless of platform of the Distributor server. The Subscriber server detects whether files in the Distribution package include invalid characters and ignores or skips files during extraction. Skipped files are logged. Previously, the whole Distribution would fail to extract and be installed.

Linux and Solaris support characters in file and directory names that NetWare and Windows do not recognize.

Change in Maximum Concurrent Distributions Values

The default value for the Maximum Concurrent Distributions field has been changed from a blank field (unlimited) to 5. The valid values are now restricted from 1 to 10. This change has been made to prevent a Distributor server from running out of memory and locking up when it tries to concurrently build too many large Distributions.

New Option to Override a Subscriber's Extract Schedule

For all Distribution types, a new option named Extract Immediately Upon Receipt has been added to the Schedule tab. This allows you to bypass a Subscriber's Extract schedule for a Distribution that needs to be extracted immediately (such as a Distribution the provides virus patterns), rather than wait for when the Subscriber's schedule normally fires.

With this new option, you have the ability to override the Send and Extract schedules. For more information, see Step 7 in "Creating a Distribution" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

Directory Sync Granularity for File Distributions

The File Distribution has been enhanced with directory sync granularity, which allows you to specify synchronization at any directory level in the Distribution to provide synchronization "from here down." This provides much greater flexibility and more possible configurations than the previous versions of ZENworks for Servers allowed. For more information, see "Directory Sync Granularity for File Distributions" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

Pre and Post Processing for File Distributions

Pre and post processing actions are new features for Distributions in ZENworks 6.5 Server Management to apply execution logic to a Distribution. The benefit of having pre and post actions in these Distribution types is that you are no longer restricted to using only Server Software Packages to perform those actions.

The pre and post processing actions are not available for the Policy Package and Desktop Application types of Distributions. For more information, see "Pre and Post Processing for Distributions" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

Cleaning Up Temporary Distribution Files

To reduce the amount of disk space taken up by temporary Distribution files, those files are now automatically cleaned up. Previously, after a Subscriber server extracts a Distribution, the distfile.ted file is left in the Subscriber server's working directory. For more information, see "Clean Up of Temporary Distribution Files" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

Removing a Distribution Object - Auto Removal of Temporary Files

Previously, when you deleted a Distribution or Channel object, removed a Distribution or Subscriber from a Channel, or in some way caused one or more Distributions to no longer be associated with one or more Subscribers, the Distributions' temporary files remained on the Subscriber servers, and you had to find them and delete them manually to recover disk space.

In version 6.5, when a Distributor refreshes, the temporary files of the Distributions that have been removed (either deleted or removed from a Channel) are automatically deleted from Subscribers to free up disk space. For more information, see "Removing a Distribution Object - Auto Removal of Temporary Files" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

Reassigning a Distribution to Another Distributor

A single Distributor can service many Distributions, which could cause performance degradation on that Distributor's server. In version 6.5, there is a way to reassign a Distribution from one Distributor to another to balance the work load without needing to re-create the Distribution. You can select one or more Distributions and reassign them to another Distributor.

If you delete a Distributor object in ConsoleOne, you are asked if you want to reassign the Distributions that it services. For more information, see "Reassigning a Distribution to Another Distributor" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

New Distribution Type: MSI Package

A new Distribution type has been added in ZENworks 6.5: MSI Package. It allows you to distribute Microsoft Software Installer (MSI) packages to Windows servers, where the MSI engine is used to install the Windows software included in an MSI Distribution. For more information, see Step 6 under "Creating a Distribution" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

Desktop Application Distribution Enhancements

The Desktop Application Distribution has been enhanced in ZENworks 6.5:

- **eDirectory requirement for Windows servers has been removed:** eDirectory is no longer required to be installed on Windows servers in order to process Desktop Application Distributions. Previously, eDirectory was required to be installed so that the server could create Application objects.
- **Application efficiencies have been improved:** Previously, when sending a Distribution containing applications that share a common dependent application (such as Microsoft Office), the dependent application was added to the Distribution file multiple times, unnecessarily increasing its size.

Now, Desktop Application Distribution object configurations containing chained applications do not include multiple instances of the same dependent application in the Distribution file.

- **An option for rebuilding Distributions has been added:** For more information on the Rebuild Only If Application Version Numbers Changed option, see Step 6b under "Creating a Desktop Application Distribution" in the *Novell ZENworks 6.5 Server Management Administration Guide*.
- **Support for mapped drives in source paths has been added:** For more information on the Keep the Same Source Paths for the Replicated Objects option, see Step 6d under "Creating a Desktop Application Distribution" in the *Novell ZENworks 6.5 Server Management Administration Guide*.
- **A distribution delay has been reduced:** The 60-second delay that was built in for when multiple applications are being distributed at the same time (whether by one or multiple Distributions), which allowed time for directory synchronization of the newly-created Application objects, is now a 30-second delay. For more information, see the IMPORTANT note at the end of the "Creating a Desktop Application Distribution" section in the *Novell ZENworks 6.5 Server Management Administration Guide*.

Server Inventory

Server Inventory in ZENworks 6.5 Server Management provides the following new features or enhancements:

Enhancements in the Inventory Scan of Software Data

The Inventory scanner has been enhanced with the following features that enables you to control the scanning process more effectively and efficiently:

- It supports scanning for the following software inventory information:
  - Windows operating system and its patches
  - Internet Explorer and its patches
  - Windows Media Player and its patches
  - Outlook Express and its patches
  - Novell Client32™ and its installed components
  - ZENworks suite and its installed components
  - Microsoft Office and its installed applications
  - Antivirus products such as Symantec* Antivirus Corporate Edition and McAfee* Antivirus
  - Virus definition date and version for the antivirus products such as Symantec Antivirus Corporate Edition and McAfee Antivirus

- It supports scanning for the products listed in the Windows Add/Remove Programs and the MSI database.
- Includes dictionary of software titles to provide more accurate report of Installed software.
- Provides rules to control the scope of software scan.
- Reports total disk usage against configured file extensions.

For more information, see "Customizing the Software Inventory Information To Be Scanned For the ZENworks 6.5 or ZENworks 6.5 Support Packs Inventoried Servers" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

New Inventory Reports

Server Inventory provides new software Inventory reports.

The Inventory reports that shipped with ZENworks for Servers 3.0.2 and the new reports in the ZENworks 6.5 Server Management have been regrouped.

For more information, see "Types of Inventory Reports" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

Support for the Inventory database on Oracle 9i

ZENworks 6.5 allows the Inventory database to be configured for Oracle 9i setup on Windows servers in your network.

For more information, see "Creating the Oracle9i Inventory Database on a Windows Server" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

New Enhancements in the Inventory Scan of Hardware Data

Server Inventory now supports scanning for monitors and system chassis.

For more information, see "Customizing the Hardware Information for Monitor's Size" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

Exporting the Inventory Data to an XML File

Server Inventory allows you to export the inventory data from the Inventory database into an Extensible Markup Language (.xml) file by using the Data Export tool.

For more information, see "Exporting the Inventory Information" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

New User-Friendly Nomenclature for eDirectory Objects

The nomenclature of the following eDirectory objects has been changed:

- In ConsoleOne, the Inventory Service object name is displayed as Inventory Service_*server_name* instead of *server_name*_InvService.
- In ConsoleOne, the Inventory Database object name is displayed as Inventory database_*server_name* instead of *server_name*_Invdatabase.

Remote Management

Remote Management in ZENworks 6.5 Server Management provides the following new features or enhancements:

- “Mirror Driver” on page 137
- “Agent Initiated Connection” on page 137
- “Scale To Fit” on page 137
- “Block Mouse Movements To Agent” on page 137
- “Force 256 Color Palette” on page 137
- “Session Encryption” on page 138

Mirror Driver

This feature provides video adapter independence and coexistence with other remote control solutions. If you select to install Mirror Driver, the installation program overrides video driver checks and suppresses any Windows messages. You can view this option during the installation of ZENworks 6.5 Server Management. If you do not want to install Mirror Driver, you can deselect it and the optimization will be disabled. The Mirror Driver enhances the Remote Management performance.

Agent Initiated Connection

This feature provides an option to the user at the managed machine to send a request to the Remote Operator for Remote Control or Remote View. This feature is particularly useful if the managed server is behind a private network and cannot be directly accessed from the management console.

For more information, see “Initiating Remote Management Session from the Remote Management Agent” in the *Novell ZENworks 6.5 Server Management Administration Guide*.

Scale To Fit

This feature enables you to hide the scroll bars and scale the Remote Management window to fit your screen. Click the  on the toolbar.You can also use the Ctrl+Alt+G keys. For more information, see “Remote Management for Windows Servers” in the *Novell ZENworks 6.5 Server Management Administration Guide*.

Block Mouse Movements To Agent

This is a new option provided in the Control Parameters dialog box. You can select this option to block all the mouse movements to the Agent. For more information, see “Remote Management for Windows Servers” in the *Novell ZENworks 6.5 Server Management Administration Guide*.

Force 256 Color Palette

The Remote Management Agent, now forces the use of 256-color palette on the managed server during a Remote Management session. This enhances the Remote Management performance over a slow link. For more information, see “Remote Management for Windows Servers” in the *Novell ZENworks 6.5 Server Management Administration Guide*.

Session Encryption

The Session Encryption feature provides a secure remote session between the management console and the Remote Management Agent. For more information, see "Remote Management for Windows Servers" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

Management and Monitoring Services

Management and Monitoring Services in ZENworks 6.5 Server Management provides the following new features or enhancements:

Management and Monitoring Services for Linux

The Management and Monitoring Services component of ZENworks Server Management for Linux now provides you with the ability to centrally manage and administer the Linux servers on your network.

Capture Packets Utility

The Capture packets function can now be used from any level under the atlas namespace. You can now capture packets from any of the discovered RMON agents. The capture packet settings details will be saved as a history information which you can use later.

New Database Object Editor User Interface

The Database Object Editor has been enhanced with a new user interface to provide the ability to manually update the database in an easy manner.

Adding Implemented MIBs to the Nodes

Using the Database Object Editor, you can now add MIBs to nodes. From the Available MIBs list, you can now add the MIBs that have not been discovered for the node.

Deleting Alarm Templates from ConsoleOne

You can now delete the alarm templates from the Alarm Templates list using ConsoleOne. The alarms corresponding to the deleted templates will not be processed by the Alarm Manager.

Printing the Alarm Disposition

This feature allows you to print the alarm template.

Exporting the Alarm Disposition to a File

You can export the alarm disposition information to the following file formats:

- Comma-delimited (.csv)
- HTML (.html)
- Tab-delimited (*.txt)
- Blank-space-delimited (*.txt)

Alarm Manager Performance Enhancement

The Alarm Manager can now handle up to 500,000 alarms in the Alarm database. The Active Alarms view and the Alarm History view have been enhanced to retrieve large numbers of alarms from the Alarm database.

Copying Alarm Templates to Microsoft Excel

You can now copy the alarm templates to a Microsoft Excel sheet.

Sending SMTP Mail Notification to a Port

You can now send an SMTP mail notification to a SMTP server running on a port other than the default port.

Forwarding SNMP Traps to a Port

You can forward the SNMP traps to any SNMP Trap Listener running at a port other than the default port.

Modifying the Severity and State of the Alarm Disposition

You can now modify the severity and the state of the alarm template. All new incoming alarms of the alarm template will reflect the severity or state you have specified.

Handling Generic Traps

In the previous version of Management and Monitoring Services, the The Alarm Manager dropped the 6 generic traps defined in MIB-2. The Alarm Manager no longer drops these 6 generic traps. These alarms are present in the alarm templates and you can set the disposition for these alarms.

SNMP MIB Compiler

The SNMP MIB Compiler has the following enhanced features:

- The MIB Pool on the site server now includes RFCs, which are extensively used by third-party vendors.
- The MIB Pool now includes Novell proprietary MIBs like Novell GroupWise®, Novell BorderManager®, Novell eDirectory™, Novell Gateways, and Novell VPN.
- The SNMP Compiler Results window now includes online help on the error codes generated during compilation. The help provides you all the troubleshooting information for the error codes, to enable you to solve the problems immediately.
- The SNMP Compiler Results window now highlights the error text in Red to enable better readability.
- The MIB Compiler now ignores minor errors in the MIB definitions. This enables the MIB Compiler to compile more MIBs.
- The type, category, generator type (TCG) of any MIB need not be unique. The SNMP MIB Compiler now captures all the traps for which the TCGs are identical.
- The SNMP MIB Compiler now works with the Alarm Management System to maintain the alarm information in synchronization with the available trap information in the MIB Pool.
- The SNMP MIB Compiler takes less time to compile the MIBs.

SNMP MIB Browser

The SNMP MIB Browser is enhanced to include the following features:

- New icons for better readability including Scalar Objects, Table and the Table Entry Objects, Columnar Objects, and the MAXACCESS value.
- The Search utility now enables you to locate MIB variables in the MIB tree. You can locate them based on the MIB variable or the MIB OID.

Remote Ping

The Polling option in the previous version of Management and Monitoring Services was displayed when you select a segment > View > Polling. The option now appears at the atlas level also. Select any atlas, click View > Polling. You can use this option to view the status of all the services that you have added using the Monitor Services tab.

Collecting Events from Custom Event Log Types

The Server Management Agent for Windows collects events from Windows Event Log and converts these events to traps. The traps are forwarded to the site server.

Specifying Negative Filter Conditions in the Nttrap.ini File

The Server Management Agent for Windows now enables you to specify conditions with negatives.

Available Trap Information Report on Site

The Available Trap Information report lists the information of the SNMP traps currently available on the site server. The report is generated based on the MIBs compiled on the site server and provides the following information:

- Total traps
- Alarms category
- Alarm severity
- Alarm type
- Trap OID
- Trap description

Working with Unnumbered Links

Using this feature you can discover and view the unnumbered links in the atlas namespace.

Using the Unnumbered Links tab in the Database Object Editor you can add, modify, or delete the unnumbered links for the IP router. The unnumbered links include the interface type and the connected router. All the unnumbered links you created and configured will be displayed in the Atlas or ConsoleOne.

Discovery Console

The Discovery Console enables you to send a request to discover a set of IP addresses using ConsoleOne. You can discover a list of host addresses, all the hosts on a subnet, range of addresses, or addresses in the form of a regular expression. The Discovery Console also enables you to view the status of the requests that you have submitted, or to delete a request.

Advanced Trending Agent

The Advanced Trending Agent is an application that gathers and stores the trend data (historic data) for any parameter instrumented by an SNMP agent, if it is defined by a MIB variable and not just pre-configured MIB variables.

The Advanced Trending Agent functionality is available on NetWare, Windows, and Linux platforms.

The Advanced Trending Agent periodically collects and stores the samples of the configured MIB variables. The collected data is exposed through an SNMP interface. This data can be used to view the long-term trend graphs of the parameters.

You can configure the Advanced Trending Agent using a configuration file. The Advanced Trending Agent includes a command line utility, which reads the configuration file for any

updates. The utility also resets the data collected and starts collecting new data. You can also configure the Advanced Trending Agent with threshold values for the parameters and generate a trap when the value exceeds the threshold value.

Displaying Multiple Views in Novell ConsoleOne Views

The View in a New Window option enables you to display multiple tabular views, trend views, and composite views in the Novell ConsoleOne Views window.

Node Naming Order

As discovery cycles proceed and more information is discovered, the names displayed in the maps can change. Different priorities are given to names, depending on the source of the name information. If none of the names are discovered, the IP/IPX address of the node is displayed as the node name.

View Builder

The View Builder provides a mechanism through which you can create a view to display information from the agents that have instrumented SNMP MIBs and traps sent by the agent to the management site server. You can use the View Builder to create views in addition to those available in ConsoleOne. These views are displayed as text, tables and graphs.

Custom Maps

Custom Maps enable you to create and delete custom atlases and custom containers and group nodes into containers. You can also create a hierarchy of objects in atlas. An atlas can contain custom containers. you can create a node or a sub container within the custom container. However nodes cannot be directly contained under the atlas.

New Views at the RMON and RMON_II Level of a Node

The following views are also displayed at the RMON level (Node > Services > RMON):

- Segment Dashboard
- Stations
- Segment Trends
- Monitor Nodes for Inactivity

You can now view the following view in the RMON_II service level (Node > Services > RMON_II):

- Protocol Distribution

Management Site Server Status

You can now view the status of all the Management and Monitoring Services currently running on the site server.

What's New in ZENworks 6.5 Server Management Support Pack 1

The following sections describe software changes for Support Pack 1 (SP1):

New Platform Support for Managed Devices

- Novell Open Enterprise Server® (OES) is supported by all ZENworks 6.5 Server Management components when updated to SP1. For information on OES, see the Novell Open Enterprise Server Web site (http://www.novell.com/products/openenterpriseserver/index.html).
- SP1 supports installing ZENworks 6.5 Server Management agents on Windows servers running Citrix Metaframe Presentation Server 3.

Consolidated Support Pack Support

ZENworks 6.5 Server Management SP1 is compatible with Novell CSP11 and CSP12.

Policy and Distribution Services

Policy and Distribution Services in ZENworks 6.5 Server Management SP1 provides the following new features or enhancements:

Novell iManager 2.5 Support

The ZENworks 6.5 Server Management SP1 plug-ins work in iManager 2.5 on the following platforms:

Linux
NetWare
Windows

Multiple Version Support from Distributors

Distributor servers updated to SP1 can send their Distributions to the following Subscriber servers:

- ZENworks 6.5 Subscribers that have also been updated to SP1
- ZENworks 6.5 Subscribers that have not yet been updated to SP1
- ZENworks for Servers 3.0.2 +IR2 Subscribers (including ZfS 3 SP2 +IR2 Subscribers)

Including Subdirectories

ZENworks 6.5 Server Management with SP1 supports the Include Subdirectories check box that is available on Applications objects created in ZENworks 6.5 Desktop Management with SP1.

Replication of Associations in Distributions

A new check box on a Desktop Application Distribution properties page allows you to select whether to replicate associations only the first time the Distribution is sent, or every time a change to an association is made for subsequent builds of the Distribution.

The new option is Always Replicate Association Flags and can be found on the Type tab after the Distribution has been created. It is first set in the Desktop Application Distribution Wizard.

MSI 3 Support

The Desktop Application Distribution supports distributing MSI 3 applications.

Maximum Revisions Notification

If you configure SMTP, an SMTP e-mail is now sent as notification when the maximum number of revisions of a Distribution is being approached.

Extraction Error Drill-Down in iManager

In the Tiered Distribution View in iManager, the pop-up for the target server now provides you with more information on extraction errors.

Manual Distribution Extraction in iManager

In iManager, you can now manually extract a Distribution that has been imported through the Manual Distribution Wizard.

Manual Distribution Wizard

When using the Manual Distribution Wizard, all deltas and revisions of a Distribution are now included in the Distribution build. Previous to SP1, only the latest delta was included and you were required to re-baseline your ZfS 3.0.2 Distributions in order to use them in ZENworks 6.5. With

the ZENworks 6.5 SP1 version of the Manual Distribution Wizard, re-baselining Distributions is no longer required. However, ZENworks 6.5 manual Distributions do not work in SP1, so you will need to re-create them using the SP1 version of the Manual Distribution Wizard.

MIB Descriptions Added

Approximately 150 MIB descriptions for SNMP traps have been added.

Server Inventory

Server Inventory in ZENworks 6.5 Server Management SP1 provides the following new features or enhancements:

- "Installing Server Inventory in a Cluster" on page 145
- "Enhancements to Software Dictionary" on page 145
- "Scanning New AntiVirus Products" on page 145
- "Retrieving Inventory information from the Inventory Database Without Using the CIM Schema" on page 146

Installing Server Inventory in a Cluster

You can now install Server Inventory in a Novell Clustering Services environment.

For more information, see Appendix E, "ZENworks Server Management in a Clustered Environment," on page 327.

Enhancements to Software Dictionary

Following enhancements have been made to the ZENworks software dictionary:

- The software dictionary snap-ins are more intuitive and user-friendly.
- If you do not want the Inventory scanner to use the default File-Software mapping rules that are configured by default in the ZENworks software dictionary for scanning software inventory information, you can disable it by using the "Ignore Default File-Software Mapping Rules" option.
- The Dictionary Consumer now merges the software dictionary rules that are configured at the top-level inventory server on the basis of the Dictionary Update policy settings. These rules are called inherited rules. The rules cannot be edited or deleted.

For more information, see "Server Inventory"in the *Novell ZENworks 6.5 Server Management Administration Guide*.

Scanning New AntiVirus Products

- **On NetWare inventoried servers**: The inventory scanner now collects information about the latest virus definition date and version of McAfee Netshield* 4.6.*x* installed on the NetWare inventoried servers.

- **On Windows inventoried servers**: The inventory scanner now collects information about the latest virus definition date and version that are installed on the inventoried servers for the following product versions:

  Symantec AntiVirus Corporate Edition 8.0
  Norton AntiVirus Corporate Edition for Windows 7.0
  Norton AntiVirus Corporate Edition 7.6.1.0000
  Symantec Norton AntiVirus 2000
  Symantec Norton Internet Security 2002
  Symantec Norton AntiVirus 2003 (9.00)
  Symantec Norton AntiVirus 2003 Professional Edition (9.00)
  Symantec Norton AntiVirus 2004 (10.00)
  Symantec Norton Internet Security 2004 (10.00)
  Symantec Norton AntiVirus 2004 Professional (10.00)
  Symantec Norton Internet Security 2004 Professional (10.00)
  Symantec Norton AntiVirus 2005 Professional (11.00)
  Symantec Norton Internet Security 2005 Professional (11.00)
  Network Associates McAfee VirusScan 4.0.3 (Windows 9*x*)
  Network Associates McAfee VirusScan NT 4.0.3a (Windows NT)
  Network Associates McAfee NetShield 4.5.0
  Network Associates McAfee VirusScan 4.5.0
  Network Associates McAfee VirusScan 4.5.1
  Network Associates McAfee VirusScan (McAfee Security Center) 8.0
  Network Associates McAfee VirusScan ASaP
  Network Associates McAfee VirusScan Enterprise 7.1
  Network Associates McAfee VirusScan Enterprise 8.0
  Central Command Vexira AntiVirus Guard for Windows XP (2000 + NT) 2.10
  Central Command Vexira AntiVirus Windows 95/98
  Central Command Vexira AntiVirus NT/2000 Servers
  Central Command Vexira AntiVirus Server Edition (6.26.*xx*.*xx*)
  Sophos Anti-Virus - Windows NT/2000/XP/2003
  Sophos Anti-Virus - Windows 95/98
  Trend Micro PC-cillin 2002 (9.*x*)
  Trend Micro PC-cillin 2003 (10.*x*)
  Trend Micro Internet Security 11.*x* (PC-cillin)
  Trend Micro Internet Security 2005 12.*x* (PC-cillin)
  Trend Micro Server Protect 5.*xx*
  Trend Micro OfficeScan 5.*xx* - Client for Windows NT/2000/XP
  Trend Micro OfficeScan 5.*xx* - Client for Windows 9*x*

Retrieving Inventory information from the Inventory Database Without Using the CIM Schema

ZENworks 6.5 SP1 Server Management provides easy-to-use views that allow you to retrieve inventory information from the Inventory database without using the CIM schema. These views are predefined device-specific views that are automatically created in the Inventory database after you install the Server Inventory component of ZENworks 6.5 Server Management SP1.

For more information, see "Server Inventory" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

Remote Management

Remote Management in ZENworks 6.5 Server Management SP1 does not have new features or enhancements. For issues related to bug fixes, refer to the *ZENworks 6.5 Server Management Support Pack 1* Readme on the ZENworks 6.5 Web site (http://www.novell.com/documentation/zenworks65/index.html).

Management and Monitoring Services

Management and Monitoring Services in ZENworks 6.5 Server Management SP1 does not have new features or enhancements. For issues related to bug fixes, refer to the *ZENworks 6.5 Server Management Support Pack 1* Readme on the ZENworks 6.5 Web site (http://www.novell.com/documentation/zenworks65/index.html).

What's New in ZENworks 6.5 Server Management Support Pack 2

The following sections describe software changes for Support Pack 2 (SP2):

Policy and Distribution Services

Policy and Distribution Services in ZENworks 6.5 Server Management SP2 provides the following new feature:

- "Ability to Maintain Folder Associations in Desktop Application Distributions" on page 147

For issues related to bug fixes, refer to the *ZENworks 6.5 Server Management Support Pack 2* Readme on the ZENworks 6.5 Web site (http://www.novell.com/documentation/zenworks65/index.html).

Ability to Maintain Folder Associations in Desktop Application Distributions

A check box has been added (Overwrite Existing Target Folder Object Attributes) in the Desktop Application Distribution Wizard that causes existing target folder objects to be overwritten with the relevant content of the source folder objects, meaning all previous folder associations for the application are replaced by the new folder associations.

This is the default functionality in ZENworks 6.5 SP1 and earlier for how folder objects are handled. In ZENworks 6.5 SP2, to retain previous folder associations while adding new folder associations, deselect this option. For more information, see Step7 in "Creating the Distribution" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

Server Inventory

Server Inventory in ZENworks 6.5 Server Management SP2 provides the following new feature:

- "Setting Up the Oracle9i Inventory Database on a UNIX Server" on page 148

For issues related to bug fixes, refer to the *ZENworks 6.5 Server Management Support Pack 2* Readme on the ZENworks 6.5 Web site (http://www.novell.com/documentation/zenworks65/index.html).

Setting Up the Oracle9i Inventory Database on a UNIX Server

You can now set up the Oracle9i Inventory database on a UNIX server. For detailed information, see "Creating the Oracle9i Inventory Database on a UNIX Server" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

Remote Management

Remote Management in ZENworks 6.5 Server Management SP2 does not have new features or enhancements.

For issues related to bug fixes, refer to the *ZENworks 6.5 Server Management Support Pack 2* Readme on the ZENworks 6.5 Web site (http://www.novell.com/documentation/zenworks65/index.html).

Management and Monitoring Services

Management and Monitoring Services in ZENworks 6.5 Server Management SP2 does not have new features or enhancements.

For issues related to bug fixes, refer to the *ZENworks 6.5 Server Management Support Pack 2* Readme on the ZENworks 6.5 Web site (http://www.novell.com/documentation/zenworks65/index.html).

10 ZENworks 6.5 Server Management Support Packs

Novell® ZENworks® 6.5 Server Management support packs upgrade Policy and Distribution Services, Server Inventory, Remote Management, and Management and Monitoring Services, but only from version 6.5, not 3.*x*. For more information on upgrading from version 3.*x*, see Chapter 8, "Overview," on page 119.

The following sections explain how to upgrade to a support pack:

- "Upgrading to a Support Pack Using a Wizard or Script" on page 149
- "Upgrading to a Support Pack Using a Server Software Package" on page 172

Upgrading to a Support Pack Using a Wizard or Script

For Policy and Distribution Services, Distributor and Subscriber servers can be upgraded to a support pack in any order.

There are two platform-based options for upgrading to a support pack using a wizard or script:

- **NetWare and Windows Servers:** For these platforms, the wizards are started on the Windows workstation from installation menu options run from an executable file included in the support pack download.

  Policy and Distribution Services, Server Inventory, Remote Management, and Management and Monitoring Services can all be upgraded to a support pack using this method.

- **Linux and Solaris Servers:** For these platforms, a script file is used. It is provided in the support pack download and is run locally on each Linux or Solaris server to be upgraded.

  Only Policy and Distribution Services can be upgraded using this method.

To automate installation to multiple Subscriber servers on all supported platforms, we recommend upgrading these servers using the Server Software Package method (see "Upgrading to a Support Pack Using a Server Software Package" on page 172).

To upgrade ZENworks 6.5 Server Management to a support pack using a wizard or script:

- "Upgrade Concepts and Issues" on page 150
- "Selecting the Servers to Upgrade" on page 153
- "Upgrading Policy-Enabled Server Management on NetWare and Windows Servers" on page 153
- "Upgrading Policy and Distribution Services on Linux and Solaris Servers" on page 167
- "Upgrading Management and Monitoring Services on NetWare Servers" on page 169

Upgrade Concepts and Issues

Review the following to understand what the support pack upgrade does, and to understand the issues involved:

- "What the Support Pack Upgrade Does and Does Not Do" on page 150
- "Upgrading Servers Incrementally" on page 151
- "Upgrading Servers on Multiple Trees" on page 151
- "Cluster Issues with Upgrading" on page 152

What the Support Pack Upgrade Does and Does Not Do

In the following table, the applicable Server Management components are indicated for the upgrade actions. A "T" means the statement is true for the component; an "F" means it is not; and, a "–" means it is not applicable to the component.

Action	P	S	R	M
The support pack does not upgrade ZENworks for Servers 3.x to ZENworks 6.5 SP*x*. You must first follow the instructions in Chapter 11, "Policy and Distribution Services," on page 185, Chapter 12, "Server Inventory," on page 223, Chapter 13, "Remote Management," on page 241, or Chapter 14, "Management and Monitoring Services," on page 247 before applying the support pack.	T	T	T	T
The support pack does not install ZENworks components where they previously were not installed.	T	T	T	T
The support pack does not upgrade Novell eDirectory™ objects.	T	T	T	T
The support pack includes all ZENworks 6.5 hot patches through Hot Patch 5.	T	–	–	–
The GUI wizard upgrades the ZENworks 6.5 Policy-Enabled Server Management software on the servers where it discovers upgradable software. It uses the installation paths where ZENworks 6.5 was installed.	T	T	T	T
The script upgrades ZENworks 6.5 Policy and Distribution Services software to the support pack on the Linux or Solaris machines where you locally run the script.	T	–	–	–
In the GUI wizard, you cannot select or deselect any check boxes. Their status is determined by the wizard when you select the machines for upgrading.	T	T	T	–
The wizard automatically stops and restarts the services, if they are running. It leaves the services in the same state they were in before upgrading.	T	F	F	F
The services are not restarted if they were not running before the wizard started.	T	F	T	F
You have an option to restart the services if they were not running before the wizard started.	F	F	F	T
Files are always copied, replacing both older and newer files with the upgraded files. Files copied to locations outside of the ZENworks directories are replaced only if they are older.	T	T	T	T
If you already have a hook driver installed on the machine where you are upgrading, the hook driver is uninstalled during the upgrade.	–	–	T	–

Action	P	S	R	M
The wizard upgrades the ConsoleOne® snap-ins to ZENworks 6.5 SP*x* on both the installation workstation and any target servers where ConsoleOne is found by the wizard. For the ConsoleOne check box to show as selected, version 6.5 of the snap-ins must have been previously installed.	T	T	T	T
In the wizard, you cannot select Workstations where ConsoleOne is installed to update the Server Management snap-ins there. You must run the wizard on each workstation where you have the snap-ins installed in order to update them.	T	T	T	T
The ZENworks 6.5 Server Management plug-ins for iManager are not upgraded by the Policy-Enabled Server Management menu option. You must do this with the Web-Based Management Components menu option after you have exited the support pack wizard. This task is covered in "Upgrading the Novell iManager Plug-Ins" on page 160. Also, if you have iManager 2.0.2 or 2.5 installed, you can install the plug-ins for the first time using the task covered in "Upgrading the Novell iManager Plug-Ins" on page 160.	T	–	–	–

NOTE: P = Policy and Distribution Services; S = Server Inventory; R = Remote Management; M = Management and Monitoring Services; T = true; F = false; and, – = not applicable.

Upgrading Servers Incrementally

Incremental upgrading does not apply to Remote Management or Management and Monitoring Services.

You can upgrade all ZENworks 6.5 servers to the support pack in one pass, or incrementally (such as for geographical locations).

The wizard copies files to each server, one server after another. If you have many Subscribers, consider the time that it might take to upgrade them. If that time frame is too long, select your target Subscribers in groups so that you can upgrade one group at a time, or use the software package upgrade method.

Because upgrading Policy and Distribution Services on Linux and Solaris servers is done locally one at a time using a script, incremental upgrading doesn't apply. If you want to perform incremental upgrades of groups of Linux or Solaris servers, consider using a Server Software Package.

For more information on upgrading with software packages, see "Upgrading to a Support Pack Using a Server Software Package" on page 172.

Upgrading Servers on Multiple Trees

Upgrading across multiple trees does not apply to Remote Management or Management and Monitoring Services.

When selecting servers in the wizard, you select them by their NCP Server objects, not their ZENworks objects. If your ZENworks servers reside in multiple trees, you must be logged into each of those trees to be able to select the servers.

You can also upgrade servers across multiple trees by using a Server Software Package (see "Upgrading to a Support Pack Using a Server Software Package" on page 172).

Cluster Issues with Upgrading

The following cluster issues do not apply to upgrading Remote Management or Management and Monitoring Services:

- "Upgrading Cluster Ready versus Cluster Aware Servers" on page 152
- "Cannot Upgrade Clustered Servers Using the Server Software Packages" on page 152

Upgrading Cluster Ready versus Cluster Aware Servers

When you select servers for installing a support pack, you can select both the virtual server's cluster object and the NCP objects of the node servers in the cluster, and the installation program will allow you to install to both the virtual server and its nodes. However, if you install a support pack to both, you will have two different locations for the zfs.ncf startup file and it will be run from both locations, causing errors. Therefore, you must know whether you installed Server Management in a cluster ready or cluster aware environment before you select where to install a support pack.

If your ZENworks servers are installed as cluster ready:

- You must select only the virtual server object to install a support pack
- The support pack installation copies files to each node in the cluster
- The support pack installation sets up one zfs.ncf file for the cluster

If your ZENworks servers are installed as cluster aware:

- You must select only the node servers' NCP objects to install a support pack
- The support pack installation copies files to each node in the cluster
- The support pack installation sets up the zfs.ncf file on each node's server

For more information, see Appendix E, "ZENworks Server Management in a Clustered Environment," on page 327.

Cannot Upgrade Clustered Servers Using the Server Software Packages

The support pack *ZENworks 6.5 SPx Companion* CD download package includes the following Server Software Packages:

```
zsm651_polydist.cpk or zsm652_polydist.cpk
zsm651_invagnt.cpk or zsm65sp2_invagnt.cpk
zsm651_remmgmt.cpk or zsm65sp2_remmgmt.cpk
RemStandAlonePacPro.zip
```

These cannot be used to upgrade clustered servers to the support pack for the following reasons:

- Server Software Packages do not have eDirectory access
- Server Software Packages can only update the local box, leaving the other nodes not updated

Selecting the Servers to Upgrade

- **Incremental Issues:** In determining which servers you want to upgrade to the support pack, consider any incremental upgrade issues. For more information, see "Upgrading Servers Incrementally" on page 151.
- **Servers to be Upgraded Using a Wizard:** If you plan to run the support pack wizard, you might be able to wait until you are running the wizard to determine which servers to upgrade, because you can use one of the following methods for selecting NetWare® and Windows servers:
  - If a small percentage of your servers have ZENworks 6.5 installed on them, and you know the NCP™ object names of the servers that have ZENworks 6.5 installed on them, you can individually select those servers when you are running the support pack wizard.
  - If a large percentage (or all) of your servers have ZENworks 6.5 installed on them, you can select all of the servers in the tree or selected context. Only those that have upgradable ZENworks 6.5 components installed will be listed on the Server Selection page for upgrading.
- **Servers to be Upgraded Using a Server Software Package:** If you plan to use the Server Software Package method, determine which servers you want to upgrade to the support pack:
  - If a small percentage of your servers have ZENworks 6.5 installed on them, you can include all of your Subscriber servers in the Channel that you create for the Distribution. When you select a Subscriber server to be upgraded that also has the Distributor software on it, that software is also upgraded.
  - If a large percentage of your servers have ZENworks 6.5 installed on them and you want to upgrade them incrementally, such as by geographic region, identify which servers you want in each group so that you can subscribe them to the Channels that you create for each group.

  When upgrading to the support pack using a software package, you will create a unique Channel for the upgrade Distribution, then subscribe the Subscribers to be upgraded to the support pack to that Channel.
- **Servers to be Upgraded using a Script:** If you do not plan to use the Server Software Package method for upgrading Linux or Solaris servers to a support pack, identify the servers where you need to run the script.

Upgrading Policy-Enabled Server Management on NetWare and Windows Servers

To upgrade ZENworks 6.5 Policy-Enabled Server Management to a support pack, perform the following tasks in order:

1. "Pre-upgrade Checklist" on page 154
2. "Upgrading to a Support Pack" on page 155
3. "Upgrading the Novell iManager Plug-Ins" on page 160
4. "Starting the Services" on page 163
5. "Verifying That the Services Are Running Successfully" on page 164
6. "Verifying That the Server Has Been Upgraded to the Support Pack" on page 165
7. "Repeating the Upgrade" on page 166
8. "Post-Upgrade Inventory Task" on page 166

9. "Post-Upgrade Manual Distribution Task" on page 167

Pre-upgrade Checklist

- ❑ Review the *ZENworks 6.5 Server Management Support Pack* Readme on the ZENworks 6.5 Web site (http://www.novell.com/documentation/zenworks65/index.html) for any last-minute information concerning upgrading to the support pack.
- ❑ Make sure that ZENworks 6.5 Server Management has been installed on the servers you want to upgrade to the support pack.
- ❑ Make note of any clustered servers and determine whether they have ZENworks installed as cluster ready or cluster aware. For more information, see "Cluster Issues with Upgrading" on page 152.
- ❑ If you are upgrading Server Inventory, you must perform the following tasks:

  1. Identify the servers that need Server Inventory reinstalled.

  2. Stop the Inventory service.

     - On a NetWare Inventory server: At the server console prompt, enter **`sys:\system\invstop.ncf`**.

       If you do not want the Sybase database to be stopped automatically when you stop the Inventory services, comment the `Unload dbsrv8.nlm` line in the sys:\system\invstop.ncf file.

     - On a Windows 2000/2003 Inventory server: In the Control Panel, double-click Administrative Tools, double-click Services, select Novell Inventory Service, then click Stop.

  3. Stop the Inventory database.

     - On NetWare: At the Sybase console prompt, press the Q key.
     - On Windows 2000/2003: In the Control Panel, double-click Administrative Tools, double-click Services, select Novell Database - Sybase, then click Stop.

- ❑ If you have any instance of ConsoleOne running on a target server via a mapped drive from a workstation, or running from the installation machine, exit those instances of ConsoleOne before running the installation program.

  If ConsoleOne is running on a target server via a mapped drive on your installation machine, or if it is running from the installation machine, the ZENworks Server Management snap-ins for ConsoleOne are not installed at those locations.

- ❑ If you have not already done so, log in to the eDirectory trees that contain the NCP Server objects for the servers where you will be updating the ZENworks 6.5 software to the support pack.

  You are automatically authenticated to all of the target NetWare servers in the trees you are logged in to during installation, so that you can select those servers for installing the Server Management software.

  If you are not logged in to a tree, you cannot select its server objects during the upgrade process.

  You can run the wizard as many times as necessary.

- ❑ If you will install software to any Windows servers, make sure that you have authenticated to the servers.

  This enables you to select Windows servers from their domains for installing the Distributor and Subscriber software. However, if you are not logged in to a Windows server before starting the installation, you can authenticate during installation using a username and password in the Add Server dialog box where you select the Windows server for installation.

- ❑ If you will install software to any Windows servers, make sure you have closed the Services window on each Windows server.

  The installation program automatically stops all ZENworks Server Management services. However, the Server Management services cannot be registered if the Services window is left open during installation to the server.

- ❑ If you will be installing a support pack to a ZENworks 6.5 Inventory server that has been previously upgraded from ZENworks for Servers 3.*x,* you must start the Inventory service and the database at least once prior to upgrading the server to ZENworks 6.5 SP*x* Server Management.

Upgrading to a Support Pack

To upgrade ZENworks 6.5 Server Management to a support pack, do the following tasks in order:

1. "Start the Support Pack Wizard" on page 155
2. "Select the Servers to Upgrade" on page 156
3. "Review the Support Pack Upgrade Summary" on page 159

Start the Support Pack Wizard

1. Run winsetup.exe.

   Winsetup.exe is found at:

   `download_location\zen65sp1\winsetup.exe`

   or

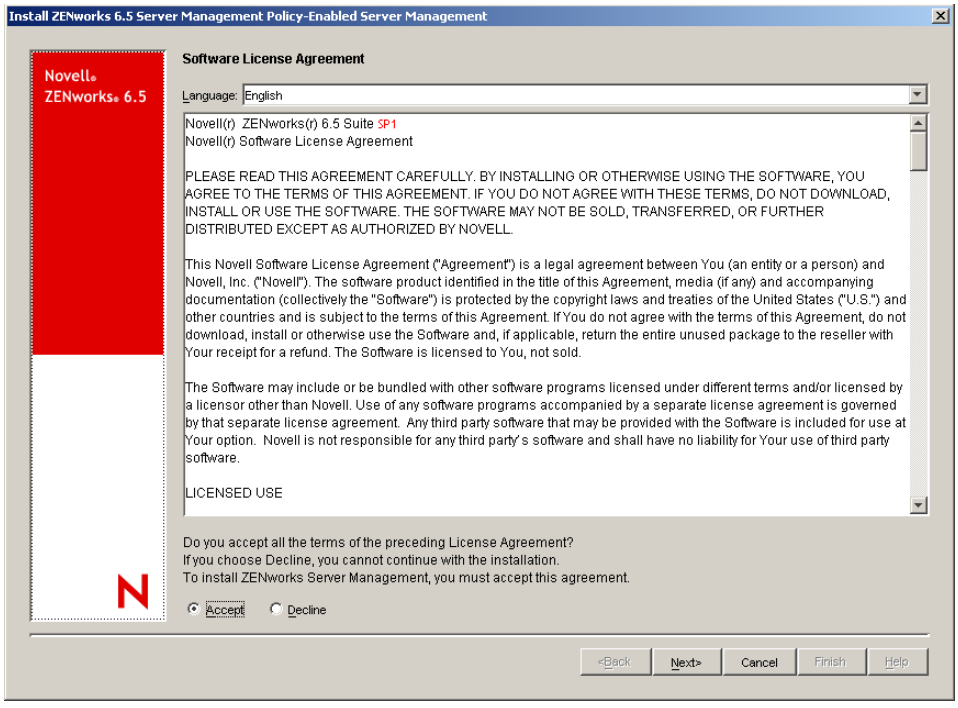
   `download_location\zen65sp2\winsetup.exe`

   where *download_location* depends on where you unzipped the download file. The default is c:\temp.

   This starts the wizard that contains the support pack upgrade menu options.

   For instructions on downloading the support pack file containing the winsetup.exe file, see the *ZENworks 6.5 Server Management Support Pack* Readme on the ZENworks 6.5 Web site (http://www.novell.com/documentation/zenworks65/index.html).

2. On the main menu, select Server Management.
3. Select Policy-Enabled Server Management to start the wizard and display the License Agreement page.

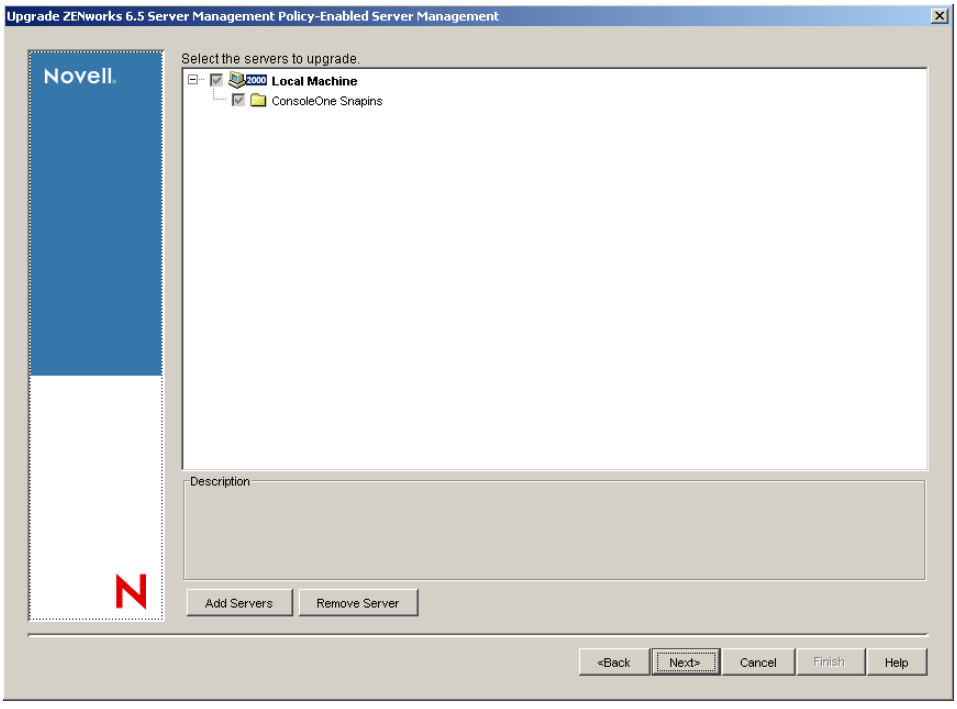


4 If you agree to the Software License Agreement, click Accept, then click Next; otherwise, click Cancel to exit.

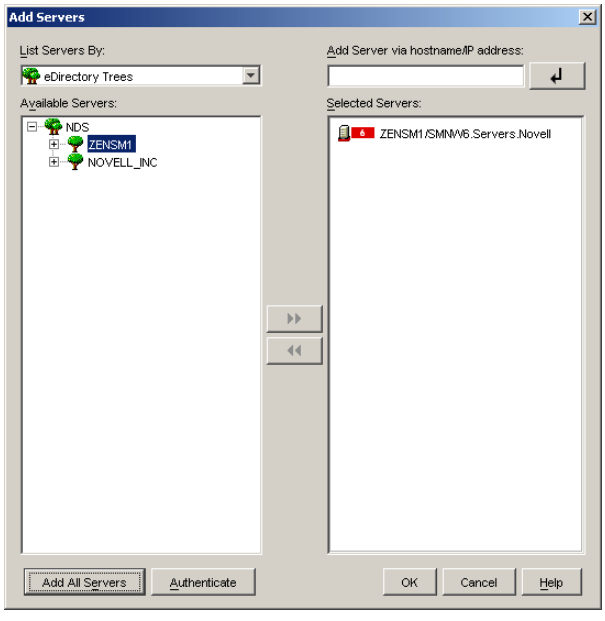
   The Server Selection page is displayed with only Local Machine displayed and its ConsoleOne snap-ins check box enabled, if the ZENworks 6.5 snap-ins are installed on that machine.

5 Continue with "Select the Servers to Upgrade" on page 156.

Select the Servers to Upgrade



1 On the Server Selection page, click Add Servers to display the Add Servers dialog box.



2 Browse for the NCP Server objects where you want to install the support pack upgrade, then click OK.

You can browse for NetWare servers by selecting eDirectory Trees from a drop-down box, or browse for Windows servers by selecting Microsoft Domains (or Microsoft Active Directory) from a drop-down box. You can select servers in the following ways:

- Select servers individually or in multiples by using the Ctrl and Shift keys

- Select servers in groups by selecting eDirectory containers, Windows workgroups, or Microsoft domains, then clicking the Add All Servers button

  IMPORTANT: If you choose to remotely install the Inventory Agent or the Remote Management Agent on a Windows 2003 server configured as Domain Controller, you must specify the hostname or the IP address of the server in the Add Server Via Hostname/IP Address field.

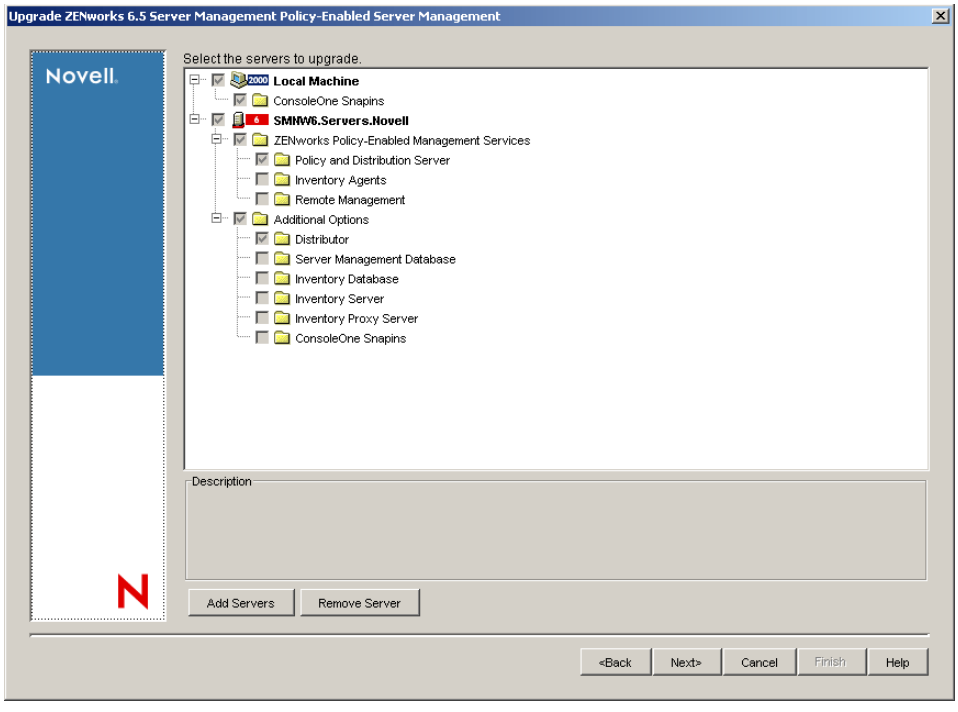
- Select all NetWare servers in the tree by selecting the tree and then clicking the Add All Servers button

IMPORTANT: If you select Add All Servers, the Selected Servers list box includes servers that cannot be upgraded (such as those that do not have ZENworks 6.5 installed). Then, when you click OK to continue, those servers will not be included on the Server Selection page. However, for each server that is not included, a message is displayed indicating this, and you must click OK to continue. To speed up the process, if you can determine in the Selected Servers listing which servers do not have ZENworks 6.5 installed, remove them from this list before clicking OK to continue to the Server Selection page.

For more information on using the Add Servers dialog box, click its Help button.

Make sure that you have selected all of the NetWare and Windows servers that you want to upgrade to the support pack before exiting the Add Servers dialog box.

The selected servers are displayed below the Local Machine option on the Server Selection page:



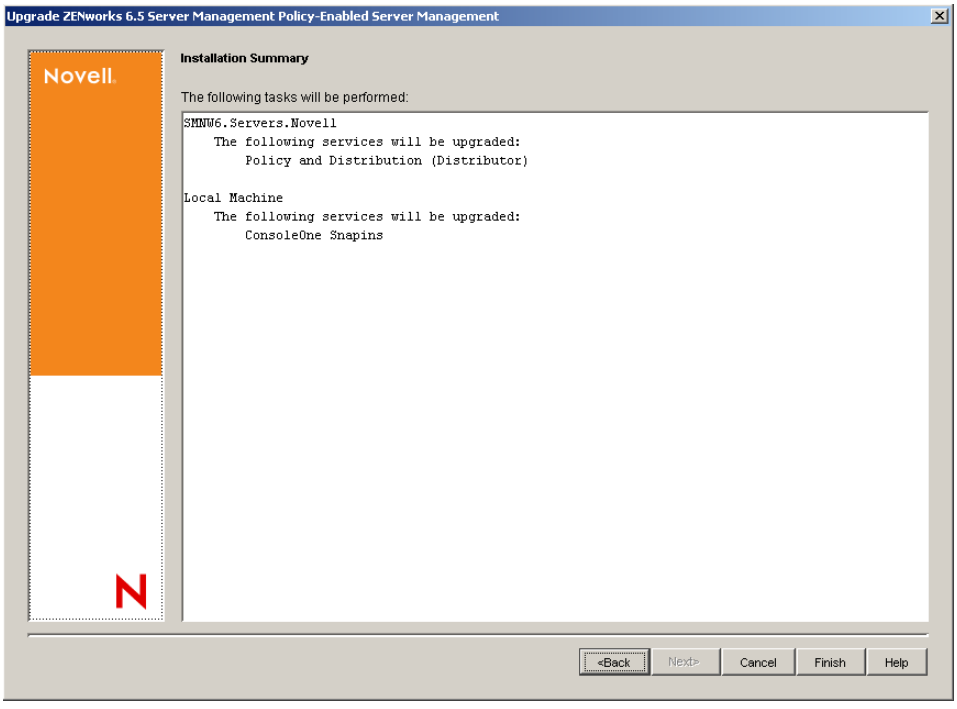
The ZENworks 6.5 Server Management components that have been installed and can upgraded to the support pack are indicated by a check mark in their check boxes. Click the plus signs to expand the tree structure to view the components.

3 You cannot install a support pack to both a virtual server's cluster object and the NCP Server objects for each of its nodes; therefore, if you have selected both, you must remove one or the other to prevent errors caused by zfs.ncf being run from two different locations in the cluster.

For more information, see "Cluster Issues with Upgrading" on page 152.

4 Click Next and continue with "Review the Support Pack Upgrade Summary" on page 159.

Review the Support Pack Upgrade Summary



1. On the Installation Summary page, review the information to determine if the wizard will be doing what you planned.

   You can click Back to make changes.

2. Click Finish to begin the support pack upgrade process.

3. After the support pack wizard has finished, review the installation log file to determine whether any components failed to install.

   The log file is located in the installation machine's temporary directory as determined in its Windows environment settings. Examples:

   Policy and Distribution Services:

   `%temp%\_resnnn.txt`

   where *nnn* is increased incrementally each time a new log is created.

   Server Inventory:

   `%temp%\invrc.log`

4. After successfully upgrading the software to the support pack, click Exit to close the wizard.

   At this time, the software has been upgraded to the support pack and the Server Management services should be restarting on the upgraded servers, if those services were running on the server prior to being upgraded.

   If a server did not have its Server Management services running before it was upgraded, you must restart them manually. These instructions are provided in the one of the next sections.

5. Continue with "Upgrading the Novell iManager Plug-Ins" on page 160.

Upgrading the Novell iManager Plug-Ins

This section is only applicable to Policy and Distribution Services.

If you have Novell iManager 2.0.2 or 2.5 installed in your network, and you need to upgrade the iManager plug-ins to ZENworks 6.5, or install the plug-ins for the first time, do the following:

1. Run winsetup.exe.

   Winsetup.exe can be found at:

   download_location\zen65sp1\winsetup.exe

   or

   download_location\zen65sp2\winsetup.exe

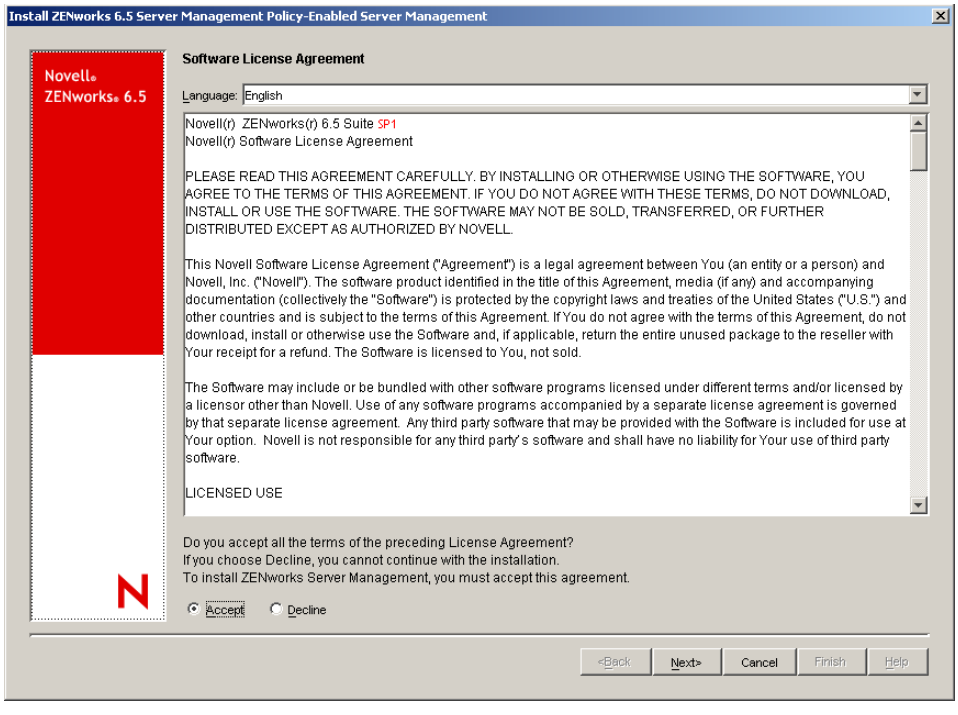
   where *download_location* depends on where you unzipped the download file. The default is c:\temp.

   This starts the wizard that contains the support pack upgrade menu options.

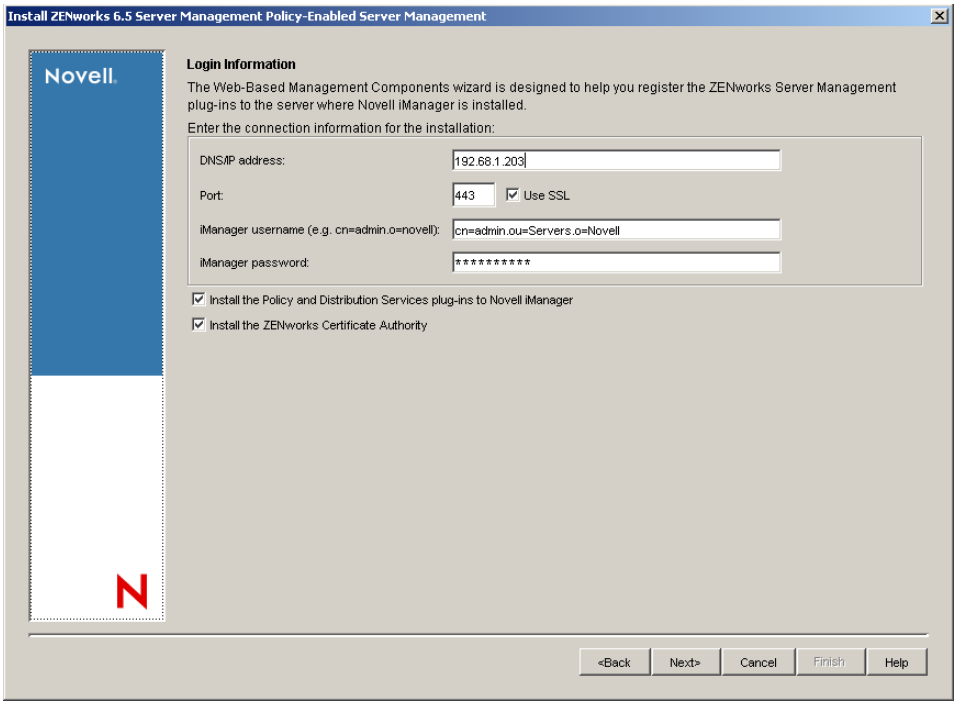
   For instructions on downloading the support pack file containing the winsetup.exe file, see the *ZENworks 6.5 Server Management Support Pack* Readme on the ZENworks 6.5 Web site (http://www.novell.com/documentation/zenworks65/index.html).

2. On the main menu, select Server Management.

3. Select Web-Based Management Components to start the wizard and display the License Agreement page.



4. Accept the License Agreement, then click Next to view the Login Information page.



5 Fill in the fields:

DNS/IP Address: Specify the address of the server where iManager is installed.

Port: Specify the port number to use when communicating with iManager. It is most likely 443 if SSL is used; if not, use 8080.

Use SSL: By default, this check box is not selected. If you have iManager configured to use SSL, you should enable this check box.

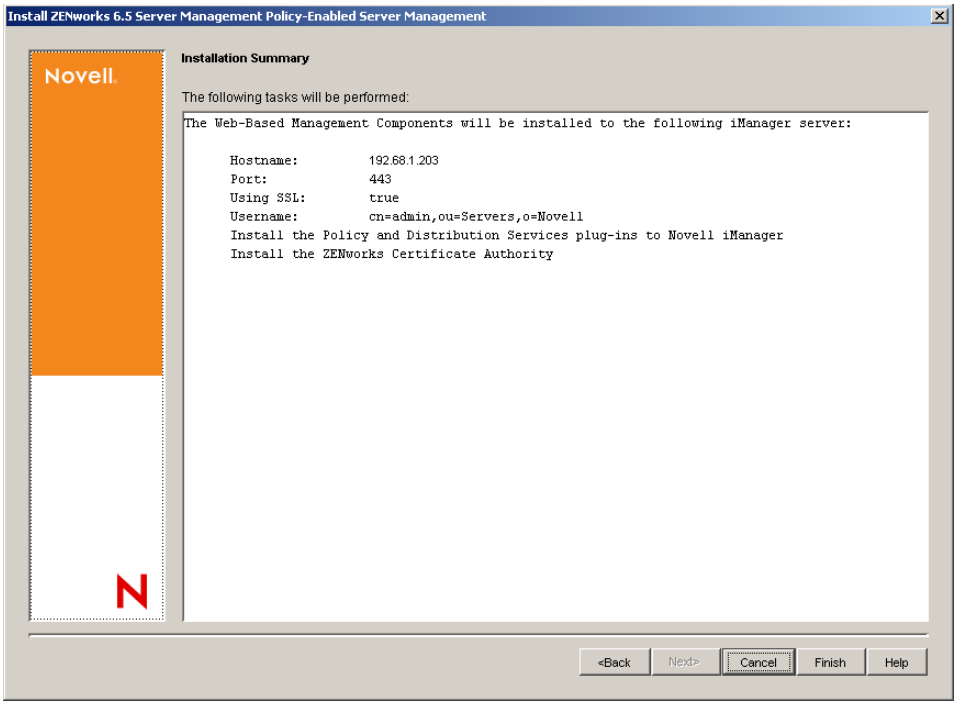
iManager Username: Specify the iManager (fully distinguished) login name of the user with rights to iManager. This must be entered in the format indicated (for example, cn=admin.o=novell). Installation cannot continue if the username cannot authenticate.

iManager Password: Specify the iManager password of the user running the wizard.

Install the Policy and Distribution Services Plug-Ins to Novell iManager: Select the check box to install the Remote Web Console and Tiered Electronic Distribution plug-ins to iManager so that you can manage these components from a Web browser.

Install the ZENworks Certificate Authority: Select the check box to install the ZENworks certificate authority servlet for inter-server communications security. This provides additional security to ensure that data received from outside your secured network is from a trusted source, that it has not been tampered with en route, and that the data received can be trusted by other machines. This is accomplished through the use of signed security certificates and digital signatures.

6 Click Next to view the Summary page.



The installation summary indicates that the selected Web components are to be installed to the Tomcat installation directory.

7 Click Finish.

8 When the installation has completed, click Yes to view the installation log file.

If the log file contains errors, you can print it for reference. To look up error messages, see Appendix G, “Installation Error Messages,” on page 357. Correct the error, then repeat the installation steps.

The ZENworks Server Management role in iManager should still be set up, because the information for it is stored in eDirectory.

9 After successfully upgrading the iManager plug-ins, close the log file.

10 If you installed the plug-ins to iManager 2.5, do the following:

10a Log in to iManager 2.5.

10b When prompted with an install/upgrade task, install the new or updated plug-ins.

11 For iManager to recognize the new plug-ins, stop Tomcat, then restart Tomcat:

- **NetWare**

  Stop: tc4stop.ncf

  Start: tomcat4.ncf

- **Windows**

  In the Services window, start or stop the Tomcat service.

- **Linux**

  Restart: /etc/init.d/tomcat4 restart

  or:

  Stop: /etc/init.d/tomcat4 stop

  Start: /etc/init.d/tomcat4 start

12 Continue with "Starting the Services" on page 163.

Starting the Services

If the support pack upgrade did not automatically stop and restart the services, or the services were not running before you upgraded the server, and you want the services to be running at this time, start the services at this time.

IMPORTANT: If you have upgraded the Inventory server, you must manaully start the Inventory service after the support pack upgrade.

- "On NetWare Servers" on page 163
- "On Windows Servers" on page 163

On NetWare Servers

For Policy and Distribution Services:

1 Enter the following command at the server's main console prompt:

```
zfs
```

This starts all of the Policy and Distribution Services services, including the database.

For Server Inventory:

1 Enter the following command at the server's main console prompt:

```
startinv
```

For Remote Management:

1 Run the RConsoleJ Agent using any of the following methods:

- In ConsoleOne, right-click the NetWare server object that you want to remotely control and click Remote Management, or click the NetWare server object and then use the Tools option to click ZENworks Remote Management > Remote Console > NetWare.
- From the server console prompt, enter `rconj.ncf`.
- From the server GUI, click Novell > Programs > RConsoleJ.

Continue with "On Windows Servers" on page 163 or "Verifying That the Services Are Running Successfully" on page 164.

On Windows Servers

For Policy and Distribution Services:

1 Open the Control Panel.

2 Double-click Admin Tools, then double-click Services.

3 Start the Novell ZENworks Service Manager service.

This starts all of the Policy and Distribution Services services, including the database.

For Inventory Services:

1. Open the Control Panel.
2. Double-click Administrative Tools, then double-click Services.
3. Select Novell Inventory Service, then click Start.

For the Inventory database:

1. Open the Control Panel., double-click Administrative Tools, double-click Services.
2. Select Novell Database - Sybase, then click Stop.
3. Select Novell Database - Sybase, then click Start.

For Remote Management, to restart the Remote Management Agent on a Windows 2000/2003 managed server:

1. From the Control Panel, double-click Administrative Tools.
2. Double-click Services.
3. Click Novell ZENworks Remote Management, then click Start.

Continue with "Verifying That the Services Are Running Successfully" on page 164.

Verifying That the Services Are Running Successfully

On NetWare Servers

1. On each server's console, press Ctrl+Esc to view the services:

   Sybase database
   ZENworks (if Policy and Distribution Services is installed)
   ZENworks Inventory Service
   ZENworks Web Server (if only Inventory Server or Inventory Proxy Service is installed)

2. If any service is missing, that component was not successfully started.

   For steps to start a service, see "On NetWare Servers" on page 163.

3. After successfully starting the services, continue with "On Windows Servers" on page 164 or "Verifying That the Server Has Been Upgraded to the Support Pack" on page 165.

On Windows Servers

1. On each Windows server, open the Control Panel, double-click Admin Tools > Services, then determine if the following services are running:

   Novell Inventory Service
   Novell Database - Sybase
   Novell ZENworks Service Manager

2. If any service is not running, that component was not successfully started.

   For steps to start a service, see "On Windows Servers" on page 163.

3. After successfully starting the services, continue with "Verifying That the Server Has Been Upgraded to the Support Pack" on page 165.

Verifying That the Server Has Been Upgraded to the Support Pack

Using iManager

1. Log in to iManager.
2. Under the ZENworks Server Management role, select Remote Web Console.
3. Identify a server (NetWare or Windows), then click OK.

   You can either enter the IP address or DNS name, or browse for the server's ZENworks object.
4. In the Display field, select Policy/Package Agent from the drop-down list.
5. Under the Configuration tab, review the Version information.

   "ZENworks 6.5 Server Management Support Pack *x*" should be displayed, where *x* is the current support pack version.
6. Repeat these steps for each upgraded server.

On a NetWare Server

1. At the NetWare server's main console prompt, enter the following command:

   zfsversion
2. View the current Server Management version information.

   If a support pack was applied correctly, it should read:

   ZENworks Server Management - Support Pack *x*

   where *x* is the current support pack version.
3. Repeat these steps for each upgraded server.
4. If the version is correct, continue with "On a Windows Server" on page 165 or "Repeating the Upgrade" on page 166.

The zfsversion command also writes a listing of ZENworks .jar files and their dates to:

volume:\zenworkszfsversion.log

On a Windows Server

1. On the Windows server, run \zenworks\zfsversion.bat.

   This creates a zfsversion.log file in the \zenworks directory.
2. Open the log file to view the current Server Management version information.
3. Repeat these steps for each upgraded server.
4. If the version is correct, continue with "Repeating the Upgrade" on page 166.

Repeating the Upgrade

You might need to run the GUI wizard again for the following reasons:

- If you are upgrading incrementally, repeat the upgrade instructions beginning with "Upgrading to a Support Pack" on page 155.

  You can also do this at a later date, because ZENworks 6.5 servers that are upgraded to the support pack work with ZENworks 6.5 servers that are not yet upgraded to the support pack. In other words, ZENworks 6.5 Distributors can send its Distributions to ZENworks 6.5 SP*x* Subscribers.

- If you have other workstations where the Server Management snap-ins to ConsoleOne are installed, you can repeat the upgrade instructions beginning with "Upgrading to a Support Pack" on page 155 on each of those machines to upgrade them to the support pack. You do not need to select any servers. This ConsoleOne upgrade on workstations can be performed at any time.

- If you have Linux or Solaris servers to upgrade to the support pack, continue with "Upgrading Policy and Distribution Services on Linux and Solaris Servers" on page 167. Otherwise, you have completed upgrading Policy-Enabled Server Management to the support pack, except for the following post-upgrade tasks:

  - "Post-Upgrade Inventory Task" on page 166
  - "Post-Upgrade Manual Distribution Task" on page 167

Post-Upgrade Inventory Task

1. Stop the Inventory service.
2. (Conditional) If a ZENworks 6.5 Inventory server receives ZENworks software dictionary updates from a ZENworks 6.5 SP*x* Inventory server, you must perform the following tasks on the ZENworks 6.5 Inventory server:

   2a Make a reliable backup of desktopcommonutility.jar located in the *Inventory_server_installation_path*\zenworks\inv\server\wminv\lib directory.

   2b Copy desktopcommonutility.jar from *ZENworks 6.5 SPx Companion CD*\companion2\zen65patch\inv\server\wminv\lib to the *Inventory_server_installation_path*\zenworks\inv\server\wminv\lib directory.

3. Add non-English enumerated values for Inventory Attributes to the database by running the AddEnums utility.

   To run the AddEnums utility:

   - **On Sybase Inventory database:** Perform the steps explained in "Adding Non-English Enumerated Values for Inventory Attributes into the Sybase Inventory Database" in "Server Inventory" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

   - **On Oracle8i Inventory database:** Perform the step "Add non-English enumerated (enum) values for certain Inventory attributes into the Inventory database."explained in "Creating the Oracle8i Inventory Database on a Windows Server" in "Server Inventory" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

- **On Oracle9i Inventory database on Windows:** Perform the step "Add non-English enumerated (enum) values for certain Inventory attributes into the Inventory database."explained in "Creating the Oracle9i Inventory Database on a Windows Server" in "Server Inventory"in the *Novell ZENworks 6.5 Server Management Administration Guide*.
- **On Oracle9i Inventory database on UNIX:** Perform the step " Add non-English enumerated (enum) values for certain Inventory attributes into the Inventory database."explained in"Creating the Oracle9i Inventory Database on a UNIX Server" in "Server Inventory" in the *Novell ZENworks 6.5 Server Management Administration Guide*.
- **On MS SQL Inventory database:** Perform the step "(Optional) Add non-English enumerated (enum) values for certain Inventory attributes into the Inventory database." explained in"Configuring the MS SQL Server 2000 Inventory Database" in "Server Inventory" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

4 Start the Inventory service.

Post-Upgrade Manual Distribution Task

Manual Distributions created in ZENworks 6.5 do not work in a support pack. You must re-create them using the support pack Manual Distribution Wizard.

For steps on creating manual Distributions, see "Manually Importing and Exporting Distributions" in the *ZENworks 6.5 Server Management Administration Guide*.

Upgrading Policy and Distribution Services on Linux and Solaris Servers

The script for Linux and Solaris servers detects the existence of ZENworks 6.5 software and asks whether you want to upgrade or install. We recommend using the upgrade option, which is documented in the following steps.

For instructions on downloading the support pack file containing the script file, see the *ZENworks 6.5 Server Management Support Pack* Readme on the ZENworks 6.5 Web site (http://www.novell.com/documentation/zenworks65/index.html).

To upgrade, do the following:

- "Running the Upgrade Script" on page 167
- "Verifying That the Server Has Been Upgraded to the Support Pack" on page 168

Running the Upgrade Script

Perform the following tasks individually on each Linux and Solaris server to upgrade it from ZENworks 6.5 Server Management to the support pack:

1 Review the *ZENworks 6.5 Server Management Support Pack* Readme on the ZENworks 6.5 Web site (http://www.novell.com/documentation/zenworks65/index.html) for any last-minute information concerning upgrading to the support pack.

2 Log in as `root`.

3 If you are running X Windows on the Linux or Solaris server, open an XTerm window.

4. To run the Policy and Distribution Services script, enter one of the following commands in an XTerm window:

   Red Hat Linux: /mnt/cdrom/ZfS/TedPol/*platform*/zfs-pds-upgrade

   SUSE LINUX: /media/cdrom/ZfS/TedPol/*platform*/zfs-pds-upgrade

   where *platform* is either Linux or Solaris.

5. Press Enter to display the license agreement, press the Spacebar to scroll through the license agreement, type **y**, then press Enter to accept the license agreement.

   The following is displayed (including errors, if any) for a Linux installation while the server is upgraded:

```
Installing the novell-zen-zfs RPM...
Preparing...          ########################################### [100%]
   1:novell-zen-zfs    ########################################### [100%]
```

   Error messages are displayed at this point. After any error messages, the upgrade concludes by displaying the following:

```
ZENworks Server Management Policy and Distribution Services has been
restarted.
You may check its status by running:
  /etc/init.d/novell-zfs status
You can reconfigure this service by running:
  /opt/novell/bin/zfs-pds-configure
```

6. To verify that Policy and Distribution Services is running, enter:

   /etc/init.d/novell-zfs status

   Policy and Distribution Services is now ready to use on your Linux or Solaris server.

7. Repeat Step 2 through Step 6 on each ZENworks 6.5 Server Management server to be upgraded.

8. Continue with "Verifying That the Server Has Been Upgraded to the Support Pack" on page 168.

Verifying That the Server Has Been Upgraded to the Support Pack

Using iManager

1. Log in to iManager.
2. Under the ZENworks Server Management role, select Remote Web Console.
3. Identify a Linux or Solaris server, then click OK.

   You can either enter the IP address or DNS name, or browse for the server's ZENworks object.

4. In the Display field, select Policy/Package Agent from the drop-down list.
5. Under the Configuration tab, review the Version information.

   "ZENworks 6.5 Server Management Support Pack *x*" should be displayed, where *x* is the current support pack version.

6 Repeat these steps for each upgraded Linux or Solaris server.

On a Linux Server

1 At the Linux server's console, enter the following command:

```
rpm -q novell-zen-zfs
```

or

```
rpm -qa / grp novell-zen
```

2 If a support pack was applied correctly, it should read:

```
novell-zen-zfs-6.5-1
novell-zen-zws-6.5-1
```

or

```
novell-zen-zfs-6.5-2
novell-zen-zws-6.5-2
```

3 Repeat these steps on each upgraded Linux server.

4 Continue with "On a Solaris Server" on page 169, if necessary.

On a Solaris Server

1 At the Solaris server's console, enter the following command:

```
pgkinfo -L novellzfs
```

2 If a support pack was applied correctly, it should read:

```
novell-zen-zfs-6.5-1
novell-zen-zws-6.5-1
```

or

```
novell-zen-zfs-6.5-2
novell-zen-zws-6.5-2
```

3 Repeat these steps on each upgraded Solaris server.

Upgrading Management and Monitoring Services on NetWare Servers

Do the following in order to upgrade Management and Monitoring Services to a support pack:

1. "Pre-upgrade Checklist" on page 170
2. "Upgrading to a Support Pack" on page 170
3. "Upgrade the ConsoleOne Snap-Ins" on page 171

Pre-upgrade Checklist

To prepare for upgrading Management and Monitoring Services component of ZENworks 6.5 Server Management:

- ❑ Review the *ZENworks 6.5 Server Management Support Pack* Readme on the ZENworks 6.5 Web site (http://www.novell.com/documentation/zenworks65/index.html) for any last-minute information concerning upgrading to the support pack.
- ❑ Make sure you have fulfilled all of the installation requirements listed in "Preparation" on page 25.
- ❑ Make sure that you have installed the Management and Monitoring Services Site Server of ZENworks 6.5 Server Management and ZENworks 6.5 Server Management SP 1.
- ❑ To upgrade the Server Management Agent™ (NMA), ensure that you have installed NMA 6.0.3, which shipped with ZENworks 6.5 Server Management and ZENworks 6.5 Server Management SP 1.
- ❑ To upgrade the Advanced Trending agent (ATA), make sure that you have installed ATA 6.5, which shipped with Zenworks 6.5 Server Management.
- ❑ Authenticate to the eDirectory tree that contains all of the NetWare servers that you want to upgrade.
- ❑ At the server console prompt, enter **`stopmms`** to stop the Management and Monitoring Services. It may take time to stop the services.

  Use "java -show" command to verify that following Java services are absent:

  ```
  com.novell.zfs.mms.utility.servicemanager.zfs_mms_LanzSlpDis
  com.novell.zfs.mms.utility.servicemanager.zfs_mms_Services
  ```

Upgrading to a Support Pack

1. Run winsetup.exe.

   Winsetup.exe is found at:

   ```
   download_location\zen65sp1\winsetup.exe
   ```

   or

   ```
   download_location\zen65sp2\winsetup.exe
   ```

   where *download_location* depends on where you unzipped the download file. The default is c:\temp.

   This starts the wizard that contains the support pack upgrade menu options.

   For instructions on downloading the support pack file containing the winsetup.exe file, see the *ZENworks 6.5 Server Management Support Pack* Readme on the ZENworks 6.5 Web site (http://www.novell.com/documentation/zenworks65/index.html).

2. On the main menu, select Server Management.
3. Select the Management and Monitoring Services option.
4. Select the Site Management Services and Agents option.

   The Management and Monitoring Services Upgrade Installation Wizard launches.

5. Click Next to continue.

6. After you have read and agreed to the Software License Agreement, click Yes to continue with the installation.
7. Select the desired ZENworks 6.5 Server Management support pack components listed in the following table:

Server Component	Upgrade On
Management Site Servers	Management server
Server Management Agent	All NetWare servers that you want to upgrade
Advanced Trending Agent	All NetWare servers that you want to manage

8. Click Next.
9. If you selected to upgrade the Management Site Servers, complete the following; otherwise, skip to Step 10:
   - **9a** Browse to and select the volume name of the NetWare server that is your management site server, then click Next.
   - **9b** To start the auto-discovery process, select Start the Auto-Discovery Process.
   - **9c** To start the back-end services, select Start the Backend Services on the Server.
   - **9d** To copy the ConsoleOne snap-ins, select Copy ConsoleOne Snap-ins to the Management Site Server.
10. If you selected to upgrade only the Site server, skip to Step 12.
11. If you selected to upgrade the Server Management Agent or Advanced Trending Agent, select the NetWare servers to upgrade on each server, then click Next.
12. Review the summary list of selections you made in the preceding steps.

    To change a setting, click Back.
13. Click Finish to upgrade ZENworks 6.5 Server Management to the support pack.
14. If you chose not to start all the backend services and the auto-discovery process during the upgrade, you need to manually start the backend services and the auto-discovery process now.

    For Managed servers on NetWare, the ZENworks agents are automatically started.
15. Continue with "Upgrade the ConsoleOne Snap-Ins" on page 171.

Upgrade the ConsoleOne Snap-Ins

You can install multiple management consoles for accessing data on a management server. You must have Admin rights to the workstation to install the management console software on a Windows 2000/XP workstation.

To upgrade the ZENworks Server Management ConsoleOne software:

1. If you want to upgrade a remote server, you need to log in as an administrator or a user with Admin equivalent rights.
2. Run winsetup.exe.

   Winsetup.exe is found at:

   download_location\zen65sp1\winsetup.exe

or

`download_location\zen65sp2\winsetup.exe`

where *download_location* depends on where you unzipped the download file. The default is c:\temp.

This starts the wizard that contains the support pack upgrade menu options.

For instructions on downloading the support pack file containing the winsetup.exe file, see the *ZENworks 6.5 Server Management Support Pack* Readme on the ZENworks 6.5 Web site (http://www.novell.com/documentation/zenworks65/index.html).

3. On the main menu, select Server Management.
4. Select Management and Monitoring Services, the select Site Management ConsoleOne Snap-ins.
5. Specify a destination folder for the snap-ins or click Next to accept the default destination folder.

   The snap-in files are installed.
6. Select to view the Readme file, then click Finish.

Upgrading to a Support Pack Using a Server Software Package

This method allows you to automatically upgrade Subscriber servers on all supported platforms where the ZENworks 6.5 Subscriber software is installed, including NetWare, Windows, Linux, and Solaris.

For Server Inventory, this method only upgrades the Inventory Agent on NetWare and Windows servers. Management and Monitoring Services cannot be upgraded using a Server Software Package.

- “Upgrade Concepts and Issues” on page 172
- “Pre-Upgrade Checklist” on page 174
- “Upgrading Policy and Distribution Services with the Server Software Package” on page 174
- “Upgrading Server Inventory with the Server Software Package” on page 179
- “Upgrading Remote Management with the Server Software Package” on page 181

Upgrade Concepts and Issues

When you upgrade ZENworks 6.5 Policy-Enabled Server Management to a support pack using the Server Software Package upgrade method, you use the zsm65sp1_polydist.cpk or zsm65sp2_polydist.cpk upgrade file contained in the support pack download for creating the Software Package Distribution. Then you send it to all of the Subscriber servers that you want to upgrade to the support pack.

Review the following to understand what the upgrading does, and to understand the issues involved:

- “What the Upgrade Server Software Package Does” on page 173
- “What the Upgrade Server Software Package Does Not Do” on page 173
- “Upgrading Servers on Multiple Trees” on page 173

- "Upgrading Incrementally" on page 173

What the Upgrade Server Software Package Does

- Upgrades the ZENworks 6.5 Server Management software to the support pack using the installation paths where ZENworks 6.5 was installed.
- Automatically stops and restarts the services for all supported platforms (NetWare, Windows, Linux, and Solaris).

  IMPORTANT: The ZENworks Server Management service must be running in order for the Subscriber to receive and extract the Software Package Distribution containing the upgrade .cpk file. The services on the Subscriber are then stopped during upgrading.
- Always copies files to the ZENworks directories, whether the existing files are new newer or older than the upgrade files. However, files copied to locations outside of the ZENworks directories are replaced only if they are older.
- Upgrades the ConsoleOne snap-ins on the Subscriber servers where the ZENworks 6.5 snap-ins to ConsoleOne are installed.

What the Upgrade Server Software Package Does Not Do

- The Software Package Distribution is not delivered to the Subscriber server if the ZENworks Server Management service is not running.
- The software package does not install new software on ZENworks 6.5 Server Management servers where it was not originally installed. Only existing software is upgraded to the support pack.
- The software package does not upgrade ZENworks for Servers 3.*x* servers to ZENworks 6.5.
- ZENworks eDirectory objects are not upgraded; only software updates are included in a support pack.
- The ZENworks 6.5 Server Management snap-ins for ConsoleOne are not installed to the local machine during upgrading. You must do this with the wizard. This task is covered in "Upgrading Policy-Enabled Server Management on NetWare and Windows Servers" on page 153.
- The ZENworks 6.5 Server Management plug-ins for iManager are not installed during upgrading. You must do this with a wizard menu option after you have finished upgrading with the server package. This task is covered in "Upgrading the Novell iManager Plug-Ins" on page 160.

Upgrading Servers on Multiple Trees

You can upgrade Subscriber servers on multiple trees, because you can send Software Package Distributions to Subscribers on multiple trees.

Upgrading Incrementally

You can upgrade all ZENworks 6.5 servers to the support pack in one distribution of the .cpk file, or incrementally (such as geographical locations) by setting up different Channels for each Subscriber grouping, but using the same Distribution.

Pre-Upgrade Checklist

Make sure you have done the following to prepare the ZENworks 6.5 servers that you have targeted for upgrading to the support pack:

- ❑ Review the *ZENworks 6.5 Server Management Support Pack* Readme on the ZENworks 6.5 Web site (http://www.novell.com/documentation/zenworks65/index.html) for any last-minute information concerning upgrading to the support pack.
- ❑ Make sure that ZENworks 6.5 Server Management has been installed on the servers you want to upgrade to the support pack.
- ❑ Make sure you have fulfilled all of the installation requirements listed in "Preparation" on page 25.
- ❑ The ZENworks services must be running on the Subscriber server in order for it to receive and extract the Software Package Distribution containing the zsm65sp1_polydist.cpk or zsm65sp2_polydist.cpk file that is used to upgrade the server. The services are stopped during upgrading and automatically restarted after the upgrade has finished.
- ❑ If you plan to upgrade the Inventory Agent from ZENworks 6.5 Server Management SP1 Hot Patch 1, Hot Patch 2, or Hot Patch 3 to ZENworks 6.5 Server Management Support Pack 2, you must apply the patch available with TID 103465 before installing the support pack. For more information on this TID, see the Novell Support Knowledgebase (http://support.novell.com/search/kb_index.jsp).

Upgrading Policy and Distribution Services with the Server Software Package

Using the Tiered Electronic Distribution component of ZENworks 6.5 Server Management, you can automatically distribute and install the software packages to all Subscriber servers that are running the Subscriber and Policy/Package Agent software.

To upgrade to the support pack using a Server Software Package, do the following in order:

1. "Creating and Sending the Server Software Package" on page 174
2. "Determining If the Software Package Was Installed Successfully" on page 176
3. "Verifying that the Services Have Started" on page 177
4. "Installing the Snap-ins and Plug-ins" on page 178
5. "Verifying That the Servers Have Been Upgraded to the Support Pack" on page 178
6. "Repeating for Server Groups" on page 179

Creating and Sending the Server Software Package

1 Select a ZENworks 6.5 Distributor server and copy zsm65sp1_polydist.cpk or zsm65sp2_polydist.cpk to the Distributor's file system.

The .cpk file is located on the *ZENworks 6.5 SPx Companion* CD download in:

```
download_location\zenworks65_sp1\zenworks server management - software pkgs\pds
```

or

```
download_location\zenworks65_sp2\zenworks server management - software pkgs\pds
```

For instructions on downloading the support pack file containing the .cpk file, see the *ZENworks 6.5 Server Management Support Pack* Readme on the ZENworks 6.5 Web site (http://www.novell.com/documentation/zenworks65/index.html).

2. Make a note of where you copied zsm65sp1_polydist.cpk or zsm65sp2_polydist.cpk on the Distributor server for when you create its Server Package Distribution.

3. Determine which Subscriber servers you want to upgrade with the software package.

   If you created a list during preparation, continue with Step 4.

   Distributor servers are upgraded to the support pack when their Subscribers are upgraded.

4. Set each Subscriber's Extract schedule.

   Use care in setting your Subscriber's Extract schedule.

   If the schedule is set to Run Immediate and either the Subscriber is running on the same server as the Distributor, or the Subscriber is a parent and will be forwarding the Distribution on to subordinate Subscribers, you will probably interrupt the sending of the Distribution to Subscribers because the update process involves unloading Java. With Java unloaded, Distributions are temporarily halted until Java has been reloaded and the Channel's Send schedule fires.

   If the Subscriber is a parent that is sending the Distribution to subordinate Subscribers, it is in the process of sending the Distribution when the software package tries to unload Java. However, the Distributions continue from where they left off after Java is started again.

5. Create a Distribution for this software package.

   You can have only one software package per Distribution object. Although the software allows more than one software package to be selected in a single Distribution object, this is not allowed when distributing zsm65sp1_polydist.cpk or zsm65sp2_polydist.cpk. The reason is that installing a software package unloads and reloads Java, which can prevent the remaining software packages from being successfully processed from a single Distribution object.

   Be sure to set the Distribution's Build schedule.

   IMPORTANT: The Distribution containing zsm65sp1_polydist.cpk or zsm65sp1_polydist.cpk must be built, sent, extracted, and installed before sending any other Distributions containing other software packages for upgrading other Server Management components.

   For detailed instructions on creating Distributions, see "Policy and Distribution Services" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

6. To set up a Channel for this Distribution:

   6a. Create a Channel specifically for this software package upgrade.

   6b. Set the Channel's Send schedule to Immediate.

   If you want to wait and not immediately send the upgrade, you can set it to Never until you are ready to send it, then set it to Immediate.

   6c. Associate the Distribution with this Channel so that it is sent based on the Channel's Send schedule.

7. Associate the Subscribers that you identified in Step 3 with the Channel.

8. Send the Distribution.

   For example, refresh the Distributor to build the Distribution so that it can be sent and extracted. You do not need to set or change the Distributor's Refresh schedule if you refresh the Distributor manually.

   To refresh the Distributor manually, right-click the Distributor object in ConsoleOne and select Refresh Distributor.

   For detailed instructions on sending Distributions, see "Policy and Distribution Services" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

   The Distribution is automatically created when the Distribution's Build schedule starts. The Distribution is automatically sent when the Channel's Send schedule starts. It is extracted according to the Subscriber server's Extract schedule. At that point, the Subscriber server should be upgraded to ZENworks 6.5 SP*x*.

9. Set the Channel used to send the upgrade software package to Inactive, so that this a support pack upgrade won't be sent again to these Subscribers.

10. Continue with "Creating and Sending the Server Software Package" on page 174.

Determining If the Software Package Was Installed Successfully

1. Determine which components of the software package were installed successfully by using one of the following methods:

   - **iManager:** Use the Tiered Electronic Distribution view in iManager to see information for every software package that was installed.
   - **Reports:** If you use Tiered Electronic Distribution for installation, use Server Management reporting to verify the success or failure of individual components of a software package.
   - **Log Files:** Use the log files contained on the Subscriber Servers to verify the success or failure:

     For file copying messages:

NetWare and Windows	*volume_or_drive*\temp\zsm651_polydist.cpk\copylog.txt or *volume_or_drive*\temp\zsm652_polydist.cpk\copylog.txt

     For general log file messages:

NetWare	*volume_or_drive*\temp\zsm651_polydist.cpk\netware\upgrade.log or *volume_or_drive*\temp\zsm652_polydist.cpk\netware\upgrade.log
Windows	*volume_or_drive*\temp\zsm651_polydist.cpk\upgrade.log or *volume_or_drive*\temp\zsm652_polydist.cpk\upgrade.log

- **Linux:** Enter the following command:

  `rpm -q novell-zen-zfs`

  This should return:

  `novell-zen-zfs-6.5-1`

  or

  `novell-zen-zfs-6.5-2`

- **Solaris:** Enter the following command:

  `pgkinfo -l novlzfs`

  This should return:

  `VERSION: 6.5-1`

  or

  `VERSION: 6.5-2`

Each software package can consist of several components. It is possible that some of these components can be successfully installed and others fail. For example, a server platform might exist for one of the servers to receive the Distribution, but the platform is not contained in the requirements for the software package. Therefore, success for the software packages included in the installation means that one or more components were successfully installed.

Because several components could fail to install, and the Software Package installation might still appear as successful, we recommend that you review the success or failure of each component of the software package to verify that the components needed on a specific server were installed successfully.

2 Continue with "Verifying that the Services Have Started" on page 177.

Verifying that the Services Have Started

1 Verify that the Policy and Distribution Services is running on NetWare servers:

1a On each target server's console, press Ctrl+Esc to view the services.

1b Check whether the following services are listed:

Sybase database
ZENworks (only if Policy and Distribution Services is installed)
ZENworks Inventory Service
ZENworks Web Server (only if the Inventory Server or the Inventory Proxy Service is installed)

1c If any service is missing, that component was not successfully started.

For steps to start a service, see "On NetWare Servers" on page 163.

1d After successfully starting the services, continue with Step 2.

2 Verify that the Policy and Distribution Services is running on Windows servers:

2a On each Windows server, open the Control Panel, double-click Admin Tools, then click Services.

2b Determine if the following services are running:

Novell Database - Sybase
Novell Inventory Service
Novell ZENworks Service Manager

2c If any service is not running, that component was not successfully started.

For steps to start a service, see "On Windows Servers" on page 163.

2d After successfully starting the services, continue with Step 1.

3 To verify that Policy and Distribution Services is running on Linux or Solaris servers, enter in an XTerm window on each server:

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

4 Continue with "Installing the Snap-ins and Plug-ins" on page 178.

Installing the Snap-ins and Plug-ins

1 If you have instances of ConsoleOne that need the snap-ins upgraded to the support pack, follow the instructions in "Upgrading Policy-Enabled Server Management on NetWare and Windows Servers" on page 153, then continue with Step 2.

2 If you have Novell iManager 2.0.2 or 2.5 installed on a server in your network, and you need to upgrade the iManager plug-ins to the support pack, follow the instructions under "Upgrading the Novell iManager Plug-Ins" on page 160.

3 Continue with "Verifying That the Servers Have Been Upgraded to the Support Pack" on page 178.

Verifying That the Servers Have Been Upgraded to the Support Pack

Using iManager

1 Log in to iManager.

2 Under the ZENworks Server Management role, select Remote Web Console.

3 Identify a server (any supported platform), then click OK.

You can either enter the IP address or DNS name, or browse for the server's ZENworks object.

4 In the Display field, select Policy/Package Agent from the drop-down list.

5 Under the Configuration tab, review the Version information.

"ZENworks 6.5 Server Management Support Pack *x*" should be displayed, where *x* is the current support pack version.

6 Repeat these steps for each upgraded server.

7 If the version is correct, continue with "Repeating for Server Groups" on page 179.

On a NetWare Server

1. At the NetWare server's main console prompt, enter the following command:

   zfsversion

2. View the current Server Management version information.

   If a support pack was applied correctly, it should read:

   ZENworks Server Management - Support Pack *x*

   where *x* is the current support pack version.

3. Repeat these steps for each upgraded server.

4. If the version is correct, continue with "On a Windows Server" on page 179 or "Repeating for Server Groups" on page 179.

The zfsversion command also writes a listing of ZENworks .jar files and their dates to:

volume:\zenworkszfsversion.log

On a Windows Server

1. On the Windows server, run \zenworks\zfsversion.bat.

   This creates a zfsversion.log file in the \zenworks directory.

2. Open the log file to view the current Server Management version information.

3. Repeat these steps for each upgraded server.

4. If the version is correct, continue with "Repeating for Server Groups" on page 179.

Repeating for Server Groups

For each incremental grouping of servers to be upgraded to the support pack, repeat the procedures from "Creating and Sending the Server Software Package" on page 174 through "Verifying That the Servers Have Been Upgraded to the Support Pack" on page 178.

Upgrading Server Inventory with the Server Software Package

You can upgrade only the Inventory Agent component of Server Inventory using the server software package. You can automatically install the Inventory Agent .cpk file.

IMPORTANT: You cannot combine software packages into the same Distribution. You must create a separate Distribution object for each software package. Also, ensure that the Inventory server and the Inventory Agent Distributions are not simultaneously sent to the server using the same Channel. You must first send the Inventory server Distribution; after it is complete, you must send the Inventory Agent Distribution. This is because each software package unloads the JVM on NetWare, which prevents concurrent processing of multiple software packages.

If the Inventory Agent is running on Distributor servers and Subscriber servers, you must first upgrade the Inventory Agent running on the Distributor servers before upgrading the Inventory Agent running on the Subscriber servers.

To automatically install the Inventory Agent .cpk file:

1. Select a ZENworks 6.5 Distributor server and copy zsm651_invagnt.cpk or zsm65sp2_invagnt.cpk to the Distributor's file system.

   The .cpk file is located on the *ZENworks 6.5 SPx Companion* CD download in:

   ```
   download_location\zenworks65_sp1\zenworks server management - software pkgs\invrm
   ```

   or

   ```
   download_location\zenworks65_sp2\zenworks server management - software pkgs\invrm
   ```

   For instructions on downloading the support pack file containing the .cpk file, see the *ZENworks 6.5 Server Management Support Pack* Readme on the ZENworks 6.5 Web site (http://www.novell.com/documentation/zenworks65/index.html).

2. Make a note of where you copied zsm651_invagnt.cpk or zsm65sp2_invagnt.cpk on the Distributor server for when you create its Server Package Distribution.

3. Set the Subscriber's Extract schedule.

   If the schedule is set to Run Immediate, you will probably interrupt the sending of the Distribution to Subscribers because the update process involves unloading Java. With Java unloaded, Distributions are temporarily halted until Java has been reloaded and the Channel's Send schedule fires.

   If the Subscriber is a parent that is sending the Distribution to subordinate Subscribers, it is in the process of sending the Distribution when the software package tries to unload Java. However, the Distributions continue from where they left off after Java is started again.

4. Create a Distribution for this software package.

   You can have only one software package per Distribution object. Although the software allows more than one software package to be selected in a single Distribution object, this is not allowed when distributing the ZENworks 6.5 Server Management software packages. The reason is that installing a software package unloads and reloads Java, which can prevent the remaining software packages from being successfully processed from a single Distribution object.

   Make sure to set the Distribution's Build schedule.

   The Distribution containing ZENworks 6.5 Server Management must be built, sent, extracted, and installed before sending any other Distributions containing other ZENworks 6.5 Server Management software packages.

   For detailed instructions on creating Distributions, see "Tiered Electronic Distribution" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

5. Associate the Distribution with a Channel so that it is sent based on the channel schedule.

   You might need to create the Channel. Be sure to set the Channel's Send schedule.

   The ZENworks 6.5 Server Management software packages unload and restart Java as part of the installation process. Therefore, you must process each software package individually. If you attempt to process multiple ZENworks 6.5 Server Management software packages simultaneously (such as by processing them at the same time in a given Channel), it is probable that one or more of the Software Package Distributions will fail on installation.

6. Associate the Subscribers that you want to receive this software package with the Channel.

7 Send the Distribution.

For example, refresh the Distributor to build the Distribution so that it can be sent and extracted. For detailed information on sending distributions, see "Tiered Electronic Distribution" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

The Distribution is automatically created when the Distribution's Build schedule starts. The Distribution is automatically sent when the Channel's Send schedule starts. It is extracted according to the Subscriber server's Extract schedule.

8 Review the following log files to verify the success or failure of the Inventory Agent .cpk file installation:

- On a NetWare server: sys:\etc\cpk65logs\cpk65_invagnt.log
- On a Windows server: *%windir%*\cpk65logs\cpk65_invagnt.log

If the .cpk file has been successfully installed, the ZENworks service is automatically started.

Upgrading Remote Management with the Server Software Package

The following sections provide detailed instructions for installing the software packages on Remote Management:

- "Automatically Installing Software Packages" on page 181
- "Manually Installing the Software Packages" on page 182

IMPORTANT: If you already have a hook driver installed on the machine where you are upgrading, the hook driver is uninstalled during the upgrade.

NOTE: You cannot set a password using a Server Software Package installation. However, if the password is already set on the server, the RConJ agent is loaded.

For loading the RConJ agent on a NetWare 6.5 cluster server, you must set the password by running the ZENworks 6.5 Server Management upgrade wizard followed by the ZENworks 6.5 Server Management a support pack installation.

Automatically Installing Software Packages

Using the Tiered Electronic Distribution (TED) component of ZENworks 6.5 Server Management, you can automatically distribute and upgrade the software packages to all servers that are running the Subscriber and Policy Package software.

IMPORTANT: You cannot combine software packages into the same Distribution. You must create a separate Distribution object for each software package. This is because each software package unloads the JVM on NetWare, which prevents concurrent processing of multiple software packages.

Make sure you have completed the following prerequisites for automatic installation:

- ❑ Your servers must meet the general ZENworks 6.5 Remote Management requirements.
- ❑ Policy and Distribution Services must be installed on your servers so that the software package Distributions can be sent, received, and upgraded.
- ❑ You should upgrade Policy and Distribution Services to the latest ZENworks 6.5 support pack.

To automatically install the Remote Management Agent .cpk file:

1. Select a ZENworks 6.5 Distributor server and copy zsm651_remmgmt.cpk or zsm65sp2_remmgmt.cpk to the Distributor's file system.

   The .cpk file is located on the *ZENworks 6.5 SPx Companion* CD download in:

   ```
   download_location\zenworks65_sp1\zenworks server management - software pkgs\invrm
   ```

   or

   ```
   download_location\zenworks65_sp2\zenworks server management - software pkgs\invrm
   ```

   For instructions on downloading the support pack file containing the .cpk file, see the *ZENworks 6.5 Server Management Support Pack* Readme on the ZENworks 6.5 Web site (http://www.novell.com/documentation/zenworks65/index.html).

2. Make a note of where you copied zsm651_remmgmt.cpk or zsm65sp2_remmgmt.cpk on the Distributor server for when you create its Server Package Distribution.
3. Set the Subscriber's Extract schedule.
4. Create a Distribution for this software package and set the Distribution's Build schedule.
5. Associate the Distribution with a Channel so that it is sent based on the channel schedule. You might need to create the Channel and set the Channel's Send schedule.
6. Associate the Subscribers that you want to receive this software package with the Channel.
7. Send the Distribution.

   The Distribution is automatically created when the Distribution's Build schedule starts. The Distribution is automatically sent when the Channel's Send schedule starts. It is extracted according to the Subscriber server's Extract schedule.
8. Review the log file contained in the Subscriber Servers to verify the success or failure of the installation.

   Several components might fail to install, and the Software Package installation can still appear as successful, so you should review the success or failure of each component of the software package to ensure that the components needed on a specific server were installed successfully.

Manually Installing the Software Packages

You must use the Standalone Package processor included in the software package download to manually upgrade the Remote Management Agent .cpk file on servers that are not running Subscriber software and the Policy/Package Agent.

Before you begin manual installation:

- Make sure you have access to the RemStandAlonePacPro.zip file. This file contains zsm651_remmgmt.bat, which is used to install the Server Management Agent on Windows servers, and zsm651_remmgmt.ncf, which is used to install the Server Management Agent on NetWare servers.

  IMPORTANT: In order to use these files for upgrading to ZENworks 6.5 SP2, you will need to edit each file and change any zsm651_remmgmt.cpk references to zsm65sp2_remmgmt.cpk, which is covered in a step in the following procedure.

- Make sure your servers meet the general ZENworks 6.5 Remote Management requirements for the component to be updated.

- Make sure you have upgraded Policy and Distribution Services to the latest ZENworks 6.5 support pack.

To manually install the Remote Management Agent .cpk file:

1. Unzip the RemStandAlonePacPro.zip file to an appropriate location:

   Windows server: c:\

   NetWare server: sys:\

   The Standalone Package Processor files are unzipped into a TEMP directory at the root of the server's file system.

   For instructions on downloading the support pack file containing the .zip file, see the *ZENworks 6.5 Server Management Support Pack* Readme on the ZENworks 6.5 Web site (http://www.novell.com/documentation/zenworks65/index.html).

2. Copy the .cpk file to be manually installed to the temporary directory where the associated .bat or .ncf file exists. For example:

   Windows server: c:\temp\zfs65

   NetWare server: sys:\temp\zfs65

3. If JRE 1.3.1 is not installed on the target Windows server, download the JRE and install it.

4. For upgrading to ZENworks 6.5 SP2, open zsm651_remmgmt.bat and zsm651_remmgmt.ncf in a text editor and rename any occurrences of zsm651_remmgmt.cpk to zsm65sp2_remmgmt.cpk.

5. In the .bat files corresponding to zsm651_remmgmt.cpk or zsm65sp2_remmgmt.cpk, change the JREROOT variable path to JRE_installation_path\JRE\BIN on each of the target Windows servers where JRE 1.3.1 is installed.

6. Point the CPKTEMP variable in the batch file to the location of the installation directory. For example:

   Windows server: CPKTEMP = c:\temp\zfs65

   NetWare server: CPKTEMP = sys:\temp\zfs65

7. Install the agents.

   To install the zsm651_remmgmt.cpk or zsm65sp2_remmgmt.cpk on a Windows server, enter the following at the command prompt:

   ```
   c:\temp\zfs65\win\zsm651_remmgmt.bat
   ```

   To install the zsm651_remmgmt.cpk or zsm65sp2_remmgmt.cpk on a NetWare server, enter the following at the command prompt:

   ```
   sys:\temp\zfs65\NetWare\zsm651_remmgmt.ncf
   ```

8. Determine which components of the software package were installed successfully by reviewing the log file created during installation.

   The following log files contain detailed information about the success of the Remote Management installation:

NetWare	sys:\etc\cpk65logs\cpk65_rmagnt.log
Windows	%windir%\cpk65logs\cpk65_rmagnt.log

11 Policy and Distribution Services

This section provides you with instructions for upgrading Novell® ZENworks® for Servers 3.*x* Policy and Distribution Services to ZENworks 6.5 Server Management using a menu option in the GUI program, or a Linux/Solaris script run from the *Novell ZENworks 6.5 Server Management Program* CD, or using a Server Software Package upgrade file contained on the *Novell ZENworks 6.5 Companion 2* CD.

IMPORTANT: You cannot upgrade directly to ZENworks 6.5 Support Pack 1 or 2 (SP1 or SP2) from ZENworks for Servers 3.x. You must first upgrade to ZENworks 6.5 using the instructions in this section, then follow the instructions in Chapter 10, "ZENworks 6.5 Server Management Support Packs," on page 149.

Before upgrading, you must meet all of the installation requirements outlined in "Preparation" on page 25.

If you are using NICI for Distribution encryption in ZENworks for Servers 3.*x*, you should upgrade to NICI 2.6.4; however, if you already have NICI 2.4.6 installed, it is optional whether you upgrade to NICI 2.6.4, because these versions are compatible with each other. For more information on NICI and encryption security, see Appendix F, "Installing Additional Security for Non-Secured Connections," on page 345.

Upgrade methods:

Item to Upgrade	Server Platform	Upgrade Method	Required?
Distributor and Subscriber objects	NetWare, Windows, Linux, and Solaris	Windows GUI program	Required
Distributor software	NetWare and Windows	Windows GUI program	Required
Distributor software	Linux and Solaris	Linux/Solaris Script	Required
Subscriber software	NetWare and Windows	Windows GUI program	Optional
Subscriber software	Linux and Solaris	Linux/Solaris Script	Optional [1]
Subscriber software	NetWare, Windows, Linux, and Solaris	Server Software Package	Optional

[1] Must be done locally one server at a time, which makes the Server Software Package method a better choice.

To upgrade, choose one of the following methods:

- "Upgrade Using the Program CD" on page 186

  This method uses either a Windows GUI program for NetWare and Windows servers, or a script for Linux and Solaris servers.

Advantages for upgrading the Subscriber software using a program method:

- Hands-on configuration of the upgrade options

- "Upgrade Using a Server Software Package" on page 215

  This optional method provides automated upgrading of the ZENworks software on Subscriber servers. You simply create a Software Package Distribution and send it to the Subscribers servers that are to be upgraded.

  IMPORTANT: The Server Software Package cannot upgrade any Distributor or Subscriber objects.

  Advantages for upgrading the Subscriber software using a Software Package Distribution:

  - Upgrades numerous servers in less time than in using the GUI upgrade program
  - Upgrades servers across multiple trees
  - Very useful when incrementally upgrading the Subscriber servers in your network
  - Provides upgrade access to machines that are not accessible using the GUI upgrade program

Upgrade Using the Program CD

Using this method, there are two platform-based options for upgrading:

- **NetWare and Windows Servers:** For these platforms, a GUI installation program is started on the Windows workstation where the *Novell ZENworks 6.5 Server Management Program* CD is inserted. Upgrade options are available in the installation menus. For some components, the installation option is also used to upgrade that component.
- **Linux and Solaris Servers:** For these platforms, a script file is used. It is provided on the *Novell ZENworks 6.5 Server Management Program* CD, and is run locally on each Linux or Solaris server to be upgraded.

  This method must be used to upgrade Distributor servers. However, to automate installation to multiple Subscriber servers, we recommend upgrading these servers using the Server Software Package method (see "Upgrade Using a Server Software Package" on page 215).

  For Linux and Solaris Distributor servers, the Distributor object must first be upgraded using the method GUI upgrade program.

To upgrade Policy and Distribution Services to ZENworks 6.5:

- "Upgrade Concepts and Issues" on page 186
- "Upgrade Preparation" on page 189
- "Upgrading NetWare and Windows Servers" on page 190
- "Upgrading Linux and Solaris Servers" on page 212

Upgrade Concepts and Issues

Using the GUI upgrade program, you can upgrade ZENworks for Servers 3.*x* Tiered Electronic Distribution objects and servers to ZENworks 6.5 Server Management. This program does not upgrade other ZENworks for Servers components (Server Inventory, Remote Management, or Management and Monitoring Services), each of which has its own upgrade method.

Review the following to understand what the GUI upgrade program does, and to understand the issues involved:

- "What the Upgrade Program Does" on page 187
- "What the Upgrade Program Does Not Do" on page 187
- "Upgrading Servers on Multiple Trees" on page 188
- "Upgrading Distributors First" on page 188
- "Incremental Upgrading and Interoperability" on page 189
- "Determining Whether to Upgrade Incrementally" on page 189
- "Cluster Issues with Upgrading" on page 189

After reviewing this section, continue with "Upgrade Preparation" on page 189.

What the Upgrade Program Does

- Upgrades the ZENworks for Servers 3.*x* Novell eDirectory™ objects to version 6.5 in the tree that you have selected. The upgrade is done only for the Distributor and Subscriber objects.
- Maintains the existing attributes for each updated eDirectory object, so that you will not need to reconfigure the objects.
- Maintains all working directories, so that Distributions created in ZENworks for Servers 3.*x* can be upgraded and used in version 6.5.
- Upgrades the ZENworks 6.5 Server Management software using the installation paths where ZENworks for Servers 3.*x* was installed.

  Files are always copied in the ZENworks directories, replacing both older and newer files with the upgrade files. Files copied to other locations outside of the ZENworks directories are replaced only if they are older. The reason for replacing both older and newer files in the ZENworks directories is that version 3.0.2 files from a support pack that is more recent than the release of version 6.5 would need to be replaced with the older-dated version 6.5 files in order to have the correct files for version 6.5.
- When you select to upgrade a Subscriber, the ZENworks for Servers 3.*x* Policy Package Agent is automatically upgraded to the ZENworks 6.5 Server Management Policy/Package Agent.

In summary, the upgrade program upgrades the objects and installs the software on the Distributor and Subscriber servers.

What the Upgrade Program Does Not Do

- The upgrade program does not install ZENworks 6.5 Server Management to servers where ZENworks for Servers 3.*x* was not installed. It only upgrades existing ZENworks for Servers 3.*x* objects and software.
- The schema is not automatically extended. You must do this before upgrading. This task is covered in the upgrade steps.
- The ZENworks 6.5 Server Management snap-ins for ConsoleOne® are not installed to the local machine during upgrading. You must do this with the installation program after you have exited the upgrade program. This task is covered in the upgrade steps.

- The ZENworks 6.5 Server Management plug-ins for iManager are not installed by the upgrade program. You must do this with an installation program menu option after you have exited the upgrade program. This task is covered in the upgrade steps.
- Does not upgrade the ConsoleOne snap-ins on servers where ConsoleOne is installed. This must be done using the installation program.
- File Distributions are not re-baselined, which must be done manually. File Distributions that are not re-baselined will cause a "Local class compatibility..." error at the time of building or extracting, and the Distribution will not be processed. This task is covered in the upgrade steps.

In summary, the upgrade program does not install ZENworks 6.5 Server Management where ZENworks for Servers 3.*x* was not installed. ZENworks for Servers objects are necessary for identifying the servers to upgrade.

Upgrading Servers on Multiple Trees

The upgrade program discovers your target servers by their corresponding Distributor or Subscriber objects contained in the tree. You can only select one tree when running the upgrade program. Therefore, if you have multiple trees with ZENworks for Servers 3.*x* objects, you will need to run the upgrade program twice per tree: once for the Distributors, then again for the Subscribers.

However, if you use the software package method to upgrade your Subscribers (see "Upgrade Using a Server Software Package" on page 215), you can upgrade Subscribers across multiple trees.

Upgrading Distributors First

Whether upgrading incrementally or all at once, for the following reasons we recommend that you upgrade all of your Distributors first, then upgrade your Subscribers:

- Version 6.5 Distributors can send their version 6.5 Distributions to version 6.5 Subscribers.
- Version 6.5 Distributors can send their version 6.5 Distributions to version 3.0.2 Subscribers.

  It is the Interim Release 1 requirement for ZENworks for Servers 3.0.2 that makes this possible. For more information, see "Interoperability with ZENworks for Servers 3.x" on page 261.
- Version 3.0.2 Distributors can send their version 3.0.2 Distributions to version 3.0.2 Subscribers.
- However, version 3.0.2 Distributors cannot send their version 3.0.2 Distributions to version 6.5 Subscribers.

  This is the main reason for upgrading the Distributors first. If you upgraded some Subscribers before upgrading the Distributor that sends them its Distributions, the Distributions would fail because of the Distribution version and Subscriber version conflict.

After a ZENworks for Servers 3.*x* Distributor has been converted to ZENworks 6.5 Server Management, before it sends any of its Distributions, it converts them to ZENworks 6.5 Server Management Distributions when it builds them.

Incremental Upgrading and Interoperability

For a variety of reasons, you might need to upgrade your ZENworks for Servers 3.*x* Subscriber objects incrementally. For example, you may have too many servers to upgrade all of them in one session. Interoperability issues can exist when upgrading incrementally.

For interoperability between ZENworks 6.5 Subscribers and ZENworks for Servers 3.0.2 Subscribers when upgrading incrementally, you must have Interim Release 1 installed on all version 3.0.2 Subscriber servers. For more information, see "Version Interoperability" on page 261.

Determining Whether to Upgrade Incrementally

Consider the following in determining whether to upgrade your Subscribers incrementally:

- **Number of Subscribers:** If you have many Subscribers, consider the time it might take to upgrade them in one session. If that time frame is too long, select your target Subscribers in groups so that you can upgrade one group at a time.
- **Desktop Application Distributions:** If you have ZENworks for Servers 3.*x* Desktop Application Distributions, you should maintain one ZENworks for Servers 3.*x* Distributor for sending Desktop Application Distributions to the ZENworks for Servers 3.*x* Subscribers requiring them.

  The upgrade process would then be:

  1. Upgrade the ZENworks for Servers 3.*x* Distributor to version 6.5 that was sending Desktop Application Distributions.

  2. Rebuild the Desktop Application Distributions as version 6.5 Distributions, but do not allow them to be sent yet.

  3. Upgrade the version 3.*x* Subscribers that need the upgraded Desktop Application Distributions.

  4. Send the upgraded Desktop Application Distributions.

Cluster Issues with Upgrading

The upgrade program automatically upgrades clusters.

Upgrade Preparation

The servers you want to upgrade must meet all of the same server requirements for installation of ZENworks 6.5 Server Management that are provided in Chapter 5, "Server Requirements," on page 43.

WARNING: If you intend to upgrade incrementally, be aware that some system requirements for ZENworks 6.5 Server Management should not be applied to servers where you will continue to use ZENworks for Servers 3.0.2 Interim Release 1. Meet the server requirements only for the servers you will be upgrading to ZENworks 6.5 Server Management.

You need to know the following information to upgrade ZENworks for Servers 3.*x* objects and servers to ZENworks 6.5 Server Management:

- "Trees to Upgrade" on page 190
- "Distributor Servers to Upgrade" on page 190
- "Subscriber Servers to Upgrade" on page 190

Trees to Upgrade

Determine the trees where ZENworks for Servers 3.*x* objects have been installed. You need to extend the schema on these trees before upgrading. Extending the ZENworks 6.5 Server Management schema does not remove the ZENworks for Servers 3.*x* schema extensions. ZENworks schema extensions are additive.

If you have ZENworks for Servers 3.*x* installed across multiple trees, you should first upgrade the Distributors per tree, then upgrade the Subscribers in those trees using either the upgrade program or .cpk file method (which allows upgrading multiple trees at a time using a Distribution).

Distributor Servers to Upgrade

The upgrade program displays all ZENworks for Servers 3.*x* Distributor objects in the tree. Plan to upgrade all of the Distributors in a given tree at the same time.

For ZENworks for Servers 3.*x* servers that are both a Distributor and Subscriber, the Subscriber software is also upgraded when you upgrade the Distributor software.

Subscriber Servers to Upgrade

The upgrade program displays all ZENworks for Servers 3.*x* Subscriber objects in the tree.

If you plan to upgrade incrementally within a tree, determine the groups of servers that you want to upgrade. For more information, see "Incremental Upgrading and Interoperability" on page 189.

Continue with "Upgrading NetWare and Windows Servers" on page 190.

Upgrading NetWare and Windows Servers

If you have ZENworks for Servers 3.*x* objects installed to multiple trees, repeat the following upgrade instructions for each tree. Also, if you are upgrading Subscribers incrementally, repeat the following upgrade instructions for each increment.

To upgrade ZENworks for Servers 3.*x* to ZENworks 6.5 Server Management, perform the following tasks in order:

1. "Pre-Upgrade Checklist" on page 190
2. "Upgrade Steps" on page 191
3. "Complete the Upgrade" on page 201
4. "Re-Baseline File Distributions" on page 208
5. "Convert Older Server Software Packages" on page 212

Pre-Upgrade Checklist

- ❑ Review the Readme for any last-minute information concerning upgrading.

  Readme_servers.html is located in the \readmes\en directory on the *ZENworks 6.5 Server Management Program* CD, and is also accessible from an installation menu option.

- ❑ Make sure your upgrade workstation has met the requirements listed in Chapter 4, "Installation Machine and Management Workstation Requirements," on page 39.

  IMPORTANT: Make sure you have updated each of your ConsoleOne installations, because you will be updating to the ZENworks 6.5 Server Management snap-ins when completing the upgrade process (see "Upgrade the ConsoleOne Snap-Ins" on page 202).

- ❑ Make sure you have met all of the server requirements listed in Chapter 5, "Server Requirements," on page 43.
- ❑ If you have not already done so, log in to the eDirectory tree where you will be updating the ZENworks for Servers 3.*x* objects to version 6.5.

  If you are not logged in to this tree, you will not be able to select it during the upgrade process.

  You can upgrade Distributors and Subscribers one tree at a time. You can run the upgrade program as many times as necessary.

  You will be extending the schema for ZENworks 6.5 Server Management on this tree.
- ❑ If you will upgrade software on any Windows servers, make sure you have closed the Services window on each Windows server to be upgraded.

  The upgrade program automatically stops all ZENworks Server Management services. However, the Server Management services cannot be registered if the Services window is left open when upgrading the server.

Continue with "Upgrade Steps" on page 191.

Upgrade Steps

To upgrade ZENworks for Servers 3.*x* to ZENworks 6.5 Server Management, do the following tasks in order:

1. "Disable the Distribution Channels" on page 191
2. "Extend the Schema" on page 192
3. "Start the Upgrade Program" on page 196
4. "Select the Objects to Upgrade" on page 198
5. "Configure the Upgrade Paths and Options" on page 200
6. "Upgrade Summary" on page 201

Disable the Distribution Channels

If you re-baselined your version 3.0.2 File Distributions when updating to Interim Release 2, you should disable the Channels if you do not want Distributions being sent and extracted while you are upgrading. However, this is not required, because a Distribution being extracted on a Subscriber can be interrupted by an upgrade process, then pick up where it left off after the upgrade has finished.

If you did not update ZENworks for Servers 3.0.2 to Interim Release 2, you must disable all Channels where File Distributions are listed. File Distributions must be re-baselined after upgrading to prevent a "Local class compatibility..." error at the time of building or extracting, which causes the Distribution to not be processed. In order to prevent distribution errors in this situation, Distributions should not be sent between Distributors and Subscribers until they have been upgraded. Steps to re-baseline File Distributions are provided in "Re-Baseline File Distributions" on page 208.

To disable the applicable Channels:

1. In ConsoleOne, multiple-select the Channel objects for the Channels you need to disable.

   These should be all Channels where a File Distribution is listed.
2. Right-click the selected objects and click Properties of Multiple Objects.

3 Select each of the Channels listed on the Objects to Modify tab, then click the General Settings tab.

4 Click the Active check box to deselect it, then click OK to exit the properties.

5 Exit ConsoleOne.

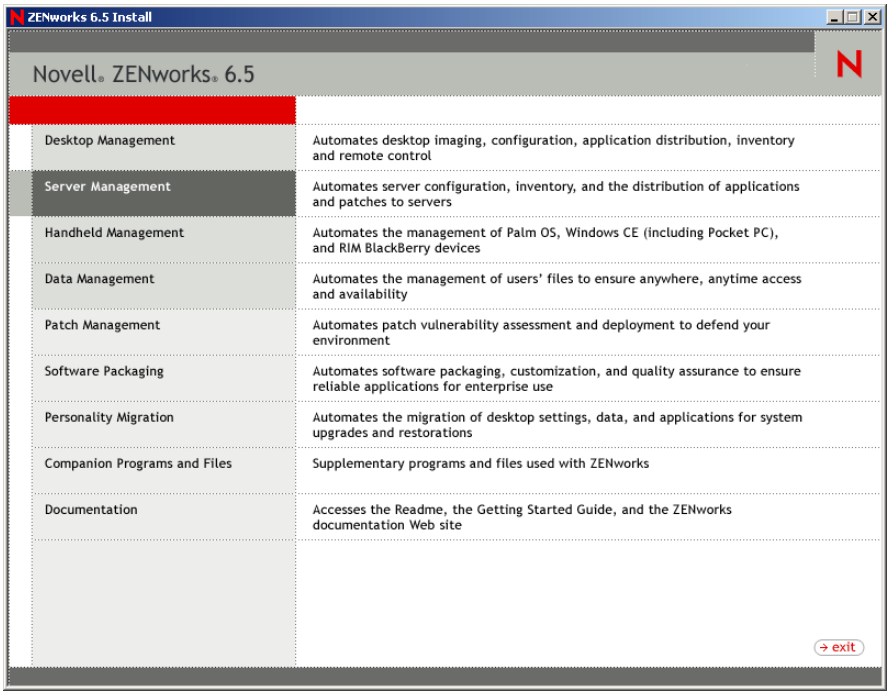
6 Continue with "Extend the Schema" on page 192.

Extend the Schema

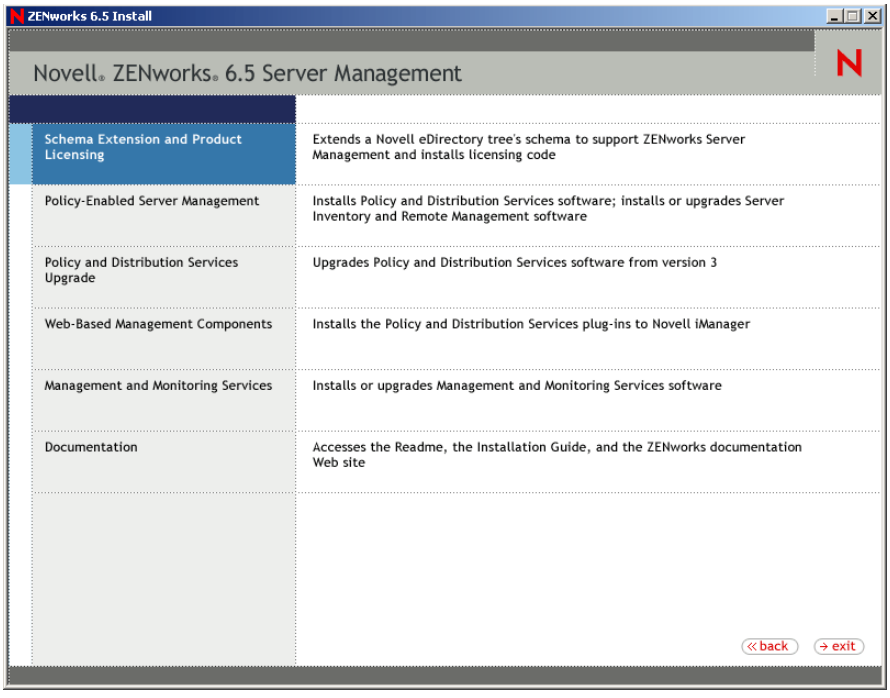
1 On the upgrade workstation, insert the *ZENworks 6.5 Server Management Program* CD.

The startup screen is displayed. If the startup screen is not automatically displayed after inserting the CD, run winsetup.exe at the root of the CD.

We recommend that you upgrade Policy and Distribution Services from the *ZENworks 6.5 Server Management Program* CD. However, if you need to copy the CD structure to a hard drive, the path between the root of the hard drive and the first CD directory can contain only directory names that conform to the 8.3-character DOS file naming convention. If any long directory names exist in the path, the upgrade program will not work.

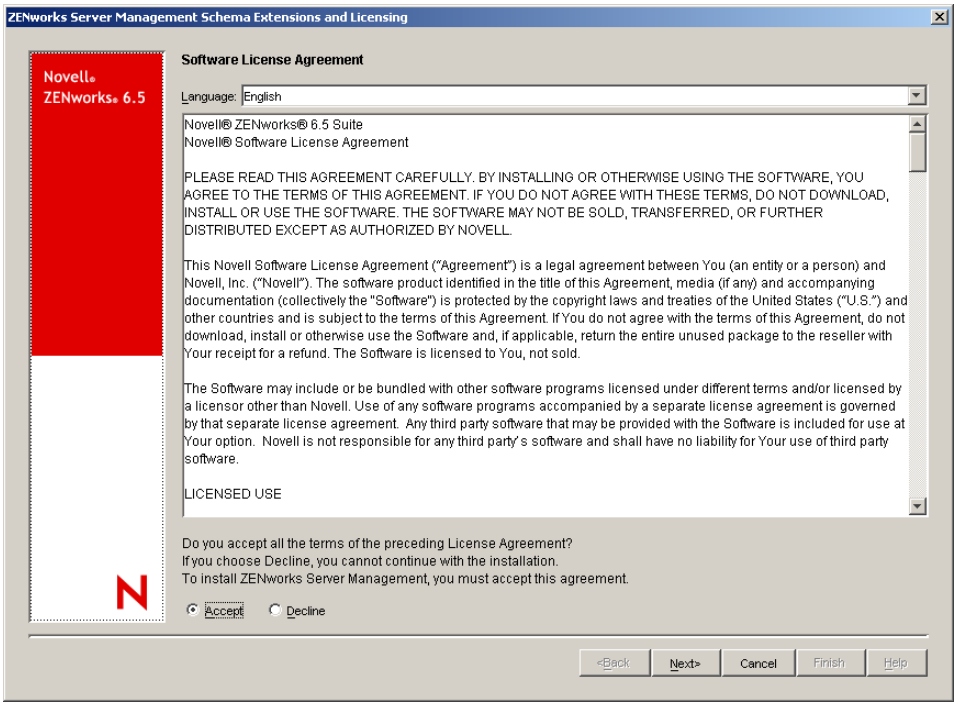


2 Select Server Management.

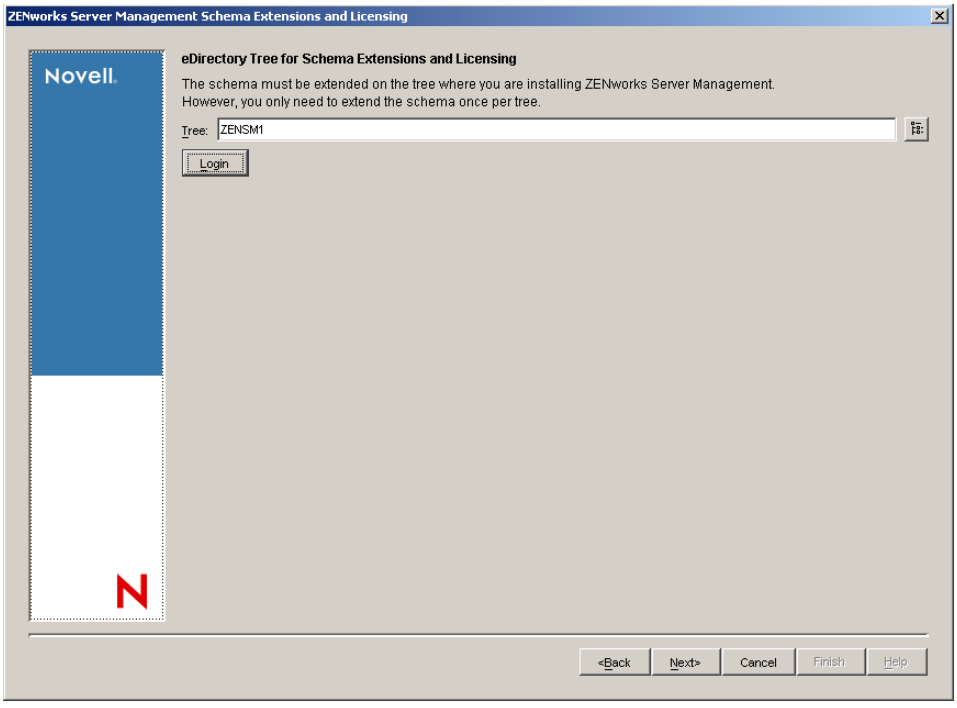


3 If you have not yet extended the schema for version 6.5, select Schema Extension and Product Licensing; otherwise, skip the following steps and continue with "Start the Upgrade Program" on page 196.

To upgrade ZENworks for Servers 3.*x* to ZENworks 6.5 Server Management, you must extend the schema on the trees where you will be updating ZENworks objects.



4 If you agree with the Software License Agreement, click Accept, then click Next to display the eDirectory Tree for Creating Objects page; otherwise, click Decline and Cancel to exit.



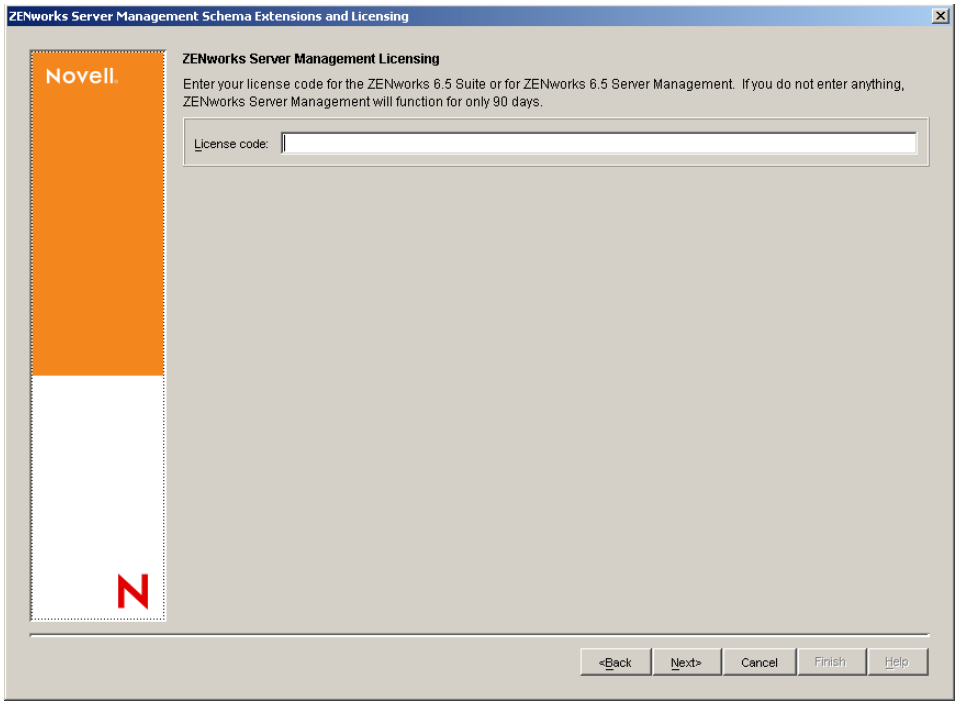
5 Select the tree where you want the ZENworks objects created, then click OK to display the ZENworks Server Management Licensing page.

IMPORTANT: Select the Extend Schema check box only if you are extending the schema for the first time. If you are running the Extend Schema menu option only to enter a product license code, deselect this box.

The Login button allows you to log into the tree if you are not already authenticated.

ZENworks Server Management schema extensions need to be done only once for a tree. If you have multiple trees, you need to extend the schema only on the trees where you will be installing ZENworks objects.

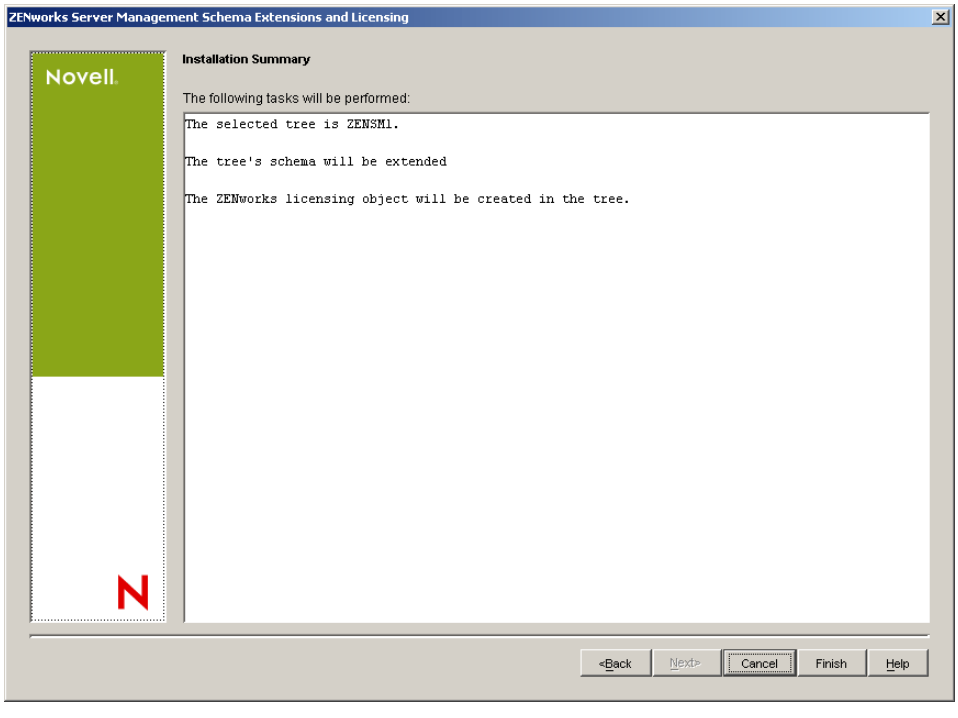
Schema extensions for all ZENworks Server Management components (Policy and Distribution Services, Server Inventory, Remote Management, and Management and Monitoring Services) are installed at the same time when extending the schema.



6 Enter a license code, or leave the field blank and click Next to display the Summary page.

If you leave the field blank, the 90-day Evaluation License is in effect. You can return to this page at a later date to enter a license code.

You should have received the license code when you purchased the product.

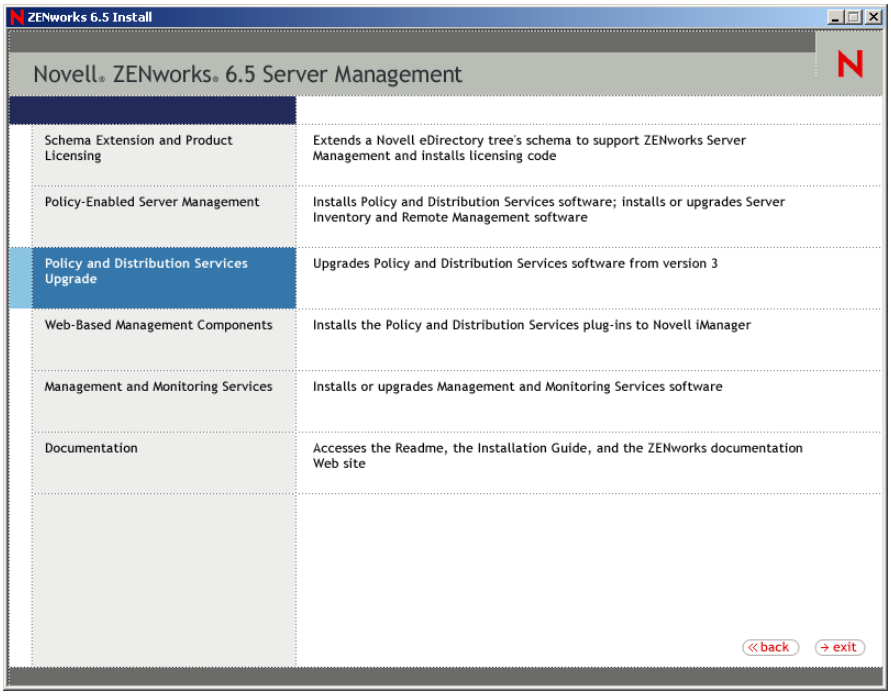


7 To extend the schema, click Finish.

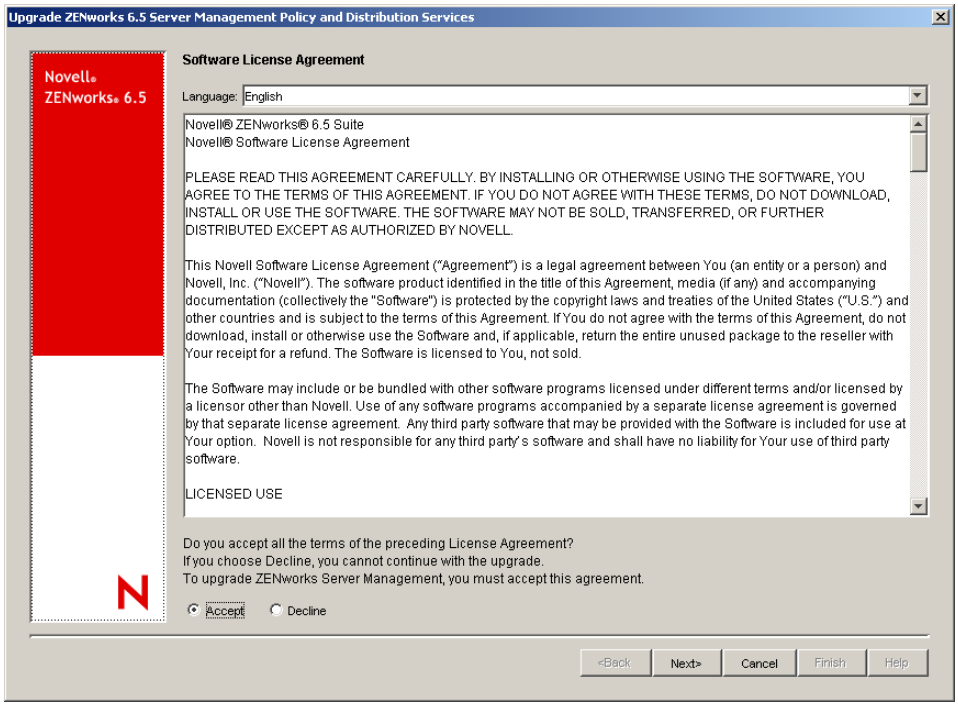
After the schema extension process has completed, the main installation menu is displayed.

8 Continue with “Start the Upgrade Program” on page 196.

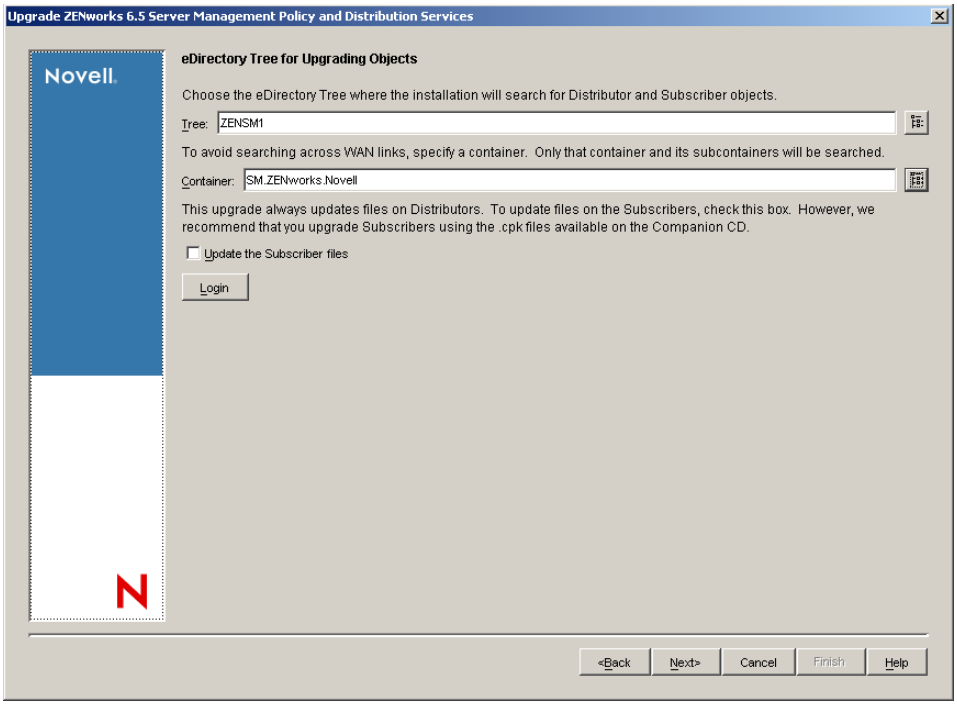
Start the Upgrade Program



1 Select Policy and Distribution Services Upgrade.



2 If you agree with the Software License Agreement, click Accept, then click Next; otherwise, click Cancel to exit.



3 Select the tree where you have Distributor and Subscriber objects to be upgraded.

If necessary, you can click the Login button to authenticate to the tree.

4 There are two configuration options:

- **Container:** To avoid searches across WAN links, specify a container.

  The tree walking process the installation program must use to search for Distributor and Subscriber objects could take hours, even causing the workstation to seem to hang. By specifying a container, these objects are only searched within that container and its subcontainers.

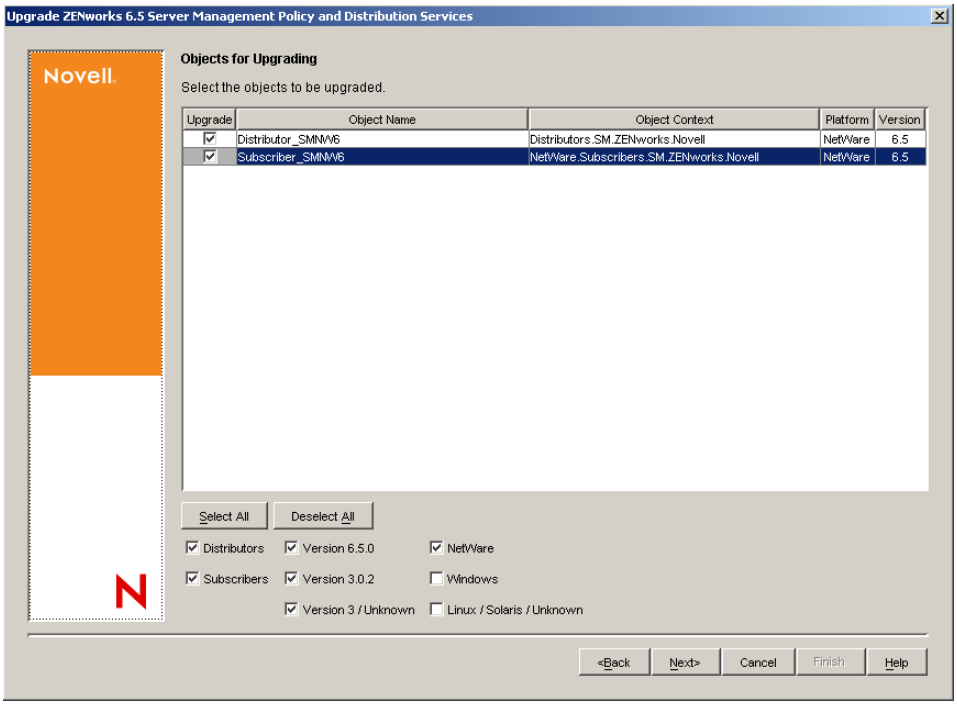
- **Update the Subscriber Files:** By default, the Update the Subscriber Files check box is selected.

  To upgrade both the Subscriber files and objects, select this box. However, if you plan to upgrade your Subscriber servers using the .cpk file in a Distribution, deselect this box so that only the Subscriber objects are upgraded.

  IMPORTANT: The Subscriber objects must be upgraded using the GUI upgrade program. They are not upgraded by the .cpk file.

5 Click Next and continue with "Select the Objects to Upgrade" on page 198.

Select the Objects to Upgrade



The objects listed are all of the ZENworks for Servers 3.*x* (or unknown version) objects in the selected tree for all supported platforms. All of the check box options are dependent on each other. Any combination can cause a different set of servers to be displayed.

1 Configure the selection as necessary:

1a Check one or both of the following boxes, as applicable:

- **Distributors:** You must upgrade Distributors first, because ZENworks 6.5 Server Management Subscribers cannot receive Distributions from ZENworks for Servers 3.*x* Distributors; however, ZENworks for Servers 3 Subscribers can receive Distributions from ZENworks 6.5 Server Management Distributors, except as explained concerning Desktop Application Distributions.

  To upgrade only Distributors, click the Subscribers check box to deselect all Subscribers. If you have already upgraded the Distributors, click the Distributors check box to deselect all Distributors.

- **Subscribers:** You can upgrade all of the listed Subscribers, or upgrade groups of Subscribers at different times. To upgrade only groups of Subscribers, select the check boxes for the Subscribers that you do not want to upgrade at this time.

  For all supported platforms, Subscriber objects must be upgraded using this GUI upgrade program.

By default, both boxes are selected. For more information, see "Determining Whether to Upgrade Incrementally" on page 189.

1b Software versions to upgrade:

- **Version 6.5.0:** You can use this to reinstall software to version 6.5 servers. This is faster than using the installation program for reinstalling software. Objects must be reinstalled using the GUI installation program (see "Installation on NetWare and Windows" on page 61).
- **Version 3.0.2:** This causes all ZENworks for Servers 3.0.2 servers to be displayed.
- **Version 3/Unknown:** This causes servers with ZENworks for Servers 3, 3 Support Pack 1, or any unknown version to be displayed.

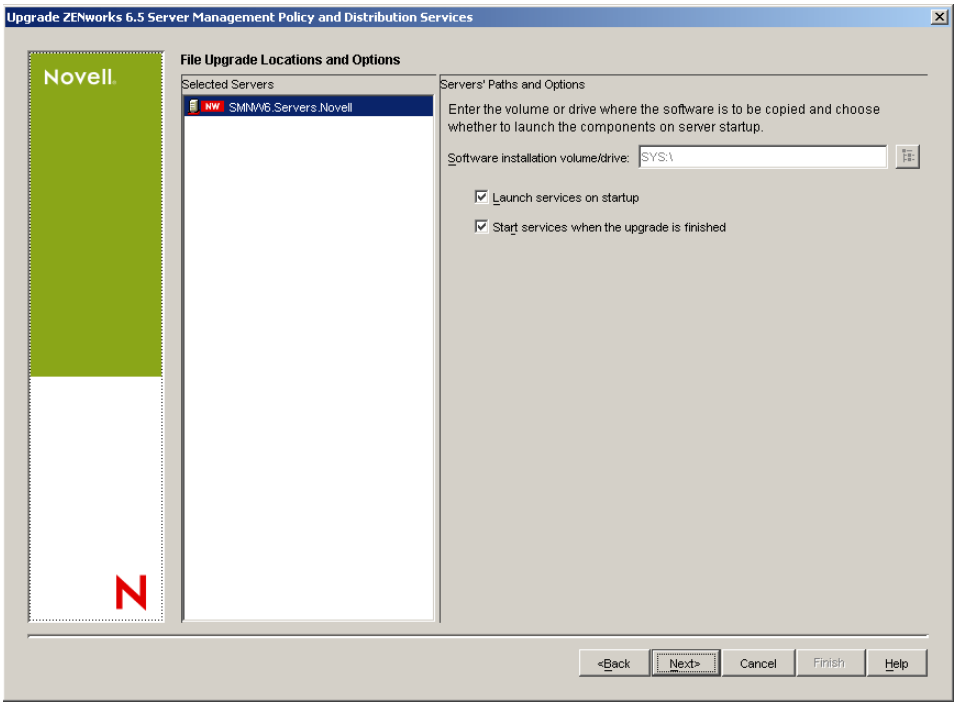
1c Server platforms to upgrade:

- **NetWare:** Displays only NetWare servers that match the other criteria (Distributor, Subscriber, versions).
- **Windows:** Displays only Windows servers that match the other criteria (Distributor, Subscriber, versions).
- **Linux/Solaris/Unknown:** Displays only Linux, Solaris, or platform unknown servers that match the other criteria (Distributor, Subscriber, versions).

By default, all platform boxes are selected. Servers are sorted by platform in the listing.

2 Click Next and continue with "Configure the Upgrade Paths and Options" on page 200.

Configure the Upgrade Paths and Options



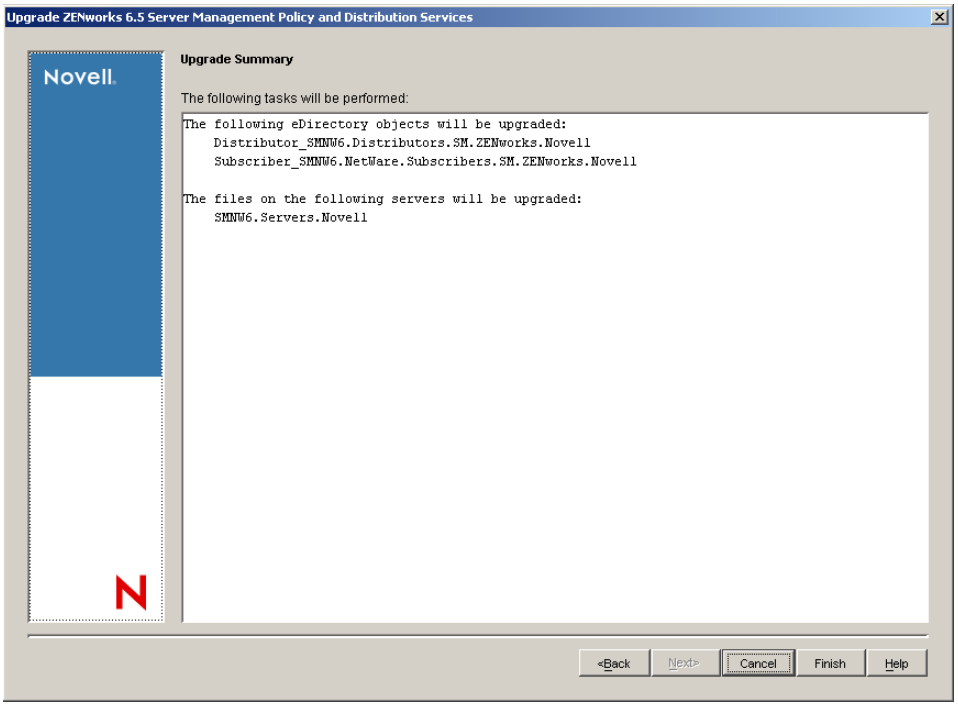
1 On the File Upgrade Paths and Options page, select one or more objects in the Selected Servers list.

Select objects individually or in groups, depending on whether their servers share the same installation paths and Server Management software starting methods.

The Software Installation Volume/Drive field is for display only. The previous installation path is detected and used.

2. To have servers for the selected objects automatically start ZENworks 6.5 Server Management on server startup, select the Launch Policy and Distribution Services On Startup check box (which is selected by default).
3. To have the upgrade program automatically start Policy and Distribution Services after upgrading, select the Start Services When the Upgrade Is Finished check box (which is selected by default).
4. Repeat Step 1 through Step 3 for each group of selected objects.
5. Click Next and continue with "Upgrade Summary" on page 201.

Upgrade Summary



1. On the Upgrade Summary page, click Finish to begin the upgrade process.
2. If you upgraded Distributors and now want to upgrade Subscribers, repeat the steps in "Upgrade Steps" on page 191.
3. If you upgraded one tree and want to upgrade another at this time, repeat the steps in "Upgrade Steps" on page 191.
4. Continue with "Complete the Upgrade" on page 201.

Complete the Upgrade

To complete the upgrade process, do the following tasks in order:

1. "Upgrade the ConsoleOne Snap-Ins" on page 202
2. "Upgrade the Novell iManager Plug-Ins" on page 206
3. "Start Policy and Distribution Services" on page 207

4. "Verify That the Policy and Distribution Services Agents Are Loaded on NetWare Servers" on page 207
5. "Verify That the Policy and Distribution Services Agents Are Loaded on Windows Servers" on page 208

Upgrade the ConsoleOne Snap-Ins

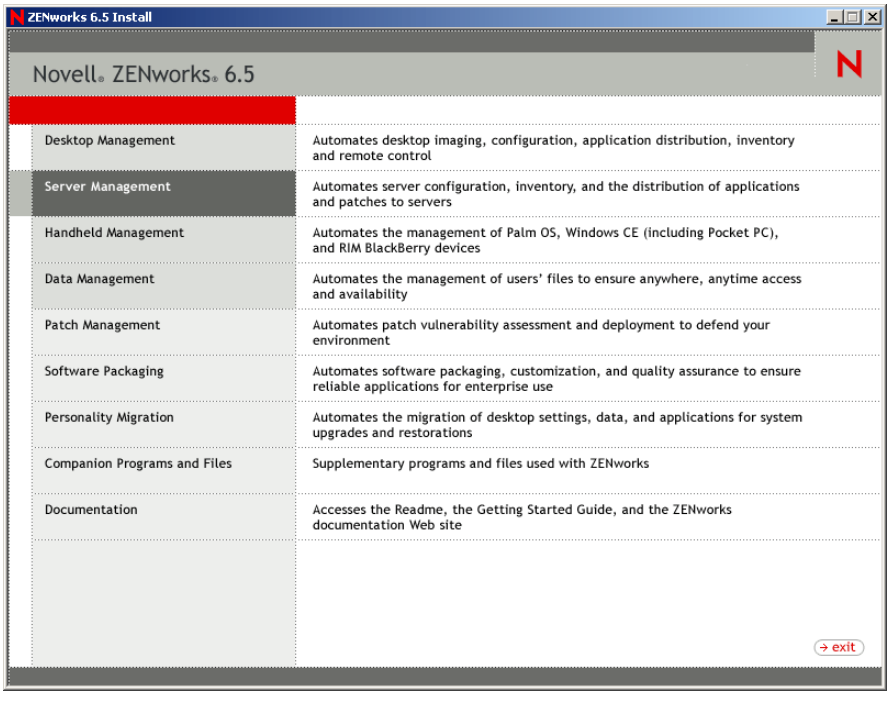
When upgrading, you should have updated the instance of ConsoleOne to the ZENworks 6.5 Server Management snap-ins on the workstation that you used for upgrading. However, if you need to upgrade that or other instances of ConsoleOne with the snap-ins, continue in this section; otherwise, skip to "Upgrade the Novell iManager Plug-Ins" on page 206.

Make sure you have already upgraded to the newest version of ConsoleOne from the *ZENworks 6.5 Companion 1* CD (see "Installing ConsoleOne 1.3.6" on page 41). This is required before installing the ZENworks 6.5 Server Management snap-ins to any instance of ConsoleOne on a workstation or server.

To install the ZENworks 6.5 Server Management snap-ins for ConsoleOne:

1 On a workstation or server where the ConsoleOne snap-in need to be upgraded to version 6.5, insert the *ZENworks 6.5 Server Management Program* CD.

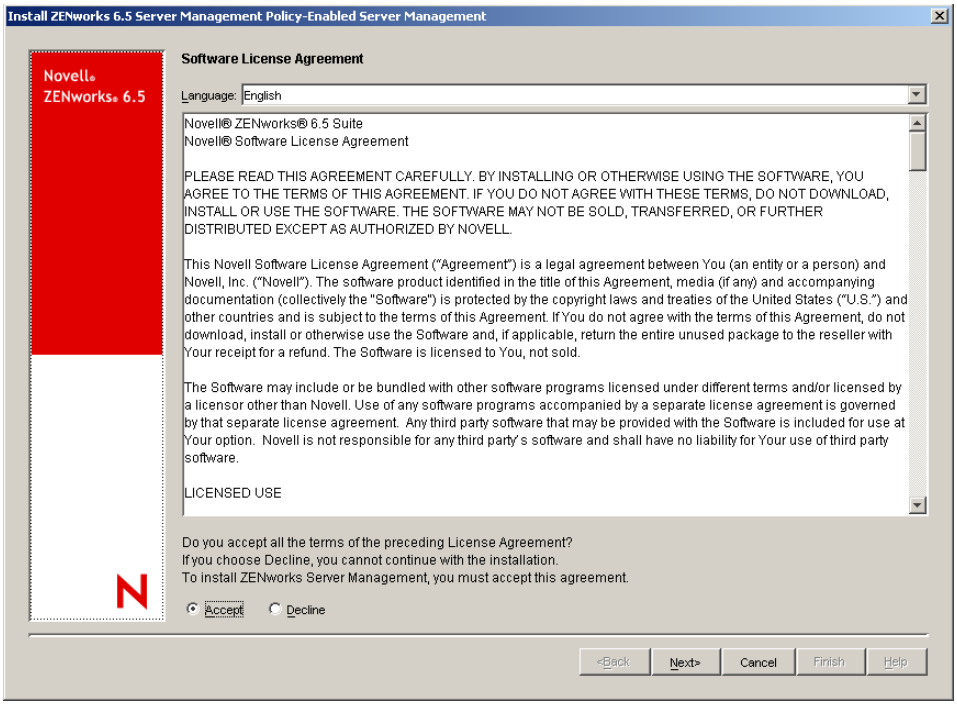
The main menu is displayed. If it is not automatically displayed after inserting the CD, run winsetup.exe at the root of the CD.



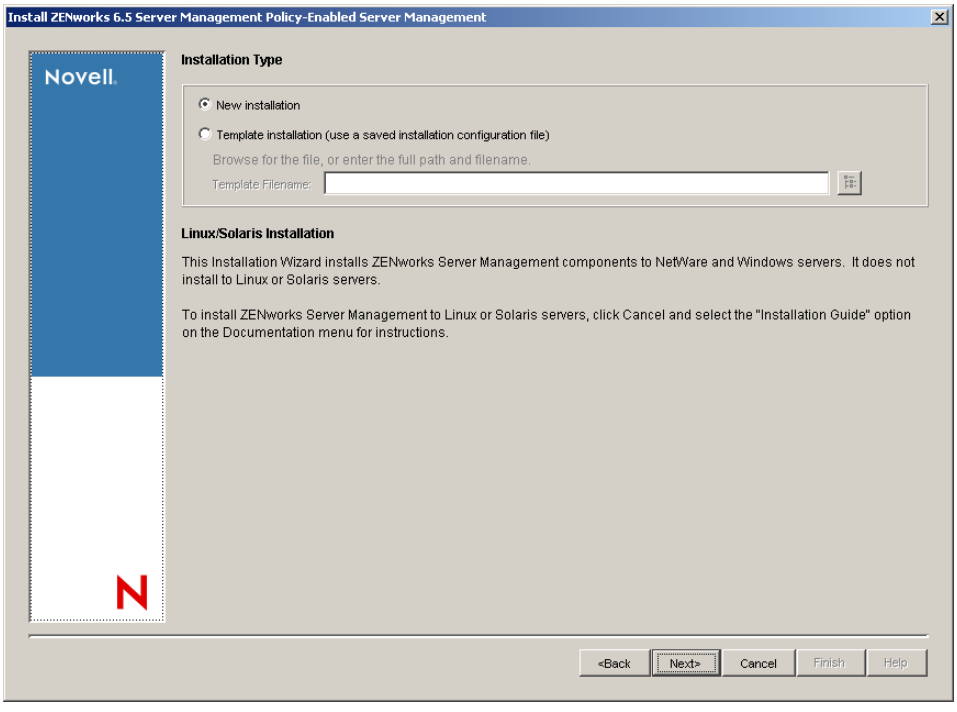
2 Select the Server Management option.

3 Click Policy-Enabled Server Management to start the installation program.

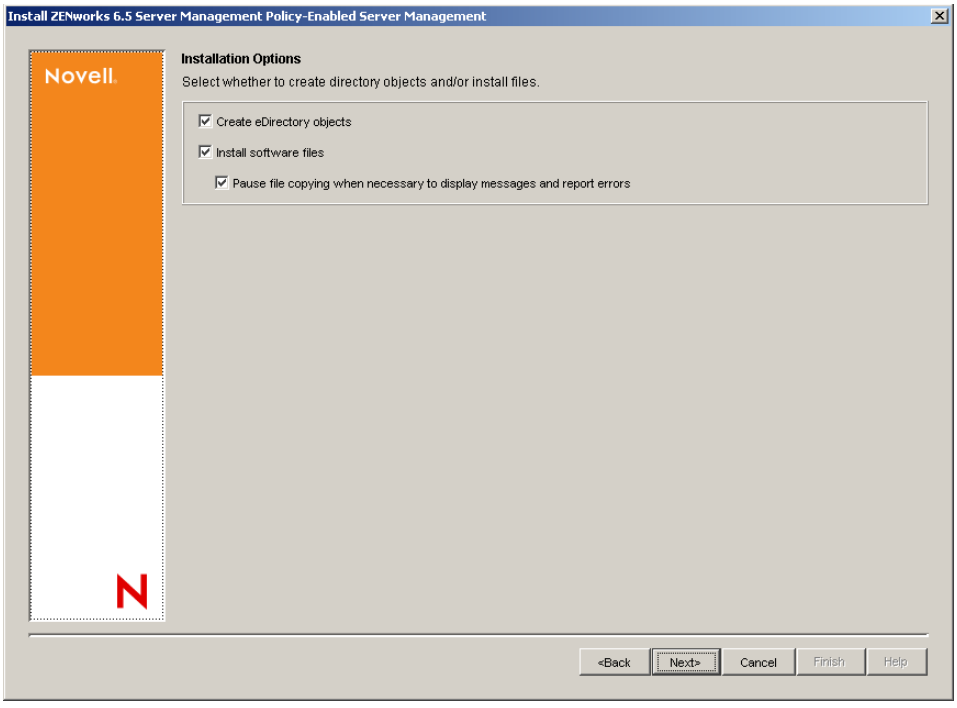
The License Agreement page is the first installation page displayed when the program has loaded.



4 If you agree with the Software License Agreement, click Accept, then click Next to display the Installation Type page; otherwise, click Decline and click Cancel to exit.



5 On the Installation Type page, click Next to perform a new installation and display the Installation Options page.

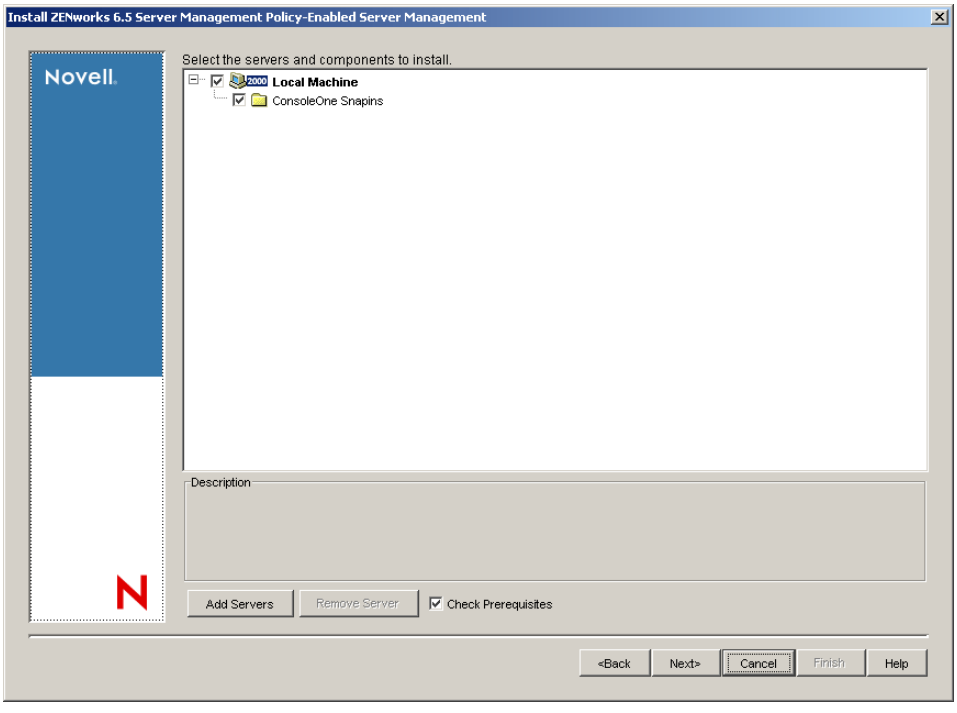


6 On the Installation Options page, click the Create eDirectory Objects option to deselect the box, then click Next to display the Server Selection page.

You do not need tree access to update the ConsoleOne snap-ins.

The Install Software Files option must be selected to install the ConsoleOne snap-ins.

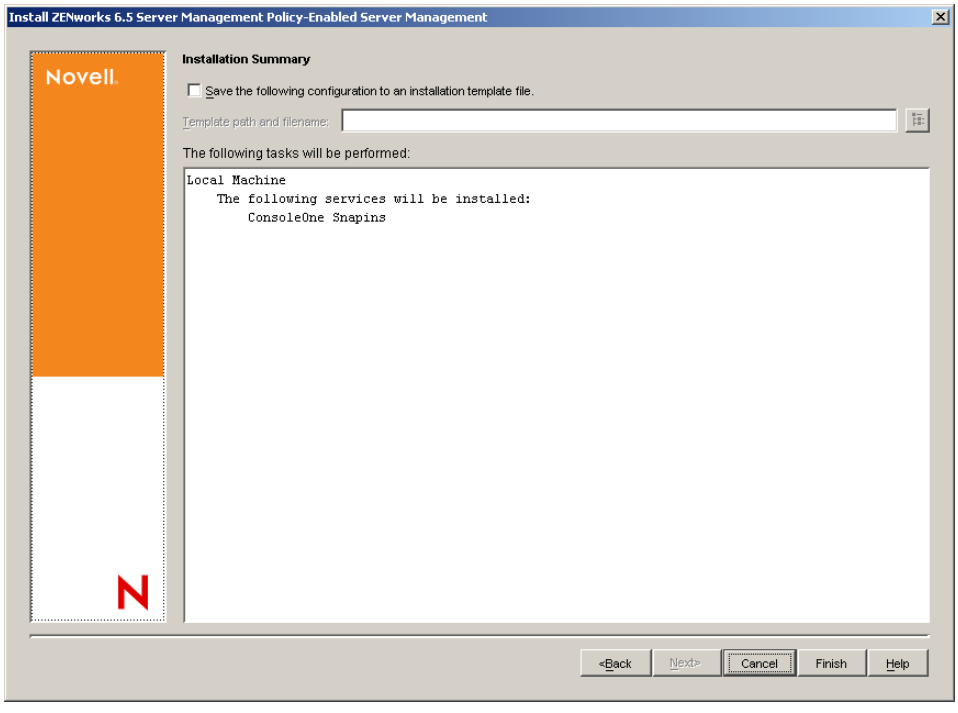
The Pause File Copying option is optional.



On the Server Selection page, the Local Machine option is selected for the ConsoleOne Snap-Ins check box.

7 Click Next to display the Installation Summary page.

Local Machine is the workstation or server where you are running this program.



8 Click Finish to install the ConsoleOne snap-ins to the local machine.

9 Repeat Step 1 through Step 8 for each machine where you need to upgrade the ConsoleOne snap-ins.

10 If you installed the ConsoleOne snap-ins as part of upgrading with the GUI installation program, continue with "Upgrade the Novell iManager Plug-Ins" on page 206.

Or, if you installed the ConsoleOne snap-ins as part of upgrading with the software package, continue with Step 13 on page 222 under Upgrading with the Server Software Package.

Upgrade the Novell iManager Plug-Ins

If you have Novell iManager 2.0.2, 2.5, or 2.6 installed in your network, and you need to upgrade the iManager plug-ins to ZENworks 6.5, follow the instructions under "Web-Based Management for Policy and Distribution Services" on page 89, then return to this section.

Continue with "Start Policy and Distribution Services" on page 207.

Start Policy and Distribution Services

If you chose not to auto-start Policy and Distribution Services after the upgrade completes, you must start Policy and Distribution Services on servers where you have upgraded from ZENworks for Servers 3.*x*.

1. On a server where you upgraded from ZENworks for Servers 3.*x* to ZENworks 6.5 Server Management, do the appropriate procedure for your platform:

Server Platform	Procedure
Windows 2000/ 2003	Do the following on each Windows server: 1. Open the Control Panel. 2. On Windows 2000/2003, double-click Admin Tools, then double-click Services. 3. Start the Novell ZENworks Service Manager service. The Novell Sybase Database service is automatically started by the installation program.
NetWare 5.1 and NetWare 6.*x*	To start ZENworks Server Management, enter the following command at the server's console prompt: **`sys:\zenworks\pds\smanager\zfs.ncf`** After you have started ZENworks Server Management in this manner, and after the server has rebooted once, the full path will no longer be needed for start the software—you will only need to enter **`zfs`** thereafter. The database is automatically started by the upgrade program.

2. Repeat Step 1 for each server that you upgraded.
3. If you upgraded NetWare servers, continue with "Verify That the Policy and Distribution Services Agents Are Loaded on NetWare Servers" on page 207.

   Or, if you upgraded only Windows servers, continue with "Verify That the Policy and Distribution Services Agents Are Loaded on Windows Servers" on page 208.

Verify That the Policy and Distribution Services Agents Are Loaded on NetWare Servers

1. On the target server's console, press Ctrl+Esc to view the loaded software programs.
2. If the ZENworks Server Management item is not displayed, review the \zenworks\zfs-startup.log file, which contains information about why the agent did not start.

   Use this information to reinstall Policy and Distribution Services to the server.

   Zfs-startup.log is used to log startup problems only.
3. If the ASA 8.0.2 item is not displayed, review the \zenworks\zfs-startup.log file, which contains information about why the Sybase engine database did not start.

   Use this information to reinstall the Server Management Database to the server.
4. Repeat Step 1 through Step 3 for each NetWare server.
5. Rerun the upgrade program as necessary (see "Upgrade Steps" on page 191).

6 If you upgraded Windows servers, continue with "Verify That the Policy and Distribution Services Agents Are Loaded on Windows Servers" on page 208.

Or, if you have File Distributions, you may need to re-baseline them. If so, continue with "Re-Baseline File Distributions" on page 208.

Or, if you have Linux or Solaris Distributor servers to upgrade, continue with "Upgrading Linux and Solaris Servers" on page 212.

Or, if you planned to upgrade Subscriber servers using the software package method, continue with "Upgrade Using a Server Software Package" on page 215.

Otherwise, you have completed upgrading NetWare and Windows servers.

Verify That the Policy and Distribution Services Agents Are Loaded on Windows Servers

1 On the target server, open the Control Panel, double-click Admin Tools > Services, then determine if the following services are running:

Novell ZENworks Service Manager

Novell Inventory Service

Novell Database - Sybase

2 If the services are not displayed, do the following:

2a Close the Services window.

2b Click Start, click Run, then enter the following command:

```
zenworks\pds\bin\dservices.bat
```

This stops the ZENworks Server Management services and unregisters them. This is done to make sure clean state exists for registering the services.

2c Click Start, click Run, then enter the following command:

```
zenworks\pds\bin\sservices.bat
```

This registers the ZENworks Server Management services.

2d Open the Control Panel, double-click Admin Tools > Services, then start the services.

3 Repeat Step 1 and Step 2 for each Windows server.

4 Rerun the upgrade program as necessary (see "Upgrade Steps" on page 191).

5 If you have File Distributions, you may need to re-baseline them. If so, continue with "Re-Baseline File Distributions" on page 208.

Or, if you have Linux or Solaris Distributor servers to upgrade, continue with "Upgrading Linux and Solaris Servers" on page 212.

Or, if you planned to upgrade Subscriber servers using the software package method, continue with "Upgrade Using a Server Software Package" on page 215.

Otherwise, you have completed upgrading NetWare and Windows servers.

Re-Baseline File Distributions

After upgrading to ZENworks 6.5 Server Management, all ZENworks for Servers 3.*x* File Distributions must be re-baselined in order to incorporate new code contained only in the upgraded Distributor and Subscriber software. Otherwise, a "Local class compatibility..." error at the time of building or extracting will be given, and File Distributions will fail to process.

However, if you had updated ZENworks for Servers 3.0.2 to Interim Release 2 before upgrading, you will have re-baselined those Distributions at that time. Therefore, you have completed upgrading your NetWare and Windows servers.

If you have Linux or Solaris Distributor servers to upgrade, continue with "Upgrading Linux and Solaris Servers" on page 212. Or, if you planned to upgrade Subscriber servers using the software package method, continue with "Upgrade Using a Server Software Package" on page 215.

Understanding Baselining

The first time a File Distribution is sent, the entire content of the Distribution is sent. This is known as the "baseline" Distribution. To minimize network traffic and rebuilding time, File Distributions can have "deltas" sent, instead of the entire Distribution. A delta is a file made up of the differences between the last version of a Distribution and its newer version.

Deltas are useful for minimizing network traffic and bandwidth utilization, and are particularly useful with very large Distributions that change often, but have minimal changes.

The Maximum Revisions field on the General tab of the Distribution object's properties allows you to determine how many deltas will be built and sent before the entire Distribution built and sent again. The default for this field is 10.

Using this default value, the next 9 revisions are all deltas. Then, the 10th revision becomes a new baseline with the entire Distribution being rebuilt and sent. This causes all of the temporary files relative to that Distribution to be removed from the Distributor's working directory and to be replaced by the new baseline files. The baseline-deltas cycle is then repeated.

Re-Baselining the Distributions

There are two methods to force re-baselining of File Distributions:

- Changing the Maximum Revisions field back to 1

  By changing this value back to 1, the next time the File Distribution is built, a new baseline is created.

- Deleting the Distribution's directory

  The File Distribution is automatically be re-baselined the next time the Distribution's Build schedule starts.

In both methods, re-baselining occurs the next time the File Distribution is built. Therefore, to speed up the re-baselining time, you may need to force rebuilding of the Distributions.

IMPORTANT: If you have more than 50 File Distributions, you should not re-baseline them all at once. This could force the Distributor to perform a lot of work all at once and, depending on the Send schedule for these Distributions, could result in high network traffic in sending all of the new baselines at the same time.

Also, it could result in the Subscriber having a heavy workload if it is receiving and extracting several File Distributions that have been re-baselined.

We recommend you plan to re-baseline and send your File Distributions in small groups of 10 to 20 at a time.

To re-baseline File Distributions, review the following two methods and select the one that is most applicable for you:

- "Change the Maximum Revisions Value to 1" on page 210
- "Delete the Distribution's Directory" on page 211

Change the Maximum Revisions Value to 1

1. In ConsoleOne:
   - **1a** Right-click a File Distribution object and click Properties.
   - **1b** Click the General Settings tab.
   - **1c** If you want to preserve the current value in the Maximum Revisions field, make a note of it.

     Because this value can vary between the Distributions, you cannot multiple-select Distribution objects to change it.
   - **1d** Change the maximum revisions value to 1.
   - **1e** Click OK to close the Distribution's properties.
   - **1f** Repeat steps Step 1a through Step 1e for each File Distribution.
   - **1g** Multiple-select the Distributor objects owning the File Distributions.
   - **1h** Right-click the selected Distributor objects and click Refresh Distributors.
2. In iManager, for each Build schedule that is not already set to Run Immediately, if you do not want to wait for its schedule to start, do the following; otherwise, skip to Step 3:
   - **2a** Under the ZENworks Server Management role, click Remote Web Console.
   - **2b** Browse for and select a Distributor that owns one of the File Distributions that you modified in Step 1d, then click OK.
   - **2c** On the Distributions tab, click Build Distribution.
   - **2d** Select the File Distributions to be rebuilt, then click OK.
   - **2e** Click OK to start building the selected Distributions.

     Each File Distribution whose maximum revisions value was set to 1 will be rebuilt as a new baseline.
   - **2f** Repeat steps Step 2a through Step 2e for each Distributor that owns one of the File Distributions that you previously modified to have a maximum revision value of 1.
3. After the File Distributions have been rebuilt, in ConsoleOne:
   - **3a** Right-click a File Distribution object and click Properties.
   - **3b** Click the General Settings tab.
   - **3c** If you want to preserve the current value in the Maximum Revisions field, make a note of it.
   - **3d** Change the maximum revisions value from 1 back to its original value.
   - **3e** Click OK to close the Distribution's properties.
   - **3f** Repeat steps Step 3a through Step 3e for each File Distribution.
   - **3g** Multiple-select the Distributor objects owning the File Distributions.
   - **3h** Right-click the selected Distributor objects and click Refresh Distributors.

You have completed re-baselining the File Distributions. They will be sent and extracted according to the Channel and Send schedules involved.

If you have Linux or Solaris Distributor servers to upgrade, continue with "Upgrading Linux and Solaris Servers" on page 212. Or, if you planned to upgrade Subscriber servers using the software package method, continue with "Upgrade Using a Server Software Package" on page 215.

Delete the Distribution's Directory

You have completed upgrading Policy and Distribution Services.

1. In ConsoleOne, right-click a Distributor object for a Distributor that owns one of the File Distributions that you need to re-baseline, then select Properties.
2. On the General > Settings tab, note the Distributor's working directory.
3. On the Distributions tab, note the distinguished name for each File Distribution, then exit the Distributor's properties.
4. Repeat Step 1 through Step 3 for each Distributor that owns one of the File Distributions that you need to re-baseline.
5. Using a file management application, under a Distributor's working directory, delete all of the directories that match the distinguished names of the File Distributions that you noted.
6. Repeat Step 5 for each Distributor server where you noted File Distributions to be deleted.
7. In ConsoleOne, multiple-select these Distributors, right-click them, then click Refresh Distributors.
8. For each Build schedule that is not already set to Run Immediately, if you do not want to wait for its schedule to start, do the following in iManager:
   - **8a** Under the ZENworks Server Management role, click Remote Web Console.
   - **8b** Browse for and select a Distributor that owns one of the File Distributions that you are re-baselining, then click OK.
   - **8c** On the Distributions tab, click Build Distribution.
   - **8d** Select the File Distributions to be rebuilt, then click OK.
   - **8e** Click OK to start building the selected Distributions.
   - **8f** Repeat steps Step 8a through Step 8e for each Distributor that owns one of the File Distributions that you are re-baselining.

You have completed setting up re-baselining of the File Distributions. The next time the Build schedules start for these Distributions, a new baseline version will be built. Then they will be sent and extracted according to the Channel and Send schedules involved.

Do one of the following:

- If you need to convert ZENworks for Servers 1.0 or 2 Server Software Packages to version 6.5, continue with "Convert Older Server Software Packages" on page 212.
- If you have Linux or Solaris Distributor servers to upgrade, continue with "Upgrading Linux and Solaris Servers" on page 212.
- If you planned to upgrade Subscriber servers using the software package method, continue with "Upgrade Using a Server Software Package" on page 215.

Convert Older Server Software Packages

If you have Server Software Packages created in ZENworks for Servers 1.0 or 2 that you want to preserve in ZENworks 6.5, they must be converted to version 6.5 after you have upgraded to ZENworks 6.5 Server Management. For instructions, see "Converting Older Server Software Packages to ZENworks 6.5 Server Management" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

After converting the software packages, do one of the following:

- If you have Linux or Solaris Distributor servers to upgrade, continue with "Upgrading Linux and Solaris Servers" on page 212.
- If you planned to upgrade Subscriber servers using the software package method, continue with "Upgrade Using a Server Software Package" on page 215.

Upgrading Linux and Solaris Servers

It is assumed that you have already extended the schema in the tree where the Linux and Solaris Distributor and Subscriber objects reside. If not, follow the instructions in "Extend the Schema" on page 192 before continuing in this section.

Perform the following tasks to upgrade your Linux and Solaris servers from ZENworks for Servers 3.*x* to ZENworks 6.5 Server Management:

1. "Upgrade the Linux or Solaris Operating System" on page 212
2. "Upgrade the Distributor and Subscriber Objects" on page 213
3. "Upgrade the Linux and Solaris Servers" on page 213

Upgrade the Linux or Solaris Operating System

In most cases, you need to upgrade your Linux or Solaris operating systems before you upgrade ZENworks for Servers 3.*x* to ZENworks 6.5 Server Management.

The following table lists the corresponding versions of the Linux and Solaris operating systems that are supported:

ZENworks for Servers 3.0.2	ZENworks 6.5 Server Management
Red Hat Linux 7.1, 7.2, 7.3, 8 and 9	None
Red Hat Linux Advanced Server 2.1	Red Hat Linux Advanced Server 2.1
Red Hat Linux Enterprise Server 2.1	Red Hat Linux Enterprise Server 2.1
Red Hat Enterprise Linux AS 2	Red Hat Enterprise Linux AS 3
Red Hat Enterprise Linux ES 2	Red Hat Enterprise Linux ES 3
Solaris 8	Solaris 9

The Red Hat Linux Advanced Server 2.1 and the Red Hat Linux Enterprise Server 2.1 operating systems are supported in both versions of ZENworks. Therefore, if you have ZENworks for Servers 3.x installed on either the Red Hat Linux Advanced Server 2.1 or the Red Hat Linux Enterprise Server 2.1 operating system, skip to "Upgrade the Distributor and Subscriber Objects" on page 213.

SUSE LINUX was not supported in ZENworks for Servers 3.*x*. However, the following Linux operating systems are supported in ZENworks 6.5 Server Management:

SUSE® LINUX Enterprise Server 8 and 9

SUSE LINUX Standard Server 8 and 9

You can use any SUSE LINUX version as replacement for a non-supported Linux operating system. However, the file system is different between SUSE LINUX and the Red Hat Linux, requiring you to install ZENworks 6.5 Server Management fresh.

In order to upgrade ZENworks for Servers 3.*x* on machines running Red Hat Linux 7.1, 7.2, 7.3, 8 or 9, you must upgrade to a supported Red Hat operating system.

To prepare Linux and Solaris servers for upgrading to ZENworks 6.5 Server Management:

1. For a Linux or Solaris operating system that is no longer supported, upgrade it to a version supported by ZENworks 6.5 Server Management.

   WARNING: When upgrading the Linux or Solaris operating system, it is very important to preserve the file system so that the ZENworks software and files are preserved for upgrading; especially the Distribution files. If you do not preserve the file system, you will need to install ZENworks 6.5 Server Management fresh and will lose all Distributions owned by the version 3.*x* Linux or Solaris Distributors.

2. Continue with "Upgrade the Distributor and Subscriber Objects" on page 213.

Upgrade the Distributor and Subscriber Objects

You must first upgrade the Distributor and Subscriber objects using the GUI upgrade program. If you already did this when upgrading the NetWare or Windows platforms to ZENworks 6.5 Server Management, skip to "Upgrade the Linux and Solaris Servers" on page 213; otherwise:

1. Follow the steps in "Upgrading NetWare and Windows Servers" on page 190, with the following adjustments to the steps:

   - **eDirectory Tree for Upgrading Objects page:** By default, the Update the Subscriber Files check box is selected. Because you only need to upgrade objects, deselect this check box.
   - **Select the Objects to Upgrade page:** The upgrade program displays a list of upgrade candidates based on the check boxes that are selected at the bottom of the page. Make sure that the necessary check boxes are selected, For example, deselect the NetWare and Windows check boxes, and make sure the Linux/Solaris/Unknown check box is selected.

     All of the Linux and Solaris Distributor and Subscriber servers in your tree will be listed on this page. Click the check boxes in the Upgrade column for each Linux or Solaris server to be upgraded.
   - **Incremental Upgrade Issue:** If you are upgrading Linux and Solaris servers incrementally, only select the check boxes in the Upgrade column for those servers to be upgraded at this time.

2. Continue with "Upgrade the Linux and Solaris Servers" on page 213.

Upgrade the Linux and Solaris Servers

The script for Linux and Solaris servers detects the existence of ZENworks for Servers 3.*x* software and asks whether you want to upgrade or install. We recommend using the upgrade option, which is documented in the following steps.

IMPORTANT: We strongly recommend that you upgrade your Distributor servers first, then upgrade your Subscriber servers. Otherwise, you can have version 3.0.2 Distributions being sent to version 6.5 Subscribers, which would fail.

To upgrade a Linux or Solaris server:

1. Log in as `root`.
2. If you are running X Windows on the Linux or Solaris server, open an XTerm window.
3. Place the *ZENworks 6.5 Server Management Program* CD in the server's CD-ROM drive.
4. Review the readme for any last-minute information concerning installation.

   Readme_servers.html is located in the \readmes\en directory on the *ZENworks 6.5 Server Management Program* CD.
5. To run the Policy and Distribution Services script, enter one of the following commands in an XTerm window:

   Red Hat Linux: /mnt/cdrom/ZfS/TedPol/*platform*/zfs-pds-install

   SUSE LINUX: /media/cdrom/ZfS/TedPol/*platform*/zfs-pds-install

   where *platform* is either Linux or Solaris.
6. Press Enter to display the license agreement, press the Spacebar to scroll through the license agreement, type **`y`**, then press Enter to accept the license agreement.

   The script installs software from the j2re RPM or PKG file.

   The script detects that an earlier version of Policy and Distribution Services is installed on the server and asks:

   ```
   Would you like to upgrade or reinstall? (u/r)
   ```
7. To upgrade, type **`u`** and press Enter.

   We recommend that you upgrade in order to retain the server's current Policy and Distribution Services settings. The remaining information in these steps assumes that you select the upgrade option.

   The following is displayed (including errors, if any) for a Linux installation while the server is upgraded:

   ```
   Installing the novell-zen-zfs RPM...
   Preparing...          ########################################### [100%]
      1:novell-zen-zfs    ########################################### [100%]
   ```

   Error messages would be displayed at this point. After any error messages, the upgrade concludes by displaying the following:

   ```
   ZENworks Server Management Policy and Distribution Services has been
   restarted.
   You may check its status by running:
     /etc/init.d/novell-zfs status
   You can reconfigure this service by running:
     /opt/novell/bin/zfs-pds-configure
   ```
8. To verify that Policy and Distribution Services is running, enter:

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

   Policy and Distribution Services is now ready to use on your Linux or Solaris server.
9. Repeat Step 1 through Step 8 on each Distributor or Subscriber server.

10 To upgrade Remote Management, see Chapter 13, “Remote Management,” on page 241.

To upgrade Management and Monitoring Services, see Chapter 14, “Management and Monitoring Services,” on page 247.

Otherwise, you have completed upgrading Policy and Distribution Services.

Upgrade Using a Server Software Package

This method allows you to automate the upgrading of Subscriber servers on all supported platforms where the Subscriber software is installed, including NetWare, Windows, Linux, and Solaris.

Upgrade Concepts and Issues

You can upgrade ZENworks for Servers 3.0.2 Interim Release 1 Subscriber servers to ZENworks 6.5 Server Management using the Server Software Package upgrade method. The zfs65_polydist.cpk upgrade file is provided on the *ZENworks 6.5 Companion 2* CD for creating the Software Package Distribution. Then you send it to all of the Subscriber servers that you want to upgrade.

Review the following to understand what the upgrading does, and to understand the issues involved:

Upgrading the Distributors First

You must first upgrade all of your Distributor servers using the Policy and Distribution Services Upgrade menu option in the GUI installation program that is run from the *ZENworks 6.5 Server Management Program* CD.

After a ZENworks for Servers 3.*x* Distributor has been converted to ZENworks 6.5 Server Management, before it sends any of its Distributions, it converts them to ZENworks 6.5 Server Management Distributions when it builds them.

Upgrading the Subscriber Objects First

The Server Software Package upgrade method does not upgrade the Subscriber objects. You must do this first using the GUI upgrade program.

The following conditions exist when you upgrade using the Server Software Package method:

- When upgrading, the password used by the Subscriber is reset in both the Subscriber object and in the Tiered Electronic Distribution software installed on the Subscriber server.
- Because you must upgrade the Subscriber objects first using the GUI upgrade program, until the Server Management software has been upgraded on the Subscriber servers using the .cpk file, the Subscriber passwords do not match.

Because the Subscriber passwords are not matched during the time interval between when you upgrade the objects and upgrade the software, the following Server Management functionality does not work:

Desktop Application Distributions

Trusted tree usage

Both of these require eDirectory access, which is the purpose of the Subscriber password.

Therefore, we recommend that you plan your upgrade so that a minimal amount of time will exist between when you upgrade the objects and software.

IMPORTANT: If you are upgrading incrementally, do not upgrade all of your Subscriber objects at the same time. Only upgrade the Subscriber objects in conjunction with when you plan to upgrade their servers' software.

The Interim Release 2 Requirement

The Interim Release 2 software update for ZENworks for Servers 3.0.2 (or 3 SP2) is required to be installed on a Subscriber server that you want to update using the Server Software Package method.

For instructions, see Technical Information Document 2968433 (http://support.novell.com/cgi-bin/search/searchtid.cgi?/2968433.htm).

What the Upgrade Server Software Package Does

- Maintains all working directories, so that Distributions created in ZENworks for Servers 3.*x* can be upgraded and used in version 6.5.
- Upgrades the ZENworks 6.5 Server Management software using the installation paths where ZENworks for Servers 3.*x* was installed.

  Files are always copied in the ZENworks directories, replacing both older and newer files with the upgrade files. Files copied to other locations outside of the ZENworks directories are replaced only if they are older. The reason for replacing both older and newer files in the ZENworks directories is that version 3.0.2 files from a support pack that is more recent than the release of version 6.5 would need to be replaced with the older-dated version 6.5 files in order to have the correct files for version 6.5.
- The ZENworks for Servers 3.*x* Policy Package Agent is automatically upgraded to the ZENworks 6.5 Server Management Policy/Package Agent.
- Upgrades the ConsoleOne® snap-ins on the Subscriber servers where ConsoleOne is installed.

In summary, the software package upgrades the objects and installs the software on all Subscriber servers where you send the Software Package Distribution.

What the Upgrade Server Software Package Does Not Do

- Distributors cannot be upgraded using the software package. This must be done first using the GUI installation program.
- This upgrade software package does not upgrade the ZENworks for Servers 3.*x* Novell eDirectory™ Subscriber objects to version 6.5. You must use the GUI upgrade program to upgrade the objects.
- The software package does not upgrade ZENworks 6.5 Server Management on servers where ZENworks for Servers 3.*x* was not installed. It only upgrades existing ZENworks for Servers 3.*x* Subscriber objects and software.
- The schema is not automatically extended. In order to have an upgraded Distributor for sending the Software Package Distribution containing the upgrade .cpk file, you would have already extended the schema using the GUI installation program.
- The ZENworks 6.5 Server Management snap-ins for ConsoleOne are not installed to the local machine during upgrading. You must do this with the installation program after you have exited the upgrade program. You may have already done this when upgrading the Distributors. This task is covered in the upgrade steps.
- The ZENworks 6.5 Server Management plug-ins for iManager are not installed during upgrading. You must do this with an installation program menu option after you have exited the upgrade program. You may have already done this when upgrading the Distributors. This task is covered in the upgrade steps.

In summary, the upgrade program does not install ZENworks 6.5 Server Management where ZENworks for Servers 3.*x* was not installed. ZENworks Subscriber objects are necessary for identifying where to send the Software Package Distribution containing the .cpk upgrade file.

Upgrading Servers on Multiple Trees

You can upgrade Subscriber servers on multiple trees, because you can send Software Package Distributions to Subscribers on multiple trees.

Cluster Issues with Upgrading

If you are installing zfs65_polydist.cpk to servers in a clustered environment, you must install the .cpk file individually for each node in the cluster so that any files that need to be written to the sys: volume can be updated.

For example, the following information is known:

- The Subscriber software resides on the shared volume of the cluster
- Files such as sys:\system\zenworks.properties must be updated on each node in the cluster
- Most Server Management files will be updated on the cluster's shared volume
- The active server node in the cluster runs the Subscriber software from the shared volume
- Only one node can be running the Subscriber software at a time (the one that is actively representing the cluster)

Then, you have two ways to update the cluster's nodes: through iManager or by renaming the Distribution:

- "Updating Through iManager" on page 218
- "Updating by Renaming the Distribution" on page 218

Updating Through iManager

To update all cluster nodes:

1. Update the active node's server by sending a Distribution containing the .cpk file to it.

   This updates any support pack files that need to be copied to the sys: volume. It also updates the Tiered Electronic Distribution and policies software, such as the .ncf files that are installed on a cluster's volume.

   Because filenames and dates are checked during software package installation, running this .cpk file repeatedly will not reinstall the files on the cluster's shared volume. Only the node currently running the Subscriber software will be updated.

2. Bring currently active node's server down to create a cluster failover condition.

   This causes the next node in the predefined sequence to start the Subscriber software and take over for the cluster.

3. In iManager, access the ZfS/Remote Web Console as the Subscriber > click the Distributions tab > click the Received Distributions tab > select the Distribution that contains the .CPK file > click OK > click Extract.

4. Repeat Step 2 through Step 3 until all nodes have been updated.

5. Restart each of the servers in the cluster that were downed.

   The primary node's server should take over again.

Updating by Renaming the Distribution

Alternatively, to update all cluster nodes:

1. Update the active node's server by sending a Distribution containing the .cpk file to it.

   This updates any support pack files that need to be copied to the sys: volume. It also updates the Tiered Electronic Distribution and policies software, such as the .NCF files that are installed on a cluster's volume.

   Because filenames and dates are checked during software package installation, running this .cpk file repeatedly will not reinstall the files on the cluster's shared volume. Only the node currently running the Subscriber software will be updated.

2. Bring the currently active node's server down to create a cluster failover condition.

   This will cause the next node in the predefined sequence to start the Subscriber software and take over for the cluster.

3. Rename the Distribution that you sent in Step 1.

   If you do not rename the Distribution when it is resent, the Subscriber software on the cluster volume being used by the current node will think that it has already been received and won't receive and extract it again.

4. Send the Distribution.

   This updates the current node with the support pack.

5. Repeat Step 2 through Step 4 until all nodes within the cluster have been updated.

6. Restart each of the servers in the cluster that were downed.

   The primary node's server should take over again.

Preparing to Upgrade with the Server Software Package

Make sure you have done the following to prepare the ZENworks for Servers 3.*x* servers that you have targeted for upgrading at this time:

- ❑ Fulfill the server requirements in Chapter 5, "Server Requirements," on page 43
- ❑ Upgrade all of the ZENworks for Servers 3.*x* Distributors' objects and software using the graphical interface program option (see "Upgrade Using the Program CD" on page 186)
- ❑ Upgrade each Subscriber 3.*x* server to version 3.0.2 (see the Novell ZENworks for Servers 3.0.2 documentation (http://www.novell.com/documentation/lg/zfs302/index.html))
- ❑ Upgrade each upgraded Subscriber 3.0.2 server to Interim Release 2 (see Technical Information Document 2968433 (http://support.novell.com/cgi-bin/search/searchtid.cgi?/2968433.htm))
- ❑ Upgrade all of the ZENworks for Servers 3.0.2 server to Interim Release 1 Subscriber objects using the graphical interface program option (see "Upgrade Using the Program CD" on page 186)
- ❑ If you will upgrade software on any Windows servers, make sure you have closed the Services window on each Windows server to be upgraded.

  The software package upgrade automatically stops all ZENworks Server Management services. However, the Server Management services cannot be registered if the Services window is left open when upgrading the server.

Upgrading with the Server Software Package

Using the Tiered Electronic Distribution component of ZENworks 6.5 Server Management, you can automatically distribute and install the software packages to all Subscriber servers that are running the Subscriber and Policy/Package Agent software.

To upgrade using the Server Software Package (zfs65_polydist.cpk):

1. Select a ZENworks 6.5 Distributor server and copy zfs65_polydist.cpk to the Distributor's file system.

   The .cpk file is located in:

   ```
   ZENWorks 6.5 Companion CD 2\zenworks server management - software pkgs\pds
   ```

2. Make a note of where you copied zfs65_polydist.cpk on the Distributor server for when you create its Server Package Distribution.
3. To set up the Subscribers, do the following:

   3a Determine which Subscriber servers you want to upgrade with the software package.

   3b Make sure any Channel that services these Subscribers is set to Inactive.

   While a Subscriber server is being upgraded, no Distribution activity should be taking place on that server.

   After the upgrade software package has been sent and extracted, you can reset these Channels back to Active in Step 8.

3c Set each Subscriber's Extract schedule.

Use care in setting your Subscriber's Extract schedule.

If the schedule is set to Run Immediate and either the Subscriber is running on the same server as the Distributor, and/or the Subscriber is a parent and will be forwarding the Distribution on to subordinate Subscribers, you will likely interrupt the sending of the Distribution to Subscribers because the update process involves unloading Java. With Java unloaded, Distributions will be temporarily halted until Java has been reloaded and the Channel's Send schedule fires.

Therefore, if the Subscriber is a parent that is sending the Distribution to subordinate Subscribers, it will be in the process of sending the Distribution when the software package tries to unload Java. However, the Distributions will continue from where they left off after Java is started again.

4 Create a Distribution for this software package.

You can have only one software package per Distribution object. Although the software allows more than one software package to be selected in a single Distribution object, this is not allowed when distributing zfs65_polydist.cpk. The reason is that installing a software package unloads and reloads Java, which can prevent the remaining software packages from being successfully processed from a single Distribution object.

Be sure to set the Distribution's Build schedule.

IMPORTANT: The Distribution containing zfs65_polydist.cpk must be built, sent, extracted, and installed before sending any other Distributions containing other software packages for upgrading other Server Management components.

For detailed instructions on creating Distributions, see "Policy and Distribution Services" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

5 To set up a Channel for this Distribution:

5a Create a Channel specifically for this software package upgrade.

5b Set the Channel's Send schedule to Immediate.

5c Associate the Distribution with this Channel so that it will be sent based on the Channel's Send schedule.

6 Associate the Subscribers that you identified in Step 3 with the Channel.

7 Send the Distribution.

For example, refresh the Distributor to get the Distribution built so that it can be sent and extracted. You do not need to set or change the Distributor's Refresh schedule if you refresh the Distributor manually.

To refresh the Distributor manually, right-click the Distributor object in ConsoleOne and select Refresh Distributor.

For detailed instructions on sending Distributions, see "Policy and Distribution Services" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

The Distribution will be automatically created when the Distribution's Build schedule starts. The Distribution will automatically be sent when the Channel's Send schedule starts. It will be extracted according to the Subscriber server's Extract schedule. At that point, the Subscriber server should be upgraded to ZENworks 6.5.

8 For each Channel that was set to Inactive for this Distribution process, reset it to Active.

9 Set the Channel used to send the upgrade software package to Inactive, so that the upgrade won't be sent again to these Subscribers.

10 Determine which components of the software package were installed successfully by using one of the following methods:

- Use the Tiered Electronic Distribution view in iManager to see information for every software package that was installed.
- If you use Tiered Electronic Distribution for installation, use Server Management reporting to verify the success or failure of individual components of a software package.
- Use the \zenworks\zfs-startup.log file contained on the Subscriber Servers to verify the success or failure.

Each software package can consist of several components. It is possible that some of these components can succeed in installing and others fail. For example, a server platform might exist for one of the servers to receive the Distribution, which platform is not contained in the requirements for the software package. Therefore, success for the software packages included in the installation means that one or more components were successfully installed.

Because several components could fail to install, and the Software Package installation will still appear as successful, we recommend that you review the success or failure of each component of the software package to verify that the components needed on a specific server were installed successfully.

11 Verify that the services have started:

11a Verify that the Policy and Distribution Services agents are loaded on NetWare servers:

1) On the target server's console, press Ctrl+Esc to view the loaded software programs.
2) If the ZENworks Server Management item is not displayed, review the \zenworks\zfs-startup.log file, which contains information about why the agent did not start. Use this information to reinstall Policy and Distribution Services to the server. Zfs-startup.log is used to log startup problems only.
3) If the ASA 8.0.2 item is not displayed, review the \zenworks\zfs-startup.log file, which contains information about why the Sybase engine database did not start. Use this information to reinstall the Server Management Database to the server.
4) Repeat 1) through 3) as necessary for each NetWare server that was upgraded.

11b Verify that the Policy and Distribution Services agents are loaded on Windows servers:

1) On the target server, open the Control Panel, double-click Admin Tools > Services, then determine if the Novell ZENworks Service Manager and Novell Database - Sybase services are running.
2) If the services are not displayed, do the following:
   a) Close the Services window.
   b) Click Start, click Run, then enter the following command:

      ```
      zenworks\pds\bin\dservices.bat
      ```

      This stops the ZENworks Server Management services and unregisters them. This is done to make sure clean state exists for registering the services.
   c) Click Start, click Run, then enter the following command:

      ```
      zenworks\pds\bin\sservices.bat
      ```

      This registers the ZENworks Server Management services.
   d) Open the Control Panel, double-click Admin Tools > Services, then start the services.
3) Repeat 1) and 2) for each Windows server that was upgraded.

12 If you have instances of ConsoleOne that need the snap-ins upgraded, follow the instructions in "Upgrade the ConsoleOne Snap-Ins" on page 202, then continue with Step 13.

13 If you have Novell iManager 2.0.2 installed on a server in your network, and you need to upgrade the iManager plug-ins to ZENworks 6.5, follow the instructions under "Web-Based Management for Policy and Distribution Services" on page 89.

Otherwise, you have completed upgrading Policy and Distribution Services.

12 Server Inventory

This section provides you with instructions for upgrading the Server Inventory component of Novell® ZENworks® for Servers 3.*x* to ZENworks 6.5 Server Management.

Before upgrading, do the following:

- ❑ Make sure that all of the installation requirements outlined in "Preparation" on page 25 are met.
- ❑ Review the facts in "Pre-Upgrade Considerations" on page 223.

To upgrade Server Inventory from ZENworks for Servers 3.*x* to ZENworks 6.5 Server Management, choose one of the following methods:

- "Upgrading the Server Inventory Components Using the Program CD" on page 225

  Use this option to upgrade the following components of Server Inventory from ZENworks for Servers 3.*x* to ZENworks 6.5 Server Management:

  - Inventory database
  - Inventory server
  - Inventory Agent
  - Server Inventory ConsoleOne® snap-ins

  This method uses a Windows GUI program for NetWare® and Windows servers.

- "Upgrading the Server Inventory Components Using a Server Software Package" on page 233

  Use this option to automate the upgrading of the following Server Inventory components from ZENworks for Servers 3.0.2 or ZENworks for Servers 3 SP2 to ZENworks 6.5 Server Management:

  - Inventory server
  - Inventory Agent

  IMPORTANT: The Server Software Package cannot upgrade any Novell eDirectory™ objects.

Pre-Upgrade Considerations

Before you upgrade Server Inventory to ZENworks 6.5 Server Management either using the Program CD or the Server Software Package, review the facts in the following sections:

- "Inventory Server" on page 223
- "Inventory Agent" on page 224
- "Management Console" on page 225

Inventory Server

- ZENworks for Servers 3.*x* Inventory servers can roll up the inventory data to a ZENworks 6.5 Server Management Inventory server, but a ZENworks 6.5 Server Management Inventory server cannot roll up the inventory data to a ZENworks for Servers 3.*x* Inventory server.
- Server Inventory in ZENworks 6.5 Server Management supports backward compatibility with ZENworks for Servers 3.*x* Inventory servers residing on the same Novell eDirectory tree.
- ZENworks for Servers 3.*x* Inventory servers must be upgraded to ZENworks 6.5 Server Management in a top-down order. If you perform roll-up of your inventory data, the root server must be upgraded first, then the intermediate servers, and lastly the leaf servers.
- A ZENworks 6.5 Server Management Inventory server cannot send its inventory data to a ZENworks for Servers 3.*x* Inventory server.
- A ZENworks 6.5 Server Management Inventory server can process the .str files of the ZENworks for Servers 3.*x* inventoried servers. The ZENworks for Servers 3.*x* Inventory agents can send the inventory data to a ZENworks 6.5 Server Management Inventory server.
- A ZENworks 6.5 Server Management Inventory server can process the .zip files of the ZENworks for Servers 3.*x* Inventory servers.
- The ZENworks for Servers 3.*x* Inventory server and a ZENworks 6.5 Server Management Inventory server can use a ZENworks for Servers 3.*x* Roll-Up policy that has been migrated to ZENworks 6.5 Server Management.
- Upgrading a ZENworks for Servers 3.*x* Inventory server to ZENworks 6.5 Server Management does not change the role of the Inventory server.
- You can use ZENworks 6.5 Server Management ConsoleOne snap-ins to administer both ZENworks for Servers 3.*x* and ZENworks 6.5 inventory data and inventory objects (such as Inventory Service object, database objects, Server Inventory policy, Roll-Up policy and Database Location policy).
- The ZENworks 6.5 Server Inventory installation program automatically upgrades an existing ZENworks for Servers 3.*x* and ConsoleOne snap-ins to ZENworks 6.5. For more information on installing ZENworks 6.5 Server Inventory, see "Policy-Enabled Server Management Installation" on page 61.
- Do not delete the ZENworks for Servers 3.*x* .str and .zip files in a ZENworks for Servers 3.*x* Inventory server's SCANDIR and its sub-directories after you've upgraded the Inventory server to ZENworks 6.5.
- Do not have a ZENworks for Servers 3.*x* Inventory server and a ZENworks 6.5 Inventory server store inventory data directly to the same Inventory database.

Inventory Agent

- The ZENworks for Servers 3.*x* Inventory agent can send inventory data to a ZENworks 6.5 Inventory server, which means the data can be stored in a ZENworks 6.5 Inventory database.
- The ZENworks 6.5 Inventory agent cannot send the inventory data to a ZENworks for Servers 3.*x* Inventory server, which means the data cannot be stored in a ZENworks for Servers 3.*x* Inventory database.

  Do not upgrade to the ZENworks 6.5 Inventory Agent until you've upgraded your Inventory servers and databases.

- A ZENworks for Servers 3.*x* or ZENworks 6.5 Server Management Inventory Agent can use a ZENworks for Servers 3.*x* Inventory policy that has been upgraded to ZENworks 6.5 Server Management, or they can use a newly created ZENworks 6.5 Server Management Inventory policy.
- If the ZENworks for Servers 3.*x* Inventory Agent and the ZENworks for Servers 3.*x* Policy and Distribution Services are installed on the same machine, and if you upgrade Policy and Distribution Services to ZENworks 6.5 Server Management, you must upgrade the Inventory Agent also to ZENworks 6.5 Server Management.

Management Console

- You can use ZENworks 6.5 Server Management ConsoleOne snap-ins to administer both ZENworks for Servers 3.*x* and ZENworks 6.5 inventory data and inventory objects (such as Inventory Service object, database objects, Server Inventory policy, Roll-Up policy, Dictionary Update policy, and Database Location policy).
- You cannot use the ZENworks for Servers 3.*x* ConsoleOne snap-ins to administer ZENworks 6.5 Server Management inventory data and inventory objects.
- Do not use both ZENworks for Servers 3.*x* and ZENworks 6.5 Server Management consoles to configure the same ZENworks for Servers 3.*x* Inventory objects.

Upgrading the Server Inventory Components Using the Program CD

Using the ZENworks 6.5 Server Management Program CD, you can upgrade the following Server Inventory components from ZENworks for Servers 3.*x* to ZENworks 6.5 Server Management: Inventory server, Inventory database, Inventory Agent, and the ZENworks 6.5 Server Management snap-ins for ConsoleOne.

However, to automate installation to multiple Subscriber servers, we recommend upgrading these servers using the Server Software Package method (see "Upgrading the Server Inventory Components Using a Server Software Package" on page 233).

To upgrade Server Inventory from ZENworks for Servers 3.*x* to ZENworks 6.5 Server Management, perform the following tasks in the order listed:

1. Perform the tasks explained in "Tasks To Be Performed Before Upgrade and Database Migration" on page 226
2. "Upgrading the Inventory Database Using the Program CD" on page 227
3. "Upgrading the Inventory Server Using the Program CD" on page 229
4. "Upgrading the Inventory Agent Using the Program CD" on page 231
5. "Upgrading the Server Inventory ConsoleOne Snap-Ins Using the Program CD" on page 232
6. Perform the tasks explained in "Post Database Migration Tasks" on page 232

Tasks To Be Performed Before Upgrade and Database Migration

After reviewing the facts mentioned in "Pre-Upgrade Considerations" on page 223, you must perform the following tasks before you upgrade the Server Inventory components from ZENworks for Servers 3.*x* to ZENworks 6.5 Server Management:

1. Stop the Inventory service.
   - On a NetWare Inventory server: At the server console prompt, enter **`sys:\system\invstop.ncf`**.

     NOTE: If you do not want the Sybase database to be stopped automatically when you stop the Inventory services, comment the `Unload dbsrv8.nlm` line in the sys:\system\invstop.ncf file.
   - On a Windows 2000/2003 Inventory server: In the Control Panel, double-click Administrative Tools > double-click Services > select Novell Inventory Service > click Stop.
2. Stop the Inventory database.

   To stop the Sybase Inventory database:
   - On NetWare: At the Sybase console prompt, press the Q key.
   - On Windows 2000/2003: In the Control Panel, double-click Administrative Tools > double-click Services > select Novell Database - Sybase > click Stop.
3. Stop the ZENworks web server:
   - On Windows NT: In the Control Panel, double-click Services, select Novell ZFS Web Server, then click Stop.
   - On Windows 2000: In the Control Panel, double-click Administrative Tools > Services, select Novell ZFS Web Server, then click Stop.
4. If Java has not been unloaded on the target NetWare servers, unload java.nlm (at the server console, enter **`java -exit`**).

   IMPORTANT: This command stops all Java processes running on the server. Verify that all Java processes can be stopped while you are installing Server Management.
5. On the target Windows servers, close the Services window.
6. Make sure that you have made and archived a reliable backup of the ZENworks for Servers 3.*x* database.
7. Before upgrading the Inventory server, make sure that you have upgraded its associated database server.
8. Make sure that the ZENworks for Servers 3.*x* database is not accessed from ConsoleOne.
9. Make sure that the recommended ZENworks 6.5 Server Inventory system requirements are met. For more information, see Chapter 5, "Server Requirements," on page 43.
10. If *zenworks_installation_path*\zenworks\inv\server\wminv\ properties\ inventoryremoval.properties has been modified after the ZENworks for Servers 3.*x* installation, take a reliable backup of inventoryremoval.properties.
11. Make sure that the Policy and Distribution Services have been upgraded to ZENworks 6.5. For more information on how to upgrade Policy and Distribution Services to ZENworks 6.5, see Chapter 11, "Policy and Distribution Services," on page 185.
12. Make sure that the schema has been migrated to ZENworks 6.5. You can migrate the schema by using the ZENworks 6.5 Server Management installation program. For more information on how to migrate the schema, see "Extending the Schema" on page 65 in "Installation on

NetWare and Windows" on page 61 in "Policy-Enabled Server Management Installation" on page 61.

13 If you have a ZENworks for Servers 3.*x* database running Oracle, you must perform the following tasks before the migration:

13a In *inventory_database_installation_path**init.ora_path*\init.ora, set the value of `db_block_buffers` to obtain a net value of approximately 128 MB for the database buffer cache.

If the `db_block_size` is 4096 then the minimum value must be 32768. This allocates 128 MB of database cache for the Inventory database. If the existing value of `db_block_buffers` is greater than 128 MB, do not change the value.

We recommend you to set the Oracle's Shared Global (SGA) memory to 30-40% or above during the database migration.

13b Ensure that the Inventory database is up and running.

13c You must have a larger rollback segment because the database migration and the storage of further data will not succeed due to ORA-01555 and other rollback segment related issues.

To increase the value of rollback segment, execute the following sql script to add an additional data file to rollback segment (rbs) and to add a Redo log group:

```
connect internal;

alter tablespace rbs add datafile
'Inventory_database_installation_path\rbs2.ora' size 40M autoextend
on next 50K maxsize 60M;

alter rollback segment rb0 storage (maxextents unlimited);

alter rollback segment rb1 storage (maxextents unlimited);

ALTER DATABASE ADD LOGFILE GROUP 3
('Inventory_database_installation_path\log3.ora') SIZE 50M;
```

Upgrading the Inventory Database Using the Program CD

During the ZENworks 6.5 Server Management installation, if you choose to install Sybase and you do not choose to overwrite the database files, the server installation program automatically upgrades the existing ZENworks for Servers 3.*x* database engine only. During the Sybase database upgrade, a message indicating that the existing database can be migrated is displayed. If you choose Yes, then the existing database will be overwritten by the new ZENworks 6.5 Server Management database files. If you choose No, the database will be migrated when the Inventory service starts for the first time.

IMPORTANT: If you are upgrading a ZENworks for Server 3 NetWare Inventory server, on which ZENworks for Servers 3 SP2 has been installed using the server software package, to ZENworks 6.5 Server Management, the ZENworks 6.5 Server Management installation fails to detect the Inventory database installed on the ZENworks for Servers 3 SP2 Inventory server. Consequently, the Inventory Database check box is not automatically selected during the ZENworks 6.5 Server Management installation. To install the ZENworks 6.5 Inventory database, you must manually select the Inventory database check box during the Server Management installation.

However, you must perform the following tasks:

1 If you have a ZENworks for Servers 3.*x* Oracle database object, or if you have manually created Sybase database objects, you must manually migrate the database object using the

Inventory Migration tool. For more information, see "Manually Migrating the ZENworks for Servers 3.x Database Objects" on page 228.

2 If you have a ZENworks for Servers 3.*x* database running Sybase, ensure that the value of Sybase cache ("-c" parameter) is set to 25% or above of the server's memory.

- To change the database cache size on a NetWare database server:

  1.Close all connections to the Inventory database.
  2. Quit the Sybase server.
  3. Open the mgmtdbs.ncf file in the sys:\system directory.
  4. Modify the *-c* parameter. For example, -c 128M sets the cache size to 128 MB.
  5. Save the file.
  6. On the server console, load the Inventory database. Enter **`MGMTDBS.`**

- To change the database cache size on a Windows database server:

  1. Stop the Sybase service. On Windows NT, in the Control Panel, double-click Services, select Novell Database - Sybase, then click Stop. On Windows 2000, in the Control Panel, double-click Administrative Tools > double-click Services, select Novell Database - Sybase, then click Stop.
  2. On the database server, run the ntdbconfig.exe file from the ...\dbengine directory. Ntdbconfig.exe is a ZENworks database configuration utility for the ZENworks database using Sybase on Windows NT/2000 servers. This utility enables you to reconfigure the Sybase service.
  3. Modify the *-c* parameter.
  4. Click OK.
  5. Restart the Sybase service. On Windows NT, in the Control Panel, double-click Services, select Novell Database - Sybase, then click Start. On Windows 2000, in the Control Panel, double-click Administrative Tools > double-click Services, select Novell Database - Sybase, then click Start

3 If you have a ZENworks for Servers 3.*x* database running MS SQL, ensure that the value of fixed memory is 40% or above.

IMPORTANT: You can upgrade multiple Inventory servers and database servers at the same time by running the Server Management installation program.

However, you must manually migrate the existing ZENworks for Servers 3.*x* Server Inventory policy, Database Location policy, and Roll-up policy. If you have manually created the database object, you must also migrate the database object. For more information on how to manually migrate the policies, see "Manually Migrating the ZENworks for Servers 3.x Database Objects" on page 228.

Manually Migrating the ZENworks for Servers 3.*x* Database Objects

1 In ConsoleOne with ZENworks 6.5 Server Management Server Inventory snap-ins installed, click Tools, click ZENworks Inventory, then click Inventory Migration.

2 Click Browse to browse for and select the database object to be migrated or the container that has the database object.

3 If you selected a container in Step 2, do the following:

3a If you want to search for the database object in all the subcontainers within the selected container, select the Search SubContainers check box.

The Search SubContainers check box is available only if you select a container in Search Context.

3b Select the Search for Database Objects check box to search for the database objects within the selected container to be migrated.

This option is available only if you select a container in Search Context. By default, this option is selected.

3c Click Find.

All the ZENworks for Servers 3.*x* database objects that are found within the specified context are displayed in the Report panel.

4 Click Migrate.

5 Click Close.

6 In ConsoleOne, right-click the database object, then click Properties, then click the ZENworks Database tab.

7 Ensure that the following database object options have the specified values mentioned depending on the Inventory database:

Database Object Options	Value for the Sybase Inventory Database Object	Value for the Oracle Inventory Database Object	Value for the MS SQLServer 2000 Inventory Database Object
Database (Read-Write) User Name	*MW_DBA*	*MW_DBA*	*MW_DBA*
Database (Read-Write) Password	*novell*	*novell*	*novell*
Database (Read Only) User Name	*MW_READER*	*MWO_READER*	*MWM_READER*
Database (Read Only) Password	*novell*	*novell*	*novell*
Database (Write Only) User Name	*MW_UPDATER*	*MWO_UPDATER*	*MWM_UPDATER*
Database (Write Only) Password	*novell*	*novell*	*novell*

8 Click Apply, then click Close.

Upgrading the Inventory Server Using the Program CD

Before upgrading the ZENworks for Servers 3.*x* Inventory server, make sure that you have upgraded the associated database server.

You can upgrade the ZENworks for Servers 3.*x* Inventory server by installing ZENworks 6.5 Server Management Inventory server if the server where you want to install the ZENworks 6.5 Server Management Inventory server meets the installation requirements. For more information on how to install the ZENworks 6.5 Server Management Inventory server, see Chapter 6, "Policy-Enabled Server Management Installation," on page 61. The ZENworks 6.5 Server Management Inventory server supports the same set of roles as ZENworks for Servers 3.*x*. Therefore, when you upgrade from ZENworks for Servers 3.*x* to ZENworks 6.5 Server Management, the role of the Inventory server is retained.

IMPORTANT: If you have a ZENworks for Servers 3.*x* Inventory server attached to a ZENworks for Servers 3.*x* database and if you upgrade either the Inventory server or the database to ZENworks 6.5 Server Management, you must upgrade the associated component to ZENworks 6.5 Server Management (the ZENworks for Servers 3.*x* Inventory services should not interact with ZENworks 6.5 Server Management compliant database and vice versa).

If you have multiple ZENworks for Servers 3.*x* Inventory servers connected to a ZENworks for Servers 3.*x* database server and if you upgrade the database server to ZENworks 6.5 Server Management, you must also upgrade all the associated ZENworks for Servers 3.*x* Inventory servers.

The ZENworks 6.5 Server Management installation program automatically migrates only the ZENworks for Servers 3.*x* Inventory Service object to ZENworks 6.5 Server Management. Before starting the Inventory service, you must manually migrate the existing ZENworks for Servers 3.*x* policies to ZENworks 6.5 Server Management policies using the ZENworks Inventory Migration tool. For more information, see "Manually Migrating the ZENworks for Servers 3.x Inventory Policies" on page 230.

IMPORTANT: If you are upgrading a ZENworks for Server 3 NetWare Inventory server, on which ZENworks for Servers 3 SP2 has been installed using the server software package, to ZENworks 6.5 Server Management, the ZENworks 6.5 Server Management installation fails to detect the XML Proxy server installed on the ZENworks for Servers 3 SP2 Inventory server. Consequently, the Inventory Proxy Server check box is not automatically selected during the ZENworks 6.5 Server Management installation. To install the ZENworks 6.5 XML Proxy, you must manually select the Inventory Proxy Server check box during the Server Management installation.

Manually Migrating the ZENworks for Servers 3.*x* Inventory Policies

1. In ConsoleOne with ZENworks 6.5 Server Management Server Inventory snap-ins installed, click Tools > ZENworks Inventory > Inventory Migration.
2. Click Browse to browse for and select the Inventory Service object or the container that has the Inventory Service object.
3. If you selected a container in Step 2, do the following:
   - **3a** If you want to search for the Inventory Service object in all the subcontainers within the selected container, select the Search SubContainers check box.

     The Search SubContainers check box is available only if you select a container in Search Context.
   - **3b** Select the Search for Policies check box to search for the Inventory policies associated with the Inventory Service object within the selected container.

     This option is available only if you select a container in Search Context. By default, this option is selected.
   - **3c** Click Find.

     All the ZENworks for Servers 3.*x* Inventory policies that are associated with the Inventory Service object and are found within the specified context are displayed in the Report panel.
4. Click Migrate.
5. Click Close.

The ZENworks 6.5 Inventory agents obtain the software scan configuration rules from the private dictionary and the general dictionary, instead from the Server Inventory policy. But the ZENworks for Servers 3.*x* Inventory agents would continue to use the Server Inventory policy for software configuration.

After migrating the policies, perform the following tasks:

1. (Conditional) If you upgrade a ZENworks for Servers 3.0.2 NetWare database server with ZENworks for Servers 3.0.2 Interim Release 2 (IR 2) installed to ZENworks 6.5 Server Management, you must perform the following tasks:

   1a. Edit sys:\system\autoexec.ncf to add the following line:

   ```
   sys:\system\mgmtdbs.ncf
   ```

   1b. Manually start the database server.

2. Start the ZENworks 6.5 Server Management Inventory services.

   When you start the Inventory service, the Upgrade Service automatically migrates the ZENworks for Servers 3.*x* database schema and the inventory data to a ZENworks 6.5 Server Management database. The data migration process might take a significant amount of time. On the Inventory server screen, messages indicating that the database has been successfully migrated and initialized are displayed.

   After the database is migrated, the Inventory ConsoleOne utilities (Query, Summary, Inventory Report, and Database Export) and the Storer can access the database.

3. Create and configure the Dictionary Update policy to get the latest version of the dictionary for ZENworks 6.5 Inventory Agent. For more information on how to create the Dictionary Update policy, see "Configuring the Dictionary Update Policy" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

Upgrading the Inventory Agent Using the Program CD

When the ZENworks 6.5 Inventory Agent is installed on the inventoried server, the existing ZENworks for Servers 3.*x* Inventory Agent is uninstalled. If the existing ZENworks for Servers 3.*x* Inventory Agent is not uninstalled, you need to manually uninstall it. For more information about uninstalling the ZENworks for Servers 3.*x* Inventory Agent, review the following sections:

- "Uninstalling the ZENworks for Servers 3.x Inventory Agent on NetWare" on page 231
- "Uninstalling the ZENworks for Servers 3.x Inventory Agent on Windows" on page 232

Uninstalling the ZENworks for Servers 3.*x* Inventory Agent on NetWare

1. Execute the following commands at the server console prompt:

   ```
   invagentstop.ncf
   java -exit
   ```

2. Delete the following files from sys:\system:

   hwinvsrc.ini
   invaid.nlm
   invsetup.ini
   mpkscan.nlm
   nwapi.bak
   nwapi.map
   smile.bak
   smile.map
   suppl.bak
   suppl.map

3 Delete sys:\java\bin\invnatve.nlm.

Uninstalling the ZENworks for Servers 3.*x* Inventory Agent on Windows

1 Stop the ZENworks for Servers 3.*x* Inventory Agent service.

In the Windows NT Control Panel, double-click Services, select ZFS Policies, then click Stop.

In the Windows 2000 Control Panel, double-click Administrative Tools > Services, select ZFS Policies, then click Stop.

2 Note the value of the InvAgentPath and the PDSPath key in the HKEY_LOCAL_MACHINE\SOFTWARE\Novell\ZenWorks registry entry. The InvAgentPath key contains the Inventory Agent installation directory and the PDSPath contains the Policy and Distribution service installation directory.

3 Delete the Inventory Agent installation directory identified in the InvAgentPath key.

4 Delete invagentnt.jar from the plug-ins directory, which is located in the directory identified in the PDSPath key.

Upgrading the Server Inventory ConsoleOne Snap-Ins Using the Program CD

You can upgrade the Server Inventory ConsoleOne snap-ins of ZENworks for Servers 3.*x* to ZENworks 6.5 using the ZENworks 6.5 Server Management installation program if the machine where you want to install the ZENworks 6.5 Server Management ConsoleOne snap-ins meets the installation requirements. For more information about the installation requirements, see Chapter 4, “Installation Machine and Management Workstation Requirements,” on page 39. For more information on how to install the ZENworks 6.5 Server Management ConsoleOne snap-ins, see “Installation on NetWare and Windows” on page 61 in Chapter 6, “Policy-Enabled Server Management Installation,” on page 61.

Post Database Migration Tasks

After migration is complete and the Storer is able to process files, do the following:

1 Stop the Inventory service.

2 If your Inventory database is running Oracle, do the following to improve the database performance:

2a In the *inventory_database_installation_path*_start.sql file, delete the existing entries and add the following entries:

```
SET ECHO ON

CONNECT INTERNAL

SET ECHO OFF

STARTUP PFILE=
inventory_database_installation_path\path_to_init.ora\init.ora

SET NUMWIDTH 20

SET CHARWIDTH 40

SET ECHO ON

connect mw_dba;
```

```
SET ECHO OFF

alter table cim.t$product cache;

SET ECHO ON

connect internal

SET ECHO OFF

@<path to oracle home directory>/rdbms/admin/dbmspool

call sys.dbms_shared_pool.keep('zenworks.zenpin', 'P');

EXIT
```

2b Execute the oracle\common\oracle_perf.sql and oracle\common\oracle_perf2.sql files from *Inventory_server_installation_path*\zenworks\inv\server\wminv\properties\sql.zip to add performance enhancing indexes to the database.

2c Execute oracle_dbexport_perf.sql from the *ZENworks 6.5 Companion 2* CD\database\oracle8i\common directory.

For more information on how to improve the performance of the Inventory database, see "Performance Tips" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

3 If the Inventory database is running MS SQL, use the MS SQL Query Analyzer to execute the following scripts from *Inventory_server_installation_path*\zenworks\inv\server\wminv\properties\sql.zip using the appropriate user logins:

1. Log in as CIM and execute the mssql_perf_cim.sql
2. Log in as mw_dba and execute mssql_perf_mw_dba.sql
3. Log in as zenworks and execute msswl_perf_zenworks.sql

For more information on how to improve the performance of the Inventory database, see "Performance Tips" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

4 Start the Inventory services.

Upgrading the Server Inventory Components Using a Server Software Package

You can also upgrade Server Inventory from ZENworks for Servers 3.0.2 or ZENworks for Servers 3 SP2 to ZENworks 6.5 Server Management using a Server Software Package upgrade file contained on the *Novell ZENworks 6.5 Companion 2* CD.

This method allows you to automatically upgrade the following Server Inventory components:

- Inventory server on NetWare 6.0 or later, and Windows 2000 server
- Inventory Agent on NetWare 5.1 SP7 or later, and Windows 2000 server

To upgrade these components using a Server Software Package (CPK), perform the tasks in the following sections in the order listed:

1. "Preparing for Upgrade" on page 234
2. "Upgrading the Inventory Server Using the Software Package" on page 235
3. "Upgrading the Inventory Agent Using the Software Package" on page 238

4. "Reinstalling the Inventory Agent Using the Software Package" on page 239

Preparing for Upgrade

After reviewing the "Pre-Upgrade Considerations" on page 223, you must perform the following tasks in the order listed before you upgrade to ZENworks 6.5 Server Management:

1. Extend the schema to ZENworks 6.5 using the ZENworks 6.5 Server Management installation program.

   For more information on how to extend the schema, see "Extending the Schema" on page 65 in "Policy-Enabled Server Management Installation" on page 61.

2. Upgrade Policy and Distribution Services to ZENworks 6.5.

   For more information on how to upgrade Policy and Distribution Services to ZENworks 6.5, see Chapter 11, "Policy and Distribution Services," on page 185.

3. Upgrade the Server Inventory ConsoleOne snap-ins.

   3a. In a Web browser, access the Novell Support Web site (http://download.novell.com/pages/PublicSearch.jsp).

   3b. In the Choose a Product field, select ZENworks Server Management from the drop-down list, then click the Submit Search button.

   3c. Under the Search Results section, click the Download button to download the snap-ins.

   3d. Log in (or create a login).

   3e. For zsm65c1snap_inv.zip, click the Download button.

   3f. Save the .zip file to a location on your workstation.

   3g. Unzip the file into your workstation's copy of ConsoleOne.

4. Manually migrate the ZENworks for Servers 3.0.2 or ZENworks for Servers 3 SP2 Inventory policies.

   4a. In ConsoleOne with ZENworks 6.5 Server Management Server Inventory snap-ins installed, click Tools > ZENworks Inventory > Inventory Migration.

   4b. Click Browse to browse for and select the Inventory Service object or the container that has the Inventory Service object.

   4c. If you selected a container in Step 4b, do the following:

   1. If you want to search for the Inventory Service object in all the subcontainers within the selected container, select the Search SubContainers check box. This option is available only if you select a container in Search Context
   2. If you want to search for the Inventory policies associated with the Inventory Service object within the selected container, select the Search for Policies check box. This option is available only if you select a container in Search Context. By default, this option is selected.
   3. Click Find

   All the ZENworks for Servers 3.0.2 or ZENworks for Servers 3 SP2 Inventory policies that are associated with the Inventory Service object and are found within the specified context are displayed in the Report panel.

   4d. Click Migrate.

4e Click Close.

The ZENworks 6.5 Inventory agents obtain the software scan configuration rules from the private dictionary and the general dictionary, instead from the Server Inventory policy. However, the ZENworks for Servers 3.0.2 or ZENworks for Servers 3 SP2 Inventory agents would continue to use the Server Inventory policy for software configuration.

Upgrading the Inventory Server Using the Software Package

Depending on whether you have Policy and Distribution Services running on the target Subscriber servers, you can install the Inventory server software package using one of the following methods,

- "Automatically Installing the Inventory Server CPK" on page 235
- "Manually Installing the Inventory Server CPK" on page 236

Automatically Installing the Inventory Server CPK

Using the Tiered Electronic Distribution component of ZENworks 6.5 Server Management, you can automatically distribute and install the Inventory server .cpk file to all servers that are running the Subscriber and Policy Package software.

IMPORTANT: You cannot combine software packages into the same Distribution. You must create a separate Distribution object for each software package. Also, ensure that the Inventory server and the Inventory Agent Distributions are not simultaneously sent to the server using the same Channel. You must first send the Inventory server Distribution and after it is complete, you must send the Inventory Agent Distribution. This is because each software package unloads the JVM on NetWare, which prevents concurrent processing of multiple software packages.

To automatically install the Inventory Server .cpk file:

1. Copy zsm65_invsrv.cpk from *ZENworks 6.5 Companion CD 2*\ zenworks server management - software pkgs\invrm to a temporary directory on a Distributor server you will use to install the software package.
2. Set the Subscriber's Extract schedule.

   If the schedule is set to Run Immediate, you will probably interrupt the sending of the Distribution to Subscribers because the update process involves unloading Java. With Java unloaded, Distributions are temporarily halted until Java has been reloaded and the Channel's Send schedule fires.

   If the Subscriber is a parent that is sending the Distribution to subordinate Subscribers, it will be in the process of sending the Distribution when the software package tries to unload Java. However, the Distributions continue from where they left off after Java is started again.
3. Create a Distribution for this software package.

   You can have only one software package per Distribution object. Although the software allows more than one software package to be selected in a single Distribution object, this is not allowed when distributing the ZENworks 6.5 Server Management software packages. The reason is that installing a software package unloads and reloads Java, which can prevent the remaining software packages from being successfully processed from a single Distribution object.

   Make sure to set the Distribution's Build schedule.

   The Distribution containing ZENworks 6.5 Server Management must be built, sent, extracted, and installed before sending any other Distributions containing other ZENworks 6.5 Server Management software packages.

For detailed instructions on creating Distributions, see "Tiered Electronic Distribution" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

4. Associate the Distribution with a Channel so that it is sent based on the channel schedule.

   You might need to create the Channel. Be sure to set the Channel's Send schedule.

   The ZENworks 6.5 Server Management software packages unload and restart Java as part of the installation process. Therefore, you must process each software package individually. If you attempt to process multiple ZENworks 6.5 Server Management software packages simultaneously (such as by processing them at the same time in a given Channel), it is probable that one or more of the Software Package Distributions will fail on installation.

5. Associate the Subscribers that you want to receive this software package with the Channel.

6. Send the Distribution.

   For example, refresh the Distributor to build Distribution so that it can be sent and extracted. For detailed information on sending distributions, see "Tiered Electronic Distribution" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

   The Distribution is automatically created when the Distribution's Build schedule starts. The Distribution is automatically be sent when the Channel's Send schedule starts. It will be extracted according to the Subscriber server's Extract schedule.

7. Review the following log files to verify the success or failure of the .cpk file installation:

   - On a NetWare server: sys:\etc\cpk65logs\cpk65_invsrv.log, sys:\etc\cpk65logs\invsrv_nw_files.log, and sys:\etc\cpk65logs\cpk_ndsupdate.log
   - On a Windows server: *%windir%*\cpk65logs\cpk65_invsrv.log, *%windir%*\cpk65logs\invsrv_win_files.log, and *%windir%*\cpk65logs\cpk_ndsupdate.log

   If the .cpk file has been successfully installed, the Inventory service is automatically started. The Upgrade Service automatically migrates the database schema and the inventory data to a ZENworks 6.5 Server Management database. The data migration process might take a significant amount of time. On the Inventory server screen, messages indicating that the database has been successfully migrated and initialized are displayed

   After the database is migrated, the Inventory ConsoleOne utilities (Query, Summary, Inventory Report, and Database Export) and the Storer can access the database.

8. Create and configure the Dictionary Update policy to get the latest version of the dictionary for ZENworks 6.5 Inventory Agent.

   For more information on how to create the Dictionary Update policy, see "Configuring the Dictionary Update Policy" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

Manually Installing the Inventory Server CPK

If you are installing the Inventory server .cpk file to servers that are not running Subscriber software and the Policy/Package Agent, you must use the Standalone Package Processor included in the software package download to manually install the Inventory server .cpk file.

The Standalone Package Processor is required where Policy and Distribution Services agents are not running for both NetWare and Windows servers. However, it can be used on servers where Policy and Distribution Services agents are running.

IMPORTANT: Before starting another software package installation, you must ensure that the previous installation is complete. Processing a new software package before the previous one is complete could cause the second software package installation to fail.

The following instructions should be repeated for each NetWare or Windows server where you will manually install the Inventory server .cpk file:

1. (Conditional) If you are installing the .cpk file on a Windows Inventory server, make sure that users have not logged into eDirectory from that Inventory server.
2. Copy invrem_standalonepacpro.zip from *ZENworks 6.5 Companion CD 2*\zenworks server management - software pkgs\invrm to a temporary directory on a NetWare or Windows Inventory server where you will install the software package.
3. Extract invrem_standalonepacpro.zip to the following appropriate location:
   - NetWare server: sys:\
   - Windows server: c:\

   Invrem_standalonepacpro.zip contains a directory structure that includes temp as the first directory. The Standalone Package Processor files are unzipped into a TEMP directory at the root of the server's file system.
4. Copy zsm65_invsrv.cpk to the temporary directory where the associated .bat or .ncf file exists. For example:
   - NetWare server: sys:\temp\zfs65
   - Windows server: c:\temp\zfs65
5. If you are installing the .cpk file on a NetWare server, edit the zsm65_invsrv.ncf, which is associated with the software package, to set the values of the following variables:
   - `envset ZFSHOMEDIR` = *Inventory_server_installation_path*

     For example, `envset ZFSHOMEDIR = sys:\zenworks`
   - `envset CPKTEMP =` *path where you have extracted invrem_standalonepacpro.zip*

     For example, `envset CPKTEMP = sys:\temp\zfs65`
   - `SEARCH ADD` *path where you have extracted invrem_standalonepacpro.zip*`\NETWARE`

     For example, `SEARCH ADD sys:\temp\zfs65\netware`
6. If you are installing the .cpk file on a Windows server, edit the zsm65_invsrv.bat associated with the software package to set the value of following variables:
   - `set ZFSHOMEDIR =` *Inventory_server_installation_path*

     For example, `set ZFSHOMEDIR = c:\zenworks`
   - `set CPKTEMP =` *path where you have extracted invrem_standalonepacpro.zip*

     For example, `set CPKTEMP = c:\temp\zfs65`
7. From the temporary directory, run the .bat or .ncf file associated with the software package you want to install:
   - On NetWare, enter the following at the server prompt:

     `sys:\temp\zfs65\netware\zsm65_invsrv.ncf`
   - On Windows, run c:\temp\zfs65\win\zsm65_invsrv.bat

8 Review the following log files to verify the success or failure of the .cpk file installation:

- On a NetWare server: sys:\etc\cpk65logs\cpk65_invsrv.log, sys:\etc\cpk65logs\invsrv_nw_files.log, and sys:\etc\cpk65logs\cpk_ndsupdate.log
- On a Windows server: *%windir%*\cpk65logs\cpk65_invsrv.log, *%windir%*\cpk65logs\invsrv_win_files.log, and *%windir%*\cpk65logs\cpk_ndsupdate.log

If the .cpk file has been successfully installed, the Inventory service is automatically started. The Upgrade Service automatically migrates the database schema and the inventory data to a ZENworks 6.5 Server Management database. The data migration process might take a significant amount of time. On the Inventory server screen, messages indicating that the database has been successfully migrated and initialized are displayed

After the database is migrated, the Inventory ConsoleOne utilities (Query, Summary, Inventory Report, and Database Export) and the Storer can access the database.

9 Create and configure the Dictionary Update policy to get the latest version of the dictionary for ZENworks 6.5 Inventory Agent.

For more information on how to create the Dictionary Update policy, see "Configuring the Dictionary Update Policy" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

Upgrading the Inventory Agent Using the Software Package

You can automatically install the Inventory Agent .cpk file.

IMPORTANT: You cannot combine software packages into the same Distribution. You must create a separate Distribution object for each software package. Also, ensure that the Inventory server and the Inventory Agent Distributions are not simultaneously sent to the server using the same Channel. You must first send the Inventory server Distribution and after it is complete, you must send the Inventory Agent Distribution. This is because each software package unloads the JVM on NetWare, which prevents concurrent processing of multiple software packages.

To automatically install the Inventory Agent .cpk file:

1 Copy zsm65_invagnt.cpk from *ZENworks 6.5 Companion CD 2*\zenworks server management - software pkgs\invrm to a temporary directory on the Distributor server you will use to install the software package.

2 Set the Subscriber's Extract schedule.

If the schedule is set to Run Immediate, you will probably interrupt the sending of the Distribution to Subscribers because the update process involves unloading Java. With Java unloaded, Distributions are temporarily halted until Java has been reloaded and the Channel's Send schedule fires.

If the Subscriber is a parent that is sending the Distribution to subordinate Subscribers, it will be in the process of sending the Distribution when the software package tries to unload Java. However, the Distributions will continue from where they left off after Java is started again.

3 Create a Distribution for this software package.

You can have only one software package per Distribution object. Although the software allows more than one software package to be selected in a single Distribution object, this is not allowed when distributing the ZENworks 6.5 Server Management software packages. The reason is that installing a software package unloads and reloads Java, which can prevent the remaining software packages from being successfully processed from a single Distribution object.

Make sure to set the Distribution's Build schedule.

The Distribution containing ZENworks 6.5 Server Management must be built, sent, extracted, and installed before sending any other Distributions containing other ZENworks 6.5 Server Management software packages.

For detailed instructions on creating Distributions, see "Tiered Electronic Distribution" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

4. Associate the Distribution with a Channel so that it is sent based on the channel schedule.

   You might need to create the Channel. Be sure to set the Channel's Send schedule.

   The ZENworks 6.5 Server Management software packages unload and restart Java as part of the installation process. Therefore, you must process each software package individually. If you attempt to process multiple ZENworks 6.5 Server Management software packages simultaneously (such as by processing them at the same time in a given Channel), it is probable that one or more of the Software Package Distributions will fail on installation.

5. Associate the Subscribers that you want to receive this software package with the Channel.

6. Send the Distribution.

   For example, refresh the Distributor to build the Distribution so that it can be sent and extracted. For detailed information on sending distributions, see "Tiered Electronic Distribution" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

   The Distribution is automatically created when the Distribution's Build schedule starts. The Distribution is automatically be sent when the Channel's Send schedule starts. It is extracted according to the Subscriber server's Extract schedule.

7. Review the following log files to verify the success or failure of the Inventory Agent .cpk file installation:

   - On a NetWare server: sys:\etc\cpk65logs\cpk65_invagnt.log
   - On a Windows server: *%windir%*\cpk65logs\cpk65_invagnt.log

   If the .cpk file has been successfully installed, the ZENworks service is automatically started.

Reinstalling the Inventory Agent Using the Software Package

If you have installed the ZENworks 6.5 Inventory Agent on the inventoried server using the ZENworks 6.5 Server Management Program CD, and now you want to reinstall the ZENworks 6.5 Inventory Agent using the software package, you must do the following:

1. Ensure that the value of InvAgentPath in sys:\system\zenworks.properties is <*volume_name*>:\zenworks\inv\agent.

2. Follow steps explained in "Upgrading the Inventory Agent Using the Software Package" on page 238.

13 Remote Management

This section provides you with instructions for upgrading Novell® ZENworks® for Servers 3.*x* Remote Management to ZENworks 6.5 Remote Management using menu options on the *Novell ZENworks 6.5 Server Management Program* CD or using a Server Software Package contained on the *Novell ZENworks 6.5 Companion 2* CD.

Before upgrading, do the following:

- ❑ Make sure that all of the installation requirements outlined in "Preparation" on page 25 are met.
- ❑ Review the facts in "Pre-upgrade Considerations" on page 241.

Use the following method to upgrade:

- "Upgrade Using the Program CD" on page 242

  This option is useful for upgrading when you want hands-on configuration of the upgrade options. It uses a GUI upgrade program for NetWare and Windows.
- "Upgrading Using a Server Software Package" on page 243

Pre-upgrade Considerations

If you have Symantec PCAnywhere 10.x or earlier version installed on the managed device and are upgrading Remote Management Agent, you need to be aware of the following:

- "Upgrading Remote Management Agent with Mirror Driver (recommended)" on page 241
- "Upgrading Remote Management Agent without Mirror Driver" on page 241

Upgrading Remote Management Agent with Mirror Driver (recommended)

Selecting Mirror Driver in the Remote Management Agent install may lead the managed device going into low resolution or VGA mode. This occurs because PCAnywhere does not support coexistence with Remote Control solutions based on hook driver technology. The Remote Management hook driver that ships with ZENworks 6.5 has been deprecated and is no longer being installed on the managed device during upgrade.

To resolve this issue, do the following:

1. Reinstall the system video driver on the managed device.
2. Reinstall PCAnywhere on the managed device.
3. Upgrade Remote Management Agent with Mirror Driver.

NOTE: You need to execute this step only once. Subsequent upgrades does not require this steps to be executed. Hence, we recommend you to install Mirror Driver.

Upgrading Remote Management Agent without Mirror Driver

If you choose not to install Mirror Driver, you will not encounter the low resolution or VGA screen problem. However, the remote sessions would not be optimized for performance without Mirror Driver. Hence, you will need to execute rmsetdrv.exe to enable the hook driver, which is deprecated with ZENworks 6.5.

To resolve this issue, do the following:

1. Upgrade Remote Management Agent without Mirror Driver.
2. Run "rmsetdrv.exe /hook".

   NOTE: You need to execute rmsetdrv.exe everytime you upgrade without Mirror Driver. Also, hook driver is deprecated with ZENworks 6.5. Hence, we recommend you to install Mirror Driver.

   For more information on rmsetdrv.exe, see TID 10089810 in the Novell Support Knowledgebase (http://support.novell.com/search/kb_index.jsp)

Upgrade Using the Program CD

The Novell® ZENworks® 6.5 Server Management installation program automatically upgrades ZENworks for Servers 3.*x* Remote Management.

To upgrade Remote Management to version 6.5, the servers where you have version 3.*x* Remote Management installed must meet the minimum server requirements outlined in “Server Requirements” on page 43.

For information on how to install Remote Management, see “Installation on NetWare and Windows” on page 61.

When running the installation program, do the following:

- Select only the servers where a previous version of Remote Management has been installed that you want upgraded
- For the selected servers, select only the Remote Management check box under the ZENworks Policy-Enabled Management Services section
- Do not select any of the boxes under the Additional Options section

IMPORTANT: If you already have a hook driver installed on the machine where you are upgrading, the hook driver will be uninstalled during the upgrade. If Mirror Driver is not selected during the ZENworks 6.5 installation, optimization is disabled for remote sessions and consequently, the performance of the remote session degrades.

Upgrading Using a Server Software Package

The following sections provide detailed instructions for installing the software packages on Remote Management and Installation Log Files:

- “Automatically Installing Software Packages” on page 243
- “Manually Installing Software Packages” on page 244
- “Installation Log Files” on page 245

IMPORTANT: If you already have a hook driver installed on the machine where you are upgrading, the hook driver will be uninstalled during the upgrade. If Mirror Driver is not selected during the ZENworks 6.5 installation, optimization is disabled for remote sessions and consequently, the performance of the remote session degrades.

NOTE: Apply zfsrmir2.cpk through Hotpatch24, if you have upgraded to ZfS 3.0.2 from ZfS 3.0 using a Server Software Package. After applying Hotpatch24, you can upgrade to ZENworks 6.5 Server Management using a Server Software Package.

You need not apply HotPatch24 before upgrading to ZENworks 6.5 Server Management using a Server Software Package if you have upgraded to ZENworks for Server 3.0.2 from ZENworks for Servres 3.0 using the program CD, or if you have a fresh installation of ZENworks for Servers 3.0.2. For more information, see TID 10096514 in the Novell Support Knowledgebase (http://support.novell.com/search/kb_index.jsp).

Automatically Installing Software Packages

Using the Tiered Electronic Distribution (TED) component of ZENworks for Servers 6.5, you can automatically distribute and upgrade the software packages to all servers that are running the Subscriber and Policy Package software.

IMPORTANT: You cannot combine software packages into the same Distribution. You must create a separate Distribution object for each software package. This is because each software package unloads the JVM on NetWare, which prevents concurrent processing of multiple software packages.

Make sure you have completed the following prerequisites for automatic installation:

- Your servers must meet the general ZENworks 6.5 Remote Management requirements.
- Policy and Distribution Services must be installed on your servers so that the software package Distributions can be sent, received, and upgraded.

To automatically install the Remote Management Agent .cpk file:

1. Copy the .CPK files at ZENworks Server Management - Software Pkgs \ InvRM. Note where they are located for when you create the associated Distribution.
2. Set the Subscriber's Extract schedule.
3. Create a Distribution for this software package and set the Distribution's Build schedule.
4. Associate the Distribution with a Channel so that it is sent based on the channel schedule. You might need to create the Channel and set the Channel's Send schedule.
5. Associate the Subscribers that you want to receive this software package with the Channel.
6. On a Windows server, for the zsm65_remmgmt.cpk file, create and initialize the following package processor variable in the Subscriber objects' properties:

   Variable = MIRROR

   If the MIRROR variable value is set to YES, the MIRROR driver is installed, if the value is set to NO, it is not installed.

IMPORTANT: The Mirror driver (recommended) provides video adapter independence and co-existence with other Remote Control solutions. This is not yet signed by Microsoft. Installation will overrides any check for it and suppresses any message from Windows.

For External Subscribers, put the variable in the tednode.properties file.

7. Send the Distribution.

   The Distribution is automatically created when the Distribution's Build schedule starts. The Distribution is automatically sent when the Channel's Send schedule starts. It is extracted according to the Subscriber server's Extract schedule.

8. Review the log file contained in the Subscriber Servers to verify the success or failure of the installation.

   Several components might fail to install, and the Software Package installation will still appears as successful, so you should review the success or failure of each component of the software package to ensure that the components needed on a specific server were installed successfully.

Manually Installing Software Packages

You can use package to a server that is not running Subscriber and the Policy/Package Agent.

Before you begin manual installation:

- Make sure you have access to the InvRemStandAlonePacPro.zip file. This file contains zsm65_remmgmt.bat, which is used to install the Server Management Agent on Windows servers, and zsm65_remmgmt.ncf, which is used to install the Server Management Agent on NetWare servers.
- Make sure your servers meet the general ZENworks 6.5 Remote Management requirements for the component to be updated.

To manually install the Remote Management Agent .cpk file:

1. Unzip the InvRemStandAlonePacPro.zip file to one of the following appropriate location:

   Windows server: c:\

   NetWare server: sys:\

   The Standalone Package Processor files will be unzipped into a TEMP directory at the root of the server's file system.

2. Copy the .cpk file to be manually installed to the temporary directory where the associated .bat or .ncf file exists. For example:

   Windows server: c:\temp\zfs65

   NetWare server: sys:\temp\zfs65

3. If JRE 1.3.1 is not installed on the target Windows server, download the JRE and install it.

4. In the .bat files corresponding to zsm65_remmgmt.cpk, change the JREROOT variable path to *JRE_installation_path*\JRE\BIN on each of the target Windows server where JRE 1.3.1 is installed.

5. Point the CPKTEMP variable in the batch file to the location of the installation directory. For example:

   Windows server: CPKTEMP = c:\temp\zfs65

   NetWare server: CPKTEMP = sys:\temp\zfs65

6 Install the agents.

To install the zsm65_remmgmt.cpk on Windows server, enter the following at the command prompt: **`c:\temp\zfs\win\zfs65_mms_mgmtagnt.bat`**

To install the zsm65_remmgmt.cpk on Windows server, enter the following at the command prompt: **`sys:\temp\zfs65\zfs65_mms_mgmtagnt.ncf`**

7 Determine which components of the software package were installed successfully by reviewing the log file created during installation.

Variables Used by NCF and BAT Files for Manual Installation

This section lists the variables used by the .bat and .ncf files during manual installation of a support pack software package.

The following variable is grouped under the software package headings for the applicable .bat and .ncf files:

zsm65_remmgmt.cpk

This software package for Server Management Agent uses variables for the following .bat or .ncf files:

zsm65_remmgmt.bat

Variable = MIRROR

If the MIRROR variable value is set to YES, the MIRROR driver is installed, if the value is set to NO, it is not installed.

IMPORTANT: The Mirror driver (recommended) provides video adapter independence and co-existence with other Remote Control solutions. This is not yet signed by Microsoft. Installation will override any check for it and suppresses any message from Windows.

Installation Log Files

The following log files contain detailed information about the success of the Remote Management installation:

For Windows:

%WINDIR%\CPK65Logs\Cpk65_Agnt.LOG - Install /file changes log

For NetWare:

ted.log file in the TED_PATH/dist directory

14 Management and Monitoring Services

This section provides you with instructions for upgrading Novell® ZENworks® for Servers 3.*x* Management and Monitoring Services to ZENworks 6.5 Server Management using menu options on the *Novell ZENworks 6.5 Server Management Program* CD or using a Server Software Package contained on the *Novell ZENworks 6.5 Companion 2* CD.

Before upgrading, you must meet all of the requirements outlined in "Preparation" on page 25.

Use the following method to upgrade:

- "Upgrade Using the Program CD" on page 247

  This option is useful for upgrading when you want hands-on configuration of the upgrade options. It uses a GUI upgrade program for NetWare and Windows.

- "Upgrading Using a Server Software Package" on page 250

Upgrade Using the Program CD

To upgrade ZENworks for Servers 3.*x*, review the following sections:

- "Meeting Management and Monitoring Services Upgrade Requirements" on page 247
- "Before Upgrading" on page 247
- "Upgrading Management and Monitoring Services" on page 248

Meeting Management and Monitoring Services Upgrade Requirements

Before you upgrade to ZENworks 6.5 Server Management from ZENworks for Servers 3.*x*, make sure the following requirements are met:

- To upgrade the Site Server, ensure that you have installed the ZENworks for Servers 3.*x* Site Server.
- To upgrade the Server Management Agent™ (NMA), ensure that you have installed NMA 6.0 shipped with ZENworks for Servers 3, or NMA 6.0.1 shipped with ZENworks for Servers 3 SP1, or NMA 6.0.2 shipped with ZENworks for Servers 3 SP2.
- To upgrade the Traffic Analysis Agent, ensure that you have installed the LANalyzer Agent 1.30 shipped with ZENworks for Servers 3, or 1.30.2 shipped with ZENworks for Servers 3 SP2.
- To upgrade the Windows Management Agent (NTMA), ensure you have installed NTMA 3, 3.0.1, or 3.0.2.
- To upgrade the Traffic Analysis Agent for Windows, ensure that you have installed the Traffic Analysis Agent for Windows 3, 3.0.1, or 3.0.2.

Before Upgrading

Before you upgrade to ZENworks 6.5 Server Management from ZENworks for Servers 3.*x*, we recommend that you review the following:

- Verify that you have Admin or equivalent rights to the target Management server.
- Verify that you have stopped all of the ZENworks for Servers services.
- Verify that Sybase is not running on the server where you will be upgrading.
- Ensure that you have installed the required support pack.
- Authenticate to the tree that contains all the NetWare and Windows servers that you want to upgrade.
- Extend the schema. For more information, see "Extending the Schema" on page 65. However, if you have already extended the schema for ZENworks 6.5 Server Management, you do not need to do so again.

Upgrading Management and Monitoring Services

To upgrade Management and Monitoring Services, perform the following tasks in order:

- "Preparing to Upgrade to ZENworks 6.5 Server Management" on page 248
- "Using the Upgrade Program" on page 248

Preparing to Upgrade to ZENworks 6.5 Server Management

To prepare for upgrading ZENworks for Servers 3.*x*:

1. Review the Readme for any last-minute information concerning upgrading.

   Readme_servers.html is located in the \readmes\en directory on the *ZENworks 6.5 Server Management Program* CD, and is also accessible from an installation menu option.

2. Make sure you have met all of the server requirements listed in "Management and Monitoring Services" on page 53.

3. If Java has not been unloaded on the target NetWare servers, unload java.nlm.

   For example, at each NetWare server's console prompt, type:

   ```
   java -exit
   ```

   This will also cause all ZENworks for Servers software to stop running on the server.

4. Select the workstation you will use to perform the upgrade.

5. Continue with "Using the Upgrade Program" on page 248.

Using the Upgrade Program

To upgrade ZENworks for Servers 3.*x* to ZENworks 6.5 Server Management:

1. On the upgrade workstation, insert the *ZENworks 6.5 Server Management Program* CD.

   The startup screen is displayed. If the startup screen is not automatically displayed after inserting the CD, run winsetup.exe at the root of the CD.

   IMPORTANT: If you copied the *Program* CD structure to the upgrade workstation's hard drive, the path between the root of the hard drive and the first CD directory can contain only directory names that

conform to the 8.3-character DOS file naming convention. If any long directory names exist in the path, the upgrade program will not work.

2. Click Management and Monitoring Services.
3. Select the Site Server Upgrade option.

   We recommend that you choose the upgrade option only to upgrade the existing version of ZENworks for Servers 3.*x* to ZENworks 6.5 Servers Management.

   The Management and Monitoring Services Upgrade Installation Wizard launches.
4. Click Next to continue.
5. After you have read and agreed to the Software License Agreement, click Yes to continue with the installation.
6. Select the desired ZENworks 6.5 Server Management components listed in the following table.

   IMPORTANT: You need to have Admin or equivalent rights You need Admin or equivalent rights to target servers. Select the shared folder on all the servers where the ZENworks for Servers 3.*x* agents are installed. Share the folder if you have not already done so.

Server Components	Upgrade On
Management Site Services	Management server
Server Management Agent	All NetWare and Windows servers that you want to upgrade
Traffic Analysis Agent	One server (NetWare or Windows 2000/2003) per segment
Advanced Trending Agent	Install on all NetWare and Windows servers **IMPORTANT:** Advanced Trending Agent is a new agent in ZENworks 6.5 Server Management. If you select the Novell Advanced Trending Agent check box, the agent will be installed on the selected servers. On a Windows server, the Advanced Trending Agent is installed only if either the Server Management Agent or the Traffic Analysis Agent of ZENworks for Servers 3.*x* is installed.

7. Click Next.
8. If you selected to upgrade the Management Site Services, complete the following; otherwise, skip to Step 11:

   8a Browse to and select the volume name of the NetWare server that will be your management site server > click Next.

   8b To start the auto-discovery process, select Start the Autodiscovery Process.

   8c To start the back-end services, select Start the Backend Services on the Server.

   8d To copy the ConsoleOne snap-ins, select Copy ConsoleOne Snap-ins to the Management Site Server.
9. If you selected to upgrade only the Site server, skip to Step 11.
10. If you selected to upgrade Server Management or the LANalyzer Agent in Step 8, complete the following:

    10a Select the NetWare servers and the agents to upgrade on each server > click Next.

10b Select the Windows 2000/2003 servers and the agents to upgrade on each server > click Next.

11 Review the summary list of selections you made in the preceding steps. To change a setting, click Back.

12 Click Finish to upgrade to ZENworks 6.5 Server Management.

If you chose not to start all the back-end services and the autodiscovery process during the upgrade, you need to manually start the back-end services and the autodiscovery process now.

For Managed servers on NetWare, the ZENworks agents are automatically started. For Managed servers on Windows 2000/2003, you must start the SNMP service after you upgrade the agents.

When you upgrade from ZENworks for Servers 3.*x* to ZENworks 6.5 Server Management, new MIBs are added to the \MIBPool directory. However, the migrated Management and Monitoring Services database will not contain the newly added MIBs. For the database to contain these MIBs, you must manually compile them. The console user can select MIB files from the \MIBPool directory in the \MIBServerPool directory. The MIB Compiler compiles the files listed in the \MIBPool directory in the \MIBServerPool directory.

Upgrading Using a Server Software Package

You can use the server software package to upgrade only the following agents of Management and Monitoring Services. Following are the agents you can upgrade:

- Server Management Agent
- Traffic Analysis Agent
- Advanced Trending Agent

The following sections provide detailed instructions for installing the software packages on Management and Monitoring Services agents and Installation Log Files:

- "Automatically Installing Software Packages" on page 250
- "Manually Installing Software Packages" on page 252
- "Installation Log Files" on page 255

Automatically Installing Software Packages

Using the TED component of ZENworks for Servers 6.5, you can automatically distribute and install the software packages to all servers that are running the Subscriber and Policy Package software.

IMPORTANT: You cannot combine software packages into the same Distribution. You must create a separate Distribution object for each software package. This is because each software package unloads the JVM on NetWare, which prevents concurrent processing of multiple software packages.

To automatically install the Management and Monitoring Services Agent .cpk file:

1 Make sure that your server meet the general ZENworks 6.5 Server Management requirements and Policy and Distribution Services is installed on your servers.

2 Copy the .cpk files at ZENworks Server Management - Software Pkgs \ MMS. Note where they are located, you will need the information when you create the associated Distribution.

3 Set the Subscriber's Extract schedule.

4. Create a Distribution for this software package and set the Distribution's Build schedule.
5. Associate the Distribution with a Channel so that it is sent based on the channel schedule. You might need to create the Channel and set the Channel's Send schedule.
6. Associate the Subscribers that you want to receive this software package with the Channel.
7. For the zfs65_mms_mgmtagnt.cpk file, create and initialize the following package processor variables in the Subscriber objects' properties:

   - On NetWare servers:

     Variable = OLDNMAPATH. For Example, sys:\zfs_agnt

     Function = Defines the path of the older version of the agent is installed.

     Variable = TARGETIP. For Example, 127.0.0.1

     Function = Defines the IP address where you want to send the traps

   - On Windows servers:

     Variable = MMSAGENTPATH. For example, c:\zenworks

     Function = Defines the path to install the agents.

     Variable = REPLACEHOSTMIB. For example, 0

     Function = Defines if Microsoft* hostmib implementation is to be replaced by Novell hostmib implementation (1=Yes, 0=No)

     Variable = TARGETIP. For example, 127.0.0.1

     Function = Defines the IP address where you want to send the traps.

8. For the zfs65_mms_lanzagnt.cpk file, create and initialize the following package processor variables in the Subscriber objects' properties:

   - On NetWare servers:

     Variable = MMSAGENTPATH. For Example, sys:\zfs_agnt

     Function = Defines the location where the Traffic Analysis agent is installed.

     Variable = TARGETIP. For Example, 127.0.0.1

     Function = Defines the IP address where you want to send the traps

   - On Windows servers:

     Variable = MMSAGENTPATH. For example, c:\zenworks

     Function = Defines the path to install the agents.

     Variable = GTRENDPATH. For example, c:\winnt

     Function = The subdirectory under the Windows directory (c:\winnt) where the Gtrend files are saved.

     Variable = TARGETIP. For example, 127.0.0.1

     Function = Defines the IP address where you want to send the traps.

9 For the zfs65_mms_trendagnt.cpk file, create and initialize the following package processor variables in the Subscriber objects' properties:

- On NetWare servers:

  Variable = MMSAGENTPATH. For Example, sys:\zfs_agnt

  Function = Defines the location where the Advanced Trending agent is installed.

  Variable = TARGETIP. For Example, 127.0.0.1

  Function = Defines the IP address where you want to send the traps

- On Windows servers:

  Variable = MMSAGENTPATH. For example, c:\zenworks

  Function = Defines the path to install the agents.

  Variable = GTRENDPATH. For example, c:\winnt

  Function = The subdirectory under the Windows directory (c:\winnt) where the Gtrend files are saved.

  Variable = TARGETIP. For example, 127.0.0.1

  Function = Defines the IP address where you want to send the traps.

10 Send the Distribution.

The Distribution is automatically created when the Distribution's Build schedule starts. The Distribution is automatically be sent when the Channel's Send schedule starts. It will be extracted according to the Subscriber server's Extract schedule.

11 Review the log file contained in the Subscriber Servers to verify the success or failure of the installation.

Several components might fail to install, and the Software Package installation still appears as successful, so you should review the success or failure of each component of the software package to ensure that the components needed on a specific server were installed successfully.

Manually Installing Software Packages

You can use the Standalone Package Processor to manually install a software package to a server that is not running the Subscriber and the Policy/Package Agent.

The following software packages can be manually installed in any order:

- Server Management Agent (zfs65_mms_mgmtagnt.cpk)
- Traffic Analysis Agent (zfs65_mms_lanzagnt.cpk)
- Advanced Trending Agent (zfs65_mms_trendagnt.cpk)

The following package-specific .bat and .ncf files are available from these three .zip files to launch the Standalone Package Processor:

- Server Management Agent:

  zfs65_mms_mgmtagnt.bat, which is used to install the Server Management Agent on Windows servers

  zfs65_mms_mgmtagnt.ncf, which is used to install the Server Management Agent on NetWare servers

- Traffic Analysis Agent:

  zfs65_mms_lanzagnt.bat, which is used to install the Traffic Analysis Agent on Windows servers

  zfs65_mms_lanzagnt.ncf, which is used to install the Traffic Analysis Agent on NetWare servers

- Advanced Trending Agent:

  zfs65_mms_trendagnt.bat, which is used to install the Advanced Trending Agent on NetWare servers

  zfs65_mms_trendagnt.ncf, which is used to install the Advanced Trending on Windows servers

The following instructions should be repeated for each NetWare or Windows server where you will install the software package:

1. Make sure your server meet the general ZENworks 6.5 Server Management requirements for the component to be updated.
2. Unzip the zfs65_mgmtmon_standalonepacpro.zip file to one of the following appropriate location:
   - Windows server: c:\
   - NetWare server: sys:\

   The Standalone Package Processor files will be unzipped into a TEMP directory at the root of the server's file system.
3. Copy the .cpk file to be manually installed to the temporary directory where the associated .bat or .ncf file exists. For example:
   - Windows server: c:\temp\zfs65
   - NetWare server: sys:\temp\zfs65

   IMPORTANT: You cannot install on a Linux server.
4. If JRE 1.3.1 is not installed on the target Windows server, download the JRE and install it.
5. In the .bat files corresponding to zfs65_mms_mgmtagnt.cpk, zfs65_mms_lanzagnt.cpk, or the zfs65_mms_trendagnt.cpk, change the JRE path to *JRE_installation_path*\JRE\BIN on each of the target Windows server where JRE 1.3.1 is installed.
6. Install the agents.

   To install the zfs65_mms_mgmtagnt.cpk:

   - On NetWare, enter the following at the console prompt:

     sys:\temp\zfs65\netware\zfs65_mms_mgmtagnt.ncf

   - On Windows, enter the following at the command prompt:

     c:\temp\zfs65\win\zfs65_mms_mgmtagnt.bat

   To install the zfs65_mms_lanzagnt.cpk:

   - On NetWare, enter the following at the console prompt:

     sys:\temp\zfs65\netware\zfs65_mms_lanzagnt.ncf

- On Windows, enter the following at the command prompt:

  c:\temp\zfs65\win\zfs65_mms_lanzagnt.bat

To install the zfs65_mms_trendagnt.cpk:

- On NetWare, enter the following at the console prompt:

  sys:\temp\zfs65\netware\zfs65_mms_trendagnt.ncf

- On Windows, enter the following at the command prompt:

  c:\temp\zfs65\win\zfs65_mms_trendagnt.bat

7 Determine which components of the software package were installed successfully by reviewing the log file created during installation.

Variables Used by NCF and BAT Files for Manual Installation

This section lists the variables used by the .bat and .ncf files during manual installation of a support pack software package.

The following variables are grouped under the software package headings for the applicable .bat and .ncf files.

zfs65_mms_mgmtagnt.cpk

This software package for Server Management Agent uses variables for the following .BAT or .NCF files:

- zfs65_mms_mgmtagnt.ncf

  Variable = OLDNMAPATH where Default Value = sys:\zfs_agnt

  Function = Defines the path of the older version of the agent if installed.

  Variable = TARGETIP where Default Value = 127.0.0.1

  Function = Defines the IP address where you want to send the traps

- zfs65_mms_mgmtagnt.bat

  Variable = MMSAGENTPATH where Default Value = c:\zenworks

  Function = Defines the complete path to install the agents.

  Variable = REPLACEHOSTMIB where Default Value = 0

  Function = Defines if Microsoft* hostmib implementation is to be replaced by Novell hostmib implementation (1=Yes, 0=No).

zfs65_mms_lanzagnt.cpk

This software package for Management Agent uses variables for the following .BAT or .NCF files:

- zfs65_mms_lanzagnt.ncf

  Variable = MMSAGENTPATH where Default Value = sys:\zfs_agnt

  Function = Defines the location where the Traffic Analysis Agent is installed.

  Variable = TARGETIP where Default Value = 127.0.0.1

  Function = Defines the IP address where you want to send the traps

- zfs65_mms_mgmtagnt.bat

  Variable = MMSAGENTPATH where Default Value = c:\zenworks

  Function = Defines the complete path to install the agents.

  Variable = GTRENDPATH where Default Value = GTREND

  Function = The sub-directory under the Windows directory (c:\winnt) where the Gtrend files are saved.

  Variable = TARGETIP where Default Value = 127.0.0.1

  Function = Defines the IP address where you want to send the traps.

zfs65_mms_trendagnt.cpk

This software package for Site Management Server uses variables for the following .BAT or .NCF files:

- zfs65_mms_mgmtagnt.ncf

  Variable = MMSAGENTPATH where Default Value = sys:\zfs_agnt

  Function = Defines the location where the Advanced Trending Agent is installed.

  Variable = TARGETIP where Default Value = 127.0.0.1

  Function = Defines the IP address where you want to send the traps

- zfs65_mms_trendagnt.bat

  Variable = MMSAGENTPATH where Default Value = c:\zenworks

  Function = Defines the complete path to install the agents.

  Variable = TARGETIP where Default Value = 127.0.0.1

  Function = Defines the IP address where you want to send the traps.

Installation Log Files

A log file, created by the package processor, can be found in the following location for zfs65_mms_mgmtagnt.cpk, zfs65_mms_lanztagnt.cpk and zfs65_mms_trendagnt.cpk:

- On NetWare servers: sys:\etc\zfs_mms_agntinstall.log
- On Windows servers: c:\winnt\zfs_mms_agntinstall.log

15 Upgrading from ManageWise 2.7

This section provides you information on how to upgrade ManageWise® 2.7 to ZENWorks® 6.5 Management and Monitoring Services.

Overview of ManageWise 2.7 and ZENworks 6.5 Management and Monitoring Services Components

Before you upgrade ManageWise 2.7 to ZENworks 6.5, you should understand the differences in the components of ManageWise 2.7 and ZENworks 6.5 Management and Monitoring Services to help you better plan your upgrade from ManageWise 2.7. This section gives you information on the following components:

- "ManageWise 2.7 Components" on page 257
- "ZENworks 6.5 Management and Monitoring Services Components" on page 257

ManageWise 2.7 Components

The architecture of ManageWise 2.7 includes the following components:

- **ManageWise Console**: The ManageWise 2.7 console is a graphical interface that runs on a Windows* 95, Windows 98 or Windows NT* 4.*x* workstation. It provides services for managing networking resources, servers, routers, and workstations.
- **ManageWise Server**: The ManageWise 2.7 server contains the NetWare® Loadable Module™ (NLM™) to run discovery.
- **Server Management Agents**: The agents run on the NetWare and Windows NT servers.
- **Traffic Analysis Agents**: The agents run on NetWare servers.

ZENworks 6.5 Management and Monitoring Services Components

The architecture of ZENworks 6.5 includes the following components:

- **Management site server**: The server contains all the discovery NLM software and also the other components like Alarm Manager, MIB Tools, Atlas Manager, and Remote Ping. Some of these components were also found in the ManageWise 2.7 console.
- **ZfS console**: ZENworks 6.5 uses Novell ConsoleOne® as the GUI where you can manage all your network resources.
- **Server Management Agent**: The agents run on NetWare, Windows 2000/2003, and Linux servers.
- **Traffic Analysis Agent**: In ZENworks 6.5, Traffic Analysis Agents run on both NetWare and Windows 2000/2003 servers.

Upgrading from ManageWise 2.7

Because the components of ManageWise 2.7 and ZENworks 6.5 are different, this section provides you information on how each of the components of ManageWise 2.7 are upgraded to components of ZENworks 6.5.

This section contains the following information:

Upgrading the ManageWise 2.7 Server to a ZENworks 6.5 Site Server

If the server meets the installation requirements for the ZENworks 6.5 site server, then you can install the ZENworks 6.5 site server on the ManageWise 2.7 server. The ZENworks 6.5 site server will contain all the discovery NLM software and the other components like the Alarm Manager, Atlas Manager, and MIB Tools. After you upgrade to the ZENworks 6.5 site server, you will not be able to use the data on the ManageWise server or the data on the ManageWise console with the ZENworks 6.5 site server. You will not be able to access the data on the ManageWise server or ManageWise console from the ZENworks 6.5 site server. You will need to run discovery again and re-configure your site server.

Upgrading the ManageWise 2.7 Console to the ZENworks 6.5 Console

To upgrade the ManageWise 2.7 console, you need to install the ConsoleOne snap-ins for ZENworks 6.5.

Upgrading ManageWise 2.7 Server Management Agents

You can upgrade the ManageWise 2.7 server management agents by installing the ZENworks 6.5 server management agents if the server where you want to install the ZENworks 6.5 agents meets the installation requirements.

Upgrading ManageWise 2.7 Traffic Analysis Agents

The Traffic Analysis Agents for ZENworks 6.5 run on both NetWare and Windows 2000/2003 servers. To upgrade, you can install the ZENworks 6.5 Traffic Analysis Agents if the server where you want to install the ZENworks 6.5 agents meets the installation requirements.

If you have old trend data from the ManageWise 2.7 Traffic Analysis Agents, then you will need to migrate the data for ZENworks 6.5 Traffic Analysis Agents to use them. For more information, see "Migrating Trend Files" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

Upgrading ManageWise 2.7 in Phases

You can choose to install ZENworks 6.5 in phases and continue to retain the ManageWise 2.7 setup to manage your network. Install ZENworks 6.5 on a server other than the ManageWise server. The ManageWise server and the ZENworks 6.5 site server can exist on the same network but cannot exist on the same machine. After you have installed the ZENworks 6.5 site server, you need to run discovery and configure your network.

The ZENworks 6.5 site server can work with the existing ManageWise agents. You can upgrade the agents in the later phases. However, you need to manually add the IP address of the ZENworks 6.5 site server in the traptarg.cfg file in the sys:\etc directory. For more information, see "Editing the traptarg.cfg File Manually (Management Agent for NetWare Only)" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

If you have installed the ManageWise server management agents on a Windows 2000/2003 server, you cannot install the ZENworks 6.5 agents. You have to uninstall the ManageWise agents before you install the ZENworks 6.5 agents.

The ZENworks 6.5 management console (ConsoleOne) and the ManageWise console can coexist on the same workstation, if the installation requirements for the ZENworks 6.5 console are met. For more information, see Chapter 3, "Prerequisites," on page 31.

V Interoperability

Interoperability is defined as two (or more) products that interact one with another in the same network environment (for example, the same tree, the same server, and so on).

Novell® ZENworks® 6.5 Desktop Management and ZENworks 6.5 Server Management, when installed to the same network, lets you centrally manage and distribute software, files, and applications, monitor the network's usage and health, and enforce network policies. However, when upgraded or installed together, Desktop Management and Server Management can have interoperability issues with each other and with their previous versions.

The following sections explain the interoperability issues in ZENworks 6.5:

16 Interoperability in Policy and Distributions Services

Review the following sections to understand Policy and Distribution Services interoperability between Novell® ZENworks® 6.5 Server Management and previous versions of ZENworks for Servers:

Version Interoperability

The following sections explain interoperability between ZENworks 6.5 Server Management and previous versions of ZENworks for Servers with respect to the software versions:

Interoperability with ZENworks for Servers 2

You cannot have interoperability between ZENworks for Servers 2 servers and ZENworks 6.5 Server Management servers, because directly upgrading between these versions is not supported. However, ZENworks for Servers 2 and ZENworks 6.5 Server Management can coexist in the same network, but not be running on the same server.

Schema extensions are additive, so version 6.5 schema extensions would be ignored by ZENworks for Servers 2 components, and ZENworks 6.5 Server Management would ignore version 2 schema extensions it no longer uses.

Interoperability with ZENworks for Servers 3.*x*

You can have distribution and policy interoperability between ZENworks for Servers 3.0.2 Interim Release 1 servers and ZENworks 6.5 Server Management servers. This means that if you want ZENworks 6.5 Server Management and ZENworks for Servers 3.*x* to work together, all ZENworks for Servers 3.*x* servers must be updated to version 3.0.2 Interim Release 1 before you can begin an incremental upgrade. For instructions, see Technical Information Document 2968433 (http://support.novell.com/cgi-bin/search/searchtid.cgi?/2968433.htm).

A single server cannot concurrently run ZENworks for Servers 3.*x* and ZENworks 6.5 Server Management software. For example, you cannot have a ZENworks 6.5 Server Management Distributor and a ZENworks for Servers 3.*x* Subscriber running on the same server.

Tree to Tree Distributions

Desktop Application Distributions cannot be sent from ZENworks 6.5 or later Distributors to ZENworks for Servers 3.0.2 Subscribers because of new schema extensions for ZENworks 6.5.

New Features Not Recognized

Features new in ZENworks 6.5 Server Management are simply ignored by ZENworks for Servers 3.0.2 Interim Release 1 Subscribers that receive version 6.5 Distributions. For example:

Dir Sync Granularity
Pre and Post Execution Actions in Distributions
MSI Distributions

However, the new Prohibited File policy can be sent from a version 6.5 Distributor and extracted and enforced on a version 3.0.2 Interim Release 1 Subscriber.

Issues When Both Installing and Upgrading

If you are upgrading your ZENworks for Servers 3.*x* servers and also have new servers where ZENworks for Servers has not yet been installed, you must do the following to prevent interoperability problems:

1. Do either of the following first, then do the other:
   - Install ZENworks 6.5 Server Management to any new Distributor servers.
   - Upgrade all ZENworks for Servers 3.*x* Distributor servers to ZENworks 6.5.

   Installing the new Distributors first might be easier.
2. Do either of the following next, then do the other:
   - Upgrade the existing ZENworks for Servers 3.*x* Subscribers to version 6.5.
   - Install ZENworks 6.5 Server Management to the new Subscriber servers.

   It doesn't matter whether Subscriber servers are installed or upgraded first. However, to complete upgrading servers where Novell ConsoleOne® is installed on a server, you must use the installation program (the upgrade program does not update the ConsoleOne snap-ins). Therefore, you could upgrade first, then update the ConsoleOne snap-ins on those existing 3.*x* servers while installing to the new Subscriber servers.

These two steps ensure that all Distributors and Subscribers will be interoperable.

17 Interoperability in Inventory

If you are planning to run the Server Inventory component of Novell® ZENworks® 6.5 Server Management in the same environment as the Workstation Inventory component of ZENworks 6.5 Desktop Management, you must first understand and plan for the compatibility issues described in this section before upgrading or installing these products.

The following prerequisites are especially applicable to Inventory interoperability:

- Follow top-down deployment approach to upgrade the Inventory servers in the Inventory tree. Always begin at the topmost level server (Root Server) and proceed with the next lower-level servers.
- If you have ZENworks 6.5 Desktop Management and ZENworks 6.5 Server Management installed on the same machine, and if you upgrade ZENworks 6.5 Desktop Management to ZENworks 6.5 Desktop Management Support Pack 1 (SP1), you must upgrade ZENworks 6.5 Server Management to ZENworks 6.5 Server Management SP1, and vice versa.
- ZENworks 6.5 Desktop Management and ZENworks 6.5 Server Management can use the same Inventory database (Sybase, Oracle, or MS SQL). If you have installed the Inventory database as a part of the ZENworks 6.5 Server Management installation, you do not need to install an Inventory database as a part of the ZENworks 6.5 Desktop Management installation, or vice versa.
- To administer Server Inventory and Workstation Inventory, you must install the Novell ConsoleOne® Inventory snap-ins for both ZENworks 6.5 Server Management and ZENworks 6.5 Desktop Management.
- If an Inventory server receives Server Inventory scans either directly from inventoried servers or through roll-up, you must install ZENworks 6.5 Server Management on this server.
- If an Inventory server should receive Workstation Inventory scans either directly from inventoried workstations or through roll-up, you must install ZENworks 6.5 Desktop Management on this server.
- The following objects and policies apply to Inventory in both ZENworks 6.5 Server Management and ZENworks 6.5 Desktop Management:

  Database object
  Inventory Service object
  Dictionary Update policy
  Roll-Up policy
  ZENworks Database policy

You should make sure that each of the above requirements are met in order to ensure Inventory interoperability.

To set up Inventory interoperability, review the following sections:

- "Interoperability Between ZENworks 6.5 Server Management and ZENworks 6.5 Desktop Management" on page 264
- "Interoperability Between ZENworks 6.5 Server Management and ZENworks for Servers 3.0.2 Installed on Multiple Servers" on page 271
- "Interoperability Among ZENworks 6.5 Server Management, ZENworks 6.5 Desktop Management, and the Earlier ZENworks Versions" on page 272

Interoperability Between ZENworks 6.5 Server Management and ZENworks 6.5 Desktop Management

- "Interoperability Between ZENworks 6.5 Server Management and ZENworks 6.5 Desktop Management Installed on the Same Server" on page 264
- "Interoperability Between ZENworks 6.5 Server Management and ZENworks 6.5 Desktop Management Installed on Multiple Servers" on page 264

Interoperability Between ZENworks 6.5 Server Management and ZENworks 6.5 Desktop Management Installed on the Same Server

On the same server, the Server Inventory component of ZENworks 6.5 Server Management is interoperable only with the Workstation Inventory component of ZENworks 6.5 Desktop Management, and vice versa.

You must install ZENworks 6.5 Server Management on the same file system location where you install ZENworks 6.5 Desktop Management, and vice versa.

Interoperability Between ZENworks 6.5 Server Management and ZENworks 6.5 Desktop Management Installed on Multiple Servers

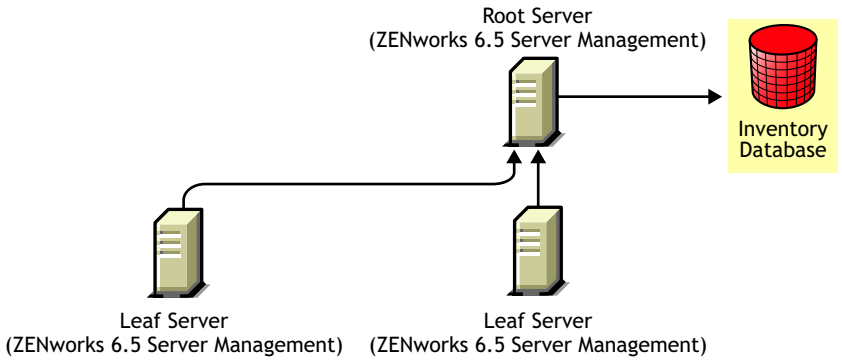
This section includes installation scenarios that demonstrate interoperability between ZENworks 6.5 Server Management and ZENworks 6.5 Desktop Management when these two capabilities are installed on different servers in the same network.

- "Scenario 1: Installing Desktop Management in a Server Management Environment" on page 265
- "Scenario 2: Installing Server Management in a Desktop Management Environment" on page 266
- "Scenario 3: Rolling Up Inventory Across Trees" on page 269

Scenario 1: Installing Desktop Management in a Server Management Environment

In this scenario, all the Inventory servers in your Inventory tree have only ZENworks 6.5 Server Management installed.

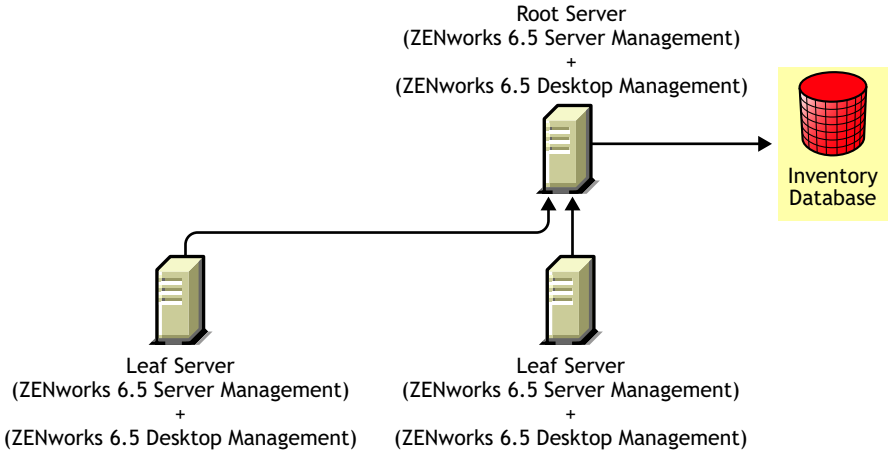
This scenario is depicted in the following figure.



You can install ZENworks 6.5 Desktop Management on ZENworks 6.5 Server Management using either of two methods:

- **Method 1:** Install ZENworks 6.5 Desktop Management on all the ZENworks 6.5 Server Management Inventory servers in a top-down installation method. Always begin the installation at the topmost level Inventory server and proceed with the next lower-level Inventory servers. In the sample scenario, install ZENworks 6.5 Desktop Management first on the Root Server and then on the Leaf Servers. For more information, see "Installing the ZENworks Desktop Management Server" in the *Novell ZENworks 6.5 Desktop Management Installation Guide*.

  This scenario is depicted in the following figure.



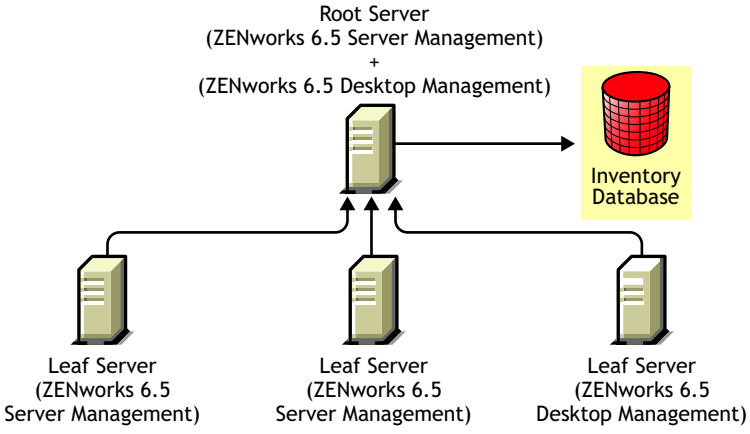
- **Method 2:** Perform the following tasks in the order listed:

  1. Install ZENworks 6.5 Desktop Management on the Root Server. For more information, see "Installing the ZENworks Desktop Management Server" in the *Novell ZENworks 6.5 Desktop Management Installation Guide*.
  2. Add another Leaf server with ZENworks 6.5 Desktop Management installed, and configure it to roll up to the Root Server. For more information, see "Installing the ZENworks

Desktop Management Server" in the *Novell ZENworks 6.5 Desktop Management Installation Guide*.

The ZENworks 6.5 Server Management Leaf Server receive the .str files from the inventoried servers attached to it and the ZENworks 6.5 Desktop Management Leaf Servers receive the .str files from the inventoried workstations attached to them. The ZENworks 6.5 Server Management and the ZENworks 6.5 Desktop Management Leaf Servers roll-up the inventory information to the Root Server.

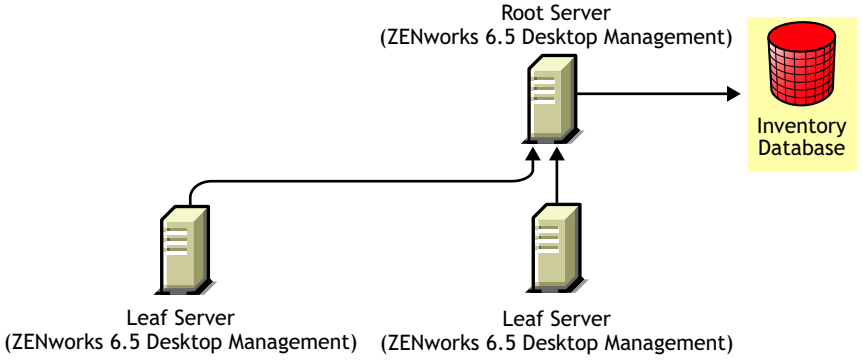
This scenario is depicted in the following figure.



Scenario 2: Installing Server Management in a Desktop Management Environment

In this scenario, all the Inventory servers in your Inventory tree have only ZENworks 6.5 Desktop Management installed.

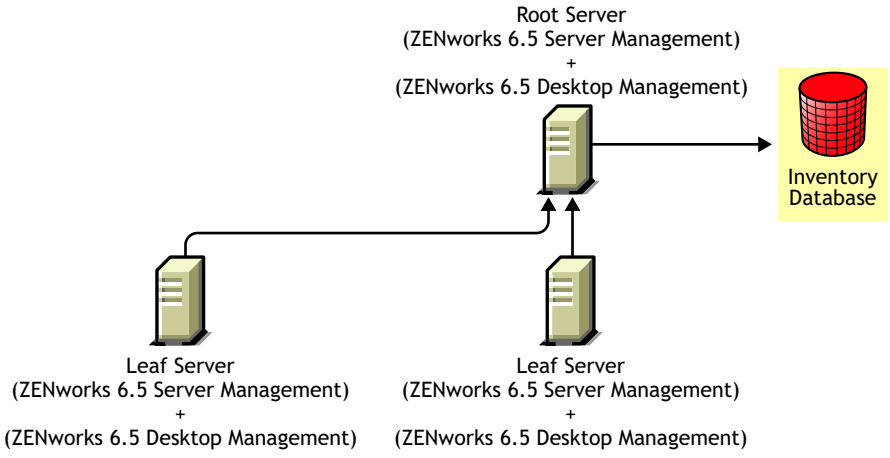
This scenario is depicted in the following figure.



You can install ZENworks 6.5 Server Management on ZENworks 6.5 Desktop Management using either of two methods:

- **Method 1:** Install ZENworks 6.5 Server Management on all of the ZENworks 6.5 Desktop Management Inventory servers in a top-down installation method. Always begin the installation at the topmost-level Inventory server and proceed with the next lower-level Inventory servers. In the sample scenario, install ZENworks 6.5 Server Management first on the Root Server and then on the Leaf Servers. To install ZENworks 6.5 Server Management, see Chapter 6, "Policy-Enabled Server Management Installation," on page 61.

This scenario is depicted in the following figure.

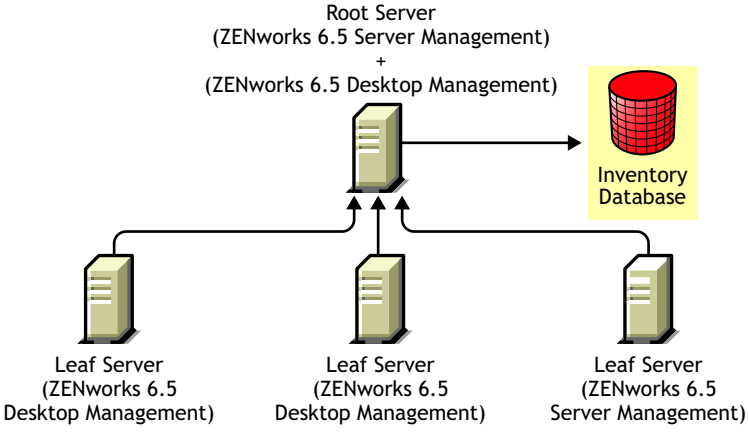


- **Method 2:** Perform the following tasks in the order listed:

  1. Install ZENworks 6.5 Server Management on the Root server. To install ZENworks 6.5 Server Management, see "Policy-Enabled Server Management Installation".
  2. Add another Leaf Server with ZENworks 6.5 Server Management installed, and configure the Leaf Server to roll up to the Root Server.To install ZENworks 6.5 Server Management, see "Policy-Enabled Server Management Installation".

  The ZENworks 6.5 Server Management Leaf Server will receive the .str files from the inventoried servers attached to it and the ZENworks 6.5 Desktop Management Leaf Servers will receive the .str files from the inventoried workstations attached to them. The ZENworks 6.5 Server Management and the ZENworks 6.5 Desktop Management Leaf Servers will roll-up the inventory information to the Root Server.

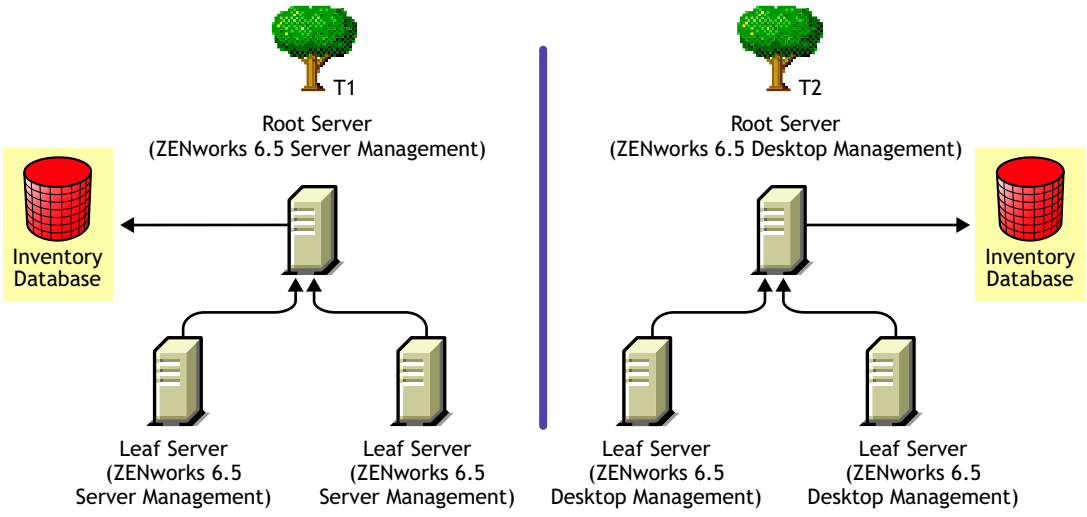
  This scenario is depicted in the following figure.



Scenario 3: Rolling Up Inventory Across Trees

In this scenario, there are two eDirectory trees: T1 and T2. ZENworks 6.5 Server Management is installed on T1 and ZENworks 6.5 Desktop Management is installed on T2. The Inventory trees in T1 and T2 must be merged to have one Root Server to receive both server and workstation inventory information.

This scenario is illustrated in the following figure.



T1 and T2 can be merged using either of two methods:

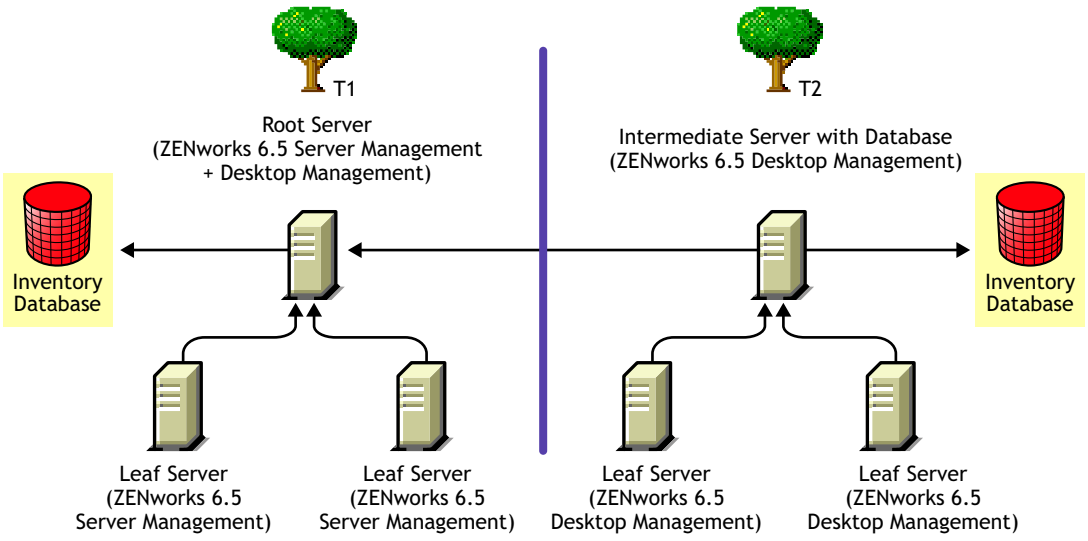
- "Merge Method 1" on page 269
- "Merge Method 2" on page 270

Merge Method 1

You can use the following general steps to merge the inventory data in T2 with the inventory data in T1:

1. Install ZENworks 6.5 Desktop Management on Root Server in T1. For more information, see "Installing the ZENworks Desktop Management Server" in the *Novell ZENworks 6.5 Desktop Management Installation Guide*.
2. Change the role of the Root Server in T2 to Intermediate Server with Database and configure it to roll up to the Root Server in T1. For more information, see "Changing the Role of the Inventory Server" in the *Novell ZENworks 6.5 Desktop Management Administration Guide*.

This scenario is illustrated in the following figure.

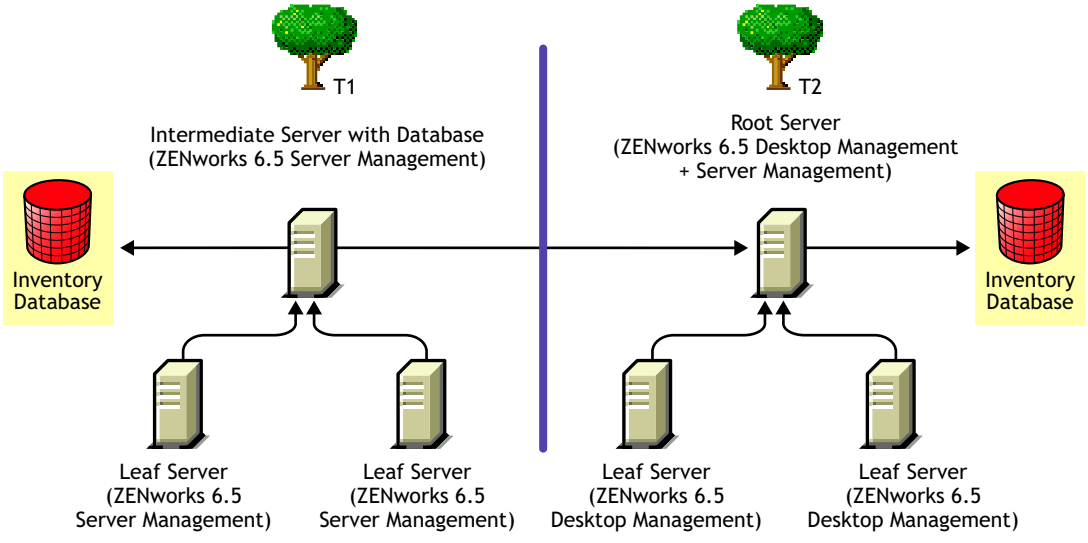


Merge Method 2

You can use the following general steps to merge the inventory data in T1 with the inventory data in T2:

1. Install ZENworks 6.5 Server Management on Root Server in T2. For more information, see Chapter 6, "Policy-Enabled Server Management Installation," on page 61.
2. Change the role of the Root Server in T1 to Intermediate Server with Database and configure it to roll up to the Root Server in T2. For more information, see "Changing the Role of the Inventory Server" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

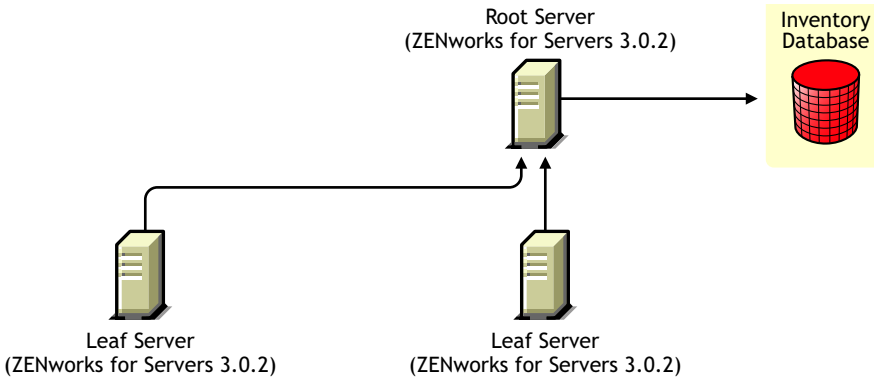
This is illustrated in the following figure.



Interoperability Between ZENworks 6.5 Server Management and ZENworks for Servers 3.0.2 Installed on Multiple Servers

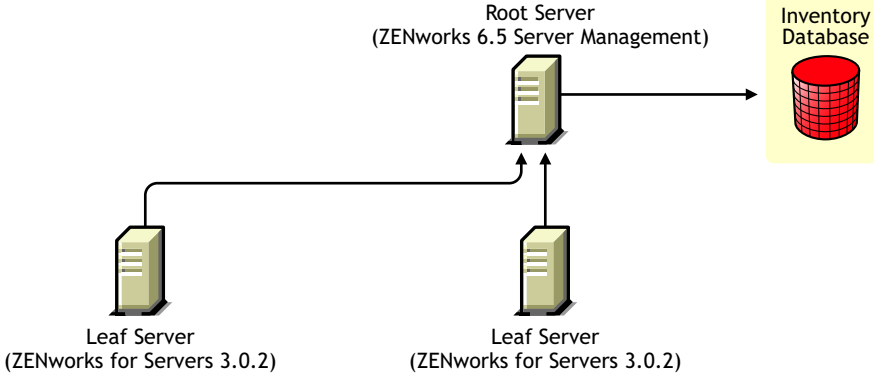
In this scenario, there are two Leaf Servers and a Root Server having ZENworks for Servers 3.0.2 installed. The Leaf Servers roll up the inventory information to the Root Server.

This scenario is depicted in the following figure.



To achieve interoperability between ZENworks 6.5 Server Management and ZENworks for Servers 3.0.2 installed on multiple Inventory servers, you must upgrade the Root Server to ZENworks 6.5 Server Management. For more information about upgrading to ZENworks 6.5 Server Management, see Chapter 12, “Server Inventory,” on page 221.

This is illustrated in the following figure.



Interoperability Among ZENworks 6.5 Server Management, ZENworks 6.5 Desktop Management, and the Earlier ZENworks Versions

- “Interoperability Among ZENworks 6.5 Server Management, ZENworks Desktop 6.5 Management, and the Earlier ZENworks Versions Installed on a Single Server” on page 272
- “Interoperability Among ZENworks 6.5 Server Management, ZENworks Desktop 6.5 Management, and the Earlier ZENworks Versions Installed on Multiple Servers” on page 273

Interoperability Among ZENworks 6.5 Server Management, ZENworks Desktop 6.5 Management, and the Earlier ZENworks Versions Installed on a Single Server

The following ZENworks versions or combinations of ZENworks versions might exist on a particular server where you want Inventory for both ZENworks 6.5 Server Management and ZENworks 6.5 Desktop Management to be running on the same server:

ZENworks for Desktops 4.0.1
ZENworks for Desktops 4.0 SP1b
ZENworks for Servers 3.0.2
ZENworks for Servers 3.0 SP2
ZENworks for Desktops 4.0.1 and ZENworks for Servers 3.0.2
ZENworks for Desktops 4.0.1 and ZENworks for Servers 3.0 SP2
ZENworks for Desktops 4.0 SP1b and ZENworks for Servers 3.0.2
ZENworks for Desktops 4.0 SP1b and ZENworks for Servers 3.0 SP2
ZENworks for Desktops 3.2 SP3

Except for ZENworks for Desktops 3.2 SP3, you can first upgrade or install either ZENworks 6.5 Server Management or ZENworks 6.5 Desktop Management, then later upgrade or install the other. Then Inventory will be interoperable between ZENworks 6.5 Server Management and ZENworks 6.5 Desktop Management.

For where ZENworks for Desktops 3.2 SP3 exists, follow these steps:

1. Install ZENworks 6.5 Desktop Management.
2. Install ZENworks 6.5 Server Management.

For more information about:

- Installing ZENworks 6.5 Desktop Management, see "Installation" in the *Novell ZENworks 6.5 Desktop Management Installation Guide*.
- Upgrading ZENworks 6.5 Desktop Management, see "Upgrade" in the *Novell ZENworks 6.5 Desktop Management Installation Guide*.
- Installing ZENworks 6.5 Server Management, see Chapter 6, "Policy-Enabled Server Management Installation," on page 61.
- Upgrading ZENworks 6.5 Server Management, see "Upgrade" on page 117.

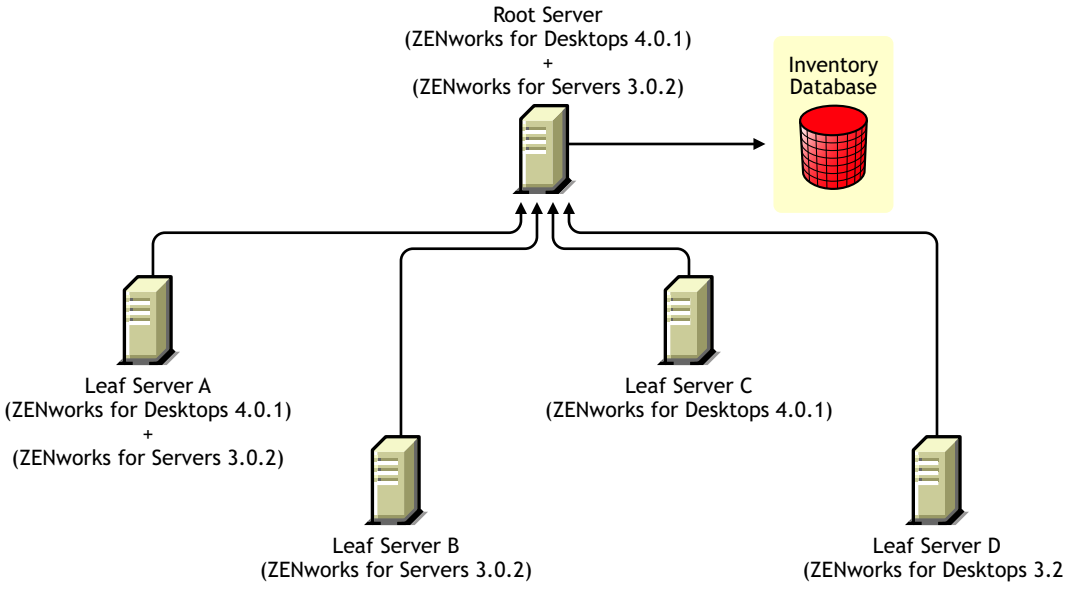
Interoperability Among ZENworks 6.5 Server Management, ZENworks Desktop 6.5 Management, and the Earlier ZENworks Versions Installed on Multiple Servers

In this scenario, there are four Leaf Servers namely, A, B, C, and D, on which the following versions of ZENworks are installed:

Leaf Server	Installed ZENworks Version
Leaf Server A	ZENworks for Desktops 4.0.1 and ZENworks for Servers 3.0.2
Leaf Server B	ZENworks for Servers 3.0.2
Leaf Server C	ZENworks for Desktops 4.0.1
Leaf Server D	ZENworks for Desktops 3.2

The Leaf Servers roll up the inventory information to a Root Server having ZENworks for Desktops 4.0.1 and ZENworks for Servers 3.0.2 installed.

This scenario is depicted in the following figure.



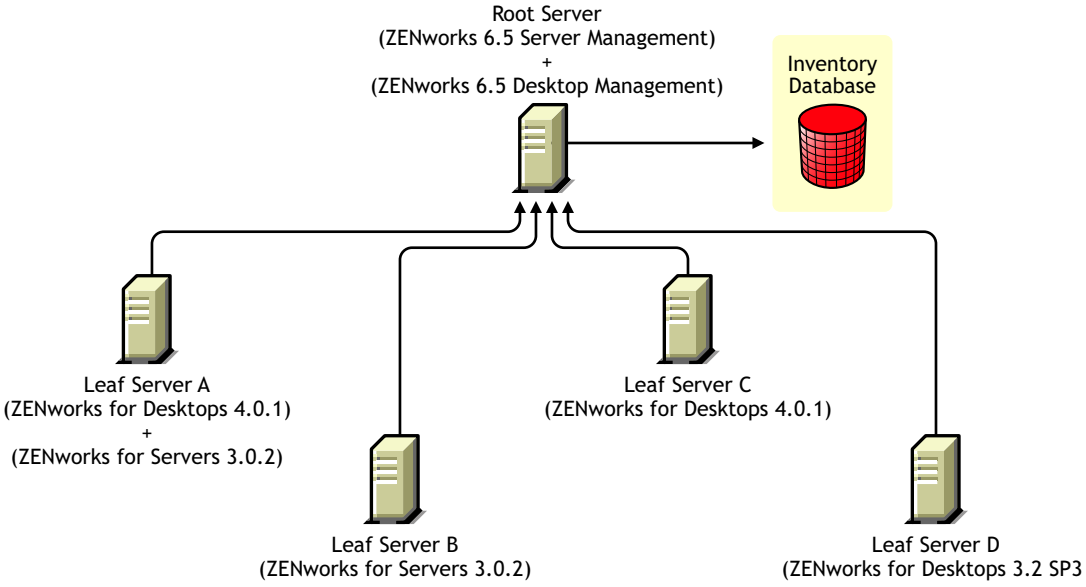
You can use the following general steps to achieve interoperability Among ZENworks 6.5 Server Management, ZENworks Desktop 6.5 Management, and the earlier versions of ZENworks installed on multiple Inventory servers:

1. On the Root Server, install ZENworks 6.5 Desktop Management and ZENworks 6.5 Server Management.

   For more information about installing ZENworks 6.5 Desktop Management, see "Installation" in the *Novell ZENworks 6.5 Desktop Management Installation Guide*. For more information about installing ZENworks 6.5 Server Management, see Chapter 6, "Policy-Enabled Server Management Installation," on page 61.

2. Upgrade Leaf Server D from ZENworks for Desktops 3.2 to ZENworks for Desktops 3.2 SP3. For more information, see "Upgrade" in the *Novell ZENworks 6.5 Desktop Management Installation Guide*.

This is illustrated in the following figure.



18 Interoperability in Remote Management

Remote Management has interoperability between Novell® ZENworks® 6.5 Server Management and ZENworks for Desktops 4.*x* or ZENworks for Servers 3.*x* as follows:

- The Remote Management console of ZENworks 6.5 Server Management is interoperable with ZENworks for Servers 3.*x* Remote Management Agent only.
- The Remote Management console of ZENworks 6.5 Server Management is interoperable with ZENworks for Desktops 4.*x* Remote Management Agent in the password mode of authentication only, and you can perform Remote Control and Remote View operations.
- Use the Remote Management console of ZENworks 6.5 Desktop Management to control ZENworks for Desktops 4.*x*, ZENworks 6.5 Desktop Management workstations, and ZENworks 6.5 Server Management servers.

19 Interoperability with Other Products

Remote Management

If you choose to install Mirror Driver on a Windows 2000/2003 server when installing the Remote Management component of Novell® ZENworks® 6.5 Server Management, it can coexist with other vendor products offering remote management functionality.

This enables you to use other vendor products offering remote management functionality in the same environment with the Remote Management component of ZENworks 6.5 Server Management.

Novell Clustering Services

ZENworks Server Management can be installed in an existing Novell Clustering Services environment. For more information, see Appendix E, "ZENworks Server Management in a Clustered Environment," on page 327.

Clustering is not supported for Remote Management in ZENworks 6.5 Server Management.

Nterprise Branch Office

In ZENworks 6.5 Server Management, interoperability between Policy and Distribution Services and Nterprise Branch Office™ 2.0 is not supported, except for ZENworks for Servers 3.*x* Subscribers where Interim Release 1 has been applied. Then, a ZENworks 6.5 Server Management Distributor can send version 6.5 Distributions to ZENworks for Servers 3.*x* Interim Release 1 Subscribers.

For information on obtaining and installing Interim Release 1, see Technical Information Document 2968433 (http://support.novell.com/cgi-bin/search/searchtid.cgi?/2968433.htm).

For information on Nterprise Branch Office, see "Integrating Nterprise Branch Office with ZENworks Tiered Electronic Distribution" (http://www.novell.com/documentation/lg/nbo2/index.html?page=/documentation/lg/nbo2/setupguide/data/aigi61a.html) in the *Novell Nterprise Branch Office Setup Guide*.

VI Uninstallation

The following sections explain how to uninstall the Novell® ZENworks® Server Management software.

20 Uninstalling Policy and Distribution Services

Novell® ZENworks® Policy and Distribution Services cannot be uninstalled automatically. You must manually remove the ZENworks Server Management software, its Novell eDirectory™ objects, and the Novell ConsoleOne® files.

You need to remove objects, files, and information on every server and workstation where ZENworks Server Management components were installed.

To manually uninstall ZENworks Server Management, proceed in the following order:

1. "Uninstalling the eDirectory Objects" on page 281
2. "Uninstalling the Software on NetWare Servers" on page 282
3. "Uninstalling the Software on Windows Servers" on page 284
4. "Uninstalling the Software on Linux and Solaris Servers" on page 285
5. "Uninstalling the Snap-Ins from ConsoleOne" on page 286
6. "Uninstalling the Web Components" on page 287

Uninstalling the eDirectory Objects

Removing ZENworks eDirectory objects is optional.

If you do not want to remove the eDirectory objects, follow only the steps to gather information concerning working directory locations. You need that information when deleting the software.

To remove the ZENworks eDirectory objects:

1. In ConsoleOne, right-click the Service Location Package, then click Properties.
2. If the Tiered Electronic Distribution policy is enabled, select the policy, click Properties, then note the locations and names of any default log files and working directories that have been specified.

   You need this information later when you remove the software files.
3. In ConsoleOne, locate a container holding Tiered Electronic Distribution objects.

   3a. Note the locations and names of the log files and working directories that are specified in the Tiered Electronic Distribution object properties.

   You need this information later when you remove the software files (see "Uninstalling the Software on NetWare Servers" on page 282, "Uninstalling the Software on Windows Servers" on page 284, and "Uninstalling the Software on Linux and Solaris Servers" on page 285).

3b Right-click a Tiered Electronic Distribution object, click Delete NDS Object, then click Yes.

Do this for each of the following Tiered Electronic Distribution objects that exist:

Distributor
Distribution
Channel
Subscriber
External Subscriber
Subscriber Group

4 Repeat Step 3 for all Tiered Electronic Distribution objects in the tree.

5 Locate a container holding ZENworks Server Management Policy Packages, then delete all policy package objects.

6 Repeat Step 5 for all container objects in the tree containing policy package objects.

7 Click the plus sign for Server Software Packages so that all package components are visible.

8 Select a software package.

8a Right-click one of its component objects, click Delete, then click Yes.

8b Repeat Step 8a for each component under the selected package.

8c Right-click the software package object, click Remove, then click Yes.

9 Repeat Step 8 for each software package.

10 If you want to remove the Server Management database, right-click the appropriate Database object, click Delete NDS Object, then click Yes.

Make sure you have selected the correct Database object, because there could be other Database objects, such as for Server Inventory or ZENworks for Desktops.

11 Exit ConsoleOne.

Uninstalling the Software on NetWare Servers

You must remove the ZENworks Server Management software files from NetWare® servers.

To remove the software files:

1 At a server console, unload all ZENworks Server Management Java processes (use EXIT at the ZENworks Server Management command line prompt).

2 At the Sybase prompt, type `q` to stop the database.

3 If you want to remove the Policy and Distribution database file (zfslog.db), delete the \database directory.

WARNING: Do not delete the \database directory if it is being used by ZENworks for Desktops, Server Inventory, or Management and Monitoring Services.

4 Using a file manager, delete the \zenworks\pds directory.

This deletes the Distributor, Subscriber, and Server Policies software. It also deletes all working directories, including Distribution files, if you used the default working directory paths.

WARNING: Do not delete the \pds directory if the \database directory is located under it and the database is being used by ZENworks for Desktops, Server Inventory, or Management and Monitoring Services. Instead, delete all of the other directories without deleting the \pds directory.

If you have used a different installation path than the default listed above, open the \system\zenworks.properties file to find where the \pds directory is located.

5. Delete the zfsversion.class and zfsversion.ncf files from the \zenworks directory.

   WARNING: Do not delete the \zenworks directory. It might be shared by other Novell software programs.

6. Delete the \zenworks.properties file from the \system directory.

   WARNING: Do not delete the zenworks.properties file if ZENworks Desktop Management is installed. Server Management and Desktop Management share this file.

7. Delete the following:

   - All log files created by the Server Policies, Server Software Packages, and Tiered Electronic Distribution components
   - Any working directories that were created in another location besides the \zenworks\pds\ted directory
   - Any working directories that were created in another location besides the \zenworks\pds\smanager directory

   This removes all working files, including Distributions. You should have previously gathered this information (see Step 3a under "Uninstalling the eDirectory Objects" on page 281).

8. Clean up the NetWare registry:

   8a At the NetWare server's main console prompt, type:

   ```
   regedit
   ```

   8b Enter the following command:

   ```
   cd software\novell\zenworks
   ```

   8c If more Server Management components than Policy and Distribution Services is installed, or Desktop Management is also installed, enter:

   ```
   cd zfs
   del pdspath
   del pdsdbpath
   ```

   8d If only Policy and Distribution Services is installed, enter:

   ```
   rd zenworks
   ```

9. Repeat Step 1 through Step 8 for each server where ZENworks Server Management was installed.

10. To remove .cpk and .spk files for the Server Software Packages, locate those files, then delete them.

Uninstalling the Software on Windows Servers

You must remove the ZENworks Server Management software files from Windows servers.

To remove the software files:

1. On a Windows NT/2000/2003 server, run REGEDIT, then search for the following key:

   `HKEY_LOCAL_MACHINE\Software\Novell\ZENworks`

   and review the following entries to find the installation paths:

   PDS Path
   ZENworks Path
   ZWS Path

2. Click Start, click Run, then enter the following command:

   `zenworks\pds\bin\dservices.bat`

   This stops the ZENworks Server Management services and unregisters them. This must be done before you can delete ZENworks Server Management directories.

3. Click OK.

4. To stop the database, do the following:

Server Platform	Procedure
Windows NT 4	Do the following on each applicable Windows NT server: 1. Open the Control Panel. 2. Double-click Services. 3. Stop the Novell Sybase Database service.
Windows 2000/ 2003	Do the following on each applicable Windows 2000/2003 server: 1. Open the Control Panel. 2. Double-click Admin Tools > Services. 3. Stop the Novell Sybase Database service.

5. Using a file manager, delete the following:

   - All log files created by the Server Policies, Server Software Packages, and Tiered Electronic Distribution components
   - Any working directories that were created in another location besides the \zenworks\pds\ted directory
   - Any working directories that were created in another location besides the \zenworks\pds\smanager directory

   This removes all working files, including Distributions. You should have previously gathered this information in Step 3a under "Uninstalling the eDirectory Objects" on page 281.

6. If you want to remove the Policy and Distribution database file (zfslog.db), delete the \database directory.

   WARNING: Do not delete the \database directory if it is being used by ZENworks for Desktops, Server Inventory, or ZENworks Server Management and Monitoring Services.

7 Delete the \zenworks\pds directory.

This deletes the Distributor, Subscriber, and Server Policies software.

WARNING: Do not delete the \pds directory if the database file is located there and Server Inventory, Management and Monitoring Services, or ZENworks for Desktops is using it. Instead, delete all directories under \pds, except the \database directory.

Do not delete the \zenworks directory. It might be shared by other Novell software programs.

8 Open the Windows registry, then under the following location delete the PDSPath and ZWSPath entries:

`HKEY_LOCAL_MACHINE\SOFTWARE\NOVELL\ZENWORKS`

WARNING: Do not delete the ZWSPath entry if other components of ZENworks Server Management that you are not removing are using ZENworks Web Server.

9 Repeat Step 2 through Step 8 for each server where ZENworks Server Management was installed.

10 To remove .cpk and .spk files for the Server Software Packages, locate those files, then delete them.

Uninstalling the Software on Linux and Solaris Servers

You must remove the ZENworks Server Management software files from Linux or Solaris servers.

To remove the software files:

1 On the Linux or Solaris server, stop all the Policy and Distribution Services daemons, as described in Appendix B, "Starting and Stopping Server Management Services," on page 309.

2 Remove the ZFSTed package.

- On Linux, use:

  `rpm -e novell-zen-zfs`

  `rpm -e novell-zen-zws`

- On Solaris, use:

  `pkgrm novell-zen-zfs`

3 Manually delete the `zfs` executable.

`rm /etc/init.d/novell-zfs`

4 Manually delete the /var/opt/novell/zenworks directory and any remaining content.

`rm -rf /var/opt/novell/zenworks`

This will remove all working files, including Distributions. You should have previously gathered this information in Step 3a under "Uninstalling the eDirectory Objects" on page 281.

5 Manually delete the /var/opt/novell/log/zenworks directory and any remaining log files.

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

6 Repeat Step 1 through Step 5 for each Linux or Solaris server where Policy and Distribution Services was installed.

7 To remove .cpk and .spk files for the Server Software Packages, locate those files, then delete them.

Uninstalling the Snap-Ins from ConsoleOne

You must delete the .jar files that provide the ConsoleOne snap-ins for ZENworks Server Management

WARNING: Do not remove ConsoleOne itself if you are using it to manage other products.

To remove only the ConsoleOne snap-ins for ZENworks Server Management:

1. Under the c:\novell\consoleone\1.2 directory on your workstation (your path could be different), delete the following files from their subdirectories (do not delete the subdirectories):

   \lib\ted*.jar
   \lib\zen*.jar
   \resources\ted\cpkagentres.jar
   \resources\ted\fileagentres.jar
   \resources\ted\ftpagentres.jar
   \resources\ted\httpagent.jar
   \resources\ted\installwizardres.jar
   \resources\ted\tedlibres.jar
   \resources\ted\tedsnapinsres.jar
   \resources\rwc*.jar
   \snapins\rwc*.jar
   \snapins\zen\zenpolicy.jar
   \snapins\zen\zenreport.jar
   \snapins\zen\zfssnap.jar
   \snapins\ted\tedsnapins.jar
   \snapins\ted\tednalagent.jar

2. Repeat Step 1 for each workstation where ConsoleOne is installed.

3. Under the sys:\public\mgmt\consoleone\1.2 directory on a server (your path could be different), delete the following files from their subdirectories (do not delete the subdirectories):

   \lib\ted*.jar
   \lib\zen*.jar
   \resources\ted\cpkagentres.jar
   \resources\ted\fileagentres.jar
   \resources\ted\ftpagentres.jar
   \resources\ted\httpagent.jar
   \resources\ted\installwizardres.jar
   \resources\ted\tedlibres.jar
   \resources\ted\tedsnapinsres.jar
   \resources\rwc*.jar
   \snapins\rwc*.jar
   \snapins\zen\zenpolicy.jar
   \snapins\zen\zenreport.jar
   \snapins\zen\zfssnap.jar
   \snapins\ted\tedsnapins.jar
   \snapins\ted\tednalagent.jar

These are the same files as for Step 1.

4. Repeat Step 3 for each server where ConsoleOne is installed.

Uninstalling the Web Components

The Policy and Distribution Services Web components are integrated into the Tomcat Servlet Gateway. Follow the appropriate instructions:

- "iManager 2.0.2" on page 287
- "iManager 2.5" on page 287

iManager 2.0.2

You must manually remove the integrated software from your Tomcat installation.

1. On the server where Tomcat is installed, stop Tomcat.
2. To remove the Policy and Distribution Services plug-ins for Novell iManager™, delete the following:
   - Directories:

     \tomcat\4\webapps\nps\portal\modules\zfs
     \tomcat\4\webapps\nps\portal\modules\zfsca
     \tomcat\4\work\standalone\localhost\nps\portal\modules\zfs
   - Files:

     \tomcat\4\temp\zfs*.npm
     \tomcat\4\webapps\nps\packages\zfs*.npm
     \tomcat\4\webapps\nps\portal\modules\dev\images\dir\zen*.gif
     \tomcat\4\webapps\nps\portal\modules\rwc\skins\default\devices\default\AvailableZFS Agents.jsp
     \tomcat\4\webapps\nps\portal\modules\rwc\skins\default\devices\default\zfs*.jsp
     \tomcat\4\webapps\nps\web-inf\lib\zen*.jar
     \tomcat\4\webapps\nps\web-inf\lib\zfsca.jar
3. Start Tomcat.
4. If you installed the Policy and Distribution Web components on multiple servers, repeat Step 1 through Step 3 for each Tomcat installation.

iManager 2.5

You can use the NPM management feature of iManager 2.5 to remove the Server Management plug-ins.

1. Log in to iManager.
2. Click the Configure view.
3. Click Module Installation > Installed Novell Plug-in Modules.
4. Select the ZENworks plug-in modules to be removed.
5. Click Remove.

6 Restart Tomcat.

21 Uninstalling Server Inventory

The Server Inventory component of Novell® ZENworks® Server Management cannot be uninstalled automatically. You must manually remove the Inventory server, the Inventory database running on Sybase, the Novell eDirectory™ objects, and the Server Inventory snap-in files from Novell ConsoleOne®.

NOTE: If your Inventory database is mounted on Oracle or MS SQL, follow the uninstall procedure recommended by Oracle or MS SQL respectively.

You must remove the objects and the files from every server and workstation where the Server Inventory components were installed.

In an enterprise deployment of Inventory, uninstall all Leaf Servers first, then proceed to uninstall Intermediate Servers, and finally the Root Server. Before uninstalling Server Inventory, make sure you have made and archived a reliable backup of the Inventory database residing at the Root Server.

To manually uninstall Server Inventory, proceed in the following order:

Uninstalling the Server Inventory eDirectory Objects

To remove the ZENworks Server Management Server Inventory eDirectory objects:

1. On the Inventory server, stop the Inventory services.
   - On a NetWare server, at the console prompt, enter `StopSer *`.
   - On a Windows 2000/2003 server, in the Control Panel, double-click Administrative Tools, double-click Services, select Novell ZEN Inventory, then click Stop.
2. In ConsoleOne, right-click the Service Location Package object, click Properties, then click Policies.

   If the ZENworks Database policy is enabled, select the policy, click Properties, click the Inventory Management tab, delete the specified Inventory Database entry, then click OK.

IMPORTANT: If the ZENworks Database policy is used by more than one Inventory server, you must uninstall those Inventory servers before performing this step.

3 Disable the Server Inventory policy.

3a Right-click the Distributed Server Package, click Properties, click Policies, then click the General (or NetWare or Windows) tab.

3b If the Server Inventory policy is enabled, select the policy, click the Reset button, the click Yes.

3c Disable the Server Inventory policy.

If you have configured the Server Inventory policy for more than one operating system, select the operating system option from the Policies tab and repeat this step.

3d Click Apply, then click Close.

4 Disable the Roll-Up policy and the Dictionary Update policy, if the policies are enabled.

4a Right-click the Server Package, click Properties, click Policies, then click the NetWare (or Windows) tab.

4b If the Roll-Up policy is enabled, select the policy, click the Reset button, then click Yes.

4c Disable the Roll-Up policy.

4d If the Dictionary Update policy is enabled, select the policy, click the Reset button, then click Yes.

4e Disable the Dictionary Update policy.

4f Click Apply, then click Close.

5 In ConsoleOne, locate the container holding the Inventory Service object and delete the Inventory Service object.

Uninstalling the Database eDirectory Object

In ConsoleOne, locate the container holding the Inventory database object and delete the Inventory database object.

Uninstalling the Sybase Inventory Database

- "Uninstalling on NetWare Servers" on page 290
- "Uninstalling on Windows Servers" on page 291

Uninstalling on NetWare Servers

1 Stop Sybase by entering `q` at the Sybase console prompt.

2 Delete the path to mgmtdb.db from sys:\system\mgmtdbs.ncf.

Do not delete other database paths.

3 Note the value of the INVDBPATH key from sys:\system\zenworks.properties.

4 From the value identified in the INVDBPATH key, delete the Inventory database files (mgmtdb*.db), including mgmtdb.log.

IMPORTANT: Do not delete the database files if they contain ZENworks 6.5 Desktop Management - Workstation Inventory information.

5. Delete the INVDBPATH key from sys:\system\zenworks.properties.
6. Delete the ZFS_INVENTORY_DATABASE_SERVER key.

   Delete the following section from sys:\system\zenworks.properties:

   ```
   [ZfS_Inventory_Database_Server]

   Version = 6.5.0.build_date

   Installed_From = Product CD

   Support_Pack = 0
   ```

7. Start Sybase if it is not uninstalled and if it is used by other ZENworks products.

   At the Sybase console prompt, enter **`mgmtdbs.ncf`**.

Uninstalling on Windows Servers

1. Note the value of the DBENGINEPATH key from the `HKEY_LOCAL_MACHINE\SOFTWARE\NOVELL\ZENWORKS` registry entry.
2. Stop Sybase.

   2a In the Windows Control Panel, double-click Administrative Tools, then double-click Services.

   2b Select Novell Database - Sybase, then click Stop.
3. Delete the path to mgmtdb.db.

   3a Run *DBENGINE_installation_directory*\ntdbconfig.exe.

   3b In the NTDBConfig dialog box, remove the path to mgmtdb.db, then click OK.

   3c If there are no other .db entries, remove the Sybase engine before proceeding to Step 4. For more information on how to remove the Sybase engine, see "Uninstalling the Sybase Engine" on page 292.
4. Note the value of the INVDBPATH key from the `HKEY_LOCAL_MACHINE\SOFTWARE\NOVELL\ZENWORKS` registry entry.
5. From the value identified in the INVDBPATH key, delete the Inventory database files (mgmtdb*.db), including mgmtdb.log.

   Do not delete the database files if they contain vital ZENworks for Desktops Workstation Inventory information.
6. Delete the INVDBPATH key from the `HKEY_LOCAL_MACHINE\SOFTWARE\NOVELL\ZENWORKS` registry entry.
7. Delete the Inventory database server key from the `HKEY_LOCAL_MACHINE\SOFTWARE\NOVELL\ZENWORKS\ZFS` registry entry.
8. Start Sybase if it is not uninstalled and if it is used by other ZENworks products.

   8a In the Windows Control Panel, double-click Administrative Tools, then double-click Services.

   8b Select Novell Database - Sybase, then click Start.

Uninstalling the Sybase Engine

You can remove the Sybase engine only if it is not used by other ZENworks products.

- "Uninstalling on NetWare Servers" on page 292
- "Uninstalling on Windows Servers" on page 292

Uninstalling on NetWare Servers

1. If Sybase is used by other ZENworks products, you must uninstall the database first before proceeding to uninstall the Sybase engine.
2. Stop Sybase by entering `q` at the Sybase Console prompt.
3. Note the value of the DBENGINEPATH key in sys:\system\zenworks.properties.
4. Verify if the database is mounted on the database server.

   The sys:\system\mgmtdbs.ncf file has the .db entry if the database is mounted on the database server.

   If the file does not contain the .db entry, delete mgmtdbs.ncf. If the file contains the .db entry, do not continue to remove the Sybase engine.
5. Delete the mgmtdbs.ncf entry from sys:\system\autoexec.ncf.
6. Delete the directory specified in DBENGINEPATH.
7. Delete the DBENGINEPATH key from sys:\system\zenworks.properties.

Uninstalling on Windows Servers

1. If Sybase is used by other ZENworks products, you must uninstall the database first before proceeding to uninstall the Sybase engine.
2. Stop Sybase.

   2a In the Windows Control Panel, double-click Administrative Tools, then double-click Services.

   2b Select Novell Database - Sybase, then click Stop.
3. Note the value of the DBENGINEPATH key from the `HKEY_LOCAL_MACHINE\SOFTWARE\NOVELL\ZENWORKS` registry entry.
4. Verify if the database is mounted on the database server.

   4a Run *DBENGINE_installaton_directory*\ntdbconfig.exe to find if it has a .db entry.

   If it has the .db entry, it indicates that the database is mounted on the database server. Do not continue to remove the Sybase engine.

   4b The .db entry is not present if the database is not mounted on the database server. Delete the ASANYS_ZENWORKS key from the `HKEY_LOCAL_MACHINE\SYSTEM\CURRENTCONTROLSET\SERVICES` registry entry.
5. Delete the directory specified in DBENGINEPATH.
6. Delete the DBENGINEPATH key from the `HKEY_LOCAL_MACHINE\SOFTWARE\NOVELL\ZENWORKS` registry entry.

Uninstalling the Inventory Agent

Uninstalling on NetWare Servers

1. Execute the following commands at the server console prompt:

   ```
   invagentstop.ncf
   java -exit
   ```

2. Delete the following files from sys:\system:

   hwinvsrc.ini
   invaid.nlm
   invsetup.ini
   mpkscan.nlm
   nwapi.bak
   nwapi.map
   smile.bak
   smile.map
   suppl.bak
   suppl.map

3. Delete sys:\java\bin\invnatve.nlm.
4. Note the value of the ZENworksPath, PDSPath and the InvAgentPath keys from sys:\system\zenworks.properties.
5. Delete the Inventory Agent installation directory identified in the InvAgentPath key.
6. Delete invagentnw.jar from the *PDSPath*\smanager\plugins directory.
7. Delete the Inventory Agent key from the `HKEY_LOCAL_MACHINE\SOFTWARE\NOVELL\ZENWORKS\ZFS` registry entry.
8. In *PDSPath*\smanager\zfs.ncf, delete the following entry:

   ```
   load sys:\\java\\bin\\invnatve
   ```

Uninstalling on Windows Servers

1. Stop the Inventory Agent service.

   In the Windows NT Control Panel, double-click Services, select ZFS Policies, then click Stop.

   In the Windows 2000 Control Panel, double-click Administrative Tools, double-click Services, select ZFS Policies, then click Stop.

2. Note the value of the InvAgentPath and the PDSPath key in the `HKEY_LOCAL_MACHINE\SOFTWARE\NOVELL\ZENWORKS` registry entry. The InvAgentPath key contains the Inventory Agent installation directory and the PDSPath contains the Policy and Distribution service installation directory.
3. Delete the Inventory Agent installation directory identified in the InvAgentPath key.

4 Delete invagentnt.jar from the plug-ins directory, which is located in the directory identified in the PDSPath key.

5 Delete the INVAGENTPATH key from the `HKEY_LOCAL_MACHINE\SOFTWARE\NOVELL\ZENWORKS` registry entry.

6 Delete the Inventory Agent key from the `HKEY_LOCAL_MACHINE\SOFTWARE\NOVELL\ZENWORKS\ZFS` entry.

Uninstalling the Inventory Server Software

- "Uninstalling on NetWare Servers" on page 294
- "Uninstalling on Windows Servers" on page 295

Uninstalling on NetWare Servers

1 Stop the Inventory Service Manager by entering **`StopSer *`** at the server console prompt

2 Unload the java.nlm by entering **`java -exit`** at the server console.

3 Note the values of the INVSRVPATH and ZWSPATH keys from sys:\system\zenworks.properties.

4 Delete the ZFS_INVENTORY_SERVER key.

Delete the following section from sys:\system\zenworks.properties:

```
[ZfS_Inventory_Server]
Version = 6.5.0.Server_Management_product_build_date
Installed_From = Product CD
Support_Pack = 0
```

5 Delete the *invsrvpath*\scandir directory.

6 Delete the *invsrvpath*\server directory.

7 Delete the following entries from sys:\system\autoexec.ncf:

```
; ZENworks Inventory Settings

StartInv.ncf
```

8 Delete the following files from sys:\system directory:

addenums.ncf
dbexport.ncf
debug.properties
dupremove.ncf
enumsmodifier.ncf
invenv.ncf
invenvset.ncf
listser.ncf
startinv.ncf
startser.ncf
startzws.ncf
stopdb.ncf
stopser.ncf

9. If Policy and Distribution Services and the XML Proxy server are not installed on the Inventory server, remove the ZENworks Web Server components by deleting the directory specified by ZWSPATH.

   9a. Delete the following entries from the sys:\system\autoexec.ncf file:

   ```
   ; ZENworks Inventory Settings

   ZFS.ncf
   ```

   9b. Delete the zwsstart.ncffile from the sys:\system directory.

   9c. Delete the ZWSPATH key from sys:\system\zenworks.properties.

   9d. Delete *zws_volume*:\zfs-startup.xml.

   9e. Delete *zws_volume*:\zenworks\zfs.ncf.

10. Delete the INVSRVPATH key from sys:\system\zenworks.properties.

Uninstalling on Windows Servers

1. On the Inventory server, stop the Inventory Service.

   1a. In the Windows Control Panel, double-click Administrative Tools, then double-click Services.

   1b. Select Novell Inventory Service, then click Stop.

   1c. Select Novell ZENworks Service Manager, then click Stop.

2. Note the values of the INVSRVPATH and ZWSPATH keys from the `HKEY_LOCAL_MACHINE\SOFTWARE\NOVELL\ZENWORKS` registry entry.

3. Delete the *invsrvpath*\scandir directory.

4. Delete the *invsrvpath*\server directory.

5. Delete the ZENINVENTORY key from the `HKEY_LOCAL_MACHINE\SYSTEM\CURRENTCONTROLSET\SERVICES` registry entry.

6. Delete the Inventory Server key from the `HKEY_LOCAL_MACHINE\SOFTWARE\NOVELL\ZENWORKS\ZFS` registry entry.

7. If Policy and Distribution Services and the XML Proxy server are not installed on the Inventory server, remove the ZENworks Web Server components.

   7a. Delete the *zwspath* directory.

   7b. Delete the ZWSPATH key from the `HKEY_LOCAL_MACHINE\SOFTWARE\NOVELL\ZENWORKS` registry entry.

   7c. Delete the ZWSSRV key from the `HKEY_LOCAL_MACHINE\SYSTEM\CURRENTCONTROLSET\SERVICES` registry entry.

8. Delete the INVSRVPATH key from the `HKEY_LOCAL_MACHINE\SOFTWARE\NOVELL\ZENWORKS` registry entry.

9. Reboot the machine for the changes to take effect.

Uninstalling the XML Proxy Server

Uninstalling on NetWare Servers

To uninstall the XML Proxy files from the server if Policy and Distribution Services or Inventory is not installed on the server:

1. Unload the java.nlm by entering **`java -killzfsexit`** at the server console prompt.
2. Note the value of the ZWSPATH from the sys:\system\zenworks.properties file.
3. Delete the following section from the sys:\system\zenworks.properties file

```
[ZfS_XML_Proxy_Server]
Version=6.5.0.build_date
Installed_From = Product CD
Support_Pack = 0
```

4. Delete the following entries from the sys:\system\autoexec.ncf file:

```
; ZENworks Inventory Settings

ZFS.ncf
```

5. Delete the zwsstart.ncffile from the sys:\system directory.
6. Delete the \zwspath directory and the zwspath entry from the sys:\system\zenworks.properties file.
7. Delete zfs-startup.xml and zfs.ncf from *zws_volume*:\zenworks.

Uninstalling on Windows Servers

To uninstall the XML Proxy files from the server if Policy and Distribution Services or Inventory is not installed on the server:

1. Stop ZENworks Web Server.
   - **1a** In the Windows Control Panel, double-click Administrative Tools, then double-click Services.
   - **1b** Select Novell Zenworks Service Manager, then click Stop.
2. Note the value of the ZWSPATH and the ZENworks Web Server volume from the `HKEY_LOCAL_MACHINE\SOFTWARE\NOVELL\ZENWORKS` registry entry. The value indicates the \zwspath directory.
3. Delete the zwspath directory.
4. Delete the Inventory Proxy XML server key from the `HKEY_LOCAL_MACHINE\SOFTWARE\NOVELL\ZENWORKS\ZFS` registry entry.
5. Delete the ZWSSRV key from the `HKEY_LOCAL_MACHINE\SYSTEM\CURRENTCONTROLSET\SERVICES` registry entry.
6. Delete the ZWSPATH key from the `HKEY_LOCAL_MACHINE\SOFTWARE\NOVELL\ZENWORKS\` registry entry.
7. Delete *zws_volume*:\zenworks\zfs-startup.xml.

Uninstalling the Server Inventory Snap-Ins from ConsoleOne

Do not uninstall ConsoleOne itself if you are using it to manage other products.

To remove only the Server Inventory snap-ins from ConsoleOne:

1. Close ConsoleOne, if it is running.

   If ConsoleOne is invoked directly from the Inventory server on multiple workstations, you must close ConsoleOne on all these workstations.

2. Under the *ConsoleOne_installation_directory*\1.2 directory on your server or workstations, do the following:

   - Delete the following files:

     bin\debug.properties
     bin\directoryrights.dll
     bin\ntgroups.ini
     bin\userreports.ini
     help\novellserverinv.hs
     lib\zen\classes12.zip
     lib\zen\dbexport.jar
     lib\zen\dbexportres.jar
     lib\zen\jconn2.jar
     lib\zen\jdbcdrv.zip
     lib\zen\reportingimages.jar
     lib\zen\smanager.jar
     lib\zen\zenutility.jar
     reporting\export\invxml.dtd
     snapins\zen\dataexportsnapins.jar
     snapins\zen\inventorysnapins.jar
     snapins\zen\jgl3.1.0.jar
     snapins\zen\policymigration.jar
     snapins\zen\serversnapins.jar
     snapins\zen\swdictionarysnapins.jar
     snapins\zen\tableutilities.jar
     snapins\zen\tracer.jar

   - Delete the following directories:

     help\en\novell_zfs_server_inventory
     reporting\canned\novell reporting\zeninventory
     reporting\canned\novell reporting\zeninventory4x

3. If you have not installed the Remote Management ConsoleOne snap-ins on the same workstation or server, do the following:

   - Delete the following files:

     \bin\desktop4.exe
     \bin\desktop4.ini
     \bin\mssql.ini
     \bin\multprot.dll

\bin\ndsaccess.dll
\bin\oracle.ini
\bin\remagent.ini
\bin\sybase.ini
\lib\zen\commonsnapins.jar
\lib\zen\desktop.jar
\lib\zen\desktop3x.jar
\lib\zen\desktopcommonutility.jar
\lib\zen\desktoputil.jar
\lib\zen\statuslog.jar
\lib\zen\zeninvimages.jar
\snapins\zen\serversnapins.jar

- Delete the \bin\zen\sybaseproxy directory.

4 Repeat Step 1 through Step 3 for each workstation or server where Inventory ConsoleOne snap-ins are installed.

22 Uninstalling Remote Management

The Remote Management component of Novell® ZENworks® 6.5 Server Management cannot be uninstalled automatically. You must manually remove the Remote Management Agent and the Remote Management server snap-ins from Novell ConsoleOne®.

To manually uninstall Remote Management, perform the following tasks:

- "Uninstalling the Remote Management Agent on Windows Managed Servers" on page 299
- "Uninstalling the Remote Management Server Snap-Ins from ConsoleOne" on page 300

Uninstalling the Remote Management Agent on Windows Managed Servers

1. If you have installed Mirror Driver, you must reinstall Remote Management without selecting the Mirror Driver option. For more information on how to install Remote Management, see Chapter 6, "Policy-Enabled Server Management Installation," on page 61.
2. Stop the Remote Management Agent.
   - **2a** In the Windows Control Panel, double-click Administrative Tools > Services.
   - **2b** Select Novell ZFS Remote Management Agent, then click Stop.
3. Delete the *ZENworks_agent_directory*\rmagent directory.
4. Delete *ZENworks_agent_directory*\pds\smanager\plugins\rmagent.jar.
5. From the \system32 directory, delete following files: drishti.dll, yukti.dll, darpan.inf, and darpan.dll.
6. Delete darpan.sys from the \system32\drivers directory.
7. Delete the following registry keys:
   - `HKEY_LOCAL_MACHINE\SOFTWARE\NOVELL\ZENWORKS\REMOTE MANAGEMENT`
   - `HKEY_LOCAL_MACHINE\SOFTWARE\NOVELL\ZENWORKS\ZFS\REMOTE MANAGEMENT`
   - `HKEY_LOCAL_MACHINE\SYSTEM\SERVICES\CURRENTCONTROLSET\BLANKSCR`
   - `HKEY_LOCAL_MACHINE\SYSTEM\SERVICES\CURRENTCONTROLSET\REMOTE MANAGEMENT`
8. Reboot the managed server.

Uninstalling the Remote Management Server Snap-Ins from ConsoleOne

Do not uninstall ConsoleOne itself if you are using it to manage other products.

To remove only the Remote Management snap-ins from ConsoleOne:

1. Close ConsoleOne, if it is running.

   If ConsoleOne is invoked directly from the Remote Management server on multiple workstations, you must close ConsoleOne on all these workstations.

2. Under the *ConsoleOne_installation_directory*\1.2 directory on your server/workstations, do the following:

   - Delete the common files used by Server Management and Desktop Management.

     IMPORTANT: If you have installed Remote Management console of ZENworks 6.5 Desktop Management in your setup, do not delete the following files if you want to use the ConsoleOne for Desktop Management. After uninstalling Server Management, you must edit the query.properties file to change the value of the “rmver” attribute to “zfd.”

     \bin\desktop4.exe
     \bin\desktop4.ini
     \bin\rmagent.ini
     \bin\rmports.ini
     \bin\zencutil.dll
     \lib\zen\desktop.jar
     \bin\query.properties
     \bin\drishtitype.ini

   - Delete the following Server Management specific files:

     \snapins\zen\rmserversnapins.jar
     \snapins\zen\novell_rconsole_ndszfs.jar
     \snapins\zen\novell_rconsole_atlas.jar
     \lib\zen\statuslog.jar

   - Delete the following directories:

     \help\en\novell_zfs_rconsole
     \bin\zen\rclaunch

     IMPORTANT: If you have installed Remote Management console of ZENworks 6.5 Desktop Management in your setup, do not delete the \bin\zen\rclaunch directory if you want to use the ConsoleOne for Desktop Management.

3. Repeat Step 1 and Step 2 for each machine where Remote Management ConsoleOne snap-ins are installed.

23 Uninstalling Management and Monitoring Services

Novell® ZENworks® Management and Monitoring Services cannot be uninstalled automatically. You must manually remove the ZENworks Server Management software and its Novell eDirectory™ objects.

You will need to remove objects, files, and information on every server and workstation where Management and Monitoring Services components were installed.

To manually uninstall Management and Monitoring Services, proceed in the following order:

1. "Uninstalling Management Site Services" on page 301
2. "Uninstalling the Traffic Analysis Agent" on page 302
3. "Uninstalling the Management Agent" on page 303
4. "Uninstalling the Linux Agent" on page 304

Uninstalling Management Site Services

To uninstall the Management Site Services:

1. At the server console prompt, enter **`stopmms`** to unload the management server.
2. At the management server console prompt, unload the Sybase database engine.

   Switch to the Sybase process (for example, using Ctrl+Esc), then enter **`q`** to terminate the Sybase database engine.
3. From the ZENworks Server Management console, open the uninst.bat batch file from the *volume:*\zenworks\mms\mwserver\uninstall folder.
4. Delete the \zenworks\mms folder on the management server if the processes are in use and the uninstall is not complete.
5. If no components of ZENworks Server Management are going to be used, remove the following line from sys:\system\mgmtdbs.ncf:

   `volume:\ZfS_installation_directory\MWServer\db\mw.db`

   or

   If mgmtdbs.ncf does not load any other databases, delete this file.
6. Uninstall does not delete MW and netexplor.dat files. If you do not plan to use this data, delete the \zenworks folder.

Uninstalling the Traffic Analysis Agent

This section contains the following tasks:

- "Uninstalling the Traffic Analysis Agent from a NetWare Server" on page 302
- "Uninstalling the Traffic Analysis Agent from a Windows 2000/2003 Server" on page 302

Uninstalling the Traffic Analysis Agent from a NetWare Server

Depending on your network configuration, you might need to uninstall the Traffic Analysis Agent for NetWare® software to make room for another agent or to upgrade to a more recent version of an agent.

You should upgrade all Traffic Analysis Agents for NetWare installed on your network to the current version shipping with ZENworks Server Management. Uninstall existing agents before you install new agents.

NOTE: Sys:\zfs_agnt\lanz is the default directory where the Traffic Analysis Agent is installed.

To uninstall the Traffic Analysis Agent from a NetWare server:

1. Enter **ULANZ** at the console prompt to unload the Traffic Analysis Agent for NetWare.
2. Search for the Traffic Analysis Agent for NetWare statements in the autoexec.ncf file.

   For example, search for statements beginning with Search and add the \zfs_agnt\lanz directory and the lanz.ncf file.
3. Delete all the files from the directory where the Traffic Analysis Agent for NetWare is installed.
4. Delete the GTREND files from the server.

   Obtain the directory name from the argument to gtrend.nlm in the lanz.ncf file. The default directory name is sys:\gtrend.
5. Delete the following lines from the sys:\system\autoexec.ncf file:

   ```
   search add sys:\Traffic_Analysis_Agent_installation_directory\LANZ

   lanz.ncf
   ```

Uninstalling the Traffic Analysis Agent from a Windows 2000/2003 Server

Uninstalling the Traffic Analysis Agent from a Windows 2000/2003 server stops the services provided by the traffic analysis tools.

IMPORTANT: Back up the registry before you modify it.

To uninstall the Traffic Analysis Agent from a Windows 2000/2003 server:

1. Run LANZCON and select Configure > Traffic Analysis Agent Parameters > Network Trends to get the name of the trend directory. For example, the \gtrend directory.
2. Enter **NET STOP SNMP** at the DOS prompt to stop the SNMP service.
3. Click Start > Program > ZfS > Uninstall Traffic Analysis Agent.
4. Delete the trend directory identified in Step 1. The default directory name is \gtrend.
5. Click Start > Run > Regedit to start REGEDIT, then delete the `HKEY_LOCAL_MACHINE\SOFTWARE\NOVELL\MANAGEWISE\LANZ-NT` entry.

Uninstalling the Management Agent

This section contains the following tasks:

Uninstalling the Server Management Agents from a NetWare Server

To uninstall the NetWare Management Agent™ (NMA):

1. To unload Server Management Agents, at the NetWare system console, enter **unnma5**.
2. Delete the sys:\system\nma directory.
3. Edit the sys:\system\autoexec.ncf file and remove the following two lines:

   ```
   search add sys:\system\nma
   nma5.ncf
   ```

Uninstalling the Windows 2000/2003 Management Agent from a Windows Server

1. Stop the SNMP service.

   On the Windows 2000/2003 server:

   1. From the desktop menu, click Start > Settings > Control Panel.
   2. Double-click Administrative Tools > Services.
   3. Select SNMP and then click Stop.

2. Select My Computer > Properties > Environment > System Variables > Path and remove `c:\zfs_agnt\ntagent\bin` from the path string.
3. Click Start > Programs > ZfS > Uninstall Management Agent.

Uninstalling the NetWare Advanced Trending Agent

1. To unload any advtrend, at the NetWare 5.x/6.x.system console, enter **utrend**.
2. Delete the *install_volume*:*install_directory*\advtrend directory.
3. Edit the sys:\system\autoexec.ncf file and remove the following two lines:

   ```
   search add <install_volume>:\<directory>\advtrend
   advtrend.ncf
   ```

Uninstalling the Windows 2000/2003 Advanced Trending Agent

1. Stop the SNMP service.

   On the Windows 2000/2003 server:

   1. From the desktop menu, click Start > Settings > Control Panel.
   2. Double-click Administrative Tools > Services.
   3. Select SNMP and then click Stop.

2. Click Start > Programs > ZfS > Uninstall Advanced Trending Agent.

Uninstalling the Linux Agent

To uninstall Management and Monitoring Services agents on your Linux servers, you must individually uninstall the Linux Management Agent and the Advanced Trending Agent from the Linux server.

1. Log in as `root`.
2. To remove the Advanced Trending Agent package, enter **`rpm -e novell -advtrend`** at the server console prompt.
3. To remove the Linux Management Agent package, enter **`rpm -e novell -lma`** at the server console prompt.

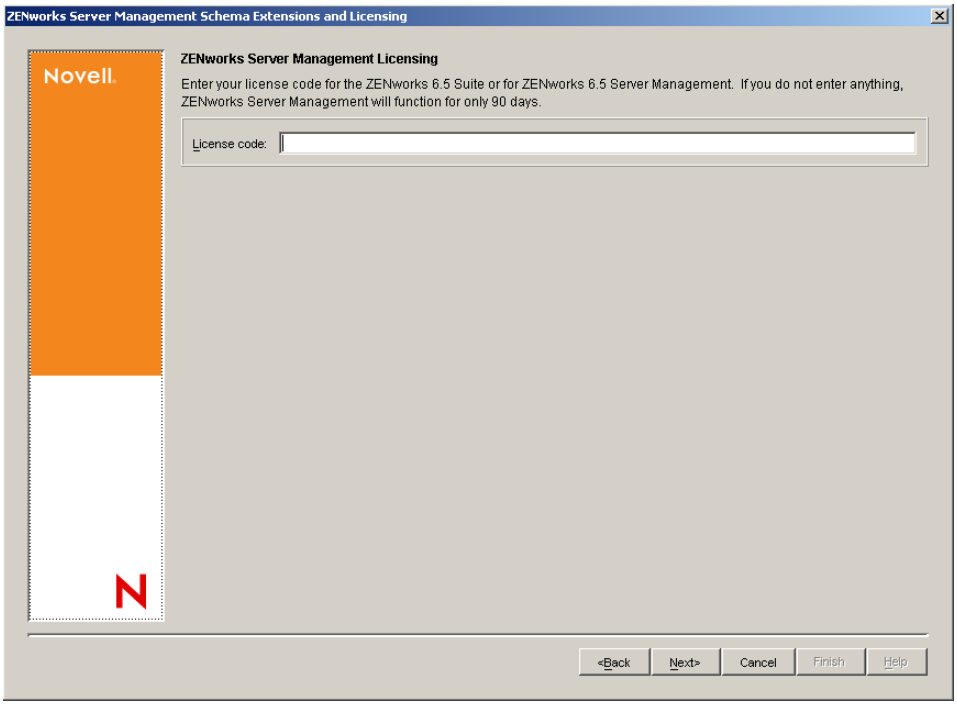
VII Appendixes

The following sections are referenced from other sections in the *Novell® ZENworks® Server Management Installation Guide*:

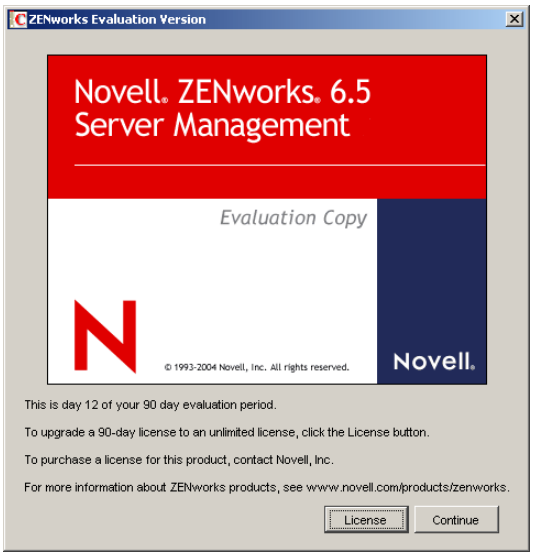
A Upgrading a 90-day Evaluation License

You should have received a license code when you purchased the Novell® ZENworks® Server Management product. If not, contact Novell, Inc. (http://www.novell.com/licensing).

A 90-day Evaluation License is in effect after installing Server Management if you did not enter a license code in the following installation page when extending the schema.



If a 90-day Evaluation License is in effect, the following ZENworks Evaluation Version dialog box is displayed once every 24 hours in the first Novell ConsoleOne® session of the day as a reminder when you attempt to access the properties of a ZENworks Server Management object.



This dialog box indicates how many days are left for the evaluation. When the evaluation period expires, ZENworks Server Management properties are no longer visible when you view an object's properties.

In Novell iManager, the Continue button is named Cancel, because a browser does not provide the same continuation as ConsoleOne.

To upgrade a 90-day evaluation license to an unlimited version, do one of the following:

- In the ZENworks Evaluation Version dialog box, click License and enter a valid license code.
- See "Extending the Schema" on page 65 for steps to identify the tree where ZENworks objects reside so you can enter the license code.

B Starting and Stopping Server Management Services

The services and agents for the Novell® ZENworks® Server Management components can be individually started and stopped. The following instructions are provided by server platform:

NetWare Servers

Starting and stopping instructions are provided for the following Server Management components:

Policy and Distribution Services

Starting Policy and Distribution Services on a NetWare Server

To start all Policy and Distribution Services processes, enter the **`zfs.ncf`** command at the server's main console prompt.

Stopping Policy and Distribution Services on a NetWare Server

To stop all Policy and Distribution Services processes except the database engine, enter the **`exit`** command at the server's ZENworks Server Management console prompt.

Starting the Sybase Engine on a NetWare Server

The Sybase engine is automatically started when Policy and Distribution Services is started.

To start the database manually, on the server's main console prompt, enter:

```
sys:\system\mgmtdbs
```

Stopping the Sybase Engine on a NetWare Server

Type **q** on the Sybase screen on the server.

Server Inventory

Before you start the Inventory service on the Inventory server, make sure that the Policy and Distribution Services components and the Inventory database are up and running. The Inventory database will be automatically started after installation of the product.

After starting the Inventory service, make sure that the Inventory services are up and running. To list all services, enter **ListSer *** at the Inventory server console prompt. If the services are not up and running, check the Server Status log. For more information on the Server Status log, see "Server Inventory" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

- "Starting the Inventory Service on a NetWare Inventory Server" on page 310
- "Stopping the Inventory Service on a NetWare Inventory Server" on page 310

Starting the Inventory Service on a NetWare Inventory Server

To start the Inventory services on the NetWare Inventory server, enter **startinv** at the server console prompt.

Stopping the Inventory Service on a NetWare Inventory Server

- To stop an Inventory service, enter **stopser *Inventory_service_name*** at the server console prompt.
- To stop all the Inventory services, enter **stopser *** at the server console prompt.

Management and Monitoring Services

- "Starting the Agents on NetWare Servers" on page 310
- "Stopping the Agents on NetWare Servers" on page 311
- "Starting the Management Site Server on NetWare Server" on page 311
- "Stopping the Management Site Server on NetWare Server" on page 311

Starting the Agents on NetWare Servers

- "Starting the Server Management Agent on NetWare Servers" on page 310
- "Starting the Traffic Analysis Agent on NetWare Servers" on page 311
- "Starting the Advanced Trending Agent on NetWare Servers" on page 311

Starting the Server Management Agent on NetWare Servers

The installation program for the Server Management Agent for NetWare modifies the autoexec.ncf file with the path where the agent is installed.

To start the Server Management Agent:

1. At the server console prompt, enter **nma5.ncf**.

Starting the Traffic Analysis Agent on NetWare Servers

The installation program for the Traffic Analysis Agent for NetWare modifies the autoexec.ncf file with the path where the agent is installed.

To start the Traffic Analysis Agent:

1 At the server console prompt, enter **`lanz.ncf`**.

Starting the Advanced Trending Agent on NetWare Servers

The installation program for the Advanced Trending Agent for NetWare modifies the autoexec.ncf file so that the agent starts automatically.

To start the Advanced Trending Agent:

1 At the server console prompt, enter **`advtrend.ncf`**.

Stopping the Agents on NetWare Servers

This section contains the following:

- "Stopping the Server Management Agent on NetWare Servers" on page 311
- "Stopping the Traffic Analysis Agent on NetWare Servers" on page 311
- "Stopping the Advanced Trending Agent on NetWare Servers" on page 311

Stopping the Server Management Agent on NetWare Servers

1 At the server console prompt enter **`unnma5.ncf`**.

Stopping the Traffic Analysis Agent on NetWare Servers

1 At the server console prompt enter **`ulanz.ncf`**.

Stopping the Advanced Trending Agent on NetWare Servers

1 At the server console prompt enter **`utrend.ncf`**.

Starting the Management Site Server on NetWare Server

The installation program for the Server Management Agent for NetWare modifies the autoexec.ncf file with the path where the Management Site Server is installed.

To start the Management Site Server on a Netware server, enter **`startmms.ncf`** at the server console prompt.

Stopping the Management Site Server on NetWare Server

1 At the server console prompt, enter **`stopmms.ncf`**.

2 To stop and unload all Management and Monitoring Services and the Naming Service, enter **`stopmms -n`**.

Windows Servers

Starting and stopping instructions are provided for the following Server Management components:

Policy and Distribution Services

Starting Policy and Distribution Services on a Windows Server

Control Panel Method

This method presumes the service is already registered and is displayed in the Services listing:

1. In the Control Panel, double-click Administrative Tools.
2. Double-click Services.
3. Right-click Novell ZENworks Service Manager, then click Start.

Command Line Method

With this method, you can both register and start the service.

1. Open the Services window, determine whether Novell ZENworks Service Manager is listed, then close the Services window.
2. If the ZENworks service is not registered (listed in the Services window), click Start > Run, then enter:

   ```
   zenworks\pds\bin\sservices.bat
   ```

   This only registers, but does not start the service.
3. Click Start > Run, then enter:

   ```
   net start zfsservice
   ```

Stopping Policy and Distribution Services on a Windows Server

Control Panel Method

With this method, you can only stop the service, not unregister it.

1. In the Control Panel, double-click Administrative Tools.
2. Double-click Services.
3. Right-click Novell ZENworks Service Manager, then click Stop.

Command Line Method

With this method, you have the option to both unregister and stop the service, or only stop the service.

1. Close the Services window.
2. If you want to both unregister and stop the service, click Start > Run, then enter:

   `zenworks\pds\bin\dservices.bat`

   or

   To only stop the service, but leave it registered, click Start > Run, then enter:

   `net stop zfsservice`

Starting the Sybase Engine on a Windows Server

The Sybase engine is automatically started when Policy and Distribution Services is started. However, to restart the Sybase engine:

1. In the Control Panel, double-click Administrative Tools.
2. Double-click Services.
3. Right-click Novell Database - Sybase, then click Start.

Stopping the Sybase Engine on a Windows Server

1. In the Control Panel, double-click Administrative Tools.
2. Double-click Services.
3. Right-click Novell Database - Sybase, then click Stop.

Server Inventory

- "Starting the Inventory Service on a Windows 2000/2003 Inventory Server" on page 313
- "Stopping the Inventory Service on a Windows Inventory Server" on page 314

Starting the Inventory Service on a Windows 2000/2003 Inventory Server

To start a service on Windows 2000/2003 servers from the console prompt:

1. Go to the *installation_directory*\inv\server\wminv\bin directory.
2. Enter **`startser`** ***`service_name`***.

   where *service_name* refers to an Inventory service.

To start the Inventory services on the Windows 2000/2003 Inventory server:

1. In the Control Panel, double-click Administrative Tools.
2. Double-click Services.
3. Select Novell Inventory Service, then click Start.

Stopping the Inventory Service on a Windows Inventory Server

To stop a service on Windows 2000/2003 servers from the console prompt:

1. Go to the *installation_directory*\inv\server\wminv\bin directory.
2. Enter **StopSer *service_name***.

   where *service_name* refers to an Inventory service.

To stop the Inventory services on the Windows 2000/2003 Inventory server:

1. In the Control Panel, double-click Administrative Tools.
2. Double-click Services.
3. Select Novell Inventory Service, then click Stop.

To stop all the Inventory services on a Windows 2000/2003 Inventory server, go to the server console prompt and execute **stopser "*"** from the *inventory_server_installation_directory*\inv\server\wminv\bin directory.

Management and Monitoring Services

- "Starting the Agents on Windows Servers" on page 314
- "Stopping the Agents on Windows Servers" on page 315

Starting the Agents on Windows Servers

The Management and Monitoring Services agents include the Server Management Agent, Traffic Analysis Agent and the Advanced Trending Agent.

If you have configured Windows 2000/2003 to automatically start the SNMP service, the agent installed on Windows 2000/2003 starts with the SNMP service when you start Windows 2000/2003.

If you have not configured Windows 2000/2003 to automatically start the SNMP service, to start the services:

1. On Windows 2000/2003, from the Control Panel, double-click Administrative Tools > Services.
2. Select SNMP, then click Start.

   When the SNMP service is started, the Server Management Agent, Traffic Analysis Agent, and the Advanced Trending Agent also start.

Starting other Agents of Server Management

The Server Management Agent includes the Novell Diagnostic Agent and the Novell Find Agent that runs on an IPX environment.

To start the Novell Diagnostic Agent:

1. From the Control Panel, click Services.
2. Select Novell Diagnostic Agent 3.0, then click Start.

To start the Novell Find Agent:

1. From the Control Panel, click Services.
2. Select Novell Find Agent 3.0, then click Start.

Stopping the Agents on Windows Servers

To stop the services on Windows 2000/2003 server:

1. On Windows 2000/2003, from the Control Panel, double-click Administrative Tools > Services.
2. Select SNMP, then click Stop.

   When the SNMP service is stopped, the Server Management Agent, Traffic Analysis Agent, and the Advanced Trending Agent also stop.

Stopping other Agents of Server Management

To stop the Novell Diagnostic Agent:

1. From the Control Panel, click Services.
2. Select Novell Diagnostic Agent 3.0, then click Stop

To stop the Novell Find Agent:

1. From the Control Panel, click Services.
2. Select Novell Find Agent 3.0, then click Stop

Linux or Solaris Servers

Starting and stopping instructions are provided for the following Server Management components:

- “Policy and Distribution Services” on page 315
- “Management and Monitoring Services” on page 316

Policy and Distribution Services

- “Starting Policy and Distribution Services on Linux Servers” on page 315
- “Restarting Policy and Distribution Services on Linux Servers” on page 316
- “Stopping Policy and Distribution Services on Linux Servers” on page 316

Starting Policy and Distribution Services on Linux Servers

1. At the server console or in the Xterm window, enter **`/etc/init.d/novell-zfs start`**.
2. To verify that the Policy and Distribution Services is started, enter **`/etc/init.d/novell-zfs status`**.

Restarting Policy and Distribution Services on Linux Servers

1. At the server console or in the Xterm window, enter **`/etc/init.d/novell-zfs restart`**.

   If Policy and Distribution Services is running at the time this command is issued, it is both stopped and restarted.

2. To verify that the Policy and Distribution Services is started, enter **`/etc/init.d/novell-zfs status`**.

Stopping Policy and Distribution Services on Linux Servers

1. At the server console or in the Xterm window, enter **`/etc/init.d/novell-zfs stop`**.
2. To verify that the Policy and Distribution Services is stopped, enter **`/etc/init.d/novell-zfs status`**.

Management and Monitoring Services

- "Starting the Agents on Linux Servers" on page 316
- "Stopping the Agents on Linux Servers" on page 317

Starting the Agents on Linux Servers

The installation script automatically starts the Linux Management Agent and the Advanced Trending Agent. However, you might want to manually start the agents during specific scenarios.

The Linux Management Agent comprises of two parts: servinst and novell-log2trapd.

When you start the SNMP service, servinst and the Advanced Trending Agent are automatically started.

To manually start servinst:

1. At the server console or in the Xterm window, enter **`/etc/init.d/snmpd start`**.
2. To verify that the SNMP service is started, enter **`/etc/init.d/snmpd status`**.

To manually start novell-log2trapd:

1. At the server console or in the Xterm window, enter **`/etc/init.d/novell-log2trapd start`**.
2. To verify that the SNMP service is started, enter **`/etc/init.d/novell-log2trapd status.`**

Stopping the Agents on Linux Servers

You seldom need to stop the Management and Monitoring Services agents on Linux servers.

This procedure is a reference to enable you to manually stop the services during specific scenarios.

To stop the agents:

1. At the server console or in the Xterm window, enter **`/etc/init.d/snmpd stop`**.

When you specify the above command, all the agents working with snmpd will stop. If you do not want to load the Advanced Trending Agent or servinst, do the following before restarting the snmpd service:

1. In the /var/opt/novell/log/zenworks/zfs-mms-advtrend-rpm.log file, locate the line `Modifying path/*snmpd.conf`, where *path* is the complete path to the configuration file.
2. Open the configuration file specified in the above line.
3. Comment the line `dlmod` *`agentname path`*.

   IMPORTANT: The name of the agent is servinst for Server Management and advtrend for Advanced Trending Agent.
4. Start the snmpd service.

To manually stop novell-log2trapd:

1. At the server console or in the Xterm window, enter **`/etc/init.d/novell-log2trapd stop`**.

C Ensuring Successful DNS Name Resolution

If DNS is in use in your network, the Windows workstation you use to install Novell® ZENworks® Server Management components to servers throughout your network must have access to a DNS name server. In addition, the servers where you install Server Management components must have valid entries in DNS.

DNS is not required for Management and Monitoring Services.

If you have a NAT (Network Address Translation) environment, a recipient might or might not be able to reply (depending on the routes available back to the sender), because Internet routers drop packets having destinations of 10.x.x.x, 172.16.x.x, or 192.168.x.x.

IMPORTANT: DNS names are not required for installing ZENworks Server Management in an exclusively NetWare environment. However, if there is even one Windows, Linux, or Solaris server in your network environment, DNS is required for installing ZENworks Server Management.

Understanding DNS Terminology

If you are not already familiar with DNS, review the following terminology:

- **fully qualified domain name (FQDN):** A server name that includes a list of all domains in the path from the local domain to the root; for example, server47.servers.novell.com.
- **forward lookup:** Resolves an FQDN into its IP address.
- **reverse lookup:** Resolves an IP address into its FQDN.
- **ping:** The NetWare, Windows, Linux, or Solaris command that accesses DNS to test whether a specified FQDN or IP address can be resolved. Refer to your operating system documentation for additional information about this command.

Using Underscore Characters in DNS Names

As of ZENworks 6.5, underscore (_) characters can be used in the DNS names of servers.

Testing DNS Functionality

The following sections help you test your system for DNS functionality and help you resolve any problems that you discover during testing:

Testing and Configuring a Windows Workstation for DNS

In order to access DNS, a workstation must be enabled for DNS name resolution and be configured to locate a valid DNS name server.

Testing a Windows Workstation for DNS Access

From the workstation, ping the servers where you want to install ZENworks Server Management components. Specify the servers' DNS hostnames, not their IP addresses. If the servers do not respond to the ping command, the workstation might not be configured for DNS. Continue with "Enabling a Windows Workstation for DNS Name Resolution" on page 320.

Enabling a Windows Workstation for DNS Name Resolution

In order for a workstation to perform DNS name resolution, DNS must be selected in the Protocol Component Settings list on the Novell Client Protocol Preferences properties tab.

For example, on Windows 2000:

1. Right-click Network Services (the red N), the click Novell Client Properties.
2. Click Protocol Preferences, make sure that DNS is selected in the Protocol Component Settings box, then click OK to exit.

Specifying a DNS Name Server for a Windows Workstation

A workstation cannot perform DNS name resolution successfully unless it has access to a DNS name server specified on the Internet Protocol (TCP/IP) DNS properties tab.

For example, on Windows 2000/2003:

1. In the Control Panel, double-click Network and Dial-up Connections.
2. Double-click Local Area Network, then click Properties.
3. Select Internet Protocol (TCP/IP) in the components list, then click Properties.

   On the General tab, you can choose to let the workstation obtain the DNS name server IP address automatically, or you can specify one or more DNS name server IP addresses manually. For additional DNS configuration options, click Advanced, then click DNS.
4. Select Novell Client for Windows 2000 in the components list, then click Properties.

5 Click Protocol Preferences, make sure that DNS is listed in the Protocol Component Settings box, then click OK > OK > Close to exit the dialog boxes.

Testing and Configuring a NetWare Server for DNS

Review the following sections to make sure that a NetWare server is configured properly for DNS:

- "Testing Forward Lookup on NetWare" on page 321
- "Testing Reverse Lookup on NetWare" on page 321
- "Configuring a NetWare Server for DNS" on page 321

Testing Forward Lookup on NetWare

From the NetWare server console, ping that server's own FQDN. For example:

ping nwserver47.servers.novell.com

If the ping returns an IP address, forward lookup is functioning. If there is no response from the NetWare server, see "Configuring a NetWare Server for DNS" on page 321.

Testing Reverse Lookup on NetWare

From a Windows workstation, ping the NetWare server's IP address. For example:

ping -a 123.45.67.89

If the ping returns a DNS hostname, reverse lookup is functioning. If there is no response from the NetWare server, see "Configuring a NetWare Server for DNS" on page 321.

Configuring a NetWare Server for DNS

On the NetWare server, check the sys:\etc\resolv.cfg file to make sure the information it contains is correct.

For more information about DNS on NetWare, see *DNS/DHCP Services* (http://www.novell.com/documentation/lg/dns_dhcp/index.html).

Testing and Configuring a Windows Server for DNS

Review the following sections to make sure that a Windows server is configured properly for DNS:

- "Testing Domain Configuration on Windows" on page 321
- "Testing Forward Lookup on Windows" on page 322
- "Testing Reverse Lookup on Windows" on page 322
- "Configuring a Windows Server for DNS" on page 322

Testing Domain Configuration on Windows

On the Windows server, ping that server's own IP address. For example:

ping -a 123.45.67.90

If the ping is successful, the domain is configured correctly for that server. If there is no response from the Windows server, see "Configuring a Windows Server for DNS" on page 322.

Testing Forward Lookup on Windows

On Windows server A, ping the FQDN of Windows server B. For example:

ping winserver5.servers.novell.com

If the ping returns an IP address, forward lookup is functioning. If there is no response from the Windows server, see "Configuring a Windows Server for DNS" on page 322.

Testing Reverse Lookup on Windows

On Windows server B, ping the IP address of Windows server B. For example:

ping -a 123.45.67.91

or

nslookup 123.45.67.91

If the ping returns a DNS hostname, reverse lookup is functioning. If there is no response from the Windows server, see "Configuring a Windows Server for DNS" on page 322.

Configuring a Windows Server for DNS

Make sure that the Windows server's DNS short name is exactly the same as the server name. Also make sure that the Windows server has a DNS suffix.

To check the server name and DNS suffix:

1. Right-click My Computer, click Properties, then click Network Identification.

   The Full Computer Name field displays the server name (for example, winserver5), followed by its DNS suffix (for example, servers.novell.com) if one has already been provided.

2. If the server name does not match the server's DNS short name:

   - Rename the server to match the existing DNS entry. On the Network Identification tab, click Properties, edit the Computer Name field to match the server's DNS short name, then click OK.

     or

   - Modify the DNS entry to match the existing server name.

3. If the Full Computer Name field does not include a DNS suffix:

   3a. Click Properties, then click More.

   3b. In the Primary DNS Suffix field, specify the DNS suffix for the server.

   3c. Click OK.

4. Reboot the Windows server to put the new server name information into effect.

5. Check the \winnt\system32\drivers\etc\hosts file to make sure that the information listed in it is correct.

   For example, you must have a local host entry pointing to 127.0.0.1, which the facilitator requires for communicating with ZENworks Web Server.

For more information about DNS on Windows, refer to Windows online help about using the DNS administrative tool.

Testing and Configuring a Linux or Solaris Server for DNS

Review the following sections to make sure that a Linux or Solaris server is configured properly for DNS:

- "Testing Forward Lookup on Linux or Solaris" on page 323
- "Testing Reverse Lookup on Linux or Solaris" on page 323
- "Configuring a Linux or Solaris Server for DNS" on page 323

Testing Forward Lookup on Linux or Solaris

From the Linux or Solaris server, ping that server's own FQDN. For example:

ping unxserver25.servers.novell.com

If the ping returns an IP address, forward lookup is functioning. If there is no response from the Linux or Solaris server, see "Configuring a Linux or Solaris Server for DNS" on page 323.

Testing Reverse Lookup on Linux or Solaris

From a Windows workstation, ping the Linux or Solaris server's IP address. For example:

ping -a 123.45.67.100

Or from the Linux or Solaris server, use:

nslookup 123.45.67.100

If the ping returns a DNS hostname, reverse lookup is functioning. If there is no response from the Linux or Solaris server, see "Configuring a Linux or Solaris Server for DNS" on page 323.

Configuring a Linux or Solaris Server for DNS

On the Linux or Solaris server, make sure that the /etc/hosts file has the correct IP address and FQDN for itself. Make sure that the loopback address line (127.0.0.1) reads `localhost.localdomain`, not the server's FQDN.

For more information about DNS on Linux or Solaris, refer to your operating system documentation.

D Installing and Configuring the Windows SNMP Service

This section provides you with information on installing and configuring the SNMP service on Windows 2000/2003 servers.

To install and configure SNMP on Windows 2000/2003:

1. Install the SNMP service.
   - **1a** In the Control Panel, select Add/Remove Programs.
   - **1b** Open Add/Remove Windows Components.
   - **1c** In the Windows Components Wizard, double-click Management and Monitoring Tools.
   - **1d** Select Simple Network Management Protocol.
   - **1e** Click OK.
   - **1f** Click Next.

     SNMP is started automatically after installation.
2. Configure the SNMP Trap service to start automatically.
   - **2a** In the Control Panel, select Administrative Tools, then select Services.
   - **2b** Click SNMP Trap Service, then click Startup.
   - **2c** In the Startup Type options, select Automatic.
3. Specify the trap community name and trap destination address so that the agent sends traps to the management server.
   - **3a** In the Control Panel, select Administrative Tools, then click Services.
   - **3b** Double-click SNMP Service to open the SNMP Service Properties dialog box.
   - **3c** Click the Traps tab on this dialog box.
   - **3d** Select a name from the Community Names box, then click Add.

     The Add button is disabled if there are no community names available.
   - **3e** If the public community name is not present, enter **`public`**.
   - **3f** Click Add.
   - **3g** Use the Trap Destinations box to add other DNS names and IP addresses in addition to the loopback IP address for the workstations or servers that should receive traps.
   - **3h** Click OK.

4 Set the SNMP security options trap community name so that SNMP packets from any host are accepted by the agent.

4a In the Control Panel, select Administrative Tools, then click Services.

4b Double-click SNMP Service.

4c Click Properties.

4d Click the Security tab.

4e In the Accepted Community Names box, click Add.

4f Select a name from the Community Name box, or type **public**.

The Accepted Community Names list displays the community names from which Windows 2000/2003 will accept requests.

4g Click Add.

4h Select Accept SNMP Packets from Any Host, then click OK.

IMPORTANT: After installing the SNMP services, you should reinstall the Windows service packs again.

E ZENworks Server Management in a Clustered Environment

This section is designed for those who are performing an initial installation of Novell® ZENworks® Server Management components in the context of Novell Cluster Services™.

Clustering is not supported for Remote Management in ZENworks 6.5 Server Management.

IMPORTANT: If you want to install the Server Inventory component of ZENworks 6.5 Server Management in a clustered environment, you must apply TID 10096608 (see the Novell Support Knowledgebase) (http://support.novell.com/search/kb_index.jsp). However, if you upgrade Server Inventory to ZENworks 6.5 Server Management Support Pack 1 or 2 (SP1 or SP2), you do not need to apply the TID because SP1 or SP2 supports installation of Server Inventory in a clustered environment.

Introduction to Novell Cluster Services and ZENworks Server Management

Before implementing ZENworks Server Management with Novell Cluster Services, make sure you have a solid understanding of Novell Cluster Services by reviewing the following information resources:

- **AppNote:** *An Introduction to Novell Cluster Services* (http://developer.novell.com/research/appnotes/1999/may/01/a990501_.pdf)
- **NetWare 6.5 Product Documentation:** *Novell Cluster Services* (http://www.novell.com/documentation/ncs65/index.html)
- **NetWare 6 Product Documentation:** *Novell Cluster Services* (http://www.novell.com/documentation/ncs6p/index.html)
- **NetWare 5.1 Product Documentation:** *Novell Cluster Services* (http://www.novell.com/documentation/ncs/index.html)

When you review the information resources recommended above, you discover that clustering employs very specialized terminology. The following brief glossary provides basic definitions of clustering terms and relates them to your ZENworks Server Management component installation:

- **cluster:** A grouping of from two to 32 NetWare® servers configured using Novell Cluster Services so that data storage locations and applications can transfer from one server to another without interrupting their availability to users. It is represented by a Cluster object in Novell eDirectory™.

- **node:** A clustered server; in other words, a single NetWare server that is part of a cluster.
- **resource:** An IP address, volume, application, service, and so on, that can function successfully on any node in the cluster. The volumes where you install ZENworks Server Management components are a specific type of cluster resources termed "volume resources."
- **failover:** The process of moving cluster resources from a failed node to a functional node so that availability to users is uninterrupted. For example, if the node where a Distributor is running goes down, the Distributors would fail over to a secondary node in the cluster so that the Distributor could continue functioning without significant interruption.
- **failback:** The process of returning cluster resources to their preferred node after the situation causing the failover has been resolved. For example, if Traffic Analysis fails over to a secondary node, that cluster resource can be configured to fail back to its preferred node when the problem is resolved.
- **shared disk system:** The hardware housing the physical disk volumes that are shared among the nodes in a cluster.
- **shared volume:** A volume in a shared disk system that can be accessed from any node that needs the data stored on it.
- **cluster-enabled shared volume:** A shared volume for which a Volume Resource object has been created in eDirectory.

  IMPORTANT: Cluster-enabling is required for ZENworks Server Management components.
- **virtual server:** A logical server, rather than a physical node, to which cluster-enabled shared volumes are tied.
- **storage area network (SAN):** The clustered nodes together with their shared disk system and shared volumes.

Cluster Ready and Cluster Aware Modes

Installation of ZENworks in a cluster can be in one of two cluster modes:

- **Cluster Ready:** ZENworks is installed to the Cluster object that permits failover of ZENworks. You can install only one instance of a ZENworks Server Management component in such a cluster because ZENworks Server Management treats the cluster as if it were a single server.
- **Cluster Aware:** ZENworks can be installed to individual nodes. ZENworks simply exists on the server that also happens to be a cluster node server.

The following sections apply only to the Cluster Ready mode.

Getting Started with Clustering

Before you install a ZENworks Server Management component in a clustered environment, you must install Novell Cluster Services and perform some preparatory tasks:

- "Meeting System Requirements for Clustering" on page 329
- "Installing Novell Cluster Services" on page 331
- "Cluster-Enabling Shared Volumes for Use with ZENworks Server Management Components" on page 329

Meeting System Requirements for Clustering

ZENworks Server Management components can be installed in a cluster that meets the following requirements:

- DNS

  DNS must be functioning reliably throughout your network so that DNS hostnames and IP addresses can always be successfully resolved.

- NetWare 6.5 with SP1a or SP2

  or

  NetWare 6 with SP4 or SP5

  or

  NetWare 5.1 with SP6, SP7, or SP8 (SP8 if SP1 or SP2 is applied to ZENworks 6.5)

  With NetWare 5.1, you need to meet the following additional requirements:

  - Novell Cluster Services Support Pack 2 or 3 or later
  - The latest Novell Cluster Services snap-in to ConsoleOne®

    You can download the latest snap-in, along with the version of ConsoleOne that supports it, from Novell Software Downloads (http://download.novell.com). This version includes changes that enable you to modify cluster-related object names.

IMPORTANT: Novell Cluster Services does not support mixed NetWare versions within a cluster.

Cluster-Enabling Shared Volumes for Use with ZENworks Server Management Components

Cluster-enabling the shared volumes where ZENworks Server Management components are installed is required.

- "Understanding Cluster-Enabling" on page 329
- "Cluster-Enabling a Shared Volume" on page 330

Understanding Cluster-Enabling

To review the concept of cluster-enabled shared volumes, see the applicable section of *Novell Cluster Services Overview and Installation* for your version of NetWare:

- NetWare 6.5: Cluster-Enabling Shared Volumes for Use with ZfS Components (http://www.novell.com/documentation/zfs302/zfs_install/data/aewf3me.html#aewfggh)
- NetWare 6: "Cluster Enable Pools and Volumes"
- NetWare 5.1: "Cluster-Enable Volumes "

When you cluster-enable a volume, additional eDirectory objects are created:

Object	Object Name and Description
	***cluster_name_volume_name*** (default object name) A new Volume object represents the cluster-enabled volume. It is created by renaming the original Volume object that was tied to a physical server and associating it with a virtual server instead. For example, if your cluster name is ZFSCLUSTER and your original volume name is ZFSVOL1, the new Volume object representing the cluster-enabled volume is named ZFSCLUSTER_ZFSVOL1.
	***cluster_name_volume_name*_SERVER** (default object name) A new Server object represents the virtual server to which the new cluster-enabled volume is tied. Continuing with the above example, the new Server object representing the virtual server is named ZFSCLUSTER_ZFSVOL1_SERVER.
	***volume_name*_SERVER.*clustername*** (default object name) A new Volume Resource object stores property information for the cluster-enabled volume. The Volume Resource object is created in the Cluster container object. Continuing with the above example, the new Volume Resource object is named ZFSVOL1_SERVER.ZFSCLUSTER.

IMPORTANT: The default object names include the underscore (_) character. However, DNS name servers cannot resolve object names that include underscore characters. If you have met the requirements described in "Meeting System Requirements for Clustering" on page 329, you can rename these objects as needed when you cluster-enable the volume.

Cluster-Enabling a Shared Volume

To cluster-enable a shared volume for use with a ZENworks Server Management component:

1. Complete the steps in the applicable section of *Novell Cluster Services Overview and Installation* for your version of NetWare:
   - NetWare 6.5: Cluster-Enabling Shared Volumes for Use with ZfS Components (http://www.novell.com/documentation/zfs302/zfs_install/data/aewf3me.html#aewfggh)
   - NetWare 6: "Cluster Enable Pools and Volumes"
   - NetWare 5.1: "Cluster-Enable Volumes "
2. If necessary, rename cluster-related objects to eliminate the underscore (_) characters that are included by default.
3. Repeat Step 1 and Step 2 above for the other shared volumes that need to be cluster-enabled for use with ZENworks Server Management components.
4. Install a ZENworks Server Management component in the cluster, following the instructions in:
   - "Installing Policy and Distribution Services and Server Inventory in a Cluster" on page 331
   - "Installing Management and Monitoring Services in a Cluster" on page 343

Installing Novell Cluster Services

Install Novell Cluster Services by following the instructions provided in *NetWare Cluster Services Overview and Installation* for your version of NetWare:

- NetWare 6.5: Installing ZENworks for Servers in a Clustered Environment (http://www.novell.com/documentation/zfs302/zfs_install/data/aetx4fj.html#aetx4fj)
- NetWare 6: "Installation and Setup"
- NetWare 5.1: "Installation and Setup"

The installation process includes:

- Meeting hardware and software requirements for Novell Cluster Services
- Setting up a shared disk system
- Creating a new Cluster object to represent the cluster in eDirectory
- Adding servers to the cluster
- Installing the Novell Cluster Services software on all nodes in the cluster
- Mounting the shared volumes where you will install ZENworks Server Management components

As you install Novell Cluster Services, record key information about the cluster. You need this information as you install ZENworks Server Management components in the cluster:

- eDirectory tree where you create the Cluster object
- Name of the Cluster object
- Context of the Cluster object

Installing Policy and Distribution Services and Server Inventory in a Cluster

Issues with Using ZENworks in a Cluster

Advantages

- Configuring Policy and Distribution Services with Novell Cluster Services ensures high availability of Tiered Electronic Distribution.
- Installing a Distributor and Subscriber in a cluster ensures the transmission and reception of policies and software.
- Installing Inventory agent in a cluster ensures reception of the hardware and software inventory information for the cluster nodes.

- Installing the Server Management database for distribution and policies information in a cluster ensures that the database is always available when the Distributor and Policy/Package Agents need to log Distribution processing information.
- Installing the Inventory database in a cluster ensures that the database is always available when you need to access or report inventory information.
- For Policy and Distribution Services only, installing the Web components and supporting software in a cluster ensures that you can always monitor and manage the distribution process throughout your network.

Disadvantages

- Installing Policy and Distribution Services and Inventory agent on a cluster resource means that you can only manage the cluster node running that resource.

Installation Prerequisites

Before you install and configure Novell ZENworks 6.5 Server Management to run with Novell Cluster Services, make sure that all of the hardware and software requirements for the respective products are met, including:

- ❑ At least two NetWare® 6 or NetWare 6.5 servers (also called “nodes”) where Novell Cluster Services can be installed
- ❑ Novell Cluster Services 1.6 installed and running on the NetWare 6 servers that will be part of the cluster
- ❑ Novell Cluster Services 1.7 installed and running on the NetWare 6.5 servers that will be part of the cluster
- ❑ A cluster volume created and cluster-enabled (this is called a virtual server or a cluster server)

  For more information on clustering, see the Novell Cluster Services documentation (http://www.novell.com/documentation).

Installation Steps

The installation program walks you through installing the Policy and Distribution Services software for Distributors, Subscribers, and the Policy and Distribution database, and installing the Server Inventory software.

You can install Policy and Distribution Services in a cluster in the following scenarios:

- Install Policy and Distribution Services in a cluster
- Install only the Subscriber software in a cluster and its object in the same tree where the Cluster object resides
- Install both the Distributor and Subscriber software in a cluster with their objects in a different tree than where the Cluster object resides

In the latter two scenarios, the zfs-startup.xml file on the cluster volume must be edited to add the -hosts switch before you offline the cluster to bring up ZENworks Server Management. This is documented in Step 2 below.

You can install any or all the components of Server Inventory on a cluster node.

To install Policy and Distribution Services and Server Inventory to a cluster:

1. Follow the instructions provided in "Installation on NetWare and Windows" on page 61, keeping in mind the following cluster-specific details:

   - In Step 2 on page 73, select the Cluster object, not the specific servers in the cluster.

     IMPORTANT: In Cluster Ready mode, you can install only one instance of Policy and DIstribution Services (one Distributor and/or one Subscriber) in a cluster because Policy and Distribution Services treats a cluster as if it were a single server.

     You can also select non-clustered servers at the same time you are installing to a cluster.

   - In Step 2 on page 79, specify an installation path on a cluster-enabled volume.

     IMPORTANT: Do not use double-byte or extended characters in any part of an installation path, including a NetWare volume name.

   The installation program installs the Policy and Distribution Services and Server Inventory software on the specified cluster-enabled volume. From that location, the Distributor Agent, Policy/Package Agent, and Server Inventory components can run on any of the nodes in the cluster. If the node where they are running goes down, they automatically fail over to another node in the cluster.

   The installation program also updates the load and unload scripts associated with the Cluster object, which makes the failover/failback process possible.

   IMPORTANT: Page faults, which could abend a NetWare server and cause the desired failover, is handled by the JVM, preventing a server from abending. To ensure that failover occurs when only ZENworks stops while the server continues to operate, you need to add the -neh parameter to the Java command line. This is covered in Step 3 below.

2. If you only installed a Subscriber to the cluster (its software to the cluster volume and its object into the same tree where the Cluster object resides), or you installed the Distributor and Subscriber software to the cluster volume, but their objects to a different tree than where the Cluster object resides, do the following:

   2a Open the following file in a text editor:

   ```
   Installation_path\zenworks\zfs-startup.xml
   ```

   2b Search for the following class:

   ```
   <Class>com.novell.application.zenworks.ted.TED</Class>
   ```

   2c Edit the following parameter that is listed under the class:

   ```
   <Parameter Name="Hosts" />
   ```

   Change it to include the DNS hostnames or IP addresses of your hosts. For example:

   ```
   <Parameter Name="Hosts">192.68.1.203</Parameter>
   ```

   Note the addition of the closing </Parameter> code and the closing > character after the "Hosts" name. Your DNS hostnames and IP addresses go between the codes as show above.

   Do not list those that are bound to the server's NIC card.

   If you list more than one host, your list of DNS hostnames and IP addresses should be delimited by a semicolon (;). For example:

   ```
   <Parameter
   Name="Hosts">192.68.1.203;192.68.1.204;server001.provo.novell.com</
   Parameter>
   ```

You can mix DNS hostnames and IP addresses in the list.

2d Save your changes, then close the file.

3 This step is not applicable to the Inventory Agent.

In the text editor, edit the \zenworks\zfs.ncf file and insert the -neh parameter to change the line similar to the following from:

```
java -Xmx384M -envDISPLAY=127.0.0.1:0 -noclassgc -nsac -jszfsexit
-snZENworks -classpath $tedpath
com.novell.application.zenworks.loader.ZENLoader
SYS:\zenworks\zfs-startup.xml
```

to

```
java -neh -Xmx384M -envDISPLAY=127.0.0.1:0 -noclassgc -nsac -jszfsexit
-snZENworks -classpath $tedpath
com.novell.application.zenworks.loader.ZENLoader
SYS:\zenworks\zfs-startup.xml
```

then save your changes and exit the text editor.

4 If you previously installed Server Inventory in a ZENworks 6.5 Server Management cluster, do the following:

4a Open the cluster node unload script for editing.

4b If Sybase is installed, locate and change:

```
unload dbsrv8.nlm
```

to read:

```
unload dbsrv8.nlm <<y
```

The <<y automatically answers Yes to an unload question that requires a reply to continue.

4c Locate the Java -killzfsexit entry.

4d Insert the following before the above entry:

```
java -killzenWSInv
delay 8
```

4e On each cluster node server, open the sys:\system\startinv.ncf file and remove or comment out the following entry:

```
ZWSSTART
```

4f Continue with "Configuring Server Inventory" on page 335, then return to these steps.

5 To start the Server Management components for the first time, offline the cluster and then online it again.

This causes the clustering software to reread the updated load script and load the Server Management agents.

6 If you need to install Management and Monitoring Services in a cluster, continue with "Installing Management and Monitoring Services in a Cluster" on page 343.

Configuring Server Inventory

After you have completed the Server Inventory installation, you need to configure Server Inventory to work in the clustering environment. The following steps provide the configuration information you need:

1. Configure the Inventory database object. If you have selected Sybase* during Server Management installation, the installation program creates the Database object (Inventory database_*server_name*) and configures the properties of this object. Skip Step 1a and 1b. If you are using Oracle* or MSSQL, continue with Step 1a.

   1a If you are maintaining the Inventory database in Oracle or MSSQL, ensure that you have created the Database object and configured the properties. For more information, see "Configuring the Inventory Database Object on a NetWare Server" on page 104.

   1b To configure the Database object for a cluster environment: In ConsoleOne®, right-click the Database object, click Properties, click ZENworks Database, Browse for the DN (NCP server object) of the virtual server or specify the IP address of the virtual server, and then click OK.

2. If, during installation, standalone configuration is not selected then while creating database location policy set Inventory database to Inventory database_*virtual_server_name*.

3. While creating the Server inventory policy, set the Inventory Service object DN to Inventory Service_*virtual_server_name*.

4. To configure all roll-up policies, select the Inventory service object of the cluster service (Inventory Service_*virtual_server_name*).

   For further information on uninstalling or reinstalling Server Inventory in a clustered environment, see "Uninstalling or Reinstalling Server Inventory in a Cluster" on page 335.

5. Return to Step 5 on page 334.

Uninstalling or Reinstalling Server Inventory in a Cluster

Uninstalling ZENworks 6.5 Server Inventory in a Clustered Environment

The Server Inventory component of ZENworks Server Management cannot be uninstalled automatically. You must manually remove the Inventory server, the Inventory database running on Sybase, the Novell eDirectory™ objects, Inventory agent, and the Server Inventory snap-in files from Novell ConsoleOne®.

NOTE: If your Inventory database is mounted on Oracle or MS SQL, follow the uninstall procedure recommended by Oracle or MS SQL respectively.

You must remove the objects and the files from every server and workstation where the Server Inventory components were installed.

In an enterprise deployment of Inventory, uninstall all Leaf Servers first, then proceed to uninstall Intermediate Servers, and finally the Root Server. Before uninstalling Server Inventory, make sure you have made and archived a reliable backup of the Inventory database residing at the Root Server.

To manually uninstall Server Inventory, proceed in the following order:

1. "Uninstalling the Server Inventory eDirectory Objects" on page 336
2. "Uninstalling the Database eDirectory Object" on page 337
3. "Uninstalling the Sybase Inventory Database" on page 337
4. "Uninstalling the Sybase Engine" on page 337
5. "Uninstalling the Inventory Agent" on page 338
6. "Uninstalling the Inventory Server Software" on page 338
7. "Uninstalling the XML Proxy Server" on page 340
8. "Uninstalling the Server Inventory Snap-Ins from ConsoleOne" on page 340
9. "Applying Changes to the Cluster Scripts" on page 341

Uninstalling the Server Inventory eDirectory Objects

To remove the ZENworks Server Management Server Inventory eDirectory objects:

1 On the NetWare Inventory server, stop the Inventory services by entering **`StopSer *`** at the server console prompt.

2 If the ZENworks Database policy is enabled, disable it.

2a In ConsoleOne, right-click the Service Location Package object, click Properties, then click Policies.

2b Select the ZENworks Database policy, click Properties, then click the Inventory Management tab.

2c Delete the specified Inventory Database entry, then click OK.

IMPORTANT: If the ZENworks Database policy is used by more than one Inventory server, you must uninstall those Inventory servers before performing this step.

3 Disable the Server Inventory policy.

3a Right-click the Distributed Server Package, click Properties, click Policies, then click the General or NetWare tab.

3b If the Server Inventory policy is enabled, select the policy, click the Reset button, the click Yes.

3c Disable the Server Inventory policy.

If you have configured the Server Inventory policy for more than one operating system, select the operating system option from the Policies tab and repeat this step.

3d Click Apply, then click Close.

4 Disable the Roll-Up policy and the Dictionary Update policy, if the policies are enabled.

4a Right-click the Server Package, click Properties, click Policies, then click the NetWare tab.

4b If the Roll-Up policy is enabled, select the policy, click the Reset button, then click Yes.

4c Disable the Roll-Up policy.

4d If the Dictionary Update policy is enabled, select the policy, click the Reset button, then click Yes.

4e Disable the Dictionary Update policy.

4f Click Apply, then click Close.

5 In ConsoleOne, locate the container holding the Inventory Service object and delete the Inventory Service object.

Uninstalling the Database eDirectory Object

In ConsoleOne, locate the container holding the Inventory database object and delete the Inventory database object.

Uninstalling the Sybase Inventory Database

1 Stop Sybase by entering **q** at the Sybase console prompt.

2 Delete the database_path\mgmtdb.db entry from sys:\system\mgmtdbs.ncf on all cluster nodes.

IMPORTANT: Do not delete other database paths.

3 Note the value of the INVDBPATH key in sys:\system\zenworks.properties on any of the cluster nodes.

4 From the value identified in the INVDBPATH key, delete the Inventory database files (mgmtdb*.db), including mgmtdb.log on all cluster nodes.

IMPORTANT: Do not delete the database files if they contain ZENworks 6.5 Desktop Management - Workstation Inventory information.

5 Delete the INVDBPATH key from sys:\system\zenworks.properties on all cluster nodes.

6 Delete the ZFS_INVENTORY_DATABASE_SERVER key.

Delete the following section from sys:\system\zenworks.properties on all cluster nodes:

```
[ZfS_Inventory_Database_Server]

Version = 6.5.0.Server_Management_product_build_date

Installed_From = Product CD

Support_Pack = 0
```

7 Start Sybase if it is not uninstalled and if it is used by other ZENworks products.

At the Sybase console prompt, enter **mgmtdbs.ncf**.

Uninstalling the Sybase Engine

You can remove the Sybase engine only if it is not used by other ZENworks products.

1 If Sybase is used by other ZENworks products, you must uninstall the database first before proceeding to uninstall the Sybase engine.

2 Stop Sybase by entering **q** at the Sybase Console prompt.

3 Note the value of the DBENGINEPATH key in sys:\system\zenworks.properties on any of the cluster nodes.

4 Verify if the database is mounted on the database server.

The sys:\system\mgmtdbs.ncf file on any cluster node has the .db entry if the database is mounted on the database server.

- If the file contains the .db entry, do not continue to remove the Sybase engine.

  Its presence means the Sybase engine is in use by other software.

- If the file does not contain the .db entry, delete mgmtdbs.ncf from all cluster nodes.

5. Delete the mgmtdbs.ncf entry from the cluster load script on all cluster nodes.
6. Delete dbsrv8.nlm from the unload script.
7. Delete the directory specified in DBENGINEPATH (identified in Step 3).
8. Delete the DBENGINEPATH key from sys:\system\zenworks.properties on all cluster nodes.

Uninstalling the Inventory Agent

1. Execute the following commands at the server console prompt:

```
invagentstop.ncf
java -exit
```

2. Delete the following files from sys:\system on all cluster nodes:

   hwinvsrc.ini
   invaid.nlm
   invsetup.ini
   mpkscan.nlm
   nwapi.bak
   nwapi.map
   smile.bak
   smile.map
   suppl.bak
   suppl.map

3. Delete sys:\java\bin\invnatve.nlm on all cluster nodes.
4. Note the value of the ZENworksPath, PDSPath and the InvAgentPath keys in sys:\system\zenworks.properties on any of the cluster nodes.
5. Delete the Inventory Agent installation directory identified in the InvAgentPath key on all cluster nodes.
6. Delete invagentnw.jar from the *PDSPath*\smanager\plugins directory on all cluster nodes.
7. Delete the Inventory Agent key from the `HKEY_LOCAL_MACHINE\SOFTWARE\NOVELL\ZENWORKS\ZFS` registry entry on all cluster nodes.
8. In *PDSPath*\smanager\zfs.ncf, delete the following entry on all cluster nodes.

```
load sys:\\java\\bin\\invnatve
```

Uninstalling the Inventory Server Software

1. On the NetWare Inventory server, stop the Inventory service by entering **`StopSer *`** at the console prompt.
2. Unload the java.nlm by entering **`java -exit`** at the NetWare Inventory server console.
3. Note the values of the INVSRVPATH and ZWSPATH keys in sys:\system\zenworks.properties on any of the cluster nodes.

4. Delete the ZFS_INVENTORY_SERVER key.

   Delete the following section from sys:\system\zenworks.properties from all cluster nodes:

   ```
   [ZfS_Inventory_Server]
   Version = 6.5.0.build_date
   Installed_From = Product CD
   Support_Pack = 0
   ```

5. Delete the *invsrvpath*\scandir directory on all cluster nodes.
6. Delete the *invsrvpath*\server directory on all cluster nodes.
7. Delete the following entries from the cluster load script on all cluster nodes:

   ```
   ; ZENworks Inventory Settings

   StartInv.ncf
   ```

8. Delete the following entries from the unload script:

   ```
   java -killzenwsinv

   java -killzwexit
   ```

9. Delete the following files from sys:\system directory on all cluster nodes:

   addenums.ncf
   dbexport.ncf
   debug.properties
   dupremove.ncf
   enumsmodifier.ncf
   invenv.ncf
   invenvset.ncf
   listser.ncf
   startinv.ncf
   startser.ncf
   startzws.ncf
   stopdb.ncf
   stopser.ncf

10. If Policy and Distribution Services and the XML Proxy server are not installed on the Inventory server, remove the ZENworks Web Server components by deleting the directory specified by ZWSPATH.

    10a. Delete the following entries from the cluster load script on all cluster nodes:

    ```
    ; ZENworks Inventory Settings

    ZFS.ncf
    ```

    10b. Delete zwsstart.ncf from the sys:\system directory on all cluster nodes.

    10c. Delete the ZWSPATH key from sys:\system\zenworks.properties on all cluster nodes.

    10d. Delete *zws_volume*:\zfs-startup.xml.

    10e. Delete *zws_volume*:\zenworks\zfs.ncf

11. Delete the INVSRVPATH key from sys:\system\zenworks.properties on all cluster nodes.

Uninstalling the XML Proxy Server

1. Unload the java.nlm by entering **`java -killzfsexit`** at the server console prompt.
2. Note the value of the ZWSPATH in sys:\system\zenworks.properties on any of the cluster nodes.
3. Delete the following section from sys:\system\zenworks.properties on all cluster nodes:

```
[ZfS_XML_Proxy_Server]
Version=6.5.0.Server_Management_product_build_date
Installed_From = Product CD
Support_Pack = 0
```

4. Delete the following entries from the cluster load script on all cluster nodes:

```
; ZENworks Inventory Settings

ZFS.ncf
```

5. Delete zwsstart.ncffile from the sys:\system directory on all cluster nodes.
6. Delete the \zwspath directory and the zwspath entry from sys:\system\zenworks.properties on all cluster nodes.
7. Delete *zws_volume*:\zenworks\zfs-startup.xml and *zws_volume*:\zenworks\zfs.ncf on all cluster nodes.

Uninstalling the Server Inventory Snap-Ins from ConsoleOne

Do not uninstall ConsoleOne itself if you are using it to manage other products.

To remove only the Server Inventory snap-ins from ConsoleOne:

1. Close ConsoleOne, if it is running.

   If ConsoleOne is invoked directly from the Inventory server on multiple workstations, you must close ConsoleOne on all these workstations.
2. Under the *ConsoleOne_installation_directory*\1.2 directory on your server or workstations, do the following:
   - Delete the following files:

     bin\debug.properties
     bin\directoryrights.dll
     bin\ntgroups.ini
     bin\userreports.ini
     help\novellserverinv.hs
     lib\zen\classes12.zip
     lib\zen\dbexport.jar
     lib\zen\dbexportres.jar
     lib\zen\jconn2.jar
     lib\zen\jdbcdrv.zip
     lib\zen\reportingimages.jar
     lib\zen\smanager.jar
     lib\zen\zenutility.jar
     reporting\export\invxml.dtd
     snapins\zen\dataexportsnapins.jar
     snapins\zen\inventorysnapins.jar

snapins\zen\jgl3.1.0.jar
snapins\zen\policymigration.jar
snapins\zen\serversnapins.jar
snapins\zen\swdictionarysnapins.jar
snapins\zen\tableutilities.jar
snapins\zen\tracer.jar

- Delete the following directories:

  help\en\novell_zfs_server_inventory
  reporting\canned\novell reporting\zeninventory
  reporting\canned\novell reporting\zeninventory4x

3. If you have not installed the Remote Management ConsoleOne snap-ins on the same workstation or server, do the following:

   - Delete the following files:

     \bin\desktop4.exe
     \bin\desktop4.ini
     \bin\mssql.ini
     \bin\multprot.dll
     \bin\ndsaccess.dll
     \bin\oracle.ini
     \bin\remagent.ini
     \bin\sybase.ini
     \lib\zen\commonsnapins.jar
     \lib\zen\desktop.jar
     \lib\zen\desktop3x.jar
     \lib\zen\desktopcommonutility.jar
     \lib\zen\desktoputil.jar
     \lib\zen\statuslog.jar
     \lib\zen\zeninvimages.jar
     \snapins\zen\serversnapins.jar

   - Delete the \bin\zen\sybaseproxy directory.

4. Repeat Step 1 through Step 3 for each workstation or server where Inventory ConsoleOne snap-ins are installed.

Applying Changes to the Cluster Scripts

To apply changes, which you made in the previous sections, to the cluster scripts, you must offline the cluster and then online it again.

Reinstalling Server Inventory in a Cluster

You might need to reinstall the Server Inventory component of Server Management Services in a cluster environment because it failed to install properly or because data corruption, such as an inadvertent file deletion, has occurred and the data can only be fixed by reinstalling.

IMPORTANT: A reinstallation does not require the schema to be extended again.

This section includes information that focuses on reinstalling the Server Inventory component.

- "Preparing to Reinstall Server Inventory" on page 342
- "Reinstalling Server Inventory" on page 342
- "Determining if Reinstalling Server Inventory Was Successful" on page 342

Preparing to Reinstall Server Inventory

1. Identify the servers that need Server Inventory reinstalled.
2. Stop the Inventory database by pressing the Q key at the NetWare Sybase console prompt.
3. If Java has not been unloaded on the target NetWare servers, unload java.nlm (at the server console, enter **`java -exit`**).

   IMPORTANT: This command stops all Java processes running on the server. Verify that all Java processes can be stopped while you are installing Desktop Management.
4. Log into the Novell eDirectory™ tree that has the servers where you want to reinstall.
5. Continue with "Installing Policy and Distribution Services and Server Inventory in a Cluster" on page 331.

Reinstalling Server Inventory

If you reinstall Server Inventory over a prior installation, the ZENworks 6.5 Server Management Server Inventory uses the existing configured policies and the scandir directory.

- On the File Installation Location page during reinstallation, the installation program searches for the previous installation path. If detected, the Server Inventory or Remote Management files is installed to the same path.
- On the Database Installation Location page during a reinstallation, the Installation program searches for the previous installation path. If detected, the database is installed to the same path.

Determining if Reinstalling Server Inventory Was Successful

1. After the installation has finished, review the installation log file to determine whether any components failed to install.
2. If you reinstalled to fix a file missing or file corruption problem, check to see if the problem has been fixed.

Installing Management and Monitoring Services in a Cluster

Before installing Management and Monitoring Services in a cluster, make sure that you can map to the cluster volume using the name of the virtual server for the cluster node that is using the Novell Client.

The installation program walks you through installing the Management and Monitoring Services software.

o install Management and Monitoring Services in a cluster:

1. Follow the instructions provided in "Installation on NetWare and Windows" on page 109, keeping in mind the following cluster-specific detail:

   - In Step 10 on page 110, choose the destination volume for the components from the Authenticated Tree option through the cluster virtual server.

     The DNS entry for the virtual server object must be there, or the hosts file in the \Windows folder needs to have an entry for the virtual server object for the cluster volume where you want to install.

     If the same cluster volume is selected using the mapped drive option or by expanding the cluster node servers, then the install is considered to be a normal install and the system files are copied to all the cluster nodes. Therefore the product only works on that node.

     IMPORTANT: The NetWare Management Agent cannot be installed on a cluster volume because it is used to manage the cluster node servers. To manage all the nodes, the Netware Management Agent needs to be present on all the nodes.

2. After installation in the cluster, manually add the following line to the cluster volume load script:

   sys:\system\mmsstart.ncf

3. Manually add the following line to the cluster volume unload script:

   sys:\system\mmsstop.ncf

4. Ensure that the following lines are present in the cluster volume unload script in the order shown:

   sys:\system\mmsstop.ncf
   unload dbsrv8.nlm

   IMPORTANT: If you have already installed ZENworks 6.5 Server Inventory in a clustered environment, add the sys:\system\mmsstop.ncf before the unload dbsrv8.nlm entry.

5. Ensure that the volume ID is less than 32 for NetExplorer™ to work. This is because of the BTRIEVE database restriction. To specify the volume ID, use the following command in the load script:

   mount *volume_name VOLID = volume_number*

6. You must install the Traffic Analysis Agent on the cluster volume only if all the cluster nodes are on the same segment. If you do not, the agent does not provide consistent information when you change the cluster node.

   If you are installing Traffic Analysis Agent or Management Site Server on the cluster shared volume, you must add SYS:\SYSTEM\MMSSTART.NCF to shared volume load script and SYS:\SYSTEM\MMSSTOP.NCF to shared volume unload script.

   When a shared volume is loaded on a node, MMSSTART.NCF file contains the information to start the Database, Naming Server, Discovery and Sloader if Management Site Server is

installed and information to start Traffic Analysis Agent if Traffic Analysis Agent is installed on that cluster shared volume. When a shared volume is unloaded from a node, MMSSTOP.NCF contains the information to stop the Naming Server, Discovery, and Sloader and to stop Traffic Analysis Agent, depending on whether it is installed.

If you are installing the Traffic Analysis Agent on a shared volume, update the lanz.ncf file in the \zfs_agnt\lanz directory by adding the location where you want the trend files to be generated as shown:

load gtrend.nlm \d*volume_name:\directory*

F Installing Additional Security for Non-Secured Connections

Novell® ZENworks® Server Management automatically uses XMLRPC (Extensible Markup Language Remote Procedure Call) for inter-server communications for Policy and Distribution Services. XMLRPC optionally provides security for inter-server communications across non-secured connections.

This section documents how to install and set up this additional security. For more information and to determine whether you need XMLRPC security, see "Security for Inter-Server Communication Across Non-Secured Connections" in the *Novell ZENworks 6.5 Server Management Administration Guide*.

If you want to encrypt Distributions for Windows, Linux, or Solaris servers, you will need to install NICI 2.6.4 on those servers. For more information, see "Installing NICI 2.6.4" in the *Novell ZENworks 6.5 Server Management Administration Guide*. However, if you already have NICI 2.4.6 installed, it is optional whether you upgrade to NICI 2.6.4, because these versions are compatible with each other.

To install and set up XMLRPC security, do the following in order:

1. "Fulfill the Installation Prerequisites" on page 345
2. "Gather Information for Installation" on page 346
3. "Install Inter-Server Communications Security" on page 347
4. "Enable Inter-Server Communications Security" on page 355

Fulfill the Installation Prerequisites

You must meet the following software prerequisites before installing inter-server communications security. Meeting these prerequisites might include installing or configuring software.

Prerequisites	Explanation
ZENworks Server Management	Policy and Distribution Services must be installed and running. For information on installing Policy and Distribution Services, see "Installation on NetWare and Windows" on page 61.
Tomcat	Tomcat 4 must be installed, with or without Apache. This provides the servlet gateway.
ZENworks Web Server	Should be installed, configured correctly, and running. For information on installing the ZENworks Web Server, see "Web-Based Management for Policy and Distribution Services" on page 89.

Prerequisites	Explanation
Novell iManager	Must be installed and running somewhere in the network. For information on installing iManager, see "Management-Specific Workstation Requirements" on page 40 for iManager installation instructions, and "Web-Based Management for Policy and Distribution Services" on page 89 for installing the ZENworks plug-ins to iManager.
Certificate Authority Installed	When installing the ZENworks plug-ins to iManager, you must select the Install the ZENworks Certificate Authority option so that this signing authority will be available to sign the security certificates during installation of the additional Inter-Server Communications Security. For information on installing the ZENworks plug-ins to iManager, see "Web-Based Management for Policy and Distribution Services" on page 89.

To sign a CSR, the requesting client must authenticate with a username and password. Because these are normally sent over the network in clear text, SSL should be used to keep this information secure.

Continue with "Gather Information for Installation" on page 346.

Gather Information for Installation

You need to know the following information before running the Inter-Server Communications Security Installation Wizard:

- ❑ TCP/IP address or DNS name of the machine running iManager.
- ❑ Port used by the Certificate Authority.

  This is the port number to use when communicating with iManager. If SSL is used, the port number will most likely be 443. If you are not using SSL, use port 80 if Tomcat is integrated with a Web server, or 8080 if not.
- ❑ Username and password for accessing iManager.

  This allows access to the Certificate Authority server's signing functionality. If authentication fails, this user cannot continue with the inter-server communications security installation.
- ❑ TCP/IP addresses or DNS names of all servers where you want to use inter-server communications security. You only need to sign the certificates for servers where you will be sending encrypted Distributions.

  IMPORTANT: For NetWare® servers, DNS names cannot have underscores. We recommend that you use dashes instead of underscores as word separators.

  During installation you will have three methods for obtaining valid IP addresses, one of which you can also use for obtaining DNS names. You can use one or all three of these methods to select your servers. The methods are:

  - **List:** Allows you to enter individual IP addresses or DNS names of servers where you want certificates signed, or a filename containing valid IP addresses or DNS names of the servers.
  - **Wildcard:** You can build a list of servers using wildcard characters. The asterisk (*) represents numbers from 0 - 999 in any IP address field, and the question mark (?) represents 0 - 9 in a single IP address number position within a field.

- **Range:** You can build a list of servers using an IP address range.

More detail on using these options is provided in the installation steps.

IMPORTANT: The Inter-Server Communications Security Installation Wizard does not attempt to check whether any IP addresses you enter are valid. The wizard only builds a list of addresses for use when the wizard subsequently signs certificates for each machine matching an IP address. If an IP address is invalid (not accessible by the workstation you are using), an error is given for that IP address. You must know which addresses are valid to prevent receiving certificate signing errors. The installation program gives you an option to stop and resolve the connection problem, or to just write the errors to an installation log so that you can review them later.

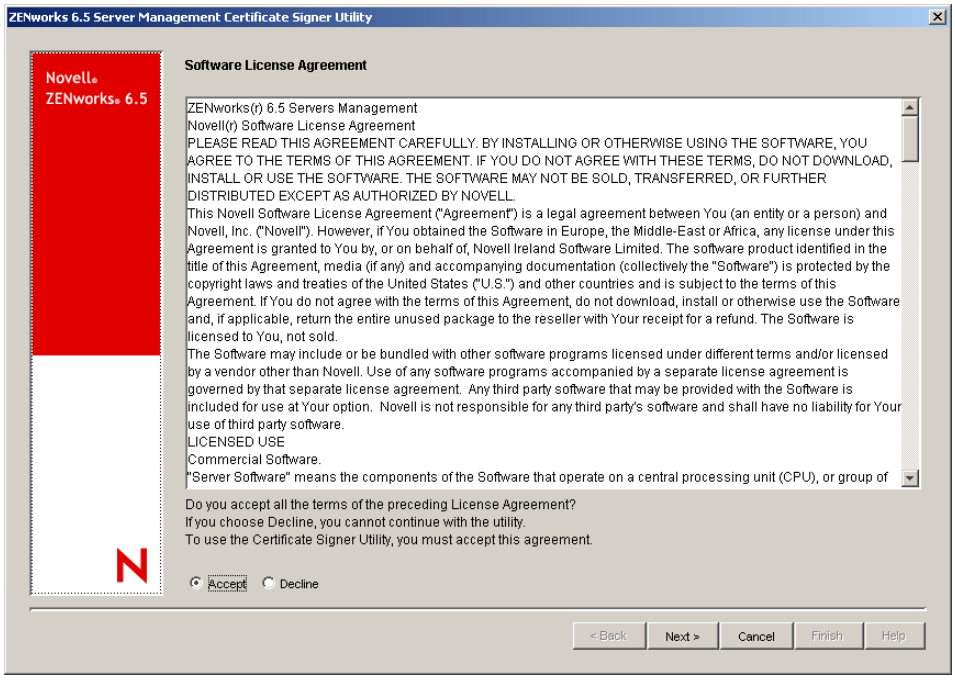
Continue with "Install Inter-Server Communications Security" on page 347.

Install Inter-Server Communications Security

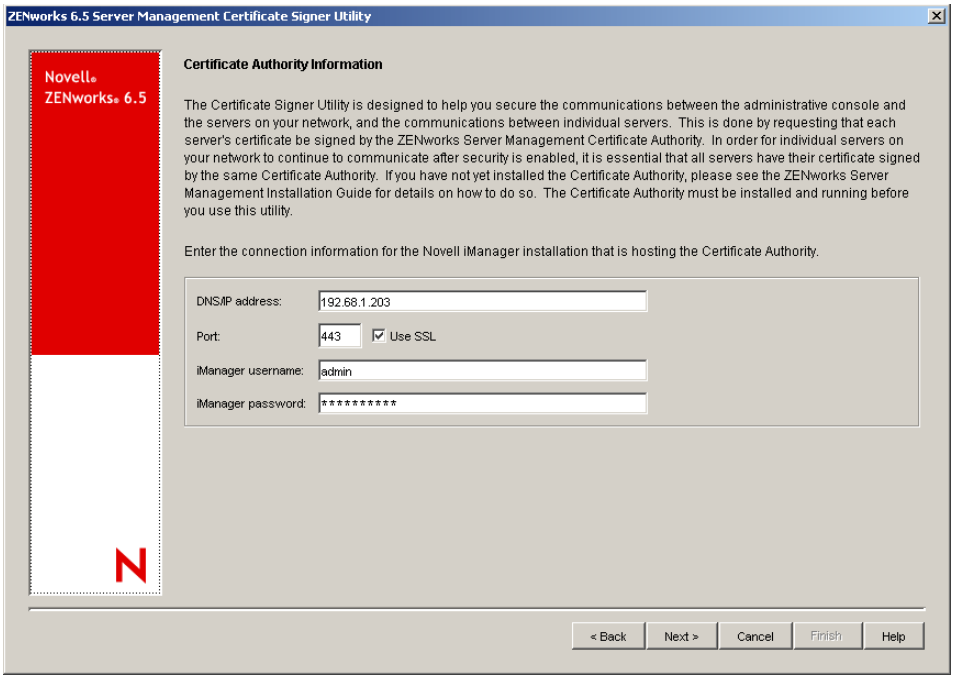
1. Make sure you have fulfilled the prerequisites (see "Fulfill the Installation Prerequisites" on page 345) and gathered the information you will need during installation (see "Gather Information for Installation" on page 346).
2. On the server running iManager, start Tomcat if it is not running by entering **`tomcat4`** at the server's main console prompt.
3. Run the following executable from the *ZENworks 6.5 Server Management Program* CD:

   `\zfs\tedpol\sfiles\securityinstall\setup.exe`

   This will start the Inter-Server Communications Security Installation Wizard.



4. If you agree with the Software License Agreement, click Accept, then click Next to display the Certificate Authority Information page.



5 Fill in the fields from the information you previously gathered:

DNS/IP Address: Enter the TCP/IP address or DNS name of the server running the ZENworks Certificate Authority (where iManager is running).

IMPORTANT: For NetWare servers, DNS names cannot have underscores. We recommend that you use dashes instead of underscores as word separators.

Port: This is the port number to use when communicating with iManager. It will most likely be 443 if SSL is used. It can be 80 if Tomcat is integrated with a Web server, or 8080 if not.

Use SSL: By default, this check box is selected. Deselect to disable if you are not using SSL.

iManager Username: Enter the iManager name (excluding context) of the user with rights to iManager. Installation halts if the username cannot authenticate. The username/password combination grants the user access to the Certificate Authority server's signing functionality.

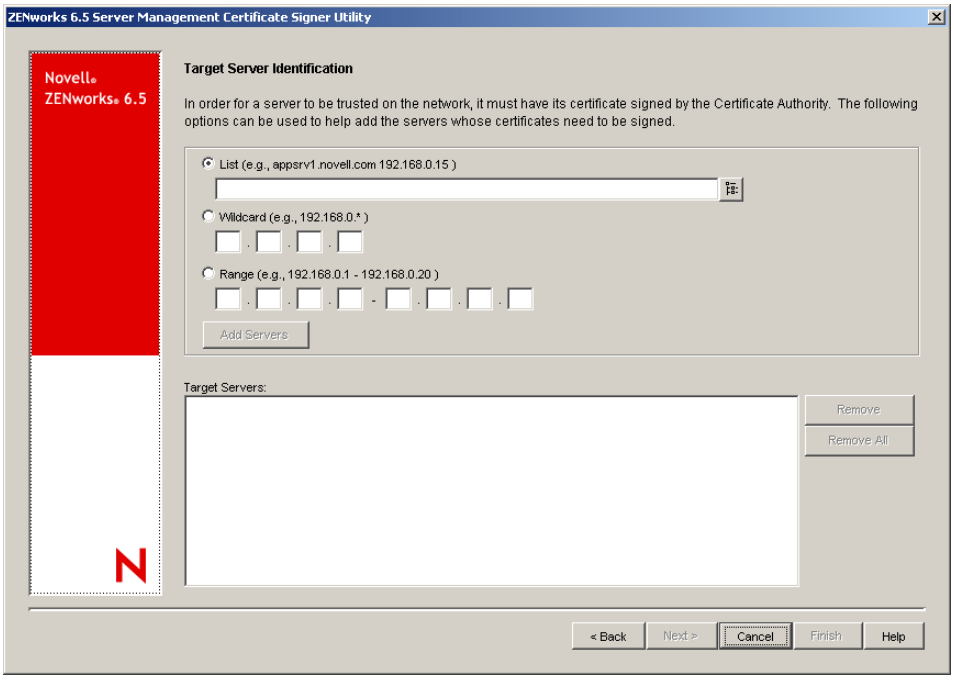
iManager Password: Specify the iManager password of the user with rights to iManager.

6 When finished with the Certificate Authority Information page, click Next.

If any information is invalid, you cannot proceed.

The following dialog box might be displayed:

7 If this dialog box is displayed, click Yes to continue with the Target Server Identification page.



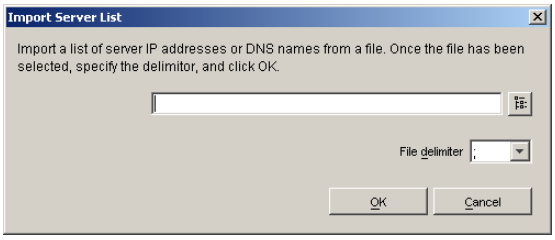
8 Click a radio button to use one of the following methods for selecting server IP addresses or DNS names:

- **List**

  You can make three types of entries in this field:

  - IP addresses of servers
  - DNS names of servers

- Delimited ASCII file of server IP addresses and/or DNS names



1. Browse for and select the delimited ASCII text file containing the list of IP addresses and/or DNS names that you previously created (see "Gather Information for Installation" on page 346).

2. Click the down arrow button for the File Delimiter field.

You can use *one* of the following delimiter characters in the text file that lists your servers' addresses:

semicolon (;)
colon (:)
comma (,)
forward slash (/)
backslash (\)
pipe (|)
carriage return
carriage return line feed
tab

3. Select the character (which must be valid for the whole file).

4. Click OK.

All of the addresses contained in the text file are available to add into the Target Servers list box.

IMPORTANT: For NetWare servers, DNS names cannot have underscores. We recommend that you use dashes instead of underscores as word separators.

In the Target Servers list box, you can remove unwanted IP addresses and DNS names from those that you import from the file.

- **Wildcard**

You can use the multiple-character (*) or single-character (?) wildcards in any IP address field. Any numbers you enter are exactly matched.

The * wildcard character can only be used by itself in a field, meaning any number from 0 to 255 is matched. You cannot use the * and ? wildcard characters in the same field.

The ? wildcard character can be used in place of a number, and any number found between 0 and 9 is considered a match. However, the ? character cannot be used consecutively. For example, ?3, 3?, 3?3, ?3?, ?33, and 33? are all valid; but, ??3 and 3?? are not valid.

For example:

```
10.1?.10.*
```

could return the following IP addresses:

```
10.10.10.0 through 10.10.10.255
10.11.10.0 through 10.11.10.255
10.12.10.0 through 10.12.10.255
10.13.10.0 through 10.13.10.255
```

and so on, where the two uses of 10 are exactly matched, 1? matches any numbers from 10 through 19, and * matches any numbers from 0 through 255.

In the Target Servers list box you can remove unwanted IP addresses from the list that you create using wildcard characters.

- **Range**

  Specify an IP address range. Wildcards cannot be used with this method.

  All servers having IP addresses within the given range are available for adding to the list.

  In the Target Servers list box you can remove unwanted IP addresses from the list that you create using a range.

Any server having an IP address matching the patterns you provide will be available for adding to the list.

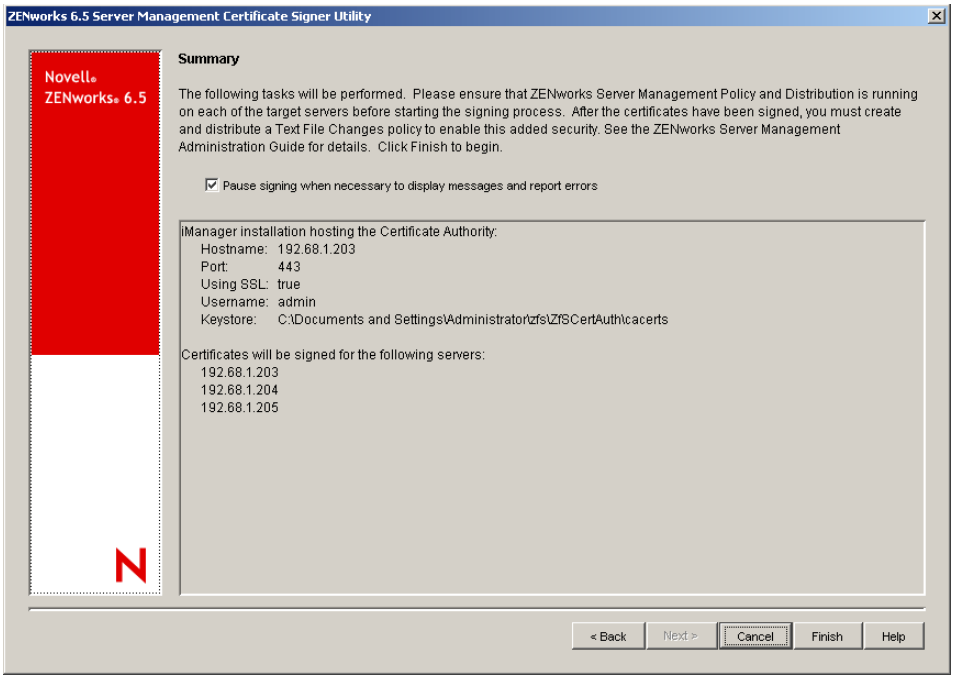
9 Click Add Servers to add your selected servers to the Target Servers list box.

If you see IP addresses in the list that you do not want to include, select the IP addresses, then click Remove. You can use the Ctrl and Shift keys to select multiple addresses for removal.

10 Repeat Step 8 and Step 9 as necessary for each method you use to add servers to the list.

You can use all three methods, one at a time, to fill in the Target Servers list box.

11 Click Next when finished adding your servers' IP addresses to the list box to view the Summary page.



12 Select the Pause Signing When Necessary to Display Messages and Report Errors check box if you want to view detailed messages as signing errors are encountered.

This will cause the process to pause on an error. You can then click the View Log button to review the error information. The log also lists information for each success. It is stored as ...\zfs\security.txt in the user's home directory (such as c:\documents and settings\administrator) on the workstation being used to install the security.

13 On the Summary page, review the IP addresses and DNS names listed for correctness.

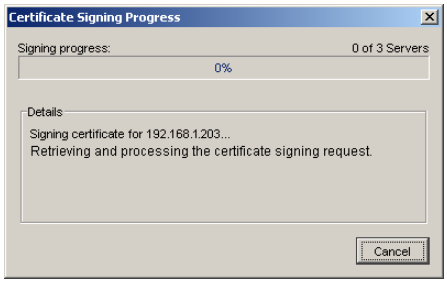
To make changes, click Back.

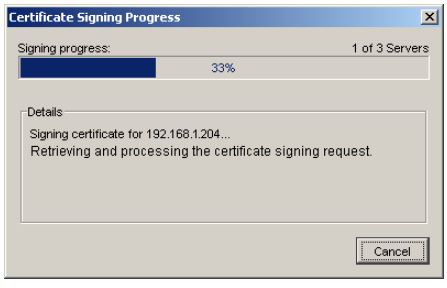
If you click Cancel here, the information you gathered on the Target Server Identification page is not saved.

For servers where an error is encountered, the information will be listed in a log file so that you can rerun the wizard for those servers. To view the log file, click View Log on the Certificate Signing page.

14 To begin signing the certificates on each listed server, click Finish.

Signing is done sequentially, one server at a time. The signing progress is displayed for each server:





and so on.

15 If you receive a general I/O error for an instance of iManager running on a Linux or Solaris server, in order for that instance of iManager to use XMLRPC and to continue the installation program, do the following to set the correct permissions:

15a To set the group on the \security directory to be novlwww, enter the following shell command on the server where iManager is running:

```
chown root:novlwww /opt/novell/java/jre/lib/security
```

15b To verify that the permissions are set correctly, enter:

```
chmod 775 /opt/novell/java/jre/lib/security
```

Certificate signing will continue.

16 One of two dialog boxes will be displayed during or at the conclusion of certificate signing:

- **Continue:** This dialog box is displayed if the Pause Signing When Necessary to Display Messages and Report Errors option was selected and an error is encountered. The following options are available:

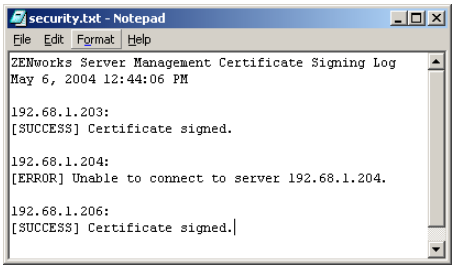
Button to Click	Result
Back	Allows you to make corrections to previous wizard pages, visit the server to fix the problem, then click Finish to continue.
No	Returns you to the Certificate Signing page, where you can view the error information for the offending server by clicking the View Log button.
Yes	Just logs the error and continues with signing the rest of the certificates.

- **Certificate Signing Progress:** This dialog box indicates that the signing session has completed. It will indicate whether there were errors. The following options are available:

Button to Click	Result
No	Both the dialog box and the wizard are exited.
Yes	Accesses the Log Window, where you can do the following: ◆ Click Save to save the log file for future use. It lists all machines that were process, including information for both successes and failures in signing certificates. ◆ Click Close to exit both the dialog box and the wizard.

IMPORTANT: If you click Cancel before all servers have had their certificates signed, the signing process will stop and not finish. However, the certificates for all servers processed so far will remain signed.

17 If you selected to view the installation error log, it is displayed in your default text file viewer:



After all certificates have been signed, servers with a certificate signed by this Certificate Authority will be able to communicate securely with each other across non-secured connections, but only after enabling the security.

18 To enable the security, continue with "Enable Inter-Server Communications Security" on page 355.

Enable Inter-Server Communications Security

After you have exited the Inter-Server Communications Security Installation Wizard, create and distribute a Text File Changes policy that will be used to enable the security. Complete the following to create and distribute the policy:

- "Creating a Text File Changes Policy for Enabling Inter-Server Communications Security" on page 355
- "Distributing the Text File Changes Policy" on page 356

Creating a Text File Changes Policy for Enabling Inter-Server Communications Security

To create the policy:

1. In ConsoleOne®, right-click the container where you want the Policy Package object stored, click New, then click Policy Package.

   This starts the Policy Package Wizard.

2. Under Policy Packages, select Distributed Server Package, then click Next.

3. Name the package, then click Next.

   Make the package name unique to identify its purpose.

4. Click Define Additional Properties, then click Finish.

5. Click the Policies > General tab, then click Add.

   This policy can apply to any platform.

6. In the Add Policy dialog box, click Text File Changes, enter a name for the policy, then click OK.

   The new policy is enable and automatically selected.

7. Click Properties.

   The Text File Policy tab is displayed. Because the `security=false` line could exist, you need to create two text file changes in order to effectively change security from false to true.

8. Click Add, then do the following:

   8a Enter **`sys:\zenworks\zws\zws.properties`** in the Filename field.

   8b Replace the "Change #1" text that defaults with a descriptive change tag; for example, Delete Security Line.

   8c In the Change Mode field, select Search File.

   8d In the Search Type field, select Entire Line.

   8e In the Search String field, enter **`security=false`**.

   8f In the Result Action field, select Delete Line.

9. Click the down arrow button for the drop-down field next to the Add button, select Change, click Add, then do the following:

   9a Replace the "Change #2" text that defaults with a descriptive change tag; for example, Append Security Line.

   9b In the Change Mode field, select Append to File.

9c In the New String field, enter `security=true`.

This string is case sensitive.

10 Click OK to save the policy and click OK.

11 Continue with "Distributing the Text File Changes Policy" on page 356.

Distributing the Text File Changes Policy

To distribute the new policy:

1 In ConsoleOne, right-click your TED container, click New > Object, select TED Distribution, then click OK.

2 Enter the Distribution's name.

Make the Distribution's name unique to identify its purpose.

3 Browse for the Distributor, click Define Additional Properties, then click OK.

4 Click the Type tab, in the Select Type drop-down box, select Policy Package, then click Add.

5 Browse for the policy package you created in "Creating a Text File Changes Policy for Enabling Inter-Server Communications Security" on page 355, click Select, then click OK.

6 Click the Schedule tab, click the arrow for the drop-down box of the Schedule Type field, select Run Immediately, then click OK.

This schedule type will cause the Subscriber to extract the Distribution and enforce the policy as soon as it is received.

7 Click the Channel tab, click Add, browse for the Channel, click Select, then click OK.

Make sure the Channel is listed as Active in the Channels list.

8 When finished configuring the Distribution, click OK.

You will be prompted to resolve certificates.

9 Click Yes to resolve certificates.

This will copy the security certificates from the Distributor to the Subscribers that are subscribed to the Channel.

IMPORTANT: If you have Linux or Solaris Subscribers and do not have drives mapped from your workstation to those servers, you must resolve certificates to those servers manually. For more information, see the *Novell ZENworks 6.5 Server Management Administration Guide*.

After the Text File Changes policy Distributions are sent, received, and extracted on each target server, inter-server communications security is in effect.

G Installation Error Messages

During installation of Novell® ZENworks® 6.5 Server Management components, you might receive an error message if a ZENworks Server Management component cannot be installed successfully. This section provides information for resolving any error messages you might receive while installing ZENworks Server Management components.

Select the ZENworks Server Management component that you are trying to install:

Novell eDirectory Schema Extension Errors

Before installing a ZENworks Server Management component, you must extend the Novell eDirectory™ schema to accommodate the new objects used by the ZENworks Server Management component that you want to install. If the schema extension is not successful, the installation program logs an error message in the c:\winnt\zwschema.log file.

Contact Novell Support (http://support.novell.com) if you cannot extend the schema successfully.

Policy and Distribution Services Installation Errors on NetWare and Windows Servers

If the Policy and Distribution Services installation is not successful on NetWare® or Windows servers, the installation program logs an error message in the c:\temp_res*n*.log file:

A target directory installation_path could not be created
Failed to create object.context in tree: eDirectory_error_code
Failed to set rights for object_DN in tree: eDirectory_error_code
Setup found no space to copy files on server
Setup found the JVM loaded on the server (NetWare)
The file in installation_directory is read-only
Unable to allocate the memory required to complete the copy file process
Unable to copy the requested file

Unable to open the input file
Unknown cause of error
Unspecified error occurred while copying files

A target directory *installation_path* could not be created

Source: ZENworks Server Management; Policy and Distribution Services installation on NetWare and Windows servers.

Explanation: The installation program cannot create the installation directory you specified.

Possible Cause: You specified an invalid path.

Action: Make sure that the path you specified is appropriate to the platform where you are installing Policy and Distribution Services.

Possible Cause: You are logged in as a user who does not have sufficient access rights to the location where you want to create the installation directory.

Action: See "Installation User Rights" on page 31 and make sure you are logged in as a user that meets the specified requirements.

Failed to create *object.context* in *tree*: *eDirectory_error_code*

Source: ZENworks Server Management; Policy and Distribution Services installation on NetWare and Windows servers.

Explanation: The installation program is unable to create a Distributor, Subscriber, or ZENworks Database object.

Possible Cause: eDirectory is not responding to the installation program as expected.

Action: Look up the eDirectory error code in Novell eDirectory Error Codes (http://www.novell.com/documentation/lg/ndsedir/index.html).

Failed to set rights for *object_DN* in *tree*: *eDirectory_error_code*

Source: ZENworks Server Management; Policy and Distribution Services installation on NetWare and Windows servers.

Explanation: The installation program was unable to correctly set rights on an eDirectory object.

Possible Cause: You are logged into eDirectory as a user that does not have sufficient rights to modify the root of the tree.

Possible Cause: You are logged into eDirectory as a user that does not have sufficient rights to modify a Server object.

Action: See "Installation User Rights" on page 31 and make sure you are logged in as a user that meets the specified requirements.

Action: On a NetWare server, authenticate to the tree where the Distributor object is located, then manually set the password on the Distributor object using the command:

SETPASS *distributor_object.context password*

Use all lowercase for the password. Make sure that the Distributor object is a trustee of the root of the tree.

Possible Cause: You are installing Policy and Distribution Services in a very large Novell eDirectory tree. The installation program was unable to set rights on one or more Subscriber objects.

Action: After the installation, in ConsoleOne®, manually make each Subscriber object where rights were not set a trustee of the Server object.

Action: Look up the eDirectory error code in Novell eDirectory Error Codes (http://www.novell.com/documentation/lg/ndsedir/index.html).

Setup found no space to copy files on server

Source: ZENworks Server Management; Policy and Distribution Services installation on NetWare and Windows servers.

Explanation: The installation program has detected that a server where you want to install ZENworks Server Management software does not have sufficient disk space for a successful installation.

Action: Review the system requirements for the ZENworks Server Management components you are installing:

- "Policy and Distribution Services Minimum Requirements for Windows Servers" on page 18
- "Meeting Server Inventory Requirements" on page 70
- "Meeting Remote Management Requirements" on page 88

Action: If you are installing multiple components at one time, be sure to add up the total disk space requirements for all components being installed together on the same server.

Schema is not extended on the tree *tree_name*

Source: ZENworks Server Management; Policy and Distribution Services installation on NetWare servers.

Explanation: The installation program creates the Distributor and/or Subscriber objects in the eDirectory tree when you install the Policy and Distribution Services software. The eDirectory schema must be extended to accommodate Tiered Electronic Distribution objects before you begin the installation.

Possible Cause: You are trying to install Policy and Distribution Services without extending the schema first.

Action: Follow the instructions in "Installing Policy and Distribution Services" on page 23.

Setup found the JVM loaded on the server (NetWare)

Source: ZENworks Server Management; Policy and Distribution Services installation on NetWare servers.

Explanation: The installation program has detected that Java is running on a target NetWare server. The installation program cannot update the Java files on that server if they are in use by a running program.

Action: At the NetWare server console, enter **`java -exit`** to stop Java, then continue with the installation.

The file in *installation_directory* is read-only

Source: ZENworks Server Management; Policy and Distribution Services installation on NetWare and Windows servers.

Explanation: The installation program cannot copy a file over a file with the same name that is read-only.

Possible Cause: After a previous installation of Policy and Distribution Services, someone has marked one or more files in the installation directory as read-only.

Action: In Windows Explorer, right-click the read-only file, click Properties, then deselect the Read-Only attribute.

Action: Delete the previous installation and start the installation over again.

Unable to allocate the memory required to complete the copy file process

Source: ZENworks Server Management; Policy and Distribution Services installation on NetWare and Windows servers.

Explanation: The installation program has insufficient memory to run successfully.

Action: Exit some other programs to free up memory on your workstation for use by the installation program.

Unable to copy the requested file

Source: ZENworks Server Management; Policy and Distribution Services installation on NetWare and Windows servers.

Explanation: The installation program could not copy a file to the installation directory.

Possible Cause: Unknown.

Action: Delete the unsuccessful installation, review the system requirements and installation instructions provided in Chapter 2, "Installing Policy and Distribution Services on NetWare and Windows Servers," on page 17, then repeat the installation.

Unable to open the input file

Source: ZENworks Server Management; Policy and Distribution Services installation on NetWare and Windows servers.

Explanation: The installation program has encountered a problem with the file that it is trying to copy.

Possible Cause: The *ZENworks 6.5 Server Management Program* CD is damaged.

Action: Obtain a usable CD.

Possible Cause: You copied the contents of the *Program CD* to a location on your network and the copy is somehow different from the original CD.

Action: Copy the CD again, then repeat the installation.

Unknown cause of error

Source: ZENworks Server Management; Policy and Distribution Services installation on NetWare and Windows servers.

Explanation: The installation program has encountered a problem for which no specific error message has been provided.

Action: Contact Novell Support (http://support.novell.com).

Unspecified error occurred while copying files

Source: ZENworks Server Management; Policy and Distribution Services installation on NetWare and Windows servers.

Explanation: The installation program has encountered a problem while copying files for which no specific error message has been provided.

Action: Contact Novell Support (http://support.novell.com).

Policy and Distribution Services Installation Errors on Linux or Solaris Servers

If the Policy and Distribution Services installation is not successful on a Linux or Solaris server, the installation script logs an error message in the /var/log/ZFSinstall.log file:

Copy failed file_name
Could not change the access rights of /var/opt/novell/zenworks/zfs/smanager/ZWSSRV.sh
Could not change the access rights of /var/opt/novell/zenworks/zfs/pds/ted/TEDSRV.sh
Could not print to /var/opt/novell/zenworks/zfs/smanager/ZWSSRV.sh
Could not print to /var/opt/novell/zenworks/zfs/pds/ted/TEDSRV.sh
Could not print to /var/opt/novell/zenworks/zfs/pds/xConf
The installation was aborted because the DS object wasn't created
The package ZFSTed has already been installed
The package ZFSTed-0.1-1.i386 failed to install
The RPM ZFSTed-0.1-1.i386 failed to install
The schema needs to be extended on this tree
The subscriber DS object needs to be created manually
Unable to create the shell script /var/opt/novell/zenworks/zfs/pds/ted/TEDSRV.sh
Unable to create the XML configuration file
Unable to open log file
Unable to open the TED configuration file /var/opt/novell/zenworks/zfs/pds/ted/tedconf
You attempted to install to a non-Linux or SunOS platform

Copy failed *file_name*

Source: ZENworks Server Management; Policy and Distribution Services installation on Linux or Solaris servers.

Explanation: The installation script could not copy one file.

Possible Cause: Unknown.

Action: Follow the instructions provided in Chapter 3, "Installing Policy and Distribution Services on Linux or Solaris Servers," on page 51.

Action: Contact Novell Support (http://support.novell.com).

Could not change the access rights of /var/opt/novell/zenworks/zfs/smanager/ZWSSRV.sh

Source: ZENworks Server Management; Policy and Distribution Services installation on Linux or Solaris servers.

Explanation: The installation script must set the access rights on a customized version of the zwssrv.sh file during installation. It was unable to do so.

Possible Cause: You are not logged in to the server as root.

Action: Follow the instructions provided in Chapter 3, “Installing Policy and Distribution Services on Linux or Solaris Servers,” on page 51.

Action: Contact Novell Support (http://support.novell.com).

Could not change the access rights of /var/opt/novell/zenworks/zfs/pds/ted/TEDSRV.sh

Source: ZENworks Server Management; Policy and Distribution Services installation on Linux or Solaris servers.

Explanation: The installation script must set the access rights on a customized version of the tedsrv.sh file during installation. It was unable to do so.

Possible Cause: You are not logged in to the server as root.

Action: Follow the instructions provided in Chapter 3, “Installing Policy and Distribution Services on Linux or Solaris Servers,” on page 51.

Action: Contact Novell Support (http://support.novell.com).

Could not print to /var/opt/novell/zenworks/zfs/smanager/ZWSSRV.sh

Source: ZENworks Server Management; Policy and Distribution Services installation on Linux or Solaris servers.

Explanation: The installation script must write to a customized version of the zwssrv.sh file during installation. It was unable to do so.

Possible Cause: You are not logged in to the server as root.

Action: Follow the instructions provided in Chapter 3, “Installing Policy and Distribution Services on Linux or Solaris Servers,” on page 51.

Action: Contact Novell Support (http://support.novell.com).

Could not print to /var/opt/novell/zenworks/zfs/pds/ted/TEDSRV.sh

Source: ZENworks Server Management; Policy and Distribution Services installation on Linux or Solaris servers.

Explanation: The installation script must write to a customized version of the tedsrv.sh file during installation. It was unable to do so.

Possible Cause: You are not logged in to the server as root.

Action: Follow the instructions provided in Chapter 3, “Installing Policy and Distribution Services on Linux or Solaris Servers,” on page 51.

Action: Contact Novell Support (http://support.novell.com).

Could not print to /var/opt/novell/zenworks/zfs/pds/xConf

Source: ZENworks Server Management; Policy and Distribution Services installation on Linux or Solaris servers.

Explanation: The installation script must write to a customized version of the XML configuration file during installation. It was unable to do so.

Possible Cause: You are not logged in to the server as root.

Action: Follow the instructions provided in Chapter 3, “Installing Policy and Distribution Services on Linux or Solaris Servers,” on page 51.

Action: Contact Novell Support (http://support.novell.com).

The context *container_object* does not exist

Source: ZENworks Server Management; Policy and Distribution Services installation on Linux or Solaris servers.

Explanation: The installation script needs to create the Distributor and/or Subscriber objects in the eDirectory tree when you install the Policy and Distribution Services software. It could not locate the container object where you specified to create the objects.

Possible Cause: You typed the context information incorrectly when you specified the Distributor or Subscriber object as you were editing the Tiered Electronic Distribution configuration file.

Action: When the installation script gives you the opportunity to reconfigure, verify the object context that you specified in the Tiered Electronic Distribution configuration file.

Action: Use ConsoleOne to verify that the container object does exist.

The installation was aborted because the DS object wasn't created

Source: ZENworks Server Management; Policy and Distribution Services installation on Linux or Solaris servers.

Explanation: The installation script needs to create the Distributor and/or Subscriber objects in the eDirectory tree when you install the Policy and Distribution Services software. It was unable to do so.

Possible Cause: The installation script cannot access eDirectory because you are not logged in to eDirectory.

Action: Log in to eDirectory, then restart the installation.

Possible Cause: You are logged in to eDirectory as a user that does not have sufficient rights to create eDirectory objects in the selected context.

Action: Review the rights listed in "Installation User Rights" on page 31, log in to eDirectory as a user with appropriate rights in the selected context, then restart the installation.

Possible Cause: You typed the tree name incorrectly when you were editing the Tiered Electronic Distribution configuration file.

Action: When the installation script gives you the opportunity to reconfigure, verify the tree name you specified in the Tiered Electronic Distribution configuration file.

Possible Cause: You incorrectly typed the name of the server that holds a replica of the tree when you were editing the Tiered Electronic Distribution configuration file.

Action: When the installation script gives you the opportunity to reconfigure, verify the server name you specified in the Tiered Electronic Distribution configuration file.

Possible Cause: The server that holds the replica of the tree is currently down.

Action: Contact the administrator of that server.

The package ZFSTed has already been installed

Source: ZENworks Server Management; Policy and Distribution Services installation on Linux or Solaris servers.

Explanation: A package can only be installed once.

Possible Cause: A problem occurred during package installation that kept it from installing completely. You need to install the package again so that it can run successfully to completion.

Possible Cause: You want to reinstall for some other reason.

Action: Follow the instructions in “Removing the Software on Linux or Solaris Servers” on page 131.

The package ZFSTed-0.1-1.i386 failed to install

Source: ZENworks Server Management; Policy and Distribution Services installation on Solaris servers.

Explanation: On Solaris, the installation script uses the pkgadd command to install the program files. The pkgadd command has failed and the installation script has returned a Solaris error message.

Action: Resolve the Solaris error, then repeat the installation.

The RPM ZFSTed-0.1-1.i386 failed to install

Source: ZENworks Server Management; Policy and Distribution Services installation on Linux servers.

Explanation: On Linux, the installation script uses the Red Hat Package Manager (RPM) to install the program files. RPM has failed and the installation script has returned a Linux error message.

Action: Resolve the Linux error, then repeat the installation.

The schema needs to be extended on this tree

Source: ZENworks Server Management; Policy and Distribution Services installation on Linux or Solaris servers.

Explanation: The installation script creates the Distributor and/or Subscriber objects in the eDirectory tree when you install the Policy and Distribution Services software. The eDirectory schema must be extended to accommodate Tiered Electronic Distribution objects before you begin the installation.

Possible Cause: You have not yet extended the eDirectory schema for Tiered Electronic Distribution objects.

Action: Follow the instructions in “Extending the eDirectory Schema for Distributor and Subscriber Objects” on page 54, then rerun the installation.

The subscriber DS object needs to be created manually

Source: ZENworks Server Management; Policy and Distribution Services installation on Linux or Solaris servers.

Explanation: The installation script was unable to create the Subscriber object for the Linux or Solaris server in eDirectory.

Action: Create the Subscriber object manually. In ConsoleOne, right-click the container where you want to create the Subscriber object, click New > Object, double-click TED Subscriber, then click OK. Configure the Subscriber object as needed. See “Configuring Subscribers” in the *Novell ZENworks 6.5 Server Management Administration Guide*.

The tree *tree_name* does not have the latest ZENworks Server Management schema extensions

Source: ZENworks Server Management; Policy and Distribution Services installation on Linux or Solaris servers.

Explanation: The installation script creates the Distributor and/or Subscriber objects in the eDirectory tree when you install the Policy and Distribution Services software. The eDirectory schema must be extended to accommodate Tiered Electronic Distribution objects before you begin the installation.

Action: See “The schema needs to be extended on this tree” on page 364.

Unable to create the shell script /var/opt/novell/zenworks/zfs/pds/ted/TEDSRV.sh

Source: ZENworks Server Management; Policy and Distribution Services installation on Linux or Solaris servers.

Explanation: The installation script must create a customized version of the tedsrv.sh file during installation. It was unable to do so.

Possible Cause: You are not logged in to the server as root.

Action: Follow the instructions provided in Chapter 3, "Installing Policy and Distribution Services on Linux or Solaris Servers," on page 51.

Action: Contact Novell Support (http://support.novell.com).

Unable to create the XML configuration file

Source: ZENworks Server Management; Policy and Distribution Services installation on Linux or Solaris servers.

Explanation: The installation script must record eDirectory object information in the XML configuration file (/var/opt/novell/zenworks/zfs/pds/xConf), which it passes to the program that creates the Policy and Distribution Services eDirectory objects. It was unable to do so.

Possible Cause: You are not logged in to the server as root.

Action: Follow the instructions provided in Chapter 3, "Installing Policy and Distribution Services on Linux or Solaris Servers," on page 51.

Action: Contact Novell Support (http://support.novell.com).

Unable to open log file

Source: ZENworks Server Management; Policy and Distribution Services installation on Linux or Solaris servers.

Explanation: The installation script must write installation information to /var/opt/novell/log/zenworks/zfs302nstall.log. It was unable to do so.

Action: Follow the instructions provided in Chapter 3, "Installing Policy and Distribution Services on Linux or Solaris Servers," on page 51.

Action: Contact Novell Support (http://support.novell.com).

Unable to open the TED configuration file /var/opt/novell/zenworks/zfs/pds/ted/tedconf

Source: ZENworks Server Management; Policy and Distribution Services installation on Linux or Solaris servers.

Explanation: the tiered electronic distribution configuration file /var/opt/novell/zenworks/zfs/pds/ted/tedconf is created automatically by the installation script but is missing for some reason when the installation script needs to access it.

Action: Follow the instructions in "Removing the Software on Linux or Solaris Servers" on page 131 to remove the current installation, then perform the installation again.

Action: Contact Novell Support (http://support.novell.com).

You attempted to install to a non-Linux or SunOS platform

Source: ZENworks Server Management; Policy and Distribution Services installation on Linux or Solaris servers.

Explanation: You can install Policy and Distribution Services only on the types of Linux or Solaris listed in “Meeting Policy and Distribution Services Requirements for Linux or Solaris” on page 53.

Action: Install Policy and Distribution Services on a supported Linux or Solaris platform.

Policy and Distribution Services Web Component Installation Errors

If the Policy and Distribution Services Web components installation is not successful, the installation program logs an error message in the c:\temp_res*n*.log file:

Novell iManager is not installed at directory

Tomcat directory does not exist

Novell iManager is not installed at *directory*

Source: ZENworks Server Management; Policy and Distribution Services Web components installation.

Explanation: The installation program requires a valid iManager installation before you can install the Web components.

Possible Cause: You have not yet installed iManager.

Action: Follow the instructions at the Novell Documentation Web site (http://www.novell.com/documentation/lg/imanage15/index.html).

Tomcat directory does not exist

Source: ZENworks Server Management; Policy and Distribution Services Web components installation.

Explanation: The installation program cannot locate the directory you specified.

Possible Cause: You typed the Tomcat installation directory path incorrectly.

Action: Browse to the path instead of typing it.

Server Inventory Installation Errors

If the Server Inventory components installation is not successful, the installation program logs one of the following error messages in the log files located at c:\documents and settings\administrator\local settings\temp:

801: The installation program was unable to rename filename on the server server_name. Filename may be in use

804: Unable to add the startinv.ncf entry in the filename file on the server server_name

807: Unable to assign rights to the SCANDIR directory on server server_name

812: Unable to create the password for the Service object Inventory_Service_object_name

813: Unable to get the volumes on the server server_name

814: An internal error occurred while getting the volumes on the server server_name

817: An internal error occurred while creating rights for the scandir directory on the server server_name

819: Unable to create the configuration property file on the server server_name

826: Unable to load the mgmtdbs.ncf file on the server server_name

831: Unable to add the mgmtdbs.ncf entry in the filename on the server server_name

836: The installation program creates a new mgmtdbs.ncf file. The installation program was unable to rename the existing mgmtdbs.ncf file on the server server_name. Rename mgmtdbs.ncf before proceeding with the installation

837: Unable to create the TracerMedia property file on the server server_name

874: Unable to create the Service Manager as a service on Windows NT/ Windows 2000/ Windows Server 2003 server_name

875: Unable to get the path for the shared directory where database is installed on server server_name

876: Unable to create the Sybase service on the Windows NT/ Windows 2000/ Windows Server 2003 server_name

887: An internal error occurred while creating the database object object_name on the server server_name

1051: Unable to write the JRE path to javadir.bat on server server_name

1052: Unable to create the filename file on the server server_name

1053: Unable to get the path for the Share share_name on the server server_name

1060: Unable to add the STOPSER * entry in the filename file for the server server_name

1061: Unable to add the UNLOAD DBSRV8.NLM entry in the sys:\system\invstop.ncf on the server server_name

1066: Unable to assign public rights to ODBC parameters of the Database object database_object_name

1071: Input-output error occurred while modifying the existing mgmtdbs.ncf for the server server_name

1080: Unable to create Inventory Service object for the server server_name

1081: Unable to assign supervisor privileges to the Service object service_object_name

1082: Unable to assign Inventory Service object as trustee of the NCP server server_name

1084: Unable to initialize zwinstal.dll

1087: Unable to detect the operating system of the workstation where install is running

1088: An internal error occurred while checking for entry in file filename on the server server_name

1089: Unable to get LDAP port number for the server server_name

1091: Unable to create the zwsenv.ncf file on the server server_name

1092: Unable to append entries to the zwssrv.cfg file on the server server_name

1093: Unable to append entries to the zws.properties file on the server server_name

1094: Unable to modify Inventory Service object for the server server_name

1095: Unable to create the invenvset.ncf file on the server server_name

1097: Unable to modify mgmtdbs.ncf on server server_name

1098: Unable to create mgmtdbs.ncf on server server_name

1102: Unable to set the Inventory installation path on server server_name

1104: Unable to set the ZENworks Web Server installation path on server server_name

1105: An input-output error occurred while reading the zenworks.properties file, for the server server_name. The previous installations of the Inventory server could not be detected

1106: Unable to detect a valid database installation on server server_name

1107: The installation path for Inventory components on server server_name is invalid

1118: Unable to create query.properties on the server server_name

1121: Unable to rename the database object old_database_object_name to new_database_object_name, on the server server_name

1122: Unable to modify the database object on the server server_name

1123: Failed to update load and unload scripts on the server server_name

1124: Unable to remove old Inventory entries from the autoexec.ncf file on server server_name

1125: Unable to create the database object database_object_name on the server server_name

1128: Unable to add the Zenworks Web Server entry in file filename, on the server server_name

1129: Unable to set the ZENworks installation path on server server_name

1130: Unable to set the database engine installation path on server server_name

1131: Unable to set the Inventory database installation path on server server_name

1133: Unable to configure SSL on the server server_name

1135: The install path for XML Proxy components on server server_name is invalid

1137: Unable to add Inventory entries to the load script on the server server_name

1138: Unable to add Inventory entries to the unload script on the server server_name

1139: Unable to add database entries to the load script on the server server_name

1140: Unable to add database entries to the unload script on the server server_name

1143: Unable to retrieve the path where Inventory was installed for server server_name

1148: Unable to create ZENworks Web Server as a service on Windows NT/2000 server server_name

1149: Unable to add the ZENworks Web Server path to invenvset.bat on the server server_name

1150: Unable to add ZENworks Web Server entry to the load script on server_name

1151: Unable to add ZENworks Web Server entry to the unload script on server_name

1153: Unable to add Inventory entries to the password.txt file on the server server_name

1154: Unable to add the password.txt file path entry to zws.properties file on the server server_name

1156: Unable to add the SSL entry to filename file on the server server_name

1157: Unable to modify the LDAP Allow Clear Text Password attribute of the LDAP Group object of the server server_name

1160: Unable to replace entry1 with entry2, in the file filename

1161: A previous installation of Policy and Distribution service has been detected on server server_name. Install cannot start Inventory service automatically. Start Policy and Distribution services and then the Inventory Service

1162: An incomplete installation of the Inventory server was detected on server server_name. Please reinstall the Inventory server

1163: Unable to start the ZENworks Web Server on server server_name. For more information, see the error message documentation

1164: Unable to start the Inventory service on server server_name. For more information, see the error message documentation

1166: Unable to create zwssearch.ncf file on the server server_name

1167: Unable to add a search path to the ZENworks Web Server on server server_name

1168: Unable to write version information to the registry on the server server_name

1169: Unable to remove the old Inventory entries from file filename, on server server_name

1170: Unable to add entries to the zenworks.properties file, on server se rver_name

1171: Unable to add the ZENworks Web Server entries to the file filename, on the server server_name

2701: Unable to create the zwsstart.ncf file on the server server_name

2702: Unable to remove the entries from the load script on the server server_name

2703: Unable to remove the entries from the unload script on server server_name

2704: Unable to append entries to zws.ncf file on the server sever_name

2707: Unable to create dbconfig.properties file on the server server_name

2708: Unable to assign rights to the directory directory_name on server server_name

Error(s) occurred while installing the Inventory Agent on server_name. Reinstall the Inventory Agent

Error(s) occurred while installing the Inventory ConsoleOne components on server_name. Reinstall the Inventory ConsoleOne components

Error(s) occurred while installing the Inventory database on server_name. Reinstall the Inventory database

Error(s) occurred while installing the Inventory server on server_name. Reinstall Inventory server

Error(s) occurred while installing the proxy server on server_name. Reinstall the Proxy server

Some of the Inventory Agent or Inventory Server files are locked during copying files to server_name

Unable to copy the file filename

Unable to find zfssrv.cfg on server_name

Unable to get the install response filename. Install will now exit

Unable to load the DLL DLL_name. The install will exit now

The install path is too long

Failed to create share_name share on server_name at directory_path

801: The installation program was unable to rename *filename on* the server *server_name*. *Filename* may be in use

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Informational

Explanation: If the installation program detects a previous installation on the machine, it renames the files. This error occurs if the installation program is unable to rename the files.

Action: None. The installation program will proceed without renaming the files.

804: Unable to add the startinv.ncf entry in the *filename* file on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare servers

Severity: Critical

Explanation: On NetWare servers, the installation program adds the following entries to sys:\system\autoexec.ncf file on the Inventory server:

```
SEARCH ADD ZEN_web_server_installation_path
ZWS.NCF
SEARCH ADD sys:\java\njclv2\bin
;ZENworks Inventory Settings
StartInv.ncf
```

This error occurs if the installation program is unable to add these entries in the autoexec.ncf file.

Possible Cause: Autoexec.ncf is in use or locked by some other application or does not exist.

Action: Follow these steps:

1. (Conditional) If the autoexec.ncf file does not exist, manually create the file in the sys:\system directory.

2 Add the following entries to the file:

```
SEARCH ADD ZENworks_web_server_installation_path
ZWS.NCF
SEARCH ADD sys:\java\njclv2\bin
;ZENworks Inventory Settings
StartInv.ncf
```

807: Unable to assign rights to the SCANDIR directory on server *server_name*

Source: ZENworks Server Management; Server Inventory installation on Windows servers

Severity: Critical

Explanation: The installation program was unable to assign rights to the scandir directory.

Possible Cause: You have not logged into the Windows server as an administrator or with the equivalent administrator rights.

Action: Ensure that you have logged into to the Windows server as an administrator or with the equivalent administrator rights. For more information, see "Installation User Rights" on page 31.

Possible Cause: The installation program is not running from a Windows workstation or server.

Action: Ensure that the recommended installation workstation requirements for Windows workstation or server are met. For more information, see "Installation-Specific Machine Requirements" on page 40.

Action: Ensure that the network is up and running.

Action: Reinstall Server Inventory. For more information, see "Installation on NetWare and Windows" on page 61.

Action: If the problem persists, contact Novell Support (http://support.novell.com).

812: Unable to create the password for the Service object *Inventory_Service_object_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Critical

Action: Reinstall the Inventory server. For more information, see "Installation on NetWare and Windows" on page 61.

Action: If the problem persists, contact Novell Support (http://support.novell.com).

813: Unable to get the volumes on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Important

Explanation: If Sybase has already been installed on the server, the installation program displays the volumes of the server that you specify. This error occurs if the installation program is unable to display the volumes.

Action: None. The installation program considers this to be a fresh installation and proceeds.

814: An internal error occurred while getting the volumes on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Important

Explanation: If Sybase has already been installed on the server, the installation program displays the volumes of the server that you specify. This error occurs if the installation program is unable to display the volumes.

Action: None. The installation program considers this to be a fresh installation and proceeds.

817: An internal error occurred while creating rights for the scandir directory on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare servers

Severity: Critical

Explanation: The installation program assigns the [Root] as a trustee of the scandir directory with Create, Erase, and Write rights. This error occurs if the installation program is unable to assign these rights to scandir.

Action: Ensure that you have logged in to the server as an administrator or with the equivalent administrator rights. For more information, see "Installation User Rights" on page 31.

Action: Reinstall Server Inventory. For more information, see "Installation on NetWare and Windows" on page 61

Action: If the problem persists, contact Novell Support (http://support.novell.com).

819: Unable to create the configuration property file on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Critical

Explanation: The installation program creates the *Inventoryserver_installationpath*\zenworks\inv\server\wminv\properties\config.properties file with the following entries:

```
NDSTree=Novell_eDirectory_tree_name
InventoryServiceDN=DN_of_Inventory_Service_object
SingletonPort=65433
StoreRolledupAuditData=false
LDAPServer=DNS_name_of_the_Inventory_server
LDAPPort=LDAP_port_number
```

This error occurs if the installation program is unable to create the config.properties file.

Possible Cause: An input-output error occurred while creating the config.properties file.

Action: Follow these steps:

1. Note the LDAP port number.
   - **1a** In ConsoleOne, right-click the NCP™ server object, then click Properties.
   - **1b** Click the Other tab.
   - **1c** In the Attributes list, double-click LDAP Server, then read the value of the LDAP server object.
   - **1d** Click Cancel.
   - **1e** In ConsoleOne, right-click the LDAP server object, then click Properties.
   - **1f** In the General tab, click the LDAP Server General option.

If you have selected to configure SSL during the installation, the LDAP port number is the SSL port value; otherwise, it is the TCP port value.

2. (Conditional) If config.properties does not exists, manually create the file in *Inventoryserver_installationpath*\zenworks\inv\server\wminv\properties.
3. Add the following entries:

```
NDSTree=Novell_eDirectory_tree_name
InventoryServiceDN=DN_of_Inventory_Service_object
SingletonPort=65433
StoreRolledupAuditData=false
LDAPServer=DNS_name_of_the_Inventory_server
LDAPPort=LDAP_port_number
```

826: Unable to load the mgmtdbs.ncf file on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare servers

Severity: Important

Explanation: The installation program is unable to start Sybase after the installation.

Action: Manually load the mgmtdbs.ncf file by entering **`sys:\system\mgmtdbs.ncf`** at the NetWare console prompt.

831: Unable to add the mgmtdbs.ncf entry in the *filename* on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare servers

Severity: Critical

Possible Cause: The autoexec.ncf file is locked by some other application or does not exist.

Action: Follow these steps:

1. (Conditional) If the autoexec.ncf file does not exist, create the file in sys:\system.
2. Add the following entries to the file:

```
;ZENworks Database Settings
sys:\system\mgmtdbs.ncf
```

836: The installation program creates a new mgmtdbs.ncf file. The installation program was unable to rename the existing mgmtdbs.ncf file on the server *server_name*. Rename mgmtdbs.ncf before proceeding with the installation

Source: ZENworks Server Management; Server Inventory installation on NetWare servers

Severity: Critical

Explanation: The installation program tries to back up the mgmtdbs.ncf file before making changes to it. This error occurs if it fails to back up.

Action: Reinstall the Inventory database. For more information, see "Installation on NetWare and Windows" on page 61.

837: Unable to create the TracerMedia property file on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Critical

Explanation: The installation program creates tracermedia.properties in the *Inventory_server_installaton_path*\zenworks\inv\server\wminv\ properties directory. This error occurs if the installation program fails to create the file.

Possible Cause: An input-output error occurred while creating the tracemedia.properties file.

Action: Create the tracermedia.properties file in the *Inventory_server_installaton_path*\zenworks\inv\server\wminv\ properties directory with the following contents:

```
com.novell.utility.trace.TraceMediumConsole = ON; INFORMATION
com.novell.utility.trace.TraceMediumFile = ON; ALL;
Inventory_server_logs_path
com.novell.utility.trace.TraceMediumWindow = OFF; VERBOSE
```

874: Unable to create the Service Manager as a service on Windows NT/ Windows 2000/ Windows Server 2003 *server_name*

Source: ZENworks Server Management; Server Inventory installation on Windows servers

Severity: Critical

Explanation: The installation program creates the Service manager as a service on the Windows Inventory server. This error occurs if the installation is not successful.

Action: Reinstall Server Inventory. For more information, see "Installation on NetWare and Windows" on page 61.

Action: If the problem persists, contact Novell Support (http://support.novell.com).

875: Unable to get the path for the shared directory where database is installed on server *server_name*

Source: ZENworks Server Management; Server Inventory installation on Windows servers

Severity: Critical

Possible Cause: You have not logged into the Windows server as an administrator or with equivalent administrator rights.

Action: Ensure that you log into the Windows server as an administrator or with the equivalent administrator rights. For more information, see "Installation User Rights" on page 31.

876: Unable to create the Sybase service on the Windows NT/ Windows 2000/ Windows Server 2003 *server_name*

Source: ZENworks Server Management; Server Inventory installation on Windows servers

Severity: Critical

Action: Reinstall the Inventory database. For more information, see "Installation on NetWare and Windows" on page 61.

Action: If the problem persists, contact Novell Support (http://support.novell.com).

887: An internal error occurred while creating the database object *object_name* on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Critical

Explanation: The installation program creates a database object for Sybase and configures the properties of the object. This error occurs if the installation program is unable to create the object.

Action: Contact Novell Support (http://support.novell.com).

1051: Unable to write the JRE path to javadir.bat on server *server_name*

Source: ZENworks Server Management; Server Inventory installation on Windows servers

Severity: Critical

Explanation: The installation program creates javadir.bat in *Inventory_server_installation_directory*\zenworks\server\wminv\bin directory with the following entry:

```
set java_dir=installation_path\Inv\jre
```

This error occurs if the installation program fails to create javadir.bat file with the specified contents.

Action: Create javadir.bat in *Inventory_server_installation_directory*\zenworks\server\wminv\bin directory with the following entry:

```
set java_dir=installation_path\Inv\jre
```

1052: Unable to create the *filename* file on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on Windows servers

Severity: Critical

Explanation: The installation program creates javadir.bat in the *Inventory_server_installation_path*\zenworks\server\wminv\bin directory with the following entry:

```
set java_dir=absolute_path_of_sys_share\
ZENWORKS\JRE\1.3
```

This error occurs if the installation program is unable to create javadir.bat.

Possible Cause: An input-output error occurred while creating javadir.bat.

Action: Create javadir.bat in the *Inventory_server_installation_path*\zenworks\server\wminv\bin directory with the following entry:

```
set java_dir=installation_path\Inv\jre
```

1053: Unable to get the path for the Share *share_name* on the server *server_name*

Source: ZENworks Server Management; Server Inventory, Inventory Database, or Proxy Service installation on NetWare servers

Severity: Critical

Possible Cause: An error occurred while retrieving the path where the component is installed.

Action: Ensure that you have logged in to the server as an administrator or with the equivalent administrator rights.

Action: Reinstall Server Inventory. For more information, see “Installation on NetWare and Windows” on page 61.

1060: Unable to add the STOPSER * entry in the *filename* file for the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare servers

Severity: Critical

Explanation: The installation program was unable to add entries in invstop.ncf to stop the Inventory services.

Possible Cause: An input-output error occurred while adding the entries to invstop.ncf.

Action: Follow these steps:

1. (Conditional) If invstop.ncf does not exist, create it in the sys:\system directory.
2. Add the following entries to the file:

```
;ZENworks Inventory Settings
;-----Stop Inventory services and the Inventory database-----
StopSer *
```

IMPORTANT: If invstop.ncf already exists, add the specified entries before the database entry, `unload dbsrv8.nlm`.

1061: Unable to add the UNLOAD DBSRV8.NLM entry in the sys:\system\invstop.ncf on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare servers

Severity: Critical

Explanation: The installation program is unable to add the entries in invstop.ncf to stop the Sybase database.

Possible Cause: An input-output error occurred while adding the entries to invstop.ncf.

Action: In the sys:\system\invstop.ncf file, add the following entries:

```
;ZENworks Database Settings
Unload dbsrv8.nlm
```

1066: Unable to assign public rights to ODBC parameters of the Database object *database_object_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Warning

Explanation: An internal error has occurred during the configuration of the Database object.

Action: Follow these steps:

1. In ConsoleOne, right-click the database object, then click Properties.
2. Click NDS Rights, Trustees of this object, then click Add Trustees.
3. Select Public, then click OK.
4. Click Add Property > zendbODBCConnectionParameters > OK.
5. Click Add Property > zendbODBCDriverFileName > OK.
6. Click Add Property > zendbODBCDataSourceName > OK.
7. Click OK.
8. Click Apply > Close.

1071: Input-output error occurred while modifying the existing mgmtdbs.ncf for the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare servers

Severity: Critical

Explanation: The installation program is unable to modify the existing mgmtdbs.ncf file.

Possible Cause: An input-output error occurred while modifying the existing mgmtdbs.ncf file.

Action: Reinstall the Inventory database. For more information, see "Installation on NetWare and Windows" on page 61.

Action: If the problem persists, contact Novell Support (http://support.novell.com).

1080: Unable to create Inventory Service object for the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Critical

Explanation: The installation program is unable to create the Inventory Service object for the server.

Action: Reinstall the Inventory server. For more information, see "Installation on NetWare and Windows" on page 61.

Action: If the problem persists, contact Novell Support (http://support.novell.com).

1081: Unable to assign supervisor privileges to the Service object *service_object_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Critical

Explanation: The installation program is unable to assign the Inventory Service object entry rights to itself with supervisor privileges.

Action: Assign the supervisor rights to the Inventory Service object by following the procedure below:

1. In ConsoleOne, right-click the Inventory Service object, then click Trustees of this Object.
2. Click the Add Trustee button, then select the Inventory Service object.
3. From the Property list, select [Entry Rights].
4. From the Rights list, click the Supervisor check box.
5. Click OK.
6. Click Apply, then click Close.

1082: Unable to assign Inventory Service object as trustee of the NCP server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Critical

Explanation: The Inventory Service object is made a trustee of the NCP server with Read and Compare privileges given for [All Attribute Rights].

Action: Assign the Inventory Service object as a trustee of the NCP server:

1. In ConsoleOne, right-click the NCP server object, then click Trustees of this Object.
2. Click the Add Trustee button.

3 Select the Inventory Service object.

4 From the Property list, select [All Attributes Rights].

5 From the Rights list, click the Read and Compare check boxes.

6 Click OK.

7 Click Apply, then click Close.

1084: Unable to initialize zwinstal.dll

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Critical

Action: Reinstall Server Inventory. For more information, see "Installation on NetWare and Windows" on page 61.

Action: If the problem persists, contact Novell Support (http://support.novell.com).

1087: Unable to detect the operating system of the workstation where install is running

Source: ZENworks Server Management; Server Inventory installation on Windows servers

Severity: Critical

Explanation: The ZENworks 6.5 Server Management installation program is unable to detect the operating system of the workstation where the installation program is running.

Action: Make sure you are using a workstation that meets the requirements listed in "Installation-Specific Machine Requirements" on page 40.

Action: Reinstall Server Inventory. For more information, see "Installation on NetWare and Windows" on page 61.

Action: If the problem persists, contact Novell Support (http://support.novell.com).

1088: An internal error occurred while checking for *entry* in file *filename* on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Critical

Action: Reinstall Server Inventory. For more information, see "Installation on NetWare and Windows" on page 61.

Action: If the problem persists, contact Novell Support (http://support.novell.com).

1089: Unable to get LDAP port number for the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Critical

Explanation: The installation program adds the following entry in the *Inventoryserver_installation_directory*\zenworks\inv\server\ wminv\properties\config.properties file:

`LDAPPort=LDAP_port_number`

This error occurs when installation program is unable to get the LDAP port number.

Action: Follow these steps:

1. Note the LDAP port number.
   1a. In ConsoleOne, right-click the NCP server object, then click Properties.
   1b. Click the Other tab.
   1c. In the Attributes list, double-click LDAP Server, then read the value of the LDAP server object.
   1d. Click Cancel.
   1e. In ConsoleOne, right-click the LDAP server object, then click Properties.
   1f. In the General tab, click the LDAP Server General option.

   If you have selected to configure SSL during the installation, the LDAP port number is the SSL port value; otherwise, it is the TCP port value.
2. Manually add the LDAP port number in *Inventoryserver_installation_directory*\zenworks\inv\server\wminv\properties\config.properties file.

1091: Unable to create the zwsenv.ncf file on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare servers

Severity: Critical

Explanation: The installation program creates zwsenv.ncf in the zws directory with the following entry:

```
envset zwsinstallpath=ZWS_installation_path
```

This error occurs if the installation program fails to create the zwsenv.ncf in the zws directory.

Action: Follow these steps:

1. To get the ZENworks Web Server installation path, note the value of the `ZWSPath` key in the sys:\system\zenworks.properties file.
2. Create zwsenv.ncf in the ZWS directory with the following entry:

   ```
   envset zwsinstallpath=ZWS_installation_path
   ```

1092: Unable to append entries to the zwssrv.cfg file on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on Windows servers

Severity: Critical

Explanation: The installation program appends the following entries to the *zenworks_web_server_installation_directory*\bin\zwssrv.cfg file:

```
Computer=Windows_machine_name

CLASSPATH=ZWS_installation_directory\ZenWebServer.jar;
ZWS_installation_directory\xmlrpcext.jar;
ZWS_installation_directory\xmlrpcservlet.jar;
ZWS_installation_directory\jcert.jar;
ZWS_installation_directory\jnet.jar;
ZWS_installation_directory\jdom.jar;
ZWS_installation_directory\jsse.jar;
ZWS_installation_directory\xmlrpc.jar;
ZWS_installation_directory\servlet.jar;
ZWS_installation_directory\xerces.jar;
```

```
BinDirectory=ZWS_installation_directory\bin

WorkingDirectory=ZWS_installation_directory\bin
```

This error occurs if the installation program fails to appends the entries.

Possible Cause: An input-output error occurred while appending to the file.

Action: Follow these steps:

1. Note the ZENworks Web Server installation path.
   - 1a Invoke REGEDIT.
   - 1b In `HKEY_LOCAL_MACHINE\SOFTWARE\NOVELL\ZENWORKS`, read the value of the `ZWSPath` attribute.
2. Add the following entries to *zenworks_web_server_installation_directory*\bin\zwssrv.cfg:

```
Computer=Windows_machine_name

CLASSPATH=ZWS_installation_directory\ZenWebServer.jar;
ZWS_installation_directory\xmlrpcext.jar;
ZWS_installation_directory\xmlrpcservlet.jar;
ZWS_installation_directory\jcert.jar;
ZWS_installation_directory\jnet.jar;
ZWS_installation_directory\jdom.jar;
ZWS_installation_directory\jsse.jar;
ZWS_installation_directory\xmlrpc.jar;
ZWS_installation_directory\servlet.jar;
ZWS_installation_directory\xerces.jar;

BinDirectory=ZWS_installation_directory\bin

WorkingDirectory=ZWS_installation_directory\bin
```

1093: Unable to append entries to the zws.properties file on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare servers

Severity: Critical

Explanation: The installation program is unable to edit the zws.properties file.

Possible Cause: An input-output error occurred while adding entries to the zws.properties file.

Action: Reinstall Server Inventory. For more information, see "Installation on NetWare and Windows" on page 61.

Action: If the problem persists, contact Novell Support (http://support.novell.com).

1094: Unable to modify Inventory Service object for the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Critical

Explanation: The installation program is unable to modify the existing Inventory Service object.

Action: Reinstall Server Inventory. For more information, see "Installation on NetWare and Windows" on page 61.

Action: If the problem persists, contact Novell Support (http://support.novell.com).

1095: Unable to create the invenvset.ncf file on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare servers

Severity: Critical

Explanation: The installation program creates the invenvset.ncf file in sys:\system directory of a NetWare Inventory server with the following contents:

```
envset inv_install_dir= Inventory_server_installation_path
envset zws_install_dir=ZWS_installation_path
```

Action: Follow these steps:

1. To get the Inventory server installation path, read the value of the `InvSrvpath` key in the sys:\system\zenworks.properties file.
2. To get the ZENworks Web Server installation path, read the value of the `ZWSPath` key in the sys:\system\zenworks.properties file.
3. Create invenvset.ncf in the sys:\system directory with the following entries:

   ```
   envset inv_install_dir= Inventory_server_installation_path
   envset zws_install_dir=ZWS_installation_path
   ```

1097: Unable to modify mgmtdbs.ncf on server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare servers

Severity: Critical

Possible Cause: An input-output error occurred while editing mgmtdbs.ncf.

Action: Reinstall the Inventory database. For more information, see "Installation on NetWare and Windows" on page 61

Action: If the problem persists, contact Novell Support (http://support.novell.com).

1098: Unable to create mgmtdbs.ncf on server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare servers

Severity: Critical

Possible Cause: An input-output error occurred while creating mgmtdbs.ncf.

Action: Reinstall the Inventory database. For more information, see "Installation on NetWare and Windows" on page 61

Action: If the problem persists, contact Novell Support (http://support.novell.com).

1102: Unable to set the Inventory installation path on server *server_name*

Source: ZENworks Server Management; Server Inventory installation on Windows servers

Severity: Critical

Possible Cause: The installation program was unable to update the Inventory server install path in the registry.

Action: Reinstall Inventory server. For more information, see "Installation on NetWare and Windows" on page 61

Action: If the problem persists, contact Novell Support (http://support.novell.com).

1104: Unable to set the ZENworks Web Server installation path on server *server_name*

Source: ZENworks Server Management; Server Inventory installation on Windows servers

Severity: Critical

Possible Cause: The installation program is unable to update the ZENworks Web Server installation path in the registry.

Action: Reinstall the Inventory server. For more information, see "Installation on NetWare and Windows" on page 61

Action: If the problem persists, contact Novell Support (http://support.novell.com).

1105: An input-output error occurred while reading the zenworks.properties file, for the server *server_name*. The previous installations of the Inventory server could not be detected

Source: ZENworks Server Management; Server Inventory installation on NetWare servers

Severity: Informational

Explanation: The installation program reads the sys:\system\zenworks.properties file to detect if Inventory has been previously installed.

Action: None.

1106: Unable to detect a valid database installation on server *server_name*

Source: ZENworks Server Management; Server Inventory installation on Windows servers

Severity: Informational

Possible Cause: Unable to detect the location of the database engine from the registry.

Action: None. The installation program considers this to be a fresh installation and proceeds.

1107: The installation path for Inventory components on server *server_name* is invalid

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Critical

Action: Reinstall the Inventory server. For more information, see "Installation on NetWare and Windows" on page 61

Action: If the problem persists, contact Novell Support (http://support.novell.com).

1118: Unable to create query.properties on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Critical

Explanation: The ZENworks 6.5 Server Management installation program creates query.properties file in *ConsoleOne_installation_path*\bin with the entry, insver=zfs. If Server Inventory is installed over the Workstation Inventory component of ZENworks 6.5 Desktop Management, the value of insver is changed to "both."

Possible Cause: An input-output error occurred while creating or updating the query.properties file

Action: If the query.properties file already exists, ensure that the value of `insver` is correct.

Action: If the query.properties file does not exist, manually create the file in *ConsoleOne_installation_path*\bin directory with the following content:

- If you are installing Server Inventory on a fresh setup, enter `insver=zfs`.
- If you are installing Server Inventory over the Workstation Inventory component of ZENworks 6.5 Desktop Management, enter `insver=both`.

1121: Unable to rename the database object *old_database_object_name* to *new_database_object_name*, on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Critical

Explanation: If you are installing the Server Inventory component of ZENworks 6.5 Server Management over ZENworks for Servers 3.*x*, the installation program renames the ZENworks for Servers 3.*x* database object to *server_name*_invDatabase. This error occurs if the installation program is unable to rename the database object.

Action: Reinstall the Inventory database. For more information, see "Installation on NetWare and Windows" on page 61

Action: If the problem persists, contact Novell Support (http://support.novell.com).

1122: Unable to modify the database object on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Critical

Explanation: The installation program is unable to modify the existing database object on the server.

Action: Reinstall the Inventory database. For more information, see "Installation on NetWare and Windows" on page 61.

Action: If the problem persists, contact Novell Support (http://support.novell.com).

1123: Failed to update load and unload scripts on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare servers

Severity: Critical

Explanation: The installation program adds entries in the load script and the unload script for the NetWare cluster server. This error occurs when the installation program is unable add the entries to these scripts.

Action: During installation, if you chose to install either the Inventory server or the Database, reinstall the selected component. If you chose to install both the Inventory server and the Database, reinstall both the components. For more information, see "Installation on NetWare and Windows" on page 61.

1124: Unable to remove old Inventory entries from the autoexec.ncf file on server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare servers

Severity: Important

Explanation: The installation program deletes the following entries from sys:\system\autoexec.ncf file on the server: sybase.ncf, mgmtdbs.ncf, gatherer.ncf, master.ncf, and storer.ncf.

This error occurs if the installation program is unable to delete the specified entries.

Action: Manually delete the following entries from autoexec.ncf: sybase.ncf, mgmtdbs.ncf, gatherer.ncf, master.ncf, and storer.ncf.

1125: Unable to create the database object *database_object_name* on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Critical

Action: Reinstall the Inventory database. For more information, see "Installation on NetWare and Windows" on page 61

Action: If the problem persists, contact Novell Support (http://support.novell.com).

1128: Unable to add the Zenworks Web Server entry in file *filename*, on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare servers

Severity: Important

Explanation: The installation program was unable to add entries in the sys:\system\autoexec.ncf file to launch ZENworks Web Server.

Action: In the sys:\system\autoexec.ncf file, add the following entries:

`SEARCH ADD` *`zenworks_web_server_installation_path`*
zenworks_installation_volume\`zenworks\zfs.ncf`

1129: Unable to set the ZENworks installation path on server *server_name*

Source: ZENworks Server Management; Server Inventory installation on Windows servers

Severity: Critical

Explanation: The installation program failed to set the ZENworks path in the registry.

Action: Reinstall Server Inventory. For more information, see "Installation on NetWare and Windows" on page 61

Action: If the problem persists, contact Novell Support (http://support.novell.com).

1130: Unable to set the database engine installation path on server *server_name*

Source: ZENworks Server Management; Server Inventory installation on Windows servers

Severity: Critical

Action: Reinstall Server Inventory. For more information, see "Installation on NetWare and Windows" on page 61.

Action: If the problem persists, contact Novell Support (http://support.novell.com).

1131: Unable to set the Inventory database installation path on server *server_name*

Source: ZENworks Server Management; Server Inventory installation on Windows servers

Severity: Critical

Explanation: The installation program is unable to set the Inventory database installation path in the registry.

Action: Reinstall the Inventory database. For more information, see "Installation on NetWare and Windows" on page 61.

Action: If the problem persists, contact Novell Support (http://support.novell.com).

1133: Unable to configure SSL on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Critical

Explanation: The installation program is unable to configure the Secure Socket Layer (SSL).

Action: Reinstall Server Inventory. For more information, see "Installation on NetWare and Windows" on page 61.

Action: If the problem persists, contact Novell Support (http://support.novell.com).

1135: The install path for XML Proxy components on server *server_name* is invalid

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Critical

Explanation: The installation program failed to get a valid path to install XML Proxy Service.

Action: Reinstall the XML Proxy service. For more information, see "Installation on NetWare and Windows" on page 61.

Action: If the problem persists, contact Novell Support (http://support.novell.com).

1137: Unable to add Inventory entries to the load script on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare servers

Severity: Critical

Explanation: The installation program makes the following entries in the load script after the database entries:

SEARCH ADD *zws_installation_path*

```
invclst:\zenworks\zfs.ncf
SEARCH ADD SYS:\JAVA\NJCLV2\BIN
;ZENworks Inventory Settings
StartInv.ncf
```

This error occurs if the installation program is unable to add the specified entries in the load script.

Action: In the load script, add the following entries after the database entries:

SEARCH ADD *zws_installation_path*

```
invclst:\zenworks\zfs.ncf
SEARCH ADD SYS:\JAVA\NJCLV2\BIN
;ZENworks Inventory Settings
StartInv.ncf
```

1138: Unable to add Inventory entries to the unload script on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare servers

Severity: Critical

Explanation: The installation program adds the following entries to unload scripts before the `del secondary ipaddress` line:

```
java -killzenWSInv
delay 8
java -killzfsexit
```

This error occurs if the installation program is unable to add the specified entries to the unload scripts.

Action: In the unload script, add the following entries after the Inventory entries (if any) but before the "`del secondary ipaddress`" entry:

```
java -killzenWSInv
delay 8
java -killzfsexit
```

1139: Unable to add database entries to the load script on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare servers

Severity: Critical

Explanation: The installation program adds the following entries to the load script:

```
;ZENworks Database Settings
sys:\system\mgmtdbs.ncf
```

This error occurs if the installation program is unable to add the specified entries to the load scripts.

Action: In the load script, add the following entries before the Inventory entries:

```
;ZENworks Database Settings
sys:\system\mgmtdbs.ncf
```

1140: Unable to add database entries to the unload script on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare servers

Severity: Critical

Explanation: The installation program adds the following entry to the unload scripts:

```
unload dbsrv8.nlm <<y
```

This error occurs if the installation program is unable to add the specified entry to the unload scripts.

Action: In the unload scripts, add the following entry after the Inventory entries and before the "`del secondary ipaddress`" entry:

```
unload dbsrv8.nlm <<y
```

1143: Unable to retrieve the path where Inventory was installed for server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Important

Explanation: The ZENworks 6.5 Server Management installation program is unable to detect the path where the earlier versions of ZENworks has been installed.

Action: Reinstall Server Inventory. For more information, see "Installation on NetWare and Windows" on page 61.

Action: If the problem persists, contact Novell Support (http://support.novell.com).

1148: Unable to create ZENworks Web Server as a service on Windows NT/2000 server *server_name*

Source: ZENworks Server Management; Server Inventory installation on Windows servers

Severity: Critical

Action: Reinstall Server Inventory. For more information, see "Installation on NetWare and Windows" on page 61.

Action: If the problem persists, contact Novell Support (http://support.novell.com).

1149: Unable to add the ZENworks Web Server path to invenvset.bat on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on Windows servers

Severity: Critical

Explanation: The installation program creates invenvset.bat in *Inventory_server_installation_path*\zenworks\inv\server\wminv\bin directory with the following entry:

```
set zws_install_dir=ZWS_installation_path
```

This error occurs if the installation program is unable to retrieve the ZENworks Web Server installation path from the registry.

Action: In the invenvset.bat file, manually add the following entry:

```
set zws_install_dir=ZWS_installation_path
```

To get the ZENworks Web Server installation path:

1. Invoke REGEDIT.
2. In `HKEY_LOCAL_MACHINE\SOFTWARE\NOVELL\ZENWORKS`, read the value of the `ZWSPath` attribute.

1150: Unable to add ZENworks Web Server entry to the load script on *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare servers

Severity: Critical

Explanation: The installation program adds the following entries to the load script:

```
invclst:\zenworks\zfs.ncf
```

This error occurs if the installation program is unable to add the specified entries to the load script.

Action: Add the following entries to the load script.

```
SEARCH ADD zws_installation_path
invclst:\zenworks\zfs.ncf
```

1151: Unable to add ZENworks Web Server entry to the unload script on *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare servers

Severity: Critical

Explanation: The installation program adds the following entry to the unload scripts:

```
java -killzfsexit
```

This error occurs if the installation program is unable to add the specified entry to the unload scripts.

Action: Manually add the specified entry to the unload scripts before the `del secondary ipaddress` entry.

1153: Unable to add Inventory entries to the password.txt file on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation NetWare or Windows servers

Severity: Critical

Explanation: The installation program creates the password.txt file in the ZENworks Web Server installation directory with the following entry:

```
inventory=novell
```

Possible Cause: An input-output error occurred while creating the password.txt file.

Action: Follow these steps:

1. (Conditional) If password.txt does not exist, create it in the ZENworks Web Server installation directory.
2. Add the following entry to the file:

   ```
   inventory=novell
   ```

1154: Unable to add the password.txt file path entry to zws.properties file on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Critical

Explanation: The installation adds the following entry in *ZENworks_Web_Server_installation_directory*\zws.properties.

```
passwordFile=path_of_password.txt
```

This error occurs if the installation program is unable to create the zws.properties file with the specified entries.

Possible Cause: An input-output error occurred while creating the zws.properties file.

Action: Follow these steps:

1. (Conditional) If zws.properties does not exist, create it in the ZENworks Web Server installation directory.
2. Add the following entry to the file:

   ```
   passwordFile=path_of_password.txt
   ```

1156: Unable to add the SSL entry to *filename* file on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Critical

Explanation: During the installation, if you choose to configure SSL, then the installation program adds the following entry in the directory.properties file:

```
ssl=true
```

If you choose not to configure SSL, the following entry is added to the directory.properties file:

```
ssl = false
```

This error occurs if the installation program fails to add the appropriate entry in the directory.properties file.

Possible Cause: An input-output error occurred while adding the appropriate entry to the directory.properties file.

Action: Add the appropriate entry in the *inventory_installation_volume*\zenworks\inv\server\wminv\properties\directory.properties file.

1157: Unable to modify the LDAP Allow Clear Text Password attribute of the LDAP Group object of the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Critical

Explanation: The installation program sets the LDAP Clear Text Password attribute of the LDAP Group object to true or false based on whether the Configure SSL option is selected during the Server Inventory installation.

Action: Follow these steps:

1. In ConsoleOne, right-click the LDAP Server object, then click Properties.
2. In the General tab, click the LDAP Group General option, then read the value of the LDAP Group field.
3. Click Cancel.
4. In ConsoleOne, right-click the LDAP Group object, then click Properties.
5. In the General tab, click the LDAP Group General option.

   If you have selected to configure the SSL during installation, select Allow Clear Text Passwords option.

1159: Unable to add *entry* entry to file *filename* on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Critical

Possible Cause: An error occurred while changing the classpath in the zfs.ncf, ted.ncf, zfssrv.cfg, or tedsrv.cfg files.

Action: Do the following:

- On NetWare:
  - If the error has occurred in the zfs.ncf, edit the *pds_installation_directory*\smanager\zfs.ncf file to add the following lines at the end of the ENVSET section:

    `envset` smclasses=$smclasses;*zws_installation_directory*\zenwebserverres.jar
    envset smclasses=$smclasses *zws_installation_directory**xmlrpcextres.jar*
  - If the error has occurred in the ted.ncf, edit the *pds_installation_directory*\ted\ted.ncf file to add the following lines at the end of the envset section:

    envset tedpath=$tedpath;*zws_installation_directory*\zenwebserverres.jar;
    envset smclasses=$smclasses;*zws_installation_directory*\xmlrpcextres.jar

NOTE: Pds_installation_directory is the value of the PDSPATH subkey in the sys:system\zenworks.properties file, and *zws_installation_directory* is the value of the zwspath in the sys:\system\zenworks.properties file.

- On Windows, if the error has occurred in zfssrv.cfg or tedsrv.cfg file, edit the *pds_installation_directory*\bin\zfssrv.cfg and the *pds_installation_directory*\bin\tedsrv.cfg file to add the following lines at the end of the files:

  classpath=%classpath%;*zws_installation_directory*\xmlrpcextres.jar;*zws_installation_directory**zenwebserverres.jar*

  NOTE: Pds_installation_directory is the value of the pdspath subkey under hkey_local_machine\software\novell\zenworks and *zws_installation_directory* is the value of the zwspath subkey under hkey_local_machine\software\novell\zenworks.

1160: Unable to replace *entry1* with *entry2*, in the file *filename*

Source: ZENworks Server Management; Proxy Service installation on NetWare or Windows servers

Severity: Critical

Explanation: During the reinstallation of the Proxy Service, the installation program replaces the proxy port value in the zws.properties file with the new value. This error occurs if the installation program is unable to replace the proxy port value with the new value.

Action: In the *ZWS_installation_directory*\zws.properties file, manually enter the new value of the proxy port.

1161: A previous installation of Policy and Distribution service has been detected on server *server_name*. Install cannot start Inventory service automatically. Start Policy and Distribution services and then the Inventory Service

Source: ZENworks Server Management; Standalone pre-configuration on NetWare and Windows servers

Severity: Informational

Explanation: If you choose the Standalone pre-configuration during the ZENworks 6.5 installation, the installation program configures for a Standalone server and automatically starts the Inventory and ZENworks Web Server services. But if Policy and Distribution services of ZENworks 6.5 Server Management has been already installed, the ZENworks 6.5 installation program will not automatically start the Inventory and the ZENworks Web Server services.

Action: You must manually start the Policy and Distribution services before starting the Inventory services. For more information on how to start the Policy and Distribution services, see ZENworks 6.5 documentation Web site (http://www.novell.com/documentation/zenworks).

1162: An incomplete installation of the Inventory server was detected on server *server_name*. Please reinstall the Inventory server

Source: ZENworks Server Management; Standalone pre-configuration on NetWare and Windows servers

Severity: Critical

Explanation: The ZENworks 6.5 installation program searches for the ZWS path in zenworks.properties before launching the ZWS service. This error occurs when the installation program fails to find this path.

Action: Reinstall Server Inventory. For more information, see "Installation on NetWare and Windows" on page 61.

1163: Unable to start the ZENworks Web Server on server *server_name*. For more information, see the error message documentation

Source: ZENworks Server Management; Standalone pre-configuration on NetWare servers

Severity: Critical

Explanation: The ZENworks 6.5 installation program failed to start ZENworks Web Server service.

Action: Manually run sys:\system\zws.ncf on the server.

1164: Unable to start the Inventory service on server *server_name*. For more information, see the error message documentation

Source: ZENworks Server Management; Standalone pre-configuration on NetWare servers

Severity: Important

Explanation: The ZENworks 6.5 installation program failed to start the Inventory services.

Action: Manually run sys:\sytem\startinv.ncf on the server.

1166: Unable to create zwssearch.ncf file on the server *server_name*

Source: ZENworks Server Management; Standalone pre-configuration on NetWare servers

Severity: Important

Explanation: The ZENworks 6.5 installation program creates the sys:\system\zwssearch.ncf file on the server with the entry `SEARCH ADD ZENworks_Web_server_installation path.`

Action: Manually create the sys:\system\zwssearch.ncf file on the server.

1167: Unable to add a search path to the ZENworks Web Server on server *server_name*

Source: ZENworks Server Management; Server Inventory or Proxy Service installation on NetWare servers

Severity: Important

Explanation: The ZENworks 6.5 installation program is unable to launch sys:\system\zwssearch.ncf on the server.

Action: Manually run sys:\system\zwssearch.ncf on the server. This automatically adds the search path to the ZENworks Web Server.

1168: Unable to write version information to the registry on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare and Windows servers

Severity: Critical

Explanation: The ZENworks 6.5 installation program failed to write the version information to the registry.

Action: Reinstall Server Inventory. For more information, see "Installation on NetWare and Windows" on page 61.

Action: If the problem persists, contact Novell Support (http://support.novell.com).

1169: Unable to remove the old Inventory entries from file *filename*, on server *server_name*

Source: ZENworks Server Management; Sybase Inventory database installation on NetWare servers

Severity: Important

Explanation: If you are upgrading from ZENworks for Servers 3.*x* to ZENworks 6.5 Server Management, the ZENworks 6.5 installation program deletes ZENworks for Servers 3.*x* Inventory entries.

This error occurrs if the the ZENworks 6.5 installation program fails to remove the ZENworks for Servers 3.*x* Inventory entries.

Action: Reinstall Server Inventory. For more information, see "Installation on NetWare and Windows" on page 61.

Action: If the problem persists, contact Novell Support (http://support.novell.com).

1170: Unable to add entries to the zenworks.properties file, on server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare servers

Severity: Critical

Explanation: The ZENworks 6.5 installation program failed to write the version information and the installation path to the zenworks.properties file.

Action: Reinstall Server Inventory. For more information, see "Installation on NetWare and Windows" on page 61.

Action: If the problem persists, contact Novell Support (http://support.novell.com).

1171: Unable to add the ZENworks Web Server entries to the file *filename*, on the server *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare and Windows

Severity: Critical

Explanation: This error occurs if the installation fails to add the ZENworks Web Server entries to the invenv.ncf file for NetWare and Windows.

Possible Cause: An input-output error has occurred while modifying the file.

Action: Do the following:

On NetWare add the following entry, if it is not already present, in the invenv.ncf file:

```
envset tmppath=$tmppath;$zws_install_dir\xmlpcextRes.jar
```

On Windows add the following entry, if it is not already present, in the *inventory_install_path*\wminv\bin\invenv.bat file:

```
tmppath=%tmppath%;%zws_install_dir%\xmlpcextRes.jar
```

2701: Unable to create the zwsstart.ncf file on the server *server_name*

Source: ZENworks Server Management; Server Inventory or Proxy Service installation on NetWare servers

Severity: Critical

Explanation: The installation program creates the sys:\system\zwsstart.ncf file to launch the ZENworks Web Server. This error occurs if the installation program fails to create the zwsstart.ncf file.

Possible Cause: An input-output error occurred while creating the zwsstart.ncf file.

Action: Follow these steps:

1. Note the value of the `ZWSPath` key in the sys:\system\zenworks.properties file to get the ZENworks Web Server installation path.
2. (Conditional) If the zwsstart.ncf does not exist, create the file in the sys:\system directory.
3. Add the following entries to the file:

   ZENworks_Web_Server_installation_path\zwsenv.ncf

   ZENworks_Web_Server_installation_path\zws\zws.ncf

2702: Unable to remove the entries from the load script on the server *server_name*

Source: ZENworks Server Management; Server Inventory database or Proxy Service installation on NetWare servers

Severity: Critical

Possible Cause: If you are installing ZENworks 6.5 Server Management over a previous version of ZENworks for Servers or ZENworks for Desktops, the installation program cleans up the entries from the load scripts. This error occurs if the installation fails to clean up the entries from the load scripts.

Action: Contact Novell Support (http://support.novell.com).

2703: Unable to remove the entries from the unload script on server *server_name*

Source: ZENworks Server Management; Server Inventory database or Proxy Service installation on NetWare servers

Severity: Critical

Possible Cause: If you are installing ZENworks 6.5 Server Management over a previous version of ZENworks for Servers or ZENworks for Desktops, the installation program cleans up the entries from the load scripts. This error occurs if the installation fails to clean up the entries from the load scripts.

Action: Using ConsoleOne, remove the dbsrv8.nlm entry from the Unload script.

2704: Unable to append entries to zws.ncf file on the server *sever_name*

Source: ZENworks Server Management; Inventory Server or Proxy Service installation on NetWare or Windows servers

Severity: Critical

Explanation: This error occurs if the ZENworks 6.5 Server Management installation fails to add the ZEN loader entries to zfs.ncf.

Possible Cause: An input-output error has occurred while modifying zfs.ncf.

Action: Reinstall the following components of ZENworks 6.5 Server Management: Inventory server and Inventory Proxy server (XML Proxy). For more information, see “Installation on NetWare and Windows” on page 61.

2707: Unable to create dbconfig.properties file on the server *server_name*

Source: ZENworks Server Management; Inventory Server or Proxy Service installation on NetWare or Windows servers

Severity: Important

Explanation: This error occurs if the installation fails to add the ZENworks Web Server entries to the invenv.ncf file.

Possible Cause: An input-output error has occurred while modifying the file.

Action: Ensure that invconfig.properties file exists in *Inventory_database_volume*\zenworks\database\inventory. If the file is not present, manually create the file with the following entry:

```
DBObjectDN=DN of the inventory database object in eDirectory
```

2708: Unable to assign rights to the directory *directory_name* on server *server_name*

Source: ZENworks Server Management; Server Inventory installation on Windows servers

Severity: Critical

Explanation: The Installation program was unable to assign rights to scandir or dictdir directories.

Possible Cause: You have not logged into the Windows server as an administrator or with the equivalent administrator rights.

Action: Ensure that you have logged into to the Windows server as an administrator or with the equivalent administrator rights. See "Installation User Rights" on page 31.

Possible Cause: The installation program is not running from a Windows workstation or server.

Action: Ensure that the recommended installation workstation requirements for Windows workstation or server are met. See "Installation-Specific Machine Requirements" on page 40.

Action: Ensure that the network is up and running.

Action: Do the following:

1. Stop the Inventory service.
2. Assign rights to scandir or dictdir directories.
   - **Scandir:** Share the *inventory_installation_drive*\zenworks\inv\scandir directory as "ScanDir", and assign the Create rights to everyone.
   - **Dictdir:** Share the *inventory_installation_drive*\zenworks\inv\dictdir directory as "DictDir", and assign the Full rights to everyone.
3. Start the Inventory service.

Action: If the problem persists, contact Novell Support (http://support.novell.com).

Error(s) occurred while installing the Inventory Agent on *server_name*. Reinstall the Inventory Agent

Source: ZENworks Server Management; Inventory Agent installation on NetWare or Windows servers

Severity: Critical

Explanation: This error occurs if the installation program is unable to install the Inventory Agent on the selected servers.

Action: Ensure that the Subscriber is installed on the target machine. If the Subscriber has not been installed, install the Subscriber before reinstalling Inventory Agent. For more information, see "Installation on NetWare and Windows" on page 61.

Possible Cause: The directory where you want to copy the Inventory Agent files is locked by some other process.

Action: Release the lock and reinstall the Inventory Agent. For more information, see "Installation on NetWare and Windows" on page 61.

Action: Check for any error codes in the error log file and look for the detailed explanation for that error.

Error(s) occurred while installing the Inventory ConsoleOne components on *server_name*. Reinstall the Inventory ConsoleOne components

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Critical

Action: Ensure that ConsoleOne version 1.3.6 is installed on the target server. For more information, see "Installing ConsoleOne 1.3.6" on page 41.

Action: If you are installing to a NetWare cluster server, ensure that all the nodes on the cluster server are configured properly.

Possible Cause: The directory where you want to copy the Inventory Agent files is locked by some other process.

Action: Unlock the directory and reinstall the Inventory ConsoleOne components.

Action: Check for any error codes in the error log file and look for the detailed explanation for that error code.

Error(s) occurred while installing the Inventory database on *server_name*. Reinstall the Inventory database

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Critical

Possible Cause: The Sybase database is not shut down during the ZENworks Server Management Server Inventory installation on Windows server.

Action: Quit Sybase and reinstall the Inventory database.

Possible Cause: The target directory is locked by some other process.

Action: Release the lock and reinstall the Inventory database. For more information on how to reinstall the Inventory database, see "Installation on NetWare and Windows" on page 61.

Action: If you are installing to a NetWare cluster server, ensure that all the nodes on the cluster server are configured properly.

Action: Check for any error codes in the error log file and look for the detailed explanation for that error code.

Error(s) occurred while installing the Inventory server on *server_name*. Reinstall Inventory server

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Critical

Action: If you are installing to a NetWare cluster server, ensure that all the nodes on the cluster server are configured properly.

Action: If this message is displayed during reinstall, ensure that the Inventory services are not running during reinstallation. If you are reinstalling on a NetWare server, also ensure that the JVM is unloaded.

Action: Check for any error codes in the error log file and look for the detailed explanation for that error code.

Error(s) occurred while installing the proxy server on *server_name*. Reinstall the Proxy server

Source: ZENworks Server Management; Proxy server installation on NetWare or Windows servers

Severity: Critical

Action: Reinstall the Proxy service. For more information, see "Installation on NetWare and Windows" on page 61.

Action: If you are installing to a NetWare cluster server, ensure that all the nodes on the cluster server are configured properly.

Possible Cause: The directory where you want to copy the Proxy service files is locked by some other process.

Action: Unlock the directory and reinstall the Proxy service. For more information on how to reinstall the Proxy service, see "Installation on NetWare and Windows" on page 61

Action: Check for any error codes in the error log file and look for the detailed explanation for that error code.

Some of the Inventory Agent or Inventory Server files are locked during copying files to *server_name*

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Critical

Possible Cause: The files are locked or in use by some other application.

Action: Unlock the files and reinstall the Server Inventory component. For more information on how to reinstall the Server Inventory component, see "Installation on NetWare and Windows" on page 61.

Explanation: If the problem persists, reboot the server and reinstall the Server Inventory component. For more information on how to reinstall the Server Inventory component, see "Installation on NetWare and Windows" on page 61.

Unable to copy the file *filename*

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Critical

Possible Cause: The file is in use or locked by some other application.

Action: Close all running programs and reinstall Server Inventory. For more information on how to reinstall the Server Inventory component, see "Installation on NetWare and Windows" on page 61.

Action: If the problem persists, reboot the server.

Unable to find zfssrv.cfg on *server_name*

Source: ZENworks Server Management; Inventory Agent installation on Windows servers

Severity: Critical

Possible Cause: The installation of Policy and Distribution Services failed on the specified server.

Action: Reinstall Policy and Distribution Services and the Server Inventory components. For more information, see "Installation on NetWare and Windows" on page 61

Unable to get the install response filename. Install will now exit

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Critical

Action: Follow these steps:

1. Delete all the files from the Windows \temp directory.
2. Close all running programs.
3. Reinstall Server Inventory. For more information, see "Installation on NetWare and Windows" on page 61.

Unable to load the DLL *DLL_name*. The install will exit now

Source: ZENworks Server Management; Server Inventory installation on NetWare or Windows servers

Severity: Critical

Explanation: The installation program is unable to load the specified DLL.

Action: Follow these steps:

1. Delete all files from the Windows \temp directory.
2. Reboot the installation workstation.
3. Reinstall Server Inventory. For more information, see "Installation on NetWare and Windows" on page 61.

Action: Ensure that the specified DLL is located in the \zfs\rminv\libs\dll directory on the *ZENworks 6.5 Server Management Program* CD. If the file is not present, contact Novell Support (http://support.novell.com).

The install path is too long

Source: ZENworks Server Management; Server Inventory installation on NetWare and Windows servers

Severity: Critical

Action: Ensure that the characters specified for the installation path do not exceed 169 characters.

Failed to create *share_name* share on *server_name* at *directory_path*

Source: ZENworks Server Management; Server Inventory installation on Windows servers

Severity: Critical

Possible Cause: The machine where you want to create the share is not reachable.

Action: Ensure that the machine is reachable. Ping the machine to check the connectivity of the machine.

Action: Try to access any other share on the machine through Windows Explorer.

Remote Management Installation Errors

The following sections contain detailed explanations of error messages you could encounter while installing Remote Management.

Error(s) occurred while installing the Remote Management Agent on server_name. Reinstall the Remote Management Agent.

Some of the Remote Management files are locked during copying files to server_name

Unable to copy the file filename

Unable to create the password file on server_name. You must manually set the password on the server. For more information, see the online ZENworks error message documentation at http://www.novell.com/documentation

Unable to create the Remote Management service on server_name. For more information, see the online ZENworks error message documentation at http://www.novell.com/documentation

Unable to find zfssrv.cfg on server_name

Unable to get the install response filename. Install will now exit

Unable to load the DLL DLL_name. The install will exit now

Unable to start the Remote Management service on server_name. For more information, see the online ZENworks error message documentation at http://www.novell.com/documentation

Unable to stop the ZENworks for Servers 2 Remote Management service on server_name. For more information, see the online ZENworks error message documentation at http://www.novell.com/documentation

Unable to stop the ZfS 3 Remote Management service on server_name. For more information, see the online ZENworks error message documentation at http://www.novell.com/documentation

Error(s) occurred while installing the Remote Management Agent on *server_name*. Reinstall the Remote Management Agent.

Source: ZENworks Server Management; Remote Management installation on NetWare or Windows servers

Severity: Critical

Action: If you are installing to a NetWare cluster server, ensure that all the nodes on the cluster server are configured properly.

Possible Cause: The directory where you want to copy the Remote Management Agent files is locked by some other process.

Action: Unlock the directory and reinstall the Remote Management Agent. For more information, see "Installation on NetWare and Windows" on page 61.

Some of the Remote Management files are locked during copying files to *server_name*

Source: ZENworks Server Management; Remote Management installation on Windows servers

Severity: Informational

Explanation: During the installation, some Remote Management files located in the Windows \system directory are locked. This is a non-fatal error. The installation program registers the locked files in the registry of the target server and maintains the new files as a reference to overwrite the locked files.

Action: Reboot the server.

Unable to copy the file *filename*

Source: ZENworks Server Management; Remote Management installation on NetWare or Windows servers

Severity: Critical

Possible Cause: The file is in use or locked by some other application.

Action: Close all running programs and reinstall Remote Management. For more information, see "Installation on NetWare and Windows" on page 61.

Action: If the problem persists, reboot the server.

Unable to create the password file on *server_name*. You must manually set the password on the server. For more information, see the online ZENworks error message documentation at http://www.novell.com/documentation

Source: ZENworks Server Management; Remote Management installation on Windows servers

Severity: Critical

Possible Cause: On the managed server, the password file is in use.

Action: After installing Remote Management, manually set the password at the managed server.

To set the password at the managed server:

1. Right-click the Remote Management Agent icon.
2. Click Set Password.
3. Enter the password.
4. Click OK.

Unable to create the Remote Management service on *server_name*. For more information, see the online ZENworks error message documentation at http://www.novell.com/documentation

Source: ZENworks Server Management; Remote Management installation on Windows servers

Severity: Critical

Possible Cause: The Novell ZFS Remote Management service is in the Disabled state.

Action: Reboot the managed server and reinstall the Remote Management components. For more information, see "Installation on NetWare and Windows" on page 61.

Unable to find zfssrv.cfg on *server_name*

Source: ZENworks Server Management; Remote Management installation on Windows servers

Severity: Critical

Possible Cause: The installation of Policy and Distribution services failed on the specified server.

Action: Reinstall Policy and Distribution services before reinstalling Remote Management. For more information, see "Installation on NetWare and Windows" on page 61.

Unable to get the install response filename. Install will now exit

Source: ZENworks Server Management; Remote Management installation on NetWare or Windows servers

Severity: Critical

Action: Follow these steps:

1. Delete all the files from the Windows \temp directory.
2. Close all running programs.
3. Reinstall Remote Management. For more information, see "Installation on NetWare and Windows" on page 61.

Unable to load the DLL *DLL_name*. The install will exit now

Source: ZENworks Server Management; Remote Management installation on NetWare or Windows servers

Severity: Critical

Explanation: The installation program is unable to load the specified DLL.

Action: Follow these steps:

1. Delete all files from the Windows \temp directory.
2. Reboot the installation workstation.
3. Reinstall Remote Management. For more information, see "Installation on NetWare and Windows" on page 61.

Action: Ensure that the specified DLL is located in the \zfs\rminv\libs\dll directory on the *ZENworks 6.5 Server Management Program* CD.If the file is not present, contact Novell Support (http://support.novell.com)

Unable to start the Remote Management service on *server_name*. For more information, see the online ZENworks error message documentation at http://www.novell.com/documentation

Source: ZENworks Server Management; Remote Management installation on Windows servers

Severity: Critical

Possible Cause: One or more Remote Management files on the managed server are corrupt or do not exist.

Action: Reboot the managed server and reinstall the Remote Management components. For more information, see "Installation on NetWare and Windows" on page 61.

Unable to stop the ZENworks for Servers 2 Remote Management service on *server_name*. For more information, see the online ZENworks error message documentation at http://www.novell.com/documentation

Source: ZENworks Server Management; Remote Management installation on Windows servers

Severity: Critical

Possible Cause: The ZENworks for Servers 2 Remote Management service is not responding to the Service Control Manager within the stipulated time.

Action: Follow these steps:

1. Stop the ZENworks for Servers 2 Remote Management service.

   On a Windows 2000 managed server, from the Control Panel, double-click Administrative Tools, double-click Services, select ZfS 2 Remote Management service, then click Stop.
2. Reinstall ZENworks Server Management Remote Management. For more information, see "Installation on NetWare and Windows" on page 61.

Unable to stop the ZfS 3 Remote Management service on *server_name*. For more information, see the online ZENworks error message documentation at http://www.novell.com/documentation

Source: ZENworks Server Management; Remote Management installation on Windows servers

Severity: Critical

Possible Cause: The ZENworks 6.5 Remote Management service is not responding to the Service Control Manager within the stipulated time.

Action: Follow these steps:

1. Stop the Remote Management service.

   On a Windows 2000 managed server, from the Control Panel, double-click Administrative Tools, double-click Services, select Novell ZFS Remote Management Agent, then click Stop.

2. Reinstall Remote Management. For more information, see "Installation on NetWare and Windows" on page 61.

Management and Monitoring Services Installation Errors

If the Management and Monitoring Services components installation is not successful, the installation program logs an error message in the following log files: mwinssum.wri, instrace.txt, rbs.ini, and license.ini. The summary file that is displayed at the end of the install specifies the location of these log files. The log files are also placed in the \temp directory on your machine.

103: Specified document cannot be selected or deselected

Source: ZENworks Server Management; Management and Monitoring Services installation

Severity: Critical

Possible Cause: ComponentSelectItem was called to select or deselect a component required by a currently selected component.

Action: Contact Novell Support (http://support.novell.com).

108: Insufficient disk space

Source: ZENworks Server Management; Management and Monitoring Services installation

Severity: Critical

Possible Cause: The target disk or directory has insufficient free space, or the disk space cannot be determined because TARGETDIR is invalid, or a script-defined directory of a component has not been set.

Action: Contact Novell Support (http://support.novell.com).

112: Specified file cannot be opened

Source: ZENworks Server Management; Management and Monitoring Services installation

Severity: Critical

Possible Cause: The specified file or the file in the data1.cab (or one of the other data CAB files) is missing or corrupted; or an uncompressed data file is missing from the CD.

Action: Contact Novell Support (http://support.novell.com).

113: Specified file cannot be opened as read-only

Source: ZENworks Server Management; Management and Monitoring Services installation

Severity: Critical

Possible Cause: The file data1.cab (or one of the other data CAB files) is missing or corrupted; or an uncompressed data file is missing from the CD.

Action: Contact Novell Support (http://support.novell.com).

115: Specified file cannot be opened as write

Source: ZENworks Server Management; Management and Monitoring Services installation

Severity: Critical

Possible Cause: An attempt was made to overwrite a locked file belonging to a file group that does not have the Potentially Locked or Shared property set to Yes.

Possible Cause: An attempt was made to install a file with a long filename (or to a directory with a long pathname) in a 16-bit setup.

Possible Cause: The path to the target directory is invalid.

Action: Contact Novell Support (http://support.novell.com).

136: Unable to allocate memory

Source: ZENworks Server Management; Management and Monitoring Services installation

Severity: Critical

Possible Cause: Insufficient memory is available to the setup.

Action: Close down all other applications

Action: Cancel the setup, reboot the system, and restart the setup.

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L Documentation Updates

This section contains information on documentation content changes that have been made in the *Installation Guide* after the initial release of Novell® ZENworks® 6.5 Server Management. The information will help you to keep current on updates to the documentation.

All changes that are noted in this section were also made in the documentation. The documentation is provided on the Web in two formats: HTML and PDF. The HTML and PDF documentation are both kept up-to-date with the documentation changes listed in this section.

The documentation update information is grouped according to the date the changes were published. Within a dated section, the changes are alphabetically listed by the names of the main table of contents sections for ZENworks 6.5 Server Management.

If you need to know whether a copy of the PDF documentation you are using is the most recent, the PDF document contains the date it was published on the front title page or in the Legal Notices section immediately following the title page.

The documentation was updated on the following dates:

August 16, 2006

Updates were made to the following sections:

- Ensuring Successful DNS Name Resolution
- Policy-Enabled Server Management Installation

Ensuring Successful DNS Name Resolution

The following changes were made in this section:

Location	Change
"Using Underscore Characters in DNS Names" on page 319	As of ZENworks 6.5, underscore (_) characters can be used in the DNS names of servers.

Policy-Enabled Server Management Installation

The following changes were made in this section:

Location	Change
"Installation Summary" on page 87	Added the following information to the end of this section: The following NetWare registry entries are made in \\my server\software\novell\ZENWORKS\zfs\: PDS PDSDB Inventory Database Server RconsoleJ Agent for NetWare Inventory Server Inventory Agent
"Web-Based Management for Policy and Distribution Services" on page 89	Updated this section to include separate instructions for installing the iManager plug-ins for ZENworks 6.5 to iManager 2.0.2 and iManager 2.5 or 2.6.

January 31, 2006

Updates were made to the following sections for ZENworks 6.5 Support Pack 2 (SP2):

- Upgrade

Upgrade

The following changes were made in this section:

Location	Change
"Server Inventory" on page 221 > "Upgrading the Server Inventory Components Using the Program CD" on page 223	In "Tasks To Be Performed Before Upgrade and Database Migration" on page 224, added the following point to the list of tasks to be performed before upgrade: "If *zenworks_installation_path*\zenworks\inv\server\wminv\ properties\ inventoryremoval.properties has been modified after the ZENworks for Servers 3.*x* installation, take a reliable backup of inventoryremoval.properties."

September 16, 2005 (Support Pack 2)

Updates were made to the following sections for ZENworks 6.5 Support Pack 2 (SP2):

- Preparation
- Upgrade

Preparation

The following changes were made in this section:

Location	Change
"Server Requirements" on page 43	Updated the table with new platforms supported in ZENworks 6.5 SP2.
"Inventory Database Server" on page 51	Updated the table with the following information: • SLES 9 SP1 or Solaris versions on which you can set up the Oracle9i Inventory database • If you want to achieve a better scalability of concurrent updates by Storer, you must apply Oracle 9i release 2 Patch 6 or later

Upgrade

The following changes were made in this section:

Location	Change
"What's New in ZENworks 6.5 Server Management Support Pack 2" on page 146	Added this section for what's new in ZENworks 6.5 SP2.
"ZENworks 6.5 Server Management Support Packs" on page 149	Renamed this section and modified it to apply to all ZENworks 6.5 support packs.
"Pre-upgrade Considerations" on page 239	Added this new section for Remote Management upgrading.

June 17, 2005

Updates were made to the following sections. The changes are explained below.

- Installation
- Upgrade
- Appendixes

Installation

The following changes were made in this section:

Location	Change
"Pre-Installation Checklist" on page 62	Removed the following item, because Java is now automatically unloaded when installing to clusters: • If you are installing to a cluster, you must manually unload Java on each cluster node, because although the installation program normally unloads Java automatically, it will only automatically unload Java on node where the virtual server resides. To unload Java on each cluster node, on the server's command line, enter `Java -exit`.

Upgrade

The following changes were made in this section:

Location	Change
“Upgrading the Inventory Database Using the Program CD” on page 225 > “Manually Migrating the ZENworks for Servers 3.x Database Objects” on page 226	Added three new steps to ensure that the values of the Inventory database object options are correct.

Appendixes

The following changes were made in this section:

Location	Change
“Installation Steps” on page 332	Added “In Cluster Ready mode, ...” to the beginning of the following note for clarity: **IMPORTANT:** In Cluster Ready mode, you can install only one instance of Policy and DIstribution Services (one Distributor and/or one Subscriber) in a cluster because Policy and Distribution Services treats a cluster as if it were a single server.

February 11, 2005 (Support Pack 1)

Updates were made to the following sections for ZENworks 6.5 Support Pack 1 (SP1).

- Preparation
- Installation
- Upgrade
- Interoperability
- Uninstalling
- Appendixes

Preparation

The following changes were made in this section:

Location	Change
Chapter 2, “Information You Need to Know,” on page 27 and “Novell eDirectory Requirement” on page 32	Added new information about a “ZENworks” tree with a link to an appendix in the *ZENworks Desktop Management Administration Guide*, where the use of a tree dedicated to ZENworks objects is recommended for ease of tree management.
“Dedicated ZENworks Tree” on page 36	Added this new section about a dedicated ZENworks tree, and in the process reorganized two of the sections around it.
Chapter 5, “Server Requirements,” on page 43	Updated this section with new support for two operating systems: Novell Open Enterprise Server (OES) and Citrix* Metaframe.

Installation

The following changes were made in this section:

Location	Change
“Server Selection” on page 72	Added the following note under Step 3: **IMPORTANT:** If you choose to remotely install the Inventory Agent or the Remote Management Agent on a Windows 2003 server configured as Domain Controller, you must specify the hostname or the IP address of the server in the Add Server Via Hostname/IP Address field.
“Policy and Distribution Services” on page 97	Removed the “Setting Up the Distributor in a Mixed Network Operating System Environment“ section, because it no longer applies. ZENworks 6.5 SP1 or SP2 Distributors can only be on servers running eDirectory 8.*x*, and therefore you can no longer have the problem of Distributor servers not being able to authenticate to eDirectory 8.*x*.

Upgrade

The following changes were made in this section:

Location	Change
"Upgrade" on page 117	Replace all "Interim Release 1" references with "Interime Release 2," which is the current minimum supported release for ZENworks for Servers 3.0.2.
"Upgrading ZENworks 6.5 Server Management to a ZENworks Support Pack" on page 122	Added this new section pointing to instructions for upgrading ZENworks 6.5 Server Management to a ZENworks support pack. For guides translated into other languages after English SP1 version was released, also added the following note under the second bullet in Step 2 of the "Select the Servers to Upgrade" on page 157 section: **IMPORTANT:** If you choose to remotely install the Inventory Agent or the Remote Management Agent on a Windows 2003 server configured as Domain Controller, you must specify the hostname or the IP address of the server in the Add Server Via Hostname/IP Address field.
"Post-Upgrade Manual Distribution Task" on page 167	Added this section, because the manual Distributions created in the ZENworks 6.5 version of the Manual Distribution Wizard do not work in SP1. They must be re-created using the SP1 or SP2 version of the Manual Distribution Wizard, because re-baselining of manual Distributions will no longer be necessary for manual Distributions created in SP1 or SP2.
"What's New in ZENworks 6.5 Server Management Support Pack 1" on page 142	Added this new section describing what's new in ZENworks 6.5 SP1.
Chapter 10, "ZENworks 6.5 Server Management Support Packs," on page 149	Added this new section with instructions on upgrading ZENworks 6.5 Server Management to a ZENworks support pack. This section contains instructions for all Server Management components to be upgraded to the support pack.

Interoperability

The following changes were made in this section:

Location	Change
"Interoperability" on page 259	Replace all "Interim Release 1" references with "Interime Release 2," which is the minimum supported release for ZENworks for Servers 3.0.2.
Chapter 17, "Interoperability in Inventory," on page 263	Updated this section with many changes for Support Pack 1.

Uninstalling

The following changes were made in this section:

Location	Change
"Uninstalling the Web Components" on page 287	Rewrote this section with iManager 2.0.2 corrections and new steps for iManager 2.5.

Appendixes

The following changes were made in this section:

Location	Change
"ZENworks Server Management in a Clustered Environment" on page 327	Updated this section with information related to installing Server Inventory in the Novell Cluster Services environment.
"Installation Steps" on page 332	Inserted a new step (4) and re-arranged the order of the remaining steps. This is to account for incomplete Inventory startup files when a database is installed in a cluster.

November 24, 2004

Updates were made to the following sections. The changes are explained below.

- Upgrade
- Interoperability

Upgrade

The following changes were made in this section:

Location	Change
"Upgrading the Server Inventory Components Using a Server Software Package" on page 231	This section has been added for Server Inventory.
"Upgrading Using a Server Software Package" on page 241	This section has been added for Remote Management.

Location	Change
"Upgrading Using a Server Software Package" on page 248	This section has been added for Management and Monitoring Services.

Interoperability

The following changes were made in this section:

Location	Change
Chapter 17, "Interoperability in Inventory," on page 263	Added the following prerequisite: On the same server, the Server Inventory component of ZENworks 6.5 Server Management is interoperable only with the Workstation Inventory component of ZENworks 6.5 Desktop Management, and vice versa.

September 2, 2004

Updates were made to the following sections. The changes are explained below.

- Preparation
- Installation
- Appendixes

Preparation

The following changes were made in this section:

Location	Change
"Checking the eDirectory Version" on page 32	Added information on how to determine the eDirectory version on Linux and Solaris.
"Installing or Upgrading eDirectory on Linux or Solaris Servers" on page 34	Added this section on how to install or upgrade eDirectory on Linux or Solaris servers.
"Installing ConsoleOne 1.3.6" on page 41	Added information on how to install ConsoleOne to Linux and Solaris machines.

Installation

The following changes were made in this section:

Location	Change
"Configuring the Policies on the Servers" on page 104	Updated this section.

Appendixes

The following changes were made in this section:

Location	Change
"Server Inventory Installation Errors" on page 366	Rectified the location of the log files that would contain the Server Inventory installation error messages.

July 28, 2004

Updates were made to the following sections. The changes are explained below.

Location	Change
"Server Inventory Installation Errors" on page 366	Updated this section with new error messages.
"Remote Management Installation Errors" on page 396	Updated this section with new error messages.