Upgrade guide

Novell®
ZENworks® Orchestrator

1.3
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Contents

About This Guide

This *Upgrade Guide* introduces the process of upgrading Novell® ZENworks® Orchestrator 1.2 to later versions of ZENworks Orchestrator. The guide provides an introductory overview of the requirements for upgrading and explains which components are compatible. Further, it provides specific instructions for performing the upgrade. The guide is organized as follows:

- Chapter 1, "Upgrade Overview," on page 9
- Chapter 2, "Upgrading ZENworks Orchestrator Components to Version 1.3," on page 15

Audience

This book is intended for data center managers and IT or operations administrators. It assumes that users of the product have the following background:

- General understanding of network operating environments and systems architecture.
- Knowledge of basic UNIX* shell commands and text editors.

Feedback

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

Documentation Updates

For the most recent updates for this *Upgrade Guide*, visit the ZENworks Orchestrator 1.3 Web site (http://www.novell.com/documentation/zen_orchestrator13/).

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* or UNIX, should use forward slashes as required by your software.

Upgrade Overview

1

Beginning with the release of version 1.2, components of Novell® ZENworks® Orchestrator have been engineered to allow upgrading these components to later versions of the product. The upgrade process affects the following Orchestrator components:

- Orchestrator Server
- Orchestrator Clients (including the Orchestrator Console and the command line utilities)
- Orchestrator Agent
- Virtual Machine Builder and Warehouse
- Virtual Machine Builder Agent
- Orchestrator Monitoring Server
- Orchestrator Monitoring Agent
- Virtual Machine Management Interface

This section explains what you must do prior to initiating the upgrade process, how the process works, and how you can see the upgrade process happening. The following information is included:

- Section 1.1, "Basic Functions of the Upgrade," on page 9
- Section 1.2, "Compatibility Checking Behavior," on page 10
- Section 1.3, "Configuring the Upgrade," on page 13

1.1 Basic Functions of the Upgrade

Before you begin the ZENworks Orchestrator upgrade process, you need to know the underlying assumptions of the process so that you can better understand how to proceed. The following list details the most important of those assumptions:

- You can upgrade to ZENworks Orchestrator 1.3 from ZENworks Orchestrator 1.2.x (that is, from version 1.2 and any subsequent patches applied to version 1.2)
- To check the installed Orchestrator components for version number, run the following command on a Linux machine where agent, client, or server components are installed.

  ```
  rpm -qa | grep 'novell-zen'
  ```

  To check version numbers on a Windows machine, open the *Add or Remove Programs* console in Windows and look for the agent or client version number in the programs list.

- The upgrade of ZENworks Orchestrator must be done for all Orchestrator Server, Orchestrator Console, Virtual Machine Management Interface and all Orchestrator Agent components. Running older agents with newer server components or running older consoles and interfaces with newer server components (or vice versa) is not supported.

- Upgrading a prior release of a 32-bit ZENworks Orchestrator installation to a newer 64-bit version of Orchestrator is not supported. Similarly, upgrading a prior release of a 64-bit Orchestrator installation to a newer 32-bit version is not supported.

- After you upgrade the server components, older versions of the Orchestrator agents, the Orchestrator Console, and the Eclipse GUI might not work with the newer server components. The Orchestrator Console identifies the managed nodes that have non-compatible agents. For more information about component compatibility, see Section 1.2, "Compatibility Checking Behavior," on page 10.

- Errors can occur during the upgrade process. These errors can be resolved and the upgrade process can be re-run. For more information about how the recovery works, see Section 2.1.7, "Recovering from a Failed Orchestrator Server Upgrade," on page 26.

- After the Orchestrator Server is upgraded and started, rolling back to a previous version of ZENworks Orchestrator is not supported.

- Step-by-step information about the events occurring during the upgrade process is recorded in `server.log`, located in the `/var/opt/novell/zenworks/zos/server/logs` directory.

1.2 Compatibility Checking Behavior

For managed agents (nodes), the agents report the version incompatibility in the agent log file. On the server, the attempted connection by an incompatible agent is detected, and the agent is listed on the Orchestrator Console as incompatible and in need of either an upgrade or downgrade to the correct version. Also, an incompatible agent connection attempt causes the node manager on the server to raise a NEED_UPGRADE event that can be caught to provide custom handling of agents in need of upgrade.

This section includes the following information:

- Section 1.2.1, "Behavior Shown by the Virtual Machine Management Interface When Detecting Incompatibility," on page 10
- Section 1.2.2, "Orchestrator Console Behavior When Detecting Incompatibility," on page 11

1.2.1 Behavior Shown by the Virtual Machine Management Interface When Detecting Incompatibility

The information in this section lists the known behaviors exhibited when the ZENworks Orchestrator Virtual Machine Management Interface is upgraded to version 1.3 and when other Orchestrator components are not upgraded.

- "If the VM Warehouse/Builder Services Are Not Compatible with the Interface" on page 10
- "If the Monitoring Server Is Not Compatible with the Interface" on page 11

If the VM Warehouse/Builder Services Are Not Compatible with the Interface

If the VM Warehouse/Builder services are not compatible with the VM Management interface, the interface generates an error detailing the version incompatibility.

Figure 1-1   *VM Management Version Error*
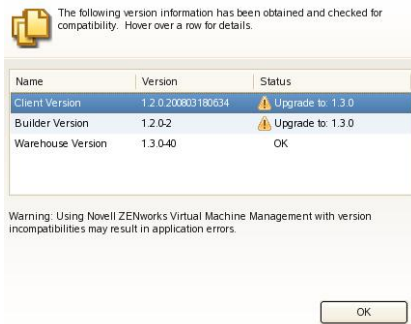
If the Monitoring Server Is Not Compatible with the Interface

Even when the Orchestrator Monitoring Server is newer or older than the installed VM Management Interface, it is not necessarily incompatible with the interface. The interface does not detect or display the version of the Monitoring Server.The Monitoring Server uses Internet browser capabilities to display its information in HTML format, so the monitored information is still available.

1.2.2 Orchestrator Console Behavior When Detecting Incompatibility

The ZENworks Orchestrator Console detects incompatibility only in the Orchestrator Agent. The information in the following sections details that behavior.

- "If the Orchestrator Server Is Not Compatible with the Orchestrator Console" on page 11
- "When an Agent Version Does Not Match the Server Version" on page 12

If the Orchestrator Server Is Not Compatible with the Orchestrator Console

When the Orchestrator Console detects an older version of the ZENworks Orchestrator Server, the console displays an "old" icon overlay over the grid object. The console displays a "new" icon overlay on the grid object if it is newer than the console. The version of the server is included in the tool tip display of the grid object in the Explorer tree view. The logged-in server shows the version at the very bottom of the view.

Figure 1-2 *Orchestrator Console Displaying an "Old" icon*
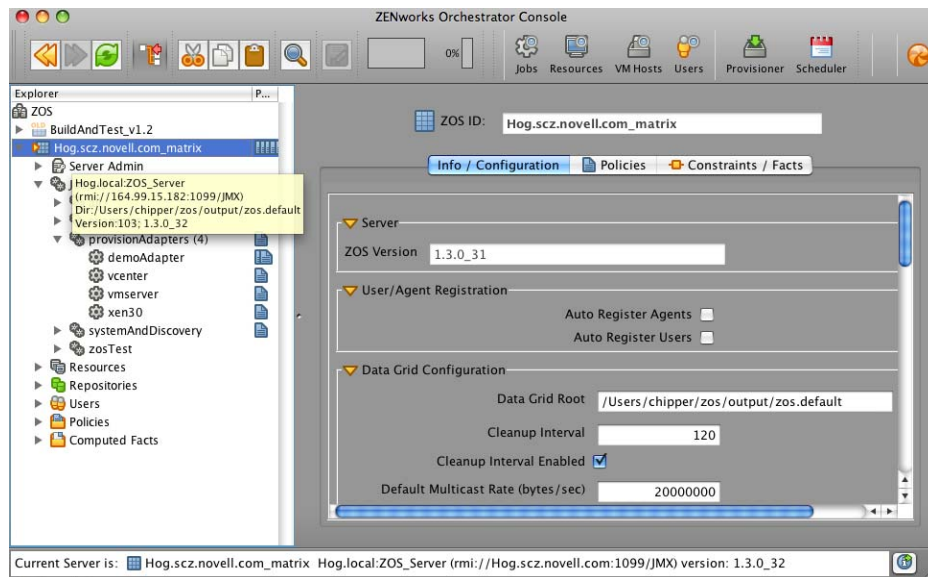
When an Agent Version Does Not Match the Server Version

When an older, incompatible version of the agent communicates with the server, the server detects it and flags the agent as "old." This incompatibility is displayed in the Orchestrator Console, where an older version of the agent is shown in the Tree view with an "old" icon or in the Monitor view with an "old" icon. At this point, the agent also logs a fatal connection error.

Figure 1-3 *Old Orchestrator Agent Resource Displayed in Tree View*
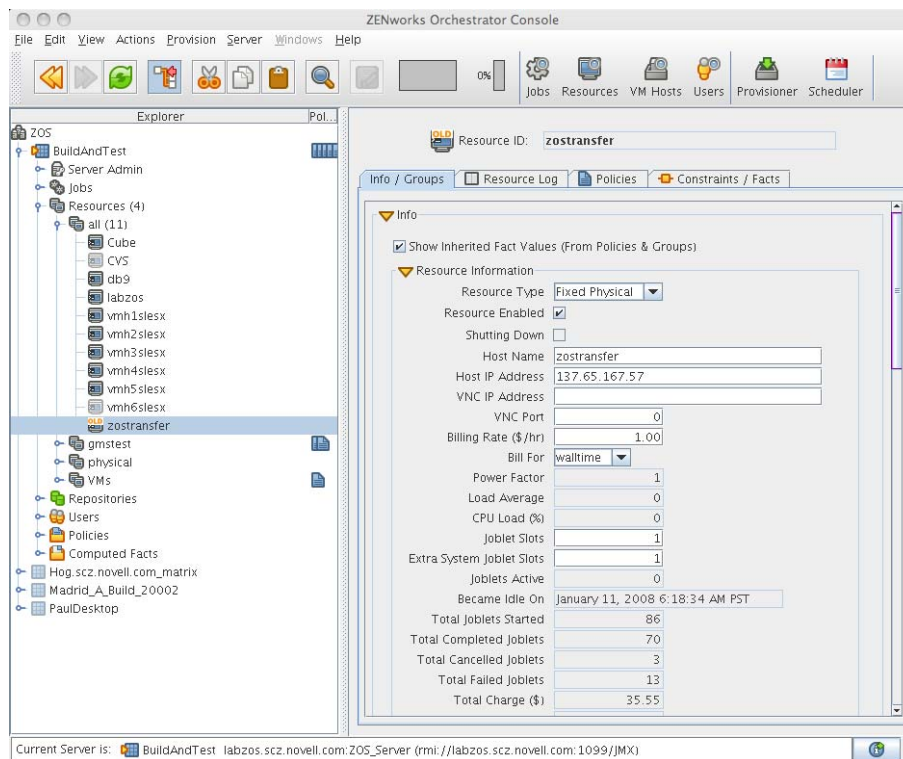
Figure 1-4   *Old Orchestrator Agent Resource Displayed in Tree View and Monitor View*
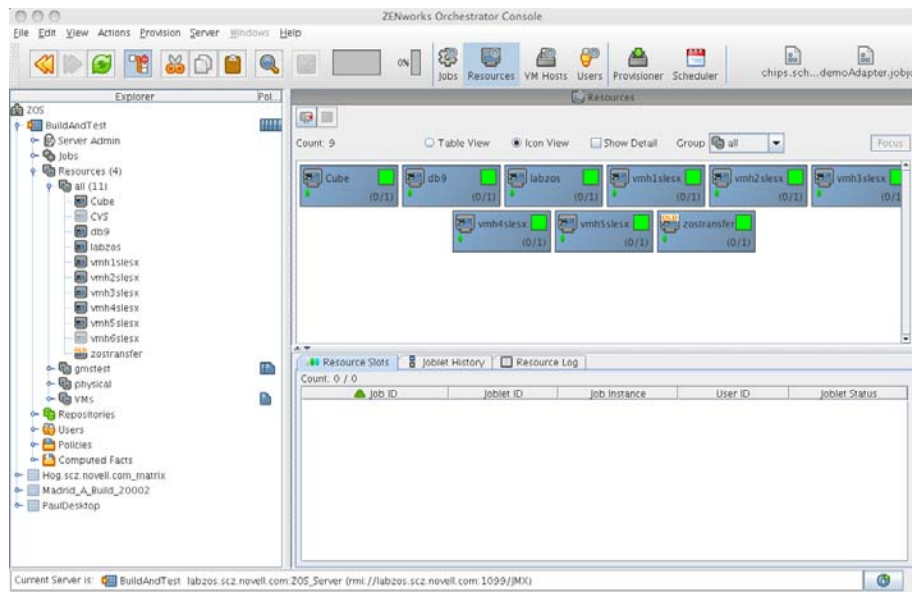
1.3 Configuring the Upgrade

Following the installation of the new software, you need to configure the software for your Orchestrator system. You can do this by launching either a terminal-based config script or a GUI Configuration Wizard from the command line.

When you use the GUI Configuration Wizard, you have the option of configuring the software now or saving the config script for use during an automated mass upgrade. For more information, see Section 2.5, "Running the Upgrade Configuration on an Enterprise Scale," on page 46.

Upgrading ZENworks Orchestrator Components to Version 1.3

2

This section provides information about upgrading from Novell® ZENworks® Orchestrator 1.2 to ZENworks Orchestrator 1.3. It is important that you upgrade the Orchestrator components you have installed in the sequence that follows:

2.1 Upgrading the ZENworks Orchestrator Server Components

Upgrade server instructions and process for upgrading are documented here.

NOTE: To perform a mass upgrade of ZENworks Orchestrator Server components, we recommend that you use a reputable application software distribution method to upgrade to the newer versions that ship with ZENworks Orchestrator 1.3. For example, you can use ZENworks Linux Management to distribute new agents and clients to Linux servers.

For more information, see Section 2.5, "Running the Upgrade Configuration on an Enterprise Scale," on page 46.

2.1.1 Backing Up the Orchestrator Server Prior to Upgrading

As with the installation of any software, it is always a wise precaution to back up a working copy of ZENworks Orchestrator 1.2 before you install the newer version, such as 1.3. To back up the old version, copy the `/var/opt/novell/zenworks/zos/server` directory. Of course, because ZENworks Orchestrator jobs are nearly always running, the only guaranteed "safe" way to make this copy is to stop the server before you make the backup. Even so, if the server is not too busy, making a backup when it is running is usually acceptable.

If you want to restore the older version of ZENworks Orchestrator, stop the Orchestrator Server, copy the `/var/opt/novell/zenworks/zos/server` backup directory into its original location, and restart the Orchestrator Server.

2.1.2 Checking the Current Version of Orchestrator

Before you upgrade the ZENworks Orchestrator packages from an earlier version to the current version you should check which packages of the older Orchestrator version need to be upgraded and which non-Novell packages are included in the product packages.

To do this, run the following command:

```
rpm -qa | grep 'novell-zen'
```

We recommend that you record the results of this command so that you can compare it with the results of a similar task following the upgrade (see Section 2.1.4, "Checking the Upgraded Version of the Orchestrator Server," on page 20).

2.1.3 Upgrading the ZENworks Orchestrator Server Packages

Before starting the upgrade process of the ZENworks Orchestrator Server, make sure that all running jobs are complete. If the jobs have not completed on their own, the upgrade processes forcibly cancels them, which is the normal behavior when the server is shut down. The effect on the jobs is that they are abruptly terminated abruptly before they have finished. The specific consequence of this termination depends on the job that is terminated.

This section includes information about upgrading the server packages on the product ISO. The contents of the section include:

- "Upgrading ZENworks Orchestrator Server Packages Using YaST" on page 17
- "Upgrading ZENworks Orchestrator Server Packages Using the rug Command" on page 19

There are two methods for upgrading ZENworks Orchestrator Server Packages. If you want to use a graphical user interface (GUI) see "Upgrading ZENworks Orchestrator Server Packages Using YaST" on page 17. If you want to use the command line to upgrade the packages, see "Upgrading ZENworks Orchestrator Server Packages Using the rug Command" on page 19.

Upgrading ZENworks Orchestrator Server Packages Using YaST

Use the following procedure if you want to use YaST, a graphical user interface, to upgrade the ZENworks Orchestrator packages. If you want to use the command line to upgrade, see "Upgrading ZENworks Orchestrator Server Packages Using the rug Command" on page 19.

1 Download the appropriate ZENworks Orchestrator 1.3 ISO (32-bit or 64-bit), then prepare it for installation:

  ◆ (Optional) Burn a DVD of the ISO image and load it into the DVD drive of the target machine.

  ◆ (Optional) Copy the ISO image to the local file system. For more information, see "Adding a Local Mount Point As An Installation Source in YaST" on page 18.

  ◆ (Optional) Mount the ISO image file on the machine where ZENworks Orchestrator is to be installed (the "target" machine). For details, see "Adding a Local Directory As An Installation Source in YaST" on page 18.

  ◆ (Optional) If you are installing the ISO image to a large network, extract the product files from the ISO image to a web server / ftp server that can be accessed by the target machine without the need for authentication or anonymous login. For details, see "Adding an ISO or Web URL As An Installation Source in YaST" on page 19.

2 Upgrade ZENworks Orchestrator server software packages:

  2a Log in to the target SLES server as `root`, then open YaST2.

  2b In YaST2, open the *Filter* drop-down menu, then select *Installation Sources* to display the install patterns available on the ZENworks Orchestrator installation media.
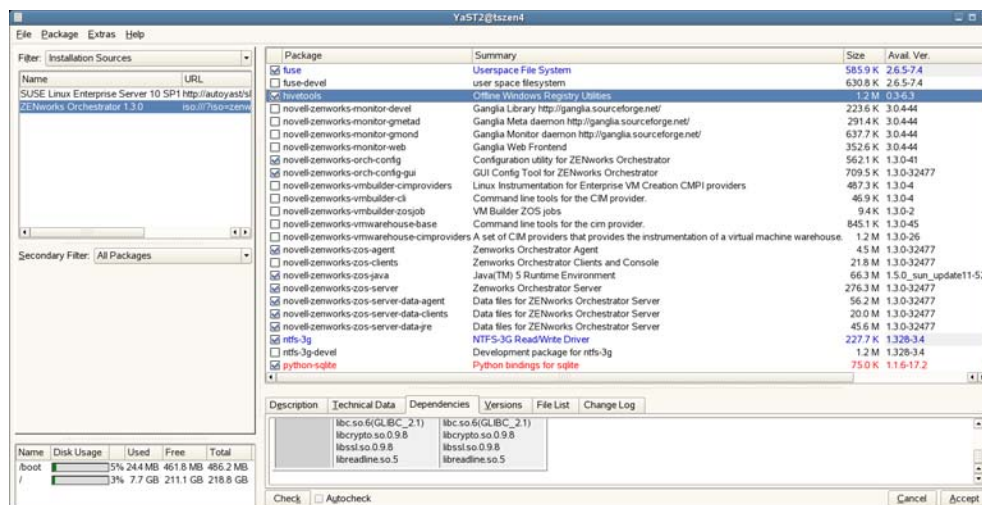
Component packages already installed to the server are checked.

  2c Right-click on any of the installed package names, click *All in This List > Update if newer version available*.

  2d Click *Accept* to install the upgraded packages.

  After the RPMs are upgraded, scripts are run that do the following:

  ◆ Stop job activity on the existing server

- Back up the existing server data to a retrievable format
- Upgrade the RPMs for the selected ZENworks Orchestrator patterns

> **WARNING:** The preceding steps have been tested and validated in YaST. Using other methods to update packages in YaST have not proven successful.

3 Configure the ZENworks Orchestrator Server. You can use one of two information gathering methods to perform the configuration:

- Run the Orchestrator product configuration script. If you use this method, continue with the steps in "Running the Orchestrator Product Configuration Script to Configure the Upgraded Packages" on page 20.
- Run the GUI Configuration Wizard. If you use this method, skip to the steps in "Running the GUI Configuration Wizard to Configure the Upgraded Packages" on page 21.

Adding a Local Mount Point As An Installation Source in YaST

If you want to mount the ISO image file on a particular machine,

1 Log in to the target SLES 10 server as root.

2 From the command line of the target machine, enter the following commands

```
mkdir /mnt/iso
```

```
mount -o loop zenworks_orch-1.3.x86_64.iso /mnt/iso
```

(where you substitute the name of the ISO (32-bit or 64-bit) that you are using).

3 Open YaST2.

4 In the YaST Control Center, click *Software*, then click *Installation Source* to display the Configured Software Catalogs view.

5 In the Configured Software Catalogs view, click *Add* to open the Media Type view.

6 In the Media Type view, select *Local Directory*, then click *Next* to open the Local Directory or ISO view.

7 In the *Path to Directory or ISO Image* field of the Local Directory or ISO view, enter the mount point:

```
/mnt/iso
```

Adding a Local Directory As An Installation Source in YaST

If you want to mount the ISO image file on a particular machine,

1 Log in to the target SLES 10 server as root.

2 Open YaST2.

3 In the YaST Control Center, click *Software*, then click *Installation Source* to display the Configured Software Catalogs view.

4 In the Configured Software Catalogs view, click *Add* to open the Media Type view.

5 In the Media Type view, select *Local Directory*, then click *Next* to open the Local Directory or ISO view.

6 In the *Path to Directory or ISO Image* field of the Local Directory or ISO view, select *ISO Image*, browse to the path where you copied the ISO image file, then click *Next*.

Adding an ISO or Web URL As An Installation Source in YaST

To add an `.iso` file or Web URL as an installation source in YaST,

1 Log in to the target SLES 10 server as root, then open YaST2.

2 In the YaST Control Center, click *Software*, then click *Installation Source* to display the Configured Software Catalogs view.

3 In the Configured Software Catalogs view, then click *Add* to open the Media Type view.

4 In the Media Type view, select an installation media type.

    4a (Example) If you extracted the ISO image to a Web Server or FTP Server, select *HTTP* (or *FTP*), then click *Next* to open the Server and Directory view.

    4b In the *Server Name* field of the Server and Directory view, enter the Server Name (IP Address or DNS Name), in the *Directory on Server Field*, enter the directory name where you extracted the ISO, then click *Next*.

Upgrading ZENworks Orchestrator Server Packages Using the rug Command

Use the following procedure if you want to use the `rug` command on the SLES server to upgrade the ZENworks Orchestrator packages. If you want to use the GUI Configuration Wizard to upgrade, see "Upgrading ZENworks Orchestrator Server Packages Using YaST" on page 17.

1 Download the appropriate ZENworks Orchestrator 1.3 ISO (32-bit or 64-bit), then prepare it for installation:

    ◆ (Optional) Burn a DVD of the ISO image, mount the DVD, then extract the contents of the `.iso` folder to the local file system of the server.

    ◆ (Optional) Extract the contents of the `.iso` folder to the local file system of the server.

2 At the command line, change to the directory where the Orchestrator `.iso` folder was extracted, then run the commands to upgrade ZENworks Orchestrator:

    2a Run the following command:

```
rug sa -t zypp "http://<ip_address_of_local_server>/
<directory_location_of_iso_files>" zos_repo
```

NOTE: If you have chosen not to extract the files and you want to use the `.iso` image to upgrade, use the following command in this step:

```
rug sa -t zypp "iso:///?iso=$ISO_FILE_NAME&url=dir:///
$PATH_TO_ISO/" zos_repo
```

For example, for the ISO located at `/root/Desktop/zenworks_orch-1.3.x86_64.iso`, you could use this command:

```
rug sa -t zypp "iso:///?iso=
zenworks_orch-1.3.x86_64.iso&url=dir:///root/Desktop/"
zos_repo
```

NOTE: If you are using an ftp server, extract the contents of the `.iso` to a folder (see Step 1, above), use the following command:

```
"ftp://<ip_address_of_local _server>/
<directory_location_of_iso_files>" zos_repo
```

2b Run the following command:

```
rug sub zos_repo
```

2c Run the following command:

```
rug up -y
```

3 Configure the ZENworks Orchestrator Server. You can use one of two information gathering methods to perform the configuration:

- Run the Orchestrator product configuration script. If you use this method, continue with the steps in "Running the Orchestrator Product Configuration Script to Configure the Upgraded Packages" on page 20.

- Run the GUI Configuration Wizard. If you use this method, skip to the steps in "Running the GUI Configuration Wizard to Configure the Upgraded Packages" on page 21.

2.1.4 Checking the Upgraded Version of the Orchestrator Server

After you upgrade the ZENworks Orchestrator packages to version 1.3, you should check the upgraded software packages to confirm that all of the earlier versions of the product components are now updated and which of the non-Novell packages have been updated.

To do this, change to the directory where the current version of the Orchestrator was extracted, then run the following command:

```
rpm -qa | grep 'novell-zen'
```

Compare the results of this command with the results you had with the check you performed before the upgrade (see Section 2.1.2, "Checking the Current Version of Orchestrator," on page 16). If some of the components have not been upgraded from the earlier version, the incompatibility between the components could cause unexpected behavior.

2.1.5 Configuring the Upgraded Server Packages

You can use one of two information gathering methods to configure upgraded ZENworks Orchestrator packages:

- "Running the Orchestrator Product Configuration Script to Configure the Upgraded Packages" on page 20
- "Running the GUI Configuration Wizard to Configure the Upgraded Packages" on page 21

Running the Orchestrator Product Configuration Script to Configure the Upgraded Packages

If you decide to use the product configuration script to configure the upgraded Orchestrator packages, follow these steps:

1 Make sure you are logged in as `root` to run the configuration script.

2 Run the script, as follows:

```
/opt/novell/zenworks/orch/bin/config
```

When the script runs, the Install or Upgrade option is displayed as follows::

```
        Welcome to Novell ZENworks Orchestrator.

        This program will configure Novell ZENworks Orchestrator 1.3

        Select whether this is a new install or an upgrade

        i) install
        u) upgrade
        - - - - - -

        Selection [install]:
```

3 Enter u to select the option to upgrade ZENworks Orchestrator.

The following information is displayed:

```
        Select products to upgrade

         #    selected   Item
         1)    yes       ZENworks Monitoring Service
         2)    yes       ZENworks Orchestrator Server
         3)    yes       ZENworks Orchestrator Agent
         4)    yes       ZENworks Orchestrator VM Builder
         5)    yes       ZENworks Orchestrator VM Warehouse

        Select from the following:
          1 - 5)  toggle selection status
              a)   all
              n)   none
              f)   finished making selections
              q)   quit -- exit the program
        Selection [finish]:
```

4 Select the products you want to upgrade either by entering their individual product numbers
(1-5) or by entering a to select all of the products for upgrade.

NOTE: We recommend that you upgrade all listed components at the same time. Although you
can upgrade the packages one at a time, there is no need to do so. An upgrade of all the
packages at the same time has been thoroughly tested.

If you upgrade any package separately, however, we recommend that you do not run the
upgrade script again. Doing so might have unexpected effects.

---

5 Enter f to finish the selection and begin the configuration.

The upgrade interview is nearly identical to the installation interview. For more information
about the questions gathered during this interview that are added to the configuration script, see
"ZENworks Orchestrator Configuration Information" in "Installation and Configuration" in the
Novell ZENworks Orchestrator 1.3 Installation and Getting Started Guide.

The Orchestrator Server automatically starts at the end of a successful configuration process.

Running the GUI Configuration Wizard to Configure the Upgraded Packages

If you decide to use the GUI Configuration Wizard to configure the upgraded Orchestrator
packages, follow these steps:

1 Run the script for the ZENworks Orchestrator Configuration Wizard as follows:

```
/opt/novell/zenworks/orch/bin/guiconfig
```

The GUI Configuration Wizard launches.

IMPORTANT: If you only have a keyboard to navigate through the pages of the GUI Configuration Wizard, use the Tab key to shift the focus to a control you want to use (for example, a *Next* button), then press the spacebar to activate that control.

2 Click *Next* to display the license agreement.

3 Accept the agreement, then click *Next* to display the ZENworks Orchestrator Configuration Selection page.
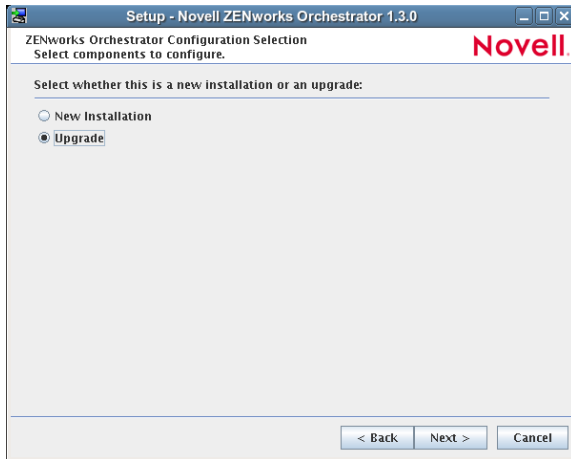
4 Select *Upgrade* and click *Next* to display the ZENworks Orchestrator components page.

This page lists the components that are available for configuration. By default, all installed components are selected for configuration.
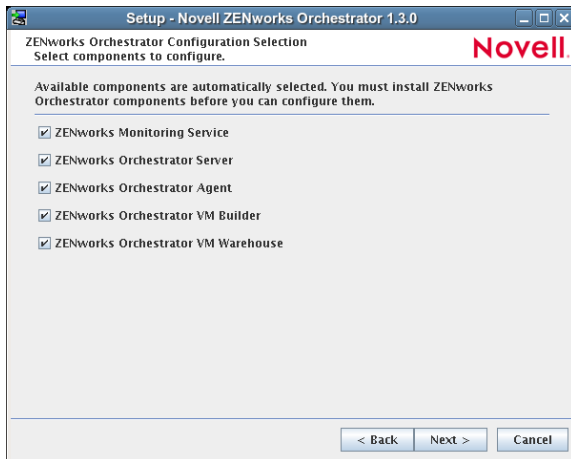
5 Deselect any ZENworks Orchestrator components that you do not want to upgrade, then click *Next* to open the wizard page where you can begin configuring required settings.
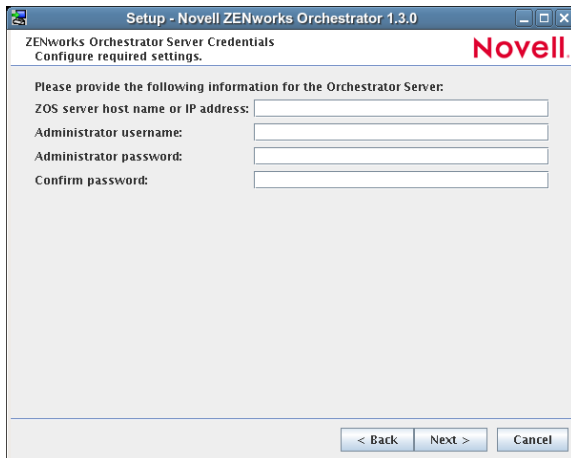
6 Fill in the fields as needed for each of the configuration pages.

If you need clarification for the data to enter into the fields of the configuration pages, refer to the table in "Orchestrator Configuration Information" section of the *Novell ZENworks Orchestrator 1.3 Installation and Getting Started Guide*.

Default values are built into the script; most of these defaults are set to configure all of the product patterns that were installed using the Add-on Product Media utility in SLES 10.

If an error is displayed during the configuration process, the script or wizard stops the configuration and does not proceed.

7 Click *Next* to display the Configuration Summary page of the configuration wizard.
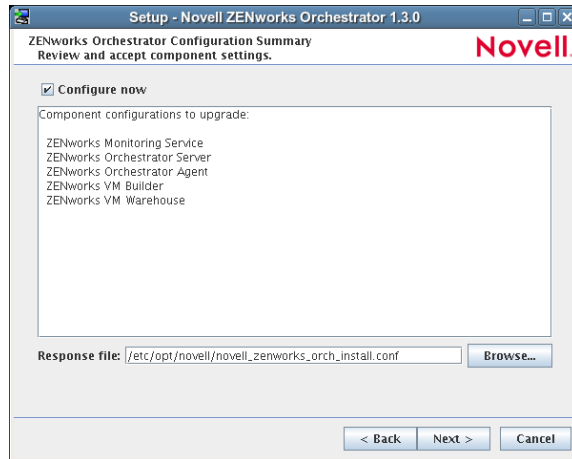
IMPORTANT: Although this page of the wizard lets you navigate using the Tab key and Spacebar, you need to use the Shift+Tab combination to navigate past the summary list. Click *Back* if you accidentally go to the summary list, then re-enter the page to navigate to the control buttons.

By default, the *Configure now* check box on this page is selected. If you accept the default, the wizard starts ZENworks Orchestrator and applies the configuration settings.

If you deselect the check box, the wizard writes the configuration file to `/etc/opt/novell/novell_zenworks_orch_install.conf` without starting Orchestrator or applying the configuration settings.

You can use this `.conf` file to start the Orchestrator server or client and apply the settings either manually or with an installation script. Use the following command to run the configuration:

`/opt/novell/zenworks/orch/bin/config -rs`

8 Click *Next* to display a message asking whether you want to overwrite the `.conf` response file.

9 To upgrade, you need to overwrite the existing file. Click *Yes* to overwrite the file and display the configuration page.
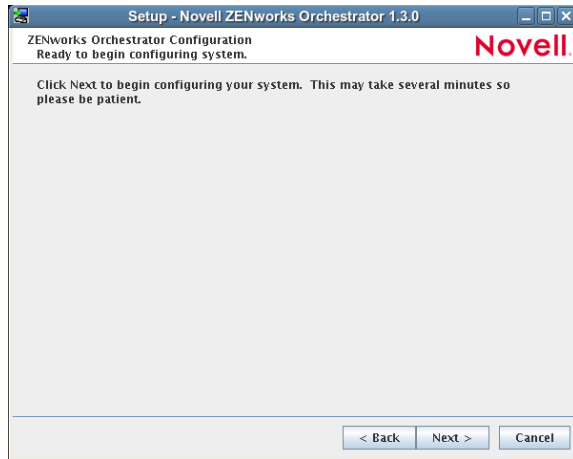
10 Click *Finish* to dismiss the configuration wizard.

11 Click *Next* to begin the upgrade configuration for the ZENworks Orchestrator Service.

When the configuration is complete, the Finish page of the configuration wizard is displayed.
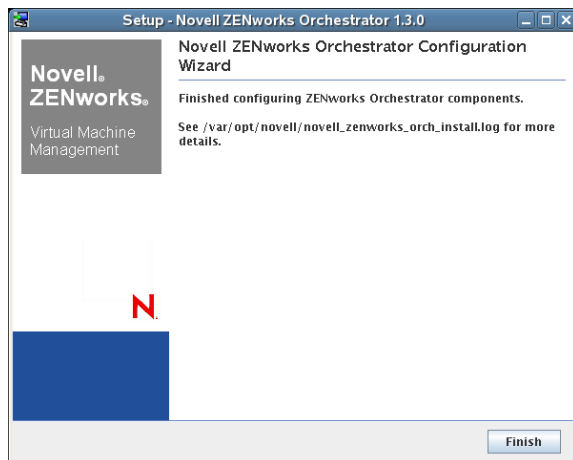
The Orchestrator Server automatically starts at the end of a successful configuration process.

2.1.6 Orchestrator Components That Are Not Upgraded

The ZENworks Orchestrator in its basic configuration includes the High Performance Computing Management Pack when you install this basic configuration. Its core or "built-in" components, such as example jobs and policies, are deployed as part of the basic management pack and at initial server startup. If you have installed the Virtual Machine Management Pack for ZENworks Orchestrator, its basic components are deployed, including the provisioning adapters, the default VM Host policy, and the other default policies.

When you upgrade the ZENworks Orchestrator Server, its core components are not upgraded or redeployed. Instead, the old core components are replaced with new core components because of probable incompatibility. If, however, you made any changes to the core components, those changes are saved and you can manually re-enter the configuration you want after the upgrade.

For example, suppose you have deployed the Xen* provisioning adapter job in the Virtual Machine Management Pack and you made custom changes to the `xen30` policy file. When the Orchestrator Server prepares for an upgrade, it repackages the Xen provisioning adapter by creating a `.sar` archive and then stores it in `/Orchestrator_instance_directory/snapshot/deployment/core/xen.sar`. This `xen.sar` archive contains the current state of the Xen provisioning adapter, including your custom changes.

Later, when the Orchestrator server is upgraded, the new Xen provisioning adapter for the new server is deployed, but the changes you made previously are not applied. To apply these changes to the new server, you have two choices:

◆ Use the ZENworks Orchestrator Console to manually apply the changes to the new server's core component. (You can review what these changes were by looking at the snapshot files in the `xen.sar` archive.)

◆ (Conditional) If you are migrating between servers of the same version whose core components have not changed, you can use the `zosadmin redeploy` command to manually redeploy the snapshotted core component.

2.1.7 Recovering from a Failed Orchestrator Server Upgrade

It is possible that the upgrade process could have problems. If this should occur, we suggest you follow these general steps to recover from those errors and "roll back" to the previous version of ZENworks Orchestrator.

Failure Scenario 1: Error Resolution

Follow these steps if you can resolve the error.

1 Open the upgrade log file to learn about the reason for the error, then resolve it.

2 Re-run the configuration

Failure Scenario 2: Cannot Resolve Error

Follow these steps if you cannot resolve the error:

1 Remove the new instance directory for the Orchestrator server, not including the datagrid.

2 Copy the old instance directory `/var/opt/novell/zenworks/zos.bak` to restore the Orchestrator Server data from the snapshot.

3 Abort the upgrade and restore the previous version of the Orchestrator software.

2.1.8 Walkthrough: Using ZENworks Linux Management to Restore an Older Version of ZENworks Orchestrator

If you use ZENworks Linux Management in your network, you can use it to restore an older version of the ZENworks Orchestrator Server if an upgrade has failed. This section contains information that can help you roll back a failed upgrade of ZENworks Orchestrator 1.3 back to ZENworks Orchestrator 1.2.

- "Requirements" on page 27
- "Rollback Procedure" on page 27

Requirements

This scenario requires that you have already installed the ZENworks Orchestrator 1.2 ISO. That is, the 1.2 version of the Orchestrator Server should be running with exactly the same packages you originally installed and configured.

The scenario also requires that you have a ZENworks Orchestrator 1.3 ISO on hand. It is important that you enable rollback through ZENworks Linux Management before you actually execute the rollback. ZENworks Linux Management records the changes you make to the RPM database when you enable rollback.

Rollback works only if you previously installed ZENworks Orchestrator packages using ZENworks Linux Management. ZENworks Linux Management records data about each package that it installs, deletes, or upgrades.

For more information about using ZENworks Linux Management for rollback, see Reverting to a Previously Installed Software Configuration State (http://www.novell.com/documentation/zlm72/lm7admin/index.html?page=/documentation/zlm72/lm7admin/data/b94fftd.html) in the *ZENworks 7.2 Linux Management Administration Guide*.

Rollback Procedure

Use the following steps to roll back a ZENworks Orchestrator 1.3 upgrade to ZENworks Orchestrator 1.2

1 Make sure that you have the ZENworks Management Daemon installed, with rollback tools enabled.

```
rug get rollback
```

The following illustration shows the command and desired result for making the determination.

```
                        co@linux-4h9s:~                        _ □ ×

 File  Edit  View  Terminal  Tabs  Help

 c121:~/zos-auto-install-tools # rug get rollback

 Name    | Value
 --------+------
 rollback | True

 c121:~/zos-auto-install-tools # █
```

2 Check repositories to ensure that they are disabled. You want only ZENworks Orchestrator upgrades.

The following sample illustration shows the commands to use and the desired result from these commands as you disable existing repositories.

```
                              co@linux-4h9s:~                              _ □ ×

 File  Edit  View  Terminal  Tabs  Help

   co@linux-4h9s:~                                    ✖                           ✖

 c121:/var/opt/novell/zenworks/zos/server # rug sl

 # | Status | Type | Name                      | URI
 --+--------+------+---------------------------+--------------------
 1 | Active | ZYPP | SUSE Linux Enterprise Server 10 SP1 | ftp://xen100.cim.la...
 2 | Active | ZYPP | sles10sp1                 | http://137.65.248.6...

 c121:/var/opt/novell/zenworks/zos/server # rug ca

 Sub'd? | Name                          | Service
 -------+-------------------------------+-------------------------------
 Yes    | SUSE Linux Enterprise Server 10 SP1 | SUSE Linux Enterprise Server 10 SP1
 Yes    | sles10sp1                     | sles10sp1

 c121:/var/opt/novell/zenworks/zos/server # rug unsub "SUSE Linux Enterprise Server 10 SP1"
 Unsubscribed from 'SUSE Linux Enterprise Server 10 SP1'
 c121:/var/opt/novell/zenworks/zos/server # rug unsub sles10sp1
 Unsubscribed from 'sles10sp1'
 c121:/var/opt/novell/zenworks/zos/server # rug ca

 Sub'd? | Name                          | Service
 -------+-------------------------------+-------------------------------
        | SUSE Linux Enterprise Server 10 SP1 | SUSE Linux Enterprise Server 10 SP1
        | sles10sp1                     | sles10sp1

 c121:/var/opt/novell/zenworks/zos/server # █
```

2a Run the following command to list the repositories:

`rug sl`

2b Run the following command to list the catalogs of subscribed repositories:

`rug ca`

2c Run the following command to unsubscribe from each subscribed repository:

`rug unsub "<name_of repository>"`

3 Add a ZENworks Orchestrator 1.2 Server ISO as a repository.

The following example illustration shows the commands to use and the desired result from these commands as you add a ZENworks Orchestrator 1.2 Server ISO as a repository. The illustration is followed with the step-by-step commands.

```
                                    co@linux-4h9s:~                                    _ □ ×
 File  Edit  View  Terminal  Tabs  Help
c121:~/zos-auto-install-tools # rug sa -t zypp http://151.255.255.255/zos/source/add-on/1.2-gm/x86_64 zos 12

Adding zypp service...
                                                                                  100%

Successfully added service 'http://151.255.255.255/zos/source/add-on/1.2-gm/x86_64'
c121:~/zos-auto-install-tools # rug sl

# | Status | Type | Name                                  | URI
--+--------+------+---------------------------------------+----------------------
1 | Active | ZYPP | SUSE Linux Enterprise Server 10 SP1    | ftp://xen100.cim.la...
2 | Active | ZYPP | sles10sp1                              | http://137.65.255.2...
3 | Active | ZYPP | zos12                                  | http://151.155.255....

c121:~/zos-auto-install-tools # rug ca

Sub'd? | Name                                  | Service
-------+---------------------------------------+---------------------------------
Yes    | SUSE Linux Enterprise Server 10 SP1 | SUSE Linux Enterprise Server 10 SP1
       | sles10sp1                             | sles10sp1
       | zos12                                 | zos12

c121:~/zos-auto-install-tools # █
```

3a Run the following command, followed by the local path of the ISO, the ftp or http addresses, or the path to the CD or DVD media where the installation source of ZENworks Orchestrator 1.2 currently resides.

```
rug sa -t zypp
<installation_source_of_Orchestrator_1.2_Server> zos12
```

This command adds the Orchestrator 1.2 repository to the ZENworks Management Daemon. The daemon uses the RPMs in the repository to roll back the server to its former state. For this reason, the repository (the zos12 shown in the example) must have the same RPM package versions as ZENworks Orchestrator 1.2.

For more information about adding repositories, see the *ZENworks 7.2 Linux Management Administration Guide* (http://www.novell.com/documentation/zlm72/lm7admin/data/front.html).

3b Run the following command to list and confirm existing repositories:

```
rug sl
```

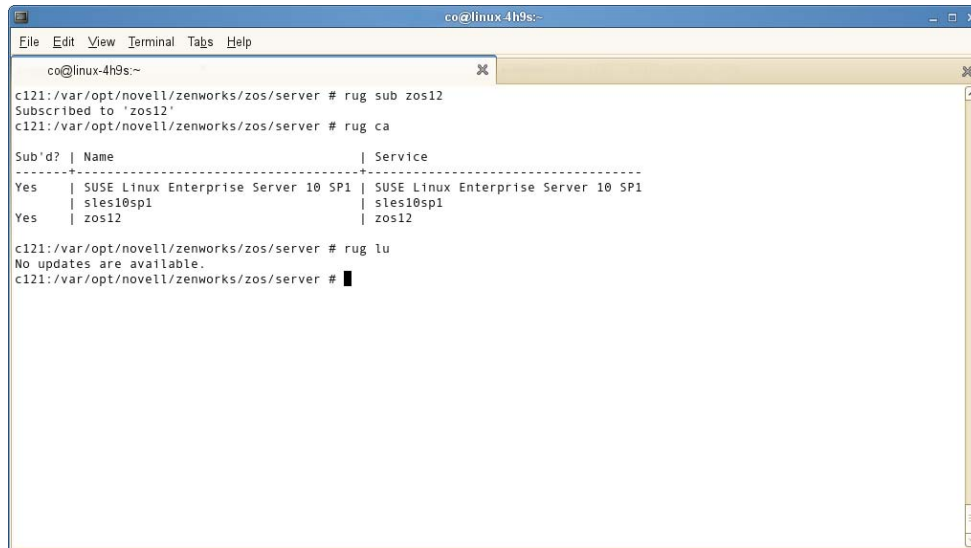**3c** Run the following command to list and confirm the catalogs of subscribed repositories:

```
rug ca
```

4 Subscribe to the zos12 repository.

The following example illustration shows the commands to use and the desired result from these commands as you to the repository. The illustration is followed with the step-by-step commands.

4a Run the following command to subscribe to the `zos12` repository:

```
rug sub zos12
```

4b Run the following command to list the catalogs and confirm the catalogs of subscribed repositories:

```
rug ca
```

The new repository shows `Yes` in the `Sub'd` (subscribed) column.

4c Run the following command to list and confirm updates:

```
rug lu
```

The message, `No updates are available`, is displayed, which indicates that no new updates to the repository are available–the RPMs match those in the `zos12` catalog.

5 Add a ZENworks Orchestrator 1.3 Server ISO as a repository.

The following example illustration shows the commands to use and the desired result from these commands as you add a ZENworks Orchestrator 1.3 Server ISO as a repository. The illustration is followed with the step-by-step commands.

5a Run the following command, followed by the local path of the ISO, the ftp or http addresses, or the path to the CD or DVD media where the installation source of ZENworks Orchestrator 1.3 currently resides.

```
rug sa -t zypp
<installation_source_of_Orchestrator_1.3_Server> zos13
```

This command adds the Orchestrator 1.3 repository to the ZENworks Management Daemon. The daemon uses the RPMs in the repository to roll back the server to its former state. For this reason, the repository (the `zos13` shown in the example) must have the same RPM package versions as ZENworks Orchestrator 1.3.

For more information about adding repositories, see the *ZENworks 7.2 Linux Management Administration Guide* (http://www.novell.com/documentation/zlm72/lm7admin/data/front.html).

5b Run the following command to list and confirm existing repositories:

```
rug sl
```

5c Run the following command to list and confirm the catalogs of subscribed repositories:

```
rug ca
```

6 Subscribe to the `zos13` repository.

The following example illustration shows the commands to use and the desired result from these commands as you to the repository. The illustration is followed with the step-by-step commands.

6a Run the following command to subscribe to the `zos13` repository:

```
rug sub zos13
```

6b Run the following command to list the catalogs and confirm the catalogs of subscribed repositories:

```
rug ca
```

The new repository shows `Yes` in the `Sub'd` (subscribed) column for both the `zos12` and `zos13` repositories.

6c Run the following command to list and confirm the updated ZENworks Orchestrator 1.3 packages:

```
rug lu
```

7 Run the following command to verify that the Orchestrator Server and the Orchestrator Agent are in a running state:

```
ps ax | grep java
```

8 Run the following command to perform the package upgrade (while the server is in a running state).

```
rug up
```

The upgrade scripts of the ZENworks Orchestrator 1.3 RPM packages stop the Orchestrator Server and the Orchestrator Agent before the upgrade, then take a snapshot of the Orchestrator Server that is required for the upgrade.

9 When the package upgrade is complete, run the following command to launch the configuration script to upgrade the Orchestrator Server.

```
/opt/novell/zenworks/orch/bin/config
```

NOTE: For details on running the configuration script, see "Installation and Configuration Steps" in the *Novell ZENworks Orchestrator 1.3 Installation and Getting Started Guide*.

If the upgrade configuration fails, error information is displayed in the terminal:

```
                                  co@linux-4h9s:~                               _ □ x
 File  Edit  View  Terminal  Tabs  Help
 ZENworks Orchestrator Agent Summary Information

 Proceed with upgrade? [yes]:

 Upgrading ZENworks Monitoring Service. . .


 Upgrading ZENworks Orchestrator Server. . .

 Backing up Server instance directory for 'c121_grid'.
 ..done
 Initializing Orchestrator server instance.
 ...ERROR: Unable to upgrade "computedFact/cfacts/foo_821.xml": Premature end of file.
 Unable to initialize the updated Orchestrator server.
 Restoring the old Orchestrator instance.
 .done

     Unable to upgrade previous Orchestrator Server instance. The original server instance has been restored.
     You must re-install the RPMs for the previous Server version before attempting to start the Server.
     For addtional information, please refer to the ZENworks Orchestrator installation guide.

 Aborting the upgrade process.


 error (-3): program aborting

 Saving configuration file (/etc/opt/novell/novell_zenworks_orch_install.conf)... done
 c121:~/zos-auto-install-tools # ▮
```

Because of the configuration upgrade failure, you need to use the ZENworks Management Daemon to roll back to the former (that is, the ZENworks Orchestrator 1.2) running state without losing data.

10 Run the following command to confirm that ZENworks Orchestrator 1.3 packages are installed:

`rpm -qa | grep zos`

Because the 1.3 packages are installed but not configured, you cannot use them to start the Orchestrator Server.

11 Run the follow command to confirm that an instance of the Orchestrator Server was created:

`ls /var/opt/novell/zenworks/zos/`

The `agent`, `server` and `server.save` folders should be listed.

12 Run the following command to launch the ZENworks Linux Management (that is, the ZENworks Management Daemon) for rolling back to ZENworks Orchestrator 1.2.

`rug ro 1 hour ago`
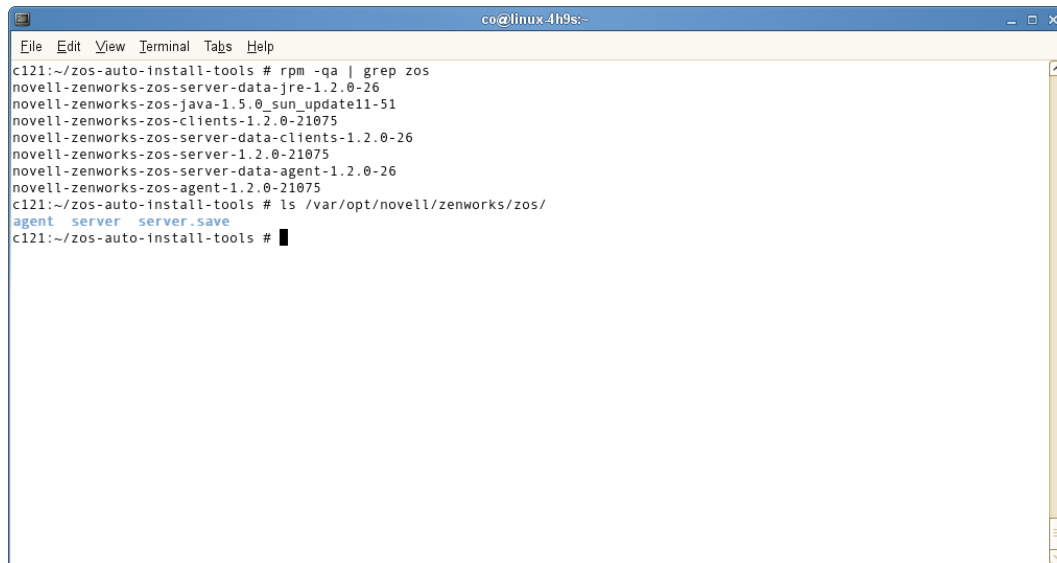
NOTE: The rollback parameter, `1 hour ago`, is conditional: it specifies the state of the packages on the SLES server at a given time in the past. You need to specify the time when you are sure that 1.2 packages were installed and running so that you can roll back the current 2.3 packages to 1.2 packages.

---

13 Run the following commands to confirm that the system has been rolled back to version 1.2 and that a server instance exists:

`rpm -qa | grep zos`
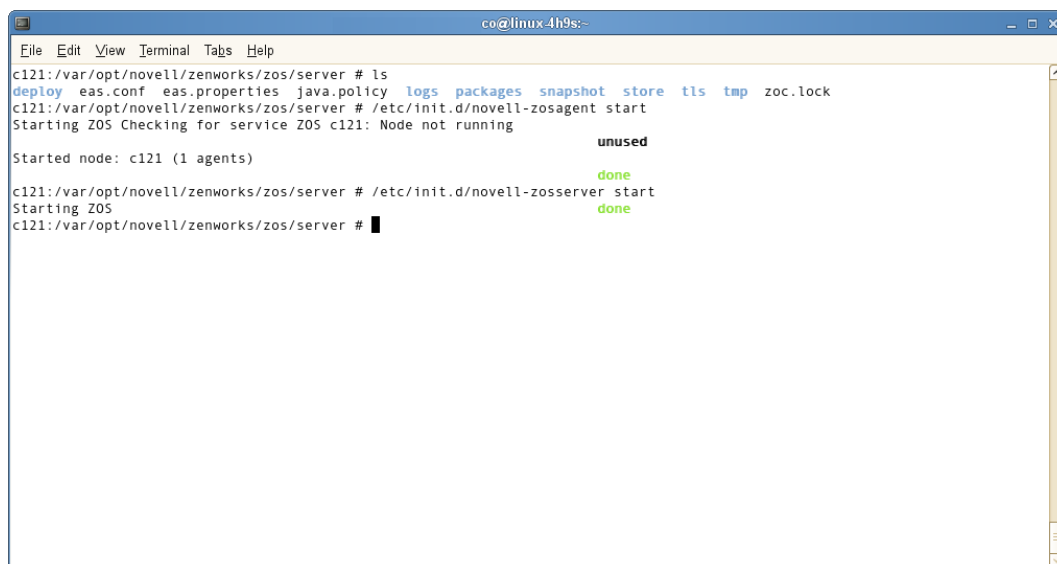
`ls /var/opt/novell/zenworks/zos/`

14 Run the following command to start the ZENworks Orchestrator and ZENworks Orchestrator Agent:

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


2.2 Upgrading the ZENworks Orchestrator Agents and Clients

It is likely that you have installed ZENworks Orchestrator Agents and Orchestrator Clients on machines other than where the Orchestrator Server components were installed. This section includes information that helps you to walk through the upgrade of those agents and clients.

- Section 2.2.1, "Checking the Current Version of the Orchestrator Agent," on page 35
- Section 2.2.2, "Backing Up the Orchestrator Agent Prior to Upgrading," on page 35

NOTE: To perform a mass upgrade of ZENworks Orchestrator Agents we recommend that you use a reputable application software distribution method to upgrade to the newer versions that ship with ZENworks Orchestrator 1.3. For example, you can use ZENworks Linux Management to distribute new agents and clients to Linux servers.

For more information, see Section 2.5, "Running the Upgrade Configuration on an Enterprise Scale," on page 46.

2.2.1 Checking the Current Version of the Orchestrator Agent

Before you upgrade the ZENworks Orchestrator Agent packages from an earlier version to the current version you should check which packages of the older Orchestrator version need to be upgraded and which non-Novell packages are included in the product packages.

To do this, change to the directory where the current version of the Orchestrator `.iso` was extracted, then run the following command:

```
rpm -qa | grep 'novell-zen'
```

We recommend that you record the results of this command so that you can compare it with the results of a similar task following the upgrade (see

2.2.2 Backing Up the Orchestrator Agent Prior to Upgrading

As with the installation of any software, it is always a wise precaution to back up a working copy of ZENworks Orchestrator 1.2 before you install the newer version, such as 1.3. To back up the old version, copy the `/var/opt/novell/zenworks/zos/agent` directory. Of course, because ZENworks Orchestrator jobs are nearly always running, the only guaranteed "safe" way to make this copy is to stop the server before you make the backup. Even so, if the server is not too busy, making a backup when it is running is usually acceptable.

If you want to restore the older version of ZENworks Orchestrator, stop the Orchestrator Server, copy the `/var/opt/novell/zenworks/zos/agent` backup directory into its original location, and restart the Orchestrator Server.

2.2.3 Using the Product ISO to Upgrade Agents and Clients on a SLES 10 SP1 Machine

Before starting the upgrade process of the ZENworks Orchestrator Agent, make sure that all running jobs are complete. If the jobs have not completed on their own, the upgrade processes forcibly cancels them, which is the normal behavior when the server is shut down. The effect on the jobs is that they are abruptly terminated abruptly before they have finished. The specific consequence of this termination depends on the job that is terminated.

This section includes information about upgrading the agent packages on the product ISO. The contents of the section include:

There are two methods for upgrading ZENworks Orchestrator Server Packages. If you want to use a graphical user interface (GUI) see "Upgrading ZENworks Orchestrator Agent Packages Using YaST" on page 36. If you want to use the command line to upgrade the packages, see "Upgrading ZENworks Orchestrator Server Packages Using the rug Command" on page 19.

Upgrading ZENworks Orchestrator Agent Packages Using YaST

Use the following procedure if you want to use YaST, a graphical user interface, to upgrade the ZENworks Orchestrator packages. If you want to use the command line to upgrade, see "Upgrading ZENworks Orchestrator Agent Packages Using the rug Command" on page 38.

1 Download the appropriate ZENworks Orchestrator 1.3 ISO (32-bit or 64-bit), then prepare it for installation:

- (Optional) Burn a DVD of the ISO image and load it into the DVD drive of the target machine.

- (Optional) Copy the ISO image to the local file system. For more information, see "Adding a Local Mount Point As An Installation Source in YaST" on page 18.

- (Optional) Mount the ISO image file on the machine where ZENworks Orchestrator is to be installed (the "target" machine). For details, see "Adding a Local Directory As An Installation Source in YaST" on page 18.

- (Optional) If you are installing the ISO image to a large network, extract the product files from the ISO image to a web server / ftp server that can be accessed by the target machine without the need for authentication or anonymous login. For details, see "Adding an ISO or Web URL As An Installation Source in YaST" on page 19.

2 Upgrade ZENworks Orchestrator agent software packages:

2a Log in to the target SLES server as `root`, then open YaST2.

2b In YaST2, open the *Filter* drop-down menu, then select *Installation Sources* to display the install patterns available on the ZENworks Orchestrator installation media.
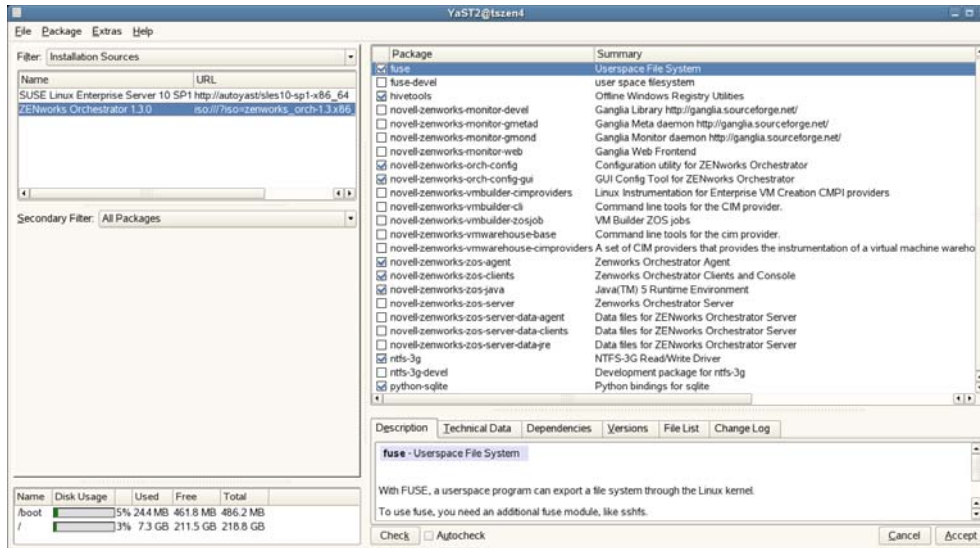
Component packages already installed to the server are checked.

2c Right-click on any of the installed package names, click *All in This List > Update if newer version available*.

2d Click *Accept* to install the upgraded packages.

After the server RPMs are upgraded, the program runs a script that does the following:

- Stops job activity on the existing agent
- Backs up the existing agent data to a retrievable format
- Upgrades the RPMs for the selected ZENworks Orchestrator patterns

WARNING: The preceding steps have been tested and validated in YaST. Using other methods to update packages in YaST have not proven successful.

2e Run the configuration program on the machine where the agents or clients are installed. You have two options for running the script:

- Run the Orchestrator product configuration script. If you use this method, continue with the steps in "Running the Product Configuration Script to Upgrade Agents and Clients" on page 39.
- Run the GUI Configuration Wizard. If you use this method, skip to the steps in "Running the GUI Configuration Wizard to Upgrade Agents and Clients" on page 40.

Upgrading ZENworks Orchestrator Agent Packages Using the rug Command

Use the following procedure if you want to use YaST, a graphical user interface, to upgrade the ZENworks Orchestrator packages. If you want to use the GUI Configuration Wizard to upgrade, see "Upgrading ZENworks Orchestrator Agent Packages Using YaST" on page 36.

1 Download the appropriate ZENworks Orchestrator 1.3 ISO (32-bit or 64-bit), then prepare it for installation:

  ◆ (Optional) Burn a DVD of the ISO image, mount the DVD, then extract the contents of the `.iso` folder to the local file system of the server.

  ◆ (Optional) Extract the contents of the `.iso` folder to the local file system of the server.

2 At the command line, change to the directory where the Orchestrator `.iso` folder was extracted, then run the commands to upgrade ZENworks Orchestrator:

  2a Run the following command:

```
rug sa -t zypp "http://<ip_address_of_local_server>/
<directory_location_of_iso_files>" zos_repo
```

  > **NOTE:** If you have chosen not to extract the files and you want to use the `.iso` image to upgrade, use the following command in this step:
  >
  > ```
  > rug sa -t zypp "iso:///?iso=$ISO_FILE_NAME&url=dir:///
  > $PATH_TO_ISO/" zos_repo
  > ```
  >
  > For example, for the ISO located at `/root/Desktop/zenworks_orch-1.3.x86_64.iso`, you could use this command:
  >
  > ```
  > rug sa -t zypp "iso:///?iso=
  > zenworks_orch-1.3.x86_64.iso&url=dir:///root/Desktop/"
  > zos_repo
  > ```

  > **NOTE:** If you are using an ftp server, extract the contents of the `.iso` to a folder (see Step 1, above), use the following command:
  >
  > ```
  > "ftp://<ip_address_of_local_server>/
  > <directory_location_of_iso_files>" zos_repo
  > ```

  2b Run the following command:

```
rug sub zos_repo
```

  2c Run the following command:

```
rug up -y
```

3 Configure the ZENworks Orchestrator Agent. You can use one of two information gathering methods to perform the configuration:

  ◆ Run the Orchestrator product configuration script. If you use this method, continue with the steps in "Running the Product Configuration Script to Upgrade Agents and Clients" on page 39.

  ◆ Run the GUI Configuration Wizard. If you use this method, skip to the steps in "Running the GUI Configuration Wizard to Upgrade Agents and Clients" on page 40.

2.2.4 Checking the Upgraded Version of the Orchestrator Agent

After you upgrade the ZENworks Orchestrator packages to version 1.3, you should check the upgraded software packages to confirm that all of the earlier versions of the product components are now updated and which of the non-Novell packages have been updated.

To do this, change to the directory where the current version of the Orchestrator `.iso` was extracted, then run the following command:

```
rpm -qa | grep 'novell-zen'
```

Compare the results of this command with the results you had with the check you performed before the upgrade (see Section 2.2.1, "Checking the Current Version of the Orchestrator Agent," on page 35). If some of the components have not been upgraded from the earlier version, the incompatibility between the components could cause unexpected behavior.

2.2.5 Configuring the Upgraded Agent Packages

You can use one of two information gathering methods to configure upgraded ZENworks Orchestrator packages:

- "Running the Product Configuration Script to Upgrade Agents and Clients" on page 39
- "Running the GUI Configuration Wizard to Upgrade Agents and Clients" on page 40

Running the Product Configuration Script to Upgrade Agents and Clients

If you decided to use the product configuration script to upgrade ZENworks Orchestrator Agents and Clients referred to Step 2e on page 37,

1 Make sure you are logged in as `root` to run the configuration script.

2 Run the script, as follows:

```
/opt/novell/zenworks/orch/bin/config
```

When the script runs, the following information is initially displayed:

```
Welcome to Novell ZENworks Orchestrator.

This program will configure Novell ZENworks Orchestrator 1.3
Select whether this is a new install or an upgrade

i) install
u) upgrade
- - - - - -

Selection [install]:
```

3 Enter `u` to select the option to upgrade ZENworks Orchestrator.

The following information is displayed:

```
Select products to upgrade

 #   selected  Item
 1)     no     ZENworks Monitoring Service (not installed)
 2)     no     ZENworks Orchestrator Server (not installed)
 3)    yes     ZENworks Orchestrator Agent
 4)     no     ZENworks Orchestrator VM Builder (not installed)
 5)     no     ZENworks Orchestrator VM Warehouse (not installed)

Select from the following:
  1 - 5)  toggle selection status
       a)  all
       n)  none
       f)  finished making selections
       q)  quit -- exit the program
Selection [finish]:
```

4 Toggle the items in the list that you want to upgrade to `yes`.

5 Enter `f` to finish the selection and begin the configuration.

6 Enter `y` or `n` to view or bypass a summary information screen of the configuration you have completed. If you chose to view the summary, you can proceed with the upgrade (by entering `yes`) or abort the upgrade (by entering `no`).

Running the GUI Configuration Wizard to Upgrade Agents and Clients

If you decided to upgrade ZENworks Orchestrator Agents and Clients using the GUI Configuration Wizard referred to in ,

1 Run the script for the ZENworks Orchestrator Configuration Wizard as follows:

`/opt/novell/zenworks/orch/bin/guiconfig`

The GUI Configuration Wizard launches.

IMPORTANT: If you only have a keyboard to navigate through the pages of the GUI Configuration Wizard, use the Tab key to shift the focus to a control you want to use (for example, a *Next* button), then press the spacebar to activate that control.

---

2 Click *Next* to display the license agreement.

3 Accept the agreement, then click *Next* to display the ZENworks Orchestrator Configuration Selection page.
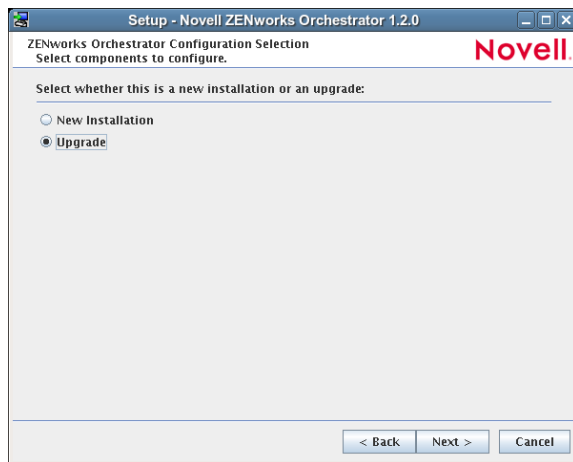
4 Select *Upgrade*, then click *Next* to display the ZENworks Orchestrator components page.

This page lists the components that are available for configuration (already installed). By default, all previously installed components are selected for configuration.

5 Select all the agent components you want to upgrade, then click *Next* to display the Configuration Summary page of the configuration wizard.
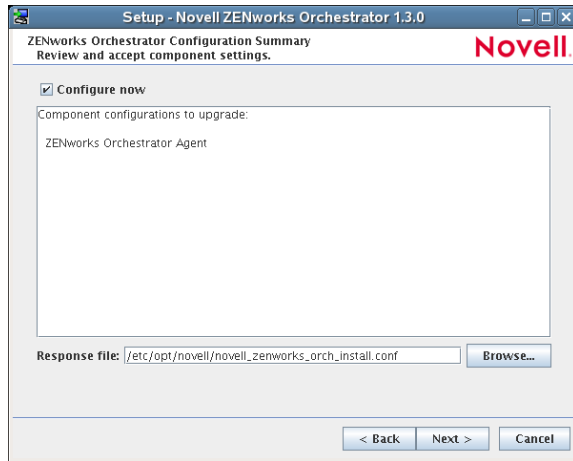
6 Commit the configuration.

   6a (Optional) Click *Next* to apply the configuration settings.

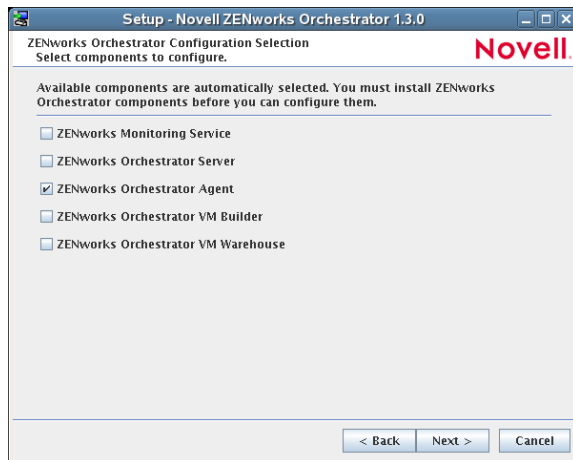   **6b** Deselect the Configure now check box so that the wizard can write the configuration file to `/etc/opt/novell/novell_zenworks_orch_install.conf` without starting Orchestrator or applying the configuration settings.

   NOTE: You can use this `.conf` file to start the Orchestrator Agent and apply the settings either manually or with an installation script. Use the following command to run the configuration:

   `/opt/novell/zenworks/orch/bin/config -rs`

   ---

7 Click *Next* to display a message asking whether you want to overwrite the `.conf` response file.

8 To upgrade, you need to overwrite the existing file. Click *Yes* to overwrite the file and display the configuration page.
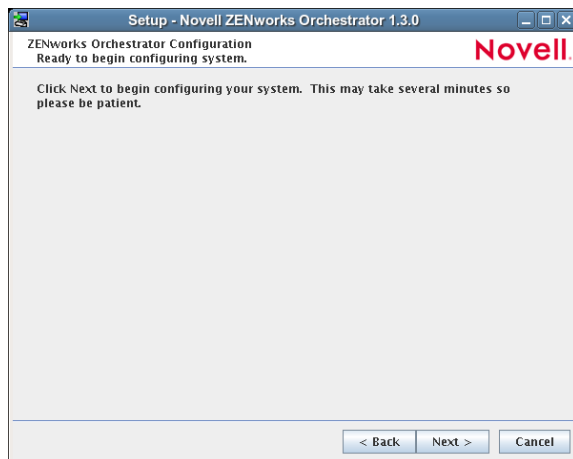
9 Click *Finish* to dismiss the configuration wizard.

10 Click *Next* to begin the upgrade configuration for the ZENworks Orchestrator Service.

When the configuration is complete, the Finish page of the configuration wizard is displayed.
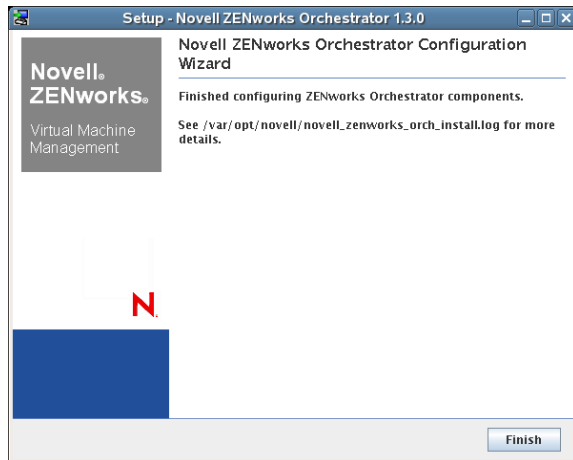
2.2.6 Using the ISO to Upgrade the Orchestrator Agent and Clients on Red Hat Enterprise Linux 4 Machines

Use the following procedure if you want to use the Add-on method to install just the Orchestrator Agent and the ZENworks Monitoring Agent to a Redhat Enterprise Linux (RHEL) 4 machine.

1 Shut down the Orchestrator Console on the machine where you intend to install the new console.

2 Download the appropriate ZENworks Orchestrator Server ISO (32-bit or 64-bit) to an accessible network location.

3 Mount the Orchestrator ISO as a loopback device as in the following example:

```
mount -o loop zenworks_orch-1.2.x86_64.iso /mnt
```

This mounts the ISO in the `/mnt` folder.

4 Navigate to the directory path where the RHEL 4 packages reside. For example:

```
cd /mnt/RHEL4
```

There are four packages in the `/RHEL4` directory:

```
novell-zenworks-monitor-gmond
novell-zenworks-orch-config
novell-zenworks-zos-agent
novell-zenworks-zos-java
```

5 Use the `rpm` command to install the packages:

```
rpm -Uvh *.rpm
```

If you encounter an issue regarding missing dependencies, you can use the `up2date` command to download and install those. For example, if you were missing `libcaplso` or `libcap.so.1`, you would run the following:

```
up2date --solvedeps=libcp.so,libcap.so.1
```

6 (Optional) Increase the heap size that the JVM handles to enable the console to manage a large number of objects.

    6a Open the `zoc` bash shell script at `/opt/novell/zenworks/zos/server/bin`.

    6b Inside the script, find the following line where the JVM parameters are defined:

```
JVMARGS="-Xmx256m -Xms256m -Xmn64m -XX:NewSize=64m -XX:MaxNewSize=64m"
```

    The `-Xmx` argument specifies the maximum heap size for the JVM*. Increasing the heap size prevents a JVM out of memory condition.

    6c Change the value in the `-Xmx` argument from 256 MB to 512 MB.

    6d Save the script.

NOTE: Upgraded agent and client software does not require you to execute the configuration script on RHEL 5 machines.

2.2.7 Using the ISO to Upgrade the Orchestrator Agent on Red Hat Enterprise Linux 5 Machines

Use the following procedure if you want to use the Add-on method to upgrade the Orchestrator Console to a Red Hat Enterprise Linux (RHEL) 5 machine.

1 Shut down the Orchestrator Console on the machine where you intend to install the new console.

2 Download the appropriate ZENworks Orchestrator Server ISO (32-bit or 64-bit) to an accessible network location.

3 Mount the Orchestrator ISO as a loopback device as in the following example:

```
mount -o loop zenworks_orch-1.1.x86_64.iso /mnt
```

This mounts the ISO in the `/mnt` folder.

4 Navigate to the directory path where the RHEL 5 packages reside. For example:

```
cd /mnt/RHEL5
```

There are four packages in the `/RHEL5` directory:

```
novell-zenworks-monitor-gmond
novell-zenworks-orch-config
novell-zenworks-zos-agent
novell-zenworks-zos-java
```

5 Use the `rpm` command to install the packages:

```
rpm -Uvh *.rpm
```

If you encounter an issue regarding missing dependencies, you can use the `up2date` command to download and install those. For example, if you were missing `libcaplso` or `libcap.so.1`, you would run the following:

```
up2date --solvedeps=libcp.so,libcap.so.1
```

6 (Optional) Increase the heap size that the JVM handles to enable the console to manage a large number of objects.

> **6a** Open the `zoc` bash shell script at `/opt/novell/zenworks/zos/server/bin`.
>
> **6b** Inside the script, find the following line where the JVM parameters are defined:
>
> ```
> JVMARGS="-Xmx256m -Xms256m -Xmn64m -XX:NewSize=64m -XX:MaxNewSize=64m"
> ```
>
> The `-Xmx` argument specifies the maximum heap size for the JVM. Increasing the heap size prevents a JVM out of memory condition.
>
> **6c** Change the value in the `-Xmx` argument from 256MB to 512MB.
>
> **6d** Save the script.

NOTE: Upgraded agent and client software does not require you to execute the configuration script on RHEL 5 machines.

2.2.8 Using the ISO to Upgrade the Orchestrator Agent or the Orchestrator Clients on Windows Machines

The ZENworks Orchestrator Agent and the Orchestrator Clients (including the console) are supported on Windows* 2003 and Windows XP. To upgrade, we recommend that you use the methods native to the OS to uninstall an older agent or client from the machine, then install the new 1.3 release of the Orchestrator Agent or Orchestrator Clients.

Use the following steps to download the Orchestrator component you want to install:

1 Download the appropriate ZENworks Orchestrator Server ISO (32-bit or 64-bit) to an accessible network location.

2 Create a DVD from the ISO or use a tool that will mount the ISO.

3 Navigate to the directory path where the Windows packages (Windows 2003 or Windows XP) reside.

4 Double-click the appropriate file (`.exe`) to launch an installation and configuration wizard for the console.

2.3 Using the Administrator Information Page to Upgrade the Agents and Clients

The Administrator Information Page page includes installers for the ZENworks Orchestrator 1.3 Agents and Clients for Windows and various Linux/UNIX machines (see "Installing the Agent and Clients from the Administrator Information Page (Unsupported)" in the *Novell ZENworks Orchestrator 1.3 Installation and Getting Started Guide*). The page has no facility for upgrading an agent or client.

To upgrade, we recommend that you use the methods native to the OS to uninstall an older agent or client from the machine, then install the new 1.3 release of the Orchestrator Agent or Orchestrator Clients.

2.4 Upgrading the Virtual Machine Management Console

If you installed the Virtual Machine Management console, the new version of the console must be installed in its place. There is no upgrade option for this Orchestrator component. Follow the steps in "Installing the VM Management Console" in the *Novell ZENworks Orchestrator 1.3 Installation and Getting Started Guide* to replace the old console with the new console.

2.5 Running the Upgrade Configuration on an Enterprise Scale

If you have a number of Orchestrator Server components or Agent components to upgrade in an enterprise environment, you might want to follow these general steps to accomplish the upgrade.

1 Use a reputable configuration management tool to distribute and install the upgrade software. Examples include ZENworks Linux Management, ZENworks Configuration Management, and the Red Hat Network*.

2 Configure the upgraded components on a base machine, then, use the configuration software to distribute the respective `.conf` files to the servers or nodes being upgraded.

Documentation Updates

A

This section contains information on documentation content changes that have been made in the *Upgrade* guide since the initial release of Novell® ZENworks® Orchestrator 1.3 (June 9, 2008). 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 Orchestrator 1.3.

f 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.

The documentation was updated on the following dates:

- Section A.1, "August 1, 2008," on page 47

A.1 August 1, 2008

The following sections are affected by updates:

- Section A.1.1, "Upgrading the ZENworks Orchestrator Server Components," on page 47

A.1.1 Upgrading the ZENworks Orchestrator Server Components

The following changes were made in this section:

Location	Change
Section 2.1.8, "Walkthrough: Using ZENworks Linux Management to Restore an Older Version of ZENworks Orchestrator," on page 27	Reworked the organization of the sections in the chapter and added this chapter for users of ZENworks Linux Management.