

Orchestrate to Orchestration Upgrade Guide

Cloud Manager 2.0

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About This Guide

This *Upgrade Guide* introduces the process of upgrading PlateSpin Orchestrate 2.6 components to Cloud Manager 2.0 Orchestration components. 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, “Orchestrate Upgrade Overview,” on page 7](#)
- ♦ [Chapter 2, “Upgrading PlateSpin Orchestrate 2.6 Components to Cloud Manager Orchestration 3.0 Components,” on page 9](#)
- ♦ [Chapter 3, “Compatibility Checking Behavior,” on page 39](#)

Audience

The information in this guide is intended for anyone who wants to upgrade and configure NetIQ Cloud Manager software. This user should be an experienced system administrator who has the following:

- ♦ Experience in Linux and Windows system operation.
- ♦ Familiarity with virtual machine technology and data center operations.

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.

1 Orchestrate Upgrade Overview

In its last release, Novell Cloud Manager 1.1 bundled Novell Cloud Manager 1.1 and PlateSpin Orchestrate 2.6. This bundling facilitated the role of the Orchestrate product as the “back end” for managing the life cycle of virtual machines discovered in supported hypervisor environments.

With this release, NetIQ Cloud Manager furthers this integration by identifying the former bundle of two products as components of one product. The upgrade logic you implement for existing installations uses internal version numbers that might seem incongruent.

PlateSpin Orchestrate 2.6 components can be upgraded to continue working as NetIQ Cloud Manager Orchestration Server 3.0 components, as follows:

- ♦ The PlateSpin Orchestrate Server (2.6) upgrades to NetIQ Cloud Manager Orchestration Server (3.0)
- ♦ The PlateSpin Orchestrate Development Client (2.6) upgrades to NetIQ Cloud Manager Orchestration Console (3.0)
- ♦ The PlateSpin Orchestrate Agent (2.6) upgrades to the NetIQ Cloud Manager Orchestration Agent (3.0)
- ♦ The PlateSpin Orchestrate VM Client (2.6) upgrades to the NetIQ Cloud Manager VM Client (3.0)
- ♦ The PlateSpin Orchestrate VM Builder (2.6) upgrades to the NetIQ Cloud Manager VM Builder (3.0)
- ♦ the PlateSpin Orchestrate Monitoring Server (2.6) upgrades to the NetIQ Cloud Manager Monitoring Server (3.0)
- ♦ the PlateSpin Orchestrate Monitoring Agent (2.6) upgrades to the NetIQ Cloud Manager Monitoring Agent (3.0)

This section explains what you can expect from a PlateSpin Orchestrate 2.6 upgrade to NetIQ Cloud Manager Orchestration 3.0 components.

- ♦ [Section 1.1, “Basic Functions of the Orchestrate Upgrade,” on page 7](#)

For more information about upgrading Novell Cloud Manager 1.1 components to NetIQ Cloud Manager 2.0 components, see....

1.1 Basic Functions of the Orchestrate Upgrade

Before you begin the Orchestrate 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:

- ♦ To check the installed PlateSpin Orchestrate 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 to Cloud Manager Orchestration 3.0 must be done for all Orchestrate Servers, Orchestrate Development Clients, and all Orchestrate Agent components. Running older agents with newer server components or running older Development Clients and interfaces with newer server components (or vice versa) is not supported.
- ◆ Upgrading a prior release of a 32-bit PlateSpin Orchestrate Server installation to a newer 64-bit version of Cloud Manager Orchestration Server is not supported. Similarly, upgrading a prior release of a 64-bit PlateSpin Orchestrate installation to a newer 32-bit version of Cloud Manager Orchestration Server is not supported.
- ◆ The PlateSpin Orchestrate Server must be upgraded before Orchestrate Agents are upgraded. The Cloud Manager Orchestration Server operates with older agents running, but newer 3.0 agents cannot communicate with the PlateSpin Orchestrate 2.6 Server. You can upgrade the agents by selecting the Upgrade option on the Resource Registration dialog in the Cloud Manager 3.0 Orchestration Console. For more information, see [“Creating a Resource Account”](#) in the *NetIQ Cloud Manager 2.0 Orchestration Installation Guide*.
- ◆ After you upgrade the server components, older versions of the PlateSpin Orchestrate Agents, the PlateSpin Orchestrate Development Client, and the PlateSpin Orchestrate VM Client might not work with the newer server components. The Cloud Manager Orchestration Console identifies the managed nodes that have non-compatible agents. For more information about component compatibility, see [Chapter 3, “Compatibility Checking Behavior,”](#) on page 39.
- ◆ After an upgrade to Cloud Manager Orchestration Server 3.0, some specific provisioning adapter jobs (such as vsphere) and existing VMs will not be available for use, even though their files still reside on the Orchestration Server. These provisioning adapter jobs need to be reconfigured.
- ◆ The PlateSpin Orchestrate 2.6 VM Client is not upgraded; it is replaced entirely by the Cloud Manager VM Client. Any previous version should be uninstalled before installing Cloud Manager VM Client 3.0.
- ◆ If errors occur during the upgrade process, you can attempt to resolve those errors and run the upgrade process again. For more information about how this recovery works, see [Section 2.3, “Recovering from a Failed Orchestrate Server 2.6 Upgrade,”](#) on page 23.
- ◆ After the PlateSpin Orchestrate Server 2.6 is upgraded to Cloud Manager Orchestration Server 3.0, rolling back to PlateSpin Orchestrate 2.6 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.

In some situations, the server log might not exist. You can also check the install log at `/var/opt/novell/novell_zenworks_orch_install.log` for upgrade information.

If you understand what to expect from the upgrade, you are ready to proceed to [Chapter 2, “Upgrading PlateSpin Orchestrate 2.6 Components to Cloud Manager Orchestration 3.0 Components,”](#) on page 9

2 Upgrading PlateSpin Orchestrate 2.6 Components to Cloud Manager Orchestration 3.0 Components

This section provides information about upgrading from PlateSpin Orchestrate 2.6 to NetIQ Cloud Manager 3.0 Orchestration components. It is important that you upgrade the Orchestration components you have installed in the sequence that follows:

- [Section 2.1, “Upgrading the Orchestrate Server 2.6 Components,” on page 9](#)
- [Section 2.2, “PlateSpin Orchestrate Components That Are Not Upgraded,” on page 22](#)
- [Section 2.3, “Recovering from a Failed Orchestrate Server 2.6 Upgrade,” on page 23](#)
- [Section 2.4, “Restoring the PlateSpin Orchestrate Server If the Upgrade Fails,” on page 24](#)
- [Section 2.5, “Upgrading the Older Agents and Clients,” on page 27](#)
- [Section 2.6, “Running the Upgrade Configuration on an Enterprise Scale,” on page 36](#)
- [Section 2.7, “Upgrading a PlateSpin Orchestrate 2.6 High Availability Configuration,” on page 37](#)

2.1 Upgrading the Orchestrate Server 2.6 Components

The following information lists the upgrade steps in the order that they should be performed.

1. [Section 2.1.1, “Backing Up the PlateSpin Orchestrate Server Prior to Upgrading,” on page 10](#)
2. [Section 2.1.2, “Checking the Current Version of PlateSpin Orchestrate,” on page 10](#)
3. [Section 2.1.3, “Snapshotting the Existing Server Installation,” on page 10](#)
4. [Section 2.1.4, “Upgrading the Orchestrate Server Packages,” on page 11](#)
5. [Section 2.1.5, “Configuring the Upgraded Server Packages,” on page 15](#)
6. [Section 2.1.7, “Checking the Upgraded Version of the Orchestration Server,” on page 22](#)
7. [Section 2.1.5, “Configuring the Upgraded Server Packages,” on page 15](#)
8. [Section 2.1.8, “Running Discovery on VM Hosts and Images,” on page 22](#)

NOTE: To perform a mass upgrade of PlateSpin Orchestrate Server 2.6 components, we recommend that you use a reputable application software distribution method to upgrade to the newer Orchestration 3.0 versions that ship with Cloud Manager 2.0. For example, you can use Novell ZENworks Linux Management to distribute new agents and clients to Linux servers.

If you choose to use ZENworks Linux Management, you should enable the rollback command. This will let you easily roll back to the prior version of Orchestrate if the upgrade to NetIQ Cloud Manager 3.0 Orchestration components is unsuccessful.

For more information, see [Section 2.6, “Running the Upgrade Configuration on an Enterprise Scale,” on page 36.](#)

2.1.1 Backing Up the PlateSpin Orchestrate Server Prior to Upgrading

As with the installation of any software, it is always a wise precaution to back up a working copy of PlateSpin Orchestrate 2.6 before you install Cloud Manager 3.0 Orchestration components. To back up the old version, make a copy of the `/var/opt/novell/zenworks/zos/server` directory.

When you want to use the older version of PlateSpin Orchestrate, stop any instance of the Orchestration Server, copy the backup directory you made earlier to its original location, then start the Orchestrate Server from this location.

2.1.2 Checking the Current Version of PlateSpin Orchestrate

Before you upgrade the PlateSpin Orchestrate packages from version 2.6 to the Cloud Manager Orchestration Server 3.0 packages, you should check which 2.6 packages need to be upgraded and which non-Orchestrate 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 2.1.7, “Checking the Upgraded Version of the Orchestration Server,” on page 22.](#))

2.1.3 Snapshotting the Existing Server Installation

Before you begin the upgrade process of the Orchestrate 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 terminated abruptly before they finish running. The specific consequence of this termination depends on the job that is terminated.

When you are sure that the jobs are complete, you need to run a specific shutdown command to prepare a snapshot of the current configuration of the server so that a new version of a server can be started with the configuration of the old server.

When an upgrade of server components occurs, all of the current server settings (configuration) and state (model) for the current instance is written to a platform-independent XML encoded snapshot. This snapshot is read in by a newly upgraded server instance to initialize its settings and state to that of the previous server instance.

The snapshot data is read when a newly upgraded server instance is first started, initializing its settings and its state to that of the previous server instance. The snapshot files must exist in `/var/opt/novell/zenworks/zos/server/snapshot`.

Use the following steps to perform the snapshot:

- 1 Check the running status of the server:

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

If the PlateSpin Orchestrate Server is already stopped, you must start it before a snapshot can be created:

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

- 2 Create a snapshot of the server's current configuration with the following command:

```
/etc/init.d/novell-zosserver stop --snapshot
```

You can also create the snapshot by using the Development Client to shut down the server. To do so, select *Server > Shutdown Server* to display the Server Shutdown Confirmation dialog box.



Select *Perform Snapshot of Server State*, then click *Shutdown*.

2.1.4 Upgrading the Orchestrate Server Packages

There are two methods for upgrading Orchestrate Server packages.

- ♦ If you want to use a graphical user interface (GUI) see [“Upgrading Orchestrate Server Packages Using YaST”](#) on page 11.
- ♦ If you want to use the command line to upgrade the packages, see [“Upgrading Orchestrate Server Packages Using the rug Command \(SLES 10x Machines Only\)”](#) on page 13 or [“Upgrading Orchestrate Server Packages Using the zypper Command \(SLES 11x Machines Only\)”](#) on page 14.
- ♦ If you use ZENworks Linux Management tools to upgrade the packages, we recommend that you use the same tools to clean up the environment, see the [ZENworks Linux Management documentation Web site \(http://www.novell.com/documentation/zlm72/\)](http://www.novell.com/documentation/zlm72/) for more information.

Upgrading Orchestrate Server Packages Using YaST

Use the following procedure if you want to use YaST, a graphical user interface, to upgrade the PlateSpin Orchestrate packages. If you want to use the command line to upgrade, see [“Upgrading Orchestrate Server Packages Using the rug Command \(SLES 10x Machines Only\)”](#) on page 13 or [“Upgrading Orchestrate Server Packages Using the zypper Command \(SLES 11x Machines Only\)”](#) on page 14.

- 1 Download the appropriate Cloud Manager 2.0 ISO (32-bit or 64-bit), then prepare it for installation:

TIP: The NetIQ Cloud Manager 2.0 product ISO includes the packages for Cloud Manager Orchestration components, which carry the 3.0 version.

- 1a** (Optional) Burn a DVD of the ISO image and load it into the DVD drive of the target machine.
- 1b** (Optional) Copy the ISO image to the local file system.

To mount the ISO image file on a particular machine,

- 1b1** Log in to the target server as `root`.
- 1b2** Open YaST2.
- 1b3** In the YaST Control Center, click *Software*, then click *Installation Source* to display the Configured Software Catalogs view.
- 1b4** In the Configured Software Catalogs view, click *Add* to open the Media Type view.
- 1b5** In the Media Type view, select *Local Directory*, then click *Next* to open the Local Directory or ISO view.
- 1b6** 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*.
- 1c** (Optional) Mount the ISO image file on the machine where Cloud Manager Orchestrate is to be installed (the “target” machine).

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

- 1c1** Log in to the target server as `root`.
- 1c2** From the command line of the target machine, enter the following commands

```
mkdir /mnt/iso
mount -o loop Cloud_Manager_Orchestrate-2.0.0.x86_64.iso /mnt/iso
```

(where you substitute the name of the ISO (32-bit or 64-bit) that you are using).
- 1c3** Open YaST2.
- 1c4** In the YaST Control Center, click *Software*, then click *Installation Source* to display the Configured Software Catalogs view.
- 1c5** In the Configured Software Catalogs view, click *Add* to open the Media Type view.
- 1c6** In the Media Type view, select *Local Directory*, then click *Next* to open the Local Directory or ISO view.
- 1c7** In the *Path to Directory or ISO Image* field of the Local Directory or ISO view, enter the mount point:

```
/mnt/iso
```
- 1d** (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.

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

- 1d1** Log in to the target SLES server as `root`, then open YaST2.
- 1d2** In the YaST Control Center, click *Software*, then click *Installation Source* to display the Configured Software Catalogs view.
- 1d3** In the Configured Software Catalogs view, then click *Add* to open the Media Type view.
- 1d4** In the Media Type view, select an installation media type.
 - 1d4a** (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.
 - 1d4b** 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*.

- 2 Upgrade Orchestrate Server software packages to Orchestration Server software packages:
 - 2a Log in to the target SLES server as `root`, then open YaST2.
 - 2b In YaST2, select *Software > Software Management*, select the method to open the product ISO on your machine, click *Next*, then follow the procedures to mount the ISO.
 - 2c From the License Agreement page, select the option to agree to the license terms, then click *Next*.
 - 2d In YaST2, open the *Filter* drop-down list, select *Patterns* or *Install Sources* to display the Patterns and Packages view, then click *Details* to close the information pane and open the Package frame.
 - 2e In the *Patterns* frame (left-hand side of the view), select a Cloud Manager Orchestration pattern already installed on this server. The *Package* frame lists the packages either installed or not yet installed for this pattern.

Component packages already installed to the server are checked.

NOTE: Package names for this release of Orchestrate continue to use “novell-zenworks” in the prefix or “PlateSpin Orchestrate” in the summary description.

- 2f Right-click on any of the installed package names, click *All in This List > Update if newer version available*, then click *Accept* to install the upgraded packages.
 - 2g Repeat [Step 2e](#) and [Step 2f](#) for each installed pattern you are upgrading.

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

 - ♦ Back up the existing server instance directory
 - ♦ Upgrade the RPMs for the selected Orchestrate patterns
- 3 Configure the Cloud Manager Orchestration Server. You can use one of two information gathering methods to perform the configuration:
 - ♦ Run the Orchestration Server product configuration script. If you use this method, continue with the steps in [“Running the Orchestration Server Product Configuration Script to Configure the Upgraded Server Packages”](#) on page 15.
 - ♦ Run the GUI Configuration Wizard. If you use this method, skip to the steps in [“Running the GUI Configuration Wizard to Configure the Upgraded Server Packages”](#) on page 17.

Upgrading Orchestrate Server Packages Using the `rug` Command (SLES 10x Machines Only)

Use the following procedure if you want to use `rug` commands to upgrade the PlateSpin Orchestrate Server packages on SLES 10x machines. If you want to use the GUI Configuration Wizard to upgrade, see [“Running the GUI Configuration Wizard to Upgrade Agents”](#) on page 34.

- 1 Download the appropriate Cloud Manager 2.0 ISO (32-bit or 64-bit, SLES 10 only), 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 Cloud Manager 2.0 `.iso` folder was extracted, then run the commands to upgrade PlateSpin Orchestrate:
 - 2a Run the following command:

```
rug sa -t zypp "http://<ip_address_of_local_server>/  
<directory_location_of_extracted_iso_files>" $SERVICENAME
```

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

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

For example, for the ISO located at `/root/Desktop/NetIQ_Cloud_Manager-2.0.0-SLE10.x86_64.iso`, you could use this command:

```
rug sa -t zypp "iso:///?iso=/root/Desktop/NetIQ_Cloud_Manager-2.0.0-  
SLE10.x86_64.iso&url=dir:///root/Desktop/" netiq
```

2b Run the following command:

```
rug sub netiq
```

2c Run the following command:

```
rug up -y
```

2d Configure the Cloud Manager Orchestration Server. You can use one of two information gathering methods to perform the configuration:

- ♦ Run the Orchestration Server product configuration script. If you use this method, continue with the steps in [“Running the Orchestration Server Product Configuration Script to Configure the Upgraded Server Packages”](#) on page 15.
- ♦ Run the GUI Configuration Wizard. If you use this method, skip to the steps in [“Running the GUI Configuration Wizard to Configure the Upgraded Server Packages”](#) on page 17.

Upgrading Orchestrate Server Packages Using the zypper Command (SLES 11x Machines Only)

Use the following procedure if you want to use `rug` commands to upgrade the PlateSpin Orchestrate Server packages on SLES 10x machines. If you want to use the GUI Configuration Wizard to upgrade, see [“Running the GUI Configuration Wizard to Upgrade Agents”](#) on page 34.

For more `zypper` commands, see [“Other Useful zypper Commands for Server Upgrade”](#) on page 15.

1 Download the appropriate Cloud Manager 2.0 ISO (32-bit or 64-bit, SLES 10 only), 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 PlateSpin Orchestrate `.iso` folder was extracted, then run the commands to upgrade PlateSpin Orchestrate 2.6 to Cloud Manager 2.0:

2a Run the following command:

```
zypper sa -t yast2 "http://<ip_address_of_local_server>/  
<directory_location_of_iso_files>"
```

Alternative 1: If you have chosen not to extract the files and you want to use the `.iso` image to upgrade, use the following command:

```
zypper sa -t yast2 "iso:/?iso=$PATH_TO_ISO/$ISO_NAME" $SERVICENAME
```

or

```
zypper sa -t yast2 "iso:/?iso=$PATH_TO_ISO/$ISO_NAME" "$REPO_ALIAS"
```

For example, for the ISO located at `/root/Desktop/NetIQ_Cloud_Manager-2.0.0-SLE11.x86_64.iso`, you could use this command:

```
zypper sa -t yast2 "iso:/?iso=/root/Desktop/NetIQ_Cloud_Manager-2.0.0-SLE11.x86_64.iso" "CMOS_Server"
```

Alternative 2: If you are using an ftp server and you want to use the `.iso` image to upgrade, use the following command:

```
zypper sa -t yast2 "ftp://<ip_address_of_local_server>/  
<directory_location_of_iso_files>"
```

2b Run the following command:

```
zypper ref $REPO_ALIAS
```

2c Run the following command:

```
zypper dup -r $REPO_ALIAS
```

Other Useful zypper Commands for Server Upgrade

You might find the other zypper commands listed in the table below to be useful during the server upgrade process.

Table 2-1 *zypper Commands That Might Be Useful During Server Upgrade*

Command	Description
<code>zypper refresh \$REPO_ALIAS</code>	Builds metadata and cache.
<code>zypper pa \$REPO_ALIAS</code>	Displays all packages in the repository.

2.1.5 Configuring the Upgraded Server Packages

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

- ♦ [“Running the Orchestration Server Product Configuration Script to Configure the Upgraded Server Packages” on page 15](#)
- ♦ [“Running the GUI Configuration Wizard to Configure the Upgraded Server Packages” on page 17](#)

Running the Orchestration Server Product Configuration Script to Configure the Upgraded Server Packages

If you decide to use the product configuration script to configure the upgraded server 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 Cloud Manager Orchestration.

This program will configure NetIQ Cloud Manager Orchestration 3.0.0

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 to PlateSpin Orchestrate.

Depending on which components were installed, the script displays the products to upgrade

Select products to upgrade

```
#  selected  Item
1)   yes    PlateSpin Orchestrate Monitoring Service
2)   yes    PlateSpin Orchestrate Server
3)   yes    PlateSpin Orchestrate Agent
```

Select from the following:

```
1 - 3) 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 installed 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 results.

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

The script displays the following:

```
Gathering information for upgrading PlateSpin Orchestrate Server . . .
```

Select whether this is a standard or high-availability server

```
s) standard
h) ha
- - - - -
```

Selection [standard]:

- 6 Enter "s" for the standard server (for information about upgrading a high-availability configuration, see [Section 2.7, "Upgrading a PlateSpin Orchestrate 2.6 High Availability Configuration,"](#) on page 37).

The following section of the upgrade script is displayed:

```
Enter the name of the Cloud Manager Orchestration administrator user
previously defined when you configured that server.
```

- 7 Type the name of the administrator, then press Enter.

IMPORTANT: Do not change the administrator name from the name used in the original PlateSpin Orchestration 2.6 installation.

8 Type the administrator password, then press Enter.

9 Retype the administrator password, then press Enter.

The following section of the script is displayed:

```
If you've enabled auditing, you will need to upgrade the DB schema.
If you use a PostgreSQL database, you can upgrade it at this time.
If you use a different RDBMS, you will have to configure it separately.
You must supply the same DB connection information provided when the
audit DB was initially created.
```

```
Upgrade Audit DB (y/n) [no] :
```

10 Enter `y` to upgrade the audit database.

The following section of the script is displayed:

```
Specify the JDBC URL used previously to connect to the audit database.
Do not include a database name after the trailing slash.
```

```
JDBC URL [jdbc:postgresql://localhost:5432/] :
```

11 Enter the appropriate database URL.

The following section of the script is displayed:

```
Specify the database name used previously to create to the audit database.
Audit Database Name [zos_db] :
```

12 Enter the previously specified database name.

13 Type the name of the PostgreSQL audit database user previously created, then press Enter.

14 Type the audit database user password, then press Enter.

15 Retype the audit database user password, then press Enter.

The remainder of 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 [“Configuring Cloud Manager Orchestration Components”](#) in the *NetIQ Cloud Manager 2.0 Orchestration Installation Guide*.

The Cloud Manager Orchestration Server automatically starts at the end of a successful upgrade configuration process.

Running the GUI Configuration Wizard to Configure the Upgraded Server Packages

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

1 Run the script for the 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.

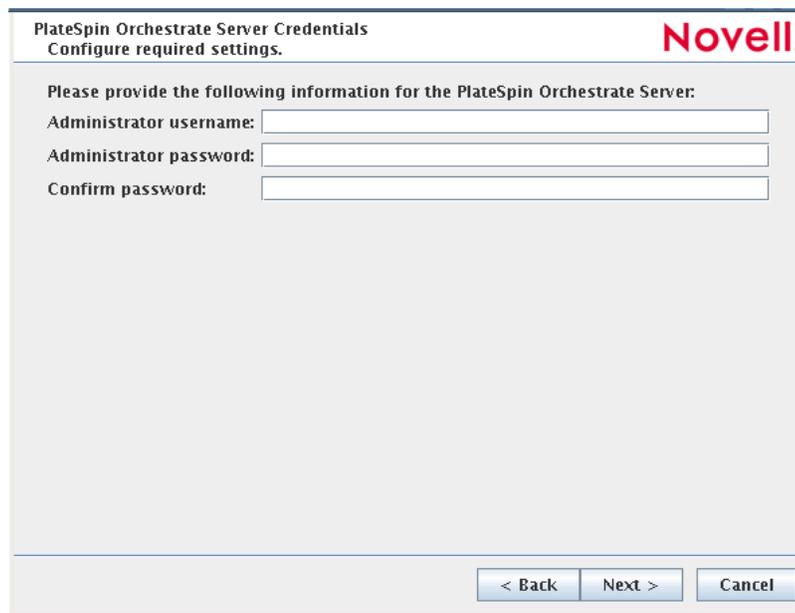
- 2 Click *Next* to display the license agreement.
- 3 Accept the agreement, then click *Next* to display the Configuration Selection page.
- 4 Select *Upgrade*, then click *Next* to display the Orchestrate components page.

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

- 5 Deselect any components that you do not want to upgrade, then click *Next* to open the wizard page where you choose to configure the server for a High Availability clustered environment.

NOTE: You might not want to upgrade all components. For example, you might want to keep an older version of the Orchestrate Agent installed on a Cloud Manager Orchestration Server machine when the agent is used to connect to a different (that is, a non-upgraded) PlateSpin Orchestrate Server, such as in a “grid-of-grids” configuration.

- 6 Click *Next* on the High Availability page to open the wizard page where you can begin configuring required settings.



(This example does not demonstrate configuring the server for a High Availability environment)

- 7 Fill in the fields as needed for each of the configuration pages.

Administrator username: Enter the name of the Cloud Manager Orchestration Server administrator used in the previous installation (for PlateSpin Orchestrate 2.6).

IMPORTANT: Do not change the administrator name from the name used in the original 2.6 installation.

Administrator password: Enter the administrator password.

Confirm password: Re-enter the administrator password.

- 8 Click *Next* to display the required settings page of the wizard.

If you have a new license file with your upgrade, browse for or enter the full path to the license file. Otherwise the previously installed license file will be used (default).

License file:

The Agent port is used for communication between the PlateSpin Orchestrate Server and Agents.

Agent port:

The User Portal port provides access to a web-based management portal that enables users to submit and inspect the status of their jobs.

User Portal port:

The Administrator Information port serves access to a web page that has links to documentation, tools reference, PlateSpin Orchestrate Agent and Client installers.

Admin Info port:

Upgrade audit database

If you need clarification for the data to enter into the fields of the configuration pages, refer to the table in “[Configuring Cloud Manager Orchestration Components](#)” in the *NetIQ Cloud Manager 2.0 Orchestration Installation Guide*.

Make sure you provide the path to the new Cloud Manager license file during the configuration.

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.

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

- 9 Click *Next* to display the next page of the wizard.

(Conditional) If you did not select the *Upgrade audit database* check box in the previous step, the Summary page of the wizard is displayed.

Proceed to [Step 11](#).

If you selected the *Upgrade audit database* check box in the previous step, the following page of the wizard is displayed.

Enter the JDBC URL to connect to the Auditing database, with a trailing slash but without a database name at the end.

Audit Database URL:

Supply a name for the existing Audit Database.

Database name:

PlateSpin Orchestrate will use these credentials to login to the Audit Database.

Audit Database username:

Audit Database password:

Enter password again to verify:

< Back Next > Cancel

Proceed to [Step 10](#).

- 10 Specify the required information to configure the upgrade for the audit database:

Audit Database URL: Specify the URL for the existing PostgreSQL audit database so that its schema can be upgraded.

NOTE: If you have been using a different RDBMS (that is, not PostgreSQL) for your audit database, you will have to configure it separately.

Database name: Specify the name of your existing database.

Audit Database username: Specify the existing database username.

Audit Database password: Specify the existing database user password.

Enter password again to verify: Re-enter the existing database user password to verify its authenticity.

- 11 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 Orchestrate 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 Orchestrate or applying the configuration settings.

You can use this `.conf` file to start the Orchestrate Server or the Orchestrate Server Console 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
```

- 12 Click *Next* to display a message asking whether you want to overwrite the `.conf` response file.
To upgrade, you need to overwrite the existing file. When prompted, click *Yes* to overwrite the file and display the configuration page.
- 13 Click *Next* to begin the upgrade configuration for the new Orchestration Server.

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

2.1.6 Manually Configuring the Remote Audit Database after Orchestration Components Are Upgraded

When you have upgraded the Orchestration Server, you can manually configure the existing audit database using the `audit_db_upgrade.sql` script. This script creates an `actions` table in the database. Use the following procedure to manually upgrade the audit database:

- 1 On the Orchestration Server host machine, use your favorite editor to edit the script `/opt/novell/zenworks/zos/server/conf/audit_db_upgrade.sql`.
 - 1a Replace the `${DB_NAME}` variable with the PostgreSQL database name (for example, `zos_db`).
 - 1b Replace the `${DB_USER}` variable with the PostgreSQL schema owner name (for example, `zos`).
- 2 Use the following commands to run the modified script as the PostgreSQL database administrator for the remote database:

```
su - postgres
```

```
psql -h <psql-server-addr> -d postgres -U postgres -f audit_db_upgrade.sql
```

- 3 Use the following command to log into PostgreSQL, using the database name and schema owner substituted in [Step 1](#) above:

```
su - postgres
```

```
psql -h <psql-server-addr> -d zos_db -U zos -f audit_db_upgrade.sql
```

- 4 Confirm that the database username and password match the values used when creating the schema owner database user in “[Configuring the Orchestration Server](#)” in the [NetIQ Cloud Manager 2.0 Orchestration Installation Guide](#). In this example, the username is `zos` and the password is `zos`.

- 5 Confirm that the database username and password match the values you replaced in the variables of the `.sql` script. In this example, the username is `zos` and the password is `zos`.
- 6 Click *Connect*.

The *Is Connected* check box is selected: the Orchestration Server is connected to the database so that any queued data and subsequent job, user, and resource events are written there.

2.1.7 Checking the Upgraded Version of the Orchestration Server

After you upgrade the PlateSpin Orchestrate 2.6 packages to Cloud Manager Orchestration components, 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 Cloud Manager Orchestration components were 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 PlateSpin Orchestrate,” on page 10](#)). If some of the components have not been upgraded from the earlier version, the incompatibility between the components could cause unexpected behavior.

2.1.8 Running Discovery on VM Hosts and Images

Because many new facts have been added to Orchestration VMs for Cloud Manager Orchestration Server 3.0, you need to re-discover all of the VMs in the grid so that the new facts are added to the VMs.

To do this from the Orchestration Console *Tools* menu,

- 1 Click *Provision > Discover VM Hosts and Repositories*, select the provisioning adapter you want to run for the discovery, then click *OK*.
- 2 Click *Provision > Discover VM Images*, select the provisioning adapter you want to run for the discovery, then click *OK*.

2.2 PlateSpin Orchestrate Components That Are Not Upgraded

When you upgrade from PlateSpin Orchestrate 2.6 to Cloud Manager Orchestration components, the core components are not upgraded or redeployed. Instead, the old core components are replaced with new core Orchestration components. If you made any changes to the original core components, those changes are saved, so you can manually re-enter the custom configuration you want after the upgrade.

For example, suppose you have deployed the xen provisioning adapter job and you made custom changes to the `xen30` policy file. When the PlateSpin Orchestrate Server prepares for an upgrade, it repackages the xen provisioning adapter by creating a `.sar` archive and then stores it in `/Orchestrate_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 PlateSpin Orchestrate 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 Cloud Manager Orchestration 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.

NOTE: After the upgrade to Cloud Manager Orchestration components, some earlier-version provisioning adapter jobs (`vsphere`) and the VMs provisioned by those jobs are not redeployed for use. Any resource or other objects previously managed by these provisioning adapters are no longer manageable, even though they still exist in the Cloud Manager Orchestration Server.

2.3 Recovering from a Failed Orchestrate Server 2.6 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 PlateSpin Orchestrate.

- ♦ [Section 2.3.1, “Failure Scenario 1: Error Resolution,” on page 23](#)
- ♦ [Section 2.3.2, “Failure Scenario 2: Cannot Resolve Error,” on page 23](#)

2.3.1 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

2.3.2 Failure Scenario 2: Cannot Resolve Error

Follow these steps if you cannot resolve the error:

- 1 Remove the new instance directory for the Cloud Manager Orchestration Server, not including the `datagrid`.
- 2 Copy the old instance directory `/var/opt/novell/zenworks/zos.bak` and the license key file to restore the PlateSpin Orchestrate Server data from the snapshot.
- 3 Restore the previous version RPMs of the PlateSpin Orchestrate software.

2.4 Restoring the PlateSpin Orchestrate Server If the Upgrade Fails

If you use ZENworks Linux Management in your network, you can use it to restore an older version of the PlateSpin Orchestrate Server if an upgrade has failed. This section contains information that can help you roll back a failed upgrade of Cloud Manager Orchestration Server 3.0 back to PlateSpin Orchestrate 2.6.

- ♦ [Section 2.4.1, “Requirements,” on page 24](#)
- ♦ [Section 2.4.2, “Rollback Procedure Using the rug Command,” on page 24](#)

2.4.1 Requirements

This scenario requires that you have already installed the PlateSpin Orchestrate 2.6 ISO. That is, the 2.6 version of the Orchestrate Server should be running with exactly the same packages you originally installed and configured.

The scenario also requires that you have a Cloud Manager Orchestration Server 3.0 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 2.6 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 \(http://www.novell.com/documentation/zlm73/lm7admin/data/b94fftd.html\)](http://www.novell.com/documentation/zlm73/lm7admin/data/b94fftd.html) in the *ZENworks 7.3 Linux Management Administration Guide*.

2.4.2 Rollback Procedure Using the rug Command

Use the following steps to roll back a Cloud Manager Orchestration Server 3.0 upgrade to PlateSpin Orchestrate 2.6 on SLES 10x machines or SLES 11x machines where the ZENworks Linux Management Daemon is also installed.

- 1 Use the following command to make sure that you have the ZENworks Management Daemon installed, with rollback tools enabled.

```
rug get rollback
```

- 2 Check repositories to ensure that they are disabled. You want only 2.6 upgrades.

- 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 PlateSpin Orchestrate 2.6 Server ISO as a repository.

- 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 PlateSpin Orchestrate 2.6 currently resides.

```
rug sa -t zypp <installation_source_of_Orchestration_Server_3.0.0> pso26
```

This command adds the Orchestration Server 3.0 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 `pso26` shown in the example) must have the same RPM package versions as PlateSpin Orchestrate 2.6.

For more information about adding repositories, see the *ZENworks 7.3 Linux Management Administration Guide* (<http://www.novell.com/documentation/zlm73/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 `pso26` repository.

- 4a** Run the following command to subscribe to the `pso26` repository:

```
rug sub pso26
```

- 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 `pso26` catalog.

- 5** Add a Cloud Manager 2.0 Server ISO as a repository.

- 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 Cloud Manager Orchestrate 2.0 currently resides.

```
rug sa -t zypp <installation_source_of_Cloud
Manager_2.0_Orchestration_Server> cmos30
```

This command adds the Orchestration Server 3.0 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 `cmos30` shown in the example) must have the same RPM package versions as Orchestration Server 3.0.

For more information about adding repositories, see the *ZENworks 7.3 Linux Management Administration Guide* (<http://www.novell.com/documentation/zlm73/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 `cmos30` repository.

- 6a** Run the following command to subscribe to the `cmos30` repository:

```
rug sub cmos30
```

- 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 `ps026` and `cm030` repositories.

- 6c** Run the following command to list and confirm the updated Orchestration Server 3.0 packages:

```
rug lu
```

- 7** Run the following command to verify that the 2.6 Server and the 2.6 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 Orchestration Server 3.0 RPM packages stop the PlateSpin Orchestrate 2.6 Server and the 2.6 Agent before the upgrade, then take a snapshot of the 2.6 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 2.6 Server.

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

NOTE: For details on running the configuration script, see “[Configuring Cloud Manager Orchestration Components](#)” in the *NetIQ Cloud Manager 2.0 Orchestration Installation Guide*.

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

Because of the configuration upgrade failure, you need to use the ZENworks Management Daemon to roll back to the former (that is, the PlateSpin Orchestrate 2.6) running state without losing data.

- 10** Run the following command to confirm that Cloud Manager Orchestration Server 3.0 packages are installed:

```
rpm -qa | grep zos
```

Because the Orchestration Server 3.0 packages are installed but not configured, you cannot use them to start the Orchestrate Server.

- 11** Run the follow command to confirm that an instance of the Orchestration Server 3.0 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 PlateSpin Orchestrate 2.6:

```
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 2.6 packages were installed and running so that you can roll back the current Orchestration Server 3.0 packages to PlateSpin Orchestrate 2.6 packages.

- 13** Run the following commands to confirm that the system has been rolled back to version 2.6 and that a server instance exists:

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

14 Run the following command to start the PlateSpin Orchestrate Agent:

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

2.5 Upgrading the Older Agents and Clients

It is likely that you have installed 2.6 Agents and Clients on machines other than where the PlateSpin Orchestrate 2.6 Server components were installed. This section includes information that helps you to walk through the upgrade of those agents and clients.

- ◆ [Section 2.5.1, “Checking the Current Version of the Agent,” on page 27](#)
- ◆ [Section 2.5.2, “Backing Up the Orchestrate 2.6 Agent Prior to Upgrading,” on page 28](#)
- ◆ [Section 2.5.3, “Automatically Upgrading the PlateSpin Orchestrate Agent from the Cloud Manager Orchestration Console,” on page 28](#)
- ◆ [Section 2.5.4, “Using the Product ISO to Upgrade Agents and Clients on a SLES 10 SP3 Machine,” on page 28](#)
- ◆ [Section 2.5.5, “Using the ISO to Upgrade the PlateSpin Orchestrate Agent on Red Hat Enterprise Linux 5 Machines,” on page 35](#)
- ◆ [Section 2.5.6, “Using the ISO to Upgrade the Old PlateSpin Orchestrate Agent or the Orchestrate Clients on Windows Machines,” on page 36](#)
- ◆ [Section 2.5.7, “Using the Administrator Information Page to Upgrade the Agents and Clients,” on page 36](#)

NOTE: To perform a mass upgrade of PlateSpin Orchestrate 2.6 Agents, we recommend that you use a reputable application software distribution method to upgrade to the newer versions that ship with Cloud Manager 2.0. For example, you can use ZENworks Linux Management to distribute new agents and clients to Linux servers.

For more information, see [Section 2.6, “Running the Upgrade Configuration on an Enterprise Scale,” on page 36](#).

2.5.1 Checking the Current Version of the Agent

Before you upgrade the PlateSpin Orchestrate 2.6 Agent packages to Cloud Manager Orchestration Agent 3.0, you should check which packages of the older 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 Cloud Manager `.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

2.5.2 Backing Up the Orchestrate 2.6 Agent Prior to Upgrading

As with the installation of any software, it is always a wise precaution to back up a working copy of PlateSpin Orchestrate 2.6 Agent directories before you install the newer version. To back up the old version, copy the `/var/opt/novell/zenworks/zos/agent` directory.

2.5.3 Automatically Upgrading the PlateSpin Orchestrate Agent from the Cloud Manager Orchestration Console

The Cloud Manager Orchestration Console includes a feature that lets you automatically upgrade older Orchestrate Agents on resources (virtual or physical) that connect to the Orchestration Server.

If your grid includes older (that is, older than Cloud Manager version 2.0) Resource objects, their Orchestrate Agents cannot connect to a recently upgraded Orchestration Server. This is shown when the Resource Registration icon in the Resource Monitor of the Orchestration Console displays a “flag up”  status.

When you click the Resource Registration icon, the Resource Registration Monitor dialog box displays all of the older resource objects attempting to connect. The *Upgrade* option is also available in the dialog box. You can select this option, along with all of the older agents that you want to upgrade.

When you use this automatic upgrade method, only the agent rpm (that is, the `zw_zos_agent` pattern) is upgraded, but other Orchestrate components that might be present on the resource machine are not upgraded. These include the following components (listed by pattern names):

- ◆ `zw_zos_clients`
- ◆ `zw_mon_agent`
- ◆ `zw_vm_builder`
- ◆ `cabextract` (on Xen hosts where you plan to use Windows sysprep)

To separately upgrade these components, you need to use the YaST upgrade from the product ISO (see [“Upgrading PlateSpin Orchestrate Agent Packages Using YaST” on page 29](#)) the `rug` upgrade method (for each component on a SLES 10x Server), or the `zypper` upgrade method, both of which are executed from the bash prompt. For more information, see [“Upgrading PlateSpin Orchestrate Agent Packages Using the `rug` Command \(SLES 10x Machines Only\)” on page 30](#) and

2.5.4 Using the Product ISO to Upgrade Agents and Clients on a SLES 10 SP3 Machine

This section includes information about upgrading the agent and client packages on the product ISO.

- ◆ [“Upgrading PlateSpin Orchestrate Agent Packages Using YaST” on page 29](#)
- ◆ [“Upgrading PlateSpin Orchestrate Agent Packages Using the `rug` Command \(SLES 10x Machines Only\)” on page 30](#)
- ◆ [“Upgrading PlateSpin Orchestrate Agent Packages Using the `zypper` Command \(SLES 11x Machines Only\)” on page 31](#)
- ◆ [“Checking the Upgraded Orchestrate Agent” on page 32](#)
- ◆ [“Configuring the Upgraded Agent Packages” on page 33](#)

Upgrading PlateSpin Orchestrate Agent Packages Using YaST

Use the following procedure if you want to use YaST, a graphical user interface, to upgrade the PlateSpin Orchestrate 2.6 packages to Cloud Manager Orchestrate Server 3.0 packages. If you want to use the command line to upgrade, see [“Upgrading PlateSpin Orchestrate Agent Packages Using the rug Command \(SLES 10x Machines Only\)” on page 30](#) or

- 1** Download the appropriate Cloud Manager Orchestration Server 3.0 ISO (32-bit or 64-bit for SLES 10 or SLES 11), then prepare it for installation:
 - 1a** (Optional) Burn a DVD of the ISO image and load it into the DVD drive of the target machine.
 - 1b** (Optional) Copy the ISO image to the local file system.

To mount the ISO image file on a particular machine,

 - 1b1** Log in to the target server as `root`.
 - 1b2** Open YaST2.
 - 1b3** In the YaST Control Center, click *Software*, then click *Installation Source* to display the Configured Software Catalogs view.
 - 1b4** In the Configured Software Catalogs view, click *Add* to open the Media Type view.
 - 1b5** In the Media Type view, select *Local Directory*, then click *Next* to open the Local Directory or ISO view.
 - 1b6** 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*.
 - 1c** (Optional) Mount the ISO image file on the machine where PlateSpin Orchestrate is to be installed (the “target” machine).

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

 - 1c1** Log in to the target server as `root`.
 - 1c2** From the command line of the target machine, enter the following commands

```
mkdir /mnt/iso
mount -o loop NetIQ_Cloud_Manager-2.0.0-SLE11.x86_64.iso /mnt/iso
```

(where you substitute the name of the ISO (32-bit or 64-bit; SLES 10 or SLES 11) that you are using).
 - 1c3** Open YaST2.
 - 1c4** In the YaST Control Center, click *Software*, then click *Installation Source* to display the Configured Software Catalogs view.
 - 1c5** In the Configured Software Catalogs view, click *Add* to open the Media Type view.
 - 1c6** In the Media Type view, select *Local Directory*, then click *Next* to open the Local Directory or ISO view.
 - 1c7** In the *Path to Directory or ISO Image* field of the Local Directory or ISO view, enter the mount point:

```
/mnt/iso
```
 - 1d** (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.

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

- 1d1** Log in to the target SLES 10 server as root, then open YaST2.
- 1d2** In the YaST Control Center, click *Software*, then click *Installation Source* to display the Configured Software Catalogs view.
- 1d3** In the Configured Software Catalogs view, then click *Add* to open the Media Type view.
- 1d4** In the Media Type view, select an installation media type.
 - 1d4a** (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.
 - 1d4b** 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*.

2 Upgrade PlateSpin Orchestrate 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 PlateSpin Orchestrate 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 agent 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 Cloud Manager 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 product configuration script. If you use this method, continue with the steps in [“Running the Configuration Script to Upgrade Agents” on page 33](#).
 - ♦ Run the GUI Configuration Wizard. If you use this method, skip to the steps in [“Running the GUI Configuration Wizard to Upgrade Agents” on page 34](#).

Upgrading PlateSpin Orchestrate Agent Packages Using the `rug` Command (SLES 10x Machines Only)

Use the following procedure if you want to use `rug` commands to upgrade the PlateSpin Orchestrate Agent packages on SLES 10x machines. If you want to use YaST to upgrade, see [“Upgrading PlateSpin Orchestrate Agent Packages Using YaST” on page 29](#).

- 1** Download the appropriate Cloud Manager 2.0 ISO (32-bit or 64-bit, SLES 10 only), 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 Cloud Manager 2.0 .iso folder was extracted, then run the commands to upgrade PlateSpin Orchestrate:

2a Run the following command:

```
rug sa -t zypp "http://<ip_address_of_local_server>/  
<directory_location_of_extracted_iso_files>" $SERVICENAME
```

Alternative: If you have chosen not to extract the files and you want to use the .iso image to upgrade, use the following command:

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

For example, for the ISO located at /root/Desktop/NetIQ_Cloud_Manager-2.0.0-SLE10.x86_64.iso, you could use this command:

```
rug sa -t zypp "iso:///?iso=/root/Desktop/NetIQ_Cloud_Manager-2.0.0-  
SLE10.x86_64.iso&url=dir:///root/Desktop/" netiq
```

2b Run the following command:

```
rug sub netiq
```

2c Run the following command:

```
rug up -y
```

- 3 Configure the Cloud Manager Orchestrate Agent. You can use one of two information gathering methods to perform the configuration:

- ♦ Run the Orchestrate product configuration script. If you use this method, continue with the steps in [“Running the Configuration Script to Upgrade Agents” on page 33](#).
- ♦ Run the GUI Configuration Wizard. If you use this method, skip to the steps in [“Running the GUI Configuration Wizard to Upgrade Agents” on page 34](#).

Upgrading PlateSpin Orchestrate Agent Packages Using the zypper Command (SLES 11x Machines Only)

Use the following procedure if you want to use zypper commands to upgrade the PlateSpin Orchestrate Agent packages on SLES 11x machines. If you want to use YaST to upgrade the packages, see [“Upgrading PlateSpin Orchestrate Agent Packages Using YaST” on page 29](#).

For more zypper commands, see [“Other Useful zypper Commands for Agent Upgrade” on page 32](#).

- 1 Download the appropriate Cloud Manager 2.0 ISO (32-bit or 64-bit, SLES 11 only), 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 PlateSpin Orchestrate .iso folder was extracted, then run the commands to upgrade PlateSpin Orchestrate 2.6 to Cloud Manager 2.0:

2a Run the following command:

```
zypper sa -t yast2 "http://<ip_address_of_local_server>/  
<directory_location_of_iso_files>" $SERVICENAME
```

or

```
zypper sa -t yast2 "iso://?iso=$PATH_TO_ISO/$ISO_NAME" "$REPO_ALIAS"
```

Alternative 1: If you have chosen not to extract the files and you want to use the `.iso` image to upgrade, use the following command:

```
zypper sa -t yast2 "iso:/?iso=$PATH_TO_ISO/$ISO_NAME" "$REPO_ALIAS"
```

For example, for the ISO located at `/root/Desktop/NetIQ_Cloud_Manager-2.0.0-SLE11.x86_64.iso`, you could use this command:

```
zypper sa -t yast2 "iso:/?iso=/root/Desktop/NetIQ_Cloud_Manager-2.0.0-SLE11.x86_64.iso" "CMOS_Agent"
```

Alternative 2: If you are using an ftp server and you want to use the `.iso` image to upgrade, use the following command:

```
zypper sa -t yast2 "ftp://<ip_address_of_local_server>/<directory_location_of_iso_files>"
```

2b Run the following command:

```
zypper ref $REPO_ALIAS
```

2c Run the following command:

```
zypper dup -r $REPO_ALIAS
```

3 Configure the Cloud Manager Orchestrate Agent. You can use one of two information gathering methods to perform the configuration:

- ♦ Run the Orchestrate product configuration script. If you use this method, continue with the steps in [“Running the Configuration Script to Upgrade Agents” on page 33](#).
- ♦ Run the GUI Configuration Wizard. If you use this method, skip to the steps in [“Running the GUI Configuration Wizard to Upgrade Agents” on page 34](#).

Other Useful zypper Commands for Agent Upgrade

You might find the other zypper commands listed in the table below to be useful during the agent upgrade process.

Table 2-2 *zypper Commands That Might Be Useful During Agent Upgrade*

Command	Description
<code>zypper refresh \$REPO_ALIAS</code>	Builds metadata and cache.
<code>zypper pa \$REPO_ALIAS</code>	Displays all packages in the repository.

Checking the Upgraded Orchestrate Agent

After you upgrade the PlateSpin Orchestrate 2.6 packages to Cloud Manager Orchestration 3.0 components, 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 Cloud Manager 2.0 `.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 2.5.1, “Checking the Current Version of the Agent,” on page 27](#)). If some of the components have not been upgraded from the earlier version, the incompatibility between the components could cause unexpected behavior.

Configuring the Upgraded Agent Packages

You can use one of two information gathering methods to configure upgraded PlateSpin Orchestrate packages:

- ♦ [“Running the Configuration Script to Upgrade Agents” on page 33](#)
- ♦ [“Running the GUI Configuration Wizard to Upgrade Agents” on page 34](#)

Running the Configuration Script to Upgrade Agents

If you decided to use the product configuration script to upgrade Orchestrate Agents and Clients referred to [Step 2e on page 30](#),

- 1 Make sure you are logged in as `root` to run the configuration script.
- 2 Run the script, as follows:

```
/opt/netiq/ncm/orch/bin/config
```

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

```
Welcome to Cloud Manager Orchestrate.
```

```
This program will configure Cloud Manager Orchestration 3.0.0  
Select whether this is a new install or an upgrade
```

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

```
Selection [install]:
```

- 3 Specify `u` to select the option to upgrade Cloud Manager Orchestrate.

The following information is displayed:

```
Select products to upgrade
```

```
#  selected  Item  
1)    no     Orchestrate Monitoring Service (not installed)  
2)    no     Orchestrate Server (not installed)  
3)    yes    Orchestrate Agent
```

```
Select from the following:
```

```
1 - 3)  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 Specify `f` to finish the selection.

The next part of the configuration script is displayed:

```
Gathering information for Orchestrate Server configuration. . .
Select whether this is a standard or high-availability server
configuration
s) standard
h) ha
- - - - -
Selection [standard]:
```

- 6 Specify *s* to indicate a standard configuration and to continue with the configuration.
- 7 At the end of the upgrade interview, specify *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

If you decided to upgrade PlateSpin Orchestrate 2.6 Agents and Clients to Cloud Manager 3.0 Agents using the GUI Configuration Wizard referred to in [Step 2e on page 30](#),

- 1 Run the script for the Orchestrate Configuration Wizard as follows:

```
/opt/netiq/nsm/orch/bin/guiconfig
```

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 Orchestrate Configuration Selection page.
- 4 Select *Upgrade*, then click *Next* to display the Orchestrate 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/netiq/netiq_nsm_orch_install.conf` without starting Orchestrate or applying the configuration settings.

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

```
/opt/netiq/nsm/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. When prompted, click *Yes* to overwrite the file and display the configuration page.
- 9 Click *Next* to begin the upgrade configuration for the PlateSpin Orchestrate 2.6 Server to the Orchestration Server version 3.0.

2.5.5 Using the ISO to Upgrade the PlateSpin Orchestrate Agent on Red Hat Enterprise Linux 5 Machines

Use the following procedure if you want to use the Add-on method to upgrade the PlateSpin Orchestrate Development Client to a NetIQ Cloud Manager Orchestration Console running on a Red Hat Enterprise Linux (RHEL) 5 machine.

- 1 Shut down the old PlateSpin Orchestrate Development Client on the machine where you intend to install the new Cloud Manager Orchestration Console.

- 2 Download the appropriate Cloud Manager ISO (32-bit or 64-bit) to an accessible network location.

- 3 Mount the Cloud Manager ISO as a loopback device as in the following example:

```
mount -o loop netIQ_Cloud_Manager-2.0.0-SLE11.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 five packages in the /RHEL5 directory:

```
netiq-ncm-monitor-gmond-3.0.4-50.x86_64.rpm
netiq-ncm-orch-config-2.0.0-141.noarch.rpm
netiq-ncm-orch-config-gui-2.0.0-57039.noarch.rpm
netiq-ncm-cmos-agent-2.0.0-57039.i586.rpm
netiq-ncm-cmos-java-1.6.0_sun_update14-1.x86_64.rpm
```

- 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 `libcap1so` 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 `cmoc` bash shell script at `/opt/netiq/ncm/cmos/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.

2.5.6 Using the ISO to Upgrade the Old PlateSpin Orchestrate Agent or the Orchestrate Clients on Windows Machines

The Orchestration Agent and the Orchestration Console are supported on Windows XP, Windows Vista and Windows 7 desktops. To upgrade, install the new Cloud Manager 2.0 release of the Orchestration Agent or the Orchestration Console.

IMPORTANT: When upgrading the PlateSpin Orchestrate Development Client on a Windows machine, you must uninstall the prior version first, then install the new version of Cloud Manager Orchestration Console.

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

- 1 Download the appropriate Cloud Manager 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 XP, Windows Vista, or Windows 7) reside.
- 4 Double-click the appropriate file (.exe) to launch an installation and configuration wizard for the Orchestration Console.

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

The Administrator Information Page includes installers for the Cloud Manager Orchestration Agents and Clients for Windows and various Linux/UNIX machines (see “[Alternative Installation Methods for the Orchestration Agent](#)” in the *NetIQ Cloud Manager 2.0 Orchestration Installation 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 install the new Cloud Manager release of the Orchestration Agent or Orchestration Console.

IMPORTANT: When upgrading the PlateSpin Orchestrate Development Client on a Windows machine, you must uninstall the prior version first, then install the new version.

2.6 Running the Upgrade Configuration on an Enterprise Scale

If you have a number of 2.6 Server 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.

2.7 Upgrading a PlateSpin Orchestrate 2.6 High Availability Configuration

This section provides the steps you need to follow to upgrade a PlateSpin Orchestrate 2.6 environment to a Cloud Manager 2.0 high availability configuration. Use the following steps for the upgrade:

- 1 Using the high availability manager (such as Heartbeat 2), shut down the PlateSpin Orchestrate service.

- 2 Manually bind the cluster IP address using the following command:

```
ip addr add {CIDR_IP_ADDRESS} dev {Ethernet Device}
```

- 3 Manually start a PlateSpin Orchestrate Server instance on the first node in the cluster (this should be a node that does not include high-availability components) using the following command:

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

- 4 Manually stop the instance with snapshot. See [Section 2.1.3, “Snapshotting the Existing Server Installation,”](#) on page 10 for more information.

- 5 Manually unbind the IP address using the following command:

```
ip addr del {CIDR_IP_ADDRESS} dev {Ethernet Device}
```

- 6 Upgrade the RPMs on the first node (the one you started in [Step 3](#)) of the cluster. For more information, see [Section 2.1.4, “Upgrading the Orchestrate Server Packages,”](#) on page 11.

- 7 Run the configuration script. For more information, see [“Running the Orchestration Server Product Configuration Script to Configure the Upgraded Server Packages”](#) on page 15.

- 8 Manually bind the IP address using the following command:

```
ip addr add {CIDR_IP_ADDRESS} dev {Ethernet Device}
```

- 9 Start the Orchestration Server instance on the upgraded node (see [Step 3](#) and [Step 6](#)).

- 10 Verify the upgraded server state by attempting to connect to the server (with the Orchestration Console, for instance).

- 11 Manually stop the following services using the `/etc/init.d/<service_name> stop` command:
 - ♦ novell-zosserver
 - ♦ apache2
 - ♦ novell-gmond
 - ♦ novell-gmetad

where `<service_name>` is `novell-zosserver`, `novell-gmond`, `novell-gmetad`, or `apache2`, and `stop` is the action you want to perform.

IMPORTANT: Do not snapshot to stop the server instance.

- 12 Manually unbind IP address using the following command:

```
ip addr del {CIDR_IP_ADDRESS} dev {Ethernet Device}
```

- 13 Upgrade the RPMs on the second node of the cluster.

- 14 Using the high availability manager (see [Step 1](#)), start the Orchestration Server instance.

3 Compatibility Checking Behavior

Managed agents (nodes) report 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 Cloud Manager Orchestration 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.

- ♦ [Section 3.1, “Cloud Manager VM Client Behavior When Detecting Incompatibility,” on page 39](#)
- ♦ [Section 3.2, “Orchestration Console Behavior When Detecting Incompatibility,” on page 39](#)

3.1 Cloud Manager VM Client Behavior When Detecting Incompatibility

The information in this section lists the known behaviors exhibited when the PlateSpin Orchestrate 2.6 VM Client is upgraded to Cloud Manager VM Client 3.0 when other Orchestration components are not upgraded.

During upgrade, if the Orchestrate Monitoring Server is newer or older than the installed VM Client, it is not necessarily incompatible with the VM Client, because the VM Client does not detect or display the version of the Monitoring Server, and the Monitoring Server uses Internet browser capabilities to display its information in HTML format, so monitored information is still available.

3.2 Orchestration Console Behavior When Detecting Incompatibility

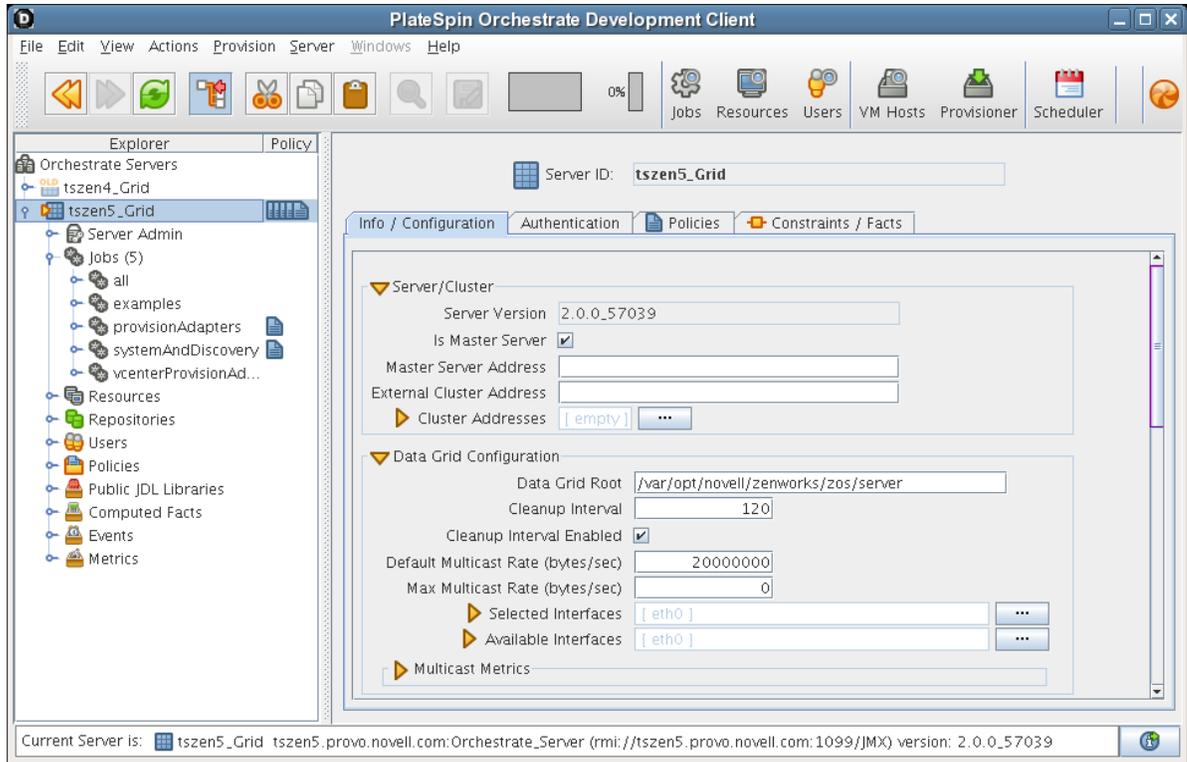
The Orchestration Console detects incompatibility only in the Orchestration Agent. The information in the following sections details that behavior.

- ♦ [Section 3.2.1, “If the Orchestrate Server Is Not Compatible with the Orchestration Console,” on page 39](#)
- ♦ [Section 3.2.2, “When an Agent Version Does Not Match the Server Version,” on page 40](#)

3.2.1 If the Orchestrate Server Is Not Compatible with the Orchestration Console

When the Cloud Manager Orchestration Console detects an older version of the PlateSpin Orchestrate Server, the console displays an “old” icon overlay over the grid object.

Figure 3-1 Orchestration Console Displaying an “Old” Icon



The Orchestration Console displays a “new” icon overlay on the Grid Object if the Grid Object 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 bottom of the view.

3.2.2 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 Orchestration 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 3-2 Old Orchestrate Agent Resource Displayed in Tree View

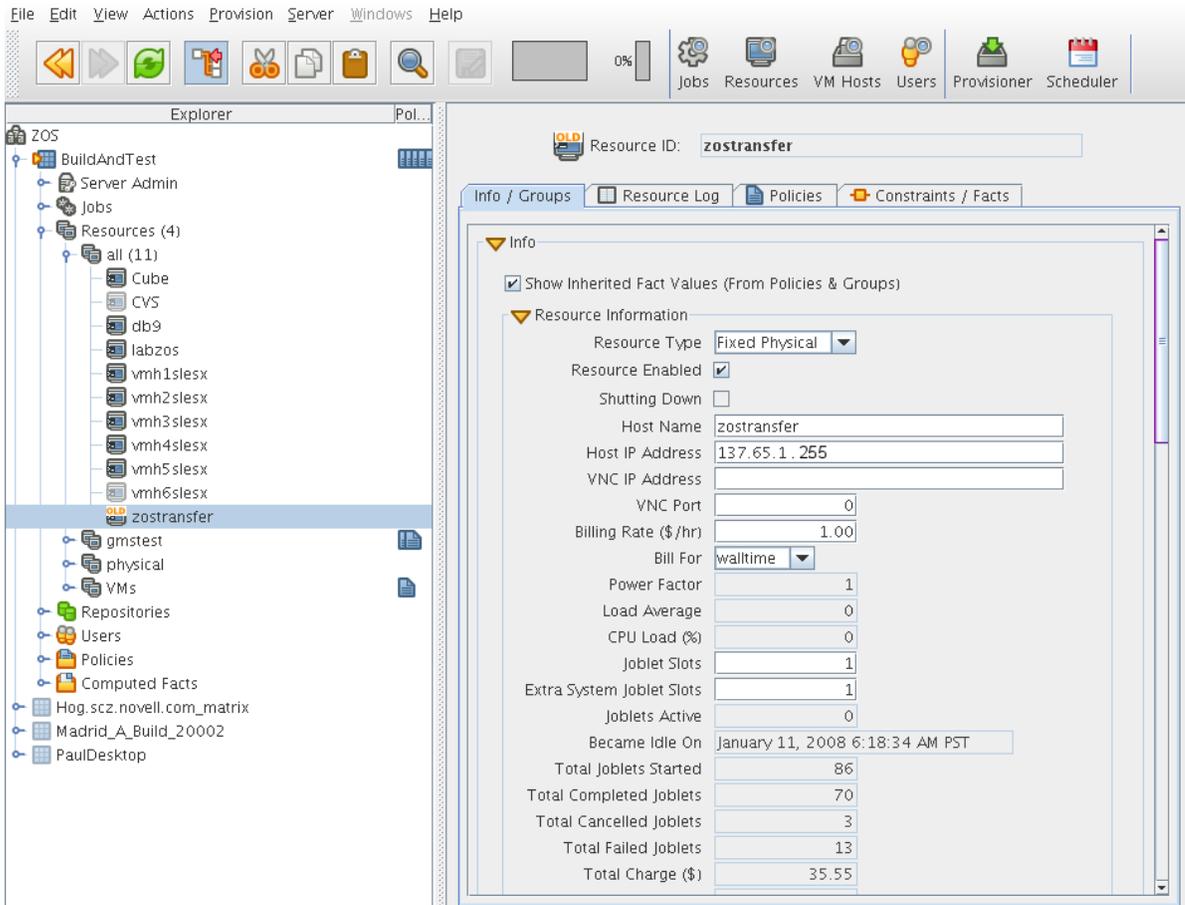


Figure 3-3 Old Orchestrate Agent Resource Displayed in Tree View and Monitor View

