

# **FREQUENTLY ASKED QUESTIONS (FAQ)**

## **ZENworks Linux Management 7.3 IR4**

March 26, 2012

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Provo, UT 84606  
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# About This Guide

This *Novell ZENworks 7.3 Linux Management Frequently Asked Questions (FAQ)* is intended to help ZENworks Linux Management users who have not found the information they need in the ZENworks Linux Management Online Help or User Guides. The information in this guide is organized as follows:

- ♦ “How do I Find What I Need in ZENworks Linux Management Documentation?” on page 7
- ♦ “ZENworks Linux Management Frequently Asked Questions” on page 11

## Audience

This guide is intended for ZENworks administrators.

## Feedback

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

## Documentation Updates

For the most recent, updated version of the *ZENworks 7.3 Frequently Asked Questions (FAQ)*, visit the [Novell ZENworks 7.3 Linux Management Edition documentation Web site \(http://www.novell.com/documentation/zlm73\)](http://www.novell.com/documentation/zlm73).

## Additional Documentation

ZENworks 7.3 Linux Management is supported by other documentation (in both PDF and HTML formats) that you can use to learn about and implement the product:

- ♦ *Novell ZENworks 7.3 Linux Management Installation Guide*
- ♦ *Novell ZENworks 7.3 Linux Management Administration Guide*
- ♦ *Novell ZENworks Linux Management Troubleshooting Guide*

In addition, the other capabilities included in the ZENworks 7 suite have extensive documentation for your use. For a full list of this documentation, see the [Novell ZENworks 7 documentation Web site \(http://www.novell.com/documentation/zenworks7/index.html\)](http://www.novell.com/documentation/zenworks7/index.html).



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# 1 How do I Find What I Need in ZENworks Linux Management Documentation?

Review the following sections to understand how you can find what you need in ZENworks Linux Management documentation:

- ♦ [Section 1.1, “Finding Information,” on page 7](#)
- ♦ [Section 1.2, “What To Do When You Cannot Find the Answer,” on page 8](#)

## 1.1 Finding Information

Review the following sections to understand how to find the information you need:

- ♦ [Section 1.1.1, “User Guides in ZENworks Linux Management,” on page 7](#)
- ♦ [Section 1.1.2, “Frequently Asked Questions,” on page 7](#)
- ♦ [Section 1.1.3, “Searching for Information,” on page 7](#)

### 1.1.1 User Guides in ZENworks Linux Management

The user guides in both HTML and PDF formats are available on the [ZENworks Linux Management documentation Web site \(http://www.novell.com/documentation/zlm73/index.html\)](http://www.novell.com/documentation/zlm73/index.html).

### 1.1.2 Frequently Asked Questions

To find answers to some of the frequently asked questions in ZENworks Linux Management, see [Chapter 2, “ZENworks Linux Management Frequently Asked Questions,” on page 11](#).

### 1.1.3 Searching for Information

You can use the Search button on the Novell Documentation web site to quickly find the information you need. You can also specify the search criteria by defining one or more filters such as operators, switches, and wildcards in your search strings to significantly improve your search.

## 1.2 What To Do When You Cannot Find the Answer

Review the following sections to understand what you can do to get answers for your questions when you cannot find them by using the ways described in [Section 1.1, “Finding Information,”](#) on page 7.

- ♦ [Section 1.2.1, “User Comments Link in the User Guides,”](#) on page 8
- ♦ [Section 1.2.2, “ZENworks Linux Management Support Forum,”](#) on page 8
- ♦ [Section 1.2.3, “Where Do I Go for More Help,”](#) on page 8

### 1.2.1 User Comments Link in the User Guides

If you cannot find the information you need in the User Guides for ZENworks Linux Management, you can submit a user comment about the documentation. Click *user comments* at the bottom of any page of the HTML version of the documentation to submit your comments.

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**IMPORTANT:** For best results, submit your comment on the page of the User Guide where you tried to find the information.

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When you submit a user comment, one of the following things happens:

- ♦ We know where the answer to your question is in the current documentation. We send a response to you to help you find the information you need.
- ♦ We know the answer to your question and we discover that it is not in the current documentation. We send a response to you and post the information on the page where you made your comment. The information will be added to the next version of the ZENworks Linux Management documentation.
- ♦ If we do not know the answer to your question, we find the answer to your question, then proceed as described above.
- ♦ When ZENworks Linux Management does not work for you the way it is supposed to, we refer you to the ZENworks Linux Management Support Forum. For more information, see [Section 1.2.2, “ZENworks Linux Management Support Forum,”](#) on page 8.

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**NOTE:** Response time might vary.

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### 1.2.2 ZENworks Linux Management Support Forum

The [Novell ZENworks Linux Management Support Forum \(http://forums.novell.com/novell-product-support-forums/zenworks/linux-management/\)](http://forums.novell.com/novell-product-support-forums/zenworks/linux-management/) provides assistance from ZENworks Linux Management users around the world. If ZENworks Linux Management is not working for you as documented, post your problem on ZENworks Linux Management Support Forum for free assistance.

### 1.2.3 Where Do I Go for More Help

In addition to the ZENworks Linux Management product documentation, the following resources provide additional information about ZENworks Linux Management.

- ♦ [Novell Support Knowledgebase \(http://www.novell.com/support\)](http://www.novell.com/support)



- ♦ Novell ZENworks Linux Management Support Forum (<http://forums.novell.com/novell-product-support-forums/zenworks/linux-management/>)
- ♦ Novell ZENworks Linux Management Support Community (<http://www.novell.com/support/product/products.do>)
- ♦ Novell Cool Solutions (<http://www.novell.com/coolsolutions/>)
- ♦ Novell ZENworks Linux Management product site (<http://www.novell.com/products/zenworks/linuxmanagement/>)



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# 2 ZENworks Linux Management Frequently Asked Questions

Review the following sections to find answers to some of the frequently asked questions in ZENworks Linux Management:

- ♦ [Section 2.1, “Installation,” on page 11](#)
- ♦ [Section 2.2, “Registration,” on page 14](#)
- ♦ [Section 2.3, “Bundles and Package Management,” on page 14](#)
- ♦ [Section 2.4, “Remote Management,” on page 26](#)
- ♦ [Section 2.5, “Event Monitoring,” on page 28](#)

## 2.1 Installation

- ♦ [How can I know which version of ZENworks Linux Management is installed on my device?](#)
- ♦ [How can I know which hot patch version is installed on my device?](#)
- ♦ [How can I automate the agent installation in my zone?](#)
- ♦ [Which ports are used by the ZENworks Linux Management server?](#)
- ♦ [Which ports are used by the ZENworks Linux Management agent?](#)
- ♦ [What is the difference between the ZENworks Linux Management agent that is packaged with the SUSE Linux Enterprise 10 distribution and the one provided by ZENworks Linux Management installation?](#)
- ♦ [How can I get zmd debug messages in the zmd-messages.log file while running the ZLM-install script?](#)
- ♦ [How can I overcome the EXT3 subdirectories limitation for ZENworks 7.x Linux Management server package repository?](#)
- ♦ [How do I install or upgrade ZENworks 7.3 Linux Management Agent on a device that has ZENworks Desktop Management 7 for Linux installed?](#)
- ♦ [How do I install ZENworks 7.3 Linux Management Agent on a device that has ZENworks Configuration Management Primary Server installed?](#)
- ♦ [How do I upgrade ZENworks 7.3 Linux Management Agent on a device that has ZENworks Configuration Management Primary Server installed?](#)
- ♦ [How can I address some of the security vulnerabilities in Tomcat 5.0.28 that is bundled with the ZENworks Linux Management Server?](#)
- ♦ [How can I get the ZENworks Linux Management Server to work when the IP address of the Primary Server or Secondary Server is changed?](#)
- ♦ [How can I enable ZENworks Control Center login access to the ZENworks Linux Management Server after the LDAP Server \(eDirectory\) SSL certificate has expired?](#)

- ♦ How can I generate custom ZENworks Linux Management reports that are specific to several usability requirements?
- ♦ How can I install a specific version of the zypp patch from the Novell Update repository for the SLE10 or SLE11 platform?

## How can I know which version of ZENworks Linux Management is installed on my device?

At the command prompt, enter the `rug ping` command. The version displayed for the ZENworks Management Daemon is the version of the ZENworks Linux Management that you are on.

## How can I know which hot patch version is installed on my device?

At the command prompt, enter the `rug ping` command to display the hot patch level.

## How can I automate the agent installation in my zone?

See “Automating Installation of the ZENworks Agent” in the *Novell ZENworks 7.3 Linux Management Installation Guide*.

## Which ports are used by the ZENworks Linux Management server?

See “Server Listening Ports” in the *Novell ZENworks 7.3 Linux Management Installation Guide*.

## Which ports are used by the ZENworks Linux Management agent?

See “Agent Listening Ports” in the *Novell ZENworks 7.3 Linux Management Installation Guide*.

## What is the difference between the ZENworks Linux Management agent that is packaged with the SUSE Linux Enterprise 10 distribution and the one provided by ZENworks Linux Management installation?

The ZENworks Linux Management agent that comes with the ZENworks Linux Management installation has scheduled deployments and policy management features that the SUSE Linux Enterprise agent does not have.

## How can I get zmd debug messages in the zmd-messages.log file while running the ZLM-install script?

While running the ZLM-install script, the `log-level` in `zmd` preferences is set to `Info` by default. Run the following command to get the debug messages in the `zmd-messages.log` file:

```
zlm-install --zmd-debug
```

## **How can I overcome the EXT3 subdirectories limitation for ZENworks 7.x Linux Management server package repository?**

See the Novell Cool Solutions article [Overcoming the EXT3 Subdirectories Limitation for ZENworks 7.x Linux Management Server Package Repository](http://www.novell.com/communities/node/8492/overcoming-ext3-subdirectories-limitation-zenworks-7x-linux-management-server-package-repo#Cleaning%20the%20ZENworks%20Package%20Repository) (<http://www.novell.com/communities/node/8492/overcoming-ext3-subdirectories-limitation-zenworks-7x-linux-management-server-package-repo#Cleaning%20the%20ZENworks%20Package%20Repository>).

## **How do I install or upgrade ZENworks 7.3 Linux Management Agent on a device that has ZENworks Desktop Management 7 for Linux installed?**

See TIDs 7004069 and 7003574 at [Novell Support](http://www.novell.com/support/) (<http://www.novell.com/support/>).

## **How do I install ZENworks 7.3 Linux Management Agent on a device that has ZENworks Configuration Management Primary Server installed?**

See TID 7003939 at [Novell Support](http://www.novell.com/support/) (<http://www.novell.com/support/>).

## **How do I upgrade ZENworks 7.3 Linux Management Agent on a device that has ZENworks Configuration Management Primary Server installed?**

See TID 7005160 at [Novell Support](http://www.novell.com/support/) (<http://www.novell.com/support/>).

## **How can I address some of the security vulnerabilities in Tomcat 5.0.28 that is bundled with the ZENworks Linux Management Server?**

This patch is applicable for Interim Release 4. See TID 7006398 at [Novell Support](http://www.novell.com/support/) (<http://www.novell.com/support/>).

## **How can I get the ZENworks Linux Management Server to work when the IP address of the Primary Server or Secondary Server is changed?**

See the TID 3000360 at [Novell Support](http://www.novell.com/support/) (<http://www.novell.com/support/>).

## **How can I enable ZENworks Control Center login access to the ZENworks Linux Management Server after the LDAP Server (eDirectory) SSL certificate has expired?**

See the Novell Cool Solutions article [Enable ZCC Login Access to the ZLM Server after Expiration of \(eDir\) LDAP Server SSL Certificate](http://www.novell.com/communities/node/9360/zcc-login-zlm-server-unallowed-expiration-edir-ldap-server-ssl-certificate) (<http://www.novell.com/communities/node/9360/zcc-login-zlm-server-unallowed-expiration-edir-ldap-server-ssl-certificate>).

## **How can I generate custom ZENworks Linux Management reports that are specific to several usability requirements?**

See the Novell Cool Solutions article [ZLM Custom Reporting Utility](http://www.novell.com/communities/node/11267/zlm-custom-reporting-utility-v01) (<http://www.novell.com/communities/node/11267/zlm-custom-reporting-utility-v01>).

## How can I install a specific version of the zypp patch from the Novell Update repository for the SLE10 or SLE11 platform?

Installing a specific version of the zypp patch from the Novell Update repository might lead to installing or updating with the most recent packages if available from any of its later patch versions. Installing a specific version of the patch might conflict with the existing packages version: therefore, to avoid any conflict, you can use a dependency solver to select the newer packages, if available.

For example, `rug in -t patch slesp3-kernel-7261-0` might not have the version of packages that is present in the specified patch, but the solver might choose to install newer packages if they are available as part of the latest patch.

## 2.2 Registration

- ♦ [Can I register a base SUSE Linux Enterprise 10 device to the ZENworks Linux Management 7.2.x zone?](#)
- ♦ [How can I avoid multiple registration entries of a managed device to the ZENworks Linux Management zone?](#)

### Can I register a base SUSE Linux Enterprise 10 device to the ZENworks Linux Management 7.2.x zone?

Yes. You can register a SUSE Linux Enterprise 10 device to a ZENworks Linux Management 7.2.x zone. However, all the features of a ZENworks Linux Management agent are not available because SUSE Linux Enterprise 10 does not have all the features of the ZENworks Linux Management agent.

### How can I avoid multiple registration entries of a managed device to the ZENworks Linux Management zone?

Use the following command to re-register an existing device to the ZENworks Linux Management zone:

```
rug service-add --rebuild -t ZENworks ZENworks_server_address
```

## 2.3 Bundles and Package Management

- ♦ [How can I know if updates are available for my device?](#)
- ♦ [How can I know if patch updates are available for a SUSE Linux Enterprise 10 device?](#)
- ♦ [How can I know if updates are available for my device if I have logged in to the GNOME desktop or KDE desktop on a managed device?](#)
- ♦ [What is the difference between mandatory bundles and non-mandatory bundles?](#)
- ♦ [What are the different statuses of a bundle on a managed device?](#)
- ♦ [What are the different statuses of a package on a managed device?](#)
- ♦ [Why does the ZMD show fewer installed packages than are shown by the `rpm -qa` command?](#)
- ♦ [When can I use an NFS mounted directory as a ZMD cache directory?](#)
- ♦ [Does the RPM command that I use to install packages reflect in the bundle status and package status?](#)

- ◆ The `rug bundle-packages` command shows the status of packages as not installed even though the `rug bundle-list` command shows that the bundle is installed.
- ◆ How can I upgrade a device from SUSE Linux Enterprise 10 to SUSE Linux Enterprise 10 SP1 by using ZENworks Linux Management?
- ◆ How can I upgrade a device from SUSE Linux Enterprise 10 SP1 to SUSE Linux Enterprise 10 SP2 by using ZENworks Linux Management?
- ◆ How can I upgrade a device from SUSE Linux Enterprise 10 SP2 to SUSE Linux Enterprise 10 SP3 by using ZENworks Linux Management?
- ◆ How can I upgrade a device from SUSE Linux Enterprise 10 SP3 to SUSE Linux Enterprise 10 SP4 by using ZENworks Linux Management?
- ◆ How can I upgrade a device from SUSE Linux Enterprise 11 to SUSE Linux Enterprise 11 SP1 by using ZENworks Linux Management?
- ◆ How can I upgrade a device from SUSE Linux Enterprise 11 SP1 to SUSE Linux Enterprise 11 SP2 by using ZENworks Linux Management?
- ◆ How can I upgrade a device from Open Enterprise Server 2 SP1 to Open Enterprise Server 2 SP2 by using ZENworks Linux Management?
- ◆ How can I upgrade a device from Open Enterprise Server 2 SP2 to Open Enterprise Server 2 SP3 by using ZENworks Linux Management?
- ◆ How do I install a bundled PostgreSQL database to its own mounted NFS server?
- ◆ How do I install a bundled PostgreSQL database to a local mounted hard disk?
- ◆ How can I upgrade SLES 9 to SLES 11 with ZENworks 7.3 Linux Management installed?
- ◆ How can I upgrade SLES 10 to SLES 11 or SLED 10 to SLED 11 with ZENworks 7.3 Linux Management installed?
- ◆ How do I upgrade packages across different architectures by using an RPM bundle on a managed device that has ZENworks 7.3 Linux Management Hot Patch 1 or later installed?
- ◆ “How do I mirror software from an SMT repository to a ZENworks Linux Management Server?” on page 23
- ◆ “How can I create a copy of a catalog on the ZENworks Linux Management Server?” on page 24
- ◆ “How can I know the bundle size based on the payload content?” on page 24
- ◆ “How can I automate deletion of the orphan RPM packages from the ZENworks Linux Management package repository?” on page 24
- ◆ “How can I apply SLE 10 Service Pack updates to devices that are offline or that have limited connectivity to the ZENworks Linux Management server?” on page 24
- ◆ “How can I update the SUSE Linux Enterprise 10 SP3 data after online migration from SP2 to SP3 by using the SLE10-SP3-Online-bundle in ZENworks Linux Management?” on page 25
- ◆ “How can I get automatic notification for the new patches or updates published in the Novell Update Channel (NCC) for the specific products?” on page 25
- ◆ “How can I update the supported RHEL devices by using the RES update bundle mirrored from the Novell Update Channel as part of the SLES expanded support?” on page 25
- ◆ “How can I update the supported RHEL 6 Servers by using the RES update bundle mirrored from the Novell Update Channel as part of the SLES expanded support?” on page 25

## How can I know if updates are available for my device?

At the command prompt, enter the `rug list-updates` command to view the updates that are available for your device.

## How can I know if patch updates are available for a SUSE Linux Enterprise 10 device?

At the command prompt, enter the `rug list-updates -t patch` command to view the patch updates that are available for the SUSE Linux Enterprise 10 device.

## How can I know if updates are available for my device if I have logged in to the GNOME desktop or KDE desktop on a managed device?

If you are logged in to the GNOME desktop or KDE desktop, the globe icon on the panel changes to an orange exclamation mark if there are updates available for your device. Click the icon to view the list of updates.

## What is the difference between mandatory bundles and non-mandatory bundles?

A mandatory bundle is assigned directly to a managed device. You cannot uninstall a mandatory bundle from a device on which the complete ZENworks Linux Management is installed.

A non-mandatory bundle is assigned to a catalog, and the catalog is assigned to a device. These bundles are optional and are not automatically installed on the device. Non-mandatory bundles fulfil the dependencies required to install packages.

## What are the different statuses of a bundle on a managed device?

Refer to the following table to understand the different statuses of a bundle on a managed device:

**Table 2-1** Bundle Status on a Managed Device

Status	Description
''	Bundle is not installed on the device.
i	Bundle is installed on the device.
*	Bundle is partially installed on the device.
v	A different version of the bundle is installed on the device.

## What are the different statuses of a package on a managed device?

Refer to the following table to understand the different statuses of a package on a managed device:

Status	Description
''	Package is not installed on the device.
i	Package is installed on the device.
s	The package in the bundle is of a lower version than that installed on the device.
v	A different version of the package is installed on the device.



## Why does the ZMD show fewer installed packages than are shown by the rpm -qa command?

The `rpm -qa` command shows the imported GPG keys (gpg-pubkey-xxxxxxx-xxxxxxx) that are not actual packages as installed packages. The ZMD filters the GPG keys from the list of installed packages, and therefore shows fewer installed packages than are shown by the `rpm -qa` command.

## When can I use an NFS mounted directory as a ZMD cache directory?

If you encounter an insufficient disk space error in the partition that has the ZMD cache directory, you can use an NFS mounted directory as a ZMD cache directory.

## Does the RPM command that I use to install packages reflect in the bundle status and package status?

Yes. The ZMD monitors the `rpm DB/var/lib/rpm/Packages` directory for any changes in the RPM database, and updates the bundle status and package status appropriately.

## The rug bundle-packages command shows the status of packages as not installed even though the rug bundle-list command shows that the bundle is installed.

If you have set the *Freshen* flag for some or all of the packages while installing a bundle, those packages are upgraded only if an earlier version of the package is already installed. If no earlier version of the package exists on the device, the packages in the bundle are not installed even though the bundle is installed. Therefore, the status of these packages is displayed as not installed when you run the `rug bundle-packages` command.

## How can I upgrade a device from SUSE Linux Enterprise 10 to SUSE Linux Enterprise 10 SP1 by using ZENworks Linux Management?

- 1 Mirror the SLE\*10-SP1-Online Catalog and SLE\*10-Updates Catalog from [Novell Updates \(https://nu.novell.com/repo\)](https://nu.novell.com/repo) to your ZENworks Linux Management server by using `zlmirror`. This server requires authentication with your Novell Customer Center (NCC) account name and password.
- 2 (Optional) Assign the monolithic SLE\*10-Updates-bundle from the Updates Catalog to the managed devices. After the bundle is installed, remove the assigned bundle from the device. For more information on how to assign the bundle, see “[Assigning Bundles](#)” in the *Novell ZENworks 7.3 Linux Management Administration Guide*.
- 3 Assign the SLE\*10-SP1-Online bundle from the Online Catalog to the managed device. For more information on how to assign the bundle, see “[Assigning Bundles](#)” in the *Novell ZENworks 7.3 Linux Management Administration Guide*.
- 4 Install the bundle, then restart the managed device.

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**NOTE:** If you want the existing kernel on the device to be updated by the new kernel, change the *Install Type* for all the kernel packages from *Install to Upgrade* in ZENworks Control Center in the bundles specified in [Step 2](#) and [Step 3](#).

For more information, see “[Editing Bundles](#)” in the *Novell ZENworks 7.3 Linux Management Administration Guide*.

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You can install these bundles by either directly assigning them from the ZENworks Linux Management server or manually installing them on the managed device by using the `rug bin` command. If the bundles are manually installed on the device, ensure that the assigned catalog contains either a single monolithic bundle or all patch bundles.

If the Catalog has only a monolithic bundle, it can be installed by using `rug bin` directly. If the Catalog has all the patch bundles, then you should run `rug bin --entire-catalog` to install all its bundles, excluding the monolithic bundle.

## How can I upgrade a device from SUSE Linux Enterprise 10 SP1 to SUSE Linux Enterprise 10 SP2 by using ZENworks Linux Management?

- 1 Mirror the SLE\*10-SP2-Online Catalog and SLE\*10-SP1-Updates Catalog from [Novell Updates \(https://nu.novell.com/repo\)](https://nu.novell.com/repo) to your ZENworks Linux Management server by using `zlmirror`. This server requires authentication with your Novell Customer Center (NCC) account name and password.
- 2 (Optional) Assign the monolithic SLE\*10-Updates-bundle from the Updates Catalog to the managed devices. After the bundle is installed, remove the assigned bundle from the device. For more information on how to assign the bundle, see “[Assigning Bundles](#)” in the *Novell ZENworks 7.3 Linux Management Administration Guide*.
- 3 Assign the SLE\*10-SP2-Online bundle from the Online Catalog to the managed device. For more information on how to assign the bundle, see “[Assigning Bundles](#)” in the *Novell ZENworks 7.3 Linux Management Administration Guide*.
- 4 Install the bundle, then restart the managed device.

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**NOTE:** If you want the existing kernel on the device to be updated by the new kernel, change the *Install Type* for all the kernel packages from *Install to Upgrade* in ZENworks Control Center in the bundles specified in [Step 2](#) and [Step 3](#).

For more information, see “[Editing Bundles](#)” in the *Novell ZENworks 7.3 Linux Management Administration Guide*.

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You can install these bundles by either directly assigning them from the ZENworks Linux Management server or manually installing them on the managed device by using the `rug bin` command. If the bundles are manually installed on the device, ensure that the assigned catalog contains either a single monolithic bundle or all patch bundles.

If the Catalog has only a monolithic bundle, it can be installed by using `rug bin` directly. If the Catalog has all the patch bundles, then you should run `rug bin --entire-catalog` to install all its bundles, excluding the monolithic bundle.

## How can I upgrade a device from SUSE Linux Enterprise 10 SP2 to SUSE Linux Enterprise 10 SP3 by using ZENworks Linux Management?

- 1 Mirror the SLE\*10-SP3-Online Catalog and SLE\*10-SP2-Updates Catalog from [Novell Updates \(https://nu.novell.com/repo\)](https://nu.novell.com/repo) to your ZENworks Linux Management server by using `zlmirror`. This server requires authentication with your Novell Customer Center (NCC) account name and password.

- 2 (Optional) Assign the monolithic SLE\*10-SP2-Updates-bundle from the Updates Catalog to the managed devices. After the bundle is installed, remove the assigned bundle from the device.  
For more information on how to assign the bundle, see [“Assigning Bundles”](#) in the *Novell ZENworks 7.3 Linux Management Administration Guide*
- 3 Assign the SLE\*10-SP3-Online bundle from the Online Catalog to the managed device.  
For more information on how to assign the bundle, see [“Assigning Bundles”](#) in the *Novell ZENworks 7.3 Linux Management Administration Guide*
- 4 Install the bundle, then restart the managed device.

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**NOTE:** If you want the existing kernel on the device to be updated by the new kernel, change the *Install Type* for all the kernel packages from *Install to Upgrade* in ZENworks Control Center in the bundles specified in [Step 2](#) and [Step 3](#).

For more information, see [“Editing Bundles”](#) in the *Novell ZENworks 7.3 Linux Management Administration Guide*.

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You can install these bundles by either directly assigning them from the ZENworks Linux Management server or manually installing them on the managed device by using the `rug bin` command. If the bundles are manually installed on the device, ensure that the assigned catalog contains either a single monolithic bundle or all patch bundles.

If the Catalog has only a monolithic bundle, it can be installed by using `rug bin` directly. If the Catalog has all the patch bundles, then you should run `rug bin --entire-catalog` to install all its bundles, excluding the monolithic bundle.

## How can I upgrade a device from SUSE Linux Enterprise 10 SP3 to SUSE Linux Enterprise 10 SP4 by using ZENworks Linux Management?

- 1 Mirror the SLE\*10-SP4-Online Catalog and SLE\*10-SP3-Updates Catalog from [Novell Updates \(https://nu.novell.com/repo\)](https://nu.novell.com/repo) to your ZENworks Linux Management server by using `zlmirror`. This server requires authentication with your Novell Customer Center (NCC) account name and password.
- 2 (Optional) Assign the monolithic SLE\*10-SP3-Updates-bundle from the Updates Catalog to the managed devices. After the bundle is installed, remove the assigned bundle from the device.  
For more information on how to assign the bundle, see [“Assigning Bundles”](#) in the *Novell ZENworks 7.3 Linux Management Administration Guide*
- 3 Assign the SLE\*10-SP4-Online bundle from the Online Catalog to the managed device.  
For more information on how to assign the bundle, see [“Assigning Bundles”](#) in the *Novell ZENworks 7.3 Linux Management Administration Guide*
- 4 Install the bundle, then restart the managed device.

---

**NOTE:** If you want the existing kernel on the device to be updated by the new kernel, change the *Install Type* for all the kernel packages from *Install to Upgrade* in ZENworks Control Center in the bundles specified in [Step 2](#) and [Step 3](#).

For more information, see [“Editing Bundles”](#) in the *Novell ZENworks 7.3 Linux Management Administration Guide*.

---

You can install these bundles by either directly assigning them from the ZENworks Linux Management server or manually installing them on the managed device by using the `rug bin` command. If the bundles are manually installed on the device, ensure that the assigned catalog contains either a single monolithic bundle or all patch bundles.

If the Catalog has only a monolithic bundle, it can be installed by using `rug bin` directly. If the Catalog has all the patch bundles, then you should run `rug bin --entire-catalog` to install all its bundles, excluding the monolithic bundle.

## How can I upgrade a device from SUSE Linux Enterprise 11 to SUSE Linux Enterprise 11 SP1 by using ZENworks Linux Management?

- 1 Mirror the SLE\*11-Updates, SLE\*11-Pool and SLE\*11-SP1-Pool Catalogs from [Novell Update \(https://nu.novell.com/repo\)](https://nu.novell.com/repo) to your ZENworks 7.3 Linux Management Server with IR3. This server requires authentication with your Novell account name and password.
- 2 Remove either the monolithic bundle or the patch bundles from the SLE\*11-Updates Catalog before assigning them to the managed devices, because this catalog has both the monolithic bundle and the patch bundles.
- 3 Assign the mirrored SLE\*11-Pool Catalog to the managed devices. It acts as a source to resolve package dependencies for updates being installed.
- 4 Change the *Install Type* in ZENworks Control Center for all the kernel packages from *Install* to *Upgrade* for the SLE\*11-Updates-bundle and SLE\*11-SP1-Pool-bundle to allow upgrade of the existing kernel package being installed.

For more information, see “[Editing Bundles](#)” in the *Novell ZENworks 7.3 Linux Management Administration Guide*.

- 5 Assign the mirrored catalog to the managed device that you want to upgrade.

For more information, see “[Assigning Catalogs](#)” in the *Novell ZENworks 7.3 Linux Management Administration Guide*.

- 6 On the managed device, subscribe to the SLE\*11-Updates Catalog, then run the `rug bin SLE*11-Updates-bundle` command to update the SUSE Linux Enterprise 11 packages. You should run `rug bin --entire-catalog SLE*11-Updates-Catalog` if the catalog contains the patch bundles.
- 7 When the packages are upgraded and the bundle is installed, log in to ZENworks Control Center and unassign the SLE\*11-Updates and SLE\*11-Pool Catalogs from the managed device.
- 8 Assign the SLE\*11-SP1-Pool Catalog to the managed device to update the device packages to SLE11 SP1.
- 9 On the managed device, subscribe to the SLE\*11-SP1-Pool Catalog, then install the SLE\*11-SP1-Pool-bundle by using the following command to upgrade the existing packages to SUSE Linux Enterprise 11 SP1:

```
rug bin -r <SLE*11-SP1-Pool-bundle>
```

If you want to update KDE packages while upgrading a device to SLE\*11-SP1 by using the existing pool bundle, then you can use the `rug dup` command. `rug dup` command is used to upgrade distribution.

---

**NOTE:** You can use ZENworks Control Center instead of executing the `rug bin` command to directly assign the bundles from SLE\*11-Updates and SLE\*11-SP1-Pool Catalogs to the managed device.

---

## How can I upgrade a device from SUSE Linux Enterprise 11 SP1 to SUSE Linux Enterprise 11 SP2 by using ZENworks Linux Management?

- 1 Mirror the SLE\*11-SP1-Updates, SLE\*11-SP1-Pool and SLE\*11-SP2-Core Catalogs from [Novell Update \(https://nu.novell.com/repo\)](https://nu.novell.com/repo) to your ZENworks 7.3 Linux Management Server with IR3. This server requires authentication with your Novell account name and password.
- 2 Remove either the monolithic bundle or the patch bundles from the SLE\*11-SP1-Updates Catalog before assigning them to the managed devices, because this catalog has both the monolithic bundle and the patch bundles.
- 3 Assign the mirrored SLE\*11-SP1-Pool Catalog to the managed devices. It acts as a source to resolve package dependencies for updates being installed.
- 4 Change the *Install Type* in ZENworks Control Center for all the kernel packages from *Install* to *Upgrade* for the SLE\*11-SP1-Updates-bundle and SLE\*11-SP2-Core-bundle to allow upgrade of the existing kernel package being installed.

For more information, see “[Editing Bundles](#)” in the *Novell ZENworks 7.3 Linux Management Administration Guide*.

- 5 Assign the mirrored SLE\*11-SP1-Updates catalog to the managed device that you want to upgrade.

For more information, see “[Assigning Catalogs](#)” in the *Novell ZENworks 7.3 Linux Management Administration Guide*.

- 6 On the managed device, subscribe to the SLE\*11-SP1-Updates Catalog, then run the `rug bin SLE*11-SP1-Updates-bundle` command to update the SUSE Linux Enterprise 11 packages. You should run `rug bin --entire-catalog SLE*11-SP1-Updates-Catalog` if the catalog contains the patch bundles.
- 7 When the packages are upgraded and the bundle is installed, log in to ZENworks Control Center and unassign the SLE\*11-SP1-Updates Catalogs from the managed device.
- 8 Assign the SLE\*11-SP2-Core Catalog to the managed device to update the device packages to SLE11 SP1.
- 9 On the managed device, subscribe to the SLE\*11-SP2-Core Catalog, then install the SLE\*11-SP2-Core-bundle by using the following command to upgrade the existing packages to SUSE Linux Enterprise 11 SP2:

```
rug bin -r <SLE*11-SP2-Core-bundle>
```

If you want to update KDE packages while upgrading a device to SLE\*11-SP2 by using the existing pool bundle, then you can use the `rug dup` command. `rug dup` command is used to upgrade distribution.

---

**NOTE:** You can use ZENworks Control Center instead of executing the `rug bin` command to directly assign the bundles from SLE\*11-SP1-Updates and SLE\*11-SP2-Core Catalogs to the managed device.

---

## How can I upgrade a device from Open Enterprise Server 2 SP1 to Open Enterprise Server 2 SP2 by using ZENworks Linux Management?

See [Upgrading to OES 2 SP2 Through a ZENworks Linux Management Server \(http://www.novell.com/documentation/oes2/inst\\_oes\\_lx/data/appendix\\_upgrade\\_zlm.html\)](http://www.novell.com/documentation/oes2/inst_oes_lx/data/appendix_upgrade_zlm.html) in the *OES 2 SP2 Installation Guide*.

## How can I upgrade a device from Open Enterprise Server 2 SP2 to Open Enterprise Server 2 SP3 by using ZENworks Linux Management?

See [Upgrading to OES 2 SP3 Through a ZENworks Linux Management Server \(http://www.novell.com/documentation/oes2/inst\\_oes\\_lx/data/bujr8yu.html\)](http://www.novell.com/documentation/oes2/inst_oes_lx/data/bujr8yu.html) in the *OES 2 SP3 Installation Guide*.

## How do I install a bundled PostgreSQL database to its own mounted NFS server?

- 1 Stop the PostgreSQL server by using the following command:

```
/etc/init.d/postgresql stop
```

- 2 Mount the `/var/lib/pgsql` directory to a remote server that has the Write privilege by using the following command:

```
mount IPaddress_of_the_NFS_server:/data /local_mount_directory
```

- 3 Move the PostgreSQL database to the mounted NFS server by using the following command:

```
mv /var/lib/pgsql /local_mount_directory
```

- 4 Create a symbolic link by using the following command:

```
ln -s /local_mount_directory/pgsql /var/lib/
```

- 5 Change the ownership of the `pgsql` directory to `postgres` by using the following command:

```
chown -R postgres:postgres /var/lib/pgsql
```

- 6 Start the PostgreSQL server by using the following command:

```
/etc/init.d/postgresql start
```

## How do I install a bundled PostgreSQL database to a local mounted hard disk?

- 1 Create a `/local` directory on the local hard disk.

- 2 Mount the new hard disk by using the following command:

```
mount /dev/new_hard_disk /local
```

The mounted hard disk must have the Write privilege.

- 3 Stop the PostgreSQL database by using the following command:

```
/etc/init.d/postgresql stop
```

- 4 Move the PostgreSQL data from the local hard disk to the mounted hard disk by using the following command:

```
mv /var/lib/pgsql /local
```

- 5 Create a symbolic link by using the following command:

```
ln -s /local/pgsql /var/lib/
```

- 6 Change the ownership of the `pgsql` directory by using the following command:

```
chown -R postgres:postgres /var/lib/pgsql
```

- 7 Start PostgreSQL server by using the following command:

```
/etc/init.d/postgresql start
```

## How can I upgrade SLES 9 to SLES 11 with ZENworks 7.3 Linux Management installed?

An online upgrade from SLES 9 to SLES 11 is currently not supported by SUSE Linux Enterprise. Therefore, upgrading SLES 9 by using ZENworks 7.3 Linux Management to SLES 11 is also not supported. To upgrade SLES 9 that has ZENworks 7.3 Linux Management installed to SLES 11, see TID 7003597 at [Novell Support \(http://www.novell.com/support/\)](http://www.novell.com/support/).

## How can I upgrade SLES 10 to SLES 11 or SLED 10 to SLED 11 with ZENworks 7.3 Linux Management installed?

An online upgrade from SLES 10 to SLES 11 or from SLED 10 to SLED 11 is currently not supported by SUSE Linux Enterprise. Therefore, upgrading SLES 10 or SLED 10 by using ZENworks 7.3 Linux Management to SLES 11 or SLED 11 is also not supported. To upgrade SLES 10 or SLED 10 that has ZENworks 7.3 Linux Management installed to SLES 11 or SLED 11, see TID 7002790 at [Novell Support \(http://www.novell.com/support/\)](http://www.novell.com/support/).

## How do I upgrade packages across different architectures by using an RPM bundle on a managed device that has ZENworks 7.3 Linux Management Hot Patch 1 or later installed?

- 1 On the ZENworks Linux Management Server, create a Remote Execute policy with the following script:

```
touch /var/run/zmd/allow-upgrade-across-arch
```

For more information on how to create a Remote Execute policy, see “[Remote Execute Policy](#)” in the *Novell ZENworks 7.3 Linux Management Administration Guide*.

- 2 Assign the policy to the managed device on which you want to upgrade the packages.
- 3 Refresh the managed device by using the `rug refresh` command to successfully enforce the policy.
- 4 Ensure that the policy is successfully enforced on the managed device by using the following command:

```
ls /var/run/zmd/allow-upgrade-across-arch
```

- 5 Install the RPM bundle on the managed device.

## How do I mirror software from an SMT repository to a ZENworks Linux Management Server?

- 1 Create a YUM subscription configuration file.

For more information on how to create a configuration file, see “[Configuring a Software Mirror](#)” in the *Novell ZENworks 7.3 Linux Management Administration Guide*.

- 2 Edit the Remote Server section of the configuration file as follows:

- ♦ Set the value of the `<Base></Base>` tag as the IP address of the SMT Server repository channel target.

For example, set the value as `https://164.99.138.2/repo/$RCE/SLED10-SP1-Online/sled-10-i586` where `SLED10-SP1-Online` is the channel and `sled-10-i586` is the target.

- ♦ Set the value of the `<Type></Type>` tag to `yum`.

- ◆ Set the value of the `<Platform></Platform>` tag as the operating system version that matches the supported device target of ZENworks Linux Management.

For example, if the operating system is SLED 10, the value of the tag should be `sled-10`.

---

**NOTE:** The remote server credentials and the target for the catalog are not required.

---

## How can I create a copy of a catalog on the ZENworks Linux Management Server?

Mirror the catalog from a Primary ZENworks Linux Management Server to the same server under a different folder in ZENworks Control Center.

## How can I know the bundle size based on the payload content?

See the Novell Cool Solutions article [Computing the Bundle Content Payload Size for ZENworks 7.x Linux Management](http://www.novell.com/communities/node/9348/computing-bundle-content-payload-size-zenworks-7x-linux-management) (<http://www.novell.com/communities/node/9348/computing-bundle-content-payload-size-zenworks-7x-linux-management>).

## How can I automate deletion of the orphan RPM packages from the ZENworks Linux Management package repository?

See the Novell Cool Solutions article [Automated Orphaned Packages Deletion from ZLM Package Repository](http://www.novell.com/communities/node/11759/automated-orphaned-packages-deletion-zlm-package-repository) (<http://www.novell.com/communities/node/11759/automated-orphaned-packages-deletion-zlm-package-repository>).

## How can I apply SLE 10 Service Pack updates to devices that are offline or that have limited connectivity to the ZENworks Linux Management server?

If the managed devices are distributed across remote geographical locations and have limited connectivity with the ZENworks Linux Management server, the patches or updates cannot be distributed directly by using bundles because the redundant data is transmitted over the network to all the managed devices. By using the File bundle, the downloaded updates can be distributed to each remote server device at a particular location. The remote server can be configured as a Web Server to publish the deployed packages in the Yum repository. All the agents can trigger update from this local Yum source by using the `rug up` command, by assigning a Remote Execute Policy from the ZENworks Linux Management Server.

- 1 Perform static mirroring of Pool and Updates Catalogs from the Novell Update Server (NU) to the ZENworks Linux Management server. You can also mirror the bundle packages to the local file system by using a static mirror.
- 2 Install the `createrepo` rpm on the ZENworks Linux Management server then run the `createrepo` command on the directories containing mirrored package updates for the given device targets. .  
This creates Yum(rpm-md) repository for each target packages.
- 3 Create a File Bundle with the archived content of the packages directory, deploy the content to the remote server device, and extract it under a suitable location accessible to the locally managed devices via NFS or HTTP.
- 4 Create a Remote Execute Policy that adds this local Yum service to a published catalog, subscribes to the catalog, and performs `rug up` to update the device and report the status.



## How can I update the SUSE Linux Enterprise 10 SP3 data after online migration from SP2 to SP3 by using the SLE10-SP3-Online-bundle in ZENworks Linux Management?

See the Novell Cool Solutions article [Updating SLE10 SP3 product installed data after Online Migration from SP2 to SP3 using SLE10-SP3-Online-bundle in ZENworks Linux Management](http://www.novell.com/communities/node/11914/detecting-sle10-sp3-product-installed-after-online-migration-sp2-sp3-using-sle10-sp3-onli) (<http://www.novell.com/communities/node/11914/detecting-sle10-sp3-product-installed-after-online-migration-sp2-sp3-using-sle10-sp3-onli>).

## How can I get automatic notification for the new patches or updates published in the Novell Update Channel (NCC) for the specific products?

Novell provides a [Patch Notification Tool by Product](http://support.novell.com/email/notification/ctrl) (<http://support.novell.com/email/notification/ctrl>) to notify you about patches and updates.

When you subscribe to Novell/SUSE products, you can receive periodic e-mail notification messages regarding the new patches or updates released for a product. You can choose to perform replication by using `zlmirror` to download these new published patches or updates for the specified product from the Novell Update Channel, then apply the equivalent mirrored bundles to update the corresponding ZENworks Linux Management Agents.

## How can I update the supported RHEL devices by using the RES update bundle mirrored from the Novell Update Channel as part of the SLES expanded support?

For more information, see [Applying Red Hat Updates to RHEL Server Devices by Using SLES Expanded Support](http://www.novell.com/documentation/zlm73/lm7admin/data/btxyet1.html) (<http://www.novell.com/documentation/zlm73/lm7admin/data/btxyet1.html>) in the *Novell ZENworks 7.3 Linux Management Administration Guide*.

## How can I update the supported RHEL 6 Servers by using the RES update bundle mirrored from the Novell Update Channel as part of the SLES expanded support?

- 1 Mirror the RES 6 updates by following the procedure in [Applying Red Hat Updates to RHEL Server Devices by Using SLES Expanded Support](http://www.novell.com/documentation/zlm73/lm7admin/data/btxyet1.html) (<http://www.novell.com/documentation/zlm73/lm7admin/data/btxyet1.html>) in the *Novell ZENworks 7.3 Linux Management Administration Guide*.
- 2 After mirroring is complete, in the ZENworks Control Center, change the *Install Type* for all the kernel packages from *Install* to *Upgrade*.

This allows the RES 6 bundle to upgrade the existing kernel packages. Also, delete the following:

- ♦ Packages with names having `abrt` and `report`.
- ♦ `python-mech` RPM, if any.

You need not delete `openoffice.org-report-builder` package from the bundle.

- 3 Assign the mirrored catalog to the managed device that you want to upgrade.
- 4 Install the updates by running the `rug up<RES_CATALOG_NAME>` command on the device.

For more information, see [Applying Red Hat Updates to RHEL Server Devices by Using SLES Expanded Support](http://www.novell.com/documentation/zlm73/lm7admin/data/btxyet1.html) (<http://www.novell.com/documentation/zlm73/lm7admin/data/btxyet1.html>) in the *Novell ZENworks 7.3 Linux Management Administration Guide*.

## 2.4 Remote Management

- ♦ [How do I secure my Remote Management session?](#)
- ♦ [How can I improve Remote Management performance on a slow link?](#)
- ♦ [Why do I get a black screen when I perform the Remote Control operation?](#)
- ♦ [Why does the Remote Management Viewer show only a toolbar at the center of the applet window?](#)
- ♦ [Why is the Novell Remote Management Viewer Applet signed?](#)
- ♦ [Why do I get a warning indicating that an unsecure download is in progress on Internet Explorer?](#)
- ♦ [I rejected the Novell Remote Management certificate and now I am unable to perform Remote Management operations](#)
- ♦ [Can I use any other third-party VNC viewer to connect to the ZENworks 7 Linux managed device?](#)
- ♦ [Can I use the Novell ZENworks Remote Management Viewer window to Remote Control any third-party VNC server?](#)
- ♦ [Why is the certificate is not displayed while trying to start the Remote Management session for a managed device?](#)

### How do I secure my Remote Management session?

When connecting to remote machines, you should use SSH or VPN. You can also tunnel the VNC protocol through the encrypted SSH channel.

The VNC protocol and data are unencrypted between the Remote Management Viewer and the managed device. If you perform Remote Management operations over an insecure network like the Internet, you should tunnel the VNC protocol using SSH for secure communication.

- 1 Establish SSH tunneling to use VNC between the Remote Management Viewer and the managed device.

For more information on establishing VNC through SSH tunnelling between the Remote Management Viewer and the managed device, refer "[Establishing SSH Tunneling](#)" in the *Novell ZENworks 7.3 Linux Management Administration Guide*.

- 2 In the ZENworks Control Center, click the *Devices* page.
- 3 Launch the Remote Control session from Device Tasks in the top left pane.
- 4 Specify the IP address and the port number of the configured SSH tunnel.
- 5 Select the desired operation from the drop-down list.
- 6 Click *OK*.

### How can I improve Remote Management performance on a slow link?

The performance during a Remote Management session over a slow link or a fast link varies depending on the network traffic. For better response time, try one or more of the following strategies:

## On the Management Console

On the Remote Management viewer window at the console, click *Options* and do the following:

- ◆ Set the Encoding type to Tight
- ◆ Adjust the Compression level and JPEG image quality depending on the quality of the image required.
- ◆ Set Cursor Shape Updates to No.
- ◆ Set the CopyRect option to Yes.
- ◆ Use 8 bit color mode by setting Restricted Colors to Yes.

## On the Managed Device

- ◆ The speed of the Remote Management session depends upon the processing power of the managed device. We recommend that you use a Pentium\* III, 500MHz (or more) with 64 MB RAM or higher.
- ◆ Disable the wallpaper.
- ◆ Configure the following settings at the managed device:
  - ◆ Reduce the screen resolution.
  - ◆ Reduce the depth of color pixels.

## More Performance Tuning Tips

For additional information on performance tuning tips, refer to the following Web sites for specific components:

- ◆ [The Tight VNC Web site \(http://www.tightvnc.com\)](http://www.tightvnc.com)
- ◆ [The Real VNC Web site \(http://www.realvnc.com\)](http://www.realvnc.com)
- ◆ [FAQs on x11VNC \(http://www.karlrunde.com/x11vnc\)](http://www.karlrunde.com/x11vnc)

## Why do I get a black screen when I perform the Remote Control operation?

The ZENworks Linux Management provides VNC-based Remote Management, which does not support Remote Control over the Text consoles.

## Why does the Remote Management Viewer show only a toolbar at the center of the applet window?

If the Ask for Permission from User setting is enabled for the managed device, the “Ask For Permission From User On The Managed Device” dialog box appears on the managed device when a remote control session is initiated. The viewer displays the toolbar until the user at the managed device accepts or declines the connection or a timeout occurs.

## Why is the Novell Remote Management Viewer Applet signed?

Any unsigned applet can only connect back to the same device from which it is downloaded. However, the Novell Remote Management Viewer Applet is downloaded from the management server with each remote session request and then connects to different managed device. So, it has to be signed.

## **Why do I get a warning indicating that an unsecure download is in progress on Internet Explorer?**

All connections to the management server use HTTPS. But, to download the Novell Remote Management Applet from the management server, a HTTP connection is used which causes the warning.

## **I rejected the Novell Remote Management certificate and now I am unable to perform Remote Management operations**

Do the following:

- 1 Restart the browser by closing all the browser window and opening a new browser window.
- 2 Launch the Novell Remote Management session through the ZENworks Control Center.
- 3 When the Java security dialog box appears again, choose Yes or Always to perform Remote Management operations.

## **Can I use any other third-party VNC viewer to connect to the ZENworks 7 Linux managed device?**

Yes. You can use any VNC viewer to connect to a ZENworks 7 Linux Managed Device. However, you need to connect to the port of the corresponding service. By default, the Remote Control Service listens on port 5950 and the Remote Login Service listens on port 5951.

## **Can I use the Novell ZENworks Remote Management Viewer window to Remote Control any third-party VNC server?**

Yes. You can use Novell Remote Management viewer to Remote Control any third party VNC server.

## **Why is the certificate is not displayed while trying to start the Remote Management session for a managed device?**

The Remote Management viewer requires the Java 1.4.x plug-in to be installed on the browser machine.

If you are using Firefox web browser, you can verify the plug-in version by entering the following command in the URL bar:

```
about:plugins
```

If you are using the Internet Explorer Web browser, you can verify the plug-in version by clicking *Tools > Internet Options > Advanced*.

## **2.5 Event Monitoring**

- ♦ [How do I track the users who log into and log out of ZENworks Control Center?](#)
- ♦ [How can I clean temporarily mirrored cache files on Server?](#)

## How do I track the users who log into and log out of ZENworks Control Center?

You can view the login and logout information of the users in the `/var/opt/novell/log/zenworks/audit-messages.log` file.

## How can I clean temporarily mirrored cache files on Server?

The temporarily mirrored package files are stored in `/var/opt/novell/zenworks/pkg-repo/tmp` on the ZENworks Linux Management Primary Server.

Do the following to clean the content in the `tmp` directory when no mirroring or bundle creation instances are in progress:

- 1 In ZENworks Control Center, click the *Tools* tab.
- 2 In the Tools Tasks pane on the left, click *Delete Temporary Files*.



---

# 3 Where Do I Go For More Help?

In addition to the ZENworks Linux Management product documentation, the following resources provide additional information about ZENworks Linux Management.

- ♦ [Novell Support Knowledgebase \(http://www.novell.com/support\)](http://www.novell.com/support)
- ♦ [Novell ZENworks Linux Management Support Forum \(http://forums.novell.com/novell-product-support-forums/zenworks/linux-management/\)](http://forums.novell.com/novell-product-support-forums/zenworks/linux-management/)
- ♦ [Novell ZENworks Linux Management Support Community \(http://www.novell.com/support/product/products.do\)](http://www.novell.com/support/product/products.do)
- ♦ [Novell Cool Solutions \(http://www.novell.com/coololutions/\)](http://www.novell.com/coololutions/)
- ♦ [Novell ZENworks Linux Management product site \(http://www.novell.com/products/zenworks/linuxmanagement/\)](http://www.novell.com/products/zenworks/linuxmanagement/)

