# Novell® **ZENworks**® Asset Management 7.5

www.novell.com

MIGRATING & UPGRADING

October 2006



**Novell**®

## **Table Of Contents**

1.	Migrating and Upgrading	3
	Upgrading from Earlier Versions	3
	Upgrading Client Applications	
	Upgrading a Standalone Deployment to an Enterprise Deployment	10
	Migrating from a Microsoft SQL Server to Oracle	15
2.	Contacting Novell Technical Support	16
3.	Legal Notices	17
4.	Novell Trademarks	17
5.	Third-Party Trademarks	17
6.	Documentation Conventions	17

## Migrating and Upgrading

## **Upgrading from Earlier Versions**

To upgrade from earlier versions of TS.Census or ZENworks Asset Management, initially you must run Setup from the current installation CD or CD image.

#### Version-specific Upgrade Information

Depending on which version you are upgrading from, you may have to vary your installation steps slightly, as described below:

- If you are upgrading from a version of TS.Census prior to 1.4, and have installed TS.Census applications on multiple machines, you must be sure to upgrade each machine. Setup upgrades all the TS.Census applications that need updating only on the workstation on which you are installing the upgrade.
- For all upgrades, version 1.4 and above, all your Collection Servers and Task Servers are upgraded automatically. During an automated upgrade, the process is staggered so that all the servers are not upgrading simultaneously and causing a heavy load on the network
- Upgrade from TS. Census version 1.4: Any copies of TS. Census Manager are upgraded automatically if they are installed on a machine that already has a TS. Census service running on it (a Collection Server or Task Server, for example). If TS. Census Manager is on a machine without any TS. Census services, you must upgrade it manually.
- For all upgrades, TS.Census versions 2.0 and above, any copies of TS.Census Manager are upgraded automatically if they are installed on a machine that already has a TS.Census service (such as a Collection Server or Task Server) running on it. If the Manager is running on a machine without any TS.Census services, the user is presented at Manager startup with an opportunity to upgrade immediately. The Manager must be upgraded before it will start and connect to the system.
- Upgrade from TS.Census versions 2.2 through 3.1, any copies of TS.Census Web Reports or Web Console must be upgraded manually.
- Upgrade a Standalone Deployment from initial installs of TS. Census versions prior to 3.2, you must upgrade MDSE 1.0 to MSDE 2000 or SQL Server 2005 Express. This must be done manually. For more information, see TID #3684502.
- Upgrade an Enterprise Deployment running on Microsoft SQL Server 7.0, you must upgrade the database manually, or move the database to an SQL Server 2000 or 2005 environment. For more information, see TID #3935962.
- For all upgrades prior to 3.2, the number of Software File (FNI) records in the database can directly affect time it takes to upgrade the database. In internal tests on a P3-500MHz server, a database with 1 million FNI records took 4.5 hours to upgrade, and took 26 hours with 7 million FNI records. If you are collecting FNI data, you probably want to delete all FNI records before you perform the upgrade. The records are refreshed during the next scheduled software scan. To delete the records, run this SQL script:

```
--Begin SQL text
truncate table NC_FNIData
go
--End SQL text
```

• For all upgrades from TS. Census version 3.2 or ZENworks Asset Management version 3.3, the Web Console is automatically upgraded.

#### Notes:

- By default, servers are upgraded within a 25-minute period. You can change Upgrade Interval in the Enterprise Options dialog box, available from the Manager's Tools menu.
- The first machine of an Enterprise deployment on which you perform the upgrade to a new version must have the Microsoft SQL Client or Oracle Programmer's Client installed, depending on your database type.
- The TS.Census or ZENworks Asset Management applications cannot be running during the upgrade process.
- When you upgrade to the new version, the Java and Tomcat versions remain the same, in case you have other applications which depend on the older versions. For detailed instructions for upgrading your Java and Tomcat versions, see TID #10099062, Upgrading to Tomcat 5 and JDK 1.4.2 for use with ZAM 7 at: http://www.novell.com/support/search.do?cmd=displayKC&docType=kc&externalId=10 099062&sliceId=&dialogID=16666434&stateId=0%200%2016670278

#### To upgrade a Standalone deployment

- 1. Make sure no copies of TS.Census Manager are running. (The Current Users tab in the process control panel of TS.Census Manager lets you know who is currently running TS.Census Manager.) If you have been performing Software File scans (FNI) see For all upgrades prior to 3.2 above before you begin the upgrade.
- 2. If you extracted files from a CD image, launch Setup.exe from the CD image's root directory. If you are installing from a CD, insert it into your CD drive. The ZENworks Asset Management Setup program may start automatically. If it does not, start Setup manually:
  - a) From Windows Start menu, choose Run.
  - b) In the Run dialog box, specify the location of the ZENworks Asset Management Setup program (for example, if your CD drive is D:, enter D:\Setup).
  - c) Click OK.
- 3. Read the Welcome screen and click *Next*. The Software License Agreement page appears.
- 4. Read the license agreement, accept its terms by clicking **Yes**, and click **Next**. (You cannot continue if you do not accept the license agreement.) The Access Product Documentation page appears.
- 5. If you want to view any of the documentation, click the button for the document you want to view.
  - Evaluation Guide provides a quick, hands-on introduction to ZENworks Asset Management
  - Installation Guide provides comprehensive, step-by-step procedures for all types of installations, including Standalone deployment, Enterprise deployment (including Microsoft SQL Server and Oracle database configuration steps), and upgrades.
  - User's Guide provides a complete product reference and covers all aspects of product administration and use.
    - These documents are also located in the *Docs* directory of the evaluation CD image.
    - When finished, click **Next**. The Choose Installation Type page appears.

- 6. In the Choose Installation Type page, select *Install/Upgrade Standalone Deployment*, enter a license key, (you can get your license key from the Novell Customer Care Portal) and click *Next*. The Choose Setup Type page appears.
- 7. In the Choose Setup Type dialog, choose **Software Upgrade** and click **Next**. You are asked if you have a current backup of your database and File Store. After making sure you have backups of both, click **Yes**. Setup attempts to shut down your Collection Server, Task Server and Collection Client services.

**Note:** If you need to stop any TS.Census/ZENworks Asset Management services manually:

- a) Click the Windows Start button, and choose *Control Panel* from the Settings menu.
- b) In Windows NT, double-click *Services*; in Windows 2003/2000/XP, double-click *Administrative Tools*, then double-click *Services*.
- c) Select TS.Census or ZENworks Asset Management Collection Server and click Stop.
- d) Select TS. Census or ZENworks Asset Management Task Server and click Stop.
- e) Select TS.Census or ZENworks Asset Management Collection Client and click **Stop**.

When your local services have been stopped, your database and File Store are upgraded. When this is finished, a Product Recognition Update (PRU) is applied to the ZENworks Asset Management Knowledgebase.

**Note:** If you are upgrading from a version prior to 3.2, and you have been collecting Software Files (FNI) the upgrade time could be increase significantly, depending on the number of FNI records in your database. See *For all upgrades prior to 3.2* in *Version-specific Upgrade Information* above.

- 8. When the PRU is finished, you are asked whether you want to start the inventory process. Click **Yes** to start the process. If you click **No**, you must start the inventory process manually from the Manager's Control menu after you have finished installing the upgrade.
- 9. When the *Close* button in the Product Recognition dialog box becomes active, click it. A summary of the applications to be upgraded appears. Click *Next* to continue. Progress indicators appear as local applications are upgraded.
- 10. When the application upgrade is complete, you can choose to start ZENworks Asset Management Manager, the Web Console, or both. Click *Finish* to exit Setup. Your initial upgrade is complete.

#### To upgrade an Enterprise deployment

- 1. Make sure no copies of TS.Census Manager are running. (The Current Users tab in the process control panel of TS.Census Manager lets you know who is currently running TS.Census Manager.) If you have been performing Software File scans (FNI) see For all upgrades prior to 3.2 in Version-specific Upgrade Information above before you begin the upgrade.
- 2. If you extracted files from a CD image, launch Setup.exe from the CD image's root directory. If you are installing from a CD, insert it into your CD drive. The ZENworks Asset Management Setup program may start automatically. If it does not, start Setup manually:
  - a) From Windows Start menu, choose Run.
  - b) In the Run dialog box, specify the location of the ZENworks Asset Management Setup program (for example, if your CD drive is D:, enter D:\Setup).
  - c) Click OK.
- 3. Read the Welcome screen and click **Next**. The Software License Agreement page appears.
- 4. Read the license agreement, accept its terms by clicking **Yes**, and click **Next**. (You cannot continue if you do not accept the license agreement.) The Access Product Documentation page appears.
- 5. If you want to view any of the documentation, click the button for the document you want to view.
  - Evaluation Guide provides a quick, hands-on introduction to ZENworks Asset Management
  - Installation Guide provides comprehensive, step-by-step procedures for all types of installations, including Standalone deployment, Enterprise deployment (including Microsoft SQL Server and Oracle database configuration steps), and upgrades.
  - User's Guide provides a complete product reference and covers all aspects of product administration and use.
    - These documents are also located in the *Docs* directory of the evaluation CD image.
    - When finished, click **Next**. The Choose Installation Type page appears.
- 6. In the Choose Installation Type page, select *Install/Upgrade Enterprise Deployment*, enter a license key, (you can get your license key from the Novell Customer Care Portal) and click *Next*. The Choose Setup Type page appears.

7. In the Choose Setup Type dialog, choose *Software Upgrade* and click *Next*. You are asked if you have a current backup of your database and File Store. After making sure you have backups of both, click *Yes*. Setup attempts to shut down any locally installed Collection Server, Task Server and Collection Client services.

Note: If you need to stop any TS. Census/ZENworks Asset Management service manually:

- a) Display the Control Panel.
- b) In Windows NT, double-click *Services*; in Windows 2003/2000/XP, double-click *Administrative Tools*, then double-click *Services*.
- c) Select TS.Census or ZENworks Asset Management Collection Server and click **Stop**.
- d) Select TS. Census or ZENworks Asset Management Task Server and click **Stop**.
- e) Select TS.Census or ZENworks Asset Management Collection Client and click **Stop**.
- 8. When your local services have been stopped, you are asked if you want to stop all ZENworks Asset Management services. (The services must be stopped before the upgrade can take place.) Click *Yes* to stop all services. If you click *No*, you must stop the services manually from the Manager.
- 9. When all services have been stopped, if any ZENworks Asset Management applications are running, you are asked if you want to stop them. Click **Yes**, then click **Next**. When all applications have been stopped, your database is upgraded.
- 10. When the database upgrade is complete, you are asked if you want to automate the upgrade of your ZENworks Asset Management components.
  - Select **Yes** to activate an automated upgrade. The upgrade is performed as described in **Version-specific Upgrade Information** at top of this section, depending on the version from which you are upgrading. You can view the progress of upgrades to your Collections Servers and Task Servers from the Manager's process control panel.
  - Select No to bypass the automated upgrade. If you choose this option, you
    must upgrade each Collection Server, Task Server and Manager before it can
    connect to the database.

**Note:** If you are upgrading from a version prior to 3.2, and you have been collecting Software Files (FNI), the upgrade time could be increase significantly, depending on the number of FNI records in your database. See *For all upgrades prior to 3.2* in *Version-specific Upgrade Information* above.

The File Store is upgraded and initialized, and a Product Recognition Update (PRU) is applied.

- 11. When the PRU is finished, you are asked whether you want to start the inventory process. Click **Yes** to start the process. If you click **No**, you must start the inventory process manually from the Manager's Control menu after you have finished installing the upgrade.
- 12. When the *Close* button in the Product Recognition dialog box becomes active, click it. A summary of the applications to be upgraded appears. Click *Next* to continue. Progress indicators appear as local applications are upgraded.

13. When the application upgrade is complete, you can choose to start ZENworks Asset Management Manager, the Web Console, or both. Click *Finish* to exit Setup. Your initial upgrade is complete.

When the upgrade is complete, you can run Setup from the Setup folder in the File Store folder to upgrade components manually as needed. When you run Setup from the File Store, the Choose Installation Type and Choose Setup Type dialog boxes do not appear.

## **Upgrading Client Applications**

When you upgrade to a new version of ZENworks Asset Management, the File Store is updated with new versions of the client applications. The Collection Clients will be upgraded the next time they connect to their respective Collection Servers.

If you have installed Collection Clients as standard programs prior to upgrading TS.Census or ZENWorks Asset Management, and wish to upgrade them to run them as services, you will need to run a utility, TSCSvcIn.exe, that will reconfigure the Collection Clients. In a Enterprise deployment of TS.Census or ZENworks Asset Management, TSCSvcIn.exe will be copied to the \Filestore\Setup\Modules\Client Apps folder during the initial installation or upgrade. In a Standalone deployment of TS.Census, TSCSvcIn.exe will be copied to the \Filestore\Setup\Client folder during the initial installation or upgrade.

#### To upgrade Collection Clients as services

 Add a procedure to your system policies, group policies, or logon scripts to run TSCSvcIn.exe from the appropriate folder.

When this procedure runs on any given workstation, the Collection Client will be reconfigured to run as a service, and restarted as a service.

#### Upgrading a Standalone Deployment to an Enterprise Deployment

If you have been using a Standalone deployment of TS.Census or ZENworks Asset Management, you may at some point decide you want to upgrade to a Enterprise deployment. You can upgrade from a Standalone deployment of the current version of ZENworks Asset Management to a Microsoft SQL Server-based Enterprise deployment. You can do so by calling your Novell sales representative to obtain a license code, and then running Setup from the ZENworks Asset Management CD to perform the upgrade itself.

#### Preparing for the Upgrade

Before you can upgrade your Standalone deployment of TS.Census or ZENworks Asset Management to a Microsoft SQL Server Enterprise deployment, you must first upgrade to the most current version of the ZENworks Asset Management Standalone deployment. Once you have upgraded your Standalone deployment to the current version of ZENworks Asset Management, you must also make some other important preparations.

#### To prepare for the upgrade

- 1. Make sure a supported version of Microsoft SQL server is already installed. (See System Requirements Enterprise Deployment.) You must also know the user name and password of a user with the sysadmin role to complete the upgrade.
- 2. Make sure your Microsoft SQL Server settings match the recommendations in Configuring Microsoft SQL Server.
- 3. Make sure the client for Microsoft SQL Server is installed on the machine on which you are performing the upgrade and make sure it has access to the database server.
- 4. Choose a shared network folder for the File Store.
- 5. Make sure you have a ZENworks Asset Management license code.
- 6. Stop the Collection Server service and Task Server service, and the Collection Client service if it is installed on the workstation on which you are performing the upgrade.
  - a) Click the Windows Start button, and choose *Control Panel* from the Settings menu.
  - b) Double-click *Administrative Tools*, then double-click *Services*.
  - c) Select ZENworks Asset Management Collection Server and click Stop.
  - d) Select ZENworks Asset Management Task Server and click Stop.
  - e) Select ZENworks Asset Management Collection Client and click Stop.
- 7. Exit from ZENworks Asset Management Manager.
- 8. Back up your existing ZENworks Asset Management inventory database and File Store. Contact Novell Technical Support for a utility to help you back up these files.

#### Performing the Upgrade

When you have completed the steps listed in *Preparing for the Upgrade*, you are ready to perform the upgrade. During the upgrade, an SQL Server database is created that includes all the data from your desktop MSDE database. You can then take advantage of your Enterprise deployment to install additional copies of the Manager, the Collection Server, or Task Server as described in *Installing Individual ZENworks Asset Management Applications*.

#### To perform the upgrade

- 1. Make sure the Manager is not running.
- 2. If your Standalone deployment is an earlier version of TS.Census or ZENworks Asset Management than the one to which you want to migrate, first upgrade the Standalone deployment version as described in Upgrading from Earlier Versions of TS.Census.

**Note:** If you are upgrading from a version prior to 3.2, and you have been collecting Software Files (FNI) the upgrade time could be increase significantly, depending on the number of FNI records in your database. See *For all upgrades prior to 3.2* in *Version-specific Upgrade Information* section of *Upgrading from Earlier Versions*.

- 3. If you extracted files from a CD image, launch Setup.exe from the CD image's root directory. If you are installing from a CD, insert it into your CD drive. The ZENworks Asset Management Setup program may start automatically. If it does not, start Setup manually:
  - a) From Windows Start menu, choose Run.
  - b) In the Run dialog box, specify the location of the ZENworks Asset Management Setup program (for example, if your CD drive is D:, enter D:\Setup).
  - c) Click OK.

image.

- 4. Read the Welcome screen and click **Next**. The Software License Agreement page appears.
- 5. Read the license agreement, accept its terms by clicking **Yes**, and click **Next**. (You cannot continue if you do not accept the license agreement.) The Access Product Documentation page appears.
- 6. If you want to view any of the documentation, click the button for the document you want to view.
  - Evaluation Guide provides a quick, hands-on introduction to ZENworks Asset Management
  - Installation Guide provides comprehensive, step-by-step procedures for all types of installations, including Standalone deployment, Enterprise deployment (including Microsoft SQL Server and Oracle database configuration steps), and upgrades.
  - User's Guide provides a complete product reference and covers all aspects of product administration and use.
     These documents are also located in the Docs directory of the evaluation CD
    - When finished, click **Next**. The Choose Installation Type page appears.
- 7. In the Choose Installation Type page, select *Upgrade Standalone to Enterprise Deployment*, enter a license key, (you can get your license key from the Novell Customer Care Portal) and click *Next*.

8. You are asked if you have a current backup of your database and File Store. After making sure you have backups of both, click **Yes**. Setup attempts to shut down your Collection Server, Task Server and Collection Client services.

**Note:** If you need to stop any TS.Census or ZENworks Asset Management services manually:

- a) Click the Windows Start button, and choose *Control Panel* from the Settings menu.
- b) Double-click Administrative Tools, then double-click Services.
- c) Select TS.Census or ZENworks Asset Management Collection Server and click **Stop**.
- d) Select TS.Census or ZENworks Asset Management Task Server and click **Stop**.
- e) Select TS. Census or ZENworks Asset Management Collection Client and click Stop.
- 9. When all services have been stopped, if any ZENworks Asset Management applications are running, The Stop ZENworks Asset Management Components dialog box, showing which applications are running. If this page appears, you must shut down the listed applications manually. When all applications have been shut down, click **Next**.
- 10. Select an installation method. If you are not doing an Evaluation installation, select one of the following:
  - o Select *Install ZENworks Asset Management* and enter a license code.
  - o Select *Install Asset Inventory Only* and enter a license code.

When finished, click **Next**. The Choose Destination Location page appears.

- 11. In the Choose Destination Location page, accept the default destination folder for your ZENworks Asset Management files, or click *Browse*... and specify a different folder on the local drive.
  - When the destination folder that you want is displayed in the Destination Folder section, click *Next*. The Choose File Store Installation Type page appears.
- 12. In the Choose File Store Installation Type dialog, choose the type of File Store installation you want.
  - **Note:** A LAN-based File Store is recommended unless you have one or more remote server sites that are not connected to your local or wide area network.
- 13. If you chose to install a LAN-based File Store in the previous step, provide information for creating the File Store in the ZENworks Asset Management File Store Setup dialog and then skip the next step of this procedure.
  - a) Click *Browse*, and browse to the location for the File Store in the Network Neighborhood. You must choose a shared network drive that is accessible to any ZENworks Asset Management Managers, Collection Servers, or Task Servers you plan to install. Click *OK*. The File Store is created in a folder on the specified shared drive.

**Note:** The network user account for running the Manager, Collection Servers, and Task Servers must have full control access to the File Store folder.

b) Click **Next** to continue.

- 14. If you chose to install an FTP-based File Store in step 12, provide information for creating the ZENworks Asset Management File Store in the Specify FTP Server and Access Method dialog.
  - a) Enter the IP address of the FTP server.
  - b) Choose whether you want to use Anonymous or Authenticated FTP access to the FTP-based File Store.
  - c) If you chose Authenticated FTP, enter the user name and password to be used when ZENworks Asset Management Managers, Collection Servers, and Task Servers access the File Store.
  - d) Click Next to continue.
- 15. For an FTP-based File Store, indicate in the ZENworks Asset Management Component Installation Setup dialog whether you want setup files copied to your network. If you copy the setup files to your network, you can to install ZENworks Asset Management applications by running Setup from the network. Do one of the following:
  - To copy the setup files, leave the Copy ZENworks Asset Management component setup files to the network option selected, specify a location on the network for the files, and click *Next*.
  - To continue without copying the setup files, select the Continue without copying setup files option and click *Next*.

The database Creation and Setup Tool is installed and runs to create your new SQL Server database. Complete the series of dialogs as described in *Database Setup*.

- 16. When database creation is complete, your new File Store is configured, and the License Configuration page appears. Confirm that the information is correct, and click **OK**. The Setup Complete page appears.
- 17. From the Setup Complete page, you can choose to start ZENworks Asset Management Manager, the Web Console, or both. Click *Finish* to exit Setup.

#### **Database Setup**

The Database Creation and Setup Tool runs automatically during Setup. It guides you through the process of creating a SQL Server database.

#### To set up the database

- 1. In the Database Creation and Setup Tool for ZENworks Asset Management dialog, select Microsoft SQL Server [version] as the database type and click on the Next button.
- 2. Complete the Connect to Database Server dialog:
  - a) Enter the name of your database server.
  - b) Provide the user name and password for the system administrator account.
  - c) Click on the Next button.
- 3. Review your selections in the Confirm Database Selections dialog and click on the Next button. Setup will now try to connect to the database. If a connection cannot be made, you will receive an error message. Setup will not continue until the connection is successful. If necessary, click on the Back button and make changes.
- 4. In the Enter Database Name dialog, either accept the default name (TS\_Census) for the database or enter a different name. The name you choose cannot be the name of an existing database. Click on the Next button to continue.
- 5. In the Specify Database Owner dialog, specify a user *without* a Microsoft SQL Server sysadmin role who will own and maintain the inventory database:
  - o If you want to create a new user to manage the database, select the Create New User option and enter the new user's name in the Logon Name box. Enter the password in the Enter Password section.
  - o If you want an existing user to manage the database, select the option labeled Select From a List of Existing Users, select the user's name from the list, and enter the user's password information. The Select From a List of Existing Users option will appear only if you have existing users defined.

Once you have entered the user name and password that you want, click on the Next button.

6. In the Browse for Database File Locations dialog, specify where you want to locate the database file and transaction log file. In each case you must provide a physical drive location as well as a UNC path.

**Note:** Although the default location for the database file and transaction log file is the same, Tally Systems strongly recommends that the database file resides on a different physical drive from the transaction log file.

- 7. Review your selections in the Confirm Database Creation Settings dialog and click on the Next button to continue. If necessary, click on the Back button to make changes.
- 8. The Database Creation and Setup Tool will create the database for you now and show its progress. When it displays the Client/Server Database Setup Completion dialog, click on the Finish button and continue with Setup.

### **Next Steps**

During the Standalone to Enterprise deployment upgrade, the location of the File Store will change. Therefore, in order to use the Enterprise version of ZENworks Asset Management, you will need to modify the location from which the Collection Client starts. (See the *Performing Automated Inventories* book of Manager's online help for information about how to set up workstations so that ZENworks Asset Management collects data from them automatically.)

## Migrating from a Microsoft SQL Server to Oracle

If you are currently using Microsoft SQL Server, but want to migrate your database to Oracle, contact Novell Technical Support. A representative will guide you through the process.

# **Contacting Novell Technical Support**

Before you contact Novell® Technical Support, please do the following:

- Check the Release Notes by clicking on the Release Notes icon in the ZENworks Asset Management program folder.
- Review the system requirements topics to make sure you are meeting system requirements and/or completing a procedure correctly:

System Requirements - Collection Clients

System Requirements - Standalone Deployment

System Requirements - Enterprise Deployment

Then contact Novell Technical Support at:

http://support.novell.com

## **Legal Notices**

Novell, Inc. makes no representations or warranties with respect to the contents or use of this documentation, and specifically disclaims any express or implied warranties of merchantability or fitness for any particular purpose. Further, Novell, Inc. reserves the right to revise this publication and to make changes to its content, at any time, without obligation to notify any person or entity of such revisions or changes.

Further, Novell, Inc. makes no representations or warranties with respect to any software, and specifically disclaims any express or implied warranties of merchantability or fitness for any particular purpose. Further, Novell, Inc. reserves the right to make changes to any and all parts of Novell software, at any time, without any obligation to notify any person or entity of such changes.

Any products or technical information provided under this Agreement may be subject to U.S. export controls and the trade laws of other countries. You agree to comply with all export control regulations and to obtain any required licenses or classification to export, re-export or import deliverables. You agree not to export or re-export to entities on the current U.S. export exclusion lists or to any embargoed or terrorist countries as specified in the U.S. export laws. You agree to not use deliverables for prohibited nuclear, missile, or chemical biological weaponry end uses. See the Novell International Trade Services Web page for more information on exporting Novell software. Novell assumes no responsibility for your failure to obtain any necessary export approvals.

Copyright  $\odot$  2006 Novell, Inc. All rights reserved. No part of this publication may be reproduced, photocopied, stored on a retrieval system, or transmitted without the express written consent of the publisher.

Novell, Inc. has intellectual property rights relating to technology embodied in the product that is described in this document. In particular, and without limitation, these intellectual property rights may include one or more of the U.S. patents listed on the Novell Legal Patents Web page and one or more additional patents or pending patent applications in the U.S. and in other countries.

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

www.novell.com

Online Documentation: To access the latest online documentation for this and other Novell products, see the Novell Documentation Web page (http://www.novell.com/documentation).

## **Novell Trademarks**

For Novell trademarks, see the Novell Trademark and Service Mark list (http://www.novell.com/company/legal/trademarks/tmlist.html).

# **Third-Party Trademarks**

All third-party trademarks are the property of their respective owners.

## **Documentation Conventions**

A trademark symbol ( $^{\otimes}$ , TM, etc., denotes a Novell trademark. An asterisk ( $^{*}$ ) denotes a third-party trademark.