

GroupWise 7

August 15, 2005

1.0 Product Overview

Novell® GroupWise® 7 provides substantial improvements over GroupWise 6.x in six areas:

- ♦ **Windows Client Enhancements:** The Windows* client has a new look and feel that includes the Navigation Bar, Panels, Home Folder, color schemes, and new icons. In addition to the new look and feel, you can now create and view multiple calendars, create all day events, spell check as you type, perform Quick Filters, see the Messenger presence information for users, create HTML signatures, and control inline quotations.
- ♦ **Cross-Platform Client Enhancements:** The Cross-Platform client has added many features including spell checking, rules, junk mail handling, cleanup tools for your mailbox, backup and restore, and the ability to set your default views, create all day events, and control inline quotations.
- ♦ **WebAccess Client Enhancements:** The WebAccess client has a new look and feel that brings it closer to the look and feel of the Windows client. Some of the new features include the ability to drag and drop items, right-click items to display menus, easier tabbed navigation, and name completion from your Frequent Contacts address book.
- ♦ **Administration Enhancements:** GroupWise administrators have additional control over users' working environments, including granting rights to users to edit distribution lists, appending global signatures to users' messages, and controlling the appearance of the GroupWise Windows client interface.
- ♦ **Agent Enhancements:** The POA now supports SOAP, so that SOAP clients such as Evolution™ can connect to GroupWise. The Internet Agent can fail over to an alternate Internet Agent to provide redundancy for outbound Internet mail. The GroupWise Linux* agents can now run as a non-root user and the new High Availability service automatically restarts the Linux agents if they go down unexpectedly. The Linux and Windows agents support IPV6.
- ♦ **GroupWise Connector for Outlook:** The GroupWise Connector for Outlook* allows you to use Microsoft* Outlook to connect to your GroupWise System. The GroupWise Connector for Outlook includes support for e-mail, meeting requests and appointments, recurring appointments, scheduling, tasks, contacts, shared folders, delegates, and proxy.

For a complete list of new features in GroupWise 7, see What's New in Update in the *GroupWise 7 Installation Guide* (<http://www.novell.com/documentation/gw7>).

2.0 NetWare/Windows: GroupWise System Installation Instructions

To install GroupWise 7 on NetWare® or Windows:

- 1 Run setup.exe at the root of the *GroupWise 7 Administrator (NetWare/Windows)* CD.

The GroupWise Installation program lets you view the Readme, the Quick Start, and the Installation Guide before you start installing GroupWise.

- 2 Click Create or Update a GroupWise System.
- 3 Follow the on-screen instructions.

For detailed system requirements, installation and update instructions, and a complete list of new features, see the *GroupWise 7 Installation Guide* (GroupWiseInstallationGuide.pdf) in the \docs\us directory on the *GroupWise 7 Administrator (NetWare/Windows)* CD or on the [GroupWise 7 Documentation Web site \(http://www.novell.com/documentation/gw7\)](http://www.novell.com/documentation/gw7).

3.0 Linux: GroupWise System Installation Instructions

- 1 For ease of installation, make sure that ConsoleOne® is installed on the Linux server where you want to create your GroupWise system.

ConsoleOne is located in /usr/ConsoleOne/bin.

If necessary, you can download ConsoleOne from the [Novell Downloads Web site \(http://download.novell.com\)](http://download.novell.com).

- 2 At the server where you want to create your GroupWise system, open a new terminal window, then become root by entering **sux** and the root password.

When creating your GroupWise system, you must run the GroupWise Installation program in an environment where The X Window System* is running.

- 3 Change to the root of the *GroupWise 7 Administrator (Linux)* CD.
- 4 Start the GroupWise Installation program:

```
./install
```

- 5 Click Create or Update a GroupWise System.
- 6 Follow the on-screen instructions.

For detailed system requirements, installation and update instructions, and a complete list of new features, see the *GroupWise 7 Installation Guide* (GroupWiseInstallationGuide.pdf) in the \docs\us directory on the *GroupWise 7 Administrator (NetWare/Windows)* CD of the GroupWise 7 Documentation Web site [GroupWise 7 Documentation Web site \(http://www.novell.com/documentation/gw7\)](http://www.novell.com/documentation/gw7).

4.0 GroupWise Client Installation

For detailed installation instructions, see the *GroupWise 7 Installation guide* (GroupWiseInstallationGuide.pdf) in the \docs\us directory on the *GroupWise 7 Administrator* CD.

4.1 Windows: Installation Instructions

- 1 Run setup.exe at the root of the *GroupWise 7 Client (Windows)* CD.

or

Run setup.exe from the client\win32 subdirectory on the *GroupWise 7 Client (Windows)* CD.

- 2 Follow the on-screen instructions.

4.2 Linux: Installation Instructions

- 1 From a terminal window, change to the \linux directory of the *GroupWise 7 Client (Linux/Macintosh)* CD.
- 2 Run the GroupWise Setup Advisor to install the GroupWise Cross-Platform client software:

```
./install
```
- 3 To start the Cross-Platform client after installation, click the GroupWise icon on your Linux desktop.

4.3 Macintosh: Installation Instructions

- 1 Browse to the \mac directory of the *GroupWise 7 Client (Linux/Macintosh)* CD.
- 2 Double-click the GroupWise.dmg file to install the GroupWise Macintosh* client.
- 3 To start the Cross-Platform client after installation, click the GroupWise icon on your Macintosh desktop.

4.4 GroupWise Connector for Outlook

For instructions on how to install and for additional information about the GroupWise Connector for Outlook, see the GroupWise Connector for Outlook Readme. The GroupWise Connector for Outlook Readme is available in the \client\doc\us\ directory of the *GroupWise 7 Client (Windows)* CD.

5.0 Installation Issues

5.1 General Installation Issues

5.1.1 Version Compatibility

If you install GroupWise on multiple platforms, or if you run multiple versions (for example, GroupWise 6.5 and GroupWise 7 in the same GroupWise system), refer to the GroupWise Version Compatibility appendix in the *GroupWise 7 Installation Guide* (<http://www.novell.com/documentation/gw7>) to make sure that the combinations you are using are supported. For example, you cannot run a GroupWise 7 client against a GroupWise 6.5 or earlier post office. Earlier POAs cannot support later GroupWise clients. However, you can run a GroupWise 6.5 or earlier client against a GroupWise 7 POA.

5.1.2 GroupWise 7 Reinstallation

If you install GroupWise 7 components from a software distribution directory located on your local drive or a network drive and then try to update those components by installing from a CD, the installation fails by erroneously prompting for a disk:

Please insert the disk: 1

Uninstall the existing software, then install from the CD.

5.1.3 WebAccess and Monitor on the Same Web Server

The WebAccess Application, WebPublisher Application, and Monitor Application share a common library. If you are updating from an earlier GroupWise version and if you run these applications on the same Web server, you must update all three before any of them can work properly.

5.1.4 Web Clipping Application (PQA) Support with WebAccess and Monitor

Palm OS* devices are no longer supported in GroupWise 7. However, the Installation program still offers the opportunity to configure this feature. If you have been using a PQA in an earlier version of GroupWise, you can continue to do so, but it is no longer a supported feature.

5.1.5 Additional Installation Issues

Platform-specific installation issues are listed in separate sections below. Installation issues for individual GroupWise components are located under the heading for each component.

5.2 NetWare/Windows Installation Issues

5.2.1 Software Distribution Directory Dependency

When you create a new system and are prompted for software to copy to the software distribution directory, select at least the agent and client software. The GroupWise Installation program launches the Agent Installation program and the Client Installation program. It currently must run those programs from the software distribution directory.

5.2.2 Problem Installing from a Windows XP Service Pack 2 Machine

When installing any GroupWise agent (Post Office Agent, Message Transfer Agent, Internet Agent, WebAccess Agent, Monitor Agent) to a NetWare server from a Windows XP machine where Service Pack 2 has been installed, you must have the Novell Client™ 4.90 SP2 or later installed on the Windows machine. If you have an earlier Novell Client, the GroupWise Installation program claims that it cannot find some of the directories to which you want to install software.

5.2.3 GroupWise Version Compatibility

If you still have GroupWise 4.1 domains or post offices in your GroupWise system, you must update them to at least GroupWise 5.2 before updating your primary domain to GroupWise 7. If you try to update a 4.1 domain or post office to 7 after the primary domain has already been updated to 7, you need to rebuild each 4.1 secondary domain database using the GroupWise 7 or later snap-ins to ConsoleOne, and you also need to have each rebuilt secondary domain database manually edited by Novell Support before it can function correctly with the 7 primary domain.

5.3 Linux Installation Issues

5.3.1 Configuring a GroupWise 6.5 Upgrade Installation

When you upgrade any GroupWise component to GroupWise 7, all GroupWise components on a server must be updated at the same time. A message prompts you to update all components. However, you must still run the Configure option for each component so that the software that was

automatically installed is also configured. If you do not run Configure, the new GroupWise High Availability service is not properly configured for the agents.

5.3.2 Upgrading from an Incomplete Software Distribution Directory

Because all GroupWise components on a server must be updated at the same time, if you are installing GroupWise 7 from a software distribution directory that does not contain RPMs for all the components installed on the server, you receive the following error:

Install failed for an unknown reason (7)

The GroupWise 7 component cannot be updated because its RPM is not present in the software distribution directory. You can use the *GroupWise 7 Administrator (Linux)* CD to update the server, then use Configure Administration to create a complete software distribution directory.

5.3.3 Moving a GroupWise 4.1 System from NetWare or Windows to Linux

The Update section of the *GroupWise 7 Installation Guide* provides instructions for moving from NetWare or Windows to Linux. If you are moving post offices and domains belonging to a GroupWise 4.1 system, you might need to manually rename the domain database (wpdomain.db) from uppercase to lowercase, along with all .dc files. In addition, subdirectories in post office and domain directories might need to be renamed to lowercase.

6.0 Administration Issues

6.1 General Administration Issues

6.1.1 Images in Global Signatures

You might encounter a problem including an image file in a global signature if the path to the image is too long. This is a Java* problem. The easiest workaround is to move the image to a location with a shorter path. Another solution on Windows is to set the TMP environment variable to c:\temp before starting ConsoleOne.

6.1.2 Global Signatures and Flat Forwarding through the Internet Agent

If you enable global signatures, it disables flat forwarding through the Internet Agent because the signature is appended to each message. As an administrator, you must choose which is more important in your GroupWise system, global signatures or flat forwarding.

6.1.3 ConsoleOne Snap-In Version Compatibility

After a domain has been updated to GroupWise 7, do not administer that domain with earlier versions of the GroupWise snap-ins to ConsoleOne. Doing so could result in the unintentional creation of duplicate e-mail IDs.

The e-mail ID indexing scheme has been changed to allow the same e-mail ID to be used in different Internet domains within the same GroupWise system. This was prevented by the previous indexing scheme. Because the check for uniqueness works differently now, you must use the GroupWise 7 version of the ConsoleOne snap-ins when administering a GroupWise 7 domain to prevent the possibility of duplication.

6.1.4 Server Names

When filling in a UNC Path field in ConsoleOne, you must specify the server name. You cannot use an IP address or DNS hostname.

6.1.5 Identity Manager Version Compatibility

Do not run an existing DirXML[®] or Identity Manager driver dated earlier than July, 2005, against a GroupWise 7 system.

GroupWise 7 requires the latest version of the GroupWise Identity Manager driver. Older drivers are not compatible. You can download the required version of the GroupWise driver from the [Novell Identity Manager Patches Web site \(http://support.novell.com/filefinder/20560/index.html\)](http://support.novell.com/filefinder/20560/index.html).

6.1.6 Server-Based Anti-Virus Software

If you run server-based anti-virus software, you should configure it so that it does not scan GroupWise directory structures such as domains and post offices where file locking conflicts can create problems for the GroupWise agents. If you need virus scanning on GroupWise data, check the [GroupWise Partner Products page \(http://www.novell.com/partnerguide/p100031.html\)](http://www.novell.com/partnerguide/p100031.html) for compatible products.

6.2 NetWare/Windows Administration Issues

6.2.1 Directory Names and Filenames

All directory names in paths to GroupWise domains and post offices can consist of up to 8 characters.

Filenames can also consist of up to 8 characters, with extensions of up to 3 characters. Do not use long filenames for any files used by any GroupWise components. This requirement applies even to files that are not specific to GroupWise (such as SSL certificates and key files).

6.2.2 ConsoleOne on Windows NT

If you will run ConsoleOne on Windows NT* 4, you must install NT 4 Service Pack 6 before you install ConsoleOne.

6.2.3 GW TSA and Duplicate Source Directories

The GroupWise Target Service Agent (GW TSA) handles situations where the same directory names are used on different volumes to back up by numbering the instances. For example:

Original GW TSA

GroupWise System/[Dom]Provo2:

GroupWise System/[Dom]Provo2:

Support Pack GW TSA

GroupWise System/1[DOM]Provo2:

GroupWise System/2[DOM]Provo2:

Each instance is numbered and DOM is in all uppercase letters. After updating GW TSA with GroupWise 6.5 Support Pack 1 or later, you must re-create your backup jobs because the path has changed.

6.2.4 Utility Startup Switches

The NetWare version of the GroupWise Time Stamp Utility (GWTMSTMP) currently requires startup switches to use a dash (for example, -u), rather than the standard NetWare switch format (for example, /u).

6.2.5 Quotas on NSS Volumes

If you use NSS volumes with quotas turned on, then you must turn on quotas on all GroupWise directories. Otherwise, you will receive No Disk Space errors.

6.2.6 TurboFat Compatibility

If you see E811 errors on the POA or the GroupWise client, a possible cause is that TurboFat is corrupting GroupWise database pointers. The solution is to turn off TurboFat.

- ◆ To turn off TurboFat on NetWare 5.x servers, use turbodis.nlm.
- ◆ To turn off TurboFat on NetWare 6.x servers, use tdis600.nlm.

These NLM™ programs disable TurboFat at startup.

6.3 Linux Administration Issues

6.3.1 NFS Not Supported

Because of long-standing file lock issues with NFS*, you cannot use an NFS mount to mount a server file system where your GroupWise system is located to a workstation where you are running ConsoleOne. We recommend using an SMB mount instead.

6.3.2 Pathnames and Filenames in Lowercase

All directory names in paths to GroupWise domains and post offices should consist of lowercase letters. Filenames should also consist of lowercase letters. There are no length restrictions.

However, if you update a GroupWise 4.1 system and move it to Linux, you might see uppercase letters in database names. This is not a problem. The Database Copy (DBCOPY) utility that you use to move domains and post office to Linux handles any uppercase/lowercase issues that might arise, so you should not manually rename any databases that have been copied to Linux using DBCOPY.

6.3.3 Display Problem with ConsoleOne Property Page Tabs

If you run ConsoleOne on SUSE® LINUX 9 with Ximian® Desktop 2 installed, the label text on the property tabs does not display. As a workaround, click the tab to select it, then use the Up-arrow and Down-arrow keys to display each property page until you reach the one you want.

6.3.4 Unavailable Administration Features

GroupWise 7 administration on Linux does not include the following features that are available in GroupWise 7 on NetWare and Windows:

- ◆ Import/Export utility in ConsoleOne
- ◆ Document Properties Management feature in ConsoleOne

7.0 Agent Issues

7.1 General Agent Issues

None.

7.2 NetWare/Windows Agent Issues

7.2.1 Potential CAP Port Conflict

By default, the POA uses 1026 for its CAP (Calendar Access Protocol) port. On some Windows 2000 servers, port 1026 is already used by the Windows Task Scheduler or other Windows service. If this occurs, configure the POA to use a different CAP port using the /capport switch in the POA startup file.

7.3 Linux Agent Issues

7.3.1 libXm.so.3 Error

If you try to start the POA or MTA using the --show switch on a server where The X Window System and Open Motif* are not running, you receive the following error:

```
libXm.so.3: cannot open shared object file
: no such file or directory
```

To resolve the error, start The X Window System and Open Motif before starting the POA or MTA with the --show switch. If you start the POA or MTA without the --show switch, you can use the agent's Web console to monitor the agent from your Web browser.

8.0 Client Issues

8.1 Windows Client Issues

8.1.1 Can't Set a Primary Archive Computer

Currently there is no way to set one computer as a primary archive. This can result in multiple archives if you use GroupWise on different computers.

8.1.2 Error Messages When You Install GroupWise Windows Client

If you install the GroupWise Windows client with Outlook XP already installed, an error message appears reading, "Either there is no default mail client or the current mail client cannot fulfil the messaging request. Please run Microsoft Outlook and set it as the default mail client". In addition, if you open the Address Book, the GroupWise client crashes.

To fix the problem run win32\wms\nt\us\wms.exe from the install directory, then restart the client.

8.1.3 Windows XP Service Pack 2

Installing Windows XP Service Pack 2 enables the Windows Firewall by default. The default Windows Firewall configuration blocks UDP (User Datagram Protocol). GroupWise is dependent on UDP for several key features such as listing new messages in your Mailbox, displaying

notifications, and performing Busy Searches. To reconfigure the Windows Firewall so that it does not interfere with GroupWise functionality, follow the instructions in TID 10094089 in the [Novell Support Knowledgebase](http://support.novell.com/search/kb_index.jsp) (http://support.novell.com/search/kb_index.jsp).

8.1.4 Updated JAWS Script Available

Users of the JAWS* screen reader should install the new JAWS script available in GroupWise 7. Copy the groupwise.jsb file from the \client\jaws directory of the *GroupWise 7 Client (Windows)* CD to the \jaws510\settings\enu directory on your workstation. This JAWS script includes Section 508 accessibility defect fixes that have occurred since the script was updated for GroupWise 6.5 Support Pack 3.

8.1.5 Screen Flickers When Scrolling a Message

If you use ClearType to smooth the edges of screen fonts and have an LCD display, your screen might flicker when scrolling in a text message.

8.1.6 Can't Switch Modes Using Microsoft Anti-Spyware

If you are using Microsoft's Anti-Spyware software, and you try to switch modes, GroupWise does not close. You must manually close GroupWise to switch modes.

8.1.7 Address Books Do Not Display in GroupWise When Installing GroupWise After Outlook 2003

The address books do not display in GroupWise if you install GroupWise for the first time after you have installed Outlook 2003. To resolve the problem, uninstall Outlook 2003 before you install GroupWise for the first time.

8.1.8 Notify Alarms Disappear for Appointments

After your account has been moved from one post office to another, your Notify alarms disappear for appointments. To get your Notify alarms back, you need to re-create all the alarms manually. For information on setting alarms for appointments, see the help.

8.1.9 Spyware Detection Software Causes Installation to Not Work

If you have spyware detection software installed on your Windows computer, the GroupWise client for Windows might not install properly. Disable the spyware detection software before you install the GroupWise client for Windows.

8.2 Cross-Platform Client Issues

8.2.1 Items Forwarded from the GroupWise Connector for Outlook Do Not Open

If you receive an item that was forwarded from the GroupWise Connector for Outlook, the item does not open in the Macintosh version of the Cross-Platform client.

8.2.2 Running as root in Caching Mode

If you run the Cross-Platform client in Caching mode as root on Linux, you might encounter synchronization problems with your master mailbox when you next run as a regular user. If pending requests from the root session remain when you log in as a regular user, regular user requests get backed up behind the root requests, which cannot be processed while you are logged

in as a regular user. To resolve any problems, run the client as root again so that all messages are synchronized, then run as a regular user thereafter to prevent further problems.

8.2.3 Mailbox Size Limits Not Recognized

The Cross-Platform client does not recognize the mailbox size limits set in ConsoleOne (Tools > GroupWise Utilities > Client Options > Send > Disk Space Management).

8.2.4 Bold Not Displaying on Macintosh

If you have installed Microsoft Office or Internet Explorer on your Macintosh, new messages might not display as bold in your mailbox. To resolve the problem, disable your user fonts, which are typically duplicates of your system fonts, or update to JVM* 1.4.2 Update 1 or later.

8.2.5 Archiving Over the Network

Archiving with the Cross-Platform client can only be done to your local computer hard drive.

8.2.6 No Progress Bar Displayed When a Database Is Rebuilt

When prompted to rebuild your database, there is no progress indicator displayed during the rebuild process.

8.2.7 Focus Is in the Wrong Place When Creating a Reply on Macintosh

When you click Reply on Macintosh, you cannot just type the message. You must move the mouse cursor to the message body window of the reply message before you can start typing.

8.2.8 GWCheck Must Be Run from a Terminal Window on Macintosh

If you try to browse to the GWCheck program and run it by double-clicking the icon, you receive an error stating that there is no associated program. You must run GWCheck from a terminal window on Macintosh.

8.2.9 Corrupt Characters in Asian Languages

If you're using an Asian language for the client and external recipients are seeing corrupt characters in their received messages, then compose your message in HTML instead of text.

9.0 WebAccess Issues

9.1 General WebAccess Issues

9.1.1 WebAccess 7 Compatibility with Older Versions of WebAccess

If you have more than one WebAccess Agent in your GroupWise system, you do not need to update all of them to GroupWise 7 at the same time. The GroupWise 7 WebAccess Application is compatible with older versions of the WebAccess Agent. However, users in post offices with an older default WebAccess Agent do not have all of the features available to users in post offices with a default GroupWise 7 WebAccess Agent. For more information, see [Taking Advantage of Some of the New GroupWise 7 WebAccess Features While Still Running GroupWise 6.5 \(http://www.novell.com/coolsolutions/feature/15667.html\)](http://www.novell.com/coolsolutions/feature/15667.html).

9.1.2 WebAccess 7 Compatibility with Virtual Office 1.5 and Earlier

If you access the WebAccess client through Virtual Office 1.5 or earlier, you might see the old WebAccess client interface rather than the new one. To resolve this problem, see TID 10098412 in the [Novell Knowledgebase \(http://support.novell.com/search/kb_index.htm\)](http://support.novell.com/search/kb_index.htm).

9.1.3 WebAccess Compatibility with Novell exteNd

Before GroupWise 7, WebAccess stored its default user interface files in the following directory on the Web server:

tomcat_root/webapps/gw/WEB-INF/classes/com/novell/webaccess/templates/frames

In GroupWise 7, the user interface files are stored in the css subdirectory of templates rather than the frames subdirectory.

If you have exteNd™ portlets configured to use WebAccess, you must copy some of the exteNd template files from the frames directory into the css directory. Refer to the [Novell exteNd documentation \(http://www.novell.com/documentation/extend5/index.html\)](http://www.novell.com/documentation/extend5/index.html) to determine which exteNd template files you should copy to the css directory. Do not copy the entire contents of the frames directory into the css directory; this would damage the new GroupWise 7 WebAccess user interface.

In addition, modify the WebAccess URL in the exteNd Portal Preferences from:

http://Web_server_address/servlet/webacc

to:

http://Web_server_address/gw/webacc

9.1.4 WebAccess 7 Client on Macintosh

If you use the WebAccess client in the Safari* Web browser on Macintosh, name completion is disabled because of lack of support for certain browser capabilities in Safari. Name completion is supported in the Mozilla* Firefox* Web browser on Macintosh.

9.1.5 Login Page Reappears after Successful Login

If the WebAccess login page appears in one or more of the frames (for example, the Folder list or the Item list) after a WebAccess user has successfully logged in, the user is probably accessing WebAccess through one or more proxy servers.

To prevent this problem:

- 1** In ConsoleOne, right-click the WebAccess Application object (GroupWiseWebAccess), then click Properties.
- 2** Click Application > Security, then deselect the Use Client IP in Securing Sessions option.
For information about this option, click Help on the Environment page.
- 3** Click OK to save the change.

9.1.6 Recommendation for Tomcat Memory Allocation (Heap Size)

If you are using the Tomcat servlet engine with GroupWise WebAccess, the maximum memory allocation (heap size) for Tomcat should be at least 128 MB. The maximum memory allocation is set by using the -Xmx parameter when starting Tomcat (for example, -Xmx128m).

9.1.7 “Browser Doesn’t Support Java” Error in the WebAccess Java Calendar

This error indicates a browser setup issue. You would encounter the same problem on any Web site that uses Java in frames. Depending on your browser, check mozilla.org, sun.com, or other browser supplier for more information.

9.1.8 Preventing Web Server Directory Browsing

If your Web server is configured to allow directory browsing, it is possible for a user to access the /com directory of your Web server and browse downward from there. There is no confidential information located in any of the directories that are accessible in this manner.

However, if you want to prevent access, you can change the configuration of your Web server. For example, if you are using Apache, you can modify the httpd.conf file to remove the access that is provided by default. Locate the section that provides directory options for the htdocs directory. Either remove the Indexes option from the Options directive or place a minus (-) in front of it. Restart Apache to put the change into effect.

9.1.9 Preventing Unauthenticated Template Access

Under certain very specific circumstances, it is possible for a user to view WebAccess template files from a Web browser without logging in to WebAccess. There is no confidential information located in any of the template files that are accessible in this manner.

Starting with GroupWise 6.5 Support Pack 4, a line was added to the webacc.cfg file to prevent such access:

```
Templates.requireAuthentication=true
```

With this setting, unauthenticated users have no access to any WebAccess template files except for the Login page. If you have customized WebAccess templates for your own specialized use, this setting causes your templates to be inaccessible, even if GroupWise authentication was not previously required. You can turn off the authentication requirement by changing the line in the webacc.cfg file to:

```
Templates.requireAuthentication=false
```

9.1.10 Updates to WebAccess Templates

If you have created your own customized versions of the WebAccess send.inc and msgitem.htm templates, you need to make the following changes to these files in order for them to be compatible with GroupWise 7:

- ◆ Do not use the Url.Item.Reply.to and Url.Item.Reply.cc variables to pass and post names in a reply message’s To and CC fields. Instead, use Item.toFullID and Item.ccFullID (or Item.toName or Item.ccName).
- ◆ When issuing an Item.Read action for a reply, set the Item.Reply parameter to either “sender” (to reply only to the sender) or “all” (to reply to all).

9.1.11 Document Viewer Agent Cache Compatibility

The cache created by the Document Viewer Agent is not compatible with the cache previously used with WebPublisher. Old WebPublisher cache directories should be removed from servers where the Viewer Agent is installed.

9.1.12 Document Viewer Agent /template Switch

The Document Viewer Agent startup file (gwdva.dva) lists a /template startup switch that is not yet implemented.

9.2 NetWare/Windows WebAccess Issues

9.2.1 WebAccess Installation Error on Windows Workstation

If you receive an error during installation indicating that the nvweb.dll file cannot be found, update the workstation to the latest Novell Client. The Novell Client is available for download from the [Novell Downloads Web site \(http://download.novell.com\)](http://download.novell.com).

9.2.2 WebAccess Service Fails to Start on Windows Server

If you install the WebAccess Agent as a Windows service, reboot the server, and then do a workstation login as an Administrator, the WebAccess Agent service might fail to start. If this occurs, update to the latest Novell Client. The Novell Client is available for download from the [Novell Downloads Web site \(http://download.novell.com\)](http://download.novell.com).

9.2.3 Novell iManager Compatibility on Windows

If WebAccess and Novell iManager are installed on the same Windows 2000/2003 server, iManager might stop working. Because WebAccess installs and configures its own Tomcat and Jakarta connector, it is preferable to install it on a server where Tomcat is not already in use.

9.2.4 GroupWise 6.5 Upgrade on NetWare

If the GroupWise 6.5 WebAccess Application is running on the server where you plan to install GroupWise 7 WebAccess, you should manually stop WebAccess, the Web server, and Tomcat before starting the GroupWise 7 installation. Under certain circumstances, the WebAccess Installation program cannot stop them for you.

9.2.5 New NetWare and Windows WebAccess URLs

Existing users of WebAccess are accustomed to accessing the following URLs on NetWare and Windows Web servers:

Web Services page: Default index.html file of the Web server

WebAccess: http://web_server_address/servlet/webacc

WebPublisher: http://web_server_address/servlet/webpub

The WebAccess URLs on NetWare and Windows Web servers are now the same as the URLs used on Linux:

GroupWise-specific Web Services page: http://web_server_address/gw/index.html

WebAccess: http://web_server_address/gw/webacc

WebPublisher: http://web_server_address/gw/webpub

To keep users' browser bookmarks from being broken, you should redirect the old URLs to the new URLs. Follow the instructions below for your Web server.

Apache

- 1 Change to the conf subdirectory of the Apache root directory (for example, \apache2\conf.

- 2** Edit the Apache configuration file for GroupWise.

On NetWare 6, the Apache configuration file is gwapache.conf. On NetWare 6.5, the Apache configuration file is gwapache2.conf.

- 3** Add the following line:

```
redirect permanent /servlet/webacc http://web_server_address/gw/webacc
```

- 4** If you use WebPublisher, add the following additional line:

```
redirect permanent /servlet/webpub http://web_server_address/gw/webpub
```

- 5** Save the file, then exit the editor.
- 6** Restart Apache to put the redirections into effect.

Internet Information Server (IIS)

- 1** Change to the inetpub\wwwroot subdirectory of the IIS root directory (for example, c:\inetpub\wwwroot)
- 2** Create a subdirectory named servlet.
- 3** Under the servlet subdirectory, create subdirectory named webacc.
- 4** If you use WebPublisher, create a second subdirectory named webpub.
- 5** In IIS Manager, expand the tree in the left pane to display Default Web Site under Web Sites. Under Default Web Sites, you should see the servlet subdirectory you created in **Step 2**.
- 6** Expand the servlet subdirectory to display the webacc subdirectory (and optionally, the webpub subdirectory) that you created in **Step 3**.
- 7** Right-click the webacc subdirectory, then click Properties.
- 8** Click Directory, select A Redirection to a URL, then type /gw/webacc in the associated field.
- 9** Select A Permanent Redirection for This Resource, then click OK to save your changes.
- 10** If you use WebPublisher, repeat **Step 7** through **Step 9**, using webpub in place of webacc.
- 11** Restart the IIS Web server to put the redirections into effect.

Netscape Enterprise Server for NetWare

For redirection instructions, search the [Novell Support Web site \(http://support.novell.com\)](http://support.novell.com).

9.2.6 Web Server File Cleanup Because of URL Change

As part of the change from /servlet/webacc to /gw/webacc, the WebAccess Installation program installs the WebAccess Application files into the servlet container (gw) but it does not remove old servlet and htdoc files located under the ROOT container of the servlet and the Web server. Therefore, you might want to manually delete the following directories and files:

```
sys:\apache2\htdocs\com
sys:\apache2\htdocs\index.html (if customized for GroupWise)
sys:\apache2\htdocs\novell.html (if index.html was not customized)
sys:\tomcat\4\webapps\ROOT\WEB-INF\classes\com
sys:\tomcat\4\webapps\ROOT\WEB-INF\lib\ldapfilt.jar
sys:\tomcat\4\webapps\ROOT\WEB-INF\lib\ldapjdk.jar
sys:\tomcat\4\webapps\ROOT\WEB-INF\lib\njgwap.jar
sys:\tomcat\4\webapps\ROOT\WEB-INF\lib\njweb.jar
```

```
sys:\tomcat\4\webapps\ROOT\WEB-INF\lib\SpellServlet.jar
sys:\tomcat\4\webapps\ROOT\WEB-INF\web.xml
```

The one file you should definitely delete is web.xml, because might cause the WebAccess, WebPublisher, and Monitor Applications to run in both the old and new locations. Also, if you have customized the GroupWise template files, you should copy the contents of the template subdirectories under:

```
sys:\tomcat\4\webapps\ROOT\WEB-INF\classes\com\novell
```

to the corresponding templates subdirectories under:

```
sys:\tomcat\4\webapps\gw\WEB-INF\classes\com\novell
```

9.2.7 WebAccess Agent Unload Issue on NetWare

Under certain circumstances, stopping the WebAccess Agent by unloading it at the NetWare server command line:

```
unload gwinter
```

might cause the following error:

```
"Module GWDVA.NLM in Address Space GWDVAWRKRX did not unload yet.
Killing the address space is the only way to remove the module.
Should the address space be Killed ? n"
```

Regardless of whether you respond with “n” or “y”, the server might hang and need to be restarted. If you encounter this problem on your NetWare server, use one of the following methods to stop the WebAccess Agent, rather than using the unload command.

- ◆ At the WebAccess Agent server console, press F7 or Esc, then select Yes to stop the WebAccess Agent.
- ◆ At the NetWare server console, enter stopweb to stop the WebAccess Agent.

9.2.8 Viewer Agent Issues on NetWare

- ◆ On NetWare, the Viewer Agent requires at least 1 GB of memory for running about 5 worker processes. By default, 5 processes are started.
- ◆ On NetWare, you must install the latest Support Pack for your version of NetWare in order to have the correct version of clib.nlm.
- ◆ On NetWare, Memory Protection Fault Cleanup must be set to On in order for the Viewer Agent worker processes to recover successfully when a document fails HTML conversion.
- ◆ On NetWare, when a document fails HTML conversion and its worker process dies, NetWare creates a small file named core*.dmp in the server’s root directory. You should periodically delete these files.

9.2.9 Security Issue with WebAccess and Internet Explorer 5.0

When using Internet Explorer 5.0 to view messages through WebAccess, URLs to messages become part of the History cache and can be read by other users who have access to the same workstation. For solutions to this problem, see TID 10056452 in the [Novell Knowledgebase \(http://support.novell.com/search/kb_index.htm\)](http://support.novell.com/search/kb_index.htm).

9.3 Linux WebAccess Issues

9.3.1 Novell Distribution of Apache and Tomcat

GroupWise 7 on Linux includes a Novell distribution of Apache and Tomcat that you can install along with the WebAccess Application if you do not already have Apache and Tomcat running on that server. The Novell distribution is installed in the following directories:

Apache: /var/opt/novell/http and /etc/opt/novell/http

Tomcat: /var/opt/novell/tomcat4 and /etc/opt/novell/tomcat4

and is started using the following customized commands:

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

Apache: /etc/init.d/novell-httpd start

The WebAccess Installation program lets you choose whether you want to install the Novell distribution. During installation, select Install WebAccess Application with Apache and Tomcat if you want to install the Novell distribution. Select Install WebAccess Application if you do not want to install the Novell distribution of Apache and Tomcat because you have an existing Apache and Tomcat installation that you want to use with WebAccess.

NOTE: If you are installing on Novell Open Enterprise Server (OES), the option to install with Apache and Tomcat is not available.

If you install the Novell distribution on a server where a standard distribution of Apache and Tomcat is already installed and running, you will encounter a port conflict on port 80. You can resolve the port conflict by choosing to run one distribution or the other, or you can reconfigure one distribution or the other.

To reconfigure the Novell distribution to use a different port number, edit the httpd.conf file in the /etc/opt/novell/httpd/conf directory. Locate the following line:

```
Listen 80
```

Change the port number to a something that is not already being used on the server, then save and exit the file.

9.3.2 Prolonged “Please Wait” Message during Installation

On slower machines, if you select Install WebAccess Application with Apache and Tomcat, your machine might appear to hang on the “Please Wait” message. Apache and Tomcat are being installed while the “Please Wait” message is displayed, before the WebAccess Application installation begins.

9.3.3 Installation Security

During installation, the WebAccess Installation program requires access to eDirectory™ by way of LDAP authentication. The LDAP Group object includes an option named Require TLS for Simple Binds with Password, which is enabled by default. With this option enabled, you must provide the LDAP server’s Trusted Root Certificate, which must be exported from the LDAP server, in order for LDAP authentication to take place (typically on port 636) during installation of the WebAccess.

Unless you already have SSL set up, an easier alternative is to disable Require TLS for Simple Binds with Passwords in ConsoleOne, which allows LDAP authentication to take place using clear text (typically on port 389), during installation of WebAccess. After disabling the option, restart

eDirectory, install WebAccess, then re-enable Require TLS for Simple Binds with Password and restart eDirectory again.

9.3.4 Re-installation Issue

If you install WebAccess in an eDirectory context where the WebAccess objects already exist, a message informs you that you can “use the existing objects.” In actuality, the objects are deleted and re-created, so if you have customized the properties of the existing objects, you must customize the objects again after installing WebAccess on Linux.

9.3.5 Clustering Issue on Open Enterprise Server Linux

The WebAccess Agent currently does not run on Novell Cluster Services™ on Linux.

9.3.6 Viewer Agent Issues on Linux

- ◆ On Linux, if you run the Viewer Agent as a user that is not running The X Window system, then WebAccess client users cannot view embedded vector-based graphics in attachments. To enable users to view embedded vector-based graphics, make sure that the user that starts WebAccess (and hence, the Viewer Agent) is running The X Window System and has a DISPLAY environment variable set so that the Viewer Agent can write to the local display. One way to accomplish this is to use the `sux` command to become root before you start the WebAccess Agent.
- ◆ On Linux, the third-party viewer software used by the Viewer Agent has a dependency on `libXm.so.1`, which might not be included with your Linux package. To resolve this, create a symbolic link in the agents lib directory to the version of the libXm modules that is available on your Linux server. For example:

```
ln -s /usr/X11R6/lib/libXm.so.3.0.1 /opt/novell/groupwise/agents/lib/libXm.so.1
```

9.3.7 WebPublisher Configuration

The WebAccess Installation program does not configure WebPublisher for you. Some manual configuration is required. For instructions, see the *GroupWise 7 Installation Guide* (`/docs/us/GroupWiseInstallationGuide.pdf`).

9.3.8 WebPublisher Template Settings Not Saved

Changes to the settings on the Templates page of the GroupWiseWebPublisher object in ConsoleOne are not saved to the `webpub.cfg` file. To work around this, after making changes on the Templates page, select a different property page on the GroupWiseWebPublisher object, then click OK or Apply to save the template settings correctly.

9.3.9 Commented Lines in Configuration Files

If you have commented out any lines in the Linux WebAccess configuration file (`webacc.cfg`) or the WebPublisher configuration file (`webpub.cfg`), you should back up those files before installing GroupWise 7. If you use the Configure WebAccess Application option in the Installation program, those commented lines become uncommented and the settings return to their defaults. However, any other changes you have made to the configuration files are retained. You must comment out the lines again and edit the settings as needed, using the backup copies for reference.

10.0 Internet Agent Issues

10.1 General Internet Agent Issues

10.1.1 Address Resolution Change Since GroupWise 6

In GroupWise 6 and its Support Packs, there was a problem with the address format used for sending to distribution lists and resources if you set Internet Addressing to one of the following formats (which are not appropriate for distribution lists and resources):

- ◆ *first_name.last_name@Internet_domain*
- ◆ *last_name.first_name@Internet_domain*

Messages to distribution lists and resources were initially undeliverable and were sent to the Internet Agent. The Internet Agent then successfully resolved the addresses and sent the messages back into the GroupWise system. Users did not notice the problem, but some administrators noticed unnecessary traffic through the Internet Agent.

In GroupWise 6.5, the address format problem for sending to distribution lists and resources was corrected. However, users who originally used GroupWise 6 have the erroneous address format for distribution lists and resources in their Frequent Contacts address books. If you are updating from GroupWise 6 to GroupWise 7 and unnecessary traffic through the Internet Agent is a continuing problem, have users delete distribution lists and resources from their Frequent Contacts address books so that the correct address format is used for name completion in the future.

10.2 NetWare/Windows Internet Agent Issues

10.2.1 Internet Agent / WebAccess Agent on the Same Server

If you run the NetWare Internet Agent on the same server and in the same address space with the NetWare WebAccess Agent, and if you unload and then reload the Internet Agent, the server abends.

To work around this problem, unload both agents, then reload both agents, or run each agent in its own separate address space.

10.3 Linux Internet Agent Issues

10.3.1 Obsolete grpwise-ia Script

GroupWise 6.5 included the `/etc/init.d/grpwise-ia` script for starting and stopping the Internet Agent. In GroupWise 7, the Internet Agent is started along with the POA and the MTA, using the `grpwise` script. Therefore, you should delete the obsolete `grpwise-ia` script from `/etc/init.d` so that it is not used by accident.

10.3.2 Installation Security

During installation, the Internet Agent Installation program requires access to eDirectory by way of LDAP authentication. The LDAP Group object includes an option named Require TLS for Simple Binds with Password, which is enabled by default. With this option enabled, you must provide the LDAP server's Trusted Root Certificate, which must be exported from the LDAP server, in order for LDAP authentication to take place (typically on port 636) during installation of the Internet Agent.

Unless you already have SSL set up, an easier alternative is to disable Require TLS for Simple Binds with Passwords in ConsoleOne, which allows LDAP authentication to take place using clear text (typically on port 389), during installation of the Internet Agent. After disabling the option, restart eDirectory, install the Internet Agent, then re-enable Require TLS for Simple Binds with Password and restart eDirectory again.

10.3.3 libXm.so.3 Error

If you try to start the Internet Agent using the --show switch on a server where The X Window System and Open Motif are not running, you receive the following error:

```
libXm.so.3: cannot open shared object file
: no such file or directory
```

To resolve the error, start The X Window System and Open Motif before starting the Internet Agent with the --show switch. If you start the Internet Agent without the --show switch, you can use the Internet Agent Web console to monitor the Internet Agent from your Web browser.

11.0 Monitor Issues

11.1 General Monitor Issues

11.1.1 Restoring Monitor Settings after Reinstallation

Monitor settings are stored in the monitor.xml file in the Monitor installation directory. Agent groups are also stored in this file. If you reinstall the Monitor software, the monitor.xml file is backed up as monitor.001. To restore previous Monitor settings and agent groups, remove the newly installed monitor.xml file and rename monitor.001 to monitor.xml.

11.2 Windows Monitor Issues

11.2.1 New NetWare and Windows Monitor URLs

If you've used Monitor on a NetWare or Windows Web server, you are accustomed to accessing the following URLs:

Web Services page: Default index.html file of Web server

Monitor Web Console: `http://web_server_address/servlet/gwmonitor`

Starting in GroupWise 7, use the following URLs on NetWare and Windows Web servers:

GroupWise-specific Web Services page: `http://web_server_address/gw/index.html`

Monitor Web Console: `http://web_server_address/gw/gwmonitor`

To keep users' browser bookmarks from being broken, you should redirect the old URLs to the new URLs. Follow the instructions in [New NetWare and Windows WebAccess URLs](#), substituting /gw/gwmonitor for /gw/webacc as needed in the instructions.

11.3 Linux Monitor Issues

11.3.1 Monitor Issues Shared with WebAccess

Monitor and WebAccess share a substantial amount of functionality. The following WebAccess issues also pertain to Monitor:

[Novell Distribution of Apache and Tomcat](#)
[Prolonged “Please Wait” Message during Installation](#)
[Installation Security](#)
[Re-installation Issue](#)

12.0 GroupWise Connector for Microsoft Outlook Issues

For installation instructions and known issues relating to the GroupWise Connector for Microsoft Outlook, see the readmeolus.txt file in the \client\docs\us directory of the *GroupWise 7 Client (Windows)* CD.

13.0 International Issues

13.1 General International Issues

13.1.1 Double-Byte Characters in Directory Names and Filenames

Do not use double-byte characters in directory names and filenames.

13.1.2 Double-Byte Characters in Passwords

Do not use double-byte character in users' passwords.

The Change GroupWise Password dialog box in ConsoleOne currently allows entry of double-byte characters. However, the GroupWise client login does not allow entry of double-byte characters in passwords, so a user who was assigned a password with double-byte characters in ConsoleOne cannot type the double-byte characters when attempting to log in to GroupWise.

13.1.3 Euro Character in the Subject Field

If a WebAccess client user receives a message, task, or appointment with a Euro character in the Subject field, it might display as an upside-down question mark when viewed in the Java version of the Calendar. The issue resides with the user's browser.

Netscape users need to upgrade to Netscape Communicator* 6.

Internet Explorer users should be using at least version 3309 of the JVM. The latest JVM can be downloaded from the Microsoft Web site and installed on the user's workstation. This JVM enables Internet Explorer 4.x and later to correctly display the Euro character.

13.1.4 Character Encoding in WebAccess

Auto-detection of character encoding for the WebAccess/WebPublisher index.html page does not work for some Web browsers. If you do not see the localized languages in the drop-down menu on the Web services page (index.html), set your Web browser's character encoding to UTF-8. In some browsers, you can click View > Encoding to set the Web browser's encoding.

You might also encounter character encoding problems when reading HTML-formatted messages. In this case, set your Web browser's character encoding for the new message window to UTF-8. You can do this by right-clicking in the new message window and then setting the encoding, or by clicking View > Encoding.

13.1.5 WebAccess Spell Checker Displays Corrupt Characters for Russian

When Russian characters are used, they are displaying in the Spell Checker as corrupt characters.

13.1.6 Monitor Web Console Display in German and Other Languages

On the Monitor Web console, you might see incorrect display of some characters, particularly accented characters.

13.2 NetWare/Windows International Issues

13.2.1 Print Calendar Language

The GroupWise client Print Calendar feature always prints calendars in the language specified in Regional Options or Regional Settings in the Control Panel, even if the client is installed in a different language. For example, if French (Switzerland) or French (Swiss) is specified in the Control Panel and the client is installed in German, calendars print in French.

13.2.2 RichWin and GroupWise 7

If you use RichWin in combination with GroupWise 7, be sure to run RichWin first, then run GroupWise.

13.3 Linux International Issues

13.3.1 Display Problem with Agent Console Interfaces

If you run the agents with an agent console interface in languages other than English, the display of logging information might not display correctly. The problem occurs if your language encoding is set to UTF-8.

To determine your current language encoding, use the following command in a terminal window:

```
locale
```

You can change your language encoding in YaST:

- 1** Start YaST, click System, then double-click Choose Language.
- 2** Select the language you are running the agents in, then click Details.
- 3** Deselect Use UTF-8 Encoding, then click OK.
- 4** Stop and then restart the agents to put the new setting into effect.

13.3.2 Russian Keyboard

When you use a Russian keyboard, the Linux environment variables that provide language and locale information are typically set to ru_RU. Typically, this setting implies the Russian character set ISO-8859-5. However, on some distributions of Linux, the ISO-8859-5 character set must be set explicitly in order for your Russian keyboard to work with the GroupWise Cross-Platform

client. Use the following command to specify the character set along with the language and locale information:

```
export LANG=ru_RU.ISO-8859-5
```

In most cases, setting the LANG environment variable also sets all LC_* environment variables and resolves all Russian keyboard problems. If you set the LANG environment variable and your Russian keyboard still does not work, use the following command to view the current settings for the LANG and LC_* environment variables:

```
locale
```

If any of the LC_* environment variables have not inherited the ISO-8859-5 specification, export them individually.

13.3.3 Mnemonics for Arabic, Hebrew, and Double-Byte Languages

Keyboard mnemonics for menu items work for characters a-z and A-Z, but not for other characters.

13.3.4 Localized Agent User Interface Display

The Linux GroupWise agent user interfaces display correctly if the Linux environment is using the ISO-8859-1 character set, which is the default for the GroupWise administration languages and locales.

French: fr_FR
German: de_DE
Portuguese: pt_BR
Spanish: es_ES

If the Linux environment is using a different character set encoding such as UTF-8 (for example, fr_FR.UTF-8), the localized agent user interfaces do not display correctly.

13.3.5 Right-to-Left Text in Cross-Platform Client Help

Languages that display right-to-left display right-justified rather than left-justified.

14.0 Documentation Issues

14.1 General Documentation Issues

None.

14.2 NetWare/Windows Documentation Issues

14.2.1 GroupWise Windows Client Help

To support accessibility requirements within GroupWise Help, the Help for the GroupWise Windows client uses Microsoft HTML Help. In order for Microsoft HTML Help to display on a Windows workstation, the workstation must have Internet Explorer 4.x or later installed.

14.3 Linux Documentation Issues

14.3.1 Agent Help Does Not Display When Agent Runs as a Non-root User

When you start the POA, the MTA, and the Internet Agent using the --show switch to display a GUI user interface, if the agents are running as a non-root user, clicking Help does not display the agent help file. Help is displayed in a browser window and the agents currently launch the browser as root. Giving the user access to the browser window as root would be a security risk. This is working as designed.

14.3.2 Help Image Display on an iChain Server

If you display help from an agent Web console on a server where Novell iChain[®] is installed, and if iChain is configured to use the Path-Based Multihoming option, the image at the top of the help topic does not display.

15.0 Documentation Conventions

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

A trademark symbol ([®], [™], etc.) denotes a Novell trademark; an asterisk (*) denotes a third-party trademark.

16.0 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. Please refer to www.novell.com/info/exports/ for more information on exporting Novell software. Novell assumes no responsibility for your failure to obtain any necessary export approvals.

Copyright © 2005 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 at <http://www.novell.com/company/legal/>

patents/ and one or more additional patents or pending patent applications in the U.S. and in other countries.

ConsoleOne, DirXML, GroupWise, iChain, NetWare, Novell, and Ximian are registered trademarks of Novell, Inc. in the United States and other countries.

SUSE is a registered trademark of SUSE AG, a Novell business.

eDirectory, Evolution, exteNd, NLM, Novell Client, and Novell Cluster Services are trademarks of Novell, Inc.

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