

Installation Guide

Novell® GroupWise®

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About This Guide

This Novell® *GroupWise*® 7 *Installation Guide* helps you install a new GroupWise system or update an existing GroupWise 5.x/6.x system. The guide is divided into the following sections:

- ♦ “Installation” on page 15
- ♦ “Update” on page 215
- ♦ “Migration” on page 265
- ♦ “Appendixes” on page 301
 - ♦ Appendix A, “GroupWise Version Compatibility,” on page 303
 - ♦ Appendix B, “Third-Party Materials,” on page 313
 - ♦ Appendix C, “Documentation Updates,” on page 323

Audience

This guide is intended for network administrators who install and administer GroupWise.

Feedback

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Documentation Updates

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Additional Documentation

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- ♦ *Administration Guide*
- ♦ *Multi-System Administration Guide*
- ♦ *Interoperability Guide*
- ♦ *Troubleshooting Guides*
- ♦ *GroupWise Client User Guides*
- ♦ *GroupWise Client Frequently Asked Questions (FAQ)*

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When a startup switch can be written with a forward slash for some platforms or a double hyphen for other platforms, the startup switch is presented with a forward slash. Users of platforms that require a double hyphen, such as Linux, should use double hyphens as required by your software.

Installation

- ♦ Chapter 1, “What Is GroupWise?,” on page 17
- ♦ Chapter 2, “GroupWise System Requirements,” on page 21
- ♦ Chapter 3, “Installing a Basic GroupWise System,” on page 25
- ♦ Chapter 4, “Installing the GroupWise Internet Agent,” on page 79
- ♦ Chapter 5, “Installing GroupWise WebAccess,” on page 103
- ♦ Chapter 6, “Installing GroupWise Monitor,” on page 137
- ♦ Chapter 7, “Installing GroupWise Agents,” on page 159
- ♦ Chapter 8, “Installing the GroupWise Windows and Cross-Platform Clients,” on page 201
- ♦ Chapter 9, “Installing the GroupWise Connector for Microsoft Outlook,” on page 209
- ♦ Chapter 10, “Installing the GroupWise Mobile Server,” on page 211
- ♦ Chapter 11, “Installing GroupWise Messenger,” on page 213

What Is GroupWise?

1

Novell® GroupWise® is an enterprise collaboration system that provides secure e-mail, calendaring, scheduling, and instant messaging. GroupWise also includes task management, contact management, document management, and other productivity tools. GroupWise can be used on your desktop on Linux, Windows*, or Macintosh*; in a Web browser anywhere you have an Internet connection; and even on mobile devices. Your GroupWise system can be set up on NetWare®, Linux, Windows, or any combination of these operating systems.

The following sections include more details about what GroupWise provides and what you need to do to set up GroupWise to best meet your needs.

- ♦ [Section 1.1, “What GroupWise Provides,” on page 17](#)
- ♦ [Section 1.2, “What You Need to Do,” on page 19](#)

1.1 What GroupWise Provides

GroupWise provides communication and collaboration services that are secure, highly available, and easily accessible, as explained in the following sections:

- ♦ [Section 1.1.1, “Essential Communication and Collaboration Services,” on page 17](#)
- ♦ [Section 1.1.2, “Available Anytime,” on page 18](#)
- ♦ [Section 1.1.3, “Accessible Anywhere,” on page 18](#)
- ♦ [Section 1.1.4, “Always Secure,” on page 18](#)

1.1.1 Essential Communication and Collaboration Services

GroupWise provides a variety of tools to enable users to work together and work smarter.

- ♦ **Messaging:** Send and receive mail messages, phone messages, and reminder notes. A mail message is for general correspondence. A phone message is designed for those who take phone messages for others. A reminder note includes a start date and, when accepted by the recipient, is posted to the recipient’s Calendar.
- ♦ **Instant Messaging:** Communicate in real time with other GroupWise users through GroupWise Messenger. GroupWise Messenger lets you know when other users are online, busy, or away from their desks. It also allows you to save conversations.
- ♦ **Scheduling:** Schedule both appointments and tasks. When you schedule an appointment, you can search other users’ Calendars to find free times for the appointment. When you schedule a task, you can assign a priority and due date to the task. If the recipient accepts an appointment or task, it is automatically added to his or her Calendar.
- ♦ **Calendaring:** View and manage your appointments, tasks, and reminder notes in a Calendar view. You can create multiple calendars
- ♦ **Task Management:** Accept or decline the tasks you are sent, and track accepted tasks through to completion. You can also turn any message into a task by adding it to your Checklist folder.

- ♦ **Contact Management:** Manage information for your contacts, groups, resources, and organizations, including being able to view, update, delete, and add information to the contacts in your address book. In addition, you can view a history of messages sent to and received from individual contacts.
- ♦ **Document Management:** Store documents in GroupWise libraries. In a library, documents are compressed to save disk space and encrypted to maintain security. With document management, you can check in, check out, share, and version documents.

1.1.2 Available Anytime

GroupWise ensures that your essential communication tools are always available:

- ♦ **Caching:** The GroupWise Windows and Cross-Platform clients include a Caching mode that allows you to cache GroupWise information to your local drive and continue to work even when you aren't logged into your network mailbox.
- ♦ **LDAP Pooling:** If you are using LDAP authentication for GroupWise mailbox authentication, LDAP pooling ensures that there is always an LDAP server through which authentication can be performed.
- ♦ **Clustering:** To ensure that GroupWise data is always available and GroupWise components are always running, you can install GroupWise in a cluster on NetWare, Linux, or Windows.

1.1.3 Accessible Anywhere

GroupWise lets you communicate and collaborate with other people using the device that is most convenient:

- ♦ **Personal Computers:** To access your mailbox, you can run the GroupWise Windows client on any workstation that uses Windows 2000 or higher. On Linux and Macintosh workstations, you can run the GroupWise Cross-Platform client.
- ♦ **Web Browsers and Mobile Devices:** With GroupWise WebAccess installed, you can also access your mailbox through a Web browser, a cellular phone, or a PDA (personal digital assistant) such as Pocket PC*. The GroupWise WebAccess client formats information to best accommodate the type of device on which it is being displayed. In addition, mailbox content can be synchronized to your mobile device by using GroupWise Mobile Server or BlackBerry* Enterprise Server
- ♦ **Other E-Mail Clients:** GroupWise enables you to access your mailbox with any POP3, IMAP4, and SOAP e-mail clients.

1.1.4 Always Secure

GroupWise provides extensive security measures to protect your information.

- ♦ **Encryption:** To protect your information as it is stored in the various GroupWise databases and moved across the network, GroupWise encrypts the information. Each piece of information is encrypted differently through the use of randomly-generated encryption keys.
- ♦ **Open Security Standards:** To further ensure that your information is secure while moving across your internal network or across the Internet, GroupWise supports open security standards such as Secure Socket Layer (SSL), Secure Multipurpose Internet Mail Extension (S/MIME), Public Key Infrastructure (PKI), and Transport Layer Security (TLS).

- ♦ **Spam Protection:** To protect you from seeing unwanted messages, the GroupWise Windows client includes a Junk Mail Handling feature that lets you control unwanted Internet e-mail messages. In addition, you can configure the Internet Agent (the GroupWise component responsible for sending and receiving Internet e-mail messages) to reject messages from known open relay hosts and spam hosts. GroupWise also works with partner products that provide additional anti-spam solutions.
- ♦ **Virus Protection:** GroupWise works with partner products to provide solutions that detect and eliminate viruses.

For information about additional security solutions available for GroupWise through GroupWise partners, see the [Novell Partner Product Guide \(http://www.novell.com/partnerguid\)](http://www.novell.com/partnerguid).

1.2 What You Need to Do

GroupWise includes multiple components that you need to install to realize the full benefits of GroupWise. However, some components might not be necessary, depending on your needs. The following table outlines the components, what they provide, and where to find instructions for installing them.

Table 1-1 *Components of Your GroupWise System*

Component	What it does	Go to
Administration, Agents, and Client (Windows or Cross-Platform)	Necessary for a basic GroupWise system. These components are required and must be installed before any other components.	Chapter 3, "Installing a Basic GroupWise System," on page 25
Internet Agent	Provides Internet e-mail communication, POP3/IMAP4 client access, and paging services.	Chapter 4, "Installing the GroupWise Internet Agent," on page 79
WebAccess	Provides access to mailboxes through a Web browser or mobile device.	Chapter 5, "Installing GroupWise WebAccess," on page 103
Monitor	Provides administrative monitoring of the GroupWise agents.	Chapter 6, "Installing GroupWise Monitor," on page 137
Messenger	Provides instant messaging.	GroupWise Messenger Installation Guide (http://www.novell.com/documentation/nm2)

In addition to the sections referenced in the above table, this *Installation Guide* includes the following sections:

- ♦ [Chapter 7, "Installing GroupWise Agents," on page 159](#)
- ♦ [Chapter 8, "Installing the GroupWise Windows and Cross-Platform Clients," on page 201](#)
- ♦ [Chapter 9, "Installing the GroupWise Connector for Microsoft Outlook," on page 209](#)
- ♦ [Chapter 10, "Installing the GroupWise Mobile Server," on page 211](#)
- ♦ [Chapter 11, "Installing GroupWise Messenger," on page 213](#)

The information in these sections is provided as a reference for installing additional components after you've created your basic GroupWise system.

GroupWise System Requirements

2

You, as a GroupWise® administrator, must ensure that your system meets GroupWise system requirements, so that your GroupWise system can be set up successfully. After your GroupWise system is set up, you must ensure that users' workstations meet GroupWise client requirements, so that users can run the GroupWise clients successfully.

- ♦ [Section 2.1, “GroupWise Administration Requirements,” on page 21](#)
- ♦ [Section 2.2, “GroupWise Client Requirements,” on page 22](#)
- ♦ [Section 2.3, “Supported Environments,” on page 23](#)

2.1 GroupWise Administration Requirements

- ❑ 32-bit/x86 processor or 64-bit/x86 processor
- ❑ Any of the following server operating systems for the GroupWise agents (Post Office Agent, Message Transfer Agent, Internet Agent, WebAccess Agent, Monitor Agent):
 - ♦ Novell® Open Enterprise Server 1 or Open Enterprise Server 2 (NetWare® or Linux version), plus the latest Support Pack
 - ♦ NetWare 5.1, NetWare 6, or NetWare 6.5, plus the latest Support Pack for your version of NetWare

Domains and post offices can be located on NetWare 3.12 and NetWare 4.2 servers, although the agents cannot run there. The Monitor Agent is not available for NetWare.
 - ♦ SUSE® Linux Enterprise Server 9 or SUSE Linux Enterprise Server 10, plus the latest Support Pack

The X Window System* is required by the GUI GroupWise Installation program, Installation Advisor, and Setup Advisor that step you through the process of creating a new GroupWise system. A text-based Installation program is also available.

The X Window System and Open Motif* are required by the GUI GroupWise agent server consoles. By default, the agents run as daemons without user interfaces.
 - ♦ Windows Server 2000, Windows Server 2003, or Windows Server 2003 R2, plus the latest Service Pack for your version of Windows
- ❑ Adequate server memory as required by the operating system
- ❑ eDirectory™ 8.7 or later, plus the latest Support Pack
- ❑ ConsoleOne® 1.3.6 or later

On Linux, ConsoleOne requires Java* Virtual Machine (JVM*) 1.4.2, plus the X Window System, version X11R6 or later. If necessary, you can download ConsoleOne for Linux from the [Novell Product Downloads site \(http://download.novell.com\)](http://download.novell.com).
- ❑ Windows 2000/XP/2003/2003 R2 and the Novell Client™ on any administrator Windows machine where you run ConsoleOne or the GroupWise Installation program

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

- ❑ Adequate server disk space:
 - ◆ Software distribution directory: 500 MB for all GroupWise components in one language
 - ◆ Domain directory: 100-200 MB for the domain database; plus 1 GB or more for message queues when links are down
 - ◆ Post office directory: 5 MB per user (minimum); 100 MB or more per user (recommended); plus 100-300 MB for the post office database; plus 500 MB or more for message queues when links are down
 - ◆ MTA/POA installation: approximately 25 MB (varies by platform)
 - ◆ Internet Agent installation: approximately 37 MB (varies by platform)
 - ◆ WebAccess installation: approximately 215 MB (111 MB shared with Monitor; varies by platform)
 - ◆ Monitor installation: approximately 140 MB (111 MB shared with WebAccess; varies by platform)
- ❑ Internet connectivity for the Internet Agent
 - ◆ Internet domain name for your company
 - ◆ Internet Service Provider (ISP) or in-house DNS address resolution
- ❑ Any of the following Web servers for WebAccess and Monitor:
 - ◆ NetWare 6: Netscape Enterprise Server* for NetWare, Apache 1.3 plus Tomcat 3.3 plus the Jakarta Connector
 - ◆ NetWare 6.5: Apache 2 plus Tomcat 4 plus the Jakarta Connector
 - ◆ Linux: Apache 2.2 plus Tomcat 5 plus the ModProxy Module
 - ◆ Windows Server 2000/2003/2003 R2: Microsoft Internet Information Server (IIS) 5 or later plus Tomcat 5.5 plus the Jakarta Connector
 - ◆ UNIX*: Apache 2 plus a compatible servlet engine and connector
- ❑ Any of the following Web browsers for the agent Web consoles:
 - ◆ Linux: Mozilla* Firefox*
 - ◆ Windows: Microsoft Internet Explorer 6.0 or later; Mozilla Firefox
 - ◆ Macintosh: The latest version of Safari* for your Mac OS (10.3 or 10.4); Mozilla Firefox
 - ◆ UNIX: Mozilla Firefox

2.2 GroupWise Client Requirements

- ◆ [Section 2.2.1, “Windows Client,” on page 22](#)
- ◆ [Section 2.2.2, “Cross-Platform Client on Linux,” on page 23](#)
- ◆ [Section 2.2.3, “Cross-Platform Client on Macintosh,” on page 23](#)
- ◆ [Section 2.2.4, “WebAccess Client,” on page 23](#)

2.2.1 Windows Client

- ◆ Any of the following desktop operating systems for the GroupWise Windows client:
 - ◆ Windows 2000 on a 200 MHz or higher workstation with at least 128 MB of RAM

- ◆ Windows XP Professional on a 300 MHz or higher workstation with at least 128 MB of RAM
- ◆ Windows 2003 on a 350 MHz or higher workstation with at least 256 MB of RAM
- ◆ Windows 2003 R2 on a 350 MHz or higher workstation with at least 256 MB of RAM
- ◆ Windows Vista* on a 1 GHz or higher workstation with at least 1 GB of RAM
- ◆ 200 MB of free disk space on each user's workstation to install the Windows client

2.2.2 Cross-Platform Client on Linux

- ◆ Any of the following desktop operating systems:
 - ◆ Novell Linux Desktop, plus the KDE desktop or the GNOME* desktop
 - ◆ SUSE Linux Enterprise Desktop 10, plus the KDE desktop or the GNOME desktop
 - ◆ Red Hat* Desktop 4 or Red Hat Enterprise Linux WS 4, plus the GNOME desktop
- ◆ Java Virtual Machine (JVM) 1.5 or later
- ◆ 200 MB of free disk space on each user's workstation to install the Cross-Platform client

2.2.3 Cross-Platform Client on Macintosh

- ◆ Any of the following desktop operating systems:
 - ◆ Mac OS 10.3 (Panther) or Mac OS 10.4 (Tiger)
 - ◆ Mac OS X for Intel
- ◆ Java Virtual Machine (JVM) 1.4.2 or later
- ◆ 75 MB of free disk space on each user's workstation to install the Cross-Platform client

2.2.4 WebAccess Client

- ◆ Any of the following Web browsers:
 - ◆ Linux: Mozilla Firefox
 - ◆ Windows: Microsoft Internet Explorer 6.0 or later; Mozilla Firefox
 - ◆ Macintosh: The latest version of Safari for your Mac OS (10.3 or 10.4); Mozilla Firefox
 - ◆ UNIX: Mozilla Firefox
- ◆ Any of the following mobile devices:
 - ◆ Any mobile device that supports the Wireless Access Protocol (WAP) and has a microbrowser that uses Handheld Device Markup Language (HDML) 3.0 or later, or Wireless Markup Language (WML) 1.1 or later
 - ◆ Pocket PC with Windows 2000/2002/2003

2.3 Supported Environments

- ◆ [Section 2.3.1, "IPV6 Support," on page 24](#)
- ◆ [Section 2.3.2, "Clustering Support," on page 24](#)
- ◆ [Section 2.3.3, "Virtual Machine Support," on page 24](#)

- ♦ [Section 2.3.4, “Citrix Support,” on page 24](#)
- ♦ [Section 2.3.5, “Linux File System Support,” on page 24](#)

2.3.1 IPV6 Support

The POA, the MTA, the Internet Agent, and the Monitor Agent support the IPV6 protocol when it is available on the server. If it is available, the agent detects it and supports IPV6 by default, along with IPV4. The WebAccess Agent and its accompanying Viewer Agent do not support IPV6.

As you configure your GroupWise system and specify the network address of an IPV6 server, you must specify its DNS hostname. IP Address fields in ConsoleOne do not accommodate IPV6 address format.

IPV6 support is available on Linux and Windows. IPV6 support is not currently available on NetWare.

2.3.2 Clustering Support

You can set up your GroupWise system in any of the following clustering environments, as described in the *GroupWise 7 Interoperability Guide* (<http://www.novell.com/documentation/gw7>):

- ♦ [“Novell Cluster Services on NetWare”](#)
- ♦ [“Novell Cluster Services on Linux”](#)
- ♦ [“Microsoft Clustering Services on Windows”](#)

If you are using one of these clustering environments, follow the installation instructions in the *GroupWise 7 Interoperability Guide*, rather than the installation instructions in this guide.

2.3.3 Virtual Machine Support

You can install components of your GroupWise system in virtual environments where a software program enables one physical server to function as if it were two or more physical servers. The following virtualization software is supported:

- ♦ VMware* GSX Server*, an enterprise-class virtual infrastructure for x86-based servers
- ♦ VMware ESX Server*, a data center-class virtual infrastructure for mission-critical environments

For more information, see the [VMWare Web site \(http://www.vmware.com\)](http://www.vmware.com).

2.3.4 Citrix Support

Any version of the GroupWise client runs successfully on any version of Citrix.

2.3.5 Linux File System Support

For best GroupWise performance on Linux, the Reiser file system is recommended. If you are running OES Linux and need the feature-rich environment of the NSS file system, GroupWise is also supported there.

Installing a Basic GroupWise System

3

Every Novell® GroupWise® system, whether it services five users or 50,000 users, starts as a basic GroupWise system. The following sections present the background information and installation instructions you need to successfully implement your basic GroupWise system.

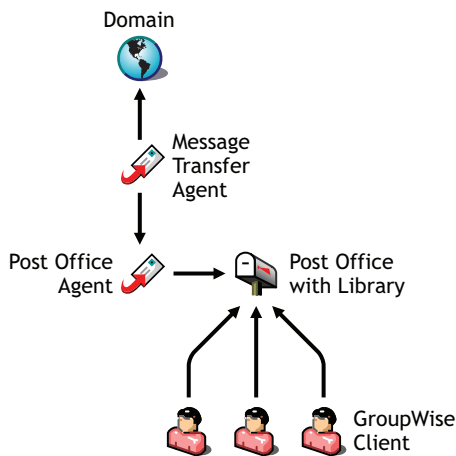
- ♦ Section 3.1, “Basic System Overview,” on page 25
- ♦ Section 3.2, “Planning Your Basic GroupWise System,” on page 26
- ♦ Section 3.3, “Setting Up a Basic GroupWise System,” on page 45
- ♦ Section 3.4, “What’s Next,” on page 72
- ♦ Section 3.5, “Basic GroupWise System Worksheet,” on page 73

IMPORTANT: If you plan to install GroupWise in a clustered server environment, see the *GroupWise 7 Interoperability Guide* (<http://www.novell.com/documentation/gw7>) before starting to set up your GroupWise system.

3.1 Basic System Overview

A basic GroupWise system consists of a single domain with one post office, a document library, and one or more users, as shown below.

Figure 3-1 Basic GroupWise System



Each GroupWise user has a mailbox in the post office; users run the GroupWise client (Windows, Cross-Platform, or WebAccess) to access their mailboxes and to send and receive mail.

The GroupWise Post Office Agent (POA) delivers messages between users’ mailboxes in a post office, and the GroupWise Message Transfer Agent (MTA) routes messages between post offices (if there is more than one post office in the domain) and between domains (if there is more than one domain in the system).

After you finish setting up your basic GroupWise system, you can review [Section 3.4, “What’s Next,” on page 72](#) to learn how you can expand your system.

3.2 Planning Your Basic GroupWise System

The GroupWise Installation program includes an Installation Advisor to help you install the GroupWise files to the appropriate locations and a Setup Advisor to help you create and configure your GroupWise system. Both Advisors provide information to guide you through the process.

If you are comfortable with your knowledge of GroupWise, you can skip this planning section and continue with [Section 3.3, “Setting Up a Basic GroupWise System,” on page 45](#). Otherwise, you should review the following sections while filling out [Section 3.5, “Basic GroupWise System Worksheet,” on page 73](#). The worksheet lists all the information you are prompted for as you run the Advisors.

- ♦ [Section 3.2.1, “Determining Installation Locations,” on page 26](#)
- ♦ [Section 3.2.2, “Planning Your Domain,” on page 30](#)
- ♦ [Section 3.2.3, “Planning Your Post Office,” on page 35](#)
- ♦ [Section 3.2.4, “Planning Your GroupWise Agents,” on page 38](#)
- ♦ [Section 3.2.5, “Sample GroupWise Configurations,” on page 43](#)

To help with the above tasks, you can also review the [GroupWise Wiki \(http://wiki.novell.com/index.php/GroupWise\)](http://wiki.novell.com/index.php/GroupWise), which includes a *Best Practices* section.

IMPORTANT: If you plan to install GroupWise in a clustered server environment, refer to the [GroupWise 7 Interoperability Guide \(http://www.novell.com/documentation/gw7\)](http://www.novell.com/documentation/gw7) as you plan your GroupWise system.

3.2.1 Determining Installation Locations

The Installation Advisor prompts you for information about the Novell eDirectory™ tree where you plan to create GroupWise objects and the network server locations where you plan to create GroupWise directories and install files. The following sections prepare you to supply the required information.

- ♦ [“Novell eDirectory” on page 26](#)
- ♦ [“ConsoleOne” on page 27](#)
- ♦ [“GroupWise Software Distribution Directory” on page 28](#)
- ♦ [“GroupWise Languages” on page 29](#)

Novell eDirectory

GroupWise is administered through eDirectory, the directory service provided by Novell. All components, such as domains, post offices, libraries, and agents, as well as all users’ GroupWise accounts, are configured through objects in eDirectory. You need to make sure that you have eDirectory installed in your environment. eDirectory can be installed on NetWare, Linux, or Windows.

GroupWise 7 includes the *Novell eDirectory* CD to assist those who do not already have eDirectory installed and want to install it on Linux. Follow the instructions in the [Novell eDirectory Installation Guide](http://www.novell.com/documentation/edir87) (<http://www.novell.com/documentation/edir87>) to install eDirectory, along with its latest Support Pack, and ConsoleOne® before proceeding to install your basic GroupWise system.

Extending the eDirectory Tree's Schema

The Setup Advisor must extend the schema of the eDirectory tree where you plan to create your GroupWise system. Because all objects for a single GroupWise domain must reside in the same eDirectory tree, installing a basic system (one domain) requires you to extend one tree only.

BASIC GROUPWISE SYSTEM WORKSHEET

Under **Item 5: Tree Name**, specify the eDirectory tree where you plan to create the GroupWise objects.

Making Sure Users Exist in eDirectory

You must make sure all users who will use GroupWise exist in eDirectory. GroupWise accounts can only be assigned to eDirectory User objects and GroupWise External Entity objects.

GroupWise external entities represent non-eDirectory users and are added to eDirectory for the sole purpose of assigning GroupWise accounts to these users. GroupWise external entities require GroupWise licenses but not eDirectory licenses. You can add GroupWise external entities only after you have installed GroupWise. Instructions for adding GroupWise external entities are provided in [Section 8.3.1, “Assigning GroupWise Accounts to Users,” on page 202](#).

ConsoleOne

GroupWise administration is performed through ConsoleOne, using the version listed in [Section 2.1, “GroupWise Administration Requirements,” on page 21](#). When you install GroupWise, the GroupWise Administrator snap-in files are copied into an existing ConsoleOne installation. The GroupWise Administrator snap-in files extend the functionality of ConsoleOne to let you administer GroupWise. ConsoleOne considerations differ by platform:

NetWare and Windows: For a GroupWise system on NetWare or Windows, you need to decide which ConsoleOne location you want use to administer GroupWise. This can be a ConsoleOne location on a network server, or it can be on a local workstation. If you plan to use ConsoleOne on a local workstation, you need to perform the GroupWise installation from that workstation. For your convenience, ConsoleOne is included on the *GroupWise 7 Administrator for NetWare/Windows* CD. The Installation program lets you install ConsoleOne if necessary. You can also use the Installation program at a later time to install ConsoleOne and the GroupWise Administrator snap-in files to additional locations.

IMPORTANT: For a GroupWise system on NetWare, you cannot run ConsoleOne to administer GroupWise at the NetWare server console. The GroupWise Administrator snap-ins to ConsoleOne do not run in that environment.

Linux: For a GroupWise system on Linux, ConsoleOne must already be installed before you set up your GroupWise system. GroupWise 7 includes eDirectory for Solaris*, Linux, and AIX*, from which you can install ConsoleOne. ConsoleOne is installed to `/usr/ConsoleOne`. Make sure that ConsoleOne is installed on the Linux server where you plan to create your basic GroupWise system.

BASIC GROUPWISE SYSTEM WORKSHEET

Under **Item 2: ConsoleOne Path**, specify the path for the ConsoleOne location you want to use to administer GroupWise.

GroupWise Software Distribution Directory

During installation, you are prompted to create a GroupWise software distribution directory on a network server and then copy selected GroupWise software components to the directory.

You should consider the following when deciding where to create the software distribution directory:

- ◆ “**User Access to the Directory**” on page 28
- ◆ “**Disk Space Required for the Software**” on page 28

User Access to the Directory

User access considerations depend on which GroupWise client users are running:

Windows Client: Users can install the GroupWise Windows client through a TCP/IP or mapped connection to the software distribution directory. If you want users to install via a mapped connection, you should create the software distribution directory on a server where you can provide appropriate user access.

When users install the GroupWise Windows client, they can choose to copy it to a local drive or they can run it from the software distribution directory. If you want users to be able to run the GroupWise client from the software distribution directory, they must have a permanent drive mapping to the directory.

Cross-Platform Client: Users can install the GroupWise Cross-Platform client from the *GroupWise 7 Client for Linux and Macintosh* CD or from the software distribution directory, which requires user access to the file system where the software distribution directory is located. However, Cross-Platform client users cannot run the client from the software distribution directory. They must install it locally.

WebAccess Client: The GroupWise WebAccess client does not require that users install any GroupWise software on their workstations.

Disk Space Required for the Software

The disk space required for the directory depends on which software components you copy to the directory. The maximum disk space required to store all the GroupWise software components for one language is approximately 500 MB. For a breakdown by component, see **Chapter 2, “GroupWise System Requirements,”** on page 21.

We recommend that you copy at least the GroupWise client files to the directory. This enables users to install the GroupWise client from the distribution directory. Otherwise, you need to mount the *GroupWise 7 Client for Windows* CD or *GroupWise 7 Client for Linux and Macintosh* CD as a network volume or file system, or distribute the CD to individual users, unless you use one of the software distribution methods described in “**Distributing the GroupWise Client**” in “**Client**” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

All GroupWise software other than the client is used for administrative purposes only; if disk space is an issue and you don't mind accessing the *GroupWise 7 Administrator* CD for your platform when you need to install one of the software components, you might want to leave the administrative software on the CD.

NOTE: On Linux, you might want to install the GroupWise Administration component to your software distribution directory. It includes the RPMs for GroupWise Check (GWCheck) and the GroupWise Database Copy utility (DBCOPY). These RPMs are not installed by the GroupWise Installation program. For more information about these utilities, see “[Standalone Database Maintenance Programs](#)” in “[Databases](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

BASIC GROUPWISE SYSTEM WORKSHEET

Under **Item 3: Software Distribution Directory**, specify the path for the software distribution directory.

Under **Item 4: Select Software**, select the software components you want copied to the software distribution directory.

The Installation Advisor lets you create one software distribution directory. After you've set up your basic GroupWise system, you can create additional software distribution directories if needed.

For example, if not all users can access a single software distribution directory to run the GroupWise Windows client Setup program, you can create an additional software distribution directory on a server they can access. For information about creating additional software distribution directories, see “[Software Directory Management](#)” in “[System](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

GroupWise Languages

The *GroupWise 7* CDs contain multiple languages.

NetWare and Windows: Decide which languages you want to install. Your choice affects the programs listed below.

Linux: All languages are always automatically installed. You can run any GroupWise program in any available language at any time.

The language selection affects the following GroupWise components:

- ◆ GroupWise Administrator snap-ins for ConsoleOne
- ◆ GroupWise agents
- ◆ GroupWise client (Windows, Cross-Platform, and WebAccess)

For example, if you install English-US and German, you can run GroupWise Administrator and the agents in either language. By default, GroupWise Administrator runs in the language in which you are running ConsoleOne. Your users then have the choice of using either the English-US client or the German client.

BASIC GROUPWISE SYSTEM WORKSHEET

Under **Item 1: Select Languages**, specify the languages you want to install for a GroupWise system. The GroupWise Administrator languages are copied to the ConsoleOne location. The GroupWise agent and client languages are copied to the software distribution directory.

For more information, see “**Multilingual GroupWise Systems**” in “**System**” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

3.2.2 Planning Your Domain

The domain functions as the main administration unit for the GroupWise system. When you configure GroupWise information in eDirectory, it is also stored in the GroupWise domain database. From the domain database, the GroupWise agents distribute the information to each post office database. Users then get the information, such as user addresses, from the post office database.

In a multiple-post-office system, the domain also organizes post offices into a logical grouping for addressing and routing purposes, and enables you to scale your GroupWise system to meet your current and future needs.

As you create your basic GroupWise system, the Setup Advisor prompts you for information about the domain. The following sections prepare you to supply the required information.

- ♦ “**System and Domain Names**” on page 30
- ♦ “**Domain Directory**” on page 31
- ♦ “**Domain Context**” on page 32
- ♦ “**Domain Language**” on page 35
- ♦ “**Domain Time Zone**” on page 35

System and Domain Names

The domain requires a unique name. The name is used as the Domain object’s name in eDirectory. It is also used for addressing and routing purposes within GroupWise, and can appear in the GroupWise Address Book. The domain name can reflect a location, company name or branch name, or some other element that makes sense for your organization. For example, you might want the domain name to be the location (such as Provo) while the post office name is one of the company’s departments (such as Research).

A domain names should consist of a single string. Use underscores (_) rather than spaces as separators between words to facilitate addressing across the Internet. Do not use any of the characters listed below in system and domain names:

ASCII characters 0-13	Comma ,
Asterisk *	Double quote "
At sign @	Extended ASCII characters that are graphical or typographical symbols; accented characters in the extended range can be used
Braces { }	Parentheses ()
Colon :	Period .

Name your domain carefully. After it is created, the name cannot be changed.

You must also provide a name for your GroupWise system. The system name is used when connecting to other GroupWise systems; for this reason, it must be different than any other GroupWise system with which you might want to connect. The system name can be your company name (for example, Novell), GroupWise, or anything else that fits the naming scheme you want to use. The system name is displayed only in ConsoleOne so any characters can be used. You cannot change the name after your system is created.

BASIC GROUPWISE SYSTEM WORKSHEET

Under **Item 6: System Name**, specify the system name.

Under **Item 7: Domain Name**, specify the domain name.

Domain Directory

The domain requires a directory structure in which to store database files and temporary files that are created during message routing. As you choose a location for the domain directory, consider the following:

- ♦ **Security:** GroupWise users never need access to the domain directory, so you should create it in a location that you can easily secure.
- ♦ **Server Platform and Version:** The domain directory can be located on any of the supported platforms listed in [Section 2.1, “GroupWise Administration Requirements,” on page 21](#). It can also be located on any platform that an MTA running on a supported platform could access successfully.

For example, NetWare 4.2 is not a supported platform for GroupWise 7, but you could put a domain directory on a NetWare 4.2 server because an MTA running on a supported NetWare version would be able to access it there.

- ♦ **MTA Access:** The MTA requires direct access to the domain directory so that it can write to the domain database. Therefore, you might want to consider the server type (NetWare, Linux, or Windows) and location (local or remote) of the MTA before deciding on a domain directory. For information about the MTA, see [Section 3.2.4, “Planning Your GroupWise Agents,” on page 38](#). For examples of possible domain directory locations and MTA configurations, see [“Sample GroupWise Configurations” on page 43](#).

IMPORTANT: On Linux, the MTA must be installed on the same server where its directory structure is located. A file system mount between Linux servers does not provide the necessary file locking mechanisms for the GroupWise Linux MTA to write to the domain database on a remote Linux server.

- ♦ **Disk Space Requirements:** The domain directory requires a minimum of 100-200 MB of disk space for the domain database. In addition, you should plan for an additional 1 GB or more of free disk space for the temporary storage of messages when links are down.
- ♦ **Directory Name:** You should specify an empty directory for the domain. If you want, the directory can reflect the domain name you chose. Use the following platform-specific conventions:

NetWare: Use a maximum of 8 characters

- Linux: Use only lowercase characters
- Windows: No limitations.

Choose the name and path carefully. After the directory is created, it is difficult to rename. If the directory you specify does not exist, it is created during installation.

BASIC GROUPWISE SYSTEM WORKSHEET

Under **Item 8: Domain Directory**, specify the full path for the domain directory.

Domain Context

You can create the Domain object in any Organization or Organizational Unit container in any context in your eDirectory tree. The only requirement is that it be in the same tree as the other objects associated with the domain (Post Office object, User objects, and so forth).

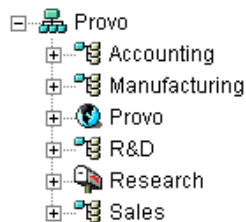
The following sections provide examples of where you might place your Domain object. Because it is helpful to discuss the Domain object's context in relationship to the Post Office object's context, the examples also include context information for the Post Office object.

- ♦ [“Objects in the Same Container as Users’ Organizational Units” on page 32](#)
- ♦ [“Objects Mirror eDirectory Organization” on page 32](#)
- ♦ [“Objects Mirror Network Server Organization” on page 33](#)
- ♦ [“Objects in a Dedicated Container” on page 33](#)
- ♦ [“The GroupWise View in ConsoleOne” on page 34](#)

Objects in the Same Container as Users’ Organizational Units

In the following example, the Domain object (Provo) and Post Office object (Research) reside in the same container (Provo) as the organizational units (Accounting, Manufacturing, R&D, and Sales) that contain the users. This allows you to associate the domain with a single organization and associate one post office with all users within the organization.

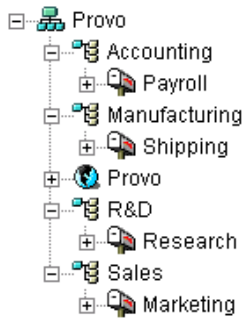
Figure 3-2 eDirectory Tree with the GroupWise Objects and Users’ Organizational Units in the Same Organization Container



Objects Mirror eDirectory Organization

The following example is similar to the previous example, except that a separate post office is created for each organizational unit that contains users. The Domain object (Provo) resides in the organization (Provo) and the Post Office objects reside in the same organizational units (Accounting, Manufacturing, R&D, and Sales) as the users.

Figure 3-3 eDirectory Tree with the GroupWise Objects Mirroring the eDirectory Structure

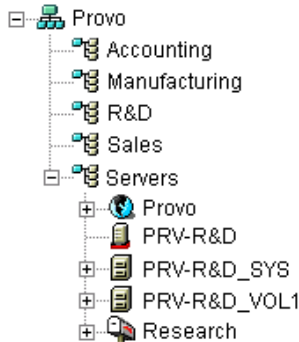


As in the previous example, this organizational structure allows you to quickly associate users with their post offices. In addition, if you have thousands of users split between the different organizational units, this method allows you to create multiple post offices with a smaller number of users on each post office.

Objects Mirror Network Server Organization

Because the domain and post office have directory structures on network servers, you could also choose to place the Domain and Post Office objects in the same context as the servers where the directories will reside, as shown in the following example.

Figure 3-4 eDirectory Tree with the GroupWise Objects Located in the Same Containers as the Network Servers Where Their Directories Reside

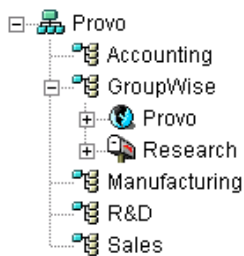


Objects in a Dedicated Container

If, rather than mirroring your eDirectory or server organization, you prefer to keep all your GroupWise objects together, you could create a container, such as GroupWise, and place all GroupWise objects in that container, as shown below.

Administratively, this type of organizational structure makes it easier to restrict a GroupWise administrator's object and property rights to GroupWise objects only.

Figure 3-5 eDirectory Tree with the GroupWise Objects in a Dedicated Organizational Unit Container



For information about GroupWise administrator rights, see “[GroupWise Administrator Rights](#)” in “[Security Administration](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

BASIC GROUPWISE SYSTEM WORKSHEET

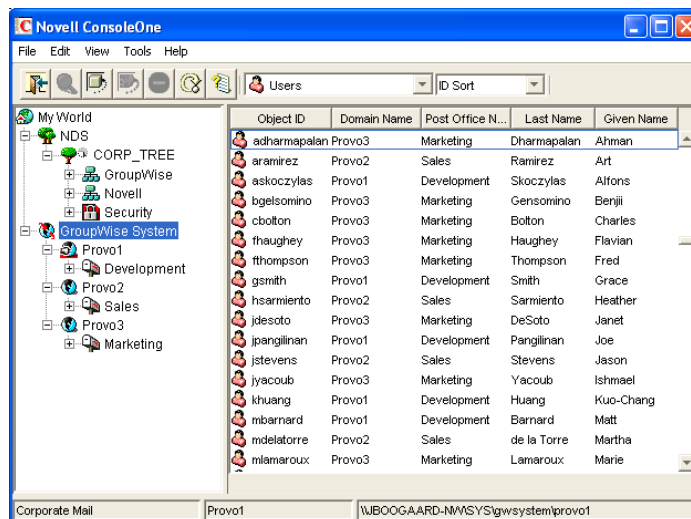
Under **Item 9: Domain Context**, specify the context where you want to create the Domain object. If the context does not already exist in your eDirectory tree, create the context now.

The GroupWise View in ConsoleOne

ConsoleOne includes a GroupWise View, displayed under the GroupWise System container.

The GroupWise View filters out all non-GroupWise objects and shows how GroupWise objects relate to each other. For example, in the left pane, notice the Post Office object (Development) is subordinate to the Domain object (Provo1). You can select an object in the left pane and display its associated objects (User, Resource, and so forth) in the right pane.

Figure 3-6 GroupWise View in ConsoleOne



The GroupWise View is particularly useful if your GroupWise objects are placed in different contexts in the eDirectory tree. Rather than searching for GroupWise objects throughout the tree, you can administer the objects from the GroupWise View.

Some GroupWise administrative functions can only be done while in the GroupWise View. This includes such tasks as defining users from other GroupWise systems so that they appear in your system's Address Book.

Domain Language

The domain language determines the sort order for items in the GroupWise Address Book.

BASIC GROUPWISE SYSTEM WORKSHEET

Under **Item 10: Domain Language**, specify the language for the domain. The domain language becomes the default language for the domain's post offices.

For more information, see “**Multilingual GroupWise Systems**” in “**System**” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

Domain Time Zone

When a message is sent from a user in one time zone to a user in another time zone, GroupWise adjusts the message's time so that it is correct for the recipient's time zone. For example, if a user in New York (GMT -05:00, Eastern Time) schedules a user in Los Angeles (GMT -08:00, Pacific Time) for a conference call at 4:00 p.m. Eastern Time, the appointment is scheduled in the Los Angeles user's calendar at 1:00 p.m. Pacific Time.

BASIC GROUPWISE SYSTEM WORKSHEET

Under **Item 11: Domain Time Zone**, specify the time zone for the domain. The domain time zone becomes the default time zone for the domain's post offices.

3.2.3 Planning Your Post Office

The post office contains users' mailboxes. Like a domain, a post office requires a name, has a directory structure and an eDirectory object, and can be configured to support different languages and time zones. The following sections prepare you to supply the Setup Advisor with the required information.

- ◆ “**Post Office Name**” on page 35
- ◆ “**Post Office Directory**” on page 36
- ◆ “**Post Office Context**” on page 37
- ◆ “**Post Office Language**” on page 37
- ◆ “**Post Office Time Zone**” on page 38
- ◆ “**Post Office Users**” on page 38

Post Office Name

The post office, like the domain, requires a unique name. The name is used as the Post Office object's name in eDirectory. It is also used for addressing and routing purposes within GroupWise, and can appear in the GroupWise Address Book. The post office name can reflect any element that

makes sense for your organization. For example, you might want the domain name to be the location (such as Provo) while the post office name is one of the company's departments (such as Research). Name your post office carefully. After it is created, the name cannot be changed.

Post office names must be a single string. The same characters that are invalid in domain names are also invalid in post office names (see [“System and Domain Names” on page 30](#)).

BASIC GROUPWISE SYSTEM WORKSHEET

Under [Item 12: Post Office Name](#), specify the name you've selected.

Post Office Directory

The post office requires a directory structure in which to store database files and temporary files that are created during message routing. As you choose a location for the post office directory, consider the following:

- ♦ **Security:** The GroupWise Windows and Cross-Platform clients access the post office through a client/server (TCP/IP) connection to the Post Office Agent (POA). The WebAccess client uses an HTTP connection. Therefore, GroupWise users never need access to the post office directory, so you should create the directory in a location that you can easily secure.
- ♦ **Server Platform and Version:** The post office directory can be located on any of the supported platforms listed in [Section 2.1, “GroupWise Administration Requirements,” on page 21](#). It can also be located on any platform that a POA running on a supported platform could access successfully.

For example, NetWare 4.2 is not a supported platform for GroupWise 7, but you could put a post office directory on a NetWare 4.2 server because a POA running on a supported NetWare version would be able to access it there.

- ♦ **POA Access:** The POA requires direct access to the post office directory so that it can write to the post office database. Therefore, you might want to consider the server type (NetWare, Linux, or Windows) and location (local or remote) of the POA before deciding on a post office directory. For information about the POA, see [Section 3.2.4, “Planning Your GroupWise Agents,” on page 38](#). For examples of possible post office directory locations and POA configurations, see [Section 3.2.5, “Sample GroupWise Configurations,” on page 43](#).

IMPORTANT: On Linux, the POA must be installed on the same server where its directory structure is located. A file system mount between Linux servers does not provide the necessary file locking mechanisms for the GroupWise Linux POA to write to the post office database on a remote Linux server.

- ♦ **Disk Space Requirements:** The post office directory holds users' messages and attachments, so you should plan a minimum of 5 MB per user. 100 MB or more per user is recommended. Although actual messages are relatively small, message attachments (documents, spreadsheets, images, and so forth) can greatly increase the amount of disk space used.

Using ConsoleOne, you can restrict the amount of disk space users are allowed for their mailboxes. When you know the number of users and the amount of disk space allocated to each user, you can more accurately determine the amount of disk space required for the post office.

You can reduce the amount of disk space required for the post office by forcing users to run the GroupWise Windows and Cross-Platform clients in Caching mode rather than Online mode. In Online mode, messages are stored only in the post office. In Caching mode, messages are also stored on users' local drives, so you can reduce the size of users' Online mailboxes independent of what users want to store in personal locations.

In addition to user messages and attachments, the post office directory also contains a document library. If you want to use GroupWise document management, you should take into account the disk space you want to provide for storing documents.

Plan for 100-300 MB for the post office database, which holds the GroupWise Address Book and updates to it for download by Remote client users. Also plan 500 MB or more for the temporary storage of messages when links are down.

- ♦ **Directory Names:** You should specify an empty directory for the post office. If you want, the directory can reflect the post office name you chose. Use the following platform-specific conventions:

NetWare: Use a maximum of 8 characters

Linux: Use only lowercase characters

Windows: No limitations.

Choose the name and path carefully. After the directory is created, it is difficult to rename. If the directory you specify does not exist, it is created during installation.

BASIC GROUPWISE SYSTEM WORKSHEET

Under **Item 13: Post Office Directory**, specify the full path for the post office directory.

Post Office Context

Like the Domain object, you can create the Post Office object in any Organization or Organizational Unit container in any context in your eDirectory tree. The only requirement is that it be in the same tree as the Domain object and other objects associated with the domain (User objects and so on). For configuration examples, see **“Domain Context” on page 32**.

BASIC GROUPWISE SYSTEM WORKSHEET

Under **Item 14: Post Office Context**, specify the context where you want to create the Post Office object. If the context does not already exist in your eDirectory tree, create the context now.

Post Office Language

The post office language determines the sort order for items in the GroupWise Address Book.

The post office assumes the same language as its domain unless you specify otherwise. For example, if you set the domain and post office language to English-US, the Address Book items are sorted according to English-US sort order rules. This is true even if some users in the post office are running non-English-US GroupWise clients such as German or Japanese. Their client interface and Help files are in German or Japanese, but the sort order is according to English-US standards. Time, date, and number formats for the non-English clients default to the workstation language.

BASIC GROUPWISE SYSTEM WORKSHEET

Under **Item 15: Post Office Language**, specify the language for the post office.

For more information, see “**Multilingual GroupWise Systems**” in “**System**” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

Post Office Time Zone

When a message is sent from a user in one time zone to a user in another time zone, GroupWise adjusts the message’s time so that it is correct for the recipient’s time zone. For example, if a user in New York (GMT -05:00, Eastern Time) schedules a user in Los Angeles (GMT -08:00, Pacific Time) for a conference call at 4:00 p.m. Eastern Time, the appointment is scheduled in the Los Angeles user’s calendar at 1:00 p.m. Pacific Time.

The post office assumes the same time zone as its domain unless you specify otherwise.

BASIC GROUPWISE SYSTEM WORKSHEET

Under **Item 16: Post Office Time Zone**, specify the time zone where the post office is located.

Post Office Users

You need to assign a GroupWise account to each eDirectory user who should have a mailbox in the post office. You can do this while creating your system, or you can do it afterwards. However, we recommend that you at least add yourself as a GroupWise user so you can test the system.

BASIC GROUPWISE SYSTEM WORKSHEET

If desired, specify the context for each user under **Item 20: Post Office Users**.

The Setup Advisor lets you select users from the eDirectory tree to add to the post office. You do not need to list all of the users at this time.

If you are adding non-eDirectory users as GroupWise external entities, you must wait to add them to the post office until after you have finished the installation. Instructions for adding GroupWise external entities are provided in **Section 8.3.1, “Assigning GroupWise Accounts to Users,” on page 202**.

3.2.4 Planning Your GroupWise Agents

The Message Transfer Agent (MTA) and Post Office Agent (POA) route messages through the GroupWise system. The MTA handles all message traffic between the domain and post office, while the POA handles all message traffic within the post office.

MTA: GroupWise requires one MTA per domain, which means that you need to install and run one MTA for your basic GroupWise system.

In addition to routing user messages between post offices and between domains, the MTA routes administration messages from the domain to the post office. For example, when a user is given a GroupWise account in eDirectory, the user is added to the GroupWise domain database. At the same

time, the MTA routes an administration message from the domain to the post office so that the POA can add the user to the post office database. After the user is added to the post office database, the post office's users can see the newly added user's information in the GroupWise Address Book

POA: GroupWise requires one POA per post office, which means that you need to install and run one POA for your basic GroupWise system.

The POA routes messages within the post office, updates the post office database when it receives administration messages from the MTA, and performs other maintenance tasks in the post office.

The following sections prepare you to supply the information required when installing the MTA and POA:

- ◆ [“Agent Platform” on page 39](#)
- ◆ [“Agent Location” on page 39](#)
- ◆ [“MTA Link to the Post Office” on page 41](#)
- ◆ [“Web Console” on page 41](#)
- ◆ [“Agent Language” on page 42](#)
- ◆ [“Windows Installation Option: Application vs. Service” on page 42](#)

Agent Platform

The MTA and POA are available as NetWare NLM™ programs, Linux executables, and Windows executables.

In general, GroupWise is most efficient if you match the agent platform with the network operating system where the post office and domain are located. For example, if a domain and post office are located on a NetWare server, then you would install the NetWare agents for them. However, this is not required. For configuration examples, see [Section 3.2.5, “Sample GroupWise Configurations,” on page 43](#).

BASIC GROUPWISE SYSTEM WORKSHEET

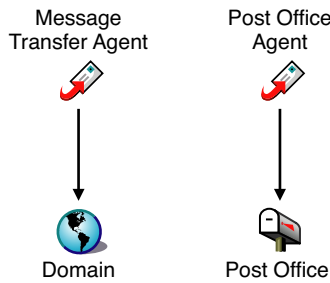
Under [Item 21: Agent Platform](#), specify the type of agents (NetWare, Linux, or Windows) you want to use.

Agent Location

The MTA requires direct access to the domain directory so that it can write to the domain database. The POA requires direct access to the post office directory so that it can write to the post office database.

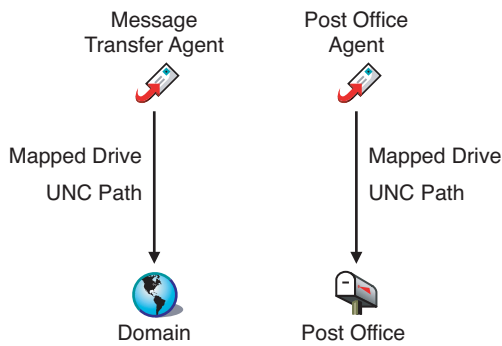
In general, we recommend that you install an agent on the same server as its directory. For example, you would install the MTA on the same server as the domain directory and the POA on the same server as the post office directory. This ensures that the agent always has access to its directory.

Figure 3-7 *Direct Access between Agents and Directories*



However, if necessary, you can install the agent on a different server from its directory. This requires the agent to have a direct link (mapped drive, UNC path, or file system mount) to its directory in order to function. The following diagram illustrates the direct links:

Figure 3-8 *MTA with UNC or Mapped Path to Domain and Post Office Directories; POA with UNC or Mapped Path to the Post Office Directory*



For the purpose of simplifying the setup of your basic system, you are required to install both the MTA and the POA to the same server. If, at a later time, you decide that you want to run one of the agents on a different server, see [Chapter 7, “Installing GroupWise Agents,”](#) on page 159.

Consider these platform-specific guidelines:

- NetWare:** When installing the NetWare agents, we recommend you use the `sys:\system` directory on the NetWare server. This simplifies the use of startup files and ensures that the agent NLM programs are in the server’s search path. If you use a different directory, you must add that directory to the server’s search path.
- Linux:** The Linux agents are automatically installed to `/opt/novell/groupwise/agents`. On Linux, do not move the agent software to a different location.
- Windows:** The default installation directory is `c:\grpwise`. However, you can install the agents to any directory you want.

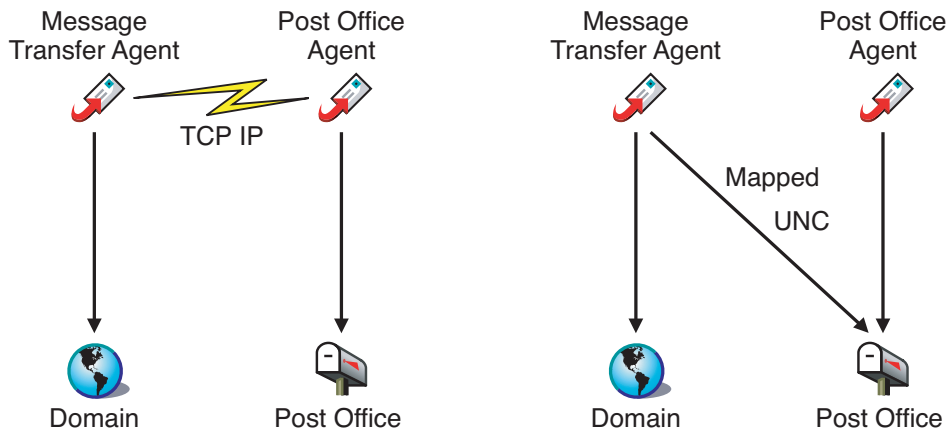
BASIC GROUPWISE SYSTEM WORKSHEET

Under **Item 22: Installation Path**, specify the installation path for the agents.

MTA Link to the Post Office

To route user and administration messages to the post office, the MTA requires a TCP/IP connection with the post office's POA, or alternatively, direct access or a direct link (mapped drive, UNC path, or file system mount) to the post office directory. The following diagram illustrates the alternatives:

Figure 3-9 MTA Link Alternatives



In general, a TCP/IP connection between the MTA and the POA is preferable.

BASIC GROUPWISE SYSTEM WORKSHEET

Under **Item 17: Post Office Link**, select whether the MTA will connect to the post office through a TCP/IP link to the POA or a direct link to the post office directory.

Under **Item 18: POA Network Address**, specify the IP address or DNS hostname of the POA's server. The GroupWise Windows and Cross-Platform clients, which access the POA through TCP/IP, need to know the address. If the MTA will have a TCP/IP connection to the POA, it will also use this address.

If you plan to have the MTA use a TCP/IP connection to the POA, under **Item 19: MTA Network Address**, specify the IP address or DNS hostname of the MTA's server.

Web Console

The MTA and POA provide server consoles to let you monitor and configure the agents while at the agents' servers.

NetWare: The MTA and POA consoles are always displayed.

Linux: The MTA and POA consoles are displayed only if you start the agents with the `--show` switch on the command line.

Windows: The MTA and POA consoles are displayed if you run the agents as applications but are not displayed if you run the agents as services.

When the MTA and POA consoles are not available, you can monitor and configure the agents through a Web browser. This feature, referred to as the agent Web console, lets you access the agents' statistics and diagnostic information from any location where you are connected to the Internet and have access to a Web browser, either at a workstation or on a mobile device.

By default, the MTA Web console is enabled on port 7180 and the POA Web console is enabled on port 7181. In your browser, you access the agent Web consoles using the following URLs:

```
http://mta_network_address:port  
http://poa_network_address:port
```

where *mta_network_address* and *poa_network_address* are the agents' IP addresses or host names and *port* is the agent's HTTP port number.

BASIC GROUPWISE SYSTEM WORKSHEET

Under **Item 18: POA Network Address**, specify the POA's HTTP port. The default port, 7181, should be used unless there is a port conflict.

Under **Item 19: MTA Network Address**, specify the MTA's HTTP port. The default port, 7180, should be used unless there is a port conflict.

Agent Language

If you have users with various language preferences, you can install the GroupWise agents in multiple languages. The language determines the agents' interface language only. It does not affect messages processed by the agents.

By default, the agents start in the language selected for the domain. If that language has not been installed, the agents start in the language used by the operating system. If that language has not been installed, the agents start in English-US.

NOTE: On Linux, all available languages are included in the same RPM, so all languages are always installed.

BASIC GROUPWISE SYSTEM WORKSHEET

Under **Item 24: Language**, list the languages you want to install for the agents.

For more information, see “**Multilingual GroupWise Systems**” in “**System**” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

Windows Installation Option: Application vs. Service

You can run the Windows MTA and POA as normal applications or as services. When you run the agents as Windows services, they must run under a specific user account. The user account you use depends on where the domain and post office directories are located:

- ◆ When the domain and post office directories are located on the same server where you are installing the agents, the agents can run under the local system account. You can also display the agent server console when the agent software, directories, and databases are local.
- ◆ When the domain and post office directories are located on a remote server, you must specify a user with rights to access the domain and post office directories.

Windows If the Windows agents need to log in to another Windows server, provide a Windows username and password.

- NetWare: If the Windows agents need to log in to a NetWare server, provide an existing eDirectory username and password, or create a new account for the agents, as described in [“Creating a NetWare Account for Agent Access \(Optional\)”](#) on page 170.
- Linux: Configuring the Windows agents to log in to a Linux server is not recommended.

As with all Windows services, you can start the agents manually or have them start automatically each time the Windows server restarts.

BASIC GROUPWISE SYSTEM WORKSHEET

Under [Item 23: Windows Installation Options](#), select *Install as Windows Services* if you want to run the agents as Windows services.

If you want to run the agents as Windows services, under [Item 25: Windows Services Information](#), record the account the agents will run under, and if necessary, the password for the account. Also select whether you want the service to start automatically or manually.

3.2.5 Sample GroupWise Configurations

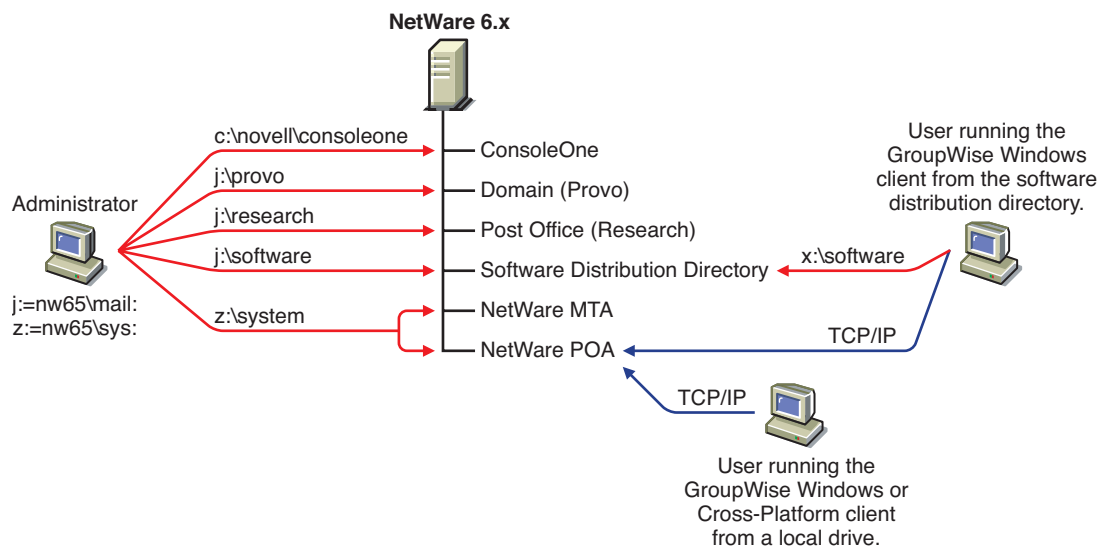
Many different configurations are possible for your GroupWise system. The following diagrams illustrate some of the ways a basic GroupWise system (one domain and one post office) can be set up.

- ♦ [“NetWare 6.x Server”](#) on page 43
- ♦ [“Linux Server”](#) on page 44
- ♦ [“Windows 2003 Server”](#) on page 44
- ♦ [“Open Enterprise Server and Windows 2003 Server”](#) on page 44

NetWare 6.x Server

The following diagram shows a basic GroupWise system set up on a single NetWare 6.x server.

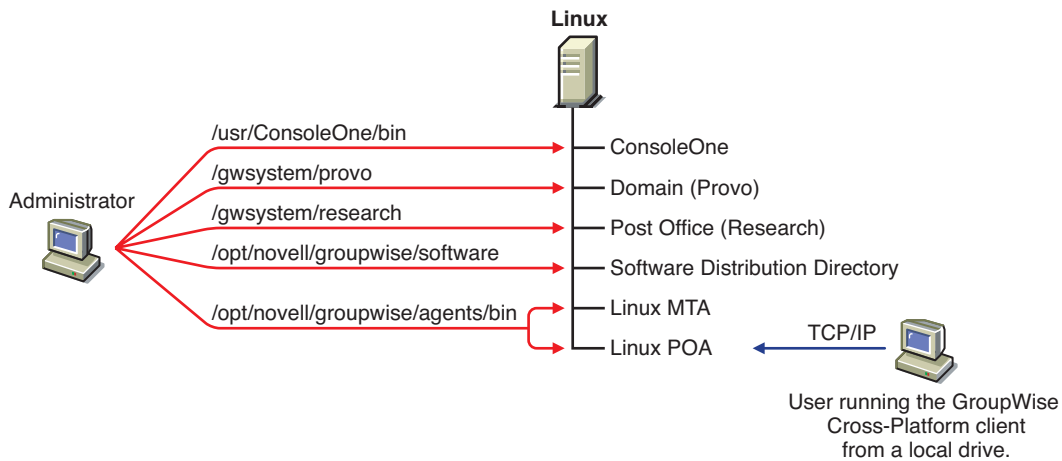
Figure 3-10 GroupWise System Installed on a Single NetWare 6 Server



Linux Server

The following diagram shows all GroupWise components on a Linux server.

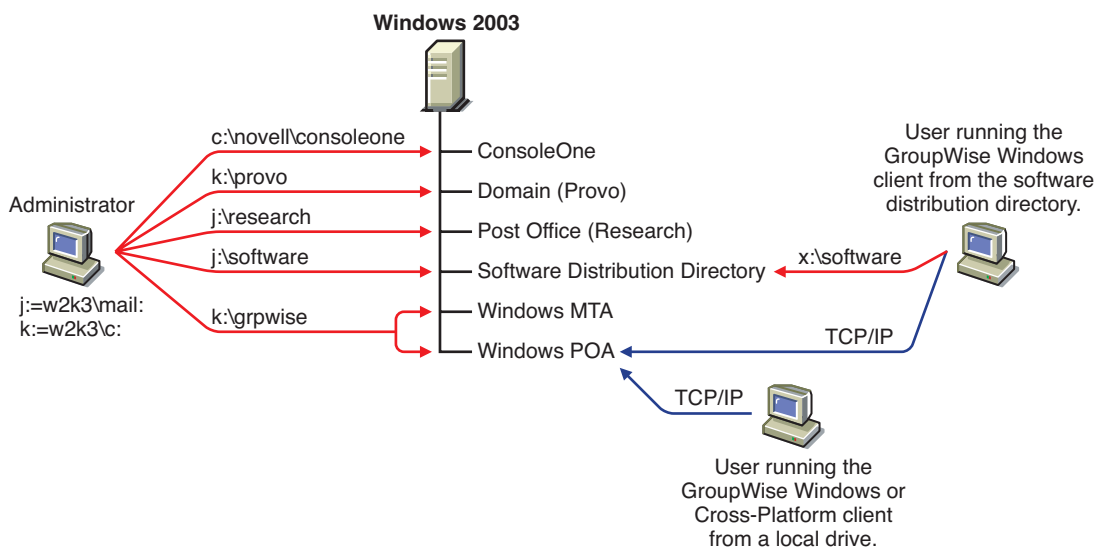
Figure 3-11 GroupWise System Installed on a Single Linux Server



Windows 2003 Server

The following diagram shows all GroupWise components on a Windows 2003 server.

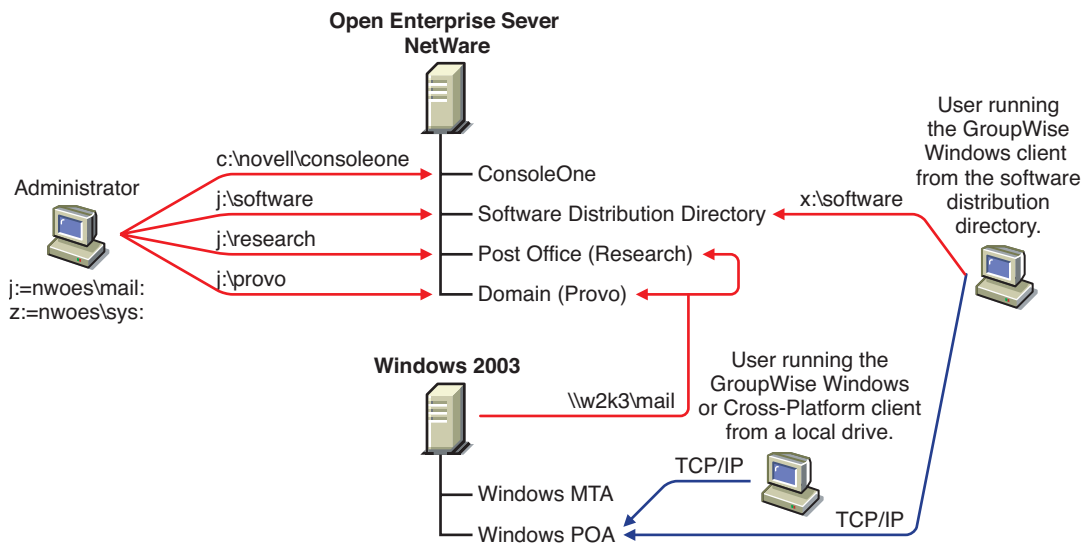
Figure 3-12 GroupWise System Installed on a Single Windows 2003 Server



Open Enterprise Server and Windows 2003 Server

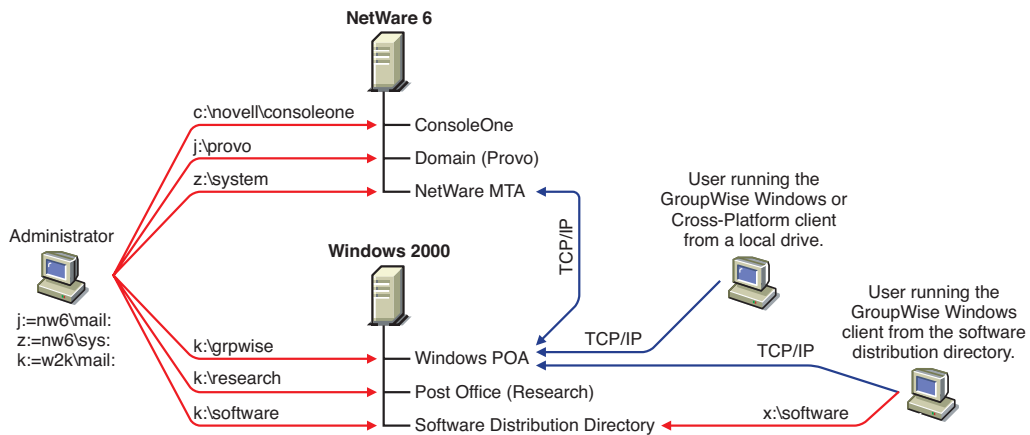
The following diagram shows the domain, post office, and software distribution directory on a server running the NetWare version of Novell Open Enterprise Server (OES). The MTA and POA, located on a Windows 2003 server, use a UNC path to access the domain directory and post office directory on the OES NetWare server.

Figure 3-13 GroupWise System Installed on an OES NetWare Server and Windows 2000 Server



The following diagram shows the domain and MTA on a NetWare 6 server. The post office, software distribution directory, and POA are on a Windows 2000 server. The MTA communicates with the POA through TCP/IP.

Figure 3-14 GroupWise System Installed on a NetWare 6 Server and Windows 2000 Server



NOTE: The above configuration has the MTA on one server and the POA on another. Because the basic GroupWise system setup requires you to install the MTA and POA on the same server, you would need to do additional setup to create a similar configuration.

3.3 Setting Up a Basic GroupWise System

Follow the setup instructions for the platform where you are creating your basic GroupWise system:

- ♦ Section 3.3.1, “NetWare and Windows: Setting Up a Basic GroupWise System,” on page 46
- ♦ Section 3.3.2, “Linux: Setting Up a Basic GroupWise System,” on page 60

3.3.1 NetWare and Windows: Setting Up a Basic GroupWise System

You should have already reviewed [Section 3.2, “Planning Your Basic GroupWise System,”](#) on [page 26](#) and filled out the [worksheet](#).

The following sections step you through the GroupWise Installation program, Installation Advisor and, Setup Advisor. The Installation Advisor installs the GroupWise software. It then launches the Setup Advisor to create your domain and post office, set up the GroupWise agents, and set up the GroupWise Windows client (if desired) on your local machine.

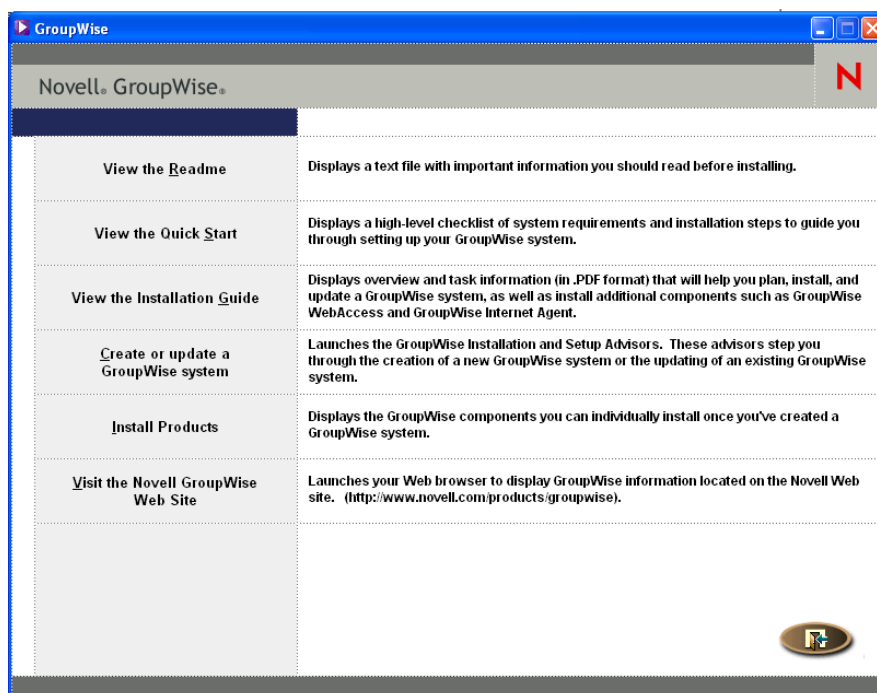
- ♦ [“Starting the GroupWise Installation Program on Windows”](#) on [page 46](#)
- ♦ [“Installing the GroupWise Software”](#) on [page 48](#)
- ♦ [“Providing System Information”](#) on [page 49](#)
- ♦ [“Creating Your Basic GroupWise System”](#) on [page 52](#)
- ♦ [“Installing and Starting the GroupWise Agents”](#) on [page 53](#)
- ♦ [“Setting Up and Running the GroupWise Windows Client on Your Local Machine”](#) on [page 58](#)
- ♦ [“Installing the GroupWise Administrator Snap-Ins to Additional Windows Machines”](#) on [page 60](#)

IMPORTANT: If you plan to install GroupWise in a clustered server environment, see the [GroupWise 7 Interoperability Guide](http://www.novell.com/documentation/gw7) (<http://www.novell.com/documentation/gw7>) before starting to set up your GroupWise system.

Starting the GroupWise Installation Program on Windows

To start the GroupWise Installation program:

- 1 At a Windows machine that meets the administrator machine requirements listed in [Section 2.1, “GroupWise Administration Requirements,”](#) on [page 21](#), log in as an Admin equivalent to the eDirectory tree in which you are installing GroupWise.
- 2 Insert the *GroupWise 7 Administrator for NetWare/Windows* CD into the CD drive to start the GroupWise Installation program.

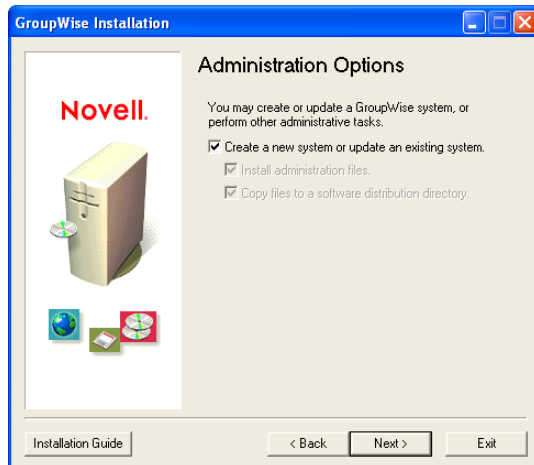


If the Installation program does not start automatically, run `setup.exe` from the root of the CD.

- 3 Click *Create or Update a GroupWise System*, then click *Yes* to accept the license agreement and display the Welcome to GroupWise Install page.



- 4 Click *Next* until you reach the Administration Options page.



- 5 Make sure that *Create a New System or Update an Existing System* is selected, then click *Next*.
- 6 Continue with **Installing the GroupWise Software**.

Installing the GroupWise Software

- 1 Follow the prompts to provide the following information from your **Basic GroupWise System Worksheet**.

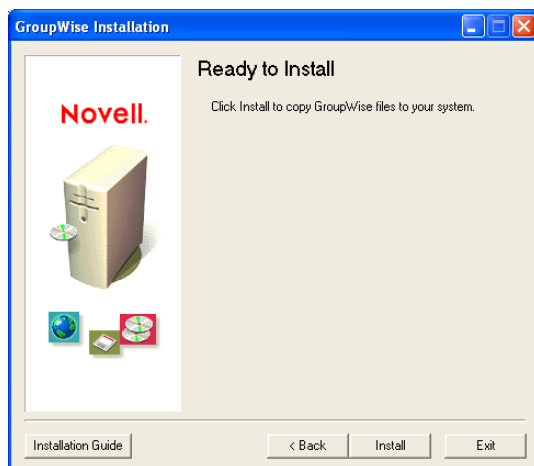
Item 1: Select Languages

Item 2: ConsoleOne Path

Item 3: Software Distribution Directory

Item 4: Select Software

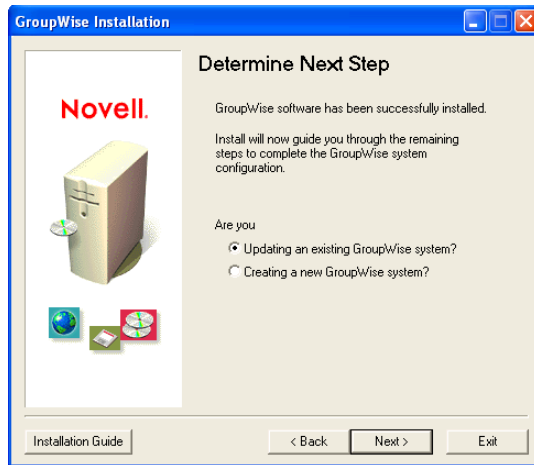
When you have provided this information, the Installation Advisor is ready to install the GroupWise administrative software.



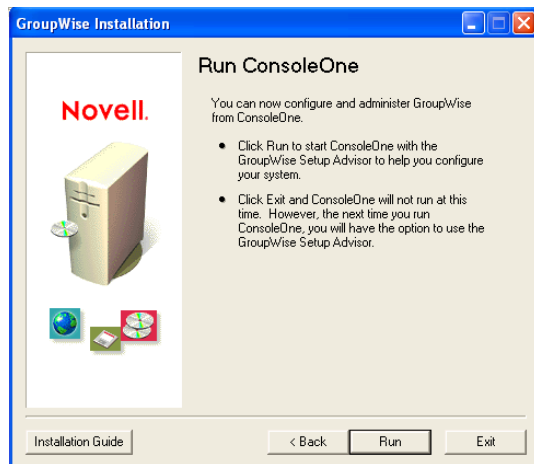
- 2 Click *Install*.

The Installation Advisor installs GroupWise software to the ConsoleOne location and software distribution directory.

- 3 Follow the prompts until you reach the Determine Next Step page.



- 4 Select *Creating a New GroupWise System*, then click *Next* to display the Run ConsoleOne page.



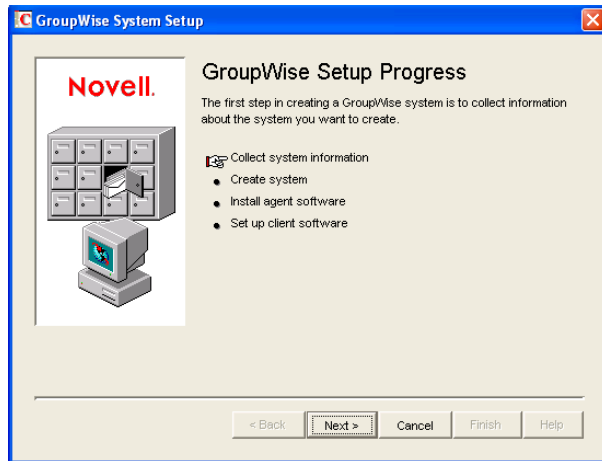
- 5 Continue with **Providing System Information**.

Providing System Information

The Installation Advisor launches ConsoleOne with the GroupWise Setup Advisor active.

- 1 On the Run ConsoleOne page, click *Run* to start ConsoleOne and the GroupWise Setup Advisor.

The Setup Advisor provides an overview of the information it needs to collect in order to create your basic GroupWise system.



- 2 Follow the prompts to provide the GroupWise system and domain information from your **Basic GroupWise System Worksheet**.

Item 3: Software Distribution Directory

Item 5: Tree Name

Item 6: System Name

Item 7: Domain Name

Item 8: Domain Directory

Item 9 Domain Context

Item 10: Domain Language

Item 11: Domain Time Zone

- 3 Follow the prompts to provide the GroupWise post office information from your **Basic GroupWise System Worksheet**.

Item 12: Post Office Name

Item 13: Post Office Directory

Item 14: Post Office Context

Item 15: Post Office Language

Item 16: Post Office Time Zone

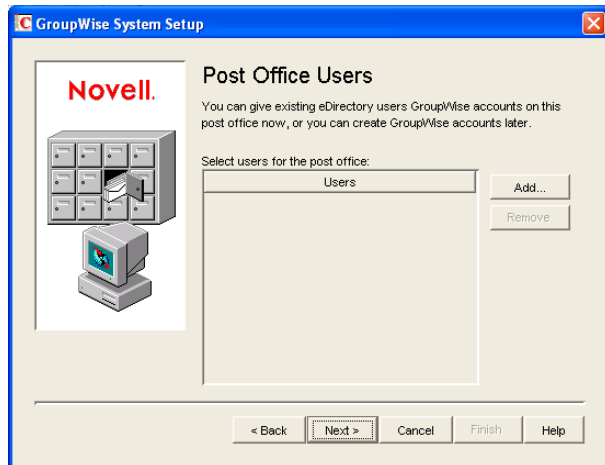
- 4 Follow the prompts to provide information about how to link the domain and the post office from your **Basic GroupWise System Worksheet**.

Item 17: Post Office Link

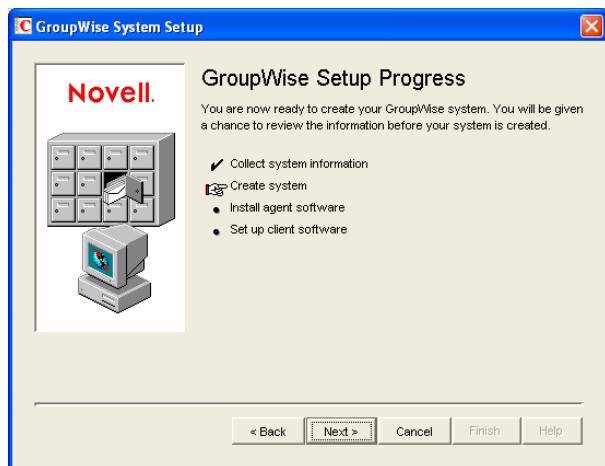
Item 18: POA Network Address

Item 19: MTA Network Address (for a TCP/IP link)

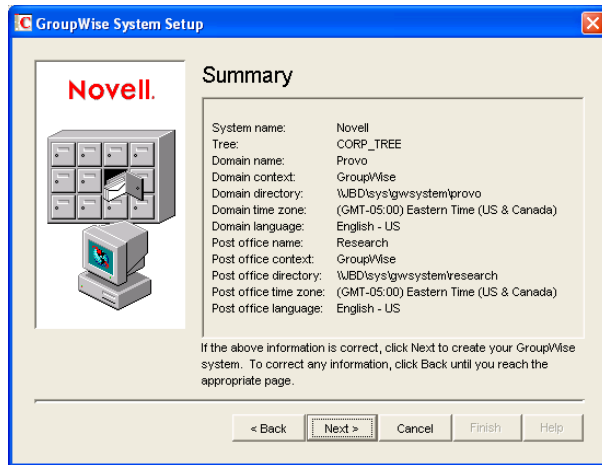
When you have provided the system, domain, post office, and link information for your GroupWise system, you are ready to create users. However, adding users at this point is optional. After the Setup Advisor has finished, you can add users to the post office at any time by using ConsoleOne.



- 5 Add any users that you listed on your **Basic GroupWise System Worksheet**, then click *Next*. The Setup Advisor summarizes your overall progress.



- 6 Click *Next* to display a summary of the system, domain, post office, and link information you entered.



7 Continue with the **Creating Your Basic GroupWise System**.

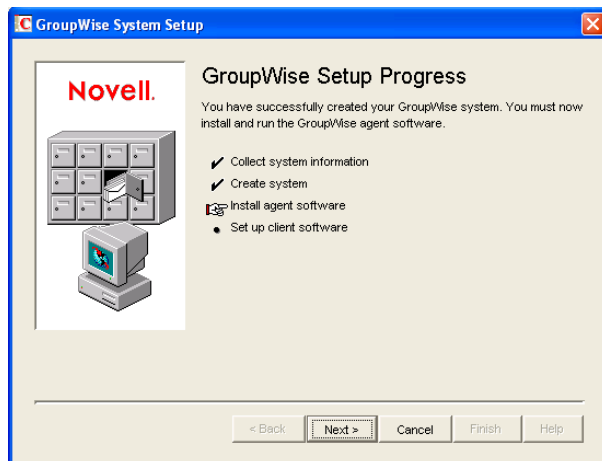
Creating Your Basic GroupWise System

After you have verified that the information you entered is correct, you are ready for the Setup Advisor to create your GroupWise system.

1 On the Summary page, click *Next*.

The Setup Advisor creates the GroupWise system using the information you provided.

2 When your system has been created, click *Next* to display the GroupWise Setup Progress: Install Agent Software page.

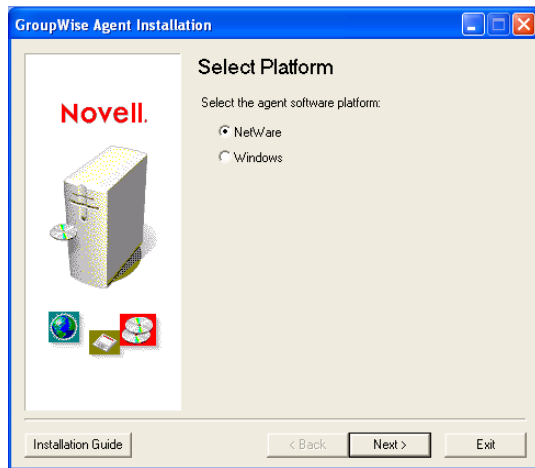


3 Continue with **Installing and Starting the GroupWise Agents**.

Installing and Starting the GroupWise Agents

At this point, the Setup Advisor has created GroupWise objects in eDirectory and directory structures on servers for your GroupWise system. You now need to install and start the MTA and POA on your NetWare or Windows server.

- 1 On the GroupWise Setup Progress page, click *Next* to have the Setup Advisor launch the Agent Installation program and display the Select Platform page.



- 2 If you are installing the NetWare agents ([worksheet item 21](#)), continue with [NetWare: Installing and Starting the GroupWise Agents](#).
or
If you are installing the Windows agents ([worksheet item 21](#)), skip to [“Windows: Installing and Starting the GroupWise Agents”](#) on page 55.

NetWare: Installing and Starting the GroupWise Agents

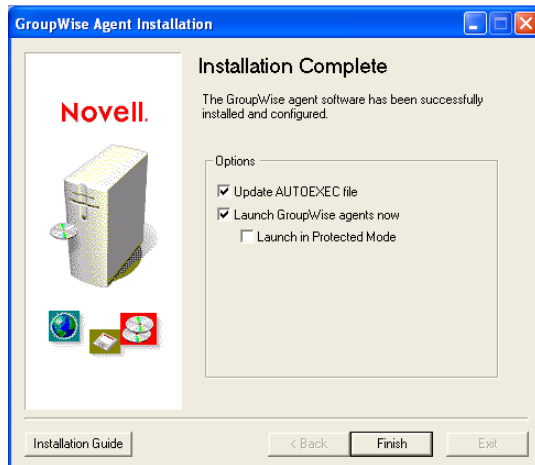
- 1 Follow the prompts to provide NetWare Agent information from your [Basic GroupWise System Worksheet](#).

[Item 22: Installation Path](#)

[Item 24: Language](#)

- 2 Review the information displayed on the Summary page, then click *Install* to install the NetWare agents.

The Installation Complete page appears when the software has been installed.

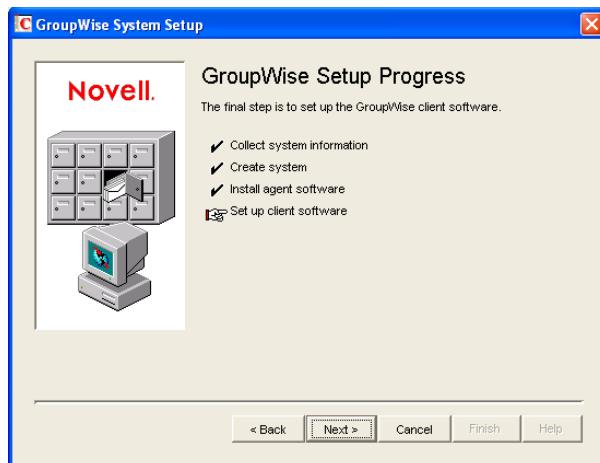


3 Select from the following options:

Update AUTOEXEC File: Select this option to reference the `grpwise.ncf` file from the server's `autoexec.ncf` file so that the GroupWise agents are automatically loaded whenever the server is started.

Launch GroupWise Agents Now: Select this option to have the Installation program start the GroupWise agents for you immediately. You should only do this if the MTA and POA are on the same server as the domain and post office directories. If you want the agents to run in protected mode, select *Launch in Protected Mode*.

4 Click *Finish* to return to the Setup Advisor. The GroupWise Setup Progress page is again displayed.



5 If you selected *Launch GroupWise Agents Now*, skip to **Step 8**.

or

To configure the agents to access the remote server where their domain and post office directories have been created, continue with **Step 6**.

6 Use a text editor to modify the agents' startup files.

The load command in the `grpwise.ncf` file includes a startup switch that points the agents to their startup files. The startup files include configuration information the agents need to function properly. When the MTA is not on the same server as the domain directory, you need

to edit the MTA startup file to include the MTA's eDirectory distinguished name. When the POA is not on the same server as the post office directory, you need to edit the POA startup file to include the POA's eDirectory distinguished name.

The startup files are located in the agent installation directory you specified in [Step 1](#). The MTA startup file is named *domain.mta*, where *domain* is the first 8 letters of the domain name (for example, *provo.mta*). The POA startup file is named *post_office.poa*, where *post_office* is the first 8 letters of the post office name (for example, *research.poa*).

The `/dn-distinguished_object_name` startup switch is located in Section 1 of the startup file. Delete the semicolon (;) at the beginning of the line and replace the *distinguished_object_name* variable with the distinguished name of the MTA or POA. For example, if the MTA is for a domain named Provo that is located in a container named Novell, you would enter:

```
/dn-mta.provo.novell
```

- 7 At the NetWare server console, enter `grpwise.ncf` to start the agents.

If the agents do not start successfully, see [“Starting the NetWare GroupWise Agents” on page 173](#).

- 8 Now that you have the NetWare agents installed and running, skip to [“Setting Up and Running the GroupWise Windows Client on Your Local Machine” on page 58](#).

Windows: Installing and Starting the GroupWise Agents

To install the Windows agents, you must run the Agent Installation program at the Windows server where you are installing the agents.

- 1 If you are already running the Agent Installation program at the Windows server where you are installing the agents, skip to [Step 6](#).

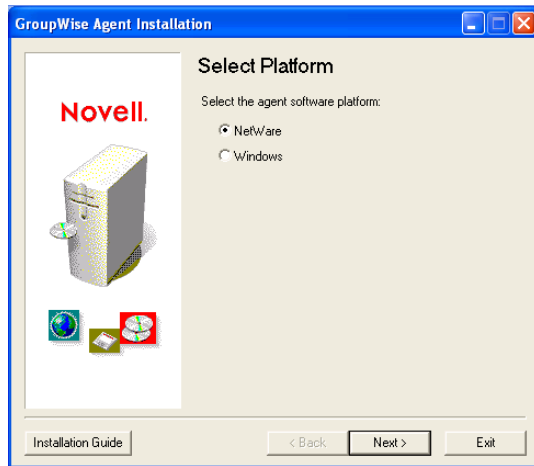
or

Click *Exit* to close the Agent Installation program that was launched automatically by the Setup Advisor, go to the Windows server where you want to install the agents, then continue with [Step 2](#) below.

- 2 Make sure you are logged in as an Admin equivalent and have network access to the software distribution directory (or the *GroupWise 7 Administrator for NetWare/Windows CD*), domain directory, and post office directory.
- 3 Start the Agent Installation program (`install.exe` in the `agents` subdirectory), then click *Yes* to accept the license agreement and display the Overview page.



- 4 Click *Next* to continue.
- 5 Select *Install*, then click *Next* to display the Select Platform page.



- 6 Select *Windows*, then click *Next*.
- 7 Follow the prompts to provide Windows Agent information from your **Basic GroupWise System Worksheet** in the order listed.

Item 22: Installation Path

Item 23: Windows Installation Options

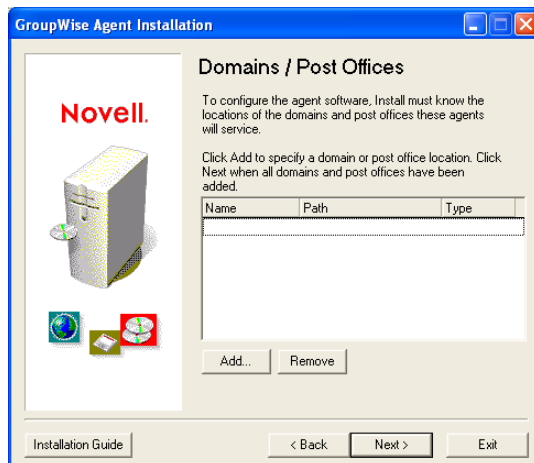
Item 24: Language

Item 7: Domain Name and Item 8: Domain Directory (if prompted)

Item 12: Post Office Name and Item 13: Post Office Directory (if prompted)

Item 25: Windows Service Information (if applicable)

- 8 If you are not running the Agent Installation program on the same server as the GroupWise Setup Advisor, the Domains/Post Offices page is displayed.



The MTA and POA must know the location of the domain and post office directories. Continue with **Step 9**.

or

If you are running the Agent Installation program on the same server as the GroupWise Setup Advisor, the Setup Advisor passes the domain and post office information to the Agent Installation program so you are not prompted for it again. Skip to **Step 13**.

- 9 To specify the location of your domain, click *Add*, select *Domain*, specify the domain name, provide the path to the domain directory, then click *OK*.

The location you specify for the domain directory is stored in the MTA startup file. When you start the MTA, it reads the startup file to find the location of the domain directory. The MTA then reads the domain database (*wdomain.db*) in the *domain* directory for all configuration information it needs to run.

The MTA startup file is located in the agent installation directory you specified in **Step 7**. The startup file is named *domain.mta*, where *domain* is the first 8 letters of the domain name (for example, *provo.mta*).

- 10 To specify the location of your post office, click *Add*, select *Post Office*, specify the post office name, provide the path to the post office directory, then click *OK*.

The location you specify for the post office directory is stored in the POA startup file. When you start the POA, it reads the startup file to find the location of the post office directory. The POA then reads the post office database (*wphost.db*) in the post office directory for all configuration information it needs to run.

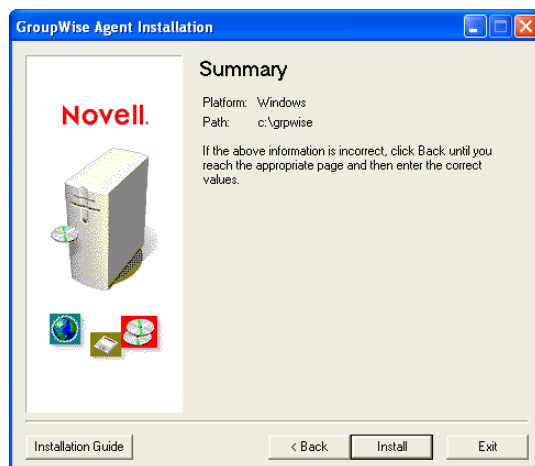
The POA startup file is located in the agent installation directory you specified in **Step 7**. The startup file is named *post_office.poa*, where *post_office* is the first 8 letters of the post office name (for example, *research.poa*).

- 11 Click *Next* to continue.

- 12 If you are installing the agents as Window services, the Windows Service Information page is displayed. Fill in the service information (**worksheet item 25**), then click *Next* to display the Summary page.

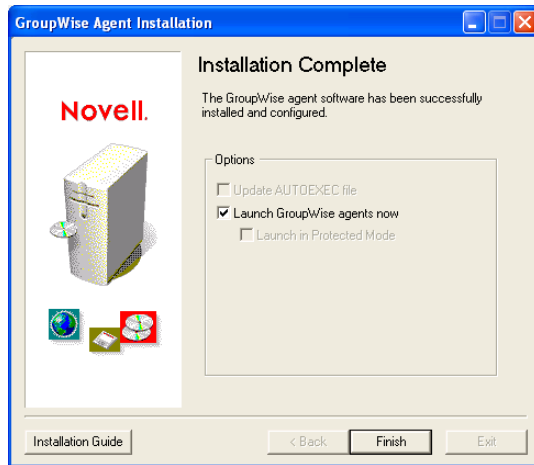
or

If you are not installing the agents as services, the Summary page is displayed.



- 13 Click *Install* to install the agents.

The Installation Complete page appears when the files have been installed.



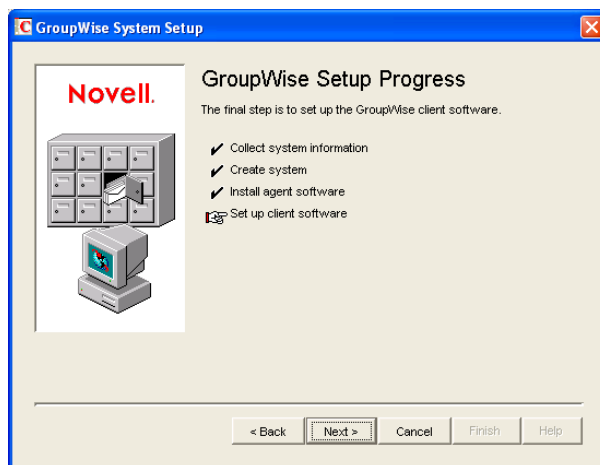
- 14 Select from the following options:

Update the AUTOEXEC File: This option does not apply to the Windows agents, so it is dimmed.

Launch GroupWise Agents Now: This option applies only if you installed the agents as Windows applications, rather than services. Select this option to start the GroupWise agents as applications.

If the agents do not start successfully as applications, or if you need to start them as services, see [“Starting the Windows GroupWise Agents” on page 194](#).

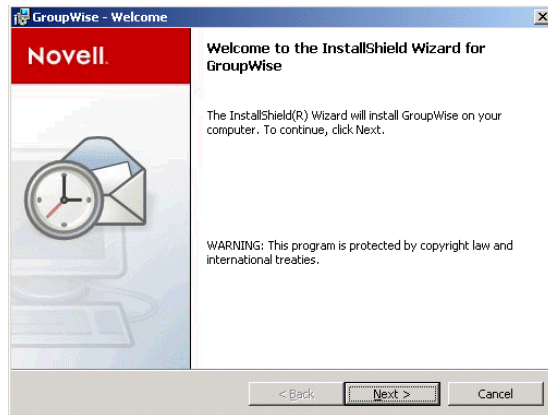
- 15 Click *Finish*, then if necessary, return to the workstation where the Setup Advisor is running. The Set Up Client Software page is displayed.



- 16 Now that you have the Windows agents installed and running, continue with [Setting Up and Running the GroupWise Windows Client on Your Local Machine](#).

Setting Up and Running the GroupWise Windows Client on Your Local Machine

- 1 In the Setup Advisor, click *Next* to launch the GroupWise Windows client Setup program, then follow the prompts.



- 2 When setup is finished, double-click the GroupWise shortcut on your desktop to start the GroupWise Windows client.

Because the GroupWise client can get the location of your post office from eDirectory, and because you do not yet have a password on your mailbox, the GroupWise client starts without prompting you for post office and password information.

If the GroupWise client cannot get the location of your post office from eDirectory or cannot access the post office, the GroupWise Startup page appears. You should make sure that you are logged in through your own eDirectory user account and not through an Admin account, and that your current eDirectory tree is the tree in which the post office is located. By default, the GroupWise client logs in to GroupWise as the user who is logged in at the workstation. If you are not logged in as yourself, you might receive a “user not found” error; specify your GroupWise user ID in the User ID field, then click *OK* to log in.

- 3 Get started with the GroupWise client by completing the following tasks:
 - ♦ **Setting A Mailbox Password:** After you are logged in and using GroupWise, one of the first things you should do is set a password on your mailbox so that other users cannot access it. For information about setting a password, see Help in the GroupWise client.
 - ♦ **Sending Messages and Scheduling Appointments:** You can send messages to or schedule appointments with any users you have added to the post office. To test your system, you might want to send a message to yourself. As soon as users set up the GroupWise clients on their workstations, as described in [Section 8.4.1, “Setting Up the GroupWise Windows Client,” on page 204](#), they will also be able to send messages and schedule appointments.
 - ♦ **Using Document Management Services (Optional):** GroupWise Document Management Services (DMS) lets you store documents in GroupWise libraries. Library documents can be shared with other users, versioned, and searched for within the library. The Setup Advisor created a library under the post office directory. For information about using Document Management Services, see Help in the GroupWise client.
- 4 Continue with [Installing the GroupWise Administrator Snap-Ins to Additional Windows Machines](#).

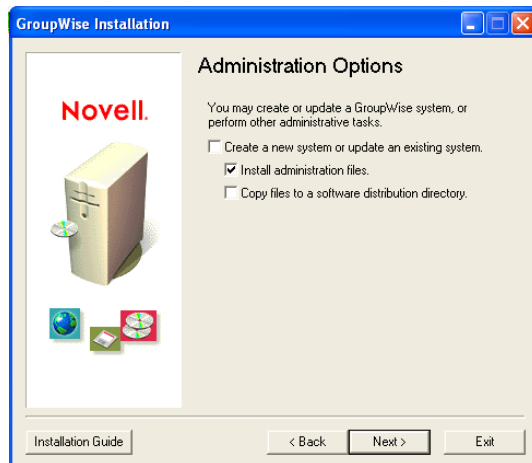
or

If you have installed all the administrative software you need, skip to [Section 3.4, “What’s Next,” on page 72](#).

Installing the GroupWise Administrator Snap-Ins to Additional Windows Machines

As part of creating your basic GroupWise system, the GroupWise Administrator snap-ins to ConsoleOne were installed in one location ([worksheet item 2](#)). If ConsoleOne is installed in multiple locations and if you want to be able to administer GroupWise from those locations, you need to install the GroupWise snap-ins to each ConsoleOne installation.

- 1 Go to the Windows machine where you want to install the GroupWise snap-ins to ConsoleOne.
- 2 Make sure you are logged in as an Admin equivalent and have network access to a software distribution directory (or *GroupWise 7 Administrator for NetWare/Windows CD*) and the domain directory.
- 3 Start the GroupWise Administration Installation program (`install.exe` in the `\admin` subdirectory)
- 4 Accept the License Agreement, then follow the prompts to provide the necessary information.
- 5 In the Administration Options dialog box, deselect *Create a New System* or *Update an Existing System*. Also deselect *Copy Files to a Software Distribution Directory*. Then continue to install just the GroupWise Administrator snap-ins to ConsoleOne.



- 6 Repeat [Step 1](#) through [Step 5](#) for each location where you want to install the GroupWise snap-ins.
- 7 Skip to [Section 3.4, “What’s Next,”](#) on page 72.

3.3.2 Linux: Setting Up a Basic GroupWise System

You should have already reviewed [Section 3.2, “Planning Your Basic GroupWise System,”](#) on [page 26](#) and filled out the [worksheet](#).

The following sections step you through the GroupWise Installation program, Installation Advisor, and Setup Advisor on Linux. The Installation Advisor installs the GroupWise software on your Linux server. It then launches the Setup Advisor in ConsoleOne to create your domain and post office and set up the GroupWise agents.

- ♦ [“Starting the GroupWise Installation Program on Linux”](#) on page 61
- ♦ [“Installing the GroupWise Software”](#) on page 62
- ♦ [“Selecting a Linux Mount Directory”](#) on page 63

- ◆ “Using ConsoleOne to Create Your Basic GroupWise System” on page 64
- ◆ “Installing and Starting the Linux GroupWise Agents” on page 67
- ◆ “Setting Up and Running the GroupWise Cross-Platform Client on Your Local Machine” on page 70
- ◆ “Installing the GroupWise Administrator Snap-Ins to Additional Linux Machines” on page 71

IMPORTANT: If you plan to install GroupWise in a clustered server environment, see the *GroupWise 7 Interoperability Guide* (<http://www.novell.com/documentation/gw7>) before starting to set up your GroupWise system.

If you are new to Linux, you might want to review “Useful Linux Commands for Administering a GroupWise System” in *GroupWise 7 Troubleshooting 2: Solutions to Common Problems* (<http://www.novell.com/documentation/gw7>) before beginning to set up your GroupWise system on Linux.

Starting the GroupWise Installation Program on Linux

- 1 Make sure that ConsoleOne is installed on your Linux server.

ConsoleOne is installed in `/usr/ConsoleOne/bin`. If ConsoleOne and eDirectory have not yet been installed on your system, see “Novell eDirectory” on page 26.

- 2 In a terminal window, become `root` by entering `sux` and the `root` password.

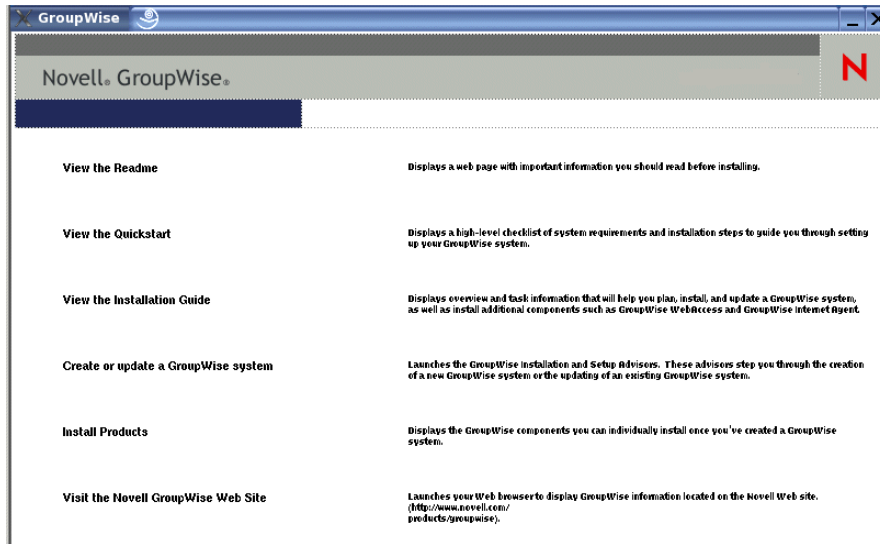
The `sux` command enables the X Window System, which is required for running the GUI GroupWise Installation program, Installation Advisor, and the Setup Advisor. If you are not using the X Window System, you can install GroupWise components individually, as described in “Installing the GroupWise Agents Using the Text-Based Installation Program” on page 177.

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

```
./install
```

- 5 Select the language in which you want to run the GroupWise Installation program, then click *OK*.

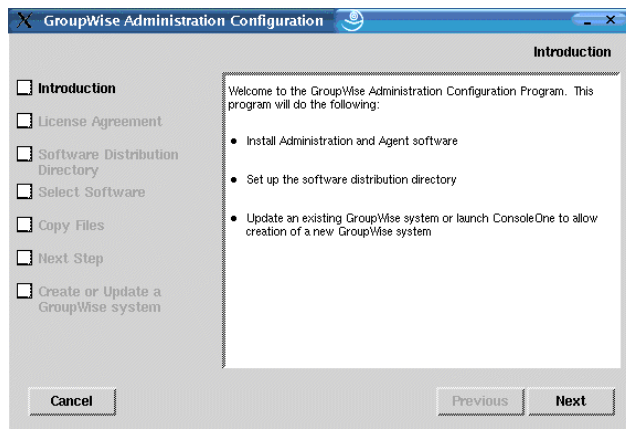
NOTE: On Linux, all available languages are included in the same RPM, so all languages are always installed.



6 Continue with **Installing the GroupWise Software**.

Installing the GroupWise Software

1 Click *Create or Update a GroupWise System* to start the Installation Advisor.



The list on the left details the steps the Installation Advisor performs for you.

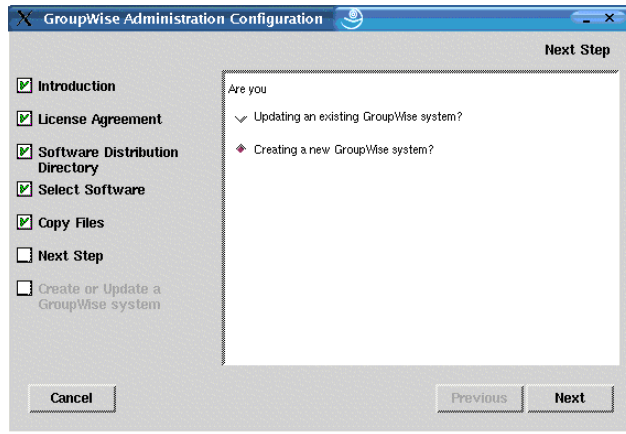
2 Follow the prompts to provide the following information from your **Basic GroupWise System Worksheet**.

Item 3: Software Distribution Directory

Item 4: Select Software

The Installation Advisor automatically installs the GroupWise Administrator snap-ins to ConsoleOne under `/usr/ConsoleOne`. Then, the Installation Advisor copies the selected software components into your software distribution directory.

3 When the copying is complete, click *Next*.



4 Select *Creating a New GroupWise System*, then click *Next*.

You use the New System utility in ConsoleOne to create your basic GroupWise system.

5 Click *Run* to start ConsoleOne.

6 Continue with [Selecting a Linux Mount Directory](#)

Selecting a Linux Mount Directory

The first time you start ConsoleOne with the GroupWise Administrator snap-ins installed, you are prompted to specify a Linux mount directory under which you create mount points. Typically, Linux servers and workstations use `/mnt` for this purpose. In the future as your system grows, this information helps ConsoleOne resolve the UNC paths of GroupWise database locations into Linux paths. Although the mount directory information is not used when you are creating your basic GroupWise system, it is gathered at this time for later reference.

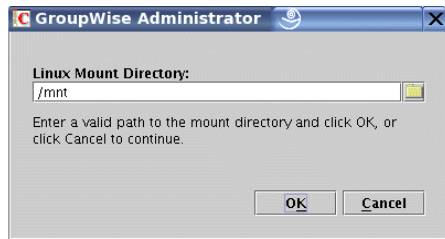
GroupWise databases can be located on Linux servers, NetWare servers, or Windows servers. In the Linux mount directory, you will eventually create mount points that have the same names as the servers that are mounted to those mount points. You will need to do this for each server where a domain or post office is located that you want to access from ConsoleOne. The following table illustrates the correspondence between UNC paths and mount points for GroupWise database locations on Linux, NetWare, and Windows, assuming the typical mount directory of `/mnt`:

Table 3-1 Correspondence between UNC Paths and Mount Points

Platform	GroupWise Domain UNC Path	Corresponding Linux Mount Point
Linux	<code>\\linux_server\gw_partition\domain_directory</code>	<code>/mnt/linux_server/gw_partition</code>
NetWare	<code>\\netware_server\gw_volume\domain_directory</code>	<code>/mnt/netware_server/gw_volume</code>
Windows	<code>\\windows_server\gw_share\domain_directory</code>	<code>/mnt/windows_server/gw_share</code>

IMPORTANT: Although NetWare and Windows are not case-sensitive operating systems, the case of characters in pathnames becomes significant when the directory structure is mounted to a Linux machine.

- 1 In the Linux Mount Directory dialog box, browse to and select the Linux mount directory, then click *OK*.



The typical Linux mount directory is /mnt.

In the future, you and other GroupWise administrators might have different mount points depending on the workstation or server where ConsoleOne runs. To change the mount directory later in ConsoleOne, click *Tools > GroupWise System Operations > System Preferences > Linux Settings*. The mount directory information is stored in a user-specific preferences file (.consoleone/SnapinPrefs.ser in each GroupWise administrator's home directory).

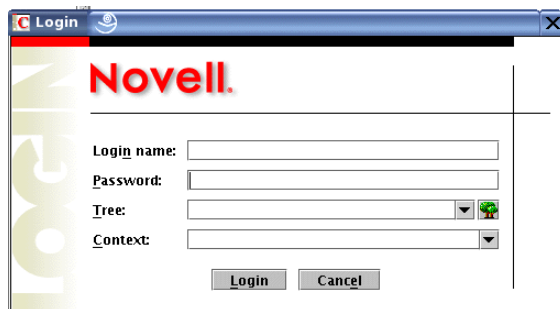
- 2 Continue with [Using ConsoleOne to Create Your Basic GroupWise System](#).

Using ConsoleOne to Create Your Basic GroupWise System

ConsoleOne automatically attempts to authenticate to an eDirectory tree when it starts.

- 1 Fill in the following fields, then click *Login* to start ConsoleOne:

If the Login dialog box does not appear automatically, select the NDS[®] object, then click *File > Authenticate*.



Login Name: Provide a Novell eDirectory username that has rights to create eDirectory objects.

Password: Provide the password for the username.

Tree: Type or select the eDirectory tree where you want to create GroupWise objects.

If the eDirectory tree is located on a Windows server, you might need to specify the IP address of the server instead of the tree name.

Context: Provide the full context of the User object associated with the username you provided.

- 2 Under the NDS object, select the tree where you want to create the GroupWise system, then click *Tools > GroupWise Utilities > New System*.



- 3 Follow the prompts to provide the GroupWise system and domain information from your **Basic GroupWise System Worksheet**.

Item 3: Software Distribution Directory

Item 5: Tree Name

Item 6: System Name

Item 7: Domain Name

Item 8: Domain Directory

Item 9 Domain Context

Item 10: Domain Language

Item 11: Domain Time Zone

- 4 Follow the prompts to provide the GroupWise post office information from your **Basic GroupWise System Worksheet**.

Item 12: Post Office Name

Item 13: Post Office Directory

Item 14: Post Office Context

Item 15: Post Office Language

Item 16: Post Office Time Zone

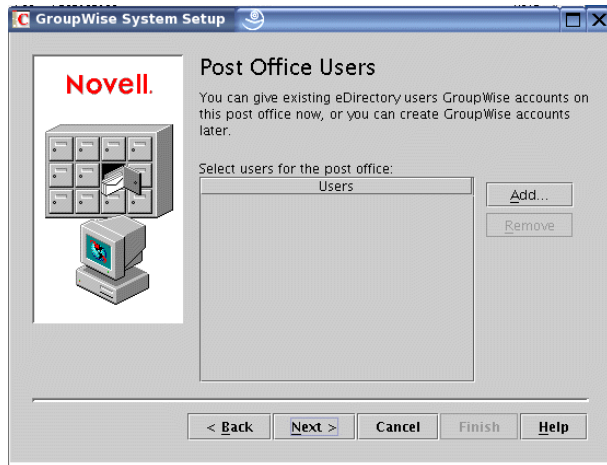
- 5 Follow the prompts to provide information about how to link the domain and the post office from your **Basic GroupWise System Worksheet**.

Item 17: Post Office Link

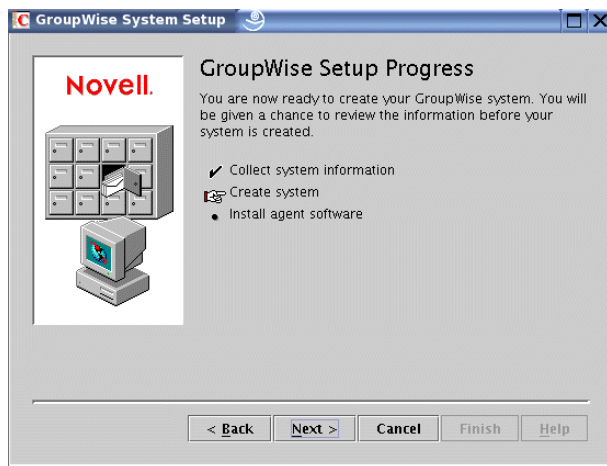
Item 18: POA Network Address

Item 19: MTA Network Address

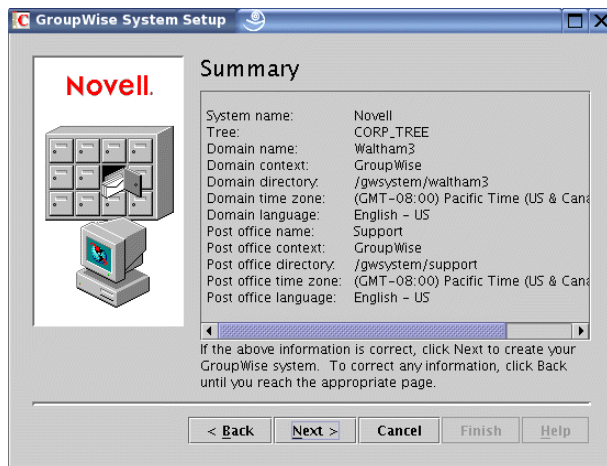
When you have provided the system, domain, post office, and link information for your GroupWise system, you are ready to create users. However, adding users at this point is optional. After the Setup Advisor has finished, you can add users to the post office at any time by using ConsoleOne.



- 6 Add any users that you listed on your **Basic GroupWise System Worksheet**, then click *Next*. The Setup Advisor summarizes your overall progress.



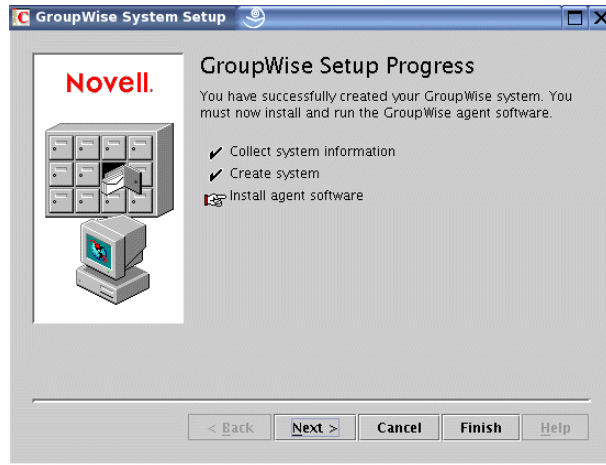
- 7 Click *Next* to display a summary of the system, domain, post office, and link information you entered.



After you have verified that the information you entered is correct, you are ready for the Setup Advisor to create your GroupWise system.

- 8 Click *Next* to create your GroupWise system.

The Setup Advisor summarizes your overall progress.



- 9 Click *Next* to install the MTA and POA software.
- 10 Continue with **Installing and Starting the Linux GroupWise Agents**.

Installing and Starting the Linux GroupWise Agents

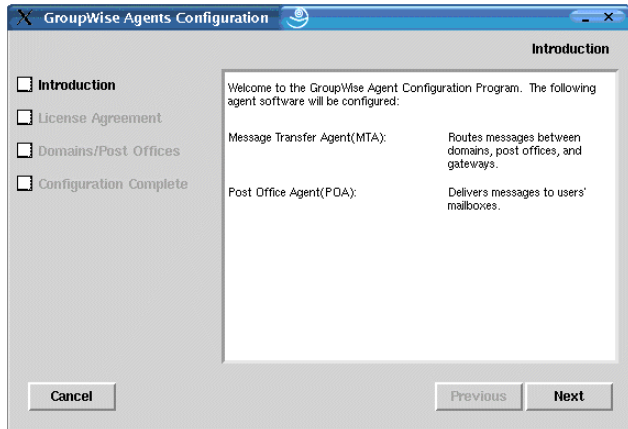
At this point, the Setup Advisor has created eDirectory objects and network server directories associated with your GroupWise system. You now need to install and start the MTA and POA on your Linux server.

- ♦ [“Installing the Linux Agents” on page 67](#)
- ♦ [“Starting the Linux Agents with a User Interface” on page 68](#)

Installing the Linux Agents

The Setup Advisor starts the Agent Configuration program for you.

Figure 3-15 Introduction Page



- 1 Review the Introduction, then click *Next*.
- 2 Accept the License Agreement, then click *Next*.

On the Configuration Complete page, *Launch GroupWise Agents on System Startup* is selected by default.

IMPORTANT: If you want to configure the agents for high availability, as described in [“Enabling the High Availability Service for the Linux GroupWise Agents”](#) on page 185, they must be configured to start automatically on system startup.

- 3 If you do not want the agents to start automatically when the server restarts, deselect *Launch GroupWise Agents on System Startup*.
- 4 Click *Exit* to complete the configuration.
- 5 Continue with [Starting the Linux Agents with a User Interface](#).

Starting the Linux Agents with a User Interface

- 1 In a terminal window, become `root` by entering `sux` and the `root` password.
The `sux` command enables the X Window System, which is required for running GUI GroupWise agent server consoles.
- 2 Change to the GroupWise agent bin directory.

```
cd /opt/novell/groupwise/agents/bin
```
- 3 Use one of the following commands to start the MTA:

Syntax:

```
./gwmta --show --home domain_directory &  
./gwmta --show @domain.mta
```

Example:

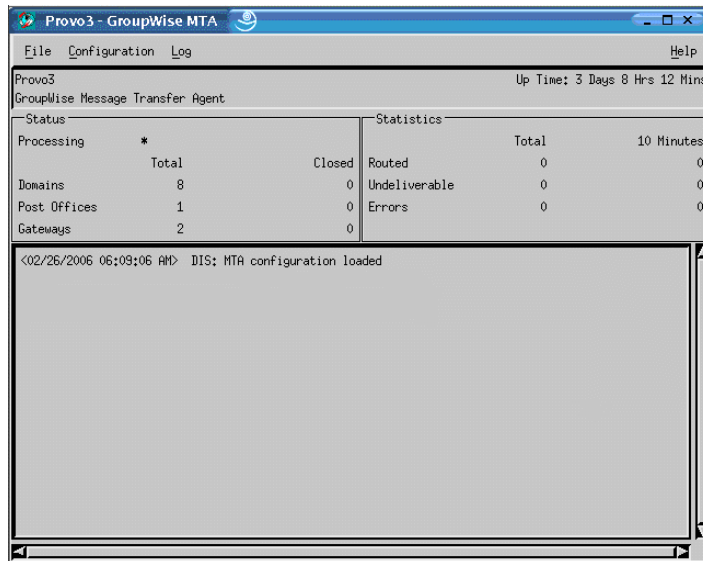
```
./gwmta --show --home /gwsystem/domlnx &  
./gwmta --show @provo.mta
```

The `--show` startup switch starts the MTA with a server console interface similar to that provided for the NetWare and Windows MTAs. This user interface requires that the X Window System and Open Motif be running on the Linux server.

The `--home` startup switch specifies the domain directory and is required to start the MTA.

The `@domain.mta` startup switch specifies the MTA startup files, which contains the `--home` startup switch.

The ampersand (`&`) causes the MTA to run in the background, so that the terminal window you started it in is again available for use.



The status messages displayed on the MTA server console are also written to the MTA log file (`mmdmmta.nnn`) in the `/var/log/novell/groupwise/domain.mta` directory. The log file name includes the month and day when it was created, along with an incrementing extension to accommodate multiple log files on the same day.

In ConsoleOne, you can see that the domain database has been updated by the MTA because the Version field on the Identification page of the Domain object shows 7 when the database update is complete.

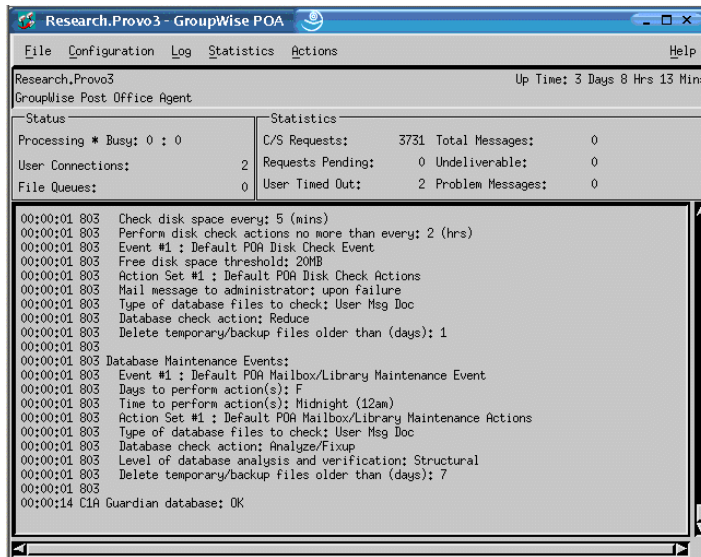
- 4 Wait until the domain has been updated before you start the POA.
- 5 Use the following command to start the POA:

Syntax:

```
./gwpoa --show --home post_office_directory &  
./gwpoa --show @post_office.poa
```

Example:

```
./gwpoa --show --home /gwsystem/polnx &  
./gwpoa --show --home /gwsystem/polnx &
```



The status messages displayed on the POA server console are also written to the POA log file (*mmdapoa.nnn*) in the `/var/log/novell/groupwise/post_office.poa` directory. The log file name includes the month and day when it was created, along with an incrementing extension to accommodate multiple log files on the same day.

In ConsoleOne, you can see that the post office database has been updated by the POA because the Version field on the Identification page of the Post Office object shows 7 when the database update is complete.

After the post office database has been updated, you can install the GroupWise Cross-Platform client and connect to the post office.

- 6 If you want to finish setting up your basic GroupWise system, continue with [Setting Up and Running the GroupWise Cross-Platform Client on Your Local Machine](#).

or

If you want to learn more about managing the GroupWise agents on Linux, skip to the following sections in [Chapter 7, “Installing GroupWise Agents,”](#) on page 159:

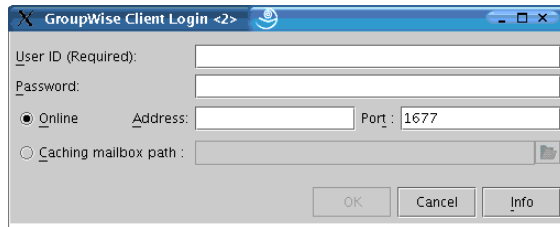
- ◆ [“Starting the Linux GroupWise Agents as Daemons”](#) on page 180
- ◆ [“Monitoring the Linux GroupWise Agents from Your Web Browser”](#) on page 181
- ◆ [“Starting the Linux GroupWise Agents on System Startup”](#) on page 182
- ◆ [“Running the Linux GroupWise Agents as a Non-root User”](#) on page 182
- ◆ [“Enabling the High Availability Service for the Linux GroupWise Agents”](#) on page 185
- ◆ [“Stopping the Linux GroupWise Agents”](#) on page 189

Setting Up and Running the GroupWise Cross-Platform Client on Your Local Machine

The Create or Update a GroupWise System option in the GroupWise Installation program does not include installation of the GroupWise Cross-Platform client. Therefore, you have to install it separately.

- 1 On the GroupWise Installation program main page, click *Install Products > Install GroupWise Client*.

- 2 When the Cross-Platform client files have been copied, click *OK*.
To start the Cross-Platform client, click its icon on your desktop.



- 3 Specify your GroupWise user ID, password, and the required information about the server where the POA is running ([worksheet item 18](#)), then click *OK*.
- 4 Get started with the GroupWise Cross-Platform client by completing the following tasks:
 - ♦ **Setting A Mailbox Password:** After you are logged in and using GroupWise, one of the first things you should do is set a password on your mailbox so that other users cannot access it. For information about setting a password, see Help in the GroupWise client.
 - ♦ **Sending Messages and Scheduling Appointments:** You can send messages to or schedule appointments with any users that you have added to the post office. To test your system, you might want to send a message to yourself. As soon as users set up the GroupWise clients on their workstations, as described in [Section 8.4, “Setting Up the GroupWise Client,” on page 204](#), they will also be able to send messages and schedule appointments.
- 5 Continue with [Installing the GroupWise Administrator Snap-Ins to Additional Linux Machines](#).

or

If you have installed all the administrative software you need, skip to [Section 3.4, “What’s Next,” on page 72](#).

Installing the GroupWise Administrator Snap-Ins to Additional Linux Machines

As part of creating your basic GroupWise system, the GroupWise Administrator snap-ins to ConsoleOne were installed under `/usr/ConsoleOne` of the server where you ran the GroupWise Installation program. If ConsoleOne is installed in multiple locations and if you want to be able to administer GroupWise from those locations, you need to install the GroupWise snap-ins to each ConsoleOne installation.

- 1 Go to the Linux machine where you want to install the GroupWise snap-ins to ConsoleOne.
- 2 Make sure you are logged in as `root` and have network access to the software distribution directory (or *GroupWise 7 Administrator for Linux CD*) and the domain directory.
- 3 Start the GroupWise Installation program (install at the root of the software distribution directory or the CD), then click *Install Products > GroupWise Administration > Install Administration*.
- 4 When the installation is complete, click *OK*, then click *Configure GroupWise Administration*.
- 5 Accept the License Agreement, then follow the prompts to provide the necessary information.

- 6 Repeat **Step 1** through **Step 5** for each location where you want to install the GroupWise snap-ins.
- 7 Continue with **What's Next**.

3.4 What's Next

After you have set up your basic GroupWise system, you can expand the system by:

- ◆ Setting up access to the Internet through the GroupWise Internet Agent. See **Chapter 4**, “Installing the GroupWise Internet Agent,” on page 79.
- ◆ Setting up GroupWise WebAccess so that users can access their mailboxes through a Web browser on a computer or mobile device such as a telephone. See **Chapter 5**, “Installing GroupWise WebAccess,” on page 103.
- ◆ Setting up GroupWise Monitor to monitor your GroupWise agents. See **Chapter 6**, “Installing GroupWise Monitor,” on page 137.
- ◆ Installing the MTA or POA on a different server than the one you installed to during the basic system setup. See **Chapter 7**, “Installing GroupWise Agents,” on page 159.
- ◆ Setting up users to run the GroupWise client on their workstations. See **Chapter 8**, “Installing the GroupWise Windows and Cross-Platform Clients,” on page 201.
- ◆ Setting up Microsoft Outlook users to access GroupWise mailboxes. See **Chapter 9**, “Installing the GroupWise Connector for Microsoft Outlook,” on page 209.
- ◆ Setting up synchronization between users' GroupWise mailboxes and their mobile devices. See **Chapter 10**, “Installing the GroupWise Mobile Server,” on page 211.
- ◆ Setting up users with instant messaging capabilities. See **Chapter 11**, “Installing GroupWise Messenger,” on page 213.

After your GroupWise system is fully installed, you can refer to sections of the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>) as you maintain your GroupWise system by:

- ◆ Adding more users to the post office. See “**Users**”.
- ◆ Defining resources that users can schedule. See “**Resources**”.
- ◆ Defining groups of users that GroupWise users can select when addressing messages. See “**Distribution Lists, Groups, and Organizational Roles**”.
- ◆ Changing the GroupWise client from Online mode to Caching mode so that users' messages are stored on a local drive as well as in the post office. See “**Client**”.
- ◆ Setting up GroupWise Remote so that Windows client users can access their mailboxes from a computer that is not directly connected to your network. See “**Client**”.
- ◆ Controlling the functionality of users' GroupWise client software. See “**Client**”.
- ◆ Configuring your current post office's library or setting up additional libraries. See “**Libraries and Documents**”.
- ◆ Adding additional post offices to the domain. See “**Post Offices**”.
- ◆ Adding additional domains to the system. See “**Domains**”.

- ◆ Configuring the Post Office Agent (POA) and Message Transfer Agent (MTA) to support secure connections (SSL). See “[Post Office Agent](#)” and “[Message Transfer Agent](#)”.
- ◆ Connecting to other GroupWise 5.x, 6.x, or 7.x systems. See the [GroupWise 7 Multi-System Administration Guide](http://www.novell.com/documentation/gw7) (<http://www.novell.com/documentation/gw7>).

3.5 Basic GroupWise System Worksheet

The GroupWise Installation Advisor helps you install the GroupWise software. It then launches the GroupWise Setup Advisor, which helps you set up your first domain and post office. The Advisors prompt you for the information in this worksheet. You should print the worksheet and carefully fill in the information for your system.

Item	Explanation
1) Select Languages:	Specify the languages to install for the GroupWise Administrator snap-ins to ConsoleOne, the GroupWise agents, and the GroupWise clients. See “ GroupWise Languages ” on page 29.
2) ConsoleOne Path: Windows default: c:\novell\consoleone\1.2 Linux default: /usr/ConsoleOne	Specify the path to a ConsoleOne location, either on the local workstation or on a network server. The GroupWise Installation Advisor installs the GroupWise Administrator snap-in files in the specified location. Your existing ConsoleOne installation must meet the version requirements listed in Section 2.1, “GroupWise Administration Requirements,” on page 21 See “ ConsoleOne ” on page 27.
3) Software Distribution Directory: NetWare default: \\server\vol\grpwise\software Linux default: /opt/novell/groupwise/software Windows default: c:\grpwise\software	Specify the directory path for the software distribution directory. If the directory does not exist, it is created. The path should be from the perspective of the machine you plan to use to install GroupWise. See “ GroupWise Software Distribution Directory ” on page 28.
4) Select Software:	Select the software you want copied to the software distribution directory. See “ GroupWise Software Distribution Directory ” on page 28.
<ul style="list-style-type: none"> ◆ GroupWise Administration ◆ GroupWise agents ◆ Internet Agent ◆ WebAccess ◆ GroupWise client ◆ Monitor 	

Item	Explanation
5) Tree Name:	<p>Specify the name of the eDirectory tree where your domain and post office will be created. Because GroupWise introduces new objects into the tree, the eDirectory schema must be extended.</p> <p>See “Novell eDirectory” on page 26.</p>
6) System Name:	<p>Specify a one-word name. Names can reflect companies, locations, and so forth.</p> <p>See “System and Domain Names” on page 30.</p>
7) Domain Name:	<p>Specify a one-word name. Names can reflect locations, organizations, and so forth.</p> <p>See “System and Domain Names” on page 30.</p>
8) Domain Directory:	<p>Specify the path for the domain directory. If the directory does not exist, it is created. On NetWare, do not use a directory name that exceeds 8 characters. On Linux, use lowercase letters.</p> <p>The path should be from the perspective of the machine you plan to use to install GroupWise.</p> <p>See “Domain Directory” on page 31.</p>
9) Domain Context:	<p>Specify the eDirectory context where you want to create the Domain object. Make sure the context exists before you start installing GroupWise.</p> <p>See “Domain Context” on page 32.</p>
10) Domain Language:	<p>Specify a language for the domain. The language determines the sort order for items in the GroupWise Address Book.</p> <p>See “Domain Language” on page 35.</p>
11) Domain Time Zone:	<p>Specify the time zone where the domain is located. The time zone information is used to ensure that times for messages sent between time zones are adjusted properly.</p> <p>See “Domain Time Zone” on page 35.</p>
12) Post Office Name:	<p>Specify a one-word name. Names can reflect locations, organizations, and so forth.</p> <p>See “Post Office Name” on page 35.</p>

Item	Explanation
13) Post Office Directory:	<p>Specify the path for the post office directory. If the directory does not exist, it is created.</p> <p>The path should be from the perspective of the machine you plan to use to install GroupWise.</p> <p>See “Post Office Directory” on page 36.</p>
14) Post Office Context:	<p>Specify the eDirectory context where you want to create the Post Office object. Make sure the context exists before you start installing GroupWise.</p> <p>See “Post Office Context” on page 37.</p>
15) Post Office Language:	<p>The post office language defaults to the domain language. Specify a different language if you do not want the post office to use the default domain language.</p> <p>See “Post Office Language” on page 37.</p>
16) Post Office Time Zone:	<p>The post office time zone defaults to the domain time zone. Specify a different time zone if the post office is not in the same time zone as the domain.</p> <p>See “Post Office Time Zone” on page 38.</p>
17) Post Office Link:	<p>Select whether you want the MTA to link to the post office through a TCP/IP connection to the POA or a direct connection to the post office directory.</p> <p>See “MTA Link to the Post Office” on page 41.</p> <p>If you mark <i>Direct Link</i>, skip to worksheet item 20.</p>

Item	Explanation
<p>18) POA Network Address:</p> <ul style="list-style-type: none"> ◆ IP address or DNS hostname: ◆ Client/Server port: (default = 1677) ◆ Message transfer port: (default = 7101) ◆ HTTP port: (default = 7181) 	<p>This item applies only if you selected TCP/IP as the post office link type (worksheet item 17).</p> <p>Specify the IP address or DNS hostname of the POA's server.</p> <p>By default, the POA listens for the GroupWise client on Client/Server port 1677. If this port is already being used, specify a different C/S port number (for example, 1678).</p> <p>If the MTA and POA are communicating using TCP/IP, the POA listens for the MTA on Message Transfer port 7101 by default. If this port is already being used, specify a different MT port number (for example, 7111).</p> <p>By default, the POA uses HTTP port 7181 for its Web console. The Web console enables you to view POA information through a Web browser. If this port is already being used, specify a different HTTP port number (for example, 7183).</p> <p>See "MTA Link to the Post Office" on page 41.</p>
<p>19) MTA Network Address:</p> <ul style="list-style-type: none"> ◆ IP address or DNS hostname: ◆ Message transfer port: (default = 7100) ◆ HTTP port: (default = 7180) 	<p>This item applies only if you selected TCP/IP as the post office link type (worksheet item 17).</p> <p>Specify the IP address or DNS hostname of the server running the Message Transfer Agent.</p> <p>By default, the MTA listens for the POA on Message Transfer port 7100. If this port is already being used, specify a different MT port number (for example, 7103).</p> <p>By default, the MTA uses HTTP port 7180 for its Web console. The Web console enables you to view MTA information through a Web browser. If this port is already being used, specify a different HTTP port number (for example, 7182).</p> <p>See "MTA Link to the Post Office" on page 41.</p>
<p>20) Post Office Users:</p>	<p>Specify the users who will have mailboxes in the post office. The Setup Advisor lets you browse the eDirectory tree to select the users you want.</p> <p>Adding users at this point is optional. After the Setup Advisor has finished, you can add users to the post office at any time by using ConsoleOne.</p> <p>See "Post Office Users" on page 38.</p>
<p>21) Agent Platform:</p> <ul style="list-style-type: none"> ◆ NetWare ◆ Linux ◆ Windows 	<p>Specify the platform (NetWare, Linux, or Windows) where you want to run the GroupWise agents.</p> <p>See "Agent Platform" on page 39.</p>

Item	Explanation
<p>22) Installation Path:</p> <p>NetWare default: <code>\\server1\sys\system</code></p> <p>Linux default: <code>/opt/novell/groupwise/agents</code></p> <p>Windows default: <code>c:\grpwise</code></p>	<p>Specify the path to the directory where you want to install the agents.</p> <p>We recommend that you install the NetWare agents to the <code>sys\system</code> directory to simplify the use of startup files and ensure that dependent NLM programs load properly.</p> <p>The Linux agents are automatically installed into <code>/opt/novell/groupwise/agents</code>.</p> <p>You can install the Windows agents to any directory on the Windows server. Because the installation is done from the Windows server, the default is <code>c:\grpwise</code>.</p> <p>See “Agent Location” on page 39.</p>
<p>23) Windows Installation Options:</p> <ul style="list-style-type: none"> ◆ Install GroupWise agent software: Yes No ◆ Install and configure SNMP for GroupWise Agents: Yes No ◆ Install as Windows services: Yes No 	<p>This item applies only if you are installing the Windows agents.</p> <p>Specify the installation options you want to use.</p> <p>The Install GroupWise Agent Software option needs to be selected to install the files.</p> <p>The Install and Configure SNMP for GroupWise Agents option requires the SNMP service to already be enabled on the Windows server. If SNMP is not enabled, this option is dim in the Installation Advisor.</p> <p>The Install as Windows Services option configures the agents as Windows services.</p> <p>See “Windows Installation Option: Application vs. Service” on page 42.</p>
<p>24) Language:</p>	<p>Specify the language in which you want to be able to run the agents.</p> <p>See “Agent Language” on page 42.</p>
<p>25) Windows Service Information:</p> <ul style="list-style-type: none"> ◆ Use local system account ◆ Use a user account ◆ Startup: Automatic Manual 	<p>This item applies only if you are installing the Windows agents as Windows services.</p> <p>Select whether you want the services to use the local system account or another user account. If the domain and post office directories are on the same Windows server as the agents, you can use the local system account. If the domain and post office directories are on a different server, specify a different user account that exists in eDirectory and has rights to the domain and post office directories.</p> <p>Select whether you want to manually start the services or have them start automatically when the server starts.</p> <p>See “Windows Installation Option: Application vs. Service” on page 42.</p>

Installing the GroupWise Internet Agent

4

The Novell® GroupWise® Internet Agent enables you to send and receive messages over the Internet. The following sections provide information to help you successfully install the Internet Agent in your existing GroupWise system.

- ♦ Section 4.1, “GroupWise Internet Agent Overview,” on page 79
- ♦ Section 4.2, “Internet Agent System Requirements,” on page 83
- ♦ Section 4.3, “Planning the GroupWise Internet Agent,” on page 84
- ♦ Section 4.4, “Setting Up the Internet Agent,” on page 91
- ♦ Section 4.5, “What’s Next,” on page 100
- ♦ Section 4.6, “GroupWise Internet Agent Installation Worksheet,” on page 100

After you’ve installed the Internet Agent, there are additional tasks you can perform to optimize and maintain your GroupWise system. These tasks are discussed under Section 4.5, “What’s Next,” on page 100.

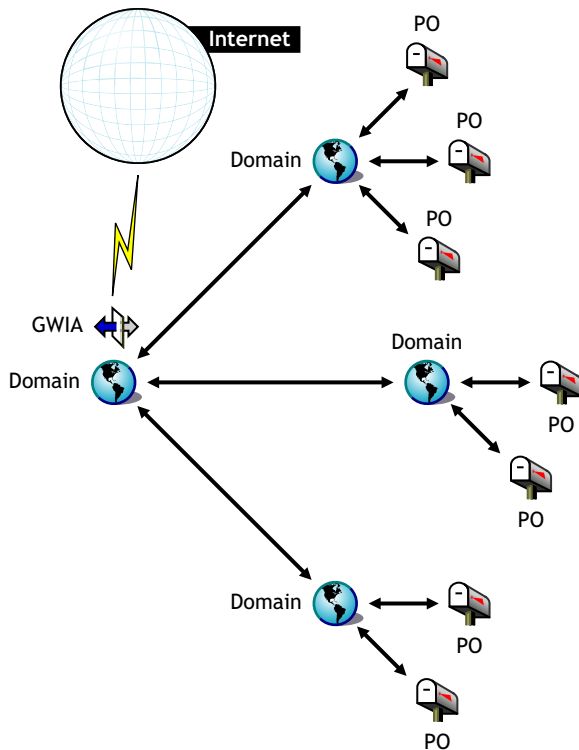
IMPORTANT: If you plan to install the Internet Agent in a clustered server environment, see the *GroupWise 7 Interoperability Guide* (<http://www.novell.com/documentation/gw7>) before you install the Internet Agent.

4.1 GroupWise Internet Agent Overview

The Internet Agent allows communication between GroupWise users and users of other messaging systems who send e-mail across the Internet. The Internet Agent picks up inbound e-mail messages from the Internet, converts them from RFC-822 or MIME format to the GroupWise message format, and then passes the converted messages to the GroupWise Message Transfer Agent (MTA).

For outgoing messages to the Internet, the GroupWise MTA passes the messages to the Internet Agent, which then converts the messages to Internet messaging format, and then sends them to the designated Internet addresses.

Figure 4-1 GroupWise Internet Agent Connecting a GroupWise System to the Internet



Choose from the following list of topics to learn more about the capabilities of the GroupWise Internet Agent.

- ◆ [“SMTP/MIME Service” on page 81](#)
- ◆ [“POP3 Service” on page 81](#)
- ◆ [“IMAP4 Service” on page 82](#)
- ◆ [“LDAP Services” on page 82](#)
- ◆ [“iCal and iMip Services” on page 82](#)
- ◆ [“Secure Connections via SSL” on page 82](#)
- ◆ [“Access Control” on page 82](#)
- ◆ [“Multiple Threading” on page 82](#)
- ◆ [“SNMP-Compliant” on page 82](#)
- ◆ [“SMP Support \(NetWare Only\)” on page 83](#)

SMTP/MIME Service

The SMTP/MIME service in the Internet Agent allows you to send and receive e-mail with standard encoding on attachments, international character sets, and multipart messages. Multimedia e-mail with images, sound, and video can also be exchanged. The service also includes these additional features:

- ♦ **SMTP Dial-Up Service:** The Internet Agent includes SMTP dial-up functionality. This can be useful when your system does not meet the requirements of a dedicated Internet connection, or when you prefer not to have a permanent Internet connection. With the SMTP dial-up feature, you can establish a schedule to periodically check the message store without maintaining a permanent link.
- ♦ **Flexible Addressing:** The Internet Agent offers full GroupWise addressing support, including system groups, nicknames, and individual users.

The Internet Agent also takes advantage of GroupWise Internet addressing, which allows inbound messages addressed in a variety of formats to be delivered to GW users. These formats include:

```
UserID@Internet_domain_name
UserID.PostOffice@Internet_domain_name
Last_Name.First_Name@Internet_domain_name
First_Name.Last_Name@Internet_domain_name
First_Initial_Last_Name@Internet_domain_name
```

- ♦ **Internet Users in the Address Book:** Internet users can be added to the GroupWise Address Book so users won't have to remember long Internet addresses.
- ♦ **Real-Time Blacklists:** Many organizations, such as Mail Abuse Prevention System (MAPS*), Open Relay DataBase (ORDB), and SpamCop*, provide lists of IP addresses that are known to be open relay hosts or spam hosts. You can use the real-time blacklists provided by these sites to protect your users from offensive spam.
- ♦ **Spam Protection:** Anti-spam services use different indicators to mark potential spam. One might use a string of asterisks; the more asterisks, the greater the likelihood that the message is spam. Another might use a numerical value; the higher the number, the greater the likelihood that the message is spam. You can configure the Internet Agent to recognize as spam whatever indicators your anti-spam service uses and flag such messages for processing by the client Junk Mail Handling feature.
- ♦ **Accounting:** The accounting feature provides inbound and outbound tracking of messages passing through Internet Agent. This lets administrators track how the Internet Agent is being used. GroupWise Monitor includes a Gateway Accounting report that organizes information gathered in Internet Agent accounting files into a format that is visually easy to read.
- ♦ **DNS Name Resolution:** The Internet Agent can access a DNS server directly to resolve host names to IP addresses, or it can rely on a relay host to perform the name resolution.
- ♦ **Connect to Other GroupWise Systems Through the Internet:** Using passthrough addressing, you can connect to other GroupWise systems anywhere on the Internet and have access to all of the GroupWise features. The Internet simply becomes a mail transport medium for GroupWise.

POP3 Service

The POP3 service in the Internet Agent allows you to download messages from your GroupWise post office to a POP3 client application such as a Web browser's e-mail program or a Telnet application. The Internet Agent acts as the POP3 server, providing a TCP connection between the

user's GroupWise post office and a POP3 client. Accessing the GroupWise post office via the Internet Agent's POP3 server capability, users can retrieve their e-mail messages and manage them through user ID login options.

IMAP4 Service

The GroupWise Internet Agent supports the Internet Messaging Access Protocol 4 (IMAP4). As an IMAP4 server, the Internet Agent allows IMAP4-compliant e-mail clients to read and manipulate GroupWise messages.

LDAP Services

The Internet Agent supports the Lightweight Directory Access Protocol (LDAP) directory standard with LDAP server capability that allows access for directory searches of GroupWise post offices. Using LDAP Public Access, Internet mail clients can do lookups on GroupWise users and address information.

iCal and iMip Services

The Internet Agent supports iCalendar (iCal), the Internet Calendaring and Scheduling core object specification (RFC 2445), and iMIP, the iCalendar Message-based Interoperability Protocol (RFC 2447). When a GroupWise user sends an appointment to an external Internet user, the Internet agent converts the appointment into an iMIP message that can be read and accepted or declined in compatible e-mail systems such as Microsoft Exchange and Lotus Notes. GroupWise users can also receive and accept or decline appointments from users of these e-mail systems. Accept/decline notifications are also exchanged between systems.

Secure Connections via SSL

The Internet Agent supports the use of SSL for its connections to SMTP hosts, POP3 clients, IMAP4 clients, and Internet Agent Web console.

Access Control

The Internet Agent program includes security capabilities called Access Control that allow administrators to control user access to all services (SMTP/MIME, LDAP, POP3, and IMAP4). Access Control can help you reduce costs and provide added security.

With the SMTP/MIME service, Access Control can be used to block messages being sent to or received from specific host or IP addresses.

Multiple Threading

Multiple threading allows more than one send or receive process to be running concurrently. You can configure the number of threads to enhance the speed and performance of the Internet Agent. The number of thread switches are set separately for the SMTP/MIME service, POP3 service, IMAP4 service, and LDAP service.

SNMP-Compliant

The Internet Agent can be managed by any SNMP-compliant network manager, such as the alarm management features of Novell ZENworks[®] Server Management.

SMP Support (NetWare Only)

The NetWare Internet Agent supports Symmetric Multi-Processing (SMP), letting it take advantage of a server with multiple processors.

4.2 Internet Agent System Requirements

The following sections define the Internet Agent's requirements:

- ♦ [Section 4.2.1, "Network Server Requirements," on page 83](#)
- ♦ [Section 4.2.2, "GroupWise System Requirements," on page 84](#)
- ♦ [Section 4.2.3, "Internet Connectivity Requirements," on page 84](#)

4.2.1 Network Server Requirements

The network server where you install the Internet Agent must meet the following requirements:

- 32-bit/x86 processor or 64-bit/x86 processor
- Any of the following server operating systems for the GroupWise agents (Post Office Agent, Message Transfer Agent, Internet Agent, WebAccess Agent, Monitor Agent):
 - ♦ Novell Open Enterprise Server 1 or Open Enterprise Server 2 (NetWare or Linux version), plus the latest Support Pack
 - ♦ NetWare 5.1, NetWare 6.0, or NetWare 6.5, plus the latest Support Pack for your version of NetWare
Domains and post offices can be located on NetWare 3.12 and NetWare 4.2 servers, although the agents cannot run there. The Monitor Agent is not available for NetWare.
 - ♦ SUSE[®] Linux Enterprise Server 9 or SUSE Linux Enterprise Server 10, plus the latest Support Pack
The X Window System is required by the GUI Installation Advisor and Setup Advisor that step you through the process of creating a new GroupWise system. A text-based Installation program is also available.
The X Window System and Open Motif are required by the GUI GroupWise agent server consoles. By default, the agents run as daemons without user interfaces.
 - ♦ Windows Server 2000 or Windows Server 2003, plus the latest Service Pack for your version of Windows
- Adequate server memory as required by the operating system
- Adequate server disk space:
 - ♦ 17 MB for the Internet Agent program files.
 - ♦ 200 MB minimum for message file processing. The actual amount will be determined by the number and size of message files being processed at one time by the Internet Agent.
- Adequate RAM
 - ♦ 12 MB. This is the amount of memory the Internet Agent needs to operate. It does not include memory for the operating system or for TCP/IP connectivity. This amount can increase depending on message size and complexity.

4.2.2 GroupWise System Requirements

The GroupWise system in which you install the Internet Agent must meet the following requirements:

- ❑ The domain's version must be equal to or later than the Internet Agent's version. The domain's version is determined by the Message Transfer Agent (MTA) version running for it.
- ❑ The versions of any post offices that the Internet Agent will access on behalf of POP3 or IMAP4 clients must be equal to or later than the Internet Agent's version. A post office's version is determined by the Post Office Agent (POA) version running against it.

4.2.3 Internet Connectivity Requirements

Before you install the Internet Agent, you need to ensure that your network is configured for Internet connectivity.

- ❑ **Internet Connection:** You can connect to the Internet using a direct connection over a leased line or a standard switched telephone line.
- ❑ **Internet Domain Name:** You must have an Internet domain name. The domain name must be defined by an MX RR (mail exchanger resource record) in DNS.
- ❑ **DNS Server Access or Relay Host Access:** If you want the Internet Agent to send messages directly to other SMTP hosts, it requires access to a DNS server for address resolution. Otherwise, it requires access to a relay host that can perform the address resolution and message routing. Make sure the server where you plan to install the Internet Agent is configured to access a DNS server or can access your relay host. For specific details, refer to your server documentation.
- ❑ **IP Address:** The Internet Agent's server requires a static IP address and a fully qualified hostname.

4.3 Planning the GroupWise Internet Agent

Use [Section 4.6, “GroupWise Internet Agent Installation Worksheet,” on page 100](#) to record your decisions about how to install the Internet Agent as you review the following considerations:

- ◆ [Section 4.3.1, “Selecting the Internet Agent Platform,” on page 85](#)
- ◆ [Section 4.3.2, “Gathering Server Information,” on page 85](#)
- ◆ [Section 4.3.3, “Selecting the Internet Agent Installation Directory,” on page 86](#)
- ◆ [Section 4.3.4, “Gathering Domain and Gateway Information,” on page 86](#)
- ◆ [Section 4.3.5, “Selecting the Gateway Object Name,” on page 87](#)
- ◆ [Section 4.3.6, “Specifying the Internet Mail Domain Name for Your GroupWise System,” on page 87](#)
- ◆ [Section 4.3.7, “Handling Outbound Mail,” on page 87](#)
- ◆ [Section 4.3.8, “Enabling the Internet Agent Web Console,” on page 88](#)
- ◆ [Section 4.3.9, “NetWare Installation Options: Automatic Startup and Clustering,” on page 88](#)

- ◆ [Section 4.3.10, “Linux Installation Options: LDAP Information and Clustering,”](#) on page 89
- ◆ [Section 4.3.11, “Windows Installation Options: Service vs. Application and SNMP Traps,”](#) on page 90

To help with the above tasks, you can also review the [GroupWise Wiki \(http://wiki.novell.com/index.php/GroupWise\)](http://wiki.novell.com/index.php/GroupWise), which includes a *Best Practices* section.

IMPORTANT: If you plan to install the Internet Agent in a clustered server environment, refer to the [GroupWise 7 Interoperability Guide \(http://www.novell.com/documentation/gw7\)](http://www.novell.com/documentation/gw7) as you plan your Internet Agent installation.

4.3.1 Selecting the Internet Agent Platform

The Internet Agent is available as a NetWare NLM™ program, a Linux executable, and a Windows executable.

GROUPWISE INTERNET AGENT INSTALLATION WORKSHEET

Under **Item 1: Software Platform**, mark whether you plan to install the Internet Agent on NetWare, Linux, or Windows. Review [Section 4.2, “Internet Agent System Requirements,”](#) on page 83 to ensure that the specific server you have selected meets the listed requirements.

4.3.2 Gathering Server Information

Prior to GroupWise 7, the Internet Agent and the MTA communicated by transferring message files through message queue directories, as shown in diagrams in [GroupWise 7 Troubleshooting 3: Message Flow and Directory Structure \(http://www.novell.com/documentation/gw7\)](#):

- ◆ “Mapped/UNC Link: Outbound Transfer to the Internet Successful”
- ◆ “Mapped/UNC Link: Inbound Transfer from the Internet Successful”

Starting in GroupWise 7, you can configure the Internet Agent so that it uses TCP/IP to communicate with the MTA, instead of message files, as shown in these additional diagrams:

- ◆ “TCP/IP Link: Outbound Transfer to the Internet Successful”
- ◆ “TCP/IP Link: Inbound Transfer from the Internet Successful”

The Internet Agent Installation program needs to know the network address of the server where the Internet Agent will run. For best performance, install the Internet Agent on the same server with the domain it belongs to. In this configuration, in a GroupWise system with a single Internet Agent, UNC links between the Internet Agent and the MTA are sufficient. Therefore, the Internet Agent Installation program displays a default port number of 0 (zero), indicating that TCP/IP will not be used.

In a larger GroupWise system with multiple Internet Agents, you can configure the Internet Agent to communicate with the MTA by way of TCP/IP. This configuration enables you to designate an alternate Internet Agent for the domain. With this configuration, if the domain’s primary Internet Agent goes down, the MTA can fail over to another Internet Agent in your GroupWise system until the primary Internet Agent is up and running again. This feature is especially useful in larger GroupWise systems where multiple Internet Agents handle a large number of Internet messages.

If you want to enable TCP/IP communication between the Internet Agent and the MTA, use a port number of 7102 or any other available port number. If you do not want to enable TCP/IP communication, use 0 (zero) as the port number.

GROUPWISE INTERNET AGENT INSTALLATION WORKSHEET

Under **Item 3: Server Information**, list the IP address and DNS hostname of the server where you plan to install the Internet Agent. Also, specify the port number for TCP/IP communication if you want to enable it.

4.3.3 Selecting the Internet Agent Installation Directory

You should install the Internet Agent on the same server where the domain directory is located. The Internet Agent installation directory depends on the platform where you are installing it.

Consider these platform-specific guidelines:

NetWare: When installing the NetWare Internet Agent, we recommend you use the `sys:\system` directory on the NetWare server. This simplifies access to the Internet Agent configuration file and ensures that the NLM program is in the server's search path. If you use a different directory, you must add that directory to the server's search path.

Linux: The Linux Internet Agent is automatically installed to `/opt/novell/groupwise/agents`.

Windows: The default installation directory is `c:\grpwise\gwia`. However, you can install the Internet Agent to any directory you want.

GROUPWISE INTERNET AGENT INSTALLATION WORKSHEET

Under **Item 2: Installation Options**, record the directory where you want to install the Internet Agent software.

4.3.4 Gathering Domain and Gateway Information

The Internet Agent requires a GroupWise gateway directory in which to store configuration information and work files. The gateway directory must be located under a GroupWise domain directory. The default directory name is `gwia`. If you change the name, use the following platform-specific conventions:

NetWare: Use a maximum of 8 characters

Linux: Use only lowercase characters

Windows: No limitations.

After you specify the domain directory location and a gateway directory name, the Internet Agent Installation program creates the gateway directory under the `domain\wpgate` directory (for example, `provo\wpgate\gwia`).

GROUPWISE INTERNET AGENT INSTALLATION WORKSHEET

Under **Item 6: GroupWise Domain**, specify the domain name and the full path to the domain directory where you want to create the gateway directory, then give the gateway directory a name.

If you are installing the Linux Internet Agent, record the eDirectory™ context of the Domain object (for example, cn=provo3,ou=groupwise,o=corporate).

4.3.5 Selecting the Gateway Object Name

The Internet Agent also requires a GroupWise Gateway object in Novell eDirectory. By default, it is named the same as the gateway directory and is referred to as the Internet Agent object. This object stores the Internet Agent's information and enables configuration of the agent through ConsoleOne®.

The Internet Agent's object is created below the Domain object. If you have multiple domains, the Installation Advisor uses the Domain object associated with the domain directory where you are creating the Internet Agent's gateway directory.

GROUPWISE INTERNET AGENT INSTALLATION WORKSHEET

Under **Item 6: GroupWise Internet Agent Name**, specify the name you want to give the Internet Agent's object. The default name is the same as the gateway directory name you chose under **Item 5**.

4.3.6 Specifying the Internet Mail Domain Name for Your GroupWise System

When e-mail users across the Internet address messages to GroupWise users, the address includes the Internet mail domain for your GroupWise system (for example, novell.com). Typically, the Internet mail domain name for your GroupWise system is the name of your company, with its accompanying domain type (.com, .edu, and so on).

GROUPWISE INTERNET AGENT INSTALLATION WORKSHEET

Under **Item 8: Internet Mail Domain Name**, specify the name you want your GroupWise system to be known by across the Internet.

4.3.7 Handling Outbound Mail

If the Internet Agent is connected to the Internet and is able to perform DNS name resolution, it can send messages from GroupWise users directly across the Internet to Internet users. However, you might prefer to keep the Internet Agent behind your firewall. To accomplish this, you can configure the Internet Agent to route all outbound messages to a relay host.

GROUPWISE INTERNET AGENT INSTALLATION WORKSHEET

Under **Item 5: Relay Host**, mark how you want to handle outbound mail. If you plan to use a relay host, specify the IP address of the relay host.

4.3.8 Enabling the Internet Agent Web Console

The Internet Agent server console enables you to monitor the Internet Agent from the server where it is running. If you want, you can enable the Internet Agent Web console. The Web console lets you view the Internet Agent's statistical and diagnostic information through a Web browser, which is useful if you want to see the Internet Agent's activity without physically visiting the agent's server.

You access the Web console by entering the Internet Agent's network address and HTTP port number in a Web browser (for example, `http://172.16.5.18:7211`). If necessary, you can change the Internet Agent's default HTTP port number (9850).

If you want to restrict access to the Web console, you can assign a username and password. This can be any username and password you want. By default, the username and password are passed through an unsecure connection between the Web browser and the Internet Agent. Therefore, we recommend that you do not use an existing eDirectory username and password unless you secure this connection using SSL. For information about securing the Internet Agent's connections, see "Internet Agent" in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

GROUPWISE INTERNET AGENT INSTALLATION WORKSHEET

Under **Item 4: Web Console Information**, select Yes if you want to enable the Internet Agent Web console. If you want to restrict access to the Web console, enter a username and password.

4.3.9 NetWare Installation Options: Automatic Startup and Clustering

When you install the NetWare Internet Agent, the following options specific to NetWare are available in the Internet Agent Installation program:

- ◆ "Automatic Startup" on page 88
- ◆ "Novell Cluster Services" on page 88

Automatic Startup

You can have the Internet Agent Installation program add a reference to the `gwia.ncf` file in the NetWare server's `autoexec.ncf` file so that the Internet Agent is automatically loaded whenever the server is started.

GROUPWISE INTERNET AGENT INSTALLATION WORKSHEET

Under **Item 2: Installation Options**, mark whether or not you want to configure the NetWare server to start the Internet Agent automatically.

Novell Cluster Services

Novell Cluster Services™ is a server clustering system that ensures high availability and manageability of critical network resources including volumes (where GroupWise domains reside) and applications (such as the Internet Agent). Novell Cluster Services supports failover, failback, and migration of individually managed cluster resources.

The NetWare Internet Agent can be configured to take advantage of the fault-tolerant environment provided by Novell Cluster Services if the following requirements are met:

- ◆ The domain where the Internet Agent is installed has already been created on a shared NSS volume in the cluster.
- ◆ The NetWare Internet Agent is being installed to a server that is part of the same cluster.

When the Internet Agent is configured for clustering, its startup file is configured with shared volume names rather than specific server names.

GROUPWISE INTERNET AGENT INSTALLATION WORKSHEET

Under **Item 2: Installation Options**, mark whether or not you want to configure the NetWare Internet Agent for clustering. If you do, follow the installation instructions in “**Implementing the Internet Agent in a NetWare Cluster**” or “**Implementing the Internet Agent in a Linux Cluster**” in the *GroupWise 7 Interoperability Guide* (<http://www.novell.com/documentation/gw7>), rather than the installation instructions in this guide.

4.3.10 Linux Installation Options: LDAP Information and Clustering

When you install the Linux Internet Agent, the following Linux-specific options are available in the Internet Agent Installation program:

- ◆ “**LDAP Information**” on page 89
- ◆ “**Clustering Alternatives on Linux**” on page 90

LDAP Information

The Linux Internet Agent Installation program needs to access eDirectory through LDAP. eDirectory access is required in order to create the Internet Agent object. To obtain access, the Installation program needs the IP address and port number of an LDAP server, along with an eDirectory username and password to log in with. The user must have sufficient rights to create GroupWise objects in eDirectory. Because the Linux Installation program uses LDAP to access eDirectory, you must provide the username in LDAP format. For example:

```
cn=admin,ou=users,o=corporate
```

If you want to secure the connection to eDirectory with SSL, you can specify a certificate file. For background information about SSL, see “**Encryption and Certificates**” in “**Security Administration**” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

IMPORTANT: If you do not want to use SSL, the LDAP server must be configured to accept clear text passwords. This is configured on the server’s LDAP Group object in ConsoleOne by deselecting *Require TLS for Simple Binds with Password*. The LDAP snap-in to ConsoleOne is required in order to change the setting.

GROUPWISE INTERNET AGENT INSTALLATION WORKSHEET

Under **Item 9: LDAP Authentication**, specify the IP address and port number of an LDAP server, a username in LDAP format, the password for the username, and if necessary, the full path to your SSL certificate file.

Clustering Alternatives on Linux

On Linux, you can install the Internet Agent in three different clustering environments, as described in the *GroupWise 7 Interoperability Guide* (<http://www.novell.com/documentation/gw7>):

- ♦ “Novell Cluster Services on Linux”
- ♦ “Heartbeat on Linux”

If you are using Novell Cluster Services, the Linux GroupWise Installation program provides a Configure GroupWise for Clustering option that simplifies the process of installing the Linux Internet Agent on multiple nodes in the cluster.

GROUPWISE INTERNET AGENT INSTALLATION WORKSHEET

Under **Item 2: Installation Options**, mark whether or not you want to configure the Linux Internet Agent for clustering using Novell Cluster Services. If you do, follow the installation instructions provided in “Implementing the Internet Agent in a Linux Cluster” in *Novell Cluster Services on Linux* in the *GroupWise 7 Interoperability Guide* (<http://www.novell.com/documentation/gw7>), rather than the installation instructions provided in this guide.

If you are installing the Linux Internet Agent on PolyServe Matrix Server, the Linux GroupWise Installation program does not assist you with the setup. See the *GroupWise 7 Interoperability Guide* (<http://www.novell.com/documentation/gw7>) for installation instructions.

4.3.11 Windows Installation Options: Service vs. Application and SNMP Traps

When you install the Windows Internet Agent, you have choices about how the Internet Agent interacts with the Windows operating system.

- ♦ “Service vs. Application” on page 90
- ♦ “SNMP Traps” on page 91

Service vs. Application

When you run the Windows Internet Agent as a service, it can start automatically and run without a user interface, just like any Windows service.

GROUPWISE INTERNET AGENT INSTALLATION WORKSHEET

Under **Item 2: Installation Options**, mark *Install as Windows Service* if you want to run the Internet Agent as a service.

When you run the Windows Internet Agent as a service, it must run under a specific Windows user account.

When the Internet Agent domain is located on the same server where you are installing the Internet Agent, the Internet Agent can run under the local system account. Installing the Internet Agent on the same server with its domain is recommended.

If the Internet Agent domain is located on a remote server, you must specify a user with rights to access the domain directory.

Windows	If the Windows Internet Agent needs to log in to another Windows server, provide a Windows username and password.
NetWare:	If the Windows Internet Agent needs to log in to a NetWare server, provide an existing eDirectory username and password, or create a new account for the agents, as described in “Creating a NetWare Account for Agent Access (Optional)” on page 170.
Linux:	Configuring the Windows Internet Agent to log in to a Linux server is not recommended.

GROUPWISE INTERNET AGENT INSTALLATION WORKSHEET

Under [Item 10: Windows Service Information](#), record the account the Internet Agent will run under, and if necessary, the password for the account.

As with all Windows services, the Windows Internet Agent can be started automatically or manually as a service each time the Windows server restarts.

GROUPWISE INTERNET AGENT INSTALLATION WORKSHEET

Under [Item 10: Windows Service Information](#), mark how you want the Windows Internet Agent to start each time the server is restarted.

SNMP Traps

If you want to use an SNMP manager program, such as the Management and Monitoring Services component of Novell ZENworks Server Management, to monitor the Windows Internet Agent, you must install some SNMP components along with the Internet Agent software.

GROUPWISE INTERNET AGENT INSTALLATION WORKSHEET

Under [Item 2: Installation Options](#), mark *Install and Configure SNMP for GroupWise Agents* if you want to use an SNMP manager program.

If this option is dimmed during installation, the SNMP service has not been enabled on the Windows server where you are installing the agents. If you want to monitor the agents from an SNMP management program, the SNMP service must be enabled so you can select this option.

NOTE: The NetWare and Linux Internet Agents rely on operating system components for SNMP functionality and do not require this installation option.

4.4 Setting Up the Internet Agent

Complete the following tasks to set up the Internet Agent:

- ◆ [Section 4.4.1, “Installing the Internet Agent,”](#) on page 92
- ◆ [Section 4.4.2, “Assigning a Postmaster,”](#) on page 96
- ◆ [Section 4.4.3, “Starting the Internet Agent,”](#) on page 97
- ◆ [Section 4.4.4, “Testing the Internet Agent,”](#) on page 99

4.4.1 Installing the Internet Agent

As you install the Internet Agent, you are prompted to supply configuration information. Use [Section 4.6, “GroupWise Internet Agent Installation Worksheet,” on page 100](#) to understand the prompts and to record your installation and configuration information.

- ♦ [“NetWare and Windows: Installing the Internet Agent Software” on page 92](#)
- ♦ [“Linux: Installing the Internet Agent Software” on page 94](#)

IMPORTANT: If you plan install the Internet Agent in a clustered server environment, see the [GroupWise 7 Interoperability Guide \(http://www.novell.com/documentation/gw7\)](http://www.novell.com/documentation/gw7) before you install the Internet Agent.

NetWare and Windows: Installing the Internet Agent Software

The Internet Agent Installation program does the following:

- ♦ Installs the Internet Agent software files to the server where the Internet Agent will run and to the domain directory.
- ♦ Tests the server you are installing to for correct Internet configuration.
- ♦ Creates the Internet Agent object in eDirectory.
- ♦ Configures the Internet Agent startup file (*gwia.cfg*).

To install the Internet Agent:

- 1 Select an appropriate location to run the Internet Agent Installation program.

NetWare: If you are installing the NetWare Internet Agent, you can run the Installation program from any Windows machine that meets the administrator machine requirements listed in [Section 2.1, “GroupWise Administration Requirements,” on page 21](#).

Windows: If you are installing the Windows Internet Agent, you must run the Installation program at the Windows server where you want to install the Internet Agent. It must also meet the administrator machine requirements listed in [Section 2.1, “GroupWise Administration Requirements,” on page 21](#).

- 2 Make sure that no other GroupWise agents are running on the server where you want to install the Internet Agent.
- 3 Make sure that you have access to the directory where you want to install the Internet Agent and to the domain directory.
- 4 Log in to eDirectory with Admin-equivalent rights to the eDirectory tree where you want the Installation program to create the Internet Agent object.
- 5 Insert the *GroupWise 7 Administrator for NetWare/Windows* CD into the CD drive to start the GroupWise Installation program, then click *Install Products > Install GroupWise Internet Agent*. If the Installation program does not start automatically, run *setup.exe* from the root of the CD.

or

If you have already copied the Internet Agent software to a software distribution directory, run [internet\gwia\install.exe](#) to start the Agent Installation program.



6 Follow the prompts, using the following information from the [GroupWise Internet Agent Installation Worksheet](#).

Item 1: Software Platform

Item 2: Installation Options

Item 3: Server Information

Item 4: Web Console Information

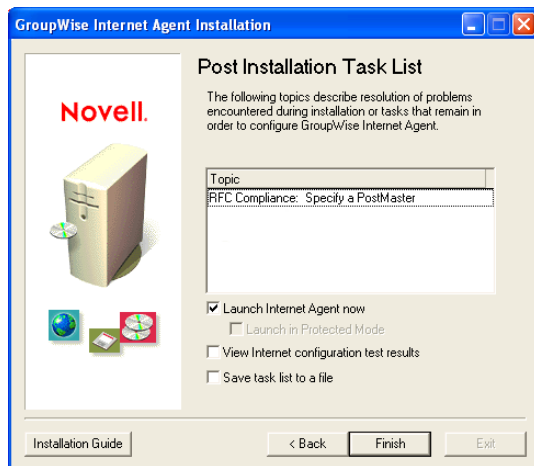
Item 5: Relay Host

Item 6: GroupWise Domain

Item 7: GroupWise Internet Agent Name

Item 8: Internet Mail Domain Name

Item 10: Windows Service Information (Windows only)



7 When the installation is complete, select from the following options:

Options not applicable to the platform where you are installing or to the configuration you selected are dimmed.

Launch Internet Agent Now: This option starts the Internet Agent immediately.

Launch in Protected Mode: This option starts the NetWare Internet Agent in its own protected address space.

View Internet Agent Configuration Test Results: During the installation process, the Internet Agent Installation program examined the server where it was installing the Internet Agent to see if the server was properly configured to connect to the Internet. This option displays the results of the test and can help you resolve any problems the Installation program discovered with the Internet connectivity of the server.

Save Task List to a File: This option saves the task lists in the Topic box to a file so you can complete them later. Typically, the task of assigning a postmaster is listed. You may see other tasks listed as well.

- 8 Click *Finish*, then continue with [Section 4.4.2, “Assigning a Postmaster,” on page 96](#).

Linux: Installing the Internet Agent Software

As you install the Internet Agent, you are prompted to supply configuration information. Use [Section 4.6, “GroupWise Internet Agent Installation Worksheet,” on page 100](#) to understand the prompts and to record your installation and configuration information.

- ♦ [“Installing the Internet Agent” on page 94](#)
- ♦ [“Configuring the Internet Agent” on page 95](#)

IMPORTANT: If you plan to install the Internet Agent in a clustered server environment, see the [GroupWise 7 Interoperability Guide \(http://www.novell.com/documentation/gw7\)](http://www.novell.com/documentation/gw7) before you install the Internet Agent.

Installing the Internet Agent

- 1 Make sure that LDAP is running on your eDirectory server and that it is configured to accept login from the Internet Agent Installation program ([worksheet item 8](#)).

The Internet Agent Installation program requires eDirectory access in order to create the Internet Agent object in eDirectory. The Installation program uses LDAP to gain the required access.

- 2 In a terminal window, become `root` by entering `su` and the `root` password.

The `su` command enables the X Window System, which is required for running the GUI GroupWise Installation program. If you are not using the X Window System, you can install GroupWise components individually, as described in [“Installing the GroupWise Agents Using the Text-Based Installation Program” on page 177](#).

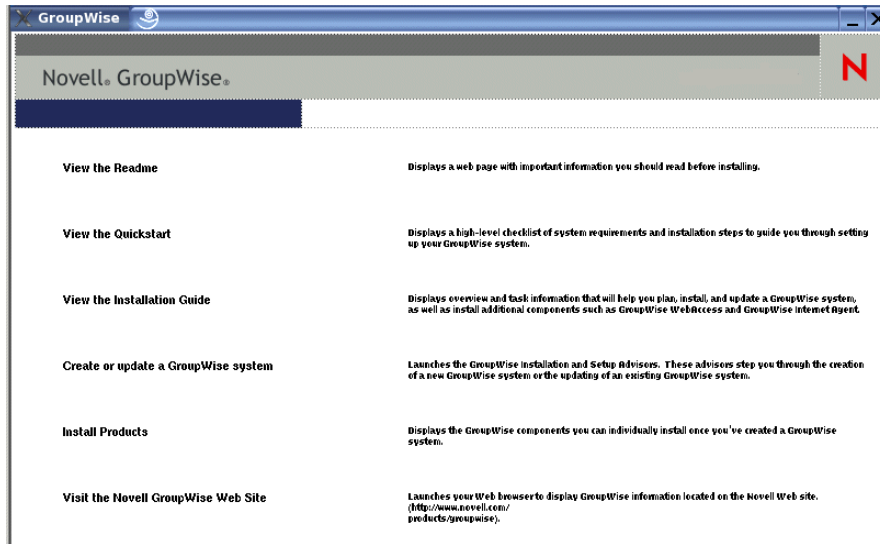
- 3 Change to the root of *GroupWise 7 Administrator for Linux* CD.

- 4 Start the GroupWise Installation program.

```
./install
```

- 5 Select the language in which you want to run the GroupWise Installation program, then click *OK*.

NOTE: On Linux, all available languages are included in the same RPM, so all languages are always installed.



6 Click *Install Products* > *GroupWise Internet Agent* > *Install Internet Agent*

7 When the installation is complete, click *OK*.

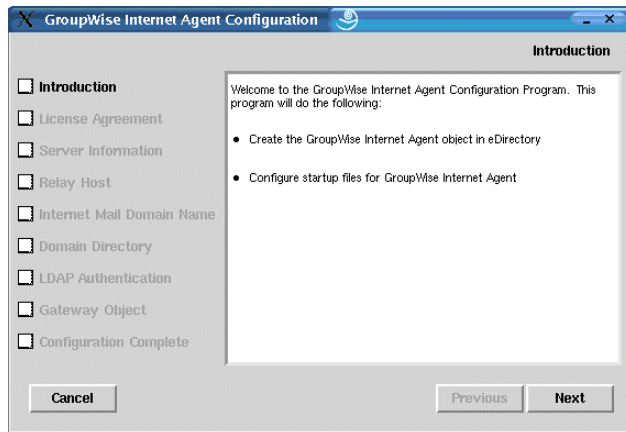
The Internet Agent software is installed to `/opt/novell/groupwise/agents`.

8 Continue with **Configuring the Internet Agent**.

Configuring the Internet Agent

1 After the Internet Agent files have been installed, click *Configure Internet Agent*.

The Internet Agent installation and configuration steps are separate so that you can install updated agent software without repeating the agent configuration steps.



2 Follow the prompts, using the following information from the **GroupWise Internet Agent Installation Worksheet** in the order listed.

Item 3: **Server Information**

Item 5: **Relay Host**

Item 8: **Internet Mail Domain Name**

Item 6: **GroupWise Domain**

Item 9 LDAP Authentication

Item 7: GroupWise Internet Agent Name

On the Configuration Complete page, *Launch Internet Agent on System Startup* is selected by default.

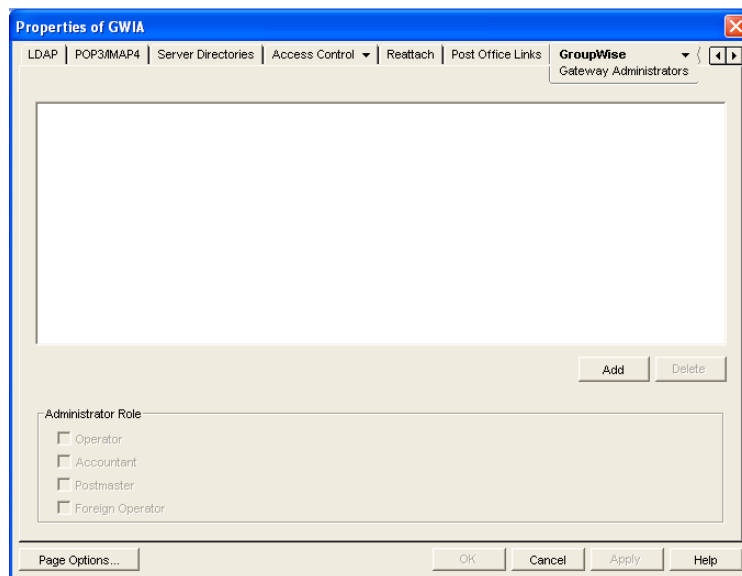
IMPORTANT: If you want to configure the Internet Agent for high availability, as described in “[Enabling the High Availability Service for the Linux GroupWise Agents](#)” on page 185, it must be configured to start automatically on system startup.

- 3 If you do not want the Internet Agent to start automatically when the server restarts, deselect *Launch Internet Agent on System Startup*.
- 4 Click *Exit* to complete the configuration.
- 5 Continue with [Assigning a Postmaster](#).

4.4.2 Assigning a Postmaster

The Internet requires each site to assign at least one user to be a Postmaster. The Postmaster is assigned to be the recipient of messages addressed to `postmaster@host`.

- 1 In ConsoleOne, right-click the Internet Agent object, then click *Properties*.
- 2 Click *GroupWise > Gateway Administrators*.



- 3 On the Gateway Administrators page, click *Add*, select a GroupWise user to be the Postmaster, then click *OK*.
- 4 Select the user from the list, then click *Postmaster*.
- 5 Click *OK* to save the information.
- 6 Continue with [Starting the Internet Agent](#).

The Internet Agent can also be configured to send problem messages to the Postmaster. For instructions, see “[Determining What to Do with Undeliverable Messages](#)” in “[Internet Agent](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

4.4.3 Starting the Internet Agent

After you've installed the Internet Agent and configured a Postmaster, you can start the Internet Agent.

- ♦ “NetWare: Starting the Internet Agent” on page 97
- ♦ “Linux: Starting the Internet Agent” on page 97
- ♦ “Windows: Starting the Internet Agent” on page 99

NetWare: Starting the Internet Agent

During installation, the Internet Agent Installation program copied the `gwia.ncf` startup file to the `sys:\system` directory (unless you specified a different directory). You use this file when you load the Internet Agent.

If you chose to have the Internet Agent Installation program add the `gwia.ncf` command to your `autoexec.ncf`, the Internet Agent loads whenever you start the server.

To manually start the Internet Agent:

- 1 At the NetWare server console, enter `gwia` to run the `gwia.ncf` file.

If the Internet Agent does not start successfully, see “Starting the NetWare GroupWise Agents” on page 173.

After you have started the Internet Agent, verify that the program is running. You can monitor the program from the operation screen. Press F10-Options, then press F9-Stats. If you see an error message in the Statistics window, the program has not loaded properly.

- 2 If you enabled the Internet Agent Web console, you can use the following URL to view the Web console:

```
http://internet_agent_network_address:http_port
```

For example:

```
http://172.16.5.18:9850
```

For more information, see “Using the Internet Agent Web Console” in “Internet Agent” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

- 3 Skip to with Section 4.4.4, “Testing the Internet Agent,” on page 99.

Linux: Starting the Internet Agent

To start the Linux Internet Agent with a user interface:

- 1 If Sendmail, Postfix, or any other SMTP daemon is enabled on your Linux server, disable it before starting the Internet Agent.

For example, use the following commands to stop and disable Postfix:

```
/etc/init.d/postfix stop  
chkconfig postfix off
```

As an alternative, you could configure the Internet Agent to bind exclusively to the server IP address, as described in “Binding the Internet Agent to a Specific IP Address”, so that the Internet Agent does not conflict with the default Postfix IP address of 127.0.0.1 (the loopback address).

- 2 If you want to use the Internet Agent for POP3 and IMAP4 mail, make sure no POP3 or IMAP4 daemons are running on your Linux server.
- 3 Make sure that the MTA for the domain is running.
- 4 In a terminal window, become `root` by entering `su` and the `root` password.

The `su` command enables the X Window System, which is required for running the GUI Internet Agent server console.

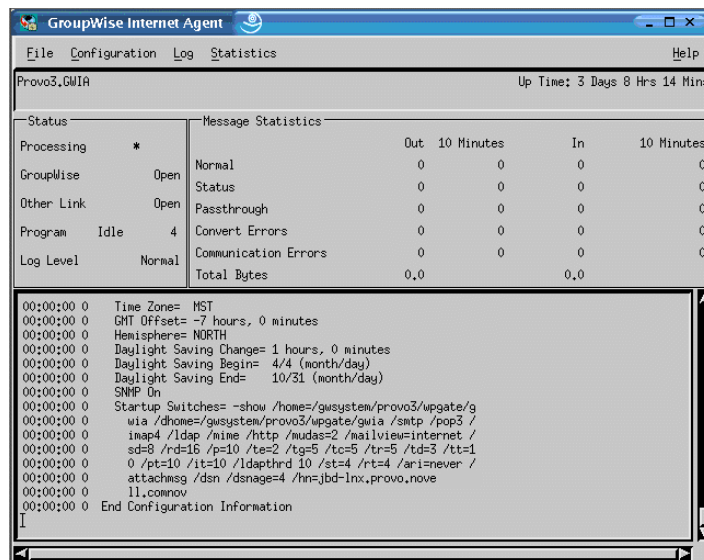
- 5 Change to the `/opt/novell/groupwise/agents/bin` directory.
- 6 Enter the following command to start the Internet Agent:

```
./gwia --show @gwia.cfg &
```

The `--show` switch starts the Internet Agent with a server console interface similar to that provided for the NetWare and Window Internet Agent. This user interface requires that the X Window System and Open Motif be running on the Linux server.

The `@` startup switch points to the Internet Agent startup file and is required to start the Internet Agent.

The ampersand (`&`) causes the Internet Agent to run in the background, so that the terminal window you started it in is again available for use.



The status messages displayed on the Internet Agent server console are also written to the Internet Agent log file (`mmddlog.nnn`) in the `/var/log/novell/groupwise/domain.gwia` directory. The log file name includes the month and day when it was created, along with an incrementing extension to accommodate multiple log files on the same day.

After the Internet Agent starts successfully, refer to the following sections in [Chapter 7, “Installing GroupWise Agents,”](#) on page 159 for additional information about managing the Internet Agent on Linux:

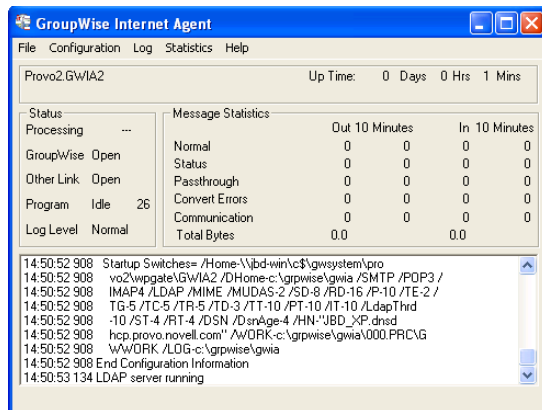
- ♦ [“Starting the Linux GroupWise Agents as Daemons”](#) on page 180
- ♦ [“Monitoring the Linux GroupWise Agents from Your Web Browser”](#) on page 181
- ♦ [“Starting the Linux GroupWise Agents on System Startup”](#) on page 182
- ♦ [“Running the Linux GroupWise Agents as a Non-root User”](#) on page 182

- ◆ “Enabling the High Availability Service for the Linux GroupWise Agents” on page 185
- ◆ “Stopping the Linux GroupWise Agents” on page 189
- ◆ “Uninstalling the Linux GroupWise Agents” on page 191

7 Skip to [Section 4.4.4, “Testing the Internet Agent,”](#) on page 99

Windows: Starting the Internet Agent

- 1 If the domain directory is not on the Internet Agent server, map a drive to the domain directory as a user that has rights to access the domain directory.
- 2 If the Internet Agent is installed as a Windows application, click *Start > Programs > GroupWise Internet Agent > GroupWise Internet Agent*.



or

If the Internet Agent is installed as a Windows service, click the *Start menu > Settings > Control Panel > Administrative Tools > Services*. Right-click the GWIA service, then click *Start*.

If the Internet Agent does not start successfully, see [“Starting the Windows GroupWise Agents”](#) on page 194.

- 3 If you enabled the Internet Agent Web console, use the following URL to log into the Web console:

`http://internet_agent_network_address:http_port`

For example:

`http://172.16.5.18:9850`

For more information, see [“Using the Internet Agent Web Console”](#) in [“Internet Agent”](#) in the [GroupWise 7 Administration Guide](#) (<http://www.novell.com/documentation/gw7>).

- 4 Continue with [Testing the Internet Agent](#).

4.4.4 Testing the Internet Agent

After you’ve started the Internet Agent, you should send a message to ensure that the system is working properly.

To send a message:

- 1 Open a new mail message in your GroupWise client.

2 In the To field, enter your Internet address using the following syntax:

```
internet_agent:"user@host"
```

where *internet_agent* is the Internet Agent's name. For example:

```
gwia:"rcollins@novell.com"
```

3 Send the message, then check your mailbox to verify that you receive it.

4 Continue with [What's Next](#).

4.5 What's Next

The “[Internet Agent](#)” section of the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>) provides information to help you further configure and maintain the Internet Agent, including how to:

- ◆ Configure addressing options. By default, your GroupWise system is set up to use the standard GroupWise address format (*user_id.post_office.domain*). This requires your users to enter Internet addresses in the following format: *internet_agent:"user@host"*. You can configure your GroupWise system to use Internet-style address format (*user@host*) rather than the standard GroupWise address format. See “[Configuring Internet Addressing](#)” and “[Configuring How the Internet Agent Handles E-Mail Addresses](#)”.
- ◆ Optimize configuration settings for the SMTP/MIME, IMAP, POP, and LDAP services. See “[Configuring Internet Services](#)”.
- ◆ Use SSL to secure connections between the Internet Agent and other SMTP hosts, POP/IMAP clients, and the Internet Agent Web console. See “[Securing Internet Agent Connections with SSL](#)”.
- ◆ Control users' access to SMTP/MIME (inbound and outbound), IMAP, and POP services. See “[Controlling User Access to the Internet](#)”.
- ◆ Protect users from spam. See “[Blocking Unwanted E-Mail from the Internet](#)”.
- ◆ Control logging for the Internet Agent. See “[Using Internet Agent Log Files](#)”.

4.6 GroupWise Internet Agent Installation Worksheet

The following table lists the information you are prompted to provide as you complete the Internet Agent installation

Item	Explanation
1) Software Platform	Select the type of server where you will install the Internet Agent.
◆ NetWare	For more information, see Section 4.3.1, “Selecting the Internet Agent Platform,” on page 85.
◆ Linux	
◆ Windows	

Item	Explanation
2) Installation Options	Specify the server path where you want the Internet Agent files installed.
Path:	For more information, see Section 4.3.3, "Selecting the Internet Agent Installation Directory," on page 86.
NetWare Options:	If you selected NetWare as the Internet Agent's platform under item 1, see Section 4.3.9, "NetWare Installation Options: Automatic Startup and Clustering," on page 88 for more information.
<ul style="list-style-type: none"> ◆ Update AUTOEXEC File ◆ Configure Internet Agent for Clustering 	
Linux Options:	If you selected Linux as the Internet Agent's platform under item 1, see Section 4.3.10, "Linux Installation Options: LDAP Information and Clustering," on page 89 for more information.
<ul style="list-style-type: none"> ◆ Configure GroupWise for Clustering 	
Windows Options:	If you selected Windows as the Internet Agent's platform under item 1, see Section 4.3.11, "Windows Installation Options: Service vs. Application and SNMP Traps," on page 90 for more information.
<ul style="list-style-type: none"> ◆ Install and Configure SNMP for GroupWise Agents ◆ Install as Windows Service 	
3) Server Information	Specify the network address of the server where the Internet Agent will run.
<ul style="list-style-type: none"> ◆ IP Address: ◆ DNS Host Name ◆ Message Transfer Port: 	<p>If you want the Internet Agent and the MTA to communicate by way of TCP/IP, specify 7102 or another available port number. If you do not want to use TCP/IP, specify 0 (zero) to disable TCP/IP communication.</p> <p>For more information, see Section 4.3.2, "Gathering Server Information," on page 85.</p>
4) Web Console Information	Specify whether or not you want to enable the Internet Agent Web console. The Web console allows you to monitor the operation of the agent through a Web browser.
Enable: Yes No	
<ul style="list-style-type: none"> ◆ Username: ◆ Password: ◆ HTTP Port: 9850 (default) 	For more information, see Section 4.3.8, "Enabling the Internet Agent Web Console," on page 88.
5) Relay Host	Mark how you want the Internet Agent to handle outbound messages from GroupWise users to Internet users.
<ul style="list-style-type: none"> ◆ Send Outbound Mail Directly to Internet Hosts <p>or</p> <ul style="list-style-type: none"> ◆ Send Outbound Mail through a Relay Host <p>IP address:</p>	For more information, see Section 4.3.7, "Handling Outbound Mail," on page 87.

Item	Explanation
6) GroupWise Domain	Specify the domain name and the domain directory where you want to create a subdirectory for the Internet Agent.
<ul style="list-style-type: none"> ◆ Domain Name: ◆ Domain Directory: ◆ Gateway Subdirectory: ◆ eDirectory Context: 	<p>On Linux, specify the eDirectory context of the Domain object.</p> <p>For more information, see Section 4.3.4, “Gathering Domain and Gateway Information,” on page 86.</p>
7) GroupWise Internet Agent Name	Specify a name for the GroupWise Gateway object that will be created in eDirectory to represent the Internet Agent.
	For more information, see Section 4.3.5, “Selecting the Gateway Object Name,” on page 87.
8) Internet Mail Domain Name	Specify the Internet domain name assigned to your GroupWise system.
	For more information, see Section 4.3.6, “Specifying the Internet Mail Domain Name for Your GroupWise System,” on page 87.
9) LDAP Authentication	This item applies to the Linux Internet Agent only.
<ul style="list-style-type: none"> ◆ LDAP Server IP Address: ◆ LDAP Server Port: ◆ Username in LDAP Format: ◆ Password: ◆ SSL Certificate 	<p>List the IP address and port of an LDAP server in your system and the username and password that the Internet Agent Installation program can use to log in to eDirectory to create the Internet Agent object. If you want to use an SSL connection, specify an SSL certificate file.</p> <p>For more information, see Section 4.3.10, “Linux Installation Options: LDAP Information and Clustering,” on page 89.</p>
10) Windows Service Information	This information applies only if you are installing the Internet Agent as a Windows service.
<ul style="list-style-type: none"> ◆ Use Local System Account <p>Allow Service to Interact with Desktop: Yes No</p> <ul style="list-style-type: none"> ◆ Use this Windows User Account <p>Name:</p> <p>Password:</p> <ul style="list-style-type: none"> ◆ Startup Type: Automatic Manual Disabled 	<p>Indicate how you want the Internet Agent to access the domain directory specified under item 5.</p> <p>For more information, see “Service vs. Application” on page 90.</p>

Installing GroupWise WebAccess

5

Novell® GroupWise® WebAccess enables user access to GroupWise mailboxes through Web browsers, WAP-enabled cellular phones, and Pocket PCs. The following sections provide information to help you successfully install the GroupWise WebAccess (including GroupWise WebPublisher if desired) in your existing GroupWise system.

- ♦ Section 5.1, “GroupWise WebAccess Overview,” on page 103
- ♦ Section 5.2, “WebAccess System Requirements,” on page 107
- ♦ Section 5.3, “Planning GroupWise WebAccess,” on page 108
- ♦ Section 5.4, “Setting Up GroupWise WebAccess,” on page 116
- ♦ Section 5.5, “What’s Next,” on page 131
- ♦ Section 5.6, “GroupWise WebAccess Installation Worksheet,” on page 131

IMPORTANT: If you plan to install WebAccess in a clustered server environment, see the *GroupWise 7 Interoperability Guide* (<http://www.novell.com/documentation/gw7>) before you install WebAccess.

5.1 GroupWise WebAccess Overview

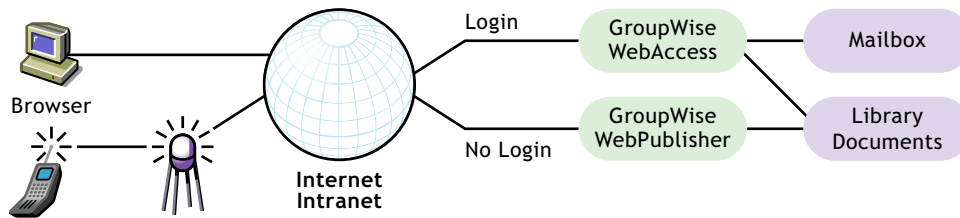
- ♦ Section 5.1.1, “GroupWise WebAccess Introduction,” on page 103
- ♦ Section 5.1.2, “GroupWise WebAccess Components,” on page 104
- ♦ Section 5.1.3, “One WebAccess Server vs. Two,” on page 105
- ♦ Section 5.1.4, “WebAccess Security Requirements,” on page 105
- ♦ Section 5.1.5, “GroupWise Document Viewer Agent,” on page 107

5.1.1 GroupWise WebAccess Introduction

GroupWise WebAccess, when used in a Web browser, provides most of the functionality available in the other GroupWise clients. For information about tasks that can be completed using the WebAccess client, see the WebAccess Help after installation. WebAccess client functionality on mobile devices or PDAs might be limited in comparison to the other GroupWise clients.

GroupWise WebAccess also includes GroupWise WebPublisher, an optional extension to GroupWise WebAccess. GroupWise WebPublisher lets GroupWise users publish documents from a GroupWise library to the Web. Web users can then view the published documents in their Web browsers.

Figure 5-1 GroupWise WebAccess Requires the User to Log in to a GroupWise Mailbox, but GroupWise WebPublisher Does Not



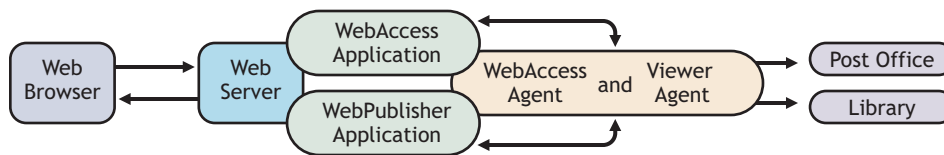
As shown above, GroupWise WebAccess requires users to have a mailbox in a GroupWise post office. GroupWise WebPublisher, on the other hand, is designed to provide public access to GroupWise library documents; WebPublisher users do not require a mailbox.

After you've finished setting up GroupWise WebAccess, you should look at [Section 5.5, "What's Next," on page 131](#) for additional information you might want to be aware of as you configure, maintain, and expand GroupWise WebAccess.

5.1.2 GroupWise WebAccess Components

GroupWise WebAccess consists of four components: the WebAccess Application, the WebPublisher Application, the WebAccess Agent, and the Document Viewer Agent.

Figure 5-2 GroupWise WebAccess Components



WebAccess Application: The WebAccess Application, which resides on the Web server, provides the WebAccess user interface. As users perform actions in the WebAccess client, the WebAccess Application passes information between the Web browser and the WebAccess Agent.

WebPublisher Application: The WebPublisher Application, which resides on the Web server, provides the WebPublisher user interface. As users perform actions in the WebPublisher client, the WebPublisher Application passes information between the Web browser and the WebAccess Agent.

WebAccess Agent: The WebAccess Agent receives user requests from the WebAccess Application and WebPublisher Application, accesses post offices and libraries to process the requests, and then passes information back to the applications.

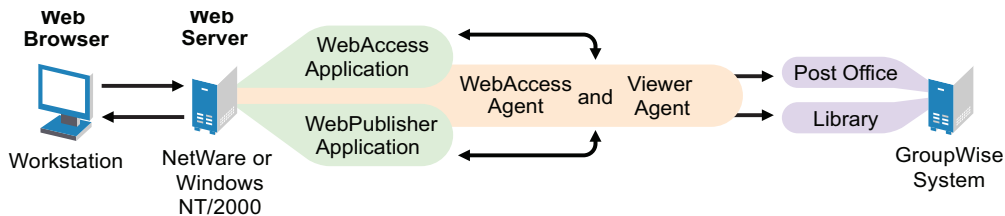
The WebAccess Agent is required for both WebAccess and WebPublisher. The WebAccess Application must be installed in order to use WebAccess. Likewise, the WebPublisher Application must be installed in order to use WebPublisher.

Document Viewer Agent: The Document Viewer Agent isolates the document conversion task from the WebAccess Agent. The Viewer Agent can simultaneously convert multiple documents into HTML format. If it encounters a problem converting a document, the problem does not affect conversion of other documents, nor does it affect the functioning of the WebAccess Agent. Therefore, WebAccess users do not experience interruptions because of documents that fail to convert into HTML.

5.1.3 One WebAccess Server vs. Two

The WebAccess Application and WebPublisher Application can be installed to a NetWare, Linux, Windows, or UNIX Web server. If desired, you can install the WebAccess Agent and the Viewer Agent on the same server with the Web server.

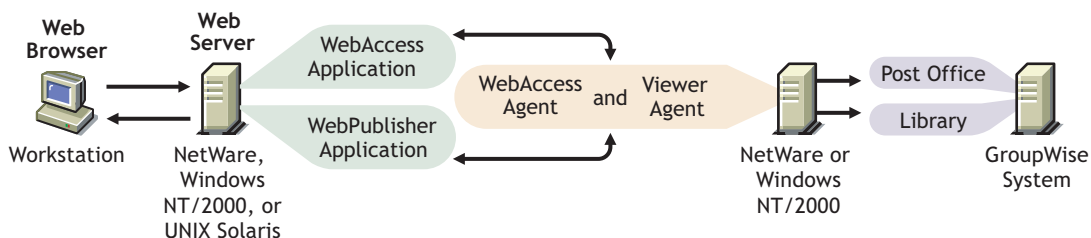
Figure 5-3 The GroupWise WebAccess Application, WebPublisher Application, WebAccess Agent, and Viewer Agent Are All Installed on the Web Server



The server where they run together must be a Web server because the WebAccess Application is installed into the Web server installation.

The WebAccess Agent and Viewer Agent can also run on a different server from where the WebAccess Application runs. In addition to running on a NetWare, Linux, or Windows server, the WebAccess Application can also run on a UNIX Solaris server in conjunction with a Web server running on one of those platforms, as illustrated below:

Figure 5-4 The GroupWise WebAccess and WebPublisher Applications Are Installed on the Web Server, and the WebAccess Agent and Viewer Agent Are Installed on a NetWare or Windows Server



Security, discussed in [Section 5.1.4, “WebAccess Security Requirements,”](#) on page 105, might also determine whether you run the WebAccess Agent and Viewer Agent on the same server as the Web server.

5.1.4 WebAccess Security Requirements

GroupWise WebAccess can be configured to support the level of security you have established for your Internet/intranet communication.

If you are not concerned about security issues (for example, you only plan to use WebAccess on a secured intranet), you can install the WebAccess components to any servers that provide access for your users and meet the requirements listed in [Section 5.2, “WebAccess System Requirements,”](#) on page 107.

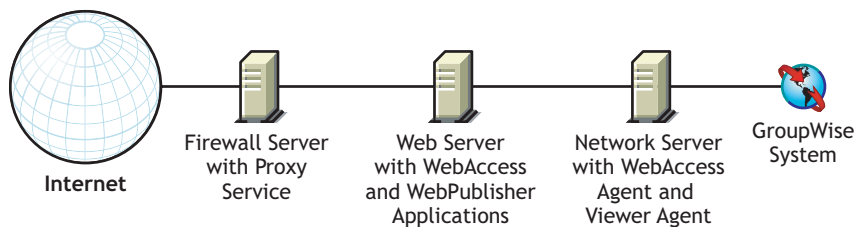
If you plan to use WebAccess to provide users with access to their mailboxes from anywhere on the Internet (rather than simply within a secured intranet), and you already have a firewall in place to provide security, you have the following options for configuring WebAccess:

- ♦ Install all WebAccess components inside your firewall and use a proxy service. See [“Configuration Using a Proxy Service” on page 106](#). This is the recommended configuration.
- ♦ Install the WebAccess and WebPublisher Applications on a Web server outside your firewall and the WebAccess Agent and Viewer Agent on a server inside your firewall. See [“Configuration Without a Proxy Service” on page 106](#).

Configuration Using a Proxy Service

If your firewall includes a proxy service, you can install the WebAccess Application and WebPublisher Application to a Web server inside your firewall, and the WebAccess Agent and Viewer Agent to another server inside the firewall, as shown in the following illustration.

Figure 5-5 *WebAccess Installed in an Environment That Uses a Proxy Service*

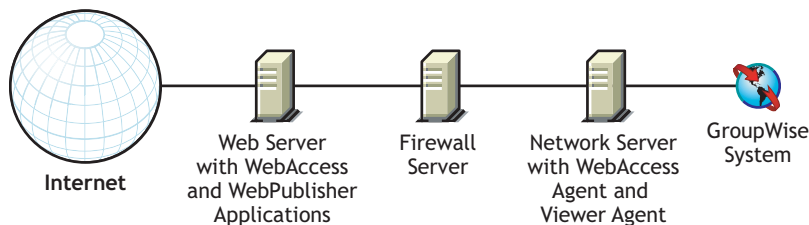


If desired, the WebAccess Agent and Viewer Agent can also be installed to the Web server rather than a separate server, as discussed in [Section 5.1.3, “One WebAccess Server vs. Two,” on page 105](#).

Configuration Without a Proxy Service

If your firewall does not provide a proxy service, you need to install the WebAccess Application and WebPublisher Application to a Web server that is outside the firewall. Because the WebAccess Agent requires direct access (mapped path or UNC path) to a GroupWise domain directory, it needs to be installed to a server that is located within the firewall.

Figure 5-6 *WebAccess Installed in an Environment That Doesn't Use a Proxy Service*



The firewall must allow inbound IP packets to be sent from the Web server to the IP address and port number of the WebAccess Agent (for example, 172.16.5.18:7205).

In addition, the firewall must allow outbound IP packets to be sent from the WebAccess Agent to the Web server. This requires all high ports (above 1023) to be open to outbound IP packets.

5.1.5 GroupWise Document Viewer Agent

The documents that users attach to e-mail messages are as varied as the combinations of document formats, tools, and users throughout the world. In order to display documents in your Web browser, WebAccess must convert them to HTML. Because some documents contain unexpected data, WebAccess cannot convert them. In earlier versions of GroupWise, the WebAccess Agent sometimes shut down when it could not convert a document. This occurrence then interrupted the activities of all WebAccess users.

The GroupWise 7 Document Viewer Agent resolves the problem by taking over the document conversion task from the WebAccess Agent. The Viewer Agent can process multiple documents simultaneously, and if it encounters a problem with a document, the problem does not affect its processing of other documents, nor does it affect the functioning of the WebAccess Agent. Therefore, WebAccess users no longer experience interruptions because of documents that fail to convert into HTML.

The Viewer Agent is automatically installed along with the WebAccess Agent, and the WebAccess Agent manages the Viewer Agent, starting and stopping it as needed. The default configuration of the Viewer Agent is sufficient to provide basic document conversion functionality. The default configuration includes a minimum of 5 worker threads that run independently of the Viewer Agent process. Additional Viewer Agent functionality can be enabled using startup switches in the Viewer Agent startup file (`gwdva.dva`). Configuring the Viewer Agent in ConsoleOne is not currently possible. For more information, see “[Configuring the Document Viewer Agent](#)” in “[WebAccess](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

5.2 WebAccess System Requirements

- ❑ GroupWise 7 system: The GroupWise 7 WebAccess Agent can only access GroupWise 7 post offices and libraries
 - ❑ 32-bit/x86 processor or 64-bit/x86 processor
 - ❑ Any of the following server operating systems for the WebAccess Agent and the Viewer Agent:
 - ◆ Novell Open Enterprise Server 1 or Open Enterprise Server 2 (NetWare or Linux version), plus the latest Support Pack
 - ◆ NetWare 5.1, NetWare 6.0, or NetWare 6.5, plus the latest Support Pack for your version of NetWare

Domains and post offices can be located on NetWare 3.12 and NetWare 4.2 servers, although the agents cannot run there.

 - ◆ SUSE[®] Linux Enterprise Server 9 or SUSE Linux Enterprise Server 10, plus the latest Support Pack
- The X Window System is required by the GUI Installation Advisor and Setup Advisor that step you through the process of creating a new GroupWise system. A text-based Installation program is also available.
- The X Window System and Open Motif are required by the GUI GroupWise agent server consoles. By default, the agents run as daemons without user interfaces.
- ◆ Windows Server 2000 or Windows Server 2003, plus the latest Service Pack for your version of Windows
- ❑ Adequate server memory as required by the operating system

NOTE: On NetWare only, the Document Viewer Agent requires 1 GB of memory for its own use in its default configuration of 5 worker threads.

- ❑ Any of the following Web servers for the WebAccess Application and the WebPublisher Application:
 - ◆ NetWare 6: Netscape Enterprise Server for NetWare; Apache 1.3 plus Tomcat 3.3 plus the Jakarta Connector
 - ◆ NetWare 6.5: Apache 2 plus Tomcat 4 plus the Jakarta Connector
 - ◆ Linux: Apache 2.2 plus Tomcat 5 plus the ModProxy Module
 - ◆ Windows Server 2000/2003: Microsoft Internet Information Server (IIS) 5 or later plus Tomcat 5.5 plus the Jakarta Connector
 - ◆ UNIX: Apache 2 plus a compatible servlet engine and connector
- ❑ Any of the following Web browsers for the WebAccess client and the WebAccess Agent Web console:
 - ◆ Linux: Mozilla Firefox
 - ◆ Windows: Microsoft Internet Explorer 6.0 or later; Mozilla Firefox
 - ◆ Macintosh: The latest version of Safari for your Mac OS (10.3 or 10.4); Mozilla Firefox
 - ◆ UNIX: Mozilla Firefox
- ❑ Java Virtual Machine (JVM) 1.3.1.1 or later to support the WebAccess client speller applet
- ❑ Any of the following mobile devices for the WebAccess client:
 - ◆ Any mobile device that supports the Wireless Access Protocol (WAP) and has a microbrowser that uses Handheld Device Markup Language (HDML) 3.0 or later, or Wireless Markup Language (WML) 1.1 or later
 - ◆ Pocket PC with Windows 2000/2002/2003
- ❑ Adequate server disk space:
 - ◆ Approximately 215 MB for the WebAccess program files (111 MB shared with Monitor; varies by platform)
 - ◆ Approximately 50 MB for the Document Viewer Agent program files (varies by platform)
 - ◆ Adequate disk space for the document cache and document quarantine used by the associated Document Viewer Agent, as described in “[Configuring the Document Viewer Agent](#)” in “[WebAccess](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>)

5.3 Planning GroupWise WebAccess

Before installing GroupWise WebAccess, you should complete the planning tasks listed below. The planning tasks help you gather information you will need as you install and set up GroupWise WebAccess. You can use [Section 5.6, “GroupWise WebAccess Installation Worksheet,” on page 131](#) to record your installation and setup information.

- ◆ [Section 5.3.1, “Deciding Where to Install the GroupWise WebAccess Components,” on page 109](#)

- ◆ [Section 5.3.2, “Determining the WebAccess Agent’s Configuration,” on page 109](#)
- ◆ [Section 5.3.3, “Determining the WebAccess and WebPublisher Applications’ Configuration,” on page 115](#)

To help with the above tasks, you can also review the [GroupWise Wiki \(http://wiki.novell.com/index.php/GroupWise\)](http://wiki.novell.com/index.php/GroupWise), which includes a *Best Practices* section.

IMPORTANT: If you plan to install WebAccess in a clustered server environment, refer to the [GroupWise 7 Interoperability Guide \(http://www.novell.com/documentation/gw7\)](http://www.novell.com/documentation/gw7) as you plan your WebAccess installation.

5.3.1 Deciding Where to Install the GroupWise WebAccess Components

After reviewing [Section 5.1, “GroupWise WebAccess Overview,” on page 103](#) and the system requirements listed in [Section 5.2, “WebAccess System Requirements,” on page 107](#), plan where you want to install the WebAccess components in your system.

For best performance, the WebAccess Agent should be installed on the same server where the domain it belongs to is located. If you need to install it on a remote server, you can create a secondary domain on the remote server so that the WebAccess Agent has a local domain and MTA to communicate with.

GROUPWISE WEBACCESS INSTALLATION WORKSHEET

Under [Item 2: Server Platform and Installation Directory](#), specify the platform where you will install the WebAccess Agent, then specify the directory where you want to install the WebAccess Agent files. The default installation directories are:

- ◆ NetWare: `sys:\system`
- ◆ Linux: `/opt/novell/groupwise/agents`
- ◆ Windows: `c:\webacc`

Under [Item 13: Web Server Type and Root Directory](#), select the type of Web server where you will install the WebAccess Application and WebPublisher Application, then specify the Web server’s root directory.

Under [Item 14: Novell Root Directory](#), specify a directory on the Web server where you want to install the configuration files for the WebAccess Application and WebPublisher Application.

Under [Item 15: Java Servlet Engine](#), mark whether you want to use the Tomcat Servlet Container (recommended) or another servlet engine.

5.3.2 Determining the WebAccess Agent’s Configuration

As you install the WebAccess Agent, you are prompted to supply the configuration information described in the following sections:

- ◆ [“Network Address” on page 110](#)
- ◆ [“Gateway Directory Location and Name” on page 110](#)
- ◆ [“Gateway Object Name” on page 110](#)
- ◆ [“Domain and Post Office Access” on page 111](#)

- ◆ “Web Console” on page 112
- ◆ “WebPublisher” on page 112
- ◆ “NetWare Installation Option: Novell Cluster Services” on page 113
- ◆ “Linux Installation Options: LDAP Information and Clustering” on page 113
- ◆ “Windows Installation Options: Service vs. Application and SNMP Traps” on page 115

Network Address

The WebAccess Agent communicates with the WebAccess Application and WebPublisher Application (on the Web server) through TCP/IP.

GROUPWISE WEBACCESS INSTALLATION WORKSHEET

Under **Item 3: Server Address**, specify the IP address or DNS hostname of the WebAccess Agent’s server, then specify the port number for the agent to use. The default is 7205.

Gateway Directory Location and Name

The WebAccess Agent requires a GroupWise gateway directory in which to store configuration information and work files. The gateway directory must be located under a GroupWise domain directory. The default directory name is `webac70a`. If you change the name, use the following platform-specific conventions:

NetWare: Use a maximum of 8 characters

Linux: Use only lowercase characters

Windows: No limitations.

After you specify the domain directory location and a gateway directory name, the WebAccess Installation program creates the gateway directory under the `domain\wpgate` directory (for example, `provo\wpgate\webac70a`).

GROUPWISE WEBACCESS INSTALLATION WORKSHEET

Under **Item 5: Gateway Directory**, specify the domain name and the full path to the domain directory where you want to create the gateway directory, then give the gateway directory a name.

If you are installing the Linux WebAccess Agent, record the eDirectory™ context of the Domain object (for example, `cn=provo3,ou=groupwise,o=corporate`).

Gateway Object Name

The WebAccess Agent also requires a GroupWise Gateway object in Novell eDirectory. By default, it is named the same as the gateway directory and is referred to as the WebAccess Agent object. This object stores the WebAccess Agent’s information and enables configuration of the agent through ConsoleOne®.

The WebAccess Agent object is created below the Domain object. If you have multiple domains, the WebAccess Installation program uses the Domain object associated with the domain directory where you are creating the WebAccess Agent gateway directory.

GROUPWISE WEBACCESS INSTALLATION WORKSHEET

Under **Item 6: Gateway Object**, specify the name you want to give the WebAccess Agent object. The default name is the same as the gateway directory name you chose for **Item 5**.

Domain and Post Office Access

The WebAccess Agent requires access to the domain. It also requires access to each post office where mailboxes or libraries are located that WebAccess or WebPublisher users will access.

Domain: The WebAccess Agent needs direct access (mapped drive, UNC path, or file system mount) to the domain directory so that it can write to its gateway directory (*domain\wpgate\webac70a*).

Post Offices: The WebAccess Agent needs direct access (mapped drive, UNC path, or file system mount) to the post office directory so that it can write to the POAs input queue, or it needs client/server access (TCP/IP) to the post office's POA. By default, the WebAccess Agent uses whatever access mode has been established for the post office on the Post Office Settings property page of the Post Office object in ConsoleOne.

If the WebAccess Agent must access a remote server in order to access a domain or post office, it needs to be able to log in to the remote server.

NetWare: Ensure that an eDirectory user account exists that provides the required access to the domain and post office directories. For direct access to the domain directory or a post office directory, the WebAccess Agent needs Read, Write, Create, Erase, Modify, and File Scan rights.

Windows: Ensure that a Windows user account exists on the Windows server for the agent.

If the domain or any post office directories directly accessed by the WebAccess Agent are on remote Windows servers, ensure that the Windows user account provides Full Control access to those directories.

If the domain directory or any post office directories directly accessed by the WebAccess Agent are on remote NetWare servers, ensure that the WebAccess Agent has an eDirectory user account with the same username and password as the agent's Windows user account. The eDirectory account must provide Read, Write, Create, Erase, Modify, and File Scan rights to the directories.

If the WebAccess Agent does require an eDirectory user account, ensure that the context of the account is defined in the bindery context of all NetWare servers that will be accessed.

GROUPWISE WEBACCESS INSTALLATION WORKSHEET

Under **Item 7: eDirectory Authentication**, specify the eDirectory username and password you want the WebAccess Agent to use to access the domain directory and post office directories. This applies to the NetWare WebAccess Agent only.

If you are using the Windows WebAccess Agent, ensure that the appropriate Windows and eDirectory user accounts exist.

Web Console

The WebAccess Agent server console enables you to monitor the WebAccess Agent from the server where it is running. If you want, you can enable the WebAccess Agent Web console. The Web console lets you view the WebAccess Agent's statistical and diagnostic information through a Web browser, which is useful if you want to see the WebAccess Agent's activity without physically visiting the agent's server.

You access the Web console by entering the WebAccess Agent's network address and HTTP port number in a Web browser (for example, <http://172.16.5.18:7211>). If necessary, you can change the WebAccess Agent's default HTTP port number (7211).

If you want to restrict access to the Web console, you can assign a username and password. This can be any username and password you want. By default, the username and password are passed through an unsecure connection between the Web browser and the WebAccess Agent. Therefore, do not use an existing eDirectory username and password unless you secure this connection using SSL. For information about securing the WebAccess Agent's connections, see “[WebAccess](http://www.novell.com/documentation/gw7)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

GROUPWISE WEBACCESS INSTALLATION WORKSHEET

Under **Item 10: Web Console**, select Yes if you want to enable the Web console. If you want to restrict access to the Web console, enter a username and password.

WebPublisher

You can choose whether or not you want the WebAccess Agent to support GroupWise WebPublisher. If you enable WebPublisher support, you need to specify a GroupWise account (mailbox ID and password). The GroupWise account serves two purposes:

- ♦ GroupWise users publish documents to WebPublisher users by sharing the documents with this GroupWise account.
- ♦ When Web users access WebPublisher, the WebAccess Agent logs in to this GroupWise account. This lets the WebAccess Agent know which documents have been shared with WebPublisher users. It can then retrieve these documents (and only these documents) for the WebPublisher users.

Create a new GroupWise account specifically for GroupWise WebPublisher. If you've already created an eDirectory account for the WebAccess Agent to use when accessing domain or post office directories, as described in “[Domain and Post Office Access](#)” on page 111, you might want to create the GroupWise account under that eDirectory user account.

GROUPWISE WEBACCESS INSTALLATION WORKSHEET

Under **Item 12: WebPublisher Support**, select Yes if you want to enable the WebAccess Agent to support WebPublisher, then enter the Mailbox ID and password for the GroupWise account you want the WebAccess Agent to use.

If you enable GroupWise WebPublisher support, you need to select the libraries that you want to make public. The WebAccess Agent, acting on behalf of WebPublisher users, only accesses documents in public libraries.

Making a library public does not automatically give WebPublisher users access to all documents in the library. For WebPublisher users to have access to a document in a public library, the document's owner must have shared the document with the WebPublisher user account.

GROUPWISE WEBACCESS INSTALLATION WORKSHEET

Under **Item 13: Libraries**, list the libraries from which documents can be shared. The WebAccess Installation program lists all libraries in your GroupWise system. If you want, you can wait until then to select libraries.

NOTE: When a WebPublisher user requests a library document in HTML format rather than its native format, the Viewer Agent renders the document from its native format to HTML format. The Viewer Agent can be configured to cache the HTML document to a subdirectory of the WebAccess Agent installation directory. This enables the WebAccess Agent to use the cached document for future requests. For instructions to configure the Viewer Agent, see “**WebAccess**” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

NetWare Installation Option: Novell Cluster Services

Novell Cluster Services is a server clustering system that ensures high availability and manageability of critical network resources including volumes (where GroupWise domains and post offices reside) and applications (such as the GroupWise WebAccess Agent). Novell Cluster Services supports failover, failback, and migration of individually managed cluster resources.

During installation, the NetWare WebAccess Agent can be configured to take advantage of the fault-tolerant environment provided by Novell Cluster Services if the following requirements are met:

- ◆ The domains and post offices to be serviced by the NetWare WebAccess Agent have already been created on shared NSS volumes in the cluster.
- ◆ The NetWare WebAccess Agent is being installed to a server that is part of the same cluster.

When the WebAccess Agent is configured for clustering, its startup file (*webac70a.waa*) is configured with shared volume names rather than specific server names.

GROUPWISE WEBACCESS INSTALLATION WORKSHEET

Under **Item 4: Clustering Support**, mark whether or not you want to configure the NetWare WebAccess Agent for clustering. If you do, follow the installation instructions in “**Implementing WebAccess in a NetWare Cluster**” in “**Novell Cluster Services on NetWare**” in the *GroupWise 7 Interoperability Guide* (<http://www.novell.com/documentation/gw7>), rather than the installation instructions in this guide.

Linux Installation Options: LDAP Information and Clustering

When you install the Linux WebAccess Agent, the following Linux-specific options are available in the Installation program:

- ◆ “**LDAP Information**” on page 114
- ◆ “**Clustering Alternatives on Linux**” on page 114

LDAP Information

If you are installing the Linux WebAccess Agent and WebAccess Application, the WebAccess Installation program needs to access eDirectory through LDAP. eDirectory access is required in order to create the WebAccess Agent and WebAccess Application objects. To obtain access, the Installation program needs the IP address and port number of an LDAP server, along with an eDirectory username and password to log in with. The user must have sufficient rights to create GroupWise objects in eDirectory. Because the Linux Installation program uses LDAP to access eDirectory, you must provide the username in LDAP format. For example:

```
cn=admin,ou=users,o=corporate
```

If you want to secure the connection to eDirectory with SSL, you can specify a certificate file. For background information about SSL, see “[Encryption and Certificates](#)” in “[Security Administration](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

IMPORTANT: If you do not want to use SSL, the LDAP server must be configured to accept clear text passwords. This is configured on the server’s LDAP Group object in ConsoleOne by deselecting *Require TLS for Simple Binds with Password*. The LDAP snap-in to ConsoleOne is required in order to change the setting.

GROUPWISE WEBACCESS INSTALLATION WORKSHEET

Under **Item 11: LDAP Authentication**, specify the IP address and port number of an LDAP server, a username in LDAP format, the password for the username, and if necessary, the full path to your SSL certificate file.

Clustering Alternatives on Linux

On Linux, you can install the WebAccess Agent in three different clustering environments, as described in the *GroupWise 7 Interoperability Guide* (<http://www.novell.com/documentation/gw7>):

- ◆ “[Novell Cluster Services on Linux](#)”
- ◆ “[Mobile Devices](#)”

If you are using Novell Cluster Services™, the Linux GroupWise Installation program provides a Configure GroupWise for Clustering option that simplifies the process of installing the Linux WebAccess Agent on multiple nodes in the cluster.

GROUPWISE WEBACCESS AGENT INSTALLATION WORKSHEET

Under **Item 2: Installation Options**, mark whether or not you want to configure the Linux WebAccess Agent for clustering using Novell Cluster Services. If you do, follow the installation instructions in “[Implementing WebAccess in a Linux Cluster](#)” in [Novell Cluster Services on Linux](#) in the *GroupWise 7 Interoperability Guide* (<http://www.novell.com/documentation/gw7>), rather than the installation instructions in this guide.

If you are installing the Linux WebAccess Agent on PolyServe Matrix Server, the Linux GroupWise Installation program does not assist you with the setup. See the *GroupWise 7 Interoperability Guide* (<http://www.novell.com/documentation/gw7>) for installation instructions.

Windows Installation Options: Service vs. Application and SNMP Traps

The WebAccess Agent can run as a Windows service rather than a standard Windows application. To do so, the WebAccess Agent service requires a user account. The requirements for the Windows service user account are the same as those listed for the Windows WebAccess Agent in “[Domain and Post Office Access](#)” on page 111.

GROUPWISE WEBACCESS INSTALLATION WORKSHEET

Under [Item 8: Execution Options](#), select *Run WebAccess Agent as a Windows Service*.

Under [Item 9: Windows Service User](#), enter the username and password for the service’s user account.

The Windows WebAccess Agent can also be configured to support SNMP. This enables the WebAccess Agent to be monitored and managed through an SNMP management program.

GROUPWISE WEBACCESS INSTALLATION WORKSHEET

If you want the WebAccess Agent to support SNMP, under [Item 8: Execution Options](#), select the *Install and Configure SNMP for WebAccess Agent* option.

NOTE: The NetWare and Linux WebAccess Agents rely on operating system components for SNMP functionality and do not require this installation option.

5.3.3 Determining the WebAccess and WebPublisher Applications’ Configuration

As you install the WebAccess Application and/or the WebPublisher Application to a Web server, you are prompted to supply the configuration information described in the following sections:

- ♦ “[Default Language](#)” on page 115
- ♦ “[eDirectory Objects and Configuration Files](#)” on page 116

NOTE: You should have already selected the Web server where you will install the WebAccess Application and WebPublisher Application. If you have not, see [Section 5.3.1, “Deciding Where to Install the GroupWise WebAccess Components,”](#) on page 109.

Default Language

The WebAccess Installation program installs all available languages. You need to specify which language should be used when displaying the Novell Web Services page. When users access the Novell Web Services page, they can use the default language for WebAccess or WebPublisher, or they can select another language.

GROUPWISE WEBACCESS INSTALLATION WORKSHEET

Under [Item 16: Default Language](#), specify the language for the Novell Web Services page.

For more information, see “[Multilingual GroupWise Systems](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

eDirectory Objects and Configuration Files

WebAccess Application and WebPublisher Application configuration information is stored in two places:

- ♦ eDirectory objects
- ♦ The `webacc.cfg` and `webpub.cfg` files, located by default in the Web server's `novell` directory ([worksheet item 14](#))

The WebAccess Application object and WebPublisher Application object allow you to easily modify configuration information in ConsoleOne. The eDirectory information is the master information; any changes made to the objects in eDirectory are also written to the configuration files.

In some installation scenarios, such as installing to a Web server outside a firewall or installing to a UNIX Web server, you might not have access to eDirectory, which means the WebAccess Installation program cannot create the objects. It can, however, still create the configuration files on the Web server. In this case, to change the application's configuration, you need to manually modify the `webacc.cfg` and `webpub.cfg` files.

You need to select the eDirectory container where you want the objects created. They are all created in the same container. The default container is the Domain object, which means the objects are created beneath the Domain object along with the MTA and Internet Agent objects.

NOTE: Each application also has several providers associated with it. For example, the WebAccess Application has a GroupWise Provider and an LDAP Provider. The GroupWise Provider is the component that actually communicates with the WebAccess Agent to request information for users. The LDAP Provider communicates with LDAP servers to enable users to search LDAP address books. Provider objects are created in the same location as the application objects.

GROUPWISE WEBACCESS INSTALLATION WORKSHEET

Under [Item 17: eDirectory Object Configuration](#), specify the tree where you want the objects created, then specify the context. If you will be installing from a location where you don't have access to eDirectory, you can skip this item.

5.4 Setting Up GroupWise WebAccess

- ♦ [Section 5.4.1, "NetWare and Windows: Setting Up GroupWise WebAccess,"](#) on page 116
- ♦ [Section 5.4.2, "Linux: Setting Up GroupWise WebAccess,"](#) on page 123
- ♦ [Section 5.4.3, "Testing GroupWise WebAccess and WebPublisher,"](#) on page 129

5.4.1 NetWare and Windows: Setting Up GroupWise WebAccess

Complete the following tasks to set up GroupWise WebAccess and WebPublisher:

- ♦ ["Installing the WebAccess Agent"](#) on page 117
- ♦ ["Installing the WebAccess Application and WebPublisher Application"](#) on page 118
- ♦ ["Starting GroupWise WebAccess"](#) on page 122

IMPORTANT: If you plan to install GroupWise WebAccess in a clustered server environment, see the *GroupWise 7 Interoperability Guide* (<http://www.novell.com/documentation/gw7>) before you install WebAccess.

Installing the WebAccess Agent

The following steps provide instructions for installing the WebAccess Agent. For information about installing the WebAccess and WebPublisher Applications to a Web server, see “[Installing the WebAccess Application and WebPublisher Application](#)” on page 118.

- 1 Select an appropriate location to run the WebAccess Installation program.

NetWare: If you are installing the NetWare WebAccess Agent, you can run the Installation program from any Windows machine that meets the administrator machine requirements listed in [Section 2.1, “GroupWise Administration Requirements,”](#) on page 21.

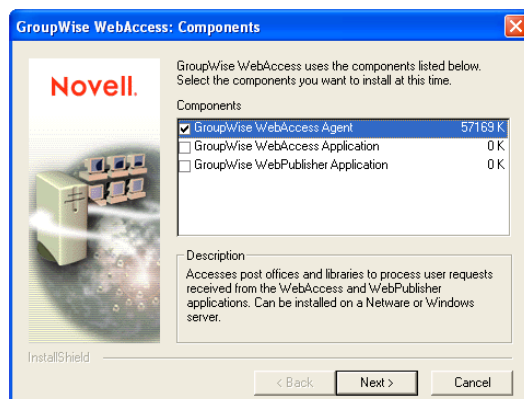
Windows: If you are installing the Windows WebAccess Agent, you must run the Installation program at the Windows server where you want to install the WebAccess Agent. It must also meet the administrator machine requirements listed in [Section 2.1, “GroupWise Administration Requirements,”](#) on page 21.

- 2 Make sure that no other GroupWise agents are running on the server where you want to install the WebAccess Agent.
- 3 Make sure that you have access to the directory where you want to install the WebAccess Agent and to the domain directory.
- 4 Log in to eDirectory with Admin-equivalent rights to the eDirectory tree where you want the Installation program to create the WebAccess Agent object.
- 5 Insert the *GroupWise 7 Administrator for NetWare/Windows* CD into the CD drive to start the GroupWise Installation program, then click *Install Products > Install GroupWise WebAccess*. If the Installation program does not start automatically, run `setup.exe` from the root of the CD.

or

If you have already copied the GroupWise WebAccess software to a software distribution directory, run `internet\webaccess\setup.exe` to start the WebAccess Installation program.

- 6 Click *Yes* to accept the license agreement and display the GroupWise WebAccess: Components dialog box.



- 7 Select *GroupWise WebAccess Agent* and deselect the *GroupWise WebAccess Application* and *GroupWise WebPublisher Application* options ([worksheet item 1](#)).

NOTE: You can also install the WebAccess Application and WebPublisher Application to your Web server at this time, if you have the appropriate Web server file system access and eDirectory access, as described in [“Installing the WebAccess Application and WebPublisher Application”](#) on page 118.

- 8 Follow the prompts to provide information about WebAccess Agent configuration, using the following information from the [GroupWise WebAccess Installation Worksheet](#).

Item 2: Server Platform and Installation Directory

Item 3: Server Address

Item 4: Clustering Support (NetWare only)

Item 5: Gateway Directory

Item 6: Gateway Object

Item 7: eDirectory Authentication

Item 8: Execution Options (Windows only)

Item 9: Windows Service User (Windows only)

Item 10: Web Console

Item 12: WebPublisher Support (WebPublisher only)

Item 13: Libraries (WebPublisher only)

- 9 If you are installing the WebAccess Application and WebPublisher Application along with the WebAccess Agent, skip to [Step 10](#) in [Installing the WebAccess Application and WebPublisher Application](#).

of

If you are installing the WebAccess Application and WebPublisher Application as a separate task, continue with [Step 1](#) in [Installing the WebAccess Application and WebPublisher Application](#).

Installing the WebAccess Application and WebPublisher Application

The following steps provide instructions for installing the WebAccess Application and WebPublisher Application. For information about installing the WebAccess Agent, see [“Installing the WebAccess Agent”](#) on page 117.

- 1 Select an appropriate location to run the WebAccess Installation program.

NetWare: If you are installing to a NetWare Web server, you can run the WebAccess Installation program on any Windows machine that meets the administrator machine requirements listed in [Section 2.1, “GroupWise Administration Requirements,”](#) on page 21.

Windows: If you are installing to a Windows Web server, you must run the WebAccess Installation program on that server. It must also meet the administrator machine requirements listed in [Section 2.1, “GroupWise Administration Requirements,”](#) on page 21.

- 2 Make sure that you have access to the directory where you want to install the WebAccess Agent and to the domain directory.

- 3** Make sure that you have the file system access required to install the WebAccess Application and the WebPublisher Application:
- ♦ You need full file system rights to the GroupWise domain directory. See **Item 5: Gateway Directory** in **Section 5.6, “GroupWise WebAccess Installation Worksheet,”** on page 131.
 - ♦ You need full file system rights to the Web server. If your Web server is on a UNIX server, the WebAccess Installation program copies tar files to a location you specify; this can be the UNIX server if you have access to it from the Windows workstation where you are performing the installation, or another location from which you can then copy the tar files to the UNIX server. See **Item 13: Web Server Type and Root Directory** in **Section 5.6, “GroupWise WebAccess Installation Worksheet,”** on page 131.
- 4** Shut down the Web server and Java.

NetWare: NetWare 6:

```
unload apache
unload java
```

NetWare 6.5:

```
unload apache2
unload java
```

Linux: GroupWise installation of Apache:

```
/etc/init.d/novell-httpd stop
/etc/init.d/novell-tomcat4 stop
```

Novell Open Enterprise Server Linux installation of Apache:

```
/etc/init.d/apache2 stop
/etc/init.d/novell-tomcat4 stop
```

SUSE Linux Enterprise Server 10 installation of Apache:

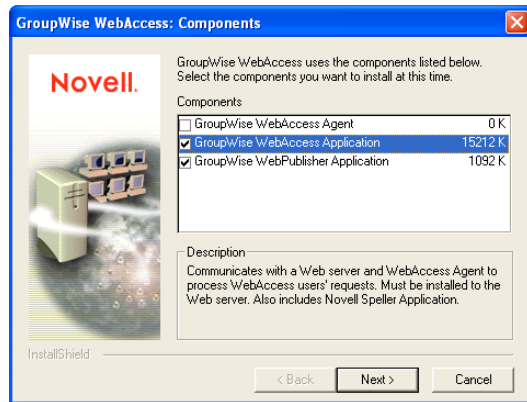
```
/etc/init.d/apache2 stop
/etc/init.d/tomcat stop
```

SLES 9 installation of Apache:

```
apachectl stop
CATALINA_HOME/bin/shutdown.sh
```

Windows: Refer to your Microsoft Windows documentation.

- 5** Log in to eDirectory with Admin-equivalent rights to the eDirectory tree where you want the Installation program to create the WebAccess objects (**worksheet item 17**).
- 6** Insert the *GroupWise 7 Administrator for NetWare/Windows* CD into the CD drive to start the GroupWise Installation program, then click *Install Products > Install GroupWise WebAccess*. If the Installation program does not start automatically, run `setup.exe` from the root of the CD.
- or
- If you have already copied the GroupWise WebAccess software to a software distribution directory, run `internet\webaccses\setup.exe` to start the WebAccess Installation program.
- 7** Click *Yes* to accept the license agreement and display the GroupWise WebAccess: Components dialog box.



- 8 Select *GroupWise WebAccess Application* and *GroupWise WebPublisher Application* (if you plan to use WebPublisher).
- 9 Deselect the *GroupWise WebAccess Agent* option, then click *OK*.
- 10 Follow the prompts to provide information about WebAccess Application and WebPublisher configuration, using the following information from the [GroupWise WebAccess Installation Worksheet](#).
 - Item 13: Web Server Type and Root Directory
 - Item 14: Novell Root Directory
 - Item 15: Java Servlet Engine (NetWare only)
 - Item 16: Default Language
 - Item 17: eDirectory Object Configuration
- 11 When the installation is complete, select from the following options:
 - Launch Installation Summary:** This option displays a list of the information you provided during installation. You can print it for future reference.
 - Start the GroupWise WebAccess Agent:** This option starts the WebAccess Agent immediately. If you want to configure the server to start the WebAccess Agent automatically each time the server restarts, see [“Starting the NetWare GroupWise Agents” on page 173](#) or [“Starting the Windows GroupWise Agents” on page 194](#).
 - Restart the Web Server:** This option starts the Web server, which loads the WebAccess Application (and WebPublisher Application if you installed it).
- 12 After installation is complete, if you are installing to an Apache Web server on UNIX Solaris, continue with [“Completing the Installation on a UNIX Apache Web Server” on page 120](#).
or
Skip to [Section 5.4.3, “Testing GroupWise WebAccess and WebPublisher,” on page 129](#).

Completing the Installation on a UNIX Apache Web Server

The WebAccess Installation program copies the following files to the location you specified:

- ◆ `webaccess.tar`
- ◆ `webaccessdocs.tar`
- ◆ `webaccessjars.tar`
- ◆ `webaccessservlets.tar`

- ♦ index.html
- ♦ web.xml
- ♦ commgr.cfg

To complete the installation and configuration process:

- 1 Using the `tar -xvf` command, extract the following tar files to the specified locations:
 - ♦ **webaccess.tar:** Extract to the root of the UNIX server. A `/novell` directory is created for the files.
 - ♦ **webaccessdocs.tar:** Extract to the Tomcat GroupWise document root directory (for example, `/usr/local/tomcat4/webapps/gw`).
 - ♦ **webaccessservlets.tar:** Extract to the Tomcat GroupWise classes directory (for example, `/usr/local/tomcat4/webapps/gw/WEB-INF/classes`).
 - ♦ **webaccessjars.tar:** Extract to the Tomcat GroupWise lib directory (for example, `/usr/local/tomcat4/webapps/gw/WEB-INF/lib`).

2 Copy the `web.xml` file in the Tomcat `webapps/gw/WEB-INF` directory.

3 Modify the `webacc.cfg` and `webpub.cfg` files, located in the `/novell/webaccess` and `/novell/webpublisher` directories at the root of the UNIX server, to change the `Templates.path` setting to point to the templates.

For example, change the following line in `webacc.cfg`:

```
Templates.path=/java/servlets/com/novell/webaccess/templates
```

to

```
Templates.path=/usr/local/tomcat4/webapps/gw/WEB-INF/classes/com/novell/webaccess/templates
```

4 Copy the `commgr.cfg` file to the `/novell/webaccess` directory. If you installed GroupWise WebPublisher, you also need to copy the file to the `/novell/webpublisher` directory.

5 In the `webacc.cfg` file, verify that the paths for the following settings point to valid directories. Typically, these directories reside in the `/novell/webaccess` directory, but you can relocate them if desired. Refer to the comments in the `webacc.cfg` file for explanations of each of these settings.

```
Log.path=/novell/webaccess/logs
Security.Timeout.path=/novell/webaccess/users
File.Upload.path=/novell/webaccess/temp
```

Verify that the paths for the following settings are correct.

```
Provider.GWAP.Config.file=/novell/webaccess/commgr.cfg
Provider.LDAP.Config.file=/novell/webaccess/ldap.cfg
```

6 In the `webpub.cfg` file, verify that the paths for the following settings point to valid directories. Typically, these directories reside in the `/novell/webpublisher` directory, but you can relocate them if desired. Refer to the comments in the `webpub.cfg` file for explanations of each of these settings.

```
Log.path=/novell/webpublisher/logs
File.Upload.path=/novell/webpublisher/temp
```

Verify that the path for the following setting is correct.

```
Provider.GWDOC.Config.file=/novell/webpublisher/commgr.cfg
```

7 Copy the `index.html` file to the Tomcat GroupWise document root directory (for example, `/usr/local/tomcat4/webapps/gw`).

For the convenience of your users, you can link to the GroupWise file from your current default home page.

- 8 Change to the `gw/com/novell/webaccess` directory of the Web server, then unzip the `__help__.zip` file to provide online help for the WebAccess client.

For example:

```
unzip __help__.zip
```

- 9 Change to the `gw/com/novell/webpublisher` directory of the Web server, then unzip the `__help__.zip` file to provide online help for WebPublisher.

Starting GroupWise WebAccess

If you did not have the WebAccess Installation program start the WebAccess components, complete the following steps:

- 1 Restart Java and the Web server.

NetWare: NetWare 6:

```
tomcat33  
apache
```

NetWare 6.5:

```
tomcat4  
apache2
```

Linux: GroupWise installation of Apache:

```
/etc/init.d/novell-tomcat4 start  
/etc/init.d/novell-httpd start
```

Novell Open Enterprise Server Linux installation of Apache:

```
/etc/init.d/novell-tomcat4 start  
/etc/init.d/apache2 start
```

SUSE Linux Enterprise Server 10 installation of Apache:

```
/etc/init.d/tomcat start  
/etc/init.d/apache2 start
```

SLES 9 installation of Apache:

```
CATALINA_HOME/bin/startup.sh  
apachectl start
```

Windows: Refer to your Microsoft Windows documentation.

This loads the WebAccess Application (and WebPublisher Application if you installed it).

- 2 Start the WebAccess Agent

NetWare: Enter `strtweb.ncf` at the NetWare server console.

Windows: To run as an application, click *Start > Programs > Novell GroupWise WebAccess > GroupWise WebAccess*.

To run as a service, from the Control Panel click *Administrative Tools > Services*. Right-click the WebAccess service, then click *Start*.

NOTE: When you start the WebAccess Agent, the Document Viewer Agent also starts. However, the Viewer Agent cannot run as a Windows service.

If the WebAccess Agent does not start successfully, see “[Starting the NetWare GroupWise Agents](#)” on page 173.

- 3 If you enabled the WebAccess Agent Web console, you can use the following URL to view the Web console:

```
http://webaccess_agent_network_address:http_port
```

For example:

```
http://172.16.5.18:7211
```

For more information, see “[Using the WebAccess Agent Web Console](#)” in “[WebAccess](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

- 4 Skip to [Section 5.4.3, “Testing GroupWise WebAccess and WebPublisher,”](#) on page 129.

5.4.2 Linux: Setting Up GroupWise WebAccess

Complete the following tasks to set up GroupWise WebAccess and WebPublisher. These tasks are designed to help you get Linux WebAccess up and running as quickly as possible and to help you manage the WebAccess Agent in the future.

- ♦ “[Installing the Linux WebAccess Agent](#)” on page 123
- ♦ “[Configuring the Linux WebAccess Agent](#)” on page 124
- ♦ “[Installing and Configuring the WebAccess Application and WebPublisher Application](#)” on page 125
- ♦ “[Configuring WebPublisher](#)” on page 126
- ♦ “[Restarting the Web Server](#)” on page 127
- ♦ “[Starting the Linux WebAccess Agent](#)” on page 128

IMPORTANT: If you are installing GroupWise WebAccess on SUSE Linux Enterprise Server 10, refer to TID 3248145 in the [Novell Support Knowledgebase](http://www.novell.com/support) (<http://www.novell.com/support>) for installation instructions.

If you are installing GroupWise WebAccess in a clustered server environment, see the *GroupWise 7 Interoperability Guide* (<http://www.novell.com/documentation/gw7>) before you install WebAccess.

Installing the Linux WebAccess Agent

- 1 Make sure that LDAP is running on your eDirectory server and that it is configured to accept login from the WebAccess Agent Installation program ([worksheet item 11](#))

The Installation program requires eDirectory access in order to create the WebAccess Agent object in eDirectory. The Installation program uses LDAP to gain the required access.

- 2 In a terminal window, become `root` by entering `sux` and the `root` password.

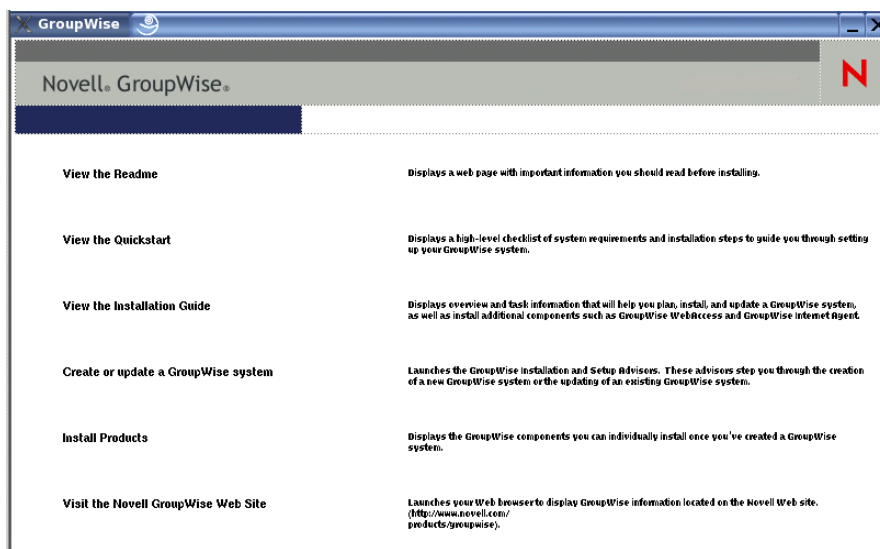
The `sux` command enables the X Window System, which is required for running the GUI GroupWise Installation program. If you are not using the X Window System, you can install GroupWise components individually, as described in “[Installing the GroupWise Agents Using the Text-Based Installation Program](#)” on page 177.

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

```
./install
```

- 5 Select the language in which you want to run the GroupWise Installation program, then click *Next*.

NOTE: On Linux, all available languages are included in the same RPM, so all languages are always installed.



- 6 Click *Install Products > GroupWise WebAccess > Install WebAccess Agent*.

- 7 When the installation is complete, click *OK*.

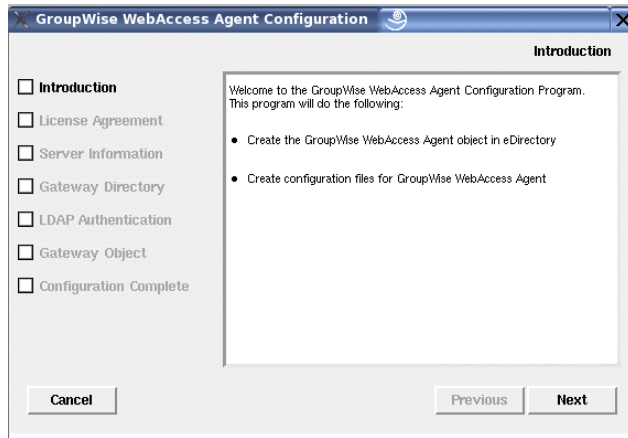
The WebAccess Agent software is installed to `/opt/novell/groupwise/agents`.

- 8 Continue with [Configuring the Linux WebAccess Agent](#).

Configuring the Linux WebAccess Agent

- 1 After the WebAccess Agent files have been installed, click *Configure WebAccess Agent*.

The WebAccess Agent installation and configuration steps are separate so that you can install updated agent software without repeating the agent configuration steps.



- 2 Follow the prompts to configure the WebAccess Agent, using the following information from the [GroupWise WebAccess Installation Worksheet](#) in the order listed.

Item 3: Server Information

Item 5: Gateway Directory

Item 11: LDAP Authentication

Item 6: Gateway Object

On the Configuration Complete page, *Launch WebAccess Agent on System Startup* is selected by default.

IMPORTANT: If you want to configure the WebAccess Agent for high availability, as described in “[Enabling the High Availability Service for the Linux GroupWise Agents](#)” on [page 185](#), it must be configured to start automatically on system startup.

- 3 If you do not want the WebAccess Agent to start automatically when the server restarts, deselect *Launch WebAccess Agent on System Startup*.
- 4 Click *Exit* to complete the configuration.
- 5 Continue with [Installing and Configuring the WebAccess Application and WebPublisher Application](#).

Installing and Configuring the WebAccess Application and WebPublisher Application

IMPORTANT: If you are installing GroupWise WebAccess on SUSE Linux Enterprise Server 10, refer to TID 3248145 in the [Novell Support Knowledgebase \(http://www.novell.com/support\)](http://www.novell.com/support) for installation instructions.

- 1 After installing and configuring the WebAccess Agent, if you want to use an existing Apache and Tomcat installations, click *Install GroupWise WebAccess Application*.

or

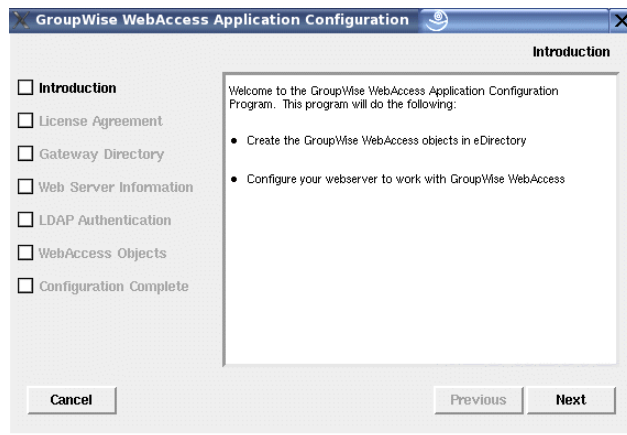
Click *Install GroupWise WebAccess Application with Apache and Tomcat*.

This installs a version of Apache and Tomcat specifically for use with GroupWise. Apache files are installed under `/var/opt/novell/http` and `/etc/opt/novell/http`. Tomcat files are installed under `/var/opt/novell/tomcat4` and `/etc/opt/novell/tomcat4`.

In addition, a self-signed certificate is generated, enabling users to use WebAccess and WebPublisher using an SSL connection.

NOTE: The option to install Apache and Tomcat along with the WebAccess Application is not available if you are installing to Novell Open Enterprise Server Linux because Apache and Tomcat are already installed and configured correctly in that environment.

- 2 When the installation is complete, click *OK*.
- 3 Click *Configure WebAccess Application*.



- 4 Follow the prompts to provide information about WebAccess Application, using the following information from the [GroupWise WebAccess Installation Worksheet](#) in the order listed.

[Item 5: Gateway Directory](#)

[Item 13: Web Server Information](#)

[Item 11: LDAP Authentication](#)

[Item 17: WebAccess Objects](#)

- 5 On the Configuration Complete page, click *Exit* to complete the configuration.
- 6 If you installed WebPublisher, continue with [Configuring WebPublisher](#).

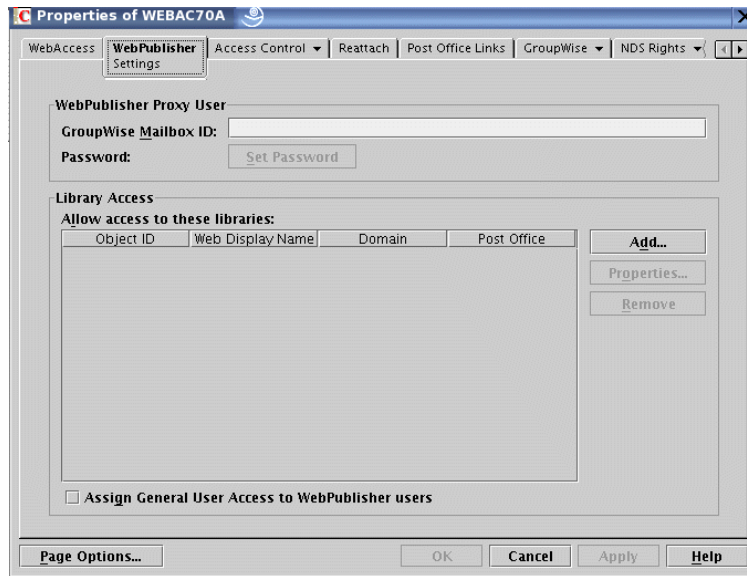
or

Skip to [“Restarting the Web Server”](#) on page 127

Configuring WebPublisher

After installing and configuring WebAccess, as described in [Section 5.4.2, “Linux: Setting Up GroupWise WebAccess,”](#) on page 123, if you want to enable WebPublisher as well, you must perform some manual configuration.

- 1 In ConsoleOne, connect to the domain where the WebAccess Agent object was created during installation.
- 2 In a convenient context, create a new user specifically for use with WebPublisher.
- 3 Add the new user to a post office and provide a GroupWise password for the WebPublisher user.
- 4 Browse to and right-click the WebAccess Agent object (by default, webac70a), then click *Properties > WebPublisher*.



- 5 In the *GroupWise Mailbox ID* field, specify the WebPublisher user you created in [Step 2](#) above.
- 6 Click *Add*, then select the library for WebPublisher to access for documents.
- 7 Select *Assign General User Access to WebPublisher Users*.
- 8 Click *OK* to save the WebPublisher configuration information.
- 9 Restart your Web server, as described in [“Restarting the Web Server”](#) on page 127
- 10 Restart the WebAccess Agent, as described in [“Starting the Linux WebAccess Agent”](#) on page 128.

In order to add documents to the library so that they can be viewed on the Internet, WebPublisher user must use the GroupWise Windows client. See [“Publishing Documents to the Web with WebPublisher”](#) in [“Creating and Working with Documents”](#) in the *GroupWise 7 Windows Client User Guide* (<http://www.novell.com/documentation/gw7>).

NOTE: WebPublisher functionality is not currently available in the GroupWise Cross-Platform client.

Restarting the Web Server

In order to load the WebAccess Application (and WebPublisher Application if you installed it), you must restart the Web server.

If you installed the Novell version of Apache and Tomcat along with the WebAccess Application, follow the instructions below to start your Web server. If you did not install the Novell version of Apache and Tomcat along with the WebAccess Application, restart Apache and Tomcat as you usually would.

- 1 Make sure you are logged in as `root`.
- 2 If you have other instances of Apache and Tomcat running on this server, bring them down before you start the new versions you just installed.
- 3 Change to the `/etc/init.d` directory.
- 4 Start Tomcat.

- ```
./novell-tomcat4 start
```
- 5 Wait until Tomcat is all the way up.
  - 6 Start Apache.

```
./novell-httpd start
```
  - 7 Continue with **Starting the Linux WebAccess Agent**.

## Starting the Linux WebAccess Agent

To start the Linux WebAccess Agent with a user interface:

- 1 Make sure you are logged in as `root`.
- 2 Make sure that the MTA for the domain is running.
- 3 Change to the `/opt/novell/groupwise/agents/bin` directory.
- 4 To start the WebAccess Agent, enter one of the following commands:

```
./gwinter --show --home domain_directory/wpgate/webac70a &
./gwinter --show @webac70a.waa &
```

The WebAccess Agent `--show` switch does not display a server console interface like the other GroupWise agents. Instead, WebAccess configuration and status information displays in the terminal window where you start the WebAccess Agent.

The `--home` startup switch specifies the gateway directory and is required to start the WebAccess Agent.

The `@webac70a.waa` startup switch specifies the WebAccess Agent startup file, which contains the `--home` startup switch.

The ampersand (&) causes the WebAccess Agent to run in the background, so that the terminal window you started it in is again available for use.

```

Shell - Konsole <2>
Session Edit View Bookmarks Settings Help
000 04:59:02 ***** WebAccess Configuration Information *****
000 04:59:02
000 04:59:02 General Settings:
000 04:59:02 Agent Version: 7.0
000 04:59:02 Gateway Home Directory: /gusystem/walthan2/wpgate/webac70a
000 04:59:02 Linux Release 2.6.5-7.97-default
000 04:59:02 SNMP: Disabled
000 04:59:02 Work Directory: /opt/novell/groupwise/agents/share/tmpFiles
000 04:59:02
000 04:59:02 Log Settings:
000 04:59:02 Log File: /var/log/novell/groupwise/walthan2.webac70a/000.prc/052
0web.004
000 04:59:02 Log Level: NORMAL
000 04:59:02 Max Log File Age (days): 7
000 04:59:02 Max Log Disk Space (kb): 65536
000 04:59:02
000 04:59:02 Client/Server Settings:
000 04:59:03 IP Address: pru-gudoc (172.15.44.65)
000 04:59:03 TCP Port for Incoming Connections: 7205
000 04:59:03 Client/Server over SSL: Disabled
000 04:59:03 WebConsole: Enabled
000 04:59:03 WebConsole Url: http://172.15.44.65:7211
000 04:59:03
000 04:59:03 Performance Settings:

```

---

**NOTE:** When you start the WebAccess Agent, the Document Viewer Agent also starts.

---

Status messages for the WebAccess Agent are written to the WebAccess Agent log file (`mmdllog.nnn`) in the `/var/log/novell/groupwise/domain.webac70a/000.prc` directory. The log file name includes the month and day when it was created, along with an incrementing extension to accommodate multiple log files on the same day.



After the WebAccess Agent starts successfully, refer to the following sections in [Chapter 7, “Installing GroupWise Agents,”](#) on page 159 for additional information about managing the WebAccess Agent on Linux:

- ◆ “Starting the Linux GroupWise Agents as Daemons” on page 180
- ◆ “Monitoring the Linux GroupWise Agents from Your Web Browser” on page 181
- ◆ “Starting the Linux GroupWise Agents on System Startup” on page 182
- ◆ “Running the Linux GroupWise Agents as a Non-root User” on page 182
- ◆ “Enabling the High Availability Service for the Linux GroupWise Agents” on page 185
- ◆ “Stopping the Linux GroupWise Agents” on page 189
- ◆ “Uninstalling the Linux GroupWise Agents” on page 191

5 Continue with [Testing GroupWise WebAccess and WebPublisher.](#)

### 5.4.3 Testing GroupWise WebAccess and WebPublisher

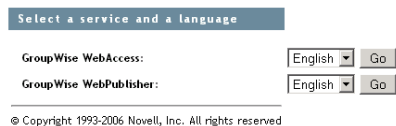
To test GroupWise WebAccess and WebPublisher, complete the steps in the following sections:

- ◆ “Testing WebAccess on a Workstation” on page 129
- ◆ “Testing WebAccess on a Mobile Device” on page 130
- ◆ “Testing GroupWise WebPublisher” on page 130

#### Testing WebAccess on a Workstation

1 To access the WebAccess client, enter the IP address or hostname of the Web server plus the directory where the Novell Web Services page is located:

```
http://web_server_address/gw
```



The screenshot shows a web interface titled "Select a service and a language". It contains two rows of selection options. The first row is for "GroupWise WebAccess:" with a dropdown menu set to "English" and a "Go" button. The second row is for "GroupWise WebPublisher:" with a dropdown menu set to "English" and a "Go" button. At the bottom of the screenshot, there is a copyright notice: "© Copyright 1993-2006 Novell, Inc. All rights reserved".

2 Select a GroupWise WebAccess language and service, then click *Go* to display the Login page. You can bypass the Novell Web Services page to go directly to the Login page by using the following URL:

```
http://web_server_address/gw/webacc
```

If the Web server uses SSL, use `https` rather than `http`.



- 3 Type your GroupWise user ID or GroupWise full name in the *Name* box and your GroupWise mailbox password in the *Password* box.
- 4 Select the desired settings.

**High Connection Speed:** Select this option if your connection to the Internet is faster than a 56 KB modem.

**Low Connection Speed:** Select this option if you are on a 56 KB modem or slower. This reduces the amount of data downloaded from the server by disabling Name Completion so that the Frequent Contacts Address Book does not need to be downloaded, and by disabling some aspects of AutoUpdate in the message list, such as no updating after a send or delete action.

**Use the Basic Interface:** Select this option for a mobile device. It uses simplified templates and assumes a smaller display area. A few features, such as Name Completion, right-click menus, and drag-and-drop functionality, are not available in the basic interface. For more information, see the *GroupWise WebAccess Basic Interface Quick Start* (<http://www.novell.com/documentation/gw7>).
- 5 Click *Login* to display the GroupWise WebAccess main window.
- 6 Click *Help* for more information about using GroupWise WebAccess.

### Testing WebAccess on a Mobile Device

- 1 Enter the following URL:  
`http://web_server_address/gw/webacc`  
where *web\_server\_address* is the IP address or DNS hostname of your Web server. If the Web server uses SSL, use `https` rather than `http`.  
Follow the instructions in your mobile device's documentation to add this URL to your Favorites or Bookmarks so you don't need to type the URL every time you log in.
- 2 Enter your GroupWise user ID and GroupWise mailbox ID.

### Testing GroupWise WebPublisher

GroupWise WebPublisher only supports access through a Web browser on a computer. Mobile devices are not supported.

- 1 To access the WebPublisher client, enter the IP address or hostname of the Web server plus the directory where the Novell Web Services page is located:  
`http://web_server_address/gw`

- 2 Select a GroupWise WebPublisher language, then click *Go* to display GroupWise WebPublisher.

You can bypass the Novell Web Services page to go directly to WebPublisher by using the following URL:

```
http://web_server_address/gw/webpub
```

where *web\_server\_address* is the IP address or DNS hostname of your Web server. If the Web server uses SSL, use `https` rather than `http`.

- 3 To search for a specific document, enter the search words, then click *Search*.  
or

To browse the documents in a library, click *Document Browse*, then click the library you want to browse. When you browse a library, the first 10 documents are listed. You can list additional documents if desired.

- 4 Click *Help* for more information about using GroupWise WebPublisher.

## 5.5 What's Next

The “[WebAccess](http://www.novell.com/documentation/gw7)” section of the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>) provides information to help you further configure and maintain GroupWise WebAccess, including how to:

- ♦ Scale GroupWise WebAccess to meet the needs of your users and environment. See “[Scaling Your WebAccess Installation](#)”.
- ♦ Control users’ access to GroupWise WebAccess. See “[Managing User Access](#)”.
- ♦ Secure connections via SSL. See “[Securing WebAccess Agent Connections with SSL](#)”.
- ♦ Modify the WebAccess Agent’s configuration information, including the number of threads allocated for request processing. See “[Configuring the WebAccess Agent](#)”.
- ♦ Monitor the WebAccess Agent and the WebAccess Application. See “[Monitoring WebAccess Operations](#)”.
- ♦ Control logging for the WebAccess Agent, WebAccess Application, and WebPublisher Application. See “[Using WebAccess Log Files](#)”.
- ♦ Modify configuration information for the WebAccess Application and WebPublisher Application. See “[Configuring the WebAccess Application](#)” and “[Configuring the WebPublisher Application](#)”.

If you want to use the WebAccess client on a mobile device, see the *GroupWise WebAccess Basic Interface Quick Start* (<http://www.novell.com/documentation/gw7>).

## 5.6 GroupWise WebAccess Installation Worksheet

The following table lists the information you are prompted to provide as you complete the WebAccess installation. The table is divided into three sections:

- ♦ “[WebAccess Agent and WebAccess/WebPublisher Applications](#)” on page 132 offers the options of which components to install.

- ◆ [“WebAccess Agent” on page 132](#) lists information you need to provide when installing the WebAccess Agent.
- ◆ [“WebAccess/WebPublisher Applications” on page 135](#) lists information you need to provide when installing the WebAccess Application and/or the WebPublisher Application.

## 5.6.1 WebAccess Agent and WebAccess/WebPublisher Applications

| Item                                                                                                                                     | Explanation                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| 1) Components to Install                                                                                                                 | Select the components you want to install.<br>For details, see <a href="#">Section 5.1.2, “GroupWise WebAccess Components,” on page 104</a> . |
| <ul style="list-style-type: none"> <li>◆ WebAccess Agent</li> <li>◆ WebAccess Application</li> <li>◆ WebPublisher Application</li> </ul> |                                                                                                                                               |

## 5.6.2 WebAccess Agent

| Item                                                                                                                              | Explanation                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2) Server Platform and Installation Directory                                                                                     | Specify the type of server (NetWare, Linux, or Windows) where you plan to install the WebAccess Agent.<br><br>Specify the directory where you plan to install the WebAccess Agent software. The default installation directories are:                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>◆ Platform: NetWare, Linux, or Windows</li> <li>◆ Installation directory:</li> </ul>       | <ul style="list-style-type: none"> <li>◆ NetWare: <code>sys:\system</code></li> <li>◆ Linux: <code>/opt/novell/groupwise/agents</code></li> <li>◆ Windows: <code>c:\webacc</code></li> </ul> <p>The directory path you specify must be from the perspective of the installation workstation.</p> <p>For details, see <a href="#">Section 5.3.1, “Deciding Where to Install the GroupWise WebAccess Components,” on page 109</a>.</p> |
| 3) Server Address                                                                                                                 | Specify the IP address or DNS hostname of the server where you plan to install the WebAccess Agent software. The WebAccess Installation program attempts to discover this information from the server, but you should be prepared to supply it in case the attempt fails.                                                                                                                                                            |
| <ul style="list-style-type: none"> <li>◆ IP address:</li> <li>◆ DNS hostname:</li> <li>◆ Port number: (default = 7205)</li> </ul> | <p>If port 7205 is already in use, specify a different port.</p> <p>For details, see <a href="#">“Network Address” on page 110</a>.</p>                                                                                                                                                                                                                                                                                              |

| Item                                                  | Explanation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4) Configure GroupWise Agent for Clustering: Yes   No | <p>This item applies to both the NetWare and the Linux WebAccess Agent.</p> <p>Mark whether or not you want to configure the WebAccess Agent for clustering on Novell Cluster Services.</p> <p>For details, see <a href="#">“NetWare Installation Option: Novell Cluster Services” on page 113</a> or <a href="#">“Linux Installation Options: LDAP Information and Clustering” on page 113</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 5) Gateway Directory                                  | <p>Specify the domain name and the path to the domain directory you want to associate with the WebAccess Agent. The WebAccess Agent stores configuration information and work files in the directory.</p> <ul style="list-style-type: none"> <li>◆ Domain name:</li> <li>◆ Domain directory path:</li> <li>◆ Gateway directory name: (default=webac70a)</li> <li>◆ eDirectory context:</li> </ul> <p>Specify the name of the gateway directory you want created for the WebAccess Agent. This directory is created in the <i>domain\wpgate</i> directory.</p> <p>On Linux, specify the eDirectory context of the Domain object.</p> <p>For details, see <a href="#">“Gateway Directory Location and Name” on page 110</a>.</p>                                                                                                                                                |
| 6) Gateway Object                                     | <p>Specify a name for the GroupWise Gateway object that will be created in eDirectory to represent the WebAccess Agent. The default name is the same as the gateway directory. It is referred to as the WebAccess Agent object.</p> <ul style="list-style-type: none"> <li>◆ Name: (default=webac70a)</li> </ul> <p>For details, see <a href="#">“Gateway Object Name” on page 110</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 7) eDirectory Authentication                          | <p>This item applies if you are installing the NetWare or Linux WebAccess Agent. It does not apply to the Windows WebAccess Agent.</p> <ul style="list-style-type: none"> <li>◆ Username:</li> <li>◆ Password:</li> </ul> <p>Specify an eDirectory username and password that will provide the WebAccess Agent with file system access to the servers where the domain and post office directories reside.</p> <p>For details, see <a href="#">“Domain and Post Office Access” on page 111</a>.</p>                                                                                                                                                                                                                                                                                                                                                                           |
| 8) Execution Options                                  | <p>This item applies only if you are installing the Windows WebAccess Agent.</p> <ul style="list-style-type: none"> <li>◆ Install and Configure SNMP for WebAccess Agent: Yes   No</li> <li>◆ Run WebAccess Agent as a Windows Service: Yes   No</li> <li>Startup Options: Automatic   Manual</li> </ul> <p>If you want to enable the WebAccess Agent to be managed through an SNMP management program, select the <i>Install and Configure SNMP for WebAccess</i> option.</p> <p>If you want to run the WebAccess Agent as a Windows service, select the <i>Run WebAccess Agent as a Windows Service</i> option, then choose whether you want to manually start the service each time or have it start automatically when the server starts.</p> <p>For details, see <a href="#">“Windows Installation Options: Service vs. Application and SNMP Traps” on page 115</a>.</p> |

| Item                                | Explanation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9) Windows Service User             | <p>This item applies only if you are installing the Windows WebAccess Agent and plan to run it as a Windows service rather than a Windows application.</p> <ul style="list-style-type: none"> <li>◆ Username: Enter the username and password for a user account that provides the service with access to the domain and post office directories.</li> <li>◆ Password:</li> </ul> <p>For details, see <a href="#">“Windows Installation Options: Service vs. Application and SNMP Traps” on page 115.</a></p>                                                                                                                                                                 |
| 10) Web Console<br>Enable: Yes   No | <p>Specify whether or not you want to enable the WebAccess Agent Web console. The Web console allows you to monitor the operation of the agent through a Web browser.</p> <ul style="list-style-type: none"> <li>◆ Username: If you choose to enable the Web console, specify a WebAccess Agent username and password to use when logging in to the agent. If port 7211 is already in use, specify a different HTTP port.</li> <li>◆ Password:</li> <li>◆ HTTP Port: (default = 7211)</li> </ul> <p>For details, see <a href="#">“Web Console” on page 112.</a></p>                                                                                                           |
| 11) LDAP Authentication             | <p>This item applies to the Linux WebAccess Agent only.</p> <p>List the IP address and port of an LDAP server in your system and the username and password that the WebAccess Installation program can use to log in to eDirectory to create the WebAccess Agent object. If you want to use an SSL connection, specify an SSL certificate file.</p> <ul style="list-style-type: none"> <li>◆ LDAP server IP address:</li> <li>◆ LDAP server port:</li> <li>◆ Username in LDAP format:</li> <li>◆ Password:</li> <li>◆ SSL certificate:</li> </ul> <p>For more information, see <a href="#">“Linux Installation Options: LDAP Information and Clustering” on page 113.</a></p> |
| 12) WebPublisher Support            | <p>Specify whether or not you want to enable the WebAccess Agent to support WebPublisher. If you enable WebPublisher support, you need to specify a GroupWise account (mailbox ID and password).</p> <ul style="list-style-type: none"> <li>◆ Enable: Yes   No</li> <li>◆ Mailbox ID:</li> <li>◆ Password:</li> </ul> <p>For details, see <a href="#">“WebPublisher” on page 112.</a></p>                                                                                                                                                                                                                                                                                     |
| 13) Libraries                       | <p>List the libraries from which you want to enable GroupWise users to share documents with WebPublisher users.</p> <p>For details, see <a href="#">“WebPublisher” on page 112.</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

### 5.6.3 WebAccess/WebPublisher Applications

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| Item                                                       | Explanation                                                                                                                                                                                                                                                                                                                                             |
|------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13) Web Server Type and Root Directory                     | This item applies if you are installing the NetWare or Windows WebAccess Application.                                                                                                                                                                                                                                                                   |
| Web server type:                                           | Select the type of Web server where you plan to install the WebAccess Application and/or the WebPublisher Application.                                                                                                                                                                                                                                  |
| ◆ Apache Web Server for NetWare                            | Specify the path to the Web server's root directory. The path must be from the perspective of the machine where you run the Installation program.                                                                                                                                                                                                       |
| ◆ Netscape Enterprise Server for NetWare                   | For details, see <a href="#">Section 5.3.1, "Deciding Where to Install the GroupWise WebAccess Components,"</a> on page 109.                                                                                                                                                                                                                            |
| ◆ Apache Web Server for Linux                              |                                                                                                                                                                                                                                                                                                                                                         |
| ◆ Microsoft Internet Information Server for Windows Server |                                                                                                                                                                                                                                                                                                                                                         |
| ◆ Apache Web Server for UNIX Solaris                       |                                                                                                                                                                                                                                                                                                                                                         |
| Web server root directory:                                 |                                                                                                                                                                                                                                                                                                                                                         |
| 14) Novell Root Directory                                  | Specify a directory on the Web server where you want to install the configuration files for the WebAccess Application and/or WebPublisher Application. For NetWare and Windows, the default is the novell directory on the root of the server volume. For Linux, the default is /opt/novell/groupwise/webaccess and /opt/novell/groupwise/webpublisher. |
|                                                            | For details, see <a href="#">Section 5.3.1, "Deciding Where to Install the GroupWise WebAccess Components,"</a> on page 109.                                                                                                                                                                                                                            |
| 15) Java Servlet Engine                                    | This item applies if you are installing the NetWare or Windows WebAccess Application.                                                                                                                                                                                                                                                                   |
| ◆ Use other Java servlet engine                            | Specify whether you want to use Tomcat or another Java servlet engine that is already installed on your Web server. If you use Tomcat or another Java servlet engine, you need to specify the path to the Java servlet engine's root directory.                                                                                                         |
| Path:                                                      | For details, see <a href="#">Section 5.3.1, "Deciding Where to Install the GroupWise WebAccess Components,"</a> on page 109.                                                                                                                                                                                                                            |
| 16) Default Language                                       | Specify the language for the initial Novell Web Services page.                                                                                                                                                                                                                                                                                          |
|                                                            | For details, see <a href="#">"Default Language" on page 115.</a>                                                                                                                                                                                                                                                                                        |

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| Item                                   | Explanation                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 17) eDirectory<br>Object Configuration | Specify the tree where you are installing WebAccess.<br>Specify the context where the WebAccess Installation program should create the WebAccess Application and/or WebPublisher Application objects. The default context is below the Domain object. <ul style="list-style-type: none"><li data-bbox="277 342 363 363">◆ Tree:</li><li data-bbox="277 380 396 401">◆ Context:</li></ul> For details, see <a href="#">“eDirectory Objects and Configuration Files” on page 116.</a> |

---



# Installing GroupWise Monitor

# 6

Novell® GroupWise® Monitor is a monitoring and management tool that allows you to monitor GroupWise agents and gateways from any location where you are connected to the Internet and have access to a Web browser. Some agent administration can also be performed from your Web browser. The topics below help you plan and set up GroupWise Monitor:

- ♦ [Section 6.1, “GroupWise Monitor Overview,” on page 137](#)
- ♦ [Section 6.2, “Monitor System Requirements,” on page 140](#)
- ♦ [Section 6.3, “Planning GroupWise Monitor,” on page 141](#)
- ♦ [Section 6.4, “Setting Up GroupWise Monitor,” on page 145](#)
- ♦ [Section 6.5, “Using GroupWise Monitor,” on page 153](#)
- ♦ [Section 6.6, “GroupWise Monitor Installation Worksheet,” on page 155](#)

---

**IMPORTANT:** If you plan to install GroupWise Monitor in a clustered server environment, see the *GroupWise 7 Interoperability Guide* (<http://www.novell.com/documentation/gw7>) before you install Monitor.

---

## 6.1 GroupWise Monitor Overview

GroupWise Monitor consists of two components:

**Monitor Agent:** The Monitor Agent continuously polls other GroupWise agents (POA, MTA, Internet Agent, WebAccess Agent, as well as the Messenger Agents, and Gateways gateways), gathers status information from them, and displays the status information at the Monitor Agent server console. The Monitor Agent also services requests for agent status information from the Monitor Application.

---

**NOTE:** The Monitor Agent server console is available on Windows, but not on Linux.

---

**Monitor Application:** The Monitor Application extends the capability of your Web server so that agent status information can be displayed in your Web browser. Two browser-based consoles are available:

- ♦ The Monitor Web console, provided by the Monitor Application, takes advantage of your Web server’s capabilities to make agent status information available to you when you are outside your firewall.
- ♦ The Monitor Agent Web console, provided by the Monitor Agent itself, can be used only behind your firewall but provides capabilities not available in the Monitor Web console. This section focuses on using full-featured Monitor Agent Web console. Specific differences in functionality between the two Web consoles are summarized in “[Comparing the Monitor Consoles](#)” in “[Monitor](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

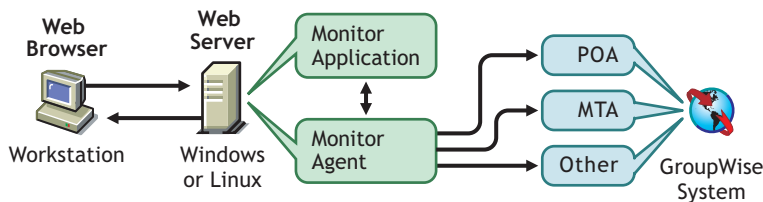
The Monitor Agent and the Monitor Application can run on the same server or on different servers, depending on the needs of your system.

- ♦ “One Monitor Server vs. Two” on page 138
- ♦ “Monitor Security Requirements” on page 138

### 6.1.1 One Monitor Server vs. Two

The Monitor Agent and the Monitor Application can run together on a Linux server or a Windows server, as illustrated below:

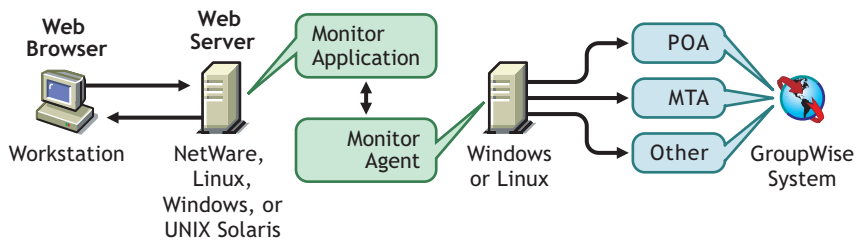
**Figure 6-1** Monitor Agent and Application Installed on the Same Machine



The server where they run together must be a Web server because the Monitor Application is installed into the Web server installation.

The Monitor Agent and the Monitor Application can also run on different servers. In addition to running on a Linux or Windows server, the Monitor Application can also run on a NetWare® or UNIX Solaris server in conjunction with a Web server running on one of those platforms, as illustrated below:

**Figure 6-2** Monitor Agent Installed on a Windows Machine with the Monitor Application Installed on a NetWare, Linux, Windows or UNIX Web Server



Security, discussed in the next section, might also determine whether you run the Monitor Agent on the same server as the Web server.

### 6.1.2 Monitor Security Requirements

GroupWise Monitor can be configured to support the level of security you have established for your Internet/intranet communication.

If you are not concerned about security issues (for example, you only plan to use Monitor on a secured intranet), you can install the Monitor components to any servers that provide access for your GroupWise administrators and that meet the requirements listed in [Section 6.2, “Monitor System Requirements,” on page 140](#).

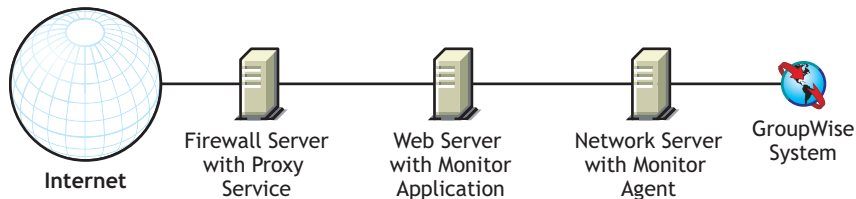
If you plan to use Monitor to provide GroupWise administrators with access to your GroupWise system from anywhere on the Internet (rather than simply within a secured intranet), and you already have a firewall in place to provide security, you have the following options for configuring Monitor:

- ♦ Install both Monitor components inside your firewall and use a proxy service. See [“Configuring Monitor Using a Proxy Service” on page 139](#). This is the recommended configuration.
- ♦ Install the Monitor Application on a Web server outside your firewall and the Monitor Agent on a server inside your firewall. See [“Configuring Monitor Without a Proxy Service” on page 139](#).

### Configuring Monitor Using a Proxy Service

If your firewall includes a proxy service, you can install the Monitor Application to a Web server inside your firewall, and the Monitor Agent to another server inside the firewall, as shown in the following illustration.

**Figure 6-3** Monitor Installed in an Environment That Uses a Proxy Service

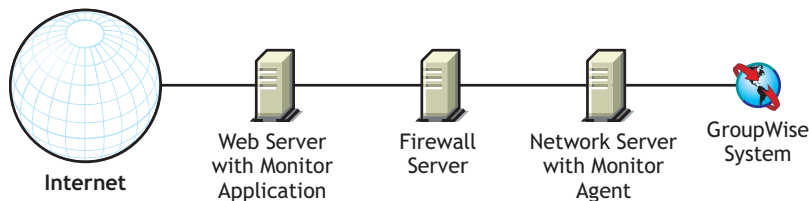


If desired, the Monitor Agent can also be installed to the Web server rather than a separate server, as discussed in [Section 6.1.1, “One Monitor Server vs. Two,” on page 138](#).

### Configuring Monitor Without a Proxy Service

If your firewall does not provide a proxy service, you need to install the Monitor Application to a Web server that is outside the firewall. Because the Monitor Agent requires direct access (mapped drive, UNC path, or file system mount) to a GroupWise domain directory, it needs to be installed to a server that is located within the firewall.

**Figure 6-4** Monitor Installed in an Environment That Doesn't Use a Proxy Service



The firewall must allow inbound IP packets to be sent from the Web server to the IP address and port number of the Monitor Agent (for example, 172.16.5.18:8200).

In addition, the firewall must allow outbound IP packets to be sent from the Monitor Agent to the Web server. This requires all high ports (above 1023) to be open to outbound IP packets.

## 6.2 Monitor System Requirements

- ❑ 32-bit/x86 processor or 64-bit/x86 processor
- ❑ Any of the following server operating systems for the Monitor Agent:
  - ◆ Novell Open Enterprise Server 1 or Open Enterprise Server 2 (Linux version), plus the latest Support Pack
  - ◆ SUSE<sup>®</sup> Linux Enterprise Server 9 or SUSE Linux Enterprise Server 10, plus the latest Support Pack

The X Window System is required by the GUI Installation Advisor and Setup Advisor that step you through the process of creating a new GroupWise system. A text-based Installation program is also available.

The X Window System and Open Motif are required by the GUI GroupWise agent server consoles. By default, the agents run as daemons without user interfaces.

  - ◆ Windows Server 2000 or Windows Server 2003, plus the latest Service Pack for your version of Windows
- ❑ Adequate server memory as required by the operating system
- ❑ Any of the following Web servers for the Monitor Application:
  - ◆ NetWare 6: Netscape Enterprise Server for NetWare; Apache 1.3 plus Tomcat 3.3 plus the Jakarta Connector
  - ◆ NetWare 6.5: Apache 2 plus Tomcat 4 plus the Jakarta Connector
  - ◆ Linux: Apache 2.2 plus Tomcat 5 plus the ModProxy Module
  - ◆ Windows Server 2000/2003: Microsoft Internet Information Server (IIS) 5 or later plus Tomcat 5.5 plus the Jakarta Connector
  - ◆ UNIX: Apache 2 plus a compatible servlet engine and connector
- ❑ Any of the following Web browsers for the Monitor Web consoles:
  - ◆ Linux: Mozilla Firefox
  - ◆ Windows: Microsoft Internet Explorer 6.0 or later; Mozilla Firefox
  - ◆ Macintosh: The latest version of Safari 1.0 for your Mac OS (10.3 or 10.4); Mozilla Firefox
  - ◆ UNIX: Mozilla Firefox
- ❑ Any of the following mobile devices for the Monitor Web console:
  - ◆ Any mobile device that supports the Wireless Access Protocol (WAP) and has a microbrowser that uses Handheld Device Markup Language (HDML) 3.0 or later, or Wireless Markup Language (WML) 1.1 or later
  - ◆ Pocket PC with Windows 2000/2002/2003
- ❑ Adequate server disk space
  - ◆ Approximately 140 MB for the Monitor program files (111 MB shared with WebAccess; varies by platform)
  - ◆ 50 MB to 100 MB for log files if you plan to use Monitor's reporting capabilities that rely on MTA message logging, as described in **"Generating Reports"** in **"Monitor"** in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>)

## 6.3 Planning GroupWise Monitor

Before installing GroupWise Monitor, you should complete the planning tasks listed below. The planning tasks help you gather information you need as you install and set up GroupWise Monitor. You can use [Section 6.6, “GroupWise Monitor Installation Worksheet,” on page 155](#) to record your installation and setup information.

- ◆ [Section 6.3.1, “Deciding Where to Install the GroupWise Monitor Components,” on page 141](#)
- ◆ [Section 6.3.2, “Determining the Monitor Agent’s Configuration,” on page 142](#)
- ◆ [Section 6.3.3, “Determining the Monitor Application’s Configuration,” on page 144](#)

To help with the above tasks, you can also review the [GroupWise Wiki \(http://wiki.novell.com/index.php/GroupWise\)](http://wiki.novell.com/index.php/GroupWise), which includes a *Best Practices* section.

---

**IMPORTANT:** If you plan to install GroupWise Monitor in a clustered server environment, refer to the [GroupWise 7 Interoperability Guide \(http://www.novell.com/documentation/gw7\)](http://www.novell.com/documentation/gw7) as you plan your Monitor installation.

---

### 6.3.1 Deciding Where to Install the GroupWise Monitor Components

After reviewing [Section 6.1, “GroupWise Monitor Overview,” on page 137](#) and the system requirements listed in [Section 6.2, “Monitor System Requirements,” on page 140](#), plan where you want to install the Monitor components in your system.

- ◆ [“Monitor Server” on page 141](#)
- ◆ [“Web Server” on page 142](#)

#### Monitor Server

The Monitor Agent runs on Linux and Windows.

If you want to install the Monitor Agent and the Monitor Application on the same server, you can install them at the same time. If you want to install them on different servers, you must run the Monitor Installation program twice, once for each server. For example, you might want to install the Monitor Application on NetWare for use with a NetWare Web server, but you must always install the Monitor Agent on Linux or Windows.

The installation directory for the Monitor Agent depends on the platform:

Linux:        The Linux Monitor Agent is automatically installed to `/opt/novell/groupwise/agents`.

Windows:    The default installation directory is `c:\gwmon`.

---

## GROUPWISE MONITOR INSTALLATION WORKSHEET

---

Under **Item 1: Platform**, mark the platform (Linux or Windows) where you plan to install the Monitor Agent.

Under **Item 2: Components to Install**, select whether you want to install the Monitor Agent, the Monitor Application, or both.

Under **Item 3: Monitor Agent Installation Path**, specify the directory on the Linux or Windows server where you want to install the Monitor Agent software.

---

### Web Server

The Monitor Application integrates with your Web server to pass agent status information gathered by the Monitor Agent to your Web browser for display in the Monitor Web console. The location of the Monitor Application files that are installed depends on the Web server that it is being integrated with. For a list of supported Web servers, see **Section 2.1, “GroupWise Administration Requirements,” on page 21**.

The Web server uses a servlet engine in order to incorporate product-specific components, such as the Monitor Application, into its functioning.

---

## GROUPWISE MONITOR INSTALLATION WORKSHEET

---

Under **Item 8: Web Server**, select the Web server you want to use with Monitor.

Under **Item 9: Web Server Path**, specify the directory path to the Web server root directory.

Under **Item 11: Java Servlet Engine**, mark whether you want to use the Tomcat Servlet Container or another Java servlet engine. Also specify the directory path to where the servlet engine is installed.

---

## 6.3.2 Determining the Monitor Agent’s Configuration

As you install the Monitor Agent, you are prompted to supply the configuration information described in the following sections:

- ◆ “Systems to Monitor” on page 142
- ◆ “Monitor Agent Network Address” on page 143
- ◆ “Domain Directory Path” on page 143
- ◆ “Windows Installation Option: Default Monitor Agent Language” on page 143
- ◆ “Linux Installation Option: LDAP Information” on page 143

### Systems to Monitor

The Monitor Agent can monitor both GroupWise agents and Messenger agents. In addition, the Monitor Agent works in conjunction with the GroupWise High Availability service on Linux to automatically restart GroupWise and Messenger agents that go down unexpectedly

It is not necessary to have an entire GroupWise system installed in order for the Monitor Agent to monitor Messenger agents. For more information, see “Setting up the High Availability Service” in “Installing a Novell Messenger System” in the *Messenger 2 Installation Guide* (<http://www.novell.com/documentation/nm2>).

---

**GROUPWISE MONITOR INSTALLATION WORKSHEET**

---

Under **Item 5: System Options**, mark whether you want to monitor a GroupWise system, a Messenger system, or both.

---

**Monitor Agent Network Address**

The Monitor Agent communicates with the Monitor Application and with monitored agents by way of TCP/IP.

---

**GROUPWISE MONITOR INSTALLATION WORKSHEET**

---

Under **Item 4: Monitor Agent Network Address**, record the IP address or DNS hostname of the Linux or Windows server where you plan to install the Monitor Agent software. Use the default port number of 8200 unless that number is already in use on that server.

---

**Domain Directory Path**

The Monitor Agent can gather information about the locations of GroupWise agents to monitor by reading from a domain database. Using the gathered information, the Monitor Agent can display a list of monitored agents when you start it for the first time.

---

**GROUPWISE MONITOR INSTALLATION WORKSHEET**

---

Under **Item 6: Domain Directory**, specify the directory path to a domain where a GroupWise 6.x or later MTA is running.

---

**Windows Installation Option: Default Monitor Agent Language**

GroupWise Monitor is automatically installed in all available languages. During installation, you can select a default language for the Monitor Agent server console interface, which is available only on Windows.

---

**GROUPWISE MONITOR INSTALLATION WORKSHEET**

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Under **Item 7: Default Language**, specify a default language.

---

**NOTE:** On Linux, you use the Monitor Web consoles exclusively.

---

For more information, see “**Multilingual GroupWise Systems**” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

---

**Linux Installation Option: LDAP Information**

If you are installing the Linux Monitor Agent and Monitor Application, the Installation program needs to access eDirectory™ through LDAP. eDirectory access is required in order to create the Monitor Application objects. To obtain access, the Installation program needs the IP address and port number of an LDAP server, along with an eDirectory username and password to log in with.

The user must have sufficient rights to create GroupWise objects in eDirectory. Because the Linux Installation program uses LDAP to access eDirectory, you must provide the username in LDAP format. For example:

```
cn=admin,ou=users,o=corporate
```

If you want to secure the connection to eDirectory with SSL, you can specify a certificate file. For background information about SSL, see “[Encryption and Certificates](#)” in “[Security Administration](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

---

**IMPORTANT:** If you do not want to use SSL, the LDAP server must be configured to accept clear text passwords. This is configured on the server’s LDAP Group object in ConsoleOne® by deselecting *Require TLS for Simple Binds with Password*.

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#### WORKSHEET

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Under **Item 14: LDAP Authentication**, specify the IP address and port number of an LDAP server, a username in LDAP format, the password for the username, and if necessary, the full path to your SSL certificate file.

---

### 6.3.3 Determining the Monitor Application’s Configuration

As you install the Monitor Application to a Web server, you are prompted to supply the configuration information described in the following sections:

- ♦ “[eDirectory Objects and Configuration File](#)” on page 144
- ♦ “[Default Monitor Web Console Language](#)” on page 145

#### eDirectory Objects and Configuration File

Monitor Application configuration information is stored in two places:

- ♦ In Novell eDirectory
- ♦ In a configuration file (`gwmonitor.cfg`).

You can easily modify the configuration information in ConsoleOne by editing the properties of the GroupWise Monitor Application object (named GroupWiseMonitor). However, the configuration file is required if you need to install the Monitor Application to a Web server that is outside your firewall, where access to eDirectory is not available. The default location of the Monitor Application configuration file depends on the platform:

Linux:            `/opt/novell/groupwise/agents/gwmonitor/gwmonitor.cfg`

Windows:        The `gwmonitor` subdirectory of the Monitor installation directory



---

## GROUPWISE MONITOR INSTALLATION WORKSHEET

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If you are installing the Windows Monitor, under **Item 10: Novell Root Directory**, specify the directory on the Web server where you want to create the Monitor Application configuration file. On Linux, the Monitor software is automatically installed in subdirectories under `/opt/novell/groupwise/agents`.

Under **Item 13: Monitor Object Configuration**, specify the tree and context where you want the Monitor Installation program to create the GroupWise Monitor Application object (named GroupWiseMonitor) and the accompanying Monitor Provider object (named GroupWiseProvider).

---

eDirectory is considered the master location for the Monitor Application configuration information. Any changes made directly to the Monitor Application configuration file are overwritten the next time the information in eDirectory is modified and saved.

The default configuration information is sufficient for an initial Monitor installation. For more information about configuring Monitor, see “**Monitor**” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

### Default Monitor Web Console Language

GroupWise Monitor is automatically installed in all available languages. If necessary, you can select a different default language for the Monitor Web console interface than you selected for the Monitor Agent server console interface.

---

**NOTE:** The Monitor Agent server console interface is available only on Windows.

---

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## GROUPWISE MONITOR INSTALLATION WORKSHEET

---

Under **Item 12: Default Monitor Web Console Language**, specify a default language.

---

For more information, see “**Multilingual GroupWise Systems**” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

## 6.4 Setting Up GroupWise Monitor

Follow the instructions for the platform where you are setting up GroupWise Monitor:

- ◆ **Section 6.4.1, “Windows: Setting Up GroupWise Monitor,” on page 146**
- ◆ **Section 6.4.2, “Linux: Setting Up GroupWise Monitor,” on page 147**
- ◆ **Section 6.4.3, “Completing Optional Post-Installation Tasks,” on page 152**

---

**IMPORTANT:** If you are installing GroupWise Monitor on SUSE Linux Enterprise Server 10, refer to TID 3248145 in the [Novell Support Knowledgebase](http://www.novell.com/support) (<http://www.novell.com/support>) for installation instructions. The TID is written for WebAccess, but the same principles apply to Monitor.

If you are installing GroupWise Monitor in a clustered server environment, see the *GroupWise 7 Interoperability Guide* (<http://www.novell.com/documentation/gw7>) before you install Monitor.

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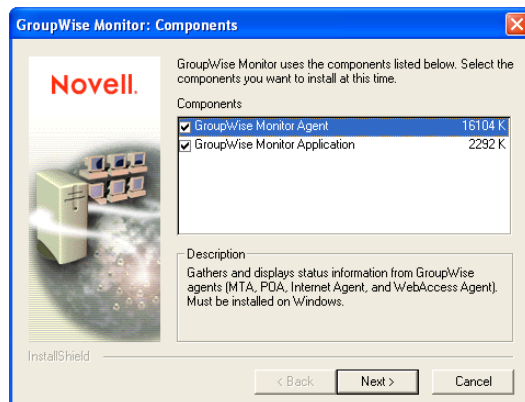
## 6.4.1 Windows: Setting Up GroupWise Monitor

- 1 At a Windows server that meets the requirements listed in [Section 2.1, “GroupWise Administration Requirements,”](#) on page 21, log in as an Admin equivalent to the eDirectory tree in which you are installing Monitor.
- 2 If you want to monitor non-HTTP-enabled agents (such as earlier versions of any GroupWise agent), install the SNMP service for Windows.  
This enables the Monitor Agent to use SNMP in addition to HTTP.
- 3 Make sure no GroupWise agents are currently running on the Windows server where you plan to install the Monitor Agent.
- 4 Insert the *GroupWise 7 Administrator for NetWare/Windows* CD into the CD drive to start the GroupWise Installation program, then click *Install Products > Install GroupWise Monitor*. If the Installation program does not start automatically, run `setup.exe` from the root of the CD.

or

If you have already copied the Monitor software to a software distribution directory, run `admin\monitor\setup.exe` to start the Monitor Installation program.

- 5 Click *Yes* to accept the license agreement and display the GroupWise Monitor: Components dialog box.

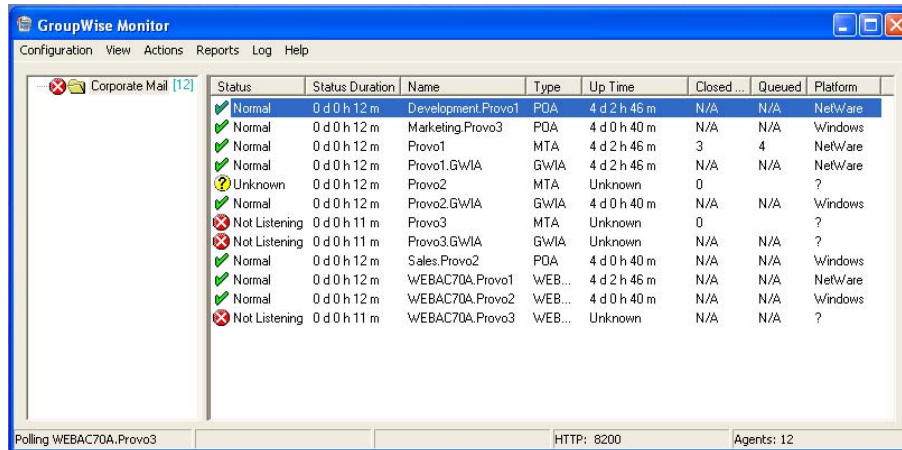


- 6 Follow the prompts to provide information about Monitor Agent configuration, using the following information from the [GroupWise Monitor Installation Worksheet](#).  
  - Item 2: Components to Install
  - Item 3: Monitor Agent Installation Path
  - Item 4: Monitor Agent Network Address
  - Item 5: System Options
  - Item 6: Domain Directory
  - Item 7: Default Language
- 7 Follow the prompts to provide information about Monitor Application configuration, using the following information from the [GroupWise Monitor Installation Worksheet](#).  
  - Item 8: Web Server
  - Item 9: Web Server Path
  - Item 10: Novell Root Directory
  - Item 11: Java Servlet Engine

Item 12: Default Language

Item 13: eDirectory Object Configuration

On Windows, the Monitor Installation program can start the Monitor Agent for you and the Monitor Agent server console displays on the Windows server.



The screenshot shows the GroupWise Monitor application window. The title bar reads "GroupWise Monitor" and the menu bar includes "Configuration", "View", "Actions", "Reports", "Log", and "Help". The main window displays a table of agents with the following columns: Status, Status Duration, Name, Type, Up Time, Closed..., Queued, and Platform. The table contains 13 rows of data, with various statuses such as "Normal", "Unknown", and "Not Listening".

| Status        | Status Duration | Name               | Type   | Up Time      | Closed... | Queued | Platform |
|---------------|-----------------|--------------------|--------|--------------|-----------|--------|----------|
| Normal        | 0 d 0 h 12 m    | Development.Provo1 | POA    | 4 d 2 h 46 m | N/A       | N/A    | NetWare  |
| Normal        | 0 d 0 h 12 m    | Marketing.Provo3   | POA    | 4 d 0 h 40 m | N/A       | N/A    | Windows  |
| Normal        | 0 d 0 h 12 m    | Provo1             | MTA    | 4 d 2 h 46 m | 3         | 4      | NetWare  |
| Normal        | 0 d 0 h 12 m    | Provo1.GwIA        | GwIA   | 4 d 2 h 46 m | N/A       | N/A    | NetWare  |
| Unknown       | 0 d 0 h 12 m    | Provo2             | MTA    | Unknown      | 0         |        | ?        |
| Normal        | 0 d 0 h 12 m    | Provo2.GwIA        | GwIA   | 4 d 0 h 40 m | N/A       | N/A    | Windows  |
| Not Listening | 0 d 0 h 11 m    | Provo3             | MTA    | Unknown      | 0         |        | ?        |
| Not Listening | 0 d 0 h 11 m    | Provo3.GwIA        | GwIA   | Unknown      | N/A       | N/A    | ?        |
| Normal        | 0 d 0 h 12 m    | Sales.Provo2       | POA    | 4 d 0 h 40 m | N/A       | N/A    | Windows  |
| Normal        | 0 d 0 h 12 m    | WEBAC70A.Provo1    | WEB... | 4 d 2 h 46 m | N/A       | N/A    | NetWare  |
| Normal        | 0 d 0 h 12 m    | WEBAC70A.Provo2    | WEB... | 4 d 0 h 40 m | N/A       | N/A    | Windows  |
| Not Listening | 0 d 0 h 11 m    | WEBAC70A.Provo3    | WEB... | Unknown      | N/A       | N/A    | ?        |

At the bottom of the window, there is a status bar with the text "Polling WEBAC70A.Provo3", "HTTP: 8200", and "Agents: 12".

If the Monitor Agent does not start successfully, see “Starting the Windows GroupWise Agents” on page 194

After installation is complete, you might need to perform some additional steps, as described in Section 6.4.3, “Completing Optional Post-Installation Tasks,” on page 152.

## 6.4.2 Linux: Setting Up GroupWise Monitor

Complete the following tasks to install GroupWise Monitor on Linux:

- “Installing the Linux Monitor Agent” on page 147
- “Configuring the Linux Monitor Agent” on page 148
- “Installing and Configuring the Monitor Application” on page 149
- “Restarting the Web Server” on page 150
- “Starting the Linux Monitor Agent as a Daemon” on page 151

---

**IMPORTANT:** If you plan to install GroupWise Monitor in a clustered server environment, see the *GroupWise 7 Interoperability Guide* (<http://www.novell.com/documentation/gw7>) before you install Monitor.

---

### Installing the Linux Monitor Agent

- 1 Make sure that LDAP is running on your eDirectory server and that it is configured to accept login from the Monitor Agent Installation program ([worksheet item 14](#))

The Monitor Installation program requires eDirectory access in order to create the Monitor objects in eDirectory. The Installation program uses LDAP to gain the required access.

- 2 At the Linux server where you want to install Monitor, open a new terminal window.
- 3 Become `root` by entering `sux` and the `root` password.

The `sux` command enables the X Window System, which is required for running the GUI GroupWise Installation program. If you are not using the X Window System, you can install GroupWise components individually, as described in “[Installing the GroupWise Agents Using the Text-Based Installation Program](#)” on page 177.

4 Change to the root of the *GroupWise 7 Administrator for Linux* CD.

5 Start the GroupWise Installation program.

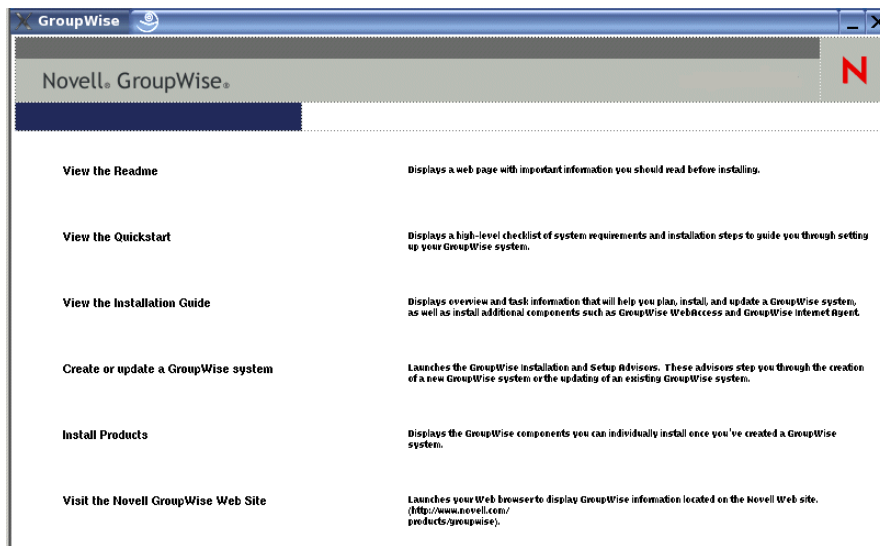
```
./install
```

6 Select the language in which you want to run the Installation program, then click *OK*.

---

**NOTE:** On Linux, all available languages are included in the same RPM, so all languages are always installed.

---



7 Click *Install Products > GroupWise Monitor > Install GroupWise Monitor Agent*.

8 When the installation is complete, click *OK*.

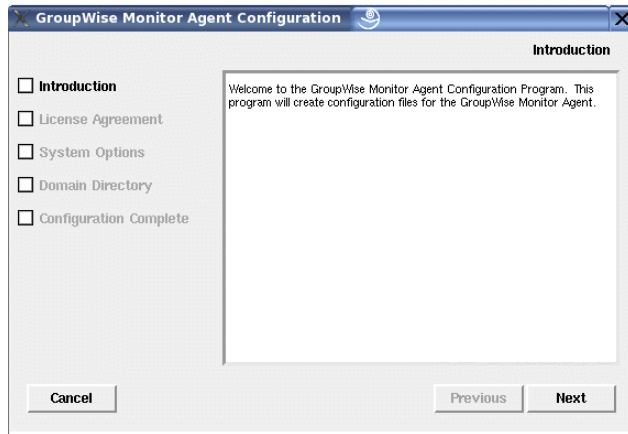
The Monitor Agent software is installed to `/opt/novell/groupwise/agents`.

9 Continue with [Configuring the Linux Monitor Agent](#).

## Configuring the Linux Monitor Agent

1 After the Monitor Agent files have been installed, click *Configure Monitor*.

The Monitor Agent installation and configuration steps are separate so that you can install updated agent software without repeating the agent configuration steps.



- 2 Follow the prompts to configure the Monitor Agent, using the following information from the [GroupWise Monitor Installation Worksheet](#).

**Item 5: System Options**

**Item 6: Domain Directory**

On the Configuration Complete page, *Launch Monitor Agent on System Startup* is selected by default.

- 3 Click *Exit* to complete the installation.
- 4 Continue with [Installing and Configuring the Monitor Application](#).

## Installing and Configuring the Monitor Application

---

**IMPORTANT:** If you are installing GroupWise Monitor on SUSE Linux Enterprise Server 10, refer to TID 3248145 in the [Novell Support Knowledgebase \(http://www.novell.com/support\)](http://www.novell.com/support) for installation instructions. The TID is written for WebAccess, but the same principles apply to Monitor.

---

- 1 After installing and configuring the Monitor Agent, if you want to use an existing Apache/Tomcat installation, click *Install Monitor Application*.

or

Click *Install Monitor Application with Apache and Tomcat*.

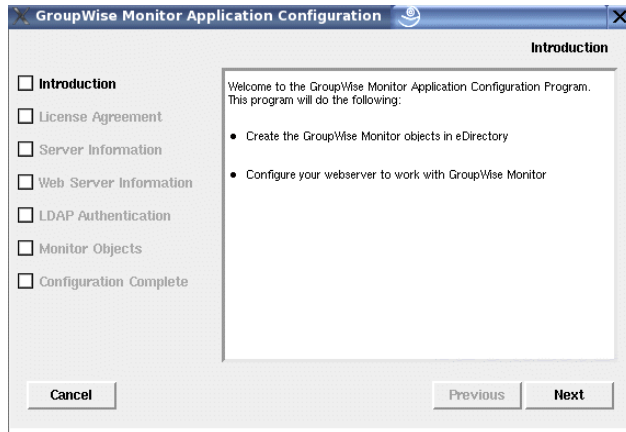
This installs a version of Apache and Tomcat specifically for use with GroupWise. Apache files are installed under `/var/opt/novell/http` and `/etc/opt/novell/http`. Tomcat files are installed under `/var/opt/novell/tomcat4` and `/etc/opt/novell/tomcat4`.

---

**NOTE:** The option to install Apache and Tomcat along with the Monitor Application is not available if you are installing to Novell Open Enterprise Server Linux because Apache and Tomcat are already installed and configured correctly in that environment.

---

- 2 When the file copy is complete, click *OK*.
- 3 Click *Configure Monitor Application*.



- 4 Follow the prompts to provide information about Monitor Application, using the following information from the [GroupWise Monitor Installation Worksheet](#) in the order listed.

Item 4: Server Information

Item 8: Web Server Information

Item 14: LDAP Authentication

Item 13: Monitor Object Configuration

- 5 Click *Exit* to complete the configuration.

After installation is complete, you might need to perform some additional steps, as described in [Section 6.4.3, “Completing Optional Post-Installation Tasks,”](#) on page 152.

- 6 Continue with [Restarting the Web Server](#).

## Restarting the Web Server

In order to load the Monitor Application, you must restart the Web server.

If you installed the Novell version of Apache and Tomcat along with the Monitor Application, follow the instructions below to start your Web server. If you did not install the Novell versions of Apache and Tomcat along with the Monitor Application, restart Apache and Tomcat as you usually would.

- 1 Make sure you are logged in as `root`.
- 2 If you have other instances of Apache and Tomcat running on this server, bring them down before you start the new versions you just installed.
- 3 Change to the `/etc/init.d` directory.
- 4 Start Tomcat.
 

```
./novell-tomcat4 start
```
- 5 Wait until Tomcat is all the way up.
- 6 Start Apache.
 

```
./novell-httpd start
```
- 7 Continue with [Starting the Linux Monitor Agent as a Daemon](#).

## Starting the Linux Monitor Agent as a Daemon

---

**NOTE:** Unlike the other GroupWise agents, you do not need to be logged in as `root` in order to start the Monitor Agent.

---

- 1 Make sure you know the path to a domain directory where a domain database (`wpdomain.db`) is located or the IP address of a server where the MTA is running.

- 2 Change to the GroupWise agent `bin` directory.

```
cd /opt/novell/groupwise/agents/bin
```

- 3 Use one of the following commands to start the Monitor Agent:

```
./gwmon --home /domain_directory &
./gwmon --ipa IP_address --ipp port_number &
```

The `--home` startup switch specifies a domain directory where the Monitor Agent can access a domain database.

The `--ipa` startup switch specifies the IP address of a server where an MTA is running, which is another way for the Monitor Agent to obtain information from a domain database. The `--ipp` startup switch specifies the port number of the MTA's HTTP port on which the Monitor Agent communicates with the MTA.

The ampersand (&) causes the Monitor Agent to run in the background, so that the terminal window you started it in is again available for use.

A message indicates that the Monitor Agent is polling the domain you specified.

You can also start the Monitor Agent using its startup script (`/etc/init.d/grpwise-ma`).

The Monitor Agent does not have a `--show` switch. The Monitor log file (`mmdamon.nnn`) for status messages is located in the `/var/log/novell/groupwise/gwmon` directory. The log file name includes the month and day when it was created, along with an incrementing extension to accommodate multiple log files on the same day. The Monitor Agent can also be monitored from your Web browser.

If the Monitor Agent does not start successfully, see [“Starting the Linux GroupWise Agents as Daemons” on page 180](#).

- 4 After installation is complete, you might need to perform some additional steps, as described in [Section 6.4.3, “Completing Optional Post-Installation Tasks,” on page 152](#).
- 5 After the Monitor Agent starts successfully, refer to the following sections in [Chapter 7, “Installing GroupWise Agents,” on page 159](#) for additional information about managing the Monitor Agent on Linux:
  - ♦ [“Starting the Linux GroupWise Agents on System Startup” on page 182](#)
  - ♦ [“Configuring the Monitor Agent to Communicate with the High Availability Service” on page 188](#)
  - ♦ [“Stopping the Linux GroupWise Agents” on page 189](#)
  - ♦ [“Uninstalling the Linux GroupWise Agents” on page 191](#)
- 6 For instructions on using the Monitor Web consoles, skip to [Section 6.5, “Using GroupWise Monitor,” on page 153](#).

## 6.4.3 Completing Optional Post-Installation Tasks

Depending on the configuration you have chosen for the Monitor Agent and Monitor Application, you might need to perform one or more of the following tasks after you have installed the Monitor software:

- ♦ If you use a proxy service, follow the instructions in “[Configuring Proxy Service Support for the Monitor Web Console](#)” in “[Monitor](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).
- ♦ If you are installing to the Apache Web Server for UNIX Solaris, continue with “[Completing the Monitor Installation on a UNIX Apache Web Server](#)” on page 152.

After completing any post-installation tasks that pertain to your Monitor configuration, skip to [Section 6.5, “Using GroupWise Monitor,”](#) on page 153.

### Completing the Monitor Installation on a UNIX Apache Web Server

The Monitor Installation program copies the following files to the location you specified:

- ♦ gwmonitor.tar
- ♦ gwmonitordocs.tar
- ♦ gwmonitorjars.tar
- ♦ gwmonitorservlets.tar
- ♦ index.html
- ♦ web.xml

To complete the installation and configuration process:

- 1 Using the `tar -xvf` command, extract the following tar files to the specified locations:
  - ♦ **gwmonitor.tar:** Extract to the root of the UNIX server. A `/novell` directory is created for the files.
  - ♦ **gwmonitordocs.tar:** Extract to the Tomcat Monitor document root directory (for example, `/usr/local/tomcat4/webapps/gwmon`).
  - ♦ **gwmonitorservlets.tar:** Extract to the Tomcat Monitor classes directory (for example, `/usr/local/tomcat4/webapps/gwmon/WEB-INF/classes`).
  - ♦ **gwmonitorjars.tar:** Extract to the Tomcat Monitor lib directory (for example, `/usr/local/tomcat4/webapps/gwmon/WEB-INF/lib`).
- 2 Copy the `web.xml` file to the Tomcat `webapps/gwmon/WEB-INF` directory.
- 3 Modify the `gwmonitor.cfg` file, located in the `/novell/gwmonitor` directory at the root of the UNIX server, to change the `Templates.path` setting to point to the templates.

For example, change the following line in `webacc.cfg`:

```
Templates.path=/java/servlets/com/novell/gwmonitor/templates
```

to

```
Templates.path=/usr/local/tomcat4/webapps/gwmon/WEB-INF/classes/
com/novell/gwmonitor/templates
```



- In the `gwmonitor.cfg` file, verify that the paths for the following settings point to valid directories. Typically, these directories reside in the `/novell/gwmonitor` directory, but you can relocate them if desired. Refer to the comments in the `gwmonitor.cfg` file for explanations of each of these settings.

```
Log.path=/novell/gwmonitor/logs
Security.Timeout.path=/novell/gwmonitor/users
```

- Copy the `index.html` file to the Tomcat Monitor document root directory (for example, `/usr/local/tomcat4/webapps/gwmon`).

For the convenience of your users, you can link to the Monitor file from your current default home page.

## 6.5 Using GroupWise Monitor

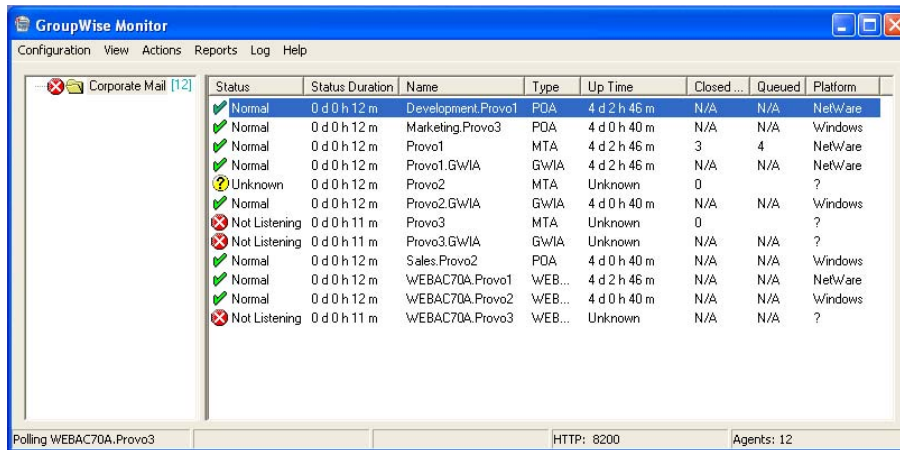
You can use GroupWise Monitor in various environments:

- Section 6.5.1, “Monitor Agent Server Console on a Windows Server,” on page 153
- Section 6.5.2, “Monitor Web Consoles in Your Web Browser,” on page 154

### 6.5.1 Monitor Agent Server Console on a Windows Server

To start the Monitor Agent on a Windows server and display the Monitor Agent server console, click *Start > Programs > GroupWise Monitor > GroupWise Monitor*. The Monitor Agent server console appears.

Figure 6-5 Monitor Agent Console



At the Monitor Agent server console, you can perform many activities, for example:

- Use items on the *Configuration* menu to configure the Monitor Agent as needed.
- Use items on the *View* menu to choose how much and what kind of agent status information to display.
- Create agent groups in order to monitor related agents together.
- Use items on the *Reports* menu to check the status of links throughout your GroupWise system and to organize status information into a format that can be e-mailed or printed.
- Use items on the *Actions* menu to control agent polling.

For more information about using the Monitor Agent server console, see “**Monitor**” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

## 6.5.2 Monitor Web Consoles in Your Web Browser

Monitor has two different Web consoles. The Monitor Web console uses the capabilities of your Web server to provide access from outside your firewall. The Monitor Agent Web console is provided by the Monitor Agent itself and provides additional functionality beyond that which is available from outside your firewall.

- ♦ “**Monitor Web Console**” on page 154
- ♦ “**Monitor Agent Web Console**” on page 154

### Monitor Web Console

To display agent status information in your Web browser from outside your firewall, enter the Monitor Web console URL in your Web browser:

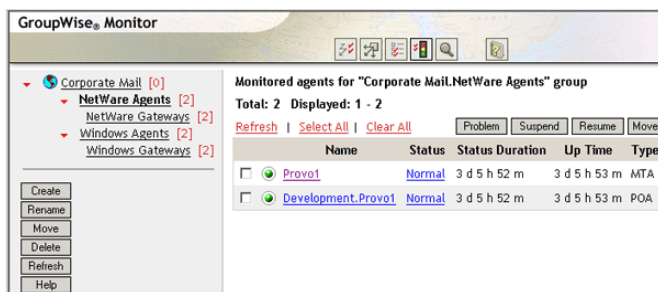
NetWare Web Server: `https://network_address/gw/gwmonitor`

Linux Web Server: `https://network_address/gwmon/gwmonitor`

Windows Web Server: `https://network_address/gw/gwmonitor`

where *network\_address* represents the IP address or DNS hostname of the server where your Web server runs. The Monitor Web console appears.

**Figure 6-6** Monitor Web Console



You can use this same URL to view the same agent status information in various browsers and mobile devices.

You can perform many of the same monitoring activities at the Monitor Web console as you can at the Monitor Agent server console. Refer to the online help in the Monitor Web console for additional information about each Monitor Web console page.

For more information about using the Monitor Web console, see “**Monitor**” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

### Monitor Agent Web Console

To display agent status information in your Web browser from inside your firewall, enter the Monitor Agent Web console URL in your Web browser:

http://network\_address:8200

Figure 6-7 Monitor Agent Web Console

Corporate Mail

Gateways  
Linux Agents [4]  
NetWare Agents [4]  
Windows Agents [4]

Create  
Rename  
Move  
Delete  
Refresh

Monitored agents for Corporate Mail

Up Time: 8 d 2 h 14 m

Poll Hide Subgroup Agents Problem Suspend Resume Move Options Thresholds

| Status        | Duration     | Name               | Type   | Up Time        | Closed Links | Queued | Platform | Version            |
|---------------|--------------|--------------------|--------|----------------|--------------|--------|----------|--------------------|
| Normal        | 0 d 0 h 14 m | Development.Provo1 | PDA    | 0 d 0 h 34 m   | N/A          | N/A    | NetWare  | 7.0.1(4/4/2006)    |
| Normal        | 0 d 0 h 14 m | Marketing.Provo3   | PDA    | 18 d 21 h 46 m | N/A          | N/A    | Windows  | 7.0.1 (3/15/2006)  |
| Normal        | 0 d 0 h 14 m | Provo1             | MTA    | 0 d 0 h 34 m   | 2            | 0      | NetWare  | 7.0.1(4/4/2006)    |
| Normal        | 0 d 0 h 14 m | Provo1.GWIA        | GWIA   | 0 d 0 h 32 m   | N/A          | N/A    | NetWare  | 7.0.1 (04-04-06)   |
| Not Listening | 0 d 0 h 0 m  | Provo2             | MTA    | 6 d 19 h 8 m   | 2            | 1      | Windows  | 7.0.1 (3/15/2006)  |
| Not Listening | 0 d 0 h 0 m  | Provo2.GWIA        | GWIA   | 18 d 21 h 41 m | N/A          | N/A    | Windows  | 7.0.1 (03-15-06)   |
| Normal        | 0 d 0 h 14 m | Provo3             | MTA    | 18 d 22 h 13 m | 0            | 0      | Linux    | 7.0.1 (03/15/2006) |
| Normal        | 0 d 0 h 14 m | Provo3.GWIA        | GWIA   | 18 d 21 h 13 m | N/A          | N/A    | Linux    | 7.0.1 (03/15/2006) |
| Normal        | 0 d 0 h 14 m | Sales.Provo2       | PDA    | 18 d 21 h 46 m | N/A          | N/A    | Windows  | 7.0.1 (3/15/2006)  |
| Normal        | 0 d 0 h 14 m | WEBACC70A.Provo1   | WEBACC | 0 d 0 h 35 m   | N/A          | N/A    | NetWare  | 7.0.1 (4/4/2006)   |
| Normal        | 0 d 0 h 14 m | WEBACC70A.Provo2   | WEBACC | 12 d 3 h 38 m  | N/A          | N/A    | Windows  | 7.0.1(3/16/2006)   |
| Not Listening | 0 d 0 h 12 m | WEBACC70A.Provo3   | WEBACC | 0 d 0 h 0 m    | N/A          | N/A    | ?        |                    |

For instructions on protecting the Monitor Agent Web console with a password, see “[Configuring Authentication and Intruder Lockout for the Monitor Web Console](#)” in “[Monitor](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

## 6.6 GroupWise Monitor Installation Worksheet

| Item                                | Explanation                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1) Platform                         | Mark the platform where you want to install the Monitor Agent. <ul style="list-style-type: none"><li>Linux</li><li>Windows</li></ul>                                                                                                                                                                                                                                                                                                          |
| 2) Components to Install:           | Mark the components you want to install. You don't need to install both components at the same time or on the same platform. <ul style="list-style-type: none"><li>GroupWise Monitor Agent</li><li>GroupWise Monitor Application</li></ul>                                                                                                                                                                                                    |
| 3) Monitor Agent Installation Path: | This item applies only on Windows. <p>Specify the directory path where you want the Monitor Agent software installed. The default directories are:</p> <p>Linux:</p> <p>Windows:</p> <ul style="list-style-type: none"><li>Linux: /opt/novell/groupwise/agents</li><li>Windows: c:\gwmon</li></ul> <p>For more information, see <a href="#">Section 6.3.1, “Deciding Where to Install the GroupWise Monitor Components,”</a> on page 141.</p> |

| Item                                                                                                                                                                                                                                                                                    | Explanation                                                                                                                                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4) Monitor Agent Network Address:                                                                                                                                                                                                                                                       | Specify the IP address or DNS hostname of the server where you plan to install the Monitor Agent.                                                                                                                 |
| <ul style="list-style-type: none"> <li>◆ IP address:</li> <li>◆ DNS hostname:</li> <li>◆ Port number: 8200 (default)</li> </ul>                                                                                                                                                         | <p>Specify the port number for the Monitor Agent to listen on. The Monitor Agent must use a unique port number.</p> <p>For more information, see <a href="#">“Monitor Agent Network Address” on page 143.</a></p> |
| 5) System Options                                                                                                                                                                                                                                                                       | Mark whether you want to monitor a GroupWise system, a Messenger system, or both.                                                                                                                                 |
| <ul style="list-style-type: none"> <li>◆ GroupWise</li> <li>◆ GroupWise Messenger</li> </ul>                                                                                                                                                                                            |                                                                                                                                                                                                                   |
| 6) Domain Directory:                                                                                                                                                                                                                                                                    | Specify a domain directory where a GroupWise 6.x or later MTA is running.                                                                                                                                         |
|                                                                                                                                                                                                                                                                                         | For more information, see <a href="#">“Domain Directory Path” on page 143.</a>                                                                                                                                    |
| 7) Default Language:                                                                                                                                                                                                                                                                    | This item applies only on Windows.                                                                                                                                                                                |
|                                                                                                                                                                                                                                                                                         | Select the default language for the Monitor Agent server console interface on the Windows server.                                                                                                                 |
|                                                                                                                                                                                                                                                                                         | For more information, see <a href="#">“Windows Installation Option: Default Monitor Agent Language” on page 143.</a>                                                                                              |
| 8) Web Server:                                                                                                                                                                                                                                                                          | Mark the Web server you want to use with GroupWise Monitor.                                                                                                                                                       |
| <ul style="list-style-type: none"> <li>◆ Apache Web Server for NetWare</li> <li>◆ Netscape Enterprise Server for NetWare</li> <li>◆ Apache Web Server for Linux</li> <li>◆ Microsoft Internet Information Server (IIS) Windows</li> <li>◆ Apache Web Server for UNIX Solaris</li> </ul> | For more information, see <a href="#">Section 6.3.1, “Deciding Where to Install the GroupWise Monitor Components,” on page 141.</a>                                                                               |
| 9) Web Server Path:                                                                                                                                                                                                                                                                     | Specify the directory path to the Web server’s root directory.                                                                                                                                                    |
|                                                                                                                                                                                                                                                                                         | For more information, see <a href="#">Section 6.3.1, “Deciding Where to Install the GroupWise Monitor Components,” on page 141.</a>                                                                               |

| Item                                 | Explanation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10) Novell Root Directory:           | <p>Specify the directory path where you want the Monitor configuration file installed. The default directory is:</p> <ul style="list-style-type: none"> <li>◆ Linux: /opt/novell/groupwise</li> <li>◆ Windows: c:\novell</li> </ul> <p>For more information, see <a href="#">“eDirectory Objects and Configuration File” on page 144.</a></p>                                                                                                                                                                                                                                                                                      |
| 11) Java Servlet Engine:             | <p>This item applies only on Windows.</p> <p>Select the Java servlet engine you want to use with Monitor.</p> <ul style="list-style-type: none"> <li>◆ Use Novell Servlet Gateway<br/>For the Tomcat Servlet Gateway or another Java servlet engine, specify the directory path to the servlet engine.</li> <li>◆ Use Tomcat Servlet Gateway<br/>For more information, see <a href="#">Section 6.3.1, “Deciding Where to Install the GroupWise Monitor Components,” on page 141.</a></li> <li>◆ Use Other Java Servlet Engine</li> </ul> <p>Java Servlet Root Directory:</p>                                                       |
| 12) Default Language:                | <p>Select the default language for the Monitor Web console Interface.</p> <p>For more information, see <a href="#">“Default Monitor Web Console Language” on page 145.</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 13) eDirectory Object Configuration: | <p>Specify the tree where you are installing Monitor.</p> <p>Specify the context in which the Monitor Installation program should create the GroupWise Monitor and Monitor Provider objects, where configuration information is stored.</p> <ul style="list-style-type: none"> <li>◆ Tree:</li> <li>◆ Context:<br/>For more information, see <a href="#">“eDirectory Objects and Configuration File” on page 144.</a></li> </ul>                                                                                                                                                                                                   |
| 14) LDAP Authentication              | <p>This item applies only on Linux.</p> <p>List the IP address and port of an LDAP server in your system and the username and password that the Monitor Installation program can use to log in to eDirectory to create the Monitor Agent object. If you want to use an SSL connection, specify an SSL certificate file.</p> <ul style="list-style-type: none"> <li>◆ LDAP server IP address:</li> <li>◆ LDAP server port:<br/>For more information, see <a href="#">“Linux Installation Option: LDAP Information” on page 143.</a></li> <li>◆ Username in LDAP format:</li> <li>◆ Password:</li> <li>◆ SSL certificate:</li> </ul> |



# Installing GroupWise Agents

# 7

Novell® GroupWise® agents are first installed and started as part of installing a basic GroupWise system, as described in [Chapter 3, “Installing a Basic GroupWise System,” on page 25](#). The following sections help you install additional agents as you create new domains and post offices in your growing GroupWise system.

- ♦ [Section 7.1, “GroupWise Agent Overview,” on page 159](#)
- ♦ [Section 7.2, “Agent System Requirements,” on page 161](#)
- ♦ [Section 7.3, “Planning the GroupWise Agents,” on page 162](#)
- ♦ [Section 7.4, “Setting Up the GroupWise Agents,” on page 167](#)
- ♦ [Section 7.5, “What’s Next,” on page 198](#)
- ♦ [Section 7.6, “GroupWise Agent Installation Worksheet,” on page 198](#)

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**IMPORTANT:** If you plan to install the GroupWise agents in a clustered server environment, see the [GroupWise 7 Interoperability Guide \(http://www.novell.com/documentation/gw7\)](http://www.novell.com/documentation/gw7) before you install the agents.

---

## 7.1 GroupWise Agent Overview

Each time you create a new post office, you must set up at least one Post Office Agent (POA) for it. Some of the POA’s tasks in the post office include:

- ♦ Connecting GroupWise clients to mailboxes through network connections (TCP/IP, IMAP, SOAP)
- ♦ Sending messages to other users and delivering incoming messages into mailboxes
- ♦ Indexing messages and documents to support the Find feature in the GroupWise clients
- ♦ Managing disk space usage in the post office and controlling the size of messages that users are allowed to send and receive

Each time you create a new domain, you must set up a Message Transfer Agent (MTA) for it. Some of the MTA’s tasks in the domain include:

- ♦ Routing user messages between post offices and domains
- ♦ Routing administration messages throughout the GroupWise system so that databases are kept in sync
- ♦ Synchronizing GroupWise user information with Novell eDirectory™ user information

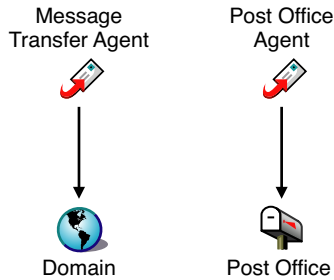
The POA requires direct access to the post office directory so that it can write to the post office database. The MTA requires direct access to the domain directory so that it can write to the domain database. In addition, the POA and the MTA must be able to communicate with each other.

- ♦ [Section 7.1.1, “Local Access to Databases,” on page 160](#)
- ♦ [Section 7.1.2, “Remote Access to Databases,” on page 160](#)
- ♦ [Section 7.1.3, “Links between the MTA and the POA,” on page 160](#)

## 7.1.1 Local Access to Databases

The preferred way to fulfil this requirement is to install each agent on the same server with its directory. Running an agent locally on the same server where its directory and database are located simplifies network connections, because no remote login is required. In addition, it reduces network traffic and protects database integrity. The following diagram illustrates direct access:

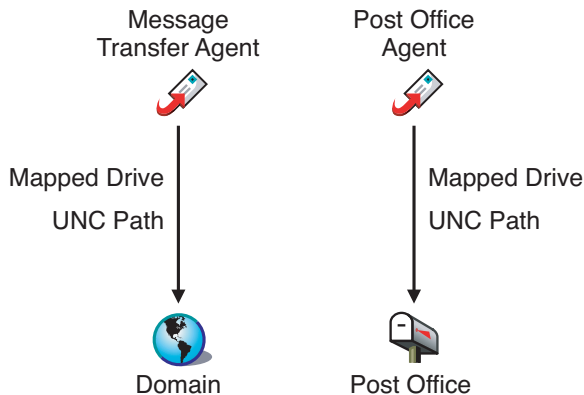
**Figure 7-1** *Direct Access between Agents and Directories*



## 7.1.2 Remote Access to Databases

However, if necessary, you can install the agent on a different server from its directory if you are using NetWare<sup>®</sup> or Windows. This requires the agent to have a direct link (mapped drive or UNC path) to its directory on the remote server in order to function. The following diagram illustrates the direct links:

**Figure 7-2** *Direct Links between Agents and Directories*



---

**IMPORTANT:** On Linux, file system mounts between Linux servers do not provide the necessary file locking mechanisms for the GroupWise Linux agents to access their databases on remote Linux servers.

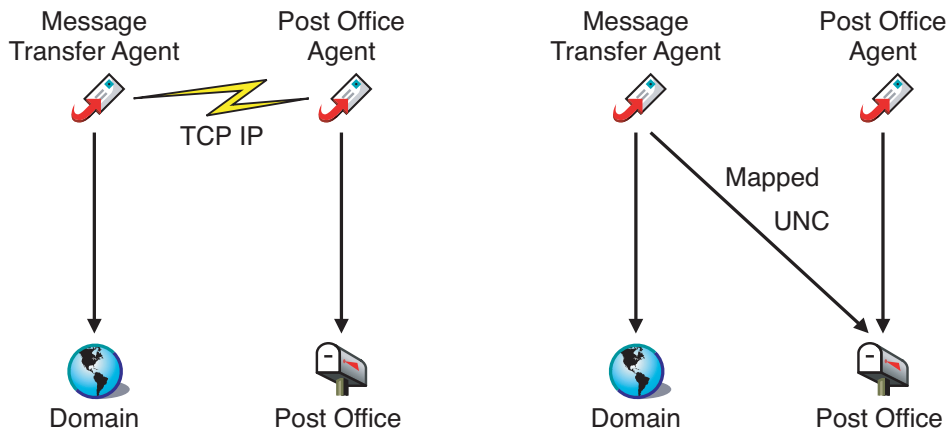
---

## 7.1.3 Links between the MTA and the POA

To route user and administration messages to the post office, the MTA requires a TCP/IP link to the POA for the post office, or alternatively, a direct link (mapped drive, UNC path, or file system mount) to the post office directory. The following diagram illustrates the alternatives:



**Figure 7-3** MTA Link Alternatives



## 7.2 Agent System Requirements

- ❑ 32-bit/x86 processor or 64-bit/x86 processor
- ❑ Any of the following server operating systems for the POA and the MTA:
  - ◆ Novell Open Enterprise Server 1 or Open Enterprise Server 2 (NetWare or Linux version), plus the latest Support Pack
  - ◆ NetWare 5.1, NetWare 6.0, or NetWare 6.5, plus the latest Support Pack for your version of NetWare
  - ◆ SUSE<sup>®</sup> Linux Enterprise Server 9 or SUSE Linux Enterprise Server 10, plus the latest Support Pack

The X Window System is required by the GUI GroupWise Installation program. A text-based Installation program is also available.

The X Window System and Open Motif are required by the GUI GroupWise agent server consoles. By default, the agents run as daemons without user interfaces.

  - ◆ Windows Server 2000 or Windows Server 2003, plus the latest Service Pack for your version of Windows
- ❑ Adequate server memory as required by the operating system
- ❑ Approximately 25 MB for the agent software (varies by platform)

The amount of memory actually used by the POA depends on the number of active users, as illustrated by the table below:

**Table 7-1** Memory Usage Examples

| Concurrent Users                                 | Actual Memory Usage at Peak Time |
|--------------------------------------------------|----------------------------------|
| 100 active users (100-250 users in post office)  | 80 MB                            |
| 250 active users (250-500 users in post office)  | 160 MB                           |
| 500 active users (500-1000 users in post office) | 250 MB                           |

---

| Concurrent Users                                   | Actual Memory Usage at Peak Time |
|----------------------------------------------------|----------------------------------|
| 1000 active users (1000-2500 users in post office) | 500 MB                           |

---

The POA typically performs best with abundant cache memory available. On the server where it runs, at least 2 GB of memory is recommended.

## 7.3 Planning the GroupWise Agents

Use [Section 7.6, “GroupWise Agent Installation Worksheet,” on page 198](#) to record your decisions about how to install the GroupWise agents as you review the following considerations:

- ◆ [Section 7.3.1, “Selecting the Agent Platform,” on page 162](#)
- ◆ [Section 7.3.2, “Selecting the Agent Location,” on page 163](#)
- ◆ [Section 7.3.3, “Selecting the Agent Installation Directory,” on page 163](#)
- ◆ [Section 7.3.4, “Gathering Domain and Post Office Information,” on page 164](#)
- ◆ [Section 7.3.5, “Deciding Which Languages to Install,” on page 164](#)
- ◆ [Section 7.3.6, “NetWare Installation Options: Automatic Startup and Clustering,” on page 164](#)
- ◆ [Section 7.3.7, “Linux Installation Option: Clustering,” on page 165](#)
- ◆ [Section 7.3.8, “Windows Installation Options: Service vs. Application and SNMP Traps,” on page 166](#)

To help with the above tasks, you can also review the [GroupWise Wiki \(http://wiki.novell.com/index.php/GroupWise\)](http://wiki.novell.com/index.php/GroupWise), which includes a *Best Practices* section.

---

**IMPORTANT:** If you plan to install the GroupWise agents in a clustered server environment, refer to the [GroupWise 7 Interoperability Guide \(http://www.novell.com/documentation/gw7\)](http://www.novell.com/documentation/gw7) as you plan your agent installation.

---

### 7.3.1 Selecting the Agent Platform

The MTA and POA are available as NetWare NLM™ programs, Linux executables, and Windows executables.

In general, GroupWise is most efficient if you match the agent platform with the network operating system where the post office and domain are located. For example, if a domain and post office are located on a NetWare server, then you would install the NetWare agents for them. However, this is not required.

Those with mixed networks might wonder what platform combinations are possible. For more information, see the following sections in the [GroupWise 7 Administration Guide \(http://www.novell.com/documentation/gw7\)](http://www.novell.com/documentation/gw7):

- ◆ [“Cross-Platform Issues in the Post Office”](#) in [“Post Office Agent”](#)
- ◆ [“Cross-Platform Issues between Domains and Post Offices”](#) in [“Message Transfer Agent”](#)

---

## GROUPWISE AGENT INSTALLATION WORKSHEET

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Under **Item 1: Agent Platform**, mark whether you plan to install the agents on NetWare, Linux, or Windows. Review **Section 7.2, “Agent System Requirements,” on page 161** to ensure that the specific server you have selected meets the listed requirements.

---

### 7.3.2 Selecting the Agent Location

Record which GroupWise agents you plan to run on the selected server (POA, MTA, or both) and whether you want to install the agents locally or remotely in relation to their directories and databases, as described in **Section 7.1, “GroupWise Agent Overview,” on page 159**.

---

## GROUPWISE AGENT INSTALLATION WORKSHEET

---

Under **Item 2: Agents and Locations**, mark the agents to install and their locations relative to the directories and databases they need to access.

---

If the NetWare agents need to access their directories and databases on remote NetWare servers, you must add configuration information to the agent startup files to provide the needed access. Use the `/dn` switch to specify the distinguished name of the agent object that was created along with the Domain or Post Office object. The remote servers must be in the same eDirectory tree as the server where the agents are running.

---

## GROUPWISE AGENT INSTALLATION WORKSHEET

---

Under **Item 2: Agents and Locations**, for the NetWare agents, record the startup switches and settings you'll need to add to the agent startup files after installation if you are installing the agents on a different NetWare server from where their directories and databases are located.

---

### 7.3.3 Selecting the Agent Installation Directory

The agent installation directory depends on the platform where you are installing the agents.

Consider these platform-specific guidelines:

- NetWare: When installing the NetWare agents, we recommend you use the `sys:\system` directory on the NetWare server. This simplifies the use of startup files and ensures that the NLM programs are in the server's search path. If you use a different directory, you must add that directory to the server's search path.
  - Linux: The Linux agents are automatically installed to `/opt/novell/groupwise/agents`.
  - Windows: The default installation directory is `c:\grpwise`. However, you can install the agents to any directory you want.
- 

## GROUPWISE AGENT INSTALLATION WORKSHEET

---

Under **Item 3: Installation Path**, record the directory where you want to install the GroupWise agent software.

---

Both the MTA and the POA are installed to the specified directory.

### 7.3.4 Gathering Domain and Post Office Information

Record the following information about the domain and post office for which you are installing and setting up the GroupWise agents:

---

#### GROUPWISE AGENT INSTALLATION WORKSHEET

---

Under **Item 6: Domain Information**, record the domain name and path to the domain directory for the new domain.

Under **Item 7: Post Office Information**, record the post office name and path to the post office directory for the new post office.

The domain and post office must exist before you install the agents for them. If necessary, create the domain and post office that you are installing the agents for now.

---

### 7.3.5 Deciding Which Languages to Install

If you have administrators with various language preferences, you can install and run the GroupWise agents in multiple languages. You should also install all languages used by GroupWise client users, so that message status information returned from the POA to users' mailboxes matches the language in which each user is running the client.

---

**NOTE:** On Linux, all available languages are included in the same RPM, so all languages are always installed.

---

---

#### GROUPWISE AGENT INSTALLATION WORKSHEET

---

Under **Item 5: Language**, list the languages you want to install the agents for.

---

By default, the agents start in the language selected for the domain. If that language has not been installed, the agents start in the language used by the operating system. If that language has not been installed, the agents start in English.

For more information, see “**Multilingual GroupWise Systems**” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

### 7.3.6 NetWare Installation Options: Automatic Startup and Clustering

When you install the NetWare GroupWise agents, the following options specific to NetWare are available in the Agent Installation program:

- ◆ “Automatic Startup” on page 165
- ◆ “Novell Cluster Services” on page 165

## Automatic Startup

You can have the Agent Installation program add a reference to the `grpwise.ncf` file in the NetWare server's `autoexec.ncf` file so that the GroupWise agents are automatically loaded whenever the server is started.

---

### GROUPWISE AGENT INSTALLATION WORKSHEET

---

Under **Item 10: Update AUTOEXEC File**, mark whether or not you want to configure the NetWare server to start the GroupWise agents automatically.

---

## Novell Cluster Services

Novell Cluster Services is a server clustering system that ensures high availability and manageability of critical network resources including volumes (where GroupWise domains and post offices reside) and applications (such as the GroupWise agents). Novell Cluster Services supports failover, failback, and migration of individually managed cluster resources.

The NetWare GroupWise agents can be configured to take advantage of the fault-tolerant environment provided by Novell Cluster Services if the following requirements are met:

- ◆ The domains and post offices to be serviced by the NetWare agents have already been created on shared NSS volumes in the cluster.
- ◆ The NetWare agents are being installed to a server that is part of the same cluster.

When the agents are configured for clustering, their startup files are configured with shared volume names rather than specific server names. In addition, the POA is configured to more effectively re-establish logins with GroupWise clients when a failover or migration situation arises.

---

### GROUPWISE AGENT INSTALLATION WORKSHEET

---

Under **Item 4: Configure GroupWise Agents for Clustering**, mark whether or not you want to configure the NetWare agents for clustering. If you do, follow the installation instructions in “**Setting Up a Domain and Post Office in a NetWare Cluster**” in “**Novell Cluster Services on NetWare**” in the *GroupWise 7 Interoperability Guide* (<http://www.novell.com/documentation/gw7>), rather than the installation instructions in this guide.

---

## 7.3.7 Linux Installation Option: Clustering

On Linux, you can install the GroupWise agents in three different clustering environments, as described in the *GroupWise 7 Interoperability Guide* (<http://www.novell.com/documentation/gw7>):

- ◆ “**Novell Cluster Services on Linux**”
- ◆ “**Heartbeat on Linux**”

If you are using Novell Cluster Services™, the Linux GroupWise Installation program provides a Configure GroupWise for Clustering option that simplifies the process of installing the Linux GroupWise agents on multiple nodes in the cluster.

---

## GROUPWISE AGENT INSTALLATION WORKSHEET

---

Under **Item 4: Configure GroupWise Agents for Clustering**, mark whether or not you want to configure the Linux GroupWise agents for clustering using Novell Cluster Services. If you do, follow the installation instructions provided in “**Setting Up a Domain and a Post Office in a Linux Cluster**” in **Novell Cluster Services on Linux** in the *GroupWise 7 Interoperability Guide* (<http://www.novell.com/documentation/gw7>), rather than the installation instructions in this guide.

---

If you are installing the Linux GroupWise agents on PolyServe Matrix Server, the Linux GroupWise Installation program does not assist you with the setup. See the *GroupWise 7 Interoperability Guide* (<http://www.novell.com/documentation/gw7>) for installation instructions.

### 7.3.8 Windows Installation Options: Service vs. Application and SNMP Traps

When you install the Windows agents, you have choices about how the agents interact with the Windows operating system.

- ♦ “**Service vs. Application**” on page 166
- ♦ “**SNMP Traps**” on page 167

#### Service vs. Application

When you run the GroupWise Windows agents as services, they can start automatically and run without a user interface.

---

## GROUPWISE AGENT INSTALLATION WORKSHEET

---

Under **Item 8: Installation Options**, mark *Install as Windows Services* if you want to run the agents as services.

---

When you run the Windows agents as services, they must run under a specific Windows user account.

When domains and post offices are located on the same server where you are installing the agents, the agents can run under the local system account. You can also display the agent server consoles when the agent software, directories, and databases are local.

When domains and post offices are located on a remote server, you must specify a user with rights to access the domain and post office directories.

**Remote Windows Server:** If the Windows agents need to log in to a another Windows server, provide a Windows username and password.

**Remote NetWare Server:** If the Windows agents need to log in to a NetWare server, provide an existing eDirectory username and password, or create a new account for the agents, as described in “**Creating a NetWare Account for Agent Access (Optional)**” on page 170.

---

#### GROUPWISE AGENT INSTALLATION WORKSHEET

---

Under **Item 9: Windows Service Information**, record the account the agents will run under, and if necessary, the password for the account.

---

As with all Windows services, the Windows agents can be started automatically or manually as services each time the Windows server restarts.

---

#### GROUPWISE AGENT INSTALLATION WORKSHEET

---

Under **Item 9: Windows Service Information**, mark how you want the Windows agents to start each time the server is restarted.

---

### SNMP Traps

If you want to use an SNMP manager program, such as the Management and Monitoring Services component of Novell ZENworks<sup>®</sup> Server Management, to monitor the agents, you must install some SNMP components along with the Windows agent software.

---

#### GROUPWISE AGENT INSTALLATION WORKSHEET

---

Under **Item 8: Installation Options**, mark *Install and Configure SNMP for GroupWise Agents* if you want to use an SNMP manager program.

If this option is dimmed during installation, the SNMP service has not been enabled on the Windows server where you are installing the agents. If you want to monitor the agents from an SNMP management program, the SNMP service must be enabled so you can select this option.

---

**NOTE:** The NetWare and Linux agents rely on operating system components for SNMP functionality and do not require this installation option.

---

## 7.4 Setting Up the GroupWise Agents

After creating a new domain or post office, you need to configure the Agent object that was automatically created with it, then follow the setup instructions for the platform where you are installing the GroupWise agents:

- ◆ [Section 7.4.1, “Configuring New Agent Objects in eDirectory,” on page 168](#)
- ◆ [Section 7.4.2, “NetWare: Setting Up the GroupWise Agents,” on page 168](#)
- ◆ [Section 7.4.3, “Linux: Setting Up the GroupWise Agents,” on page 175](#)
- ◆ [Section 7.4.4, “Windows: Setting Up the GroupWise Agents,” on page 192](#)

## 7.4.1 Configuring New Agent Objects in eDirectory

When you create new post offices and domains, Agent objects are automatically created for them. Most agent configuration can be done after installation, but a few settings should be established before you install the agent software.

- 1 In ConsoleOne, browse to and expand the eDirectory container where the new post office or domain is located to display its contents.
- 2 Select the Post Office object or Domain object to display its contents.
- 3 Right-click the Agent object, then click *Properties* to display the agent Identification page.
- 4 In the *Description* field, type a brief description of the agent for display at the agent server console.
- 5 In the *Platform* field, select *NetWare*, *Linux*, or *Windows*.
- 6 Click *OK* to save the new Agent object properties.
- 7 Repeat these steps for each new post office and domain for which you are installing agents.
- 8 Continue with the installation instructions for the platform where you are installing the GroupWise agents.
  - ♦ [Section 7.4.2, “NetWare: Setting Up the GroupWise Agents,” on page 168](#)
  - ♦ [Section 7.4.3, “Linux: Setting Up the GroupWise Agents,” on page 175](#)
  - ♦ [Section 7.4.4, “Windows: Setting Up the GroupWise Agents,” on page 192](#)

## 7.4.2 NetWare: Setting Up the GroupWise Agents

Complete the following tasks to set up the NetWare agents. These tasks are designed to help you get the POA and MTA up and running as quickly as possible.

- ♦ [“Preparing the NetWare Server for the Agents” on page 168](#)
- ♦ [“Installing the NetWare Agent Software” on page 170](#)
- ♦ [“Editing the NetWare Agent Startup Files” on page 172](#)

---

**IMPORTANT:** If you plan to install the GroupWise agents in a clustered server environment, see the [GroupWise 7 Interoperability Guide](http://www.novell.com/documentation/gw7) (<http://www.novell.com/documentation/gw7>) before you install the agents.

---

Refer to the following additional tasks as you maintain all the GroupWise agents on NetWare:

- ♦ [“Starting the NetWare GroupWise Agents” on page 173](#)
- ♦ [“Stopping the NetWare GroupWise Agents” on page 174](#)
- ♦ [“Uninstalling the NetWare GroupWise Agents” on page 174](#)

### Preparing the NetWare Server for the Agents

Make sure the NetWare server where you plan to install the GroupWise agents has been properly prepared to run the agents:

- ♦ [“Obtaining a Static IP Address for the NetWare Server” on page 169](#)
- ♦ [“Setting Recommended NetWare Server Parameters for the NetWare POA” on page 169](#)



- ◆ “Setting Recommended NSS Parameters for the NetWare POA” on page 169
- ◆ “Setting Recommended NetWare Server Parameters for the NetWare MTA” on page 170
- ◆ “Creating a NetWare Account for Agent Access (Optional)” on page 170
- ◆ “Adding the NetWare Agent Installation Directory to the Server Search Path (Optional)” on page 170

## Obtaining a Static IP Address for the NetWare Server

The NetWare server where the GroupWise agents run should have a static IP address. DHCP should not be used to dynamically assign an IP address for it. Make sure the server where you plan to install the agents has a static IP address.

## Setting Recommended NetWare Server Parameters for the NetWare POA

Some default settings on the NetWare server where you plan to run the NetWare POA might be inadequate for configurations of more than 100 concurrent client/server user connections. If your anticipated post office size indicates a need for more than 100 concurrent client/server connections, check the server parameters on the NetWare server to make sure they are adequate for the anticipated number of GroupWise client connections. For example, in a medium-size post office of 500 users, use the following settings:

**Table 7-2** *NetWare Server Parameters*

| Parameter                            | Setting |
|--------------------------------------|---------|
| Maximum Packet Receive Buffers       | 2500    |
| Minimum Packet Receive Buffers       | 1000    |
| Maximum Concurrent Disk Cache Writes | 200     |
| TCP Minshall Algorithm               | On      |
| TCP Nagle Algorithm                  | On      |

## Setting Recommended NSS Parameters for the NetWare POA

If you run the NetWare POA on NetWare 5.1 or 6.x Novell Storage Services™ (NSS) volumes, you can significantly improve GroupWise performance by using the following parameters and settings on the `nss` command in the `autoexec.ncf` file:

```
/NameCacheSize=20000
/OpenFileHashShift=15
/ClosedFileCacheSize=50000
/CacheBalance=60
```

The best `/ClosedFileCacheSize` setting for a server depends on many things, such as the amount of memory on the server, the load on the POA, and the number of other programs running on the server. For example, the 50000 setting can work well for a server that has 650 MB of memory. Experiment with various settings in order to optimize performance.

The following TID, although originally written for GroupWise 5.x and NetWare 5.x, applies to GroupWise 7 and NetWare 6.x as well:

- ♦ [TID 10065215: Resolving GroupWise Performance Issues with NSS Volumes \(http://www.novell.com/support/search.do?cmd=displayKC&docType=kc&externalId=10065215&sliceId=&dialogID=9032805&stateId\)](http://www.novell.com/support/search.do?cmd=displayKC&docType=kc&externalId=10065215&sliceId=&dialogID=9032805&stateId)

### Setting Recommended NetWare Server Parameters for the NetWare MTA

The default Maximum Packet Receive Buffers setting on a NetWare server is inadequate for the NetWare MTA in configurations that include numerous TCP/IP and remote file connections. Set Maximum Packet Receive Buffers to at least 2500 for the NetWare MTA in such configurations.

### Creating a NetWare Account for Agent Access (Optional)

When the GroupWise agents run on a different NetWare server from where their directories and databases are located, and they are not set up to authenticate through eDirectory (using the /dn startup switch), the agents must use a specific eDirectory username and password to log in to that server.

To create a user for the agents to log in as:

- 1 In ConsoleOne, create a new user (such as GWAgents).
- 2 Provide a password for that user (such as Gwise).
- 3 Grant that user the following rights to all domain, post office, and document storage directories:
  - ♦ Read or execute files
  - ♦ Write to files
  - ♦ Create files or directories
  - ♦ Erase files or directories
  - ♦ Modify files (rename or change attributes)
  - ♦ File scan
- 4 After you install the agent software, add the /user and /password startup switches to the agent startup files so that the agents can log in to the remote server as the user you have created.

### Adding the NetWare Agent Installation Directory to the Server Search Path (Optional)

If you have selected a directory other than `sys:\system` to install the agents to ([worksheet item 3](#)), add the agent installation directory to the server search path by adding a search command to the `autoexec.ncf` file.

### Installing the NetWare Agent Software

After you have prepared the NetWare server to run the GroupWise agents, you are ready to install them.

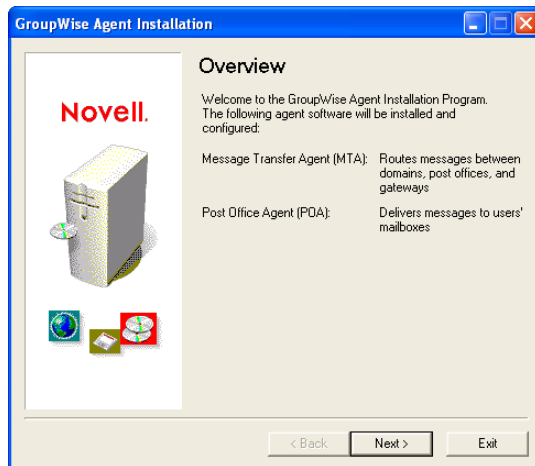
At a Windows machine that meets the administrator machine requirements listed in [Section 2.1, "GroupWise Administration Requirements,"](#) on page 21:

- 1 Map a drive to the NetWare server where you want to install the agents.

- 2 Make sure you have sufficient rights to install software in the desired directory.
- 3 Insert the *GroupWise 7 Administrator for NetWare/Windows* CD into the CD drive to start the GroupWise Installation program, then click *Install Products > Install GroupWise Agents*. If the Installation program does not start automatically, run `setup.exe` from the root of the CD.

or

If you have already copied the agent software to a software distribution directory, run `agents\install.exe` to start the Agent Installation program.



- 4 Follow the prompts to provide NetWare Agent information from your **Basic GroupWise System Worksheet**.

Item 3: Installation Path

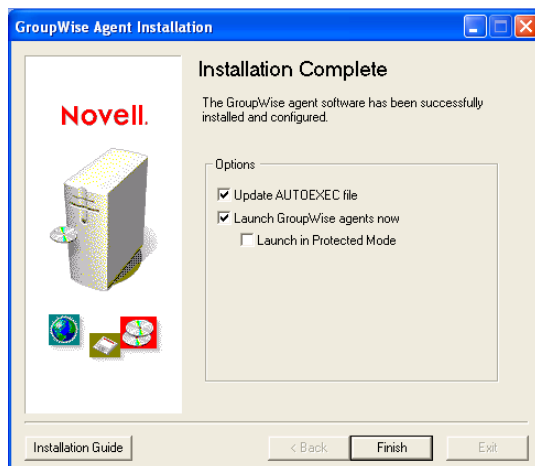
Item 4: Configure GroupWise Agents for Clustering

Item 5: Language

Item 6: Domain Information

Item 7: Post Office Information

- 5 Click *Install* to install the NetWare agents.



The Agent Installation program has created a `grpwise.ncf` file that contains the commands to start the GroupWise agents on the NetWare server whenever the server starts. Here at the end of the Agent Installation program, you can select how you want to start the agents.

**Update AUTOEXEC File:** Select this option if you want the Agent Installation program to add the `grpwise.ncf` file to the NetWare `autoexec.ncf` file so that the agents start automatically whenever the server restarts.

**Launch GroupWise Agents Now:** Select this option if you want the Agent Installation program to start the agents for you immediately. This is appropriate when you have installed the agents on the same server with the domain and post office directories.

If you have installed the agents on a remote server from where the domain and post office directories are located, do not select this option. You must manually edit the agent startup files to configure the agents to access the remote servers. This configuration procedure is explained in [“Editing the NetWare Agent Startup Files” on page 172](#).

**Launch in Protected Mode:** If you want the Agent Installation program to launch the agents for you, you can choose to launch them in Protected Mode on NetWare 5.1 and later. This option also adds the `protect` command to the `grpwise.ncf` line in the NetWare `autoexec.ncf` file:

```
protect grpwise.ncf
```

This line automatically starts the agents in Protected Mode when the server restarts.

- 6 Select the desired agent startup options, then click *Finish*.

If you want to start the agents later or if the Agent Installation program fails to start them successfully, see [“Starting the NetWare GroupWise Agents” on page 173](#).

- 7 If necessary, modify the agent startup files as described in [“Editing the NetWare Agent Startup Files” on page 172](#), then manually start the NetWare agents by running `grpwise.ncf`.
- 8 To monitor an agent from your Web browser, view the agent Web console by supplying the IP address and port number of the agent. For example:

```
http://172.16.5.18:1677
http://172.16.5.18:7100
http://172.16.5.18:7180
http://172.16.5.18:7181
```

When viewing the agent Web console, you can specify the POA client/server port, the MTA message transfer port, or the default HTTP port that is established during installation. The POA client/server port and the MTA message transfer port are automatically redirected to their respective HTTP ports.

## Editing the NetWare Agent Startup Files

The Agent Installation program creates a customized agent startup file for each domain and post office location. The first 8 characters of the post office and domain names become the names of the agent startup files, along with an agent-specific extension. For example, if the post office name is `acctpo`, then the POA startup file is named `acctpo.poa`. The Agent Installation program also customizes each startup file with the correct `/home` switch setting, pointing to the domain or post office directory.

Each startup file also provides a comprehensive list of startup switches, with all but the `/home` switch commented out. You can use any ASCII text editor to set the startup switches. The agent startup files are located in the agent installation directory.

When the MTA is not on the same server as the domain directory, you need to edit the MTA startup file to include the MTA's eDirectory distinguished name. When the POA is not on the same server as the post office directory, you need to edit the POA startup file to include the POA's eDirectory distinguished name.

The `/dn-distinguished_object_name` startup switch is located in Section 1 of the startup file. Delete the semicolon (;) at the beginning of the line and replace the `distinguished_object_name` variable with the distinguished name of the MTA or POA. For example, if the MTA is for a domain named Provo that is located in a container named Novell, you would enter:

```
/dn-mta.provo.novell
```

After modifying the startup files, use the `grpwise.ncf` file to start the NetWare agents from the NetWare server console.

If you want to learn more about running the NetWare agents, continue with [“Starting the NetWare GroupWise Agents” on page 173](#). If you want to customize the configuration of the NetWare agents or expand your GroupWise system, skip to [Section 7.5, “What’s Next,” on page 198](#).

## Starting the NetWare GroupWise Agents

You might have one or more GroupWise agents installed on each NetWare server in your GroupWise system. You can start the GroupWise agents on NetWare in several ways:

- ◆ [“Manually with a Load Command” on page 173](#)
- ◆ [“Manually with an NCF File” on page 174](#)
- ◆ [“Automatically in the Server’s Autoexec.ncf File” on page 174](#)

If you encounter any problems starting the GroupWise agents, see [“Strategies for Agent Problems”](#) in *GroupWise 7 Troubleshooting 2: Solutions to Common Problems* (<http://www.novell.com/documentation/gw7>) for assistance.

### Manually with a Load Command

You can use the NetWare `load` command to start the NetWare GroupWise agents at the NetWare server console or a remote console:

```
POA: load gwpoa.nlm @ startup_filename.poa
```

```
MTA: load gwmtn.nlm @ startup_filename.mta
```

```
Internet Agent: load gwia.nlm @gwia.cfg
```

```
WebAccess: load gwinter @startup_filename.waa
```

The startup file for the POA is named after the post office. The startup file for the MTA is named after the domain. The startup file for the Internet Agent is always `gwia.cfg`. The WebAccess Agent startup file is named after the WebAccess Agent object in eDirectory (typically `webacc70a`).

At the NetWare server console or remote console, you can use the agent server consoles described in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>):

- ◆ [“Using the POA Server Console”](#)
- ◆ [“Using the MTA Server Console”](#)

- ◆ “Using the Internet Agent Server Console”
- ◆ “Using the WebAccess Agent Server Console”
- ◆ “Using the Monitor Agent Server Console”

### Manually with an NCF File

For your convenience, the GroupWise Agent Installation programs create NCF files for starting the NetWare GroupWise agents:

```
POA and/or grpwise
MTA:

Internet Agent: gwia
WebAccess: strtweb
```

During installation, the `grpwise.ncf` file is configured with one or more POA and/or MTA `load` commands depending on the domains and/or post offices you listed during installation.

### Automatically in the Server's Autoexec.ncf File

When the GroupWise agents are running smoothly, you should modify the main NetWare configuration file (`autoexec.ncf`) to load the NetWare GroupWise agents automatically whenever you restart the server. You can add either the `load` commands or the NCF commands to the `autoexec.ncf` file.

When you are not at the NetWare server console, you can monitor the GroupWise agents from their Web consoles described in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>):

- ◆ “Using the POA Web Console”
- ◆ “Using the MTA Web Console”
- ◆ “Using the Internet Agent Web Console”
- ◆ “Using the WebAccess Agent Web Console”

### Stopping the NetWare GroupWise Agents

At the NetWare server console, use Exit (F7). If a GroupWise agent does not respond to Exit (F7), you can use the `unload` command to unload the agent NLM. For WebAccess, you can use the `stopweb` command.

### Uninstalling the NetWare GroupWise Agents

If you move the GroupWise agents to a different server, you can uninstall the agent software from the old location to reclaim disk space.

POA and MTA: Stop the POA and the MTA, then run the Agent Installation program (`install.exe`) in the `\agents` subdirectory of the GroupWise software distribution directory or *GroupWise 7 Administrator for NetWare/Windows* CD. On the Install/Uninstall page, select *Uninstall*, then follow the prompts.

- Internet Agent: Stop the Internet Agent. If no other GroupWise agents are running on the server, delete the Internet Agent software files listed in “NetWare Installation Directory” in “Directory Structure Diagrams” in *GroupWise 7 Troubleshooting 3: Message Flow and Directory Structure* (<http://www.novell.com/documentation/gw7>).
- WebAccess: Stop the WebAccess Agent. Delete the WebAccess Agent software files listed in “NetWare Installation Directory” in “Directory Structure Diagrams” in *GroupWise 7 Troubleshooting 3: Message Flow and Directory Structure* (<http://www.novell.com/documentation/gw7>). If you want to delete the WebAccess Application from your Apache Web server, locate the `WebAccessUninstall.ini` file under the Tomcat root directory (for example, under `\tomcat\4`). It lists all files that the GroupWise Installation program installed to your Web server. Delete the listed files to uninstall the WebAccess Application from your Web server.

---

**IMPORTANT:** If you added `load` commands to the `autoexec.ncf` file to automatically start the agents when the NetWare server starts, edit the `autoexec.ncf` file and remove the agent `load` commands.

---

### 7.4.3 Linux: Setting Up the GroupWise Agents

Complete the following tasks to set up the Linux agents. These tasks are designed to help you get the Linux agents up and running as quickly as possible.

- ♦ “Installing the GroupWise Agents on Linux” on page 175
- ♦ “Installing the GroupWise Agents Using the Text-Based Installation Program” on page 177
- ♦ “Starting the Linux Agents with a User Interface” on page 178

---

**IMPORTANT:** If you plan to install the GroupWise agents in a clustered server environment, see the *GroupWise 7 Interoperability Guide* (<http://www.novell.com/documentation/gw7>) before you install the agents.

---

Refer to the following additional tasks as you maintain all the GroupWise agents on Linux:

- ♦ “Starting the Linux GroupWise Agents as Daemons” on page 180
- ♦ “Starting the Linux GroupWise Agents on System Startup” on page 182
- ♦ “Running the Linux GroupWise Agents as a Non-root User” on page 182
- ♦ “Enabling the High Availability Service for the Linux GroupWise Agents” on page 185
- ♦ “Stopping the Linux GroupWise Agents” on page 189
- ♦ “Uninstalling the Linux GroupWise Agents” on page 191

#### Installing the GroupWise Agents on Linux

- 1 In a terminal window, become `root` by entering `sux` and the `root` password.

The `sux` command enables the X Window System, which is required for running the GUI GroupWise Installation program. If you are not using the X Window System, you can install GroupWise components individually, as described in “Installing the GroupWise Agents Using the Text-Based Installation Program” on page 177.

- 2 Change to the root of the *GroupWise 7 Administrator for Linux* CD.
- 3 Start the GroupWise Installation program.

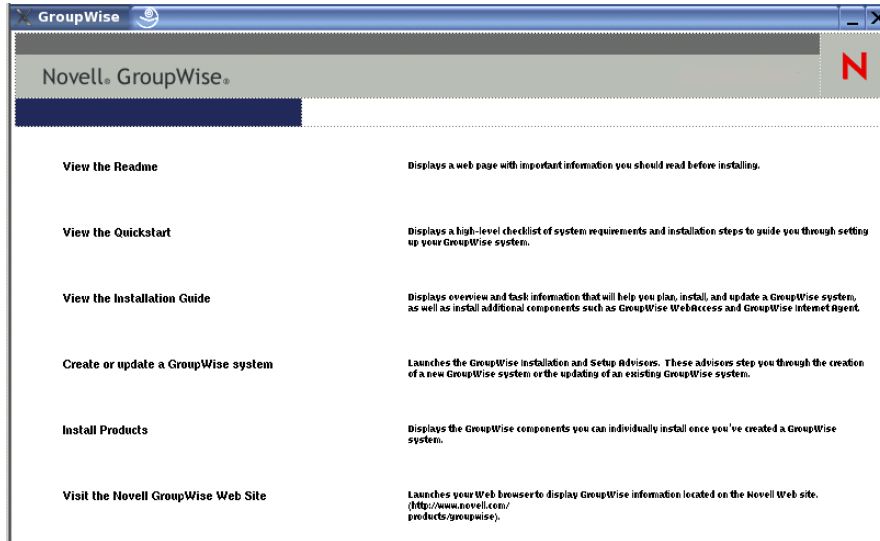
./install

- 4 Select the language in which you want to run the GroupWise Installation program, then click *OK*.

---

**NOTE:** On Linux, all available languages are included in the same RPM, so all languages are always installed.

---

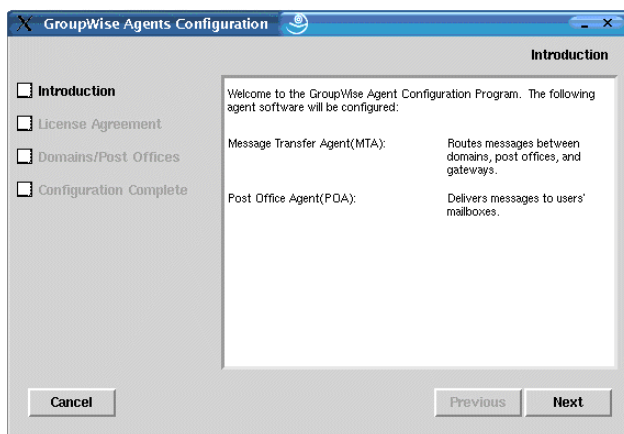


- 5 Click *Install Products > GroupWise Agents > Install Agents*.
- 6 When the installation is complete, click *OK*.

The GroupWise agent software is installed to `/opt/novell/groupwise/agents`.

- 7 Click *Configure GroupWise Agents*.

The agent installation and configuration steps are separate so that you can install updated agent software without repeating the agent configuration steps.



- 8 Follow the prompts to provide Linux Agent information from your **GroupWise Agent Installation Worksheet**.

**Item 6: Domain Information**



### Item 7: Post Office Information

On the Configuration Complete page, *Launch GroupWise Agents on System Startup* is selected by default.

---

**IMPORTANT:** If you want to configure the agents for high availability, as described in “[Enabling the High Availability Service for the Linux GroupWise Agents](#)” on page 185, they must be configured to start automatically on system startup.

---

- 9 If you do not want the agents to start automatically when the server restarts, deselect *Launch GroupWise Agents on System Startup*.
- 10 Click *Exit* to complete the configuration.
- 11 Skip to “[Starting the Linux Agents with a User Interface](#)” on page 178 or “[Starting the Linux GroupWise Agents as Daemons](#)” on page 180 depending on whether or not you want a user interface on the Linux server where the agents run.

## Installing the GroupWise Agents Using the Text-Based Installation Program

If you want to install any of the GroupWise agents on a server where the X Window System is not running, you can use the text-based GroupWise Installation program. You must use ConsoleOne to create the associated domain or post office before you can configure the agent software.

- 1 Make sure you are logged in as `root`.
- 2 Change to the root of the *GroupWise 7 Administrator for Linux* CD.

---

**NOTE:** If you need to perform the installation from a remote location, you can use `ssh` to access the remote Linux server. Copy the *GroupWise 7 Administrator for Linux* CD to the server where you want to install the agent software, then run the text-based GroupWise Installation program to install the agents on the Linux server.

---

- 3 Start the GroupWise Installation program.  

```
./install
```
- 4 Enter the number of the language you want to use for the installation.
- 5 Enter the number of the language you want to use for reading the License Agreement.
- 6 Press any key to scroll through the License Agreement, then enter `y` to accept the License Agreement.
- 7 In the list of agents, enter the number for the GroupWise agent component that you want to install.  

```
1. GroupWise Agents
2. GroupWise WebAccess
3. GroupWise Monitor
4. GroupWise Internet Agent
```
- 8 In the list of actions, enter `1` to install the agent software  
A status bar indicates progress.
- 9 When the installation is complete, enter `y` to configure the agent component.
- 10 Follow the prompts to provide the configuration information, then press any key to exit.  
In the text-based Installation program, you can press `Ctrl+C` to return to the previous menu.
- 11 When you have installed the agents that you want to run on the text-only server, skip to “[Starting the Linux GroupWise Agents as Daemons](#)” on page 180.

## Starting the Linux Agents with a User Interface

- 1 In a terminal window, become `root` by entering `sux` and the `root` password.

The `sux` command enables the X Window System, which is required for running the GUI GroupWise agent server consoles.

- 2 Change to the GroupWise agent `bin` directory.

```
cd /opt/novell/groupwise/agents/bin
```

- 3 Enter one of the following commands to start the MTA:

### Syntax:

```
./gwmta --show --home domain_directory &
./gwmta --show @domain.mta &
```

### Example:

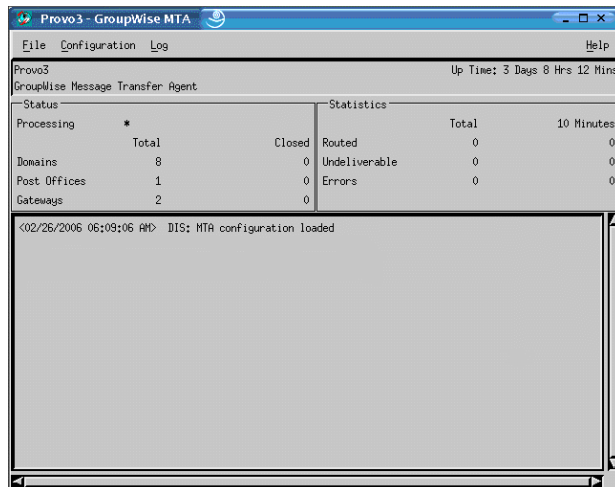
```
./gwmta --show --home /gwsystem/domlnx &
./gwmta --show @provo.mta &
```

The `--show` startup switch starts the MTA with a server console interface similar to that provided for the NetWare and Windows MTA. This user interface requires that the X Window System and Open Motif be running on the Linux server.

The `--home` startup switch specifies the domain directory and is required to start the MTA.

The `@domain.mta` startup switch specifies the MTA startup file, which contains the `--home` startup switch. The MTA startup file is named after the domain that the MTA services. The Installation program created the MTA startup file in the `/opt/novell/groupwise/agents/share` directory. Because the Installation program prompted you for the domain directory, it set the `--home` switch for you in the startup file.

The ampersand (`&`) causes the MTA to run in the background, so that the terminal window you started it in is again available for use.



The status messages displayed on the MTA server console are also written to the MTA log file (`mmdcmta.nnn`) in the `/var/log/novell/groupwise/domain.mta` directory. The log file name includes the month and day when it was created, along with an incrementing extension to accommodate multiple log files on the same day.

In ConsoleOne, you can see that the MTA has updated the domain database because the Version field on the Identification page of the Domain object shows 7 when the database update is complete.

- 4 Wait until the domain database has been updated before you start the POA.
- 5 Use the following command to start the POA:

#### Syntax:

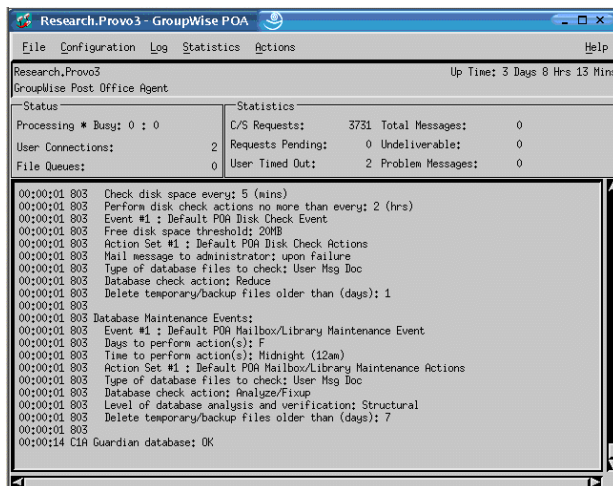
```
./gwpoa --show --home post_office_directory &
./gwpoa --show @post_office.poa &
```

#### Example:

```
./gwpoa --show --home /gwsystem/polnx &
./gwpoa --show @research.poa
```

The `--home` startup switch specifies the post office directory and is required to start the POA.

The `@post_office.poa` startup switch specifies the POA startup file, which contains the `--home` startup switch. The POA startup file is named after the post office that the POA services. The Installation program created the POA startup file in the `/opt/novell/groupwise/agents/share` directory. Because the Installation program prompted you for the post office directory, it set the `--home` switch for you in the startup file.



The status messages displayed on the POA server console are also written to the POA log file (`mmdapoa.nnn`) in the `/var/log/novell/groupwise/post_office.poa` directory. The log file name includes the month and day when it was created, along with an incrementing extension to accommodate multiple log files on the same day.

In ConsoleOne, you can see that the POA has updated the post office database because the Version field on the Identification page of the Post Office object shows 7 when the database update is complete.

If you encounter any problems starting the GroupWise agents, see “[Strategies for Agent Problems](#)” in *GroupWise 7 Troubleshooting 2: Solutions to Common Problems* (<http://www.novell.com/documentation/gw7>) for assistance.

After the post office database has been updated, users can connect to the post office using either the Cross-Platform client or the Windows client.

When you start the Linux agents with a user interface, you can use the agent server consoles described in “Using the POA Server Console” in “Post Office Agent” and “Using the MTA Server Console” in “Message Transfer Agent” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

## Starting the Linux GroupWise Agents as Daemons

All of the Linux GroupWise agents except the Monitor Agent can be started using the `grpwise` script. The Monitor Agent uses its own customized `grpwise-ma` script that works essentially the same way.

- 1 Make sure you are logged in as `root`.
- 2 Change to the `/etc/init.d` directory.
- 3 To start all of the Linux GroupWise agents that are installed on the server, enter the following command:

```
./grpwise start
```

- 4 To confirm that the agents have started, enter the following command:

```
./grpwise status
```

Agent status is displayed in terms of the names of the domain and post office associated with each agent. It lists the agent locations in the following format:

```
POA [post_office.domain]
MTA: [domain]
Internet Agent: [domain.GWIA]
WebAccess: [WEBAC70A]
 [gwdva.hostname]
```

When using the `grpwise` script, you refer to the agents by the location names displayed when you list agent agent status (without the brackets), not by the names of the agent executables.

- 5 Use the following set of commands as needed to start the agents as daemons and verify their status:

---

|                                                   |                                                                              |
|---------------------------------------------------|------------------------------------------------------------------------------|
| <code>./grpwise start</code>                      | Starts the GroupWise agents that are installed on the server                 |
| <code>./grpwise start agent_location_name</code>  | Starts the specified agent                                                   |
| <code>./grpwise status</code>                     | Displays the status of the GroupWise agents that are installed on the server |
| <code>./grpwise status agent_location_name</code> | Displays the status of the specified agent                                   |

---

---

**NOTE:** The GroupWise agents are Run Control compliant. During installation, a symbolic link is created from `/etc/init.d/grpwise` to `/usr/sbin/rcgrpwise`. Typically, `/usr/sbin` is already on your path, so you can run `rcgrpwise` from any directory, rather than changing to `/etc/init.d` in order to run the `grpwise` script. A `/usr/sbin/grpwise-ma` link is also created.

---

When you use the `grpwise` script to start the GroupWise agents as daemons, they run without a user interface.

If GroupWise Messenger agents are installed on the same server, the `grpwise` script also starts them.

## Monitoring the Linux GroupWise Agents from Your Web Browser

To monitor any GroupWise agent from your Web browser, view the agent Web console by supplying the IP address or DNS hostname and the port number of the agent. The following table lists the default port numbers:

**Table 7-3** GroupWise Agent Web Console URLs

|                 |                                                 |
|-----------------|-------------------------------------------------|
| POA:            | <code>http://server_network_address:7181</code> |
| MTA:            | <code>http://server_network_address:7180</code> |
| Internet Agent: | <code>http://server_network_address:9850</code> |
| WebAccess:      | <code>http://server_network_address:7211</code> |
| Monitor:        | <code>http://server_network_address:8200</code> |

**Figure 7-4** Linux POA Web Console

The screenshot shows the GroupWise 7.0 POA Web Console interface. At the top, it displays the title "GroupWise 7.0 POA - Accounting, Waltham2" and a navigation menu with links for "Status", "Configuration", "Environment", "Log Files", "Scheduled Events", "MTP Status", and "Help". Below the navigation is the title "GroupWise Post Office Agent" and the "Up Time: 0 Days 1 Hours 49 Minutes".

|                          | Total |
|--------------------------|-------|
| C/S Users                | 0     |
| Application Connections  | 0     |
| Physical Connections     | 0     |
| Priority Queues          | 0     |
| Normal Queues            | 0     |
| GWCheck Auto Queues      | 0     |
| GWCheck Scheduled Queues | 0     |

|                        | Total | Busy |
|------------------------|-------|------|
| C/S Handler Threads    | 6     | 0    |
| Message Worker Threads | 6     | 0    |
| GWCheck Worker Threads | 4     | 0    |

For more information about the agent Web consoles, including instructions on protecting the agent Web consoles with passwords see the following sections in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

- ◆ “Using the POA Web Console”
- ◆ “Using the MTA Web Console”
- ◆ “Using the Internet Agent Web Console”

- ◆ [“Using the WebAccess Agent Web Console”](#)
- ◆ [“Using the Monitor Web Console”](#)

## Starting the Linux GroupWise Agents on System Startup

If you selected *Launch GroupWise Agents on System Startup* in any Agent Installation program, the Agent Installation program configured your system so that the agents start automatically each time you restart your server. The Agent Installation programs always creates a `grpwise` startup script in `/etc/init.d` for starting the agents, as described in [“Starting the Linux GroupWise Agents as Daemons” on page 180](#). To enable automatic startup, the Agent Installation programs also create symbolic links named `S99grpwise` in the `rc3.d` and `rc5.d` directories so that the agents load on restart into level 3 or 5, depending on the configuration of your Linux system.

When the `grpwise` script runs and starts the GroupWise agents, the agents read the agent startup files in `/opt/novell/groupwise/agents/share` to check for configuration information provided by startup switches. Because the `--show` switch cannot be used in the startup files, the agents never run with server console interfaces when started automatically when the server restarts.

## Running the Linux GroupWise Agents as a Non-root User

For security reasons, it is preferable that the GroupWise agents not run with `root` user privileges. For example, if an intruder manages to assume the identity of a GroupWise agent, the intruder gains all the privileges of the commandeered process. If the process is running with `root` user privileges, then the intruder has `root` access to your system. If the process is running as a user with minimal privileges, then the intruder has only restricted access to your system. Therefore, your system is more secure if the GroupWise agents do not run as `root`.

The `root` user still needs to start the agents, because the agents do need to access some `root`-only resources on startup. However, you can configure the agents to switch to a different user after they start. After the agents are running as the `non-root` user, they need adequate access to the locations where each domain, post office, library, and software distribution directory is located.

- ◆ [“Setting Up Typical Non-root Access” on page 182](#)
- ◆ [“Setting Up Non-root Access on an NSS Volume on Novell Open Enterprise Server Linux” on page 183](#)
- ◆ [“Changing the Non-root User” on page 184](#)

---

**NOTE:** You can configure the POA, the MTA, and the Internet Agent to run as a `non-root` user. The WebAccess Agent, with its accompanying Viewer Agent, must still run as `root`. Unlike the other agents, the Monitor Agent can be started as a `non-root` user by default, so no setup is required for it to run as a `non-root` user.

---

### Setting Up Typical Non-root Access

To configure the GroupWise agents to switch users after startup:

- 1 Make sure you are logged in as `root`.
- 2 Select a Linux user for the agents to run as and make sure that the user is listed in the `/etc/passwd` file.  
You might want to create a new user specifically for this purpose, perhaps named `gwagents`.
- 3 Change to the `groupwise` directory under `/etc`:

```
cd /etc/opt/novell/groupwise
```

- 4 Create a new `agents` directory, then change to that directory:

```
mkdir agents
cd agents
```

- 5 Create a file named `uid.conf`.
- 6 Type the selected username in the file, for example:

```
gwagents
```

- 7 Stop and then start the agents.

While starting as `root`, the agents automatically change the ownership of the domain and post office directory structures from `root` to the user you specified in the `uid.conf` file. Then they switch users and run as the user you specified, rather than as `root`.

If you list the agent processes, you can observe that they are no longer running as `root`.

If the post office and domain are located on different servers, you must complete the above steps on each server.

---

**IMPORTANT:** All agents running on the same server must run as the same user.

---

If you later want to change the user that the agents are running as, follow the instructions in [“Changing the Non-root User” on page 184](#).

## Setting Up Non-root Access on an NSS Volume on Novell Open Enterprise Server Linux

When your domains, post offices, libraries, and software distribution directories are located on a Novell Open Enterprise Server (OES) Linux NSS volume, you must set up an eDirectory user for the agents to run as and you must LUM-enable that user. On OES Linux, you can use Novell iManager to accomplish these tasks.

To configure the agents to switch users after startup and provide access to an NSS volume:

- 1 Select or create an eDirectory user for the agents to run as.  
You might want to create a new user specifically for this purpose, perhaps named `gwagents`.
  - 1a From the Open Enterprise Server Welcome page in your Web browser, expand *Network Management*, then click *iManager 2.5.x*.
  - 1b In the iManager Links box, click *Open Novell iManager 2.5*.
  - 1c To log in to iManager, specify a username, a password, and a tree.
  - 1d In the left pane, expand *Users*, then click *Create User*.
  - 1e Provide the required information, then click *OK*.  
The user does not need a password
- 2 LUM-enable the user you just created.
  - 2a In the left pane, expand *Linux User Management*, then click *Enable User for LUM*.
  - 2b Browse to and select the user you just created, then click *OK*.
  - 2c Select the primary group for the user to belong to (for example, `admingroup`).
  - 2d Change `/bin/bash` to `/bin/false` because the user does not need a shell.
  - 2e Click *OK* to LUM-enable the user.
- 3 In a terminal window, change to the `groupwise` directory under `/etc`:

```
cd /etc/opt/novell/groupwise
```

- 4 Create a new `agents` directory, then change to that directory.

```
mkdir agents
cd agents
```

- 5 Create a file named `uid.conf`
- 6 Type the selected username in the file, for example:

```
gwagents
```

- 7 Use the following command to grant the user the required rights to the directories that the agents need to access on the local server:

```
rights -f /directory -r rwcemf trustee user.context.tree
```

The POA needs access to the post office directory. The MTA and the Internet Agent need access to the domain directory.

- 8 Stop and then start the agents.

While starting as `root`, the agents automatically change the ownership of the domain and post office directory structures from `root` to the user you specified in the `uid.conf` file. Then they switch users and run as the user you specified, rather than as `root`.

If you list the agent processes, you can observe that they are no longer running as `root`.

If the post office and domain are located on different servers, you must complete the above steps on each server.

---

**IMPORTANT:** All agents running on the same server must run as the same user.

---

If you later want to change the user that the agents are running as, follow the instructions in [“Changing the Non-root User” on page 184](#).

## Changing the Non-root User

To prevent an agent from running as a different user than the one for which it was originally configured, the GroupWise agents create a `uid.run` file in the domain or post office directory that they service.

If, for any reason, the user specified in the `uid.run` file does not match the user specified in the `uid.conf` file, the agent displays the following message:

```
Error: Running the agent with conflicting effective users
```

This could happen if the user specified in the `uid.conf` file is manually edited, or if the `uid.conf` file is deleted, thus changing or removing the information about the user that the agent should run as. If this message appears, verify that the `uid.conf` file specifies the desired user, then delete the `uid.run` file.

After displaying the message, the agent does not start, because it no longer has appropriate permissions in the domain or post office directory that it needs to service. By deleting the `uid.run` file, you enable the agent to reset the permissions in the domain or post office directory to appropriate user and then start successfully.



After configuring an agent to run as a specific non-root user:

- ♦ If you want the agent to run as a different non-root user, modify the `uid.conf` file in the `/etc/opt/novell/groupwise/agents` directory to specify the desired non-root user, then delete the `uid.run` file from the domain or post office directory serviced by the agent.
- ♦ If you want the agent to run as `root`, delete the `uid.conf` file from the `/etc/opt/novell/groupwise/agents` directory and delete the `uid.run` file from the domain or post office directory serviced by the agent.

## Enabling the High Availability Service for the Linux GroupWise Agents

The GroupWise High Availability service makes sure that if the MTA, the POA, the Internet Agent, or the WebAccess Agent with its accompanying Document Viewer Agent goes down for any reason, it starts again automatically. On NetWare, this capability is provided by using a restartable protected address space. On Windows, Microsoft Clustering Services automatically restarts a service that is not responding. However, on Linux, some clustering environments do not include this capability, so it is built into the Linux GroupWise agents.

The GroupWise High Availability service (`gwha`) is installed automatically, starts when your server boots, and makes sure that any GroupWise agents installed on the server are running. It relies on the Monitor Agent to detect when a GroupWise agent is no longer running. The Monitor Agent notifies the High Availability service of any problem, then the High Availability service immediately issues the command to start the problem agent. A single Monitor Agent can service multiple instances of the High Availability service on multiple servers, as long as all instances use the same username and password to communicate with the Monitor Agent.

- ♦ [“Configuring the High Availability Service” on page 185](#)
- ♦ [“Configuring the Monitor Agent to Communicate with the High Availability Service” on page 188](#)

## Configuring the High Availability Service

The High Availability Service is controlled by a configuration file (`gwha.conf`) located in the `/etc/opt/novell/groupwise` directory. The configuration file provides a section for configuring SSL for communication between the High Availability service and the Monitor Agent, followed by sections for each GroupWise agent installed on the server, as shown below. The headings for the sections match the agent locations listed in [“Starting the Linux GroupWise Agents as Daemons” on page 180](#).

```
[gwha]
ssl = no
key =
cert =
password =

[domain_name]
server = /opt/novell/groupwise/agents/bin/gwmta
command = /etc/init.d/grpwise
startup = domain_name.mta
delay = 2
wait = 10

[post_office_name.domain_name]
server = /opt/novell/groupwise/agents/bin/gwpoa
```

```

command = /etc/init.d/grpwise
startup = post_office_name.poa
delay = 2
wait = 10

[domain_name.GWIA]
server = /opt/novell/groupwise/agents/bin/gwia
command = /etc/init.d/grpwise
startup = gwia.cfg
delay = 2
wait = 10

[WEBAC70A]
server = /opt/novell/groupwise/agents/bin/gwinter
command = /etc/init.d/grpwise
startup = webac70a.waa
delay = 2
wait = 10

[gwdva.server_name]
server = /opt/novell/groupwise/agents/bin/gwdva
command = /etc/init.d/grpwise
startup = gwdva.dva
delay = 2
wait = 10

```

To set up the High Availability service:

- 1** In a terminal window, become `root` by entering `sux` and the `root` password.  
The `sux` command enables the X Window System, which is required for running the GUI GroupWise agent server consoles.
- 2** Before starting to configure the High Availability service, test the agents by starting and stopping them manually with a user interface so that their agent server consoles display.
  - 2a** Change to the root directory of the Linux server.
  - 2b** Start the GroupWise agents manually, including providing the full path to the executable and including the `--show` switch, to make sure that they are set up and configured correctly.
 

```

/opt/novell/groupwise/agents/bin/gwpoa --show @post.poa
/opt/novell/groupwise/agents/bin/gwmta --show @dom.mta
/opt/novell/groupwise/agents/bin/gwia --show @gwia.cfg
/opt/novell/groupwise/agents/bin/gwinter --show @webac70a.waa

```
  - 2c** After verifying that the agents start correctly, stop the agents.
- 3** If you use SSL, you need to modify the High Availability service configuration file (`gwha.conf`).
  - 3a** Change to the `/etc/opt/novell/groupwise` directory.
  - 3b** Edit the `gwha.conf` file in a text editor
  - 3c** Under the `[gwha]` section, fill in the fields as follows:

```
[gwha]
ssl = yes
key = filename.key
cert = filename.crt
password = password
```

**3d** Save the file, then exit the text editor.

- 4** If you want to control how the script manages starting and stopping the agents, modify the `delay =` and `wait =` settings in the High Availability service configuration file (`gwha.conf`).

The `delay =` setting controls the length of time between when the script issues the command to start an agent and when the script displays a message indicating that the agent has started. The default delay time is 2 seconds. Under certain circumstances, an agent could encounter a problem and fail to start after 2 seconds. In this case, you would receive the success message but the agent would not be running. You need to increase the `delay =` setting to accommodate the length of time it typically takes for the agent to start successfully on your system.

The `wait =` setting controls the length of time between when the script issues the command to stop an agent and when the script kills the agent if the agent has not yet stopped. The default wait time is 10 seconds. Under certain circumstances, an agent could take longer than 10 seconds to perform a normal shutdown, and killing the agent under those circumstances would not be appropriate. You need to increase the `wait =` setting to accommodate the length of time it usually takes for the agent to shut down. A message notifies you if the script kills an agent because its shutdown exceeds the `wait =` setting.

The default settings are usually appropriate, so you do not need to change them unless you frequently encounter problems with starting or stopping an agent using the script.

**4a** Change to the `/etc/opt/novell/groupwise` directory.

**4b** Edit the `gwha.conf` file in a text editor

Each agent has its own section in the file, for example:

```
[Waltham2]
server = /opt/novell/groupwise/agents/bin/gwmta
command = /etc/init.d/grpwise
startup = waltham2.mta
delay = 2
wait = 10
```

**4c** Change the `delay =` and `wait =` settings as needed.

**4d** Save the file, then exit the text editor.

- 5** If you want the script to start the agents with a user interface on the Linux server, add the `show =` setting in the High Availability service configuration file (`gwha.conf`). This is equivalent to using the `--show` startup switch on the command line when starting the agent.

**5a** Change to the `/etc/opt/novell/groupwise` directory.

**5b** Edit the `gwha.conf` file in a text editor

Each agent has its own section in the file, for example:

```
[Waltham2]
server = /opt/novell/groupwise/agents/bin/gwmta
command = /etc/init.d/grpwise
startup = waltham2.mta
delay = 2
wait = 10
```

**5c** Add `show = yes` to the section for each agent that you want to start with a user interface.

If you need to eliminate the user interface, use `show = no` or delete the `show =` line from the file.

- 5d** Save the file, then exit the text editor.
- 6** Enable the High Availability service:
  - 6a** In YaST, click *Network Services > Network Services (inetd)*.
  - 6b** If necessary, select *Enable* to activate the list of services.
  - 6c** Scroll down to the `gwha` line, select it, then click *Toggle Status (On or Off)* to change the status to On.
  - 6d** Click *Finish*.
- 7** Start the agents as daemons.
  - 7a** Change to the `/etc/init.d` directory.
  - 7b** Enter the following command to start the GroupWise agents that are installed on the server:

```
./grpwise start
```
  - 7c** Use the following command to verify agent status:

```
./grpwise status
```

For more information about using the `grpwise` script, see [“Starting the Linux GroupWise Agents as Daemons” on page 180](#)
- 8** Create a new user and associated password on your Linux server to represent the High Availability service.

You might name it `gwha`.
- 9** Continue with [Configuring the Monitor Agent to Communicate with the High Availability Service](#).

## Configuring the Monitor Agent to Communicate with the High Availability Service

After you have the High Availability service set up and working correctly, you need to configure the Monitor Agent to communicate with it and test it to make sure that you can rely on it in the future.

- 1** Start the Monitor Agent with the `--hauser` and `--hapassword` startup switches.

If you use the `grpwise-ma` script to start the Monitor Agent, as described in [“Starting the Linux Monitor Agent as a Daemon” on page 151](#), you can edit it to include the switches:

  - 1a** Change to the `/etc/init.d` directory, then edit the `grpwise-ma` script.
  - 1b** Locate the following line:

```
#MA_OPTIONS="--hauser username --hapassword password
--hapoll 120"
```
  - 1c** Remove the pound sign (`#`) from the beginning of the line.
  - 1d** Replace `username` and `password` with the username and password you established in [Step 8 in “Configuring the High Availability Service” on page 185](#).

```
MA_OPTIONS="--hauser gwha --hapassword gwagents --hapoll 120"
```

The `--hapoll` switch specifies that the Monitor Agent should check the status of GroupWise agents every 120 seconds. You can use the `MA_OPTIONS` variable to add any Monitor Agent startup switches to the `grpwise-ma` script as needed. For information about Monitor Agent startup switches, see “Using Monitor Agent Switches” in “Monitor” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

- 1e** Save the file, then exit the text editor.
- 2** Change to the `/etc/init.d` directory.
- 3** Stop one of the agents.
- 4** Check the status of the agent you stopped to make sure it is stopped.
- 5** Wait for the next Monitor Agent polling cycle.  
You can check and, if necessary, change the Monitor Agent polling cycle in the **Monitor Agent Web console**. Click *Preferences*, then scroll down to the HTTP Settings section.
- 6** After the polling cycle has passed, check the status of the agent again.  
The agent that you stopped should now be running again.

---

**NOTE:** Although you would typically use the Linux Monitor Agent to monitor other Linux GroupWise agents, the Windows Monitor Agent can be used to monitor the Linux agents and communicate with the High Availability service.

---

## Stopping the Linux GroupWise Agents

How you stop the Linux GroupWise Agents depends on how you started them.

- ♦ “From the Agent Console User Interface” on page 189
- ♦ “Using the `grpwise` Script” on page 189
- ♦ “Manually as Daemons” on page 190

### From the Agent Console User Interface

When you use the `--show` startup switch to start the GroupWise agents, you can stop them from the agent server console interface.

- 1** Click *File > Exit > Yes*.

Since the WebAccess Agent does not have the same type of agent server console as the other Linux agents, you can stop it by closing the terminal window in which it is running.

### Using the `grpwise` Script

When you start the GroupWise agents with the `grpwise` script, you can also use the script to stop them. The same applies for the Monitor Agent and its `grpwise-ma` script.

- 1** Make sure you are logged in as `root`.
- 2** Change to the `/etc/init.d` directory.
- 3** To stop all of the GroupWise agents installed on the server, enter the following command:  

```
./grpwise stop
```
- 4** To confirm that the agents have stopped, enter the following command:  

```
./grpwise status
```

Agent status is displayed in terms of the names of the domain and post office associated with each agent. It lists the agent locations in the following format:

```
POA [post_office.domain]
MTA: [domain]
Internet Agent: [domain.GWIA]
WebAccess: [WEBAC70A]
 [gwdva.hostname]
```

- 5** Use the following set of commands as needed to stop the agents as daemons and verify their status:

---

|                                                   |                                                                              |
|---------------------------------------------------|------------------------------------------------------------------------------|
| <code>./grpwise stop</code>                       | Stops the GroupWise agents that are installed on the server                  |
| <code>./grpwise stop agent_location_name</code>   | Stops the specified agent                                                    |
| <code>./grpwise status</code>                     | Displays the status of the GroupWise agents that are installed on the server |
| <code>./grpwise status agent_location_name</code> | Displays the status of the specified agent                                   |

---

**IMPORTANT:** For convenience in typing the command, the *agent\_location\_name* is not case sensitive.

---

**NOTE:** The GroupWise agents are Run Control compliant. During installation, a symbolic link is created from `/etc/init.d/grpwise` to `/usr/sbin/rcgrpwise`. Typically, `/usr/sbin` is already on your path, so you can run `rcgrpwise` from any directory, rather than changing to `/etc/init.d` in order to run the `grpwise` script. A `/usr/sbin/grpwise-ma` link is also created.

---

## Manually as Daemons

When you start the GroupWise agents manually on the command line (without using the `grpwise` script), use the standard Linux `kill` command to stop them.

- 1** Make sure you are logged in as `root`.
- 2** Determine the process IDs (PIDs) of the agent to kill:

```
POA ps -eaf | grep gwpoa
MTA: ps -eaf | grep gwmta
Internet Agent: ps -eaf | grep gwia
WebAccess: ps -eaf | grep gwinter
Monitor: ps -eaf | grep gwmon
```

All of the PIDs for the specified agent are listed.

**3** Kill the first process listed for each agent:

**Syntax:**

```
kill PID
```

**Example:**

```
kill 1483
kill 1892
```

It might take a few seconds for all agent processes to terminate.

**4** Repeat the `ps` commands to verify that the agents have stopped.

You can also restart the MTA and the Internet Agent without stopping them first using the following command:

**Syntax:**

```
kill -HUP PID
```

**Example:**

```
kill -HUP 1483
```

The `-HUP` (hang up) option is equivalent to using *Restart* in the MTA and Internet Agent server console or Web console. Because the other agents do not have a Restart feature in their consoles, the `-HUP` option cannot be used to restart them.

## Uninstalling the Linux GroupWise Agents

If you move the GroupWise agents to a different server, the GroupWise agent software can be uninstalled just like any other software on Linux. To determine what GroupWise software is currently installed on the Linux server, use the following command:

```
rpm -qa | grep groupwise
```

This lists all of the GroupWise RPM packages on the server. The POA and the MTA are together in the same RPM. WebAccess and Monitor have two RPMs each, one for the agent software and one for the application software. The following list provides the list of all GroupWise agent and administration RPMs that you might need to uninstall from a server:

|                           |                                                                                                            |
|---------------------------|------------------------------------------------------------------------------------------------------------|
| POA and MTA               | <code>novell-groupwise-agents-version-date</code>                                                          |
| Internet Agent:           | <code>novell-groupwise-gwia-version-date</code>                                                            |
| WebAccess:                | <code>novell-groupwise-gwinter-version-date</code><br><code>novell-groupwise-webaccess-version-date</code> |
| Monitor:                  | <code>novell-groupwise-gwmon-version-date</code><br><code>novell-groupwise-monitor-version-date</code>     |
| High Availability Service | <code>novell-groupwise-gwha-version-date</code>                                                            |
| GroupWise Administrator   | <code>novell-groupwise-admin-version-date</code>                                                           |
| GroupWise Check           | <code>novell-groupwise-gwcheck-version-date</code>                                                         |
| GroupWise Database Copy   | <code>novell-groupwise-dbcopy-version-date</code>                                                          |

Use the following command to uninstall a GroupWise RPM package:

```
rpm -e novell-groupwise-package
```

Uninstalling the RPMs does not uninstall files created after installation by the GroupWise programs. To see what GroupWise files are created in locations other than under `/opt/novell/groupwise` and its subdirectories, see the Linux sections of “[Agent Installation Directories](#)” in the *GroupWise 7 Troubleshooting 3: Message Flow and Directory Structure* (<http://www.novell.com/documentation/gw7>):

- ♦ POA and MTA: “[Linux Installation Directory](#)”
- ♦ Internet Agent: “[Linux Installation Directory](#)”
- ♦ WebAccess: “[Linux Installation Directory](#)”
- ♦ Monitor: “[Linux Installation Directory](#)”

## 7.4.4 Windows: Setting Up the GroupWise Agents

Complete the following tasks to set up the Windows agents. These tasks are designed to help you get the Windows POA and MTA up and running as quickly as possible:

- ♦ “[Preparing the Windows Server for the Windows Agents](#)” on page 192
- ♦ “[Installing the Windows Agent Software](#)” on page 193

---

**IMPORTANT:** If you plan to install the GroupWise agents in a clustered server environment, see the *GroupWise 7 Interoperability Guide* (<http://www.novell.com/documentation/gw7>) before you install the agents.

---

Refer to the following additional tasks as you maintain all the GroupWise agents on Windows:

- ♦ “[Starting the Windows GroupWise Agents](#)” on page 194
- ♦ “[Stopping the Windows GroupWise Agents](#)” on page 197
- ♦ “[Uninstalling the Windows GroupWise Agents](#)” on page 197

### Preparing the Windows Server for the Windows Agents

Make sure the Windows server where you plan to install the GroupWise Windows POA and MTA has been properly prepared to run the agents:

- ♦ “[Obtaining a Static IP Address](#)” on page 192
- ♦ “[Mapping Drives to Post Offices and Domains](#)” on page 193
- ♦ “[Creating a Windows User Account for Remote Access \(Optional\)](#)” on page 193
- ♦ “[Enabling SNMP \(Optional\)](#)” on page 193

#### Obtaining a Static IP Address

The Windows server where the GroupWise Windows agents run should have a static IP address. DHCP should not be used to dynamically assign an IP address for it. Make sure the server where you plan to install the Windows agents has a static IP address.



## Mapping Drives to Post Offices and Domains

The Windows POA requires direct access to the post office directory so that it can write to the post office database. The Windows MTA requires direct access to the domain directory so that it can write to the domain database. If the agents are not installed on the same server where their directories are located, make sure the server has drives mapped to all locations where the agents need access. If you are running the Windows POA for a post office located on a NetWare server, you might need to increase Maximum File Locks Per Connection from its default setting on the Windows server.

After installation, the agents can access their directories using either mapped drives or UNC paths. However, mapped drives are required during installation so that the agent startup files can be set up properly.

## Creating a Windows User Account for Remote Access (Optional)

If you specified a new Windows username and password under [worksheet item 9](#), create the new Windows user account so it is ready when you start the agents for the first time.

- 1 In the Windows Control Panel, double-click *Users and Passwords* to add a new user.
- 2 Grant the user Full Control rights in the domain and post office directories.

## Enabling SNMP (Optional)

If you want to monitor the GroupWise Windows agents from an SNMP manager program, such as the Management and Monitoring Services component of Novell® ZENworks Server Management, SNMP must be enabled on the Windows server where the agents are installed. If it is not already enabled, you should enable it before you run the Agent Installation program.

- 1 In the Windows Control Panel, double-click *Add/Remove Programs*.
- 2 Click *Add/Remove Windows Components*.
- 3 Select *Management and Monitoring Tools*, click *Details*, select *Simple Network Management Protocol*, then click *OK*.
- 4 Follow the prompts to finish the installation.

## Installing the Windows Agent Software

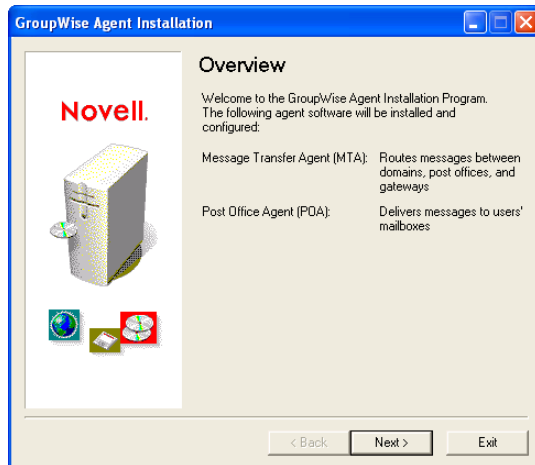
After you have prepared the Windows server to run the GroupWise Windows POA and MTA, you are ready to install them.

At a Windows server that meets the requirements listed in [Section 2.1, “GroupWise Administration Requirements,” on page 21](#):

- 1 Make sure you have mapped drives to all domain and post office directories for which you are installing agents.
- 2 Insert the *GroupWise 7 Administrator for NetWare/Windows* CD into the CD drive to start the GroupWise Installation program, then click *Install Products > Install GroupWise Agents*. If the Installation program does not start automatically, run `setup.exe` from the root of the CD.

or

If you have already copied the agent software to a software distribution directory, run `agents\install.exe` to start the Agent Installation program.



- 3 Follow the prompts to provide the Windows Agent information from your [GroupWise Agent Installation Worksheet](#).

[Item 3: Installation Path](#)

[Item 5: Language](#)

[Item 6: Domain Information](#)

[Item 7: Post Office Information](#)

[Item 8: Installation Options](#)

[Item 9: Windows Service Information](#)

- 4 On the Installation Complete page, choose whether or not you want the Agent Installation program to start the agents for you immediately, then click *Finish*.

If you want to start the agents later or if the Agent Installation program fails to start them successfully, see [“Starting the Windows GroupWise Agents” on page 194](#).

- 5 To monitor an agent from your Web browser, view the agent Web console by supplying the IP address and port number of the agent. For example:

```
http://172.16.5.18:1677
http://172.16.5.18:7100
http://172.16.5.18:7180
http://172.16.5.18:7181
```

When viewing the agent Web console, you can specify the POA client/server port, the MTA message transfer port, or the HTTP established during installation.

- 6 If you want to learn more about running the Windows agents, continue with [“Starting the Windows GroupWise Agents” on page 194](#) and [“Stopping the Windows GroupWise Agents” on page 197](#).

or

If you want to customize the configuration of the Windows agents or expand your GroupWise system, skip to [Section 7.5, “What’s Next,” on page 198](#).

## Starting the Windows GroupWise Agents

You might have one or more GroupWise agents installed on each Windows server in your GroupWise system. You can start the GroupWise agents on Windows in several ways:

- ♦ [“Manually As Applications” on page 195](#)

- ◆ “Automatically in the Windows Startup Group” on page 195
- ◆ “Manually or Automatically as Services” on page 196

If you encounter any problems starting the GroupWise agents, see “Strategies for Agent Problems” in *GroupWise 7 Troubleshooting 2: Solutions to Common Problems* (<http://www.novell.com/documentation/gw7>) for assistance.

### Manually As Applications

On the Windows desktop, click *Start > Programs*, select the GroupWise agent, then start the GroupWise agent.

You can also use desktop shortcuts to start the GroupWise agents. The GroupWise Installation program automatically creates desktop shortcuts for the POA, the MTA, and the Internet Agent. You can easily create desktop shortcuts for WebAccess and Monitor by linking to the following target files:

WebAccess: c:\webacc\strtweb.bat

Monitor: c:\gwmon\gwmon.exe

When you start the GroupWise agents as applications, you can use the agent server consoles described in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>):

- ◆ “Using the POA Server Console”
- ◆ “Using the MTA Server Console”
- ◆ “Using the Internet Agent Server Console”
- ◆ “Using the WebAccess Agent Server Console”
- ◆ “Using the Monitor Agent Server Console”

### Automatically in the Windows Startup Group

After the GroupWise agents are running smoothly, you should add them to the Windows Startup group to start them automatically whenever you restart the Windows server.

For example, on a Windows 2000 server:

- 1 From the Windows desktop, click *Start > Settings > Taskbar & Start Menu > Advanced > Add*.
- 2 Browse to the directory where you installed the GroupWise agent.

The default installation directories are:

POA: c:\grpwise

MTA: c:\grpwise

Internet Agent: c:\grpwise\gwia

WebAccess: c:\webacc

Monitor: c:\gwmon

- 3 Double-click agent executable, then if necessary, add the startup file to the command line.

POA: gwpoa.exe @startup\_filename.poa  
MTA: gwmta.exe @startup\_filename.mta  
Internet Agent: gwia.exe @gwia.cfg  
WebAccess: strtweb.bat  
Monitor: gwmon.exe

The startup file for the POA is named after the post office. The startup file for the MTA is named after the domain. The startup file for the Internet Agent is always `gwia.cfg`. The WebAccess Agent startup file is provided in `strtweb.bat`. The Monitor Agent does not use a startup file.

- 4 Click *Next*.
- 5 Select the *Startup* folder, provide a name for the shortcut, then click *Finish*.  
All programs in the *Startup* folder are automatically started when the server reboots.
- 6 If possible, restart the server to verify that the GroupWise agents start automatically.

### Manually or Automatically as Services

If you installed the GroupWise agents as services, you can manage them just like you would any other Windows services.

---

**NOTE:** The Monitor Agent cannot currently be installed as a Window service.

---

For example, on a Windows 2000 server:

- 1 From the Windows desktop, click *Start > Settings > Control Panel > Administrative Tools*.
- 2 Double-click *Services*, select the agent service, then click *Start*.

The POA service is named after the post office. The MTA service is named after the domain. The Internet Agent service is named `GWIA`. The WebAccess Agent service is named `WebAccess (webaccess_agent_object_name)`.

You can check the status of the agent service by using the Windows Event Viewer. From Administrative Tools, double-click *Event Viewer*, click *Application Log*, sort the log entries on the *Source* column, scroll to the agent service, then double-click a log entry to view information about it.

- 3 To configure the agent service to start automatically when the server reboots, right-click the agent service, then click *Properties*.
- 4 In the *Startup Type* field, click *Automatic*, then click *OK*.

When running as services, the GroupWise agents do not display an agent console on the Windows server where they are running. Instead, you can monitor the GroupWise agents using their Web consoles described in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>):

- ♦ “Using the POA Web Console”
- ♦ “Using the MTA Web Console”

- ♦ “Using the Internet Agent Web Console”
- ♦ “Using the WebAccess Agent Web Console”

## Stopping the Windows GroupWise Agents

- ♦ “As Applications” on page 197
- ♦ “As Services” on page 197

### As Applications

When the GroupWise agents run as applications, you can stop them from their server consoles.

- POA: At the POA server console, click *File > Exit*.
- MTA: At the MTA server console, click *File > Exit*.
- Internet Agent: At the Internet Agent server console, click *File > Exit*.
- WebAccess: From the Windows desktop, click the title bar of the window in which the WebAccess Agent or Document Viewer Agent is running, then press F7.
- Monitor: At the Monitor Agent server console, click *Configuration > Exit*.

If the GroupWise agent does not respond to Exit, you can close the agent server console window to stop the agent or use the Windows Task Manager to terminate the agent task.

### As Services

When the GroupWise agents run as Windows services, you can stop them as you would any other Windows services.

For example, on a Windows 2000 server:

- 1 From the Windows desktop, click *Start > Settings > Control Panel > Administrative Tools*.
- 2 Double-click *Services*, select the agent service, then click *Stop*.

The POA service is named after the post office. The MTA service is named after the domain. The Internet Agent service is named GWIA. The WebAccess Agent service is named WebAccess (*webaccess\_agent\_object\_name*).

## Uninstalling the Windows GroupWise Agents

If you move the GroupWise agents to a different server, you can uninstall the agent software from the old location to reclaim disk space.

- POA and MTA: Stop the POA and the MTA, then run the Agent Installation program (*install.exe*) in the `\agents` subdirectory of the GroupWise software distribution directory or *GroupWise 7 Administrator for NetWare/Windows* CD. On the Install/Uninstall page, select *Uninstall*, then follow the prompts. This deletes most of the contents of the `c:\grpwise` directory and uninstalls the POA and the MTA as Windows services.

- Internet Agent: Stop the Internet Agent, then run the Internet Agent Installation program (`install.exe`) in the `\internet\gwia` subdirectory of the GroupWise software distribution directory or *GroupWise 7 Administrator for NetWare/Windows* CD. On the Install/Uninstall page, select *Uninstall*, then follow the prompts. This deletes most of the contents of the `c:\grpwise\gwia` directory and uninstalls the Internet Agent as a Windows service.
- WebAccess: Stop the WebAccess Agent. Delete the contents of the `c:\webacc` directory to delete the WebAccess Agent software. If the WebAccess Agent was running as a Windows service, run "Delete Service.exe" in the `\internet\webaccess` subdirectory of the GroupWise software distribution directory or *GroupWise 7 Administrator for NetWare/Windows* CD. If you want to delete the WebAccess Application from your Apache Web server, locate the `WebAccessUninstall.ini` file under the Tomcat root directory (for example, under `\tomcat\4`). It lists all files that the GroupWise Installation program installed to your Web server. Delete the listed files to uninstall the WebAccess Application from your Web server.
- Monitor: Stop the Monitor Agent. Delete the contents of the `c:\gwmon` directory.

## 7.5 What's Next

After you have created new domains and post offices, and installed the agents for them, you can complete their configuration by referring to the following sections of the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>):

- ♦ Refining the configuration of the agents to meet the specific needs of the new domains and post offices. See "Post Office Agent" and "Message Transfer Agent".
- ♦ Refining the configuration of the new domains and post offices. See "Post Offices" and "Domains".
- ♦ Adding users to the new post offices. See "Users".

## 7.6 GroupWise Agent Installation Worksheet

| Item               | Explanation                                                                                          |
|--------------------|------------------------------------------------------------------------------------------------------|
| 1) Agent Platform: | Mark the platform where you are installing the GroupWise agents.                                     |
| ♦ NetWare          | For more information, see <a href="#">Section 7.3.1, "Selecting the Agent Platform," on page 162</a> |
| ♦ Linux            |                                                                                                      |
| ♦ Windows          |                                                                                                      |

| Item                                                                                                                                                                                                                             | Explanation                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2) Agents and Locations:                                                                                                                                                                                                         | Mark the agents you want to install and where you want to install them.                                                                                                                                                                                                                                                                                                                         |
| POA:                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>◆ Local to post office</li> <li>◆ Different server from post office</li> </ul>                                                                                                            | On NetWare, if you want to install the agents on a server different from where their directories and databases are located, specify the settings for the /dn switches in the agent startup files so that the agents can access the remote servers.                                                                                                                                              |
| /dn setting (NetWare only)                                                                                                                                                                                                       | For more information, see <a href="#">Section 7.3.2, "Selecting the Agent Location,"</a> on page 163.                                                                                                                                                                                                                                                                                           |
| MTA:                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>◆ Local to domain</li> <li>◆ Different server from domain</li> </ul>                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                 |
| /dn setting (NetWare only)                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                 |
| 3) Installation Path:                                                                                                                                                                                                            | Specify the directory where you want to install the agent software.<br><br>For more information, see <a href="#">Section 7.3.3, "Selecting the Agent Installation Directory,"</a> on page 163.                                                                                                                                                                                                  |
| 4) Configure GroupWise Agents for Clustering:<br>Yes   No                                                                                                                                                                        | This item applies to the NetWare and Linux agents.<br><br>Mark whether or not you want to configure the agents for clustering on Novell Cluster Services.<br><br>For more information, see <a href="#">Section 7.3.6, "NetWare Installation Options: Automatic Startup and Clustering,"</a> on page 164 or <a href="#">Section 7.3.7, "Linux Installation Option: Clustering,"</a> on page 165. |
| 5) Language:                                                                                                                                                                                                                     | List the languages you want to install.<br><br>For more information, see <a href="#">Section 7.3.5, "Deciding Which Languages to Install,"</a> on page 164.                                                                                                                                                                                                                                     |
| 6) Domain Information:                                                                                                                                                                                                           | List the domain you are installing the MTA for.                                                                                                                                                                                                                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>◆ Domain name:</li> <li>◆ Path to database:</li> </ul>                                                                                                                                    | For more information, see <a href="#">"System and Domain Names"</a> on page 30 and <a href="#">"Domain Directory"</a> on page 31.                                                                                                                                                                                                                                                               |
| 7) Post Office Information:                                                                                                                                                                                                      | List the post office you are installing the POA for.                                                                                                                                                                                                                                                                                                                                            |
| <ul style="list-style-type: none"> <li>◆ Post office name:</li> <li>◆ Path to database:</li> </ul>                                                                                                                               | For more information, see <a href="#">"Post Office Name"</a> on page 35 and <a href="#">"Post Office Directory"</a> on page 36.                                                                                                                                                                                                                                                                 |
| 8) Installation Options:                                                                                                                                                                                                         | This item applies only if you are installing the Windows agents.                                                                                                                                                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>◆ Install GroupWise agent software:<br/>Yes   No</li> <li>◆ Install and configure SNMP for GroupWise agents:<br/>Yes   No</li> <li>◆ Install as Windows services:<br/>Yes   No</li> </ul> | Mark the installation options you want when you install the Windows agents.<br><br>For more information, see <a href="#">"Selecting the Agent Location"</a> on page 163, <a href="#">"SNMP Traps"</a> on page 167, and <a href="#">"Service vs. Application"</a> on page 166.                                                                                                                   |

| Item                                                                                                                                      | Explanation                                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9) Windows Service Information:                                                                                                           | This item applies only if you are installing the Windows agents.                                                                                                             |
| Account type:                                                                                                                             | If you are installing the Windows agents as services, mark the type of account they can use to log in.                                                                       |
| <ul style="list-style-type: none"> <li>◆ Use local system account</li> </ul>                                                              | If needed, specify the Windows user account they can run under.                                                                                                              |
| Allow service to interact with desktop:<br>Yes   No                                                                                       | Also mark whether you want them to be started automatically or manually each time the Windows server restarts.                                                               |
| <ul style="list-style-type: none"> <li>◆ Use this Windows user account:<br/>             User name:<br/>             Password:</li> </ul> | For more information, see <a href="#">“Service vs. Application” on page 166</a> .                                                                                            |
| Startup type:                                                                                                                             |                                                                                                                                                                              |
| <ul style="list-style-type: none"> <li>◆ Automatic</li> <li>◆ Manual</li> <li>◆ Disabled</li> </ul>                                       |                                                                                                                                                                              |
| 10) Update AUTOEXEC File:                                                                                                                 | This item applies only if you are installing the NetWare agents.                                                                                                             |
| Yes   No                                                                                                                                  | Mark whether or not you want the Agent Installation program to configure the NetWare server so that the GroupWise agents start automatically whenever the server is started. |
| 11) Launch GroupWise Agents Now:                                                                                                          | Mark whether or not the Agent Installation program can start the agents for you at the end of the installation process.                                                      |
| Yes   No                                                                                                                                  |                                                                                                                                                                              |
| 12) Launch in Protected Mode:                                                                                                             | This item applies only if you are installing the NetWare agents.                                                                                                             |
| Yes   No                                                                                                                                  | Mark whether or not you want the Agent Installation program to start the NetWare agents in Protected Mode on NetWare 5.1 or later.                                           |



# Installing the GroupWise Windows and Cross-Platform Clients

# 8

The following sections assist you with assigning GroupWise® accounts to users and with installing the Novell® GroupWise 7 Windows client and the GroupWise 7 Cross-Platform client.

- ◆ [Section 8.1, “GroupWise Client Overview,” on page 201](#)
- ◆ [Section 8.2, “GroupWise Client Workstation Requirements,” on page 201](#)
- ◆ [Section 8.3, “Planning Your GroupWise Client Installation,” on page 202](#)
- ◆ [Section 8.4, “Setting Up the GroupWise Client,” on page 204](#)

## 8.1 GroupWise Client Overview

Each user with a GroupWise account has a mailbox in a post office. In a corporate workplace environment, GroupWise users with Windows workstations can run the GroupWise Windows client to access their mailboxes and to send and receive mail. GroupWise users with Linux or Macintosh workstations can run the GroupWise Cross-Platform client.

GroupWise users can also access their mailboxes via a Web browser, WAP-enabled cellular phone, Palm OS device, or Windows Pocket PC device by using the GroupWise WebAccess client. For information about WebAccess, see [Chapter 5, “Installing GroupWise WebAccess,” on page 103](#).

The GroupWise Windows client provides a full set of features, the GroupWise WebAccess client provides a similar but more limited set of features, and the GroupWise Cross-Platform client provides a basic set of features. Subsequent releases of the Cross-Platform client will include additional features.

## 8.2 GroupWise Client Workstation Requirements

- ◆ [Section 8.2.1, “GroupWise Windows Client,” on page 201](#)
- ◆ [Section 8.2.2, “GroupWise Cross-Platform Client on Linux,” on page 202](#)
- ◆ [Section 8.2.3, “GroupWise Cross-Platform Client on Macintosh,” on page 202](#)

### 8.2.1 GroupWise Windows Client

- Any of the following Windows versions:
  - ◆ Windows 2000 on a 200 MHz or higher workstation with at least 128 MB of RAM
  - ◆ Windows XP Professional on a 300 MHz or higher workstation with at least 128 MB of RAM
  - ◆ Windows 2003 on a 350 MHz or higher workstation with at least 256 MB of RAM
  - ◆ Windows Vista on a 1 GHz or higher workstation with at least 1 GB of RAM
- 200 MB of free disk space to install the GroupWise Windows client

## 8.2.2 GroupWise Cross-Platform Client on Linux

- ❑ Any of the following desktop operating systems:
  - ◆ Novell Linux Desktop, plus the KDE desktop or the GNOME desktop
  - ◆ SUSE Linux Enterprise Desktop 10, plus the KDE desktop or the GNOME desktop
  - ◆ Red Hat Desktop 4 or Red Hat Enterprise Linux WS 4, plus the GNOME desktop
- ❑ Java Virtual Machine (JVM) 1.5 or later
- ❑ 200 MB of free disk space to install the GroupWise Cross-Platform client

## 8.2.3 GroupWise Cross-Platform Client on Macintosh

- ❑ Any of the following desktop operating systems:
  - ◆ Mac OS 10.3 (Panther) or Mac OS 10.4 (Tiger)
  - ◆ Mac OS X on Intel
- ❑ Java Virtual Machine (JVM) 1.4.2 or later
- ❑ 75 MB of free disk space to install the GroupWise Cross-Platform client

## 8.3 Planning Your GroupWise Client Installation

- ◆ [Section 8.3.1, “Assigning GroupWise Accounts to Users,” on page 202](#)
- ◆ [Section 8.3.2, “System-Wide Rollouts,” on page 203](#)

To help with the above tasks, you can also review the [GroupWise Wiki \(http://wiki.novell.com/index.php/GroupWise\)](http://wiki.novell.com/index.php/GroupWise), which includes a *Best Practices* section.

### 8.3.1 Assigning GroupWise Accounts to Users

After you’ve finished your basic GroupWise system setup, you need to add users to the post office before they can log in to a GroupWise client. To do so, follow the instructions in one of the following sections:

- ◆ [“Assigning GroupWise Accounts to eDirectory Users” on page 202](#)
- ◆ [“Assigning GroupWise Accounts to Non-eDirectory Users” on page 203](#)

#### Assigning GroupWise Accounts to eDirectory Users

To give an eDirectory™ user a GroupWise account in the post office:

- 1 In ConsoleOne®, right-click the user you want to give an account to, then click *Properties*.
- 2 Click the *GroupWise* tab to display the GroupWise Account page.
- 3 In the *Post Office* field, click the *Browse* button to select the post office.
- 4 In the *Mailbox ID* field, specify the name the user will use when logging in to his or her mailbox. The field defaults to the eDirectory username.
- 5 Click *OK*.

## Assigning GroupWise Accounts to Non-eDirectory Users

You give a non-eDirectory user a GroupWise account in a post office by adding the user to eDirectory as a GroupWise external entity.

- 1 In ConsoleOne, right-click the container where you want to create the GroupWise external entity, click *New*, then click *Object* to display the New Object dialog box.
  - 2 In the list, select *GroupWise External Entity*, then click *OK* to display the Create GroupWise External Entity dialog box.
  - 3 Define the following properties:
    - GroupWise Object ID:** Specify the user's GroupWise ID. The user's ID, along with the user's post office and domain, provide the user with a unique name within the GroupWise system.
    - Last Name:** Specify the user's last name.
    - GroupWise Post Office:** Select the post office where you want the user's mailbox.
    - External Network ID:** Specify the user's network ID for the network that he or she logs in to.
    - Define Additional Properties:** Select this option so that you can define additional information such as the user's first name. The user's first name appears in the GroupWise Address Book.
    - Create Another External Entity:** As soon as you select *Define Additional Properties*, this option becomes unavailable. Repeat **Step 1** through **Step 3** if you need to create additional GroupWise external entities.
  - 4 Click *Create*.
  - 5 Specify the user's first name in the *Given Name* field.
  - 6 Fill in any other fields you want, then click *OK*.
- The user is given a GroupWise account in the post office you selected and can access his or her mailbox through the GroupWise client.

### Logging in to GroupWise as a Non-eDirectory User

Because non-eDirectory users do not log in to eDirectory, the GroupWise clients cannot use the GroupWise information in eDirectory to automatically log in to the users' post office. When a non-eDirectory user starts a GroupWise client for the first time, he or she is prompted for a GroupWise user ID and post office location (IP address and port number). You need to provide non-eDirectory users with this information.

If you don't want to provide non-eDirectory users with the post office information, you can automate the login process by creating a GroupWise name server. A GroupWise name server is a DNS hostname entry that defines the TCP/IP address of the POA. During startup, the GroupWise client automatically looks for the GroupWise name server in DNS. For information about creating a GroupWise name server, see "**Post Office Agent**" in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

## 8.3.2 System-Wide Rollouts

For a system-wide rollout of the GroupWise client software, you might want to consider alternatives to each user installing from the CD or the software distribution directory.

For the GroupWise Cross-Platform client, you can use Novell ZENworks Linux Management for a system-wide rollout.

For the GroupWise Windows client, if you have Novell ZENworks® Desktop Management, you can use it, along with the .msi files included with GroupWise 7, to distribute the client. Or, you can have a login script run the client setup program with a response file to perform a silent install on workstations.

For more information about these and other installation methods, see “Client” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

## 8.4 Setting Up the GroupWise Client

- ♦ Section 8.4.1, “Setting Up the GroupWise Windows Client,” on page 204
- ♦ Section 8.4.2, “Setting Up the GroupWise Cross-Platform Client on Linux,” on page 206
- ♦ Section 8.4.3, “Setting Up the GroupWise Cross-Platform Client on Macintosh,” on page 207

### 8.4.1 Setting Up the GroupWise Windows Client

- ♦ “Installing the Windows Client” on page 204
- ♦ “Starting the Windows Client” on page 206

#### Installing the Windows Client

- 1 At the user’s workstation, insert the *GroupWise 7 Client for Windows* CD in the CD drive.  
or

Map a drive to the client files in the software distribution directory.

During the installation of your GroupWise system, the client files were copied to the software distribution directory on your server. For example, if you accepted the default

z:\grpwise\software as your target, the client software was copied to  
z:\grpwise\software\client\win32.

The setup program (`setup.exe`) can be run from the software distribution directory. In order to run this setup program, users require rights to `client\win32` in the software distribution directory. The minimum rights required are Read and File Scan.

- 2 From the Windows taskbar, click *Start > Run*.
- 3 Browse to the *GroupWise 7 Client for Windows* CD or the `client\win32` directory in the software distribution directory, then run `setup.exe`.



- 4 Click *Next* to display the Setup Type dialog box, then select one of the following options:

**Typical:** Installs the most commonly used components in the standard installation directory of `c:\novell\groupwise` with out prompting further information needed. By default, this installs the software integration, Internet browser mail integration, GroupWise Tip of the Day, and GroupWise PDA Connect. For information on installing GroupWise PDA connect, see the [GroupWise PDA Connect Readme \(http://www.novell.com/documentation/gw7\)](http://www.novell.com/documentation/gw7). A *GroupWise* icon is added to your Desktop as well as the Quick Launch. However, Notify is not added to your startup group. This means Notify does not run when Windows starts.

**Custom:** Allows you to select where you want GroupWise to install and what components of GroupWise you want to install. Select this option if you want to add Notify to your startup group.

**Upgrade:** Installs GroupWise 7 over your existing installation of GroupWise with the same components you already had installed. The installation directory is also the same as your previous installation of GroupWise.

See “**Client**” in the [GroupWise 7 Administration Guide \(http://www.novell.com/documentation/gw7\)](http://www.novell.com/documentation/gw7) for more information about setting up GroupWise Remote and Caching modes.

- 5 Click *Next*.

If you selected *Typical* or *Upgrade*, click *Next* again to install the files. Click *Finish* to finalize the installation program. When the setup program has completed, a shortcut to run GroupWise appears on the your desktop.

If you selected *Custom*, continue with **step 6**.

- 6 Make sure each component you want to install is selected.

**Languages:** If you have the multilanguage version of the *GroupWise 7 Client for Windows* CD, you can select which languages to install.

**Internet Browser Mail Integration:** Sets GroupWise to be the default e-mail program on the workstation, so that whenever the user clicks an e-mail link on a Web page or chooses the `Mail` command in the browser (Internet Explorer 3.x and higher, Netscape Navigator 4.03-4.08), GroupWise starts.

**GroupWise Tip of the Day:** The Tip of the Day displays different hints about using GroupWise. A new tip is displayed each time GroupWise is started. The user can disable Tip of the Day at any time.

**GroupWise PDA Connect:** Allows you to cradle synchronize GroupWise with a Palm OS or Windows Pocket PC PDA device. For information about GroupWise PDA connect, see the [GroupWise PDA Connect Readme \(http://www.novell.com/documentation/gw7\)](http://www.novell.com/documentation/gw7).

- 7 Click *Change* to change the default installation path.

- 8 Click *Next*.

- 9 Select the Program Folder where you want to add the GroupWise icons.

The default is Novell GroupWise.

- 10 Select if you want the GroupWise icon added to your Desktop and Quick Launch.

- 11 Select if you want Notify added to the Startup Folder. This starts Notify when Windows starts.

- 12 Click *Next*.
- 13 Click *Install* to install GroupWise, then click *Finish* when all the files have finished copying to your hard drive. When the setup program has completed, a shortcut to run GroupWise appears on your desktop.

### Starting the Windows Client

At startup, the GroupWise client needs to know the location (IP address/hostname and port number) of the user's post office. There are three ways that the client can get this information:

- ♦ If the user is logged into eDirectory, the GroupWise client can read eDirectory for the post office's location.
- ♦ If the user is not logged into eDirectory, the GroupWise client can use a GroupWise name server to get the user's post office location. A GroupWise name server is a DNS hostname entry that defines the IP address of the post office's POA. During startup, the GroupWise client automatically looks for the GroupWise name server in DNS. For information about creating a GroupWise name server, see "Post Office Agent" in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).
- ♦ The user can provide the post office location when prompted.

To start the GroupWise client for the first time:

- 1 Double-click the GroupWise icon on the Windows desktop.
- 2 Enter the password and post office address information, then click *OK*.

## 8.4.2 Setting Up the GroupWise Cross-Platform Client on Linux

- ♦ "Installing the Cross-Platform Client on Linux" on page 206
- ♦ "Starting the Cross-Platform Client on Linux" on page 206

### Installing the Cross-Platform Client on Linux

- 1 Open a new terminal window, then become `root` by entering `su` and the `root` password.
- 2 Change to the root of the *GroupWise 7 Client for Linux and Macintosh* CD.
- 3 Enter `./install`.

The GroupWise Client is installed to `/opt/novell/groupwise/client`.

You can also install the Cross-Platform client by changing to the `client/linux` directory on the *GroupWise 7 Client for Linux and Macintosh* CD, then installing the RPM.

### Starting the Cross-Platform Client on Linux

- 1 At the command line, change to the `/opt/novell/groupwise/client/bin` directory.
- 2 Enter the following:  
`./groupwise.sh`
- 3 Specify the username, password, and server information, then click *OK*.

For your convenience, a Cross-Platform client icon is automatically created on your desktop.

## 8.4.3 Setting Up the GroupWise Cross-Platform Client on Macintosh

- ♦ “Installing the Cross-Platform Client on Macintosh” on page 207
- ♦ “Starting the Cross-Platform Client on Macintosh” on page 207

### Installing the Cross-Platform Client on Macintosh

- 1 Browse to the `GroupWise.dmg` file on the *GroupWise 7 Client for Linux and Macintosh CD*.
- 2 Double-click the `GroupWise.dmg` file to install the Cross-Platform client software.  
The installation process adds a GroupWise Cross-Platform client icon to your desktop.

### Starting the Cross-Platform Client on Macintosh

- 1 Double-click the GroupWise Cross-Platform client icon to start the Cross-Platform client.
- 2 Specify the username, password, and server information, then click *OK*.

## 8.5 What's Next

For information about using the features in the GroupWise Windows and GroupWise Cross-Platform clients, click *Help > Help Topics*, or *Help > User Guide* in the client. The user guides are both available at the [GroupWise 7 Documentation Web site \(http://www.novell.com/documentation/gw7\)](http://www.novell.com/documentation/gw7).





# Installing the GroupWise Connector for Microsoft Outlook

# 9

The GroupWise<sup>®</sup> Connector for Microsoft Outlook\* allows you to use Outlook to access your e-mail, calendar, and other collaboration data that is stored in a GroupWise database. With the GroupWise Connector for Outlook, you can continue working in the familiar Outlook environment to without being trained on how to use GroupWise.

The GroupWise Connector for Outlook is installed separately from GroupWise. For information, see the *GroupWise Connector for Microsoft Outlook Quick Start* and the GroupWise Connector for Microsoft Outlook Readme at the [GroupWise 7 Documentation Web site \(http://www.novell.com/documentation/gw7\)](http://www.novell.com/documentation/gw7).



# Installing the GroupWise Mobile Server

# 10

Using GroupWise® Mobile Server, Powered by Intellisync, you can synchronize Personal Information Manager (PIM) and e-mail data from Novell® GroupWise to Windows CE, Windows Mobile\*-based Smartphones, Symbian\* OS, Palm OS\* handheld devices, and SyncML\* devices.

For information, see the *GroupWise Mobility Documentation Web site* (<http://www.novell.com/documentation/gwmobility>).



# Installing GroupWise Messenger

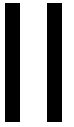
# 11

Novell® GroupWise® Messenger is a corporate-based, secure instant messaging solution that supports instant messaging, presence, and archiving of conversations. The Messenger client integrates with the GroupWise client to provide access to instant messaging features from with the GroupWise client.

GroupWise Messenger is installed separately from GroupWise and does not rely on your GroupWise system. All Messenger information is stored in eDirectory™, not in GroupWise databases. For information, see the *GroupWise Messenger Installation Guide* (<http://www.novell.com/documentation/nm2>).



# Update



- ♦ Chapter 12, “What’s New in GroupWise 7,” on page 217
- ♦ Chapter 13, “Understanding the Update Process,” on page 243
- ♦ Chapter 14, “Preparing Your GroupWise System for Update,” on page 249
- ♦ Chapter 15, “Updating Your GroupWise 6.x System to Version 7,” on page 251
- ♦ Chapter 16, “Updating Your GroupWise 5.x System to Version 7,” on page 261
- ♦ Chapter 17, “Updating an Evaluation GroupWise System to a Fully Licensed System,” on page 263





# What's New in GroupWise 7

# 12

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

- ♦ **Windows Client Enhancements:** The Windows client has a new look and feel that includes the Nav 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, use Quick Filters, see the Messenger presence information for users, create HTML signatures, and control inline quotations.
- ♦ **Cross-Platform 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 easier tabbed navigation, the ability to drag and drop items, right-click on items, folder management, Work in Progress folder, 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 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. IPV6 support is not currently available on NetWare®.

For a complete listing of all major enhancements and new features in the GroupWise components, refer to the following sections:

- ♦ [Section 12.1, "GroupWise Administration," on page 217](#)
- ♦ [Section 12.2, "GroupWise Agents," on page 222](#)
- ♦ [Section 12.3, "GroupWise Windows Client," on page 224](#)
- ♦ [Section 12.4, "GroupWise Cross-Platform Client," on page 229](#)
- ♦ [Section 12.5, "GroupWise Internet Agent," on page 232](#)
- ♦ [Section 12.6, "GroupWise WebAccess," on page 236](#)
- ♦ [Section 12.7, "GroupWise Monitor," on page 239](#)

## 12.1 GroupWise Administration

GroupWise 7 administration includes the following enhancements and new features.

- ♦ [Section 12.1.1, "Distribution List Administration \(v7.0\)," on page 218](#)
- ♦ [Section 12.1.2, "Global Signatures \(v7.0 / v7.0.1\)," on page 218](#)
- ♦ [Section 12.1.3, "User Move Pending Items \(v7.0\)," on page 218](#)

- ◆ Section 12.1.4, “Address Book Delta Sync (v7.0),” on page 219
- ◆ Section 12.1.5, “Client Options Enhancements (v7.0),” on page 219
- ◆ Section 12.1.6, “More Flexibility with Preferred E-Mail IDs (v7.0),” on page 220
- ◆ Section 12.1.7, “Gateway Alias Migration (v7.0.1),” on page 220
- ◆ Section 12.1.8, “Refresh Views (v7.0),” on page 221
- ◆ Section 12.1.9, “Improved Backup Capabilities with Novell Cluster Services on NetWare (v7.0.1),” on page 221
- ◆ Section 12.1.10, “Simplified Installation Procedure for Novell Cluster Services on Linux (v7.0.1),” on page 221
- ◆ Section 12.1.11, “PolyServe Matrix Server Support (v7.0.1),” on page 222

## 12.1.1 Distribution List Administration (v7.0)

In ConsoleOne<sup>®</sup>, you can grant rights to users to modify distribution lists from the GroupWise Windows client. However, users cannot create or delete distribution lists; that can be done only in ConsoleOne by an administrator.

For more information about distribution list administration, see “[Enabling Users to Modify a Distribution List](#)” in “[Distribution Lists, Groups, and Organizational Roles](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

## 12.1.2 Global Signatures (v7.0 / v7.0.1)

In ConsoleOne, you can build a list of globally available signatures that can be automatically appended to messages sent by GroupWise client users. Global signatures are created in HTML format. For users who prefer the Plain Text compose view in the GroupWise Windows client, a plain text version of the signature is appended instead of the HTML version. When this occurs, HTML formatting and embedded images are lost, but you can customize the plain text version as needed to compensate for the loss of HTML formatting.

For Windows client users, the global signature is appended by the client to messages after any personal signatures that users create for themselves. It is appended after the user clicks Send. If encryption is enabled, the global signature is encrypted along with the rest of the message. For all client users, global signatures can be appended by the Internet Agent for recipients outside the local GroupWise system. However, the Internet Agent does not append global signatures to S/MIME-encoded messages, nor does it duplicate global signatures already appended by the Windows client.

For more information, see “[Global Signatures](#)” in “[System](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

## 12.1.3 User Move Pending Items (v7.0)

After you have moved a user in ConsoleOne, you can display detailed information about items belonging to that account that have not yet been moved to the destination post office, perhaps because problems were encountered when trying to move them. This information can help determine the importance of moving residual items that are still pending after all other items have been successfully moved.

For more information about managing pending items, see “[Monitoring User Move Status](#)” in “[Users](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

## 12.1.4 Address Book Delta Sync (v7.0)

In earlier versions of GroupWise, Remote client users received updated system Address Books based on the *Refresh Address Books and Rules Every nn Days* setting under *Accounts > Mail > Properties > Advanced*. The entire Address Book was downloaded to the Remote client according to the specified schedule.

In GroupWise 7, the POA automatically updates the post office database with changes to the Address Book as they occur. As a result, whenever a Remote client connects to the GroupWise system, it can automatically download updates to the Address Book that have occurred since the last time it connected. This means that Remote client users always have an up-to-date Address Book.

Because the Address Book updates are stored as records in the post office database (*wphost.db*), this feature causes the post office database to grow in size as time passes. Therefore, in ConsoleOne, you can specify the maximum number of days you want to store the incremental update records. The longer the incremental update records are stored, the larger the post office database becomes, which can impact available disk space and backup time.

For more information, see “[Controlling Address Book Synchronization for Remote Client Users](#)” in “[System](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

Users should not deselect *Refresh Address Books and Rules Every nn Days* because rules are still downloaded according to this schedule. Even if users do not want to download their rules, they still should not deselect this option because it would turn off the Address Book delta sync. They can, however, set the option to a greater number of days to cause the download of the full Address Book to occur less frequently.

## 12.1.5 Client Options Enhancements (v7.0)

The following enhancements have been made to Client Options:

- ♦ “[Windows Client Appearance Defaults](#)” on page 219
- ♦ “[Messenger Integration](#)” on page 220
- ♦ “[Limits on Caching/Remote Mailboxes](#)” on page 220

For additional information about Client Options, see “[Setting Defaults for the GroupWise Client Options](#)” in “[Users](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

### Windows Client Appearance Defaults

In ConsoleOne, you can preset the appearance of the GroupWise Windows client. You can choose between Default, GroupWise 6.5 and Simplified. After you select a look, you can select the functionality of individual features such as the main menu, the Nav bar, the main tool bar, the folder list, and the Quick Viewer. You can also select a color scheme. You can lock your settings or allow users to configure the Windows client according to their own preferences, starting with the default appearance.

For more information, see “[Modifying Environment Options](#)” in “[Client](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

## Messenger Integration

In ConsoleOne, you can enable and disable the display of Messenger presence information in the GroupWise Windows client. Messenger presence enables users to easily choose instant messaging as an alternative to e-mail. Messenger presence icons appear in the From field of a received message, in the Quick Info for users specified in the *To*, *CC*, and *BC* fields of a new message, and in the Quick Info for users in the Address Book. Messenger presence is enabled by default.

For more information, see “[Supporting Messenger Presence Display in GroupWise](#)” in “[System](#)” and “[Modifying Environment Options](#)” in “[Client](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

## Limits on Caching/Remote Mailboxes

On the Disk Space Management page (*Tools > GroupWise Utilities > Client Options > Send > Disk Space Management*) in ConsoleOne, you can limit the size of users’ Online mailboxes. You can now enforce the same mailbox size limits on users’ Caching and Remote mailboxes, wherever those mailboxes are located.

For more information, see “[Modifying Environment Options](#)” in “[Client](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

## 12.1.6 More Flexibility with Preferred E-Mail IDs (v7.0)

You can now use the same e-mail ID for more than one user in your GroupWise system, provided each user is in a different Internet domain. Rather than requiring that each e-mail ID be unique in your GroupWise system, each combination of e-mail ID and Internet domain must be unique. This provides more flexibility for handling the situation where two people have the same name.

For more information, see “[User/Resource Overrides](#)” in “[System](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

## 12.1.7 Gateway Alias Migration (v7.0.1)

For those who have been using SMTP gateway aliases to handle e-mail addresses that do not fit the default format expected by the Internet Agent or to customize users’ Internet addresses, the Gateway Alias Migration utility can convert the usernames in those gateway aliases into preferred e-mail IDs. The Preferred E-Mail ID feature was first introduced in GroupWise 6.5 and is the suggested method for overriding e-mail address format, as described in “[Changing a User’s Internet Addressing Settings](#)” in “[Users](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>). The Gateway Alias Migration utility can also update users’ preferred Internet domain names based on their existing gateway aliases.

For usage instructions, see “[Transitioning from SMTP Gateway Aliases to Internet Addressing](#)” in “[Internet Agent](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

## 12.1.8 Refresh Views (v7.0)

When you use AutoUpdate to force Windows client software updates, the AutoUpdate process makes one attempt to update the view files. If that attempt fails, the problem is recorded in the POA log file and you can then use the Refresh Views option to distribute the latest view files to the post office.

For more information, see “[Refreshing the Client View Files in the Post Office](#)” in “[Post Offices](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

## 12.1.9 Improved Backup Capabilities with Novell Cluster Services on NetWare (v7.0.1)

On NetWare and Linux, for each /home switch that specifies a GroupWise domain or post office directory, TSAFSGW can now determine what types of GroupWise objects are available at that location. TSAFSGW recognizes four GroupWise object types:

- ◆ Domain [DOM]
- ◆ Post office [PO]
- ◆ Library [DMS] (for “document management services”)
- ◆ Remote document storage area [BLB] (for “blob”, meaning a compressed document file)

On NetWare, the new /vserver switch enables you to specify the name of a virtual server in your NetWare cluster. Then you can use the /home switch to specify shared volumes and paths rather than physical volumes and paths.

For usage instructions, see “[GroupWise Target Service Agent for File Systems \(TSAFSGW\)](#)” in “[Databases](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

## 12.1.10 Simplified Installation Procedure for Novell Cluster Services on Linux (v7.0.1)

The GroupWise Installation program on Linux now includes a new *Configure GroupWise for Clustering* option. It helps you install the agent software on all nodes in the GroupWise agents’ failover list in the cluster in a more convenient manner, so that you do not need to perform repetitive configuration tasks as you install the agent software on each node.

For background information about clustering, see “[Novell Cluster Services on Linux](#)” in the *GroupWise 7 Interoperability Guide*. For agent-specific installation details, see:

- ◆ “[Installing and Configuring the MTA and the POA in a Cluster](#)”
- ◆ “[Installing and Configuring the Internet Agent in a Cluster](#)”
- ◆ “[Implementing WebAccess in a NetWare Cluster](#)”
- ◆ “[Installing and Configuring the Monitor Agent on Each Node in Your Cluster](#)”

## 12.1.11 PolyServe Matrix Server Support (v7.0.1)

PolyServe Matrix Server manages a group of networked servers and a Storage Area Network (SAN) as a single entity. Matrix Server uses virtual hosts to provide failover protection for networked applications. A PolyServe matrix is similar in purpose and function to the clustering technology provided by Novell and Microsoft. A virtual host is a hostname/IP address configured on one or more servers in the matrix. For a detailed description of installing PolyServe Matrix Server, refer to the *PolyServe Matrix Server Administration Guide for Linux* that accompanies the PolyServe software.

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**NOTE:** Support for PolyServe Matrix Server was discontinued in Support Pack 3.

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## 12.2 GroupWise Agents

The GroupWise 7 agents include the enhancements and new features listed below.

- ◆ [Section 12.2.1, “Windows 2003 Server Support \(v7.0\),” on page 222](#)
- ◆ [Section 12.2.2, “IPV6 Support \(v7.0\),” on page 222](#)
- ◆ [Section 12.2.3, “GroupWise High Availability Service \(v7.0\),” on page 222](#)
- ◆ [Section 12.2.4, “Agents Run as Non-root User \(v7.0 / v7.0.1\),” on page 223](#)
- ◆ [Section 12.2.5, “SOAP Support \(v7.0\),” on page 223](#)
- ◆ [Section 12.2.6, “Agent Exclusive Bind \(v7.0\),” on page 223](#)
- ◆ [Section 12.2.7, “Disable Administration Task Processing for the POA \(v7.0\),” on page 224](#)
- ◆ [Section 12.2.8, “POA Creates Additional Message Databases \(v7.0\),” on page 224](#)
- ◆ [Section 12.2.9, “Fix for POA Problem with Deferred Messages \(v7.0\),” on page 224](#)

### 12.2.1 Windows 2003 Server Support (v7.0)

You can now install and run the agents on Windows 2003 Server.

### 12.2.2 IPV6 Support (v7.0)

The agents support the IPV6 protocol when it is available on the server. If it is available, the agent detects it and supports IPV6 by default, along with IPV4.

IPV6 support is available on Linux and Windows. IPV6 support is not currently available on NetWare.

### 12.2.3 GroupWise High Availability Service (v7.0)

The GroupWise High Availability service makes sure that, if the MTA or the POA goes down for any reason, it starts again automatically. On NetWare, this capability is provided by using a restartable protected address space. On Windows, Microsoft Clustering Services automatically restarts a service that is not responding. On Linux, Novell Cluster Services™ does not include this capability, so it is built into the GroupWise Linux agents.

The GroupWise High Availability service (gwha) is installed automatically, starts when your server boots, and makes sure that the POA, the MTA, and the Internet Agent are running. If it detects that one of these agents is no longer running, it immediately issues the command to start it. The High Availability service uses the Monitor Agent to periodically check the status of the agents that it is responsible for restarting.

For setup instructions, see “[Enabling the High Availability Service for the Linux GroupWise Agents](#)” on page 185.

## 12.2.4 Agents Run as Non-root User (v7.0 / v7.0.1)

For security reasons, it is preferable that the GroupWise agents not run with `root` user privileges. For example, if an intruder manages to assume the identity of a GroupWise agent, the intruder gains all the privileges of the commandeered process. If the process is running with `root` user privileges, then the intruder has `root` access to your system. If the process is running as a user with minimal privileges, then the intruder has only restricted access to your system. Therefore, your system is more secure if the GroupWise agents do not run as `root`.

The `root` user still needs to start the agents, because the agents need to access some `root`-only resources on startup. However, you can configure the agents to switch to a different user after they start.

To prevent an agent from running as a different user than the one for which it was originally configured, the agent creates a `uid.run` file in the domain or post office directory that it services. If the user specified in the `uid.conf` file is changed or if the `uid.conf` file is deleted, thus changing or removing the information about the user the agent should run as, the agent displays an error message and does not start.

For setup instructions, see “[Running the Linux GroupWise Agents as a Non-root User](#)” on page 182 and “[Changing the Non-root User](#)” on page 184.

## 12.2.5 SOAP Support (v7.0)

Simple Object Access Protocol (SOAP) is used by e-mail clients such as Evolution to access mailboxes. You can now configure the POA to communicate with SOAP-enabled e-mail clients as it has already been doing for IMAP e-mail clients.

For setup instructions, see “[Supporting SOAP Clients](#)” in “[Post Office Agent](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

## 12.2.6 Agent Exclusive Bind (v7.0)

You can now cause the POA and the MTA to bind to a specified IP address when the server where they run uses multiple IP addresses. The specified IP address is associated with all ports used by the agent. Without an exclusive bind, the POA and the MTA bind to all IP addresses available on the server.

You can set this option on the Network Address page of the POA or MTA object in ConsoleOne or by using the `/ip` startup switch in the agent startup file. The POA has always had the `/ip` switch; it is a new switch for the MTA.



For setup instructions, see “[Binding the POA to a Specific IP Address](#)” in “[Post Office Agent](#)” and “[Binding the MTA to a Specific IP Address](#)” in “[Message Transfer Agent](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

## 12.2.7 Disable Administration Task Processing for the POA (v7.0)

You can now disable administration task processing for the POA on the Agent Settings page of the POA object in ConsoleOne, as well as using the /noada startup switch in the POA startup file.

See “[Optimizing the POA](#)” in “[Post Office Agent](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>) for POA configurations that include disabling administration task processing.

## 12.2.8 POA Creates Additional Message Databases (v7.0)

In the past, the POA has created a maximum of 25 message databases (numbered 0 through 24) per post office. Starting in GroupWise 7, the POA creates as many as 255 message databases (numbered 0 through 254) per post office. The larger number of databases speeds up message delivery and minimizes user impact if a database is damaged.

For more information, see “[Message Databases](#)” “[Post Office Agent](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

## 12.2.9 Fix for POA Problem with Deferred Messages (v7.0)

If a message database is locked (for example, it is in use by a backup program), arriving messages are held in the defer database (ngwdfx.db) until the message database is again available. In GroupWise 6.5, if the defer database is also locked for some reason, large numbers of extraneous messages are generated. This problem no longer occurs in GroupWise 7.

# 12.3 GroupWise Windows Client

The GroupWise client for Windows includes the enhancements and new features listed below.

- ◆ [Section 12.3.1, “Appearance Schemes \(v7.0\),” on page 225](#)
- ◆ [Section 12.3.2, “Individual Appearance Settings \(v7.0\),” on page 225](#)
- ◆ [Section 12.3.3, “Color Schemes \(v7.0\),” on page 225](#)
- ◆ [Section 12.3.4, “Header Controls \(v7.0\),” on page 225](#)
- ◆ [Section 12.3.5, “Quick Filter \(v7.0\),” on page 226](#)
- ◆ [Section 12.3.6, “Messenger Presence \(v7.0\),” on page 226](#)
- ◆ [Section 12.3.7, “Home View \(v7.0\),” on page 226](#)
- ◆ [Section 12.3.8, “New Customized Navigation Bar \(v7.0\),” on page 226](#)
- ◆ [Section 12.3.9, “Unicode Support \(v7.0\),” on page 226](#)
- ◆ [Section 12.3.10, “Spell Check as You Type \(v7.0\),” on page 226](#)
- ◆ [Section 12.3.11, “HTML Signatures \(v7.0\),” on page 226](#)
- ◆ [Section 12.3.12, “Global Signatures \(v7.0\),” on page 227](#)



- ◆ Section 12.3.13, “Inline Quotation for Replies (v7.0),” on page 227
- ◆ Section 12.3.14, “Prevent Images from Displaying for HTML Messages (v7.0),” on page 227
- ◆ Section 12.3.15, “Search Attachments (v7.0),” on page 227
- ◆ Section 12.3.16, “Multiple Calendars (v7.0),” on page 227
- ◆ Section 12.3.17, “Print Calendar in Full Color (v7.0),” on page 227
- ◆ Section 12.3.18, “All Day Events (v7.0),” on page 228
- ◆ Section 12.3.19, “Edit Corporate Distribution Lists (v7.0),” on page 228
- ◆ Section 12.3.20, “Default Compose and Read Views (v7.0),” on page 228
- ◆ Section 12.3.21, “Interactive Tutorial (v7.0.1),” on page 228
- ◆ Section 12.3.22, “Check Mailbox Size (v7.0.1),” on page 228
- ◆ Section 12.3.23, “Quickly Adding Contacts to Your Personal Address Book (v7.0.1),” on page 228
- ◆ Section 12.3.24, “Changing the Background for Calendar Parts (v7.0.1),” on page 228
- ◆ Section 12.3.25, “Printing Attachment Names (v7.0.1),” on page 228
- ◆ Section 12.3.26, “Accepting and Declining Internet Items (v7.0.1),” on page 228

For information about using new features, from the GroupWise Windows client, click *Help > What's New*. For additional information about using the GroupWise Windows client, see the *GroupWise 7 Windows Client Guide* (<http://www.novell.com/documentation/gw7>).

### **12.3.1 Appearance Schemes (v7.0)**

The appearance schemes allow you to select between Default, GroupWise 6.5 and Simplified. Each of these schemes have default appearance settings. Default has the full Folder list, Main Menu, Main Toolbar, and uses the sky blue color theme. GroupWise 6.5 has the full folder list, Main Toolbar and looks just like the GroupWise 6.5 look. Simplified has the sky blue color scheme, the Nav Bar, and the simple Folder list.

### **12.3.2 Individual Appearance Settings (v7.0)**

You can control how GroupWise looks by using the individual appearance settings, in order to control what is displayed in GroupWise. You select to display the Main Menu, display the Nav Bar, display the Main Toolbar, use GroupWise color schemes, display the folder list and how you want to the folder list to be displayed, display the QuickViewer, and where you want the QuickViewer to display.

### **12.3.3 Color Schemes (v7.0)**

You can control the color scheme for GroupWise. Your selection from the list of available color schemes overrides any operating system color schemes you might have previously used for GroupWise.

### **12.3.4 Header Controls (v7.0)**

Header Controls allow you to select a font size, font color, and reset the header to the default.

### **12.3.5 Quick Filter (v7.0)**

The Quick Filter lets you perform a filter on the panel or folder that is selected. The filter searches on most fields that are available in the selected panel or folder, but it does not search message bodies or attachments.

### **12.3.6 Messenger Presence (v7.0)**

If you have GroupWise Messenger installed, you can now see the presence information for users in the Quick Info. For messages that you have received, the presence status is located in the From field. For messages you are sending, the presence status is located in the TO, CC, and BC Quick Info. You can also see the presence information in the Quick Info for an individual in the Address Book.

### **12.3.7 Home View (v7.0)**

The Home View is a quick view of your most important information. The Home View uses panels to display the information in sections. By default, the Home View displays your calendar for the day, your checklist items, and your unread messages in a two-column view.

However, the Home View is fully customizable. You can create additional panels that display the information you need. In addition, you can select to have only a one-column view. This stacks the panels into one column instead of the default two columns. As well as showing panels, you can display your folder list and the Quick Viewer.

### **12.3.8 New Customized Navigation Bar (v7.0)**

The Navigation bar is designed for quick access to the folders you use the most. By default the Navigation bar contains the Home, Mailbox, Calendar, Contacts, and Trash folders. However, the Navigation bar is customizable, so you can add the folders you use the most.

### **12.3.9 Unicode Support (v7.0)**

Unicode\* support has been added to the subject and message body of items. Now you can write or read messages in most languages in GroupWise.

### **12.3.10 Spell Check as You Type (v7.0)**

Use spell checking as you type to check for misspelled words, duplicate words, and irregular capitalization in items you are creating.

When spell checking finds a misspelled word as you type, the word is underlined in red. You can see a list of suggestions, add the word to your word list, always skip the word, or disable spell checking as you type by right-clicking the red-underlined word.

### **12.3.11 HTML Signatures (v7.0)**

Use Signatures to insert a signature or tag line at the end of items you send. For example, you can have GroupWise automatically list your name, phone number, and e-mail address at the bottom of every item you send. If you have a number of different accounts, including POP3, IMAP4, and NNTP newsgroup accounts, you can create a different signature for each account.

Now you can also create multiple HTML signatures. When you select to use an HTML signature, you have a basic editor that you can use to create the signature. You can select a background, add a picture, add a table, and perform formatting using an HTML Signature.

### **12.3.12 Global Signatures (v7.0)**

In addition to personal signatures, your system administrator can create a global signature for everyone to use. The system administrator can require the global signature. If the system administrator requires the global signature, it is automatically appended to all items that are sent. If the system administrator does not require the global signature, it is appended to your signature. If you don't have a signature, the global signature is not added to sent items if it is not required.

### **12.3.13 Inline Quotation for Replies (v7.0)**

When you reply to a message, you can select how the reply text should appear. GroupWise classic format shows the date before the original message. Include Header format shows the header information before the original text. Internet Standard format adds a greater-than sign (>) in front of the original message.

### **12.3.14 Prevent Images from Displaying for HTML Messages (v7.0)**

When an HTML message is received, the images are not shown by default for security reasons. This helps prevent viruses and other malicious attacks through e-mail messages.

To display the images, click the message that states, "GroupWise has prevented Images from displaying. Click here to display the image."

You can set GroupWise to always show the warning, never show the warning, or check *Frequent Contacts*. If you select to check *Frequent Contacts*, it shows the images in messages from people listed in your Frequent Contacts address book.

### **12.3.15 Search Attachments (v7.0)**

When you perform a search in GroupWise, the text of attachments is automatically included in the search.

### **12.3.16 Multiple Calendars (v7.0)**

You can now create multiple calendars in GroupWise. Each new calendar that is created is assigned a color. When the new calendars display in the calendar view, the appointment background color matches the color of the calendar that it belongs to.

### **12.3.17 Print Calendar in Full Color (v7.0)**

When you print the calendar, the individual calendar colors are printed in addition to the category color.

### **12.3.18 All Day Events (v7.0)**

GroupWise now has support for all day events. All day events are displayed at the top of the calendar view. When you create an all day event, by default it does not mark the time as busy.

### **12.3.19 Edit Corporate Distribution Lists (v7.0)**

End users can now edit a corporate distribution list if they have been granted access. You edit a corporate distribution list in the same way you edit any distribution list or group.

### **12.3.20 Default Compose and Read Views (v7.0)**

You can now specify the default font and size for the compose and read views if you have text as your default read view. However, if you select HTML as your default read view, you cannot set the default font or font size. The default font and size for reading HTML messages are determined by the message that is sent.

### **12.3.21 Interactive Tutorial (v7.0.1)**

A link has been added to the Help menu that takes you to an interactive tutorial about customizing your Home folder.

### **12.3.22 Check Mailbox Size (v7.0.1)**

You can now check your Mailbox size at any time. In the past, you could check your Mailbox size only if the GroupWise administrator had enabled size restrictions.

### **12.3.23 Quickly Adding Contacts to Your Personal Address Book (v7.0.1)**

You can now quickly add any recipient in an item to any personal address book by right-clicking on the recipient, then selecting the address book to add the user to.

### **12.3.24 Changing the Background for Calendar Parts (v7.0.1)**

You can change the background appearance for All Day Events, Appointments, Reminder Notes, and Tasks.

### **12.3.25 Printing Attachment Names (v7.0.1)**

When you open an item in a view and print the item, the attachment name is printed as well as the From, To, Date, Subject, and CC information.

### **12.3.26 Accepting and Declining Internet Items (v7.0.1)**

You can accept or decline appointments, all day events, and tasks that are sent from Internet enabled collaboration clients. Some of these clients include Microsoft Exchange, Lotus Notes, and Macintosh iCal.

## 12.4 GroupWise Cross-Platform Client

The GroupWise Cross-Platform client includes the enhancements and new features listed below.

- ◆ Section 12.4.1, “All Day Events (v7.0),” on page 229
- ◆ Section 12.4.2, “Show Hidden Files (v7.0),” on page 229
- ◆ Section 12.4.3, “Cleanup (v7.0),” on page 229
- ◆ Section 12.4.4, “Reply Text Format (v7.0),” on page 230
- ◆ Section 12.4.5, “Default Compose and Read View Fonts (v7.0),” on page 230
- ◆ Section 12.4.6, “GroupWise Check (GWCheck) (v7.0),” on page 230
- ◆ Section 12.4.7, “User Interface Startup Switch (v7.0),” on page 230
- ◆ Section 12.4.8, “Rules (v7.0),” on page 230
- ◆ Section 12.4.9, “Spell Checker (v7.0),” on page 230
- ◆ Section 12.4.10, “Spell Checking As You Type (v7.0),” on page 230
- ◆ Section 12.4.11, “Filters (v7.0),” on page 231
- ◆ Section 12.4.12, “Junk Mail Handling (v7.0),” on page 231
- ◆ Section 12.4.13, “Backup and Restore (v7.0),” on page 232
- ◆ Section 12.4.14, “Improved HTML Rendering (v7.0.1),” on page 232
- ◆ Section 12.4.15, “Improved Calendar Performance (v7.0.1),” on page 232
- ◆ Section 12.4.16, “Additional Folder Views (v7.0.1),” on page 232
- ◆ Section 12.4.17, “Toolbar Display/Hide Options (v7.0.1),” on page 232

For information about using new features, from the GroupWise Cross-Platform client, click *Help > Help Topics*. For additional information about using the GroupWise Cross-Platform client, see the *GroupWise 7 Cross-Platform Client Guide* (<http://www.novell.com/documentation/gw7>).

### 12.4.1 All Day Events (v7.0)

GroupWise now has support for all day events. All day events are displayed at the top of the calendar view. When you create an all day event, by default it does not mark the time as busy.

### 12.4.2 Show Hidden Files (v7.0)

You can have the GroupWise Cross-Platform client show any hidden files when it is displaying a list of files and folders.

### 12.4.3 Cleanup (v7.0)

You can now select to have GroupWise Auto-archive or Auto-delete items, as well as have GroupWise auto-delete the trash. When you select *Auto-archive*, GroupWise moves items older than the number of days listed from your folder to your GroupWise Archive. When you select *Auto-delete*, GroupWise moves items that are older than the date specified into your Trash. When you select to have GroupWise Auto-delete your Trash, it permanently deletes all items in your Trash folder.

## **12.4.4 Reply Text Format (v7.0)**

When you reply to a message, you can select how the reply text should appear. You can select from three settings for the reply text format: GroupWise classic, which shows the date before the original message; Include Header, which shows the header information before the original text; Internet Standard, which adds a greater-than sign (>) in front of the original message.

## **12.4.5 Default Compose and Read View Fonts (v7.0)**

You can now select a default font and size for the Compose View and Read View. In the Compose View you can set the font and size for both plain text messages and HTML messages. In the Read View you can set the font and size for plain text messages. You can also force plain text messages to display instead of HTML messages. If you select HTML as the default Read View, you cannot select the font and size of the message.

## **12.4.6 GroupWise Check (GWCheck) (v7.0)**

You can now use the GWCheck utility to repair your mailbox on the Macintosh Cross-Platform client.

## **12.4.7 User Interface Startup Switch (v7.0)**

You can now start the GroupWise Cross-Platform client for Linux with a GTK look and feel.

## **12.4.8 Rules (v7.0)**

You can automate many GroupWise actions, such as replying when you're out of the office, deleting items, or sorting items into folders, by using Rules to define a set of conditions and actions to be performed when an item meets those conditions.

## **12.4.9 Spell Checker (v7.0)**

Use Spell Checker to check for misspelled words, duplicate words, and irregular capitalization in items you are creating.

When Spell Checker finds a misspelled word, you can replace it with a word Spell Checker suggests, edit the word manually, or skip the word. You can also define an automatic replacement for the word, or add the word to a user word list.

## **12.4.10 Spell Checking As You Type (v7.0)**

Use spell checking as you type to check for misspelled words, duplicate words, and irregular capitalization in items you are creating.

When spell checking as you type finds a misspelled word, the word is underlined in red. You can see a list of suggestions, add the word to your word list, or always skip the word by right-clicking the red-underlined word. By default, spell checking as you type is on.

## 12.4.11 Filters (v7.0)

If your Mailbox or Calendar contains many items, you might have a difficult time finding just one of them. Filter lets you display items according to specific criteria. For example, a filter can display only items that have a certain word in the subject. You can also use a filter to hide items that you want to get out of your way.

Filter does not actually move or delete items; it displays certain items based on the criteria you specify. When you clear the filter, all the items reappear. Filters you create affect all folders.

Filters affect all folders. By clicking a folder, you can see the filter results immediately.

## 12.4.12 Junk Mail Handling (v7.0)

Use Junk Mail Handling to decide what to do with unwanted Internet e-mail that is sent to your GroupWise e-mail address. Internet e-mail includes all e-mail where the sender's address is in the form of name@domain.com, name@domain.org, and so forth.

Junk Mail Handling does not apply to internal e-mail. Internal e-mail is e-mail where the sender is part of your GroupWise system and the From field shows only the name of the sender, not an Internet address as explained above. If you want to block or junk internal e-mail, you can use Rules.

You have three options for blocking or junking Internet e-mail:

- ◆ You can add individual e-mail addresses or entire Internet domains to a Block List. Items from these addresses or Internet domains are blocked and never arrive in your Mailbox.

An Internet domain is the part of the e-mail address that comes after the @. For example, in the address Henry@mymail.com, the Internet domain is mymail.com.

- ◆ You can add individual e-mail addresses or entire Internet domains to a Junk List. Items from these addresses or Internet domains are delivered to the Junk Mail folder in your Mailbox. You can specify that the items in this folder be automatically deleted after <n> days.
- ◆ You can specify that any e-mail items from users whose addresses are not in your personal address books (including your Frequent Contacts address book and any personal address books you have created) are sent to the Junk Mail folder. This is sometimes called white listing.

In addition to the Block List and Junk List, there is a Trust List. Use this list to add e-mail addresses or Internet domains that you do not want blocked or junked, no matter what is specified in the other two lists. For example, you might have zcompany.com in your Block List, but you have one friend whose address is myfriend@zcompany.com. You can add this friend's e-mail address to the Trust List.

If you specify Junk Mail Handling options in Caching or Remote mode, make sure to synchronize with your Online Mailbox in order to see the same options when you log in to GroupWise on another computer.

However, e-mail from contacts in your Frequent Contacts address book and your corporate address book are not blocked.

Your system administrator can turn off Junk Mail Handling so that it is not available.

### 12.4.13 Backup and Restore (v7.0)

Your system administrator typically backs up your network mailbox on a regular basis. You can back up your local mailbox if you want to have an additional copy of your mailbox, or if you want to back up information that is no longer in your network mailbox.

If the system administrator has created a restore area and has backed up the entire GroupWise system, or if you have backed up your local mailbox in Remote or Caching mode, you can open a backup copy of your mailbox to view and restore items. If you do not have Read and Write access to the restore area on the network, the POA accesses your mailbox for you.

### 12.4.14 Improved HTML Rendering (v7.0.1)

New technology has been added to the GroupWise Cross-Platform client that significantly enhances the rendering of HTML items you receive.

### 12.4.15 Improved Calendar Performance (v7.0.1)

Enhancements to GroupWise have significantly improved the performance in the Calendar. More specifically, the performance has been improved when you move the date forward or backward in the Calendar.

### 12.4.16 Additional Folder Views (v7.0.1)

You can now view any folder in the following views:

- ◆ Details
- ◆ Check List
- ◆ Calendar

### 12.4.17 Toolbar Display/Hide Options (v7.0.1)

There are three different toolbars you can display in the Cross-Platform client:

- ◆ **Main:** The Main toolbar contains most of your commonly used functions, such as New Appointment and New Mail. The Main toolbar is located under the Menu bar.
- ◆ **Item Context:** The Item Context toolbar contains context-sensitive buttons that relate to the item that is displayed. The Item Context toolbar is located at the top of the QuickViewer window.
- ◆ **Folder Context:** The Folder Context toolbar contains context-sensitive buttons that relate to actions you can perform on particular folders (currently only the Trash folder and the Checklist folder). The Folder Context toolbar displays above the folder list.

## 12.5 GroupWise Internet Agent

The GroupWise Internet Agent includes the enhancements and new features listed below.

- ◆ [Section 12.5.1, “Windows 2003 Server Support \(v7.0\),” on page 233](#)
- ◆ [Section 12.5.2, “IPV6 Support \(v7.0\),” on page 233](#)



- ◆ [Section 12.5.3, “Internet Agent High Availability \(v7.0\),” on page 233](#)
- ◆ [Section 12.5.4, “Internet Agent Runs as Non-root User \(v7.0\),” on page 233](#)
- ◆ [Section 12.5.5, “Internet Agent Exclusive Bind \(v7.0\),” on page 233](#)
- ◆ [Section 12.5.6, “TCP/IP Links between the Internet Agent and the MTA \(v7.0\),” on page 234](#)
- ◆ [Section 12.5.7, “Alternate Internet Agents \(v7.0\),” on page 234](#)
- ◆ [Section 12.5.8, “Multiple Relay Hosts \(v7.0\),” on page 234](#)
- ◆ [Section 12.5.9, “Improved Spam Identification \(v7.0\),” on page 234](#)
- ◆ [Section 12.5.10, “External Global Signatures for all Clients \(v7.0.1\),” on page 234](#)
- ◆ [Section 12.5.11, “iCal Support \(v7.0.1\),” on page 235](#)
- ◆ [Section 12.5.12, “More Internet Agent Settings Available on the Internet Agent Object in ConsoleOne \(v7.0\),” on page 235](#)
- ◆ [Section 12.5.13, “New /nosmtpversion Startup Switch \(v7.0\),” on page 235](#)
- ◆ [Section 12.5.14, “New Message Defer Interval Setting \(v7.0\),” on page 236](#)
- ◆ [Section 12.5.15, “Consolidated Configuration Information \(v7.0.1\),” on page 236](#)
- ◆ [Section 12.5.16, “External Internet Message Threading \(v7.0\),” on page 236](#)

### **12.5.1 Windows 2003 Server Support (v7.0)**

You can now install and run the Internet Agent on Windows 2003 Server.

### **12.5.2 IPV6 Support (v7.0)**

Like the POA and the MTA, the Internet Agent now supports IPV6 on Linux and Windows, as described in [Section 12.2.2, “IPV6 Support \(v7.0\),” on page 222](#).

### **12.5.3 Internet Agent High Availability (v7.0)**

Like the POA and the MTA, the Internet Agent can be configured for high availability, as described in [Section 12.2.3, “GroupWise High Availability Service \(v7.0\),” on page 222](#).

### **12.5.4 Internet Agent Runs as Non-root User (v7.0)**

Like the POA and the MTA, the Internet Agent can run as a non-root user, as described in [Section 12.2.4, “Agents Run as Non-root User \(v7.0 / v7.0.1\),” on page 223](#).

### **12.5.5 Internet Agent Exclusive Bind (v7.0)**

Like the POA and the MTA, the Internet Agent can be bound to a specific IP address, as described in [Section 12.2.6, “Agent Exclusive Bind \(v7.0\),” on page 223](#)

## 12.5.6 TCP/IP Links between the Internet Agent and the MTA (v7.0)

Previously, the Internet Agent and the MTA have communicated by using message files. For outgoing messages, the MTA placed message files in the Internet Agent's input queue (`domain\wpgate\gwia\wpcout\0-7`), where the Internet Agent picked them up and transferred them out across the Internet. For incoming messages, the Internet Agent placed message files in the MTA input queue for Internet messages (`domain\wpgate\gwia\wpcsin\0-7`).

To see how this message flow worked for GroupWise 6.5 and earlier versions, see “[Message Delivery to and from the Internet](#)” in *Troubleshooting 3: Message Flow and Directory Structure* (<http://www.novell.com/documentation/gw7>).

To see how this message flow works for GroupWise 7, see “[Message Delivery to and from the Internet](#)” in *Troubleshooting 3: Message Flow and Directory Structure* (<http://www.novell.com/documentation/gw7>).

If, for some reason, you want to use message files instead of a TCP/IP link, set the Message Transfer Port field to 0 (zero) on the Network Address page of the Internet Agent object in ConsoleOne.

## 12.5.7 Alternate Internet Agents (v7.0)

When you use TCP/IP links for multiple Internet Agents in your system, you can configure each domain to fail over to an alternate Internet Agent if the primary Internet Agent becomes unavailable.

For setup instructions, see “[Configuring an Alternate Internet Agent for a Domain](#)” in “[Internet Agent](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

## 12.5.8 Multiple Relay Hosts (v7.0)

You can now specify multiple relay hosts, so that if the primary relay host is not available, the Internet Agent tries the next relay host in the list.

For configuration instructions, see “[Configuring Basic SMTP/MIME Settings](#)” in “[Internet Agent](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

## 12.5.9 Improved Spam Identification (v7.0)

Currently, you can use the `/xspam` startup switch to flag messages for handling by the client Junk Mail Handling feature if they contain an `x-spamflag=yes` in the MIME header. In GroupWise 7, you can configure as many strings as needed to identify junk mail.

For setup instructions, see “[Customized Spam Identification](#)” in “[Internet Agent](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

## 12.5.10 External Global Signatures for all Clients (v7.0.1)

For all client users, global signatures can be appended by the Internet Agent for recipients outside the local GroupWise system. The Internet Agent does not append global signatures to S/MIME-encoded messages. The Internet Agent does not duplicate global signatures already appended by the Windows client.

For more information, see “[Global Signatures](#)” in “[System](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

### 12.5.11 iCal Support (v7.0.1)

The Internet Agent supports iCalendar (iCal), the Internet Calendaring and Scheduling core object specification (RFC 2445), and iMIP, the iCalendar Message-based Interoperability Protocol (RFC 2447). When a GroupWise user sends an appointment to an external Internet user, the Internet agent converts the appointment into an iMIP message that can be read and accepted or declined in compatible e-mail systems such as Microsoft Exchange and Lotus Notes. GroupWise users can also receive and accept or decline appointments from users of these e-mail systems. Accept/decline notifications are also exchanged between systems.

For setup instructions, see “[Configuring Basic SMTP/MIME Settings](#)” in “[Internet Agent](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

### 12.5.12 More Internet Agent Settings Available on the Internet Agent Object in ConsoleOne (v7.0)

The following Internet Agent startup switches now have equivalent settings on the Internet Agent property pages in ConsoleOne:

- ♦ */flatfwd* (*Enable Flat-Forwarding* on the SMTP/MIME Message Formatting page)
- ♦ */imapreadlimit* (*Maximum Number of Items to Read* on the POP3/IMAP4 Settings page)
- ♦ */keepsendgroups* (*Retain Distribution Lists on Outgoing Messages* on the SMTP/MIME Address Handling page)
- ♦ */nomappriority* (*Disable Mapping X-Priority Fields* on the SMTP/MIME Message Formatting page)
- ♦ */nosmtpversion* (*Do Not Publish GroupWise Information on an Initial SMTP Connection* on the SMTP/MIME settings page)
- ♦ */popintruderdetect* (*Enable Intruder Detection* on the POP3/IMAP4 Settings page)
- ♦ */realmailfrom* (*Use GroupWise User Address as Mail From: for Rule Generated Messages* on the SMTP/MIME Address Handling page)
- ♦ */xspam* (*Flag Any Messages That Contain s-spam-flag:yes...* on the Junk Mail page)

### 12.5.13 New */nosmtpversion* Startup Switch (v7.0)

When contacted by another SMTP host or a telnet session, the Internet Agent responds with GroupWise version and copyright date information. To configure the Internet Agent to not disclose this information, use the */nosmtpversion* startup switch in the Internet Agent startup file (*gwia.cfg*).

For more information, see “[Using Internet Agent Startup Switches](#)” in “[Internet Agent](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

## 12.5.14 New Message Defer Interval Setting (v7.0)

You can now configure how often the Internet Agent retries to deliver deferred messages. You can provide the message defer interval setting on the SMTP/MIME Settings page of the Internet Agent object in ConsoleOne or you can use the /msgdeferinterval startup switch in the Internet Agent startup file (`gwia.cfg`).

For more information, see “[Configuring Basic SMTP/MIME Settings](#)” in “[Internet Agent](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

## 12.5.15 Consolidated Configuration Information (v7.0.1)

Before GroupWise 7 SP1, Internet Agent configuration information was stored both in eDirectory, as properties of the Internet Agent object, and in the Internet Agent configuration file (`gwia.cfg`). Starting in SP1, all primary configuration settings have been consolidated into the properties of the Internet Agent object. Secondary settings are still available only through the startup file.

When you update an Internet Agent to GroupWise 7 SP1 and access the Internet Agent object in ConsoleOne, all primary configuration settings are moved from the startup file into eDirectory. ConsoleOne no longer writes configuration settings to the startup file. Switches in the startup file can be used to override the settings in ConsoleOne.

For more information about Internet Agent configuration, see “[Configuring the Internet Agent](#)” and “[Using Internet Agent Startup Switches](#)” in “[Internet Agent](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

## 12.5.16 External Internet Message Threading (v7.0)

Messages that arrive from an external Internet address are now threaded into discussions along with native GroupWise messages, if the sending SMTP host also supports adding References and In-Reply-to MIME header fields.

# 12.6 GroupWise WebAccess

GroupWise 7 WebAccess includes the enhancements and new features listed below.

- ◆ [Section 12.6.1, “Windows 2003 Server Support \(v7.0\),” on page 237](#)
- ◆ [Section 12.6.2, “WebAccess Agent High Availability \(v7.0.1\),” on page 237](#)
- ◆ [Section 12.6.3, “WebAccess Agent Exclusive Bind \(v7.0\),” on page 237](#)
- ◆ [Section 12.6.4, “Simplified WebAccess Agent Startup \(v7.0.1\),” on page 237](#)
- ◆ [Section 12.6.5, “New Novell Web Services Page \(v7.0\),” on page 237](#)
- ◆ [Section 12.6.6, “Document Viewer Agent \(v7.0\),” on page 237](#)
- ◆ [Section 12.6.7, “New Document Viewer Agent Startup Switch \(v7.0.1\),” on page 238](#)
- ◆ [Section 12.6.8, “New WebAccess Client URL on NetWare and Windows \(v7.0\),” on page 238](#)
- ◆ [Section 12.6.9, “New WebAccess Client Features \(v7.0 / v7.0.1\),” on page 238](#)
- ◆ [Section 12.6.10, “Improved Performance for Low-Bandwidth WebAccess Client Users \(v7.0.1\),” on page 239](#)
- ◆ [Section 12.6.11, “Improved Performance for All WebAccess Client Users,” on page 239](#)

## 12.6.1 Windows 2003 Server Support (v7.0)

You can now install the WebAccess Agent and the WebAccess Application on Windows 2003. The WebAccess Installation program can install and configure Tomcat 5.5 into an existing Microsoft Internet Information Server.

---

**NOTE:** The Novell Servlet Gateway is no longer shipped or supported with WebAccess.

---

## 12.6.2 WebAccess Agent High Availability (v7.0.1)

Like the POA, the MTA, and the Internet Agent, the WebAccess Agent can be configured for high availability, as described in [Section 12.2.3, “GroupWise High Availability Service \(v7.0\),” on page 222](#).

## 12.6.3 WebAccess Agent Exclusive Bind (v7.0)

Like the POA and the MTA, the WebAccess Agent can be bound to a specific IP address, as described in [Section 12.2.6, “Agent Exclusive Bind \(v7.0\),” on page 223](#)

## 12.6.4 Simplified WebAccess Agent Startup (v7.0.1)

Like the POA, the MTA, and the Internet Agent, the WebAccess Agent can be started using the `grpwise` script, as described in [“Starting the Linux GroupWise Agents as Daemons” on page 180](#).

## 12.6.5 New Novell Web Services Page (v7.0)

WebAccess no longer uses the `novell.html` file that earlier versions of GroupWise installed in your Web server's `htdocs` directory. If users have been accessing the WebAccess client by displaying the `novell.html` file, the links in that file no longer work. You should remove the obsolete `novell.html` file from the `htdocs` directory and use the new URL to access the WebAccess client. If you have customized the `novell.html` file, you can transfer your changes to the `index.html` file in the `webapps/gw` directory.

## 12.6.6 Document Viewer Agent (v7.0)

The documents that users attach to e-mail messages are as varied as the combinations of document formats, tools, and users throughout the world. In order to display documents in your Web browser, WebAccess must convert them to HTML. Because some documents contain totally unexpected data, WebAccess cannot convert them. In extreme cases, the WebAccess Agent hangs when it cannot convert a document. This occurrence then interrupts the activities of all WebAccess users.

The new Document Viewer Agent resolves the problem by taking over the document conversion task from the WebAccess Agent. The Viewer Agent can process multiple documents simultaneously, and if it encounters a problem with a document, the problem does not affect its processing of other documents, nor does it affect the functioning of the WebAccess Agent. Therefore, WebAccess users no longer experience interruptions because of documents that fail to convert into HTML.

For setup instructions, see [“Configuring the Document Viewer Agent”](#) in [“WebAccess”](#) in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

## 12.6.7 New Document Viewer Agent Startup Switch (v7.0.1)

On NetWare, you can run each worker thread in its own namespace. Use the `/addrspacename` startup switch in the `gwdva.dva` file to specify the base name for the series of address space names that are created for the worker threads. The default base name is `GWDVAWRKR`, which results in address spaces named `GWDVAWRKR1`, `GWDVAWRKR2`, and so on.

## 12.6.8 New WebAccess Client URL on NetWare and Windows (v7.0)

The URL to access the WebAccess client through a Web server on NetWare or Windows is now:

```
http://web_server_address/gw/webacc
```

This matches the URL already in use on Linux.

## 12.6.9 New WebAccess Client Features (v7.0 / v7.0.1)

The GroupWise 7 WebAccess client offers a number of enhancements, including:

- ◆ New look and feel similar to the Windows client
- ◆ Drag-and-drop functionality to easily move items between folders
- ◆ Context-sensitive right-click menus on Mailbox and Calendar items for easy access to commonly used features (for example, Open, Reply, Forward, Accept, Decline, Delete, and so on)
- ◆ Enhanced item properties (including delivery status, send options, and Junk Mail Handling results)
- ◆ Mark Read item action
- ◆ Automatic name completion from your Frequent Contacts Address Book
- ◆ Folder management, so that you can rearrange the folders in your folder list, add and delete folders, and share folders more easily
- ◆ Work in Progress folder, so that items you save in your Work in Progress folder in the Windows client or Cross-Platform client are available to you in the WebAccess client
- ◆ Quick Find feature for fast full-text searches through your mailbox without setting Advanced Find options
- ◆ Inline Calendar appointments, tasks, and notes
- ◆ Posted Calendar appointments, tasks, and notes

GroupWise 7 SP1 adds the following additional enhancements:

- ◆ Support for Safari\* on Macintosh OS 10.2 (Jaguar)
- ◆ Resend
- ◆ Edit posted items
- ◆ Prompt for signature before send
- ◆ Static folder tree after page refresh
- ◆ Go to Date feature in the Calendar

- ◆ Appointment acceptance as Busy, Free, Tentative, or Out of Office
- ◆ Frequent Contact Address Book creation for WebAccess-only users

For information about using new features, from the GroupWise WebAccess client, click *Help*. For additional information about using the GroupWise WebAccess client, see the *GroupWise 7 WebAccess Client Guide* (<http://www.novell.com/documentation/gw7>).

## 12.6.10 Improved Performance for Low-Bandwidth WebAccess Client Users (v7.0.1)

All users of GroupWise 7 SP1 WebAccess should experience some performance improvement because the amount of data downloaded when accessing the server has been reduced for nearly all requests. In addition, options have been added to the Login page to allow users to select from the default interface, a new low-bandwidth interface, and the simple interface.

The low-bandwidth interface is designed for users on 56 KB modems or slower. It further reduces the amount of data downloaded from the server by disabling Name Completion and AutoUpdate of the message list.

The simple interface is designed for mobile device users. It uses simplified templates and assumes a smaller display area. A few features, such as Name Completion, right-click menus, and drag-and-drop functionality, are not available from the simplified interface.

For more information, see [Section 5.4.3, “Testing GroupWise WebAccess and WebPublisher,” on page 129](#).

## 12.6.11 Improved Performance for All WebAccess Client Users

By enabling data compression on your Web server, you can increase performance for all WebAccess users. However, because this is a change to the configuration of your Web server, it affects all programs that interact with the Web server. A side effect of enabling data compression might be a decline in Web server scalability.

For setup instructions, see [“Enabling Web Server Data Compression”](#) in [“WebAccess”](#) in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

## 12.7 GroupWise Monitor

GroupWise Monitor includes the enhancements and new features listed below.

- ◆ [Section 12.7.1, “Windows 2003 Server Support \(v7.0\),” on page 240](#)
- ◆ [Section 12.7.2, “IPV6 Support \(v7.0\),” on page 240](#)
- ◆ [Section 12.7.3, “Monitor Agent Web Console Emphasized \(v7.0\),” on page 240](#)
- ◆ [Section 12.7.4, “Agent GroupWise Available at Monitor Agent Web Console \(v7.0.1\),” on page 240](#)
- ◆ [Section 12.7.5, “Gateway Accounting Report \(v7.0\),” on page 240](#)
- ◆ [Section 12.7.6, “Trends Report \(v7.0\),” on page 240](#)
- ◆ [Section 12.7.7, “Downtime Report \(v7.0\),” on page 241](#)
- ◆ [Section 12.7.8, “Image Map \(v7.0\),” on page 241](#)



## 12.7.1 Windows 2003 Server Support (v7.0)

You can now install the Monitor Agent and the Monitor Application on Windows 2003. The Monitor Installation program can install and configure Tomcat 5.5 into an existing Microsoft Internet Information Server.

---

**NOTE:** The Novell Servlet Gateway is no longer shipped or supported with Monitor.

---

## 12.7.2 IPV6 Support (v7.0)

Like the POA and the MTA, the Monitor Agent now supports IPV6 on Linux and Windows, as described in [Section 12.2.2, “IPV6 Support \(v7.0\),” on page 222](#).

## 12.7.3 Monitor Agent Web Console Emphasized (v7.0)

The Monitor Agent Web console can be used only behind your firewall. However, the Monitor Agent Web console includes functionality that the Monitor Web console does not. In particular, it provides the new Monitor features in GroupWise 7. Starting with GroupWise 7, the Monitor Agent Web console is being emphasized as the primary browser access point for displaying the information provided by Monitor.

Use the following URL to access the Monitor Agent Web console:

```
http://web_server_address:8200
```

## 12.7.4 Agent GroupWise Available at Monitor Agent Web Console (v7.0.1)

You can now create agent groups at the [Monitor Agent Web console](#) just as you can at the [Monitor Agent server console](#) and the [Monitor Web console](#).

For more information about agent groups, see “[Creating and Managing Agent Groups](#)” in “[Monitor](#)” in the [GroupWise 7 Administration Guide](#) (<http://www.novell.com/documentation/gw7>).

## 12.7.5 Gateway Accounting Report (v7.0)

The Gateway Accounting report organizes information gathered in gateway accounting files into a format that is visually easy to read. Some setup is required to enable the gateway accounting report.

For setup instructions, see “[Gateway Accounting Report](#)” in “[Monitor](#)” in the [GroupWise 7 Administration Guide](#) (<http://www.novell.com/documentation/gw7>).

## 12.7.6 Trends Report (v7.0)

The Trends report presents graphs of agent MIB variables as sampled over time.

For setup instructions, see “[Trends Report](#)” in “[Monitor](#)” in the [GroupWise 7 Administration Guide](#) (<http://www.novell.com/documentation/gw7>).



## 12.7.7 Downtime Report (v7.0)

The Downtime report graphically illustrates how much time each GroupWise agent has been down during the day.

For setup instructions, see “**Down Time Report**” in “**Monitor**” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

## 12.7.8 Image Map (v7.0)

An image map enables you to create a visual picture of your GroupWise system, whether it resides in a single office building or spans the globe. You provide the maps; Monitor provides up-to-the-minute status information at a glance.

For setup instructions, see “**Image Map Report**” in “**Monitor**” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).



# Understanding the Update Process

# 13

You can update a Novell® GroupWise® 5.x or 6.x system to GroupWise 7.

---

**NOTE:** To update a GroupWise 4.x system to GroupWise 7, you must first update the system to GroupWise 5.x. The functionality to update from GroupWise 4.x is not part of the GroupWise 7 Administrator snap-ins to ConsoleOne.

---

Before you begin updating your GroupWise system to GroupWise 7, you should review the following sections. These sections, which describe the process to follow when updating, help you plan and implement a successful update strategy:

- ♦ [Section 13.1, “Understanding eDirectory Schema Extensions,” on page 243](#)
- ♦ [Section 13.2, “Understanding GroupWise Software Updates,” on page 243](#)
- ♦ [Section 13.3, “Understanding Domain and Post Office Database Updates,” on page 244](#)
- ♦ [Section 13.4, “Understanding GroupWise Client Updates,” on page 245](#)
- ♦ [Section 13.5, “Understanding Internet Agent Updates,” on page 246](#)
- ♦ [Section 13.6, “Understanding WebAccess Updates,” on page 246](#)
- ♦ [Section 13.7, “Understanding Monitor Updates,” on page 247](#)
- ♦ [Section 13.8, “Understanding GroupWise Gateway Compatibility,” on page 247](#)

For a list of enhancements and new features in GroupWise 7, see [Chapter 12, “What’s New in GroupWise 7,” on page 217](#).

In some cases, you might need to maintain a mixed-version environment as you roll out GroupWise 7. For a table showing which GroupWise 5.x and 6.x components can be used with GroupWise 7, see [Appendix A, “GroupWise Version Compatibility,” on page 303](#).

## 13.1 Understanding eDirectory Schema Extensions

GroupWise 7 includes new functionality that requires you to extend the schema of any Novell eDirectory™ trees where you have GroupWise objects. The GroupWise Setup automatically extends the schema for any trees you select.

## 13.2 Understanding GroupWise Software Updates

The GroupWise 7 software requirements are different than previous GroupWise software requirements. To review the requirements, see [Chapter 2, “GroupWise System Requirements,” on page 21](#).

## 13.2.1 Software Distribution Directory

The GroupWise Installation Advisor helps you copy the GroupWise 7 software (administration, agents, client, and so forth) to a GroupWise software distribution directory. This can be an existing software distribution directory or a new software distribution directory.

---

**NOTE:** Starting with GroupWise 7, GroupWise Windows client users cannot run the client software from the software distribution directory. They must install the GroupWise Windows client locally on their workstations. Users running the GroupWise client from their local drives can continue to run the local GroupWise client until you prompt them to update to GroupWise 7.

---

## 13.2.2 ConsoleOne

GroupWise 7 is administered through ConsoleOne<sup>®</sup>, using the version listed in [Section 2.1, “GroupWise Administration Requirements,”](#) on page 21. You can use the same version of ConsoleOne to administer earlier GroupWise components in your GroupWise system.

---

**IMPORTANT:** Earlier versions of ConsoleOne should not be used to administer GroupWise 7 domains, post offices, users, or other GroupWise 7 objects.

---

ConsoleOne is included on the *GroupWise 7 Administrator for NetWare/Windows* CD. If necessary, you can install it at the same time as the other GroupWise software.

Linux users can download ConsoleOne for Linux from the [Novell Product Downloads site \(http://download.novell.com\)](http://download.novell.com) and install it before starting to install GroupWise.

---

**NOTE:** Earlier versions of GroupWise required or allowed the use of NetWare<sup>®</sup> Administrator to administer your GroupWise system. Currently, NetWare Administrator should only be used if you still run very early gateways that require it. Otherwise, do not use NetWare Administrator.

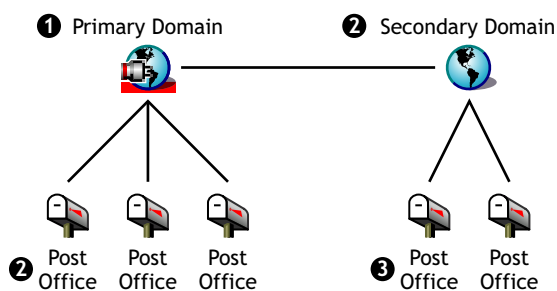
---

## 13.3 Understanding Domain and Post Office Database Updates

Functionality enhancements in GroupWise 7 require the GroupWise domain and post office databases to be updated with new records and fields, similar to the schema extensions that are required for eDirectory.

You must update the primary domain first so that correct replication of GroupWise 7 information can take place as you update post offices and secondary domains. After you update the primary domain, you can update the primary domain's post offices or you can update a secondary domain and its post offices. The following diagram illustrates this update sequence.

**Figure 13-1** Update Must Occur in the Following Order: 1) Primary Domain, 2) Primary Domain's Post Offices or Secondary Domain, 3) Secondary Domain's Post Offices



To update a domain database, you run the GroupWise 7 Message Transfer Agent (MTA) against it. The first time the GroupWise 7 MTA runs against a domain, it rebuilds the domain database (`wdomain.db`) so the database includes the records required for new GroupWise 7 information. The MTA uses a new domain dictionary file (`gwdom.dc`) to rebuild the database for use with GroupWise 7.

Likewise, to update a post office database, you run the GroupWise 7 Post Office Agent (POA) against it. The first time the GroupWise 7 POA runs against the post office, it rebuilds the post office database (`wphost.db`) so the database includes the new records required for GroupWise 7 information. The POA uses a new post office dictionary file (`gwpo.dc`), which it requests from the MTA, to rebuild the database for use with GroupWise 7. A user cannot run a GroupWise 7 client until his or her post office has been updated.

---

**IMPORTANT:** Before you update a secondary domain, you must wait until the update to the primary domain has run to completion. Before you update a post office, you must wait until the update to its domain has run to completion. Updating a large domain database can take 20 minutes or more. If you do not wait until the update runs to completion, you might encounter database versioning discrepancies. If such discrepancies occur, see “MTA Fails to Update the Domain Database Version” and “POA Fails to Update the Post Office Database Version” in “Strategies for Agent Problems” in *GroupWise 7 Troubleshooting 2: Solutions to Common Problems* (<http://www.novell.com/documentation/gw7>).

---

## 13.4 Understanding GroupWise Client Updates

After a post office is updated to version 7, users can run the GroupWise 7 Windows client or Cross-Platform client on workstations listed in [Section 2.2, “GroupWise Client Requirements,” on page 22](#). If necessary, they can also continue to run their older GroupWise clients, but they will not have GroupWise 7 functionality.

---

**IMPORTANT:** Users who need to proxy into other users’ mailboxes should not update to the GroupWise 7 clients until the proxy users’ post office has been updated to version 7. GroupWise 7 client users cannot access the proxy into users’ mailboxes that have not been updated to GroupWise 7.

---

For a list of new features in the GroupWise 7 client, see [Chapter 12, “What’s New in GroupWise 7,” on page 217](#).

For client update instructions, see [Section 15.4, “Updating Users’ GroupWise Clients,” on page 257](#).

## 13.5 Understanding Internet Agent Updates

The GroupWise 7 Internet Agent is fully functional only when running against GroupWise 7 domains and post offices. If you run it against a GroupWise 5.x or 6.x domain or post office, users on GroupWise 5.x and 6.x post offices can send and receive Internet messages (SMTP support), but cannot use POP3 and IMAP4 clients to access their mailboxes.

The GroupWise 5.x/6.x Internet Agent can run against a GroupWise 7 domain and post office, which means that you can continue to use it until all domains and post offices are updated to version 7.

For a list of new features in the GroupWise 7 Internet Agent, see [Chapter 12, “What’s New in GroupWise 7,” on page 217](#). If you are updating from GroupWise 7 to Support Pack 1 or later, see [Section 12.5.15, “Consolidated Configuration Information \(v7.0.1\),” on page 236](#) for important changes to where Internet Agent configuration information is stored.

For Internet Agent update instructions, see [Chapter 14, “Preparing Your GroupWise System for Update,” on page 249](#).

## 13.6 Understanding WebAccess Updates

As you plan how to update GroupWise WebAccess, you need to consider both the WebAccess Agent and the WebAccess Application on the Web server.

- ♦ [Section 13.6.1, “WebAccess Agent,” on page 246](#)
- ♦ [Section 13.6.2, “WebAccess Application on the Web Server,” on page 247](#)

For a list of new features in GroupWise 7 WebAccess, see [Chapter 12, “What’s New in GroupWise 7,” on page 217](#).

For WebAccess update instructions, see [Chapter 14, “Preparing Your GroupWise System for Update,” on page 249](#).

### 13.6.1 WebAccess Agent

The GroupWise 7 WebAccess Agent cannot access earlier (pre-GroupWise 7) domains and post offices. In addition, WebAccess Agents older than version GroupWise 5.5 Enhancement Pack SP3 cannot access GroupWise 7 domains and post offices.

Therefore, to continue to provide WebAccess service to users while you are updating your system, you need to:

- ♦ Update the WebAccess Agent at the same time you update its domain and post offices. This keeps the WebAccess Agent version synchronized with the domain and post office version.
- ♦ If you have multiple domains or post offices that will be updated over a long period of time, install the GroupWise 7 WebAccess Agent in a GroupWise 7 domain to service users on GroupWise 7 post offices. Keep your current WebAccess Agent, installed in a GroupWise domain that supports it, to service users on post offices where earlier GroupWise versions are still running.

## 13.6.2 WebAccess Application on the Web Server

The GroupWise WebAccess Agent can communicate with the GroupWise 5.5 or newer WebAccess Applications on your Web server. If you have GroupWise 5.5 or later, you can update your WebAccess Agent independent of the WebAccess components on the Web server.

The GroupWise 7 WebAccess Agent cannot communicate with pre-5.5 Web server components. In this case, you need to update the WebAccess Application on your Web server at the same time you update the WebAccess Agent.

## 13.7 Understanding Monitor Updates

GroupWise Monitor is not dependent on any other GroupWise agents, so it can be updated at any time.

For a list of changes and new features in GroupWise 7 Monitor, see [Chapter 12, “What’s New in GroupWise 7,”](#) on page 217.

For Monitor update instructions, see [Chapter 14, “Preparing Your GroupWise System for Update,”](#) on page 249.

## 13.8 Understanding GroupWise Gateway Compatibility

There are no known issues with using GroupWise gateways with GroupWise 7.





# Preparing Your GroupWise System for Update

# 14

To prepare your Novell® GroupWise® system to be updated to version 7, complete the following tasks:

- ♦ Validate your domain and post office databases to make sure that there are no physical inconsistencies with the database. If problems exist, you should recover or rebuild the database. For information about validating, recovering, or rebuilding a database, see the documentation for your GroupWise version at the [Novell Documentation Web site \(http://www.novell.com/documentation\)](http://www.novell.com/documentation).
- ♦ Back up the domain or post office immediately before updating it. For information about backing up your GroupWise databases, see the documentation for your GroupWise version at the [Novell Documentation Web site \(http://www.novell.com/documentation\)](http://www.novell.com/documentation).
- ♦ Collect the information about your GroupWise system that the various Installation programs prompt you for as you update the GroupWise software. If you are not completely familiar with all aspects of your GroupWise system, you might find it helpful to record the information on the worksheets provided for an initial installation:
  - ♦ [Section 3.5, “Basic GroupWise System Worksheet,” on page 73](#) (includes administration, domain, post office, and agent information)
  - ♦ [Section 4.6, “GroupWise Internet Agent Installation Worksheet,” on page 100](#)
  - ♦ [Section 5.6, “GroupWise WebAccess Installation Worksheet,” on page 131](#)
  - ♦ [Section 6.6, “GroupWise Monitor Installation Worksheet,” on page 155](#)
  - ♦ [Section 7.6, “GroupWise Agent Installation Worksheet,” on page 198](#)



# Updating Your GroupWise 6.x System to Version 7

# 15

The following sections provides step-by-step instructions for updating your Novell® GroupWise® 6.x system to GroupWise 7. Before beginning, make sure you have reviewed [Chapter 13, “Understanding the Update Process,”](#) on page 243 and [Chapter 14, “Preparing Your GroupWise System for Update,”](#) on page 249.

The update process described in this section is generalized to apply to all GroupWise platforms (NetWare®, Linux, and Windows). Platform-specific cross-references are provided as needed.

- ♦ [Section 15.1, “Installing the GroupWise 7 Software,”](#) on page 251
- ♦ [Section 15.2, “Updating the Primary Domain,”](#) on page 254
- ♦ [Section 15.3, “Updating Post Offices,”](#) on page 255
- ♦ [Section 15.4, “Updating Users’ GroupWise Clients,”](#) on page 257
- ♦ [Section 15.5, “Updating Secondary Domains,”](#) on page 259
- ♦ [Section 15.6, “Updating the GroupWise Internet Agent,”](#) on page 259
- ♦ [Section 15.7, “Updating GroupWise WebAccess,”](#) on page 259
- ♦ [Section 15.8, “Updating GroupWise Monitor,”](#) on page 260

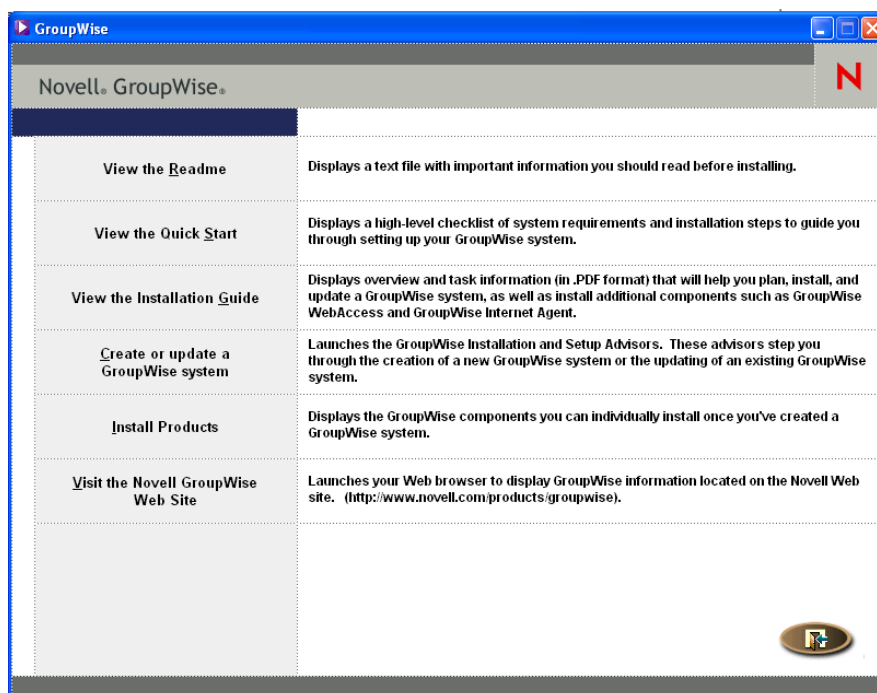
## 15.1 Installing the GroupWise 7 Software

To start the GroupWise Installation program:

- 1 Log in as an Admin equivalent to the Novell eDirectory™ tree where you are installing GroupWise.
- 2 Insert the *GroupWise 7 Administrator* CD for your platform into the CD drive.
- 3 Run the GroupWise Installation program.

Linux: Run `install` at the root of the CD.

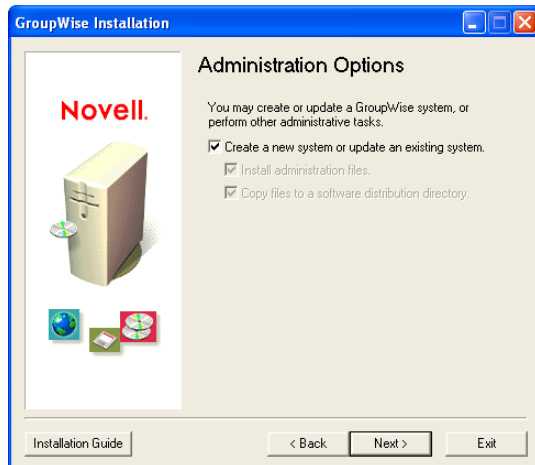
Windows: Run `setup.exe` at the root of the CD.



- 4 Click *Create or Update a GroupWise System*, then click *Yes* to accept the license agreement and display the Welcome to GroupWise Install dialog box.



- 5 Click *Next* until you reach the Administration Options dialog box.



- 6 Make sure that *Create a New System or Update an Existing System* is selected, then click *Next*
- 7 Follow the prompts to provide the following information from your **Basic GroupWise System Worksheet**. Not all prompts appear on all platforms

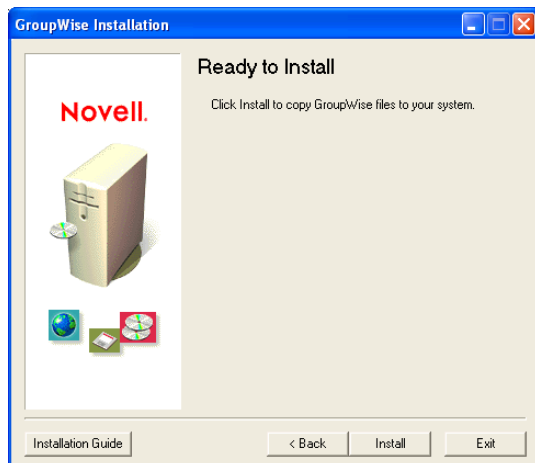
Item 1: Select Languages

Item 2: ConsoleOne Path

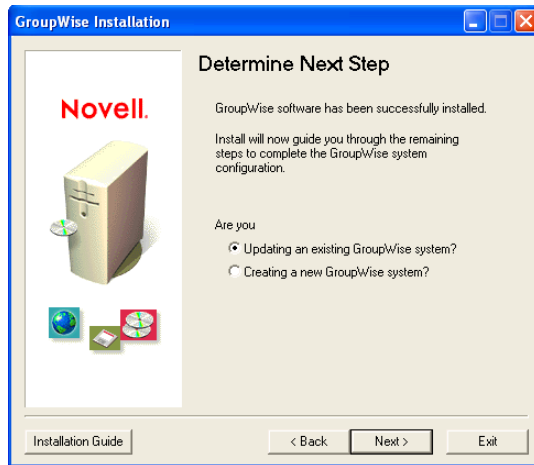
Item 3: Software Distribution Directory

Item 4: Select Software

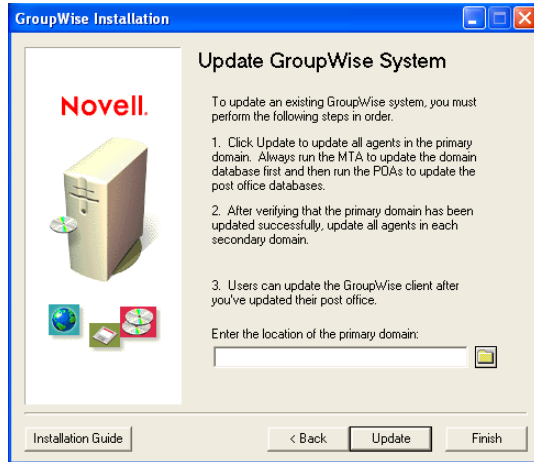
When you have provided this information, the Installation Advisor is ready to install the GroupWise administrative software.



- 8 Click *Install*, then follow the prompts until you reach the Determine Next Step dialog box.



- 9 Click *Updating an Existing GroupWise System*, then click *Next* to display the Update GroupWise System dialog box.



- 10 Continue with the next section, [Updating the Primary Domain](#).

## 15.2 Updating the Primary Domain

To update the primary domain, you need to install and start the GroupWise 7 MTA. The MTA uses the new domain dictionary file (`gwdom.dc`) to update the domain database to version 7.

---

**IMPORTANT:** The MTA cannot be running while you update the MTA software files.

---

To install and start the GroupWise 7 MTA:

- 1 Follow the instructions for your platform to start the Agent Installation program:

**NetWare:** To install the MTA to a NetWare server, make sure the workstation has access to both the primary domain directory and the NetWare server where you want to install the MTA, enter the path to the primary domain directory, then click *Update* to launch the Agent Installation program.

- Linux: To install the MTA on a Linux server, click *Finish*, then click *Install Products > Install GroupWise Agents* to start the Agent Installation program.
- Windows: To install the MTA to a Windows server, click *Finish*, go to the Windows server, ensure that you have access to the primary domain directory, then start the Agent Installation program (*install.exe*). The Agent Installation program is located in the `\agents` directory in the GroupWise 7 software distribution directory or on the *GroupWise 7 Administrator for NetWare/Windows* CD.

- 2 Follow the instructions for your platform to install the GroupWise 7 MTA to your primary domain.
  - ♦ [“NetWare: Installing and Starting the GroupWise Agents” on page 53](#)
  - ♦ [“Installing and Starting the Linux GroupWise Agents” on page 67](#)
  - ♦ [“Windows: Installing and Starting the GroupWise Agents” on page 55](#)
- 3 Start the MTA for the primary domain so that the primary domain database (`wpdomain.db`) is updated to GroupWise 7.
- 4 Before you update post offices in the primary domain or any secondary domains in your system, make sure that the domain database has been updated by checking the Database Version field on the Identification property page of the Domain object in ConsoleOne.
- 5 To update post offices in the domain, continue with the next section, [Updating Post Offices](#).  
or  
To update other domains, skip to [Section 15.5, “Updating Secondary Domains,” on page 259](#).

## 15.3 Updating Post Offices

To update a post office, you need to install the GroupWise 7 POA and run it against the post office. The POA uses a new 7 version of the post office dictionary file (`gwpo.dc`) to update the post office database to version 7.

- NetWare and Windows: After you’ve installed the NetWare or Windows POA, you might need to manually copy the new GroupWise Windows client views from the software distribution directory to the post office directory. This could be necessary if the Agent Installation program did not have access to the software distribution directory during the installation process or if you update your agent software before you update your software distribution directory with the latest Windows client software.

- ♦ [Section 15.3.1, “Installing and Starting the POA,” on page 255](#)
- ♦ [Section 15.3.2, “Copying the GroupWise Views to the Post Office Directory,” on page 256](#)

### 15.3.1 Installing and Starting the POA

The POA cannot be running while you update it. Users who connect to the post office via client/server (TCP/IP) cannot access the post office while the POA is shut down.

---

**IMPORTANT:** The MTA for the domain that the post office belongs to should be updated and running before you install and start the POA.

---

To install and start the POA:

**1** Start the Agent Installation program.

**NetWare:** To install the POA to a NetWare server, make sure the workstation has access to both the post office directory and the NetWare server where you want to install the POA.

If you are installing from the *GroupWise 7 Administrator for NetWare/Windows* CD, insert the CD in the CD drive, run `setup.exe` at the root of the CD to start the GroupWise Installation program, then click *Install Components > Install GroupWise Agents*.

If you are installing from the software distribution directory, run `install.exe` in the `\agents` subdirectory to start the Agent Installation program.

**Linux:** Run `install` at the root of the *GroupWise 7 Administrator for Linux* CD for Linux or at the root of the software distribution directory to start the GroupWise Installation program.

**Windows:** If you are installing from the *GroupWise 7 Administrator for NetWare/Windows* CD, insert the CD in the CD drive, run `setup.exe` at the root of the CD to start the GroupWise Installation program, then click *Install Components > Install GroupWise Agents*.

If you are installing from the software distribution directory, run `install.exe` in the `\agents` subdirectory.

To streamline the update process on NetWare and Windows, you can run the Agent Installation program (`agents\install.exe`) with the `/copyonly` startup switch, which copies the updated agent software files but does not perform any other agent configuration. On Linux, the Installation program offers separate file copy and configuration options to streamline the update process.

**2** Follow the instructions for your platform to install the GroupWise 7 POA to each post office in your GroupWise system.

- ◆ “[NetWare: Installing and Starting the GroupWise Agents](#)” on page 53
- ◆ “[Installing and Starting the Linux GroupWise Agents](#)” on page 67
- ◆ “[Windows: Installing and Starting the GroupWise Agents](#)” on page 55

**3** Start the POA for the post office so that the post office database (`wphost.db`) is updated to GroupWise 7.

**4** Before you run GroupWise 7 clients against the post office, make sure that the post office database has been updated by checking the Database Version field on the Identification property page of the Post Office object in ConsoleOne.

**5** Continue with [Copying the GroupWise Views to the Post Office Directory](#).

## 15.3.2 Copying the GroupWise Views to the Post Office Directory

GroupWise 7 includes new views for the GroupWise Windows client. When the POA starts, it updates the post office database and also attempts to update the client views in the post office directory. To do so, it requires access to the software distribution directory. If it doesn't have access, you must manually copy the views.



You can check whether or not the POA was able to update the views by verifying the existence of the `us02*.vew` files in the `x:\post_office\ofviews\win` directory, where `x:\po` is the path to the post office directory.

If the `us02*.vew` files do not exist or have older dates, copy all files from

```
z:\software\client\win32\ofviews\win
```

to

```
x:\post_office\ofviews\win
```

where `z:\software` is the path to the software distribution directory and `x:\post_office` is the path to the post office directory.

You can also perform this task in ConsoleOne®. See “[Refreshing the Client View Files in the Post Office](#)” in “[Post Offices](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

## 15.4 Updating Users’ GroupWise Clients

After a post office is updated to version 7, users who have accounts in that post office can start using the GroupWise 7 clients. Starting with GroupWise 7, users cannot run the GroupWise client software from the software distribution directory, but the software is still installed to users’ workstations from software distribution directories. Users might access a software distribution directory and run the installations themselves, or you might configure automatic updates for them.

When you used the Installation Advisor as described in [Section 15.1, “Installing the GroupWise 7 Software,” on page 251](#), you had the opportunity to update one software distribution directory. To fully implement GroupWise 7 throughout your GroupWise system, you must update all of your software distribution directories.

---

**IMPORTANT:** Before you update a software distribution directory, make sure all post offices that use the software distribution directory have been updated. The GroupWise 7 client cannot access a post office that still uses an earlier version of GroupWise. Users who update to the GroupWise 7 client before their post office has been updated are locked out of the post office.

---

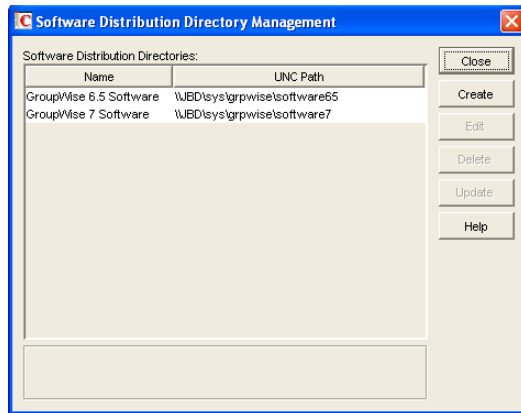
To update a GroupWise software distribution directory to GroupWise 7:

- 1 Make sure you have Read, Write, Create, Erase, Modify, and File Scan rights (or equivalent rights) in an existing GroupWise 7 software distribution directory and in the software distribution directory you are updating to version 7.

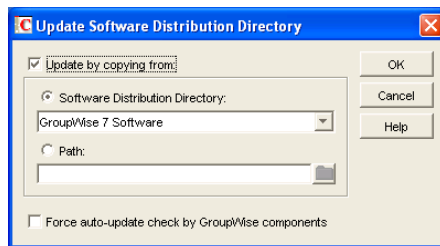
or

If you still have access to the *GroupWise 7 Administrator* CD for your platform, you can use it instead of an existing GroupWise 7 software distribution directory.

- 2 In ConsoleOne, click *Tools > GroupWise System Operations > Software Directory Management*.



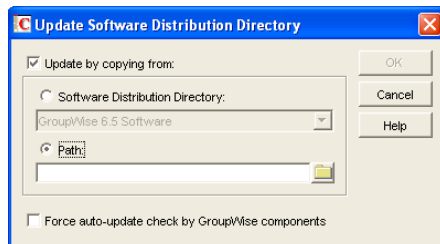
- 3 Select the software distribution directory you want to update, then click *Update* to display the Update Software Distribution Directory dialog box.



- 4 Click *Update by Copying From*.
- 5 Click *Software Distribution Directory*, then select the GroupWise 7 software distribution directory.

or

If the GroupWise 7 software distribution directory is not listed, click *Path*, then enter the path to the directory. You can also use this option to update the software directly from the *GroupWise 7 Administrator CD* for your platform.



The *Force Auto-Update Check by GroupWise Components* option is automatically selected. This causes the GroupWise client to check for a new version; if a new version is found, the client then prompts users to update the next time they start the client.

---

**IMPORTANT:** If the software distribution directory is already updated to version 7 and you are now trying to force users to update to the GroupWise 7 client, you should select only the *Force Auto-Update Check by GroupWise Components* option.

---

- 6 Click *OK* to copy the files.

---

**IMPORTANT:** When you turn on auto-update (the *Force Auto-Update Check by GroupWise Components* option), a flag is set in each post office database. This flag instructs the GroupWise client to check for updated software. GroupWise clients using direct access mode (mapped or UNC path) read this new setting in the post office database and automatically check for updated software. However, GroupWise clients running in client/server mode do not access the post office database directly; instead, the Post Office Agent accesses the post office database for them. For the Post Office Agent to read the new auto-update setting, you need to restart the Post Office Agent. Only after the POA restarts will GroupWise clients running in client/server mode check for updated software.

---

## 15.5 Updating Secondary Domains

After you have updated the primary domain, you can update any secondary domains in your system. To do so, follow the same process you used to update the primary domain, its post offices, and users.

To streamline the update process on NetWare and Windows, you can run the Agent Installation program ([agents\install.exe](#)) with the /copyonly startup switch, which copies the updated agent software files but does not perform any other agent configuration. On Linux, the Installation program offers separate file copy and configuration options to streamline the update process.

---

**IMPORTANT:** The MTA for the domain that the secondary domain links to should be updated and running before you update the secondary domain.

---

## 15.6 Updating the GroupWise Internet Agent

After you've updated your domains and post offices, you can update the Internet Agent. For information about update issues you should consider, see [Section 13.5, "Understanding Internet Agent Updates,"](#) on page 246.

To streamline the update process on NetWare and Windows, you can run the Internet Agent Installation program ([internet\gwia\install.exe](#)) with the /copyonly startup switch, which copies the updated Internet Agent software files but does not perform any other Internet Agent configuration. On Linux, the Installation program offers separate file copy and configuration options to streamline the update process.

For information about installing the GroupWise 7 Internet Agent, see [Chapter 4, "Installing the GroupWise Internet Agent,"](#) on page 79.

---

**IMPORTANT:** If you are updating from GroupWise 7 to Support Pack 1 or later, see [Section 12.5.15, "Consolidated Configuration Information \(v7.0.1\),"](#) on page 236 for important changes to where Internet Agent configuration information is stored.

---

## 15.7 Updating GroupWise WebAccess

After you've updated your domains and post offices, you can update GroupWise WebAccess. For information about update issues you should consider, see [Section 13.6, "Understanding WebAccess Updates,"](#) on page 246.

For information about installing GroupWise 7 WebAccess, see [Chapter 5, "Installing GroupWise WebAccess,"](#) on page 103.

---

**IMPORTANT:** After you have updated the WebAccess software, notify your WebAccess client users that they should clear their browser caches before logging into their mailboxes with the updated WebAccess client. If old WebAccess files are pulled from users' browser caches, they might not be compatible with the updated files pulled from the Web server. The results can be unpredictable and undesirable.

---

## 15.8 Updating GroupWise Monitor

You can update GroupWise Monitor at any time. For information about installing GroupWise 7 Monitor, see [Chapter 6, "Installing GroupWise Monitor,"](#) on page 137.

# Updating Your GroupWise 5.x System to Version 7

# 16

The process and procedures for updating a Novell® GroupWise® 5.x system to version 7 are the same as when updating a GroupWise 6.x system to version 7. Refer to the following sections for instructions:

- ♦ Chapter 13, “Understanding the Update Process,” on page 243
- ♦ Chapter 14, “Preparing Your GroupWise System for Update,” on page 249
- ♦ Chapter 15, “Updating Your GroupWise 6.x System to Version 7,” on page 251

## What’s New Since Your GroupWise 5.x Version

The GroupWise features and functionality that are new to you depend on the version of GroupWise 5 that you are updating from (5, 5.1, 5.2, 5.5, 5.5 Enhancement Pack). For example, if you are updating from GroupWise 5.2, the new features and functionality added in versions 5.5, 5.5 Enhancement Pack, 6, 6.5, and 7 are all new. If you are updating from GroupWise 5.5 Enhancement Pack, only the version 6, 6.5, and 7 features are new.

Chapter 12, “What’s New in GroupWise 7,” on page 217 includes only the changes made since version 6.5. For changes made in previous versions, refer to the following:

- ♦ **Version 5.2 to 5.5:** What’s New in GroupWise 5.5 (<http://www.novell.com/documentation/lg/gw55/gw55updt/data/a4dx2i3.html>)
- ♦ **Version 5.5 to 5.5 Enhancement Pack (EP):** GroupWise 5.5 Enhancement Pack Getting Started (<http://www.novell.com/documentation/lg/gw55ep/pdfdoc/gw55ep.pdf>)
- ♦ **Version 5.5 EP to 6:** What’s New in GroupWise 6 ([http://www.novell.com/documentation/gw6/gw6\\_install/data/aady5i3.html](http://www.novell.com/documentation/gw6/gw6_install/data/aady5i3.html))
- ♦ **Version 6 to 6.5:** What’s New in GroupWise 6.5 ([http://www.novell.com/documentation/gw65/gw65\\_install/data/aady5i3.html](http://www.novell.com/documentation/gw65/gw65_install/data/aady5i3.html))

## GroupWise 5.2 Administration Agent

---

**WARNING:** Beginning with GroupWise 5.5, the Administration Agent’s functionality was moved into the Message Transfer Agent (MTA) and the Post Office Agent (POA). If you are updating a GroupWise 5, 5.1, or 5.2 system, you need to make sure that you do not run the Administration Agent against the domain after you’ve started the GroupWise 7 MTA. Doing so can result in the loss of GroupWise 7 information.

---



# Updating an Evaluation GroupWise System to a Fully Licensed System

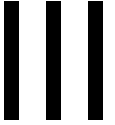
# 17

An evaluation GroupWise<sup>®</sup> system, available from the Novell<sup>®</sup> Product Downloads site (<http://download.novell.com>), can consist of one domain, two post offices, and as many as five users in each post office. When you purchase the full GroupWise product, install the GroupWise Administrator snap-ins to ConsoleOne<sup>®</sup>. When you begin to administer your evaluation system with the licensed snap-ins, your evaluation system is converted into a fully licensed system, in which you can create any number of domains and post offices, along with the number of users for which you are licensed.





# Migration



This section is designed for those who are moving existing GroupWise® 7 users, post offices, and domains from NetWare® or Windows to Linux. This section describes the manual steps involved in the process. As an alternative, you can use the GroupWise Server Migration Utility to perform some of the steps for you. For more information, see *GroupWise Server Migration Utility Installation and Migration Guide*.

---

**IMPORTANT:** If you have GroupWise 6.x or 5.x, review [Chapter 15, “Updating Your GroupWise 6.x System to Version 7,” on page 251](#) or [Chapter 16, “Updating Your GroupWise 5.x System to Version 7,” on page 261](#) to acquaint yourself with the issues involved in updating from one version of GroupWise to another. You should update your GroupWise system to GroupWise 7 before migrating it to Linux.

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- ◆ [Chapter 18, “Transitioning Windows Users to Linux or Macintosh,” on page 267](#)
- ◆ [Chapter 19, “Transitioning GroupWise Administration to Linux,” on page 269](#)
- ◆ [Chapter 20, “Manually Migrating a Post Office and Its POA to Linux,” on page 273](#)
- ◆ [Chapter 21, “Manually Migrating a Domain and Its MTA to Linux,” on page 281](#)
- ◆ [Chapter 22, “Manually Migrating the Internet Agent to Linux,” on page 287](#)
- ◆ [Chapter 23, “Manually Migrating WebAccess to Linux,” on page 291](#)
- ◆ [Chapter 24, “Manually Migrating Monitor to Linux,” on page 297](#)



# Transitioning Windows Users to Linux or Macintosh

# 18

When users move from Windows workstations to Linux or Macintosh, they first need to install the Cross-Platform client, as described in [Section 8.4, “Setting Up the GroupWise Client,” on page 204](#). They can then immediately use the Cross-Platform client to connect to their GroupWise<sup>®</sup> mailboxes, regardless of whether the mailboxes reside on Linux, NetWare<sup>®</sup>, or Windows servers.

If users have Caching mailboxes or archives on their Windows workstations, they can simply copy them to an appropriate location on their Linux or Macintosh workstations, and then update the file location information in the Cross-Platform client (*Tools > Options > Archive Directory* and *Caching Mailbox Directory*).

---

**NOTE:** Remote mode is not currently supported in the Cross-Platform client, so Remote users should not copy their Remote mailboxes to Linux or Macintosh.

---

For a comparison of feature availability between the Cross-Platform client and the Windows client, see “[GroupWise Client Comparison](#)” in the *GroupWise 7 Client Frequently Asked Questions (FAQ)*.



# Transitioning GroupWise Administration to Linux

# 19

You migrate your GroupWise® system from NetWare® or Windows to Linux one post office and domain at a time. During the migration process, your system has domains and post offices on various platforms. You might use ConsoleOne® on both Windows and Linux to administer domains and post offices located on any platform.

This section helps you set up the cross-platform connections that enable ConsoleOne to successfully access GroupWise databases on any platform.

- ♦ [Section 19.1, “Using Windows ConsoleOne to Access Domains and Post Offices on Linux,” on page 269](#)
- ♦ [Section 19.2, “Using Linux ConsoleOne to Access Domains and Post Offices on NetWare or Windows,” on page 270](#)
- ♦ [Section 19.3, “Migrating eDirectory to Linux,” on page 271](#)

## 19.1 Using Windows ConsoleOne to Access Domains and Post Offices on Linux

In order for you to be able to use ConsoleOne on Windows to administer GroupWise domains, post offices, and agents that are located on Linux, the Linux servers where the domains, post offices, and agents are located must be accessible from Windows.

- ♦ [Section 19.1.1, “Making a Linux Server Visible from Windows,” on page 269](#)
- ♦ [Section 19.1.2, “Accessing a Domain or Post Office on Linux from Windows ConsoleOne,” on page 270](#)

### 19.1.1 Making a Linux Server Visible from Windows

To make a Linux server visible from Windows, you need to configure it so that you can map a drive to it as if it were a Windows server.

**Table 19-1** *Creating a Connection from Windows to Linux*

| Operating System                    | Connection Method                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Open Enterprise Server (OES) Linux  | <p>Use the NetWare Core Protocol™ (NCP™) Server to create an NCP volume on the Linux server that will be visible from Windows just as a NetWare volume would be.</p> <p>On the Linux server, become <code>root</code>, then enter the following commands:</p> <pre>ncpcon create volume volume_name directory ncpcon set cross_protocol_locks=1</pre> <p>From a Windows workstation or server where the Novell client is installed, you can now use the Novell Map Network Drive feature to map a drive to the volume on your Linux server, and Windows-type file locking is respected by Linux.</p> <p>For more information about NCP Server, see the <a href="http://www.novell.com/documentation/oes/ncp_lx/data/h9izvdye.html#h9izvdye">NCP Server Administration Guide for Linux</a> (<a href="http://www.novell.com/documentation/oes/ncp_lx/data/h9izvdye.html#h9izvdye">http://www.novell.com/documentation/oes/ncp_lx/data/h9izvdye.html#h9izvdye</a>).</p> |
| SUSE Linux Enterprise Server (SLES) | <p>Use Samba to create a Windows share on the Linux server that will be visible from Windows just as a directory on another Windows server would be. For instructions on setting up a Samba share, see the <a href="http://www.novell.com/documentation/sles10/pdfdoc/sles_admin/sles_admin.pdf">SUSE Linux Enterprise Server Administration and Installation Guide</a> (<a href="http://www.novell.com/documentation/sles10/pdfdoc/sles_admin/sles_admin.pdf">http://www.novell.com/documentation/sles10/pdfdoc/sles_admin/sles_admin.pdf</a>).</p> <p>From a Windows workstation or server, you can now use the Windows Map Network Drive feature to map a drive to the directory on your Linux server.</p>                                                                                                                                                                                                                                                        |

## 19.1.2 Accessing a Domain or Post Office on Linux from Windows ConsoleOne

After you have made the Linux server visible from Windows:

- 1 Map a drive to the domain directory on the Linux server.
- 2 In Windows ConsoleOne, click *Tools > GroupWise System Operations > Select Domain*.
- 3 Browse to and select the domain directory, then click *OK*.

You can now use Windows ConsoleOne to administer all GroupWise objects that belong to the domain that is located on Linux.

## 19.2 Using Linux ConsoleOne to Access Domains and Post Offices on NetWare or Windows

In order for you to be able to use ConsoleOne on Linux to administer GroupWise domains, post offices, and agents that are located on NetWare or Windows, the NetWare or Windows servers where the domains, post offices, and agents are located must be accessible from Linux.

- ♦ [Section 19.2.1, “Making a NetWare or Windows Server Visible from Linux,” on page 271](#)
- ♦ [Section 19.2.2, “Accessing a Domain or Post Office on NetWare or Windows from Linux ConsoleOne,” on page 271](#)

## 19.2.1 Making a NetWare or Windows Server Visible from Linux

To make a NetWare or Windows server visible from Linux, you mount the directory you need to access as a Linux file system.

**Table 19-2** *Creating a Connection from Linux to NetWare or Windows*

| Operating System | Connection Method                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NetWare:         | <pre>mount -t ncpfs NetWare_server_full_DNS_name /Linux_mount_location/mount_point_directory -o user=fully_qualified_username -o ipserver=NetWare_server_full_DNS_name</pre> <p>A NetWare server full DNS name should have the format of mail2.provo.corporate.com. A fully qualified username should have the format of Admin.Users.Corporate. A typical Linux mount location would be /mnt.</p> <p>You can also use Novell Remote Manager (NRM) to create the NCP mount.</p> |
| Windows:         | <pre>mount -t smbfs //Windows_server_name/sharename /Linux_mount_location/mount_point_directory -o username=Windows_username</pre> <p>To use this command, the WINS protocol must be functioning properly on your network. The specified Windows user must have sufficient rights to access the post office directory.</p>                                                                                                                                                     |

## 19.2.2 Accessing a Domain or Post Office on NetWare or Windows from Linux ConsoleOne

After you have made the NetWare or Windows server visible from Linux:

- 1 Mount the domain directory to the Linux server.
- 2 In Linux ConsoleOne, authenticate to the eDirectory™ tree where the Domain object is located.
- 3 Click *Tools > GroupWise System Operations > Select Domain*.
- 4 Browse to and select the domain directory, then click *OK*.

You can now use Linux ConsoleOne to administer all GroupWise objects that belong to the domain that is located on NetWare or Windows.

## 19.3 Migrating eDirectory to Linux

ConsoleOne modifies information stored in eDirectory. Novell eDirectory is available on NetWare, Linux, and Windows. eDirectory can be in use on any of these platforms when you are migrating your GroupWise system to Linux.

As part of the migration process, you might want to migrate eDirectory to Linux. Step-by-step instructions for migrating eDirectory to Linux are beyond the scope of the *GroupWise Installation Guide*, but the following documentation can provide assistance:

- ♦ If you are migrating to OES Linux, review *Consolidating Data to OES Linux and Migrating Data from NetWare Servers* in the *Novell Server Consolidation and Migration Toolkit Administration Guide* (<http://www.novell.com/documentation/scmt/index.html>).
- ♦ For situations not covered in the above guide, the eDirectory migration process includes installing eDirectory on Linux, creating an eDirectory replica on one or more Linux servers, and ultimately making one of the Linux replicas the master replica so that you can phase out the replicas on other platforms. For guidance, see the documentation for your version of eDirectory:
  - ♦ eDirectory 8.7.3 (<http://www.novell.com/documentation/edir873/index.html>)
  - ♦ eDirectory 8.8 (<http://www.novell.com/documentation/edir88/index.html>)



# Manually Migrating a Post Office and Its POA to Linux

# 20

Migrating a post office and its POA to Linux includes copying directory structures to Linux, installing the POA software on Linux, and updating configuration information in ConsoleOne®.

- ♦ [Section 20.1, “Preparing for the Post Office Migration,” on page 273](#)
- ♦ [Section 20.2, “Performing the Post Office Migration,” on page 274](#)
- ♦ [Section 20.3, “Reconfiguring the Post Office in ConsoleOne,” on page 277](#)
- ♦ [Section 20.4, “Finalizing the Post Office Migration,” on page 278](#)

This section describes the manual steps involved in the process. As an alternative, you can use the GroupWise® Server Migration Utility to perform some of the steps for you. For more information, see *GroupWise Server Migration Utility Installation and Migration Guide*.

## 20.1 Preparing for the Post Office Migration

1 On the Linux server, become `root` in a terminal window.

2 Check the Linux server for adequate disk space for your backup solution of choice.

If you want to use the GroupWise Database Copy utility (DBCOPY), as described in “[GroupWise Database Copy Utility](#)” in “[Databases](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>), you create a copy of the post office and then back up the copy, which requires double the post office size in disk space.

If you want to use the GroupWise Target Service Agent (TSAFSGW), as described in “[Target Service Agents](#)” in “[Databases](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>), this extra disk space is not required. However, having a recent complete online backup available can be helpful in a variety of circumstances.

3 Make the Linux server visible from Windows.

This is necessary in order to perform administration tasks from Windows ConsoleOne during the post office migration process. For Linux server configurations to accomplish this, see [Section 19.1.1, “Making a Linux Server Visible from Windows,” on page 269](#).

4 Make the NetWare® or Windows server visible from Linux.

This is necessary in order to use the Linux version of the GroupWise Database Copy utility (DBCOPY) to copy the post office directory and its contents to the Linux server. The Linux version of DBCOPY includes switches specialized for the post office migration process. For `mount` commands, see [Section 19.2.1, “Making a NetWare or Windows Server Visible from Linux,” on page 271](#).

5 In a location on the Linux server that is accessible from Windows, create a new directory for your GroupWise system into which you plan to copy the post office directory. For example:

```
mkdir gwsystem
```

6 Install the GroupWise Database Copy utility (DBCOPY) as described in “[Using DBCOPY on Linux](#)” in “[Databases](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

- 7 Install GroupWise Check (GWCheck) as described in “[Using GWCheck on Linux](#)” in “[Databases](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).
- 8 Continue with [Performing the Post Office Migration](#).

## 20.2 Performing the Post Office Migration

In order to reduce the amount of time during which users cannot access their GroupWise mailboxes during the post office migration process, the post office data is copied twice. During the first copy, the POA is allowed to continue running and users can continue working. Because users are still accessing their mailboxes, some files are modified after being copied, thus necessitating the second copy of the files. For the second copy, the POA is stopped and users cannot access their Online mailboxes. However, only the modified files are copied, so the second copy procedure completes much more quickly.

- 1 In the `/opt/novell/groupwise/agents/bin` directory, use DBCopy to copy the post office directory from the NetWare or Windows server to the new directory on the Linux server.

```
./dbcopy -m -f /post_office_directory /destination_directory
```

The `-m` switch indicates that DBCopy is being used for migration to Linux. The `-f` switch indicates that this is the first pass of the migration process, during which the post office queue directories (`wpcsin` and `wpcout`) are not copied. The `post_office_directory` variable includes the Linux mount location (for example, `/mnt`), the mount point directory, and the full path to the post office directory on the NetWare or Windows server. The `destination_directory` variable is the directory you created on the Linux server in [Step 5](#) in the previous section.

DBCOPY creates a log file named `mmddgwbk.nnn`. The first 4 characters represent the date. A three-digit extension allows for multiple log files created on the same day. The log file is created at the root of the destination post office directory. Include the `-v` switch in the `dbcopy` command to enable verbose logging for the post office migration.

DBCOPY is typically used for backing up your GroupWise system, but when you use the `-m` switch to migrate a post office to Linux, it changes directory names to lowercase as required on Linux and copies the message queue directories as well as the GroupWise databases in the post office. For more information about DBCOPY, see “[GroupWise Database Copy Utility](#)” in “[Databases](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

This initial copy operation might require a substantial amount of time, but users are still able to access their mailboxes. Use the fastest network connection available for this copy operation.

- 2 If your Linux environment includes the X Window System, run the GroupWise Installation program to install the Linux POA for the post office, as described in “[Installing the GroupWise Agents on Linux](#)” on page 175.

or

If the X Window System is not available, run the text-based GroupWise Installation program, as described in “[Installing the GroupWise Agents Using the Text-Based Installation Program](#)” on page 177.

- 3 Change to the `/opt/novell/groupwise/agents/bin` directory.
- 4 If the X Window System is available, enter the following command to start the Linux POA to verify that it runs for the post office in the new location:

```
./gwpoa --show --home /post_office_directory --noconfig
```

The `--show` switch starts the POA with a user interface. The `--home` switch provides the location of the post office. The `--noconfig` switch prevents the POA from reading configuration information from eDirectory™; the current eDirectory information is obsolete because the post office has been migrated. For purposes of this initial test, the POA starts with default configuration settings, including using any available IP address.

You should see the POA server console described in “Starting the Linux Agents with a User Interface” on page 178. If the POA server console does not appear, review the preceding steps to verify that all steps have been followed. For additional assistance, see “Post Office Agent Problems” in “Strategies for Agent Problems” in *GroupWise 7 Troubleshooting 2: Solutions to Common Problems* (<http://www.novell.com/documentation/gw7>).

or

If the X Window system is not available:

- 4a** If LDAP authentication is not in use, enter the following command to start the Linux POA to verify that it runs for the post office in the new location:

```
./gwpoa --home /post_office_directory --noconfig
 --ip POA_server_IP_address --httpport 7181
```

The `--home` switch provides the location of the post office. The `--noconfig` switch prevents the POA from reading configuration information from eDirectory; the current eDirectory information is obsolete because the post office has been migrated. The `--ip` switch provides the IP address of the server where the POA is running. The `-httpport` switch enables the POA Web console and provides the port number.

or

If LDAP authentication is enabled for the post office, enter the following command:

```
./gwpoa --home /post_office_directory --noconfig
 --ip POA_server_IP_address --httpport 7181
 --ldapiaddr LDAP_server_IP_address
 --ldapport LDAP_port (if not the default of 389)
```

The `--ldapiaddr` switch provides the location of the LDAP server. The `--ldapport` switch is required only if the LDAP server communicates on a port other than the default of 389.

---

**IMPORTANT:** To simplify this test, do not use an SSL connection to the LDAP server.

---

- 4b** Open a Web browser and display the following URL:

```
http://POA_server_IP_address:7181
```

You should see the POA Web console described in “Monitoring the Linux GroupWise Agents from Your Web Browser” on page 181. If the POA Web console does not appear, review the preceding steps to verify that all steps have been followed. For additional assistance, see “Post Office Agent Problems” in “Strategies for Agent Problems” in *GroupWise 7 Troubleshooting 2: Solutions to Common Problems* (<http://www.novell.com/documentation/gw7>).

- 5** If you have access to a GroupWise mailbox on the post office you have migrated, start the GroupWise client to further verify the functioning of the POA.
- 6** After verifying that the Linux POA runs successfully for the post office in the new location on Linux, stop the Linux POA, as described in “Stopping the Linux GroupWise Agents” on page 189.

- 7 If you are using SSL, create a new certificate file (*filename.crt*) and a new key file (*filename.key*) for the Linux server and place them in the `/opt/novell/groupwise/agents/bin` directory, which is the default location where the POA looks for certificate files.

For instructions on creating certificate and key files, see “[Server Certificates and SSL Encryption](#)” in “[Security Administration](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>)

- 8 If you are using LDAP authentication, copy the public root certificate file (*filename.der*) from the LDAP server to the `/opt/novell/groupwise/agents/bin` directory.
- 9 If you are migrating a post office that has a library with a document storage area located outside the post office directory structure, decide how to handle the document storage area:

You have two alternatives for accessing the document storage area from the post office on Linux:

- ♦ **Mount the document storage area:** You can leave the document storage area on the NetWare or Windows server. To provide access, permanently mount the storage area directory to the Linux server where the post office is located, using the `mount` command provided in [Section 19.2.1, “Making a NetWare or Windows Server Visible from Linux,” on page 271](#).
- ♦ **Migrate the document storage area:** If you want to eliminate the NetWare or Windows server, you can migrate the document storage area to a convenient location on the Linux server. This also eliminates the need for the permanently mounted file system.

Mount the document storage area to the Linux machine, then use the following DBCopy command to migrate the document storage area to the Linux server:

```
./dbcop y -m -b /storage_area_directory /destination_directory
```

The `-m` switch indicates that DBCopy is being used for migration to Linux. The `-b` switch indicates that DBCopy is being used to migrate a documentation storage area containing document BLOB (binary large object) files. The `storage_area_directory` variable includes the Linux mount location (for example, `/mnt`), the mount point directory, and the full path to the document storage area. The `destination_directory` variable is the location on the Linux server where you want to migrate the document storage area.

DBCop y creates a log file named `mmdgwbk.nnn`. The first 4 characters represent the date. A three-digit extension allows for multiple log files created on the same day. The log file is created at the root of the destination document storage area directory. Include the `-v` switch in the `dbcop y` command to enable verbose logging for the storage area migration.

If you encounter problems accessing documents after the migration, refer to TID 10101095 in the [Novell Knowledgebase](http://www.novell.com/support) (<http://www.novell.com/support>).

- 10 Notify users that they must exit the GroupWise client unless they are running in Caching mode. Users in Caching mode do not need access to the post office in order to continue using GroupWise. However, they cannot send and receive new messages while the POA is not running.
- 11 Continue with [Reconfiguring the Post Office in ConsoleOne](#).

## 20.3 Reconfiguring the Post Office in ConsoleOne

If the connection between Linux and Windows is set up correctly, as described in [Step 3](#) in [Section 20.1, “Preparing for the Post Office Migration,” on page 273](#), you can use Windows ConsoleOne to perform the reconfiguration of the post office. You can also use Linux ConsoleOne if desired.

- 1** In ConsoleOne, disable logins to the post office:
  - 1a** Browse to and right-click the Post Office object, then click *Properties*.
  - 1b** Click *GroupWise > Client Access Settings*.
  - 1c** Select *Disable Logins*, then click *Apply* to save the setting.
- 2** Update the location information for the post office:
  - 2a** Display the *Identification* property page of the Post Office object.
  - 2b** In the *UNC Path* field, change the path to the location on the Linux server where you copied the post office. For example:

```
\\linuxsvr3\gwsystem\research
```

For a Linux server, ConsoleOne interprets the UNC path as a Linux path. Do not put a Linux path with front slashes in the UNC Path field, because backslashes are expected.
  - 2c** Click *OK* to save the new path information for the post office.
- 3** Update the configuration information for the POA:
  - 3a** Browse to and right-click the POA object for the post office, then click *Properties*.
  - 3b** Click *GroupWise > Identification*.
  - 3c** In the Platform field, make sure that *Linux* is selected.
  - 3d** Display the Network Address property page of the POA object.
  - 3e** In the *TCP/IP Address* field, specify the IP address of the Linux server.
  - 3f** Display the Log Settings property page of the POA object.
  - 3g** Make sure that the *Log File Path* field is empty so that the POA on Linux creates its log files in the default location (`/var/log/novell/groupwise/post_office_name.poa`) on the Linux server.
  - 3h** Click *OK* to save the new configuration information for the POA.
- 4** If you are using SSL, update the location for the certificate and key files:
  - 4a** Display the *SSL Settings* property page of the POA object.
  - 4b** Browse to and select the certificate file and the key file that you created for the Linux server in [Step 7](#) in [Section 20.2, “Performing the Post Office Migration,” on page 274](#).
  - 4c** Click *OK* to save the SSL information for the POA.
- 5** If you migrated a document storage area to the Linux server in [Step 9](#) in [Section 20.2, “Performing the Post Office Migration,” on page 274](#), update the location of the document storage area:
  - 5a** Browse to and right-click the Library object, then click *Properties*.
  - 5b** Click *GroupWise > Storage Areas*.
  - 5c** Select the storage area that you have migrated, then click *Edit*.

- 5d** In the *Linux Path* field, provide the full path to the storage area from the point of view of the POA running on the Linux server.
- 5e** Click *OK* twice to save the storage area information.
- 6** Check the status of the link between the POA still running on NetWare or Windows and the MTA it communicates with:
  - 6a** At the MTA server console, use *Options > Configuration Status*.
  - or
  - At the MTA Web console, look on the Links page.

When the ConsoleOne updates that you have just made, including the post office location change, have been processed by the MTA, the link changes to Closed. The status must show as Closed before you finalize the migration.
- 7** Continue with [Finalizing the Post Office Migration](#).

## 20.4 Finalizing the Post Office Migration

- 1** On the NetWare or Windows server, stop the POA for the post office. If multiple POAs are currently running for the post office, stop all POAs.
 

GroupWise users can no longer access their Online mailboxes.
- 2** On the Linux server, run DBCopy again to copy the post office:
 

```
./dbcop y -m -i mm-dd-yyyy -s /post_office_directory
 /destination_directory
```

When you run DBCopy the second time and include the `-i` switch with the date of the initial copy, it copies only files that have been modified since the initial copy, like an incremental backup. The `-s` switch indicates that this is the second pass of the migration process, during which the post office queue directories (`wpcsin` and `wpcout`) are copied. The second DBCopy process should be substantially shorter than the first one.
- 3** If you migrated a document storage area to the Linux server in [Step 9](#) in [Section 20.2](#), [“Performing the Post Office Migration,”](#) on page 274, run DBCopy again to copy the document storage area with the files modified since the first copy:
 

```
./dbcop y -m -b -i /storage_area_directory /destination_directory
```

When the copy operation is finished, unmount the document storage area.
- 4** Run the standalone GroupWise Check utility (GWCheck), installed in [Step 7](#) in [Section 20.1](#), [“Preparing for the Post Office Migration,”](#) on page 273, with the `storelowercase` support option to convert the filenames and directory names stored inside GroupWise databases in the post office to lowercase:
  - 4a** In the *Database Type* box, select *Post Office*.
  - 4b** Browse to and select the post office database in its new location, then specify the post office name.
  - 4c** In the *Object Type* box, select *Post Office*.
  - 4d** In the *Support Options* field on the *Misc* tab, specify `storelowercase`.
  - 4e** Click *Run* to run GWCheck.

If you need to run GWCheck in a text-only environment, see [“Using Text-Based GWCheck \(gwcheckt\)”](#) in [“Databases”](#) in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>) for additional instructions.

- 5** If your GroupWise system includes an Internet Agent that is used for POP and IMAP e-mail clients, check the link between the Internet Agent and the post office:
  - 5a** In ConsoleOne, right-click the Internet Agent object, then click *Properties*.
  - 5b** Click *Post Office Links*.
  - 5c** Make sure that the link shows the correct IP address where the Linux POA for the migrated post office is now running.
- 6** If your GroupWise system includes the WebAccess Agent, check the link between the WebAccess Agent and the migrated post office:
  - 6a** In ConsoleOne, right-click the WebAccess Agent object, then click *Properties*.
  - 6b** Click *Post Office Links*.
  - 6c** Make sure that the link shows the correct IP address where the Linux POA for the migrated post office is now running.
- 7** Start the Linux POA with or without a user interface, as described in “[Starting the Linux Agents with a User Interface](#)” on page 178 or “[Starting the Linux GroupWise Agents as Daemons](#)” on page 180.
- 8** If necessary, provide GroupWise users with the new IP address where the Linux POA is now running, so that they can start GroupWise again and access their Online mailboxes on the Linux server.

If you are running a GroupWise name server, as described in “[Simplifying Client/Server Access with a GroupWise Name Server](#)” in “[Post Office Agent](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>), users are automatically redirected to the new IP address when they start GroupWise.
- 9** When the Linux POA is running smoothly for the new post office location, delete the old post office directory structure from the NetWare or Windows server.
- 10** If you migrated a document storage area to the Linux server in [Step 9](#) in [Section 20.2](#), “[Performing the Post Office Migration](#),” on page 274, delete the old document storage area on the NetWare or Windows server.
- 11** Set up a backup procedure for the post office in its new location on Linux, as described in “[GroupWise Database Copy Utility](#)” or “[Target Service Agents](#)” in “[Databases](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).
- 12** If desired, uninstall the POA software to reclaim disk space on the NetWare or Windows server. See “[Uninstalling the NetWare GroupWise Agents](#)” on page 174 or “[Uninstalling the Windows GroupWise Agents](#)” on page 197.





# Manually Migrating a Domain and Its MTA to Linux

# 21

Migrating a domain and its MTA to Linux includes copying directory structures to Linux, installing the MTA software on Linux, and updating configuration information in ConsoleOne®. This section describes the manual steps involved in the process.

- ♦ [Section 21.1, “Preparing for the Domain Migration,” on page 281](#)
- ♦ [Section 21.2, “Performing the Domain Migration,” on page 282](#)
- ♦ [Section 21.3, “Reconfiguring the Domain in ConsoleOne,” on page 283](#)
- ♦ [Section 21.4, “Finalizing the Domain Migration,” on page 284](#)

As an alternative, you can use the GroupWise® Server Migration Utility to perform some of the steps for you. For more information, see *GroupWise Server Migration Utility Installation and Migration Guide*.

## 21.1 Preparing for the Domain Migration

1 On the Linux server, become `root` in a terminal window.

2 Check the Linux server for adequate disk space for your backup solution of choice.

If you want to use the GroupWise Database Copy utility (DBCOPY), as described in “[GroupWise Database Copy Utility](#)” in “[Databases](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>), you create a copy of the domain and then back up the copy, which requires double the domain size in disk space.

If you want to use the GroupWise Target Service Agent (TSAFSGW), as described in “[Target Service Agents](#)” in “[Databases](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>), this extra disk space is not required.

3 Make the Linux server visible from Windows.

This is necessary in order to perform administration tasks from Windows ConsoleOne during the domain migration process. For Linux server configurations to accomplish this, see [Section 19.1.1, “Making a Linux Server Visible from Windows,” on page 269](#).

4 Make the NetWare® or Windows server visible from Linux.

This is necessary in order to use the Linux version of the GroupWise Database Copy utility (DBCOPY) to copy the domain directory and its contents to the Linux server. The Linux version of DBCOPY includes switches specialized for the domain migration process. For `mount` commands, see [Section 19.2.1, “Making a NetWare or Windows Server Visible from Linux,” on page 271](#).

5 In a location on the Linux server that is accessible from Windows, create a new directory for your GroupWise system into which you plan to copy the domain directory. For example:

```
mkdir gwsystem
```

- 6 Install the GroupWise Database Copy utility (DBCOPY) as described in “Using DBCopy on Linux” in “Databases” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).
- 7 Continue with [Performing the Domain Migration](#).

## 21.2 Performing the Domain Migration

- 1 On the NetWare or Windows server, stop the MTA for the domain.
- 2 If the domain has gateways, stop the gateways.
- 3 In the `/opt/novell/groupwise/agents/bin` directory, use DBCopy to copy the domain directory from the NetWare or Windows server to the new directory on the Linux server.

```
./dbcopy -m /domain_directory /destination_directory
```

The `-m` switch indicates that DBCopy is being used for migration to Linux. The `domain_directory` variable includes the Linux mount location (for example, `/mnt`), the mount point directory, and the full path to the domain directory on the NetWare or Windows server. The `destination_directory` variable is the directory you created on the Linux server in [Step 5](#) in the previous section.

DBCOPY creates a log file named `mmdgwbk.nnn`. The first 4 characters represent the date. A three-digit extension allows for multiple log files created on the same day. The log file is created at the root of the destination domain directory. Include the `-v` switch in the `dbcopy` command to enable verbose logging for the domain migration.

DBCOPY is typically used for backing up your GroupWise system, but when you use the `-m` switch to migrate a domain, it changes directory names to lowercase as required on Linux and copies the message queue directories as well as the GroupWise databases in the domain. For more information about DBCOPY, see “GroupWise Database Copy Utility” in “Databases” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

- 4 If you are using the `/work` startup switch to place the MTA working directory (`mslocal`) outside the domain directory structure:
  - 4a Copy the `mslocal` directory to the Linux server so that no messages en route between users are lost.
  - 4b In the `mslocal` directory structure, rename files and directories that contain uppercase letters to all lowercase.
- 5 If your Linux environment includes the X Window System, run the GroupWise Installation program to install the Linux MTA for the domain, as described in “Installing the GroupWise Agents on Linux” on page 175.

or

If the X Window System is not available, run the text-based GroupWise Installation program, as described in “Installing the GroupWise Agents Using the Text-Based Installation Program” on page 177.

If you need to perform the installation from a remote location, you can use `ssh` to access the remote Linux server. Copy the *GroupWise 7 Administrator for Linux* CD to the server where you have migrated the domain, then run the text-based Installation program to install the MTA on the Linux server.

- 6 Change to the `/opt/novell/groupwise/agents/bin` directory.
- 7 If the X Window System is available, enter the following command to start the Linux MTA to verify that it runs for the domain in the new location:

```
./gwmta --show --home /domain_directory
```

The `--show` switch starts the MTA with a user interface. The `--home` switch provides the location of the domain.

You should see the MTA server console described in “[Starting the Linux Agents with a User Interface](#)” on page 178. If the MTA server console does not appear, review the preceding steps to verify that all steps have been followed. For additional assistance, see “[Message Transfer Agent Problems](#)” in “[Strategies for Agent Problems](#)” in the *GroupWise 7 Troubleshooting 2: Solutions to Common Problems*.

or

If the X Window system is not available:

- 7a** Enter the following command to start the Linux MTA to verify that it runs for the domain in the new location:

```
./gwmta --home /domain_directory --noconfig
--ip mta_server_ip_address --httpport 7180
```

The `--home` switch provides the location of the domain. The `--noconfig` switch prevents the MTA from reading configuration information from eDirectory; the current eDirectory information is obsolete because the domain has been migrated. The `--ip` switch provides the IP address of the server where the MTA is running. The `-httpport` switch enables the MTA Web console and provides the port number.

To simplify this test, do not use an SSL connection.

- 7b** In an appropriate environment, open a Web browser and display the following URL:

```
http://mta_server_ip_address:7180
```

You should see the MTA Web console described in “[Monitoring the Linux GroupWise Agents from Your Web Browser](#)” on page 181. If the MTA Web console does not appear, review the preceding steps to verify that all steps have been followed. For additional assistance, see “[Message Transfer Agent Problems](#)” in “[Strategies for Agent Problems](#)” in the *GroupWise 7 Troubleshooting 2: Solutions to Common Problems*.

- 8** After verifying that the MTA starts successfully for the domain in the new location on Linux, stop the MTA, as described in “[Stopping the Linux GroupWise Agents](#)” on page 189.
- 9** If you plan to use SSL on Linux, create new certificate and key files for the Linux server and place them in the `/opt/novell/groupwise/agents/bin` directory, the default location where the MTA looks for certificate and key files.

For instructions on creating certificate and key files, see “[Server Certificates and SSL Encryption](#)” in “[Security Administration](#)” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>)

- 10** Continue with [Reconfiguring the Domain in ConsoleOne](#).

## 21.3 Reconfiguring the Domain in ConsoleOne

If the connection between Linux and Windows is set up correctly, as described in [Step 3 in Section 21.1, “Preparing for the Domain Migration,”](#) on page 281, you can use Windows ConsoleOne to perform the reconfiguration of the post office. You can also use Linux ConsoleOne if desired.

- 1** In ConsoleOne, update the location information for the domain:
- 1a** Browse to and right-click the Domain object, then click *Properties*.

- 1b** Click *GroupWise > Identification*.
- 1c** In the *UNC Path* field, change the path to the location on the Linux server where you migrated the domain. For example:  

```
\\linuxsvr3\gwsystem\provo3
```

For a Linux server, ConsoleOne interprets the UNC path as a Linux path. Do not put a Linux path in the *UNC Path* field.
- 1d** Click *OK* to save the new location information for the domain.
- 2** Update the configuration information for the MTA:
  - 2a** Browse to and right-click the MTA object for the domain, then click *Properties*.
  - 2b** Click *GroupWise > Identification*.
  - 2c** In the *Platform* field, make sure that *Linux* is selected.
  - 2d** Display the Network Address property page of the MTA object for the domain.
  - 2e** In the *Network Address* field, specify the IP address of the Linux server.
  - 2f** Click *OK* to save the new configuration information for the MTA.
- 3** If the domain that you migrated to Linux has gateways associated with it, reselect each gateway directory:
  - 3a** Browse to and select the Domain object.
  - 3b** Right-click a Gateway object, then click *Properties*.
  - 3c** Click *GroupWise > Identification*.
  - 3d** In the *Subdirectory* field, reselect the gateway directory.  

If you do not have any gateway subdirectories to choose from, you have not successfully completed **Step 1**.
  - 3e** Click *OK* to save the gateway directory information.
  - 3f** Repeat **Step 3a** through **Step 3e** for each gateway that belongs to the domain.
- 4** Continue with **Finalizing the Domain Migration**.

## 21.4 Finalizing the Domain Migration

- 1** Start the Linux MTA with or without a user interface, as described in “**Starting the Linux Agents with a User Interface**” on page 178 or “**Starting the Linux GroupWise Agents as Daemons**” on page 180.
- 2** At the MTA server console or Web console, check to see if all links between the new Linux MTA and other domains and post offices are open.  

If you have closed links, see “**MTA Status Box Shows a Closed Location**” in “**Strategies for Agent Problems**” in *GroupWise 7 Troubleshooting 2: Solutions to Common Problems*.
- 3** If the domain has gateways, start each gateway.
- 4** Set up a backup procedure for the domain in its new location on Linux, as described in “**GroupWise Database Copy Utility**” or “**Target Service Agents**” in “**Databases**” in the *GroupWise 7 Administration Guide* (<http://www.novell.com/documentation/gw7>).

- 5** If the domain has an Internet Agent that is running on the same NetWare or Windows server where the domain directory was previously located, migrate the Internet Agent to the Linux server where the domain directory is now located, as described in [Chapter 22, “Manually Migrating the Internet Agent to Linux,”](#) on page 287.

After the domain has been migrated to Linux, the NetWare or Windows Internet Agent can continue receiving and queuing Internet messages, but it cannot pass them into the GroupWise system until the Internet Agent has been migrated to Linux along with its domain and MTA.

- 6** If the domain has a WebAccess Agent that is running on the same NetWare or Windows server where the domain directory was previously located, consider migrating the WebAccess Agent to the Linux server where the domain directory is now located, as described in [Chapter 23, “Manually Migrating WebAccess to Linux,”](#) on page 291.

Because it is common for the WebAccess Agent to run on a different server from where its domain is located, there is no urgency about migrating it to Linux.

- 7** When the Linux MTA is running smoothly for the new domain location, and other GroupWise agents belonging to the domain have been migrated to Linux as needed, delete the old domain directory structure (and if applicable, the `mslocal` directory structure) from the NetWare or Windows server.
- 8** If desired, uninstall the MTA software to reclaim disk space on the NetWare or Windows server. See [“Uninstalling the NetWare GroupWise Agents”](#) on page 174 or [“Uninstalling the Windows GroupWise Agents”](#) on page 197.



# Manually Migrating the Internet Agent to Linux

# 22

Migrating the Internet Agent to Linux includes migrating its domain to Linux, then installing the Internet Agent software on Linux, updating Internet Agent configuration information in ConsoleOne®, and copying queued Internet messages from the NetWare or Windows server to the Linux server.

As an alternative, you can use the GroupWise® Server Migration Utility to perform some of the steps for you. For more information, see *GroupWise Server Migration Utility Installation and Migration Guide*.

- 1** Migrate the Internet Agent's domain to Linux, as described in [Chapter 21, "Manually Migrating a Domain and Its MTA to Linux,"](#) on page 281.

If you are using SSL, migrating the domain and its MTA includes creating a new certificate file (*filename.crt*) and a new key file (*filename.key*) for the Linux server and placing them in the `/opt/novell/groupwise/agents/bin` directory, as described in [Step 9](#) in [Section 21.2, "Performing the Domain Migration,"](#) on page 282.

- 2** On the Linux server, become `root` in a terminal window.
- 3** Make the Linux server visible from Windows.

This is necessary in order to perform administration tasks from Windows ConsoleOne during the Internet Agent configuration process. For Linux server configurations to accomplish this, see [Section 19.1.1, "Making a Linux Server Visible from Windows,"](#) on page 269.

- 4** Install and configure the Linux Internet Agent, as described in ["Linux: Installing the Internet Agent Software"](#) on page 94.

- 5** In ConsoleOne, update the Internet Agent property pages for the new location of the Internet Agent:

- 5a** On the Identification property page of the GroupWise tab, set *Platform* to *Linux*, then click *Apply*.

- 5b** On the Network Address property page of the GroupWise tab, specify the IP address or DNS hostname of the Linux server, then click *Apply*.

- 5c** On the Log Settings property page of the GroupWise tab, if you have specified a directory path in the *Log File Path* field, delete the NetWare® or Windows path, then click *Apply*.

On Linux, Internet Agent log files are stored in the `/var/log/novell/groupwise/domain.gwia`.

- 5d** On the SSL Settings property page of the GroupWise tab, if you have specified full paths in the *Certificate File* and *SSL Key File* fields, delete the NetWare or Windows path, then click *Apply*.

On Linux, the Internet Agent looks in the `/opt/novell/groupwise/agents/bin` directory for certificate and key files by default.

- 5e** On the Server Directories tab, update the *Conversion Directory* and *SMTP Queues Directory* fields with corresponding Linux locations.

- 6** On the NetWare or Windows server, stop the Internet Agent.

Internet messages cannot be received into your GroupWise system while the Internet Agent is stopped.

- 7 From Windows, copy the queued Internet messages in the Internet Agent SMTP queues directory on the NetWare or Windows server to the Linux server.

---

**NOTE:** Because of [Step 3](#) above, the Linux server is already visible from Windows. If you prefer to perform the copy operation from Linux, you must first make the NetWare or Windows server visible from Linux, as described in [Section 19.2.1, “Making a NetWare or Windows Server Visible from Linux,”](#) on page 271.

---

The default Internet Agent SMTP queues directory is `domain/wpgate/gwia`. In this directory, four queue subdirectories are used for SMTP processing: `send`, `receive`, `result`, and `defer`. When you migrated the domain to Linux, DBCopy copied these queue directories and their contents to the Linux server along with the rest of the domain directory structure, but additional Internet messages might have arrived since that time. Therefore, you need to copy these queue directories again now that the Internet Agent has been stopped.

If you have used the *SMTP Queues Directory* field on the Server Directories property page of the Internet Agent object in ConsoleOne or the `/dhome` switch in the `gwia.cfg` file to place the queue directories outside the domain directory structure, then DBCopy did not copy the queue directories. Copy the queue directories from the NetWare or Windows server to their default location in the domain directory structure or to another location of your choice on the Linux server. If you do not copy them to their default location, update the *SMTP Queues Directory* setting with the full path to the SMTP queues directory.

- 8 If Sendmail, Postfix, or any other SMTP daemon is enabled on your Linux server, disable it before starting the Internet Agent.

For example, use the following commands to stop and disable Postfix:

```
/etc/init.d/postfix stop
chkconfig postfix off
```

As an alternative, you can configure the Internet Agent to bind exclusively to the server IP address, as described in [“Binding the Internet Agent to a Specific IP Address”](#), so that the Internet Agent IP address does not conflict with the default Postfix IP address of `127.0.0.1` (the loopback address).

- 9 If you want to use the Internet Agent for POP3 and IMAP4 mail, make sure no POP3 or IMAP4 daemons are running on your Linux server.
- 10 Make sure that the MTA for the domain is running.
- 11 Start the Linux Internet Agent with or without a user interface, as described in [“Linux: Starting the Internet Agent”](#) on page 97.

If the Internet Agent server console does not appear, or the Internet Agent Web console is not available in your Web browser, review the preceding steps to verify that all steps have been followed. For additional assistance, see [“Internet Agent Problems”](#) in [“Strategies for Agent Problems”](#) in the *GroupWise 7 Troubleshooting 2: Solutions to Common Problems* (<http://www.novell.com/documentation/gw7>).

- 12 When the Linux Internet Agent is running smoothly for the new domain location, and other GroupWise agents belonging to the domain have been migrated to Linux as needed, delete the old domain directory structure from the NetWare or Windows server.



- 13** If the SMTP queue directory was located outside the domain directory structure, delete this directory and its contents from the NetWare or Windows server.
- 14** If desired, uninstall the Internet Agent software to reclaim disk space on the NetWare or Windows server. See [“Uninstalling the NetWare GroupWise Agents” on page 174](#) or [“Uninstalling the Windows GroupWise Agents” on page 197](#).



# Manually Migrating WebAccess to Linux

# 23

You can migrate just the WebAccess Agent, just the WebAccess Application, or both from NetWare® or Windows to Linux. The process includes installing the WebAccess software on Linux, then transferring configuration information from old eDirectory™ objects to new eDirectory objects and from old startup files and configuration files on NetWare or Windows to new startup files and configuration files on Linux.

- ♦ [Section 23.1, “Manually Migrating the WebAccess Agent to Linux,” on page 291](#)
- ♦ [Section 23.2, “Manually Migrating the WebAccess and WebPublisher Applications to Linux,” on page 293](#)

As an alternative, you can use the GroupWise® Server Migration Utility to perform some of the steps for you. For more information, see [GroupWise Server Migration Utility Installation and Migration Guide](#).

## 23.1 Manually Migrating the WebAccess Agent to Linux

- 1 On the Linux server, become `root` in a terminal window.
- 2 If you are installing the WebAccess Agent on a server other than the one where its domain is located, provide access to the domain directory on the server where you are installing the Linux WebAccess Agent.

If the domain directory is located on another Linux server, use your mount command of choice. If the domain is located on a NetWare or Windows server, see [Section 19.2.1, “Making a NetWare or Windows Server Visible from Linux,” on page 271](#) for suggested mount commands.

As an alternative to a permanent mount, and to provide better performance and stability, you can create a secondary domain and run a Linux MTA on the Linux server local to the WebAccess installation. For instructions, see “[Creating a New Domain](#)” in “[Domains](#)” in the [GroupWise 7 Administration Guide](#) (<http://www.novell.com/documentation/gw7>).

- 3 If your Linux environment includes the X Window System, run the GUI GroupWise Installation program to install the Linux WebAccess Agent software, as described in “[Installing the Linux WebAccess Agent](#)” on page 123.

or

If the X Window System is not available, run the text-based GroupWise Installation program instead, as described in “[Installing the GroupWise Agents Using the Text-Based Installation Program](#)” on page 177.

- 4 Configure the WebAccess Agent, as described in “[Configuring the Linux WebAccess Agent](#)” on page 124.
  - 4a On the Gateway Directory page, specify a new name for the WebAccess gateway directory under `wpgate` in the domain directory, so that the old gateway directory and its contents are retained.
  - 4b On the Gateway Object page, specify a new object name, so that the old WebAccess Agent object is retained.
- 5 In ConsoleOne<sup>®</sup>, review the property pages for the old WebAccess Agent object and transfer any settings that you have customized on the old WebAccess Agent object to the new WebAccess Agent object.

---

**IMPORTANT:** The encryption key on the WebAccess Settings page is especially important. Check and transfer it if necessary.

---

- 6 Copy the `commgr.cfg` file from its location under the new WebAccess gateway directory:

`domain_directory/wpgate/new_webaccess_agent_gateway_directory`

to the WebAccess, and optionally WebPublisher, software directories:

`/opt/novell/groupwise/webaccess`  
`/opt/novell/groupwise/webpublisher`

If you plan to run multiple WebAccess Agents for the domain, this step needs to be done only for the primary WebAccess Agent, as listed on the Environment property page of the GroupWise Provider object.

- 7 Review the existing WebAccess Agent startup file:

`old_webaccess_agent_object_name.waa`

located on the NetWare or Windows server in:

NetWare: `sys:\system`

Windows: `c:\webacc`

and transfer any customized settings to the new WebAccess Agent startup file:

`new_webaccess_agent_object_name.waa`

located on the following directory on the Linux server:

`/opt/novell/groupwise/agents/share`

- 8 Review the old Document Viewer Agent startup file (`gwdva.dva`) located on the NetWare or Windows server in the same directory with the WebAccess Agent startup file, and transfer any customized settings to the new Document Viewer Agent startup file on the Linux server.
- 9 Start the Linux WebAccess Agent with or without a user interface, as described in “[Starting the Linux WebAccess Agent](#)” on page 128.

If the WebAccess Agent server console does not appear, or the WebAccess Agent Web console is not available in your Web browser, review the preceding steps to verify that all steps have been followed. For additional assistance, see “[WebAccess Agent Problems](#)” in “[Strategies for Agent Problems](#)” in the *GroupWise 7 Troubleshooting 2: Solutions to Common Problems* (<http://www.novell.com/documentation/gw7>).

- 10 After the new WebAccess Agent is running successfully, replace the old WebAccess Agent with the new WebAccess Agent in the WebAccess Application's provider list.
  - 10a In ConsoleOne, right-click the GroupWise Provider object, then click *Properties*.
  - 10b In the GroupWise WebAccess Agent Information box, click *Add*.
  - 10c Browse to and select the new WebAccess Agent object, then click *OK* to add it to the list of WebAccess Agents.
  - 10d Select the old WebAccess Agent, then click *Delete*.
  - 10e Click *OK* to save the updated WebAccess Agent list.
- 11 Stop the old WebAccess Agent on the NetWare or Windows server.
- 12 Delete the old WebAccess Agent object from eDirectory.
- 13 Delete the old WebAccess Agent gateway directory under `wpgate` in the domain directory.
- 14 If desired, uninstall the WebAccess Agent software to reclaim disk space on the NetWare or Windows server. See [“Uninstalling the NetWare GroupWise Agents” on page 174](#) or [“Uninstalling the Windows GroupWise Agents” on page 197](#).

## 23.2 Manually Migrating the WebAccess and WebPublisher Applications to Linux

- 1 On the Linux server, become `root` in a terminal window.
- 2 Make sure that the Linux server already has Apache and Tomcat configured and running successfully and that you know the full path to the Apache and Tomcat root directories.
- 3 If your Linux environment includes the X Window System, run the GUI GroupWise Installation program to install and configure the Linux WebAccess Application, as described in [“Installing and Configuring the WebAccess Application and WebPublisher Application” on page 125](#).

or

If the X Window System is not available, run the text-based GroupWise Installation program instead, as described in [“Installing the GroupWise Agents Using the Text-Based Installation Program” on page 177](#).

---

**IMPORTANT:** On the WebAccess Objects page, specify a new context for the WebAccess Application objects, so that the old objects are retained.

---

- 4 If you want to use WebPublisher on Linux, perform the manual configuration described in [“Configuring WebPublisher” on page 126](#).
- 5 In ConsoleOne, review the property pages for the old WebAccess Application objects:
  - ♦ GroupWise WebAccess
  - ♦ Novell Speller
  - ♦ LDAP Provider
  - ♦ GroupWise Provider
  - ♦ GroupWise Document Provider
- 6 transfer any settings that you have customized on the old WebAccess Application objects to the new WebAccess Application objects.

**7** If you installed WebPublisher, review the property pages of the old GroupWise WebPublisher object, then transfer any settings that you have customized on the old GroupWise WebPublisher object to the new GroupWise WebPublisher object.

**8** If you have customized any WebAccess or WebPublisher template files, copy the customized template files from the old Web server to the following directories on the Linux Web server:

```
/var/opt/novell/gw/WEB-INF/classes/com/novell/webaccess/templates
/var/opt/novell/gw/WEB-INF/classes/com/novell/webpublisher/
 templates
```

**9** Stop and then start Apache and Tomcat, as described in “Restarting the Web Server” on page 127.

**10** Verify that the new WebAccess Application is communicating successfully with the existing WebAccess Agent by accessing your GroupWise mailbox using the WebAccess client:

```
http://new_web_server_address/gw/webacc
```

**11** To keep users’ existing browser bookmarks from being broken, redirect the old WebAccess and WebPublisher URLs to the new WebAccess and WebPublisher URLs:

**11a** If your old Web server was Apache on NetWare:

**11a1** Change to the `conf` subdirectory of the Apache root directory (for example, `\apache2\conf`).

**11a2** 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`.

**11a3** Add the following line:

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

**11a4** If you use WebPublisher, add the following additional line:

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

**11a5** Save the file, then exit the editor.

**11a6** Restart Apache to put the redirections into effect.

**11b** If your old Web server was Internet Information Server (IIS) on Windows:

**11b1** Change to the `netpub\wwwroot` subdirectory of the IIS root directory (for example, `c:\inetpub\wwwroot`).

**11b2** Create a subdirectory named `servlet`.

**11b3** Under the `servlet` subdirectory, create a subdirectory named `webacc`.

**11b4** If you use WebPublisher, create a second subdirectory named `webpub`.

**11b5** 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 11b2**

**11b6** Expand the `servlet` subdirectory to display the `webacc` subdirectory (and optionally, the `webpub` subdirectory) that you created in **Step 11b3**.

**11b7** Right-click the `webacc` subdirectory, then click *Properties*.

- 11b8** Click *Directory*, select *A Redirection to a URL*, then type `/gw/webacc` in the associated field.
- 11b9** Select *A Permanent Redirection for This Resource*, then click *OK* to save your changes.
- 11b10** If you use WebPublisher, repeat **Step 11b7** through **Step 11b9**, using `webpub` in place of `webacc`.
- 11b11** Restart the IIS Web server to put the redirections into effect.
- 11c** If your old Web server was Netscape Enterprise Server for NetWare, search the [Novell Support Web site \(http://www.novell.com/support\)](http://www.novell.com/support) for redirection instructions.
- 12** Notify users of the new WebAccess and WebPublisher URLs so that users can update their browser bookmarks if they want to.
- 13** If desired, uninstall the WebAccess Application and the WebPublisher Application from the Web server to reclaim disk space on the NetWare or Windows Web server. See “**Uninstalling the NetWare GroupWise Agents**” on page 174 or “**Uninstalling the Windows GroupWise Agents**” on page 197.





# Manually Migrating Monitor to Linux

# 24

As with WebAccess, you can migrate just the Monitor Agent, just the Monitor Application, or both from Windows to Linux. The process includes accessing a domain (either local or remote), installing the Monitor software on Linux, copying the Monitor Agent configuration file (`monitor.xml`) from Windows to Linux, and modifying the configuration file. For convenience, you can keep the Monitor Application on the same Web server as the WebAccess Application.

- [Section 24.1, “Manually Migrating the Monitor Agent to Linux,” on page 297](#)
- [Section 24.2, “Manually Migrating the Monitor Application to Linux,” on page 298](#)

## 24.1 Manually Migrating the Monitor Agent to Linux

- 1 On the Linux server, become `root` in a terminal window.
- 2 Make sure that the Web server where the Monitor Application is installed is up and running.
- 3 Provide access to a domain directory and its associated domain database (`wpdomain.db`).  
If the domain directory is located on another Linux server, use your mount command of choice.  
If the domain directory is located on a NetWare® or Windows server, see [Section 19.2.1, “Making a NetWare or Windows Server Visible from Linux,” on page 271](#) for suggested mount commands.
- 4 If your Linux environment includes the X Window System, run the GUI GroupWise® Installation program to install the Linux WebAccess Agent software, as described in [“Installing the Linux Monitor Agent” on page 147](#).  
or  
If the X Window System is not available, run the text-based GroupWise Installation program instead, as described in [“Installing the GroupWise Agents Using the Text-Based Installation Program” on page 177](#).
- 5 Configure the Linux Monitor Agent, as described in [“Configuring the Linux Monitor Agent” on page 148](#).
- 6 Restart the Web server, as described in [“Restarting the Web Server” on page 150](#).
- 7 Start the Linux Monitor Agent, as described in [“Starting the Linux Monitor Agent as a Daemon” on page 151](#).
- 8 Make sure that the Linux Monitor Agent can communicate with the Monitor Application by viewing the URL for the platform of your Web server:

NetWare or Windows Web Server: `http://web_server_network_address/gw`

Linux Web Server: `http://web_server_network_address/gwmon`

If the Monitor Web console does not appear, review the preceding steps to verify that all steps have been followed. For additional assistance, see “[Monitor Agent Problems](#)” in “[Strategies for Agent Problems](#)” in the *GroupWise 7 Troubleshooting 2: Solutions to Common Problems* (<http://www.novell.com/documentation/gw7>).

- 9 Stop the Linux Monitor Agent, as described in “[Stopping the Linux GroupWise Agents](#)” on [page 189](#)
- 10 Copy the Monitor Agent configuration file (`monitor.xml`) from its Windows location:  
c:\gwmon  
to its location on Linux:  
`/opt/novell/groupwise/agents/share`
- 11 Edit the `monitor.xml` file for its new location:
  - 11a Change the `HOME_PATH` setting to the full path to the domain directory that you made accessible in [Step 3](#).
  - 11b Change the `LOG_PATH` setting to the typical location for Monitor Agent log files on Linux (`/var/log/novell/groupwise/gwmon`).
  - 11c Change the `LOG_ACCOUNTING_PATH` setting to the typical location for Monitor Agent accounting file on Linux (`/var/log/novell/groupwise/gwmon/acct`).
  - 11d Change the `LOG_EDITOR` setting to "" (an empty setting).
- 12 Start the Linux Monitor Agent with its new configuration file.
- 13 Make sure that the Linux Monitor Agent can still communicate with the Monitor Application by viewing the Monitor URL for the platform of your Web server:  
  
NetWare or Windows Web Server: `http://web_server_network_address/gw`  
Linux Web Server: `http://web_server_network_address/gwmon`
- 14 Stop the old Windows Monitor Agent, as described in “[Stopping the Linux GroupWise Agents](#)” on [page 189](#).
- 15 If desired, uninstall the old Monitor Agent software to reclaim disk space on the Windows server. See “[Uninstalling the Windows GroupWise Agents](#)” on [page 197](#).

## 24.2 Manually Migrating the Monitor Application to Linux

- 1 On the Linux server, become `root` in a terminal window.
- 2 Make sure that the Linux server already has Apache and Tomcat configured and running successfully and that you know the full path to the Apache and Tomcat root directories.
- 3 If your Linux environment includes the X Window System, run the GUI GroupWise Installation program to install and configure the Linux Monitor Application, as described in “[Installing and Configuring the Monitor Application](#)” on [page 149](#).

or

If the X Window System is not available, run the text-based GroupWise Installation program instead, as described in “[Installing the GroupWise Agents Using the Text-Based Installation Program](#)” on [page 177](#).

- 4 Stop and then start Apache and Tomcat, as described in [“Restarting the Web Server” on page 150](#).
- 5 Verify that the new Monitor Application is communicating successfully with the existing Monitor Agent by viewing the Monitor URL for the platform of your Web server:

NetWare or Windows Web Server: `http://web_server_network_address/gw`

Linux Web Server: `http://web_server_network_address/gwmon`

- 6 If desired, uninstall the Monitor Application from the Web server to reclaim disk space on the NetWare or Windows Web server. See [“Uninstalling the NetWare GroupWise Agents” on page 174](#) or [“Uninstalling the Windows GroupWise Agents” on page 197](#).



# Appendixes

# IV

- ◆ [Appendix A, “GroupWise Version Compatibility,” on page 303](#)
- ◆ [Appendix B, “Third-Party Materials,” on page 313](#)
- ◆ [Appendix C, “Documentation Updates,” on page 323](#)



# GroupWise Version Compatibility

# A

Use the tables in this section to determine compatibility among the following Novell® GroupWise® versions:

- ♦ [Section A.1, “GroupWise 7 on NetWare and Windows,” on page 303](#)
- ♦ [Section A.2, “GroupWise 7 on Linux,” on page 307](#)

---

**IMPORTANT:** GroupWise 5.x versions have entered the end-of-life phase and are no longer supported. For update instructions, see [Chapter 16, “Updating Your GroupWise 5.x System to Version 7,” on page 261](#). The GroupWise 5.x administration tool, NetWare® Administrator with GroupWise snap-ins, cannot be used to administer GroupWise 6.x and GroupWise 7 systems.

---

For each GroupWise version, the tables indicate compatibility for:

- ♦ **Administrative components:** Domain and post office database platforms and versions, eDirectory™ platforms, and GroupWise snap-in to ConsoleOne® platforms and versions
- ♦ **Agents:** Domain and post office database platforms and versions, agent platforms and versions
- ♦ **Clients:** Post office directory platforms and access, POA platforms and versions, client modes

In the compatibility tables, cells with combinations that are not applicable are marked N/A. For example, the POA never needs to communicate with the Internet Agent, so that table cell is N/A.

For information about what operating system versions are supported for GroupWise 7 on NetWare, Linux, and Windows, refer to [“GroupWise System Requirements” on page 21](#). For information about what operating system versions are supported for GroupWise 6.5, refer to the [GroupWise 6.5 Installation Guide \(http://www.novell.com/documentation/gw65\)](#). For information about what operating system versions are supported for GroupWise 6, refer to the [GroupWise 6 Installation Guide \(http://www.novell.com/documentation/gw6\)](#).

For information about the features that each GroupWise version includes, see the [Novell GroupWise 7 Feature Comparison \(http://www.novell.com/products/groupwise/comparison.html\)](#).

## A.1 GroupWise 7 on NetWare and Windows

Select the GroupWise version that you want to determine GroupWise 7 compatibility with:

- ♦ [Section A.1.1, “Compatibility with GroupWise 6.x on NetWare and Windows,” on page 303](#)
- ♦ [Section A.1.2, “Compatibility with GroupWise 5.x on NetWare and Windows,” on page 305](#)

### A.1.1 Compatibility with GroupWise 6.x on NetWare and Windows

- ♦ [“GroupWise 6.x Administrative Components with GroupWise 7” on page 304](#)
- ♦ [“GroupWise 6.x Agents with GroupWise 7” on page 304](#)
- ♦ [“GroupWise 6.x Windows Client with GroupWise 7” on page 305](#)
- ♦ [“GroupWise 7 Windows Client with GroupWise 6.x” on page 305](#)

## GroupWise 6.x Administrative Components with GroupWise 7

| GroupWise 7 Components                | GroupWise 6.x Domain and Post Office Databases | GW 6.x Objects in eDirectory | ConsoleOne + GW 6.x Snap-Ins |
|---------------------------------------|------------------------------------------------|------------------------------|------------------------------|
| GW 7 Domain and Post Office Databases | N/A                                            | N/A                          | Not Supported                |
| GW 7 Objects in eDirectory            | N/A                                            | N/A                          | Not Supported                |
| ConsoleOne + GW 7 snap-ins            | Supported                                      | Supported                    | N/A                          |

**Table Summary:** ConsoleOne with the GroupWise 7 snap-ins can be used to access GroupWise 6.x databases for domains and post office and GroupWise 6.x eDirectory objects. However, ConsoleOne with the GroupWise 6.x snap-ins cannot be used to access GroupWise 7 databases and GroupWise 7 eDirectory objects. The general rule is that later GroupWise snap-ins can administer earlier GroupWise system components, but earlier GroupWise snap-ins cannot administer later GroupWise system components.

## GroupWise 6.x Agents with GroupWise 7

| GroupWise 7 Agents                    | GroupWise 6.x Domain and Post Office Databases | GW 6.x MTA    | GW 6.x POA    | GW 6.x GWIA   | GW 6.x WebAccess | GW 6.x Monitor |
|---------------------------------------|------------------------------------------------|---------------|---------------|---------------|------------------|----------------|
| GW 7 Domain and Post Office Databases | N/A                                            | Not Supported | Not Supported | Not Supported | Not Supported    | Not Supported  |
| GW 7 MTA                              | Supported                                      | Supported     | Supported     | Supported     | N/A              | Supported      |
| GW 7 POA                              | Supported                                      | Supported     | N/A           | N/A           | Supported        | Supported      |
| GW 7 GWIA                             | Supported                                      | Supported     | N/A           | Not Supported | N/A              | Supported      |
| GW 7 WebAccess                        | Supported                                      | N/A           | Not Supported | N/A           | N/A              | Supported      |
| GW 7 Monitor                          | Supported                                      | Supported     | Supported     | Supported     | Supported        | N/A            |

**Table Summary:** GroupWise 6.x agents cannot access domain and post office databases that have been updated to GroupWise 7. When a GroupWise 7 MTA or POA accesses a GroupWise 6.x database, it automatically updates the database to GroupWise 7. Although most GroupWise 7/ GroupWise 6.x agent combinations are supported, two combinations are not supported.



## GroupWise 6.x Windows Client with GroupWise 7

| GroupWise 6.x Windows Client | GroupWise 7 Post Office Direct Access | GW 7 POA Client/Server Access Online Mode | GW 7 POA Client/Server Access Caching Mode | GW 7 POA Dial-Up Access Remote Mode |
|------------------------------|---------------------------------------|-------------------------------------------|--------------------------------------------|-------------------------------------|
| Windows client               | Not Supported                         | Supported                                 | Supported                                  | Supported                           |

**Table Summary:** The GroupWise 6.x Windows client can communicate with the GroupWise 7 POA, but it cannot access a GroupWise 7 post office directly. The general rule is that later POAs can always communicate with earlier GroupWise clients, but earlier POAs cannot communicate with later GroupWise clients.

## GroupWise 7 Windows Client with GroupWise 6.x

| GroupWise 7 Windows Client | GroupWise 6.x Post Office Direct Access | GW 6.x POA Client/Server Access Online Mode | GW 6.x POA Client/Server Access Caching Mode | GW 6.x POA Dial-Up Access Remote Mode |
|----------------------------|-----------------------------------------|---------------------------------------------|----------------------------------------------|---------------------------------------|
| Windows client             | Not Supported                           | Not Supported                               | Not Supported                                | Not Supported                         |

**Table Summary:** The GroupWise 7 Windows client cannot communicate with the GroupWise 6.x POA, nor can it access a GroupWise 6.x post office directly. The general rule is that earlier POAs cannot communicate with later GroupWise clients, but later POAs can always communicate with earlier GroupWise clients.

## A.1.2 Compatibility with GroupWise 5.x on NetWare and Windows

- ◆ [“GroupWise 5.x Administrative Components with GroupWise 7” on page 305](#)
- ◆ [“GroupWise 5.x Agents with GroupWise 7” on page 306](#)
- ◆ [“GroupWise 5.x Windows Client with GroupWise 7” on page 306](#)
- ◆ [“GroupWise 7 Windows Client with GroupWise 5.x” on page 307](#)

## GroupWise 5.x Administrative Components with GroupWise 7

| GroupWise 7 Components                | GroupWise 5.x Domain and Post Office Databases | GW 5.x Objects in eDirectory | NetWare Administrator + GW 5.x Snap-Ins |
|---------------------------------------|------------------------------------------------|------------------------------|-----------------------------------------|
| GW 7 Domain and Post Office Databases | N/A                                            | N/A                          | Not Supported                           |
| GW 7 Objects in eDirectory            | N/A                                            | N/A                          | Not Supported                           |
| ConsoleOne + GW 7 snap-ins            | Supported                                      | Supported                    | N/A                                     |

**Table Summary:** NetWare Administrator cannot be used to administer GroupWise 7 systems. ConsoleOne with the GroupWise 7 snap-ins can be used to administer GroupWise 5.x systems. The general rule is that later GroupWise snap-ins can administer earlier GroupWise system components, but earlier GroupWise snap-ins cannot administer later GroupWise system components.

### GroupWise 5.x Agents with GroupWise 7

| GroupWise 7 Agents                    | GroupWise 5.x Domain and Post Office Databases | GW 5.x MTA    | GW 5.x POA    | GW 5.x GWIA   | GW 5.x WebAccess | GW 5.x Monitor |
|---------------------------------------|------------------------------------------------|---------------|---------------|---------------|------------------|----------------|
| GW 7 Domain and Post Office Databases | N/A                                            | Not Supported | Not Supported | Not Supported | Not Supported    | Not Supported  |
| GW 7 MTA                              | Supported                                      | Supported     | Supported     | Supported     | N/A              | Supported      |
| GW 7 POA                              | Supported                                      | Supported     | N/A           | N/A           | Supported        | Supported      |
| GW 7 GWIA                             | Supported                                      | Supported     | N/A           | Not Supported | N/A              | Supported      |
| GW 7 WebAccess                        | Supported                                      | N/A           | Not Supported | N/A           | N/A              | Supported      |
| GW 7 Monitor                          | Supported                                      | Supported     | Supported     | Supported     | Supported        | N/A            |

**Table Summary:** GroupWise 5.x agents cannot access domain and post office databases that have been updated to GroupWise 7. When the GroupWise 7 MTA or POA accesses a GroupWise 5.x database, it automatically updates the database to GroupWise 7. Although most GroupWise 6.x/ GroupWise 5.x agent combinations are supported, two combinations are not supported.

### GroupWise 5.x Windows Client with GroupWise 7

| GroupWise 5.x Client | GroupWise 7 Post Office Direct Access | GW 7 POA Client/Server Access Online Mode | GW 7 POA Client/Server Access Caching Mode | GW 7 POA Dial-Up Access Remote Mode |
|----------------------|---------------------------------------|-------------------------------------------|--------------------------------------------|-------------------------------------|
| Windows client       | Not Supported                         | Supported                                 | Supported                                  | Supported                           |

**Table Summary:** The GroupWise 5.x Windows client can communicate with the GroupWise 7 POA, but it cannot access a GroupWise 7 post office directly. The general rule is that later POAs can always communicate with earlier GroupWise clients, but earlier POAs cannot communicate with later GroupWise clients.

## GroupWise 7 Windows Client with GroupWise 5.x

| GroupWise 7 Client | GroupWise 5.x Post Office Direct Access | GW 5.x POA Client/Server Access Online Mode | GW 5.x POA Client/Server Access Caching Mode | GW 5.x POA Dial-Up Access Remote Mode |
|--------------------|-----------------------------------------|---------------------------------------------|----------------------------------------------|---------------------------------------|
| Windows client     | Not Supported                           | Not Supported                               | Not Supported                                | Not Supported                         |

**Table Summary:** The GroupWise 7 Windows client cannot communicate with the GroupWise 5.x POA, nor can it access a GroupWise 5.x post office directly. The general rule is that earlier POAs cannot communicate with later GroupWise clients, but later POAs can always communicate with earlier GroupWise clients.

## A.2 GroupWise 7 on Linux

Select the GroupWise version that you want to determine GroupWise 7 compatibility with:

- ♦ [Section A.2.1, “Compatibility with GroupWise 7 on NetWare and Windows,” on page 307](#)
- ♦ [Section A.2.2, “Compatibility with GroupWise 6.x on NetWare or Windows,” on page 309](#)

### A.2.1 Compatibility with GroupWise 7 on NetWare and Windows

- ♦ [“GroupWise 7 Linux Administrative Components with GroupWise 7 on NetWare or Windows” on page 307](#)
- ♦ [“GroupWise 7 Linux Agents with GroupWise 7 on NetWare or Windows” on page 308](#)
- ♦ [“GroupWise 7 Cross-Platform Client with GroupWise 7 on NetWare or Windows” on page 308](#)
- ♦ [“GroupWise 7 Windows Client with GroupWise 7 on Linux” on page 309](#)

### GroupWise 7 Linux Administrative Components with GroupWise 7 on NetWare or Windows

| GroupWise 7 on Linux Administrative Components | GroupWise 7 Domain and Post Office Databases on NetWare or Windows | GW 7 Objects in eDirectory on NetWare or Windows | Windows ConsoleOne + GW 7 Snap-Ins |
|------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------|------------------------------------|
| GW 7 Domain and Post Office Databases on Linux | N/A                                                                | N/A                                              | Supported                          |
| GW 7 Objects in eDirectory on Linux            | N/A                                                                | N/A                                              | Supported                          |
| Linux ConsoleOne + GW 7 snap-ins on Linux      | Supported                                                          | Supported                                        | N/A                                |

**Table Summary:** On both Linux and Windows, ConsoleOne with the GroupWise snap-ins can be used to access GroupWise databases for domains and post offices and GroupWise objects in eDirectory located on NetWare, Linux, or Windows. When using Linux ConsoleOne to administer domains and post offices on NetWare or Windows, you must mount the NetWare or Windows server to your Linux machine. When using Windows ConsoleOne to administer domains and post offices on Linux, you can use a Samba share to access the Linux server from your Windows machine.

### GroupWise 7 Linux Agents with GroupWise 7 on NetWare or Windows

| GroupWise 7 on Linux Agents                    | GroupWise 7 Domain or Post Office Databases on NetWare or Windows | GW 7 MTA on NetWare or Windows | GW 7 POA on NetWare or Windows | GW 7 GWIA on NetWare or Windows | GW 7 WebAccess on NetWare or Windows | GW 7 Monitor on Windows |
|------------------------------------------------|-------------------------------------------------------------------|--------------------------------|--------------------------------|---------------------------------|--------------------------------------|-------------------------|
| GW 7 Domain and Post Office Databases on Linux | N/A                                                               | Supported                      | Supported                      | Supported                       | Supported                            | Supported               |
| GW 7 MTA on Linux                              | Supported                                                         | Supported                      | Supported                      | Supported                       | N/A                                  | Supported               |
| GW 7 POA on Linux                              | Supported                                                         | Supported                      | N/A                            | N/A                             | Supported                            | Supported               |
| GW 7 GWIA on Linux                             | Supported                                                         | Supported                      | N/A                            | Supported                       | N/A                                  | Supported               |
| GW 7 WebAccess on Linux                        | Supported                                                         | N/A                            | Supported                      | N/A                             | N/A                                  | Supported               |
| GW 7 Monitor on Linux                          | Supported                                                         | Supported                      | Supported                      | Supported                       | Supported                            | N/A                     |

**Table Summary:** Domains and post offices can be located on NetWare, Linux, or Windows. We do not recommend that you run the Linux agents for domains and post offices located on NetWare and Windows. However, existing GroupWise 6.x domains and post offices can be moved onto Linux servers so that the Linux agents can update them to GroupWise 7 on Linux. All the Linux agents can communicate as usual with the NetWare and Windows agents.

### GroupWise 7 Cross-Platform Client with GroupWise 7 on NetWare or Windows

| GroupWise 7 Linux Client       | GroupWise 7 Post Office Direct Access on NetWare or Windows | GW 7 POA Client/Server Access Online Mode on NetWare or Windows | GW 7 POA Client/Server Access Caching Mode on NetWare or Windows | GW 7 POA Dial-Up Access Remote Mode on NetWare or Windows |
|--------------------------------|-------------------------------------------------------------|-----------------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------------|
| Cross-Platform client on Linux | Not Supported                                               | Supported                                                       | Supported                                                        | Not Supported                                             |

**Table Summary:** The GroupWise 7 Linux Cross-Platform client can communicate in client/server mode with the GroupWise 7 POA on NetWare or Windows. The Cross-Platform client cannot access the post office directly, nor can it communicate with the GroupWise 7 POA across a dial-up connection over a modem. Remote mode is not supported in the Cross-Platform client.

### GroupWise 7 Windows Client with GroupWise 7 on Linux

| GroupWise 7 Windows Client | GroupWise 7 Post Office Direct Access on Linux | GW 7 POA Client/Server Access Online Mode on Linux | GW 7 POA Client/Server Access Caching Mode on Linux | GW 7 POA Dial-Up Access Remote Mode on Linux |
|----------------------------|------------------------------------------------|----------------------------------------------------|-----------------------------------------------------|----------------------------------------------|
| Windows Client             | Not Supported                                  | Supported                                          | Supported                                           | Supported                                    |

**Table Summary:** The GroupWise 7 Windows client can communicate in client/server mode with the GroupWise 7 POA on Linux. The Windows client cannot access the post office directly.

## A.2.2 Compatibility with GroupWise 6.x on NetWare or Windows

- ♦ [“GroupWise 7 Linux Administrative Components with GroupWise 6.x on NetWare or Windows” on page 309](#)
- ♦ [“GroupWise 7 Linux Agents with GroupWise 6.x on NetWare or Windows” on page 310](#)
- ♦ [“GroupWise 7 Cross-Platform Client with GroupWise 6.x on NetWare or Windows” on page 310](#)
- ♦ [“GroupWise 6.5 Cross-Platform Client with GroupWise 7 on NetWare or Windows” on page 311](#)

### GroupWise 7 Linux Administrative Components with GroupWise 6.x on NetWare or Windows

| GroupWise 7 on Linux Administrative Components | GroupWise 6.x Domain and Post Office Databases on NetWare or Windows | GW 6.x Objects in eDirectory on NetWare or Windows | Windows ConsoleOne + GW 6.x snap-ins |
|------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------|--------------------------------------|
| GW 7 Domain and Post Office Databases on Linux | N/A                                                                  | N/A                                                | Not Supported                        |
| GW 7 Objects in eDirectory on Linux            | N/A                                                                  | N/A                                                | Not Supported                        |
| Linux ConsoleOne + GW 7 snap-ins on Linux      | Supported                                                            | Supported                                          | N/A                                  |

**Table Summary:** On Linux, ConsoleOne with the GroupWise snap-ins can be used to access GroupWise databases for domains and post offices and GroupWise objects in eDirectory on NetWare, Linux, and Windows. On Windows, ConsoleOne with the GroupWise 6.x snap-ins cannot be used to access GroupWise 7 domains and post offices on Linux. The general rule is that later GroupWise snap-ins can administer earlier GroupWise system components, but earlier GroupWise snap-ins cannot administer later GroupWise system components.

## GroupWise 7 Linux Agents with GroupWise 6.x on NetWare or Windows

| GroupWise 7 Linux Agents                     | GroupWise 6.x Domain and Post Office Databases on NetWare or Windows | GW 6.x MTA on NetWare or Windows | GW 6.x POA on NetWare or Windows | GW 6.x GWIA on NetWare or Windows | GW 6.x WebAccess on NetWare or Windows | GW 6.x Monitor on Windows |
|----------------------------------------------|----------------------------------------------------------------------|----------------------------------|----------------------------------|-----------------------------------|----------------------------------------|---------------------------|
| GW Domain and Post Office Databases on Linux | N/A                                                                  | Not Supported                    | Not Supported                    | Not Supported                     | Not Supported                          | Not Supported             |
| GW 7 MTA on Linux                            | Supported                                                            | Supported                        | Supported                        | Supported                         | N/A                                    | Supported                 |
| GW 7 POA on Linux                            | Supported                                                            | Supported                        | N/A                              | N/A                               | Supported                              | Supported                 |
| GW 7 GWIA on Linux                           | Supported                                                            | Supported                        | N/A                              | Not Supported                     | N/A                                    | Supported                 |
| GW 7 WebAccess on Linux                      | Supported                                                            | N/A                              | Not Supported                    | N/A                               | N/A                                    | Supported                 |
| GW 7 Monitor on Linux                        | Supported                                                            | Supported                        | Supported                        | Supported                         | Supported                              | N/A                       |

**Table Summary:** Domains and post offices can be located on NetWare, Linux, or Windows. We do not recommend that you run the Linux agents for domains and post offices located on NetWare and Windows. However, existing GroupWise 6.x domains and post offices can be moved onto Linux servers so that the Linux agents can update them to GroupWise 7 on Linux. Although most GW 7 on Linux/GW 6.x agent combinations are supported, two combinations are not supported.

## GroupWise 7 Cross-Platform Client with GroupWise 6.x on NetWare or Windows

| GroupWise 7 Client on Linux    | GroupWise 6.x Post Office Direct Access on NetWare or Windows | GW 6.x POA Client/Server Access Online Mode on NetWare or Windows | GW 6.x POA Client/Server Access Caching Mode on NetWare or Windows | GW 6.x POA Dial-Up Access Remote Mode on NetWare or Windows |
|--------------------------------|---------------------------------------------------------------|-------------------------------------------------------------------|--------------------------------------------------------------------|-------------------------------------------------------------|
| Cross-Platform client on Linux | Not Supported                                                 | Not Supported                                                     | Not Supported                                                      | Not Supported                                               |

**Table Summary:** The GroupWise 7 Linux Cross-Platform client cannot communicate in client/server mode with the GroupWise 6.x POA on NetWare or Windows, nor can it access the post office directly. The general rule is that earlier POAs cannot communicate with later GroupWise clients, but later POAs can always communicate with earlier GroupWise clients. Remote mode is not supported in the Cross-Platform client.

## GroupWise 6.5 Cross-Platform Client with GroupWise 7 on NetWare or Windows

| GroupWise 6.x Client on Linux  | GroupWise 7 Post Office Direct Access on NetWare or Windows | GW 7 POA Client/Server Access Online Mode on NetWare or Windows | GW 7 POA Client/Server Access Caching Mode on NetWare or Windows | GW 7 POA Dial-Up Access Remote Mode on NetWare or Windows |
|--------------------------------|-------------------------------------------------------------|-----------------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------------|
| Cross-Platform client on Linux | Supported                                                   | Supported                                                       | Supported                                                        | Not Supported                                             |

**Table Summary:** The GroupWise 7 Linux Cross-Platform client can communicate in client/server mode with the GroupWise 6.x POA on NetWare or Windows, but it cannot access the post office directly. The general rule is that later POAs can always communicate with earlier GroupWise clients, but earlier POAs cannot communicate with later GroupWise clients. Remote mode is not supported in the Cross-Platform client.





# Third-Party Materials

# B

The following third-party software is included in Novell® GroupWise® 7:

- ♦ Section B.1, “Apache,” on page 313
- ♦ Section B.2, “BLT,” on page 314
- ♦ Section B.3, “GD Graphics Library,” on page 314
- ♦ Section B.4, “getopt.h,” on page 315
- ♦ Section B.5, “JRE,” on page 316
- ♦ Section B.6, “NET-SNMP Open Source Package,” on page 316
- ♦ Section B.7, “ODMA 2.0,” on page 318
- ♦ Section B.8, “OpenLDAP,” on page 319
- ♦ Section B.9, “OpenSSL,” on page 320
- ♦ Section B.10, “Python 2.2,” on page 322

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Although their code does not appear in the current release, the authors also wish to thank Hutchison Avenue Software Corporation for their prior contributions.

## B.4 `getopt.h`

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- ♦ Section B.6.2, “---- Part 2: Networks Associates Technology, Inc copyright notice (BSD) -----,” on page 316
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This package is an SSL implementation written by Eric Young ([eay@cryptsoft.com](mailto:eay@cryptsoft.com)). The implementation was written so as to conform with Netscape's SSL.

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## B.10 Python 2.2

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# Documentation Updates

# C

This section lists updates to the *Installation Guide* that have been made since the initial release of Novell® GroupWise® 7. The information helps you to keep current on documentation updates and, in some cases, software updates (such as a Support Pack release).

The information is grouped according to the date when the *Installation Guide* was republished. Within each dated section, the updates are listed by the section title.

The *GroupWise 7 Installation Guide* has been updated on the following dates:

- ♦ [Section C.1, “March 14, 2008 \(GroupWise 7 SP3\),” on page 323](#)
- ♦ [Section C.2, “October 5, 2007,” on page 324](#)
- ♦ [Section C.3, “April 16, 2007 \(GroupWise 7 SP2\),” on page 324](#)
- ♦ [Section C.4, “September 29, 2006,” on page 325](#)
- ♦ [Section C.5, “August 15, 2006,” on page 325](#)
- ♦ [Section C.6, “June 15, 2006 \(GroupWise 7 SP 1\),” on page 326](#)
- ♦ [Section C.7, “November 30, 2005,” on page 327](#)

## C.1 March 14, 2008 (GroupWise 7 SP3)

| Location                                                                                            | Change                                                                                                                                                  |
|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Installation</b>                                                                                 |                                                                                                                                                         |
| <a href="#">Section 1.1.3, “Accessible Anywhere,” on page 18</a>                                    | Added GroupWise Mobile Server and BlackBerry Enterprise Server.                                                                                         |
| <a href="#">Section 3.2, “Planning Your Basic GroupWise System,” on page 26</a>                     | Included a link to the GroupWise Wiki where best practices information is available.                                                                    |
| <a href="#">“Enabling the High Availability Service for the Linux GroupWise Agents” on page 185</a> | Clarified that a single Monitor Agent can service multiple instances of the GroupWise High Availability service (gwha).                                 |
| <a href="#">“Configuring the High Availability Service” on page 185</a>                             | Clarified that the SSL connection referred to in this section is between the High Availability service and the Monitor Agent.                           |
| <b>Update</b>                                                                                       |                                                                                                                                                         |
| <a href="#">Section 12.4.13, “Backup and Restore (v7.0),” on page 232</a>                           | Added the Support Pack enhancement of having the POA access your mailbox for you if you do not have Read and Write rights to the restore area location. |
| <b>Migration</b>                                                                                    |                                                                                                                                                         |

| Location                                                          | Change                                                                                                                                                                                                    |
|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Section 20.2, "Performing the Post Office Migration," on page 274 | Added the <code>-m</code> switch to the <code>dbcopy</code> command for migrating libraries to Linux and provided a link to a helpful TID if problems with documents are encountered after the migration. |
| Section 21.2, "Performing the Domain Migration," on page 282      | Removed the <code>--noconfig</code> switch from the <code>gwmta</code> command. It was an accidental carryover from the <code>gwpoa</code> command.                                                       |

## C.2 October 5, 2007

| Location                                                         | Change                                                                                                                                                                          |
|------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Install</b>                                                   |                                                                                                                                                                                 |
| Section 2.1, "GroupWise Administration Requirements," on page 21 | Added Open Enterprise Server 2 to the list of supported server operating systems; added Apache 2.2 plus Tomcat 5 plus the ModProxy Module to the list of supported Web servers. |
| Section 2.3, "Supported Environments," on page 23                | Added Citrix to the list of supported environments.                                                                                                                             |

## C.3 April 16, 2007 (GroupWise 7 SP2)

| Location                                                                            | Change                                                                                                                                                               |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Install</b>                                                                      |                                                                                                                                                                      |
| Section 2.2, "GroupWise Client Requirements," on page 22                            | Added Windows Vista as a supported operating system for the GroupWise Windows client.                                                                                |
| Section 2.3.5, "Linux File System Support," on page 24                              | Added recommendation of the Reiser file system and support of the NSS file system.                                                                                   |
| Section 5.2, "WebAccess System Requirements," on page 107                           | Provided the JVM version for the WebAccess client.                                                                                                                   |
| "Completing the Installation on a UNIX Apache Web Server" on page 120               | Added steps for unzipping the WebAccess and WebPublisher help files.                                                                                                 |
| "Uninstalling the NetWare GroupWise Agents" on page 174                             | Reminded administrators to remove GroupWise agent <code>load</code> commands that they might have placed in the NetWare <sup>®</sup> <code>autoexec.ncf</code> file. |
| "Enabling the High Availability Service for the Linux GroupWise Agents" on page 185 | Provided an example of the <code>gwha.conf</code> file and explained the headings; added the <code>show = yes</code> setting in the <code>gwha.conf</code> file.     |
| <b>Migrate</b>                                                                      |                                                                                                                                                                      |

| Location                                                                                          | Change                                                                   |
|---------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| Section 19.1, "Using Windows ConsoleOne to Access Domains and Post Offices on Linux," on page 269 | Added a command to ensure proper file locking between Linux and Windows. |

## C.4 September 29, 2006

| Location                                                                                                     | Change                                                                                           |
|--------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| <b>Install</b>                                                                                               |                                                                                                  |
| Section 2.2, "GroupWise Client Requirements," on page 22                                                     | Clarified the operating system requirements for Safari on Macintosh.                             |
| "Preparing the NetWare Server for the Agents" on page 168                                                    | Added two set parameters for optimizing a NetWare <sup>®</sup> server for the GroupWise agents.  |
| <b>Migrate</b>                                                                                               |                                                                                                  |
| Section 19.2.1, "Making a NetWare or Windows Server Visible from Linux," on page 271                         | Mentioned that the NCP <sup>™</sup> mount can also be created using Novell Remote Manager (NRM). |
| Section 19.2.2, "Accessing a Domain or Post Office on NetWare or Windows from Linux ConsoleOne," on page 271 | Added a step for authenticating to eDirectory <sup>™</sup> .                                     |
| <b>Appendix</b>                                                                                              |                                                                                                  |
| Appendix A, "GroupWise Version Compatibility," on page 303                                                   | Added a link to the <i>Novell GroupWise 7 Feature Comparison</i> chart.                          |

## C.5 August 15, 2006

| Location                                                         | Change                                                          |
|------------------------------------------------------------------|-----------------------------------------------------------------|
| <b>Install</b>                                                   |                                                                 |
| Section 2.1, "GroupWise Administration Requirements," on page 21 | Added SUSE Linux Enterprise Server 10 as a supported platform.  |
| Section 2.2, "GroupWise Client Requirements," on page 22         | Added SUSE Linux Enterprise Desktop 10 as a supported platform. |

| Location                                                            | Change                                                                                                                                                                                                                                 |
|---------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Section 5.4.2, "Linux: Setting Up GroupWise WebAccess," on page 123 | Provided a link to TID 3248145 in the <a href="http://www.novell.com/support">Novell Support Knowledgebase (http://www.novell.com/support)</a> that provides instructions for installing WebAccess on SUSE Linux Enterprise Server 10. |
| Section 6.4.2, "Linux: Setting Up GroupWise Monitor," on page 147   | Provided a link to TID 3248145 in the <a href="http://www.novell.com/support">Novell Support Knowledgebase (http://www.novell.com/support)</a> that provides instructions for installing Monitor on SUSE Linux Enterprise Server 10.   |

## C.6 June 15, 2006 (GroupWise 7 SP 1)

| Location                                                                                   | Change                                                                                                                                                                                                                                                                                                                                                                |
|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Install</b>                                                                             |                                                                                                                                                                                                                                                                                                                                                                       |
| Section 2.1, "GroupWise Administration Requirements," on page 21                           | Added support of 64-bit/x86 processors; modified the Safari version in the list of supported Web browsers; removed Epiphany from the list of supported Web browsers.                                                                                                                                                                                                  |
| Section 2.2, "GroupWise Client Requirements," on page 22                                   | Added Mac OS X on Intel to the list of supported desktop operating systems; modified the Safari version in the list of supported Web browsers; removed Epiphany from the list of supported Web browsers                                                                                                                                                               |
| Section 2.3, "Supported Environments," on page 23                                          | Listed support for PolyServe Matrix Server on Linux and for virtual machines.                                                                                                                                                                                                                                                                                         |
| "Domain Context" on page 32                                                                | Clarified that the Domain object can be created in any Organization or Organizational Unit container in any context in the eDirectory tree.                                                                                                                                                                                                                           |
| "Post Office Context" on page 37                                                           | Clarified that the Post Office object can be created in any Organization or Organizational Unit container in any context in the eDirectory tree.                                                                                                                                                                                                                      |
| Section 4.3.3, "Selecting the Internet Agent Installation Directory," on page 86           | Clarified that it's best to install the Internet Agent on the same server where the domain directory is located.                                                                                                                                                                                                                                                      |
| "Linux: Starting the Internet Agent" on page 97                                            | Added an example of how to stop and disable Postfix before starting the Linux Internet Agent.                                                                                                                                                                                                                                                                         |
| Section 5.3.1, "Deciding Where to Install the GroupWise WebAccess Components," on page 109 | Added some best practice information about installing the WebAccess Agent on a remote server.                                                                                                                                                                                                                                                                         |
| "Installing the GroupWise Agents Using the Text-Based Installation Program" on page 177    | Expanded the information about the text-based GroupWise Installation program to include all GroupWise agents; explained using <code>ssh</code> for installing to a remote server.                                                                                                                                                                                     |
| "Starting the Linux GroupWise Agents as Daemons" on page 180                               | Expanded the information about the <code>grpwise</code> script; added that the WebAccess Agent and its accompanying Document Viewer Agent are now controlled by the <code>grpwise</code> script; indicated that the GroupWise Linux agents are now Run Control compliant; indicated that the Messenger agents are also controlled by the <code>grpwise</code> script. |
| "Changing the Non-root User" on page 184                                                   | Added instructions for changing the user that the agents run as when they are running as a non- <code>root</code> user.                                                                                                                                                                                                                                               |

| Location                                                                                            | Change                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">“Enabling the High Availability Service for the Linux GroupWise Agents” on page 185</a> | Added that the WebAccess Agent and its accompanying Document Viewer Agent are now supported by the GroupWise High Availability Service.                                                                                                                                                |
| <a href="#">“Preparing the Windows Server for the Windows Agents” on page 192</a>                   | Indicated that if you are running the Windows POA for a post office on a NetWare® server, you might need to increase Maximum File Locks Per Connection from its default setting on the Windows server.                                                                                 |
| <a href="#">Chapter 10, “Installing the GroupWise Mobile Server,” on page 211</a>                   | Added information about GroupWise Mobile Server, Powered by Intellisync.                                                                                                                                                                                                               |
| <b>Update</b>                                                                                       |                                                                                                                                                                                                                                                                                        |
| <a href="#">Chapter 12, “What’s New in GroupWise 7,” on page 217</a>                                | Added Support Pack 1 enhancements to the list.                                                                                                                                                                                                                                         |
| <a href="#">Section 15.2, “Updating the Primary Domain,” on page 254</a>                            | Emphasized that the MTA for the primary domain should be started before you update post offices and secondary domains.                                                                                                                                                                 |
| <a href="#">Section 15.3, “Updating Post Offices,” on page 255</a>                                  | Included information about the /copyonly startup switch for the Agent Installation program; emphasized that the POA for the post office should be started before you run GroupWise clients against the post office.                                                                    |
| <a href="#">Section 15.5, “Updating Secondary Domains,” on page 259</a>                             | Included information about the /copyonly startup switch for the Agent Installation program                                                                                                                                                                                             |
| <a href="#">Section 15.6, “Updating the GroupWise Internet Agent,” on page 259</a>                  | Included information about the /copyonly startup switch for the Internet Agent Installation program; highlighted the SP 1 Internet Agent enhancement of storing all primary configuration information in eDirectory because it affects the contents of the <code>gwia.cfg</code> file. |
| <a href="#">Section 15.7, “Updating GroupWise WebAccess,” on page 259</a>                           | Recommended that users clear their browser caches before using the updated WebAccess client.                                                                                                                                                                                           |
| <b>Migration</b>                                                                                    |                                                                                                                                                                                                                                                                                        |
| <a href="#">“Migration” on page 265</a>                                                             | Added a new section detailing how to migrate all GroupWise components from NetWare or Windows to Linux.                                                                                                                                                                                |

## C.7 November 30, 2005

| Location                                                                  | Change                                                                                                    |
|---------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| <b>Install</b>                                                            |                                                                                                           |
| <a href="#">Section 2.3.1, “IPV6 Support,” on page 24</a>                 | Clarified that when you provide the network address for an IPV6 server, you need to use its DNS hostname. |
| <a href="#">Section 4.3.2, “Gathering Server Information,” on page 85</a> | Recommended installing the Internet Agent on the same server with the domain that it belongs to.          |

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| Location                                                                         | Change                                                                         |
|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| <b>Update</b>                                                                    |                                                                                |
| Chapter 20, “Manually Migrating a Post Office and Its POA to Linux,” on page 273 | Added a second example mount command.                                          |
| Chapter 21, “Manually Migrating a Domain and Its MTA to Linux,” on page 281      | Added a second example mount command.                                          |
| <b>Entire Guide</b>                                                              | Page design reformatted to comply with revised Novell documentation standards. |

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