

Installation Guide

GroupWise 2012

August 2014

Novell.

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About This Guide

This Novell *GroupWise 2012 Installation Guide* helps you install a new GroupWise system or update an existing GroupWise 6.x/7/8 system to GroupWise 2012. The guide is divided into the following sections:

- ◆ Part I, “GroupWise Product Overview,” on page 13
 - ◆ Chapter 1, “What Is GroupWise?,” on page 15
 - ◆ Chapter 2, “GroupWise System Requirements,” on page 19
- ◆ Part II, “Installation,” on page 27
 - ◆ Chapter 3, “Installing a Basic GroupWise System,” on page 29
 - ◆ Chapter 4, “Installing the GroupWise Internet Agent,” on page 77
 - ◆ Chapter 5, “Installing GroupWise WebAccess,” on page 103
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 - ◆ Chapter 8, “Installing GroupWise Agents,” on page 175
 - ◆ Chapter 9, “Installing the GroupWise Client,” on page 211
 - ◆ Chapter 10, “Using Novell Messenger with GroupWise,” on page 225
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- ◆ Part III, “Update,” on page 231
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- ◆ Part IV, “Appendixes,” on page 287
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- ♦ [Appendix B, “GroupWise Linux Executables,”](#) on page 297
- ♦ [Appendix C, “Third-Party Materials,”](#) on page 329

For troubleshooting assistance, see:

- ♦ [GroupWise 2012 Troubleshooting 1: Error Messages](#)
- ♦ [GroupWise 2012 Troubleshooting 2: Solutions to Common Problems](#)
- ♦ [GroupWise 2012 Troubleshooting 3: Message Flow and Directory Structure](#)
- ♦ [Novell Support and Knowledgebase \(http://www.novell.com/support\)](http://www.novell.com/support)

To search the GroupWise documentation from the Novell Support Web site, click *Advanced Search*, select *Documentation* in the *Search In* drop-down list, select *GroupWise* in the *Products* drop-down list, type the search string, then click *Search*.

- ♦ [GroupWise Support Forums \(http://forums.novell.com/forumdisplay.php?f=356\)](http://forums.novell.com/forumdisplay.php?f=356)
- ♦ [GroupWise Support Community \(http://www.novell.com/support/products/groupwise\)](http://www.novell.com/support/products/groupwise)
- ♦ [GroupWise Cool Solutions \(http://www.novell.com/coolsolutions/gwmag/index.html\)](http://www.novell.com/coolsolutions/gwmag/index.html)

Audience

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

Feedback

We want to hear your comments and suggestions about this manual and the other documentation included with this product. Please use the User Comment feature at the bottom of each page of the online documentation.

Additional Documentation

For additional GroupWise documentation, see the following guides at the [Novell GroupWise 2012 Documentation Web site \(http://www.novell.com/documentation/groupwise2012\)](http://www.novell.com/documentation/groupwise2012):

- ♦ [Installation Guide](#)
- ♦ [Server Migration Guide](#)
- ♦ [Administration Guide](#)
- ♦ [Multi-System Administration Guide](#)
- ♦ [Interoperability Guide](#)
- ♦ [Troubleshooting Guides](#)
- ♦ [GroupWise User Frequently Asked Questions \(FAQ\)](#)
- ♦ [GroupWise User Guides](#)
- ♦ [GroupWise User Quick Starts](#)

GroupWise Product Overview

- ♦ [Chapter 1, “What Is GroupWise?” on page 15](#)
- ♦ [Chapter 2, “GroupWise System Requirements,” on page 19](#)

1 What Is GroupWise?

Novell GroupWise is an enterprise collaboration system that provides secure email, calendaring, scheduling, and secure instant messaging. GroupWise also includes task management, contact management, document management, and other productivity tools. Companion products provide secure instant messaging (Novell Messenger), synchronization with mobile devices (Novell Data Synchronizer) and teaming workspaces (Novell Vibe) for complete enterprise connectivity and collaboration.

GroupWise can be used on your desktop on Windows, Macintosh, or Linux, in a Web browser anywhere you have an Internet connection, on an Apple iPad, and on mobile devices. Your GroupWise system can be set up on Linux, Windows, or a combination of these operating systems.

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

- ♦ [Section 1.1, "What GroupWise Provides," on page 15](#)
- ♦ [Section 1.2, "What You Need to Install," on page 18](#)

1.1 What GroupWise Provides

GroupWise provides communication and collaboration services that are secure, highly available, and easily accessible:

- ♦ [Section 1.1.1, "Essential Communication and Collaboration Services," on page 15](#)
- ♦ [Section 1.1.2, "Available Anytime," on page 16](#)
- ♦ [Section 1.1.3, "Accessible Anywhere," on page 16](#)
- ♦ [Section 1.1.4, "Always Secure," on page 17](#)
- ♦ [Section 1.1.5, "Competitive Performance," on page 17](#)
- ♦ [Section 1.1.6, "Evaluation Version Available," on page 17](#)

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 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.
- ♦ **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. You can also publish personal calendars and free/busy status so that non-GroupWise users can conveniently schedule meetings with you.
- ♦ **Task Management:** Accept or decline the tasks you are sent, and track accepted tasks through to completion. You can turn any message into a task. You can also organize, schedule, and monitor tasks in your Tasklist 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 books and Contacts folders. In addition, you can view a history of messages sent to and received from individual contacts and compile notes on interactions with 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 create multiple versions of documents.
- ♦ **Instant Messaging:** Communicate in real time with other GroupWise users through Novell Messenger. Novell Messenger lets you know when other users are online, busy, or away from their desks. It also allows you to save conversations.
- ♦ **Teaming:** Collaborate on a Novell Vibe Web site where personal, team, and global workspaces can include discussion folders, shared calendars, shared documents, blogs, wikis, surveys, and more. Powerful search capabilities make finding information quick and easy. GroupWise includes integration with Vibe, so that you can access a Vibe site from the GroupWise Windows client.

1.1.2 Available Anytime

GroupWise ensures that your essential communication tools are always available.

- ♦ **Caching:** The GroupWise Windows client includes 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 Linux or Windows.

1.1.3 Accessible Anywhere

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

- ♦ **Personal Computers:** To access your GroupWise mailbox with the most robust functionality, you can run the GroupWise Windows client on any workstation that uses Windows XP or later.
- ♦ **Web Browsers:** When you are away from your office, or when you prefer a platform other than Windows, you can access your GroupWise mailbox from a variety of desktop Web browsers by using GroupWise WebAccess.
- ♦ **Tablet Computers:** For those who prefer a more mobile computer, you can access your GroupWise mailbox from a tablet device such as the Apple iPad.

- ♦ **Mobile Devices:** If you want to access email messages, calendar items, tasks, and so on from a handheld mobile device such as your cell phone, you have several options:
 - ♦ **GroupWise WebAccess:** GroupWise WebAccess includes a basic template customized for use on the small display available on a typical mobile device.
 - ♦ **Data Synchronizer Mobility Pack:** The Mobility Pack, available free of charge to GroupWise customers with maintenance contracts, synchronizes GroupWise data to most popular mobile devices.
 - ♦ **BlackBerry Enterprise Server for GroupWise:** This solution from Research in Motion provides synchronization of GroupWise data for BlackBerry users.
- ♦ **Other Email Clients:** GroupWise enables you to access your mailbox with any POP3, IMAP4, or SOAP email client.

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 Sockets 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 email messages. In addition, you can configure the GroupWise Internet Agent 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 \(http://www.novell.com/partnerguide\)](http://www.novell.com/partnerguide).

1.1.5 Competitive Performance

GroupWise functionality compares very favorably with competitive email solutions:

- ♦ [Novell GroupWise 2012 and Microsoft Exchange/Outlook 2012 \(http://www.novell.com/products/groupwise/features/groupwise-vs-outlook.html\)](http://www.novell.com/products/groupwise/features/groupwise-vs-outlook.html)
- ♦ [Novell GroupWise 2012 and Google Gmail \(http://www.novell.com/products/groupwise/features/groupwise-vs-gmail.html\)](http://www.novell.com/products/groupwise/features/groupwise-vs-gmail.html)

1.1.6 Evaluation Version Available

An evaluation version of GroupWise is available on the [Novell Downloads Web site \(http://download.novell.com\)](http://download.novell.com). With the evaluation version of GroupWise, you can create a test GroupWise system that includes any number of domains, post offices, and users. The evaluation version does not expire. However, the evaluation software cannot legally be installed and run in a production environment

1.2 What You Need to Install

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.

Component	What it does	Go to
Administration, Agents, and Windows Client	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 29
Internet Agent	Provides Internet email communication, POP3/IMAP4/SOAP client access, and paging services.	Chapter 4, "Installing the GroupWise Internet Agent," on page 77
WebAccess	Provides access to mailboxes through a desktop Web browser, tablet computer, or mobile device.	Chapter 5, "Installing GroupWise WebAccess," on page 103
Calendar Publishing Host	Provides public access to personal GroupWise calendars and free/busy availability to Internet users.	Chapter 6, "Installing the GroupWise Calendar Publishing Host," on page 123
Monitor	Provides administrative monitoring of the GroupWise agents.	Chapter 7, "Installing GroupWise Monitor," on page 151
Agents (Message Transfer Agent, Post Office Agent, and Document Viewer Agent)	Necessary for each new domain and post office that you create.	Chapter 8, "Installing GroupWise Agents," on page 175
GroupWise Windows Client	Can be rolled out to all GroupWise Windows users on a convenient schedule.	Chapter 9, "Installing the GroupWise Client," on page 211

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

- ♦ [Chapter 10, "Using Novell Messenger with GroupWise," on page 225](#)
- ♦ [Chapter 11, "Using the Novell Data Synchronizer Mobility Pack with GroupWise," on page 227](#)
- ♦ [Chapter 12, "Using Novell Vibe with GroupWise," on page 229](#)

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

2 GroupWise System Requirements

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 19](#)
- ♦ [Section 2.2, "GroupWise User Requirements," on page 22](#)
- ♦ [Section 2.3, "Supported Environments," on page 23](#)

2.1 GroupWise Administration Requirements

- ♦ [Section 2.1.1, "Hardware and Operating System Requirements," on page 19](#)
- ♦ [Section 2.1.2, "Software Requirements," on page 20](#)
- ♦ [Section 2.1.3, "Internet Connectivity Requirements," on page 21](#)
- ♦ [Section 2.1.4, "Web Server Requirements," on page 21](#)
- ♦ [Section 2.1.5, "Web Browser Requirements," on page 22](#)

2.1.1 Hardware and Operating System Requirements

- x86-32 processor or x86-64 processor

On a 64-bit processor, GroupWise still runs as a 32-bit application.

- Any of the following server operating systems for the GroupWise agents (Post Office Agent, Message Transfer Agent, Document Viewer Agent, Internet Agent, Monitor Agent):
 - ♦ Novell Open Enterprise Server (OES) 2 (Linux version) or OES 11, plus the latest Support Pack
 - ♦ SUSE Linux Enterprise Server (SLES) 10 or SLES 11, plus the latest Service Pack

The X Window System and Open Motif are required by the GUI GroupWise agent server consoles for the Post Office Agent, the Message Transfer Agent, and the Internet Agent. By default, the GroupWise agents run as daemons without user interfaces.

- ♦ Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, or Windows Server 2012, Windows Server 2012 R2, plus the latest Service Pack

- Adequate server memory as required by the operating system

Depending on the anticipated load on the GroupWise agents, additional memory might be required, as detailed in [Section 8.2.3, "Agent Memory Requirements," on page 177](#).

- Adequate server disk space as required by each GroupWise component:

- ♦ Software distribution directory: Approximately 800 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
- ♦ Message Transfer Agent/Post Office Agent/Document Viewer Agent installation: approximately 117 MB (varies by platform)
- ♦ Internet Agent installation: approximately 91 MB (varies by platform)
- ♦ WebAccess installation: approximately 127 MB (shared with the Calendar Publishing Host Application and the Monitor Application when they are installed on the same Web server; varies by platform)
- ♦ Calendar Publishing Host installation: approximately 127 MB (shared with the WebAccess Application and the Monitor Application when they are installed on the same Web server; varies by platform), plus 50 KB per published calendar and 50 KB per user for free/busy searching
- ♦ Monitor installation: approximately 38 MB for the Monitor Agent (varies by platform); approximately 127 MB for the Monitor Application (shared with the WebAccess Application and the Calendar Publishing Host Application when they are installed on the same Web server; varies by platform)

2.1.2 Software Requirements

- eDirectory 8.7 or later, plus the latest Support Pack, with LDAP enabled

You can download Directory from the [Novell Downloads site \(http://download.novell.com\)](http://download.novell.com).

- ConsoleOne 1.3.6h or later, with the LDAP snap-in installed

GroupWise 2012 includes ConsoleOne 1.3.6h for Linux and for Windows in the downloaded *GroupWise 2012* software image.

You can install the LDAP snap-in for Linux ConsoleOne along with ConsoleOne. You can download the LDAP snap-in for Windows ConsoleOne from the [Novell Downloads site \(http://download.novell.com/Download?buildid=FCT5LqrhcGI~\)](http://download.novell.com/Download?buildid=FCT5LqrhcGI~).

ConsoleOne requires IBM JRE 5 Update 11 or later.

On Windows, ConsoleOne also requires the latest version of Novell Client 2 SP1 for Windows. You can download the latest Novell Client from the [Novell Downloads site \(http://download.novell.com\)](http://download.novell.com).

On Linux, ConsoleOne also requires the X Window System, version X11R6 or later.

- Any of the following environments for running ConsoleOne and the GroupWise Installation program:

- ♦ Novell Open Enterprise Server (OES) 2 (Linux version) or OES 11, plus the latest Support Pack
- ♦ SUSE Linux Enterprise Server (SLES) 10 or SLES 11, plus the latest Service Pack

The X Window System is required by the GUI GroupWise Installation program that steps you through the process of creating a new GroupWise system. A text-based Installation program is also available for installing individual GroupWise components on servers where the X Windows System is not available.

- ◆ Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, or Windows Server 2012, plus the latest Service Pack, plus the latest Novell Client
- ◆ Windows XP Professional, Windows Vista Professional or Business, Windows 7 Professional, or Windows 8 Professional plus the latest Service Pack, plus the latest Novell Client (ConsoleOne only)

2.1.3 Internet Connectivity Requirements

- Internet domain name for your company
- Internet Service Provider (ISP) or in-house DNS address resolution

2.1.4 Web Server Requirements

The Web server that is supported for your operating system, for use with WebAccess, Monitor, and the Calendar Publishing Host:

- OES 2 Linux / SLES 10

Apache 2.2 plus:

- ◆ Tomcat 5 or later

Tomcat 5 is included with the Linux operating system. If it is not already installed, use YaST to install it before you install the GroupWise software.

- ◆ IBM JRE 5 or later
- ◆ ModProxy Module

- OES 11 / SLES 11

Apache 2.2 plus:

- ◆ Tomcat 6 or later

For OES 11, Tomcat 6 is included with the Linux operating system. If it is not already installed, use YaST to install it before you install the GroupWise software.

For SLES 11, Tomcat 6 is added to the Linux server with the GroupWise software.

- ◆ IBM JRE 5 or later
- ◆ ModProxy Module

- Windows Server 2003/2003 R2

Microsoft Internet Information Server (IIS) 6 or later plus:

- ◆ Tomcat 6
- ◆ IBM JRE 5 or later
- ◆ Jakarta Connector 1.2

Tomcat 6, IBM JRE 6 Update 26, and Jakarta Connector 1.2 are installed along with the GroupWise software if they are not already present on the Windows server.

- Windows Server 2008/2008 R2

Microsoft Internet Information Server (IIS) 7 or later plus:

- ◆ Tomcat 6
- ◆ IBM JRE 5 or later

- ♦ Jakarta Connector 1.2
Tomcat 6, IBM JRE 6 Update 26, and Jakarta Connector 1.2 are installed along with the GroupWise software if they are not already present on the Windows server.

Windows Server 2012/2012 R2

Microsoft Internet Information Server (IIS) 7 or later plus:

- ♦ Tomcat 6
- ♦ IBM JRE 5 or later
- ♦ Jakarta Connector 1.2

Tomcat 6, IBM JRE 6 Update 26, and Jakarta Connector 1.2 are installed along with the GroupWise software if they are not already present on the Windows server.

2.1.5 Web Browser Requirements

Any of the following Web browsers for the agent Web consoles:

- Linux: Mozilla Firefox
- Windows: Microsoft Internet Explorer 8.0 or later; Mozilla Firefox; Google Chrome

2.2 GroupWise User Requirements

- ♦ [Section 2.2.1, "GroupWise Client Requirements," on page 22](#)
- ♦ [Section 2.2.2, "GroupWise WebAccess Requirements," on page 23](#)
- ♦ [Section 2.2.3, "GroupWise WebAccess Mobile Requirements," on page 23](#)

2.2.1 GroupWise Client Requirements

- x86-32 processor or x86-64 processor

On a 64-bit processor, GroupWise still runs as a 32-bit application.

- Any of the following desktop operating systems for the GroupWise Windows client:
 - ♦ Windows XP on a 300 MHz or higher workstation with at least 128 MB of RAM
 - ♦ Windows Vista on a 1 GHz or higher workstation with at least 1 GB of RAM
 - ♦ Windows 7 on a 1 GHz or higher workstation with at least 1 GB of RAM
 - ♦ Windows 8 or 8.1 on a 1 GHz or higher workstation with at least 1 GB of RAM

NOTE: Microsoft Surface tablets are not supported. You can synchronize GroupWise data to the device with the [GroupWise Mobility Service](#).

- Approximately 200 MB of free disk space on each user's workstation to install the Windows client

2.2.2 GroupWise WebAccess Requirements

Any of the following user environments:

- Any of the following Web browsers:
 - ◆ Linux: Mozilla Firefox
 - ◆ Windows: Microsoft Internet Explorer 8.0 or later; Mozilla Firefox; Google Chrome
 - ◆ Macintosh: The latest version of Safari for your version of Mac OS; Mozilla Firefox; Google Chrome
- Any mobile device that supports Wireless Access Protocol (WAP) and has a microbrowser that supports Hypertext Markup Language (HTML) 4.0 or later

NOTE: Microsoft Surface tablets are not supported. You can synchronize GroupWise data to the device with the [GroupWise Mobility Service](#).

2.2.3 GroupWise WebAccess Mobile Requirements

Any of the following tablet operating systems and devices:

- Apple iOS 4 or later, with the Safari Web browser, on the Apple iPad 1 or 2
- Android 3.2 or 4.0, with the Android web browser, or Android 4.1, with the Chrome browser, on any Android device
- RIM Tablet OS 1.0.0 or later, with the BlackBerry Playbook Web browser, on the BlackBerry Playbook 2

NOTE: Microsoft Surface tablets are not supported. You can synchronize GroupWise data to the device with the [GroupWise Mobility Service](#).

2.3 Supported Environments

- ◆ [Section 2.3.1, “IPv6 Support,” on page 23](#)
- ◆ [Section 2.3.2, “Clustering Support,” on page 24](#)
- ◆ [Section 2.3.3, “Xen Virtualization Support,” on page 24](#)
- ◆ [Section 2.3.4, “VMware Support,” on page 24](#)
- ◆ [Section 2.3.5, “Citrix Support,” on page 24](#)
- ◆ [Section 2.3.6, “Domain Services for Windows Support,” on page 25](#)
- ◆ [Section 2.3.7, “Linux File System Support,” on page 25](#)

2.3.1 IPv6 Support

The Post Office Agent, the Message Transfer Agent, the Internet Agent, and the Monitor Agent support the IPv6 protocol when it is available on the server. If IPv6 is available, the agent detects it and supports it by default, along with IPv4. The Document Viewer Agent does not support IPv6.

As you configure your GroupWise system and specify the network address of an IPv6 server in ConsoleOne, you must specify its DNS hostname. *IP Address* fields in ConsoleOne do not accommodate IPv6 address format.

2.3.2 Clustering Support

You can set up your GroupWise system in any of the following clustering environments, as described in the [GroupWise 2012 Interoperability Guide](#):

- ♦ “Novell Cluster Services on Linux”
- ♦ “Microsoft Clustering on Windows”

If you are using one of these clustering environments, follow the installation instructions in the [GroupWise 2012 Interoperability Guide](#), rather than the installation instructions in this guide.

2.3.3 Xen Virtualization 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. Xen virtualization technology in OES 2 (Linux version), OES 11, and SUSE Linux Enterprise Server (SLES) 10 and 11 is supported. For more information, see:

- ♦ [Open Enterprise Server 2 Virtualization Documentation Web site \(http://www.novell.com/documentation/oes2/virtualization.html#virtualization\)](http://www.novell.com/documentation/oes2/virtualization.html#virtualization)
- ♦ [SLES Virtualization Technology Documentation Web site \(http://www.novell.com/documentation/vmserver\)](http://www.novell.com/documentation/vmserver).

Large post offices with busy Post Office Agents are not good candidates for Xen virtualization. Specialized Post Office Agents, such as an indexing Post Office Agent with no mailboxes and users, could be virtualized using Xen. Other GroupWise components such as the Message Transfer Agent and the Internet Agent do well when virtualized using Xen.

2.3.4 VMware Support

GroupWise is supported on the following versions of VMware:

- ♦ VMware Server (formally 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).

All GroupWise components are good candidates for VMware virtualization.

2.3.5 Citrix Support

Any version of the GroupWise client runs successfully on any 32-bit version of Citrix terminal services.

The GroupWise agents run successfully on Citrix XenServer.

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

2.3.6 Domain Services for Windows Support

GroupWise can be used with Domain Services for Windows (DSfW) in your eDirectory tree. GroupWise accounts can be added to User objects in the DSfW partition, but all other GroupWise objects (Domain, Post Office, Agent, and so on) must be created in the eDirectory partition. Do not install GroupWise on the same server with DSfW.

2.3.7 Linux File System Support

For best GroupWise performance on Linux, the `ext3` 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. The `reiser3` and `Btrfs` file systems are also supported.

NOTE: If you choose to use the NSS file system, turn off Salvage for best performance. For more information, see the [Novell Open Enterprise Server Documentation \(http://www.novell.com/documentation\)](http://www.novell.com/documentation) .

|| Installation

- ♦ Chapter 3, “Installing a Basic GroupWise System,” on page 29
- ♦ Chapter 4, “Installing the GroupWise Internet Agent,” on page 77
- ♦ Chapter 5, “Installing GroupWise WebAccess,” on page 103
- ♦ Chapter 6, “Installing the GroupWise Calendar Publishing Host,” on page 123
- ♦ Chapter 7, “Installing GroupWise Monitor,” on page 151
- ♦ Chapter 8, “Installing GroupWise Agents,” on page 175
- ♦ Chapter 9, “Installing the GroupWise Client,” on page 211
- ♦ Chapter 10, “Using Novell Messenger with GroupWise,” on page 225
- ♦ Chapter 11, “Using the Novell Data Synchronizer Mobility Pack with GroupWise,” on page 227
- ♦ Chapter 12, “Using Novell Vibe with GroupWise,” on page 229

For additional assistance in planning your GroupWise installation, visit the [GroupWise Best Practices Wiki](http://wiki.novell.com/index.php/GroupWise) (<http://wiki.novell.com/index.php/GroupWise>).

3 Installing a Basic GroupWise System

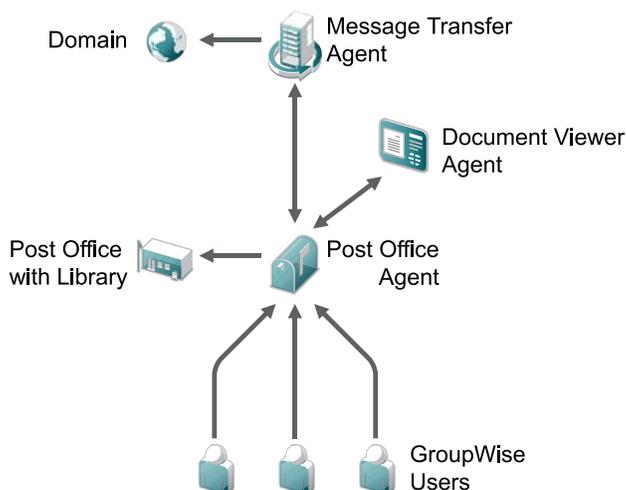
Every Novell GroupWise system, whether it services five users or 50,000 users, starts as a basic GroupWise system. The following sections present the background information and installation instructions you need to successfully implement your basic GroupWise system.

- ♦ [Section 3.1, “Basic System Overview,” on page 29](#)
- ♦ [Section 3.2, “Planning a Basic GroupWise System,” on page 30](#)
- ♦ [Section 3.3, “Setting Up a Basic GroupWise System,” on page 49](#)
- ♦ [Section 3.4, “Testing Your Basic GroupWise System,” on page 70](#)
- ♦ [Section 3.5, “What’s Next,” on page 71](#)
- ♦ [Section 3.6, “Basic GroupWise System Worksheet,” on page 72](#)

IMPORTANT: If you plan to install GroupWise in a clustered server environment, see the [GroupWise 2012 Interoperability Guide](#) before starting to set up your GroupWise system.

3.1 Basic System Overview

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



Each GroupWise user has a mailbox in the post office. Users run the GroupWise client on a personal workstation or use GroupWise WebAccess in a Web browser (wherever an Internet connection is available) in order to access their mailboxes and to send and receive mail.

Three agents are installed in a basic GroupWise system:

- ♦ **Post Office Agent (POA):** Responds to the GroupWise clients' requests for mailbox data and delivers messages between users' mailboxes in a post office.
- ♦ **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).
- ♦ **Document Viewer Agent (DVA):** Converts attached document files into HTML format for display in GroupWise WebAccess and for indexing by the POA, if the POA has been configured to use it.

After you finish setting up your basic GroupWise system, you can review [Section 3.5, "What's Next," on page 71](#) to learn how you can expand your GroupWise system.

3.2 Planning a Basic GroupWise System

The GroupWise Installation program helps you install the GroupWise software to the appropriate locations and helps you create and configure your basic GroupWise system (primary domain, post office, and agents).

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 49](#). Otherwise, you should use the ["Basic GroupWise System Worksheet" on page 72](#) to record your decisions about how to set up your basic GroupWise system. The topics in this section present the required information in a convenient planning sequence. The Installation Worksheet organizes the information in the order in which you need it during installation and setup.

- ♦ [Section 3.2.1, "Determining Installation Locations," on page 30](#)
- ♦ [Section 3.2.2, "Planning Your Primary Domain," on page 34](#)
- ♦ [Section 3.2.3, "Planning Your Post Office," on page 40](#)
- ♦ [Section 3.2.4, "Planning Your GroupWise Agents," on page 43](#)
- ♦ [Section 3.2.5, "Sample GroupWise Configurations," on page 48](#)

For additional assistance in planning your GroupWise installation, visit the [GroupWise Best Practice Wiki \(http://wiki.novell.com/index.php/GroupWise\)](#).

IMPORTANT: If you plan to install GroupWise in a clustered server environment, refer to the [GroupWise 2012 Interoperability Guide](#) as you plan your GroupWise system.

3.2.1 Determining Installation Locations

The GroupWise Installation program 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 software.

- ♦ ["Novell eDirectory" on page 31](#)
- ♦ ["ConsoleOne" on page 32](#)
- ♦ ["GroupWise Software Distribution Directory" on page 32](#)
- ♦ ["Agent Platform" on page 33](#)

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 Linux or Windows.

GroupWise 2012 includes the *Novell eDirectory* downloadable ISO image to assist those who do not already have eDirectory installed and want to install it on Linux or Windows. Follow the instructions in the *Novell eDirectory Installation Guide* (<http://www.novell.com/documentation/edir88>) to install eDirectory, along with its latest Support Pack, before proceeding to install your basic GroupWise system.

- ♦ “eDirectory Tree Access” on page 31
- ♦ “User Objects in eDirectory” on page 31

eDirectory Tree Access

In order to access the eDirectory tree, the GroupWise Installation program needs the IP address or DNS hostname of a server where a replica of the tree can be found. It also needs an eDirectory user name with Admin-equivalent rights, the password for the user name, and the eDirectory context where the User object can be found. Some parts of the installation process require LDAP authentication to eDirectory, so LDAP must be enabled on your eDirectory server.

The GroupWise Installation program 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 *System Settings*, specify the IP address or DNS hostname of a server where a replica of the eDirectory tree resides. Also provide the authentication information so that the GroupWise Installation program can access the eDirectory tree and extend the schema.

User Objects 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.

NOTE: 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.

ConsoleOne

GroupWise administration is performed through ConsoleOne, using the version listed in [Section 2.1, “GroupWise Administration Requirements,”](#) on page 19. When you install GroupWise, the GroupWise Administrator snap-ins are copied into an existing ConsoleOne installation. The GroupWise Administrator snap-ins extend the functionality of ConsoleOne to let you administer GroupWise. ConsoleOne considerations differ by platform:

Linux: For a GroupWise system on Linux, ConsoleOne must already be installed before you set up your GroupWise system.

For your convenience, ConsoleOne is included in the downloaded *GroupWise 2012* software image in the `consoleone/Linux` subdirectory. To install ConsoleOne, run `c1-install`. At a later time, you can install ConsoleOne to additional Linux locations.

The required ConsoleOne installation directory is:

```
/usr/ConsoleOne
```

Windows: For a GroupWise system on Windows, you need to decide which ConsoleOne location you want to use to administer GroupWise. This can be a ConsoleOne location on a network server, such as where domains and post offices are located, or it can be on a local workstation. If you plan to use ConsoleOne on a local workstation, you need to perform the ConsoleOne installation from that workstation.

For your convenience, ConsoleOne is included in the downloaded *GroupWise 2012* software image. The GroupWise Installation program lets you install ConsoleOne if necessary. You can also use the GroupWise Installation program at a later time to install ConsoleOne and the GroupWise Administrator snap-ins to additional locations.

The default ConsoleOne installation directory is:

```
drive:\Novell\ConsoleOne
```

BASIC GROUPWISE SYSTEM WORKSHEET

Under *ConsoleOne Directory*, specify the path for the ConsoleOne location you want to use to administer GroupWise.

For more information about ConsoleOne, see “[ConsoleOne Administration Tool](#)” in “[System](#)” in the [GroupWise 2012 Administration Guide](#).

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:

- ♦ “[Disk Space Required for the Software](#)” on page 33
- ♦ “[Default Software Distribution Directory Location](#)” on page 33

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 800 MB. For a breakdown by component, see [Section 2.1, “GroupWise Administration Requirements,”](#) on page 19.

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 downloaded *GroupWise 2012* software image as a network volume or file system, unless you use one of the software distribution methods described in “[Distributing the GroupWise Windows Client](#)” in “[Client](#)” in the *GroupWise 2012 Administration Guide*.

NOTE: On Linux, you should 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 “[Stand-Alone Database Maintenance Programs](#)” in “[Databases](#)” in the *GroupWise 2012 Administration Guide*.

Default Software Distribution Directory Location

The default location for the software distribution directory varies by platform:

Linux: /opt/novell/groupwise/software

Windows: drive:\grpwise\software

BASIC GROUPWISE SYSTEM WORKSHEET

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

Under *Software Selection*, mark the software components that you want to copy there.

The GroupWise Installation program lets you create one software distribution directory. After you set up your basic GroupWise system, you can create additional software distribution directories if needed. For more information, see “[Software Directory Management](#)” in “[System](#)” in the *GroupWise 2012 Administration Guide*.

Agent Platform

The Message Transfer Agent (MTA), the Post Office Agent (POA), and the Document Viewer Agent (DVA) are available as Linux executables and Windows executables. Plan to create domains and post offices on the same platform and server where you plan to install the agents.

BASIC GROUPWISE SYSTEM WORKSHEET

Under *Agent Software Platform*, specify the type of agents (Linux or Windows) you want to use.

3.2.2 Planning Your Primary Domain

The primary domain functions as the main administration unit for the GroupWise system. Domains that you create after the first domain are secondary domains.

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. Domains can be located on Linux and Windows servers.

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 Installation program prompts you for information about the primary domain.

- ♦ [“System and Domain Names” on page 34](#)
- ♦ [“Domain Directory” on page 35](#)
- ♦ [“Domain Context” on page 36](#)
- ♦ [“Domain Language” on page 39](#)
- ♦ [“Domain Time Zone” on page 40](#)

System and Domain Names

Each 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 name 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 0-31	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 .

IMPORTANT: 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 *System Settings*, specify the name of the GroupWise system that you want to create in eDirectory.

Under *Primary Domain Settings*, 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:

- ◆ [“Domain Security” on page 35](#)
- ◆ [“Server Platform and Version” on page 35](#)
- ◆ [“MTA Access” on page 35](#)
- ◆ [“Domain Disk Space Requirements” on page 36](#)
- ◆ [“Domain Directory Name” on page 36](#)

Domain 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 19](#).

MTA Access

The MTA requires direct access to the domain directory so that it can write to the domain database (`wpdomain.db`). Therefore, you might want to consider the server type (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 43](#). For examples of possible domain directory locations and MTA configurations, see [“Sample GroupWise Configurations” on page 48](#).

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.

Domain 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.

For additional guidance, visit the [GroupWise Best Practices Wiki \(http://wiki.novell.com/index.php/GroupWise\)](http://wiki.novell.com/index.php/GroupWise).

Domain 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:

Linux: Use only lowercase characters.

Windows: No limitations.

Choose the name and path carefully. After the directory is created, it is difficult to rename.

BASIC GROUPWISE SYSTEM WORKSHEET

Under *Primary Domain Settings*, specify the full path for the domain directory.

IMPORTANT: The installation process proceeds more smoothly if you create the domain directory in advance.

Domain Context

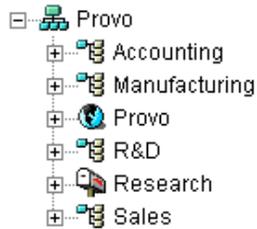
You can create the Domain object in any Organization or Organizational Unit container in any context in your eDirectory tree. The only requirement is that it be in the same tree as the other objects associated with the domain (Post Office object, User objects, and so on).

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 37](#)
- ♦ [“Objects Mirror eDirectory Organization” on page 37](#)
- ♦ [“Objects Mirror Network Server Organization” on page 38](#)
- ♦ [“Objects in a Dedicated Container” on page 38](#)
- ♦ [“The GroupWise View in ConsoleOne” on page 39](#)

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.



Objects Mirror eDirectory Organization

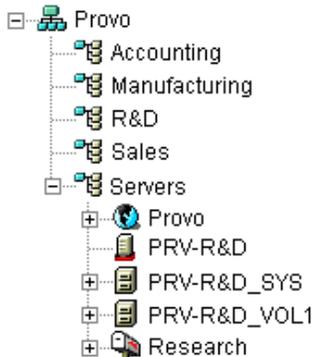
The following example is similar to the previous example, except that a separate post office is created for each organizational unit that contains users. The Domain object (Provo) resides in the organization (Provo) and the Post Office objects reside in the same organizational units (Accounting, Manufacturing,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



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.

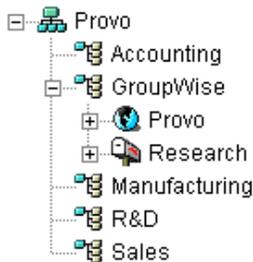
Objects Mirror Network Server Organization

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.



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.

For information about GroupWise administrator rights, see "[GroupWise Administrator Rights](#)" in "[Security Administration](#)" in the *GroupWise 2012 Administration Guide*.

BASIC GROUPWISE SYSTEM WORKSHEET

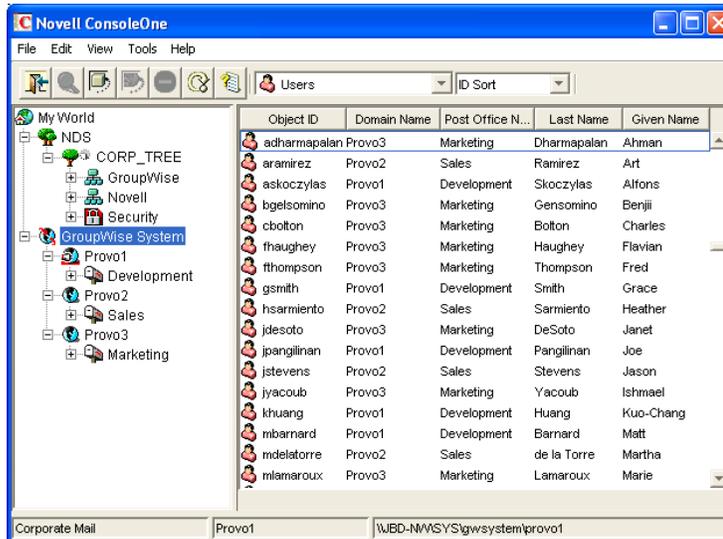
Under *Primary Domain Settings*, specify the context where you want to create the Domain object.

IMPORTANT: 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 on) in the right pane.



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 in the GroupWise View. This includes such tasks as defining users from other GroupWise systems so that they appear in your system's GroupWise Address Book.

For more information about the GroupWise View, see "[GroupWise View](#)" in "[System](#)" in the [GroupWise 2012 Administration Guide](#).

Domain Language

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

NOTE: The list of languages displayed in ConsoleOne includes more languages than GroupWise supports. See "[Multilingual GroupWise Systems](#)" in "[System](#)" in the [GroupWise 2012 Administration Guide](#) for a list of valid domain languages.

BASIC GROUPWISE SYSTEM WORKSHEET

Under *Primary Domain Settings*, specify the language for the domain. The domain language becomes the default language for the domain's post offices.

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 *Primary Domain Settings*, 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. Post offices can be located on Linux and Windows servers.

The following sections prepare you to supply the GroupWise Installation program with the required information.

- ♦ ["Post Office Name" on page 40](#)
- ♦ ["Post Office Directory" on page 41](#)
- ♦ ["Post Office Context" on page 42](#)
- ♦ ["Post Office Language" on page 42](#)
- ♦ ["Post Office Time Zone" on page 43](#)

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).

Post office names must be a single string. Use underscores (_) rather than spaces as separators between words to facilitate addressing across the Internet. The same characters that are invalid in domain names are also invalid in post office names (see ["System and Domain Names" on page 34](#)).

IMPORTANT: Name your post office carefully. After it is created, the name cannot be changed.

BASIC GROUPWISE SYSTEM WORKSHEET

Under *Post Office Settings*, specify the name you have 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 and delivery. As you choose a location for the post office directory, consider the following:

- ♦ [“Post Office Security” on page 41](#)
- ♦ [“Server Platform and Version” on page 41](#)
- ♦ [“POA Access” on page 41](#)
- ♦ [“Post Office Disk Space Requirements” on page 41](#)
- ♦ [“Post Office Directory Name” on page 42](#)

Post Office Security

The GroupWise Windows client accesses the post office through a client/server (TCP/IP) connection to the Post Office Agent (POA). GroupWise WebAccess uses an HTTP connection through a Web server. 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 19](#).

POA Access

The POA requires direct access to the post office directory so that it can write to the post office database (`wphost.db`). Therefore, the POA must be installed on the same server where its directory structure is located.

Post Office 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 on) 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 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.

Post Office Directory Name

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:

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 *Post Office Settings*, specify the full path for the post office directory.

IMPORTANT: The installation process proceeds more smoothly if you create the post office directory in advance.

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 36](#).

BASIC GROUPWISE SYSTEM WORKSHEET

Under *Post Office Settings*, specify the context where you want to create the Post Office object.

IMPORTANT: 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.

NOTE: The list of languages displayed in ConsoleOne includes more languages than GroupWise supports. See [“Multilingual GroupWise Systems”](#) in [“System”](#) in the [GroupWise 2012 Administration Guide](#) for a list of valid post office languages.

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, the GroupWise Address Book items are sorted according to English sort order rules. This is true even if some users in the post office are running non-English GroupWise clients such as German or Japanese. Their client interface and Help files are in German or Japanese, but the sort order in the GroupWise Address Book is according to English standards. Time, date, and number formats for the non-English clients default to the workstation language.

BASIC GROUPWISE SYSTEM WORKSHEET

Under *Post Office Settings*, specify the language for the post office.

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 *Post Office Settings*, specify the time zone where the post office is located.

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. The Document Viewer Agent (DVA) converts attached document files into HTML for viewing in GroupWise WebAccess and for indexing by the POA, if it has been configured to use it. The GroupWise agents can run on Linux and Windows servers.

- ♦ **Message Transfer Agent:** 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

- ♦ **Post Office Agent:** 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.

- ♦ **Document Viewer Agent:** GroupWise requires at least one DVA. It is automatically installed along with the MTA and the POA.

The DVA can simultaneously convert multiple document files into HTML format. If it encounters a problem converting a particular document file, the problem does not affect conversion of other document files, nor does the problem document file affect the functioning of WebAccess or of the POA.

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

- ♦ ["Agent Location" on page 44](#)
- ♦ ["POA Configuration" on page 44](#)
- ♦ ["MTA Link to the Post Office" on page 45](#)
- ♦ ["Agent Server Consoles and Web Consoles" on page 45](#)

- ♦ [“Linux Installation Options: Automatic Startup, Document View Agent Configuration, and Linux Mount Directory”](#) on page 46
- ♦ [“Windows Installation Options: SNMP Traps and Service versus Application”](#) on page 47

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. The DVA does not require direct access to any directory, because it communicates with the POA through TCP/IP.

Install the MTA and the POA 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.

IMPORTANT: For Linux, this is required, because 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. For Windows, other configurations are possible after installation of your basic GroupWise system, but are not recommended.

Consider these platform-specific guidelines:

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:\Program Files\Novell\GroupWise Server\Agents](#). However, you can install the agents to any directory you want.

BASIC GROUPWISE SYSTEM WORKSHEET

Under *Installation Path* for your software platform, specify the installation path for the agents.

POA Configuration

In order to configure the POA, you need to know the IP address or DNS hostname of the server where you plan to install the POA. The POA uses its client/server port to communicate with GroupWise clients; the default client/server port is 1677. The POA uses its message transfer port to communicate with the MTA; the default message transfer port is 7101. Use these default port numbers unless they are already in use by another program on the server where you plan to install the POA.

BASIC GROUPWISE SYSTEM WORKSHEET

Under *POA Network Address*, specify the IP address or DNS hostname of the POA's server, along with the required port numbers.

For a complete list of default port numbers used by the GroupWise agents, refer to [“GroupWise Port Numbers”](#) in the [Appendixes](#).

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. The MTA uses its message transfer port to communicate with the POA; the default message transfer port is 7100. Use this default port number unless it is already in use by another program on the server where you plan to install the MTA.

BASIC GROUPWISE SYSTEM WORKSHEET

Under *MTA Network Address*, specify the IP address or DNS hostname of the MTA's server, along with the required port number.

For a complete list of default port numbers used by the GroupWise agents, refer to "[GroupWise Port Numbers](#)" in the *GroupWise 2012 Administration Guide*.

Agent Server Consoles and Web Consoles

The MTA, the POA, and the DVA provide agent server consoles to let you monitor and, for the MTA and the POA, reconfigure the agents while at the agent servers for the current agent session. The availability of agent server consoles varies by platform.

Linux: The MTA and POA server consoles are displayed only if you start the agents with the `--show` startup switch on the command line or if you use the `show = yes` option in the GroupWise High Availability service configuration file (`gwha.conf`) to cause the `grpwise` script to start the agents with server consoles. For more information, see "[Configuring the GroupWise High Availability Service in the gwha.conf File](#)" on page 196.

The DVA does not have a server console on Linux.

Windows: The MTA and POA server consoles are displayed if you run the agents as applications but are not displayed if you run the agents as services. The DVA displays a console message window, but not a full server console.

When the agent server 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.

By default, the MTA Web console is enabled on port 7180, the POA Web console is enabled on port 7181, and the DVA Web console is enabled on port 8301. Use these default port numbers unless they are already in use by another program on the server where you plan to install the agents.

In your browser, you access the agent Web consoles using the following URLs:

```
http://agent_network_address:port
```

where *agent_network_address* is the agent's IP addresses or DNS hostnames and *port* is the agent's Web console HTTP port number.

BASIC GROUPWISE SYSTEM WORKSHEET

Under *POA Network Address*, specify the POA's HTTP port number.

Under *MTA Network Address*, specify the MTA's HTTP port number.

Under *DVA Network Address*, specify the DVA's HTTP port number.

For a complete list of default port numbers used by the GroupWise agents, refer to [“GroupWise Port Numbers”](#) in the *GroupWise 2012 Administration Guide*.

Linux Installation Options: Automatic Startup, Document View Agent Configuration, and Linux Mount Directory

If you are installing the GroupWise agents on Linux, you have the following additional installation options:

- ♦ [“Automatic Startup”](#) on page 46
- ♦ [“Enable Document Viewer Agent”](#) on page 46
- ♦ [“Linux Mount Directory”](#) on page 46

Automatic Startup

The Linux GroupWise agents are Run Control compliant. The Installation program creates symbolic links to the `/etc/init.d/grpwise` script in the `rc3.d` and `rc5.d` directories so that the agents can load on restart into run level 3 or 5, depending on the configuration of your Linux server.

If you want to configure the agents for high availability, as described in [“Enabling the GroupWise High Availability Service for the Linux GroupWise Agents”](#) on page 195, they must be configured to start automatically on system startup.

BASIC GROUPWISE SYSTEM WORKSHEET

Under *Linux Installation Options*, mark whether or not you want to configure the GroupWise Linux agents to start automatically.

Enable Document Viewer Agent

The Document Viewer Agent is configured for high availability independently from the POA and the MTA.

BASIC GROUPWISE SYSTEM WORKSHEET

Under *Linux Installation Options*, mark whether or not you want to configure the Linux Document Viewer agent to start automatically.

Linux Mount Directory

Typically, Linux servers and workstations use `/mnt` for the mount directory. In the future as your GroupWise system grows, the Linux mount directory helps ConsoleOne resolve the UNC paths of GroupWise domain 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 domains and their associated databases can be located on Linux 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 is located that you want to access from ConsoleOne on Linux. When you are ready to expand your basic GroupWise system to additional servers, see [“ConsoleOne on Linux”](#) and [“ConsoleOne in a Multiple-Platform Environment”](#) in *“System”* in the *GroupWise 2012 Administration Guide*.

The following table illustrates the correspondence between UNC paths and Linux mount points for GroupWise database locations on Linux servers and on Windows servers, assuming the typical Linux mount directory of /mnt:

Platform	GroupWise Domain UNC Path	Corresponding Linux Mount Point
Linux:	\\lnx_server\gw_partition_or_directory\ domain_directory	/mnt/lnx_server/ gw_partition_or_directory
Windows:	\\windows_server\gw_share\ domain_directory	/mnt/windows_server/ gw_share

IMPORTANT: Although Windows is not a case-sensitive operating system, the case of characters in path names becomes significant when the directory structure is mounted to a Linux machine.

BASIC GROUPWISE SYSTEM WORKSHEET

Under *Linux Installation Options*, specify a different directory if you do not want to use the default /mnt directory.

Windows Installation Options: SNMP Traps and Service versus Application

If you are installing the GroupWise agents on Windows, you have the following additional installation options:

- ♦ [“SNMP Services” on page 47](#)
- ♦ [“Service versus Application” on page 48](#)

SNMP Services

If you want the GroupWise agents to be able to communicate with SNMP management and monitoring programs, you must configure them for this functionality during installation. The Windows SNMP service must already be enabled on the Windows server in order to configure this functionality for the GroupWise agents.

BASIC GROUPWISE SYSTEM WORKSHEET

Under *Windows Installation Options*, mark whether you want to configure the GroupWise agents to communicate with SNMP management and monitoring programs. If you do, ensure that the Windows SNMP service is enabled on the GroupWise agent server.

For more information about SNMP, see the following sections in the [GroupWise 2012 Administration Guide](#):

- ♦ [“Setting Up SNMP Services for the POA”](#) in [“Post Office Agent”](#)
- ♦ [“Setting Up SNMP Services for the MTA”](#) in [“Message Transfer Agent”](#)

Service versus Application

You can run the Windows MTA, POA, and DVA as Windows services or applications.

BASIC GROUPWISE SYSTEM WORKSHEET

Under *Windows: Installation Options*, mark whether you want to run the GroupWise agents as Windows 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 and no password is required.

When the agents run under the local system account, you can enable them to display the agent server consoles on the server desktop on Windows Server 2003. This interaction with the desktop is not available on Windows Server 2008 and later Windows versions.

- ◆ When the domain and post office directories are located on a remote Windows server, you must specify a user with rights to access the domain and post office directories, along with the user's associated password.
- ◆ For the DVA, the user account depends on the location of the DVA home directory, as described in ["Setting the DVA Home Directory"](#) in ["Document Viewer Agent"](#) in the *GroupWise 2012 Administration Guide*.

IMPORTANT: For simplicity of agent administration, running the GroupWise agents as the Windows Administrator user is highly 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 *Windows Service Information*, record the Windows user account that the agent services will run under, and if necessary, the password for the account. If you are using the local system account, indicate whether you want to allow the agent services to interact with the desktop to display the agent server consoles. Select whether you want the agent services to start automatically or manually.

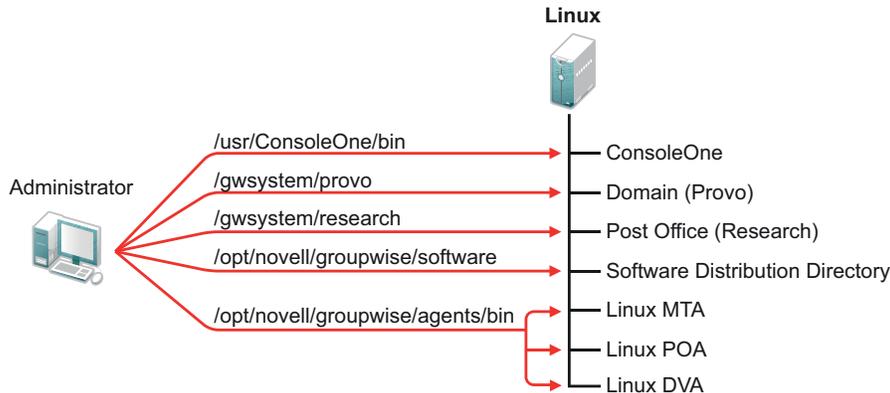
3.2.5 Sample GroupWise Configurations

Many different configurations are possible for your GroupWise system after you create your basic GroupWise system. The following diagrams illustrate a basic GroupWise system (primary domain and one post office) on Linux and Windows.

- ◆ ["Linux Server"](#) on page 49
- ◆ ["Windows Server"](#) on page 49

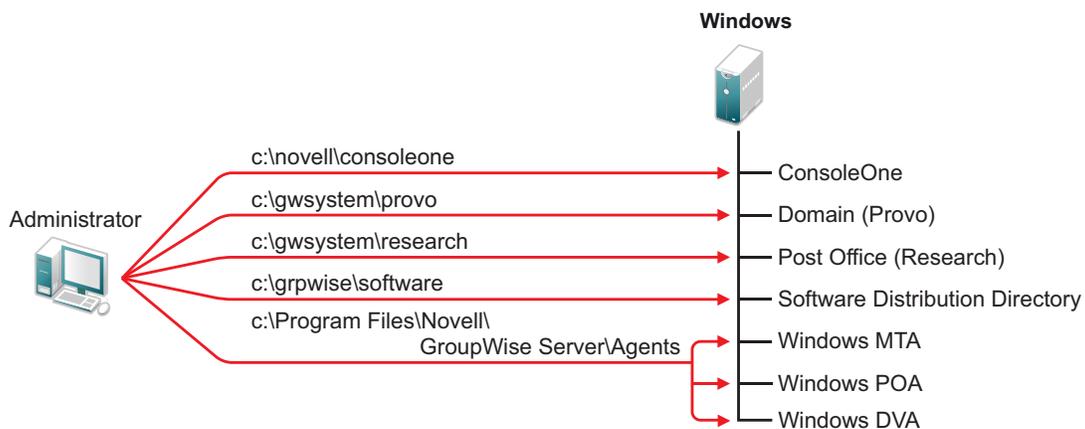
Linux Server

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



Windows Server

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



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, "Linux: Setting Up a Basic GroupWise System," on page 49](#)
- ♦ [Section 3.3.2, "Windows: Setting Up a Basic GroupWise System," on page 61](#)

3.3.1 Linux: Setting Up a Basic GroupWise System

You should have already reviewed [Section 3.2, "Planning a Basic GroupWise System," on page 30](#) and filled out the [worksheet](#). The following sections step you through the GroupWise Installation program.

- ♦ ["Preparing the Linux Server for Your Basic GroupWise System" on page 50](#)
- ♦ ["Starting the Linux GroupWise Installation Program" on page 50](#)
- ♦ ["Installing the GroupWise Software" on page 51](#)

- ♦ [“Selecting a Linux Mount Directory”](#) on page 53
- ♦ [“Using ConsoleOne to Create Your Basic GroupWise System”](#) on page 53
- ♦ [“Installing and Starting the Linux GroupWise Agents”](#) on page 57
- ♦ [“Installing the GroupWise Administrator Snap-Ins to Additional Linux Machines”](#) on page 61

IMPORTANT: If you plan to install GroupWise in a clustered server environment, see the [GroupWise 2012 Interoperability Guide](#) before starting to set up your GroupWise system.

If you are new to Linux, you might want to review [“Linux Commands, Directories, and Files for GroupWise Administration”](#) in the [GroupWise 2012 Administration Guide](#) before beginning to set up your GroupWise system on Linux.

Preparing the Linux Server for Your Basic GroupWise System

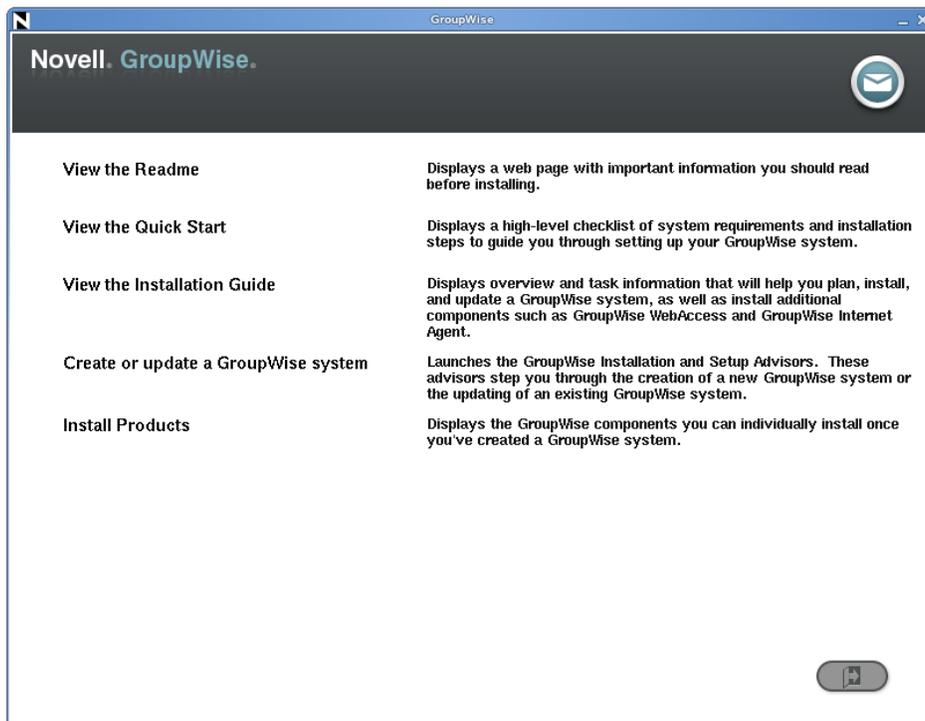
- 1 Ensure that the Linux server for your basic GroupWise system meets the system requirements listed in [Section 2.1, “GroupWise Administration Requirements,”](#) on page 19.
- 2 Ensure that the Linux operating system media is available, in case the GroupWise Installation program needs to install supporting packages on the Linux server.
- 3 Ensure that the Linux server has a static IP address.
- 4 Ensure that the firewall on the Linux server has the ports open that are used by the GroupWise Post Office Agent (POA) and Message Transfer Agent (MTA).
For assistance, see [“GroupWise Port Numbers”](#) in the [GroupWise 2012 Administration Guide](#).
- 5 Ensure that the directories exist where you want to create your domain and post office directory structures, as described in [“Domain Directory Name”](#) on page 36 and [“Post Office Directory Name”](#) on page 42.
- 6 Ensure that ConsoleOne is installed on the Linux server, as described in [“ConsoleOne”](#) on page 32.
- 7 Ensure that eDirectory User objects exist for the GroupWise accounts that you want to create, as described in [“User Objects in eDirectory”](#) on page 31.
- 8 Ensure that the eDirectory container objects exist where you want to create the Domain object and Post Office objects for your Basic GroupWise system, as described in [“Domain Context”](#) on page 36.
- 9 Continue with [Starting the Linux GroupWise Installation Program](#).

Starting the Linux GroupWise Installation Program

- 1 In a terminal window, become root by entering `su -` and the root password.
- 2 Run the GroupWise Installation program at the root of the downloaded *GroupWise 2012* software image

```
./install
```

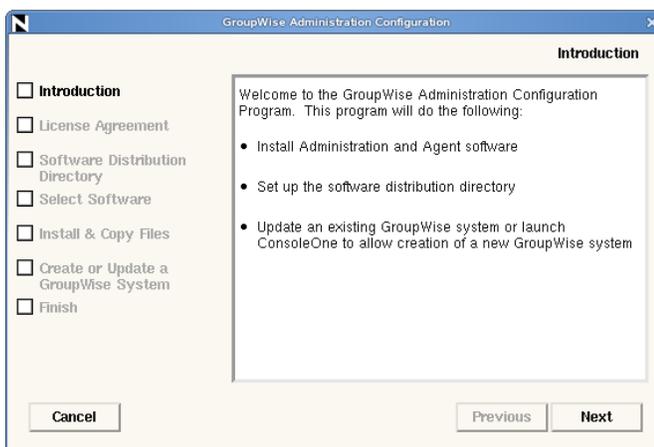
- 3 Select the language in which you want to run the GroupWise Installation program, then click *OK*.



- 4 (Optional) Review the Readme, Quick Start, and Installation Guide to better prepare yourself for setting up your basic GroupWise system.
- 5 Continue with [Installing the GroupWise Software](#).

Installing the GroupWise Software

- 1 Click *Create or update a GroupWise system*.



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

- 2 Click *Next*, accept the License Agreement, then click *Next*.

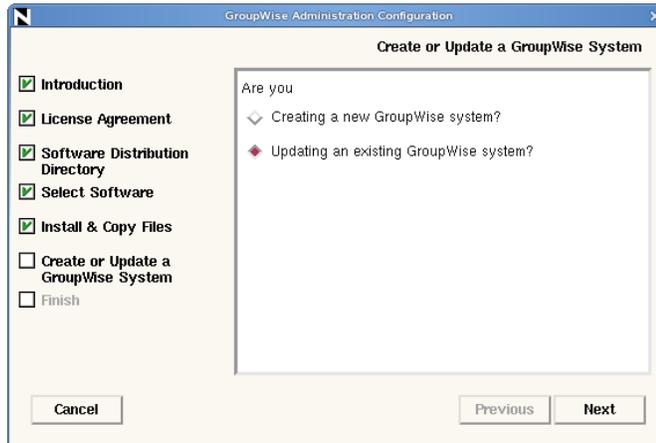
- 3 Follow the prompts to provide the following information from your [Basic GroupWise System Worksheet](#).

Software Distribution Directory

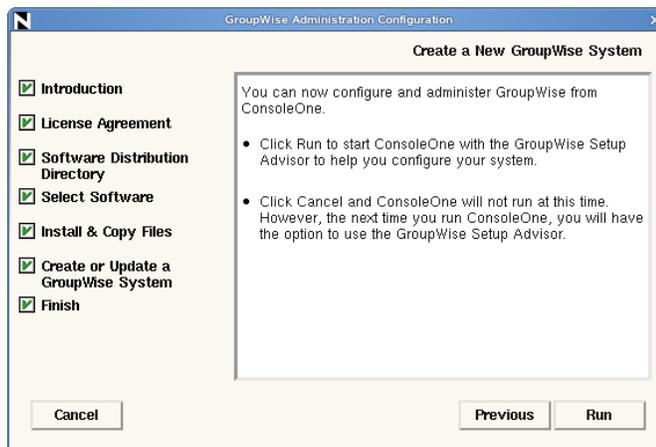
Software Selection

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

- 4 When the copying is complete, click *Next*.



- 5 Select *Creating a new GroupWise system*, then click *Next*.



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

- 6 Click *Run* to start ConsoleOne.
- 7 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 for future domains in your GroupWise system.

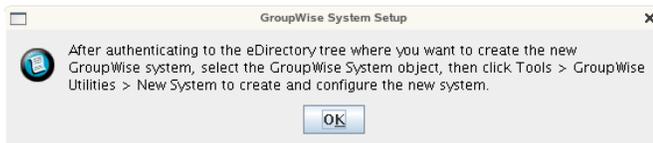
- 1 In the Linux Mount Directory dialog box, browse to and select the Linux mount directory from your [Basic GroupWise System Worksheet](#), then click **OK**.



The mount directory information is stored in a user-specific preferences file (.consoleone/SnapinPrefs.ser) in each GroupWise administrator's home directory. If necessary, you can later select a different mount directory in ConsoleOne, as described in "Changing the Linux Mount Directory" in "System" in the *GroupWise 2012 Administration Guide*

For instructions on using the Linux mount directory after creating your basic GroupWise system, see "Mounting a Linux File System for a Domain or a Post Office" in "System" in the *GroupWise 2012 Administration Guide*.

After you select the Linux mount directory, the New System Utility provides some instructions for creating your basic GroupWise system.

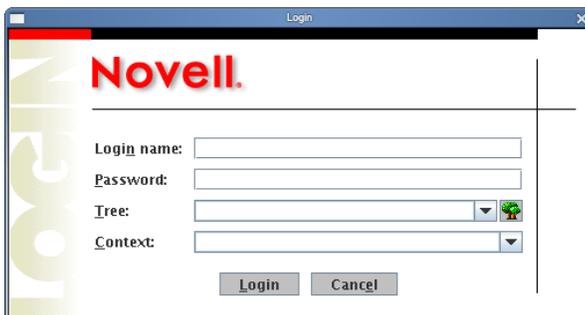


- 2 Click **OK** to proceed into ConsoleOne.
- 3 Continue with [Using ConsoleOne to Create Your Basic GroupWise System](#).

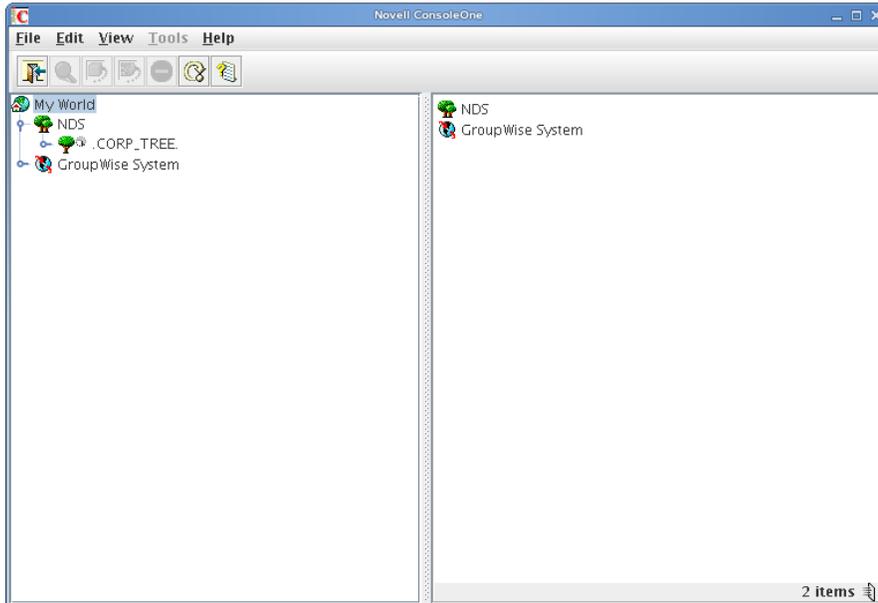
Using ConsoleOne to Create Your Basic GroupWise System

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

- 1 Fill in the fields in the Login window from your [Basic GroupWise System Worksheet](#), then click *Login* to start ConsoleOne:

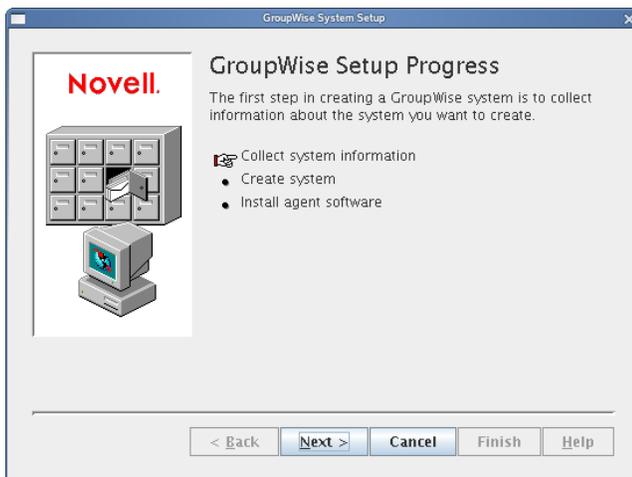


If the Login dialog box does not appear automatically, select the NDS object, then click *File > Authenticate*. Under some circumstances, you might need to specify the IP address of the server instead of the tree name.



Because the GroupWise Administrator snap-ins have been installed to ConsoleOne, a GroupWise System object is displayed. As you add domains and post offices to your GroupWise system, they are listed under the GroupWise System object.

- 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](#).

[Software Distribution Directory](#)

[eDirectory Tree](#)

[eDirectory Schema Extension](#)

[System Name](#)

[Primary Domain](#)

[Domain Directory](#)
[Domain Context](#)
[Domain Language](#)
[Domain Time Zone](#)

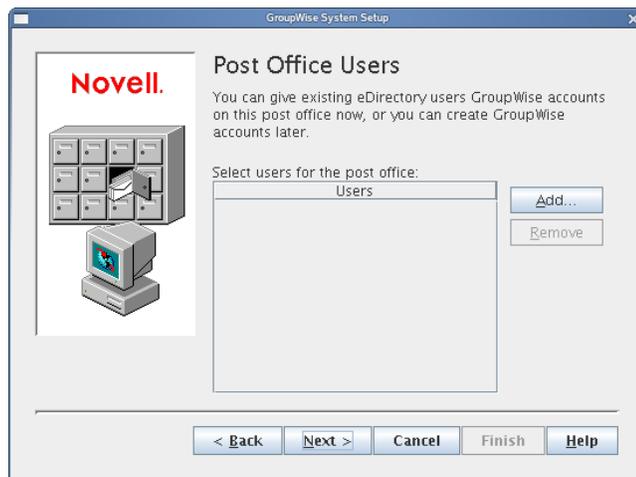
- 4 Follow the prompts to provide the GroupWise post office information from your [Basic GroupWise System Worksheet](#).

[Post Office Name](#)
[Post Office Directory](#)
[Post Office Context](#)
[Post Office Language](#)
[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](#).

[Post Office Link](#)
[POA Network Address](#)
[MTA Network Address](#)

When you have provided the system, domain, post office, and agent information for your GroupWise system, you are ready to create users. However, adding users at this point is optional. After the Installation program has finished, you can add users to the post office at any time by using ConsoleOne. We recommend that you just add yourself and a test user at this time.

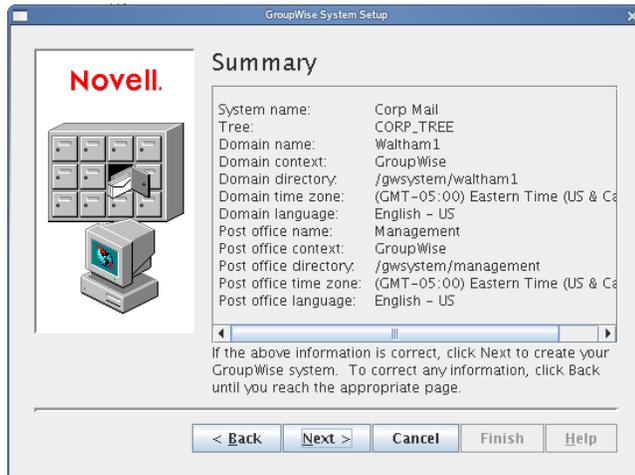


- 6 Add users as needed, then click *Next*.

The Installation program summarizes your overall progress.



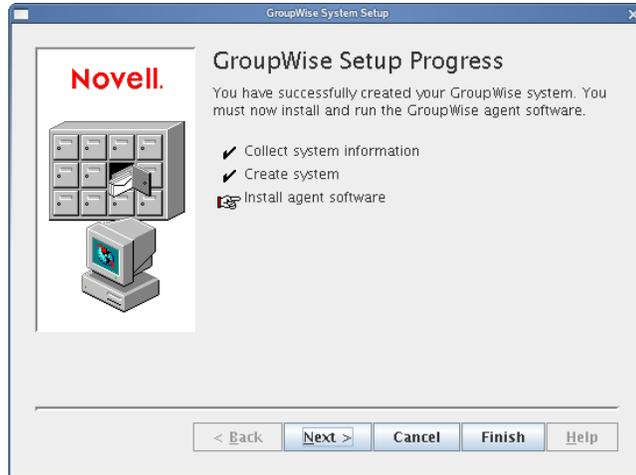
- 7 Click *Next* to display a summary of the system, domain, post office, and agent information you entered.



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

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

The Installation program summarizes your overall progress.



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

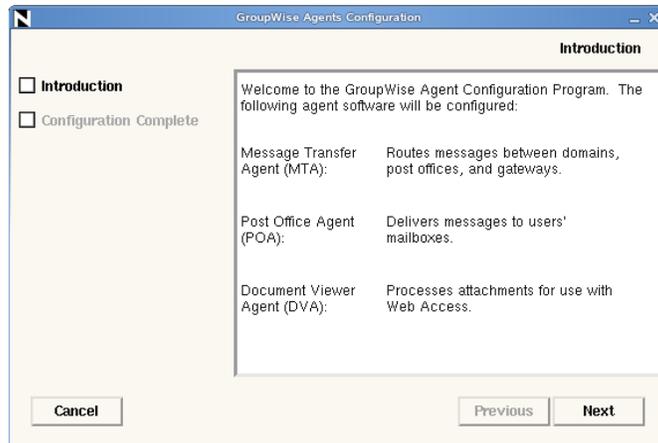
Installing and Starting the Linux GroupWise Agents

At this point, the Installation program 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.

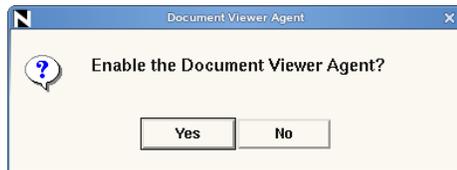
- ♦ [“Installing the Linux Agents” on page 57](#)
- ♦ [“Starting the Linux Agents with a User Interface” on page 58](#)

Installing the Linux Agents

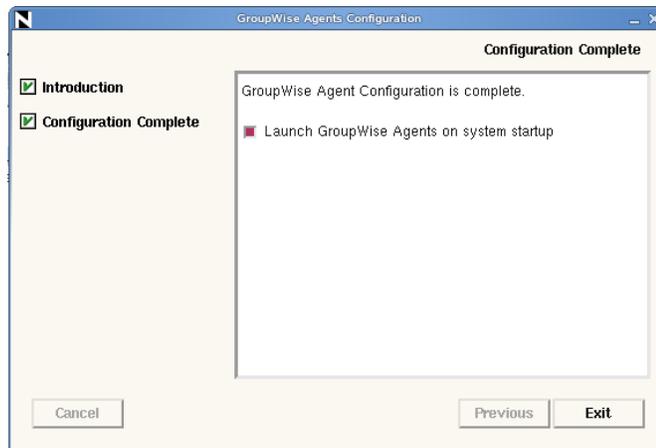
The GroupWise Installation program starts the Agent Configuration program for you.



- 1 Review the Introduction, then click *Next*.
The DVA is configured for high availability separately from the MTA and the POA.



- 2 (Conditional) If you want to configure the DVA for high availability, click Yes.
or
Click *No*.



- 3 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 GroupWise High Availability Service for the Linux GroupWise Agents” on page 195](#), they must be configured to start automatically on system startup.

- 4 (Conditional) If you do not want the agents to start automatically when the server restarts, deselect *Launch GroupWise Agents on System Startup*.
- 5 Click *Exit* to complete the agent configuration.
- 6 For convenience, leave ConsoleOne running while you start the agents in a terminal window.
- 7 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 `su -` and the root password.
- 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:

```
./gwmnta --show --home domain_directory &  
./gwmnta --show @domain_name.mta &
```

Example:

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

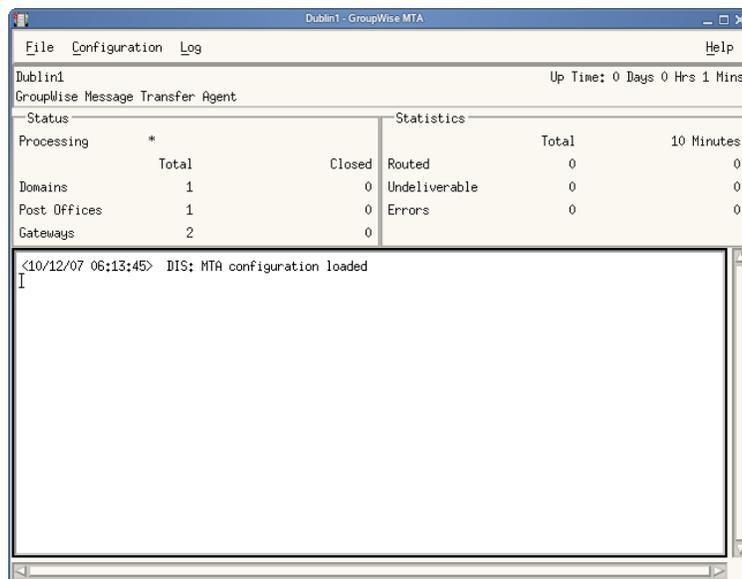
The `--show` startup switch starts the MTA with a server console interface similar to that provided for the Windows MTAs when they run as Windows applications. This user interface requires that the X Window System and Open Motif be running on the Linux server.

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.

To remind yourself of these commands when you are at your Linux server, view the [gwmta](#) man page.

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 (`mmcdmta.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.

4 In ConsoleOne, check to see that the domain has been updated:

4a Browse to and right-click the Domain object, then click *Properties*.

4b Verify that the *Database Version* field displays 12 (short for 2012), then click *Cancel*.

5 In the terminal window, use one of the following commands to start the POA:

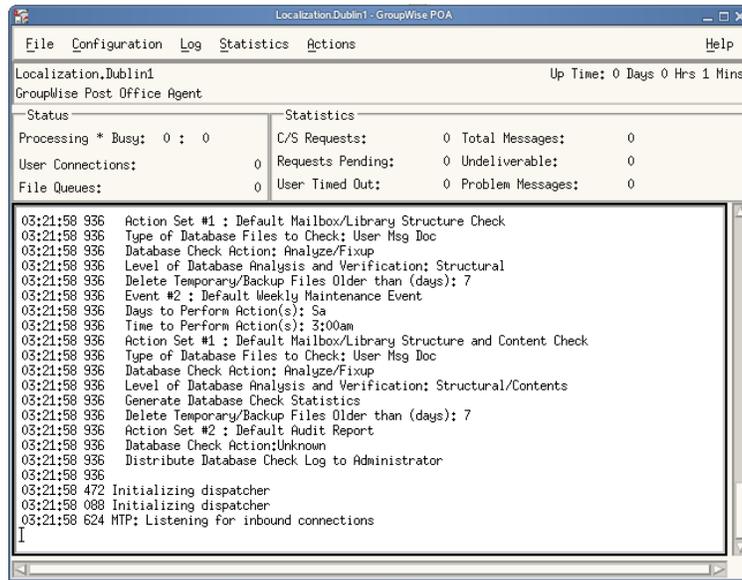
Syntax:

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

Example:

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

To remind yourself of these commands when you are at your Linux server, view the [gwpoa](#) man page.



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.

6 In ConsoleOne, check to see that the post office database has been updated:

6a Browse to and right-click the Post Office object, then click *Properties*.

6b Verify that the *Database Version* field displays 12 (short for 2012), then click *Cancel*.

After the post office database has been updated, users can connect to the post office using the GroupWise Windows client or GroupWise WebAccess.

7 If you want to finish setting up your basic GroupWise system so that users can access it, continue with [Section 3.4, "Testing Your Basic GroupWise System,"](#) on page 70.

or

If you want to learn more about managing the GroupWise agents on Linux, skip to the following sections in [Chapter 8, "Installing GroupWise Agents,"](#) on page 175:

- ◆ ["Starting the Linux Agents as Daemons" on page 188](#)
- ◆ ["Starting the Linux Agents on System Startup" on page 189](#)
- ◆ ["Monitoring the Linux GroupWise Agents from Your Web Browser" on page 200](#)
- ◆ ["Running the Linux GroupWise Agents as a Non-root User" on page 192](#)
- ◆ ["Enabling the GroupWise High Availability Service for the Linux GroupWise Agents" on page 195](#)
- ◆ ["Stopping the Linux GroupWise Agents" on page 190](#)

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 downloaded *GroupWise 2012* software image and the domain directory.
- 3 Start the GroupWise Installation program (`install`), 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 Skip to [What's Next](#).

3.3.2 Windows: Setting Up a Basic GroupWise System

You should have already reviewed [Section 3.2, "Planning a Basic GroupWise System,"](#) on page 30 and filled out the [worksheet](#). The following sections step you through the GroupWise Installation program for creating a new GroupWise system.

- ♦ ["Preparing the Windows Server for Your Basic GroupWise System"](#) on page 61
- ♦ ["Starting the Windows GroupWise Installation Program"](#) on page 62
- ♦ ["Installing Your Basic GroupWise System"](#) on page 64
- ♦ ["Starting the GroupWise Agents"](#) on page 66
- ♦ ["Setting Up and Testing the GroupWise Windows Client on the GroupWise Server"](#) on page 66
- ♦ ["Installing the GroupWise Administrator Snap-Ins to Additional Windows Machines"](#) on page 67
- ♦ ["Setting Up Predefined Installations"](#) on page 68

IMPORTANT: If you plan to install GroupWise in a clustered server environment, see the [GroupWise 2012 Interoperability Guide](#) before starting to set up your GroupWise system.

Preparing the Windows Server for Your Basic GroupWise System

- 1 Make sure that the Windows server for your basic GroupWise system meets the system requirements listed in [Section 2.1, "GroupWise Administration Requirements,"](#) on page 19.
- 2 Make sure that the Windows server has a static IP address.
- 3 Make sure that the firewall on the Windows server has the ports open that are used by the GroupWise Post Office Agent (POA) and Message Transfer Agent (MTA).
For assistance, see ["GroupWise Port Numbers"](#) in the [GroupWise 2012 Administration Guide](#).
- 4 Make sure that the directories exist where you want to create your domain and post office directory structures, as described in ["Domain Directory Name"](#) on page 36 and ["Post Office Directory Name"](#) on page 42.

- 5 Make sure that eDirectory User objects exist for the GroupWise accounts that you want to create, as described in [“User Objects in eDirectory” on page 31](#).
- 6 Make sure that the eDirectory container objects exist where you want to create the Domain object and Post Office objects for your Basic GroupWise system, as described in [“Domain Context” on page 36](#).
- 7 Configure the Windows server to ensure GroupWise database integrity across the network:
 - 7a At the selected Windows machine, right-click the Novell Client icon (the Red N) on the toolbar at the bottom of your screen, then click *Novell Client Properties*.
 - 7b Click *Advanced Settings*.
 - 7c Set *File Caching* to *Off*.
 - 7d Set *File Commit* to *On*.
 - 7e Click *OK* to save the new Novell Client settings.
 - 7f Reboot the Windows machine to put the new settings into effect.
- 8 (Optional) Enable SNMP.

If you want to monitor the GroupWise Windows agents from an SNMP manager program, SNMP must be enabled on the Windows server where the agents are installed. If it is not already enabled, you must enable it before you run the Installation program.

For example, in Windows Server 2008:

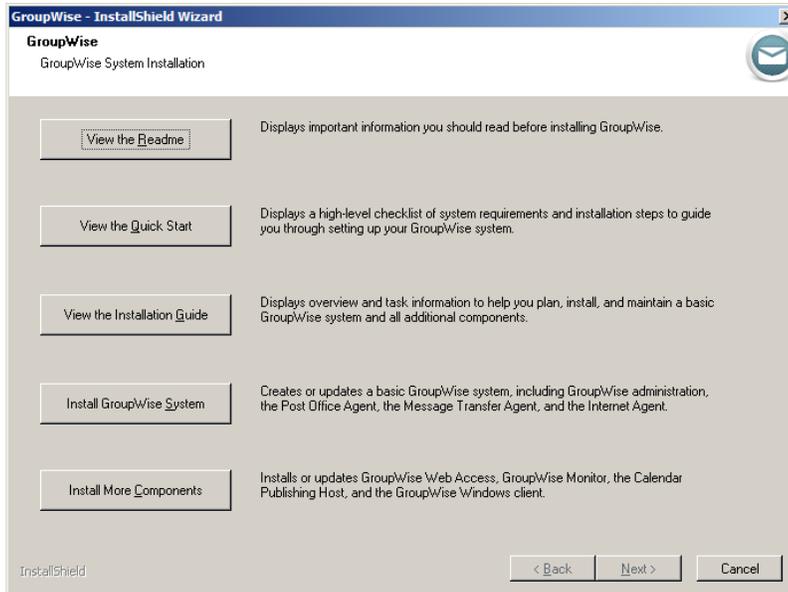
 - 8a In the Server Manager, right-click *Features*, then click *Add Features*.
 - 8b Select *SNMP Services*., then click *Next*.
 - 8c Click *Install*.
- 9 Continue with [Starting the Windows GroupWise Installation Program](#).

Starting the Windows GroupWise Installation Program

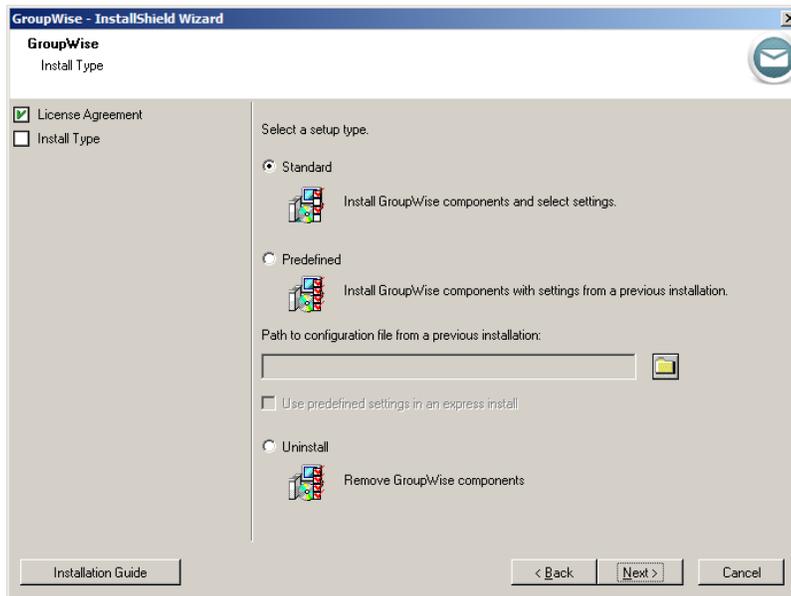
- 1 Log in as an Admin equivalent to the eDirectory tree in which you are creating your GroupWise system.
- 2 Run `setup.exe` at the root of the downloaded *GroupWise 2012* software image.
- 3 (Conditional) If prompted, select the language in which you want to run the GroupWise Installation program, then click *OK*.

On Windows, the *GroupWise 2012* software image can be downloaded in a multilanguage version or an English-only version. When you install from the multilanguage version, all languages are always installed, regardless of the specific language that you select for running the Installation program.

The main GroupWise System Installation page appears.

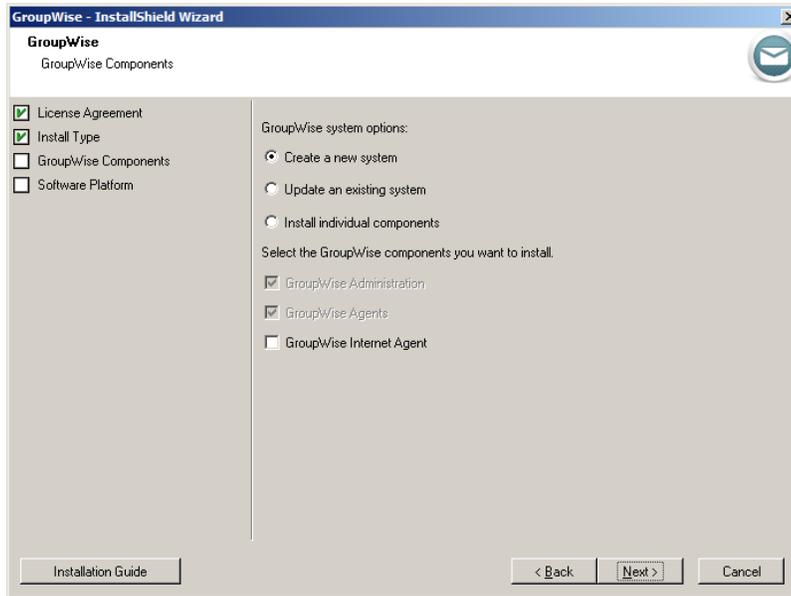


- 4 Click *Install GroupWise System*, then click *Yes* to accept the License Agreement and display the Installation Type page.



When you create a new GroupWise system, you are performing a Standard installation. Other installation options on this page are described in [“Setting Up Predefined Installations” on page 68](#).

5 Click *Next* to accept the default of *Standard*.



6 Make sure that *Create a new system* is selected, then click *Next*.

7 Continue with [Installing Your Basic GroupWise System](#).

Installing Your Basic GroupWise System

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

[Software Platform](#)

[Administration Options](#)

[ConsoleOne Path](#)

[Software Distribution Directory](#)

[Software Selection](#)

After the GroupWise Installation program has gathered this administrative information, it is ready to gather information about the eDirectory tree and the GroupWise objects to create.

- 2 Follow the prompts to provide the following information from your [Basic GroupWise System Worksheet](#).

The screenshot shows the 'GroupWise - InstallShield Wizard' dialog box at the 'GroupWise System Creation' step. The title bar reads 'GroupWise - InstallShield Wizard'. The main title is 'GroupWise System Creation' with the subtitle 'GroupWise System Name'. On the left, a list of steps is shown with checkboxes: License Agreement (checked), Install Type (checked), GroupWise Components (checked), Software Platform (checked), Administration Installation (checked), GroupWise System Creation (checked), GroupWise System Name (unchecked), Primary Domain Settings (unchecked), Post Office Settings (unchecked), POA Network Address (unchecked), MTA Network Address (unchecked), Agent Installation (unchecked), Summary and Modification (unchecked), and Finish (unchecked). The right side contains several input fields: 'GroupWise system name:' (empty), 'DNS hostname or IP address of the eDirectory server:' (empty), 'Username:' (empty), 'Context:' (empty), and 'Password:' (empty). Each of these fields has a help icon (question mark) to its right. At the bottom, there is an 'Installation Guide' button on the left, and '< Back', 'Next >', and 'Cancel' buttons on the right.

GroupWise System Name and System Settings

Primary Domain Settings

Post Office Settings

After the GroupWise Installation program has gathered eDirectory information, it is ready to gather GroupWise agent information.

- 3 Follow the prompts to provide the following information from your [Basic GroupWise System Worksheet](#).

The screenshot shows the 'GroupWise - InstallShield Wizard' dialog box at the 'POA Network Address' step. The title bar reads 'GroupWise - InstallShield Wizard'. The main title is 'GroupWise System Creation' with the subtitle 'POA Network Address'. On the left, the list of steps is updated: License Agreement (checked), Install Type (checked), GroupWise Components (checked), Software Platform (checked), Administration Installation (checked), GroupWise System Creation (checked), GroupWise System Name (checked), Primary Domain Settings (checked), Post Office Settings (checked), POA Network Address (unchecked), MTA Network Address (unchecked), Agent Installation (unchecked), Summary and Modification (unchecked), and Finish (unchecked). The right side contains a text box with the instruction: 'Specify the TCP/IP information for the machine that will run the Post Office Agent (POA). This information is needed for GroupWise users or the MTA to establish a TCP/IP connection to the post office.' Below this are two radio buttons for 'TCP/IP Address': 'IP address:' (selected) and 'DNS hostname:'. Each has an input field. Below these are three input fields: 'Client/server port:' (1677), 'Message transfer port:' (7101), and 'HTTP port:' (7181). At the bottom, there is an 'Installation Guide' button on the left, and '< Back', 'Next >', and 'Cancel' buttons on the right.

POA Network Address

MTA Network Address

[Agent Installation Path](#)
[Windows Service Information](#)

- 4 On the Summary and Modification page:
 - 4a Review the installation information you have provided.
 - 4b (Conditional) If you need to change information, select the information to change, then click *Edit setting*.
 - 4c Specify the desired information, then click *OK*.
- 5 Click *Install* to start the installation.
Status messages keep you informed about the installation and system creation progress.
- 6 Click *Finish* when the installation and system creation is completed.

Starting the GroupWise Agents

The GroupWise Installation program does not start the agent for you. For instructions, see [“Starting the Windows GroupWise Agents” on page 205](#).

IMPORTANT: The GroupWise agents must be running in order to access your GroupWise mailbox to send and receive messages.

Setting Up and Testing the GroupWise Windows Client on the GroupWise Server

To test your new GroupWise system, you can install and run the GroupWise Windows client on your local machine. To accomplish this test quickly, follow the instructions in the specific sections of [Chapter 9, “Installing the GroupWise Client,” on page 211](#) that are listed below, in order to create test GroupWise user accounts and mailboxes.

- ♦ [“Assigning GroupWise Accounts to eDirectory Users” on page 211](#)
- ♦ [“Installing and Starting the GroupWise Windows Client” on page 214](#)

As an easy test:

- 1 Create a test GroupWise account for your own eDirectory user.
You can delete it after the test if you want your permanent mailbox elsewhere in the GroupWise system.
- 2 Make sure that you can log in to the test GroupWise account.
- 3 As a further test, create a second test account, install the client on a second machine, and exchange messages between the two users.
- 4 Skip to [Section 4.5, “What’s Next,” on page 99](#).

or

Install the GroupWise Administrator snap-ins to additional locations, as described in [Installing the GroupWise Administrator Snap-Ins to Additional Windows Machines](#).

Installing the GroupWise Administrator Snap-Ins to Additional Windows Machines

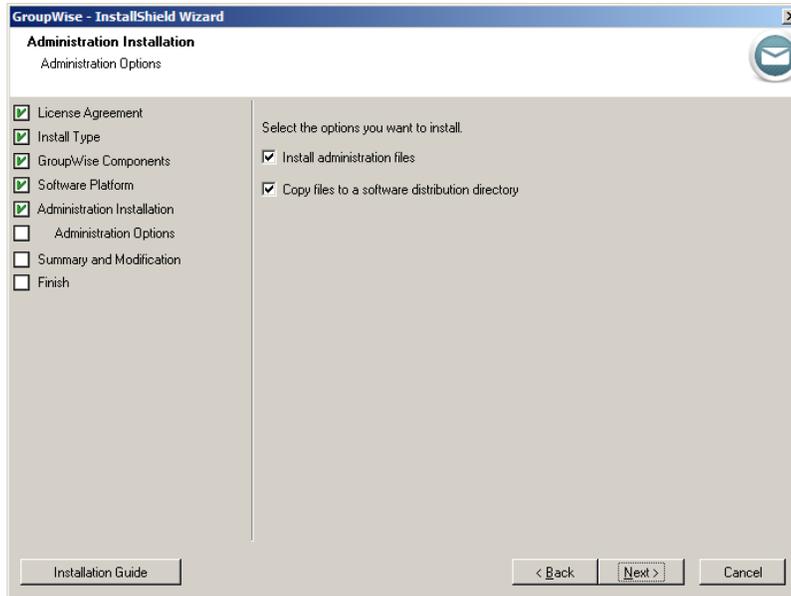
As part of creating your basic GroupWise system, the GroupWise Administrator snap-ins to ConsoleOne were installed in one location. If ConsoleOne is installed in multiple locations and if you want to be able to administer GroupWise from those locations, you need to install the GroupWise snap-ins to each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

- 1 Go to the Windows machine where you want to install the GroupWise snap-ins to ConsoleOne.
- 2 Configure the Windows machine, as described in [Step 7](#) in “Starting the Windows GroupWise Installation Program” on page 62.
- 3 Make sure you are logged in as an Admin equivalent and have network access to a software distribution directory or the downloaded *GroupWise 2012* software image and the domain directory.
- 4 Start the GroupWise Installation program (`setup.exe`).
- 5 Click *Install GroupWise System*, click *Yes* to accept the License Agreement, then click *Next* to display the GroupWise Components page.



- 6 Select *Install Individual Components*.

7 Deselect *GroupWise Agents*, then click *Next*.



8 Deselect *Copy Files to a Software Distribution Directory*, then click *Next*.

9 Follow the prompts to install the GroupWise Administrator snap-ins to ConsoleOne on your current Windows machine.

10 Repeat [Step 1](#) through [Step 9](#) for each location where you want to install the GroupWise snap-ins.

11 Skip to [Section 3.5, “What’s Next,”](#) on page 71.

Setting Up Predefined Installations

Whenever you run any installation using the Windows GroupWise Installation program, from a full system creation to installation of a single GroupWise component, you can save all the information you provide during the installation into a configuration file. You then have the option of performing that installation again and again using the previous installation information as defaults for the next installation, or performing an express installation with no intervention on your part.

You can create installation configuration files to create a new GroupWise system, update an existing GroupWise system, and install GroupWise administration, agents (the MTA, POA, and DVA as a group), and the GWIA.

NOTE: You cannot currently create installation configuration files to install GroupWise WebAccess, GroupWise Monitor, the GroupWise Calendar Publishing Host, or the GroupWise Windows client. Predefined installations are not available when you run the Linux Installation program.

- ♦ [“Deciding Where to Store Installation Configuration Files”](#) on page 69
- ♦ [“Creating an Installation Configuration File”](#) on page 69
- ♦ [“Running a Predefined Installation”](#) on page 70

Deciding Where to Store Installation Configuration Files

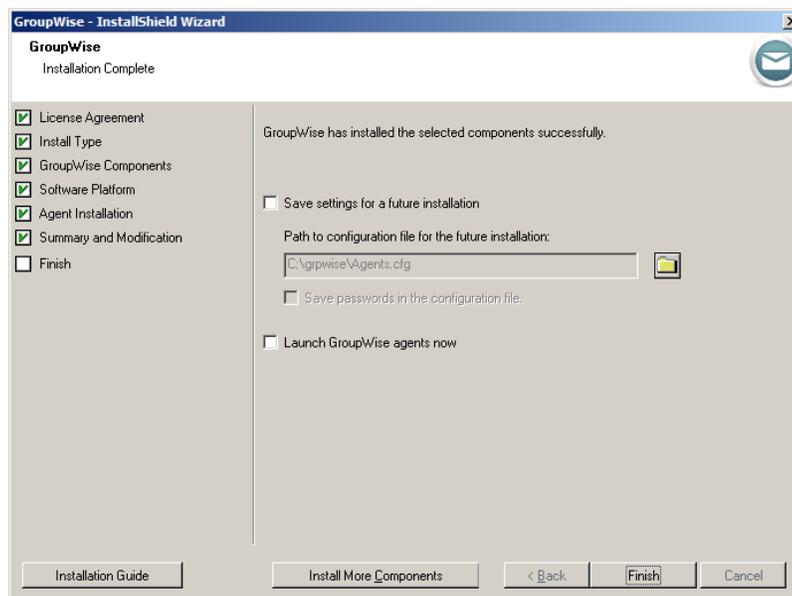
You can store installation configuration files in any convenient location, taking into account the following:

- ♦ If you run the GroupWise Installation program only from your own workstation, you can store the configuration files locally. However, if you want them to be available from multiple locations or to multiple users, you should store them on the network.
- ♦ For the least amount of interaction during predefined installations, you can create the configuration files with passwords stored in them. Passwords are stored in clear text. Therefore, if you store the configuration files with passwords, you should store them in a secure location.

Creating an Installation Configuration File

- 1 Create a directory where you want to store installation configuration files.
- 2 Run an installation that you want to repeat.

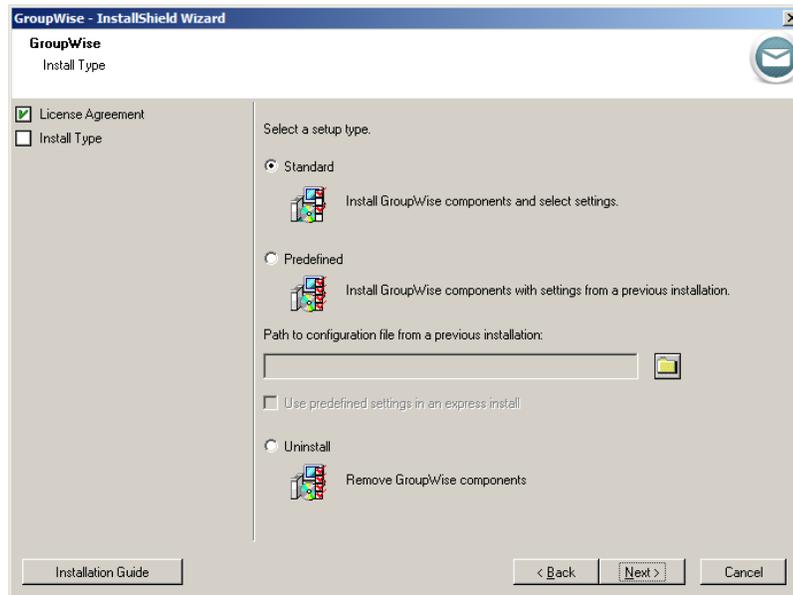
The final Installation program page allows you to create the configuration file.



- 3 Select *Save Settings for a Future Installation*.
- 4 Specify the full path and file name for the installation configuration file.
The configuration file name automatically receives a `.cfg` extension
- 5 Select *Save Passwords in the Configuration File* if you store your configuration files in a secure location and you do not want to be prompted for passwords during an express installation.
- 6 Click *Finish* to complete the current installation.

Running a Predefined Installation

- 1 Start the GroupWise Installation program, click *Install GroupWise System*, then click *Yes* to accept the License Agreement.



- 2 Select *Predefined*.
- 3 Browse to and select the installation configuration file from a previous installation that you want to repeat.
- 4 If you want to run the predefined installation without intervention or if you want to stop only for providing passwords, select *Use Predefined Settings in an Express Install*.

or

If you want to use the settings in the installation configuration file as the default as you run the Installation program yourself, do not select *Use Predefined Settings in an Express Install*.

This option allows you to quickly click through the Installation program pages, while adjusting only a few settings for the current installation.

- 5 Click *Next* to start the predefined installation.

3.4 Testing Your Basic GroupWise System

To ensure that your basic GroupWise system is functioning, you should create two test users and have them exchange messages.

- 1 Create test users, as described in [Section 9.2.1, "Assigning GroupWise Accounts to Users," on page 211](#)
- 2 Install the GroupWise Windows client to provide mailbox access on a Windows workstation, as described in [Chapter 9, "Installing the GroupWise Client," on page 211](#).

or

Install GroupWise WebAccess to provide mailbox access from a Web browser, as described in [Chapter 5, "Installing GroupWise WebAccess," on page 103](#)

- 3 After installing the software necessary to provide mailbox access, log in as each test user and exchange email messages.
- 4 (Conditional) If you encounter problems, see “[Strategies for Message Delivery Problems](#)” in *GroupWise 2012 Troubleshooting 2: Solutions to Common Problems*.

3.5 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 (GWIA).
See [Chapter 4, “Installing the GroupWise Internet Agent,”](#) on page 77.
- ♦ Setting up GroupWise WebAccess so that users can access their mailboxes through a Web browser on a computer or mobile device.
See [Chapter 5, “Installing GroupWise WebAccess,”](#) on page 103.
- ♦ Setting up a GroupWise Calendar Publishing Host so that GroupWise users can share their personal calendars and free/busy information with Internet users.
See [Chapter 6, “Installing the GroupWise Calendar Publishing Host,”](#) on page 123.
- ♦ Setting up GroupWise Monitor to monitor your GroupWise agents.
See [Chapter 7, “Installing GroupWise Monitor,”](#) on page 151.
- ♦ Installing the agents on additional servers as you add [domains](#) and [post offices](#) to your GroupWise system.
See [Chapter 8, “Installing GroupWise Agents,”](#) on page 175.
- ♦ Setting up users to run the GroupWise client on their workstations.
See [Chapter 9, “Installing the GroupWise Client,”](#) on page 211.
- ♦ Setting up instant messaging capabilities for users.
See [Chapter 10, “Using Novell Messenger with GroupWise,”](#) on page 225.
- ♦ Setting up synchronization between users’ GroupWise mailboxes and their mobile devices.
See [Chapter 11, “Using the Novell Data Synchronizer Mobility Pack with GroupWise,”](#) on page 227.
- ♦ Setting up team collaboration capabilities.
See [Chapter 12, “Using Novell Vibe with GroupWise,”](#) on page 229.

After your GroupWise system is fully installed, you can refer to sections of the *GroupWise 2012 Administration Guide* as you maintain your GroupWise system by:

- ♦ Adding multiple domains to your GroupWise system.
See “[Domains](#)”.
- ♦ Adding post offices to new domains.
See “[Post Offices](#)”.
- ♦ Adding more users to post offices.
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 6.x, 7, 8, or 2012 systems.
See the *GroupWise 2012 Multi-System Administration Guide*.

3.6 Basic GroupWise System Worksheet

Installation Program Field	Value for Your GroupWise System	Explanation
Agent Software Platform:		Section 3.2.1, “Determining Installation Locations,” on page 30
♦ Linux		
♦ Windows		
GroupWise Basic System Directories:		“Domain Directory Name” on page 36 and “Post Office Directory Name” on page 42
♦ Domain directory		
♦ Post office directory		

Installation Program Field	Value for Your GroupWise System	Explanation
Administration Options:		Section 3.2.1, "Determining Installation Locations," on page 30.
<ul style="list-style-type: none"> ◆ Install administration files <ul style="list-style-type: none"> ◆ Yes ◆ No ◆ Copy files to a software distribution directory <ul style="list-style-type: none"> ◆ Yes ◆ No 		
ConsoleOne Directory:		"ConsoleOne" on page 32
Software Distribution Directory:		"GroupWise Software Distribution Directory" on page 32
Software Selection:		Section 3.2.1, "Determining Installation Locations," on page 30.
<ul style="list-style-type: none"> ◆ ConsoleOne Snap-ins ◆ GroupWise Monitor ◆ Windows Agents ◆ GroupWise WebAccess ◆ GroupWise Calendar Publishing Host ◆ GroupWise Internet Agent ◆ GroupWise Client for Windows 		
Linux Mount Directory:		"Linux Mount Directory" on page 46
<ul style="list-style-type: none"> ◆ /mnt (default) 		
eDirectory Login Information:		Section 3.2.1, "Determining Installation Locations," on page 30
<ul style="list-style-type: none"> ◆ Login name ◆ Password ◆ eDirectory tree or DNS hostname or IP address of tree ◆ Context 		
GroupWise System Name:		"System and Domain Names" on page 34

Installation Program Field	Value for Your GroupWise System	Explanation
Primary Domain Settings:		Section 3.2.2, "Planning Your Primary Domain," on page 34
◆ Domain name		
◆ Path to domain database		
◆ Domain object context		
◆ Domain language		
◆ Domain time zone:		
Post Office Settings:		Section 3.2.3, "Planning Your Post Office," on page 40
◆ Post office name		
◆ Path to post office database		
◆ Post office object context		
◆ Post office language		
◆ Post office time zone:		
POA Network Address:		Section 3.2.4, "Planning Your GroupWise Agents," on page 43
◆ IP address		
◆ DNS hostname		
◆ Client/server port (default 1677)		
◆ Message transfer port (default 7101)		
◆ HTTP port (default 7181)		
MTA Network Address:		Section 3.2.4, "Planning Your GroupWise Agents," on page 43
◆ IP address		
◆ DNS hostname		
◆ Message transfer port (default 7100)		
◆ HTTP port (default 7180)		
Installation Path:		"Agent Location" on page 44

Installation Program Field	Value for Your GroupWise System	Explanation
Linux Installation Options:	<ul style="list-style-type: none"> ◆ Enable Document Viewer Agent <ul style="list-style-type: none"> ◆ Yes ◆ No ◆ Launch the GroupWise agents on system startup <ul style="list-style-type: none"> ◆ Yes ◆ No 	“Linux Installation Options: Automatic Startup, Document View Agent Configuration, and Linux Mount Directory” on page 46
Windows Installation Options:	<ul style="list-style-type: none"> ◆ Install and configure SNMP for GroupWise agents <ul style="list-style-type: none"> ◆ Yes ◆ No ◆ Install as Windows services <ul style="list-style-type: none"> ◆ Yes ◆ No 	“Windows Installation Options: SNMP Traps and Service versus Application” on page 47
Windows Service Information:	<ul style="list-style-type: none"> ◆ Use local system account <ul style="list-style-type: none"> ◆ Allow service to interact with desktop ◆ Use this Windows user account <ul style="list-style-type: none"> ◆ Name of Windows user account ◆ Password ◆ Startup type <ul style="list-style-type: none"> ◆ Automatic ◆ Manual ◆ Disabled 	“Service versus Application” on page 48

4 Installing the GroupWise Internet Agent

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

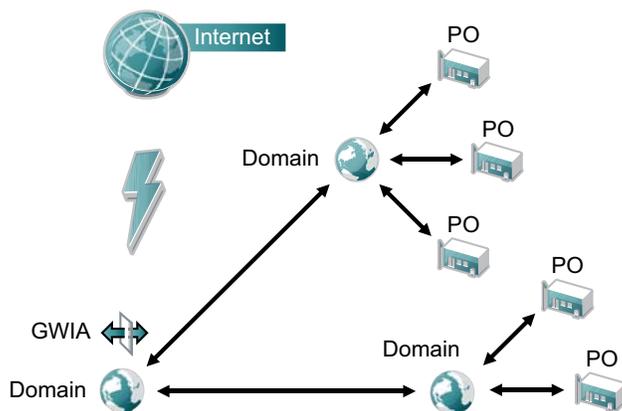
- ♦ [Section 4.1, “GroupWise Internet Agent Overview,” on page 77](#)
- ♦ [Section 4.2, “Internet Agent System Requirements,” on page 80](#)
- ♦ [Section 4.3, “Planning the GroupWise Internet Agent,” on page 81](#)
- ♦ [Section 4.4, “Setting Up the Internet Agent,” on page 87](#)
- ♦ [Section 4.5, “What’s Next,” on page 99](#)
- ♦ [Section 4.6, “GroupWise Internet Agent Installation Worksheet,” on page 99](#)

IMPORTANT: If you plan to install the GWIA in a clustered server environment, see the [GroupWise 2012 Interoperability Guide](#) before you install the GWIA.

4.1 GroupWise Internet Agent Overview

The Internet Agent (GWIA) allows communication between GroupWise users and users of other messaging systems who send email across the Internet. The GWIA picks up inbound email 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 GWIA, which then converts the messages to Internet messaging format, and then sends them to the designated Internet addresses.



Choose from the following list of topics to learn more about the capabilities of the GWIA.

- ♦ [“SMTP/MIME Service” on page 78](#)

- ♦ “POP3 Service” on page 79
- ♦ “IMAP4 Service” on page 79
- ♦ “LDAP Services” on page 79
- ♦ “iCal and iMip Services” on page 79
- ♦ “Secure Connections via SSL” on page 79
- ♦ “Access Control” on page 79
- ♦ “Multiple Threading” on page 79
- ♦ “SNMP-Compliant” on page 80

SMTP/MIME Service

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

- ♦ **SMTP Dial-Up Service:** The GWIA 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 GWIA offers full GroupWise addressing support, including system groups, nicknames, and individual users.

The GWIA 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:** Organizations such as 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 such 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 GWIA 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 the GWIA. This lets administrators track how the GWIA is being used. GroupWise Monitor includes a Gateway Accounting report that organizes information gathered in GWIA accounting files into a format that is visually easy to read.
- ♦ **DNS Name Resolution:** The GWIA 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:** With 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 Post Office Protocol 3 (POP3) service in the GWIA allows you to download messages from your GroupWise post office to a POP3 client application such as a Web browser's email program or a Telnet application. The GWIA 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 GWIA's POP3 server capability, users can retrieve their email messages and manage them through user ID login options.

IMAP4 Service

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

LDAP Services

The GWIA 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 GWIA 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 GWIA converts the appointment into an iMIP message that can be read and accepted, declined, or canceled in compatible email systems such as Microsoft Exchange and Lotus Notes. GroupWise users can also receive and accept, decline, or cancel appointments from users of these email systems. Accept/decline notifications are also exchanged between systems. In addition, tasks to an from users in other email systems can be marked Completed.

Secure Connections via SSL

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

Access Control

The GWIA 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 GWIA. The number of threads are set separately for the SMTP/MIME service, POP3 service, IMAP4 service, and LDAP service.

SNMP-Compliant

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

4.2 Internet Agent System Requirements

The following sections define the system requirements for the Internet Agent (GWIA):

- ♦ [Section 4.2.1, “Hardware and Operating System Requirements,” on page 80](#)
- ♦ [Section 4.2.2, “Software Requirements,” on page 80](#)
- ♦ [Section 4.2.3, “GroupWise System Requirements,” on page 81](#)
- ♦ [Section 4.2.4, “Internet Connectivity Requirements,” on page 81](#)

4.2.1 Hardware and Operating System Requirements

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

- x86-32 processor or x86-64 processor

On a 64-bit processor, GroupWise still runs as a 32-bit application.

- Any of the following server operating systems for the GWIA:
 - ♦ Novell Open Enterprise Server (OES) 2 (Linux version) or OES 11, plus the latest Support Pack
 - ♦ SUSE Linux Enterprise Server (SLES) 10 or SLES 11, plus the latest Service Pack
The X Window System and Open Motif are required by the GUI GWIA server console. By default, the GWIA runs as a daemon without a user interface.
 - ♦ Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, plus the latest Service Pack
- Adequate server memory as required by the operating system
- Adequate server disk space:
 - ♦ Approximately 91 MB for the GWIA program files (varies by platform)
 - ♦ 200 MB minimum for message file processing. The actual amount is determined by the number and size of message files being processed at one time by the GWIA.

4.2.2 Software Requirements

- Any of the following environments for running the GroupWise Installation program:
 - ♦ Novell Open Enterprise Server (OES) 2 (Linux version) or OES 11, plus the latest Support Pack

- ◆ SUSE Linux Enterprise Server (SLES) 10 or SLES 11, plus the latest Service Pack
The X Window System is required by the GUI GroupWise Installation program that steps you through the process of creating a new GroupWise system. A text-based Installation program is also available for installing individual GroupWise components on servers where the X Windows System is not available.
- ◆ Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, plus the latest Service Pack, plus the latest Novell Client

4.2.3 GroupWise System Requirements

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

- The domain's version must be equal to or later than the GWIA'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 GWIA accesses on behalf of POP3 or IMAP4 clients must be equal to or later than the GWIA's version. A post office's version is determined by the Post Office Agent (POA) version running for it.

4.2.4 Internet Connectivity Requirements

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

- Internet Connection:** You can connect to the Internet by 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 GWIA 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 GWIA is configured to access a DNS server or can access your relay host. For specific details, refer to your server documentation.
- IP Address:** The GWIA's server requires a static IP address and a fully qualified DNS hostname.

4.3 Planning the GroupWise Internet Agent

Use the "[GroupWise Internet Agent Installation Worksheet](#)" on page 99 to record your decisions about how to install the Internet Agent (GWIA). The topics in this section present the required information in a convenient planning sequence. The Installation Worksheet organizes the information in the order in which you need it during installation.

- ◆ [Section 4.3.1, "Selecting the GWIA Platform,"](#) on page 82
- ◆ [Section 4.3.2, "Gathering Server Information,"](#) on page 82
- ◆ [Section 4.3.3, "Selecting the GWIA Installation Directory,"](#) on page 83
- ◆ [Section 4.3.4, "Gathering Domain and Gateway Information,"](#) on page 83
- ◆ [Section 4.3.5, "Selecting the Gateway Object Name,"](#) on page 84

- ♦ [Section 4.3.6, “Specifying the Internet Mail Domain Name for Your GroupWise System,”](#) on page 84
- ♦ [Section 4.3.7, “Handling Outbound Mail,”](#) on page 84
- ♦ [Section 4.3.8, “Enabling the GWIA Web Console,”](#) on page 84
- ♦ [Section 4.3.9, “Linux Installation Options: LDAP Information, Automatic Startup, and Clustering,”](#) on page 85
- ♦ [Section 4.3.10, “Windows Installation Options: SNMP Traps and Service versus Application,”](#) on page 86

For additional assistance in planning your GroupWise installation, visit the [GroupWise Best Practices Wiki](http://wiki.novell.com/index.php/GroupWise) (<http://wiki.novell.com/index.php/GroupWise>).

IMPORTANT: If you plan to install the GWIA in a clustered server environment, refer to the [GroupWise 2012 Interoperability Guide](#) as you plan your GWIA installation.

4.3.1 Selecting the GWIA Platform

The GWIA is available as a Linux executable and a Windows executable.

GROUPWISE INTERNET AGENT INSTALLATION WORKSHEET

Under *Software Platform*, mark whether you plan to install the GWIA on Linux or Windows. Review [Section 4.2, “Internet Agent System Requirements,”](#) on page 80 to ensure that the specific server you have selected meets the listed requirements.

4.3.2 Gathering Server Information

The GWIA and the MTA can communicate by transferring message files through message queue directories, as shown in diagrams in [GroupWise 2012 Troubleshooting 3: Message Flow and Directory Structure](#):

- ♦ [“Mapped/UNC Link Open: Outbound Transfer to the Internet Successful”](#)
- ♦ [“Mapped/UNC Link Open: Inbound Transfer from the Internet Successful”](#)

As an alternative, you can configure the GWIA so that it uses TCP/IP to communicate with the MTA, instead of message files, as shown in these additional diagrams:

- ♦ [“TCP/IP Link Open: Outbound Transfer to the Internet Successful”](#)
- ♦ [“TCP/IP Link Open: Inbound Transfer from the Internet Successful”](#)

The GroupWise Installation program needs to know the network address of the server where the GWIA will run. For best performance, install the GWIA on the same server with the domain it belongs to. In this configuration, in a GroupWise system with a single GWIA, UNC links between the GWIA and the MTA are most effective. Therefore, the GWIA 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 GWIAs, you can configure the GWIA to communicate with the MTA by way of TCP/IP. This configuration enables you to designate an alternate GWIA for the domain. With this configuration, if the domain’s primary GWIA goes down, the MTA can fail over to another GWIA in your GroupWise system until the primary GWIA is up and running again. This feature is especially useful in larger GroupWise systems where multiple GWIAs handle a large number of Internet messages.

If you want to enable TCP/IP communication between the GWIA 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 *Server Information*, list the IP address and DNS hostname of the server where you plan to install the GWIA. Also, specify the port number for TCP/IP communication if you want to enable it.

For a complete list of default port numbers used by the GroupWise agents, refer to “[GroupWise Port Numbers](#)” in the *GroupWise 2012 Administration Guide*.

4.3.3 Selecting the GWIA Installation Directory

The GWIA installation directory depends on the platform where you are installing it.

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

Windows: The default installation directory is `c:\Program Files\Novell\GroupWise Server\GWIA`. However, you can install the GWIA to any directory you want.

GROUPWISE INTERNET AGENT INSTALLATION WORKSHEET

Under *Installation Path*, record the directory where you want to install the GWIA software.

4.3.4 Gathering Domain and Gateway Information

The GWIA 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:

Linux: Use only lowercase characters

Windows: No limitations.

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

GROUPWISE INTERNET AGENT INSTALLATION WORKSHEET

Under *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 GWIA, record the eDirectory context of the Domain object in LDAP format (for example, `cn=provo,ou=groupwise,o=corporate`).

4.3.5 Selecting the Gateway Object Name

The GWIA 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 GWIA object. This object stores the GWIA's information and enables configuration of the agent through ConsoleOne.

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

GROUPWISE INTERNET AGENT INSTALLATION WORKSHEET

Under *Internet Agent Object Name*, specify the name you want to give the GWIA's eDirectory object. The default name is the same as the gateway directory name you chose under *GroupWise Domain*.

4.3.6 Specifying the Internet Mail Domain Name for Your GroupWise System

When email 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 *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 GWIA 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 GWIA behind your firewall. To accomplish this, you can configure the GWIA to route all outbound messages to a relay host.

GROUPWISE INTERNET AGENT INSTALLATION WORKSHEET

Under *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 GWIA Web Console

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

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

If you want to restrict access to the Web console, you can assign a user name and password. This can be any user name and password you want. By default, the user name and password are passed through a non-secure connection between the Web browser and the GWIA. Therefore, we recommend that you do not use an existing eDirectory user name and password unless you secure this connection by using SSL. For information about securing the GWIA's connections, see "[Internet Agent](#)" in the *GroupWise 2012 Administration Guide*.

GROUPWISE INTERNET AGENT INSTALLATION WORKSHEET

Under *Enable Web Console*, select Yes if you want to enable the GWIA Web console. If you want to restrict access to the Web console, enter a user name and password.

4.3.9 Linux Installation Options: LDAP Information, Automatic Startup, and Clustering

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

- ♦ "[LDAP Information](#)" on page 85
- ♦ "[Automatic Startup](#)" on page 86
- ♦ "[Clustering on Linux](#)" on page 86

LDAP Information

The Installation program needs to access eDirectory through LDAP. eDirectory access is required in order to create the GWIA object. To obtain access, the Installation program needs the IP address and port number of an LDAP server, along with an eDirectory user name and password to log in with. The user must have sufficient rights to create GroupWise objects in eDirectory. Because the Installation program uses LDAP to access eDirectory, you must provide the user name 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 "[Trusted Root Certificates and LDAP Authentication](#)" in "[Security Administration](#)" in the *GroupWise 2012 Administration Guide*.

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 *Linux LDAP Authentication*, specify the IP address and port number of an LDAP server, a user name in LDAP format, the password for the user name, and if necessary, the full path to your SSL root certificate file.

Automatic Startup

The Linux GWIA is Run Control compliant. You can have the Installation program create symbolic links to the `/etc/init.d/grpwise` script in the `rc3.d` and `rc5.d` directories so that the GWIA starts on server restart into run level 3 or 5, depending on the configuration of your Linux system.

If you want to configure the GWIA for high availability, as described in [“Enabling the GroupWise High Availability Service for the Linux GroupWise Agents” on page 195](#), it must be configured to start automatically on system startup.

GROUPWISE INTERNET AGENT INSTALLATION WORKSHEET

Under *Linux Installation Options*, mark whether or not you want to configure the Linux server to start the GWIA automatically.

Clustering on Linux

On Linux, you can install the GWIA on Novell Cluster Services. The Linux GroupWise Installation program provides a *Configure GroupWise for Clustering* option that simplifies the process of installing the Linux GWIA on multiple nodes in the cluster.

GROUPWISE INTERNET AGENT INSTALLATION WORKSHEET

Under *Linux Installation Options*, mark whether or not you want to configure the Linux GWIA 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 2012 Interoperability Guide*, rather than the installation instructions provided in this guide.

4.3.10 Windows Installation Options: SNMP Traps and Service versus Application

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

- ♦ [“SNMP Traps” on page 86](#)
- ♦ [“Service versus Application” on page 87](#)

SNMP Traps

If you want to use an SNMP manager program to monitor the Windows GWIA, you must install some SNMP components along with the GWIA software.

GROUPWISE INTERNET AGENT INSTALLATION WORKSHEET

Under *Windows Installation Path*, 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 GWIA. If you want to monitor the GWIA from an SNMP management program, the SNMP service must be enabled so you can select this option.

NOTE: The Linux GWIA relies on operating system components for SNMP functionality and does not require this installation option.

Service versus Application

You can run the Windows GWIA as a Windows service or application.

GROUPWISE INTERNET AGENT INSTALLATION WORKSHEET

Under *Windows Installation Options*, mark whether you want to run the GWIA as a Windows service.

When you run the GWIA as a Windows service, it must run under a specific user account. The user account you use depends on where the domain directory is located:

- ◆ When the domain directory is located on the same server where you are installing the GWIA, the GWIA can run under the local system account and no password is required.

When the GWIA runs under the local system account, you can enable it to display the GWIA server consoles on the server desktop on Windows Server 2003. This interaction with the desktop is not available on Windows Server 2008 or later Windows versions.

- ◆ When the domain directory is located on a remote Windows server, you must specify a user with rights to access the domain directory, along with the user's associated password.

IMPORTANT: For simplicity of GWIA administration, running the GWIA as the Windows Administrator user is highly recommended.

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

GROUPWISE INTERNET AGENT INSTALLATION WORKSHEET

Under *Windows Service Information*, record the Windows user account that the GWIA service will run under, and if necessary, the password for the account. If you are using the local system account, indicate whether you want to allow the GWIA service to interact with the desktop to display the GWIA server console. Select whether you want the GWIA service to start automatically or manually.

4.4 Setting Up the Internet Agent

Complete the following tasks to set up the Internet Agent (GWIA):

- ◆ [Section 4.4.1, "Installing the GWIA," on page 88](#)
- ◆ [Section 4.4.2, "Setting Up Internet Addressing," on page 94](#)
- ◆ [Section 4.4.3, "Assigning a Postmaster," on page 96](#)
- ◆ [Section 4.4.4, "Starting the GWIA," on page 96](#)
- ◆ [Section 4.4.5, "Testing the GWIA," on page 98](#)

4.4.1 Installing the GWIA

As you install the GWIA, you are prompted to supply configuration information. You should have already reviewed [Section 4.3, “Planning the GroupWise Internet Agent,” on page 81](#) and filled out the [worksheet](#). The following sections step you through the GroupWise Installation program for installing the GWIA.

- ♦ [“Linux: Installing the GWIA” on page 88](#)
- ♦ [“Windows: Installing the GWIA Software” on page 91](#)

IMPORTANT: If you plan install the GWIA in a clustered server environment, see the [GroupWise 2012 Interoperability Guide](#) before you install the GWIA.

Linux: Installing the GWIA

- ♦ [“Preparing the Linux Server for the GWIA” on page 88](#)
- ♦ [“Installing the Linux GWIA Software” on page 89](#)

If you are new to Linux, you might want to review [“Linux Commands, Directories, and Files for GroupWise Administration”](#) in the [GroupWise 2012 Administration Guide](#) before you install the GWIA on Linux.

Preparing the Linux Server for the GWIA

- 1 Make sure that the Linux server where you are installing the GWIA meets the system requirements listed in [Section 4.2, “Internet Agent System Requirements,” on page 80](#).
- 2 Make sure that the Linux server has a static IP address.
- 3 (Conditional) If Sendmail, Postfix, or any other SMTP daemon is enabled on your Linux server: Disable it. For example, use the following commands to stop and disable Postfix:

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

or

Configure the GWIA to bind exclusively to the server IP address, as described in [“Binding the GWIA to a Specific IP Address”](#) in [“Internet Agent”](#) in the [GroupWise 2012 Administration Guide](#), so that the GWIA does not conflict with the default Postfix IP address of 127.0.0.1 (the loopback address).

- 4 (Conditional) If you want to use the GWIA for POP3 and IMAP4 mail, make sure no POP3 or IMAP4 daemons are running on your Linux server.
- 5 Make sure that the firewall on the Linux server has the ports open that are used by the GWIA. For assistance, see [“GroupWise Port Numbers”](#) in the [GroupWise 2012 Administration Guide](#).
- 6 Make sure that LDAP is running on your eDirectory server and that it is configured to accept login from the GroupWise Installation program.

The GroupWise Installation program requires eDirectory access in order to create the GWIA object in eDirectory. The Installation program uses LDAP to gain the required access.
- 7 Continue with [Installing the Linux GWIA Software](#).

Installing the Linux GWIA Software

- 1 In a terminal window on the server where you want to install the GWIA, log in as `root`, then provide the `root` password.
- 2 Change to the root directory of the downloaded *GroupWise 2012* software image.

or

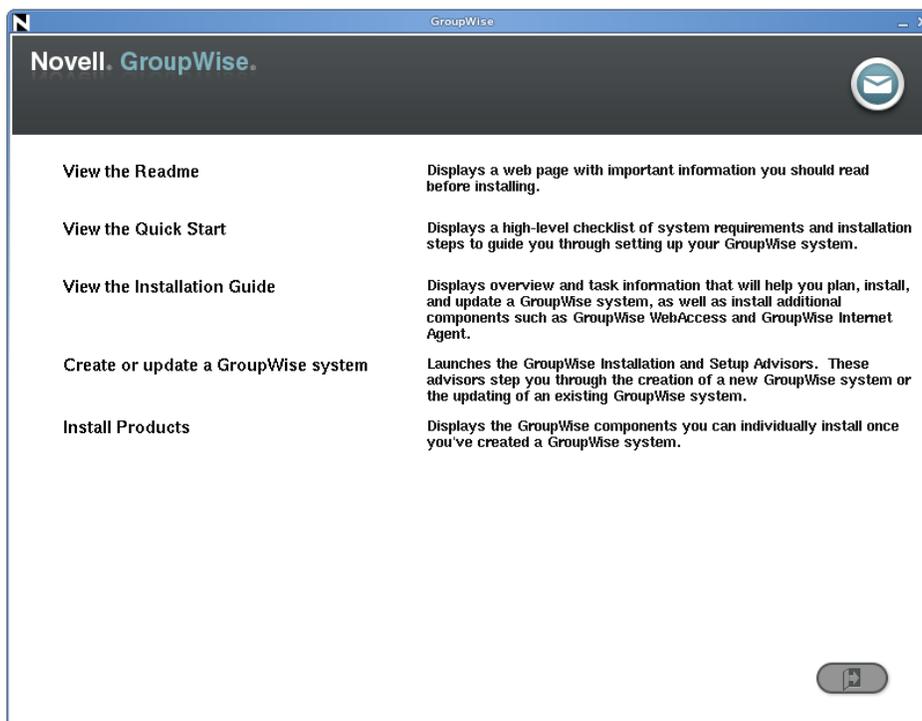
If you have already copied the GWIA software to a software distribution directory, change to `/opt/novell/groupwise/software`.

- 3 Run `./install`.

The X Window System 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 GroupWise Components Using the Text-Based Installation Program](#)” on [page 185](#).

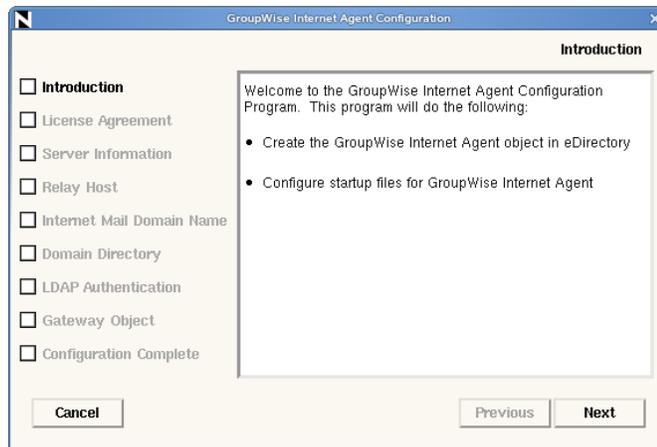
- 4 Select the language in which you want to run the GroupWise Installation program, then click *OK*.

The main GroupWise System Installation page appears.



- 5 Click *Install Products > GroupWise Internet Agent > Install Internet Agent* to install the GWIA software.
- 6 When the installation is complete, click *OK*.

7 Click *Configure Internet Agent*.



8 Follow the prompts to configure the GWIA using the following information from the [GroupWise Internet Agent Installation Worksheet](#):

[Server Information](#)

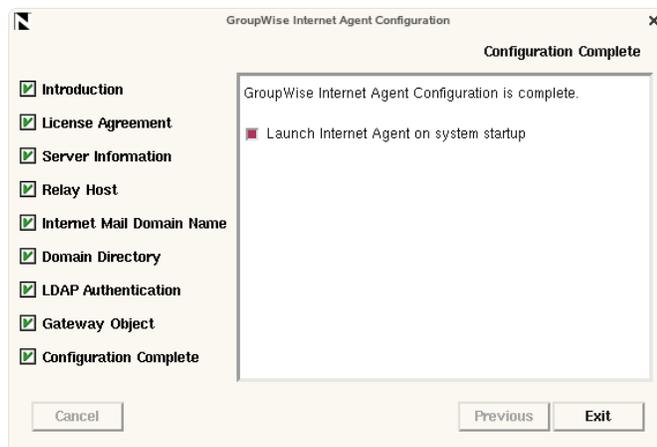
[Relay Host](#)

[Internet Mail Domain Name](#)

[Domain Directory](#)

[LDAP Authentication](#)

[Gateway Object](#)



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

IMPORTANT: If you want to configure the GWIA for high availability, as described in [“Enabling the GroupWise High Availability Service for the Linux GroupWise Agents”](#) on [page 195](#), it must be configured to start automatically on system startup.

9 (Conditional) If you do not want the GWIA to start automatically when the server restarts, deselect *Launch Internet Agent on System Startup*.

10 Click *Exit* to exit the GWIA Installation program.

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

- 11 Skip to [“Setting Up Internet Addressing”](#) on page 94.

Windows: Installing the GWIA Software

- ♦ [“Preparing the Windows Server for the GWIA”](#) on page 91
- ♦ [“Installing the Windows GWIA Software”](#) on page 91

Preparing the Windows Server for the GWIA

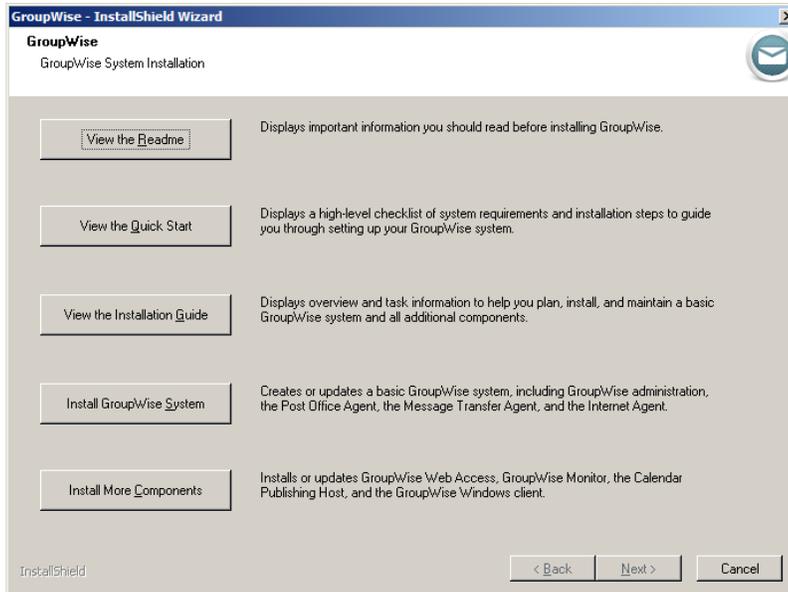
- 1 Make sure that the Windows server where you are installing the GWIA meets the system requirements listed in [Section 4.2, “Internet Agent System Requirements,”](#) on page 80.
- 2 Make sure that the Windows server has a static IP address.
- 3 Make sure that the firewall on the Windows server has the ports open that are used by the GWIA.
For assistance, see [“GroupWise Port Numbers”](#) in the *GroupWise 2012 Administration Guide*.
- 4 Make sure that no other GroupWise agents are currently running on the server where you want to install the GWIA.
- 5 Make sure that you have access to the directory where you want to install the GWIA and to the domain directory.
- 6 Log in to eDirectory with Admin-equivalent rights to the eDirectory tree where you want the Installation program to create the GWIA object.
- 7 Continue with [Installing the Windows GWIA Software](#)

Installing the Windows GWIA Software

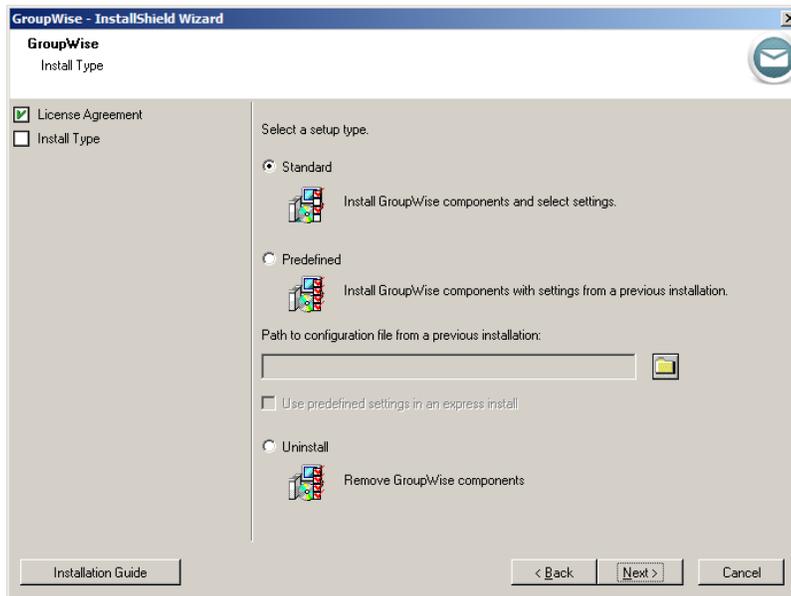
- 1 Change to the root directory of the downloaded *GroupWise 2012* software image.
or
If you have already copied the GWIA software to a software distribution directory, change to that location
- 2 Run `setup.exe`.
- 3 (Conditional) If prompted, select the interface language for the Installation program, then click *OK*.

On Windows, the *GroupWise 2012* software image can be downloaded in a multilanguage version or an English-only version. When you install from the multilanguage version, all languages are always installed, regardless of the specific language that you select for running the Installation program.

The main GroupWise System Installation page appears.

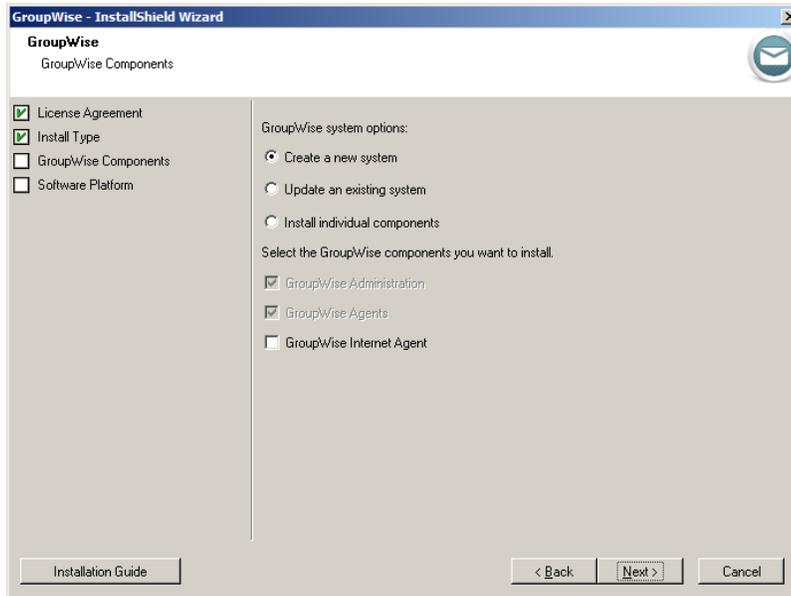


- 4 Click *Install GroupWise System*, then click *Yes* to accept the License Agreement and display the Installation Type page.



When you install the GWIA, you are performing a Standard installation. Other installation options on this page are described in [“Setting Up Predefined Installations”](#) on page 68.

5 Click *Next* to accept the default of *Standard*.



6 Select *Install Individual Components*, deselect *GroupWise Administration* and *GroupWise Agents*, then select *GroupWise Internet Agent*.

7 Follow the prompts to configure the GWIA using the following information from the [GroupWise Internet Agent Installation Worksheet](#):

[Software Platform](#)

[Installation Path](#)

[Windows Installation Options](#)

[Server Information](#)

[Web Console Information](#)

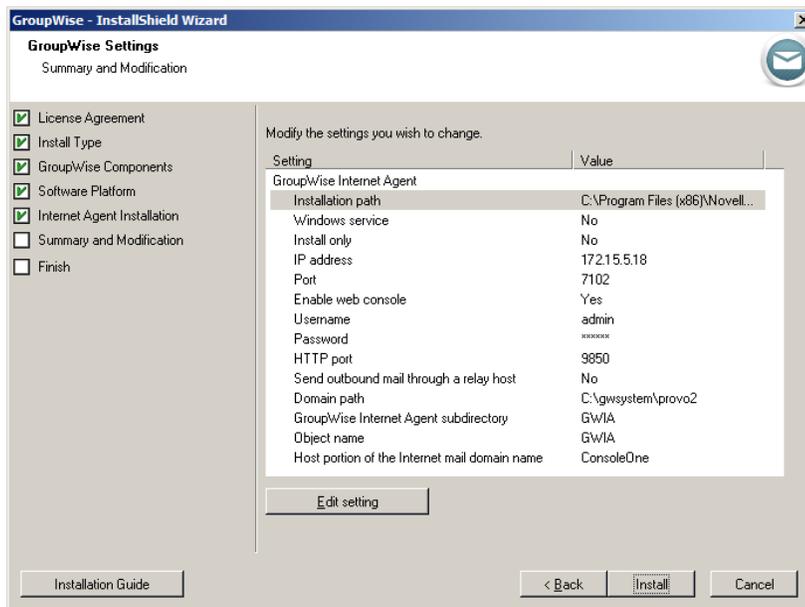
[Relay Host](#)

[GroupWise Domain](#)

[GroupWise Internet Agent Name](#)

[Internet Mail Domain Name](#)

[Windows Service Information](#)



8 On the Summary and Modification page:

8a Review the installation information you have provided.

8b (Conditional) If you need to change information, select the information to change, then click *Edit Setting*, specify the desired information, then click *OK*.

9 Click *Install* to start the GWIA installation.

Status messages keep you informed about the installation progress.

The GWIA software is installed into the following directory:

`c:\Program Files\Novell\GroupWise\GWIA`

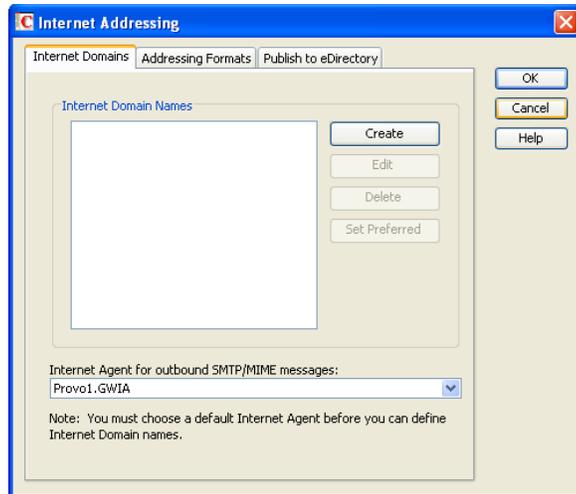
10 When the installation is complete, click *Finish*, then continue with [Setting Up Internet Addressing](#).

4.4.2 Setting Up Internet Addressing

When you install the GWIA, it by default supports native Internet-style addressing consisting of a user name and Internet domain name (for example, `userID@Internet_domain_name`). The GroupWise Installation program provided the opportunity for you to specify your Internet domain name on the Mail Domain Name page. It also offered you the alternative of entering the information from ConsoleOne. This can be convenient if you want to install the GWIA before you have received your

Internet domain name from your Internet Service Provider (ISP). If you selected *Enter from ConsoleOne* on the Mail Domain Name page during installation, follow the instructions below to provide the Internet domain name in ConsoleOne.

- 1 In ConsoleOne, select the GroupWise System object, then click *Tools > GroupWise System Operations > Internet Addressing*.



- 2 Click *Create*.



- 3 Specify the Internet domain name that you have received from your ISP (for example, *yourcompanyname.com*).
- 4 Add a description if needed, then click *OK* to add the Internet domain name to the list.
- 5 Click *OK* again to save the Internet domain name as part of your GroupWise system.

For more information about Internet addressing, see [“Configuring Internet Addressing”](#) in [“Internet Agent”](#) in the *GroupWise 2012 Administration Guide*.

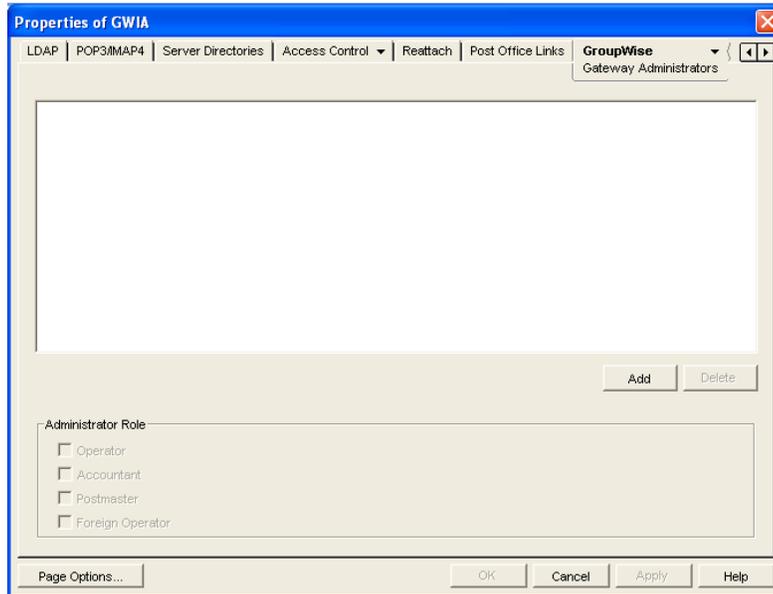
Your GroupWise system is now configured to receive email addressed to that Internet domain name.

- 6 Continue with [Assigning a Postmaster](#).

4.4.3 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 GWIA 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 GWIA](#).

The GWIA 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 2012 Administration Guide*.

4.4.4 Starting the GWIA

After you install the GWIA, set up Internet addressing, and configured a Postmaster, you can start the GWIA.

- ♦ [“Linux: Starting the GWIA”](#) on page 96
- ♦ [“Windows: Starting the GWIA”](#) on page 98

Linux: Starting the GWIA

To start the Linux GWIA with a user interface:

- 1 Make sure that the MTA for the domain is running.
- 2 In a terminal window, become root by entering `su -` and the root password.

3 Change to the `/opt/novell/groupwise/agents/bin` directory.

4 Enter the following command to start the GWIA:

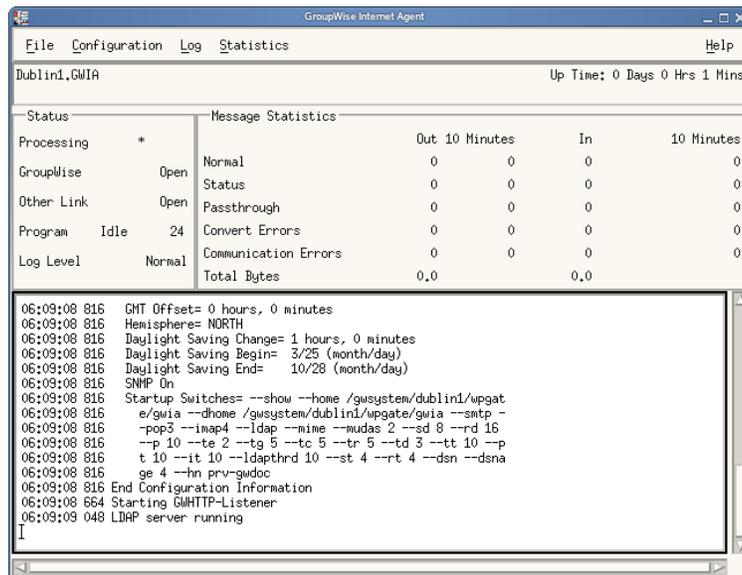
```
./gwia --show @gwia.cfg &
```

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

The `@` startup switch points to the GWIA startup file (`gwia.cfg`) and is required to start the GWIA.

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

To remind yourself of this command when you are at your Linux server, view the [gwia](#) man page.



The status messages displayed on the GWIA server console are also written to the GWIA log file (`mmdllog.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.

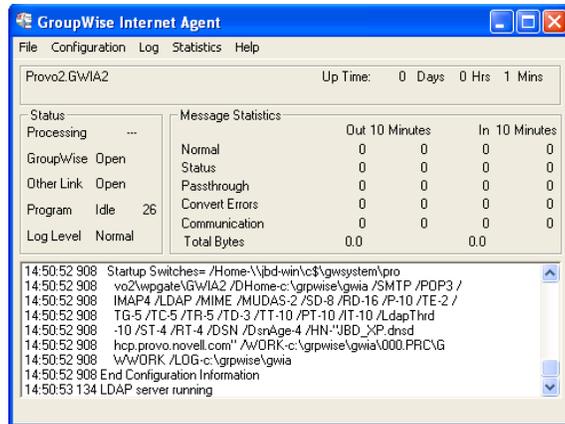
After the GWIA starts successfully, refer to the following sections in [Chapter 8, "Installing GroupWise Agents,"](#) on page 175 for additional information about managing the GWIA on Linux:

- ◆ "Starting the Linux Agents as Daemons" on page 188
- ◆ "Monitoring the Linux GroupWise Agents from Your Web Browser" on page 200
- ◆ "Starting the Linux Agents on System Startup" on page 189
- ◆ "Running the Linux GroupWise Agents as a Non-root User" on page 192
- ◆ "Enabling the GroupWise High Availability Service for the Linux GroupWise Agents" on page 195
- ◆ "Stopping the Linux GroupWise Agents" on page 190
- ◆ "Uninstalling the Linux GroupWise Agents" on page 201

5 Skip to [Section 4.4.5, "Testing the GWIA,"](#) on page 98

Windows: Starting the GWIA

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



or

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

If the GWIA does not start successfully, see [“Starting the Windows GroupWise Agents” on page 205](#).

- 3 (Conditional) If you enabled the GWIA 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 GWIA Web Console”](#) in [“Internet Agent”](#) in the *GroupWise 2012 Administration Guide*.

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

4.4.5 Testing the GWIA

After you start the GWIA, you should send a message to ensure that the system is working properly.

- 1 Open a new mail message in your GroupWise client.
- 2 In the To field, enter the Internet address of a colleague or friend that is not in your GroupWise system.
- 3 Send the message, then contact the recipient to verify that he or she received it.
- 4 Have the recipient reply to your message to verify that you receive the reply in your GroupWise mailbox.
- 5 Continue with [What’s Next](#).

4.5 What's Next

The “[Internet Agent](#)” section of the *GroupWise 2012 Administration Guide* provides information to help you further configure and maintain the GWIA, including how to:

- ◆ Configure addressing options.
See “[Configuring Internet Addressing](#)” and “[Configuring How the GWIA Handles Email Addresses](#)”.
- ◆ Optimize configuration settings for the SMTP/MIME, IMAP, POP, and LDAP services.
See “[Configuring Internet Services](#)”.
- ◆ Use SSL to secure connections between the GWIA and other SMTP hosts, POP/IMAP clients, and the GWIA Web console.
See “[Securing GWIA 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 Email from the Internet](#)”
- ◆ Control logging for the GWIA.
See “[Using GWIA Log Files](#)”.

4.6 GroupWise Internet Agent Installation Worksheet

Installation Program Field	Value for Your GroupWise System	Explanation
Agent Software Platform:		Section 4.3.1, “Selecting the GWIA Platform,” on page 82
	<ul style="list-style-type: none">◆ Linux◆ Windows	
Installation Path:		Section 4.3.3, “Selecting the GWIA Installation Directory,” on page 83
Linux Installation Options:		Section 4.3.9, “Linux Installation Options: LDAP Information, Automatic Startup, and Clustering,” on page 85
	<ul style="list-style-type: none">◆ Launch the Internet Agent on system Startup<ul style="list-style-type: none">◆ Yes◆ No◆ Configure the Internet Agent for clustering<ul style="list-style-type: none">◆ Yes◆ No	

Installation Program Field	Value for Your GroupWise System	Explanation
Windows Installation Options:		
<ul style="list-style-type: none"> ◆ Install and configure SNMP for the Internet Agent <ul style="list-style-type: none"> ◆ Yes ◆ No ◆ Install the Internet Agent as a Windows service <ul style="list-style-type: none"> ◆ Yes ◆ No 		Section 4.3.10, "Windows Installation Options: SNMP Traps and Service versus Application," on page 86
Server Information:		
<ul style="list-style-type: none"> ◆ TCP/IP address <ul style="list-style-type: none"> IP address DNS hostname ◆ Message transfer port (default 0) 		Section 4.3.2, "Gathering Server Information," on page 82
Enable Web Console:		
<ul style="list-style-type: none"> ◆ Yes <ul style="list-style-type: none"> User name Password HTTP port (default 9850) ◆ No 		Section 4.3.8, "Enabling the GWIA Web Console," on page 84
Relay Host:		
<ul style="list-style-type: none"> ◆ Send outbound mail directly to Internet hosts ◆ Send outbound mail through a relay host <ul style="list-style-type: none"> IP address of the relay host machine 		Section 4.3.7, "Handling Outbound Mail," on page 84
GroupWise Domain:		
<ul style="list-style-type: none"> ◆ Domain directory ◆ Internet Agent subdirectory ◆ Domain context in LDAP format 		Section 4.3.4, "Gathering Domain and Gateway Information," on page 83

Installation Program Field	Value for Your GroupWise System	Explanation
<hr/>		
LDAP Authentication (Linux only):		Section 4.3.9, "Linux Installation Options: LDAP Information, Automatic Startup, and Clustering," on page 85
<ul style="list-style-type: none"> ◆ LDAP server IP address ◆ Port ◆ User name ◆ Password ◆ Use SSL connection <ul style="list-style-type: none"> ◆ Yes <ul style="list-style-type: none"> Path to SSL certificate file ◆ No 		
<hr/>		
Internet Agent Object Name:		"eDirectory Tree Access" on page 31
<ul style="list-style-type: none"> ◆ DNS hostname or IP address of tree ◆ User name ◆ Context ◆ Password ◆ Internet Agent object name <ul style="list-style-type: none"> Domain name and context 		Section 4.3.5, "Selecting the Gateway Object Name," on page 84
<hr/>		
Internet Mail Domain Name:		Section 4.3.6, "Specifying the Internet Mail Domain Name for Your GroupWise System," on page 84
<ul style="list-style-type: none"> ◆ Enter from ConsoleOne 		
<hr/>		

Installation Program Field	Value for Your GroupWise System	Explanation
Windows Service Information:	<ul style="list-style-type: none"> ◆ User local system account <ul style="list-style-type: none"> ◆ Allow service to interact with desktop ◆ Use this Windows user account <ul style="list-style-type: none"> ◆ Name of Windows user account ◆ Password ◆ Startup type <ul style="list-style-type: none"> ◆ Automatic ◆ Manual ◆ Disabled 	Section 4.3.10, “Windows Installation Options: SNMP Traps and Service versus Application,” on page 86

5 Installing GroupWise WebAccess

Novell GroupWise WebAccess enables user access to GroupWise mailboxes through [desktop Web browsers](#), through [tablet computers](#) such as Apple iPads, and through [mobile devices](#) (http://www.novell.com/documentation/groupwise2012/pdfdoc/gw2012_qs_webaccbasic/gw2012_qs_webaccbasic.pdf). The following sections provide information to help you successfully install the GroupWise WebAccess Application in your existing GroupWise system.

- ♦ [Section 5.1, “GroupWise WebAccess Application Overview,” on page 103](#)
- ♦ [Section 5.2, “WebAccess System Requirements,” on page 105](#)
- ♦ [Section 5.3, “Planning GroupWise WebAccess,” on page 108](#)
- ♦ [Section 5.4, “Setting Up GroupWise WebAccess,” on page 110](#)
- ♦ [Section 5.5, “Testing GroupWise WebAccess,” on page 116](#)
- ♦ [Section 5.6, “What’s Next,” on page 119](#)
- ♦ [Section 5.7, “GroupWise WebAccess Installation Worksheet,” on page 120](#)

5.1 GroupWise WebAccess Application Overview

- ♦ [Section 5.1.1, “GroupWise WebAccess Functionality,” on page 103](#)
- ♦ [Section 5.1.2, “GroupWise WebAccess Components,” on page 104](#)
- ♦ [Section 5.1.3, “WebAccess Security Requirements,” on page 104](#)

5.1.1 GroupWise WebAccess Functionality

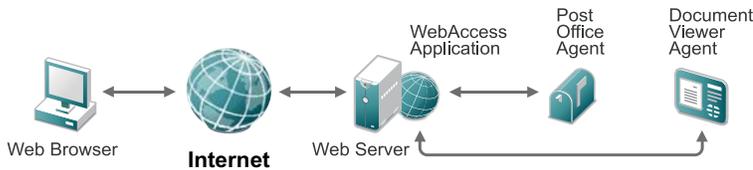
GroupWise WebAccess, when used in a desktop Web browser, provides most of the functionality available in the GroupWise Windows client. On an Apple iPad, most commonly used functionality is available. WebAccess functionality on mobile devices is limited compared to WebAccess in a desktop browser or an iPad. For WebAccess user functionality details, see

- ♦ [GroupWise 2012 WebAccess User Guide](#)
- ♦ [GroupWise 2012 WebAccess Mobile User Guide](#)
- ♦ [WebAccess Basic Interface Quick Start](#) (http://www.novell.com/documentation/groupwise2012/pdfdoc/gw2012_qs_webaccbasic/gw2012_qs_webaccbasic.pdf)

After you set up GroupWise WebAccess, you should look at [Section 5.6, “What’s Next,” on page 119](#) 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 browser-based WebAccess user interface (desktop computer, tablet computer, or mobile device), the WebAccess Application, the Post Office Agent, and the Document Viewer Agent.



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

Post Office Agent: The Post Office Agent (POA) receives user requests from the WebAccess Application, accesses post offices and libraries to process the requests, and then passes information back to the WebAccess Application.

Document Viewer Agent: The Document Viewer Agent (DVA) isolates the conversion process for attached document files. The DVA can simultaneously convert multiple document files into HTML format. If it encounters a problem converting a document file, the problem does not affect conversion of other document files, nor does it affect the functioning of the WebAccess Application. Therefore, GroupWise WebAccess users do not experience interruptions because of document files that fail to convert into HTML. Document files that fail in the conversion process simply cannot be viewed in WebAccess. The DVA is automatically installed along with the POA.

5.1.3 WebAccess Security Requirements

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

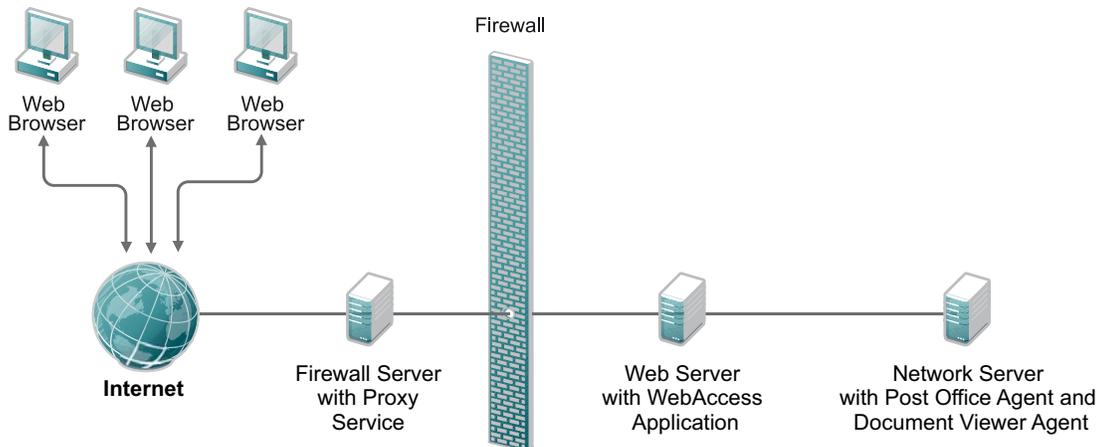
If you are not concerned about security issues (for example, you only plan to use the WebAccess Application on a secured intranet), you can install the WebAccess Application to any Web servers that provide access for your users and meet the requirements listed in [Section 5.2, “WebAccess System Requirements,” on page 105](#).

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

- ◆ Install the WebAccess Application inside your firewall and use a proxy service. See [“Configuration with a Proxy Service” on page 105](#). This is the recommended configuration.
- ◆ Install the WebAccess Application on a Web server outside your firewall and the POA and the DVA on a server inside your firewall. See [“Configuration without a Proxy Service” on page 105](#).

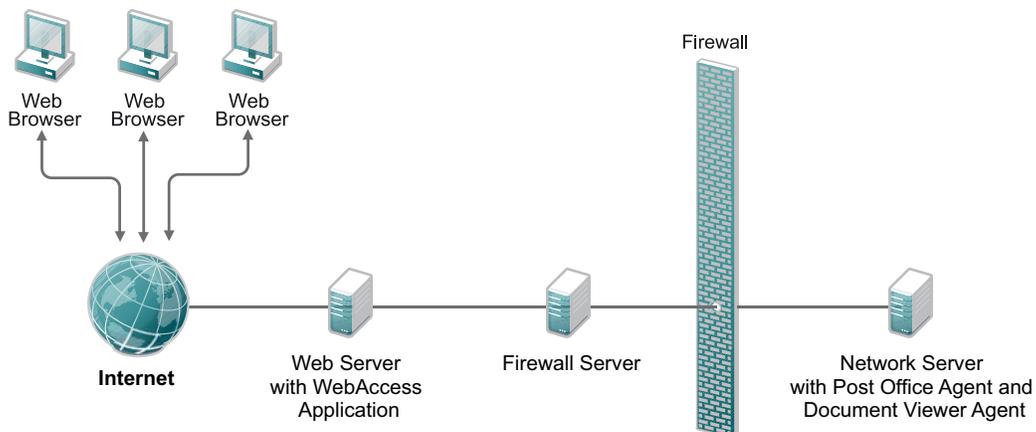
Configuration with a Proxy Service

If your firewall includes a proxy service, you can install the WebAccess Application to a Web server inside your firewall, while the POA and the DVA are installed on another server inside the firewall, as shown in the following illustration.



Configuration without a Proxy Service

If your firewall does not provide a proxy service, you need to install the WebAccess Application to a Web server that is outside the firewall. Because the POA requires direct access to a GroupWise post office directory, it needs to be installed to a server that is located within the firewall.



The firewall must allow inbound IP packets to be sent from the Web server to the IP address and port number of the POA (for example, 172.16.5.18:1677).

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

5.2 WebAccess System Requirements

- ♦ [Section 5.2.1, "Hardware and Operating System Requirements,"](#) on page 106
- ♦ [Section 5.2.2, "Web Server Requirements,"](#) on page 106

- ♦ [Section 5.2.3, “Software Requirements,”](#) on page 107
- ♦ [Section 5.2.4, “User Requirements,”](#) on page 107

5.2.1 Hardware and Operating System Requirements

- x86-32 processor or x86-64 processor

On a 64-bit processor, GroupWise still runs as a 32-bit application.

- Any of the following server operating systems:
 - ♦ Novell Open Enterprise Server (OES) 2 (Linux version) or OES 11, plus the latest Support Pack
 - ♦ SUSE Linux Enterprise Server (SLES) 10 or SLES 11, plus the latest Service Pack

The X Window System and Open Motif are required by the GUI GroupWise agent server consoles for the Post Office Agent, the Message Transfer Agent, and the Internet Agent. By default, the GroupWise agents run as daemons without user interfaces.
 - ♦ Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, or Windows Server 2012, plus the latest Service Pack
- Adequate server memory as required by the operating system
- Adequate server disk space:
 - ♦ Approximately 127 MB for the WebAccess Application files (shared with the Calendar Publishing Host Application and the Monitor Application when they are installed on the same Web server; varies by platform)

5.2.2 Web Server Requirements

The Web server supported for your operating system:

- OES 2 Linux / SLES 10

Apache 2.2 plus:

 - ♦ Tomcat 5 or later

Tomcat 5 is included with the Linux operating system. If it is not already installed, use YaST to install it before you install the GroupWise software.
 - ♦ IBM JRE 5 or later
 - ♦ ModProxy Module
- OES 11 / SLES 11

Apache 2.2 plus:

 - ♦ Tomcat 6 or later

For OES 11, Tomcat 6 is included with the Linux operating system. If it is not already installed, use YaST to install it before you install the GroupWise software.

For SLES 11, Tomcat 6 is added to the Linux server with the GroupWise software.
 - ♦ IBM JRE 5 or later
 - ♦ ModProxy Module
- Windows Server 2003/2003 R2

Microsoft Internet Information Server (IIS) 6 or later plus

- ◆ Tomcat 6
- ◆ IBM JRE 5 or later
- ◆ Jakarta Connector 1.2

Tomcat 6, IBM JRE 6 Update 26, and Jakarta Connector 1.2 are installed along with the GroupWise software if they are not already present on the Windows server.

- Windows Server 2008/2008 R2/2012

Microsoft Internet Information Server (IIS) 7 or later plus:

- ◆ Tomcat 6
- ◆ IBM JRE 5 or later
- ◆ Jakarta Connector 1.2

Tomcat 6, IBM JRE 6 Update 26, and Jakarta Connector 1.2 are installed along with the GroupWise software if they are not already present on the Windows server.

5.2.3 Software Requirements

- Any of the following environments for running the GroupWise Installation program:

- ◆ Novell Open Enterprise Server (OES) 2 (Linux version) or OES 11, plus the latest Support Pack
- ◆ SUSE Linux Enterprise Server (SLES) 10 or SLES 11, plus the latest Service Pack

The X Window System is required by the GUI GroupWise Installation program that steps you through the process of creating a new GroupWise system. A text-based Installation program is also available for installing individual GroupWise components on servers where the X Windows System is not available.

- ◆ Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, or Windows Server 2012, plus the latest Service Pack, plus the latest Novell Client

- One or more Post Office Agents (POAs) configured for SOAP and secure SSL connections

5.2.4 User Requirements

- ◆ [“WebAccess User Requirements” on page 107](#)
- ◆ [“WebAccess Mobile User Requirements” on page 108](#)

WebAccess User Requirements

Any of the following user environments:

- Any of the following Web browsers for GroupWise WebAccess:

- ◆ Linux: Mozilla Firefox
- ◆ Windows: Microsoft Internet Explorer 8.0 or later; Mozilla Firefox; Google Chrome
- ◆ Macintosh: The latest version of Safari for your version of Mac OS; Mozilla Firefox; Google Chrome

- Any mobile device that supports Wireless Access Protocol (WAP) and has a microbrowser that supports Hypertext Markup Language (HTML) 4.0 or later

WebAccess Mobile User Requirements

Any of the following tablet operating systems and devices:

- Apple iOS 4 or later, with the latest version of the Safari Web browser
- Android 3.2 and 4.0 with the Android Web browser, and Android 4.1 with the Chrome browser, on any Android device
- RIM Tablet OS 1.0.0 or later, with the BlackBerry Playbook Web browser, on the BlackBerry Playbook 2

5.3 Planning GroupWise WebAccess

Use the “[GroupWise WebAccess Installation Worksheet](#)” on page 120 to record your decisions about how to install the WebAccess Application. The topics in this section present the required information in a convenient planning sequence. The Installation Worksheet organizes the information in the order in which you need it during installation.

- ♦ [Section 5.3.1, “Selecting the WebAccess Application Platform,”](#) on page 108
- ♦ [Section 5.3.2, “Gathering Web Server Information,”](#) on page 108
- ♦ [Section 5.3.3, “Determining the WebAccess Application’s Configuration,”](#) on page 109
- ♦ [Section 5.3.4, “Connecting the WebAccess Application with Supporting Agents,”](#) on page 109

For additional assistance in planning your GroupWise installation, visit the [GroupWise Best Practices Wiki](#) (<http://wiki.novell.com/index.php/GroupWise>).

5.3.1 Selecting the WebAccess Application Platform

The WebAccess Application can be installed to a Web server on Linux or Windows. See [Section 5.2, “WebAccess System Requirements,”](#) on page 105 for supported Web servers.

GROUPWISE WEBACCESS APPLICATION INSTALLATION WORKSHEET

Under *Web Server Platform*, mark whether you plan to install the WebAccess Application to a Linux or Windows Web server

5.3.2 Gathering Web Server Information

The WebAccess Application integrates with your Web server to pass mailbox information gathered by the Post Office Agent to your Web browser for display in GroupWise WebAccess. The location of the WebAccess Application files that are installed depends on the Web server that it is being integrated with. The default Web server paths vary by platform:

Apache Web Server on OES 11:	/etc/opt/novell/httpd/conf.d
Tomcat on OES 11:	/var/opt/novell/tomcat6/webapps
Apache Web Server on OES 2 Linux:	/etc/opt/novell/httpd/conf.d
Tomcat on OES 2 Linux:	/var/opt/novell/tomcat5/webapps
Apache Web Server on SLES 11:	/etc/apache2/conf.d
Tomcat on SLES 11:	/usr/share/tomcat6/webapps

Apache Web Server on SLES 10:	<code>/etc/apache2/conf.d</code>
Tomcat on SLES 10:	<code>/srv/www/tomcat5/base/webapps</code>
Microsoft Internet Information Server (IIS) on Windows:	<code>c:\inetpub\wwwroot</code>
Tomcat on Windows:	<code>c:\novell\tomcat6\webapps</code>

GROUPWISE WEBACCESS APPLICATION INSTALLATION WORKSHEET

Under *Web Server Information*, select the type of Web server where you plan to install the WebAccess Application, then specify the Web server's root directory.

On Windows, if the Internet Information Server services more than one Web site, specify the Web site where you want to install the WebAccess Application.

5.3.3 Determining the WebAccess Application's Configuration

WebAccess Application configuration information is stored in a configuration file (`webacc.cfg`). The `webacc.cfg` file is located in the following directories:

Linux: `/var/opt/novell/groupwise/webaccess`

Windows `c:\novell\groupwise\webaccess`

To change the WebAccess Application's configuration, you need to manually modify the `webacc.cfg` file.

GROUPWISE WEBACCESS APPLICATION INSTALLATION WORKSHEET

Under *Configuration File Location*, note the location for the platform where you are installing WebAccess.

5.3.4 Connecting the WebAccess Application with Supporting Agents

The WebAccess Agent needs to communicate with a POA and a DVA.

GROUPWISE WEBACCESS APPLICATION INSTALLATION WORKSHEET

Under *POA Network Address*, specify the IP address or DNS hostname of a POA that the WebAccess Application can communicate with, along with that POA's SOAP port number.

Under *DVA Network Address*, specify the IP address or DNS hostname of a DVA that the WebAccess Application can communicate with, along with that DVA's TCP port number.

IMPORTANT: The POA that the WebAccess Application communicates with must be configured for SOAP. A secure SSL connection between the POA and the WebAccess Application is highly recommended.

For instructions on preparing the POA to work successfully with the WebAccess Application, see the following sections in “[Post Office Agent](#)” in the *GroupWise 2012 Administration Guide*:

- ♦ “[Supporting SOAP Clients](#)” in “[Performing Basic POA Configuration](#)”
- ♦ “[Securing the Post Office with SSL Connections to the POA](#)” in “[Configuring Post Office Security](#)”

For instructions on preparing the DVA to work successfully with the WebAccess Application, see the following sections in “[Document Viewer Agent](#)” in the *GroupWise 2012 Administration Guide*:

- ♦ “[Multiple DVAs for WebAccess](#)”
- ♦ “[DVA Installation on Additional Servers](#)”

5.4 Setting Up GroupWise WebAccess

- ♦ [Section 5.4.1, “Linux: Setting Up GroupWise WebAccess,”](#) on page 110
- ♦ [Section 5.4.2, “Windows: Setting Up GroupWise WebAccess,”](#) on page 113

5.4.1 Linux: Setting Up GroupWise WebAccess

- ♦ “[Preparing the Linux Server for GroupWise WebAccess](#)” on page 110
- ♦ “[Installing the Linux WebAccess Software](#)” on page 110

If you are new to Linux, you might want to review “[Linux Commands, Directories, and Files for GroupWise Administration](#)” in the *GroupWise 2012 Administration Guide* before you install the GWIA on Linux.

Preparing the Linux Server for GroupWise WebAccess

- 1 Make sure that the Web server where you are installing the WebAccess Application meets the system requirements listed in [Section 5.2, “WebAccess System Requirements,”](#) on page 105.
- 2 Make sure that the Linux server has a static IP address.
- 3 Make sure that the firewall on the server has the ports open that are used by the Web server and the WebAccess Application.
For assistance, see “[GroupWise Port Numbers](#)” in the *GroupWise 2012 Administration Guide*.
- 4 Make sure that the POA that the WebAccess Application will communicate with has SOAP enabled on a secure SSL connection, as described in [Section 5.3.4, “Connecting the WebAccess Application with Supporting Agents,”](#) on page 109.
- 5 Continue with [Installing the Linux WebAccess Software](#).

Installing the Linux WebAccess Software

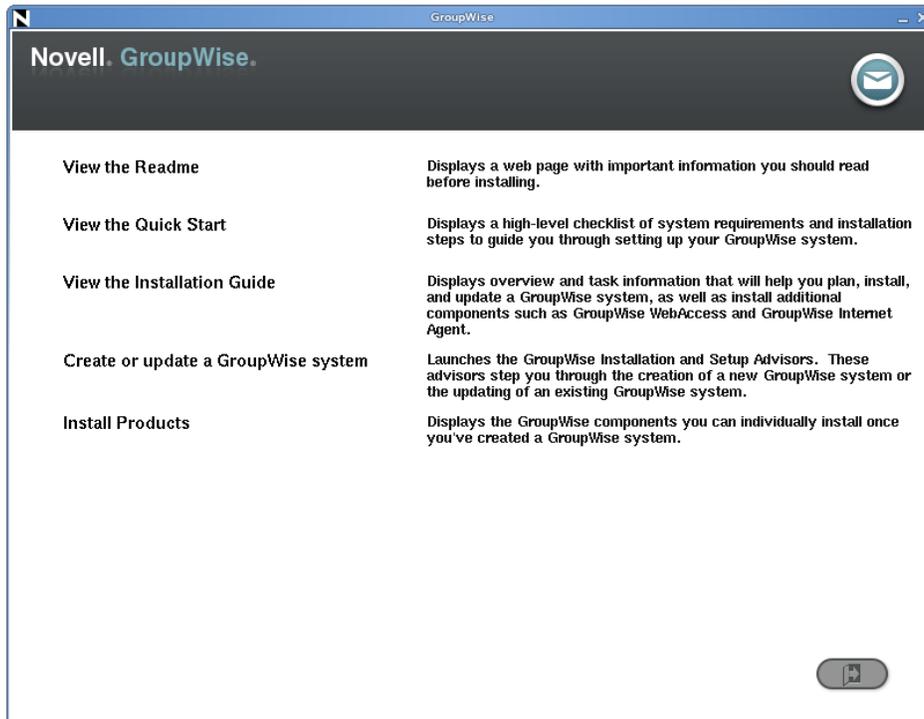
- 1 In a terminal window on the Web server where you want to install the WebAccess Application, log in as `root`, then provide the `root` password.
- 2 Change to the root directory of the downloaded *GroupWise 2012* software image.
or
If you have already copied the WebAccess Application software to a software distribution directory, change to `/opt/novell/groupwise/software`.

3 Run `./install`.

The X Window System 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 GroupWise Components Using the Text-Based Installation Program”](#) on page 185.

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

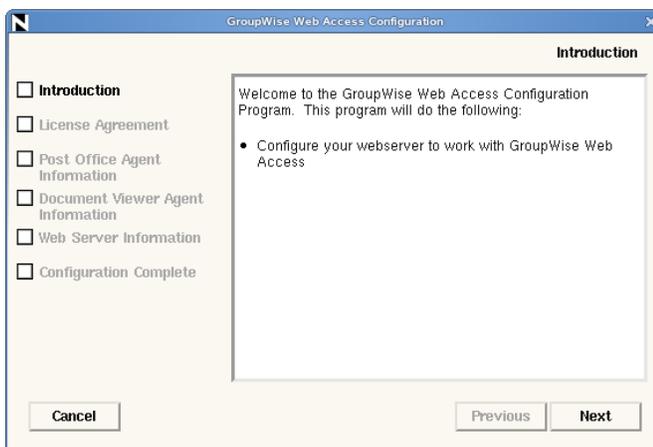
The main GroupWise System Installation page appears.



5 Click *Install Products > GroupWise WebAccess > Install WebAccess* to install the WebAccess software.

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

7 Click *Configure WebAccess*.



- 8 Click *Next*, accept the License Agreement, then click *Next*.
- 9 Follow the prompts to configure the WebAccess using the following information from the [GroupWise WebAccess Installation Worksheet](#):

[POA Network Address](#)

[DVA Network Address](#)

[Web Server Information](#)

- 10 On the Configuration Complete page, click *Exit* to exit the WebAccess Installation program.
The WebAccess software is installed to the following directories:

```
/opt/novell/groupwise/webaccess  
/etc/opt/novell/groupwise/webaccess  
/var/opt/novell/groupwise/webaccess
```

It so also integrated with Tomcat.

- 11 Exit the GroupWise Installation program.
- 12 Start the DVA that you configured the WebAccess Application to communicate with.
For example, if the DVA is installed on the same server with the WebAccess Application, use:

```
rcgrpwise start gwdva
```

For more information about the DVA, see “[Document Viewer Agent](#)” in the [GroupWise 2012 Administration Guide](#).

- 13 Restart Apache and Tomcat:

```
OES 11      rcnovell-tomcat6 stop  
            rcapache2 stop  
            rcapache2 start  
            rcnovell-tomcat6 start
```

```
OES 2 Linux: rcnovell-tomcat5 stop  
            rcapache2 stop  
            rcapache2 start  
            rcnovell-tomcat5 start
```

```
SLES 11     rctomcat6 stop  
            rcapache2 stop  
            rcapache2 start  
            rctomcat6 start
```

```
SLES 10:    rctomcat5 stop  
            rcapache2 stop  
            rcapache2 start  
            rctomcat5 start
```

- 14 Make sure that Apache and Tomcat restart automatically when the server reboots:

```
OES 11:      chkconfig apache2 on
             chkconfig novell-tomcat6 on
```

```
OES 2 Linux: chkconfig apache2 on
             chkconfig novell-tomcat5 on
```

```
SLES 11:     chkconfig apache2 on
             chkconfig tomcat6 on
```

```
SLES 10:     chkconfig apache2 on
             chkconfig tomcat5 on
```

- 15 Skip to [Section 5.5, “Testing GroupWise WebAccess,”](#) on page 116.

5.4.2 Windows: Setting Up GroupWise WebAccess

- ♦ [“Preparing the Windows Server for GroupWise WebAccess”](#) on page 113
- ♦ [“Installing the Windows WebAccess Software”](#) on page 113

Preparing the Windows Server for GroupWise WebAccess

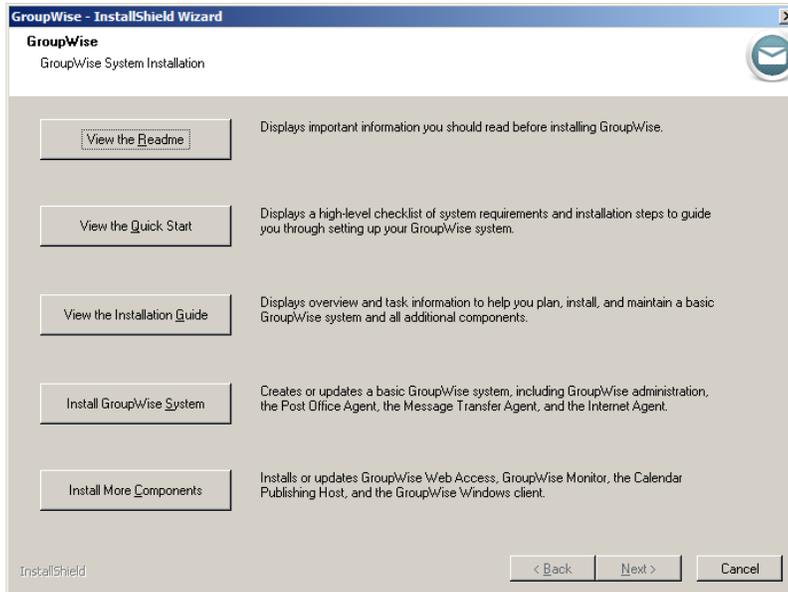
- 1 Make sure that the Web server where you are installing the WebAccess Application meets the system requirements listed in [Section 5.2, “WebAccess System Requirements,”](#) on page 105.
- 2 Make sure that the Windows server has a static IP address.
- 3 Make sure that the firewall on the server has the ports open that are used by the Web server and the WebAccess Application.
For assistance, see [“GroupWise Port Numbers”](#) in the *GroupWise 2012 Administration Guide*.
- 4 Make sure that the POA that the WebAccess Application will communicate with has SOAP enabled on a secure SSL connection, as described in [Section 5.3.4, “Connecting the WebAccess Application with Supporting Agents,”](#) on page 109.
- 5 Continue with [Installing the Windows WebAccess Software](#).

Installing the Windows WebAccess Software

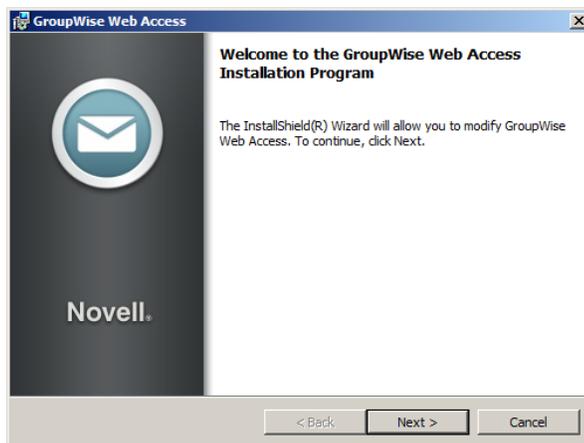
- 1 On the Web server where you want to install the WebAccess Application, change to the root directory of the downloaded GroupWise 2012 software image.
or
If you have already copied the WebAccess Application to a software distribution directory, change to that location
- 2 Run `setup.exe`.
- 3 (Conditional) If prompted, select the interface language for the Installation program, then click *OK*.

On Windows, the *GroupWise 2012* software image can be downloaded in a multilanguage version or an English-only version. When you install from the multilanguage version, all languages are always installed, regardless of the specific language that you select for running the Installation program.

The main GroupWise System Installation page appears.



- 4 Click *Install More Components* > *Install WebAccess* to start the WebAccess Installation program.



You can also start the WebAccess Installation program by running:

```
/software_image/internet/webaccess/setup.exe
```

- 5 Click *Next*, then follow the prompts to provide the information from your [GroupWise WebAccess Installation Worksheet](#).

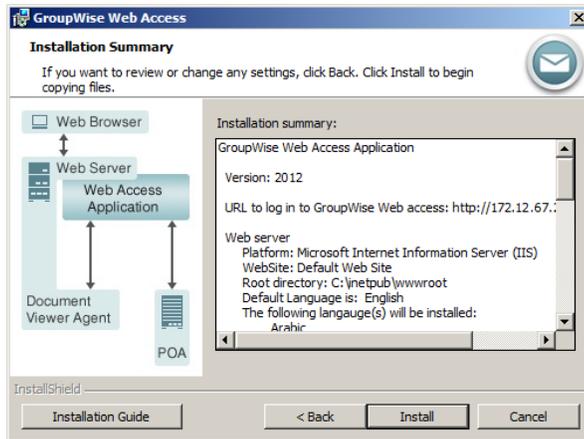
The WebAccess Installation program provides diagrams that help you understand how the various components interact with each other. Review the diagrams as you provide the requested information.

[Web Server Information](#)

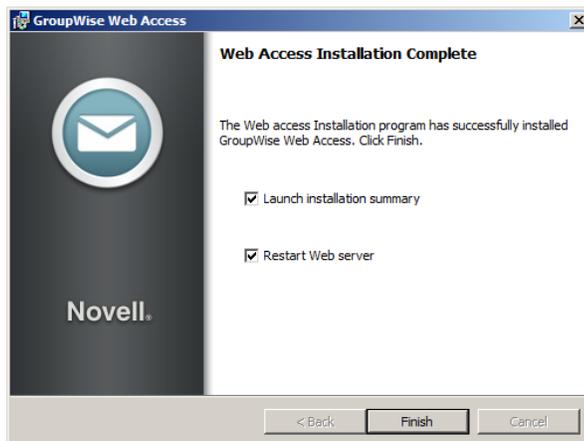
[Post Office Information](#)

[Document Viewer Agent Information](#)

- 6 Review the Installation Summary page, then click *Install*.



- 7 (Conditional) If prompts appear because your Web server is running, select how you want to stop your Web server.
- 8 When the installation is complete, click *Finish* to exit the WebAccess Installation program.



You can choose to have the WebAccess Installation program restart the Web server for you.

Along with the WebAccess Application, the WebAccess Installation program also installs Tomcat 6 to `c:\novell\tomcat6`, integrates it with your Web server, and automatically starts it to support the WebAccess Application.

- 9 Click *Finish* to exit the GroupWise Installation program.
- 10 Start the DVA that you configured the WebAccess Application to communicate with.
For example, if the DVA is installed on the same server with the WebAccess Application, click *Start > All Programs > GroupWise Agents > DVA*.
For more information about the DVA, see “[Document Viewer Agent](#)” in the *GroupWise 2012 Administration Guide*.
- 11 Continue with [Testing GroupWise WebAccess](#).

5.5 Testing GroupWise WebAccess

- ♦ Section 5.5.1, “Testing WebAccess on a Workstation,” on page 116
- ♦ Section 5.5.2, “Testing WebAccess on a Tablet Computer,” on page 117
- ♦ Section 5.5.3, “Testing the WebAccess Basic Interface on a Mobile Device,” on page 118
- ♦ Section 5.5.4, “Assisting Users with Login Problems,” on page 119
- ♦ Section 5.5.5, “Monitoring the WebAccess Application,” on page 119

5.5.1 Testing WebAccess on a Workstation

- 1 To access GroupWise WebAccess, use the following URL:

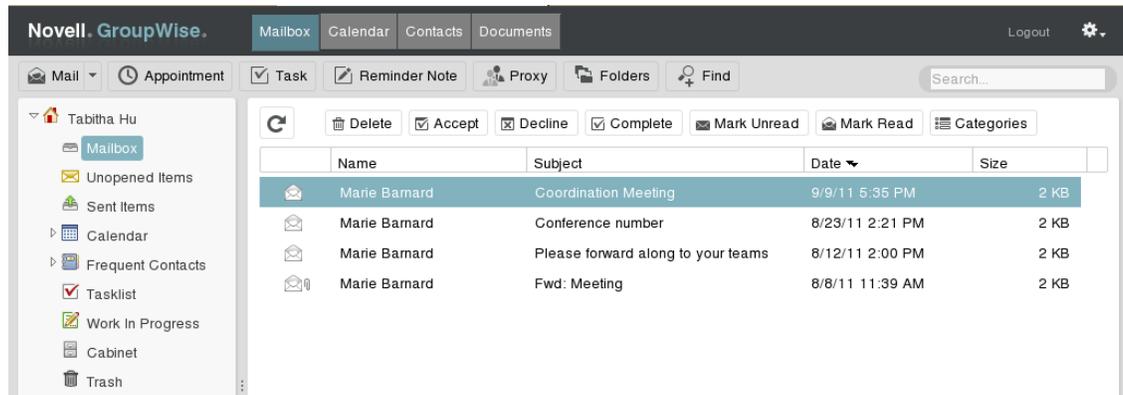
`http://web_server_address/gw/webacc`

Replace *web_server_address* with the IP address or DNS hostname of your Web server. If the Web server uses SSL, use `https` rather than `http`.

The image shows a screenshot of the Novell GroupWise WebAccess login page. At the top left is a blue envelope icon, and at the top right is the word "Novell.". Below the icon is the text "Novell. GroupWise." in a blue and white font. Underneath is a small copyright notice: "© Copyright 1993-2011 Novell, Inc. All rights reserved." The main part of the page is a dark grey box containing a "Username:" label and a white input field, followed by a "Password:" label and another white input field. Below the password field are two radio button options: "This is a public or shared computer" (which is selected) and "This is a private computer". At the bottom of the dark grey box are two buttons: "Options" with a downward arrow and "Login" with a rightward arrow. At the very bottom of the page are two links: "Can't log in?" on the left and "Help" on the right.

- 2 Type your GroupWise user ID in the *Username* box and your GroupWise mailbox password in the *Password* box.
- 3 (Optional) To change the WebAccess interface language, click *Options*, then select the language you want from the *Language* drop-down list.

- 4 Click *Login* to display the GroupWise WebAccess main window.



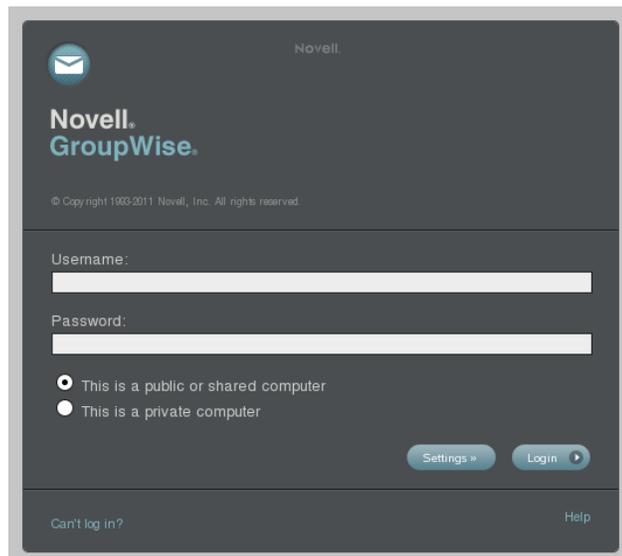
- 5 Click *Help* for more information about using GroupWise WebAccess.

5.5.2 Testing WebAccess on a Tablet Computer

- 1 To access GroupWise WebAccess on a tablet computer such as an iPad, use the following URL:

`http://web_server_address/gw/webacc`

Replace *web_server_address* with the IP address or DNS hostname of your Web server. If the Web server uses SSL, use `https` rather than `http`.



or

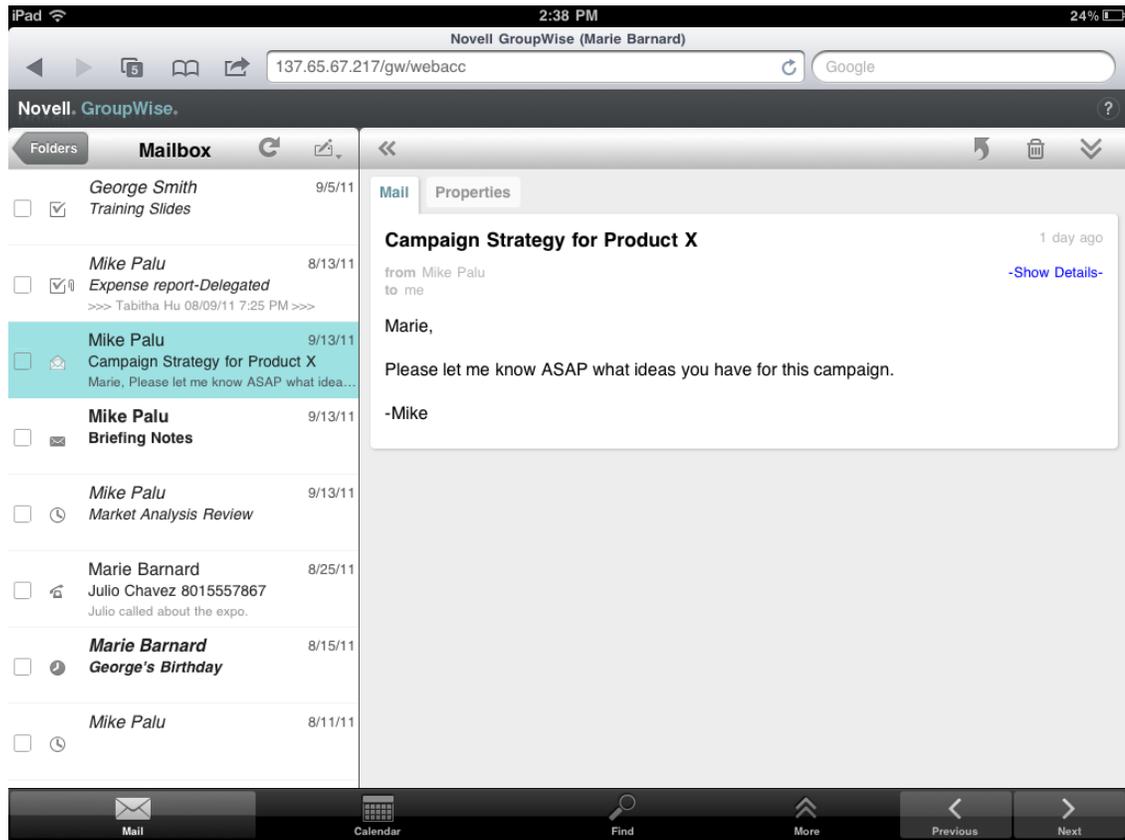
(Conditional) If you have a tablet device that is not yet [supported](#), but you want to see how well the mobile interface works on your device, use the following URL:

`http://web_server_address/gw/webacc?User.interface=mobile`

Replace *web_server_address* with the IP address or DNS hostname of your Web server. If the Web server uses SSL, use `https` rather than `http`.

- 2 Type your GroupWise user ID in the *Username* box and your GroupWise mailbox password in the *Password* box.

- 3 (Optional) To change the WebAccess interface language, click *Settings*, then select the language you want from the *Language* drop-down list.
- 4 Click *Login* to display the GroupWise WebAccess main window on your iPad.



- 5 Click *Help* for more information about using GroupWise WebAccess on your iPad.

5.5.3 Testing the WebAccess Basic Interface on a Mobile Device

- 1 To access GroupWise WebAccess in the Web browser on your mobile device, use the following URL:

```
http://web_server_address/gw/webacc
```

Replace *web_server_address* with the IP address or DNS hostname of your Web server. If the Web server uses SSL, use `https` rather than `http`.
- 2 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 on your mobile device.
- 3 Enter your GroupWise user ID and GroupWise mailbox ID.

The appearance of the WebAccess basic interface varies depending on the size of the screen where it is displayed.



- 4 For more information about using WebAccess on your mobile device, see the [WebAccess Basic Interface Quick Start](http://www.novell.com/documentation/groupwise2012/pdfdoc/gw2012_qs_webaccbasic/gw2012_qs_webaccbasic.pdf) (http://www.novell.com/documentation/groupwise2012/pdfdoc/gw2012_qs_webaccbasic/gw2012_qs_webaccbasic.pdf).

As an alternative to this limited interface, you can synchronize GroupWise data to your mobile device using the Novell Data Synchronizer Mobility Pack. For more information, see the [Novell Data Synchronizer Documentation Web site](http://www.novell.com/documentation/datasynchronizer1) (<http://www.novell.com/documentation/datasynchronizer1>).

5.5.4 Assisting Users with Login Problems

The WebAccess Login page includes a *Can't log in* link, which provides the following information to WebAccess users by default:

If you have forgotten your GroupWise password, contact your local GroupWise administrator.

For your convenience and for the convenience of your WebAccess users, you can customize the information that is provided by the *Can't log in* link. For set instructions, see “[Helping Users Who Forget Their GroupWise Passwords](#)” in “[WebAccess](#)” in the *GroupWise 2012 Administration Guide*.

5.5.5 Monitoring the WebAccess Application

You can monitor the WebAccess Application from your Web browser. For more information, see “[Using the WebAccess Application Web Console](#)” in “[WebAccess](#)” in the *GroupWise 2012 Administration Guide*.

5.6 What's Next

The “[WebAccess](#)” section of the *GroupWise 2012 Administration Guide* 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 GroupWise WebAccess Installation](#)”.
- ♦ Control users' access to GroupWise WebAccess.
See “[Managing User Access](#)” and “[Helping Users Who Forget Their GroupWise Passwords](#)”.
- ♦ Configure the WebAccess Application.
See “[Configuring the WebAccess Application](#)”.
- ♦ Monitor the WebAccess Application.
See “[Monitoring the WebAccess Application](#)”.
- ♦ Control logging for the WebAccess Application.
See “[Using WebAccess Application Log Files](#)”.

5.7 GroupWise WebAccess Installation Worksheet

Installation Program Field	Value for Your GroupWise System	Explanation
Web Server Platform	<ul style="list-style-type: none"> ◆ Linux ◆ Windows 	See Section 5.3.1 , "Selecting the WebAccess Application Platform," on page 108
POA Network Address	<ul style="list-style-type: none"> ◆ IP address ◆ SOAP port (default 7191) 	See Section 5.3.4 , "Connecting the WebAccess Application with Supporting Agents," on page 109.
DVA Network Address	<ul style="list-style-type: none"> ◆ IP address ◆ TCP port (default 8301) 	See Section 5.3.4 , "Connecting the WebAccess Application with Supporting Agents," on page 109.
Web Server Information: OES 11	<ul style="list-style-type: none"> ◆ Apache path <code>/etc/opt/novell/ httpd/conf.d</code> ◆ Tomcat path <code>/var/opt/novell/ tomcat6/webapps</code> 	Section 5.3.2 , "Gathering Web Server Information," on page 108
Web Server Information: OES 2 Linux	<ul style="list-style-type: none"> ◆ Apache path <code>/etc/opt/novell/ httpd/conf.d</code> ◆ Tomcat path <code>/var/opt/novell/ tomcat5/webapps</code> 	Section 5.3.2 , "Gathering Web Server Information," on page 108

Installation Program Field	Value for Your GroupWise System	Explanation
Web Server Information:		
SLES 11	<ul style="list-style-type: none"> ◆ Apache path <code>/etc/apache2/conf.d</code> ◆ Tomcat path <code>/usr/share/tomcat6/webapps</code> 	Section 5.3.2, "Gathering Web Server Information," on page 108
Web Server Information:		
SLES 10	<ul style="list-style-type: none"> ◆ Apache path <code>/etc/apache2/conf.d</code> ◆ Tomcat path <code>/srv/www/tomcat5/base/webapps</code> 	Section 5.3.2, "Gathering Web Server Information," on page 108
Web Server Information:		
Windows	<ul style="list-style-type: none"> ◆ Microsoft Internet Information Server (IIS) for Windows ◆ Path to the Web server's root directory ◆ Web site 	Section 5.3.2, "Gathering Web Server Information," on page 108
Configuration File Location:		
Linux	<code>/var/opt/novell/groupwise/webaccess</code>	Section 5.3.2, "Gathering Web Server Information," on page 108
Windows	<code>c:\novell\groupwise\webaccess</code>	

6 Installing the GroupWise Calendar Publishing Host

The Novell GroupWise Calendar Publishing Host publishes GroupWise users' personal calendars to the Internet, so that the calendars are readily available to colleagues who are not part of the GroupWise system. Items on users' main GroupWise Calendars that are not included on personal calendars are not published. The Calendar Publishing Host also returns free/busy schedule status to Internet colleagues who want to set up appointments with GroupWise users. The free/busy search checks the main GroupWise Calendar as well as personal calendars.

- ♦ Section 6.1, "GroupWise Calendar Publishing Host Overview," on page 123
- ♦ Section 6.2, "Calendar Publishing Host System Requirements," on page 126
- ♦ Section 6.3, "Planning a Calendar Publishing Host," on page 128
- ♦ Section 6.4, "Setting Up a Calendar Publishing Host," on page 132
- ♦ Section 6.5, "What's Next," on page 147
- ♦ Section 6.6, "GroupWise Calendar Publishing Host Installation Worksheet," on page 148

6.1 GroupWise Calendar Publishing Host Overview

- ♦ Section 6.1.1, "Calendar Publishing Host Functionality," on page 123
- ♦ Section 6.1.2, "Calendar Publishing Host Components," on page 124
- ♦ Section 6.1.3, "Calendar Publishing Host Security Requirements," on page 124

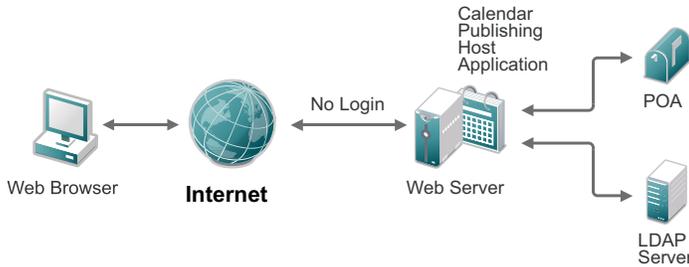
6.1.1 Calendar Publishing Host Functionality

The GroupWise Calendar Publishing Host enables Internet users to view GroupWise users' published calendars and to retrieve free/busy information from their calendars to assist with scheduling available appointment times. Internet users do not need login access to the GroupWise system in order to view published calendars and obtain free/busy status. Information provided by the Calendar Publishing Host is publicly available to Internet users everywhere.

For Calendar Publishing user functionality details, see the *Calendar Publishing User Quick Start* (http://www.novell.com/documentation/groupwise2012/pdfdoc/gw2012_qs_calpubuser/gw2012_qs_calpubuser.pdf).

6.1.2 Calendar Publishing Host Components

The GroupWise Calendar Publishing Host includes three components: the Calendar Publishing Host Application, which connects to the Internet through a Web server, the Post Office Agent (POA), which connects to your GroupWise system, and an LDAP server, which provides authentication to the Calendar Publishing Host Administration Web console:



Calendar Publishing Host Application: The Calendar Publishing Host Application, which resides on the Web server, provides the browser interface for users across the Internet. As users request calendar and free/busy information from GroupWise users, the Calendar Publishing Host Application passes the information between the Web browser and the POA.

Post Office Agent: The POA receives user requests from the Calendar Publishing Host Application, accesses post offices and mailboxes to process the requests, and then passes information back to the Calendar Publishing Host Application in the form of ICS (Internet Calendaring and Scheduling) files and IFB (Internet Free Busy) files. These files can be imported into GroupWise, Outlook, and Macintosh iCal calendaring applications.

LDAP Server: The Calendar Publishing Host has an Administration Web console for configuration and management tasks. Authentication to the Administration Web console is through an LDAP server.

6.1.3 Calendar Publishing Host Security Requirements

The GroupWise Calendar Publishing Host Application can be configured to support the level of security you have established for your Internet/intranet communication.

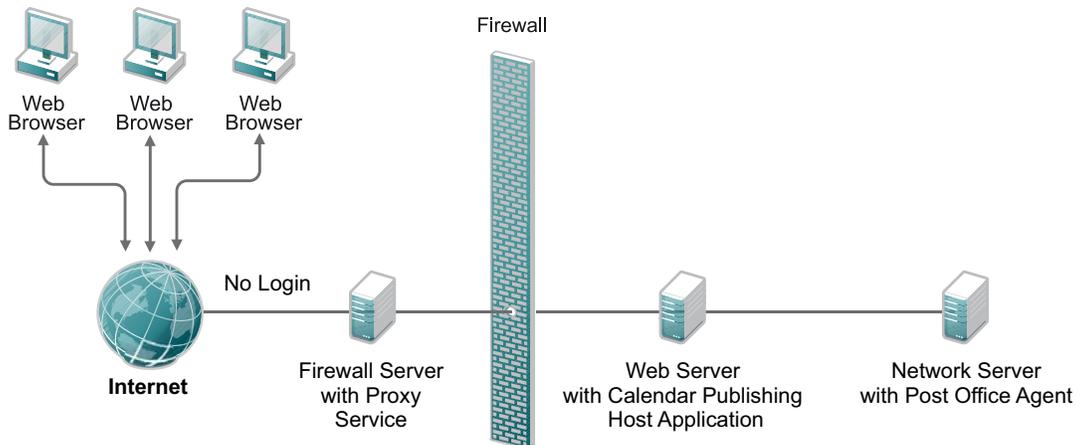
If you are not concerned about security issues (for example, you only plan to use the Calendar Publishing Host Application on a secured intranet), you can install the Calendar Publishing Host Application to any server that provides access for your users and meets the requirements listed in [Section 6.2, “Calendar Publishing Host System Requirements,” on page 126](#).

If you plan to use the Calendar Publishing Host Application to provide calendar and free/busy information to users 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 the Calendar Publishing Host Application:

- ◆ Install the Calendar Publishing Host Application inside your firewall and use a proxy service, as described in [“Configuration with a Proxy Service” on page 125](#). This is the recommended configuration.
- ◆ Install the Calendar Publishing Host Application on a Web server outside your firewall and have it communicate with a POA through your firewall, as described in [“Configuration without a Proxy Service” on page 125](#).

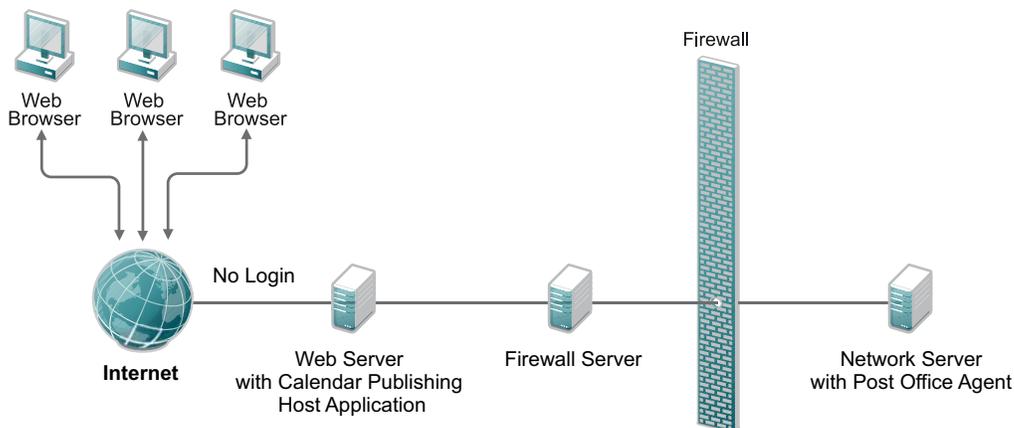
Configuration with a Proxy Service

If your firewall includes a proxy service, you can install the Calendar Publishing Host Application to a Web server inside your firewall, and it can communicate with a POA that is also inside the firewall, as shown in the following illustration:



Configuration without a Proxy Service

If your firewall does not provide a proxy service, you need to install the Calendar Publishing Host Application to a Web server that is outside the firewall. Because the POA requires direct access (mapped drive or UNC path) to a GroupWise post office directory, the POA needs to be installed to a server that is inside your firewall.



The firewall must allow inbound IP packets to be sent from the Web server to the POA's internal or external IP address and the calendar publishing port number for the POA (for example, 172.16.5.18:7171). If you are using an external IP address, all POAs that support calendar publishing must be configured to use the same external IP address. For more information about external POA IP addresses, see [“Securing Client/Server Access through an External Proxy Server”](#) in *“Post Office Agent”* in the *GroupWise 2012 Administration Guide*.

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

6.2 Calendar Publishing Host System Requirements

- ♦ [Section 6.2.1, “Hardware and Operating System Requirements,” on page 126](#)
- ♦ [Section 6.2.2, “Web Server Requirements,” on page 126](#)
- ♦ [Section 6.2.3, “Web Browser Requirements,” on page 127](#)
- ♦ [Section 6.2.4, “Software Requirements,” on page 127](#)

6.2.1 Hardware and Operating System Requirements

- x86-32 processor or x86-64 processor

On a 64-bit processor, GroupWise still runs as a 32-bit application.

- Any of the following server operating systems:

- ♦ Novell Open Enterprise Server (OES) 2 (Linux version) or OES 11, plus the latest Support Pack
- ♦ SUSE Linux Enterprise Server (SLES) 10 or SLES 11, plus the latest Service Pack
The X Window System and Open Motif are required by the GUI GroupWise agent server consoles for the Post Office Agent, the Message Transfer Agent, and the Internet Agent. By default, the GroupWise agents run as daemons without user interfaces.
- ♦ Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, or Windows Server 2012, plus the latest Service Pack

- Adequate server memory as required by the operating system

- Adequate server disk space:

- ♦ Approximately 127 MB for the Calendar Publishing Host Application files (shared with the WebAccess Application and the Monitor Application when installed on the same Web server; varies by platform)
- ♦ 50 KB per published calendar

6.2.2 Web Server Requirements

The Web server supported for your operating system:

- OES 2 Linux / SLES 10

Apache 2.2 plus:

- ♦ Tomcat 5 or later

Tomcat 5 is included with the Linux operating system. If it is not already installed, use YaST to install it before you install the GroupWise software.

- ♦ IBM JRE 5 or later
- ♦ ModProxy Module

- OES 11 / SLES 11

Apache 2.2 plus:

- ♦ Tomcat 6 or later

For OES 11, Tomcat 6 is included with the Linux operating system. If it is not already installed, use YaST to install it before you install the GroupWise software.

For SLES 11, Tomcat 6 is added to the Linux server with the GroupWise software.

- ◆ IBM JRE 5 or later
- ◆ ModProxy Module

Windows Server 2003/2003 R2

Microsoft Internet Information Server (IIS) 6 or later plus:

- ◆ Tomcat 6
- ◆ IBM JRE 5 or later
- ◆ Jakarta Connector 1.2

Tomcat 6, IBM JRE 6 Update 26, and Jakarta Connector 1.2 are installed along with the GroupWise software if they are not already present on the Windows server.

Windows Server 2008/2008 R2/2012

Microsoft Internet Information Server (IIS) 7 or later plus:

- ◆ Tomcat 6
- ◆ IBM JRE 5 or later
- ◆ Jakarta Connector 1.2

Tomcat 6, IBM JRE 6 Update 26, and Jakarta Connector 1.2 are installed along with the GroupWise software if they are not already present on the Windows server.

6.2.3 Web Browser Requirements

Any of the following Web browsers for the GroupWise Calendar Publishing Host user Web pages and the Calendar Publishing Host Administration Web console:

- ◆ Linux: Mozilla Firefox
- ◆ Windows: Microsoft Internet Explorer 8.0 or later; Mozilla Firefox; Google Chrome
- ◆ Macintosh: The latest version of Safari for your version of Mac OS; Mozilla Firefox; Google Chrome

6.2.4 Software Requirements

Any of the following environments for running the GroupWise Installation program:

- ◆ Novell Open Enterprise Server (OES) 2 (Linux version) or OES 11, plus the latest Support Pack
- ◆ SUSE Linux Enterprise Server (SLES) 10 or SLES 11, plus the latest Service Pack

The X Window System is required by the GUI GroupWise Installation program that steps you through the process of creating a new GroupWise system. A text-based Installation program is also available for installing individual GroupWise components on servers where the X Windows System is not available.

- ◆ Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, plus the latest Service Pack, plus the latest Novell Client.

6.3 Planning a Calendar Publishing Host

Use the “[GroupWise Calendar Publishing Host Installation Worksheet](#)” on page 148 to record your decisions about how to install and configure the Calendar Publishing Host Application. The topics in this section present the required information in a convenient planning sequence. The Installation Worksheet organizes the information in the order in which you need it during installation and configuration.

- ◆ [Section 6.3.1, “Selecting the Calendar Publishing Host Application Platform,”](#) on page 128
- ◆ [Section 6.3.2, “Gathering Web Server Information,”](#) on page 128
- ◆ [Section 6.3.3, “Determining the Configuration of the Calendar Publishing Host,”](#) on page 129
- ◆ [Section 6.3.4, “Connecting the Calendar Publishing Host to a POA,”](#) on page 130
- ◆ [Section 6.3.5, “Designing Your Calendar Browse List,”](#) on page 130
- ◆ [Section 6.3.6, “Selecting Calendar Publishing Settings,”](#) on page 131
- ◆ [Section 6.3.7, “Configuring Authentication to the Administration Web Console,”](#) on page 131

For additional assistance in planning your GroupWise installation, visit the [GroupWise Best Practices Wiki](#) (<http://wiki.novell.com/index.php/GroupWise>).

6.3.1 Selecting the Calendar Publishing Host Application Platform

The GroupWise Calendar Publishing Host can be installed to a Web server on Linux or Windows. See [Section 6.2, “Calendar Publishing Host System Requirements,”](#) on page 126 for supported Web servers.

GROUPWISE CALENDAR PUBLISHING HOST INSTALLATION WORKSHEET

Under *Web Server Platform*, mark whether you plan to install the Calendar Publishing Host Application to a Linux or Windows Web server

6.3.2 Gathering Web Server Information

The Calendar Publishing Host Application integrates with your Web server to pass calendar information gathered by the Post Office Agent to your Web browser for display. The location of the Calendar Publishing Application files that are installed depends on the Web server that it is being integrated with. The default Web server paths vary by platform:

Apache Web Server on OES 11:	/etc/opt/novell/httpd/conf.d
Tomcat on OES 11:	/var/opt/novell/tomcat6/webapps
Apache Web Server on OES 2 Linux:	/etc/opt/novell/httpd/conf.d
Tomcat on OES 2 Linux:	/var/opt/novell/tomcat5/webapps
Apache Web Server on SLES 11:	/etc/apache2/conf.d
Tomcat on SLES 11:	/usr/share/tomcat6/webapps
Apache Web Server on SLES 10:	/etc/apache2/conf.d
Tomcat on SLES 10:	/srv/www/tomcat5/base/webapps
Microsoft Internet Information Server (IIS) on Windows:	c:\inetpub\wwwroot
Tomcat on Windows:	c:\novell\tomcat6\webapps

GROUPWISE CALENDAR PUBLISHING HOST INSTALLATION WORKSHEET

Under *Web Server Information*, mark the Web server you are using and specify the path to its root directory. The default path is usually appropriate.

On Windows, if the Internet Information Server services more than one Web site, specify the Web site where you want to install the Calendar Publishing Host.

6.3.3 Determining the Configuration of the Calendar Publishing Host

In ConsoleOne, the Calendar Publishing Host is identified by a unique name. The name might include the platform or location of the Calendar Publishing Host, or perhaps the users it serves. You specify this name when you install the Calendar Publishing Host Application and when you configure it in ConsoleOne. The name must be specified identically in both places, including spacing and capitalization.

IMPORTANT: Do not use any double-byte characters in the name.

The Calendar Publishing Host name is stored in the `calhost.cfg` file, located in the following directories

Linux: `/var/opt/novell/groupwise/calhost`

Windows: `c:\novell\groupwise\calhost`

You typically need only one Calendar Publishing Host. However, depending on the size of your GroupWise system and the locations of your GroupWise users, you might need several in different locations if some users experience slowness when accessing the initial location. You specify the name of the Calendar Publishing Host during installation and in ConsoleOne. The name must match in both places.

The Calendar Publishing Host uses the DNS hostname of the Web server as part of its base URL.

`http://web_server_address:port/gwcal`

Replace *web_server_address* with the DNS hostname of the Web server and *port* is the port number on which the Calendar Publishing Host communicates with the Web server. The default port number is 80; it does not need to be specified if your Web server uses that default.

IMPORTANT: Select the URL carefully. This URL is disseminated by GroupWise users to their Internet colleagues when they publish their personal calendars and free/busy information. If you change the URL later, GroupWise users need to send updated information to Internet colleagues.

Create a generic URL, such as `http://gwcal.novell.com/gwcal`, then configure your network to redirect incoming traffic to any of multiple Calendar Publishing Host servers

The Calendar Publishing Host also needs the IP address and TCP port number of the Web server so that they can communicate.

GROUPWISE CALENDAR PUBLISHING HOST INSTALLATION WORKSHEET

Under *Calendar Publishing Host Name*, specify a unique name for this Calendar Publishing Host.

Under *Calendar Publishing Host Configuration*, list the name for the Calendar Publishing Host name again, along with its base URL (`http://web_server_address/gwcal`), the IP address of the Web server, and the Web server port number (by default, 80). Make sure that the names are specified identically.

For a complete list of default port numbers used by the GroupWise agents, refer to “[GroupWise Port Numbers](#)” in the *GroupWise 2012 Administration Guide*.

6.3.4 Connecting the Calendar Publishing Host to a POA

The Calendar Publishing Host connects to your GroupWise system through the POA of a post office. For initial installation, you enable one POA for calendar publishing. As you roll out calendar publishing to your GroupWise users, you must enable calendar publishing for the POA of every post office where users publish calendars and free/busy information.

The initially selected POA must be configured to communicate with the Calendar Publishing Host. The POA server’s IP address or DNS hostname is required, along with a calendar publishing port (7171 by default). Use the default port number unless it is already in use by another program on the server where you plan to install the Calendar Publishing Host.

GROUPWISE CALENDAR PUBLISHING HOST INSTALLATION WORKSHEET

Under *Calendar Publishing Post Office*, specify the name of the post office you have chosen to enable for calendar publishing during initial installation (for example, the POA for your own post office). Specify the IP address or DNS hostname of the POA that services the post office, along with the calendar publishing port number. The default port number is 7171.

Under *Post Office Agent Information*, transfer the IP address or DNS hostname and the calendar publishing port. You need this information when you install the Calendar Publishing Host.

For a complete list of default port numbers used by the GroupWise agents, refer to “[GroupWise Port Numbers](#)” in the *GroupWise 2012 Administration Guide*.

6.3.5 Designing Your Calendar Browse List

The Calendar Publishing Host collects a list of published calendars for Internet users to browse and select from at the following URL:

`http://web_server_address/gwcal/calendar`

However, by default, no calendars are displayed in the calendar browse list. You can handle the calendar browse list in three different ways:

- ◆ Do not provide a calendar browse list, so that users need to notify Internet colleagues by email of the URL to access their published calendars.

- ♦ Use the calendar browse list only for calendars of general corporate interest. If you want to have such a corporate browse list, you restrict which users can list calendars on the browse list, by allowing only a few specific users who manage the corporate calendars to publish to the calendar browse list.
- ♦ Allow most, if not all, users to publish their personal calendars on the calendar browse list. This open approach to the calendar browse list makes users' published calendars easily accessible to anyone who knows the URL of the calendar browse list for your GroupWise system.

GROUPWISE CALENDAR PUBLISHING HOST INSTALLATION WORKSHEET

Under *Calendar Browse List*, mark whether you want to enable the calendar browse list, and if so, what kind (corporate or open).

6.3.6 Selecting Calendar Publishing Settings

After you have set up the Calendar Publishing Host, you can configure how you want it to work for your GroupWise users. The following settings are available in ConsoleOne:

- ♦ **Enable Calendar Publishing:** Select this option to let users publish personal GroupWise calendars on the Internet. Calendar publishing is disabled by default. When you enable it, users of the GroupWise Windows client and GroupWise WebAccess can right-click a personal calendar, then click *Publish* to select options for publishing the personal calendar.
- ♦ **Enable Rules to Move Items to a Published Calendar:** Select this option so that users can create rules to automatically transfer certain types of calendar items to specific personal calendars that are published. Using rules is disabled by default.
- ♦ **Enable Subscribe to Calendar:** Select this option to allow users to subscribe to Internet calendars that are updated on a regular basis, such as calendars for sporting events. Calendar subscription is disabled by default.
- ♦ **Enable Publish Free/Busy Search:** Select this option to allow users to make their appointment information available to external users, so that external users can perform free/busy searches on users' GroupWise calendars. Free/busy searching is disabled by default.

GROUPWISE CALENDAR PUBLISHING HOST INSTALLATION WORKSHEET

Under *Calendar Publishing Options*, mark the options you want to enable for the Calendar Publishing Host.

6.3.7 Configuring Authentication to the Administration Web Console

An Administration Web console is provided for additional configuration of the Calendar Publishing Host. To protect that Administration Web console, you must create or select at least one calendar publishing administrator user and an administrative group for that user to belong to. For example, you might create a user named `CalPubAdmin` and a group named `CalPubAdminGrp`. You could also select an existing user and add this user to the administrative group. This user does not need any special administrative rights. It does not need a GroupWise mailbox.

You can have the User object and the Group object in any convenient eDirectory container. The container must exist before you install the Calendar Publishing Host. Because you specify the container context during installation, you do not need to specify it each time you log in to the Administration Web console.

GROUPWISE CALENDAR PUBLISHING HOST INSTALLATION WORKSHEET

Under *Authentication Information*, specify the name of the Calendar Publishing Host administrator user (for example, CalPubAdmin), the context of the administrator User object (for example, ou=Users, o=yourcompanyname), and the name of the administrative group (for example, CalPubAdminGrp). You specify the context of the user and the group when you install the Calendar Publishing Host. You set up the User and Group objects in ConsoleOne.

As an administrator, you use the Calendar Publishing Host Administration Web console to manage the Calendar Publishing Host. The Calendar Publishing Host uses LDAP authentication to allow you to log in to the Administration Web console. For secure logins, configure the Calendar Publishing Host to use SSL for the LDAP connection. During Calendar Publishing Host installation, you must specify a trusted root certificate file that is used to establish the LDAP SSL connection. For more information about LDAP SSL, see [“Trusted Root Certificates and LDAP Authentication”](#) in [“Security Administration”](#) in the *GroupWise 2012 Administration Guide*.

GROUPWISE CALENDAR PUBLISHING HOST INSTALLATION WORKSHEET

Under *LDAP Server Information*, specify the IP address or DNS hostname of a server where LDAP is enabled. Also specify the LDAP port. The default secure port is 636. Specify the full path to the SSL root certificate file.

For information about using the Administration Web console for ongoing administration, see [“Configuring the Calendar Publishing Host”](#) in [“Calendar Publishing Host”](#) in the *GroupWise 2012 Administration Guide*.

6.4 Setting Up a Calendar Publishing Host

As you set up the Calendar Publishing Host, use the [GroupWise Calendar Publishing Host Installation Worksheet](#) that you filled out in [Section 6.3, “Planning a Calendar Publishing Host,”](#) on [page 128](#) to provide the required information.:

- ◆ [Section 6.4.1, “Linux: Installing the Calendar Publishing Host Application,”](#) on [page 132](#)
- ◆ [Section 6.4.2, “Windows: Installing the Calendar Publishing Host Application,”](#) on [page 136](#)
- ◆ [Section 6.4.3, “Configuring GroupWise to Support the Calendar Publishing Host,”](#) on [page 139](#)
- ◆ [Section 6.4.4, “Testing Calendar Publishing,”](#) on [page 145](#)

6.4.1 Linux: Installing the Calendar Publishing Host Application

- ◆ [“Preparing the Linux Server for the Calendar Publishing Host”](#) on [page 133](#)
- ◆ [“Installing the Linux Calendar Publishing Host Software”](#) on [page 133](#)

If you are new to Linux, you might want to review [“Linux Commands, Directories, and Files for GroupWise Administration”](#) in the *GroupWise 2012 Administration Guide* before you install the GWIA on Linux.

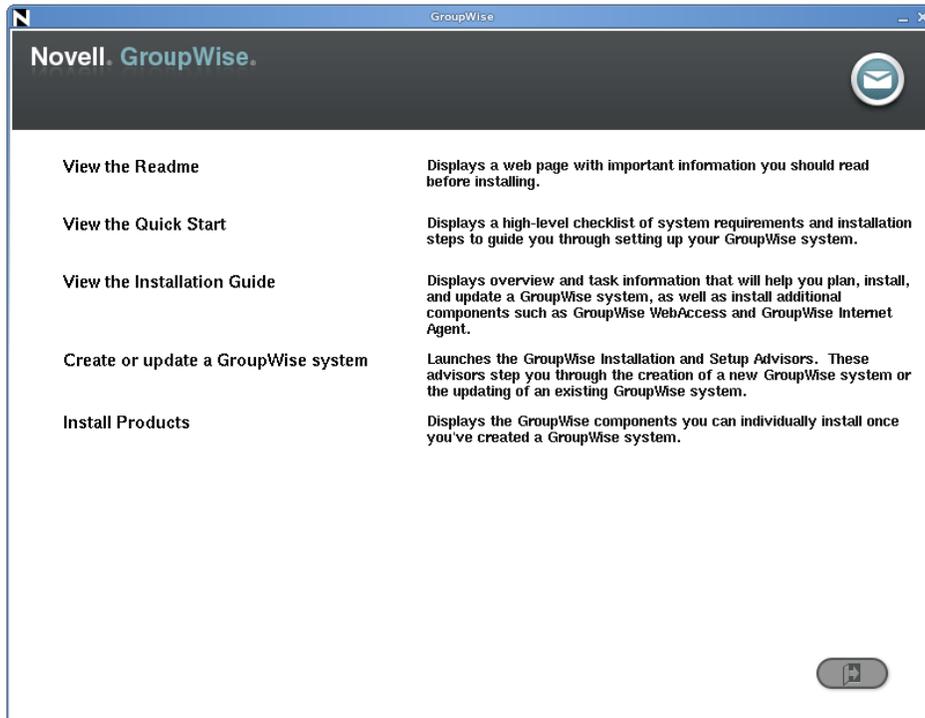
Preparing the Linux Server for the Calendar Publishing Host

- 1 Make sure that the Web server where you are installing the Calendar Publishing Host Application meets the system requirements listed in [Section 6.2, “Calendar Publishing Host System Requirements,”](#) on page 126.
- 2 Make sure that the Linux server has a static IP address.
- 3 Make sure that the firewall on the server has the ports open that are used by the Web server and the Calendar Publishing Host Application.
For assistance, see “[GroupWise Port Numbers](#)” in the *GroupWise 2012 Administration Guide*.
- 4 Make sure that LDAP is running on your eDirectory server.
- 5 Make sure that you have created the Calendar Publishing Host administrative user and group, and that the Calendar Publishing Host server is configured for an SSL LDAP connection, as described in [Section 6.3.7, “Configuring Authentication to the Administration Web Console,”](#) on page 131.
- 6 Continue with [Installing the Linux Calendar Publishing Host Software](#).

Installing the Linux Calendar Publishing Host Software

- 1 In a terminal window on the Web server where you want to install the Calendar Publishing Host Application, log in as `root`, then provide the `root` password.
- 2 Change to the root directory of the downloaded *GroupWise 2012* software image.
or
If you have already copied the Calendar Publishing Host software to a software distribution directory, change to `/opt/novell/groupwise/software`.
- 3 Run `./install`.
The X Window System 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 GroupWise Components Using the Text-Based Installation Program](#)” on page 185.
- 4 Select the language in which you want to run the GroupWise Installation program, then click `OK`.

The main GroupWise System Installation page appears.



- 5 Click *Install Products > GroupWise Calendar Publishing Host > Install Calendar Publishing Host* to install the Calendar Publishing Host software.
- 6 When the installation is complete, click *OK*.
- 7 Click *Configure Calendar Publishing Host Application*.



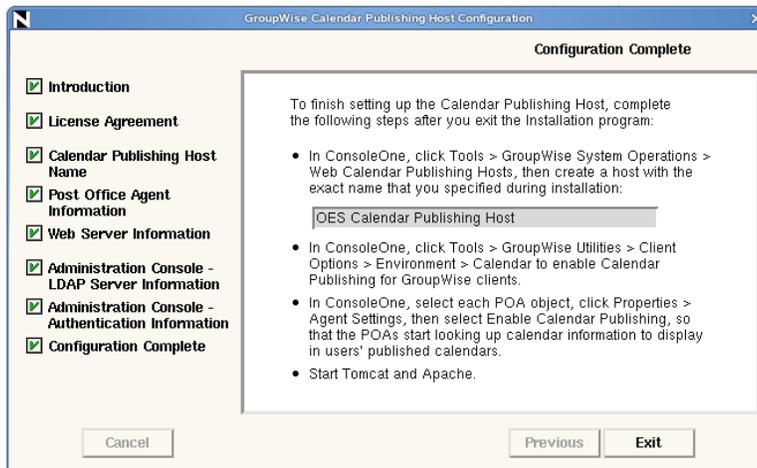
- 8 Click *Next*, accept the License Agreement, then click *Next*.
- 9 Follow the prompts to configure the Calendar Publishing Host, using the following information from the [GroupWise Calendar Publishing Host Installation Worksheet](#):

[Calendar Publishing Host Name](#)

[Post Office Agent Information](#)

[Web Server Information](#)

LDAP Server Information Authentication Information



- 10 On the Configuration Complete page, click *Exit* to exit the Calendar Publishing Host Installation program.

The Calendar Publishing Host software is installed to the following directories:

```
/opt/novell/groupwise/calhost  
/etc/opt/novell/groupwise/calhost  
/var/opt/novell/groupwise/calhost
```

It is also integrated with Tomcat.

- 11 Exit the GroupWise Installation program.
- 12 Restart Apache and Tomcat:

```
OES 11      rcnovell-tomcat6 stop  
            rcapache2 stop  
            rcapache2 start  
            rcnovell-tomcat6 start
```

```
OES 2 Linux: rcnovell-tomcat5 stop  
            rcapache2 stop  
            rcapache2 start  
            rcnovell-tomcat5 start
```

```
SLES 11     rctomcat6 stop  
            rcapache2 stop  
            rcapache2 start  
            rctomcat6 start
```

```
SLES 10:    rctomcat5 stop  
            rcapache2 stop  
            rcapache2 start  
            rctomcat5 start
```

- 13 Make sure that Apache and Tomcat restart automatically when the server reboots:

```
OES 11:      chkconfig apache2 on
             chkconfig novell-tomcat6 on
```

```
OES 2 Linux: chkconfig apache2 on
             chkconfig novell-tomcat5 on
```

```
SLES 11:     chkconfig apache2 on
             chkconfig tomcat6 on
```

```
SLES 10:     chkconfig apache2 on
             chkconfig tomcat5 on
```

- 14 Skip to [“Configuring the Calendar Publishing Host in ConsoleOne”](#) on page 140.

6.4.2 Windows: Installing the Calendar Publishing Host Application

- ♦ [“Preparing the Windows Server for the Calendar Publishing Host”](#) on page 136
- ♦ [“Installing the Windows Calendar Publishing Host Software”](#) on page 136

Preparing the Windows Server for the Calendar Publishing Host

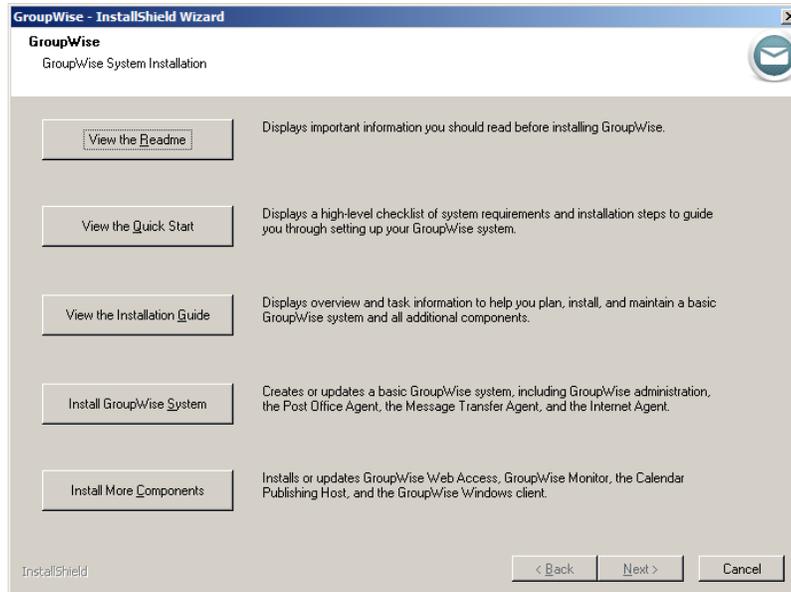
- 1 Make sure that the Web server where you are installing the Calendar Publishing Host Application meets the system requirements listed in [Section 6.2, “Calendar Publishing Host System Requirements,”](#) on page 126.
- 2 Make sure that the Windows server has a static IP address,
- 3 Make sure that the firewall on the server has the ports open that are used by the Web server and the Calendar Publishing Host Application.
For assistance, see [“GroupWise Port Numbers”](#) in the *GroupWise 2012 Administration Guide*.
- 4 Make sure that you have created the Calendar Publishing Host administrative user and group, and that the Calendar Publishing Host server is configured for an SSL LDAP connection, as described in [Section 6.3.7, “Configuring Authentication to the Administration Web Console,”](#) on page 131.
- 5 Log in as an Admin equivalent to the eDirectory tree where GroupWise is installed.
- 6 Continue with [Installing the Windows Calendar Publishing Host Software](#).

Installing the Windows Calendar Publishing Host Software

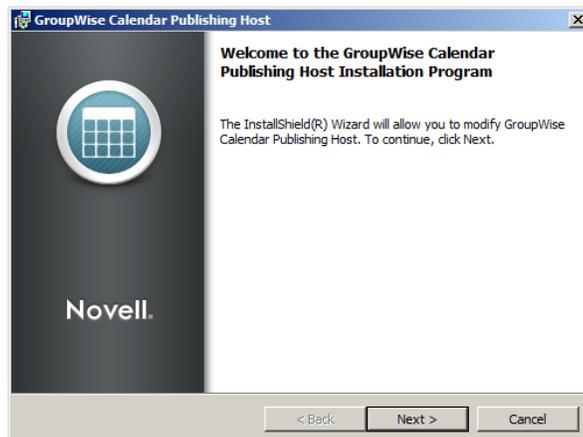
- 1 On the Web server where you want to install the Calendar Publishing Host Application, change to the root directory of the downloaded GroupWise 2012 software image.
or
If you have already copied the Calendar Publishing Host Application to a software distribution directory, change to that location
- 2 Run `setup.exe`.
- 3 (Conditional) If prompted, select the interface language for the GroupWise Installation program, then click *OK*.

On Windows, the *GroupWise 2012* software image can be downloaded in a multilanguage version or an English-only version. When you install from the multilanguage version, all languages are always installed, regardless of the specific language that you select for running the Installation program.

The main GroupWise System Installation page appears.



- 4 Click *Install More Components > Install Calendar Publishing Host*, to start the Calendar Publishing Host Installation program.



You can also start the Calendar Publishing Host Installation program by running:

```
/software_image/internet/calhost/setup.exe
```

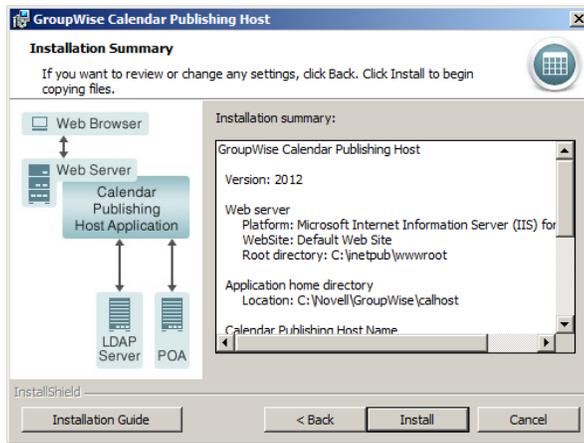
- 5 Click *Next*, then follow the prompts to provide the information from your [GroupWise Calendar Publishing Host Installation Worksheet](#).

The Calendar Publishing Host Installation program provides diagrams that help you understand how the various components interact with each other. Review the diagrams as you provide the requested information.

[Calendar Publishing Host Name](#)

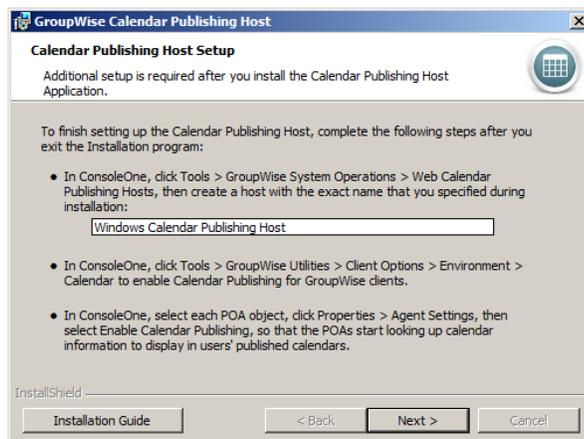
[Web Server Information](#)
[Post Office Agent Information](#)
[LDAP Server Information](#)
[eDirectory Authentication Information](#)

6 Review the Installation Summary page, then click *Install*.



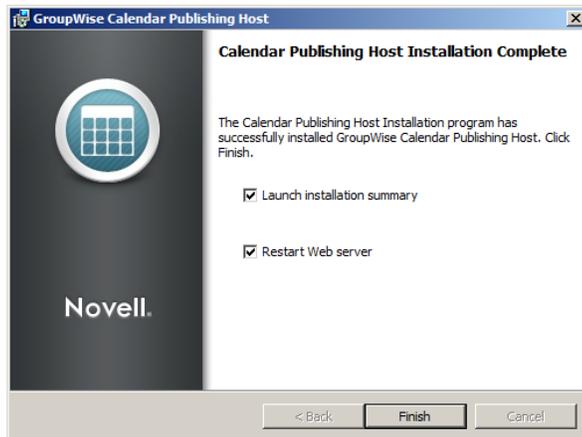
7 (Conditional) If prompts appear because your Web server is running, select how you want to stop your Web server.

The Calendar Publishing Host Setup page explain the additional configuration steps that are required after you are finished running the Calendar Publishing Host Installation program.



8 Review the configuration steps, then click *Next* to continue.

- 9 When the installation is complete, click *Finish* to exit the Calendar Publishing Host Installation program.



You can choose to have the WebAccess Installation program restart the Web server for you.

Along with the Calendar Publishing Host Application, the Installation program also installs Tomcat 6 to `c:\novell\tomcat6`, integrates it with your Web server, and automatically starts it to support the Calendar Publishing Host Application.

- 10 Click *Finish* to exit the GroupWise Installation program.

After installing the Calendar Publishing Host, additional configuration in ConsoleOne is still required.

- 11 Continue with [Configuring the Calendar Publishing Host in ConsoleOne](#).

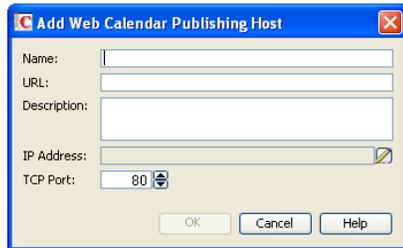
6.4.3 Configuring GroupWise to Support the Calendar Publishing Host

- ♦ [“Configuring the Calendar Publishing Host in ConsoleOne” on page 140](#)
- ♦ [“Enabling Calendar Publishing” on page 141](#)
- ♦ [“Restarting the Web Server and Tomcat” on page 143](#)
- ♦ [“Configuring a POA for Calendar Publishing” on page 143](#)
- ♦ [“Setting Up Calendar Publishing Administration” on page 144](#)
- ♦ [“Using the Published Calendar Browse List” on page 145](#)

Configuring the Calendar Publishing Host in ConsoleOne

Use the information under *Calendar Publishing Host Configuration* and *Calendar Browse List* on your [GroupWise Calendar Publishing Host Installation Worksheet](#) as you configure the Calendar Publishing Host.

- 1 In ConsoleOne, select the GroupWise System object, then click *Tools > GroupWise System Operations > Web Calendar Publishing Hosts*.
- 2 Click *Add*.



- 3 Specify a unique name by which the Calendar Publishing Host will be known in your GroupWise system.

IMPORTANT: This must be the identical name that you used during installation, including spacing and capitalization, as described in [Section 6.3.3, “Determining the Configuration of the Calendar Publishing Host,”](#) on page 129.

If you decide that you want to use a different name after you have already installed the Calendar Publishing Host software, you must reinstall the software, then specify the identical name that you provided during installation when you configure the Calendar Publishing Host in ConsoleOne.

- 4 Specify the base URL for the Calendar Publishing Host in the following format:

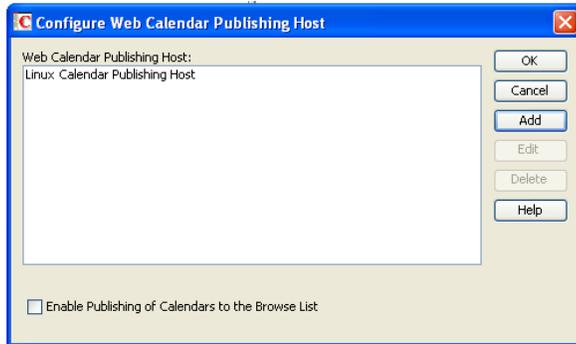
```
http://web_server_address:port/gwcal
```

Replace *web_server_address* with the IP address or DNS hostname of the Web server where you installed the Calendar Publishing Host software and *port* is the port number on which the Calendar Publishing Host communicates with the Web server. The default port number is 80 and does not need to be specified if your Web server uses that default.

The base URL does not point to information that is displayable in your browser. Displayable URLs are listed in [Section 6.3.3, “Determining the Configuration of the Calendar Publishing Host,”](#) on page 129.

- 5 Specify the IP address of the server where the Calendar Publishing Host is running.
This information enables the POA to communicate with the Calendar Publishing Host.
- 6 Specify the TCP port number on which the Calendar Publishing Host is configured to communicate with the POA.
The default is 7171.

- 7 Click *OK* to save the Calendar Publishing Host configuration information.



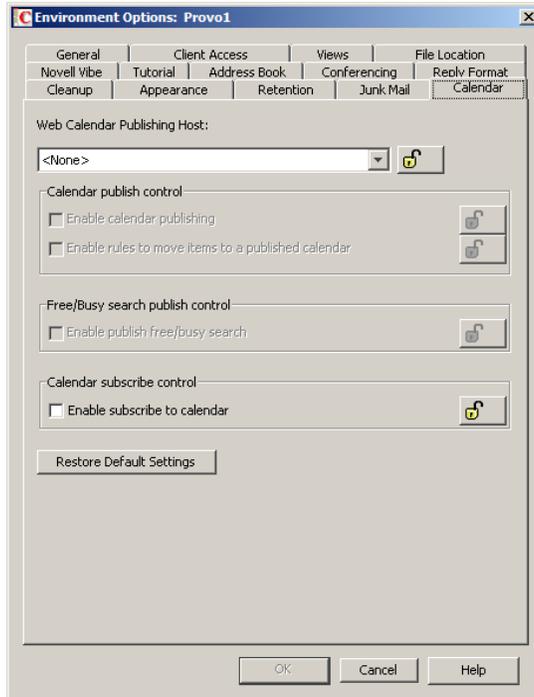
- 8 If you want to allow users to add their published calendars to the calendar browse list as the default for your GroupWise system, select *Enable Publishing of Calendars to the Browse List*.
or
If you want to set up a corporate calendar browse list or provide no calendar browse list, leave *Enable Publishing of Calendars to the Browse List* deselected.
- 9 Click *OK* when you are finished.
- 10 Restart the POA so that it picks up the configuration information for the new Calendar Publishing Host.
- 11 Continue with [Enabling Calendar Publishing](#).

Enabling Calendar Publishing

Use the information under *Calendar Publishing Options* on your [GroupWise Calendar Publishing Host Installation Worksheet](#) as you enable calendar publishing.

- 1 In ConsoleOne, browse to and select post office where you want to enable calendar publishing.
For convenience in testing your Calendar Publishing Host setup, you might want to start with your post office.
- 2 Click *Tools > GroupWise Utilities*.

3 Click *Client Options > Environment > Calendar*.



The calendar publishing options are disabled by default. As you roll out calendar publishing, you can use Client Options to enable it at the domain, post office, and user level.

- 4 Select a Calendar Publishing Host from the drop-down list.
- 5 Set the Calendar options as you planned under [Calendar Publishing Options](#) on your [GroupWise Calendar Publishing Host Installation Worksheet](#).
- 6 Click *OK* to save the calendar publishing settings, then click *Close*.
- 7 Continue with [Restarting the Web Server and Tomcat](#).

Restarting the Web Server and Tomcat

To put the ConsoleOne settings into effect, you must restart the Web server and Tomcat.

1 Restart Apache and Tomcat:

```
OES 11      rcnovell-tomcat6 stop
            rcapache2 stop
            rcapache2 start
            rcnovell-tomcat6 start
```

```
OES 2 Linux: rcnovell-tomcat5 stop
            rcapache2 stop
            rcapache2 start
            rcnovell-tomcat5 start
```

```
SLES 11     rctomcat6 stop
            rcapache2 stop
            rcapache2 start
            rctomcat6 start
```

```
SLES 10:    rctomcat5 stop
            rcapache2 stop
            rcapache2 start
            rctomcat5 start
```

This loads the Calendar Publishing Host into your Web server so that it is available for use.

2 Make sure that Apache and Tomcat restart automatically when the server reboots:

```
OES 11:     chkconfig apache2 on
            chkconfig novell-tomcat6 on
```

```
OES 2 Linux: chkconfig apache2 on
            chkconfig novell-tomcat5 on
```

```
SLES 11:    chkconfig apache2 on
            chkconfig tomcat6 on
```

```
SLES 10:    chkconfig apache2 on
            chkconfig tomcat5 on
```

Continue with [Configuring a POA for Calendar Publishing](#).

Configuring a POA for Calendar Publishing

After calendar publishing is enabled, the POA can look up calendar information and return it to the Calendar Publishing Host in the form of ICS (Internet Calendaring and Scheduling) or IFB (Internet Free Busy) files. Internet users can import these files into GroupWise, Outlook, and Macintosh iCal calendaring applications.

Use the information under *Calendar Publishing Post Office* on your [GroupWise Calendar Publishing Host Installation Worksheet](#) as you configure the POA.

- 1 In ConsoleOne, browse to and select the post office where calendar publishing is enabled, right-click the POA object for the post office, then click *Properties*.
- 2 Click *GroupWise > Agent Settings*.
- 3 Select *Enable Calendar Publishing*.
- 4 Adjust the number in the *Max Calendar Publishing Threads* field as needed.

The default maximum number of calendar publishing threads is 4. By default, the POA creates 2 calendar publishing threads and automatically creates additional threads as needed until the maximum number is reached. You cannot set the maximum higher than 4, but you can reduce the number of threads to conserve POA resources for other activities.

- 5 Click *OK* to save the calendar publishing configuration settings.
- 6 As you roll out calendar publishing to your GroupWise users, enable calendar publishing on the POA for each post office where users will publish calendars and free/busy information.

To determine which POAs have been enabled for calendar publishing, see [“Viewing Calendar Publishing Status at the POA Web Console”](#) in [“Calendar Publishing Host”](#) in the *GroupWise 2012 Administration Guide*.

Setting Up Calendar Publishing Administration

After calendar publishing has been enabled and the POA is communicating with the Calendar Publishing Host, you use the Calendar Publishing Host Administration Web console to monitor the Calendar Publishing Host and to make configuration changes as needed.

Use the information under *Authentication Information* on your [GroupWise Calendar Publishing Host Installation Worksheet](#) as you set up Calendar Publishing Host administration. You now set up the objects in ConsoleOne that correspond to the objects you specified during installation.

- 1 In ConsoleOne, browse to and select the container where you want to have the calendar publishing administrator User and Group objects.
- 2 (Conditional) If you want to create a new User object:
 - 2a Right-click the container, then click *New > User*.
 - 2b Fill in the required fields, including a password.
 - 2c Click *OK* to create the new User object.
- 3 Create the new administrative group:
 - 3a Right-click the container where the administrator User object is located, then click *New > Group*.
 - 3b Fill in the required fields.
 - 3c Click *OK* to create the new Group object.
- 4 Right-click the new User object or an existing User object, then click *Properties*.
- 5 Click *Memberships > Group Membership*.
- 6 Click *Add*, select the new administrative group you created in [Step 3](#), then click *OK* to assign the administrator user to the group.
- 7 Click *OK* to close the Group Membership page.
- 8 Continue with [Using the Published Calendar Browse List](#).

Using the Published Calendar Browse List

If you selected *Enable Publishing of Calendars to the Browse List* as your GroupWise system default in [Step 8](#) in “[Configuring the Calendar Publishing Host in ConsoleOne](#)” on page 140, skip to [Section 6.4.4, “Testing Calendar Publishing,”](#) on page 145.

If you are planning to implement a corporate calendar browse list, you can enable publishing of calendars to the browse list for yourself for testing purposes.

- 1 Browse to and right-click your User object, then click *Properties*.
- 2 Click *GroupWise > Calendar Publishing*.
- 3 Select *Override*, then select *Enable Publishing of Calendars to the Browse List*.

This give you the right to add your calendars to the calendar browse list so that you can test the setup of the Calendar Publishing Host.

- 4 Continue with [Testing Calendar Publishing](#).

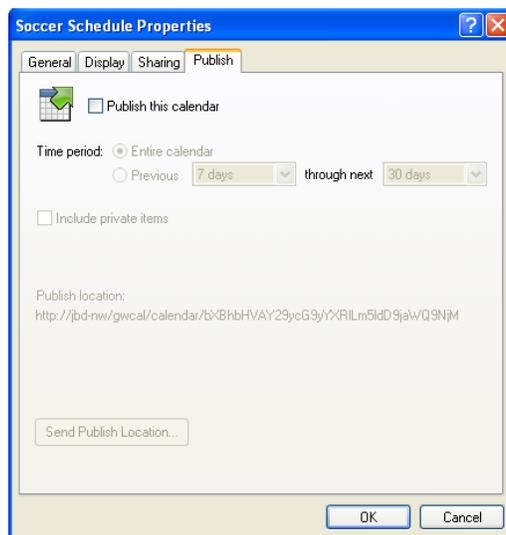
6.4.4 Testing Calendar Publishing

Now that you have set up a Calendar Publishing Host, you can test it by:

- ♦ “[Publishing a Personal Calendar](#)” on page 145
- ♦ “[Displaying the Browse List of Calendars](#)” on page 146
- ♦ “[Publishing Free/Busy Information](#)” on page 147

Publishing a Personal Calendar

- 1 In the GroupWise Windows client, create and populate a personal calendar, as described in “[Creating a Personal Calendar](#)” in “[Calendar](#)” in the *GroupWise 2012 Windows Client User Guide*.
- 2 Right-click the personal calendar, then click *Publish*.



- 3 Select *Publish This Calendar*.

For more information, see “[Publishing Personal Calendars on the Internet](#)” in “[Calendar](#)” in the *GroupWise 2012 Windows Client User Guide*.

This feature is also available in GroupWise WebAccess, as described in “Publishing Personal Calendars on the Internet” in the *GroupWise 2012 WebAccess User Guide*.

For more information, see the *GroupWise 2012 Calendar Publishing Host User Quick Start* (http://www.novell.com/documentation/groupwise2012/pdfdoc/gw2012_qs_calpubuser/gw2012_qs_calpubuser.pdf).

- 4 Click *Send Publish Location*, then address and send the resulting message, which provides the URL from which Internet colleagues can obtain your calendar information.

The URL has the following format:

```
http://calpubhost_server/gwcal/freebusy/user_id@internet_domain
```

- 5 Click *OK* to publish the selected personal calendar.
- 6 Check your mailbox for the notification sent by the Calendar Publishing Host.
- 7 Continue with [Displaying the Browse List of Calendars](#).

Displaying the Browse List of Calendars

- 1 Display the following URL:

```
http://web_server_address/gwcal/calendar
```

Owner	Calendar	Actions
Benji Gensomino	Conference	[Download] [Subscribe]
David Jones	Personal	[Download] [Subscribe]
Ishmael Yacoub	Meetings	[Download] [Subscribe]

Display From Start 25

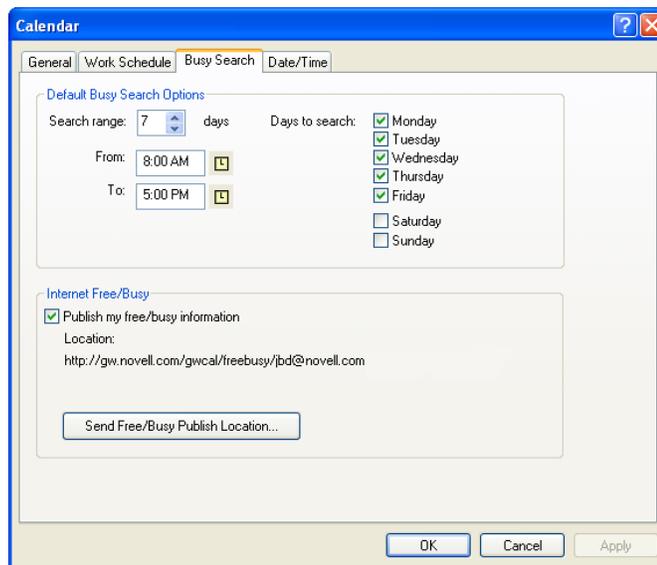
Your newly published personal calendar should appear on the list.

- 2 Click your calendar to view it in its published format.

This assures you that your calendar is available for access by users across the Internet.

Publishing Free/Busy Information

- 1 In the GroupWise Windows client, click *Tools > Options*.
- 2 Click *Calendar > Free/Busy*.



- 3 Click *Send Free/Busy Publish Location*, then address and send the resulting message, which provides the URL from which Internet colleagues can obtain your free/busy information.
- 4 Click *OK*, then click *Close*.
- 5 Check your mailbox for the notification sent by the Calendar Publishing Host.

6.5 What's Next

The “[Calendar Publishing Host](#)” section of the *GroupWise 2012 Administration Guide* provides information to help you further configure and maintain the Calendar Publishing Host:

- ♦ Using the Administration Web console to change the configuration of the Calendar Publishing Host.
See “[Configuring the Calendar Publishing Host](#)”.
- ♦ Changing the appearance of the calendar browse list to represent your company.
See “[Customizing the Calendar Publishing Host Logo](#)”.
- ♦ Restricting the posted list of calendars to those of corporate importance.
See “[Creating a Corporate Calendar Browse List](#)”.
- ♦ Monitoring the Calendar Publishing Host at the POA Web console and through Calendar Publishing Host log files.
See “[Monitoring Calendar Publishing](#)”.

6.6 GroupWise Calendar Publishing Host Installation Worksheet

Installation Program Field	Value for Your GroupWise System	Explanation
Web Server Platform:		
<ul style="list-style-type: none"> ◆ Linux ◆ Windows 		Section 6.3.1, "Selecting the Calendar Publishing Host Application Platform," on page 128
Calendar Publishing Host Name:		
		Section 6.3.3, "Determining the Configuration of the Calendar Publishing Host," on page 129
Post Office Agent Information:		
<ul style="list-style-type: none"> ◆ POA network address <ul style="list-style-type: none"> ◆ IP address ◆ DNS hostname ◆ Calendar publishing port 		Section 6.3.4, "Connecting the Calendar Publishing Host to a POA," on page 130
Web Server Information:		
OES 11	<ul style="list-style-type: none"> ◆ Apache path /etc/opt/novell/httpd/conf.d ◆ Tomcat path /var/opt/novell/tomcat6/webapps 	Section 6.3.2, "Gathering Web Server Information," on page 128
Web Server Information:		
OES 2 Linux	<ul style="list-style-type: none"> ◆ Apache path /etc/opt/novell/httpd/conf.d ◆ Tomcat path /var/opt/novell/tomcat5/webapps 	Section 6.3.2, "Gathering Web Server Information," on page 128

Installation Program Field	Value for Your GroupWise System	Explanation
Web Server Information:		
SLES 11	<ul style="list-style-type: none"> ◆ Apache path <code>/etc/apache2/conf.d</code> ◆ Tomcat path <code>/usr/share/tomcat6/webapps</code> 	Section 6.3.2, "Gathering Web Server Information," on page 128
Web Server Information:		
SLES 10	<ul style="list-style-type: none"> ◆ Apache path <code>/etc/apache2/conf.d</code> ◆ Tomcat path <code>/srv/www/tomcat5/base/webapps</code> 	Section 6.3.2, "Gathering Web Server Information," on page 128
Web Server Information:		
Windows	<ul style="list-style-type: none"> ◆ Microsoft Internet Information Server (IIS) for Windows ◆ Path to the Web server's root directory ◆ Web site 	Section 6.3.2, "Gathering Web Server Information," on page 128
LDAP Server Information:		
	<ul style="list-style-type: none"> ◆ LDAP server address ◆ Port ◆ Root certificate of the LDAP server 	Section 6.3.7, "Configuring Authentication to the Administration Web Console," on page 131
Authentication Information:		
	<ul style="list-style-type: none"> ◆ Administrator user name ◆ User container for contextless login ◆ Administrative group that the user must belong to 	Section 6.3.7, "Configuring Authentication to the Administration Web Console," on page 131

Installation Program Field	Value for Your GroupWise System	Explanation
Calendar Publishing Host Configuration:		
<ul style="list-style-type: none"> ◆ Name ◆ URL ◆ Description ◆ IP address ◆ TCP port 		Section 6.3.3, "Determining the Configuration of the Calendar Publishing Host," on page 129
Calendar Browse List:		
<ul style="list-style-type: none"> ◆ Yes <ul style="list-style-type: none"> ◆ Corporate (restricted) ◆ Open ◆ No 		Section 6.3.5, "Designing Your Calendar Browse List," on page 130
Calendar Publishing Options:		
<ul style="list-style-type: none"> ◆ Enable calendar publishing ◆ Enable rules to move items to a published calendar ◆ Enable subscribe to calendar ◆ Enable publish free/busy searches 		Section 6.3.6, "Selecting Calendar Publishing Settings," on page 131
Calendar Publishing Post Office:		
<ul style="list-style-type: none"> ◆ Name: ◆ POA network address <ul style="list-style-type: none"> ◆ IP address ◆ DNS hostname ◆ Calendar publishing port 		Section 6.3.4, "Connecting the Calendar Publishing Host to a POA," on page 130

7 Installing GroupWise Monitor

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 if the agent Web console is password protected.

- ♦ [Section 7.1, “GroupWise Monitor Overview,” on page 151](#)
- ♦ [Section 7.2, “Monitor System Requirements,” on page 154](#)
- ♦ [Section 7.3, “Planning GroupWise Monitor,” on page 156](#)
- ♦ [Section 7.4, “Setting Up GroupWise Monitor,” on page 160](#)
- ♦ [Section 7.5, “Testing GroupWise Monitor,” on page 169](#)
- ♦ [Section 7.6, “GroupWise Monitor Installation Worksheets,” on page 171](#)

IMPORTANT: If you plan to install GroupWise Monitor in a clustered server environment, see the [GroupWise 2012 Interoperability Guide](#) before you install Monitor.

7.1 GroupWise Monitor Overview

- ♦ [Section 7.1.1, “GroupWise Monitor Functionality,” on page 151](#)
- ♦ [Section 7.1.2, “GroupWise Monitor Components,” on page 152](#)
- ♦ [Section 7.1.3, “One Monitor Server versus Two,” on page 152](#)
- ♦ [Section 7.1.4, “Monitor Security Requirements,” on page 152](#)
- ♦ [Section 7.1.5, “Monitor and the GroupWise High Availability Service on Linux,” on page 154](#)

7.1.1 GroupWise Monitor Functionality

GroupWise Monitor enables you to monitor the status of all agents throughout your GroupWise system in one convenient location. You can install Monitor on either Linux or Windows. Either version can monitor agents on both Linux and Windows. Depending on the installation platform, two or three different monitoring environments are available:

- ♦ **Monitor Web Console:** 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.
- ♦ **Monitor Agent Web Console:** 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 the full-featured Monitor Agent Web console.

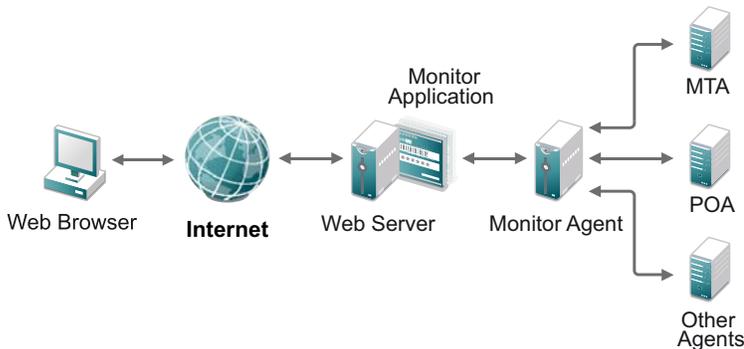
NOTE: The Monitor Web consoles are available on both Linux and Windows.

- ♦ **Monitor Agent Server Console:** The Monitor Agent server console is available only on Windows servers. All agent configuration tasks can be performed at the Monitor Agent server console, but some reports are not available.

Specific differences in functionality between the Monitor consoles are summarized in “[Comparing the Monitor Consoles](#)” in “[Monitor](#)” in the *GroupWise 2012 Administration Guide*.

7.1.2 GroupWise Monitor Components

GroupWise Monitor consists of two components, the Monitor Agent and the Monitor Application.



- ♦ **Monitor Agent:** The Monitor Agent continuously polls other GroupWise agents (POA, MTA, and GWIA, as well as the Messenger Agents, and GroupWise 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.
- ♦ **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:

7.1.3 One Monitor Server versus Two

The Monitor Agent and the Monitor Application can run together on a Linux server or a Windows server. 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. The security issues discussed in [Monitor Security Requirements](#) might determine whether you run the Monitor Agent on the same server with the Web server and the Monitor Application.

7.1.4 Monitor Security Requirements

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

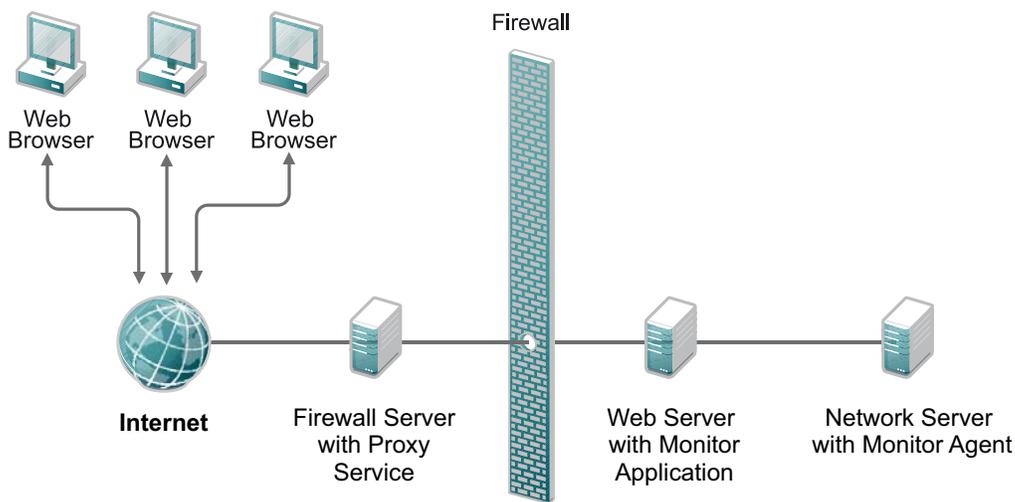
If you are not concerned about security issues (for example, you only plan to use Monitor on a secured intranet), you can install the Monitor components to any servers that provide access for your GroupWise administrators and that meet the requirements listed in [Section 7.2, “Monitor System Requirements,”](#) on page 154.

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 with a Proxy Service” on page 153](#). 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 154](#).

Configuring Monitor with a Proxy Service

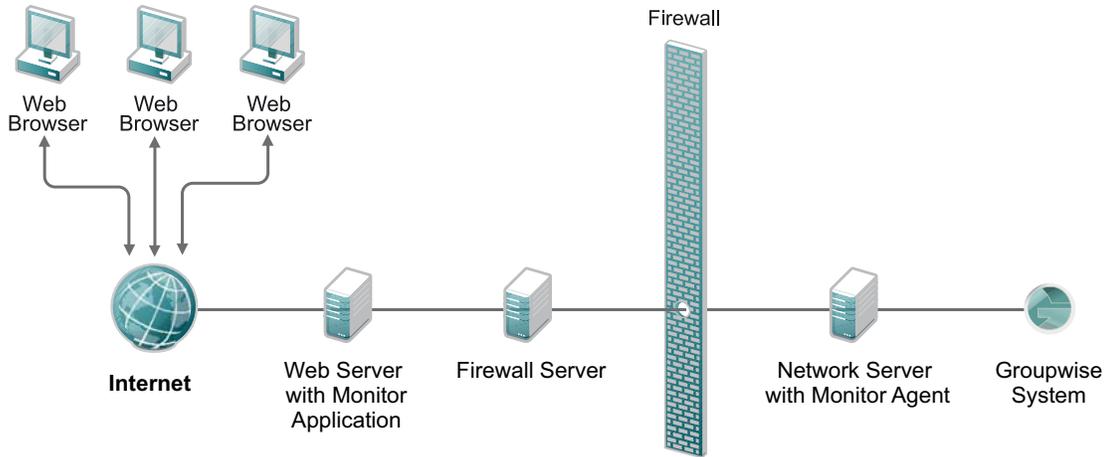
If your firewall includes a proxy service, you can install the Monitor Application to a Web server inside your firewall, and the Monitor Agent to another server inside the firewall, as shown in the following illustration.



If desired, the Monitor Agent can also be installed to the Web server rather than a separate server, as discussed in [Section 7.1.3, “One Monitor Server versus Two,” on page 152](#).

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 to a GroupWise domain directory, it needs to be installed to a server that is located within the firewall. It should be installed to the same server where a domain directory is located.



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.

7.1.5 Monitor and the GroupWise High Availability Service on Linux

The Linux version of Monitor can be used with the GroupWise High Availability service (gwha) to automatically restart GroupWise agents when they stop unexpectedly. For setup instructions, see [“Enabling the GroupWise High Availability Service for the Linux GroupWise Agents”](#) on page 195.

There is no GroupWise High Availability service for Windows. Windows includes a mechanism for restarting services automatically when they stop unexpectedly. For more information, see [“Restarting the Windows Agents Automatically”](#) on page 207.

7.2 Monitor System Requirements

- ◆ [Section 7.2.1, “Hardware and Operating System Requirements,”](#) on page 154
- ◆ [Section 7.2.2, “Web Server Requirements,”](#) on page 155
- ◆ [Section 7.2.3, “Web Browser Requirements,”](#) on page 156
- ◆ [Section 7.2.4, “Software Requirements,”](#) on page 156

7.2.1 Hardware and Operating System Requirements

- ❑ x86-32 processor or x86-64 processor

On a 64-bit processor, GroupWise still runs as a 32-bit application.

- Any of the following server operating systems for the Monitor Agent:
 - ♦ Novell Open Enterprise Server (OES) 2 (Linux version) or OES 11, plus the latest Support Pack
 - ♦ SUSE Linux Enterprise Server (SLES) 10 or SLES 11, plus the latest Service Pack

The X Window System and Open Motif are required by the GUI GroupWise agent server consoles for the Post Office Agent, the Message Transfer Agent, and the Internet Agent. By default, the GroupWise agents run as daemons without user interfaces.

 - ♦ Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, or Windows Server 2012, plus the latest Service Pack
- Adequate server memory as required by the operating system
- Adequate server disk space:
 - ♦ Approximately 38 MB for the Monitor Agent program files (varies by platform)
 - ♦ Approximately 127 MB for the Monitor Application files (shared with the WebAccess Application and the Calendar Publishing Host Application when installed on the same Web server; 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 2012 Administration Guide*

7.2.2 Web Server Requirements

The Web server supported for your operating system:

- OES 2 Linux / SLES 10

Apache 2.2 plus:

- ♦ Tomcat 5 or later

Tomcat 5 is included with the Linux operating system. If it is not already installed, use YaST to install it before you install the GroupWise software.

- ♦ IBM JRE 5 or later
- ♦ ModProxy Module

- OES 11 / SLES 11

Apache 2.2 plus:

- ♦ Tomcat 6 or later

For OES 11, Tomcat 6 is included with the Linux operating system. If it is not already installed, use YaST to install it before you install the GroupWise software.

For SLES 11, Tomcat 6 is added to the Linux server with the GroupWise software.

- ♦ IBM JRE 5 or later
- ♦ ModProxy Module

- Windows Server 2003/2003 R2

Microsoft Internet Information Server (IIS) 6 or later plus:

- ♦ Tomcat 6
- ♦ IBM JRE 5 or later

- ♦ Jakarta Connector 1.2
Tomcat 6, IBM JRE 6 Update 26, and Jakarta Connector 1.2 are installed along with the GroupWise software if they are not already present on the Windows server.

Windows Server 2008/2008 R2/2012/2012 R2

Microsoft Internet Information Server (IIS) 7 or later plus:

- ♦ Tomcat 6
- ♦ IBM JRE 5 or later
- ♦ Jakarta Connector 1.2

Tomcat 6, IBM JRE 6 Update 26, and Jakarta Connector 1.2 are installed along with the GroupWise software if they are not already present on the Windows server.

7.2.3 Web Browser Requirements

Any of the following Web browsers for the GroupWise Calendar Publishing Host user Web pages and the Calendar Publishing Host Administration Web console:

- ♦ Linux: Mozilla Firefox
- ♦ Windows: Microsoft Internet Explorer 8.0 or later; Mozilla Firefox; Google Chrome
- ♦ Macintosh: The latest version of Safari for your version of Mac OS; Mozilla Firefox; Google Chrome

7.2.4 Software Requirements

Any of the following environments for running the GroupWise Installation program:

- ♦ Novell Open Enterprise Server (OES) 2 (Linux version) or OES 11, plus the latest Support Pack
- ♦ SUSE Linux Enterprise Server (SLES) 10 or SLES 11, plus the latest Service Pack

The X Window System is required by the GUI GroupWise Installation program that steps you through the process of creating a new GroupWise system. A text-based Installation program is also available for installing individual GroupWise components on servers where the X Windows System is not available.

- ♦ Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, or Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, plus the latest Service Pack, plus the latest Novell Client.

7.3 Planning GroupWise Monitor

Use the [“GroupWise Monitor Installation Worksheets” on page 171](#) to record your decisions about how to install GroupWise Monitor. The topics in this section present the required information in a convenient planning sequence. The Installation Worksheets organize the information in the order in which you need it during installation.

- ♦ [Section 7.3.1, “Selecting the Monitor Application Platform,” on page 157](#)
- ♦ [Section 7.3.2, “Deciding Where to Install the GroupWise Monitor Components,” on page 157](#)
- ♦ [Section 7.3.3, “Determining the Monitor Agent’s Configuration,” on page 158](#)
- ♦ [Section 7.3.4, “Determining the Monitor Application’s Configuration,” on page 159](#)

For additional assistance in planning your GroupWise installation, visit the [GroupWise Best Practices Wiki](http://wiki.novell.com/index.php/GroupWise) (<http://wiki.novell.com/index.php/GroupWise>).

IMPORTANT: If you plan to install GroupWise Monitor in a clustered server environment, refer to the *GroupWise 2012 Interoperability Guide* as you plan your Monitor installation.

7.3.1 Selecting the Monitor Application Platform

The Monitor Application can be installed to a Web server on Linux or Windows. See [Section 7.2, “Monitor System Requirements,”](#) on page 154 for supported Web servers.

GROUPWISE MONITOR APPLICATION INSTALLATION WORKSHEET

Under *Web Server Platform*, mark whether you plan to install the Monitor Application to a Linux or Windows Web server.

7.3.2 Deciding Where to Install the GroupWise Monitor Components

After reviewing [Section 7.1, “GroupWise Monitor Overview,”](#) on page 151 and the system requirements listed in [Section 7.2, “Monitor System Requirements,”](#) on page 154, plan where you want to install the Monitor components in your system.

- ♦ [“Monitor Agent Server”](#) on page 157
- ♦ [“Web Server”](#) on page 158

Monitor Agent Server

The Monitor Agent runs on Linux and Windows. On Linux, the Monitor Agent runs as a daemon. On Windows, the Monitor Agent runs as an application. The Monitor Agent cannot be run as a Windows service.

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 Linux for use with a Linux Web server, but you might want to install the Monitor Agent on Windows so that you can use its server console, which is not available on Linux.

The Monitor Agent needs to communicate with an MTA. If possible, install the Monitor Agent on the same server where a domain and MTA are already located. If you want to install the Monitor Agent on its own server, consider creating a domain on that server specifically for helping the Monitor Agent communicate with the rest of your GroupWise system.

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:\Program Files\Novell\GroupWise Server\Monitor`.

GROUPWISE MONITOR AGENT INSTALLATION WORKSHEET

Under *Agent Software Platform*, mark the platform (Linux or Windows) where you plan to install the Monitor Agent.

Under *Server Information*, specify the directory on the Linux or Windows server where you plan 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. The default Web server paths vary by platform:

Apache Web Server on OES 11:	/etc/opt/novell/httpd/conf.d
Tomcat on OES 11:	/var/opt/novell/tomcat6/webapps
Apache Web Server on OES 2 Linux:	/etc/opt/novell/httpd/conf.d
Tomcat on OES 2 Linux:	/var/opt/novell/tomcat5/webapps
Apache Web Server on SLES 11:	/etc/apache2/conf.d
Tomcat on SLES 11:	/usr/share/tomcat6/webapps
Apache Web Server on SLES 10:	/etc/apache2/conf.d
Tomcat on SLES 10:	/srv/www/tomcat5/base/webapps
Microsoft Internet Information Server (IIS) on Windows:	c:\inetpub\wwwroot
Tomcat on Windows:	c:\novell\tomcat6\webapps

GROUPWISE MONITOR APPLICATION INSTALLATION WORKSHEET

Under *Web Server Information*, select the type of Web server you want to use with Monitor, and specify the directory path to the Web server root directory.

On Windows, if the Internet Information Server services more than one Web site, specify the Web site where you want to install the Monitor Application.

7.3.3 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 159](#)
- ◆ ["Monitor Agent Network Address" on page 159](#)
- ◆ ["Domain Directory Path" on page 159](#)

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

NOTE: It is not necessary to have an entire GroupWise system installed in order for the Monitor Agent to monitor just the Messenger agents. For more information, see “[Setting Up the High Availability Service](#)” in “[Installing a Novell Messenger System](#)” in the *Novell Messenger 2.2 Installation Guide*.

GROUPWISE MONITOR AGENT INSTALLATION WORKSHEET

Under *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 AGENT INSTALLATION WORKSHEET

Under *Server Information*, 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.

If you are installing the Monitor Application on a different server from where you are installing the Monitor Agent, record the same information under *Monitor Agent Information* on the [GroupWise Monitor Application Installation Worksheet](#).

For a complete list of default port numbers used by the GroupWise agents, refer to “[GroupWise Port Numbers](#)” in the *GroupWise 2012 Administration Guide*.

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 AGENT INSTALLATION WORKSHEET

Under *Domain Directory*, specify the directory path to a domain where a GroupWise 6.x or later MTA is running.

7.3.4 Determining the Monitor Application's Configuration

Monitor Application configuration information is stored in a configuration file (`gwmonitor.cfg`), located in the following directories:

Linux: `/var/opt/novell/groupwise/monitor`

Windows: `c:\novell\groupwise\gwmonitor`

The default configuration information is sufficient for an initial Monitor Application installation. For more information about configuring the Monitor Application, see “[Configuring the Monitor Application](#)” “[Monitor](#)” in the *GroupWise 2012 Administration Guide* after you have installed the Monitor Application.

7.4 Setting Up GroupWise Monitor

Follow the instructions for the platform where you are setting up GroupWise Monitor:

- ♦ [Section 7.4.1, “Linux: Setting Up GroupWise Monitor,”](#) on page 160
- ♦ [Section 7.4.2, “Windows: Setting Up GroupWise Monitor,”](#) on page 165

IMPORTANT: If you are installing GroupWise Monitor in a clustered server environment, see the [GroupWise 2012 Interoperability Guide](#) before you install Monitor.

7.4.1 Linux: Setting Up GroupWise Monitor

Complete the following tasks to install GroupWise Monitor on Linux:

- ♦ [“Preparing the Linux Server for GroupWise Monitor”](#) on page 160
- ♦ [“Installing and Configuring the Linux Monitor Agent”](#) on page 160
- ♦ [“Installing and Configuring the Linux Monitor Application”](#) on page 162
- ♦ [“Starting the Linux Monitor Agent as a Daemon”](#) on page 164

If you are new to Linux, you might want to review “[Linux Commands, Directories, and Files for GroupWise Administration](#)” in the *GroupWise 2012 Administration Guide* before you install the GroupWise Monitor on Linux.

Preparing the Linux Server for GroupWise Monitor

- 1 Make sure that the Linux server where you are installing the Monitor Agent meets the system requirements listed in [Section 7.2, “Monitor System Requirements,”](#) on page 154.
- 2 Make sure that the Web server where you are installing the Monitor Application meets the system requirements listed in [Section 2.1.4, “Web Server Requirements,”](#) on page 21.
- 3 Make sure that the Linux server has a static IP address.
- 4 Make sure that the firewall on the server has the ports open that are used by the Monitor Agent and/or the Monitor Application and the Web server.
For assistance, see “[GroupWise Port Numbers](#)” in the *GroupWise 2012 Administration Guide*.
- 5 Continue with [Installing and Configuring the Linux Monitor Agent](#).

Installing and Configuring the Linux Monitor Agent

- 1 In a terminal window on the server where you want to install the Monitor Agent, log in as root, then provide the root password.
- 2 Change to the root directory of the downloaded *GroupWise 2012* software image.

or

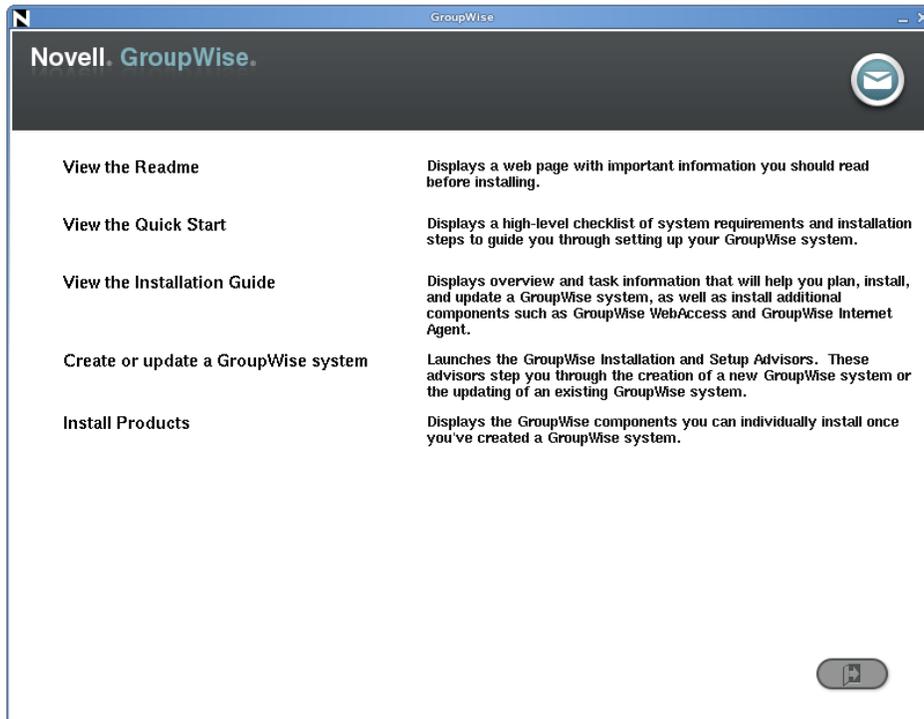
If you have already copied the Monitor Agent software to a software distribution directory, change to `/opt/novell/groupwise/software`.

3 Run `./install`.

The X Window System 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 GroupWise Components Using the Text-Based Installation Program”](#) on page 185.

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

The main GroupWise System Installation page appears.



5 Click *Install Products > GroupWise Monitor > Install GroupWise Monitor Agent* to install the Monitor Agent software.

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

7 Click *Configure Monitor Agent*.



- 8 Follow the prompts to configure the Monitor Agent, using the following information from the [GroupWise Monitor Agent Installation Worksheet](#).

System Options

Domain Directory

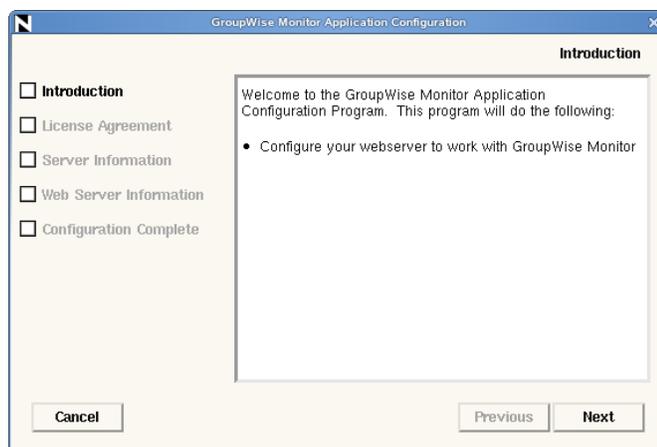
On the Configuration Complete page, *Launch Monitor Agent on System Startup* is selected by default.

IMPORTANT: The Monitor Agent must be running in order for the GroupWise High Availability service to automatically restart the GroupWise agents if they stop unexpectedly. For more information, see [“Enabling the GroupWise High Availability Service for the Linux GroupWise Agents”](#) on page 195.

- 9 Click *Exit* to complete the Monitor Agent installation.
The Monitor Agent software is installed to `/opt/novell/groupwise/agents`.
- 10 Continue with [Installing and Configuring the Linux Monitor Application](#).

Installing and Configuring the Linux Monitor Application

- 1 (Conditional) If you are installing the Monitor Application on a different server from where you installed the Monitor Agent:
 - 1a In a terminal window on the Web server where you want to install the Monitor Application, log in as *root*, then provide the *root* password.
 - 1b Change to the root directory of the downloaded *GroupWise 2012* software image.
or
If you have already copied the Monitor Application software to a software distribution directory, change to `/opt/novell/groupwise/software`.
 - 1c Run `./install`.
 - 1d Select the language in which you want to run the GroupWise Installation program, then click *OK*.
 - 1e Click *Install Products > GroupWise Monitor*.
- 2 Click *Install Monitor Application* to install the Monitor Application software.
- 3 When the installation is complete, click *OK*.
- 4 Click *Configure Monitor Application*.



- 5 Click *Next*, accept the License Agreement, then click *Next*.
- 6 Follow the prompts to configure the Monitor Application, using the following information from the [GroupWise Monitor Application Installation Worksheet](#):

[Server Information](#)

[Web Server Information](#)

- 7 On the Configuration Complete page, click *Exit* to exit the Monitor Installation program.

The Monitor Application is installed into the following directories:

```
/opt/novell/groupwise/monitor
/etc/opt/novell/groupwise/monitor
/var/opt/novell/groupwise/monitor
```

It is also integrated with Tomcat.

- 8 Exit the GroupWise Installation program.
- 9 Restart Apache and Tomcat:

```
OES 11      rcnovell-tomcat6 stop
            rcapache2 stop
            rcapache2 start
            rcnovell-tomcat6 start
```

```
OES 2 Linux: rcnovell-tomcat5 stop
            rcapache2 stop
            rcapache2 start
            rcnovell-tomcat5 start
```

```
SLES 11     rctomcat6 stop
            rcapache2 stop
            rcapache2 start
            rctomcat6 start
```

```
SLES 10:    rctomcat5 stop
            rcapache2 stop
            rcapache2 start
            rctomcat5 start
```

- 10 Make sure that Apache and Tomcat restart automatically when the server reboots:

```
OES 11:     chkconfig apache2 on
            chkconfig novell-tomcat6 on
```

```
OES 2 Linux: chkconfig apache2 on
            chkconfig novell-tomcat5 on
```

```
SLES 11:    chkconfig apache2 on
            chkconfig tomcat6 on
```

```
SLES 10:    chkconfig apache2 on
            chkconfig tomcat5 on
```

- 11 (Conditional) If you use a proxy service, follow the instructions in [“Configuring Proxy Service Support for the Monitor Web Console”](#) in [“Monitor”](#) in the *GroupWise 2012 Administration Guide*.
- 12 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.

To remind yourself of these commands when you are at your Linux server, view the `gwmon` man page.

The Monitor Agent does not have a `--show` switch. The Monitor log file (`mmdmon.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.

IMPORTANT: You can also start the Monitor Agent by using its startup script (`/etc/init.d/grpwise-ma`), as described in the `grpwise-ma` man page or you can use `rcgrpwise-ma` to start the Monitor Agent in any directory.

If the Monitor Agent does not start successfully, see [“Starting the Linux Agents as Daemons” on page 188](#).

- 4 (Conditional) If you use a proxy service, follow the instructions in [“Configuring Proxy Service Support for the Monitor Web Console”](#) in [“Monitor”](#) in the *GroupWise 2012 Administration Guide*.
- 5 After the Monitor Agent starts successfully, refer to the following sections in [Chapter 8, “Installing GroupWise Agents,” on page 175](#) for additional information about managing the Monitor Agent on Linux:
 - ♦ [“Starting the Linux Agents on System Startup” on page 189](#)
 - ♦ [“Configuring the Monitor Agent to Communicate with the GroupWise High Availability Service” on page 199](#)
 - ♦ [“Stopping the Linux GroupWise Agents” on page 190](#)
 - ♦ [“Uninstalling the Linux GroupWise Agents” on page 201](#)
- 6 For instructions on using the Monitor Web consoles, skip to [Section 7.5, “Testing GroupWise Monitor,” on page 169](#).

7.4.2 Windows: Setting Up GroupWise Monitor

- ♦ [“Preparing the Windows Server for GroupWise Monitor”](#) on page 165
- ♦ [“Installing the Windows GroupWise Monitor Software”](#) on page 165

Preparing the Windows Server for GroupWise Monitor

- 1 Make sure that the Windows server where you plan to install Monitor meets the system requirements listed in [Section 7.2, “Monitor System Requirements,”](#) on page 154.
- 2 Make sure that the Web server where you are installing the Monitor Application meets the system requirements listed in [Section 7.2.2, “Web Server Requirements,”](#) on page 155.
- 3 Make sure that the Windows server has a static IP address.
- 4 Make sure no GroupWise agents are currently running on the Windows server where you plan to install the Monitor Agent.
- 5 (Conditional) 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 to communicate with GroupWise agents.

For example, in Windows Server 2008:

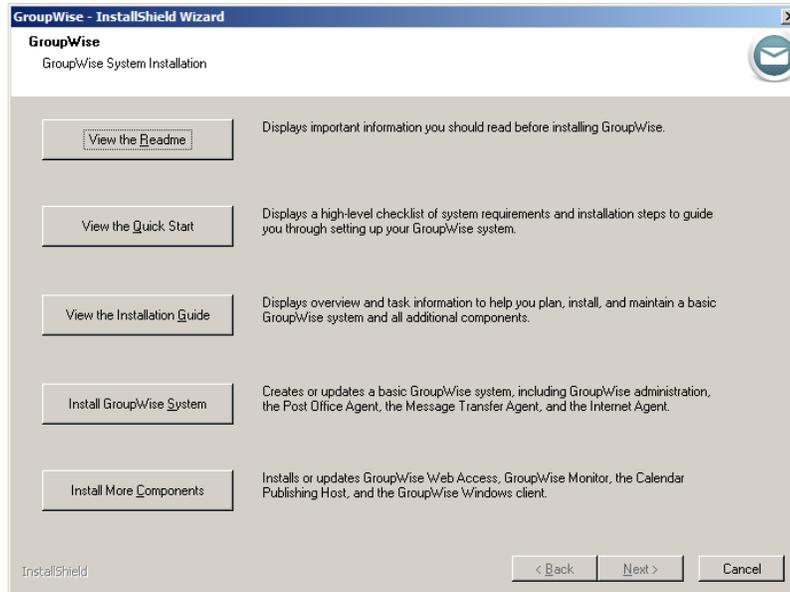
- 5a** In the Server Manager, right-click *Features*, then click *Add Features*.
 - 5b** Select *SNMP Services*, then click *Next*.
 - 5c** Click *Install*.
- 6 Continue with [Installing the Windows GroupWise Monitor Software](#).

Installing the Windows GroupWise Monitor Software

- 1 Change to the root directory of the downloaded *GroupWise 2012* software image.
or
If you have already copied the Monitor software to a software distribution directory, change to that location
- 2 Run `setup.exe`.
- 3 (Conditional) If prompted, select the interface language for the Installation program, then click *OK*.

On Windows, the *GroupWise 2012* software image can be downloaded in a multilanguage version or an English-only version. When you install from the multilanguage version, all languages are always installed, regardless of the specific language that you select for running the Installation program.

The main GroupWise System Installation page appears.



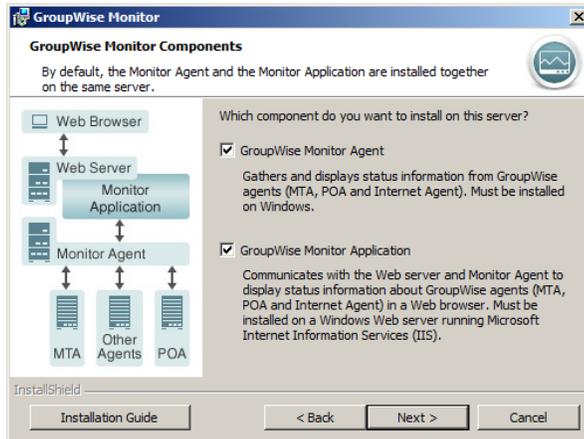
4 Click *Install More Components > Install Monitor*.



You can also start the Monitor Installation program by running:

```
/software_image/admin/monitor/setup.exe
```

- 5 Click *Next* to display the GroupWise Monitor Components page.



- 6 (Conditional) If you are installing the Monitor Agent, follow the prompts to provide the information from your [GroupWise Monitor Agent Installation Worksheet](#).

The Monitor Installation program provides diagrams that help you understand how the various Monitor Agent components interact with each other. Review the diagrams as you provide the requested information.

[Server Information](#)

[System Options](#)

[Domain Directory](#)

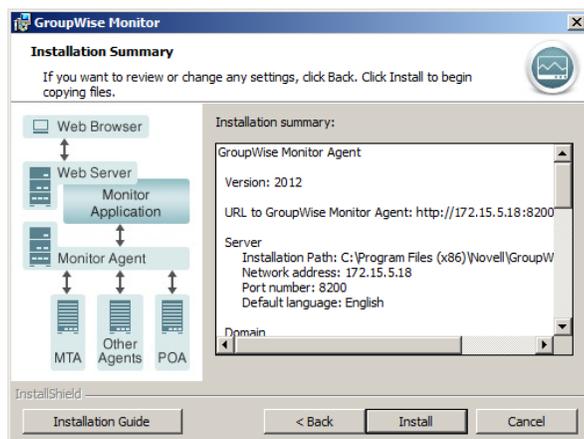
- 7 (Conditional) If you are installing the Monitor Application, follow the prompts to provide the information from your [GroupWise Monitor Application Installation Worksheet](#).

The Monitor Installation program provides diagrams that help you understand how the various Monitor Application components interact with each other. Review the diagrams as you provide the requested information.

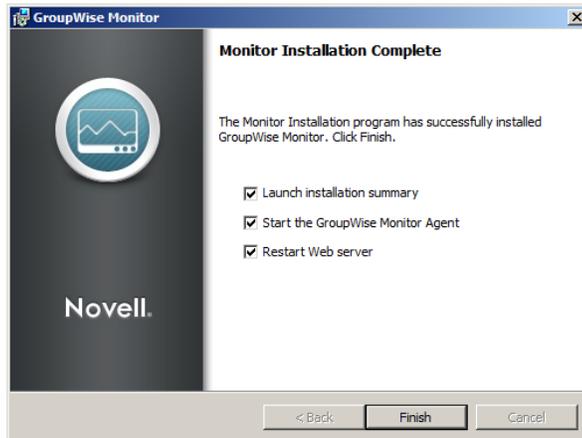
[Monitor Agent Information](#) (This page does not appear when you install the Monitor Agent and the Monitor Application together on the same server.)

[Web Server Information](#)

- 8 Review the Installation Summary, then click *Install*.



- 9 (Conditional) If prompts appear because your Web server is running, select how you want to stop your Web server.
- 10 When the installation is complete, click *Finish* to exit the Monitor Installation program.



You can choose to have the Monitor Installation program start the Monitor Agent and restart the Web server for you.

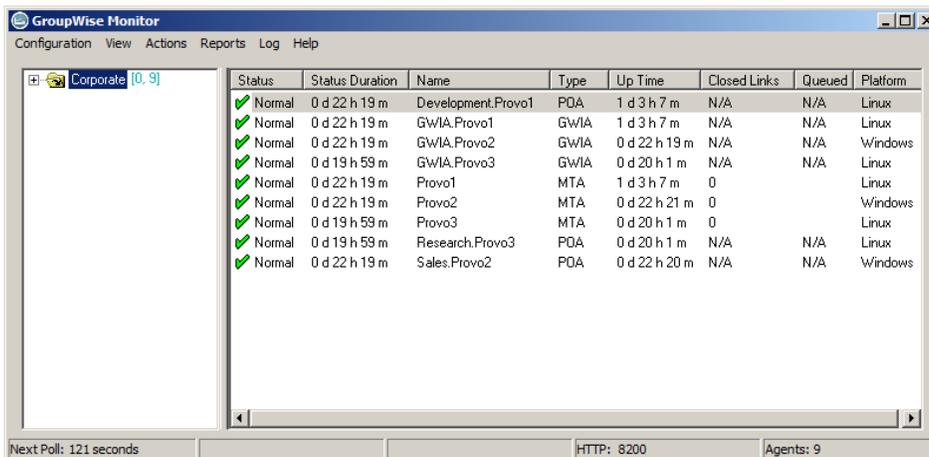
The Monitor Agent is installed to the following directory:

`c:\Program Files\Novell\GroupWise\Monitor`

Along with the Monitor Application, the Monitor Installation program also installs Tomcat 6 to `c:\novell\tomcat6`, integrates it with your Web server, and automatically starts it to support the Monitor Application.

- 11 Click *Finish* to exit the GroupWise Installation program.

If you chose to start the Monitor Agent immediately, the Monitor Agent server console displays on the Windows server.



If the Monitor Agent does not start successfully, see “Starting the Windows GroupWise Agents” on page 205

- 12 (Conditional) If you use a proxy service, follow the instructions in “Configuring Proxy Service Support for the Monitor Web Console” in “Monitor” in the *GroupWise 2012 Administration Guide*.
- 13 Continue with [Testing GroupWise Monitor](#).

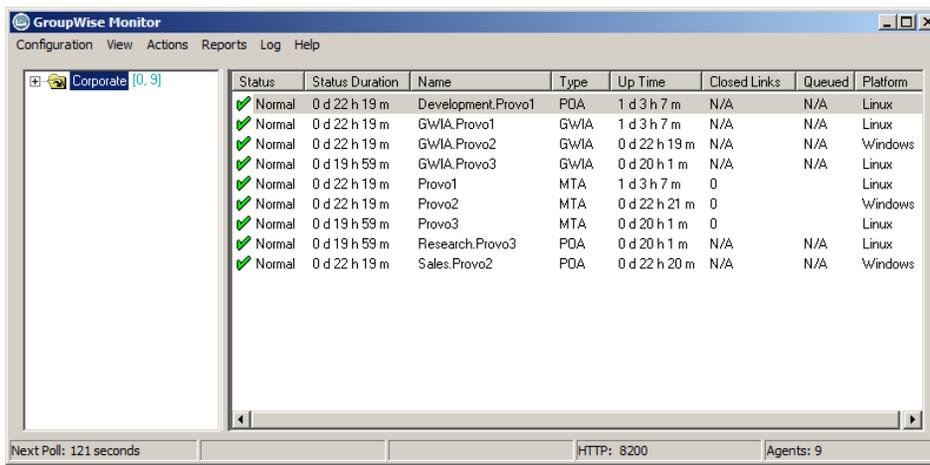
7.5 Testing GroupWise Monitor

You can use GroupWise Monitor in various environments:

- ◆ [Section 7.5.1, “Monitor Agent Server Console on a Windows Server,” on page 169](#)
- ◆ [Section 7.5.2, “Monitor Web Consoles in Your Web Browser,” on page 169](#)

7.5.1 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 > All Programs > GroupWise Monitor > GroupWise Monitor*. The Monitor Agent server console appears.



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 emailed 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 2012 Administration Guide*.

7.5.2 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 170
- ◆ “[Monitor Agent Web Console](#)” on page 170

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:

`http://network_address/gwmon/gwmonitor`

Replace *network_address* with the IP address or DNS hostname of the server where your Web server runs. The Monitor Web console appears.



The screenshot shows the GroupWise Monitor Web Console interface. The title bar reads "GroupWise® Monitor" and "Novell." is in the top right. A search bar is at the top left. The main content area is titled "Monitored agents for 'Corporate' group" and shows "Total: 9 Displayed: 1 - 9". Below this is a "Refresh" button and a row of action buttons: "Hide Subgroup Agents", "Problem", "Suspend", "Resume", "Move", "Options", "Thresholds", and "Help". A table lists the agents with columns for Name, Status, Status Duration, Up Time, Type, Version, and Platform. The table contains 9 rows of agent data.

<input type="checkbox"/>	Name	Status	Status Duration	Up Time	Type	Version	Platform
<input type="checkbox"/>	Provo1	Normal	0 d 22 h 23 m	1 d 3 h 7 m	MTA	12.0.0 (12/03/2011)	Linux
<input type="checkbox"/>	DevelopmentProvo1	Normal	0 d 22 h 23 m	1 d 3 h 7 m	POA	12.0.0 (12/03/2011)	Linux
<input type="checkbox"/>	GWIA.Provo1	Normal	0 d 22 h 23 m	1 d 3 h 7 m	GWIA	12.0.0 (12/03/2011)	Linux
<input type="checkbox"/>	Provo3	Normal	0 d 20 h 3 m	0 d 20 h 1 m	MTA	12.0.0 (12/03/2011)	Linux
<input type="checkbox"/>	GWIA.Provo3	Normal	0 d 20 h 3 m	0 d 20 h 1 m	GWIA	12.0.0 (12/03/2011)	Linux
<input type="checkbox"/>	Research.Provo3	Normal	0 d 20 h 3 m	0 d 20 h 1 m	POA	12.0.0 (12/03/2011)	Linux
<input type="checkbox"/>	Provo2	Normal	0 d 22 h 23 m	0 d 22 h 21 m	MTA	12.0.0 (12/3/2011)	Windows
<input type="checkbox"/>	GWIA.Provo2	Normal	0 d 22 h 23 m	0 d 22 h 19 m	GWIA	12.0.0 (12-03-11)	Windows
<input type="checkbox"/>	Sales.Provo2	Normal	0 d 22 h 23 m	0 d 22 h 20 m	POA	12.0.0 (12/3/2011)	Windows

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 2012 Administration Guide](#).

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`

Monitored agents for Corporate									
Up Time: 0 d 22 h 27 m									
<input type="button" value="Poll"/> <input type="button" value="Hide Subgroup Agents"/> <input type="button" value="Problem"/> <input type="button" value="Suspend"/> <input type="button" value="Resume"/> <input type="button" value="Move"/> <input type="button" value="Options"/> <input type="button" value="Thresholds"/>									
<input type="checkbox"/>	Status	Status Duration	Name	Type	Up Time	Closed Links	Queued	Platform	Version
<input type="checkbox"/>	Normal	0 d 22 h 27 m	Development.Provo1	POA	1 d 3 h 12 m	N/A	N/A	Linux	12.0.0 (12/03/2011)
<input type="checkbox"/>	Normal	0 d 22 h 27 m	GWIA.Provo1	GWIA	1 d 3 h 12 m	N/A	N/A	Linux	12.0.0 (12/03/2011)
<input type="checkbox"/>	Normal	0 d 22 h 27 m	GWIA.Provo2	GWIA	0 d 22 h 24 m	N/A	N/A	Windows	12.0.0 (12-03-11)
<input type="checkbox"/>	Normal	0 d 20 h 7 m	GWIA.Provo3	GWIA	0 d 20 h 6 m	N/A	N/A	Linux	12.0.0 (12/03/2011)
<input type="checkbox"/>	Normal	0 d 22 h 27 m	Provo1	MTA	1 d 3 h 12 m	0	0	Linux	12.0.0 (12/03/2011)
<input type="checkbox"/>	Normal	0 d 22 h 27 m	Provo2	MTA	0 d 22 h 26 m	0	0	Windows	12.0.0 (12/3/2011)
<input type="checkbox"/>	Normal	0 d 20 h 7 m	Provo3	MTA	0 d 20 h 6 m	0	0	Linux	12.0.0 (12/03/2011)
<input type="checkbox"/>	Normal	0 d 20 h 7 m	Research.Provo3	POA	0 d 20 h 6 m	N/A	N/A	Linux	12.0.0 (12/03/2011)
<input type="checkbox"/>	Normal	0 d 22 h 27 m	Sales.Provo2	POA	0 d 22 h 25 m	N/A	N/A	Windows	12.0.0 (12/3/2011)

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 2012 Administration Guide*.

7.6 GroupWise Monitor Installation Worksheets

- [Section 7.6.1, “GroupWise Monitor Agent Installation Worksheet,”](#) on page 171
- [Section 7.6.2, “GroupWise Monitor Application Installation Worksheet,”](#) on page 172

7.6.1 GroupWise Monitor Agent Installation Worksheet

Installation Program Field	Value for Your GroupWise System	Explanation
Monitor Component:		Section 7.1, “GroupWise Monitor Overview,” on page 151
<ul style="list-style-type: none"> ◆ GroupWise Monitor Agent 		
Agent Software Platform:		Section 7.3.2, “Deciding Where to Install the GroupWise Monitor Components,” on page 157
<ul style="list-style-type: none"> ◆ Linux ◆ Windows 		
Server Information:		Section 7.3.2, “Deciding Where to Install the GroupWise Monitor Components,” on page 157
<ul style="list-style-type: none"> ◆ Installation path ◆ Network address <ul style="list-style-type: none"> ◆ IP address ◆ DNS hostname ◆ TCP port (default 8200) 		“Monitor Agent Network Address” on page 159

Installation Program Field	Value for Your GroupWise System	Explanation
System Options:		“Systems to Monitor” on page 159
	<ul style="list-style-type: none"> ◆ GroupWise ◆ Novell Messenger 	
Domain Directory:		“Domain Directory Path” on page 159

7.6.2 GroupWise Monitor Application Installation Worksheet

Installation Program Field	Value for Your GroupWise System	Explanation
Monitor Components:		Section 7.1, “GroupWise Monitor Overview,” on page 151
	<ul style="list-style-type: none"> ◆ GroupWise Monitor Application 	
Web Server Platform		Section 7.1, “GroupWise Monitor Overview,” on page 151
	<ul style="list-style-type: none"> ◆ Linux ◆ Windows 	
Agent Information:		“Monitor Agent Network Address” on page 159
	<ul style="list-style-type: none"> ◆ IP address ◆ DNS hostname ◆ TCP port (default 8200) 	
Web Server Information:		Section 7.3.2, “Deciding Where to Install the GroupWise Monitor Components,” on page 157
OES 11	<ul style="list-style-type: none"> ◆ Apache path <code>/etc/opt/novell/ httpd/conf.d</code> ◆ Tomcat path <code>/var/opt/novell/ tomcat6/webapps</code> 	

Installation Program Field	Value for Your GroupWise System	Explanation
Web Server Information:		Section 7.3.2, "Deciding Where to Install the GroupWise Monitor Components," on page 157
OES 2	<ul style="list-style-type: none"> ◆ Apache path /etc/opt/novell/ httpd/conf.d ◆ Tomcat path /var/opt/novell/ tomcat5/webapps 	
Web Server Information:		Section 7.3.2, "Deciding Where to Install the GroupWise Monitor Components," on page 157
SLES 11	<ul style="list-style-type: none"> ◆ Apache path /etc/apache2/ conf.d ◆ Tomcat path /usr/share/ tomcat6/webapps 	
Web Server Information:		Section 7.3.2, "Deciding Where to Install the GroupWise Monitor Components," on page 157
SLES 10	<ul style="list-style-type: none"> ◆ Apache path /etc/apache2/ conf.d ◆ Tomcat path /srv/www/ tomcat5/base/ webapps 	
Web Server Information:		Section 7.3.2, "Deciding Where to Install the GroupWise Monitor Components," on page 157
Windows	<ul style="list-style-type: none"> ◆ Microsoft Internet Information Server (IIS) for Windows ◆ Path to the Web server's root directory ◆ Web site 	

8 Installing GroupWise Agents

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 29](#). The following sections help you install additional agents as you create new domains and post offices in your growing GroupWise system.

- ♦ [Section 8.1, “GroupWise Agent Overview,” on page 175](#)
- ♦ [Section 8.2, “Agent System Requirements,” on page 176](#)
- ♦ [Section 8.3, “Planning the GroupWise Agents,” on page 178](#)
- ♦ [Section 8.4, “Setting Up the GroupWise Agents,” on page 182](#)
- ♦ [Section 8.5, “What’s Next,” on page 208](#)
- ♦ [Section 8.6, “GroupWise Agent Installation Worksheet,” on page 208](#)

IMPORTANT: If you plan to install the GroupWise agents in a clustered server environment, see the [GroupWise 2012 Interoperability Guide](#) before you install the agents.

8.1 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:

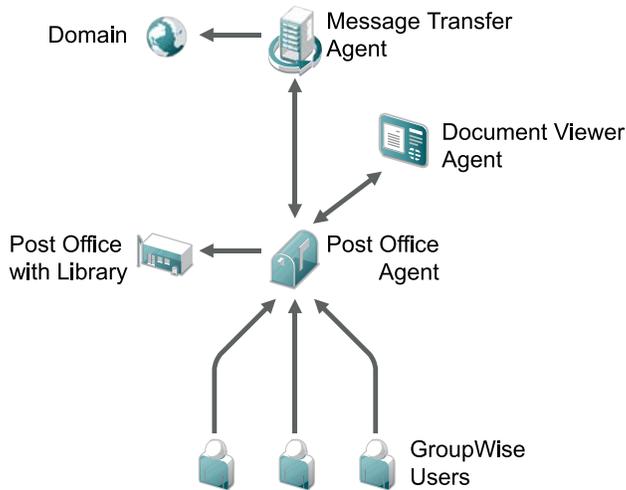
- ♦ Connecting GroupWise clients to mailboxes through network connections (TCP/IP, IMAP, SOAP)
- ♦ Sending messages to other users and delivering incoming messages into mailboxes
- ♦ Indexing messages and documents to support the Find feature in the GroupWise clients
By default, the POA uses its internal Document Converter Agent (DCA) to convert document files into HTML format for indexing. You can also configure the POA to use the Document Viewer Agent to perform the HTML conversion, as described in [“Enabling the Document Viewer Agent \(DVA\) for Indexing”](#) in [“Post Office Agent”](#) in the [GroupWise 2012 Administration Guide](#). The DVA provides improved scalability and reliability for document conversion, compared to the default DCA configuration.
- ♦ 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.

The Document Viewer Agent (DVA) is installed along with the POA and MTA. It does not need access to any databases because it communicates with the POA and with the WebAccess Application using TCP/IP. It can also be installed on a separate server, where no domain or post office is located.



8.2 Agent System Requirements

- ◆ [Section 8.2.1, “Hardware and Operating System Requirements,”](#) on page 176
- ◆ [Section 8.2.2, “Software Requirements,”](#) on page 177
- ◆ [Section 8.2.3, “Agent Memory Requirements,”](#) on page 177

8.2.1 Hardware and Operating System Requirements

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

- x86-32 processor or x86-64 processor

On a 64-bit processor, GroupWise still runs as a 32-bit application.

- Any of the following server operating systems for the GroupWise agents:

- ◆ Novell Open Enterprise Server (OES) 2 (Linux version) or OES 11, plus the latest Support Pack
- ◆ SUSE Linux Enterprise Server (SLES) 10 or SLES 11, plus the latest Service Pack
The X Window System and Open Motif are required by the GUI agent server console. By default, the agents run as daemons without a user interface.
- ◆ Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, or Windows Server 2012, plus the latest Service Pack

- Adequate server memory as required by the operating system

Depending on the anticipated load on the agents, additional memory might be required, as detailed in [Section 8.2.3, “Agent Memory Requirements,”](#) on page 177.

- ❑ Adequate server disk space:
 - ♦ Approximately 117 MB for the MTA, POA, and DVA software (varies by platform)
 - ♦ Adequate disk space for the document quarantine used by the DVA, as described in [“Enabling the DVA Document Quarantine”](#) in [“Document Viewer Agent”](#) in the *GroupWise 2012 Administration Guide*.

8.2.2 Software Requirements

- ❑ Any of the following environments for running the GroupWise Installation program:
 - ♦ Novell Open Enterprise Server (OES) 2 (Linux version) or OES 11, plus the latest Support Pack
 - ♦ SUSE Linux Enterprise Server (SLES) 10 or SLES 11, plus the latest Service Pack

The X Window System is required by the GUI GroupWise Installation program that steps you through the process of creating a new GroupWise system. A text-based Installation program is also available for installing individual GroupWise components on servers where the X Windows System is not available.
 - ♦ Windows Server 2003, Windows Server 2003 R2, Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, plus the latest Service Pack, plus the latest Novell Client.

8.2.3 Agent Memory Requirements

- ♦ [“Sample POA Memory Requirements Based on Post Office Size”](#) on page 177
- ♦ [“Sample Memory Requirements for Other GroupWise Agents and Applications”](#) on page 178

Sample POA Memory Requirements Based on Post Office Size

The amount of memory used by the POA depends on the number of active users, as illustrated by the table below:

Concurrent Users	Minimum Memory Required	Recommended Memory for Best Performance
100 active users (100-250 users in post office)	400 MB	2 GB
250 active users (250-500 users in post office)	600 MB	4 GB
500 active users (500-1000 users in post office)	800 MB	4 GB
1000 active users (1000 - 1500 users in post office)	1 GB	8 GB - 12 GB
1500 active users (1500 - 3000 users in post office)	2 GB	12 GB

The POA typically performs best with abundant cache memory available.

Sample Memory Requirements for Other GroupWise Agents and Applications

Agent/Application	Minimum Memory Required	Recommended Memory for Best Performance
Routing MTA	200 MB	2 GB
DVA	100 MB	1 GB
GWIA and its MTA	400 MB	4 GB
Monitor	100 MB	1 GB
WebAccess Application	400 MB	4 GB
Calendar Publishing Host Application	200 MB	1 GB
WebAccess and Calendar Publishing Host Applications together	600 MB	4 GB

8.3 Planning the GroupWise Agents

Use the “[GroupWise Agent Installation Worksheet](#)” on page 208 to record your decisions about how to install the GroupWise agents. The topics in this section present the required information in a convenient planning sequence. The Installation Worksheet organizes the information in the order in which you need it during installation.

- ♦ [Section 8.3.1, “Selecting the Agent Platform,”](#) on page 178
- ♦ [Section 8.3.2, “Selecting the Agent Installation Directory,”](#) on page 179
- ♦ [Section 8.3.3, “Gathering Domain and Post Office Information,”](#) on page 179
- ♦ [Section 8.3.4, “Linux Installation Options: Automatic Startup, Document Viewer Agent Configuration, and Clustering,”](#) on page 179
- ♦ [Section 8.3.5, “Windows Installation Options: SNMP Traps and Service versus Application,”](#) on page 180

For additional assistance in planning your GroupWise installation, visit the [GroupWise Best Practices](http://wiki.novell.com/index.php/GroupWise) (<http://wiki.novell.com/index.php/GroupWise>).

IMPORTANT: If you plan to install the GroupWise agents in a clustered server environment, refer to the [GroupWise 2012 Interoperability Guide](#) as you plan your agent installation.

8.3.1 Selecting the Agent Platform

The MTA, POA, and DVA are available as Linux executables and Windows executables.

GROUPWISE AGENT INSTALLATION WORKSHEET

Under *Agent Software Platform*, mark whether you plan to install the agents on Linux or Windows. Review [Section 8.2, “Agent System Requirements,”](#) on page 176 to ensure that the specific server you have selected meets the listed requirements.

8.3.2 Selecting the Agent Installation Directory

The agent installation directory depends on the platform where you are installing the agents. Consider these platform-specific guidelines:

Linux: The Linux agents are automatically installed to [/opt/novell/groupwise/agents](#).

Windows: The default installation directory is [c:\Program Files\Novell\GroupWise Server\Agents](#). However, you can install the agents to any directory you want.

GROUPWISE AGENT INSTALLATION WORKSHEET

Under *Installation Path*, record the directory where you want to install the GroupWise agent software.

The MTA, the POA, and the DVA are installed to the specified directory.

8.3.3 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 *Domain Information*, record the domain name and path to the domain directory for the new domain.

Under *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. See following sections of the [GroupWise 2012 Administration Guide](#) for instructions:

- ♦ [“Creating a New Domain”](#)
- ♦ [“Creating a New Post Office”](#)

8.3.4 Linux Installation Options: Automatic Startup, Document Viewer Agent Configuration, and Clustering

When you install the Linux GroupWise agents, the following options specific to Linux are available in the Installation program:

- ♦ [“Automatic Startup” on page 179](#)
- ♦ [“Enable Document Viewer Agent” on page 180](#)
- ♦ [“Clustering on Linux” on page 180](#)

Automatic Startup

The Linux GroupWise agents are Run Control compliant. You can have the Installation program create symbolic links to the `/etc/init.d/grpwise` script in the `rc3.d` and `rc5.d` directories so that the agents load on restart into run level 3 or 5, depending on the configuration of your Linux system.

GROUPWISE AGENT INSTALLATION WORKSHEET

Under *Agent Options*, mark whether or not you want to configure the Linux server to start the GroupWise agents automatically.

Enable Document Viewer Agent

The Document Viewer Agent is configured for high availability independently from the POA and the MTA.

GROUPWISE AGENT INSTALLATION WORKSHEET

Under *Agent Options*, mark whether or not you want to configure the Linux Document Viewer agent to start automatically.

For more information, see [“Enabling the GroupWise High Availability Service for the Linux GroupWise Agents”](#) on page 195.

Clustering on Linux

On Linux, you can install the GroupWise agents on 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 *Agent Options*, mark whether 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 2012 Interoperability Guide*, rather than the installation instructions in this guide.

8.3.5 Windows Installation Options: SNMP Traps and Service versus Application

When you install the Windows agents, you have choices about how the agents interact with the Windows operating system.

- ♦ [“SNMP Traps”](#) on page 180
- ♦ [“Service versus Application”](#) on page 181

SNMP Traps

If you want to use an SNMP manager program to monitor the agents, you must install some SNMP components along with the Windows agent software.

GROUPWISE AGENT INSTALLATION WORKSHEET

Under *Agent 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. For instructions, see the following sections in the *GroupWise 2012 Administration Guide*:

- ◆ “[Setting Up SNMP Services for the POA](#)”
- ◆ “[Setting Up SNMP Services for the MTA](#)”

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

Service versus Application

You can run the Windows MTA, POA, and DVA as Windows services or applications.

GROUPWISE AGENT INSTALLATION WORKSHEET

Under *Windows Installation Options*, mark whether you want to run the GroupWise agents as Windows 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 and no password is required.

When the agents run under the local system account, you can enable them to display the agent server consoles on the server desktop on Windows Server 2003. This interaction with the desktop is not available on Windows Server 2008 or later Windows versions.

- ◆ When the domain and post office directories are located on a remote Windows server, you must specify a user with rights to access the domain and post office directories, along with the user’s associated password.
- ◆ For the DVA, the user account depends on the location of the DVA home directory, as described in “[Setting the DVA Home Directory](#)” in “[Document Viewer Agent](#)” in the *GroupWise 2012 Administration Guide*.

IMPORTANT: For simplicity of agent administration, running the GroupWise agents as the Windows Administrator user is highly recommended.

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

GROUPWISE AGENT INSTALLATION WORKSHEET

Under *Windows Service Information*, record the Windows user account that the agent services will run under, and if necessary, the password for the account. If you are using the local system account, indicate whether you want to allow the agent services to interact with the desktop to display the agent server consoles. Select whether you want the agent services to start automatically or manually.

8.4 Setting Up the GroupWise Agents

After creating a new domain or post office, you need to configure the Agent object (MTA or POA) that was automatically created with it, then follow the setup instructions for the platform where you are installing the GroupWise agents:

- ♦ [Section 8.4.1, “Configuring New Agent Objects in eDirectory,” on page 182](#)
- ♦ [Section 8.4.2, “Linux: Setting Up the GroupWise Agents,” on page 182](#)
- ♦ [Section 8.4.3, “Windows: Setting Up the GroupWise Agents,” on page 201](#)

8.4.1 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 *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 8.4.2, “Linux: Setting Up the GroupWise Agents,” on page 182](#)
 - ♦ [Section 8.4.3, “Windows: Setting Up the GroupWise Agents,” on page 201](#)

8.4.2 Linux: Setting Up the GroupWise Agents

- ♦ [“Preparing the Linux Server for the GroupWise Agents” on page 183](#)
- ♦ [“Installing the Linux GroupWise Agents” on page 183](#)

IMPORTANT: If you plan to install the GroupWise agents in a clustered server environment, see the [GroupWise 2012 Interoperability Guide](#) 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” on page 186](#)
- ♦ [“Running the Linux GroupWise Agents as a Non-root User” on page 192](#)
- ♦ [“Enabling the GroupWise High Availability Service for the Linux GroupWise Agents” on page 195](#)
- ♦ [“Stopping the Linux GroupWise Agents” on page 190](#)
- ♦ [“Uninstalling the Linux GroupWise Agents” on page 201](#)

If you are new to Linux, you might want to review “[Linux Commands, Directories, and Files for GroupWise Administration](#)” in the *GroupWise 2012 Administration Guide* before you install the GroupWise agents on Linux.

Preparing the Linux Server for the GroupWise Agents

- 1 Ensure that the Linux server where you are installing the GroupWise agents meets the system requirements listed in [Section 8.2, “Agent System Requirements,”](#) on page 176.
- 2 Ensure that the Linux operating system media is available, in case the GroupWise Installation program needs to install supporting packages on the Linux server.
- 3 Ensure that the Linux server has a static IP address.
- 4 Ensure that the firewall on the Linux server has the ports open that are used by the MTA, the POA, and the DVA.

For assistance, see “[GroupWise Port Numbers](#)” in the *GroupWise 2012 Administration Guide*.

- 5 Continue with [Installing the Linux GroupWise Agents](#).

Installing the Linux GroupWise Agents

- ♦ “[Running the GUI GroupWise Installation Program](#)” on page 183
- ♦ “[Installing GroupWise Components Using the Text-Based Installation Program](#)” on page 185

Running the GUI GroupWise Installation Program

- 1 In a terminal window on the server where you want to install the GroupWise agents, log in as root, then provide the root password.
- 2 Change to the root directory of the downloaded *GroupWise 2012* software image.

or

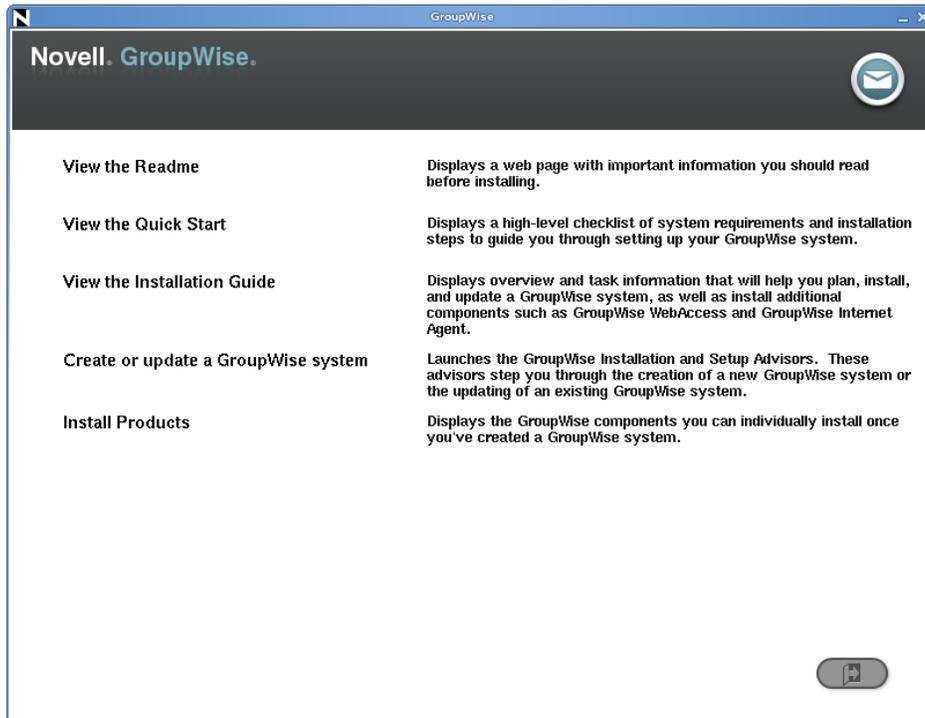
If you have already copied the agent software to a software distribution directory, change to [/opt/novell/groupwise/software](#).

- 3 Run `./install`.

The X Window System 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 GroupWise Components Using the Text-Based Installation Program](#)” on page 185.

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

The main GroupWise System Installation page appears.



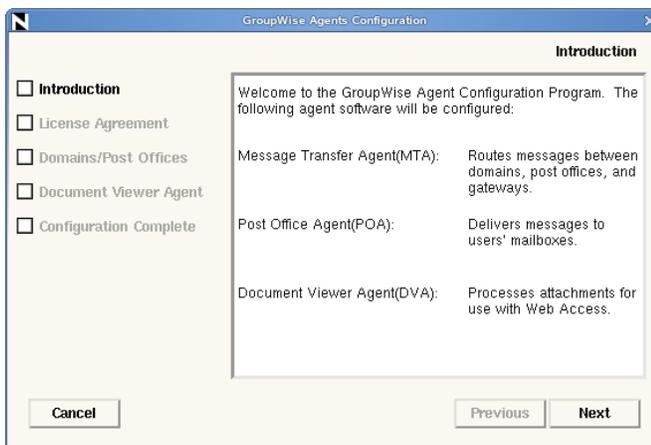
5 Click *Install Products > GroupWise Agents > Install Agents* to install the GroupWise agent software.

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

The GroupWise agent software is installed to the following directory:

[/opt/novell/groupwise/agents](#)

7 Click *Configure GroupWise Agents*.

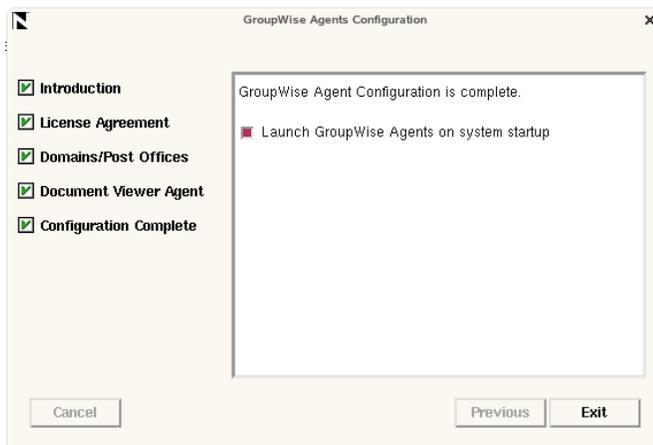


8 Follow the prompts to provide Linux Agent information from your [GroupWise Agent Installation Worksheet](#).

[Domain Information](#)

[Post Office Information](#)

[Document Viewer Agent 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 GroupWise High Availability Service for the Linux GroupWise Agents” on page 195](#), they must be configured to start automatically on system startup.

- 9 (Conditional) 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 exit the GroupWise Agent Installation program.
- 11 Exit the GroupWise Installation program.
- 12 Skip to [“Starting the Linux GroupWise Agents” on page 186](#).

Installing GroupWise Components Using the Text-Based Installation Program

If you want to install any of the GroupWise agents or applications on a server where the X Window System is not running, you can use the text-based GroupWise Installation program. The server must have `openmotif-libs` installed. You must still use ConsoleOne to create the associated domain or post office before you can install and configure the agent or application software.

- 1 Run `install` from the root of the downloaded *GroupWise 2012* software image.
or
If you have already copied the software to a software distribution directory, run `./install` from the root of the software distribution directory to start the GroupWise Installation program.
If you need to perform the installation from a remote location, you can use `ssh` to access the remote Linux server. Copy the `linux` subdirectory of the downloaded *GroupWise 2012* software image to the server where you want to install the agent software, then run the text-based GroupWise Installation program to install the agents or applications on the Linux server.
- 2 Enter the number of the language you want to use for the installation.
- 3 Enter `y` if you want to configure the GroupWise components for clustering.
or
Enter `n` if you are not installing the GroupWise components in a cluster.
- 4 Enter the number of the language you want to use for reading the License Agreement.
- 5 Press any key to scroll through the License Agreement, then enter `y` to accept the License Agreement.

6 In the list of components, enter the number for the GroupWise component that you want to install.

1. GroupWise Agents
2. GroupWise WebAccess
3. GroupWise Monitor
4. GroupWise Internet Agent
5. GroupWise Calendar Publishing Host
6. View the Readme
- 0.1 Exit

7 In the list of actions, enter 1 to install the agent or application software.

1. Install GroupWise Agents
2. Configure GroupWise Agents
0. Return

A status bar indicates progress.

8 When the installation is complete, enter *y* to configure the component.

9 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.

10 (Optional) To install additional components, start the text-based Installation program again.

NOTE: The text-based GroupWise Installation program does not run on all Windows versions of *ssh*. An open source product named PuTTY that can be downloaded from the Internet free of charge is compatible with the text-based GroupWise Installation program. There are several Web sites where PuTTY is available for download.

Starting the Linux GroupWise Agents

- ♦ [“Starting the Linux Agents with a User Interface” on page 186](#)
- ♦ [“Starting the Linux Agents as Daemons” on page 188](#)
- ♦ [“Starting the Linux Agents on System Startup” on page 189](#)
- ♦ [“Restarting the Linux Agents Automatically” on page 190](#)

Starting the Linux Agents with a User Interface

1 In a terminal window, become *root* by entering *su -* and the *root* password.

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:

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

Example:

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

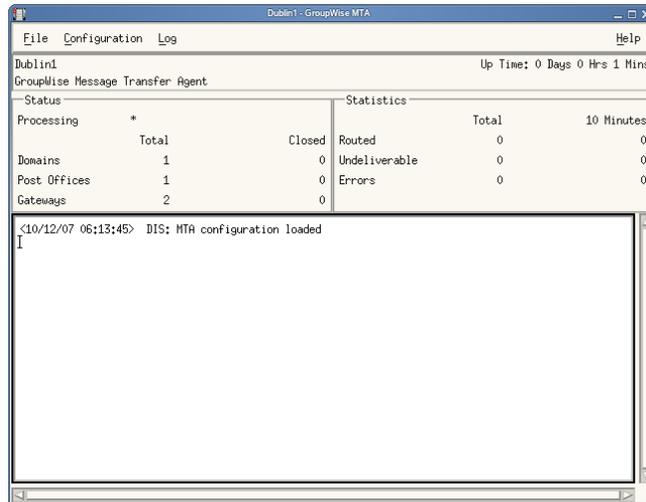
The *--show* startup switch starts the MTA with a server console interface similar to that provided for the Windows MTA. This user interface requires that the X Window System and Open Motif be running on the Linux server.

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.

To remind yourself of these commands when you are at your Linux server, view the `gwmta` man page.



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 12 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 &
```

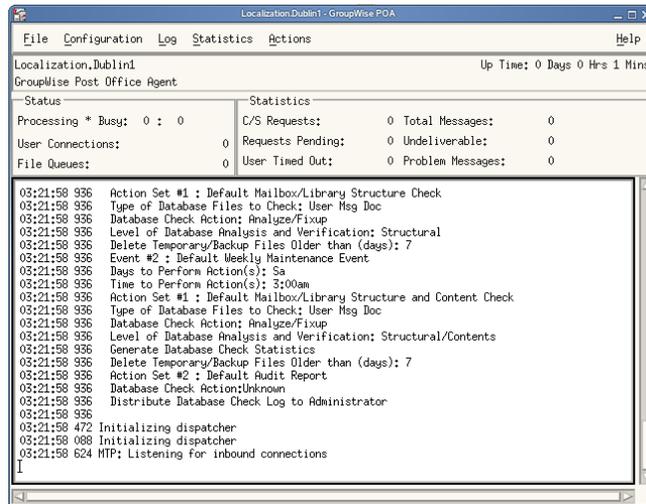
Example:

```
./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.

To remind yourself of these commands when you are at your Linux server, view the [gwpoa](#) man page.



The status messages displayed on the POA server console are also written to the POA log file (*mmdqpoa.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. The POA also maintains a symbolic link to a file named *poa.currentlog*, where *poa* is the name of the POA eDirectory object. This link points to the current POA log file, regardless of the date and incrementing extension of the actual POA log file name. This facilitates monitoring the current POA log file using the `tail` command.

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 12 when the database update is complete.

If you encounter any problems starting the GroupWise agents, see “[Strategies for Agent Problems](#)” in *GroupWise 2012 Troubleshooting 2: Solutions to Common Problems* for assistance.

After the post office database has been updated, users can connect to the post office using the Windows client or GroupWise WebAccess.

When you start the Linux agents with a user interface, you can use the agent server consoles described in the following sections in the *GroupWise 2012 Administration Guide*.

- ◆ “[Using the POA Server Console](#)”
- ◆ “[Using the MTA Server Console](#)”

Starting the Linux Agents as Daemons

All of the Linux GroupWise agents except the Monitor Agent can be started as daemons by using the `grpwise` script. By default, the `grpwise` script starts the agents without a user interface.

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
```

IMPORTANT: 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 for the Monitor Agent.

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
```

```
DVA:    gwdva
```

```
GWIA:   gwia.domain
```

When using the `grpwise` script, you refer to the agents by the location names displayed when you list agent status, 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> <code>rcgrpwise start</code>	Starts the GroupWise agents that are installed on the server
<code>./grpwise start agent_location_name</code> <code>rcgrpwise start agent_location_name</code>	Starts the specified agent
<code>./grpwise status</code> <code>rcgrpwise status</code>	Displays the status of the GroupWise agents that are installed on the server
<code>./grpwise status agent_location_name</code> <code>rcgrpwise status agent_location_name</code>	Displays the status of the specified agent
<code>./grpwise print</code> <code>rcgrpwise print</code>	Lists the contents of the <code>gwha.conf</code> file

For convenience in typing the command, the `agent_location_name` is not case sensitive.

To remind yourself of these commands when you are at your Linux server, view the [grpwise](#) man page.

If Novell Messenger agents are installed on the same server, the `grpwise` script also starts them.

- 6 (Optional) To cause the `grpwise` script to start the agents with a user interface, use the `show = yes` option in the GroupWise High Availability service configuration file (`gwha.conf`).

For more information, see [“Configuring the GroupWise High Availability Service in the gwha.conf File” on page 196](#).

Starting the Linux Agents on System Startup

If you selected *Launch GroupWise Agents on System Startup* in the Installation program, the 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 Agents as Daemons” on page 188](#). To enable

automatic startup, the Agent Installation programs also create symbolic links named `Snngrpwise` 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. The value of `nn` is determined by the `chkconfig` command during installation so that the GroupWise agents are started in the proper sequence with other processes running on the server.

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 do not run with server console interfaces when started automatically when the server restarts, unless you modify the `gwha.conf` file as described in [“Enabling the GroupWise High Availability Service for the Linux GroupWise Agents” on page 195](#).

Restarting the Linux Agents Automatically

You can use the GroupWise High Availability service, in conjunction with GroupWise Monitor, to detect when a GroupWise agent has stopped unexpectedly and to restart it automatically. For setup instructions, see [“Enabling the GroupWise High Availability Service for the Linux GroupWise Agents” on page 195](#).

Stopping the Linux GroupWise Agents

How you stop the Linux GroupWise Agents depends on how you started them.

- [“Stopping the Linux Agents from the Agent Console User Interface” on page 190](#)
- [“Stopping the Linux Agents Using the `grpwise` Script” on page 190](#)
- [“Stopping the Linux Agents Manually as Daemons” on page 191](#)

Stopping the Linux Agents 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*.

Stopping the Linux Agents Using the `grpwise` Script

When you start the GroupWise agents with the `grpwise` script, you can also use the script to stop them. This also 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
```

IMPORTANT: 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.

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
DVA:    gwdva
GWIA:   gwia.domain
```

- 5 Use the following set of commands as needed to stop the agents as daemons and verify their status:

<pre>./grpwise stop rcgrpwise stop</pre>	Stops the GroupWise agents that are installed on the server
<pre>./grpwise stop agent_location_name rcgrpwise stop agent_location_name</pre>	Stops the specified agent
<pre>./grpwise status rcgrpwise status</pre>	Displays the status of the GroupWise agents that are installed on the server
<pre>./grpwise status agent_location_name rcgrpwise status agent_location_name</pre>	Displays the status of the specified agent

For convenience in typing the command, the *agent_location_name* is not case sensitive.

Stopping the Linux Agents 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
DVA     ps -eaf | grep gwdva
GWIA:   ps -eaf | grep gwia
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 GWIA 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 GWIA 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.

Running the Linux GroupWise Agents as a Non-root User

For security reasons, it is preferable that the GroupWise agents do 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 192](#)
- ♦ [“Setting Up Non-root Access on an NSS Volume on Novell Open Enterprise Server Linux” on page 193](#)
- ♦ [“Changing the Non-root User” on page 194](#)

NOTE: You can configure the POA, MTA, and GWIA to run as a non-`root` user. The DVA 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 user name 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`.

```
ps -eaf | grep gw
```

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. The first time you start an agent as a non-`root` user, or if you change from one non-`root` user to another, the agent might take longer than usual to start, because of the change in ownership of the directories and files accessed by that agent. This is especially true of a POA that services a large post office and that requires access to a restore area, especially a restore area on a remote server.

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 194.

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 Linux-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`. The user name must not match any local user names on the Linux server.

- 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 user name, 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 Linux-enable the user you just created:

- 2a In the left pane, expand *Linux User Management*, then click *Enable User for Linux*.
- 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 Linux-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 user name 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 GWIA 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`.

```
ps -eaf | grep gw
```

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 194](#).

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. The GWIA creates the `uid.run` file in its gateway directory (typically `domain/wpgate/gwia`).

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 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 directory serviced by the agent.

Enabling the GroupWise High Availability Service for the Linux GroupWise Agents

The GroupWise High Availability service (`gwha`) makes sure that if the MTA, POA, DVA, or GWIA goes down for any reason, it restarts automatically. 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 is installed automatically, starts when your server boots, and makes sure that any GroupWise agents installed on the server restart if they go down unexpectedly. However, the GroupWise High Availability service does not start the GroupWise agents initially. For more information, see [“Starting the Linux Agents on System Startup” on page 189](#).

The GroupWise High Availability service relies on the Monitor Agent to detect when a GroupWise agent is no longer running. The Monitor Agent notifies the GroupWise High Availability service of any problem, then the GroupWise High Availability service immediately issues the command to start the problem agent. The GroupWise High Availability service runs as `root`, as configured in the `/etc/xinetd.d/gwha` file.

A single Monitor Agent can service multiple instances of the GroupWise High Availability service on multiple servers, as long as all instances use the same user name and password to communicate with the Monitor Agent.

- ♦ [“Configuring the GroupWise High Availability Service in the `gwha` file” on page 195](#)
- ♦ [“Configuring the GroupWise High Availability Service in the `gwha.conf` File” on page 196](#)
- ♦ [“Creating a GroupWise High Availability Service User” on page 199](#)
- ♦ [“Configuring the Monitor Agent to Communicate with the GroupWise High Availability Service” on page 199](#)

Configuring the GroupWise High Availability Service in the `gwha` file

The basic configuration for the GroupWise High Availability service is contained in the `/etc/xinetd.d/gwha` file:

```

socket_type = stream
user = root
server = /opt/novell/groupwise/agents/bin/gwha
wait = no
instances = 1
protocol = tcp
type = UNLISTED
port = 8400
disable = yes

```

The only option you can change in this file is the port number. By default, the GroupWise High Availability service listens on port 8400. If that port number is already in use on the server where you are setting up the GroupWise High Availability service, you can change the port number in the `gwha` file. The GroupWise High Availability service must use the same port number on all servers where you want it to restart the GroupWise agents.

Do not change any other options in this file.

Configuring the GroupWise High Availability Service in the `gwha.conf` File

The interaction between the GroupWise High Availability service and the GroupWise agents is controlled by `gwha.conf` file located in the `/etc/opt/novell/groupwise` directory. The configuration file provides a section for configuring SSL for communication between the GroupWise High Availability service and the Monitor Agent. The `[gwha]` section is followed by sections for each agent installed on the server, as shown below. The headings for the sections match the agent locations listed in [“Starting the Linux Agents as Daemons” on page 188](#).

```

[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

[gwia.domain_name]
server   = /opt/novell/groupwise/agents/bin/gwia
command  = /etc/init.d/grpwise
startup  = gwia.cfg
delay    = 2
wait     = 10

[gwdva]
server   = /opt/novell/groupwise/agents/bin/gwdva
command  = /etc/init.d/grpwise
startup  = gwdva.dva
delay    = 2
wait     = 10

```

To set up the GroupWise High Availability service:

- 1 In a terminal window, become root by entering `su -` and the root password.
- 2 Before starting to configure the GroupWise 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
```

- 2c After verifying that the agents start correctly, stop the agents.
- 3 (Conditional) If you use SSL, you need to modify the GroupWise 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      = file_name.key
cert     = file_name.crt
password = password
```

- 3d Save the file, then exit the text editor.
- 4 (Conditional) If you changed the port number for the GroupWise High Availability service, as described in [“Configuring the GroupWise High Availability Service in the gwha file” on page 195](#), add the following line to the `[gwha]` section:

```
port = port_number
```

Replace `port_number` with the new port number you specified in the `gwha` file.

- 5 (Conditional) If you want to control how the script manages starting and stopping the agents, modify the `delay =` and `wait =` settings.

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 with the script.

- 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:

```
[Provo2]
server = /opt/novell/groupwise/agents/bin/gwmta
command = /etc/init.d/grpwise
startup = Provo2.mta
delay = 2
wait = 10
```

5c Change the `delay =` and `wait =` settings as needed.

5d Save the file, then exit the text editor.

6 (Conditional) If you want the script to start the agents with a user interface on the Linux server, add the `show = setting` in the GroupWise High Availability service configuration file (`gwha.conf`). This is equivalent to using the `--show` startup switch on the command line when starting the agent.

6a Change to the `/etc/opt/novell/groupwise` directory.

6b Edit the `gwha.conf` file in a text editor

Each agent has its own section in the file, for example:

```
[Provo2]
server = /opt/novell/groupwise/agents/bin/gwmta
command = /etc/init.d/grpwise
startup = Provo2.mta
delay = 2
wait = 10
```

6c 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.

6d Save the file, then exit the text editor.

7 Enable the GroupWise High Availability service:

7a In YaST, click *Network Services > Network Services (inetd)*.

7b (Conditional) If necessary, select *Enable* to activate the list of services.

7c Scroll down to the `gwha` line, select it, then click *Toggle Status (On or Off)* to change the status to *On*.

7d Click *Finish*.

8 Start the agents:

```
rcgrpwise start
```

9 Verify agent status:

```
rcgrpwise status
```

For more information about using the `grpwise` script, see [“Starting the Linux Agents as Daemons” on page 188](#)

10 Repeat this procedure on all servers where you want the GroupWise High Availability service to restart the GroupWise agents.

11 Continue with [Creating a GroupWise High Availability Service User](#).

Creating a GroupWise High Availability Service User

The GroupWise High Availability service needs a login user on each server where GroupWise agents need to be restarted.

- 1 Create a new user and associated password on the local Linux server to represent the GroupWise High Availability service.

You might name it `gwha`.

IMPORTANT: Use a local user account for use only by the GroupWise High Availability service. Do not use a Novell Linux-enabled user. Do not use `root`.

- 2 Create the same user on each Linux server where you want the GroupWise High Availability service to restart the GroupWise agents.
- 3 Continue with [Configuring the Monitor Agent to Communicate with the GroupWise High Availability Service](#).

Configuring the Monitor Agent to Communicate with the GroupWise High Availability Service

After you have the GroupWise High Availability service set up and working correctly on all Linux servers where you want it to restart the GroupWise agents, you need to configure the Linux Monitor Agent to communicate with it and test it to make sure that you can rely on it in the future. Although you need a GroupWise High Availability service running on each Linux server where there are GroupWise agents, you need only one Monitor Agent to monitor all agents in your GroupWise system.

- 1 Configure the Linux 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 164](#), 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 user_name --hapassword password
--hapoll 120"
```

- 1c Remove the pound sign (`#`) from the beginning of the line.

- 1d Replace *user name* and *password* with the user name and password you established in [Step 1](#) in [“Configuring the GroupWise High Availability Service in the `gwha.conf` File” on page 196](#).

```
MA_OPTIONS="--hauser gwha --hapassword gwagents --hapoll 120"
```

The Monitor Agent uses the `--hauser` and `--hapassword` switches to communicate with the GroupWise High Availability service on port 8400, as configured in the `/etc/xinetd.d/gwha` file. When the Monitor Agent notices that a GroupWise agent has stopped, it notifies the GroupWise High Availability service. Then the GroupWise High Availability service issues the command to restart the problem agent.

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 other Monitor Agent startup switches to the `grpwise-ma` script as needed. For information about Monitor Agent startup switches, see [“Using Monitor Agent Startup Switches”](#) in [“Monitor”](#) in the [GroupWise 2012 Administration Guide](#).

- 1e Save the script file, then exit the text editor.

2 Start the Monitor Agent.

```
rcgrpwise-ma start
```

3 Stop one of the agents, as described in “Stopping the Linux GroupWise Agents” on page 190.

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.

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:

POA: `http://server_network_address:7181`

MTA: `http://server_network_address:7180`

GWIA: `http://server_network_address:9850`

DVA: `http://server_network_address:8301`

Monitor: `http://server_network_address:8200`

The screenshot shows the web console for a GroupWise 2012 Post Office Agent (POA). At the top, there are navigation links: 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: 1 Days 3 Hours 17 Minutes".

	Total
C/S Users	0
Application Connections	0
Physical Connections	0
SOAP Sessions	0
Priority Queues	0
Normal Queues	0
GWCheck Auto Queues	0
GWCheck Scheduled Queues	0

	Total	Busy
C/S Handler Threads	10	0
Message Worker Threads	6	0
GWCheck Worker Threads	4	0
SOAP Threads	3	0
Calendar Publishing Threads	3	0
Message Transfer Status	Open	

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 2012 Administration Guide](#).

- ◆ “Using the POA Web Console”
- ◆ “Using the MTA Web Console”
- ◆ “Using the DVA Web Console”
- ◆ “Using the GWIA Web Console”
- ◆ “Using the Monitor Web Console”

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, the MTA, and the DVA are together in the same RPM. WebAccess has its own RPM. Monitor has two RPMs each, one for the agent software and one for the application software. The following list shows all GroupWise agent and administration RPMs that you might need to uninstall from a server:

POA, MTA, and DVA:	<code>novell-groupwise-agents-version-date</code>
GWIA:	<code>novell-groupwise-gwia-version-date</code>
WebAccess Application:	<code>novell-groupwise-webaccess-version-date</code>
Monitor Agent:	<code>novell-groupwise-gwmon-version-date</code>
Monitor Application:	<code>novell-groupwise-monitor-version-date</code>
Calendar Publishing Host Application:	<code>novell-groupwise-calhost-version-date</code>
GroupWise High Availability Service:	<code>novell-groupwise-gwha-version-date</code>
GroupWise Administrator snap-ins:	<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 [“Agent Installation Directories”](#) in the *GroupWise 2012 Troubleshooting 3: Message Flow and Directory Structure*:

- ♦ Agents: [“Linux MTA, POA, and DVA Installation Directory”](#)
- ♦ GWIA: [“Linux Internet Agent Installation Directory”](#)
- ♦ Monitor: [“Linux Monitor Agent Installation Directory”](#)

8.4.3 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 202](#)
- ♦ [“Installing the Windows Agent Software” on page 202](#)

IMPORTANT: If you plan to install the GroupWise agents in a clustered server environment, see the [GroupWise 2012 Interoperability Guide](#) 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 205
- ♦ “Stopping the Windows GroupWise Agents” on page 207
- ♦ “Uninstalling the Windows GroupWise Agents” on page 208

Preparing the Windows Server for the Windows Agents

- 1 Make sure that the Windows server where you are installing the GroupWise agents meets the system requirements listed in [Section 8.2, “Agent System Requirements,”](#) on page 176.
- 2 Make sure that the Windows server has a static IP address.
- 3 Make sure that the firewall on the Windows server has the ports open that are used by the MTA, the POA, and the DVA.
For assistance, see “[GroupWise Port Numbers](#)” in the *GroupWise 2012 Administration Guide*.
- 4 Make sure that no other GroupWise agents are currently running on the server where you want to install the agents.
- 5 Log in to eDirectory with Admin-equivalent rights to the eDirectory tree where you want the Installation program to create the Agent objects.

- 6 (Optional) Enable SNMP.

If you want to monitor the GroupWise Windows agents from an SNMP manager program, SNMP must be enabled on the Windows server where the agents are installed. If it is not already enabled, you must enable it before you run the Installation program.

For example, in Windows Server 2008:

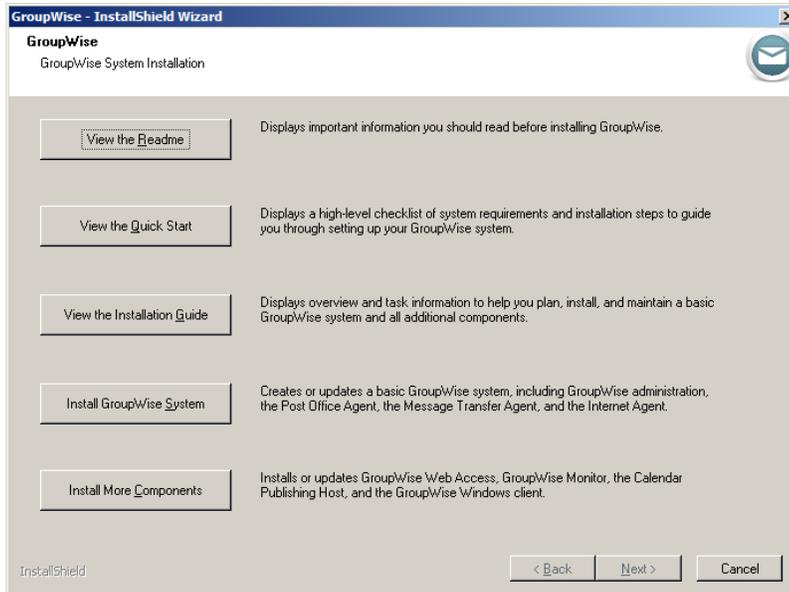
- 6a In the Server Manager, right-click *Features*, then click *Add Features*.
 - 6b Select *SNMP Services*, then click *Next*.
 - 6c Click *Install*.
- 7 Continue with [Installing the Windows Agent Software](#).

Installing the Windows Agent Software

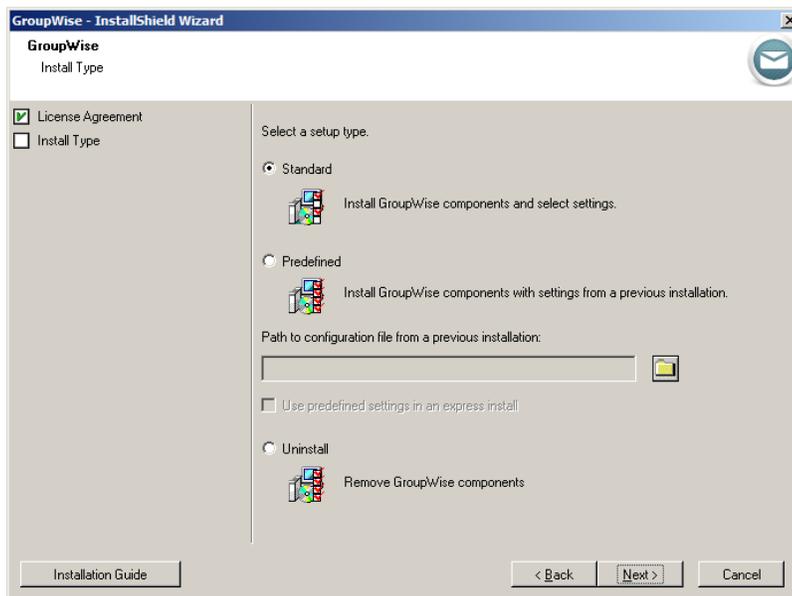
- 1 Change to the root directory of the downloaded *GroupWise 2012* software image.
or
If you have already copied the agent software to a software distribution directory, change to that location
- 2 Run [setup.exe](#).
- 3 (Conditional) If prompted, select the interface language for the Installation program, then click *OK*.

On Windows, the *GroupWise 2012* software image can be downloaded in a multilanguage version or an English-only version. When you install from the multilanguage version, all languages are always installed, regardless of the specific language that you select for running the Installation program.

The main GroupWise System Installation page appears.

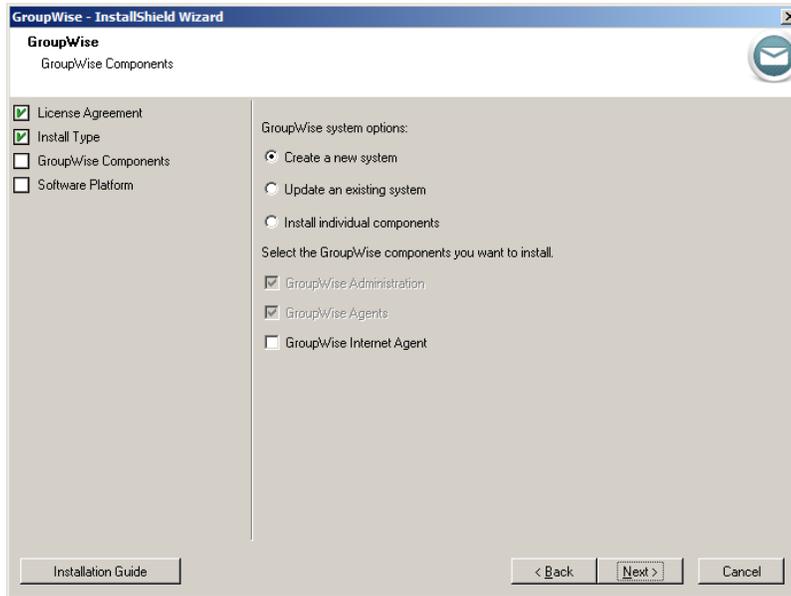


- 4 Click *Install GroupWise System*, then click *Yes* to accept the License Agreement and display the Installation Type page.



When you install the agents, you are performing a Standard installation. Other installation options on this page are described in [“Setting Up Predefined Installations”](#) on page 68.

5 Click *Next* to accept the default of *Standard*.



6 Select *Install Individual Components*, then deselect *GroupWise Administration*.

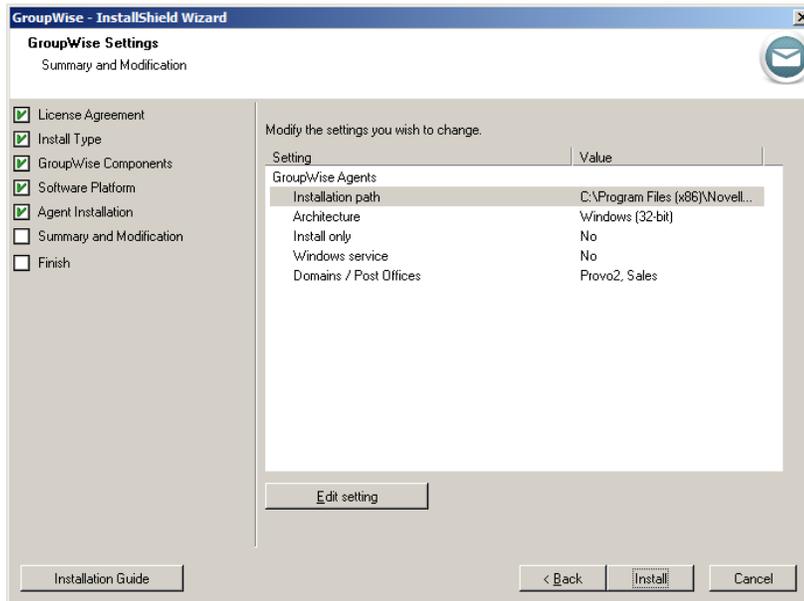
7 Follow the prompts to provide the Windows agent information from your [GroupWise Agent Installation Worksheet](#).

[Installation Path](#)

[Agent Installation Options](#)

[Domain Information](#)

[Post Office Information](#)



- 8 On the Summary and Modification page:
 - 8a Review the installation information you have provided.
 - 8b (Conditional) If you need to change information, select the information to change, then click *Edit Setting*, specify the desired information, then click *OK*.
- 9 Click *Install* to start the agent installation.

Status messages keep you informed about the installation progress.

The GroupWise agents are installed to the following directory:

`c:\Program Files\Novell\GroupWise Server\Agents`
- 10 Click *Finish* to exit the Agent Installation program.

If you want to start the agents later or if the Installation program fails to start them successfully, see [“Starting the Windows GroupWise Agents” on page 205](#).
- 11 To monitor an agent from your Web browser, view the agent Web console as described in the following sections of the *GroupWise 2012 Administration Guide*:
 - ◆ [“Using the POA Web Console”](#)
 - ◆ [“Using the MTA Web Console”](#)
 - ◆ [“Using the DVA Web Console”](#)
- 12 If you want to learn more about running the Windows agents, continue with [“Starting the Windows GroupWise Agents” on page 205](#) and [“Stopping the Windows GroupWise Agents” on page 207](#).

or

If you want to customize the configuration of the Windows agents or expand your GroupWise system, skip to [Section 8.5, “What’s Next,” on page 208](#).
- 13 Continue with [Starting the Windows GroupWise Agents](#).

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:

- ◆ [“Starting the Windows Agents Manually As Applications” on page 205](#)
- ◆ [“Starting the Windows Agents Automatically as Applications When the Windows Server Starts” on page 206](#)
- ◆ [“Starting the Windows Agents Manually or Automatically as Services” on page 206](#)
- ◆ [“Restarting the Windows Agents Automatically” on page 207](#)

If you encounter any problems starting the GroupWise agents, see [“Strategies for Agent Problems”](#) in *GroupWise 2012 Troubleshooting 2: Solutions to Common Problems* for assistance.

Starting the Windows Agents Manually As Applications

On the Windows desktop, click *Start > All 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, the DVA, and the GWIA. You can easily create a desktop shortcut for Monitor by linking to its target file (`c:\Program Files\Novell\GroupWise Server\Monitor\gwmon.exe`).

When you start the GroupWise agents as applications, you can use the agent server consoles described in the *GroupWise 2012 Administration Guide*:

- ◆ “Using the POA Server Console”
- ◆ “Using the MTA Server Console”
- ◆ “Using the DVA Server Console (Windows Only)”
- ◆ “Using the GWIA Server Console”
- ◆ “Using the Windows Monitor Agent Server Console”

Starting the Windows Agents Automatically as Applications When the Windows Server Starts

After the GroupWise agents are running smoothly as applications, you can configure them to start automatically whenever you restart the Windows server. Use the Windows Task Scheduler to create a task for each agent on the Windows server.

- 1 (Conditional) On Windows 2008, click *Start > Administrative Tools > Task Scheduler*.
(Conditional) On Windows 2003, click *Start > Control Panel > Scheduled Tasks*.
- 2 (Conditional) If you are not familiar with creating a task using the Window Task Scheduler, refer to your Windows documentation for assistance.
- 3 When prompted for the GroupWise program to start, use the following commands to start any GroupWise agents on the Windows server:

```
c:\Program Files\Novell\GroupWise Server\Agents\gwpoa.exe
                                     @post_office_name.poa
c:\Program Files\Novell\GroupWise Server\Agents\gwmta.exe
                                     @domain_name.mta
c:\Program Files\Novell\GroupWise Server\Agents\gwdva.exe @gwdva.dva
c:\Program Files\Novell\GroupWise Server\GWIA\gwia.exe @gwia.cfg
```

- 4 After creating the tasks to start the GroupWise agents automatically, restart the Windows server to verify that the GroupWise agents start successfully.

Starting the Windows Agents Manually or Automatically as Services

If you installed the GroupWise agents as services, you can manage them just as you would any other Windows services.

NOTE: The Monitor Agent cannot currently be installed as a Window service.

For example, on a Windows Server 2003 machine:

- 1 From the Windows desktop, click *Start > Administrative Tools > Services*.
- 2 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 GWIA service is named GWIA.
- 3 (Optional) Check the status of the agent service by using the Windows Event Viewer:
 - 3a From *Administrative Tools*, double-click *Event Viewer*.
 - 3b Click *Application Log*, then sort the log entries on the *Source* column.
 - 3c Scroll to the agent service, then double-click a log entry to view information about it.
- 4 To configure the agent service to start automatically when the server reboots, right-click the agent service, then click *Properties*.
- 5 In the *Startup Type* field, click *Automatic*, then click *OK*.

NOTE: On Windows Server 2008, the user that starts the GroupWise services must have the *Log on as a service* right assigned.

When running as services, the GroupWise agents typically do not display an agent console on the Windows server where they are running. Instead, you can monitor the GroupWise agents by using their Web consoles described in the [GroupWise 2012 Administration Guide](#):

- ♦ [“Using the POA Web Console”](#)
- ♦ [“Using the MTA Web Console”](#)
- ♦ [“Using the DVA Web Console”](#)
- ♦ [“Using the GWIA Web Console”](#)

Restarting the Windows Agents Automatically

When you run the Windows agents as services, you can use the Windows service Recovery feature to restart them automatically if they stop unexpectedly.

- 1 In Windows, click *Start > Administrative Tools > Services*.
- 2 Right-click a GroupWise agent service, then click *Properties > Recovery*.
- 3 Set the *Recovery* options you want, then click *OK*.

When you run the Windows agents as programs, you must manually restart them if they stop unexpectedly.

Stopping the Windows GroupWise Agents

How you stop the Windows GroupWise agents depends on how you started them.

- ♦ [“Stopping the Windows Agents as Applications” on page 207](#)
- ♦ [“Stopping the Windows Agents as Services” on page 207](#)

Stopping the Windows Agents 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*.

DVA From the Windows desktop, click the title bar of the window where the DVA is running, then press F7.

GWIA At the GWIA server console, click *File > Exit*.

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.

Stopping the Windows Agents 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 Server 2003 machine:

- 1 From the Windows desktop, click *Start > Administrative Tools > Services*.
- 2 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 DVA service is named GWDVA. The GWIA service is named GWIA.

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, MTA, and DVA: Stop the POA, the MTA, and the DVA, then run the GroupWise Installation program (*setup.exe*). On the Install Type page, select *Uninstall*, then follow the prompts

GWIA: Stop the GWIA, then run the GroupWise Installation program (*setup.exe*). On the Install Type page, select *Uninstall*, then follow the prompts. This deletes most of the contents of the `c:\Program Files\Novell\GroupWise Server\GWIA` directory and uninstalls the GWIA as a Windows service.

Monitor: Stop the Monitor Agent. Delete the contents of the `c:\Program Files\Novell\GroupWise Server\Monitor` directory.

8.5 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 2012 Administration Guide*:

- ♦ Refining the configuration of the agents to meet the specific needs of the new domains and post offices.
See *"Post Office Agent"*, *"Message Transfer Agent"*, and *"Document Viewer 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"*.

8.6 GroupWise Agent Installation Worksheet

Installation Program Field	Value for Your GroupWise System	Explanation
Agent Software Platform:		Section 8.3.1, "Selecting the Agent Platform," on page 178
	<ul style="list-style-type: none">♦ Linux♦ Windows	
Installation Path:		Section 8.3.2, "Selecting the Agent Installation Directory," on page 179

Installation Program Field	Value for Your GroupWise System	Explanation
Linux Installation Options:		
<ul style="list-style-type: none"> ◆ Enable Document Viewer Agent <ul style="list-style-type: none"> ◆ Yes ◆ No ◆ Launch the GroupWise agents on system startup <ul style="list-style-type: none"> ◆ Yes ◆ No ◆ Configure the GroupWise Agents for Clustering <ul style="list-style-type: none"> ◆ Yes ◆ No 		“Linux Installation Options: Automatic Startup, Document Viewer Agent Configuration, and Clustering” on page 179
Windows Installation Options:		
<ul style="list-style-type: none"> ◆ Install and configure SNMP for GroupWise agents <ul style="list-style-type: none"> ◆ Yes ◆ No ◆ Install as Windows services <ul style="list-style-type: none"> ◆ Yes ◆ No 		“Windows Installation Options: SNMP Traps and Service versus Application” on page 180
Domain Information:		
<ul style="list-style-type: none"> ◆ Name ◆ Path to database 		Section 8.3.3, “Gathering Domain and Post Office Information,” on page 179
Post Office Information:		
<ul style="list-style-type: none"> ◆ Name ◆ Path to database 		Section 8.3.3, “Gathering Domain and Post Office Information,” on page 179

Installation Program Field	Value for Your GroupWise System	Explanation
Windows Service Information:	<ul style="list-style-type: none"> ◆ User local system account <ul style="list-style-type: none"> ◆ Allow service to interact with desktop ◆ Use this Windows user account <ul style="list-style-type: none"> ◆ Name of Windows user account ◆ Password ◆ Startup type <ul style="list-style-type: none"> ◆ Automatic ◆ Manual ◆ Disabled 	Section 8.3.5, "Windows Installation Options: SNMP Traps and Service versus Application," on page 180

9 Installing the GroupWise Client

The following sections assist you with assigning GroupWise accounts to users and with installing the Novell GroupWise 2012 client.

- ♦ [Section 9.1, “GroupWise Client Overview,” on page 211](#)
- ♦ [Section 9.2, “Setting Up GroupWise Users,” on page 211](#)
- ♦ [Section 9.3, “Installing and Starting the GroupWise Windows Client,” on page 214](#)
- ♦ [Section 9.4, “What’s Next,” on page 223](#)

For information about client licensing requirements, see [“Auditing Mailbox License Usage in the Post Office”](#) in [“Post Offices”](#) in the *GroupWise 2012 Administration Guide*.

9.1 GroupWise Client Overview

Each user with a GroupWise account has a mailbox in a post office. In a corporate workplace environment, GroupWise users can run the GroupWise client on their workstation to access their mailboxes and to send and receive mail.

When the users are not at their workstations, they can access their GroupWise mailboxes from a Web browser using GroupWise WebAccess or on a tablet device using the mobile version of GroupWise WebAccess. For more information, see [Chapter 5, “Installing GroupWise WebAccess,” on page 103](#).

9.2 Setting Up GroupWise Users

- ♦ [Section 9.2.1, “Assigning GroupWise Accounts to Users,” on page 211](#)
- ♦ [Section 9.2.2, “Implementing System-Wide Rollouts,” on page 213](#)

9.2.1 Assigning GroupWise Accounts to Users

After you finish 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:

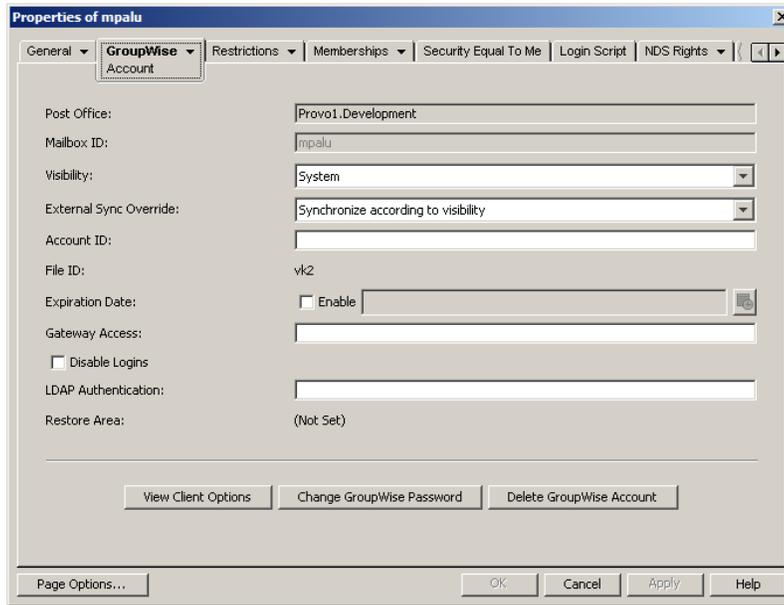
- ♦ [“Assigning GroupWise Accounts to eDirectory Users” on page 211](#)
- ♦ [“Assigning GroupWise Accounts to Non-eDirectory Users” on page 212](#)

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.

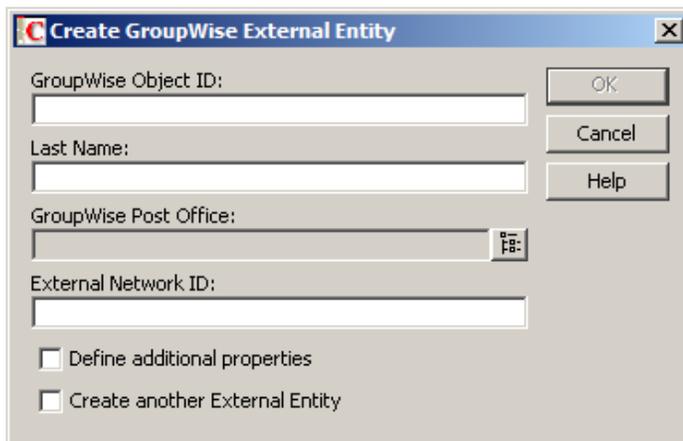


- 3 In the *Post Office* field, click the *Browse* button to select the post office.
The *Mailbox ID* field displays the eDirectory user name, which cannot be changed.
- 4 Click *OK*.

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.

- 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 2012 Administration Guide](#).

9.2.2 Implementing System-Wide Rollouts

For a system-wide rollout of the GroupWise client software, you might want to consider alternatives to each user installing from a DVD, the downloaded software image, or the software distribution directory.

For the GroupWise Windows client, if you have Novell ZENworks Content Management, you can use it 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 the GroupWise Linux client, you can use ZENworks Linux Management for a system-wide rollout.

For more information about these and other installation methods, see "[Client](#)" in the [GroupWise 2012 Administration Guide](#).

9.3 Installing and Starting the GroupWise Windows Client

The GroupWise Windows client software is available in both the Windows version and the Linux version of the downloaded *GroupWise 2012* software image. A simple installation of the GroupWise Windows client helps you test your GroupWise system as you are setting it up.

If you want, you can burn the *GroupWise 2012* software image to DVDs for distribution to Windows client users. Advanced, system-wide rollout methods for the GroupWise Windows client are also available, as described in “[Distributing the GroupWise Windows Client](#)” in “[Client](#)” in the *GroupWise 2012 Administration Guide*.

- ◆ [Section 9.3.1, “GroupWise Windows Client Workstation Requirements,” on page 214](#)
- ◆ [Section 9.3.2, “Installing the GroupWise Windows Client from the Windows GroupWise 2012 Software Image,” on page 214](#)
- ◆ [Section 9.3.3, “Installing the GroupWise Windows Client from the Linux GroupWise 2012 Software Image,” on page 217](#)
- ◆ [Section 9.3.4, “Implementing System-Wide Windows Client Rollouts,” on page 223](#)
- ◆ [Section 9.3.5, “Starting the Windows Client,” on page 223](#)

9.3.1 GroupWise Windows Client Workstation Requirements

- ❑ x86-32 processor or x86-64 processor

On a 64-bit processor, GroupWise still runs as a 32-bit application.

- ❑ Any of the following Windows versions:
 - ◆ Windows XP on a 300 MHz or higher workstation with at least 128 MB of RAM
 - ◆ Windows Vista on a 1 GHz or higher workstation with at least 1 GB of RAM
 - ◆ Windows 7 on a 1 GHz or higher workstation with at least 1 GB of RAM
 - ◆ Windows 8 or 8.1 on a 1 GHz or higher workstation with at least 1 GB of RAM
- ❑ Approximately 200 MB of free disk space to install the GroupWise Windows client

9.3.2 Installing the GroupWise Windows Client from the Windows GroupWise 2012 Software Image

Install the Windows client on a Windows workstation that meets the system requirements listed in [Section 2.2, “GroupWise User Requirements,” on page 22](#).

- 1 Run `setup.exe` from the root of the downloaded *GroupWise 2012* software image.
or

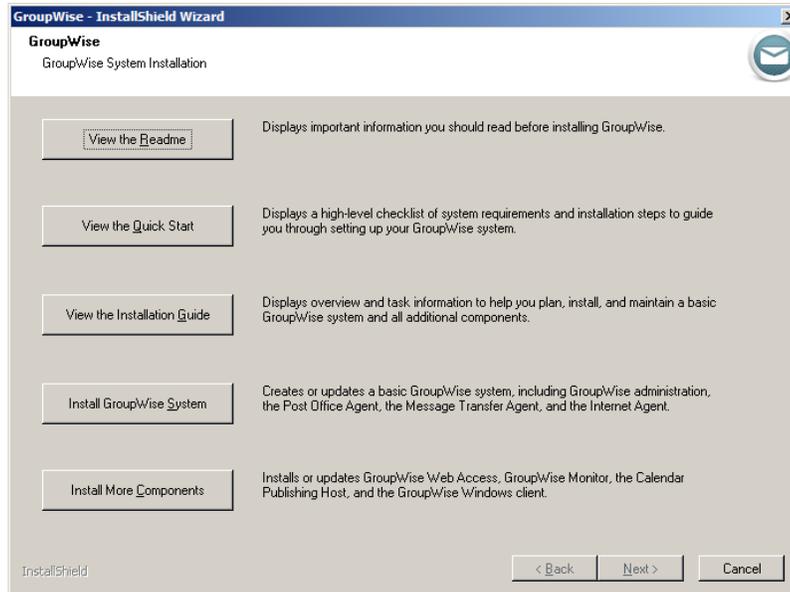
If you have already copied the Windows client software to a Windows software distribution directory, run `setup.exe` from the root of the software distribution directory to start the GroupWise Installation program.

In order to install from the software distribution directory, users need a drive mapped to the software distribution directory. Users also require Read and File Scan rights to the `drive:\grpwise\software` directory to start the GroupWise Installation program and to the `drive:\grpwise\software\client\win32` directory to run the Windows Client Setup program.

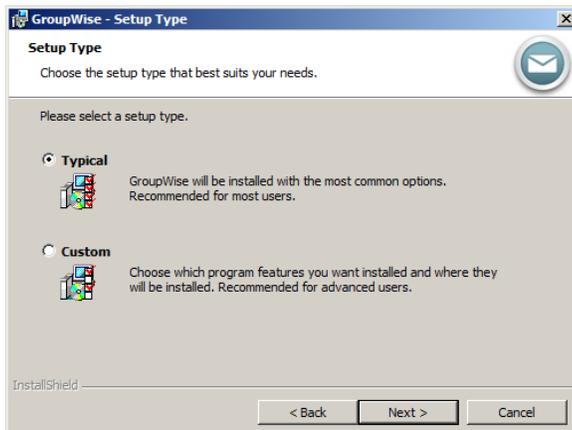
- 2 Select the language in which you want to run the GroupWise Installation program, then click *OK*.

All available languages are included in the multilanguage version of the downloaded *GroupWise 2012* software image, but you can select which languages you want to install for the GroupWise Windows client.

The main GroupWise System Installation page appears.



- 3 Click *Install More Components > Install GroupWise Client* to start the client Setup program.
- 4 Select the language in which you want to run the client Setup program, then click *OK*.
- 5 Click *Next* to display the Setup Type dialog box.



- 6 Select one of the following options:

Typical: Installs the most commonly used components in the standard installation directory of `c:\Program Files\Novell\Groupwise` without prompting for further information. By default, this installs the software integration and Internet browser mail integration. A *GroupWise* icon is added to your desktop as well as to the Quick Launch area. However, Notify is not added to your Startup folder. This means that Notify does not run when Windows starts.

Custom: Allows you to customize the following GroupWise Windows client functionality:

- ◆ Languages (select as needed)
- ◆ Software Integrations (enabled by default)
- ◆ Internet Browser Mail Integration (enabled by default)
- ◆ Program Folder (Novell GroupWise by default)
- ◆ Add GroupWise to the Desktop (selected by default)
- ◆ Add GroupWise to Quick Launch (selected by default)
- ◆ Add Notify to the Startup folder (disabled by default)

See “[Using GroupWise Windows Client Custom Installation Options](#)” in “[Client](#)” in the *GroupWise 2012 Administration Guide* for more information about installing the GroupWise Windows client.

7 Click *Next*.

8 (Conditional) If you selected *Typical* or *Upgrade*:

8a Click *Install* to install the client files.

When the client Setup program has completed, a shortcut to run GroupWise appears on your desktop and in the Quick Launch area.

8b Click *Finish* to exit the GroupWise Installation program.

9 (Conditional) If you selected *Custom*:

9a Make sure each component you want to install is selected.

Languages: Select which languages to install.

Software Integrations: Select the applications for integration with GroupWise Document Management Services for saving and retrieving files from GroupWise libraries.

Internet Browser Mail Integration: Sets GroupWise to be the default email program on the workstation, so that whenever the user clicks an email link on a Web page or chooses the *Mail* command in the browser, GroupWise starts.

9b Click *Next*.

9c Select the Program folder where you want to add the GroupWise icons.

The default is *Novell GroupWise*.

9d Select if you want the GroupWise icon added to your Desktop and Quick Launch.

9e Select if you want Notify added to the Startup folder. This starts Notify when Windows starts.

You can also choose to start Notify when GroupWise starts, as described in “[Starting Notify When GroupWise Starts](#)” in “[Notify](#)” in the *GroupWise 2012 Windows Client User Guide*.

9f Click *Next*.

9g Click *Install* to install the client files.

When the client Setup program has completed, a shortcut to run GroupWise appears on your desktop.

9h Click *Finish* to exit the GroupWise Installation program.

9.3.3 Installing the GroupWise Windows Client from the Linux GroupWise 2012 Software Image

Install the Windows client on a Windows workstation that meets the system requirements listed in [Section 2.2, “GroupWise User Requirements,”](#) on page 22. The Linux *GroupWise 2012* software image includes the Windows client software.

- 1 On the Linux server where the Windows client software is located, set up a Samba share to provide access to the Windows client software.

If you need assistance with this task, follow the instructions for your version of Linux

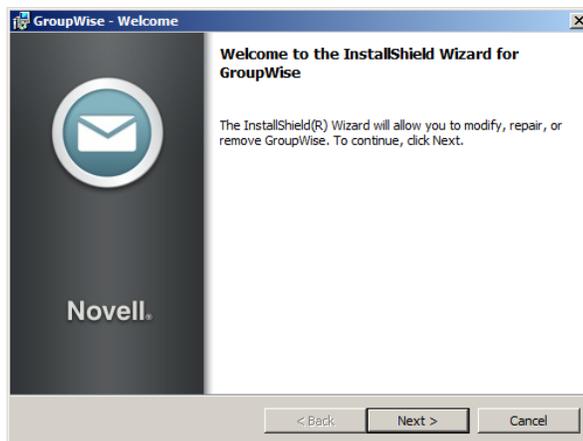
- ♦ [“Setting up Samba on OES Linux”](#) on page 217
- ♦ [“Setting Up Samba on SLES”](#) on page 221

- 2 On the Windows workstation where you want to install the Windows client software, map a drive to the Samba share that you created in [Step 1](#)

If you need assistance with this task, follow the instructions for your version of Linux:

- ♦ [“Mapping a Drive to a Samba Share on an OES Linux Server”](#) on page 220
- ♦ [“Mapping a Drive to a Samba Share on SLES”](#) on page 222

- 3 Change to the `win32` subdirectory through the Samba share on the Linux server, then run `setup.exe`.



- 4 Click *Next* to begin the installation.
- 5 Skip to [Step 4](#) in [Section 9.3.2, “Installing the GroupWise Windows Client from the Windows GroupWise 2012 Software Image,”](#) on page 214 to continue with the standard Windows client installation process.

Setting up Samba on OES Linux

In order to access the Windows client software on a Linux server, you can set up a Samba share to the client directory, either in the downloaded *GroupWise 2012* software image or in the software distribution directory, if you have created one on the Linux server.

- ♦ [“Configuring NetWare Core Protocol \(NCP\)”](#) on page 218
- ♦ [“Installing Samba”](#) on page 218
- ♦ [“Logging In to iManager”](#) on page 218
- ♦ [“Creating a User to Manage the Samba Share”](#) on page 219

- ♦ “Configuring the eDirectory Universal Password for Samba” on page 219
- ♦ “Setting the eDirectory Universal Password for the Samba Administrator User” on page 219
- ♦ “Creating a Samba Share” on page 219
- ♦ “Setting the eDirectory Rights for the Samba Share” on page 220
- ♦ “Testing Samba on the OES Linux Server” on page 220

Configuring NetWare Core Protocol (NCP)

1 In a terminal window on the OES Linux server, become root by entering `su -` and the root password.

2 Enter the following command to create the NCP volume:

```
ncpcon create volume volume_name /directory
```

2a Replace *volume_name* with a unique name for the location of the Windows client software

2b Replace *directory* with the full path to the Windows client software, for example:

```
/opt/novell/groupwise/software/client
```

3 Verify that the volume has been created:

```
more /etc/opt/novell/ncpserv.conf
```

The new volume should be listed at the end of the NCP server configuration file.

4 Restart the Novell eDirectory daemon:

```
rcnstd restart
```

5 Continue with [Installing Samba](#).

Installing Samba

If you installed Samba when you installed OES Linux, skip to “[Logging In to iManager](#)” on page 218.

If you did not install Samba when you installed OES Linux, install it now:

1 Start YaST.

2 Under *Groups*, click *Open Enterprise Server*, then click *OES Install and Configuration*.

3 Under *OES Services*, select *Novell Samba*, then click *Accept*.

4 Follow the prompts to install Novell Samba.

5 Continue with [Logging In to iManager](#).

Logging In to iManager

1 Access the following URL:

```
https://ip_address/nps/servlet/webacc?taskid=fw Startup
```

Replace *ip_address* with the IP address of the OES Linux server.

2 Specify the eDirectory administrator user name, such as `admin.users.novell`, the password for the user name, and the IP address of the eDirectory tree, then click *Login*.

3 Continue with [Creating a User to Manage the Samba Share](#).

Creating a User to Manage the Samba Share

- 1 In iManager, click *Users > Create User*.
- 2 In the *Username* field, specify a unique user name for accessing the Samba share from Windows, such as `gwclient`.
- 3 In the *Last name* field, provide a last name because it is a required field.
- 4 In the *Context* field, browse to and client the eDirectory context where you want to create the new User object.
- 5 Type, then retype the password for the new user.

IMPORTANT: Any users who map a drive to the Samba share need to know this user name and password in order to map the drive.

- 6 Click *OK* to create the Samba user for the Windows client Samba share.
- 7 Click *Users* to close the *Users* menu.
- 8 Continue with [Configuring the eDirectory Universal Password for Samba](#).

Configuring the eDirectory Universal Password for Samba

- 1 Click *Passwords > Password Policies*.
- 2 Click *Samba Default Password Policy*.
- 3 On the *Policy Assignment* tab, browse to and click the name of the Samba User object that you created in “[Creating a User to Manage the Samba Share](#)” on page 219, then click *OK* to add the user to the list.
- 4 Click *OK* to complete the process.
- 5 Continue with [Setting the eDirectory Universal Password for the Samba Administrator User](#).

Setting the eDirectory Universal Password for the Samba Administrator User

- 1 Under *Passwords*, click *Set Universal Password*.
- 2 Browse to and click the name of the Samba User object, then click *OK*.
- 3 Specify the password for the Samba user, retype the password for confirmation, then click *OK*.
- 4 Click *Passwords* to close the *Passwords* menu.
- 5 Continue with [Creating a Samba Share](#).

Creating a Samba Share

- 1 Click *File Protocols*, then click *Samba*.
- 2 Browse to and click the name of the Server object where you are setting up the Samba share.
- 3 On the *Shares* tab, create a new Samba share for the `client` directory on the Linux server:
 - 3a Click *New*.
 - 3b Specify a unique name for the Samba share, such as `gwclient`.
 - 3c Specify the full path name to the `client` directory on the Linux server, for example:

```
/opt/novell/groupwise/software/client
```
 - 3d Select *Read-Only*.

Write access is not required in order to install the Windows client software from the Linux server.

- 3e Click *OK* to add the location to the list of Samba shares, then click *Close*.
- 3f Click *File Protocols* to close the *File Protocols* menu.
- 4 Continue with [Setting the eDirectory Rights for the Samba Share](#).

Setting the eDirectory Rights for the Samba Share

- 1 Click *Files and Folders*, then click *Properties*.
- 2 Browse to and click the name of the Linux partition or directory where you created the new share, then click *OK*.
- 3 Click *Rights*.
- 4 In the *Add Trustee* field, browse to and click the name of the Samba User object, then click *OK*.
- 5 Under *Inherited Rights Filter*, select *Read*, then click *OK*.
- 6 Continue with [Testing Samba on the OES Linux Server](#).

Testing Samba on the OES Linux Server

- 1 Double-click the Home Directory icon on the Linux desktop.
- 2 Click 
- 3 In the Location field, type `smb://user_name@ip_address`
 - 3a Replace *user_name* with the user name of the Samba administrator user.
 - 3b Replace *ip_address* with the IP address of the Linux server.

The File Browser should display all Samba shares, including the new one that you created for the Windows client software.
- 4 Return to [Step 2 in Section 9.3.3, "Installing the GroupWise Windows Client from the Linux GroupWise 2012 Software Image," on page 217](#)

Mapping a Drive to a Samba Share on an OES Linux Server

- 1 On the Windows server, right-click **N** on the Windows taskbar, then click *Novell Map Network Drive*.
- 2 Select the drive letter to map to the NCP volume on the OES Linux server.
- 3 Specify the network path to the NCP volume in the following format:


```
\\linux_hostname\ncp_volume
```

 - 3a Replace *linux_hostname* with the hostname of the OES Linux server.
 - 3b Replace *ncp_volume* with the name of the NCP volume that you just created.
- 4 For the network user name, specify the fully qualified Samba user name for eDirectory., such as `gwclient.users.novell`.
- 5 Click *Map*.
- 6 Click *OK*.

The mapped drive to the OES Linux server opens in Windows Explorer and can now be accessed from Windows.
- 7 Return to [Step 3 in Section 9.3.3, "Installing the GroupWise Windows Client from the Linux GroupWise 2012 Software Image," on page 217](#).

Setting Up Samba on SLES

In order to access the Windows client software on a Linux server, you can set up a Samba share on the Linux server to the `client` directory, either in the downloaded *GroupWise 2012* software image or in the software distribution directory, if you have created one on the Linux server.

- ♦ [“Preparing Your Firewall to Allow Samba Connections” on page 221](#)
- ♦ [“Configuring the Samba Server” on page 221](#)
- ♦ [“Configuring the Samba Web Administration Tool \(SWAT\)” on page 221](#)
- ♦ [“Accessing SWAT” on page 221](#)
- ♦ [“Setting the Samba User Name and Password” on page 222](#)
- ♦ [“Creating a Samba Share” on page 222](#)

Preparing Your Firewall to Allow Samba Connections

- 1 In YaST, click *Firewall*, then click *Interfaces*.
- 2 Click *Change*, select *Internal Zone*, then click *OK*.
- 3 Click *Next* to view the summary, then click *Finish*.
- 4 Continue with [Configuring the Samba Server](#).

Configuring the Samba Server

- 1 In YaST, click *Network Services > Samba Server*.
- 2 Specify a workgroup or domain name, then click *Next*.
For use in your GroupWise system, the Samba server does not need to be part of a workgroup or domain, so it does not matter what you put in this field. For example, you could use `GWCLIENT`.
- 3 Select *Not a Domain Controller*, then click *Next*.
For use in your GroupWise system, the Samba server does not need to be a domain controller.
- 4 Under *Service Start*, select *During Boot*.
Because you prepared the firewall in [“Preparing Your Firewall to Allow Samba Connections” on page 221](#), the *Firewall Settings* section shows that the firewall port for Samba is already open.
- 5 Click *OK* to finish the basic configuration of the Samba server.
- 6 Continue with [Configuring the Samba Web Administration Tool \(SWAT\)](#)

Configuring the Samba Web Administration Tool (SWAT)

- 1 In YaST, click *Network Services > Network Services (xinetd)*.
- 2 Select *Enable*.
- 3 In the *Currently Available Services* list, select *swat*, then click *Toggle Status (On or Off)*.
SWAT is off by default; this turns it on.
- 4 Click *Finish*.
- 5 Continue with [“Accessing SWAT” on page 221](#)

Accessing SWAT

- 1 Display SWAT in your Web browser with the following URL:

http://localhost:901

- 2 Specify the root user name and password, then click *OK*.
- 3 On the SWAT toolbar, click *Status* to verify that `smbd` and `nmbd` are running.
It is not necessary for `winbindd` to be running.
- 4 Continue with [Setting the Samba User Name and Password](#).

Setting the Samba User Name and Password

- 1 On the SWAT toolbar, click *Password*.
- 2 In the *User Name* field, specify a unique user name for use when mapping a drive to the Samba share, such as `gwclient`.
- 3 Type, then retype, the password for the new user, then click *Add User*.

IMPORTANT: Any users who map a drive to the Samba share need to know this user name and password in order to map the drive.

- 4 Continue with [Creating a Samba Share](#).

Creating a Samba Share

- 1 On the SWAT toolbar, click *Shares*.
- 2 In the *Create Share* field, type a unique name for the share, such as `gwclient`, then click *Create Share*.
- 3 In the *Path* field, specify the full path name to the `client` directory on the Linux server.
- 4 Leave the *Read Only* field set to the default of *Yes*.
Write access is not required in order to install the Windows client software from the Linux server.
- 5 In the *Available* field, select *Yes*.
- 6 Click *Commit Changes*.
The Samba share on the Linux server is now ready for access from a Windows workstation.
- 7 Return to [Step 2 in Section 9.3.3, "Installing the GroupWise Windows Client from the Linux GroupWise 2012 Software Image," on page 217](#).

Mapping a Drive to a Samba Share on SLES

- 1 In Windows Explorer, right-click the Computer object, then click *Map network drive*.
- 2 In the *Drive* field, select the drive letter for the new Samba share.
- 3 In the *Folder* field, specify the location of the Samba share in the following format:

`\\ip_address\share_name`

- 3a** Replace `ip_address` with the IP address of the Linux server.
- 3b** Replace `share_name` with the name of the new Samba share where the Windows client software is available.
- 4 Deselect *Reconnect to logon*.
- 5 Select *Connect using different credentials*.
- 6 Specify the Samba share user name and password, then click *OK*.

The Samba share for the OES Linux file system opens in Windows Explorer and can now be accessed from Windows.

- 7 Return to [Step 3](#) in [Section 9.3.3, “Installing the GroupWise Windows Client from the Linux GroupWise 2012 Software Image,”](#) on page 217.

9.3.4 Implementing System-Wide Windows Client Rollouts

For a system-wide rollout of the GroupWise client software, see [“Distributing the GroupWise Windows Client”](#) in [“Client”](#) in the *GroupWise 2012 Administration Guide*.

9.3.5 Starting the Windows Client

At startup, the GroupWise Windows 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 2012 Administration Guide*.

- ♦ The user can provide the post office location when prompted.

To start the GroupWise Windows 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*.

See also [“Getting Started”](#) in the *GroupWise 2012 Windows Client User Guide*.

9.4 What’s Next

For information about using the features in the GroupWise Windows client, click *Help > Help Topics*, or *Help > User Guide* in the client. The user guides are also available on the [GroupWise 2012 Documentation Web site](http://www.novell.com/documentation/groupwise2012) (<http://www.novell.com/documentation/groupwise2012>).

10 Using Novell Messenger with GroupWise

Novell 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 Windows client to provide access to instant messaging features from within the GroupWise Windows client.

Novell 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 more information, see:

- ♦ *Novell Messenger 2.2 Installation Guide*
- ♦ *GroupWise and Messenger Quick Start* (http://www.novell.com/documentation/groupwise2012/pdfdoc/gw2012_qs_messenger22/gw2012_qs_messenger22.pdf)

11 Using the Novell Data Synchronizer Mobility Pack with GroupWise

You can use Novell Data Synchronizer to synchronize email and other Personal Information Manager (PIM) data from Novell GroupWise to mobile devices. The Mobility Pack includes Data Synchronizer, the GroupWise Connector, and the Mobility Connector. Additional connectors can be added to a Synchronizer system to synchronize GroupWise data to other supported applications.

For more information, see:

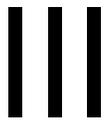
- ♦ [Novell Data Synchronizer Documentation Web site \(http://www.novell.com/documentation/datasynchronizer1\)](http://www.novell.com/documentation/datasynchronizer1)
- ♦ [Novell Data Synchronizer Connectors Documentation Web site \(http://www.novell.com/documentation/datasync_connectors1\)](http://www.novell.com/documentation/datasync_connectors1)

12 Using Novell Vibe with GroupWise

Novell Vibe enhances GroupWise by providing easy document management and document sharing, team calendars and task lists, workflows, discussion threads, wikis, blogs, RSS feeds, and more.

For more information, see:

- ♦ [Novell Vibe 3 Documentation Web site \(http://www.novell.com/documentation/vibe32\)](http://www.novell.com/documentation/vibe32)
- ♦ “Configuring GroupWise for Use with Novell Vibe” in the *GroupWise 2012 Interoperability Guide*
- ♦ *GroupWise and Vibe Quick Start* (http://www.novell.com/documentation/groupwise2012/pdfdoc/gw2012_qs_vibe/gw2012_qs_vibe.pdf)



Update

- ♦ Chapter 13, “What’s New in GroupWise 2012,” on page 233
- ♦ Chapter 14, “Understanding the Update Process,” on page 239
- ♦ Chapter 15, “Migrating Away from NetWare,” on page 245
- ♦ Chapter 16, “Preparing Your GroupWise 8 System for the Update,” on page 249
- ♦ Chapter 17, “Installing the GroupWise 2012 Software,” on page 251
- ♦ Chapter 18, “Updating the Primary Domain,” on page 257
- ♦ Chapter 19, “Updating Secondary Domains,” on page 259
- ♦ Chapter 20, “Updating Post Offices,” on page 261
- ♦ Chapter 21, “Updating the GroupWise Internet Agent,” on page 265
- ♦ Chapter 22, “Updating GroupWise WebAccess,” on page 267
- ♦ Chapter 23, “Updating the Calendar Publishing Host,” on page 273
- ♦ Chapter 24, “Updating GroupWise Monitor,” on page 277
- ♦ Chapter 25, “Updating Users’ GroupWise Windows Clients,” on page 281
- ♦ Chapter 26, “Updating Earlier GroupWise Systems to Version 2012,” on page 283
- ♦ Chapter 27, “Facilitating Coexistence with NetWare,” on page 285

13 What's New in GroupWise 2012

GroupWise 2012 provides substantial improvements over GroupWise 8 in six areas:

- ♦ [Section 13.1, "GroupWise Windows Client," on page 233](#)
- ♦ [Section 13.2, "GroupWise WebAccess," on page 234](#)
- ♦ [Section 13.3, "GroupWise WebAccess Mobile," on page 234](#)
- ♦ [Section 13.4, "GroupWise Agents and Applications," on page 234](#)
- ♦ [Section 13.5, "GroupWise Administration," on page 236](#)
- ♦ [Section 13.6, "GroupWise Video Demonstrations," on page 237](#)

13.1 GroupWise Windows Client

Substantial functionality has been added to the GroupWise Windows client to bring new convenience to frequently used features and to add new functionality. When you modify existing appointments by changing the subject, body text, attachments, and so on, changes display automatically in recipients' Calendars. However, when you modify the date, time, or place, recipients have the opportunity to re-accept the appointment. Appointment modifications also carry through to delegated appointments. The Multi-User Calendar now includes week, month, and year views, with adjustable columns. Scheduling recurring appointments is much easier, as is editing attached documents. Those who share folders can enjoy sharing an entire folder tree in a single operation. Name completion remembers who you selected last time and displays the most relevant users first. Integrations have been added for Skype and the Windows 7 taskbar. Speller technology has been upgraded to provide higher quality for all supported languages.

For information about using new features in the GroupWise Windows client, click *Help > What's New*, or see ["What's New in the GroupWise 2012 Windows Client"](#) in the *GroupWise 2012 Windows Client User Guide*.

The following Windows client enhancements have been added for administrators:

- ♦ The GroupWise Windows client software has been added to the downloaded Linux *GroupWise 2012* software image to simplify distribution of the Windows client.

See [Section 9.3.3, "Installing the GroupWise Windows Client from the Linux GroupWise 2012 Software Image," on page 217](#).

- ♦ The GroupWise SetupIP software has been added to the downloaded Linux *GroupWise 2012* software image to simplify distribution of the Windows client.

See ["Using GroupWise AutoUpdate and SetupIP to Distribute the GroupWise Windows Client" in "Client"](#) in the *GroupWise 2012 Administration Guide*.

- ♦ The GroupWise Windows client software has been enhanced so that it is much easier to install using ZENworks Configuration Management.

See ["Using ZENworks Configuration Management to Distribute the GroupWise Windows Client" in "Novell ZENworks"](#) in the *GroupWise 2012 Interoperability Guide*.

- ♦ Video demonstrations are available for installing the GroupWise 2012 Windows client:
 - ♦ [Windows Client Installation on Windows 7 from a Linux Server \(https://www.youtube.com/watch?v=wNxvEF9xnM\)](https://www.youtube.com/watch?v=wNxvEF9xnM)
 - ♦ [Windows Client Installation on Windows 7 from the GroupWise Media \(https://www.youtube.com/watch?v=6JqKA5joXQ8\)](https://www.youtube.com/watch?v=6JqKA5joXQ8)
 - ♦ [Windows Client Installation on Windows XP from a Linux Server \(http://www.youtube.com/watch?v=a3tmY1meL_E\)](http://www.youtube.com/watch?v=a3tmY1meL_E)
 - ♦ [Windows Client Installation on Windows XP from the GroupWise Media \(http://www.youtube.com/watch?v=M363C_5uSSA\)](http://www.youtube.com/watch?v=M363C_5uSSA)

13.2 GroupWise WebAccess

Substantial functionality has been added to GroupWise WebAccess to bring it closer to the functionality available in the GroupWise Windows client. The Messages list can be sorted by any column, in ascending or descending order. Addressing messages is easier with the new Address Selector, rather than going into the Address Book. Photos can be added to contacts in your personal address books. Managing personal groups is easier. You can schedule recurring appointments. You can create HTML and plain text signatures, and the same signatures are available in WebAccess and in the Windows client. The Busy Search interface has been substantially improved.

For information about using new features in GroupWise WebAccess, click  *Help > What's New in GroupWise 2012 WebAccess*, or see “[What's New In GroupWise 2012 WebAccess](#)” in the *GroupWise 2012 WebAccess User Guide*.

The following WebAccess enhancements have been added for administrators:

- ♦ As an administrator, you can provide contact information for users who forget their passwords.

See “[Helping Users Who Forget Their GroupWise Passwords](#)” in “[WebAccess](#)” in the *GroupWise 2012 Administration Guide*.
- ♦ A video demonstration is available for installing GroupWise 2012 WebAccess on Linux:
 - ♦ [Linux WebAccess Installation \(https://www.youtube.com/watch?v=gaeXakwmXpM\)](https://www.youtube.com/watch?v=gaeXakwmXpM)

13.3 GroupWise WebAccess Mobile

GroupWise 2012 includes a new WebAccess interface designed for use on the Apple iPad. It enables you to access your GroupWise mailbox from your iPad with the standard iPad look and feel. You can compose, retract, read, reply to, and forward email messages, as well as check the status of sent items. You can schedule appointments for yourself and others, as well as accept, decline, and delegate appointments. You can create tasks for yourself and others, and view the Tasklist folder. Robust search capabilities are available.

For information about using GroupWise WebAccess on tablets such as the Apple iPad, click *More > Help* in WebAccess, or see the *GroupWise 2012 WebAccess Mobile User Guide*.

13.4 GroupWise Agents and Applications

- ♦ [Section 13.4.1, “Message Transfer Agent,” on page 235](#)
- ♦ [Section 13.4.2, “Post Office Agent,” on page 235](#)
- ♦ [Section 13.4.3, “Document Viewer Agent,” on page 235](#)

- ♦ [Section 13.4.4, “GroupWise Internet Agent,”](#) on page 236
- ♦ [Section 13.4.5, “GroupWise WebAccess,”](#) on page 236
- ♦ [Section 13.4.6, “GroupWise Calendar Publishing Host,”](#) on page 236
- ♦ [Section 13.4.7, “GroupWise Monitor,”](#) on page 236
- ♦ [Section 13.4.8, “Demonstration Videos for Installing the Agents and WebAccess,”](#) on page 236

13.4.1 Message Transfer Agent

The GroupWise 2012 Message Transfer Agent (MTA) includes no changes from the previous release.

13.4.2 Post Office Agent

- ♦ The GroupWise 2012 Post Office Agent (POA) supports the WebAccess Application as a SOAP client, eliminating the need for the WebAccess Agent.

See the following sections of the *GroupWise 2012 Administration Guide* for configuration details:

- ♦ [“Supporting SOAP Clients”](#) in [“Post Office Agent”](#)
- ♦ [“Multiple POAs for a WebAccess Application”](#) in [“WebAccess”](#)
- ♦ The GroupWise 2012 POA can be configured to use the newly independent Document Viewer Agent (DVA) to convert attached documents into HTML format for indexing, instead of the Document Converter Agent (DCA) that is integrated into the POA.
See [“Enabling the Document Viewer Agent \(DVA\) for Indexing”](#) in [“Post Office Agent”](#) in the *GroupWise 2012 Administration Guide*.
- ♦ The GroupWise 2012 POA maintains a symbolic link to a file named `poa.currentlog`, where `poa` is the name of the POA eDirectory object file. This link points to the current POA log file, regardless of the POA log file name, which includes the log file creation date and an incrementing extension for multiple log files created on the same date. This facilitates monitoring the current POA log file using the `tail` command.
See [“Viewing POA Log Files”](#) in [“Post Office Agent”](#) in the *GroupWise 2012 Administration Guide*.
- ♦ In the GroupWise 2012 POA Web console, the POA displays thread IDs, so that you can track the activity of specific threads through one or more POA log files.
See [“Monitoring and Tracking POA Threads”](#) in [“Post Office Agent”](#) in the *GroupWise 2012 Administration Guide*.

13.4.3 Document Viewer Agent

- ♦ The Document Viewer Agent (DVA) that was previously part of WebAccess is now an independent agent, so that its capabilities can be used by the POA as well as by WebAccess.

See [Section 8.1, “GroupWise Agent Overview,”](#) on page 175.

- ♦ You can set up multiple DVAs to provide improved responsiveness for WebAccess users.
See [“Scaling Your DVA Installation”](#) in [“Document Viewer Agent”](#) in the *GroupWise 2012 Administration Guide*.
- ♦ The DVA can be installed along with the POA, or it can be installed separately.
See [“DVA Installation on Additional Servers”](#) in [“Document Viewer Agent”](#) in the *GroupWise 2012 Administration Guide*.

13.4.4 GroupWise Internet Agent

- ♦ When the GroupWise 2012 Internet Agent (GWIA) is configured to use a relay server and an outbound message is undeliverable, the GWIA transfers the undeliverable message received from the relay server into the sender's GroupWise mailbox. This improved functionality makes undeliverable status more readily available to GroupWise users, as opposed to needing to check the properties of the sent item to see whether it has been delivered.

13.4.5 GroupWise WebAccess

- ♦ To simplify WebAccess administration, the WebAccess Agent has been eliminated in GroupWise 2012. The WebAccess Application now communicates directly with the Post Office Agent.

See [Section 5.1, "GroupWise WebAccess Application Overview,"](#) on page 103.

- ♦ GroupWise WebAccess is no longer configured in ConsoleOne. Instead, it is configured in the `webacc.cfg` file.

See "WebAccess" in the *GroupWise 2012 Administration Guide*.

13.4.6 GroupWise Calendar Publishing Host

- ♦ The GroupWise 2012 Calendar Publishing Host includes two new configuration settings:
 - ♦ Auto-refresh capability for published calendars
 - ♦ Selection of a default published calendar view

See "Configuring the Calendar Publishing Host" in "Calendar Publishing Host" in the *GroupWise 2012 Administration Guide*.

13.4.7 GroupWise Monitor

- ♦ The GroupWise Monitor Application is no longer configured in ConsoleOne. Instead, it is configured in the `gwmonitor.cfg` file.

See "Configuring the Monitor Application" in "Monitor" in the *GroupWise 2012 Administration Guide*.

13.4.8 Demonstration Videos for Installing the Agents and WebAccess

Video demonstrations are available for installing the GroupWise 2012 agents and WebAccess:

- ♦ [Linux MTA and POA Installation \(http://www.youtube.com/watch?v=8F3GIfF5qQw\)](http://www.youtube.com/watch?v=8F3GIfF5qQw)
- ♦ [Linux GWIA Installation \(http://www.youtube.com/watch?v=1aO3RTirEuu\)](http://www.youtube.com/watch?v=1aO3RTirEuu)
- ♦ [Windows MTA, POA, and GWIA Installation \(http://www.youtube.com/watch?v=ozPqfgs9Eew\)](http://www.youtube.com/watch?v=ozPqfgs9Eew)
- ♦ [Linux WebAccess Installation \(https://www.youtube.com/watch?v=gaeXakwmXpM\)](https://www.youtube.com/watch?v=gaeXakwmXpM)

13.5 GroupWise Administration

- ♦ You can define the URL where free/busy schedule status is published for a user or a resource in an external email system. This enables GroupWise users to receive Busy Search results from the external user or resource along with Busy Search results from other GroupWise users.

See [“Configuring External Users and Resources to Appear in GroupWise Busy Searches”](#) in [“System”](#) in the *GroupWise 2012 Administration Guide*.

- ♦ In the GroupWise Windows client, users can set the format that they want to use for replies to GroupWise items. The Reply Format options in ConsoleOne control which reply format options are available to users in the GroupWise client.

See [“Environment Options: Reply Format”](#) in [“Client”](#) in the *GroupWise 2012 Administration Guide*.

- ♦ By default, the POA automatically updates the post office database (`wphost.db`) with changes to the Address Book as they occur. As a result, whenever a Caching or Remote client connects to the GroupWise system, it automatically downloads any updates to the Address Book that have occurred since the last time it connected. Because the Address Book updates are stored as records in the post office database, this feature causes the post office database to grow in size as time passes. You can now disable this functionality, if necessary.

See [“Controlling Address Book Synchronization for Caching and Remote Client Users”](#) in [“System”](#) in the *GroupWise 2012 Administration Guide*.

- ♦ The online help in the GroupWise agent server consoles, agent Web consoles, and utilities has been improved to link directly to specifically related topics in the GroupWise online documentation, instead of linking to the GroupWise Documentation Web site. This provides more convenient access to detailed documentation for the GroupWise agents and utilities.

13.6 GroupWise Video Demonstrations

Video demonstrations help you use the new features in GroupWise 2012 quickly and easily.

- ♦ [Section 13.6.1, “Agent Installation Demonstrations,”](#) on page 237
- ♦ [Section 13.6.2, “Windows Client Installation Demonstrations,”](#) on page 237
- ♦ [Section 13.6.3, “Windows Client Demonstrations,”](#) on page 238
- ♦ [Section 13.6.4, “WebAccess Demonstrations,”](#) on page 238

13.6.1 Agent Installation Demonstrations

GroupWise 2012 Beta videos by our GroupWise trainer:

- ♦ [Linux MTA and POA Installation](#)
- ♦ [Linux GWIA Installation](#)
- ♦ [Windows MTA, POA, and GWIA Installation](#)
- ♦ [Linux WebAccess Installation](#)

13.6.2 Windows Client Installation Demonstrations

GroupWise 2012 Beta videos by our GroupWise trainer:

- ♦ [Windows Client Installation on Windows 7 from a Linux Server](#)
- ♦ [Windows Client Installation on Windows 7 from the GroupWise Media](#)
- ♦ [Windows Client Installation on Windows XP from a Linux Server](#)
- ♦ [Windows Client Installation on Windows XP from the GroupWise Media](#)

13.6.3 Windows Client Demonstrations

GroupWise 2012 What's New videos:

- ♦ [Appointment Modification When Changing the Subject, Message, or To List](#)
- ♦ [Appointment Modification When Changing the Place or Time](#)
- ♦ [Appointment Modification for Delegated Appointments](#)
- ♦ [Appointment Duplication for Creating Appointment Templates](#)
- ♦ [Appointment Conflict Resolution for Auto-Accepted Appointments](#)
- ♦ [Recurring Appointments](#)
- ♦ [Multi-User Calendar](#)
- ♦ [Folder-Tree Sharing](#)
- ♦ [Relevance in Name Completion, Category Lists, and Favorites Folder](#)
- ♦ [Save As Dialog](#)
- ♦ [Sent Item Properties](#)
- ♦ [SMS, Skype, Click-to-Call](#)
- ♦ [Windows 7 Taskbar Integration](#)

For additional videos and to get acquainted with some GroupWise engineers and testers, see [GroupWise 2012 Windows Client "How To" Demos \(http://www.novell.com/products/groupwise/resource-library.html#windowsdemos\)](http://www.novell.com/products/groupwise/resource-library.html#windowsdemos).

13.6.4 WebAccess Demonstrations

GroupWise 2012 What's New videos:

- ♦ [Contact Enhancements](#)
- ♦ [General Enhancements](#)
- ♦ [Graphical Busy Search](#)
- ♦ [HTML Signatures](#)
- ♦ [Recurring Appointments](#)
- ♦ [WebAccess Mobile \(Tablet Interface\)](#)

For additional videos and to get acquainted with some GroupWise engineers and testers, see [GroupWise 2012 WebAccess "How To" Demos \(http://www.novell.com/products/groupwise/resource-library.html#webdemos\)](http://www.novell.com/products/groupwise/resource-library.html#webdemos).

14 Understanding the Update Process

You can update a Novell GroupWise 5.x, 6.x, 7, or 8 system to GroupWise 2012.

NOTE: To update a GroupWise 4.x system to GroupWise 2012, you must first update the system to at least GroupWise 5.x. The functionality to update from GroupWise 4.x is not part of the GroupWise 2012 Administrator snap-ins to ConsoleOne.

If you are not updating from GroupWise 8, review [Chapter 26, “Updating Earlier GroupWise Systems to Version 2012,”](#) on page 283 before beginning the update process.

Before you begin updating any aspect of your GroupWise system to GroupWise 2012, review the following sections to help you plan a successful update strategy:

- ◆ [Section 14.1, “Understanding How to Handle NetWare in Your Existing GroupWise System,”](#) on page 240
- ◆ [Section 14.2, “Understanding eDirectory Schema Extensions,”](#) on page 240
- ◆ [Section 14.3, “Understanding GroupWise Software Updates,”](#) on page 240
- ◆ [Section 14.4, “Understanding Domain and Post Office Database Updates by the GroupWise Agents,”](#) on page 241
- ◆ [Section 14.5, “Understanding GroupWise Client Updates,”](#) on page 242
- ◆ [Section 14.6, “Understanding Internet Agent Updates,”](#) on page 242
- ◆ [Section 14.7, “Understanding WebAccess Updates,”](#) on page 242
- ◆ [Section 14.8, “Understanding Calendar Publishing Host Updates,”](#) on page 243
- ◆ [Section 14.9, “Understanding Monitor Updates,”](#) on page 243
- ◆ [Section 14.10, “Understanding GroupWise Gateway Compatibility,”](#) on page 243

IMPORTANT: After you understand the update process in general, you are ready to update specific components of your existing GroupWise system. Do not start updating your GroupWise system until you have a solid understanding of the entire process.

For a large GroupWise system, you might need to maintain a mixed-version environment as you roll out GroupWise 2012. For a table showing which GroupWise 7 and 8 components can be used with GroupWise 2012, see [Appendix A, “GroupWise Version Compatibility,”](#) on page 289.

14.1 Understanding How to Handle NetWare in Your Existing GroupWise System

GroupWise 2012 does not include GroupWise agents that run on NetWare, because NetWare has entered the Extended Support phase of the Novell Support Life cycle. For more information, see TID 7003092, “NetWare Support,” in the [Novell Support Knowledgebase \(http://www.novell.com/support\)](http://www.novell.com/support). If you do not have any NetWare servers in your GroupWise system, skip to [Section 14.2, “Understanding eDirectory Schema Extensions,”](#) on page 240.

If you currently have NetWare servers in your GroupWise system, you must decide how to handle them as you move forward with your GroupWise 2012 update. You have several alternatives:

- ♦ Migrate NetWare servers to OES Linux.
- ♦ Move domains and post offices from NetWare servers to [supported Linux servers](#).
- ♦ Move domains and post offices from NetWare servers to [supported Windows servers](#).

You might decide to use one or more of these alternatives as you update your GroupWise system to GroupWise 2012. Instructions for each alternative are provided in [Chapter 15, “Migrating Away from NetWare,”](#) on page 245. However, it is important that you understand the overall update process before you begin making any changes to the servers in your existing GroupWise system.

14.2 Understanding eDirectory Schema Extensions

GroupWise 2012 does not include any new eDirectory schema extensions compared with GroupWise 8.

14.3 Understanding GroupWise Software Updates

The GroupWise 2012 system requirements are different from previous GroupWise system requirements. To review the system requirements, see [Chapter 2, “GroupWise System Requirements,”](#) on page 19.

- ♦ [Section 14.3.1, “Software Distribution Directory,”](#) on page 240
- ♦ [Section 14.3.2, “ConsoleOne,”](#) on page 240

14.3.1 Software Distribution Directory

The GroupWise Installation program helps you copy the GroupWise 2012 software (administration, agents, Windows client, and so on) to a GroupWise software distribution directory. This can be an existing software distribution directory or a new software distribution directory.

14.3.2 ConsoleOne

GroupWise 2012 is administered through ConsoleOne, using the version listed in [Section 2.1, “GroupWise Administration Requirements,”](#) on page 19. You can use the same version of ConsoleOne to administer earlier GroupWise components in your GroupWise system. However, earlier versions of ConsoleOne should not be used to administer GroupWise 2012 domains, post offices, agents, or other GroupWise 2012 objects.

The Linux and Windows versions of ConsoleOne are included in the downloaded *GroupWise 2012* software image.

IMPORTANT: You must use the version of ConsoleOne that is included with GroupWise 2012. It is not the same as the version of ConsoleOne that comes with OES Linux or that can be downloaded from Novell Downloads.

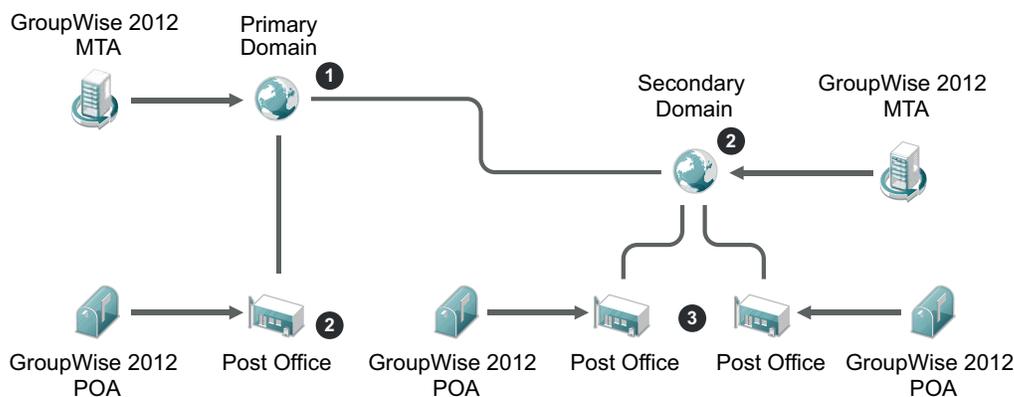
You can install the GroupWise 2012 version of ConsoleOne at the same time as the other GroupWise 2012 software. For instructions, see [“ConsoleOne” on page 32](#).

For more information about ConsoleOne, see [“ConsoleOne Administration Tool”](#) in [“System”](#) in the [GroupWise 2012 Administration Guide](#).

14.4 Understanding Domain and Post Office Database Updates by the GroupWise Agents

Functionality enhancements in GroupWise 2012 require the GroupWise domain and post office databases to be updated with new records and fields, similar to the schema extensions that are sometimes required for eDirectory. Each domain is updated when you install and start the GroupWise 2012 MTA. Each post office is updated when you install and start the GroupWise 2012 POA.

The following diagram illustrates the required update sequence.



1. Update the primary domain first, so that correct replication of GroupWise 2012 information can take place as you update secondary domains and post offices.
2. Update the post offices in the primary domain.
or
Update secondary domains.
3. Update the post offices in the updated secondary domains.

The first time you run the GroupWise 2012 MTA against a domain, the MTA rebuilds the domain database ([wpdomain.db](#)), so that the database includes the records required for new GroupWise 2012 information. The MTA uses a new domain dictionary file ([gwdom.dc](#)) to rebuild the database for use with GroupWise 2012.

Likewise, the first time you run the GroupWise 2012 POA against the post office, the POA rebuilds the post office database ([wphost.db](#)), so that the database includes the new records required for GroupWise 2012 information. The POA uses a new post office dictionary file ([gwpo.dc](#)), which it requests from the MTA in the updated owning domain, to rebuild the database for use with GroupWise 2012. A user cannot run GroupWise 2012 Windows client until his or her post office has been updated.

14.5 Understanding GroupWise Client Updates

After a post office is updated to version 2012, users can run the GroupWise 2012 Windows client on workstations that meet the requirements listed in [Section 2.2, “GroupWise User Requirements,” on page 22](#). If necessary, they can also continue to run their older GroupWise Windows client, but they will not have GroupWise 2012 functionality.

IMPORTANT: Users who need to proxy into other users’ mailboxes should not update to the GroupWise 2012 Windows client until the proxy users’ post office has been updated to version 2012. GroupWise 2012 Windows client users cannot proxy into users’ mailboxes that have not been updated to GroupWise 2012.

For a list of new features in the GroupWise 2012 Windows client, see [Chapter 13, “What’s New in GroupWise 2012,” on page 233](#).

14.6 Understanding Internet Agent Updates

Older GWIAs can run against GroupWise 2012 domains and post offices, which means that you can continue to use older GWIAs until all domains and post offices are updated to version 2012.

For a list of new features in the GroupWise 2012 GWIA, see [Chapter 13, “What’s New in GroupWise 2012,” on page 233](#).

IMPORTANT: If you are updating to GroupWise 2012 from GroupWise 7 or earlier, you need to understand the important changes to where GWIA configuration information is stored that occurred in GroupWise 8. To understand the changes, see “[Using Internet Agent Startup Switches](#)” in “[Internet Agent](#)” in the *GroupWise 8 Administration Guide*.

14.7 Understanding WebAccess Updates

As you plan how to update GroupWise WebAccess, you need to understand that the WebAccess Agent is no longer part of GroupWise 2012. For a discussion of the new architecture, see [Section 5.1, “GroupWise WebAccess Application Overview,” on page 103](#).

Linux: When you update any software to GroupWise 2012 on a Linux server where the WebAccess Agent is installed, you are prompted to remove it. You should let the WebAccess Installation program remove the obsolete WebAccess Agent software for you, because removing the software is required for the update.

Windows: On a Windows server where the WebAccess Agent is installed, the WebAccess Installation program does not remove the WebAccess Agent software. You must manually remove it, as described in [Section 22.2.3, “Removing the WebAccess Agent Software,” on page 270](#).

The Installation program does not remove the associated WebAccess eDirectory objects. You will manually remove these objects later, as described in [Section 22.2.2, “Deleting Obsolete WebAccess eDirectory Objects,” on page 269](#).

In GroupWise 8, the WebAccess Agent was responsible for handling access control for WebAccess users, as described in “[Controlling User Access to Mailboxes](#)” in “[WebAccess](#)” in the *GroupWise 8 Administration Guide*. Because GroupWise 2012 no longer has the WebAccess Agent, access control for WebAccess is handled differently, as described in “[Controlling WebAccess Usage](#)” in “[WebAccess](#)” in the *GroupWise 2012 Administration Guide*.

For a list of new features in GroupWise 2012 WebAccess, see [Chapter 13, “What’s New in GroupWise 2012,”](#) on page 233.

IMPORTANT: As long as your GroupWise 2012 system includes GroupWise 8 or earlier domains that still include WebAccess Agent and WebAccess Application objects in eDirectory, you must run the version of ConsoleOne that matches the version of the domain and WebAccess components. The GroupWise 2012 version of ConsoleOne cannot be used to modify WebAccess eDirectory objects.

14.8 Understanding Calendar Publishing Host Updates

The Calendar Publishing Host can be updated to GroupWise 2012 at any time after the POA that it communicates with has been updated.

14.9 Understanding Monitor Updates

GroupWise Monitor is not dependent on any other GroupWise agents, so it can be updated to GroupWise 2012 at any time. GroupWise 2012 Monitor does not include any functionality enhancements, although it no longer relies on eDirectory objects for its configuration information. All configuration information is located in the `gwmonitor.cfg` file instead.

The Installation program does not remove the associated Monitor eDirectory objects. You will manually remove these objects later, as described in [Section 24.2.1, “Deleting Obsolete Monitor eDirectory Objects,”](#) on page 278.

14.10 Understanding GroupWise Gateway Compatibility

There are no known issues with using GroupWise gateways with GroupWise 2012, although GroupWise gateways are legacy products that are not supported with the current GroupWise version.

15 Migrating Away from NetWare

GroupWise 2012 does not include GroupWise agents that run on NetWare because NetWare is in the Extended Support phase of the Novell Support Life cycle. For more information, see TID 7003092, "NetWare Support," in the [Novell Support Knowledgebase \(http://www.novell.com/support\)](http://www.novell.com/support).

When your GroupWise system includes NetWare GroupWise agents, you have several alternatives for updating to GroupWise 2012:

- ♦ [Section 15.1, "Migrating NetWare Servers to OES Linux," on page 245](#)
- ♦ [Section 15.2, "Migrating Domains and Post Offices from NetWare Servers to Linux Servers," on page 246](#)
- ♦ [Section 15.3, "Moving Domains and Post Offices from NetWare Servers to Windows Servers," on page 246](#)
- ♦ [Section 15.4, "Re-establishing eDirectory User Synchronization after Migration," on page 247](#)
- ♦ [Section 15.5, "Migrating a Remote Document Storage Area from a NetWare Server to a Linux or Windows Server," on page 247](#)

For assistance with managing your GroupWise system during the migration process, see [Chapter 27, "Facilitating Coexistence with NetWare," on page 285](#).

15.1 Migrating NetWare Servers to OES Linux

Novell Open Enterprise Server (OES) includes complete instructions for migrating from the NetWare version or OES to the Linux version or OES. For instructions, see the documentation for the supported versions of OES Linux:

- ♦ [Open Enterprise Server 2 SP3 Documentation Web site \(http://www.novell.com/documentation/oes2/\)](http://www.novell.com/documentation/oes2/)
- ♦ [Open Enterprise Server 11 Documentation Web site \(http://www.novell.com/documentation/oes11\)](http://www.novell.com/documentation/oes11/)

In particular, refer to the *Migration Best Practices Guide*.

IMPORTANT: After the migration from NetWare to OES Linux and before you update to GroupWise 2012, ensure that your GroupWise system functions correctly with the original version of the GroupWise software. Ensure that eDirectory user synchronization is functioning on Linux, as described in [Section 15.4, "Re-establishing eDirectory User Synchronization after Migration," on page 247](#).

After you have migrated the NetWare servers where domains and post offices are located to OES Linux, you are ready to update your GroupWise system to GroupWise 2012. Skip to [Chapter 16, "Preparing Your GroupWise 8 System for the Update," on page 249](#).

15.2 Migrating Domains and Post Offices from NetWare Servers to Linux Servers

You can use the GroupWise Server Migration Utility to move domains and post offices from NetWare servers to Linux servers. For instructions, see the [GroupWise Server Migration Guide](#).

IMPORTANT: After you migrate the domains and post offices to the [supported version of Linux](#) and before you update to GroupWise 2012, ensure that your GroupWise system functions correctly with the original version of the GroupWise software. Ensure that eDirectory user synchronization is functioning on Linux, as described in [Section 15.4, “Re-establishing eDirectory User Synchronization after Migration,”](#) on page 247.

After you have migrated the domains and post offices from NetWare to Linux, you are ready to update your GroupWise system to GroupWise 2012. Skip to [Chapter 16, “Preparing Your GroupWise 8 System for the Update,”](#) on page 249.

15.3 Moving Domains and Post Offices from NetWare Servers to Windows Servers

The Windows server where you move domains and post offices must be running a [supported version of Windows Server](#).

- 1 Stop all NetWare GroupWise agents on the NetWare server.
- 2 Map a drive from the Windows server where you want to move the domain and/or post office to the NetWare server where the domain or post office currently resides.
- 3 Copy the entire directory structure for the domain and/or post office from the NetWare server to the Windows server.

For detailed instructions for the copy procedure, see “[Moving a Domain](#)” and “[Moving a Post Office](#)” in the [GroupWise 2012 Administration Guide](#):

- 4 Install the existing version of the GroupWise agents (MTA and POA) on the Windows server, specifying the new location for the domain and/or post office during the installation process.

NOTE: It is not necessary to install the existing version of the GWIA and WebAccess on the Windows server. You will simply install the GroupWise 2012 versions at the appropriate time in the update process.

- 5 In ConsoleOne, edit the GroupWise Agent objects to use the IP address or DNS hostname of the Windows server.
- 6 Make sure that the existing versions of the agents run successfully for the domain and/or post office in the new Windows location.

IMPORTANT: After the after the move from NetWare to Windows and before you update to GroupWise 2012, ensure that your GroupWise system functions correctly with the original version of the GroupWise software. Ensure that eDirectory user synchronization is functioning on Windows, as described in [Section 15.4, “Re-establishing eDirectory User Synchronization after Migration,”](#) on page 247.

After you have moved the domains and post offices from NetWare to Windows, you are ready to update your GroupWise system to GroupWise 2012. Continue with [Preparing Your GroupWise 8 System for the Update](#).

15.4 Re-establishing eDirectory User Synchronization after Migration

After you have migrated the MTA from NetWare to Linux or Windows, you must ensure that eDirectory user synchronization continues uninterrupted.

- ♦ [Section 15.4.1, “Setting the New Agent Platform,” on page 247](#)
- ♦ [Section 15.4.2, “Reconfiguring eDirectory User Synchronization,” on page 247](#)

15.4.1 Setting the New Agent Platform

- 1 In ConsoleOne, browse to and right-click the MTA object for each migrated MTA, then click *Properties*.
- 2 In the *Platform* field, change *NetWare* to *Linux* or *Windows* as needed, then click *OK*.
- 3 Continue with [Reconfiguring eDirectory User Synchronization](#).

15.4.2 Reconfiguring eDirectory User Synchronization

- 1 Click *Tools > GroupWise System Operations > eDirectory User Synchronization*.
- 2 In the *Status* column, make sure that at least one MTA displays eDirectory user synchronization as *Enabled*.
- 3 Adjust the assignments for other migrated MTAs as needed.
For complete instructions on using the eDirectory User Synchronization feature in ConsoleOne, see [“Using eDirectory User Synchronization”](#) in [“Message Transfer Agent”](#) in the *GroupWise 2012 Administration Guide*.
- 4 Click *OK* to save the updated eDirectory user synchronization configuration.

15.5 Migrating a Remote Document Storage Area from a NetWare Server to a Linux or Windows Server

Refer to TID 7010085, “Remote Documents Migration Procedure,” in the [Novell Support Knowledgebase](#) (<http://www.novell.com/support>).

16 Preparing Your GroupWise 8 System for the Update

To prepare your GroupWise system to be updated to version 2012, complete the following tasks:

- ♦ If you are updating from a version of GroupWise earlier than GroupWise 8, update the eDirectory schema for all trees that contain GroupWise objects, as described in [Section 14.2, “Understanding eDirectory Schema Extensions,”](#) on page 240.
- ♦ 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 current GroupWise version at the [Novell Documentation Web site \(http://www.novell.com/documentation\)](http://www.novell.com/documentation).
- ♦ Back up each domain or post office immediately before updating it. For information about backing up your GroupWise databases, see the documentation for your current 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 GroupWise Installation program prompts 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:
 - ♦ [“Basic GroupWise System Worksheet”](#) on page 72 (includes administration, domain, post office, and agent information)
 - ♦ [“GroupWise Internet Agent Installation Worksheet”](#) on page 99
 - ♦ [“GroupWise WebAccess Installation Worksheet”](#) on page 120
 - ♦ [“GroupWise Calendar Publishing Host Installation Worksheet”](#) on page 148
 - ♦ [“GroupWise Monitor Installation Worksheets”](#) on page 171
 - ♦ [“GroupWise Agent Installation Worksheet”](#) on page 208
- ♦ Ensure that all GroupWise Windows client user workstations are running a [supported version of Windows](#).

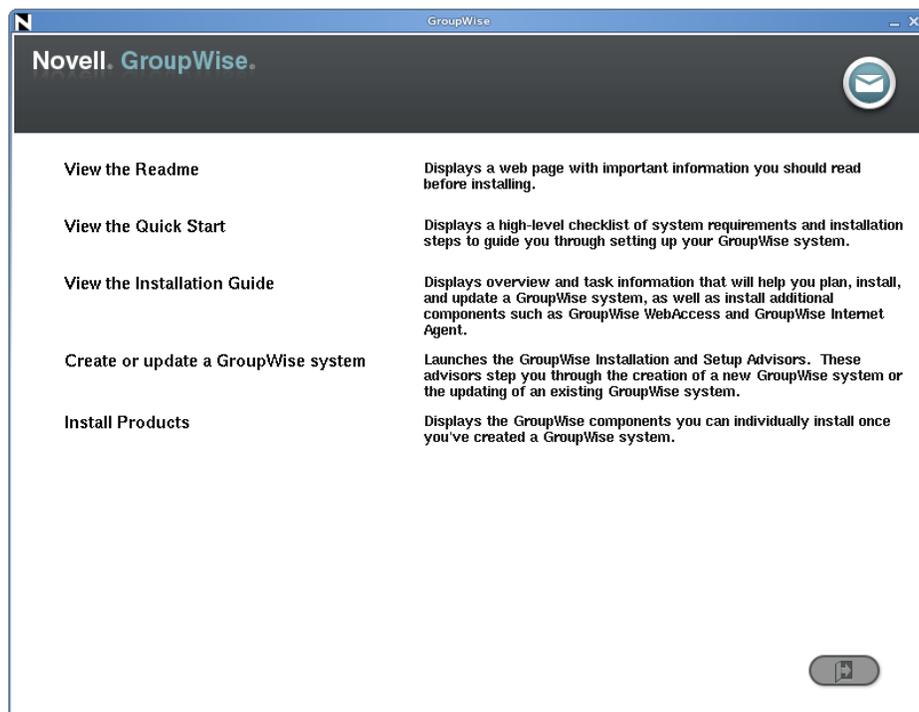
17 Installing the GroupWise 2012 Software

Before installing the GroupWise 2012 software, review the background information provided in [Chapter 14, “Understanding the Update Process,”](#) on page 239 and complete the tasks listed in [Chapter 16, “Preparing Your GroupWise 8 System for the Update,”](#) on page 249. Then follow the installation instructions provided for the platform where your GroupWise system is located.

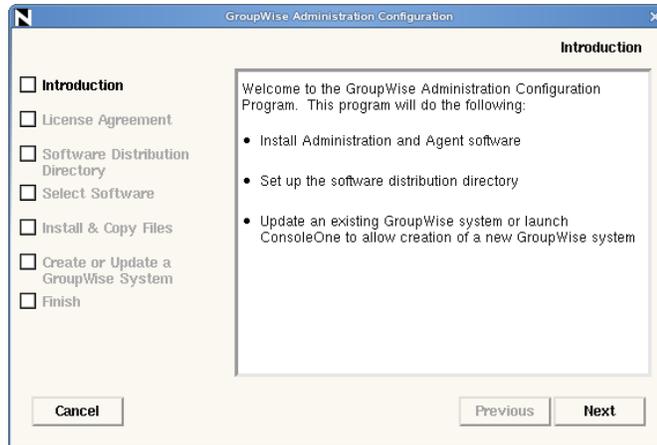
- ♦ [Section 17.1, “Linux: Installing the GroupWise 2012 Software,”](#) on page 251
- ♦ [Section 17.2, “Windows: Installing the GroupWise 2012 Software,”](#) on page 254

17.1 Linux: Installing the GroupWise 2012 Software

- 1 (Conditional) If you are updating from a version of GroupWise earlier than GroupWise 8, make sure that you have updated the eDirectory schema for eDirectory trees that contain GroupWise objects, as described in [Section 14.2, “Understanding eDirectory Schema Extensions,”](#) on page 240.
- 2 In a terminal window, become root by entering `su -` and the root password.
- 3 Stop the MTA for the primary domain of your GroupWise system.
- 4 Run `./install` from the root of the downloaded *GroupWise 2012* software image.
- 5 Select the language in which you want to run the GroupWise Installation program, then click *OK*.



6 Click *Create or Update a GroupWise System*.



7 Accept the License Agreement, then click *Next*.

8 Follow the prompts to provide the following information from your [Basic GroupWise System Worksheet](#).

[Software Distribution Directory
Software Selection](#)

If the Installation program detects that the WebAccess Agent is installed on the server, it notifies you that the WebAccess Agent needs to be removed.

9 (Conditional) If you are prompted to remove the WebAccess Agent from the server, click *Yes*.

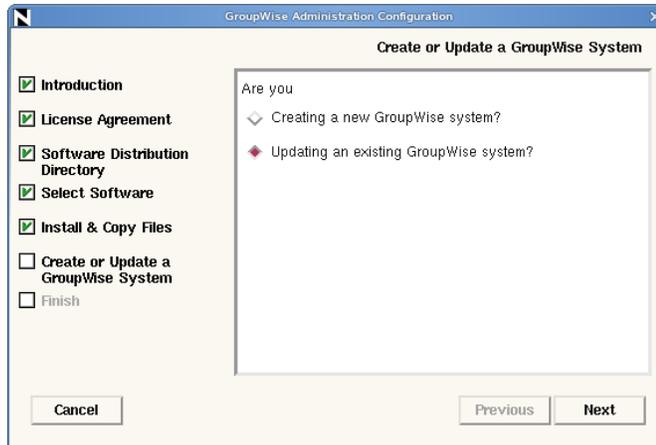
Because this is the primary domain, you must remove an existing WebAccess Agent in order to update the primary domain to GroupWise 2012. When you update secondary domains, you can choose to retain an earlier version of WebAccess, including the WebAccess Agent, after you have updated the domain to GroupWise 2012.

If the Installation program detects that multiple GroupWise components are installed on the server, a message lists the installed components and prompts you to update all of them. All components on the server must be updated to GroupWise 2012 at the same time.

10 (Conditional) If you are prompted to update all GroupWise components on the server, click *Yes*.

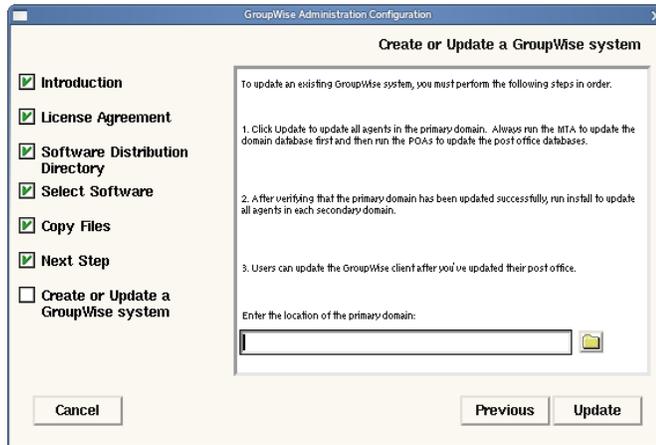
This process updates the software but does not change the configuration of any of the components. Depending on the number of components to update, this process might take several minutes.

- 11 When the software copying is complete, click *Next*.



- 12 Retain the default of *Updating an Existing GroupWise System*, then click *Next*.

On the Update an Existing System page, carefully review the steps that are involved in updating your GroupWise system from a previous version to GroupWise 2012.



More detailed instructions are provided in the sections following the software update instructions.

- 13 Browse to and select the primary domain directory, then click *Update*.

By specifying the primary domain directory, you inform the GroupWise Installation program where to copy the GroupWise 2012 data dictionary (.dc) files. Without the GroupWise 2012 .dc files, the GroupWise MTA cannot rebuild the primary domain database into the structure required for GroupWise 2012. Having the GroupWise 2012 .dc files in the domain directory is critical to a successful GroupWise system update.

- 14 Click *OK* to confirm the copying of the .dc files
- 15 Install the GroupWise 2012 MTA for the primary domain, as described in [“Installing the Linux GroupWise Agents” on page 183](#).
- 16 (Conditional) If your update to GroupWise 2012 includes migrating to OES Linux, follow the instructions in [“Enabling File Locking on OES Linux”](#) in [“System”](#) in the *GroupWise 2012 Administration Guide*.

This prepares the OES Linux server for running ConsoleOne with the type of file locking between servers that protects the integrity of GroupWise databases.

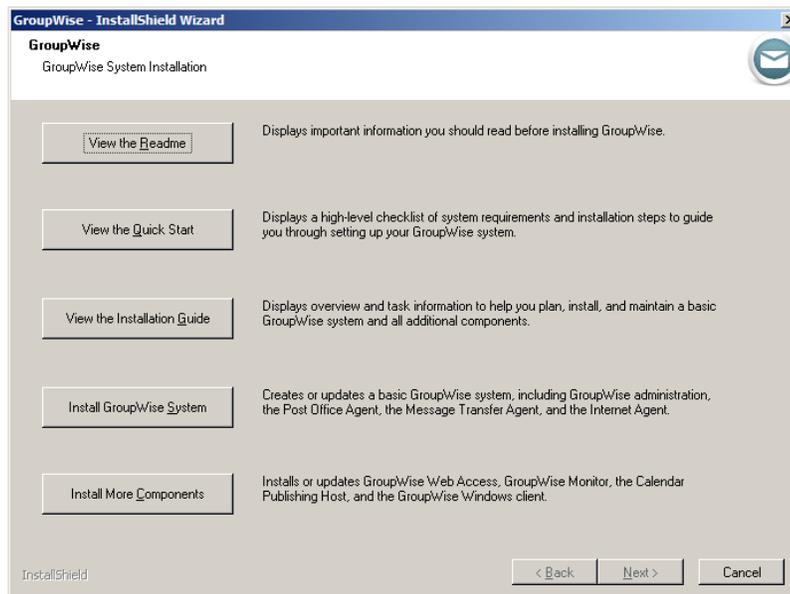
- 17 Skip to [Chapter 18, “Updating the Primary Domain,”](#) on page 257.

17.2 Windows: Installing the GroupWise 2012 Software

- 1 (Conditional) If you are updating from a version of GroupWise earlier than GroupWise 8, make sure that you have updated the eDirectory schema for eDirectory trees that contain GroupWise objects, as described in [Section 14.2, “Understanding eDirectory Schema Extensions,”](#) on page 240.
- 2 Stop the MTA for the primary domain of your GroupWise system.
- 3 At a Windows workstation, log in as an Admin equivalent to the eDirectory tree in which you are updating GroupWise.
- 4 Run `setup.exe` from the root of the downloaded *GroupWise 2012* software image.
- 5 (Conditional) If prompted, select the interface language for the GroupWise Installation program, then click *OK*.

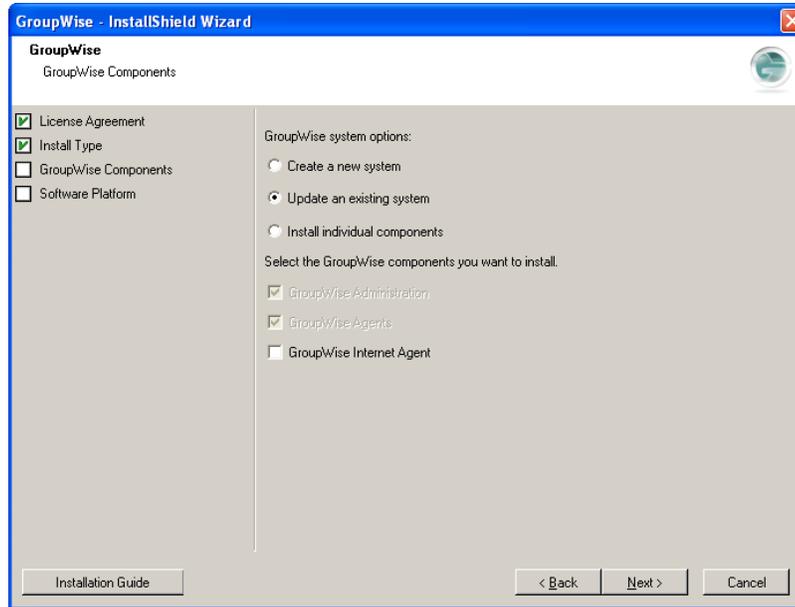
On Windows, the *GroupWise 2012* software image can be downloaded in a multilanguage version or an English-only version. When you install from the multilanguage version, all languages are always installed, regardless of the specific language that you select for running the Installation program.

The main GroupWise System Installation page appears.



- 6 Click *Install GroupWise System*, then click *Yes* to accept the license agreement.
When you update your GroupWise system, you are performing a Standard installation.

7 Click *Next* to accept the default of *Standard*.



8 Select *Update an Existing System*, then click *Next*.

9 Follow the prompts to provide the following information from your [Basic GroupWise System Worksheet](#).

[Software Platform](#)

[Administration Options](#)

[ConsoleOne Path](#)

[Software Distribution Directory](#)

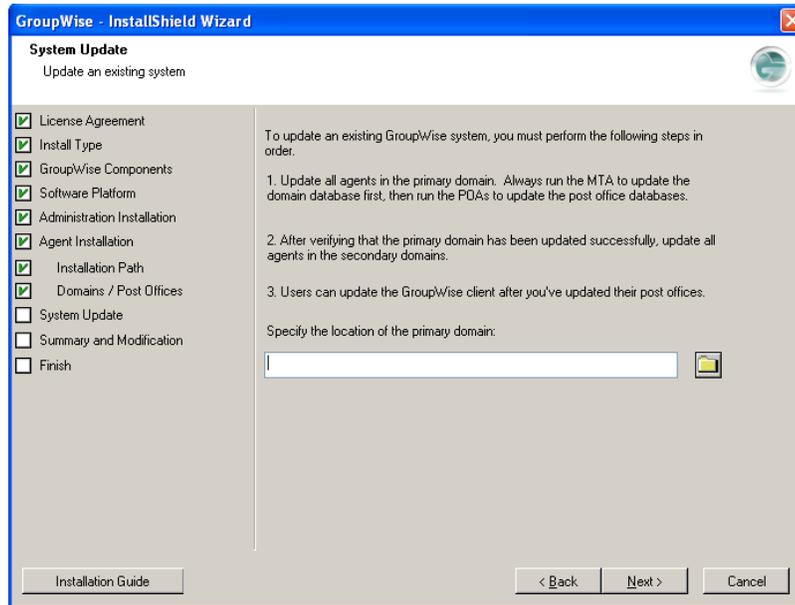
[Software Selection](#)

[Installation Path](#)

[Windows Installation Options](#)

[Domain Information](#)

When you reach the Update an Existing System page, carefully review the steps that are involved in updating your GroupWise system from a previous version to GroupWise 2012.



More detailed instructions are provided in the sections following the software update instructions.

- 10 Browse to and select the primary domain directory, then click *Next*.

By specifying the primary domain directory, you inform the GroupWise Installation program where to copy the GroupWise 2012 data dictionary (.dc) files. Without the GroupWise 2012 .dc files, the GroupWise MTA cannot rebuild the primary domain database into the structure required for GroupWise 2012. Having the GroupWise 2012 .dc files in the domain directory is critical to a successful GroupWise system update.

- 11 On the Summary and Modification page, review the information you have provided to the GroupWise Installation program for your update to GroupWise 2012, modifying information if needed.
- 12 When you are satisfied with the information you have provided, click *Install* to update your primary domain to GroupWise 2012.
- 13 When the installation is completed, click *Finish*.
- 14 Continue with [Chapter 18, "Updating the Primary Domain,"](#) on page 257.

18 Updating the Primary Domain

By following the instructions in [Section 17, “Installing the GroupWise 2012 Software,”](#) on page 251, you have installed the GroupWise 2012 MTA for the primary domain. You have also copied the GroupWise 2012 data dictionary (.dc) files to the primary domain. To finish updating the primary domain, you need to start the GroupWise 2012 MTA. The MTA uses the new domain dictionary file ([gwdom.dc](#)) to update the domain database to version 2012.

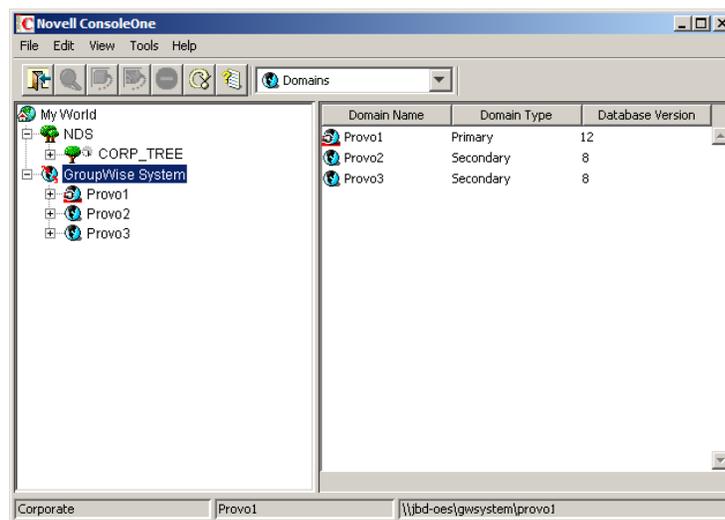
- 1 Stop the previous version of the GroupWise MTA in the primary domain.
- 2 Follow the instructions for your platform to start the GroupWise 2012 MTA for your primary domain.
 - ♦ [“Starting the Linux GroupWise Agents”](#) on page 186
 - ♦ [“Starting the Windows GroupWise Agents”](#) on page 205

The MTA then updates the primary domain database ([wpdomain.db](#)) to GroupWise 2012.

IMPORTANT: Before you update post offices in the primary domain or any secondary domains in your system, make sure that the primary domain database has been updated.

3 In ConsoleOne:

- 3a Select the GroupWise System object, then select *Domains* in the drop-down list.
- 3b Click *View > Edit Columns*, move *Database Version* from the *Available Fields* list to the *Selected Columns* list, then click OK.



When the database version for the primary domains displays 12 (short for 2012), you are ready to proceed further with the update process.

IMPORTANT: 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”](#) in [“Strategies for Agent Problems”](#) in *GroupWise 2012 Troubleshooting 2: Solutions to Common Problems*.

4 To update secondary domains, continue with the next section, [Updating Secondary Domains](#).

or

To update post offices in the primary domain, skip to [Chapter 20, “Updating Post Offices,”](#) on [page 261](#).

or

To update additional GroupWise agents or applications in the primary domain, see:

- ♦ [Chapter 21, “Updating the GroupWise Internet Agent,”](#) on page 265
- ♦ [Chapter 22, “Updating GroupWise WebAccess,”](#) on page 267
- ♦ [Chapter 23, “Updating the Calendar Publishing Host,”](#) on page 273
- ♦ [Chapter 24, “Updating GroupWise Monitor,”](#) on page 277

19 Updating Secondary Domains

After you have updated the primary domain in your GroupWise system, you can update secondary domains in your GroupWise system in any order that is convenient for you. For information about update issues that you should consider, see [Section 14.4, “Understanding Domain and Post Office Database Updates by the GroupWise Agents,”](#) on page 241.

To update a secondary domain, you need to install the GroupWise 2012 MTA and run it for the domain. The MTA uses a new GroupWise 2012 version of the domain dictionary file (`gwdom.dc`) to update the database to version 2012.

IMPORTANT: The MTA for the domain that the secondary domain links to must be updated and running before you update each secondary domain. Each secondary domain must be updated before you update any post offices in the secondary domain.

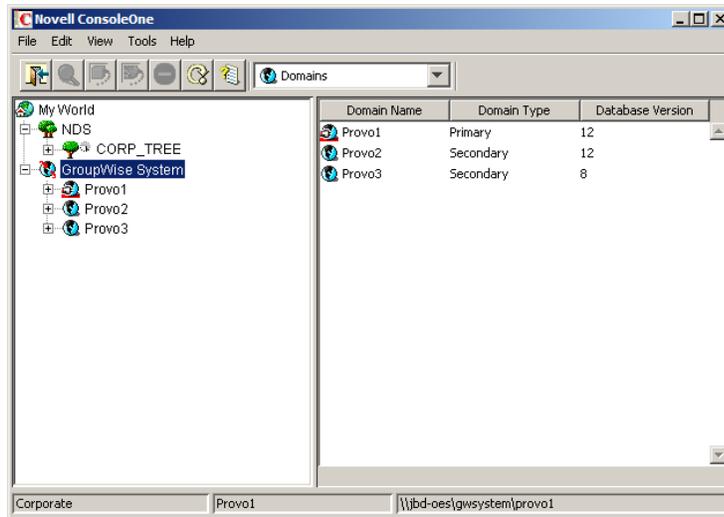
- 1 (Conditional) If you are updating a secondary domain on Linux, and if the GroupWise 2012 version of ConsoleOne and the GroupWise Administrator snap-ins are not yet installed on the server where the secondary domain is located, install them now, as described in [“ConsoleOne on Linux”](#) in [“System”](#) in the *GroupWise 2012 Administration Guide*.

On Linux, it is very helpful to have ConsoleOne and the GroupWise Administrator snap-ins installed on each server where a domain is located. On Windows, ConsoleOne can conveniently be run on any Windows server or workstation where drives are mapped to servers where domains are located. On Linux, the process of mounting file systems to gain access to remote domain databases is not quite so straightforward as drive mapping is on Windows, so it is helpful to have a local installation of Linux ConsoleOne on each domain server.

- 2 Stop the previous version of the GroupWise MTA in the secondary domain.
- 3 Install the updated MTA software in the secondary domain, as described in [Section 8.4, “Setting Up the GroupWise Agents,”](#) on page 182.
- 4 Start the updated MTA in the secondary domain.

This updates the domain database (`wpdomain.db`) to GroupWise 2012.

- 5 Ensure that the database in the secondary domain is updated to the GroupWise 2012 version:
 - 5a In ConsoleOne, select the GroupWise System object, then select *Domains* in the drop-down list.
 - 5b (Conditional) If you have not already done so, click *View > Edit Columns*, move *Database Version* from the *Available Fields* list to the *Selected Columns* list, then click *OK*.



When the database version for the secondary domains displays 12 (short for 2012), you are ready to proceed with the update process.

IMPORTANT: 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”](#) in [“Strategies for Agent Problems”](#) in *GroupWise 2012 Troubleshooting 2: Solutions to Common Problems*.

- 6 To update post offices in the secondary domain, continue with [Chapter 20, “Updating Post Offices,”](#) on page 261.

or

To update additional GroupWise agents or applications in the secondary domain, see:

- ◆ [Section 21, “Updating the GroupWise Internet Agent,”](#) on page 265
- ◆ [Section 22, “Updating GroupWise WebAccess,”](#) on page 267
- ◆ [Chapter 23, “Updating the Calendar Publishing Host,”](#) on page 273
- ◆ [Section 24, “Updating GroupWise Monitor,”](#) on page 277

20 Updating Post Offices

You can update post offices after you have updated the primary domain and the secondary domain that owns the post offices that you want to update. For information about update issues that you should consider, see [Section 14.4, “Understanding Domain and Post Office Database Updates by the GroupWise Agents,”](#) on page 241.

To update a post office, you need to install the GroupWise 2012 POA and run it for the post office. The POA uses a new GroupWise 2012 version of the post office dictionary file ([gwpo.dc](#)) to update the post office database to version 2012.

IMPORTANT: The MTA for the domain that the post office belongs to must be updated and running before you update any post offices in the domain.

- ♦ [Section 20.1, “Installing and Starting the POA,”](#) on page 261
- ♦ [Section 20.2, “Copying the GroupWise Views to the Post Office Directory,”](#) on page 262

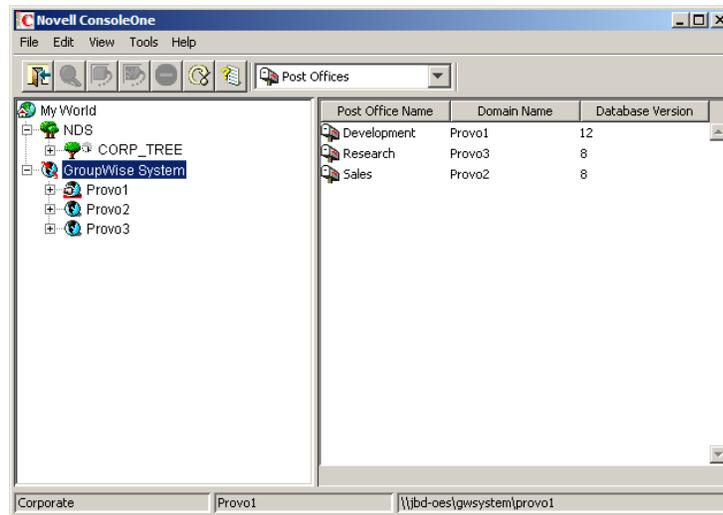
20.1 Installing and Starting the POA

IMPORTANT: The POA must not be running while you update the post office. Therefore, users cannot access the post office during the update process.

- 1 Stop the previous version of the GroupWise POA in the post office.
- 2 Install the updated POA software in the post office, as described in [Section 8.4, “Setting Up the GroupWise Agents,”](#) on page 182.
- 3 Start the updated POA in the post office.

This updates the post office database ([wphost.db](#)) to GroupWise 2012.

- 4 Ensure that the post office database is updated to the GroupWise 2012 version:
 - 4a In ConsoleOne, select the GroupWise System object, then select *Post Offices* in the drop-down list.
 - 4b (Conditional) If you have not already done so, click *View > Edit Columns*, move *Database Version* from the *Available Fields* list to the *Selected Columns* list, then click *OK*.



When the database version for the post office displays 12 (short for 2012), you are ready to proceed with the update process.

IMPORTANT: Updating a large post office 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 [“POA Fails to Update the Post Office Database Version”](#) in [“Strategies for Agent Problems”](#) in *GroupWise 2012 Troubleshooting 2: Solutions to Common Problems*.

- 5 (Conditional) If you want to configure the POA to use the new GroupWise 2012 Document Viewer Agent (DVA) instead of the standard Document Converter Agent (DCA), follow the instructions in [“Enabling the Document Viewer Agent \(DVA\) for Indexing”](#) in [“Post Office Agent”](#) in the *GroupWise 2012 Administration Guide*.
- 6 Continue with [Copying the GroupWise Views to the Post Office Directory](#).

20.2 Copying the GroupWise Views to the Post Office Directory

GroupWise 2012 includes new view files for the GroupWise Windows client. When the POA starts, it updates the post office database and also attempts to update the Windows client view files (.vew) in the post office directory, regardless of whether the post office located on Windows or Linux. To do so, the POA requires access to the post offices’s software distribution directory, regardless of whether the software distribution directory is located on Windows or Linux. If the POA does not have access to the software distribution directory, you can manually copy the view files.

You can check whether or not the POA was able to update the view files by verifying the dates of the files in the `/post_office/ofviews/win` directory, where `post_office` is the path to the post office directory.

If the files have older dates, copy all files from

```
/software/client/win32/ofviews/win
```

to

```
/post_office/ofviews/win
```

Replace */software* with the path to the software distribution directory and replace */post_office* with 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 2012 Administration Guide*.

21 Updating the GroupWise Internet Agent

After you have updated your domains and post offices to GroupWise 2012, you can update the Internet Agent (GWIA). For information about update issues that you should consider, see [Section 14.6, “Understanding Internet Agent Updates,”](#) on page 242.

- 1 Stop the previous version of the GWIA.
- 2 To update the GWIA to GroupWise 2012, follow the standard installation instructions in [Chapter 4, “Installing the GroupWise Internet Agent,”](#) on page 77.

22 Updating GroupWise WebAccess

After you have updated a domain and post office to GroupWise 2012, you can update WebAccess for that domain. For information about update issues that you should consider, see [Section 14.7, “Understanding WebAccess Updates,”](#) on page 242.

IMPORTANT: The POA that the GroupWise 2012 WebAccess Application communicates with must be configured for SOAP. A secure SSL connection between the POA and the WebAccess Application is highly recommended.

- ♦ [Section 22.1, “Installing the WebAccess Application,”](#) on page 267
- ♦ [Section 22.2, “Cleaning Up the WebAccess Server after Updating to GroupWise 2012,”](#) on page 268
- ♦ [Section 22.3, “Clearing User Browser Caches to Display GroupWise 2012 WebAccess Correctly,”](#) on page 272
- ♦ [Section 22.4, “Updating Access Control for WebAccess Users,”](#) on page 272

22.1 Installing the WebAccess Application

- 1 Prepare the POA to work successfully with the WebAccess Application, as described in the following sections in “*Post Office Agent*” in the [GroupWise 2012 Administration Guide](#):
 - ♦ [“Supporting SOAP Clients”](#)
 - ♦ [“Securing the Post Office with SSL Connections to the POA”](#)
- 2 Stop the existing WebAccess Agent.
- 3 (Conditional) On Linux, stop Tomcat.

```
OES 11:      rcnovell-tomcat6 stop
```

```
OES 2 Linux: rcnovell-tomcat5 stop
```

```
SLES 11:    rctomcat6 stop
```

```
SLES 10:    rctomcat5 stop
```

On Windows, the WebAccess Installation program does this for you.

- 4 To update WebAccess to GroupWise 2012, follow the standard installation instructions in [Chapter 5, “Installing GroupWise WebAccess,”](#) on page 103.

IMPORTANT: If more than one Web-based GroupWise component (WebAccess, Calendar Publishing Host, and/or Monitor) is installed on the same server, you must update all Web-based GroupWise components at the same time.

The Windows WebAccess Installation program detects additional Web-based GroupWise components on the server and leads you conveniently from the installation of one component to the next.

On Linux, you must manually start the Installation program for each Web-based component on the server. After one existing Web-based component has been updated to GroupWise 2012, other Web-based components on the server do not work until they also are updated to GroupWise 2012.

-
- 5 After you install GroupWise 2012 WebAccess, complete the following cleanup tasks:
 - ♦ [Section 22.2, “Cleaning Up the WebAccess Server after Updating to GroupWise 2012,” on page 268](#)
 - ♦ [Section 22.3, “Clearing User Browser Caches to Display GroupWise 2012 WebAccess Correctly,” on page 272](#)

22.2 Cleaning Up the WebAccess Server after Updating to GroupWise 2012

The GroupWise 2012 WebAccess Installation program updates the existing WebAccess installation, but it does not delete any parts of the previous version of WebAccess that are no longer necessary. To avoid confusion in the future, you should remove the obsolete parts of WebAccess from eDirectory and from the WebAccess server.

- ♦ [Section 22.2.1, “Exporting WebAccess Access Control Information,” on page 268](#)
- ♦ [Section 22.2.2, “Deleting Obsolete WebAccess eDirectory Objects,” on page 269](#)
- ♦ [Section 22.2.3, “Removing the WebAccess Agent Software,” on page 270](#)
- ♦ [Section 22.2.4, “Removing Obsolete WebAccess Application Software,” on page 270](#)
- ♦ [Section 22.2.5, “Accommodating Earlier GroupWise Versions,” on page 271](#)

22.2.1 Exporting WebAccess Access Control Information

If you used classes of service to control user access to WebAccess in an earlier version of GroupWise, you can export your existing access control information for use with GroupWise 2012 WebAccess.

- 1 In ConsoleOne with the GroupWise 2012 snap-ins installed, browse to and select the Domain object where the WebAccess eDirectory objects are located.
- 2 Right-click the WebAccess Agent object, then click *Properties*.
- 3 Click *Access Control*.
- 4 Review your existing access control information to ensure that it is current and accurate.
- 5 Click *Export*, then close the *Access Control* tab.
- 6 Change to the WebAccess Gateway directory (*domain/wpgate/webac80a*), then list the contents of the directory.

A *gwac.xml* file has been created that captures your existing WebAccess access control information in XML format for use with GroupWise 2012.

- 7 Copy the `gwac.xml` file to the same directory where the GroupWise 2012 `webacc.cfg` file is located.
- 8 Restart Tomcat to implement the same access control for GroupWise 2012 WebAccess that you had for your earlier version of GroupWise.

OES 11: `rcnovell-tomcat6 stop`
 `rcnovell-tomcat6 start`

OES 2 Linux: `rcnovell-tomcat5 stop`
 `rcnovell-tomcat5 start`

SLES 11: `rctomcat6 stop`
 `rctomcat6 start`

SLES 10: `rctomcat5 stop`
 `rctomcat5 start`

Windows: 1. At the Windows server, click *Start > Administrative Tools > Services*.
 2. Right-click *Tomcat 6*, then click *Restart*.

- 9 For instructions on using the `gwac.xml` file in the future as you access control needs change, see “[Controlling WebAccess Usage](#)” in “[WebAccess](#)” in the *GroupWise 2012 Administration Guide*.

22.2.2 Deleting Obsolete WebAccess eDirectory Objects

Because WebAccess configuration information is no longer stored in WebAccess eDirectory objects, you should delete the WebAccess eDirectory objects from domains that you have updated go GroupWise 2012.

IMPORTANT: If you need to configure WebAccess in domains that have not yet been updated to GroupWise 2012, use the version of ConsoleOne that corresponds to the domain where the WebAccess eDirectory objects are located. The GroupWise 2012 version of ConsoleOne cannot administer WebAccess eDirectory objects.

- 1 In ConsoleOne, browse to and select the Domain object for the domain where you have updated WebAccess.
- 2 Review the properties of the existing WebAccess objects, and make notes about any customizations that you have made:
 - ♦ WebAccess Agent (WEBAC80A)
 - ♦ WebAccess Application (GroupWiseWebAccess)
 - ♦ WebPublisher Application (GroupWiseWebPublisher)

NOTE: WebPublisher is not part of GroupWise 2012. To continue using WebPublisher, maintain an existing domain with the existing version of WebAccess to support your WebPublisher needs until comparable functionality becomes available.

- ♦ GroupWise Service Provider (GroupWiseProvider)
 - ♦ LDAP Service Provider (LDAPProvider)
 - ♦ Document Service Provider (GroupWiseDocumentProvider)
- 3 Delete the obsolete WebAccess objects from eDirectory.
 - 4 Use the `webacc.cfg` file to configure GroupWise 2012 WebAccess.

Many of the customizations that could be made in the properties of the WebAccess eDirectory objects can be made in the `webacc.cfg` file, as described in [“Configuring the WebAccess Application”](#) in [“WebAccess”](#) in the *GroupWise 2012 Administration Guide*.

- 5 Continue with [Removing the WebAccess Agent Software](#).

22.2.3 Removing the WebAccess Agent Software

Because the GroupWise 2012 WebAccess Application communicates directly with the POA, the WebAccess Agent is no longer part of GroupWise. Therefore, it must be removed from the WebAccess server.

- ♦ [“On Linux” on page 270](#)
- ♦ [“On Windows” on page 270](#)

On Linux

For a listing of the software files associated with the GroupWise 8 WebAccess Agent on Linux, see [“Linux WebAccess Agent Installation Directory”](#) in [“Directory Structure Diagrams”](#) in *GroupWise 8 Troubleshooting 3: Message Flow and Directory Structure*.

The Linux GroupWise 2012 WebAccess Installation program automatically removes obsolete WebAccess Agent files from these directories.

On Windows

For a listing of the software files associated with the GroupWise 8 WebAccess Agent on Windows, see [“Windows WebAccess Agent Installation Directory”](#) in [“Directory Structure Diagrams”](#) in *GroupWise 8 Troubleshooting 3: Message Flow and Directory Structure*.

The Windows GroupWise 2012 WebAccess Installation program does not delete the obsolete WebAccess Agent service or the directory where the obsolete WebAccess Agent software is installed.

To remove the WebAccess Agent service and software from the WebAccess server:

- 1 Stop the WebAccess Agent:

```
net stop "WebAccess (webaccess_agent_name)"
```

- 2 Remove the WebAccess Agent service:

```
sc delete "WebAccess (webaccess_agent_name)"
```

- 3 Delete the following directory:

```
c:\Program Files\Novell\GroupWise Server\WebAccess
```

22.2.4 Removing Obsolete WebAccess Application Software

All GroupWise Web-based components (WebAccess, Calendar Publishing Host, and Monitor) rely on a platform-specific Web server and on Tomcat for their Web-based functionality.

GroupWise 2012 WebAccess uses Tomcat 6 instead of Tomcat 5 on OES 11, SLES 11, and Windows. If no other non-GroupWise Web services are using the old version of Tomcat, you can remove it from the Web server.

NOTE: Tomcat 5 is still used on OES 2 Linux and SLES 10, so no cleanup is required on these Linux versions.

- ♦ [“On OES 11 and SLES 11” on page 271](#)
- ♦ [“On Windows” on page 271](#)

On OES 11 and SLES 11

For earlier versions of GroupWise, Tomcat 5 is located in the following platform-specific directory:

OES: /var/opt/novell/tomcat5

SLES: /srv/www/tomcat5

If a Tomcat 5 directory exists on a Linux server that you have updated to GroupWise 2012, use YaST to remove Tomcat 5. This also removes the obsolete WebAccess Application from the server.

On Windows

For earlier versions of GroupWise, Tomcat 5 is located in the following directory:

c:\novell\groupwise\tomcat5.5

If a Tomcat 5 directory exists on a Windows server that you have updated to GroupWise 2012, delete the Tomcat 5 directory in order to remove the obsolete WebAccess Application from the server.

22.2.5 Accommodating Earlier GroupWise Versions

As you update your GroupWise system to GroupWise 2012, you might not be able update all post offices at one time. The GroupWise 2012 WebAccess Application cannot communicate with an earlier version of the POA. When a user whose post office is still on a earlier GroupWise version tries to log in to WebAccess, the WebAccess Application can redirect that user to an earlier version of WebAccess to match the post office where the user’s mailbox is located.

To provide a redirection URL:

- 1 Open the [webacc.cfg](#) file in a text editor.
- 2 Search to find the following line:

```
#Redirect.url=http://gw8.novell.com/gw/webacc
```
- 3 Remove the pound sign (#) to activate the setting.
- 4 Replace the sample URL with the URL for an earlier version of GroupWise WebAccess.
- 5 Save the [webacc.cfg](#) file.
- 6 Restart Tomcat.

```
OES 11:       rcnovell-tomcat6 stop  
             rcnovell-tomcat6 start
```

```
OES 2 Linux: rcnovell-tomcat5 stop  
             rcnovell-tomcat5 start
```

```
SLES 11:      rctomcat6 stop  
              rctomcat6 start
```

SLES 10: `rctomcat5 stop`
 `rctomcat5 start`

Windows: 1. At the Windows server, click *Start > Administrative Tools > Services*.
 2. Right-click *Tomcat 6*, then click *Restart*.

22.3 Clearing User Browser Caches to Display GroupWise 2012 WebAccess Correctly

After you have updated the WebAccess Application to GroupWise 2012, notify your GroupWise WebAccess users that they should clear their browser caches before logging into their mailboxes with the updated version of GroupWise WebAccess. If old GroupWise WebAccess files are used from users' browser caches, they might not be compatible with the updated files from the Web server. The results can be unpredictable and undesirable.

22.4 Updating Access Control for WebAccess Users

If you used the WebAccess Agent class of service functionality to provide access control for WebAccess, you must implement the new access control functionality provided in GroupWise 2012. Follow the instructions in "[Controlling WebAccess Usage](#)" in "[WebAccess](#)" in the *GroupWise 2012 Administration Guide*.

23 Updating the Calendar Publishing Host

After you have updated at least one domain and post office to GroupWise 2012, you can update the Calendar Publishing Host for that post office. For information about update issues that you should consider, see [Section 14.8, “Understanding Calendar Publishing Host Updates,”](#) on page 243.

- ♦ [Section 23.1, “Installing the Calendar Publishing Host Application,”](#) on page 273
- ♦ [Section 23.2, “Cleaning Up the Calendar Publishing Host Server after Updating to GroupWise 2012,”](#) on page 274
- ♦ [Section 23.3, “Clearing User Browser Caches to Display Published Calendars Correctly,”](#) on page 275

23.1 Installing the Calendar Publishing Host Application

- 1 (Conditional) On Linux, stop Tomcat.

```
OES 2:    rcnovell-tomcat5 stop
```

```
OES 11:   rcnovell-tomcat6 stop
```

```
SLES 10:  rctomcat5 stop
```

```
SLES 11:  rctomcat6 stop
```

On Windows, the Calendar Publishing Host Installation program does this for you.

- 2 To update the Calendar Publishing Host to GroupWise 2012, follow the standard installation instructions in [Chapter 6, “Installing the GroupWise Calendar Publishing Host,”](#) on page 123.

IMPORTANT: If more than one Web-based GroupWise component (Calendar Publishing Host, WebAccess, and/or Monitor) is installed on the same server, you must update all Web-based GroupWise components at the same time.

The Windows Calendar Publishing Host Installation program detects additional Web-based GroupWise components on the server and leads you conveniently from the installation of one component to the next.

On Linux, you must manually start the Installation program for each Web-based component on the server. After one earlier version of a Web-based component has been updated to GroupWise 2012, other Web-based components on the server do not work until they also are updated to GroupWise 2012.

- 3 After you install the GroupWise 2012 Calendar Publishing Host, complete the following cleanup tasks:
 - ♦ [Section 23.2, “Cleaning Up the Calendar Publishing Host Server after Updating to GroupWise 2012,” on page 274](#)
 - ♦ [Section 23.3, “Clearing User Browser Caches to Display Published Calendars Correctly,” on page 275](#)

23.2 Cleaning Up the Calendar Publishing Host Server after Updating to GroupWise 2012

All GroupWise Web-based components (WebAccess, Calendar Publishing Host, and Monitor) rely on a platform-specific Web server and on Tomcat for their Web-based functionality.

The GroupWise 2012 Calendar Publishing Host uses Tomcat 6 instead of Tomcat 5 on OES 11, SLES 11, and Windows. If no other non-GroupWise Web services are using the old version of Tomcat, you can remove it from the Web server.

NOTE: Tomcat 5 is still used on OES 2 Linux and SLES 10, so no cleanup is required on these Linux versions.

- ♦ [Section 23.2.1, “On OES 11 and SLES 11,” on page 274](#)
- ♦ [Section 23.2.2, “On Windows,” on page 274](#)

23.2.1 On OES 11 and SLES 11

For earlier versions of GroupWise, Tomcat 5 is located in the following platform-specific directory:

OES: /var/opt/novell/tomcat5

SLES: /srv/www/tomcat5

If a Tomcat 5 directory exists on a Linux server that you have updated to GroupWise 2012, use YaST to remove Tomcat 5. This also removes the obsolete Calendar Publishing Host Application from the server.

23.2.2 On Windows

For earlier versions of GroupWise, Tomcat 5 is located in the following directory:

c:\Novell\GroupWise\Tomcat5.5

If a Tomcat 5 directory exists on a Windows server that you have updated to GroupWise 2012, delete the Tomcat 5 directory in order to remove the obsolete Calendar Publishing Host Application from the server.

23.3 Clearing User Browser Caches to Display Published Calendars Correctly

After you have updated the Calendar Publishing Host Application to GroupWise 2012, notify your GroupWise users that they should clear their browser caches before accessing published calendars. If old Calendar Publishing files are used from users' browser caches, they might not be compatible with the updated files from the Web server. The results can be unpredictable and undesirable.

External users of published calendars might not see some aspects of the GroupWise 2012 Calendar Publishing interface until after they clear their browser caches.

24 Updating GroupWise Monitor

After you have updated at least one domain to GroupWise 2012, you can update GroupWise Monitor. For information about update issues that you should consider, see [Section 14.9, “Understanding Monitor Updates,”](#) on page 243.

- ♦ [Section 24.1, “Installing the Monitor Software,”](#) on page 277
- ♦ [Section 24.2, “Cleaning Up the Monitor Server after Updating to GroupWise 2012,”](#) on page 278
- ♦ [Section 24.3, “Clearing Browser Caches to Display GroupWise 2012 Monitor Correctly,”](#) on page 279

24.1 Installing the Monitor Software

- 1 Stop the existing Monitor Agent.
- 2 (Conditional) On Linux, stop Tomcat.

```
OES 2:    rcnovell-tomcat5 stop
```

```
OES 11:   rcnovell-tomcat6 stop
```

```
SLES 10:  rctomcat5 stop
```

```
SLES 11:  rctomcat6 stop
```

On Windows, the Monitor Installation program does this for you.

- 3 To update Monitor to GroupWise 2012, follow the standard installation instructions in [Chapter 7, “Installing GroupWise Monitor,”](#) on page 151.

IMPORTANT: If more than one Web-based GroupWise component (Monitor, WebAccess, or Calendar Publishing Host) is installed on the same server, you must update all Web-based GroupWise components at the same time.

The Windows Monitor Installation program detects additional Web-based GroupWise components on the server and leads you conveniently from the installation of one component to the next.

On Linux, you must manually start the Installation program for each Web-based component on the server. After one earlier version of a Web-based component has been updated to GroupWise 2012, other Web-based components on the server do not work until they also are updated to GroupWise 2012.

-
- 4 After you install GroupWise 2012 Monitor, complete the following cleanup tasks:
 - ♦ [Section 24.2, “Cleaning Up the Monitor Server after Updating to GroupWise 2012,”](#) on page 278
 - ♦ [Section 24.3, “Clearing Browser Caches to Display GroupWise 2012 Monitor Correctly,”](#) on page 279

24.2 Cleaning Up the Monitor Server after Updating to GroupWise 2012

The GroupWise 2012 Monitor Installation program updates the existing Monitor installation, but it does not delete any parts of the previous version of Monitor that are no longer necessary. To avoid confusion in the future, you should remove the obsolete parts of Monitor from eDirectory and from the WebAccess server.

- ♦ [Section 24.2.1, “Deleting Obsolete Monitor eDirectory Objects,” on page 278](#)
- ♦ [Section 24.2.2, “Removing Obsolete Monitor Application Software,” on page 278](#)

24.2.1 Deleting Obsolete Monitor eDirectory Objects

The GroupWise 2012 Monitor Installation program updates the existing Monitor installation, but it does not delete any parts of the previous version of Monitor that are no longer necessary. To avoid confusion in the future, you should remove the obsolete parts of Monitor from eDirectory and from the WebAccess server.

Because Monitor Application configuration information is no longer stored in Monitor eDirectory objects, you should delete the Monitor Application eDirectory objects from domains that you have updated to GroupWise 2012.

IMPORTANT: If you need to configure the Monitor Application in domains that have not yet been updated to GroupWise 2012, use the version of ConsoleOne that corresponds to the domain where the Monitor Application eDirectory objects are located. The GroupWise 2012 version of ConsoleOne cannot administer Monitor Application eDirectory objects.

- 1 In ConsoleOne, browse to and select the Domain object for the domain where you have updated to GroupWise 2012 and where Monitor is installed.
- 2 Review the properties of the existing Monitor Application objects, and make notes about any customizations that you have made:
 - ♦ GroupWise Monitor Application (GroupWiseMonitor)
 - ♦ GroupWise Monitor Provider (MonitorProvider)
- 3 Delete the existing Monitor Application objects.
- 4 Use the `gwmonitor.cfg` file to configure GroupWise 2012 Monitor, as described in [“Configuring the Monitor Application”](#) in [“Monitor”](#) in the *GroupWise 2012 Administration Guide*.

24.2.2 Removing Obsolete Monitor Application Software

All GroupWise Web-based components (WebAccess, Calendar Publishing Host, and Monitor) rely on a platform-specific Web server and on Tomcat for their Web-based functionality.

GroupWise 2012 Monitor uses Tomcat 6 instead of Tomcat 5 on OES 11, SLES 11, and Windows. If no other non-GroupWise Web services are using the old version of Tomcat, you can remove it from the Web server.

NOTE: Tomcat 5 is still used on OES 2 Linux and SLES 10, so no cleanup is required on these Linux versions.

- ♦ [“On OES 11 and SLES 11” on page 279](#)
- ♦ [“On Windows” on page 279](#)

On OES 11 and SLES 11

For earlier versions of GroupWise, Tomcat 5 is located in the following platform-specific directory:

OES: /var/opt/novell/tomcat5

SLES: /srv/www/tomcat5

If a Tomcat 5 directory exists on a Linux server that you have updated to GroupWise 2012, use YaST to remove Tomcat 5. This also removes the obsolete Monitor Application from the server.

On Windows

For earlier versions of GroupWise, Tomcat 5 was locating in the following directory:

c:\Novell\GroupWise\Tomcat5.5

If a Tomcat 5 directory exists on a Windows server that you have updated to GroupWise 2012, delete the Tomcat 5 directory in order to remove the obsolete Monitor Application from the server.

24.3 Clearing Browser Caches to Display GroupWise 2012 Monitor Correctly

After you have updated the Monitor Application to GroupWise 2012, clear your browser cache before accessing the updated version of GroupWise Monitor. If old GroupWise Monitor files are pulled from your browser cache, they might not be compatible with the updated files pulled from the Web server. The results can be unpredictable and undesirable.

25 Updating Users' GroupWise Windows Clients

After a post office is updated to GroupWise 2012, users who have accounts in that post office can start using the GroupWise 2012 Windows clients. You can give users access to a GroupWise 2012 software distribution directory, so that they can install the GroupWise client themselves, or you can use the other methods of client software distribution described in [“Distributing the GroupWise Windows Client”](#) in [“Client”](#) in the *GroupWise 2012 Administration Guide*.

When you used the GroupWise Installation program as described in [Section 17, “Installing the GroupWise 2012 Software,”](#) on page 251, you had the opportunity to update one software distribution directory. To fully implement GroupWise 2012 throughout your GroupWise system, you must update all of your software distribution directories.

IMPORTANT: Before you update a software distribution directory, ensure that all post offices that use the software distribution directory have been updated. The GroupWise 2012 Windows client cannot access a post office that still uses an earlier version of GroupWise. Users who update to the GroupWise 2012 Windows client before their post office has been updated are locked out of the post office.

- 1 To update a GroupWise software distribution directory to GroupWise 2012, follow the instructions in [“Updating a Software Distribution Directory”](#) in [“System”](#) in the *GroupWise 2012 Administration Guide*.

The GroupWise 2012 Windows client is available as part of the Linux *GroupWise 2012* software image. For more information about installing the GroupWise 2012 Windows client from a Linux server, see [Section 9.3.3, “Installing the GroupWise Windows Client from the Linux GroupWise 2012 Software Image,”](#) on page 217.

26 Updating Earlier GroupWise Systems to Version 2012

The process and procedures for updating a GroupWise 5.x, 6.x, or 7 system to version 2012 are essentially the same as updating a GroupWise 8 system to version 2012. Refer to the following sections for to prepare for the update:

- ♦ [Chapter 14, “Understanding the Update Process,” on page 239](#)
- ♦ [Chapter 15, “Migrating Away from NetWare,” on page 245](#)
- ♦ [Chapter 16, “Preparing Your GroupWise 8 System for the Update,” on page 249](#)

The GroupWise features and functionality that are new to you depend on the version of GroupWise that you are updating from. For example, if you are updating from GroupWise 6.5, the new features and functionality added in versions 7 and 8 are all new.

[Chapter 13, “What’s New in GroupWise 2012,” on page 233](#) includes only the changes made since GroupWise 8. For changes made in earlier versions, refer to the following:

- ♦ **Version 7 to 8:** [“What’s New in GroupWise 8”](#)

26.1 Version-Specific Update Procedures

See the following sections for some important administrative procedures that you might need to perform, depending on the GroupWise version that you are updating from:

- ♦ [Section 26.1.1, “eDirectory Schema Extension,” on page 283](#)
- ♦ [Section 26.1.2, “Trusted Application Keys,” on page 284](#)
- ♦ [Section 26.1.3, “Internet Agent Configuration Information,” on page 284](#)

26.1.1 eDirectory Schema Extension

GroupWise 8 included functionality that required you to extend the schema of any Novell eDirectory trees where you have GroupWise objects. The GroupWise 2012 Installation program does not extend the eDirectory schema for you. Use GroupWise 2012 ConsoleOne to extend the eDirectory schema before installing other GroupWise 2012 components.

- 1 Install the GroupWise 2012 snap-ins to ConsoleOne.
- 2 In ConsoleOne, select an eDirectory tree that contains GroupWise objects.
- 3 Click *Tools > GroupWise Utilities > Check eDirectory Schema*.
If the schema is not current, this utility extends the schema for you.
- 4 Repeat this procedure for each eDirectory tree that contains GroupWise objects.

26.1.2 Trusted Application Keys

Before GroupWise 8 Support Pack 1, trusted application keys needed to be created by the third-party program developer, using the *GroupWise Trusted Application API* (http://developer.novell.com/wiki/index.php/GroupWise_Trusted_Application_API) at the Novell Developer Kit Web site (http://developer.novell.com/wiki/index.php/Category:Novell_Developer_Kit).

Starting with GroupWise 8 Support Pack 1, you can create a trusted application and its associated key in ConsoleOne for use with both Linux and Windows trusted applications, as described in “[Creating a Trusted Application and Key](#)” in “[System](#)” in the *GroupWise 2012 Administration Guide*.

26.1.3 Internet Agent Configuration Information

Before GroupWise 7 SP1, GWIA configuration information was stored both in eDirectory, as properties of the GWIA object, and in the GWIA configuration file (`gwia.cfg`). Starting in GroupWise 7 SP1, all primary configuration settings have been consolidated into the properties of the GWIA object. Secondary settings are still available only through the startup file.

When you update a GroupWise 7 GWIA to a later version of GroupWise and access the GWIA 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.

27 Facilitating Coexistence with NetWare

In [Chapter 15, “Migrating Away from NetWare,”](#) on page 245, you considered your alternatives for replacing your NetWare servers with Linux servers or Windows servers. Depending on the size of your GroupWise system, the migration away from NetWare might take a substantial amount of time.

- ♦ [Section 27.1, “Administering NetWare Domains from Linux,”](#) on page 285
- ♦ [Section 27.2, “Administering NetWare Domains from Windows,”](#) on page 285

27.1 Administering NetWare Domains from Linux

- 1 When you need to access domains on NetWare servers from Linux ConsoleOne, use the following mount command on the Linux server where you run ConsoleOne:

```
mount -t ncpfs netware_server/fully_qualified_administrator_user  
/linux_mount_directory -o ipserver=netware_server_ip_address
```

- 1a Replace *netware_server* with the fully qualified DNS hostname of the NetWare server that you are mounting to the local Linux server, such as `gwmail.provo1.novell.com`.
 - 1b Replace *fully_qualified_administrator_user* with the user name and eDirectory context of a user that can log in to eDirectory and access the NetWare server, such as `admin.users.novell`.
 - 1c Replace *linux_mount_directory* with the full path for the directory where you plan to mount the NetWare server, such as `/mnt/gwmail`.
 - 1d Replace *netware_server_ip_address* with the IP address of the NetWare server.
- 2 Create the Linux mount directory referenced in [Step 1c](#).
- 3 Create a script in the `/mnt` directory with the resulting mount command, then run the script to mount the NetWare server to the local Linux server.
- 4 To make the mount persistent, so that it is automatically available whenever you reboot the Linux server, edit the `/etc/fstab` (<http://en.wikipedia.org/wiki/Fstab>) file with the same information that you used in the `mount` command.

27.2 Administering NetWare Domains from Windows

If you are not migrating into a completely Linux environment, you can continue to run Windows ConsoleOne, accessing NetWare servers across mapped drives, for as long as NetWare servers remain in your GroupWise system.

IV Appendixes

- ♦ [Appendix A, “GroupWise Version Compatibility,” on page 289](#)
- ♦ [Appendix B, “GroupWise Linux Executables,” on page 297](#)
- ♦ [Appendix C, “Third-Party Materials,” on page 329](#)
- ♦ [Appendix D, “Documentation Updates,” on page 341](#)

A GroupWise Version Compatibility

Use the tables in this section to determine compatibility among the following GroupWise versions:

- ♦ [Section A.1, “GroupWise 2012 on Linux,” on page 289](#)
- ♦ [Section A.2, “GroupWise 2012 on Windows,” on page 291](#)
- ♦ [Section A.3, “GroupWise 2012 in a Cross-Platform Environment,” on page 293](#)

IMPORTANT: GroupWise 5.x, 6.x, and 7 versions have entered the end-of-life phase and are no longer actively supported. For update instructions, see [Chapter 26, “Updating Earlier GroupWise Systems to Version 2012,” on page 283](#).

For each GroupWise version, the tables indicate compatibility for:

- ♦ **Administrative components:** Domain and post office database platforms and versions, eDirectory platforms, and GroupWise snap-ins 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 communicates with the Internet Agent, so that table cell is N/A.

For information about what operating system versions are supported for GroupWise 2012 on Linux and Windows, refer to [“GroupWise System Requirements” on page 19](#). For information about earlier versions of GroupWise, refer to:

- ♦ [GroupWise 8 Installation Guide](#)

For information about the features that each GroupWise version includes, see [Novell GroupWise Feature Comparison \(http://www.novell.com/products/groupwise/compare.html\)](#).

A.1 GroupWise 2012 on Linux

Select the GroupWise version that you want to determine GroupWise 2012 compatibility with:

- ♦ [Section A.1.1, “Compatibility with GroupWise 8 on Linux,” on page 289](#)
- ♦ [Section A.1.2, “Compatibility with GroupWise 7 on Linux,” on page 291](#)

A.1.1 Compatibility with GroupWise 8 on Linux

- ♦ [“GroupWise 8 Administrative Components with GroupWise 2012 on Linux” on page 290](#)
- ♦ [“GroupWise 8 Agents with GroupWise 2012 on Linux” on page 290](#)
- ♦ [“GroupWise 8 Windows Client with GroupWise 2012 on Linux” on page 291](#)

GroupWise 8 Administrative Components with GroupWise 2012 on Linux

GroupWise 2012 Components	GroupWise 8 Domain and Post Office Databases	GW 8 Objects in eDirectory	ConsoleOne + GW 8 Snap-Ins
GW 2012 Domain and Post Office Databases	N/A	N/A	Not Supported
GW 2012 Objects in eDirectory	N/A	N/A	Not Supported
ConsoleOne + GW 2012 Snap-Ins	Supported	Supported	N/A

Table Summary: ConsoleOne with the GroupWise 2012 snap-ins can be used to access GroupWise 8 databases for domains and post offices and GroupWise 8 eDirectory objects. However, ConsoleOne with the GroupWise 8 snap-ins should not be used to access GroupWise 2012 databases and GroupWise 2012 eDirectory objects.

The general rule is that later GroupWise snap-ins can administer earlier GroupWise system components, but earlier GroupWise snap-ins should not be used to administer later GroupWise system components. The exception in GroupWise 2012 is that the GroupWise 2012 snap-ins cannot be used to administer GroupWise 8 WebAccess eDirectory objects, because WebAccess configuration information is not stored in eDirectory objects in GroupWise 2012. Continue to use the GroupWise 8 snap-ins to administrator GroupWise 8 WebAccess eDirectory objects.

NOTE: If your GroupWise administration includes Novell Identity Manager, see “Identity Manager Driver Version Compatibility” in the [GroupWise 2012 Readme \(http://www.novell.com/documentation/groupwise2012/gw2012_readme_full/data/gw2012_readme_full.html#bwqjm9e\)](http://www.novell.com/documentation/groupwise2012/gw2012_readme_full/data/gw2012_readme_full.html#bwqjm9e).

GroupWise 8 Agents with GroupWise 2012 on Linux

GroupWise 2012 Agents	GroupWise 8 Domain and Post Office Databases	GW 8 MTA	GW 8 POA	GW 8 GWIA	GW 8 WebAccess Agent	GW 8 Monitor Agent
GW 2012 Domain and Post Office Databases	N/A	Not Supported	Not Supported	Not Supported	N/A	Not Supported
GW 2012 MTA	Supported	Supported	Supported	Supported	N/A	Supported
GW 2012 POA	Supported	Supported	N/A	N/A	N/A	Supported
GW 2012 DVA	N/A	N/A	N/A	N/A	N/A	N/A
GW 2012 GWIA	Supported	Supported	N/A	Not Supported	N/A	Supported
GW 2012 Monitor Agent	Supported	Supported	Supported	Supported	N/A	N/A

Table Summary: GroupWise 8 agents cannot access domain and post office databases that have been updated to GroupWise 2012. When a GroupWise 2012 MTA or POA accesses a GroupWise 8 database, it automatically updates the database to GroupWise 2012.

The Document Viewer Agent (DVA) is new in GroupWise 2012 and does not interact with any GroupWise 8 agents. The WebAccess Agent that was part of GroupWise 8 is not part of GroupWise 2012.

GroupWise 8 Windows Client with GroupWise 2012 on Linux

GroupWise 8 Windows Client	GroupWise 2012 Post Office Direct Access	GW 2012 POA Client/Server Access Online Mode	GW 2012 POA Client/Server Access Caching Mode	GW 2012 POA Dial-Up Access Remote Mode
Windows Client	Not Supported	Supported	Supported	Supported

Table Summary: The GroupWise 8 Windows client can communicate with the GroupWise 2012 POA, but it cannot access a GroupWise 2012 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.

A.1.2 Compatibility with GroupWise 7 on Linux

GroupWise 7 components should work with GroupWise 2012 in the same way that GroupWise 8 works with GroupWise 2012. However, extended support of GroupWise 7 ended on September 30, 2012. Self-support is still available. For more information, see the [Novell Support Product Support Lifecycle Web page \(http://support.novell.com/lifecycle\)](http://support.novell.com/lifecycle).

A.2 GroupWise 2012 on Windows

Select the GroupWise version that you want to determine GroupWise 2012 compatibility with:

- ♦ [Section A.2.1, “Compatibility with GroupWise 8 on Windows,” on page 291](#)
- ♦ [Section A.2.2, “Compatibility with GroupWise 7 on Windows,” on page 293](#)

A.2.1 Compatibility with GroupWise 8 on Windows

- ♦ [“GroupWise 8 Administrative Components with GroupWise 2012 on Windows” on page 292](#)
- ♦ [“GroupWise 8 Agents with GroupWise 2012 on Windows” on page 292](#)
- ♦ [“GroupWise 8 Windows Client with GroupWise 2012 on Windows” on page 293](#)

GroupWise 8 Administrative Components with GroupWise 2012 on Windows

GroupWise 2012 Components	GroupWise 8 Domain and Post Office Databases	GW 8 Objects in eDirectory	ConsoleOne + GW 8 Snap-Ins
GW 2012 Domain and Post Office Databases	N/A	N/A	Not Supported
GW 2012 Objects in eDirectory	N/A	N/A	Not Supported
ConsoleOne + GW 2012 snap-ins	Supported	Supported	N/A

Table Summary: ConsoleOne with the GroupWise 2012 snap-ins can be used to access GroupWise 8 databases for domains and post offices and GroupWise 8 eDirectory objects. However, ConsoleOne with the GroupWise 8 snap-ins should not be used to access GroupWise 2012 databases and GroupWise 2012 eDirectory objects.

The general rule is that later GroupWise snap-ins can administer earlier GroupWise system components, but earlier GroupWise snap-ins should not be used to administer later GroupWise system components. The exception in GroupWise 2012 is that the GroupWise 2012 snap-ins cannot be used to administer GroupWise 8 WebAccess eDirectory objects, because WebAccess configuration information is not stored in eDirectory objects in GroupWise 2012. Continue to use the GroupWise 8 snap-ins to administrator GroupWise 8 WebAccess eDirectory objects.

NOTE: If your GroupWise administration includes Novell Identity Manager, see “Identity Manager Driver Version Compatibility” in the [GroupWise 2012 Readme \(http://www.novell.com/documentation/groupwise2012/gw2012_readme_full/data/gw2012_readme_full.html#bwqjm9e\)](http://www.novell.com/documentation/groupwise2012/gw2012_readme_full/data/gw2012_readme_full.html#bwqjm9e).

GroupWise 8 Agents with GroupWise 2012 on Windows

GroupWise 2012 Agents	GroupWise 8 Domain and Post Office Databases	GW 8 MTA	GW 8 POA	GW 8 GWIA	GW 8 WebAccess Agent	GW 8 Monitor Agent
GW 2012 Domain and Post Office Databases	N/A	Not Supported	Not Supported	Not Supported	N/A	Not Supported
GW 2012 MTA	Supported	Supported	Supported	Supported	N/A	Supported
GW 2012 POA	Supported	Supported	N/A	N/A	N/A	Supported
GW 2012 DVA	N/A	N/A	N/A	N/A	N/A	N/A
GW 2012 GWIA	Supported	Supported	N/A	Not Supported	N/A	Supported
GW 2012 Monitor Agent	Supported	Supported	Supported	Supported	N/A	N/A

Table Summary: GroupWise 8 agents cannot access domain and post office databases that have been updated to GroupWise 2012. When a GroupWise 2012 MTA or POA accesses a GroupWise 8 database, it automatically updates the database to GroupWise 2012.

The Document Viewer Agent (DVA) is new in GroupWise 2012 and does not interact with any GroupWise 8 agents. The WebAccess Agent that was part of GroupWise 8 is not part of GroupWise 2012.

GroupWise 8 Windows Client with GroupWise 2012 on Windows

GroupWise 8 Windows Client	GroupWise 2012 Post Office Direct Access	GW 2012 POA Client/Server Access Online Mode	GW 2012 POA Client/Server Access Caching Mode	GW 2012 POA Dial-Up Access Remote Mode
Windows Client	Not Supported	Supported	Supported	Supported

Table Summary: The GroupWise 8 Windows client can communicate with the GroupWise 2012 POA, but it cannot access a GroupWise 2012 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.

A.2.2 Compatibility with GroupWise 7 on Windows

GroupWise 7 components should work with GroupWise 2012 in the same way that GroupWise 8 works with GroupWise 2012. However, extended support of GroupWise 7 ended on September 30, 2012. Self-support is still available. For more information, see the [Novell Support Product Support Lifecycle Web page \(http://support.novell.com/lifecycle\)](http://support.novell.com/lifecycle).

A.3 GroupWise 2012 in a Cross-Platform Environment

- [Section A.3.1, “GroupWise 2012 Linux Administrative Components with GroupWise 2012 on Windows,” on page 294](#)
- [Section A.3.2, “GroupWise 2012 Windows Administrative Components with GroupWise 2012 on Linux,” on page 294](#)
- [Section A.3.3, “GroupWise 2012 Agents on Linux and Windows,” on page 295](#)

A.3.1 GroupWise 2012 Linux Administrative Components with GroupWise 2012 on Windows

GroupWise 2012 on Linux Administrative Components	GroupWise 2012 Domain and Post Office Databases on Windows	GW 2012 Objects in eDirectory on Windows	Windows ConsoleOne + GW 2012 Snap-Ins
GW 2012 Domain and Post Office Databases on Linux	N/A	N/A	Supported
GW 2012 Objects in eDirectory on Linux	N/A	N/A	Supported
Linux ConsoleOne + GW 2012 Snap-ins on Linux	Supported	Supported	N/A

Table Summary: Linux 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 Linux or Windows. When using Linux ConsoleOne to administer domains and post offices, you must mount the Linux or Windows server to your Linux machine. For setup instructions, see “[ConsoleOne on Linux](#)” in “[System](#)” in the *GroupWise 2012 Administration Guide*.

A.3.2 GroupWise 2012 Windows Administrative Components with GroupWise 2012 on Linux

GroupWise 2012 on Windows Administrative Components	GroupWise 2012 Domain and Post Office Databases on Linux	GW 2012 Objects in eDirectory on Linux	Linux ConsoleOne + GW 2012 Snap-Ins
GW 2012 Domain and Post Office Databases on Windows	N/A	N/A	Supported
GW 2012 Objects in eDirectory on Windows	N/A	N/A	Supported
Linux ConsoleOne + GW 2012 Snap-ins on Linux	Supported	Supported	N/A

Table Summary: 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 Linux or Windows. When using Windows ConsoleOne to administer domains and post offices on Windows servers, you use a mapped drive to access the Windows server. When using Windows

ConsoleOne to administer domains and post offices on Linux servers, you can use a Samba share to access the Linux server from your Windows machine. For Samba setup instructions, see [“ConsoleOne on Windows”](#) in [“System”](#) in the *GroupWise 2012 Administration Guide*.

A.3.3 GroupWise 2012 Agents on Linux and Windows

GroupWise 2012 on Linux Agents	GroupWise 2012 Domain or Post Office Databases on Windows	GW 2012 MTA on Windows	GW 2012 POA on Windows	GW 2012 DVA on Windows	GW 2012 GWIA on Windows	GW 2012 Monitor Agent on Windows
GW 2012 Domain and Post Office Databases on Linux	N/A	Supported	Supported	N/A	Supported	Supported
GW 2012 MTA on Linux	Supported	Supported	Supported	N/A	Supported	Supported
GW 2012 POA on Linux	Supported	Supported	N/A	Supported	N/A	Supported
GW 2012 GWIA on Linux	Supported	Supported	N/A	N/A	Supported	Supported
GW 2012 Monitor Agent on Linux	Supported	Supported	Supported	N/A	Supported	N/A

Table Summary: Domains and post offices can be located on Linux or Windows. Run the version of the GroupWise agents that matches the platform where the domains and post offices are located. All the Linux GroupWise agents can communicate as usual with the Windows GroupWise agents.

Existing domains on NetWare servers can be moved to Linux or Windows servers, so that the GroupWise 2012 agents can update them. For assistance, see [Chapter 15, “Migrating Away from NetWare,”](#) on page 245.

B GroupWise Linux Executables

This section contains the information in the GroupWise man pages that are available on your Linux server.

- ♦ [“grpwise\(1\)” on page 298](#)
- ♦ [“grpwise-ma\(1\)” on page 301](#)
- ♦ [“gwpoa\(1\)” on page 303](#)
- ♦ [“gwmta\(1\)” on page 305](#)
- ♦ [“gwdva\(1\)” on page 307](#)
- ♦ [“gwia\(1\)” on page 309](#)
- ♦ [“gwmon\(1\)” on page 311](#)
- ♦ [“gwcheck\(1\)” on page 313](#)
- ♦ [“gwcheckt\(1\)” on page 317](#)
- ♦ [“dbcoppy\(1\)” on page 319](#)
- ♦ [“gwtmstmp\(1\)” on page 323](#)
- ♦ [“gwcsrgen\(1\)” on page 326](#)

grpwise(1)

Name

grpwise - GroupWise Script

Syntax

```
grpwise start [object]
grpwise status [object]
grpwise stop [object]
grpwise restart [object]
grpwise print [object]
```

The agent objects are:

```
POA: post_office_name.domain_name
MTA: domain_name
DVA: gwdva
GWIA: gwia.domain_name
```

NOTE: The Monitor Agent is not controlled by the `grpwise` script. It has its own script named `grpwise-ma`, which works essentially the same as the `grpwise` script.

Description

The `grpwise` script is created during installation and can control any agents installed on the local server. It is created in the `/etc/init.d` directory. It works in conjunction with the `gwha.conf` file, which is created in the `/etc/opt/novell/groupwise` directory. The `gwha.conf` file lists the agents installed on the local server so that the `grpwise` script knows what agents to start.

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.

Options

Usage Options:

start

Starts all GroupWise agents on the local server or the GroupWise agent specified in the `grpwise` command. A green “done” indicates that an agent is running. If a green “done” does not appear, the agent was unable to start.

status

Displays status for all GroupWise agents on the local server or for the GroupWise agent specified in the `grpwise` command. A green “running” indicates that an agent is running. A black “unused” indicates that an agent is not running.

stop

Stops all GroupWise agents on the local server or the GroupWise agent specified in the `grpwise` command. A green "done" indicates that an agent is stopped. A black "unused" indicates that an agent is not running and therefore cannot be stopped.

restart

Stops all GroupWise agents on the local server or the GroupWise agent specified in the `grpwise` command. A green "done" indicates that an agent is stopped. A black "unused" indicates that an agent is not running and therefore cannot be stopped. The agents then start again with the standard start status indicators.

print

Lists settings for all GroupWise agents in the `gwha.conf` file or for the GroupWise agent specified in the `grpwise` command.

post_office_name.domain_name

Specifies the POA to stop. The syntax allows for multiple POAs running on the same server and specifies which POA to stop.

domain_name

Specifies the MTA to stop. The syntax allows for multiple MTAs running on the same server and specifies which MTA to stop.

gwdva

Stops the DVA. The syntax stops all DVAs on the server.

gwia.domain_name

Specifies the GWIA to stop. The syntax allows for multiple GWIAs running on the same server and specifies which GWIA to stop.

Help Options:

`--help, -?`

Displays the help information and exits.

Files

/etc/opt/novell/groupwise/gwha.conf

GroupWise High Availability service configuration file. This configuration file lists all information necessary to start and stop each GroupWise agent that is installed on the server. For example, an entry for an MTA might look similar to this example:

```
server      = /opt/novell/groupwise/agents/bin/gwmta
command     = /etc/init.d/grpwise
startup     = provol.mta
delay       = 2
wait        = 10
```

The `server` = setting specifies the full path to the agent executable.

The `command` = setting specifies the full path to the `grpwise` script.

The `startup` = setting specifies the name of the agent startup file. All agent startup files are located in the `/opt/novell/groupwise/agents/share` directory. In a cluster, the startup files are on the shared resource.

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.

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.

By default, the `grpwise` script starts the agents as daemons with no user interface. If you want a user interface, you can add a `show = yes` line for each agent that you want to have a user interface.

Examples

This script must be run as `root`. If you have configured the GroupWise agents to run as a non-root user, they switch over to that user after they have started.

```
/etc/init.d/grpwise start
```

Starts all GroupWise agents that are installed on the server.

```
/etc/init.d/grpwise status development.provo1
```

Shows the status of the Development post office POA. The Development post office belongs to the Provo1 domain.

```
/etc/init.d/grpwise stop gwia.provo1
```

Stops the GWIA that belongs to the Provo1 domain.

NOTE: In all examples, `/etc/init.d/grpwise` can be replaced with `rcgrpwise` to run the script from any directory.

Diagnostics

If a GroupWise agent fails to start when using the `grpwise` script, try starting the agent manually, as described in the man page for each agent. You might receive an error message indicating why the agent is failing to start.

If you have changed the non-root user that you want the agent to run by modifying the `/etc/opt/novell/groupwise/agents/uid.conf` file, you might have forgotten to delete the corresponding `uid.run` file in the domain or post office directory that the agent services. Delete the `uid.run` file, then use the `grpwise` script to try to start the agent again.

Authors

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See Also

[gwpoa\(1\)](#), [gwmnta\(1\)](#), [gwia\(1\)](#), [gwdva\(1\)](#).

To report problems with this software or its documentation, visit [Novell Bugzilla. \(http://bugzilla.novell.com\)](http://bugzilla.novell.com).

grpwise-ma(1)

Name

grpwise-ma - GroupWise Monitor Script.

Syntax

```
grpwise-ma [start] [stop] [status] [restart]
```

Description

The `grpwise-ma` script is created during installation and controls the Monitor Agent. (The `grpwise` script controls the other four GroupWise agents.) The `grpwise-ma` script is created in the `/etc/init.d` directory. It works in conjunction with the `monitor.xml` file, which is created in the `/opt/novell/groupwise/agents/share` directory. The `monitor.xml` file points the Monitor Agent to a domain database (`wpdomain.db`) where it can access a list of agents to monitor in your GroupWise system.

The `grpwise-ma` script includes an `MA_OPTIONS` variable where you can specify Monitor Agent startup switches. This is convenient because the Monitor Agent does not use a startup file as the other GroupWise agents do.

The Monitor Agent is Run Control compliant. During installation, a symbolic link is created from `/etc/init.d/grpwise-ma` to `/usr/sbin/rcgrpwise-ma`. Typically, `/usr/sbin` is already on your path, so you can run `rcgrpwise-ma` from any directory, rather than changing to `/etc/init.d` in order to run the `grpwise-ma` script.

Options

Usage Options:

start

Starts the Monitor Agent as a daemon on the local server. A green “done” indicates that the agent is running. If a green “done” does not appear, then the agent was unable to start.

status

Displays status for the Monitor Agent. A green “running” indicates that the agent is running. A black “unused” indicates that the agent is not running.

stop

Stops the Monitor Agent. A green “done” indicates that the agent is stopped. A black “unused” indicates that the agent is not running and therefore cannot be stopped.

restart

Stops the Monitor Agent. A green “done” indicates that the agent is stopped. A black “unused” indicates that the agent is not running and therefore cannot be stopped. The Monitor Agent then starts again with the standard start status indicators.

Help Options:

`--help, -?`

Displays the help information and exits.

Files

`/opt/novell/groupwise/agents/share/monitor.xml`

Monitor Agent configuration file. Provides a domain directory where the Monitor Agent can determine what GroupWise and Messenger agents to monitor. The `monitor.xml` file is created during installation.

`/var/opt/novell/groupwise/monitor/gwmonitor.cfg`

Monitor Application configuration file. Provides integration information for passing agent status information gathered by the Monitor Agent to your Web browser for display in the Monitor Web console.

Examples

This script does not run as root.

```
/etc/init.d/grpwise-ma start
```

Starts the Monitor Agent.

You can view the Monitor Agent Web console at the following URL:

`http://localhost:8200`

You can view the Monitor Web console at the following URL:

`http://localhost/gwmon/gwmonitor`

NOTE: In the example, `/etc/init.d/grpwise-ma` can be replaced with `rcgrpwise-ma` to run the script from any directory.

Authors

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See Also

[gwmon\(1\)](#).

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gwpoa(1)

Name

gwpoa - GroupWise Post Office Agent.

Syntax

```
gwpoa [--show] --home post_office_directory  
gwpoa [--show] @startup_file
```

Description

A post office is a collection of user mailboxes and GroupWise objects. Messages are delivered to mailboxes by the Post Office Agent (POA).

You can provide POA startup switches on the command line or in a startup file. By default, the startup file is named after the post office and has a `.poa` extension. It is located in the `/opt/novell/groupwise/agents/share` directory.

Options

Usage Options:

--home *post_office_directory*

Specifies the post office directory, where the POA can access message and user databases. There is no default location. You must use this switch in order to start the POA. During installation, the `--home` switch is automatically set to the post office directory in the POA startup file.

@*startup_file*

Specifies the location of the POA startup file. By default, the POA startup file is created in the `/opt/novell/groupwise/agents/share` directory and is named after the post office, with a `.poa` extension. The startup file includes the `--home` switch and must reside on the same server where the POA is installed. For information about startup switches, see the *GroupWise Administration Guide* (<http://www.novell.com/documentation/groupwise2012>).

--show

Starts the POA with a user interface similar to that provided for the Windows POA. By default, no user interface is provided for the POA on Linux. The `--show` startup switch can be used on the command line or in the `gwha.conf` file used by the GroupWise High Availability Service; it cannot be placed in the POA startup file.

Help Options:

--help, -?

Displays the help information and exits.

Files

`/opt/novell/groupwise/agents/share/post_office_name.poa`

Startup file where startup switches are specified.

`/var/log/novell/groupwise/post_office.poa/mddpda.nnn`

Log file where error messages are written.

Examples

By default, this program runs as `root`, but it is preferable to run it as a non-root user. See the *GroupWise Installation Guide* (<http://www.novell.com/documentation/groupwise2012>) to set up the POA to run as a non-root user.

```
/opt/novell/groupwise/agents/bin/gwpoa --home /gwsystem/acct
```

Starts the POA by specifying the post office directory.

```
/opt/novell/groupwise/agents/bin/gwpoa @acct.poa
```

Starts the POA by specifying the POA startup file.

```
/opt/novell/groupwise/agents/bin/gwpoa --show @acct.poa
```

Starts the POA with a user interface.

Diagnostics

If you use the `--show` startup switch, error messages are displayed in the Log Message box of the POA server console where the POA is running. By default, error messages are also written to the POA log file located in the `/var/log/novell/groupwise/post_office.poa` directory.

Typically you find multiple log files in this directory. The first four characters of each file name represent the date. The next three identify the agent. A three-digit extension allows for multiple log files created on the same day. For example, a log file named `0518pda.001` indicates that it is a POA log file created on May 18. If you restart the POA on the same day, a new log file is created, named `0518pda.002`.

For information about POA error messages, see *Troubleshooting 1: Error Messages* (<http://www.novell.com/documentation/groupwise2012>).

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See Also

[grpwise\(1\)](#)

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gwmta(1)

Name

gwmta - GroupWise Message Transfer Agent

Syntax

```
gwmta [--show] --home domain_directory
gwmta [--show] @startup_file
```

Description

A domain organizes post offices into a logical grouping for addressing, routing, and administration purposes in your GroupWise system. Messages are transferred between post offices and domains by the Message Transfer Agent (MTA).

You can provide MTA startup switches on the command line or in a startup file. By default, the startup file is named after the domain and has a `.mta` extension. It is located in the `/opt/novell/groupwise/agents/share` directory.

Options

Usage Options:

--home *domain_directory*

Specifies the domain directory, where the MTA can access the domain database (`wpdomain.db`). There is no default location. You must use this switch in order to start the MTA. The Agent Installation program automatically sets the `--home` switch to the domain directory in the MTA startup file.

@*startup_file*

Specifies the location of the MTA startup file. By default, the MTA startup file is created in the `/opt/novell/groupwise/agents/share` directory and is named after the domain, with a `.mta` extension. The startup file includes the `--home` switch and must reside on the same server where the MTA is installed. For information about startup switches, see the [GroupWise Administration Guide](http://www.novell.com/documentation/groupwise2012) (<http://www.novell.com/documentation/groupwise2012>).

--show

Starts the MTA with a user interface similar to that provided for the Windows MTA. By default, no user interface is provided for the MTA on Linux. The `--show` startup switch can be used on the command line or in the `gwha.conf` file used by the GroupWise High Availability Service; it cannot be placed in the MTA startup file.

Help Options:

--help, -?

Displays the help information and exits.

Files

`/opt/novell/groupwise/agents/share/domain_name.mta`

Startup file where startup switches are specified.

`/var/log/novell/groupwise/domain.mta/mddmat.nnn`

Log file where error messages are written.

Examples

By default, this program runs as `root`, but it is preferable to run it as a non-root user. See the *GroupWise Installation Guide* (<http://www.novell.com/documentation/groupwise2012>) to set up the MTA to run as a non-root user.

```
/opt/novell/groupwise/agents/bin/gwmta --home /gwsystem/provol
```

Starts the MTA by specifying the domain directory.

```
/opt/novell/groupwise/agents/bin/gwmta @provol.mta
```

Starts the MTA by specifying the MTA startup file.

```
/opt/novell/groupwise/agents/bin/gwmta --show @provol.mta
```

Starts the MTA with a user interface.

Diagnostics

If you use the `--show` startup switch, error messages are displayed in the Alert box of the MTA server console where the MTA is running. By default, error messages are also written to the MTA log file located in the `/var/log/novell/groupwise/domain_name.mta` directory.

Typically you find multiple log files in this directory. The first four characters of each file name represent the date. The next three identify the agent. A three-digit extension allows for multiple log files created on the same day. For example, a log file named `0518mta.001` indicates that it is an MTA log file created on May 18. If you restart the MTA on the same day, a new log file is created, named `0518mta.002`.

For information about MTA error messages, see *Troubleshooting 1: Error Messages* (<http://www.novell.com/documentation/groupwise2012>).

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See Also

[grpwise\(1\)](#).

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gwdva(1)

Name

gwdva - GroupWise Document Viewer Agent

Syntax

gwdva [@gwdva.dva]

Description

The Document Viewer Agent (DVA) converts documents from a wide variety of formats into HTML format for viewing in GroupWise WebAccess. You can run as many as three DVAs to service conversion requests for a single instance of the WebAccess Application. Each DVA must be installed on a different server.

NOTE: The DVA can also optionally be used for converting documents into HTML format, so that the Post Office Agent (POA) can index them. By default, the POA uses the Document Converter Agent (DCA) to convert documents into HTML format for indexing.

The DVA consists of a master DVA process, and multiple worker DVA processes. The master DVA process communicates with the WebAccess Application (and optionally with the POA) to transfer documents back and forth for conversion. Each worker process converts a single document. Because some documents contain unexpected data, they cannot be successfully converted. Such a conversion failure terminates a worker process, but does not affect the stability of the master DVA process.

You can provide DVA startup switches on the command line or in a startup file. By default, the startup file is `gwdva.dva`.

Options

NOTE: The `--show` switch that is available for other GroupWise agents to provide a user interface is not available for the Linux DVA.

Usage Options:

`--home directory`

Specifies the path to the DVA working directory. The default location is `/opt/novell/groupwise/agents/bin/gwdva.dir`. A more convenient, recommended location is `/opt/novell/groupwise/gwdva`.

`@startup_file`

Specifies a startup file to use, by default, `gwdva.dva`. You can add any of the DVA startup switches to the startup file and then reference the file when starting the DVA. For information about startup switches, see the *GroupWise Administration Guide* (<http://www.novell.com/documentation/groupwise2012>).

Help Options:

`--help, -?`

Displays the help information and exits.

Files

`/opt/novell/groupwise/share/gwdva.dva`

Startup file where startup switches are specified.

`/var/log/novell/groupwise/dva/cdgwgwmddva.nnn`

Log file where error messages are written.

Examples

This program must run as `root`.

`/opt/novell/groupwise/agents/bin/gwdva`

Starts the DVA using its default configuration.

`/opt/novell/groupwise/agents/bin/gwdva --home /opt/novell/groupwise/gwdva`

Starts the DVA and specifies its working directory.

`/opt/novell/groupwise/agents/bin/gwdva @gwdva.dva`

Starts the DVA by specifying its startup file.

Diagnostics

The DVA creates a new log file each day and each time it is started. The log file is named `mmddva.nnn`, where `mm` is the month, `dd` is the day, and `nnn` is a sequenced number (001 for the first log file of the day, 002 for the second, and so on). The default location for the log files is the `/var/log/novell/groupwise/gwdva` directory.

For information about DVA error messages, see *Troubleshooting 1: Error Messages* (<http://www.novell.com/documentation/groupwise2012>).

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See Also

[grpwise\(1\)](#).

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gwia(1)

Name

gwia - GroupWise Internet Agent

Syntax

```
gwia [--show] --home gateway_directory
gwia [--show] @startup_file
gwia [--show] --dhome SMTP_directory
gwia [--show] --hn hostname
```

Description

The GroupWise Internet Agent (GWIA) enables you to send and receive messages over the Internet.

You can provide GWIA startup switches on the command line or in a startup file. At startup, the GWIA reads its startup file, *gwia.cfg*. It is located in the */opt/novell/groupwise/agents/share* directory.

Options

Usage Options:

--home *gateway_directory*

Points the GWIA to the GWIA's gateway directory. Normally, this is the *domain_directory/wpgate/gwia* directory.

@*startup_file*

Specifies the location of the GWIA configuration file, which is *gwia.cfg* by default. The GWIA looks for *gwia.cfg* in the */opt/novell/groupwise/agents/share* directory. For information about startup switches, see the *GroupWise Administration Guide* (<http://www.novell.com/documentation/groupwise2012>).

--dhome *SMTP_directory*

Points to the SMTP service work area. This is normally the same as the GWIA's gateway directory (*domain_directory/wpgate/gwia*).

--hn *hostname*

Provides the hostname that is displayed when someone connects to your GWIA via a Telnet session. You should enter the hostname assigned to you by your Internet service provider. Normally, the GWIA can get the information from another source and does not need this switch. If you receive a message that the **--hn** switch is required, you must use the switch.

--show

Starts the GWIA with a user interface similar to that provided for the Windows GWIA. By default, no user interface is provided for the GWIA on Linux. The **--show** startup switch can only be used on the command line; it cannot be placed in the startup file.

Help Options:

`--help, -?`

Displays the help information and exits.

Files

`/opt/novell/groupwise/agents/share/gwia.cfg`

Startup file where startup switches are specified.

`/var/log/novell/groupwise/gwia.domain_name/mddgwia.nnn`

Log file where error messages are written.

Examples

By default, this program runs as `root`, but it is preferable to run it as a non-root user. See the *GroupWise Installation Guide* (<http://www.novell.com/documentation/groupwise2012>) to set up the GWIA to run as a non-root user.

`/opt/novell/groupwise/agents/bin/gwia --home /gwsystem/prov01/wpgate/gwia`

Starts the GWIA by specifying its gateway directory in the domain.

`/opt/novell/groupwise/agents/bin/gwia @gwia.cfg`

Starts the GWIA by specifying its startup file.

`/opt/novell/groupwise/agents/bin/gwia --show @gwia.cfg`

Runs the GWIA with a user interface.

Diagnostics

If you have used the `--show` startup switch, error messages are displayed in the Log Message box of the GWIA server console where it is running. By default, error messages are also written to the GWIA log file located in the `/var/log/novell/groupwise/domain_name.gwia` directory.

Log files are named according to the date they are created. If the GWIA restarts during the day, the file extension indicates which session is logged (for example `0518gwia.003` indicates the third session logged for May 18).

For information about GWIA error messages, see *Troubleshooting 1: Error Messages* (<http://www.novell.com/documentation/groupwise2012>).

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See Also

[grpwise\(1\)](#).

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gwmon(1)

Name

gwmon - GroupWise Monitor Agent.

Syntax

```
gwmon --home domain_directory
```

Description

The Monitor Agent is a monitoring and management tool that allows you to monitor GroupWise agents and gateways, along with Messenger agents, 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.

Monitor Agent configuration information is stored in the `monitor.xml` file in the `/opt/novell/groupwise/agents/share` directory.

Options

NOTE: The `--show` switch that is available for other GroupWise agents to provide a user interface is not available for the Linux Monitor Agent.

Usage Options:

```
--home domain_directory
```

Specifies a domain directory where the Monitor Agent can access a domain database (`wpdomain.db`). From the domain database, the Monitor Agent can determine which agents to monitor, what user names and passwords are necessary to access them, and so on. For more information about startup switches, see the *GroupWise Administration Guide* (<http://www.novell.com/documentation/groupwise2012>).

Help Options:

```
--help, -?
```

Displays the help information and exits.

Files

```
/opt/novell/groupwise/agents/share/monitor.xml
```

Monitor Agent configuration file. Provides a domain directory where the Monitor Agent can determine what GroupWise and Messenger agents to monitor. The `monitor.xml` file is created during installation.

```
/var/log/novell/groupwise/gwmon/mmdmon.nnn
```

Log file for Monitor Agent events.

```
/var/log/novell/groupwise/gwmon/mmdhist.nnn
```

Log file for dumps of monitored agent MIB values.

Examples

This program can run as any user.

```
/opt/novell/groupwise/agents/bin/gwmon --home /gwsystem/prov01
```

Starts the Monitor Agent by accessing the domain database in the specified domain directory.

Diagnostics

The Monitor Agent writes to two different types of log files. Event log files record error messages, status messages, and other types of event-related messages. History log files record dumps of all MIB values gathered during each poll cycle of monitored agents. By default, both types of log files are created in the `/var/log/novell/groupwise/gwmon` directory.

Typically you find multiple log files in this directory. The first four characters of each file name represent the date. The following characters are `mon` for event log files and `hist` for history log files. A three-digit extension allows for multiple log files created on the same day. For example, a log file named `0518mon.001` indicates that it is a Monitor Agent event log file created on May 18. If you restart the Monitor Agent on the same day, a new event log file is created, named `0518mon.002`.

For information about Monitor Agent error messages, see *Troubleshooting 1: Error Messages* (<http://www.novell.com/documentation/groupwise2012>).

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See Also

[grpwise-ma\(1\)](#).

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gwcheck(1)

Name

gwcheck - GroupWise Check utility.

Syntax

```
gwcheck [--opt=[/path_name/]options_file [--batch] ]
                                     [--po=post_office_directory]
                                     [--pa=archive_directory]
                                     [--pr=remote_mailbox_directory]
```

Description

GroupWise Check (GWCheck) is a tool provided for GroupWise to check and repair GroupWise user, message, library, and resource databases without needing ConsoleOne. In addition to checking and repairing databases in the post office, it also checks and repairs users' remote, caching, and archive databases on user workstations or other personal locations.

GWCheck provides a user interface similar to the Mailbox/Library Maintenance feature in ConsoleOne. The list below illustrates the types of database repair that you can perform using GWCheck. Click *Help* in GWCheck for more information about the database repair options that are available.

Analyze/Fix Databases

```
Structure
  Index Check
Contents
  Collect Statistics
  Attachment File Check
Fix Problems
  Update User Disk Space Totals
```

Expire/Reduce Messages

```
Reduce Only
Expire and Reduce
  Items Older Than
  Downloaded Items Older Than
  Items Larger Than
  Trash Older Than
  Reduce Mailbox To
  Reduce Mailbox to Limited Size
Include
  Received Items
  Sent Items
  Calendar Items
  Only Backed-Up Items
  Only Retained Items
```

Mailbox Statistics

Mailbox Statistics
 Box Limit
Expire Statistics
 (same as the Expire and Reduce options)

Archive/Delete Documents

(no options)

Delete Activity Logs

Delete Logs Older Than *nn* Days

Analyze/Fix Library

Verify Library
Fix Document/Version/Element
Verify Document Files
Validate All Document Security
Synchronize User Name
Remove Deleted Storage Areas
 Move Documents First
Reassign Orphaned Documents
 New Author
Reset Word Lists

Audit Report

Log Accounts without Activity for Previous *nn* Days

GWCheck Options File

If you repeatedly use the same set of database repair options, you can save them in an options file. To create an options file, start GWCheck, select database repair options as needed, then click *Save*. By default, the options file is named `gwcheck.opt` and is saved in your home directory. You can change the file name and location as needed. You can retrieve the options file from the user interface or you can specify the options file on the command line. The options file is created in XML format on all platforms. Therefore, you can create the options file on any platform and use it on any platform interchangeably.

After you have created one or more options files, you can run GWCheck as a script, rather than using the user interface.

Options

Usage Options:

`--opt=options_file`

Specifies the name of the options file. By default, this file is saved in your home directory. If you want to save it to another directory, specify a path relative to your home directory or specify an absolute path.

--batch

Runs GWCheck in the background, without a user interface. Use an options file to specify the database repair options.

--po=post_office_directory

Specifies the path to the post office directory.

--pa=archive_directory

Specifies the path to the archive directory.

--pr=remote_mailbox_directory

Specifies the path to the remote mailbox database.

Help Options:

--help, -?

Displays the help information and exits.

Files

[/path_name/]gwcheck.opt

Options file. Create this file by setting database repair options in GWCheck, then click *Save*. The options file is created in XML format on all platforms. Therefore, you can create the options file on any platform and use it on any platform interchangeably.

Examples

This program normally runs as root.

```
/opt/novell/groupwise/gwcheck/bin/gwcheck
```

Starts the GUI GWCheck.

```
/opt/novell/groupwise/gwcheck/bin/gwcheck --opt=gwcheck.opt --batch
```

Starts GWCheck with an options file that provides default database repair options and runs it in batch mode so that there is no user interface.

```
/opt/novell/groupwise/gwcheck/bin/gwcheck --opt=gwcheck.opt --pa=/home/gsmith/  
gwarchive
```

Runs GWCheck for an archive mailbox.

Diagnostics

For information about GWCheck error messages, see *Troubleshooting 1: Error Messages* (<http://www.novell.com/documentation/groupwise2012>).

Authors

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See Also

[gwcheck\(1\)](#).

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gwcheckt(1)

Name

gwcheckt - Text-Based GroupWise Check

Syntax

```
gwcheckt options_file [--dump]
```

Description

Text-Based GroupWise Check (GWCheckT) is a tool provided for GroupWise to check and repair GroupWise user, message, library, and resource databases without needing ConsoleOne or any GUI environment. Text-Based GWCheckT can perform all of the same types of database repair as the GUI GWCheck, but in a text-only environment.

Text-Based GWCheckT has no user interface. You must create the required options file by using the GUI GroupWise Check (GWCheck), or by using the Mailbox/Library Maintenance feature in ConsoleOne.

To create the required options file, start the GUI GWCheck in an environment where the X Window System is available, select database repair options as needed, then click *Save*. By default, the options file is named `gwcheck.opt` and is saved in your home directory. You can change the file name and location as needed.

Options

Usage Options:

`[/path_name/]options_file`

Specifies the name of the options file. By default, this file is saved by the GUI GWCheck in your home directory. If you saved it to another directory, specify a path relative to your home directory or specify an absolute path.

`--dump`

Displays the contents of the options file so that you can see what database repair options have been selected.

Help Options:

`--help, -?`

Displays the help information and exits.

Files

`options_file`

(Required) Use the GUI GWCheck to select and save database repair options in the `gwcheck.opt` file, then run the Text-Based GWCheckT with the options file to execute the database repair options.

Examples

This program normally runs as root.

```
/opt/novell/groupwise/gwcheck/bin/gwcheckt gwcheck.opt
```

Runs GWCheckT in a text only environment, based on the database repair options provided in the options file created in the GUI GWCheck.

```
/opt/novell/groupwise/gwcheck/bin/gwcheckt gwcheck.opt --dump
```

Lists the settings of the database repair options in the specified options file.

Diagnostics

For information about GWCheck error messages, see *Troubleshooting 1: Error Messages* (<http://www.novell.com/documentation/groupwise2012>).

Authors

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See Also

[gwcheck\(1\)](#).

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dbcopy(1)

Name

dbcopy - GroupWise Database Copy utility

Syntax

```
dbcopy /source_directory /destination_directory
dbcopy [-b] [-i] [-t] [-v] [-w] /source_directory /destination_directory
dbcopy -m [-d] [-p] [-f] [-s] [-a] [-u] [-k] [-o] [-l]
           /source_directory /destination_directory
```

Description

The GroupWise Database Copy utility (DBCOPY) copies files from a live GroupWise domain, post office, or remote document storage area to a static location for backup. During the copy process, it prevents the files from being modified, using the same locking mechanism used by other GroupWise programs that access databases. This ensures that the backed-up versions are consistent with the originals even when large databases take a substantial amount of time to copy.

The DBCOPY utility is not installed automatically with the rest of the GroupWise software. The DBCOPY RPM is located in the admin subdirectory of your software distribution directory (/opt/novell/groupwise/software). When you install the RPM, the dbcopy executable is placed in the /opt/novell/groupwise/agents/bin directory.

In addition to backups, the DBCOPY utility is used in conjunction with the [GroupWise Server Migration Utility \(http://www.novell.com/documentation/groupwise2012\)](http://www.novell.com/documentation/groupwise2012), which helps you migrate GroupWise data from NetWare or Windows to Linux. Some startup switches can be used for both backups and migration. Other startup switches are used only for migration.

Options

General Usage Options:

source_directory

Specifies the full path to the domain directory, post office directory, or remote document storage area directory.

destination_directory

Specifies the full path to the directory where you want to copy the domain, post office, or remote document storage area.

Usage Option for Backups Only:

-i mm-dd-yyyy

Indicates that you are performing an incremental backup of only those files with the specified date or newer.

-j

Raises the priority of DBCopy processing. By default, if DBCopy detects that a POA is running, it lowers its own priority so that it does not interfere with POA processing. If DBCopy runs at night, when GroupWise users are not active, use the -j switch so that DBCopy does not lower its own priority. This speeds up DBCopy processing.

Usage Options for Backups and Migration:

-b

Copies a remote document storage area associated with a library, including all subdirectories and compressed BLOB (binary large object) files in which library documents are stored.

-t *threads*

Specifies the number of copy threads. The default is 5. Valid values range from 1 to 10.

-v

Turns on verbose logging. The DBCopy log file is named *mmddgwbk.nnn*. The first four 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, post office, or document storage area directory. In addition to status and error messages, it lists any remote document storage areas associated with a post office.

-w

Turns on continuous logging to the screen.

Usage Options for Migration Only:

-m

Copies all directories and files associated with a domain, post office, or document storage area as part of a migration; also ensure that all directory names and file names are in lowercase.

-d

Indicates migration of a domain.

-p

Indicates migration of a post office.

-f

Indicates that this is the first pass of the migration process.

-s

Indicates that this is the second pass of the migration process.

-a *ip_address*

Specifies the IP address to bind to for the migration process. The default is all available IP addresses.

-u *port_number*

Specifies the TCP port number for status requests during the migration.

-k

Skips collecting database size information during the migration.

-o

Skips the second copy of the post office `offiles` directory during the migration

-l */source_directory*

Performs the GroupWise Check function of `storelowercase` on the migrated GroupWise databases. Its purpose is to do an “in-place” conversion of files and directories to lowercase, rather than as part of a copy operation. For a post office, it also updates the guardian database with the new, lowercase names.

For example, you could use this functionality if you have a domain or post office located on a SAN that was mounted for access by the GroupWise NetWare agents, but you now want to run the GroupWise Linux agents for the domain or post office, because NetWare is not supported for GroupWise 2012.

Do not use other switches with the -l switch.

Help Options:

-h, --help, -?

Displays the help information and exits.

Files

/path_name/mddgwbk.nnn

Log file created at the root of the destination directory.

Examples

This program normally runs as root.

Backup Examples:

```
/opt/novell/groupwise/agents/bin/dbcopy /gwsystem/acct /backups/acct
```

Copies a post office to a backup location.

```
/opt/novell/groupwise/agents/bin/dbcopy --b /gwsystem/acct_library /backups/  
acct_library
```

Copies a library to a backup location.

Migration Examples:

```
/opt/novell/groupwise/agents/bin/dbcopy -m -f /post_office_directory /  
destination_directory
```

Performs the first migration pass for a post office.

```
/opt/novell/groupwise/agents/bin/dbcopy -m -s /post_office_directory /  
destination_directory
```

Performs the second migration pass for a post office.

```
/opt/novell/groupwise/agents/bin/dbcopy -m /domain_directory /  
destination_directory
```

Migrates a domain.

```
/opt/novell/groupwise/agents/bin/dbcopy -m -b /storage_area_directory /  
destination_directory
```

Migrates a document storage area.

Authors

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See Also

[gwtmstmp\(1\)](#).

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gwtmstmp(1)

Name

`gwtmstmp` - GroupWise Time Stamp utility.

Syntax

```
gwtmstmp --postpath post_office_directory [--set] [--get] [--clear]
          [--backup] [--restore] [--retention]
          [--date mm/dd/yyyy] [--time hh:mm[am|pm]] [--gmttime seconds]
          [--userid GroupWise_userID] [--userdb user_database]
```

Description

The GroupWise Time Stamp utility (GWTMSTMP) places date and time information on user databases (`userxxx.db`) in order to support message backup, restore, and retention. The time stamp indicates the last time the database was backed up.

If a user deletes an item from his or her mailbox and purges it from the Trash, the item is removed from the user's database only if the time stamp shows that the item has already been backed up. Otherwise, the item remains in the user's database until the database is backed up, at which time it is purged from the database.

You can run the GroupWise Time Stamp utility on all user databases in a post office or on a single user database. No other databases are affected.

Backup

To ensure thorough user database backups, you can make sure that deleted items are not purged from users' databases until they have been backed up. Two conditions must be met in order to provide this level of protection against loss of deleted items:

- ♦ The *Do Not Purge Items Until They Are Backed Up* option must be selected for the post office in ConsoleOne (*Tools > GroupWise Utilities > Client Options > Environment > Cleanup*).
- ♦ User databases (`userxxx.db`) must be time-stamped every time a backup is performed so that items can be purged only after they are backed up.

Restore

You can use the GroupWise Time Stamp utility to manually add the restore time stamp to the database. The restore time stamp is not required for any GroupWise feature to work properly. Its primary purpose is informational.

Retention

If you use a message retention application, the application should automatically add the retention time stamp after retaining the database's messages. Any messages with dates that are newer than the retention time stamp cannot be purged from the database. You can use the GroupWise Time Stamp utility to manually add a retention time stamp.

Options

Usage Options:

--postpath */post_office_directory*, **-p** */post_office_directory*

(Required) Specifies the full path to the post office directory where the user databases to time-stamp are located.

--set, **-s**

Sets the current date and time (of backup, restore, or retention) on user databases.

--get, **-g**

Lists existing backup, restore, and retention time stamp information for user databases. If no time stamps are set, "unknown" is displayed. If no other operational switch is used, --get is assumed.

--clear, **-c**

Removes time stamps (of backup, restore, or retention) from user databases.

--backup, **--restore**, **--retention**, **--modifiedretention**, **-b**, **-r**, **-n**, **-mn**

Specifies the type of time stamp (backup, restore, retention, or modified retention) on which to perform the get or set operation. If no time stamp type is specified, the operation is performed on the backup time stamp. Multiple time stamp types can be specified.

--date *mm/dd/yyyy*, **-d** *mm/dd/yyyy*

Specifies the date that you want placed on user databases. Use the format *mm/dd/yyyy*; for example, 05/18/2012 for May 18, 2012. If no date is specified, the current date is used. If your locale does not use the *mm/dd/yyyy* format, use `gwtmstmp --help` to determine the format for your locale.

--time *hh:mm[am|pm]*, **-t** *hh:mm[am|pm]*

Specifies the time that you want placed on user databases. Use the format *hh:mm*, expressed in a 24-hour format (for example, 20:45) or expressed with the am or pm option (for example, 8:45pm). If no time is specified, 00:00 is used.

--gmttime *seconds*, **-m** *seconds*

Specifies the number of seconds since midnight on January 1, 1970 GMT that you want placed on the user databases.

--userid *user_name*, **-u** *user_name*

Provides a specific GroupWise user ID so that an individual user database can be time-stamped.

--userdb *user_database*, **-e** *user_database*

Provides a specific database name so that an individual user database can be time-stamped.

Help Options:

--help, **-?**

Displays the help information and exits.

Examples

This program normally runs as root.

```
/opt/novell/groupwise/agents/bin/gwtmstamp -p /gwsystem/acct
```

Checks the existing time stamp on all GroupWise user databases in a post office.

```
/opt/novell/groupwise/agents/bin/gwtmstamp -p /gwsystem/acct --set
```

Sets a current time stamp on all user databases in a post office.

Diagnostics

For information about GroupWise Time Stamp utility error messages, see *Troubleshooting 1: Error Messages* (<http://www.novell.com/documentation/groupwise2012>).

Authors

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See Also

[dbcopy\(1\)](#).

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gwcsrgen(1)

Name

gwcsrgen - GroupWise Generate CSR utility

Syntax

gwcsrgen

Description

The GroupWise Generate CSR utility (GWCSRGEN) generates a certificate signing request (CSR) file and a private key file. These files are needed to provide secure communication through SSL (Secure Socket Layer) connections between GroupWise agents and clients.

When you run the Generate CSR utility, you must fill in the following fields in the interface provided:

Key Filename

The name for the private key file (for example, `server1.key`). If you don't want the file stored in the same directory as the `gwcsrgen` executable, specify a full path with the file name (for example, `/certs/server1.key`).

Key Password

The password for the private key. The password can be up to 256 characters (single-byte environments).

CSR Filename

The name for the certificate signing request file (for example, `server1.csr`). If you don't want the file stored in the same directory as the `gwcsrgen` executable, specify a full path with the file name (for example, `/certs/server1.csr`).

Country

The two-letter abbreviation for your country (for example, US).

State/Province

The name of your state or province (for example, Utah). Use the full name. Do not abbreviate it.

City

The name of your city (for example, Provo).

Organization

The name of your organization (for example, Novell, Inc.).

Division

The division of your organization that this certificate is being issued to (for example, Product Development).

Hostname of Server

Specify the DNS hostname of the server where the server certificate will be used (for example, dev.provo.novell.com).

Configuration File

For convenience, you can record the information for the above fields in a configuration file so that it is automatically provided whenever you run the Generate CSR utility. The configuration file must have the following format:

```
[Private Key]
Location =
Extension = key

[CSR]
Location =
Extension = csr

[Required Information]
Country =
State =
City =
Organization =
Division =
Hostname =
```

If you do not want to provide a default for a certain field, insert a comment character (#) in front of that line. Name the file `gwcsrgen.cnf`. You can save the file in your current directory (for example, `/opt/novell/groupwise/agents/bin` if you run the `gwcsrgen` executable from that default location) or in `/etc/opt/novell/groupwise/agents`.

What's Next

After the CSR and private key files are created, you need to submit the CSR to a Certificate Authority in order to receive a server certificate. If you haven't previously used a Certificate Authority, you can use the keywords "Certificate Authority" to search the Web for Certificate Authority companies. The process of submitting the CSR varies from company to company. Most provide online submission of the request. Follow their instructions for submitting the request.

When you receive the server certificate, you can store it, along with the private key file, anywhere on the server where they will be used. Any GroupWise agent (MTA, POA, DVA, or GWIA) that is running on the server can use the certificate and private key when using SSL for secure connections.

Files

`/etc/opt/novell/groupwise/agents/bin/gwcsrgen.cnf`

Configuration file. By providing a configuration file, you do not need to fill in the fields manually every time you run the Generate CSR utility.

Examples

This program normally runs as root.

```
/opt/novell/groupwise/agents/bin/gwcsrgen
```

Starts the Generate CSR utility. If you have supplied a configuration file, the fields are filled in based on the data in the configuration file.

Authors

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See Also

To report problems with this software or its documentation, visit [Novell Bugzilla. \(http://bugzilla.novell.com\)](http://bugzilla.novell.com).

C Third-Party Materials

The following third-party software is included in Novell GroupWise 2012:

- ♦ Section C.1, “Apache,” on page 329
- ♦ Section C.2, “BLT,” on page 330
- ♦ Section C.3, “GD Graphics Library,” on page 330
- ♦ Section C.4, “getopt.h,” on page 331
- ♦ Section C.5, “ICU License - ICU 1.8.1 and Later,” on page 332
- ♦ Section C.6, “JRE,” on page 332
- ♦ Section C.7, “NET-SNMP Open Source Package,” on page 332
- ♦ Section C.8, “ODMA 2.0,” on page 335
- ♦ Section C.9, “OpenLDAP,” on page 336
- ♦ Section C.10, “OpenSSL,” on page 336
- ♦ Section C.11, “Python 2.2,” on page 338
- ♦ Section C.12, “Yahoo! UI Library,” on page 338

C.1 Apache

The Apache Software License, Version 1.1

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C.2 BLT

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C.3 GD Graphics Library

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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.

C.4 getopt.h

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C.5 ICU License - ICU 1.8.1 and Later

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C.6 JRE

JRE Note

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C.7 NET-SNMP Open Source Package

- [Section C.7.1, "---- Part 1: CMU/UCD copyright notice: \(BSD like\) ----,"](#) on page 333
- [Section C.7.2, "---- Part 2: Networks Associates Technology, Inc copyright notice \(BSD\) ----,"](#) on page 333
- [Section C.7.3, "---- Part 3: Cambridge Broadband Ltd. copyright notice \(BSD\) ----,"](#) on page 334
- [Section C.7.4, "---- Part 4: Sun Microsystems, Inc. copyright notice \(BSD\) ----,"](#) on page 334

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D Documentation Updates

This section lists updates to the *GroupWise 2012 Installation Guide* that have been made since the initial release of Novell GroupWise 2012. 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 2012 Installation Guide* has been updated on the following dates:

- ♦ [Section D.1, “May 30, 2014 \(GroupWise 2012 SP3\),” on page 341](#)
- ♦ [Section D.2, “April 16, 2013 \(GroupWise 2012 SP2\),” on page 342](#)
- ♦ [Section D.3, “September 20, 2012 \(GroupWise 2012 SP1\),” on page 343](#)

D.1 May 30, 2014 (GroupWise 2012 SP3)

Location	Change
Product Overview	
Section 2.1.1, “Hardware and Operating System Requirements,” on page 19	Added support for Windows Server 2012 R2.
Section 2.1.4, “Web Server Requirements,” on page 21	Specified the IBM JRE, because that is what GroupWise is tested with.
Section 2.2.3, “GroupWise WebAccess Mobile Requirements,” on page 23	Added WebAccess Mobile support for Android 4.1 using the Chrome browser.
Section 2.2.1, “GroupWise Client Requirements,” on page 22	Added support for Windows 8.1.
Installation	
Section 4.2.2, “Software Requirements,” on page 80 and subsequent parallel sections	Added support for Windows Server 2012 R2.
Section 9.3.1, “GroupWise Windows Client Workstation Requirements,” on page 214	Added Support for Windows 8.1.
Update	

Location	Change
Section 14.7, "Understanding WebAccess Updates," on page 242	Called out the need to implement a different form of access control because the WebAccess Agent is no longer present.
Chapter 22, "Updating GroupWise WebAccess," on page 267	
Appendixes	
Section A.1.2, "Compatibility with GroupWise 7 on Linux," on page 291	Indicated that extended support for GroupWise 7 has ended.
Section A.2.2, "Compatibility with GroupWise 7 on Windows," on page 293	
gwcheck(1) (page 313)	Corrected the syntax of the GWCheck options.
dbcop(1) (page 319)	Improved the description of the -m switch; emphasized not using other switches with the -l switch.

D.2 April 16, 2013 (GroupWise 2012 SP2)

Location	Change
Product Overview	
Section 2.1.1, "Hardware and Operating System Requirements," on page 19	Added support for Windows Server 2012; improved the accessibility of agent memory requirements.
Section 2.1.2, "Software Requirements," on page 20	Removed non-server Windows versions as appropriate locations for running the GroupWise Installation program.
Section 2.1.4, "Web Server Requirements," on page 21	Specified the IBM JRE, because that is what GroupWise is tested with.
Section 2.2.1, "GroupWise Client Requirements," on page 22	Added support for Windows 8.
Installation	
Section 4.2.2, "Software Requirements," on page 80 and subsequent parallel sections	Added support for Windows Server 2012; removed non-server Windows versions as appropriate locations for running the GroupWise Installation program.
Section 9.3.1, "GroupWise Windows Client Workstation Requirements," on page 214	Added Support for Windows 8.
Update	

Location	Change
Section 14.7, "Understanding WebAccess Updates," on page 242	Called out the need to implement a different form of access control because the WebAccess Agent is no longer present.
Chapter 22, "Updating GroupWise WebAccess," on page 267	
Appendixes	
Section A.1.2, "Compatibility with GroupWise 7 on Linux," on page 291	Indicated that extended support for GroupWise 7 has ended.
Section A.2.2, "Compatibility with GroupWise 7 on Windows," on page 293	
gwcheck(1) (page 313)	Corrected the syntax of the GWCheck options.
dbcop(1) (page 319)	Improved the description of the -m switch; emphasized not using other switches with the -l switch.

D.3 September 20, 2012 (GroupWise 2012 SP1)

Location	Change
Product Overview	
Section 1.1.5, "Competitive Performance," on page 17	Added a competitive review for Google Gmail.
Section 2.2.3, "GroupWise WebAccess Mobile Requirements," on page 23	Added support for Android tablets.
Installation	
"WebAccess Mobile User Requirements" on page 108	Added support for Android tablets.

