Installation and Administration Guide

Novell®
GroupWise Gateway for Microsoft Exchange

7

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Contents

About This Guide

This Novell *GroupWise 7 Gateway for Microsoft Exchange Installation and Administration Guide* explains how to install, configure, and run the GroupWise 7 Gateway for Microsoft Exchange. The guide is divided into the following sections:

Audience

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

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, or go to Novell Documentation Feedback (http://www.novell.com/documentation/feedback.html) and enter your comments there.

Additional Documentation

The GroupWise 7 Gateway for Microsoft Exchange can be used with the following versions of GroupWise:

- GroupWise 6.5: Novell GroupWise 6.5 Documentation Web site (http://www.novell.com/documentation/gw65)
- GroupWise 7: Novell GroupWise 7 Documentation Web site (http://www.novell.com/documentation/gw7)
- GroupWise 8: GroupWise 8 Documentation Web site (http://www.novell.com/documentation/gw8)

The following guides are available for each supported GroupWise version:

- *Installation Guide*
- *Administration Guide*
- *Multi-System Administration Guide*
- *Interoperability Guide*
- *Troubleshooting Guides*
- *GroupWise Client User Guides*

What Is the GroupWise Gateway for Microsoft Exchange?

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The GroupWise 7 Gateway for Microsoft Exchange connects a GroupWise system and an Exchange system by creating a link between a GroupWise domain and an Exchange server, as shown in the following diagram.
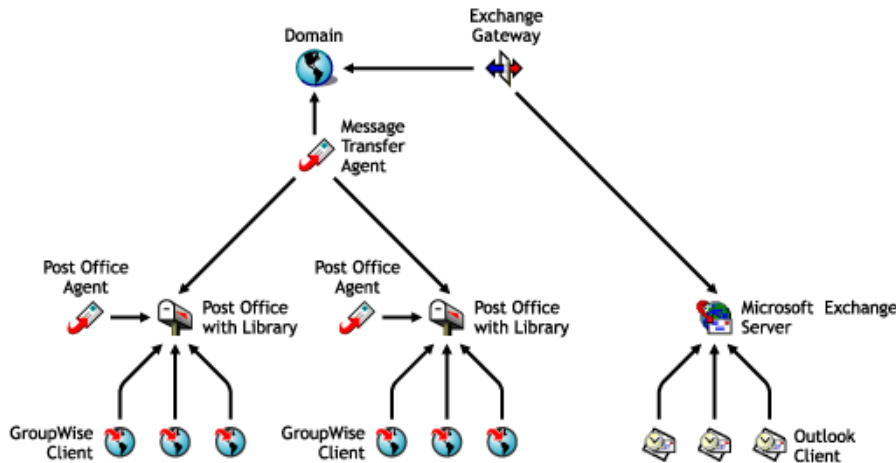
For additional architectural information, see *Exchange Gateway Best Practices* (http://www.novell.com/documentation/gwgateways/pdfdoc/best_practices/Exchange_Gateway_Best_Practices_by_Consultant_Ed_Hanley.pdf) by consultant Ed Hanley.

The GroupWise 7 version of the Exchange Gateway provides the following capabilities:

- Message exchange between users of GroupWise 5.*x*, 6.*x*, and 7.*x* and users of Exchange 5.5, 2000, and 2003.
- Directory exchange, so that GroupWise users can be imported into the Exchange Address Book and Exchange users can be imported into the GroupWise Address Book. This enables users to select recipients from either system in their respective, familiar Address Books.
- Directory synchronization, so that when users are added or removed, or user information is modified, the changes are automatically replicated between the GroupWise and Exchange systems. This keeps the GroupWise and Exchange Address Books up-to-date for all users.
- Bi-directional Busy Search (Free/Busy) between GroupWise and Exchange 2000/2003.

1.1 What's New in This Release

The following enhancements have been added since the previous major release of the Exchange Gateway:

- The Exchange Gateway has been updated to match GroupWise 6.*x* and 7.*x* functionality in several areas, including the ConsoleOne snap-ins.
- Microsoft Exchange 2000 and 2003 are supported in addition to Exchange 5.5.*x*.

- The Exchange Gateway can run as a Windows service as well as an application.

- You can configure TCP/IP links between the Exchange Gateway and the MTA

- Busy Search works for both GroupWise users and Exchange users with Exchange 2000/2003

- Internet-style addressing is supported.

- SNMP is supported, so that the Exchange Gateway can be monitored from SNMP management and monitoring programs.

- A Web console is provided, so that the Exchange Gateway can be monitored from any location where you have access to a Web browser and the Internet.

Exchange Gateway System Requirements

<div style="text-align: right; font-size: 3em;">2</div>

The Windows server on which you run the GroupWise 7 Gateway for Microsoft Exchange must meet the following system requirements.

Hardware/Software	Minimum Requirements	Recommended Requirements
Computer	Pentium	Pentium II or better
Windows NT Server (for use with Microsoft Exchange 5.5)	Updated with Service Pack 6	Updated with Service Pack 6 or later
Windows Server 2000 (for use with Microsoft Exchange 5.5)	Updated with Service Pack 2	Updated with Service Pack 3 or later
Windows Server 2000 with Active Directory and the NNTP Service (for use with Microsoft Exchange 2000)	Updated with Service Pack 2	Updated with Service Pack 3 or later
Windows Server 2003 with Active Directory and the NNTP Service (for use with Microsoft Exchange 2003)	Updated with Service Pack 1	Updated with Service Pack 1 or later
NOTE: The GroupWise 7 Gateway for Microsoft Exchange is not yet supported on Exchange 2007. However, it can be set up successfully on an intermediate Exchange 2003 server between Exchange 2007 and GroupWise.		
Novell Client	Any version	Latest version
NOTE: The Novell Client is required only on the Exchange Server for running the Exchange Gateway Installation program.		
ConsoleOne	1.3.6	Latest version
Available Disk Space	80 MB	80 MB or more
Available Memory	32 MB	64 MB or more
Exchange Server	5.5	5.5 updated with Service Pack 1 or later; 2000/2003
GroupWise client	6.5	6.5 or later

Although the GroupWise 7 Gateway for Microsoft Exchange is based on GroupWise 7 functionality, it can connect your Exchange system to GroupWise 6.5, GroupWise 7.*x*, and GroupWise 8.*x* systems.

Planning the Exchange Gateway Installation

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Before installing the Exchange Gateway, you should complete the planning tasks listed below. The planning tasks provide concepts and information you need as you install and set up the Exchange Gateway. You can use the Section 3.10, "Exchange Gateway Installation Worksheet," on page 21 to record your installation and setup information.

3.1 Gathering GroupWise System Information

The Exchange Gateway needs to access the GroupWise domain where you want to link the gateway into your GroupWise system. You might want to create a new domain specifically for the Exchange Gateway. This keeps Exchange Gateway activity separate from domains where post offices are located. If you create a new domain, you might want to create it on the Exchange server to minimize network traffic.

EXCHANGE GATEWAY INSTALLATION WORKSHEET

Under Item 4: eDirectory Information, list the Novell eDirectory™ tree and context where the Domain object is located.

Under Item 5: GroupWise Domain Information, list the domain name and domain directory. If you want to use a separate domain for the Exchange Gateway, create the new domain now.

3.2 Deciding Where to Install the Exchange Gateway

You can install the Exchange Gateway on the same server with the domain that the gateway belongs to, if that domain is located on Windows. You can also install the Exchange Gateway on a separate server, regardless of where the domain is located. The server where you install the Exchange Gateway must be an Exchange server.

If you install the Exchange Gateway on a different server from where the domain is located, you must provide a username and password for the gateway to use when logging in to the server where the domain is located. If the domain directory is on a NetWare server, use an eDirectory username and password. If the domain directory is on a Windows server, use a Windows username and password. The gateway user requires Read, Write, Create, Erase, Modify, and File Scan rights in the domain directory.

You might want to set up a new Exchange server with no mailboxes specifically for running the Exchange Gateway. In addition, you might want to create a new domain on the new Exchange server specifically for housing the Exchange gateway. This configuration facilitates location communicate among Exchange, GroupWise, and the Exchange Gateway.

EXCHANGE GATEWAY INSTALLATION WORKSHEET

Under Item 1: Exchange Gateway Location, mark whether you want to install the Exchange Gateway on the same server where the domain is located or on a remote server. For a remote server location, specify a username and password to provide login and access rights.

Under Item 3: Domain Server Type, mark whether the domain that owns the Exchange Gateway resides on a NetWare® or a Windows server.

The owning domain cannot reside on a Linux server, but the Exchange Gateway can still service domains that reside on Linux servers by way of TCP/IP links.

3.3 Choosing a Gateway Name

When you install the Exchange Gateway, a Gateway object is created in the domain where you install the gateway. The default gateway name is exchange.

EXCHANGE GATEWAY INSTALLATION WORKSHEET

Under Item 6: Gateway Details, specify the name you want to use for the Exchange Gateway object in the GroupWise system.

When you install the Exchange Gateway, a subdirectory for the gateway software and queues is created under the domain directory. By default, the directory name is the same as the object name. If you use the default object name of Exchange, the gateway subdirectory is
domain\wpgate\exchange.

3.4 Deciding between Windows Application and Windows Service

You can install the Exchange Gateway as a Windows application or a Windows service.

When you install the Exchange Gateway as an application, it can be manually started by a user or it can be added to a user's Startup folder so that it starts automatically when the user logs in to the Windows server. When running as an application, the Exchange Gateway displays a console on the Windows server where you can monitor and control the gateway.

When you install the Exchange Gateway as a service, it can be configured to start automatically when the server starts and must run under a specific Windows user account that has rights to run services. By default, when running as a service, the Exchange Gateway does not display a user interface on the Windows server. However, it can still be monitored from its Web console, as described in Section 9.2, "Using the Exchange Gateway Web Console," on page 92.

EXCHANGE GATEWAY INSTALLATION WORKSHEET

Under Item 8: Gateway Installation Method, mark whether you want to install and run the Exchange Gateway as an application or service. If you want to install it as a service, provide a username and password of the Windows account that you want to own the service.

If the user account does not yet exist, create the user account now and give the account rights to run services.

If you want to run the Exchange Gateway as a service and if the domain it belongs to is on a NetWare server (worksheet item 3), you must create an eDirectory account with a username and password that match the Windows user account. The eDirectory user must have Read, Write, Compare, Edit, Modify, and File Scan rights to the *domain\wpgate\exchange* directory.

3.5 Deciding How to Monitor the Exchange Gateway

If you install the Exchange Gateway as an application, the Exchange Gateway server console is displayed on the Windows server where the Exchange Gateway is running, which allows you to monitor the Exchange Gateway from that location. If you install the Exchange Gateway as a service, the Exchange Gateway server console is not displayed, so you must plan to monitor it some other way.

- Section 3.5.1, "Using the Exchange Gateway Web Console," on page 17
- Section 3.5.2, "Using an SNMP Monitoring Program," on page 17

3.5.1 Using the Exchange Gateway Web Console

The Exchange Gateway Web console enables you to monitor and control the Exchange Gateway from any location where you have access to a Web browser and the Internet. This provides substantially more flexible access than the Exchange Gateway server console or an SNMP monitoring program.

EXCHANGE GATEWAY INSTALLATION WORKSHEET

Under Item 7: Monitoring Options, mark Exchange Gateway Web console. After installing the Exchange Gateway, follow the instructions in Section 9.2, "Using the Exchange Gateway Web Console," on page 92 to set up the Exchange Gateway Web console.

3.5.2 Using an SNMP Monitoring Program

If desired, you can monitor the Exchange Gateway from Novell ZENworks® for Servers or any other SNMP management and monitoring program. When properly configured, the Exchange Gateway sends SNMP traps to network management consoles for display along with other SNMP monitored programs.

Under Item 9: Enable SNMP?, mark whether you want to configure the Exchange Gateway for SNMP.

You must enable SNMP during gateway installation. You cannot add this functionality after installation. In order for the option to be offered during installation, the Windows server where you install the gateway must have the SNMP service installed.

The SNMP service is usually not included during the initial Windows operating system installation. To add or configure the SNMP service on the server where you plan to install and run the Exchange Gateway, you must be logged in as a member of the Administrator group.

To add the SNMP service to a Windows NT server:

1 From the Control Panel, double-click *Network*.

2 Click *Services*, click *Add*, then select *SNMP Service*.

3 Follow the on-screen prompts. You need your original Windows NT media.

  You are given the opportunity to configure the SNMP service. The only required information for the Exchange Gateway is the *Trap Destination* and *Community Name* fields.

4 After the installation is complete, reboot the Windows NT server.

  For more information about configuring the SNMP service, see your Windows NT documentation.

To add the SNMP service to a Windows 2000/2003 server:

1 From the Control Panel, double-click *Add/Remove Programs*.

2 Click *Add/Remove Windows Components*.

3 Select *Management and Monitoring Tools*.

4 Click *Details*, then select *Simple Network Management Protocol*.

5 After the installation is complete, reboot the Windows server.

  For more information about configuring the SNMP service, see your Windows documentation.

3.6 Gathering Exchange System Information

If you are using Exchange 5.5, you must know the name of the Exchange 5.5 site where you want to create the Exchange mailbox through which messages will flow to and from the GroupWise system.

If you are using Exchange 2000/2003, you must know the name of the Exchange server, along with the name of the mailbox store where you want to create the Exchange mailbox and the name of the storage group where the mailbox store is located. You must also know the administrative group and routing group that the server belongs to.

In either case, you must have a list of all servers in your Exchange system. The Exchange Gateway needs to be installed on only one Exchange server, but the addressing components must be installed on all Exchange servers. The addressing components generate GroupWise-type addresses for Exchange users.

Under Item 2: Exchange Server Information, list the Exchange system information required for your version of Exchange.

3.7 Determining Connections between Systems

To facilitate addressing of messages between systems, you must set up a representation of the Exchange system in your GroupWise system and a connector to your GroupWise system in your Exchange system.

In GroupWise, non-GroupWise systems are represented by non-GroupWise domains. When you first start the Exchange Gateway, the non-GroupWise domain for the Exchange system is created automatically. By default, it is named after the Exchange organization. Under the non-GroupWise domain for the Exchange system, an external post office is automatically created for the Exchange site or administrative group on the Exchange server. By default, it is given the same name as the Exchange site or administrative group. If necessary, you can specify different names for the non-GroupWise domain and external post office.

Under Item 12: Non-GroupWise Domain, mark whether you want to use the default name (the Exchange organization) or specify a name for the non-GroupWise domain.

Under Item 13: External Post Office, mark whether you want to use the default name (the Exchange site or administrative group) or specify a name for the external post office.

In Exchange, non-Exchange systems link to the Exchange system through connectors. On the Exchange side, you might want to call the Exchange Gateway GroupwiseConnector, because it connects the Exchange system to GroupWise.

Under Item 6: Gateway Details, specify the name you want to use in Exchange to represent the link to the GroupWise system.

3.8 Selecting User Address Type and Format

By default, every Exchange user will have a GroupWise-type address with the following format:

```
GWise:domain.post_office.user_ID
```

GWise is the default Exchange address type created for the GroupWise system. You can change it if needed.

Under Item 11: GroupWise Address Type in Exchange System, mark whether you want to use the default address type (GWise) or specify the address type name you want to use.

Exchange user addresses are generated automatically when you start the Exchange Gateway, using the format shown above. As described earlier, the Installation program maps the name of the Exchange organization to the GroupWise domain portion of the address, the name of the Exchange site or administrative group on the server to the post office portion of the address, and the Exchange user mailbox name to the GroupWise user ID portion of the address.

The recommendation is to use Exchange mailbox names as GroupWise user IDs. However, if this is not possible for some reason, the following variables can be used to specify the information you want to appear in the GroupWise user IDs:

Variable	Description
%m	Mailbox name (default)
%s	Surname
%g	Given name
%d	Display name
%r *char1 char2*	Replace *char1* with *char2*
%%	Per cent sign character

Preferably, the GroupWise user IDs should include the Exchange mailbox names along with whatever other information you want to provide. For example, "%m_%d" would create GroupWise user IDs that consist of the Exchange mailbox names and users' display names.

EXCHANGE GATEWAY INSTALLATION WORKSHEET

Under Item 14: Exchange User Address Format, mark whether you want to use the default GroupWise user ID format (Exchange mailbox name) or specify the format you want to use.

3.9 Determining Where to Install the Exchange Gateway Administrator Snap-In to ConsoleOne

Exchange Gateway administration is performed through ConsoleOne, version 1.3.6 or later. When you install the Exchange Gateway, the Gateway Administrator snap-in files can be copied to a ConsoleOne location that you specify. The Gateway Administrator snap-in files extend the functionality of ConsoleOne to let you administer the Exchange Gateway.

You must install the Gateway Administrator snap-in files to an installation of ConsoleOne where the GroupWise Administrator snap-ins have already been installed. You need to know whether you are installing it along with the GroupWise 6.5 or GroupWise 7.*x* Administrator snap-ins.

If you want to install the Gateway Administrator snap-in at the same time when you install the Exchange Gateway, the ConsoleOne installation must be accessible from the Exchange server where you are installing the gateway. You can install the Gateway Administrator snap-in to additional locations after you have installed the Exchange Gateway, as described in Section 4.5, "Installing the Exchange Gateway Administrator Snap-In to ConsoleOne," on page 29.

Under Item 9: Install Gateway Administrator Snap-In to ConsoleOne, specify the path for the ConsoleOne location you want to use to administer the Exchange Gateway and the version of the GroupWise Administrator snap-ins that are already in use.

3.10 Exchange Gateway Installation Worksheet

Item	Explanation
1) Exchange Gateway Location: ◆ Domain server ◆ Remote server 　Username 　Password	Mark whether you want to install the Exchange Gateway on the same server with the GroupWise domain it belongs to, or on a remote server. For access to a remote server, provide a username and password to facilitate logging in with the required rights. See Section 3.2, "Deciding Where to Install the Exchange Gateway," on page 15.
2) Exchange Server Information: Exchange 5.5 Server: ◆ Site Exchange 2000/2003 Server: ◆ Administrative Group ◆ Routing Group ◆ Exchange Server ◆ Storage Group ◆ Mailbox Store Servers in Your Exchange System: ◆ ◆ ◆	Provide the required information for your version of the Exchange server, along with a list of all servers in your Exchange system. See "Gathering Exchange System Information" on page 18.
3) Domain Server Type: ◆ NetWare ◆ Windows	Mark the platform of the server where the gateway's domain is located. See "Gathering GroupWise System Information" on page 15.
4) eDirectory Information: ◆ Tree ◆ Domain Object Context	Specify the eDirectory tree and context where the Domain object is located. The Exchange Gateway object will be created in the Domain object. See "Gathering GroupWise System Information" on page 15
5) GroupWise Domain Information: ◆ Domain Name ◆ Domain Directory	Specify the domain name and directory. The Exchange Gateway will be installed in a subdirectory under the domain. See "Gathering GroupWise System Information" on page 15

Item	Explanation
6) Gateway Details: ◆ Gateway Object Name on Exchange Server ◆ Gateway Object Name in GroupWise System ◆ Gateway Directory	Specify the name of the Exchange Gateway object in the Exchange system and in the GroupWise system, as well as the subdirectory in the domain where the Exchange Gateway software will be installed. The default is Exchange. See "Choosing a Gateway Name" on page 16
7) Monitoring Options: ◆ Exchange Gateway Web console ◆ SNMP monitoring program	Mark how you want to monitor the Exchange Gateway. See "Deciding How to Monitor the Exchange Gateway" on page 17.

8) Gateway Installation Method:
 	
 ◆ Application
 	
 ◆ Service
 	
  User
 	
  Password
	Mark whether you want to install the Exchange Gateway as a Windows application or a Windows service.
	
	If you want to install it as a service, provide a username and password of the Windows account that will own the service.
	
	See "Deciding between Windows Application and Windows Service" on page 16.

9) Install Gateway Administrator Snap-In to ConsoleOne?
 	
 ◆ Yes
 	
  ConsoleOne path
 	
  GroupWise Administrator snap-in version: 6.5 / 7.*x*
 	
 ◆ No
	Mark whether you want to install the Exchange Gateway Administrator snap-in to ConsoleOne at the same time when you install the Exchange Gateway. If you do, record the path where ConsoleOne and the GroupWise Administrator snap-ins to ConsoleOne are currently installed and the version of the GroupWise Administrator snap-ins.
	
	See "Determining Where to Install the Exchange Gateway Administrator Snap-In to ConsoleOne" on page 20.

10) Enable SNMP? ◆ Yes ◆ No	Mark whether you want to enable SNMP. See "Deciding How to Monitor the Exchange Gateway" on page 17.
11) GroupWise Address Type in Exchange System: ◆ GWise (default) ◆ Custom	Mark whether you want to use the default address type of GWise or a custom address type. If you do not want to use GWise, specify the address type you want to use for addressing messages to GroupWise users. See Section 3.8, "Selecting User Address Type and Format," on page 19
12) Non-GroupWise Domain: ◆ Exchange organization (default) ◆ Custom	Mark whether you want to use the name of the Exchange organization as the name of the non-GroupWise domain that represents the Exchange system in GroupWise. If you do not want to use the default, specify the name for the non-GroupWise domain. See "Determining Connections between Systems" on page 19.

Item	Explanation
13) External Post Office: ◆ Exchange site or administrative group (default) ◆ Custom	Mark whether you want to use the name of the Exchange site or administrative group as the name of the external post office that represents the collection of Exchange users on the server where you are installing the Exchange Gateway. If you do not want to use the default, specify the name for the external post office. See "Determining Connections between Systems" on page 19.
14) Exchange User Address Format ◆ Exchange mailbox name (default) ◆ Custom	Mark whether you want to use the Exchange mailbox name as the GroupWise user ID for each Exchange user. See Section 3.8, "Selecting User Address Type and Format," on page 19.

Installing the Exchange Gateway

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Before you install the GroupWise 7 Gateway for Microsoft Exchange, both the GroupWise system and the Exchange system should be running smoothly. Then complete the following tasks to connect the two systems through the Exchange Gateway:

- Section 4.1, "Meeting Installation Prerequisites," on page 25
- Section 4.2, "Adding the Exchange Library Directory to the Path Variable," on page 26
- Section 4.3, "Installing the Exchange Gateway Software," on page 26
- Section 4.4, "Installing the Exchange Gateway Addressing Components," on page 27
- Section 4.5, "Installing the Exchange Gateway Administrator Snap-In to ConsoleOne," on page 29

4.1 Meeting Installation Prerequisites

After you have gathered the information that the Exchange Gateway Installation program requires and have planned the information you need to configure the Exchange Gateway after installation, make sure that the Windows server where you plan to install the Exchange Gateway meets the system requirements listed in Chapter 2, "Exchange Gateway System Requirements," on page 13.

1 Make sure that the Novell Client™ is installed on the Exchange server where you run the Installation program.

The Installation program creates a Gateway object in eDirectory. The Novell Client is required to access eDirectory. If necessary, you can download the Novell Client from the Novell Product Downloads site (http://download.novell.com).

IMPORTANT: The Novell Client is not required on other Exchange servers where you install the Exchange Gateway Addressing Components.

2 Make sure that ConsoleOne is installed, along with the GroupWise Administrator snap-ins.

ConsoleOne and the GroupWise Administrator snap-ins are available on your *GroupWise Administrator* CD.

3 Log in to the server where the domain directory resides and map a drive to the domain directory (worksheet item 5).

The Installation program creates domain subdirectories and copies Exchange Gateway files to the subdirectories under the domain. This requires full file system rights to the domain directory.

IMPORTANT: The owning domain cannot reside on a Linux server, but the Exchange Gateway can still service domains that reside on Linux servers by way of TCP/IP links.

4 Log in to eDirectory with Admin-equivalent rights to the eDirectory tree where the Domain object resides (worksheet item 4).

The Installation program creates a Gateway object under the Domain object.

5 Continue with Adding the Exchange Library Directory to the Path Variable.

4.2 Adding the Exchange Library Directory to the Path Variable

The Exchange Gateway Installation program needs to be able to locate the Exchange software library directory. The Installation program adds the default location (`c:\program files\exchsrvr\bin`) to the end of the path variable. If you have installed Exchange in another location, you must manually add the Exchange software library directory to the path variable on the server where the Exchange Gateway runs.

1 Right-click *My Computer*, then click *Properties*.

2 Click *Advanced > Environment Variables*.

3 In the User Variables for Administrator list, add the Exchange software library directory to the end of the path variable value.

If one of the directory names in the path includes a space, use one of the following formats for your software library directory:

```
"c:\program files\exchsrvr\bin"
c:\progra~1\exchsrvr\bin
```

4 Click *Set*, then click *OK*.

5 Continue with Installing the Exchange Gateway Software.

4.3 Installing the Exchange Gateway Software

1 Download the GroupWise Gateway for Microsoft Exchange from the Novell Product Downloads site (http://download.novell.com) into an empty directory on the server where you want to install it (worksheet item 1).

The server where you install the Exchange Gateway must be an Exchange server.

2 Run `setupexch701.exe` to extract the Exchange Gateway files into the directory.

3 Run `install.exe` to start the Exchange Gateway Installation program on the Exchange server.
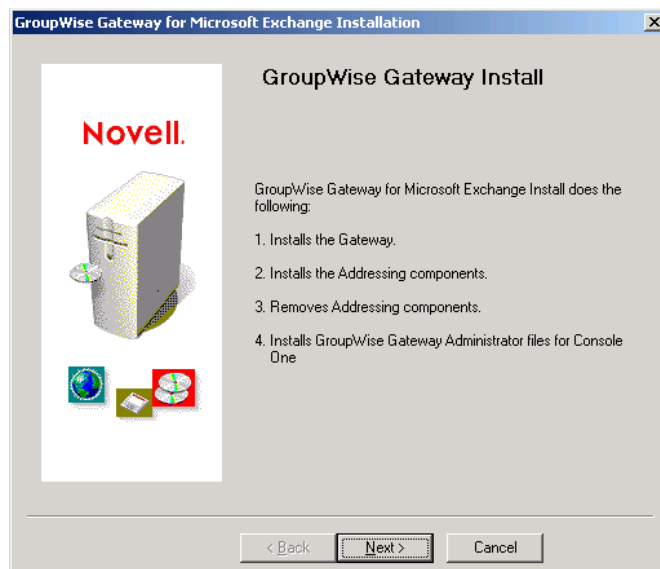
If the Installation program does not start automatically, run `install.exe` in the directory where you extracted the Exchange Gateway files.

4 Click *Next* to view the license agreement, then click *Accept* to accept the license agreement.
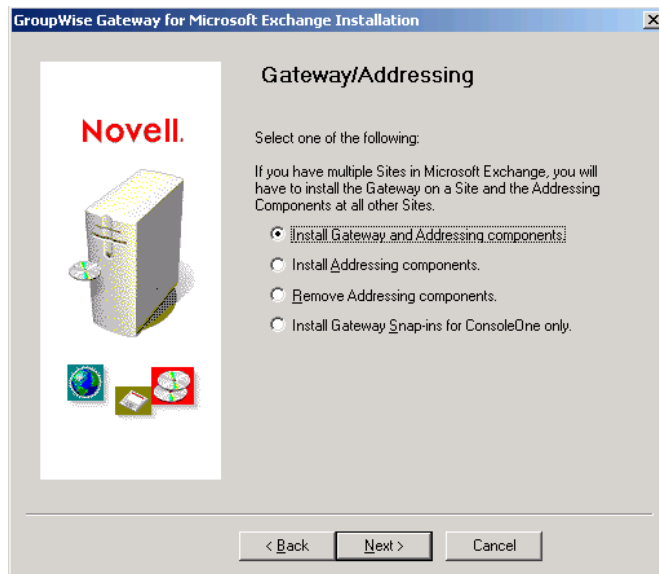
5 Select *Install Gateway and Addressing Components*, then click *Next*.

6 Follow the prompts, using the information from items 2 through 9 on the Section 3.10, "Exchange Gateway Installation Worksheet," on page 21 to install the Exchange Gateway

IMPORTANT: Do not start the Exchange Gateway after installation.

7 If your Exchange system consists of more than one server, continue with Section 4.4, "Installing the Exchange Gateway Addressing Components," on page 27.

8 Continue with Configuring the Exchange Side of the Exchange Gateway.

4.4 Installing the Exchange Gateway Addressing Components

When you installed the Exchange Gateway, the Installation program automatically generated GroupWise-type addresses for all Exchange users on that server. If your Exchange system consists of multiple servers, you must install the Exchange Gateway addressing components on each server.

1 Plan the addressing format you want to use for users on the new server, as described in "Determining Connections between Systems" on page 19 and Section 3.8, "Selecting User Address Type and Format," on page 19.

2 If you are going to use customized address format, stop the Exchange Gateway.

3 At each Exchange server, run `setupexch700.exe` to start the Installation program.
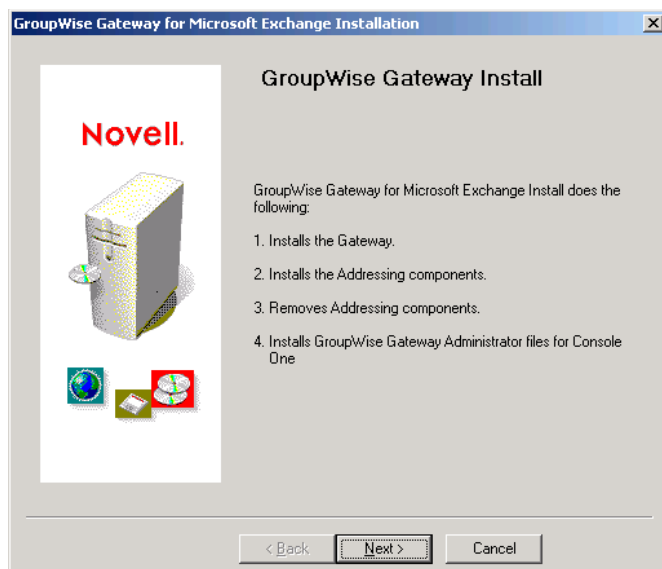
If the Installation program does not start it automatically, run `install.exe` in the directory where you extracted the Exchange Gateway files.

4 Click *Next* to view the license agreement, then click *Accept* to accept the license agreement.
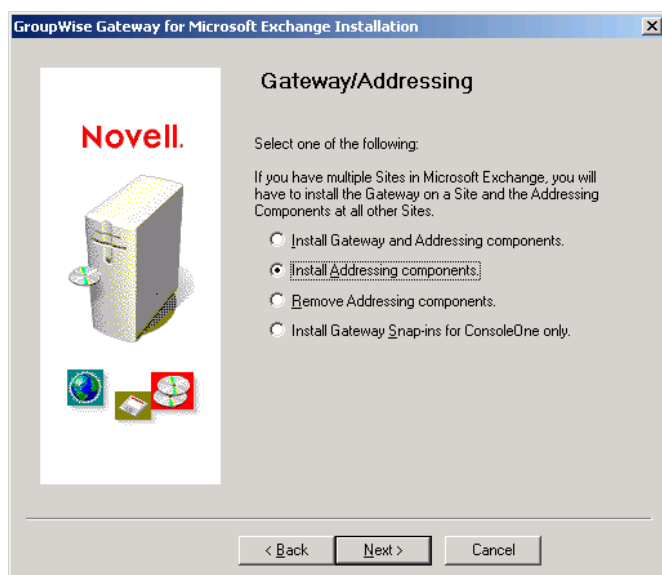
5 Select *Install Addressing Components*.

6 Click *Next* to continue with the installation.

The Installation program installs the `gwproxy.dll` file on each Exchange server.

7 Follow the instructions in "Configuring the Exchange Side of the Exchange Gateway" on page 31 to prepare the Exchange server to connect to the original Exchange server where the gateway is installed.

8 Skip to Chapter 7, "Running the Exchange Gateway," on page 55.

4.5 Installing the Exchange Gateway Administrator Snap-In to ConsoleOne

After you have installed the Exchange Gateway, you can install the Exchange Gateway Administrator snap-in to Console One to additional locations as needed.

1 Run `setupexch701.exe` to extract the Exchange Gateway files into a directory on the workstation or server where you want to install the Exchange Gateway Administrator snap-in to ConsoleOne.

2 Make sure that no one is running ConsoleOne where you want to install the Gateway Administrator snap-in.

3 Run `install.exe` in the directory where you extracted the Exchange Gateway files to start the Exchange Gateway Installation program.
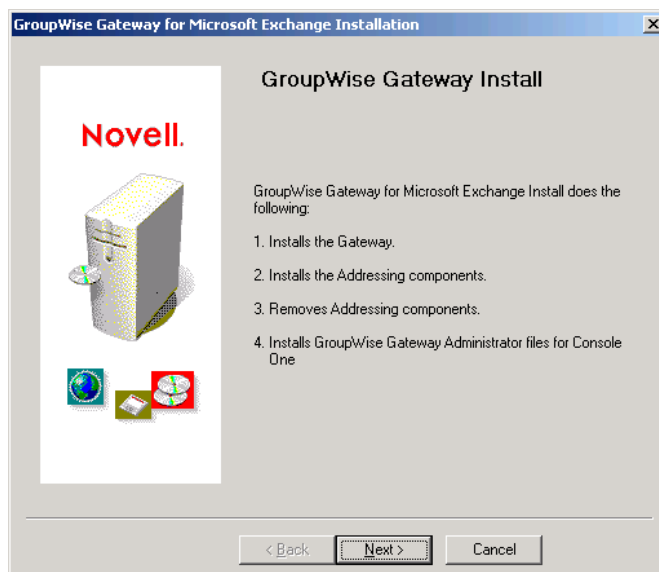
4 Click *Next* to view the license agreement, then click *Accept* to accept the license agreement.
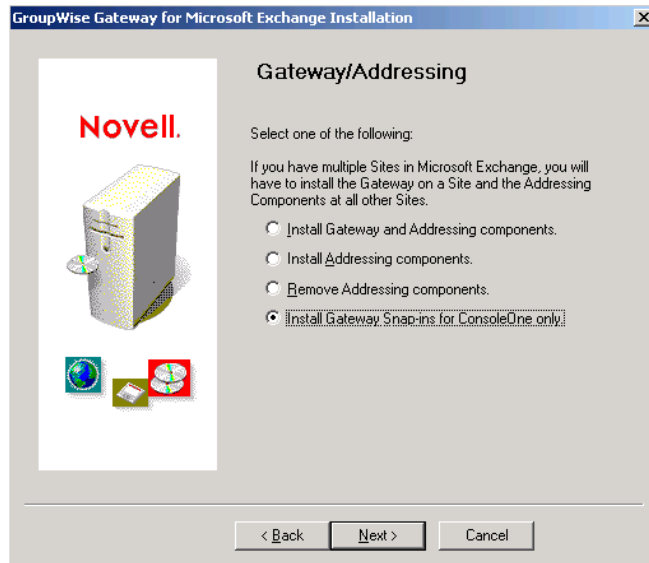
5 Select *Install Gateway Administrator Snap-Ins for ConsoleOne Only*.

6 Click *Next* to continue with the installation.

Configuring the Exchange Side of the Exchange Gateway

5

After you install the Exchange Gateway software but before you start the Exchange Gateway for the first time, you must prepare your Exchange system to link to your GroupWise system:

- ◆ Section 5.1, "Configuring Exchange 5.5," on page 31
- ◆ Section 5.2, "Configuring Exchange 2000/2003," on page 34

5.1 Configuring Exchange 5.5

1 Start Exchange Administrator.
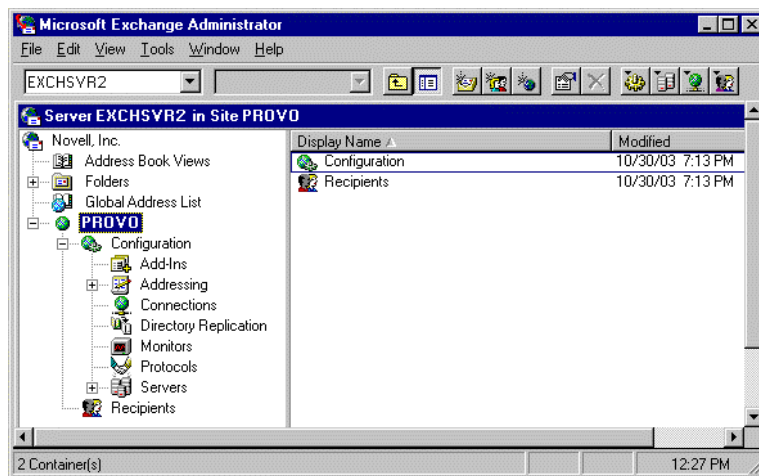
2 Expand the *Exchange* site, expand the *Configuration* container, then select the *Connections* container.
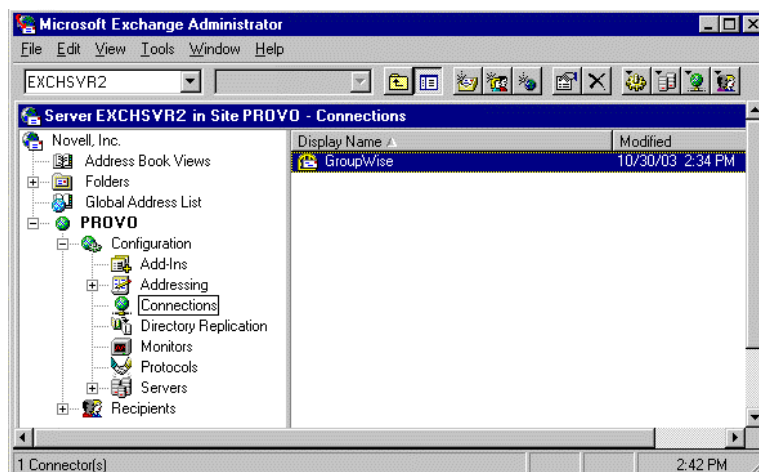
3 Double-click the Exchange Gateway object (worksheet item 6), then click *Export Containers*.
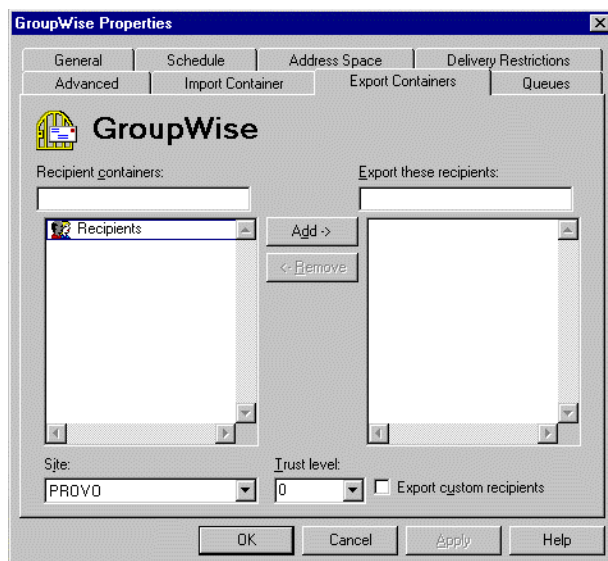
4 Select the *Recipient* containers that contain users whose Address Book information you want to export into the GroupWise system, then click *Add*.

5 In the *Trust Level* field, select a trust level number that is larger than the trust level numbers of the users you want to export.

> **IMPORTANT:** Directory synchronization and exchange cannot occur if the trust level of one or more gateway users is less than that of the Gateway object.

6 Click *OK* to save the Exchange user export information.

When GroupWise users are imported into the Exchange system, they are, by default, placed in a container named GroupWise at the root of Active Directory. You can use the /useimportcontainer gateway startup switch to place the users into the import container specified under *Administrative Groups > First Administrative Group > Routing Group > First Routing Group > Connectors > Exchange Gateway Connector*.

7 Make sure that the Exchange services are running.

   7a On the Control Panel, double-click *Services*.

   7b Scroll down to check the status of the following services:

      Microsoft Exchange Directory
      Microsoft Exchange Event Service
      Microsoft Exchange Information Store
      Microsoft Exchange Message Transfer Agent
      Microsoft Exchange System Attendant

   7c If any of the Microsoft Exchange services are not running, start them now.

8 If you want to customize the name of the non-GroupWise domain that represents the Exchange system, the external post office that represents the Exchange site, or the format of GroupWise-type usernames for Exchange users, continue with Section 5.1.1, "Customizing Addressing for Exchange 5.5," on page 33.

or

Skip to Chapter 6, "Configuring the GroupWise Side of the Exchange Gateway," on page 51

5.1.1 Customizing Addressing for Exchange 5.5

1 In Exchange Administrator, expand the *Site* container, then select the *Configuration* container.
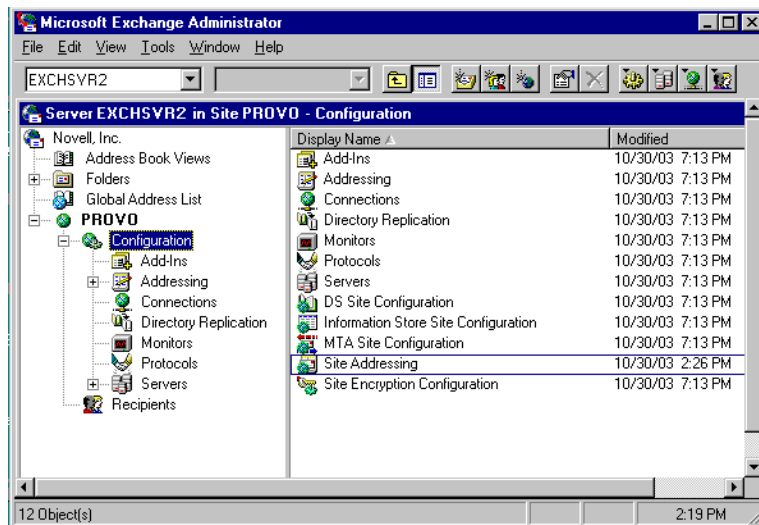
2 Double-click the Site Addressing object, then click the *Site Addressing* tab.
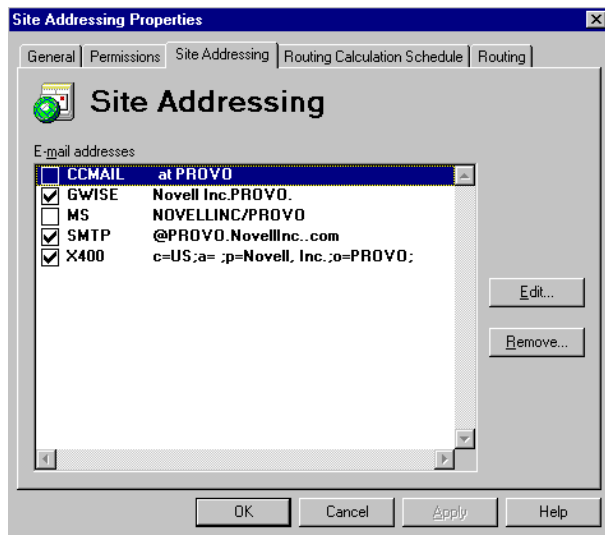
If no GroupWise-specific address type appears in the list, then the addressing components have not been installed on the server. See .

3 Select *GWISE* (or your custom address type for GroupWise), then click *Edit*.
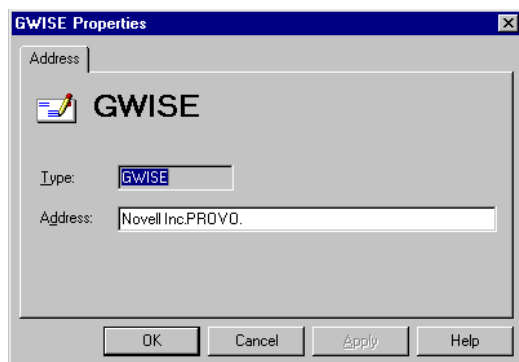
4 To change the name of the non-GroupWise domain that you want to represent your Exchange system, replace the Exchange organization with the domain name you want to use (worksheet item 12).

5 To change the name of the external post office, replace the Exchange site with the post office name you want to use (worksheet item 13).

6 To change the format of the GroupWise usernames that will be generated for Exchange users, specify the desired address format (worksheet item 14).

7 Click *OK* to save the addressing information.

8 Back on the *Site Addressing* tab, click *OK*.

9 Skip to Chapter 6, "Configuring the GroupWise Side of the Exchange Gateway," on page 51.

5.2 Configuring Exchange 2000/2003

- Section 5.2.1, "Performing Basic Configuration for Exchange 2000/2003," on page 34
- Section 5.2.2, "Setting Up Bidirectional Busy Search for Exchange 2000/2003," on page 39
- Section 5.2.3, "Customizing Addressing for Exchange 2000/2003," on page 48

NOTE: The Exchange System Manager interface is different in Windows 2000 and Windows 2003, but the same steps can be performed in both Windows versions.

5.2.1 Performing Basic Configuration for Exchange 2000/2003

1 Start Exchange System Manager.
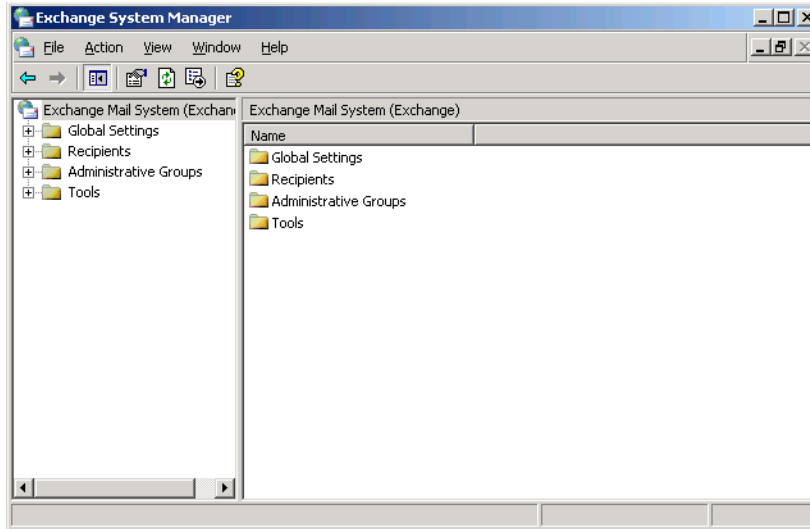
TIP: If you do not see the Administrative Groups object, right-click the Organization object, then click *Properties*. Select *Display Administrative Groups* and *Display Routing Groups*, then click *OK*.

---

2 Expand *Administrative Groups*, then expand *First Administrative Group* (or whatever your system's administrative group is).
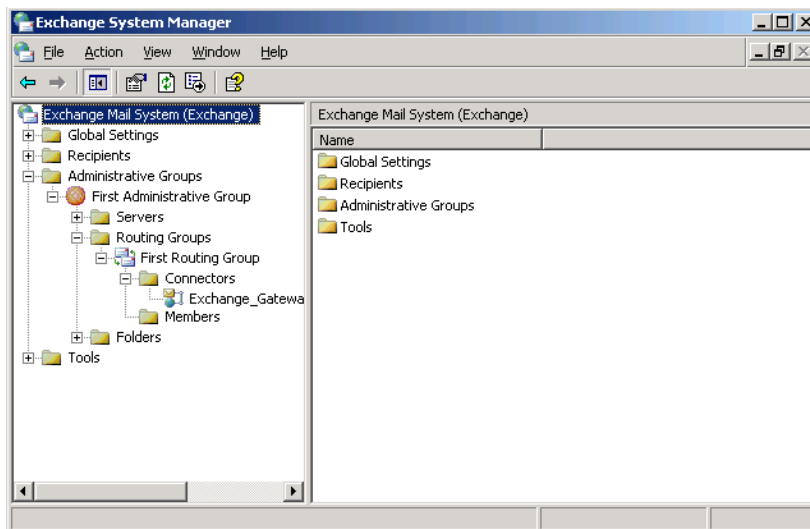
3 Expand *Routing Groups*, then expand *First Routing Group* (or whatever your system's routing group is).

4 Expand *Connectors*, right-click the Gateway object, then click *Properties*.
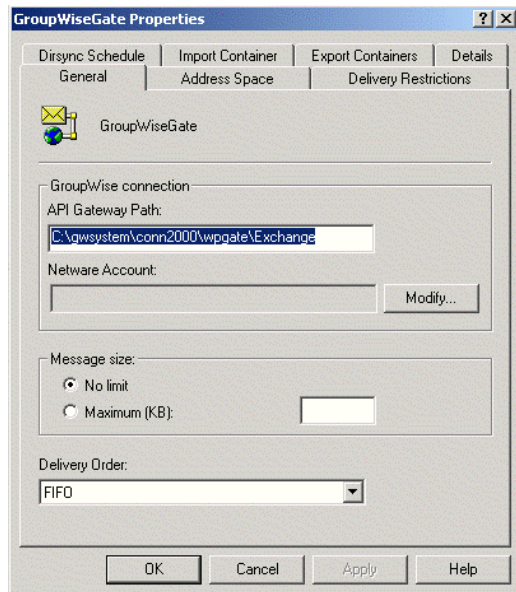
5 Click *Modify*, specify the administrator username and password, then click *OK*.

6 Click *Export Containers*.
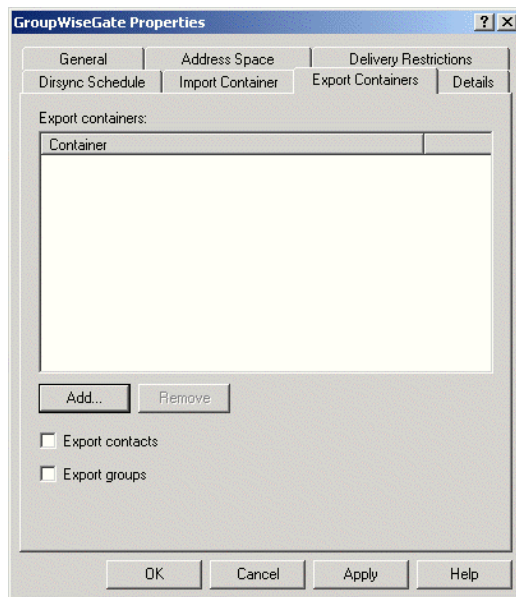
7 Click *Add*, select the container that contains Exchange users whose addresses and information you want to export to the GroupWise system (for example, the Users container), then click *OK* to add the export container to the list.

> **IMPORTANT:** Directory synchronization and exchange cannot occur if you have not added any user containers to the Export Containers property page.

When GroupWise users are imported into the Exchange system, they are, by default, placed in a container named GroupWise at the root of Active Directory. You can use the /useimportcontainer gateway startup switch to place the users into the import container specified under *Administrative Groups > First Administrative Group > Routing Group > First Routing Group > Connectors > Exchange Gateway Connector*.

8 Click *OK* again to return to the main Exchange System Manager window.
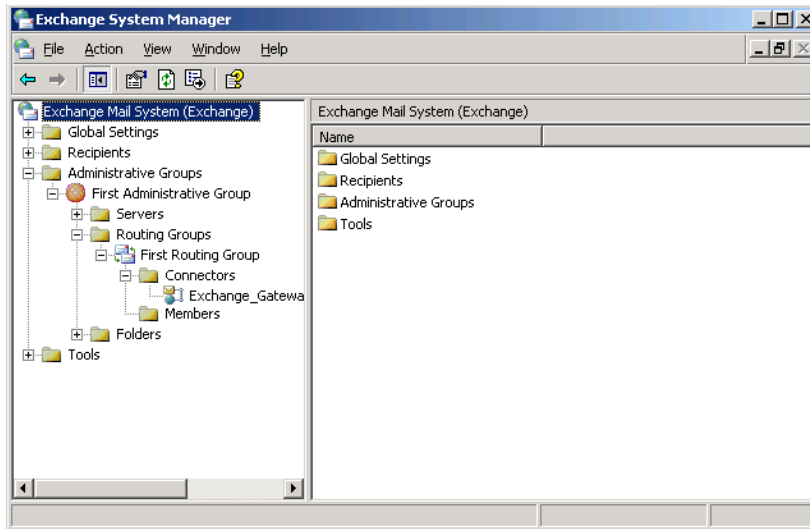
9 Expand *Servers*, then expand the Server object for your server.
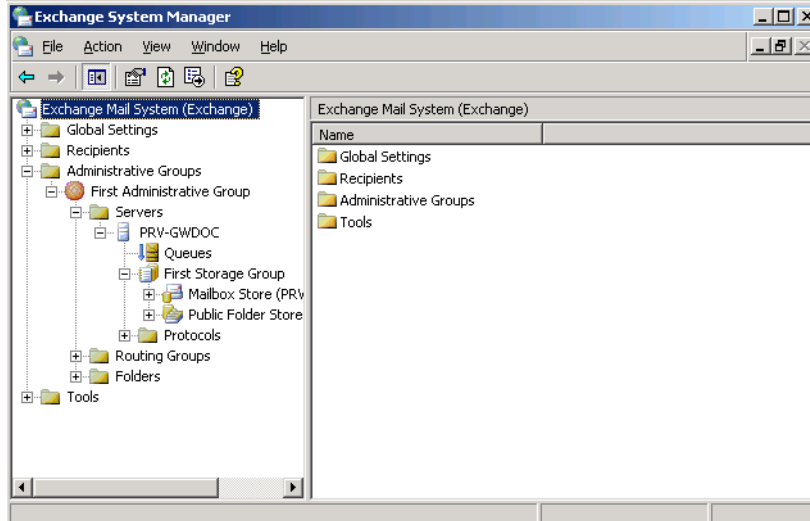
10 Expand *First Storage Group* (or whatever your system's storage group is).

11 Right-click *Mailbox Store*, click *Properties*, then click *Security*.
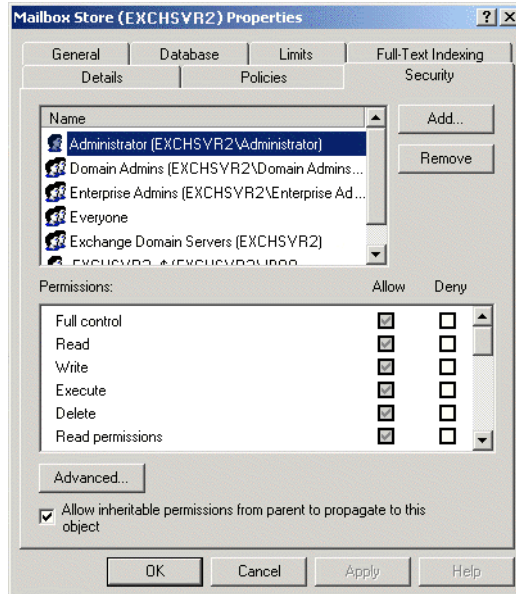
12 Add the user to log in to the Exchange services and the Windows server (if the user has not been added already).

13 Scroll to the bottom of the Permissions list, grant the user *Send As* and *Receive As* permissions, then click *OK*.

Make sure that the permissions are explicitly granted, not inherited through a parent security object. If necessary, click *Advanced* to verify the permissions.

14 Make sure that the Exchange services are running.

14a On the Control Panel, double-click *Services*.

14b Scroll down to check the status of the following services:

Microsoft Exchange Event
Microsoft Exchange IMAP4
Microsoft Exchange Information Store
Microsoft Exchange Management
Microsoft Exchange MTA Stacks
Microsoft Exchange POP3
Microsoft Exchange Routing Engine
Microsoft Exchange Site Replication Service
Microsoft Exchange System Attendant

14c If any of the Microsoft Exchange services are not running, start them now.

Make sure that the *Startup Type* field for each service is set to *Automatic* so that you do not need to start them manually in the future.

15 If you want to set up bidirectional Busy Search between the GroupWise and Exchange systems, continue with Setting Up Bidirectional Busy Search for Exchange 2000/2003.

or

If you want to customize the name of the non-GroupWise domain that represents the Exchange system, the external post office that represents the Exchange administrative group, or the format of GroupWise-type usernames for Exchange users, skip to Section 5.2.3, "Customizing Addressing for Exchange 2000/2003," on page 48.

or

Skip to Chapter 6, "Configuring the GroupWise Side of the Exchange Gateway," on page 51

5.2.2 Setting Up Bidirectional Busy Search for Exchange 2000/ 2003

After performing basic configuration of the Exchange Gateway, you can configure it so that both GroupWise users and Exchange users can perform Busy Searches on each other.

- "Setting Up the Microsoft Calendar Connector on Exchange 2000" on page 39
- "Setting Up the Microsoft Calendar Connector on Exchange 2003" on page 42
- "Checking GroupWise-Related Windows Services" on page 46
- "Resynchronizing Users" on page 47
- "Testing the Bidirectional Busy Search" on page 48

NOTE: Bidirectional busy search is not available for Exchange 5.5.

Setting Up the Microsoft Calendar Connector on Exchange 2000

- "Installing the Calendar Connector on Exchange 2000" on page 39
- "Configuring the Calendar Connector on Exchange 2000" on page 39

Installing the Calendar Connector on Exchange 2000

For background information about the Exchange 2000 Calendar Connector, see the Microsoft article *Exchange 2000 Service Pack 1 Calendar Connector* (http://support.microsoft.com/kb/278009/).

1 Insert the Microsoft Exchange 2000 Service Pack 1 or later CD into the CD drive on the Exchange server.

2 Browse to the `\english\exch2000\ent_sp`*n*`\calcon\i386` directory on the CD, then run `setup.exe`.

3 When the Setup program appears, click *Next*.

4 Select *Full installation including required Schema updates*, then click *Next*.

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

6 Continue with Configuring the Calendar Connector on Exchange 2000.

Configuring the Calendar Connector on Exchange 2000

1 In Exchange System Manager, expand *Administrative Groups > First Administrative Group > Routing Groups > First Routing Group > Connectors*.
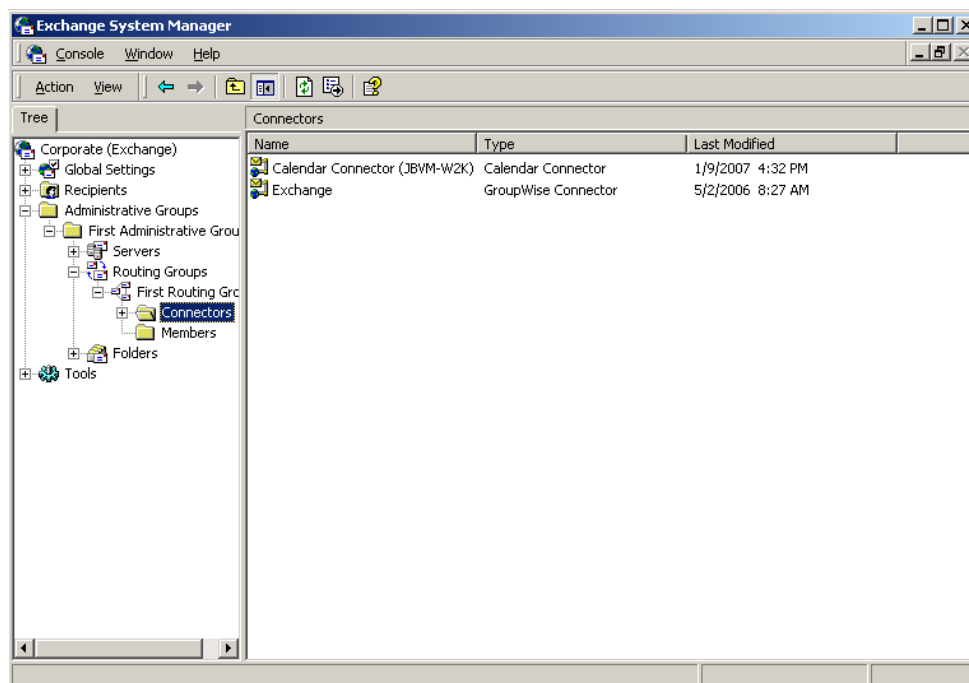
2 Right-click the Calendar Connector, then click *Properties*.

3 Under *Connector used to import users into Active Directory*, click *Modify*.
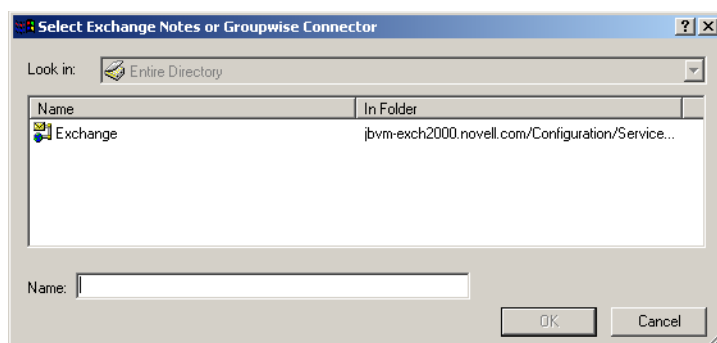
4 In the *Name* field, specify the name of the GroupWise Gateway for Microsoft Exchange connector, then click *OK* to display the Calendar Connector Properties dialog box.

5 Set *Maximum age in minutes* to 0.

The 0-second setting causes a free/busy request to come through the gateway for every refresh. If you change to a larger number, Exchange caches free/busy requests for the specified number of minutes.

6 Set *Maximum number of seconds to wait* to 60.

The 60-second setting prevents the gateway from quitting too soon as it waits for responses.

You can customize these settings as needed for your Exchange system.

7 Click *Apply* to save your settings.

8 Click *Calendar Connections*.

9 If there is not a Novell GroupWise type already listed, click *New*, select *Novell GroupWise*, then click *OK* to display the GroupWise Calendar Connection dialog box.

10 In the *GroupWise API Gateway* field, specify *domain.exchange_gateway*, then click *OK*.

This provides the name of the Domain object and the name of the Exchange Gateway object.

11 Click *Schedule*.

12 Select *Always*, then click *OK*.

13 Skip to .

Setting Up the Microsoft Calendar Connector on Exchange 2003

-
-
-

Installing the Calendar Connector on Exchange 2003

1 Insert the Microsoft Exchange 2003 CD into the CD drive on the Exchange server.

2 If the CD autoruns, ignore the installation page that appears.

3 Browse to the `\setup\i386` directory on the CD, then run `setup.exe`.

4 When the Installation Wizard appears, click *Next*.
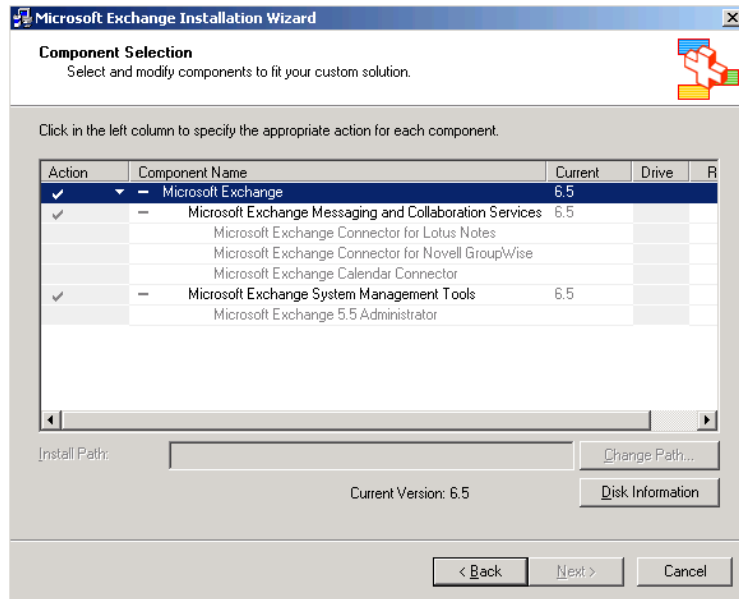
5 Click the check mark in the *Action* column for Microsoft Exchange, then select *Change* from the drop-down list.

6 Click the check mark in the *Action* column for Microsoft Exchange Messaging and Collaboration Services, then select *Change* from the drop-down list.

7 Click in the *Action* column for Microsoft Exchange Connector for Novell GroupWise, then select *Install*.

8 Click in the *Action* column for Microsoft Exchange Calendar Connector, then select *Install*.
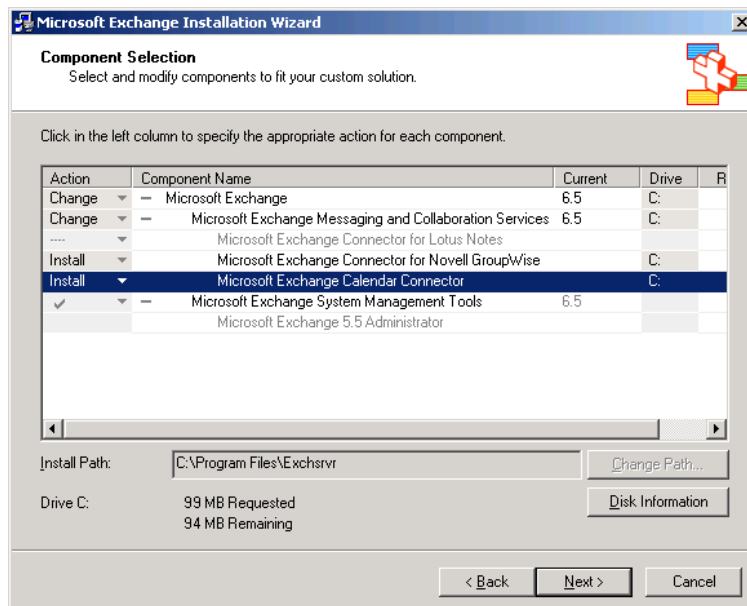
9 Continue with Deactivating the Microsoft Connector for Novell GroupWise.

Deactivating the Microsoft Connector for Novell GroupWise

The Exchange Gateway does not use the Connector for Novell GroupWise provided by Microsoft.

1 In Exchange System Manager, expand *Administrative Groups* > *First Administrative Group* > *Routing Groups* > *First Routing Group* > *Connectors*.
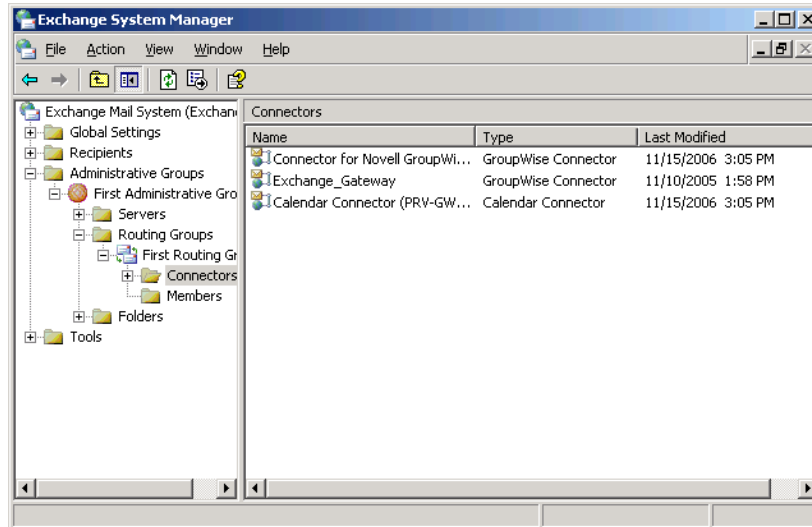
2 Right-click *Connector for Novell GroupWise*, then click *Properties*.

3 In the *API Gateway Path* field, specify a valid path in order to activate the other properties.

The Exchange Gateway does not use the Connector for Novell GroupWise provided by Microsoft, so any valid path is sufficient.

4 Click *Address Space*.
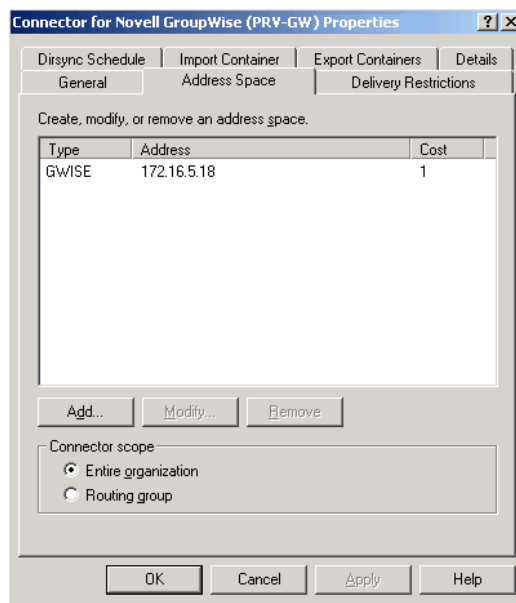
5 Select the GWISE address space, then click *Modify*.

6 In the *Address* field, change the address space to `NotUsed`, then click *OK*.

The bidirectional configuration for Busy Search does not use the GWISE address space that is set up when you install the Exchange Gateway.

7 Continue with Configuring the Calendar Connector on Exchange 2003.

Configuring the Calendar Connector on Exchange 2003

1 In the *Connectors* list, right-click *Calendar Connector*, then click *Properties*.

2 Under *Connector used to import users into Active Directory*, click *Modify*.
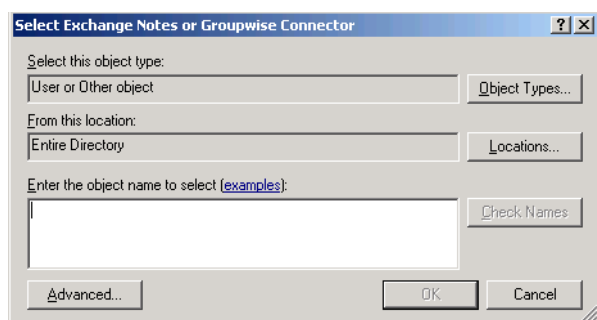
3 In the *Enter the object name to select* field, specify the name of the GroupWise Gateway for Microsoft Exchange connector.

4 Click *Names* to verify that you typed it correctly, then click *OK* to display the Calendar Connector Properties dialog box.

5 Set *Maximum age in minutes* to 0.

The 0-second setting causes a free/busy request to come through the gateway for every refresh. If you change to a larger number, Exchange caches free/busy requests for the specified number of minutes.

6 Set *Maximum number of seconds to wait* to 60.

The 60-second setting prevents the gateway from quitting too soon as it waits for responses.

You can customize these settings as needed for your Exchange system.

7 Click *Apply* to save your settings.

8 Click *Calendar Connections*.

9 If there is not a Novell GroupWise type already listed, click *New*, select *Novell GroupWise*, then click *OK* to display the GroupWise Calendar Connection dialog box.

10 In the *GroupWise API Gateway* field, specify *domain.exchange_gateway*, then click *OK*.

This provides the name of the Domain object and the name of the Exchange Gateway object.

11 Click *Schedule*.

12 Select *Always*, then click *OK*.

13 Continue with Checking GroupWise-Related Windows Services.

Checking GroupWise-Related Windows Services

1 On the Windows desktop of the Exchange server, open the Control Panel.

2 Double-click *Administrator Tools*, then double-click *Services*.

3 Right-click *Microsoft Exchange Connector for Novell GroupWise*, then click *Properties*.

4 If *Startup Type* is set to *Automatic*, change it to *Manual*.

The Microsoft Exchange Connector for Novell GroupWise is no longer needed and should not be started when the Windows server restarts.

5 If the Microsoft Exchange Connector for Novell GroupWise is currently running, click *Stop*.

6 Click *OK* to save the new settings for the Microsoft Exchange Connector for Novell GroupWise.

7 In the list of services, make sure that the Microsoft Exchange Calendar Connector is running. If it is not:

    7a Right-click *Microsoft Exchange Calendar Connector*, then click *Properties*.

    7b In the *Startup Type* field, select *Automatic*.

    7c Click *Start*, then click *OK*.

8 In the list of services, make sure that the Microsoft Exchange Router for Novell GroupWise is running. If it is not:

    8a Right-click *Microsoft Exchange Router for Novell GroupWise*, then click *Properties*.

    8b In the *Startup Type* field, select *Automatic*.

    8c Click *Start*, then click *OK*.

9 Click *File > Exit* to close the Services window.

10 If this is a new installation of the Exchange Gateway, skip to "Testing the Bidirectional Busy Search" on page 48.

or

If this is an update installation of the Exchange Gateway, continue with Resynchronizing Users.

Resynchronizing Users

If you are updating your Exchange Gateway with Support Pack 1, you need to resynchronize users. In order to ensure that the Address Books of both systems are synchronized and contain valid addresses, you delete the existing user information so that it is refreshed automatically with the new configuration that you have just set up.

1 Delete the GroupWise users that currently display in the Exchange Address Book.

    1a Start Active Directory Users and Computers.

    1b Expand the Exchange server object.

    1c Click the GroupWise folder.

    1d Delete all the users from the folder.

2 Delete the Exchange users that currently display in the GroupWise Address Book.

    2a In the GroupWise View in ConsoleOne, select *Users* in the drop-down list at the top of the window.

    2b Expand the External Domain object that contains the representation of your Exchange system.

    2c Select an External Post Office object that represents an Exchange site or administrative group of your Exchange system to display the users in that post office.

    2d Delete all the users, then delete the External Post Office object.

    2e Repeat Step 2c and Step 2d for each External Post Office object.

    2f Delete the External Domain object.

3 Make sure that directory synchronization is enabled.

    3a Browse to and right-click the Exchange Gateway object, then click *Properties*.

    3b Click *GroupWise > Optional Gateway Settings*.

    3c Make sure that *Directory Sync/Exchange* is set to *Both*.

4 Start the Exchange Gateway, as described in .

A fresh user synchronization automatically takes places between the two systems and bidirectional Busy Search is now available.

5 Continue with Testing the Bidirectional Busy Search.

Testing the Bidirectional Busy Search

1 Start Outlook.

2 Create a new meeting request for a GroupWise user.

3 Click *Attendee Availability* in the new meeting request.

You should see the schedule of the GroupWise user.

4 Select a time, then send the meeting request to the GroupWise user.

5 In the GroupWise client of the user to whom you send the meeting request, accept the meeting request, then create an appointment for an Outlook user.

6 Click *Busy Search* in the new appointment.

You should see the schedule of the Outlook user.

7 Select a time, then send the appointment to the Outlook user.

If you can perform these tasks, then bidirectional busy search is set up correctly.

8 If you want to customize the name of the non-GroupWise domain that represents the Exchange system, the external post office that represents the Exchange administrative group, or the format of GroupWise-type usernames for Exchange users, continue with Customizing Addressing for Exchange 2000/2003.

or

Skip to .

5.2.3 Customizing Addressing for Exchange 2000/2003

1 In Exchange System Manager, expand the *Recipients* container, then select the *Recipient Policies* container.
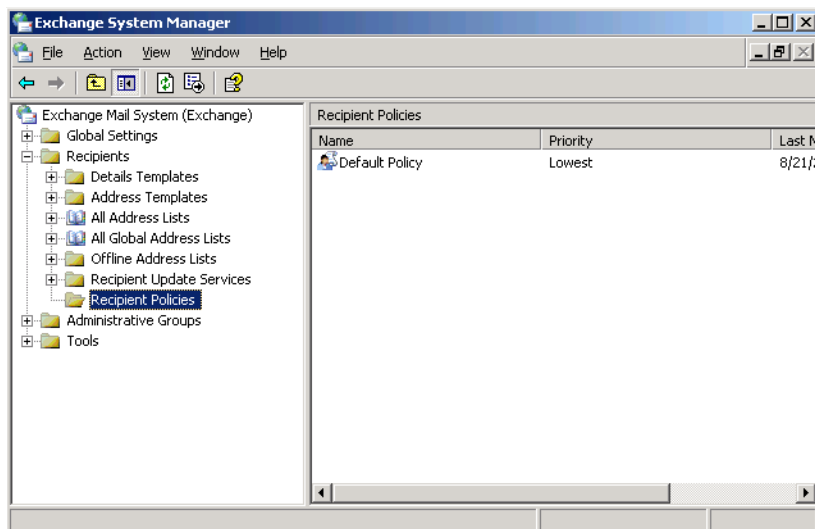
2 Right-click the Default Policy object, click *Properties*, then click the *E-Mail Addresses (Policy)* tab.
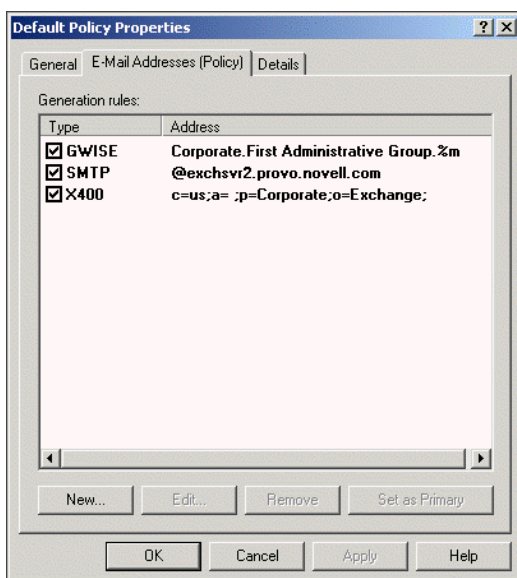
If no GroupWise-specific address type appears in the list, then the addressing components have not been installed on the server. See Section 4.4, "Installing the Exchange Gateway Addressing Components," on page 27.

3 Select *GWISE* (or your custom address type for GroupWise), then click Edit.
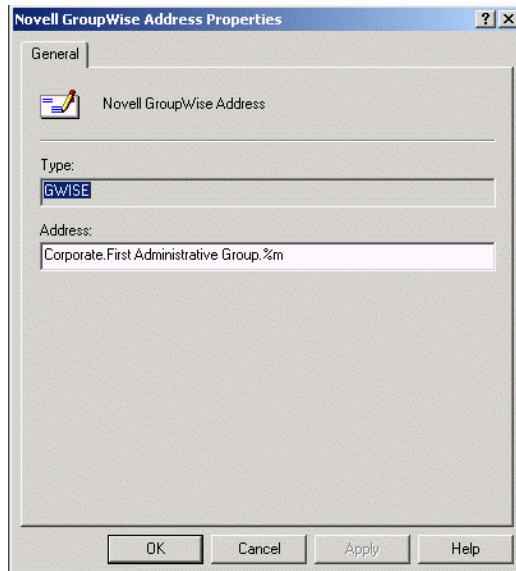
In the Address field, the three parts of a GroupWise address (domain, post office, and username) are separated by periods. The displayed default is *Exchange_organization.Exchange_administrative_group.address_format_variable*.

4 To change the name of the non-GroupWise domain that you want to represent your Exchange system, replace the Exchange organization with the domain name you want to use worksheet item 12).

5 To change the name of the external post office, replace the Exchange administrative group with the post office name you want to use (worksheet item 13).

6 To change the format of the GroupWise usernames that will be generated for Exchange users, replace %m with the desired address format (worksheet item 14).

7 Click *OK*.

8 Back on the Default Policy properties dialog box, click *OK* again to save the address format, then click *Yes* to update all corresponding recipient e-mail addresses to the specified format.

9 Continue with Chapter 6, "Configuring the GroupWise Side of the Exchange Gateway," on page 51

Configuring the GroupWise Side of the Exchange Gateway

6

After you have configured the Exchange side of the gateway, you must configure the GroupWise side of the gateway by configuring the Exchange Gateway object in ConsoleOne.

◆ Section 6.1, "Providing Foreign System Configuration Information," on page 51
◆ Section 6.2, "Providing Gateway Information," on page 52

6.1 Providing Foreign System Configuration Information

1 In ConsoleOne, connect to the domain where you installed the Exchange Gateway (worksheet item 4), then select the Domain object.

2 Right-click the Exchange Gateway object, then click *Properties*.
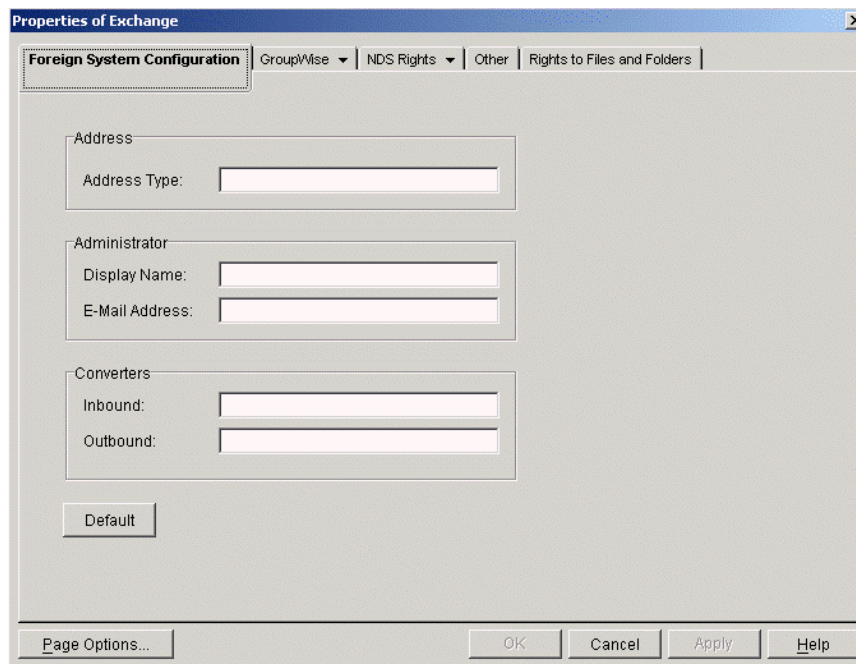
3 On the Foreign System Configuration page, click *Default* to populate the fields.

NOTE: If the Foreign System Configuration page is not available, then the Exchange Gateway snap-in is not installed in ConsoleOne.
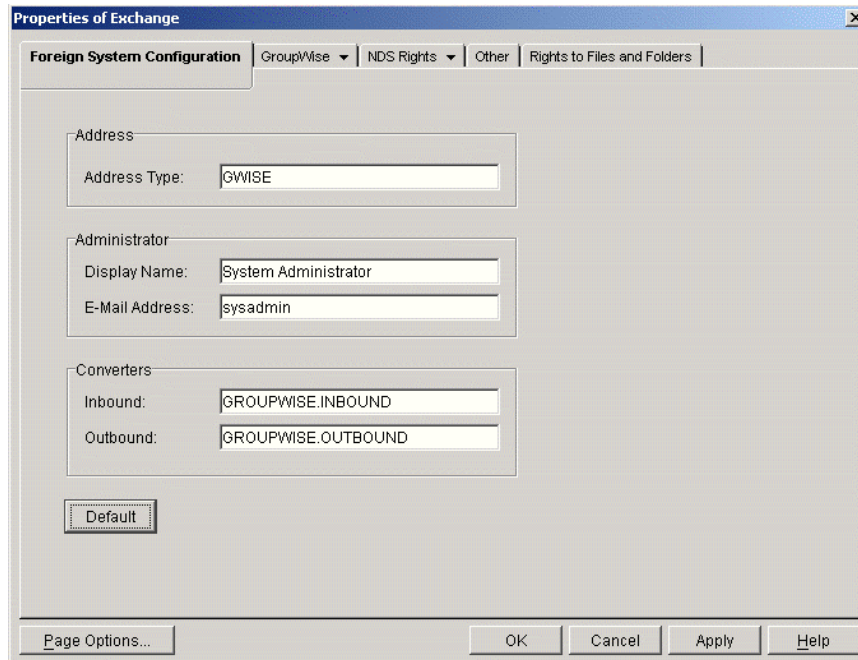
The defaults are typically acceptable, but you can change the information if needed.

Address: Specify the name of the Exchange address type (worksheet item 11) that you want the gateway to create in the Exchange system. The default is GWise.

Administrator: Specify the name and e-mail address of the administrator of the Exchange system.

Converters: The locations of the conversion DLLs is provided automatically.

IMPORTANT: We highly recommend that you do not change the default information.

---

4 Click *Apply* to save the foreign system configuration information.

5 Continue with Section 6.2, "Providing Gateway Information," on page 52.

6.2 Providing Gateway Information

1 On the Exchange Gateway object, click *GroupWise > Identification*.
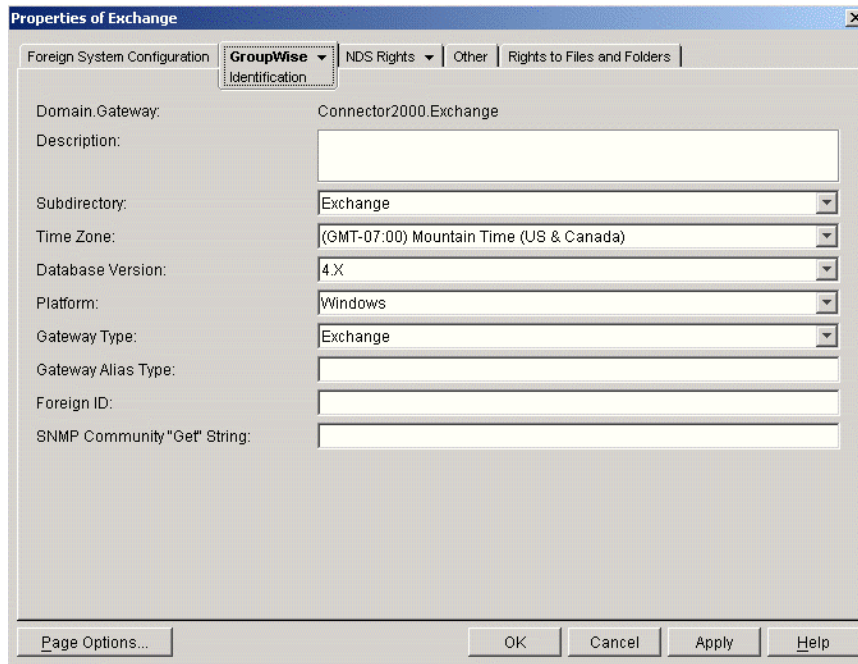
2 Fill in the following fields on the Identification page:

Description: This field is optional. If desired, provide any descriptive information about the gateway.

Subdirectory: Displays the name of the Exchange Gateway root directory specified during installation. The default is `exchange`.

Time Zone: Displays the time zone of the domain where the gateway is installed.

Database Version: Select 6.5 or 7.*x*, depending on the version of your GroupWise system.

Platform: Displays Windows as the default platform.

Gateway Type: Defaults to Exchange.

Gateway Alias Type: Specify Exchange.

3 Click *OK* to save the gateway information.

You have now provided sufficient configuration information to start the Exchange Gateway.

4 Continue with .

Running the Exchange Gateway

<div style="text-align: right; font-size: large;">**7**</div>

After you have installed the Exchange Gateway software and configured both sides of the gateway, you are ready to start the gateway.

- Section 7.1, "Starting the Exchange Gateway," on page 55
- Section 7.2, "Acquainting E-Mail Users with the Exchange Gateway," on page 57
- Section 7.3, "Stopping the Exchange Gateway," on page 58
- Section 7.4, "Uninstalling the Exchange Gateway," on page 58

After the Exchange Gateway has started successfully, continue with Chapter 8, "Configuring the Exchange Gateway," on page 61

7.1 Starting the Exchange Gateway

Before you start the Exchange Gateway, make sure that it has network access to the following locations:

- The GroupWise domain directory and subdirectories where you installed the gateway files. The gateway requires Read, Write, Create, Erase, Modify, and File Scan rights.
- The Exchange server. You should have already provided access when you configured the Exchange side of the gateway, as described in Chapter 5, "Configuring the Exchange Side of the Exchange Gateway," on page 31.

Follow the instructions for the installation method you chose for the Exchange Gateway (worksheet item 7):

- "Starting the Exchange Gateway As a Windows Application" on page 55
- "Starting the Exchange Gateway As a Windows Service" on page 56

IMPORTANT: After you start the gateway, stop and then start the MTAs in the GroupWise system. This establishes the links to the non-GroupWise domain that represents the Exchange system.

7.1.1 Starting the Exchange Gateway As a Windows Application

1 At the Windows server where you installed the Exchange Gateway, click *Start > Programs*.

2 Click *GroupWise Exchange Gateway > Exchange > GroupWise Exchange Gateway*.

```
GroupWise Gateway for Microsoft Exchange
File  Configuration  Log  Actions  Help

Connector.Exchange                    Up Time:   7 Days    2 Hrs    3 Minutes

 Status                     Statistics
                                         Out    10 Minutes    In    10 Minutes
 Processing:    \           Normal:       0        0          0        0
 GroupWise:     Open        Directory:    0        0          0        0
 Other Link:    Open        Passthrough:  0        0          0        0
 Program:       Idle  27    Comm Errors:  0        0          0        0
 Log Level:     Normal      Conv Errors:  0        0          0        0
 Program ID:    000         Total Bytes:  0.0              0.0

 One-Time Directory Exchange completed
 14:59:15 0  *******************  Gateway Started  *******************
```

When running as an application, the Exchange Gateway server console appears on the server while it is running. For instructions on interpreting the information displayed on the Exchange Gateway server console, and for information about other monitoring alternatives, see Chapter 9, "Monitoring the Exchange Gateway," on page 89.

3 Stop and then start the MTAs in the GroupWise system.

This establishes the links to the non-GroupWise domain that represents the Exchange system.

4 After the Exchange Gateway has started successfully and the links between systems have been established, skip to Chapter 8, "Configuring the Exchange Gateway," on page 61.

7.1.2 Starting the Exchange Gateway As a Windows Service

1 At the Windows server where you installed the Exchange Gateway, click *Start > Settings > Control Panel*.

2 Double-click *Services*.

In the alphabetical list of services, the name of the Exchange Gateway service starts with the name of the domain where the gateway is installed, followed by the name of the gateway itself, followed by Service. For example, if the domain is named Connector and the gateway is named Exchange, then the name of the service is ConnectorExchangeService.

3 Select the gateway service, then click *Start*.

When running as a service, the Exchange Gateway does not have a console on the server where it is running. However, you can monitor it in other ways, as described in Chapter 9, "Monitoring the Exchange Gateway," on page 89.

4 Stop and then start the MTAs in the GroupWise system.

This establishes the links to the non-GroupWise domain that represents the Exchange system.

5 After the Exchange Gateway has started successfully and the links between systems have been established, skip to Chapter 8, "Configuring the Exchange Gateway," on page 61.

7.2 Acquainting E-Mail Users with the Exchange Gateway

After you have started the Exchange Gateway, GroupWise users and Exchange users need only the following information in order to start using the gateway immediately:

- Section 7.2.1, "Addressing Messages," on page 57
- Section 7.2.2, "Understanding What GroupWise Send Options Are Available through the Gateway," on page 57

7.2.1 Addressing Messages

If you plan to set up directory synchronization and exchange, as described in Section 8.1, "Enabling Directory Synchronization and Exchange of Address Books," on page 61, GroupWise users can select Exchange users from the GroupWise Address Book, and Exchange users can select GroupWise users from the Exchange Address Book.

If you do not plan to set up directory synchronization and exchange, you must explain to GroupWise users how to add Exchange users to their personal address books, as described in "Adding Individual Exchange Users to Personal Address Books" on page 66. You must also explain to both GroupWise users and Exchange users how to manually type addresses in the To field of messages.

GroupWise to Exchange	**Syntax**
	gateway_name:*exchange_organization*.*exchange_site*.*recipient's_mailbox_name*
	Examples
	Exchange:XYZCorp.Provo.SJones
Exchange to GroupWise	**Syntax**
	address_type:*domain*.*post_office*.*user_ID*
	Examples
	GWise:Corporate.Marketing.LTanaka

7.2.2 Understanding What GroupWise Send Options Are Available through the Gateway

GroupWise users can use some, but not all, GroupWise send options through the Exchange Gateway. The following GroupWise send options are supported:

- Priority (high, normal, low)
- Classification (normal, proprietary, confidential, secret, top secret, for your eyes only)
- Reply Requested (when convenient or within *x* days)
- Delay Delivery (deliver item after *x* days)
- Notify Recipients (if enabled as described in Section 8.7, "Enabling Message Status for Sent Items," on page 85)

The following GroupWise send options are not supported:

- Expiration Date (after *x* days)
- Auto-Delete (when the last recipient has deleted the message)
- Conceal Subject
- Require Password to Complete Routed Item
- Sign Digitally
- Encrypt for Recipients

7.3 Stopping the Exchange Gateway

Occasionally, it might be necessary to stop the gateway to perform maintenance on the Windows server or for some other purpose. When you stop the gateway, any messages being sent from GroupWise users are queued in one of the *domain*\wpgate*exchange*\wpcsout\nga*xxxx**0-7* directories. Messages sent from Exchange users are moved to the gateway's mail store. The messages waiting in each system are processed as soon as the gateway is started again.

Follow the instructions for the installation option you chose for the Exchange Gateway:

- Section 7.3.1, "Stopping the Exchange Gateway If It Is Running As an Application," on page 58
- Section 7.3.2, "Stopping the Exchange Gateway If It Is Running As a Service," on page 58

7.3.1 Stopping the Exchange Gateway If It Is Running As an Application

1 At the Exchange Gateway server console, click *File > Exit*.

   or

   Press F7.

2 Click *Yes* to stop the gateway.

7.3.2 Stopping the Exchange Gateway If It Is Running As a Service

1 At the Exchange Gateway server console, click *Start > Settings > Control Panel*.

2 Double-click *Services*.

3 Select the Exchange Gateway service, then click *Stop*.

   Recall that the Exchange Gateway Service is named after the domain and gateway.

7.4 Uninstalling the Exchange Gateway

If you need to remove the Exchange Gateway from the server where you installed it, follow the instructions for the installation option you chose when installing the Exchange Gateway:

- Section 7.4.1, "Uninstalling the Exchange Gateway As an Application," on page 59
- Section 7.4.2, "Uninstalling the Exchange Gateway As a Service," on page 59

7.4.1 Uninstalling the Exchange Gateway As an Application

1 At the Windows server where you installed the Exchange Gateway, click *Start > Programs > GroupWise Exchange Gateway > Exchange > Uninstall*.

2 If a message informs you that some files could not be deleted, delete the `domain\wpgate\exchange` directory.

3 In ConsoleOne, delete the Exchange Gateway object from the domain.

7.4.2 Uninstalling the Exchange Gateway As a Service

1 At the Windows server where you installed the Exchange Gateway, click *Start > Settings > Control Panel*.

2 Double-click *Add/Remove Programs*, select *domain.gateway (Exchange Gateway)*, then click *OK*.

3 If a message informs you that some files could not be deleted, delete the `domain\wpgate\exchange` directory.

4 In ConsoleOne, delete the Exchange Gateway object from the domain.

Configuring the Exchange Gateway

8

After the Exchange Gateway is up and running between the GroupWise system and the Exchange system, there are a variety of ways to refine its configuration to meet the specific needs of your e-mail users.

8.1 Enabling Directory Synchronization and Exchange of Address Books

Directory synchronization and exchange enable the Exchange Gateway to automatically exchange Address Book information between the GroupWise system and the Exchange system.

- **Directory Exchange:** Causes the gateway to perform a nightly exchange of the Exchange public Address Book and GroupWise Address Book.

- **Directory Synchronization:** Causes the gateway to update each Address Book as changes in Address Book information occur. If directory synchronization is not enabled, the Address Books are not updated until the nightly directory exchange occurs.

IMPORTANT: To ensure proper replication of names and addresses in both systems, use both directory synchronization and exchange.

---

1 Make sure that the Exchange system is set up to support directory synchronization and exchange, as described in Chapter 5, "Configuring the Exchange Side of the Exchange Gateway," on page 31. You might want to double-check the trust level established for the gateway.

2 If you have domains in your GroupWise system that contain users that you do not want to appear in the Exchange version of the GroupWise Address Book, use the /blockdom switch in the startup files (gwexch.cfg) to list the GroupWise domains that should not be included in the directory synchronization and exchange process.

3 In ConsoleOne, browse to and select the domain where you installed the Exchange Gateway, right-click the Exchange Gateway object, then click *Properties* to display the gateway Identification page.

4 Click *GroupWise > Optional Gateway Settings* to display the Optional Gateway Settings page.
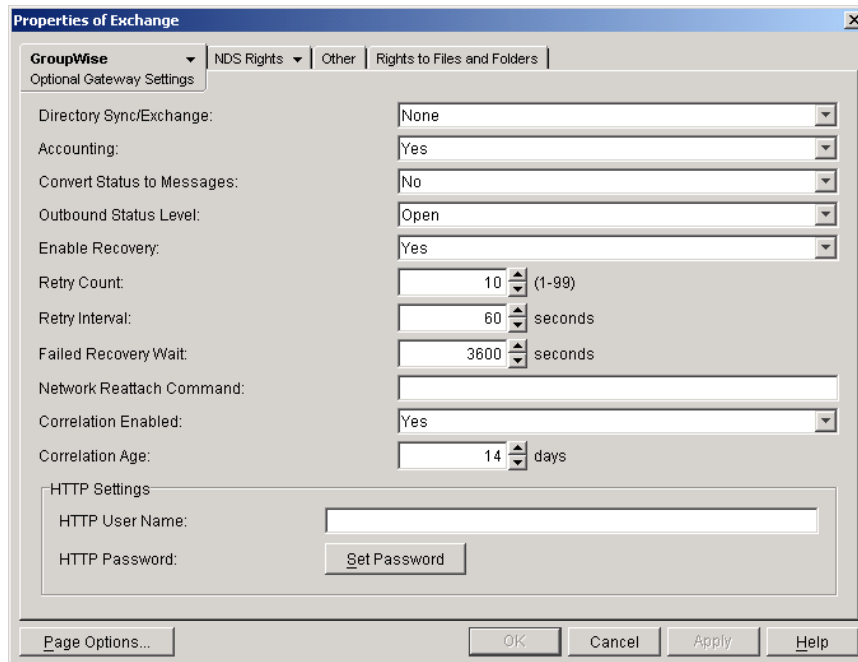
5 In the Directory Sync/Exchange field, select *Both*, then click *OK*.

ConsoleOne passes the directory synchronization and exchange information to the Exchange Gateway so that it can start transferring user information. The larger the Address Books are, the longer the process takes.

6 If you want the names of GroupWise users to display as Lastname, Firstname in the Exchange Address Book, add the /displaynamelastfirst gateway startup switch to the `gwexch.cfg` file.

7 If you edited the `gwexch.cfg` file, stop and then start the Exchange Gateway so that it reads the updated startup file.

When you first started the Exchange Gateway, a non-GroupWise domain representing the Exchange system was created automatically. It was named after the Exchange organization. Under the non-GroupWise domain, an external post office was created for each Exchange site or server and given the same name as the corresponding Exchange site or server. However, no user information was transferred at that time.

Now that you have enabled directory synchronization and exchange, Exchange users are added to these external post offices as external GroupWise users.

You can see the results of directory synchronization and exchange in the following locations:

◆ Exchange users appear in ConsoleOne because External User objects are created in the External Post Office object that represents the Exchange site or administrative group.

◆ Exchange users appear in the GroupWise Address Book because they have External User objects in the GroupWise system.

◆ GroupWise users appear in the Exchange Address Book because the Exchange Gateway creates recipient addresses based on the GroupWise address type, as described in Section 3.8, "Selecting User Address Type and Format," on page 19.

When you first turn on directory synchronization and exchange, e-mail addresses from the Exchange system come into the GroupWise Address Book in the format *username.administrative_group.exchange_organization*. You can configure the non-GroupWise domain that represents the Exchange system to format e-mail addresses in a more familiar manner.

1 In ConsoleOne, browse to and right-click the Non-GroupWise Domain object that represents your Exchange system, then click *Properties*.

2 Click *GroupWise > Internet Addressing*.
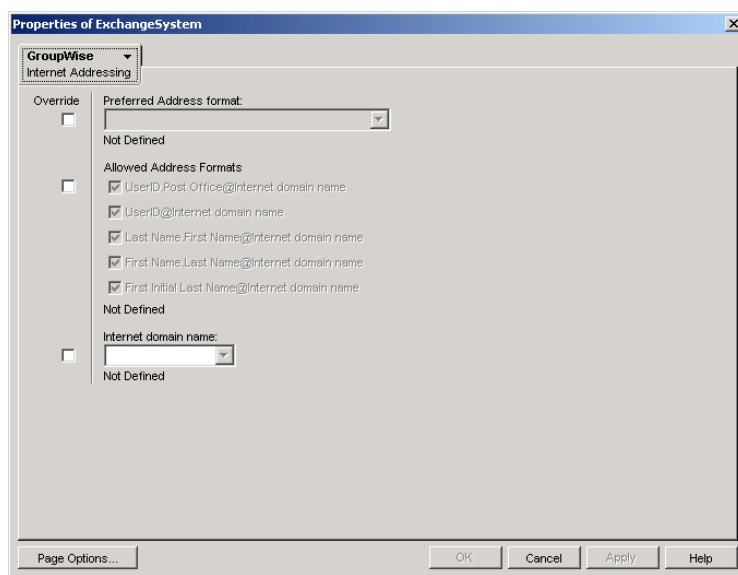
3 Select *Override* next to the *Internet Domain Name* field, then specify the Internet domain name for your Exchange system (such as example.com).

4 Select *Override* next to the *Preferred Address Format* field, then select the address format that your users are accustomed to.

After the specified Internet domain name and address format have replicated throughout the GroupWise system, users' e-mail addresses display as desired in the GroupWise Address Book.

Related Startup Switches You can use the /allowdom and /blockdom startup switches in the Exchange Gateway startup file (`gwexch.cfg`) to control which GroupWise domains have their users displayed in the Exchange Address Book.

Exchange Gateway Web Console You can see whether directory synchronization and exchange are enabled on the Configuration page. You can turn directory synchronization and exchange on and off for the current gateway session on the Optional Gateway Settings page.

8.2 Configuring Addressing Instead of Using Directory Synchronization and Exchange

When you take advantage of directory synchronization and exchange, as described in Section 8.1, "Enabling Directory Synchronization and Exchange of Address Books," on page 61, GroupWise users and Exchange users can select each other out of their familiar Address Books. Addressing is not an issue under these circumstances.

If you do not want to enable directory synchronization and exchange, you must use other addressing alternatives:

- Section 8.2.1, "Adding Individual Exchange Users to the GroupWise Address Book," on page 64
- Section 8.2.2, "Adding Individual Exchange Users to Personal Address Books," on page 66
- Section 8.2.3, "Adding Individual GroupWise Users to the Exchange Address Book," on page 67
- Section 8.2.4, "Using Explicit Addressing," on page 71
- Section 8.2.5, "Setting Up an Addressing Rule to Facilitate Busy Searches," on page 71

8.2.1 Adding Individual Exchange Users to the GroupWise Address Book

If there are some specific Exchange users who you want to appear in the GroupWise Address Book, you can add those individual users without enabling directory synchronization and exchange. You add Exchange users to the GroupWise Address Book by defining them as external users and then specifying the explicit addresses required to route messages to them in the Exchange system.

1 In ConsoleOne, select *GroupWise System*, select the non-GroupWise domain that represents the Exchange system, then select the external post office that represents the Exchange site or administrative group where the Exchange user is located.
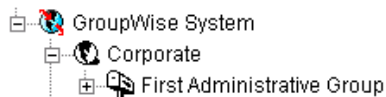
2 Right-click the GroupWise Post Office object that represents the Exchange site or administrative group, then click *New > External User*.
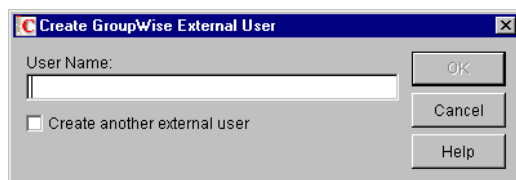
3 Type a username, then click *OK*.

4 Right-click the new External User object, then click *Properties*.
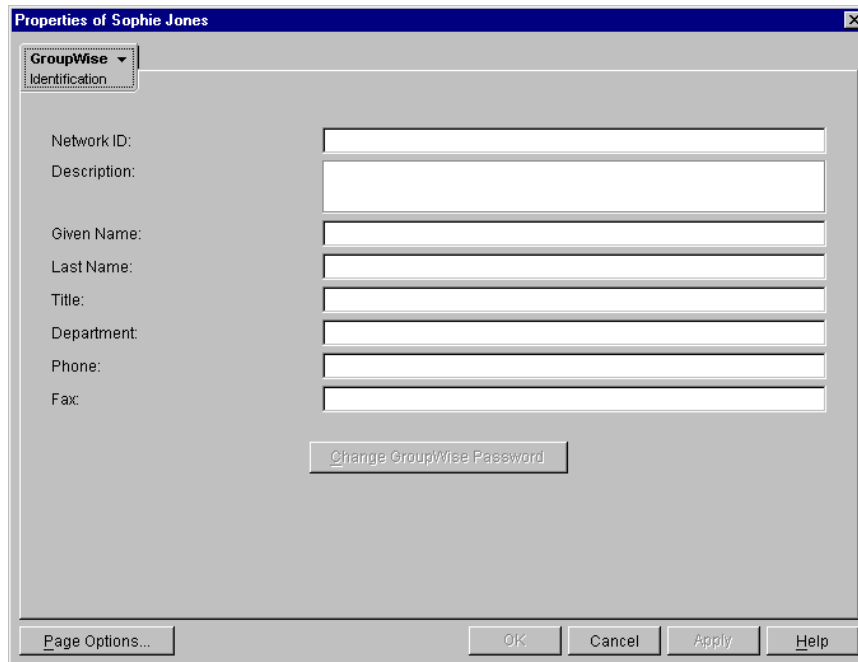
5 Fill in fields as needed to provide information about Exchange the user that you want to appear in the GroupWise Address Book.

6 Click *Apply* to save the user information.

7 Click *GroupWise > Gateway Aliases* to display the Gateway Aliases page.
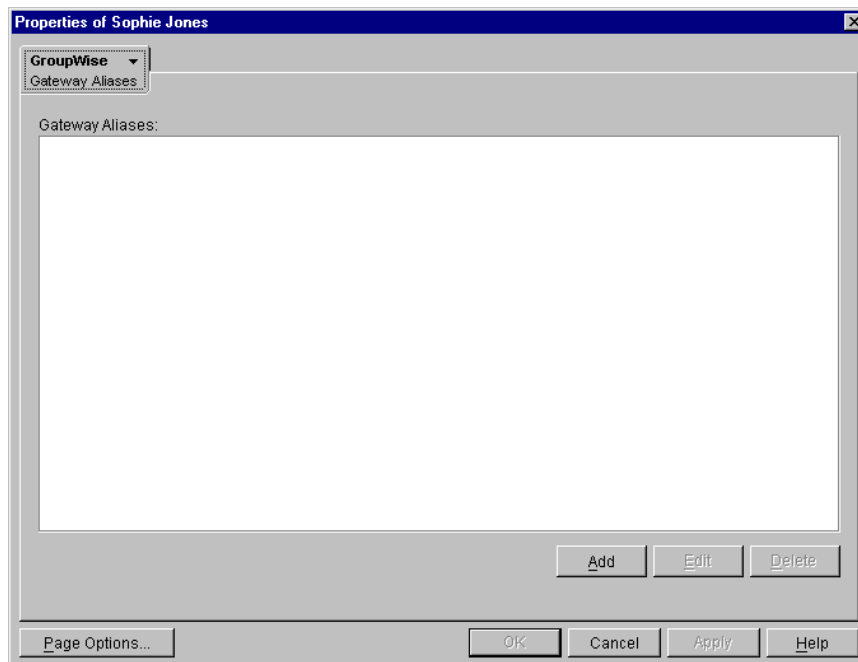
You use the Gateway Aliases page to define the explicit address required to route messages to the user in the Exchange system.

8 Click *Add* to display the Create Alias dialog box.
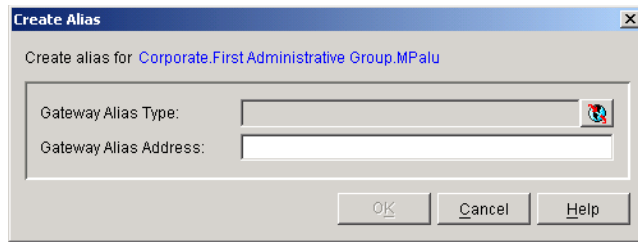
9 Fill in the following fields:

Gateway Alias Type: From the list, select the *Exchange Gateway*.

The gateway alias type was defined during configuration of the gateway. If there is no gateway alias type listed for the gateway, you can define one now. See Section 6.2, "Providing Gateway Information," on page 52.

Gateway Alias: Specify the user's address as defined in Exchange.

For an example, see "Addressing Messages" on page 57.

10 Click *OK* to save the gateway alias and return to the Gateway Alias page.

The gateway alias is now listed in the Gateway Alias list.

11 Click *OK* to save the list.

ConsoleOne passes the alias information to the Exchange Gateway so that the Exchange user is added to the GroupWise Address Book.

12 Repeat Step 2 through Step 11 for each Exchange user you want to add to the GroupWise Address Book.

8.2.2 Adding Individual Exchange Users to Personal Address Books

GroupWise users can also add Exchange users to their personal address books if the Exchange users are not already defined in the GroupWise Address Book.

1 In the GroupWise Windows client, click *Tools > Address Book* to open the Address Book.

2 Select a personal address book.

3 Click *New > Contact > OK*.
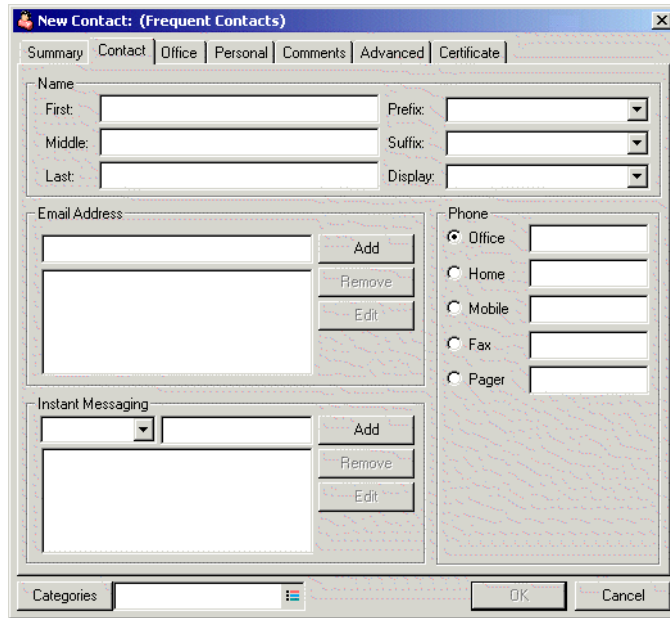
4 Fill in the following fields:

First: Specify the user's first name.

Last: Specify the user's last name.

E-mail Address: Specify the explicit address required to route a message to the Exchange user. For syntax and examples, see "Addressing Messages" on page 57.

5 Click *OK* to save the new contact in the personal address book.

8.2.3 Adding Individual GroupWise Users to the Exchange Address Book

If there are some specific GroupWise users who you want to appear in the Exchange Address Book, you can add those individual users without enabling directory synchronization and exchange. You add GroupWise users to the Exchange Address Book by defining them as custom recipients and then specifying the explicit addresses required to route messages to them in the GroupWise system. You can also configure the Exchange Gateway to perform directory synchronization and exchange for them.

Adding GroupWise Users in Exchange 5.5

1 Start Exchange Administrator.
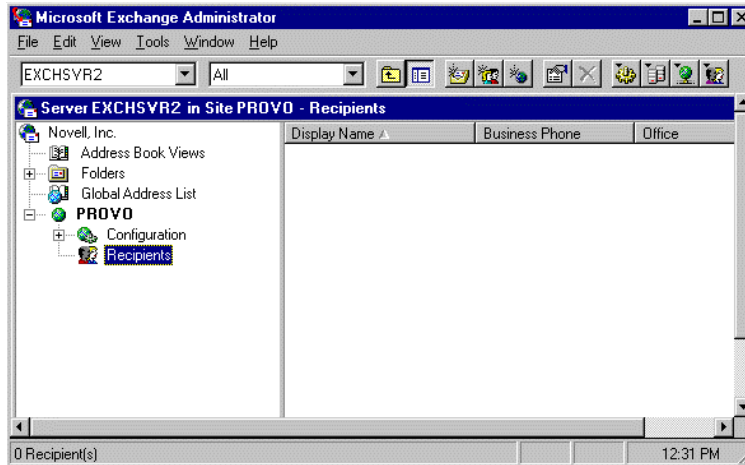
2 Expand the *Recipients* container.

3 Select an existing container.

or

Create a new container for GroupWise recipients.

3a Click *File > New Other > Recipients Container*.

3b Specify a name for the new container; for example, GroupWise Recipients.

3c Specify a directory for the new container.

3d Click *OK*.

4 Select the container in which you want to create a custom recipient to represent a GroupWise user, then click *File > New Custom Recipient*.
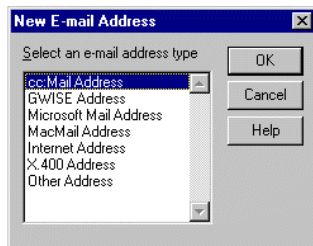
5 Select *GWISE Address*, then click OK.
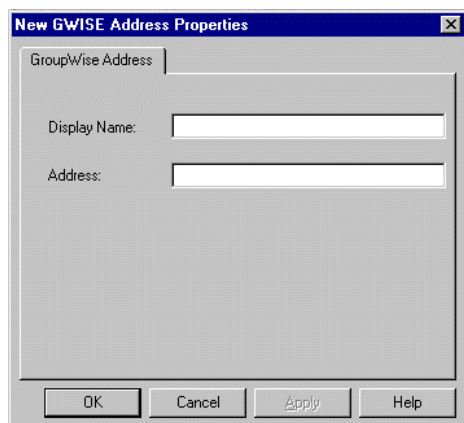
6 In the *Display Name* field, specify the full name of the GroupWise user.

7 In the *Address* field, specify the GroupWise user's address in the following format:

domain.post_office.user_ID

where *domain* is the name of the GroupWise domain, *post_office* is the name of the GroupWise post office, and *user_ID* is the user's GroupWise ID.

8 Click *OK*.

9 In the Properties dialog box, specify whatever information you want to be available about the GroupWise user, then click *OK*.

The GroupWise user can now be selected from the Exchange Address Book.

Adding GroupWise Users in Exchange 2000/2003

1 On the Windows desktop, click *Programs > Microsoft Exchange > Active Directory Users and Computers*.
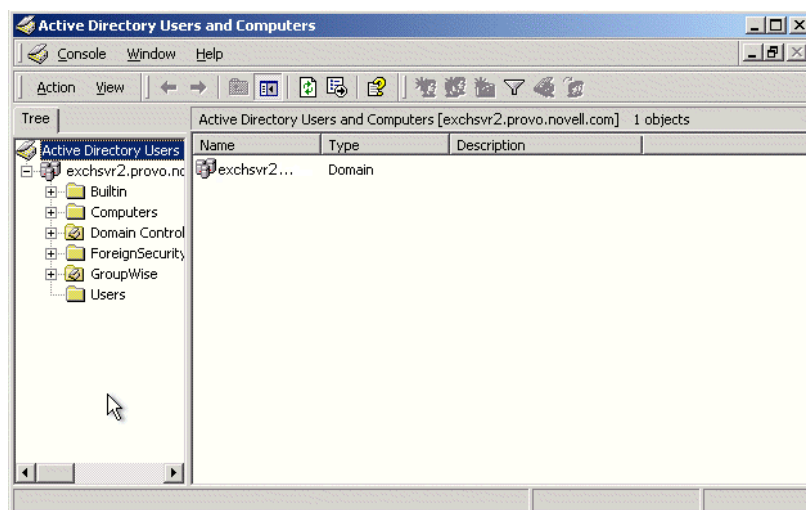
2 Expand the *Users* container, select the container in which you want to create a Contact, then click *Action > New > Contact*.
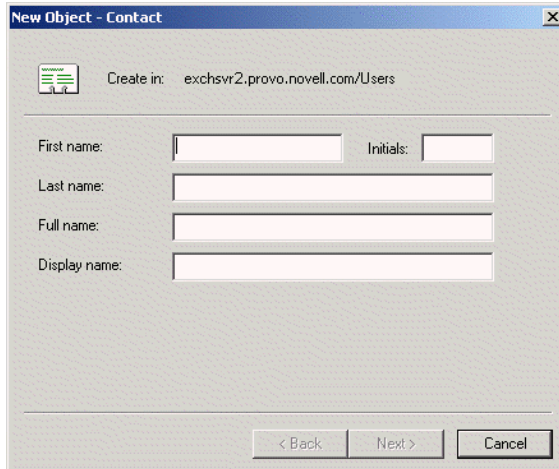
3 Specify the information about the GroupWise user that you want to be available in the Exchange Address Book, then click *Next*.
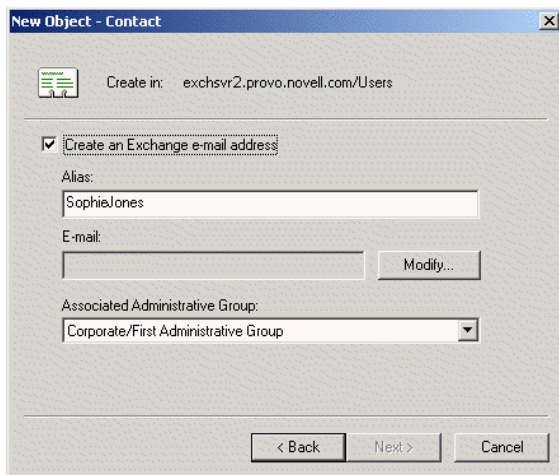
4 In the *E-mail Address* field, click *Modify*.
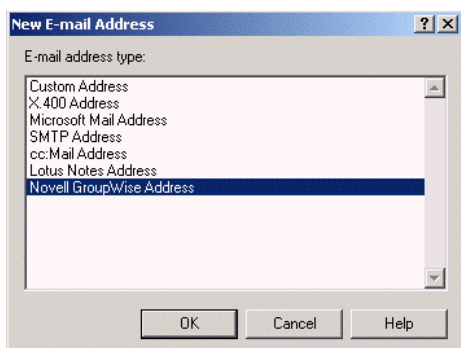
5 Select *Novell GroupWise Address*, then click *OK*.
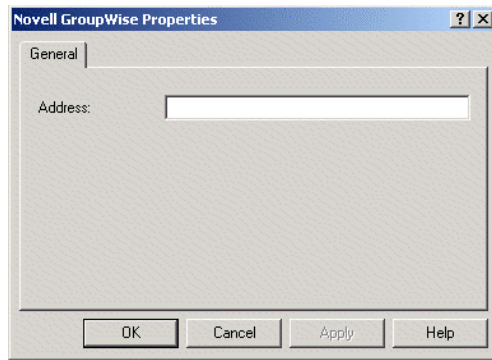
6 In the *Address* field, specify the GroupWise user's address in the following format:

domain.post_office.user_ID

where *domain* is the name of the GroupWise domain, *post_office* is the name of the GroupWise post office, and *user_ID* is the user's GroupWise ID.

7 Click *OK*, click *Next*, then click *Finish*.

The GroupWise user can now be selected from the Exchange Address Book.

Including Custom Users in Directory Synchronization

If you want to be able to change user information associated with custom recipients in Exchange and have the information for the corresponding GroupWise user updated to match, you must enable directory synchronization for custom recipients. In the Exchange Gateway startup file (`gwexch.cfg`), use the /custom startup switch to enable directory synchronization for custom recipients. For more information about directory synchronization, see Section 8.1, "Enabling Directory Synchronization and Exchange of Address Books," on page 61.

8.2.4 Using Explicit Addressing

If you do not enable directory synchronization and exchange, and if users are not represented in the other e-mail system's Address Book, then users on both sides of the gateway must use explicit addressing. See "Addressing Messages" on page 57.

8.2.5 Setting Up an Addressing Rule to Facilitate Busy Searches

When performing a busy search, the Exchange server uses LDAP to identify the users being searched, rather than the typical recipient information used when delivering messages. If users' e-mail addresses do not match their mailbox names, messages are delivered successfully but busy searches fail.

You can use the /addressrule startup switch in the `gwexch.cfg` file to define the format you want the gateway to use when it sends a busy search request to the Exchange system. With the /addressrule startup switch, you can use the following tags to specify the address format you want:

<domain>
<username>
<firstname>

<lastname>

<firstinitial>

<lastinitial>

Each tag is replaced with the corresponding user-specific information. Additional text can be added to the address format as well.

Examples:

/addressrule-<firstname>_<lastname>@<domain>

/addressrule-<firstname>.<lastname>@<domain>

/addressrule-<username>@exchange.<domain>

These address rules would result in the following addresses for a user named Sophie Jones at Corporate.com:

Sophie_Jones@Corporate.com

Sophie.Jones@Corporate.com

SJones@exchange.Corporate.com

8.3 Changing the Link Protocol between the Exchange Gateway and the MTA

Before the GroupWise 7 Gateway for Microsoft Exchange, the Exchange Gateway and the MTA communicated by transferring message files through message queue directories using a mapped/ UNC link. Starting with the GroupWise 7 version of the gateway, you can configure the gateway so that it uses a TCP/IP link to communicate with the MTA, instead of transferring message files through queue directories. During installation, the Exchange Gateway is configured for a mapped/ UNC link. You can reconfigure it to use a TCP/IP link in ConsoleOne®.

1 In ConsoleOne, right-click the Exchange Gateway object, then click *Properties*.

2 Click *GroupWise > Network Address*.
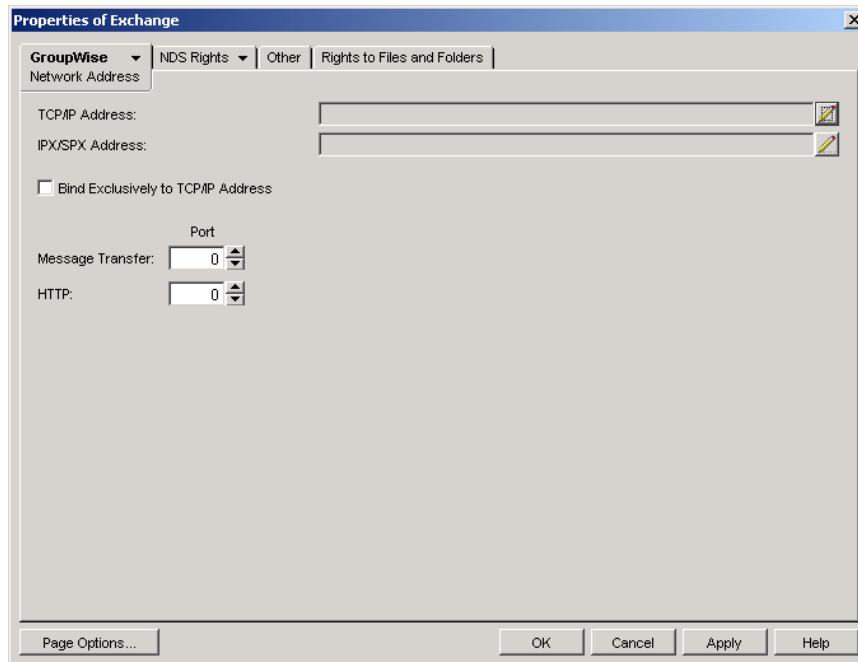
3 In the *TCP/IP Address* field, click *Edit*, specify the IP address or DNS hostname of the server where the Exchange Gateway is running (which is not necessarily the server where the Exchange Gateway software is installed), then click OK to return to the Network Address page.

4 In the *Message Transfer Port* field, specify a unique port number; for example, 7103.

5 Click *OK* to save the new link configuration for the Exchange Gateway.

ConsoleOne then notifies the Exchange Gateway and the MTA to restart using the new link protocol.

8.4 Controlling Gateway Access

The Exchange Gateway lets you control access through the gateway. For example, you can:

- ◆ Control which GroupWise users can send messages and to which Exchange users
- ◆ Control which GroupWise users can receive messages and from which Exchange users
- ◆ Control the maximum size for messages sent through the gateway
- ◆ Control whether or not rule-generated GroupWise messages are sent through the gateway

The standard way to control access for all GroupWise and Exchange users on the GroupWise side of the gateway is with the `access.cfg` file in the *domain*`\wpgate\`*exchange* directory. In addition, you can control individual user access using the Gateway Access field of individual User objects in ConsoleOne.

On the Exchange side of the gateway, access control is provided on the Permissions page of the Site Addressing object. See your Exchange documentation for more information.

8.4.1 Using the Access.cfg File in the Gateway Directory

The `access.cfg` file is an ASCII text file that can be edited with a standard text editor. It is located in the gateway root directory (for example, *domain*\wpgate*exchange*). The `access.cfg` file enables you to implement the following specific types of access control:

- Provide specific access control based on GroupWise domains and post offices
- Provide specific access control based on access groups that you define
- Limit the size of incoming and outgoing messages to and from your GroupWise system for specific domains, post offices, or access groups
- Prevent messages from specific addresses from entering your GroupWise system for specific domains, post offices, or access groups
- Allow messages from specified addresses to enter your GroupWise system, while preventing all others for specific domains, post offices, or access groups
- Prevent rule-generated messages from going out of your GroupWise system for specific domains, post offices, or access groups

The initial `access.cfg` file includes descriptions and examples of the section headers and keywords that you can use in the file. However, all lines are initially commented out and access control is off by default. Print the initial access.cfg file in the *domain*\wpgate*exchange* directory. Reviewing the file can help you understand how it works.

Add the following line at the top of the file to turn on access control:

Access Control=On

After access control has been turned on, you can create sections in the `access.cfg` file for various groups of users. Section headers are enclosed in square brackets ([*header*]). Within each section, you use keywords to define the access control settings for the group to which the section applies. The following section headers and keywords are available:

Section Headers	Keywords
[Default:In|Out]	AllAccess
[*groupwise_domain*:In|Out]	NoAccess
[*groupwise_domain.post_office*:In|Out]	Block
[AccessGroup:*group_name*]	Allow
	MaxSize
	AllowRuleGenerated

Section headers, keywords, and settings are not case sensitive. The In and Out directions are from the point of view of the GroupWise system. Semicolons (;), slashes (/), and pound signs (#) can be used to comment out lines of text. In the examples provided in the `access.cfg` file, the string gwaddresstext represents the address of an Exchange user. For example, you could replace gwaddresstext with Novell.Sales.Glen if that is the appropriate address format, as explained in Section 3.8, "Selecting User Address Type and Format," on page 19.

Exchange Gateway Web Console You can turn access control on and off for the current gateway session on the Access Control page. You can also adjust the maximum message size.

Section Headers

Section headers establish groups of users to which access control settings are applied.

[Default:In|Out]

This section lists the access control settings for users who are not covered by access control settings for a particular GroupWise domain, post office, or access group.

Syntax:

> [Default:In]
> [Default:Out]

Examples:

> [Default:In]
> MaxSize=100000
> [Default:Out]
> AllowRuleGenerated=No

This example limits incoming messages to 100 KB but does not limit the size of outgoing messages. It prevents rule-generated GroupWise messages from transferring through the gateway to the Exchange system. These access control settings would apply to any users who did not fall under a more specific section header.

[*groupwise_domain*:In|Out]

This section lists the access control settings for users in a particular GroupWise domain.

Syntax:

> [*groupwise_domain*:In]
> [*groupwise_domain*:Out]

Examples:

> [Corporate:In]
> MaxSize=100000000
> [Corporate:Out]
> AllowRuleGenerated=Yes

This example limits incoming messages to 1 MB but does not limit outgoing messages. It allows GroupWise users to send rule-generated messages.

[*groupwise_domain.post_office*:In|Out]

This section lists the access control settings for users in a particular GroupWise post office.

Syntax:

[*groupwise_domain.post_office*:In]
[*groupwise_domain.post_office*:Out]

Examples:

[Corporate.Temps:In]
Allow NetTech
MaxSize=10000
[Corporate.Temps:Out]
Allow NetTech
MaxSize=10000
AllowRuleGenerated=No

This example allows users in the Temps post office to exchange messages with users in the Exchange NetTech system only. It restricts incoming and outgoing messages to 10 KB. It prevents rule-generated messages.

[AccessGroup:*group_name*]

This section lists the access control settings for individual GroupWise users who are assigned to the access group in ConsoleOne, as described in "Using the Gateway Access Field on Individual User Objects" on page 79. Access groups do not have direction parameters. If you want to control access in both directions, you must create separate access groups.

Syntax:[

[AccessGroup:*group_name*]

Examples:

[AccessGroup:SysAdminsIn]
MaxSize=5000000[
[AccessGroup:SysAdminsOut]
AllowRuleGenerated=Yes

This example allows users in the SysAdminsIn and SysAdminsOut access groups to receive messages up to 5 MB in size and to send rule-generated messages.

Keywords

Keywords define the access control settings for the users included under each section header.

- "AllAccess" on page 77
- "NoAccess" on page 77
- "Block" on page 77
- "Allow" on page 78
- "MaxSize" on page 78
- "AllowRuleGenerated" on page 79

AllAccess

This keyword provides unrestricted access to the Exchange Gateway for those GroupWise users specified by the section header. Users can send messages to or receive messages from Exchange users, depending on the direction specified by the header.

Examples:

[Corporate.Executives:In]
AllAccess[
[Corporate.Executives:Out]
AllAccess

This example allows all GroupWise users in the Executives post office to exchange messages with all Exchange users with no access control restrictions.

NoAccess

This keyword restricts access to the Exchange Gateway for those GroupWise users specified by the section header. Users cannot send or receive messages through the gateway, depending on the direction specified in the header.

Examples:

[Corporate.Temps:In]
NoAccess
[Corporate.Temps:Out]
NoAccess

This example prevents all GroupWise users in the Temps post office from exchanging messages with Exchange users.

Block

This keyword restricts access to the Exchange Gateway from the perspective of Exchange users. This keyword differs from NoAccess because a specific Exchange address must be provided. If GroupWise users try to send mail to a Exchange address that has been blocked, they receive a message from the gateway stating that the message is undeliverable.

Syntax:

Block *exchange_server*
Block *username@exchange_server*
Block CN=*full_name*/O=*organization@exchange_server*

Examples:

[Corporate.Temps:In]
Block XYZCorp
[Corporate.Temps:Out]
Block XYZCorp

[Corporate.Executives:In]

Block SJones@XYZCorp

Block CN=Sophie Jones/O=Sales@XYZCorp

The first example prevents GroupWise users in the Temps post office from exchanging messages with users in the Exchange XYZCorp system. The second example prevents GroupWise users in the Executives post office from receiving messages from a specific Exchange user. Providing the username in both formats is required to totally block a user.

Allow

This keyword allows messages to pass through the Exchange Gateway only if the message's recipient matches the Exchange address specified on the Allow line. Any messages addressed to other Exchange addresses are blocked.

Syntax:

Allow *exchange_server*

Allow *username@exchange_server*

Allow CN=*full_name*/O=*organization@exchange_server*

Examples:

[Corporate.Temps:In]

Allow NetTech

[Corporate.Temps:Out]

Allow NetTech

[Default:In]

Allow SJones@XYZCorp

Allow CN=Sophie Jones/O=Sales@XYZCorp

The first example allows GroupWise users in the Temps post office to exchange messages with the NetTech Exchange system but no others. The second example allows all users to receive messages from a specified user.

MaxSize

This keyword determines the maximum size of messages that the Exchange Gateway can transfer between systems. Maxsize is specified in bytes (1000 = 1000 bytes or 1 KB), with a range from 0 to 2147483647.

Unless you have a reason to limit the message size (for example, you are charged for the amount of data transferred by the gateway), you might not want to limit the message size. When attachments are encoded as they pass through the gateway, they generally become larger.

Syntax:

Maxsize=*number_of_bytes*

Examples:

[Corporate.Temps:In]

MaxSize=1000000

[Corporate.Temps:Out]
MaxSize=5000000

This example prevents GroupWise users in the Temps post office from receiving messages larger than 1 MB and from sending messages larger than 5 MB.

AllowRuleGenerated

This keyword determines whether or not rule-generated messages are allowed through the Exchange Gateway. It applies only to outbound messages from GroupWise to Exchange.

You could use this keyword to control rule-generated messages such as "On Vacation" from entering the Exchange system. Unlike NoAccess and Block, the gateway does not generate a status message stating that the mail message was undeliverable. Instead, the message remains pending in the sender's mailbox.

Syntax:

AllowRuleGenerated=Yes | No

Examples:

[Default:Out]
AllowRuleGenerated=No

This example prevents all rule-generated messages from transferring from the GroupWise system to the Exchange system.

8.4.2 Using the Gateway Access Field on Individual User Objects

You can use the Gateway Access field on the GroupWise Account page of each User object in ConsoleOne to control individual user access. This can be useful if you only have a few users whose access you want to control. If you have many users whose access you want to control, you should use the `access.cfg` file, as described in "Using the Access.cfg File in the Gateway Directory" on page 74.

1 If desired, create an access control group in the `access.cfg` file.

2 In ConsoleOne, browse to and right-click the user whose access you want to control, then click *Properties*.

3 Click *GroupWise > Account* to display the Account page.
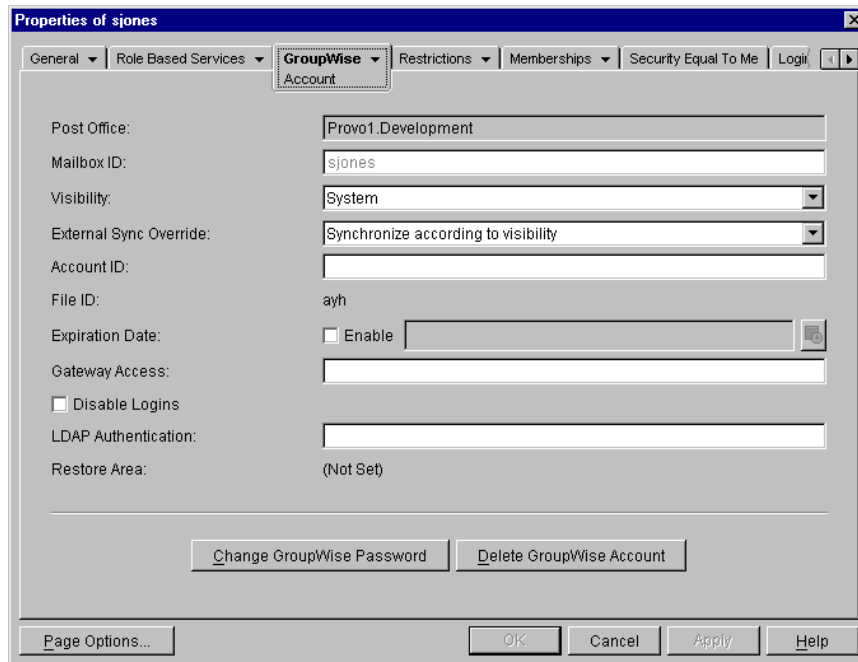
4 Fill in the *Gateway Access* field.

If you created an access control group in the `access.cfg` file in Step 1, specify the name of the access control group that you want this user to be associated with.

If you have not created an access control group, you can put access control information unique to this user in the Gateway Access field.

Syntax:

> *gateway.direction:keyword,keyword,...,keyword;gateway.direction:keyword,...,keyword*

The following keywords are valid in the Gateway Access field:

- ◆ AllAccess
- ◆ NoAccess
- ◆ MaxSize
- ◆ AllowRuleGenerated

IMPORTANT: The Block and Allow keywords cannot be used in the Gateway Access field. They can only be used in the `access.cfg` file.

Example:

> Exchange.Out:MaxSize=500000,AllowRuleGenerated=No;Exchange.In:Maxsize=50000

In this example, the gateway name is Exchange, the maximum message size is 500 KB, and rule-generated messages are prevented from leaving the GroupWise system. The gateway direction designations and their keywords are separated by a semicolon (;).

5 Click OK to save the access control information for the selected user.

ConsoleOne passes the access control information to the Exchange Gateway so that the access control settings are in force immediately.

8.5 Setting Up Accounting

Every day at midnight, the Exchange Gateway creates an accounting file (`acct`) in the
domain\wpgate*exchange*\000.prc directory. The acct file is an ASCII-delimited text file that
records the source, priority, message type, destination, and size of each item passing through the
gateway.

- Section 8.5.1, "Enabling Accounting," on page 81
- Section 8.5.2, "Defining an Accountant," on page 81
- Section 8.5.3, "Understanding the Accounting File," on page 82

8.5.1 Enabling Accounting

1 In ConsoleOne, browse to and right-click the Exchange Gateway object, then click *Properties*.

2 Click *GroupWise > Optional Gateway Settings* to display the Optional Gateway Settings page.

3 Make sure *Accounting* is set to *Yes*.

4 Click *Apply* to save your changes.

5 Continue with "Defining an Accountant" on page 81.

Exchange Gateway Web Console You can turn accounting on and off for the current gateway
session on the Optional Gateway Settings page.

8.5.2 Defining an Accountant

1 On the Exchange Gateway object, click *GroupWise > Gateway Administrators* to display the
Gateway Administrators page.
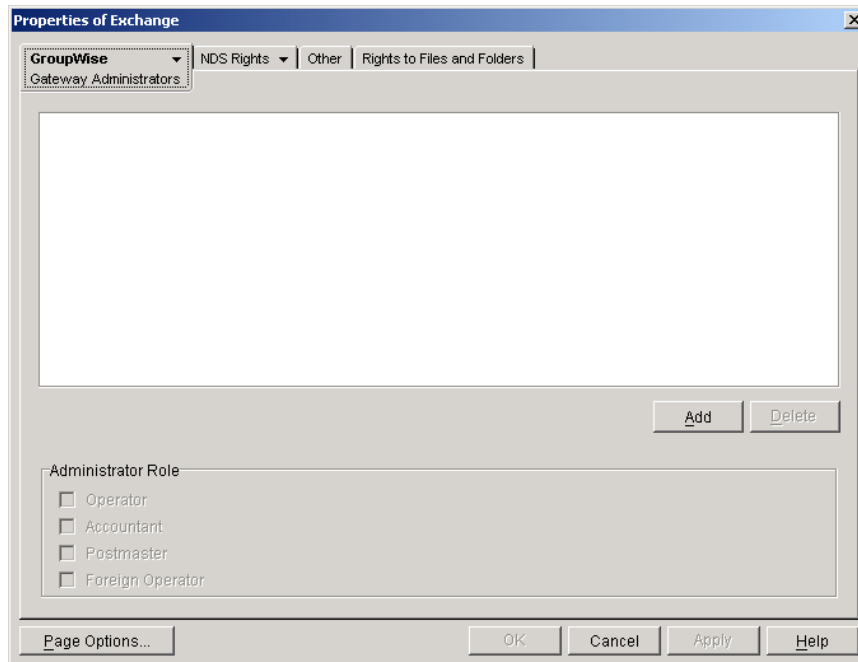
The Gateway Administrators page lets you select a GroupWise user to be the Accountant for the Exchange Gateway. Each night at midnight, the gateway mails the accounting file (`acct`) to the Accountant.

2 Click *Add* to open the Select GroupWise Object dialog box, then select a user to function as the Accountant for the Exchange Gateway.

You can also select multiple users and/or distribution lists in the Select GroupWise Object dialog box.

3 Click *OK* to return to the Gateway Administrators page.

4 In the Administrators list, select the user or distribution list that you want to function as the Accountant.

In the Administrators list, you can also select multiple users and distribution lists as needed.

5 In the Administrator Role box, select *Accountant*.

6 Click *OK* to save the changes.

ConsoleOne passes the accounting information to the Exchange Gateway so that the Accountant can begin receiving daily accounting files.

7 Continue with .

8.5.3 Understanding the Accounting File

The accounting file (`acct`) is an ASCII-delimited text file that records the source, priority, message type, destination, and other information about each message sent through the gateway. The file, which is updated daily at midnight, is located in the *domain*\wpgate*exchange*\000.prc directory. If no Accountant is defined to receive the file, the file is deleted each day.

A sample line from an accounting file is shown below:

```
O,05/18/05, 20:42:55,,
    Mail,3,Corporate,Temps,LTanaka,,Reminder,Connector,Exchange,,
    Mail,SJones@Provo,1,0,2593
```

Each item sent through the gateway is recorded on a separate line, with the fields separated by commas. Two or more commas in a row indicate that a field has no data. The following table describes the fields in the order in which they are found in the accounting file.

Field	Description	Example
In/Out Status	Indicates if the message is outbound (O) or inbound (I)	O
Message Date	The date when the message was sent	5/18/06
Message Time	The time when the message was sent	20:42:55
GroupWIse Message ID	A set of numbers that uniquely identifies the message in the GroupWise system	3F429BA6.961 : 12 : 31746
GroupWise Message Type	Type of item sent or received	Mail
GroupWise Message Priority	0 = High, 2 = Normal, 4 = Low	2
GroupWise User Domain	The GroupWise domain where the sender's or receiver's post office is located	Corporate
GroupWise User Post Office	The GroupWise post office that the sender or recipient belongs to	Temps
GroupWise User ID	The user ID of the sender or recipient	LTanaka
GroupWise Account ID	The recipient's or sender's account ID as specified on the user's GroupWise Account page in ConsoleOne	
Message Subject	The subject line of the message	Reminder
Gateway Domain	The GroupWise domain where the gateway is installed	Connector
Gateway Name	The name of the gateway as defined in GroupWise	Exchange
Foreign Message ID	The message ID supplied by Exchange	
Foreign Message Type	The type of message sent from Exchange	Mail
Foreign Address	The user's Exchange address or GroupWise address (if the user was added to a non-GroupWise domain)	Corporate.Marketing.LTanaka
Number of Recipients	The number of users	1
Number of Attachments	The number of files attached to the message	0
Accounting Units	The byte size of the message	2593

The `acct` file can be imported into a word processor, spreadsheet, or database program for further analysis.

8.6 Establishing Gateway Administrators

A gateway administrator is any GroupWise user you assign to receive information and error messages from the Exchange Gateway. The gateway does not require an administrator, but if you want to define one, the administrator must either be a user who is associated with GroupWise or with a GroupWise distribution list. There are several types of administrators that you can define for the Exchange Gateway:

Administrator Type	Description
Operator	The Operator receives a message if the Exchange Gateway cannot communicate with the GroupWise system.
Foreign Operator	The Foreign Operator receives a message if the Exchange Gateway cannot communicate with the Exchange system.
Postmaster	The Postmaster receives bad message files if the /badmsg switch is in use. See Section 9.5, "Notifying the Exchange Gateway Administrator about Bad Messages," on page 102.
Accountant	The gateway keeps accounting records for every message it sends, unless you turn the Accounting feature off. Accounting data for the previous day's activity is sent daily to the Accountant. For setup information, see Section 8.5, "Setting Up Accounting," on page 81.

1 In ConsoleOne, browse to and select the Exchange Gateway object, then click *Properties*.

2 Click *GroupWise > Gateway Administrators* to display the Gateway Administrators page.
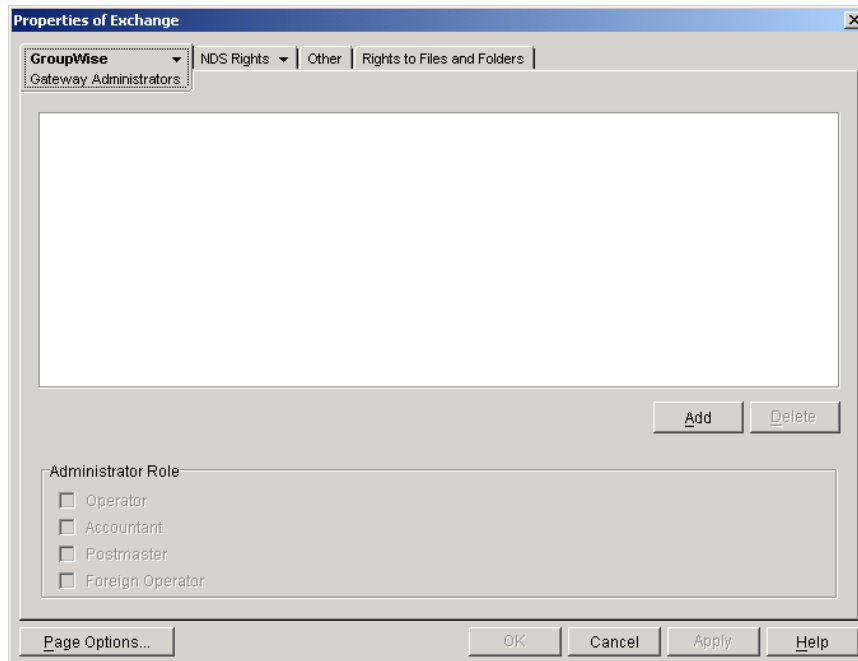
3 Click *Add* to display the Select Object dialog box, then select the user you want to define as an administrator.

You can also select multiple users and/or distribution lists in the Select GroupWise Object dialog box.

4 Click *OK* to return to the Gateway Administrators page and add the user to the Gateway Administrators list.

5 In the Administrator Role box, select the type of administrator you want the user to be.

- ◆ Operator
- ◆ Accountant
- ◆ Postmaster
- ◆ Foreign Operator

6 Click *OK* to save the Exchange Gateway administrator list.

ConsoleOne passes the administrator information to the Exchange Gateway so that the administrators start receiving the appropriate types of messages.

8.7 Enabling Message Status for Sent Items

Both GroupWise and Exchange can return status information to message senders. This lets senders know if their messages have been delivered, opened, and so on. In order for message status information to be returned to senders, you need to make sure that message status has been enabled. Message status information is collected in the status correlation database (`gwcorr.db`), located by default in the *domain\wpgate\exchange* directory.

1 If you want to change the location of the status correlation database, use the /corr startup switch in the Exchange Gateway startup file (`gwexch.cfg`) to specify a different directory.

2 In ConsoleOne, browse to and right-click the Exchange Gateway object, then click *Properties*.

3 Click *GroupWise > Optional Gateway Settings* to display the Optional Gateway Settings page.
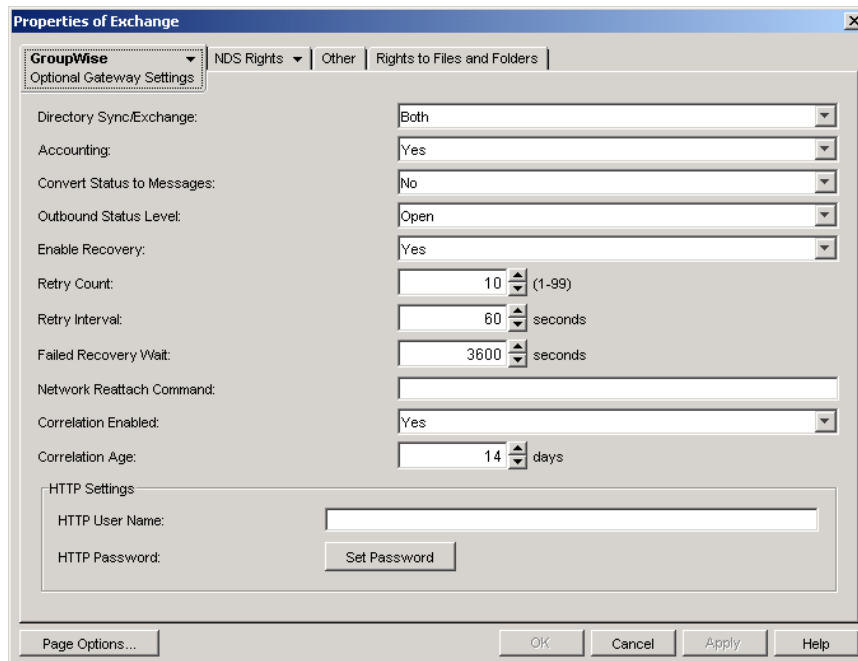
4 Fill in the following fields:

Outbound Status Level: Outbound status refers to the status information returned to GroupWise users for messages they send to Exchange users. Select *Undelivered*, *Delivered*, *Open*, or *Full* (which is equivalent to selecting *Undelivered*, *Delivered*, and *Open*).

Correlation Enabled: Select *Yes*. Message correlation is used to map Exchange delivery, non-delivery, and receipt reports to GroupWise status messages, and GroupWise status messages to Exchange delivery, non-delivery, and receipt reports. For tracking purposes, each message receives its own record in the correlation database (*domain*\wpgate*exchange*\gwcorr.db).

Correlation Age: Specify the number of days you want a message's record to remain in the correlation database. After a message's record has been deleted, any status information returned on the message is sent to the user as a new message rather than as status information on the old message.

5 Click *OK* to save the changes.

ConsoleOne passes the status message information to the Exchange Gateway so that status messages and correlation start immediately.

6 If you edited the gwexch.cfg file in , stop and then start the Exchange Gateway so that it reads the updated startup file.

Exchange Gateway Web Console You can adjust these settings for the current gateway session on the Optional Gateway Settings page.

8.8 Binding the Exchange Gateway to a Specific IP Address

You can now cause the Exchange Gateway to bind to a specified IP address when the server where it runs uses multiple IP addresses. The specified IP address is associated with all ports used by the gateway. Without an exclusive bind, the gateway binds to all IP addresses available on the server.

1 In ConsoleOne, browse to and right-click the Exchange Gateway object, then click *Properties*.

2 Click *GroupWise > Network Address* to display the Network Address page.
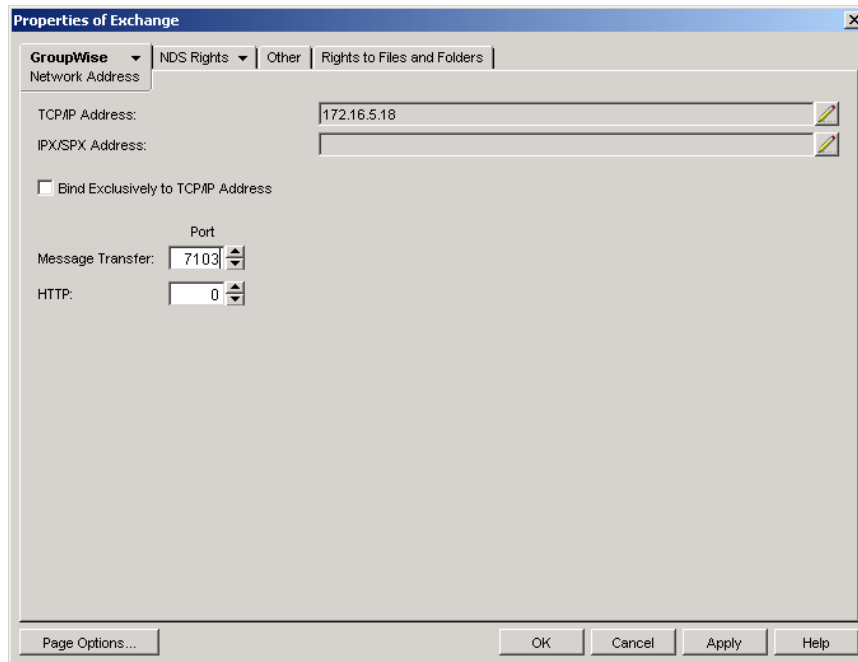
3 Select *Bind Exclusively to TCP/IP Address*, then click *OK* to save your change.

Corresponding Startup Switches You can also use the /ip startup switch in the Exchange Gateway startup file to establish an exclusive bind to the specified IP address.

Monitoring the Exchange Gateway

9

By monitoring the Exchange Gateway, you can determine whether or not its current configuration is meeting the needs of the users it services. You have a variety of tools to help you monitor the operation of the Exchange Gateway:

9.1 Using the Exchange Gateway Server Console

The Exchange Gateway server console displays the gateway's activity when it is running as an application. If you run the Exchange Gateway as a Windows service, the server console does not appear and you must use other monitoring alternatives, as described in Section 9.2, "Using the Exchange Gateway Web Console," on page 92 and Section 9.4, "Using SNMP Monitoring Programs," on page 99.

To properly administer the gateway as an application, you should understand the console and how it works. The screen is divided into various areas.
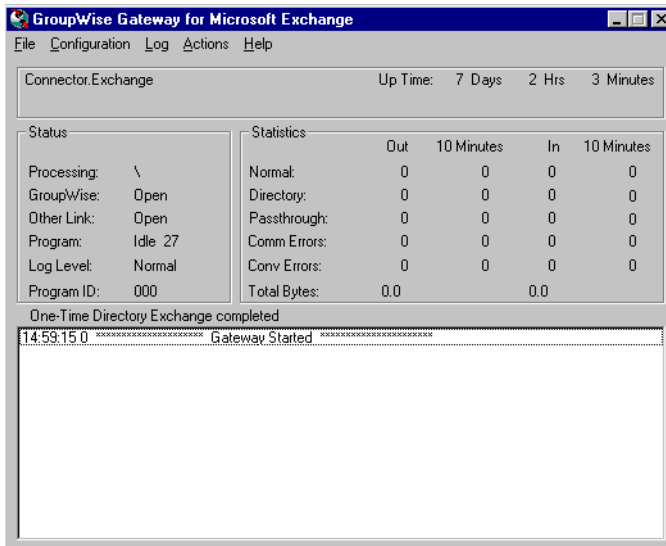
- Section 9.1.4, "Log Message Box," on page 91
- Section 9.1.5, "Menu Summary," on page 91

9.1.1 Information Box

The top portion of the console provides the following information about the gateway.

*Domain.Gateway***:** The domain where the gateway is installed and the name of the gateway.

UpTime: The length of time the gateway has been running.

Description: The description you added when you configured the gateway, as described in Section 6.2, "Providing Gateway Information," on page 52.

9.1.2 Status Box

The Status box provides the following information:

Processing: If the gateway is running, this field displays a spinning bar. If there is no bar or if the bar is stationary for an extended period, the gateway is not running.

GroupWise: Whether the gateway's network connection to the GroupWise domain is Open or Closed. It is normal for this field to briefly display Closed while the gateway is initializing. If the link shows Closed for an extended period, a network failure, insufficient access rights, or an error in setup fields could be the problem. Check for error messages in the Log Message box. For assistance resolving error messages, see Appendix A, "Error and Informational Messages," on page 117.

Other Link: The status of the gateway's network connection to the Exchange system. Messages can be sent or received if Other Link is Open. If it is Closed, the network connection has been terminated. Check the status of the Exchange system.

Program: Where the gateway is in its current processing cycle (sending, receiving, or idle). You can use the Gateway Time Settings page in ConsoleOne to adjust the processing cycle. For more information, see Section 10.1, "Adjusting the Gateway's Send/Receive Cycle," on page 103.

Log Level: The logging level the gateway is currently using. The level determines how much information is displayed in the Logging box and written to the log file. You can set the default logging level in ConsoleOne, as described in Section 9.3, "Using Exchange Gateway Log Files," on page 98. You can also change the log level for the current Exchange Gateway session, as described in "Menu Summary" on page 91.

9.1.3 Statistics Box

The Statistics box displays the amount of incoming and outgoing gateway traffic. The four columns display the cumulative totals and the snap shot totals. The four columns from left to right are: outgoing message totals, snap shot of outgoing messages (the default snap shot interval is 10 minutes), incoming message totals, and snap shot of incoming messages.

The snap shot interval statistic can help you get a more accurate picture of the amount of recent gateway traffic. For information about changing the snap shot interval, see Section 10.1, "Adjusting the Gateway's Send/Receive Cycle," on page 103

The following types of status information are provided:

Normal: The number of normal incoming and outgoing messages the gateway has processed.

Status: The number of status messages the gateway has sent and received. The amount of status message traffic depends in part on the outbound status level of the gateway. An outbound status level set to Full causes more status messages than an outbound status level set to Undelivered. For more information about setting the outbound status level, see Section 8.7, "Enabling Message Status for Sent Items," on page 85.

Passthru: The number of incoming and outgoing passthrough messages the gateway has processed. Using the Exchange Gateway as a passthrough gateway between two GroupWise systems is not a recommended way to connect GroupWise systems. There are better alternatives currently available. See the *GroupWise 6.5 Multi-System Administration Guide* for preferred alternatives.

Conv Errors: The number of conversion errors for incoming and outgoing messages.

Comm Errors: The number of communications errors for incoming and outgoing messages.

Total Bytes: The total number of bytes for the incoming and outgoing messages.

9.1.4 Log Message Box

The Log Message box displays the Exchange Gateway's activity. The amount and detail in this display depends on the logging level you select. For more information, see Section 9.3, "Using Exchange Gateway Log Files," on page 98.

For assistance with error messages that appear in the Log Message box, see Appendix A, "Error and Informational Messages," on page 117.

9.1.5 Menu Summary

At the top of the Exchange Gateway server console is a menu bar that provides the following functionality:

Menu	Item	Function Key	Function
File	Exit	F7	Stop the Exchange Gateway.
Configuration	Gateway Settings	F5	Display the gateway configuration settings from the Exchange Gateway object in Novell® eDirectory™. For more information, see Chapter 6, "Configuring the GroupWise Side of the Exchange Gateway," on page 51 and various sections in Chapter 7, "Running the Exchange Gateway," on page 55.
Log	View Log Files	F9	Select a log file and view it in Notepad. See Section 9.3, "Using Exchange Gateway Log Files," on page 98.
	Log Settings	F2	Override the default log settings for the current Exchange Gateway session. See Section 9.3, "Using Exchange Gateway Log Files," on page 98.

Menu	Item	Function Key	Function
Actions	Zero Status	F8	Reset all statistics to zero.
	Synchronize Directories		Turn directory synchronization on or off. See Section 8.1, "Enabling Directory Synchronization and Exchange of Address Books," on page 61.

9.2 Using the Exchange Gateway Web Console

The Exchange Gateway Web console enables you to monitor and control the Exchange Gateway from any location where you have access to a Web browser and the Internet. This provides substantially more flexible access than the Exchange Gateway server console, which can be accessed only from the Windows server where the Exchange Gateway is running.

9.2.1 Setting Up the Exchange Gateway Web Console

After installation, you set up the Exchange Gateway Web console in ConsoleOne.

1 In ConsoleOne, browse to and right-click the Exchange Gateway object, then click *Properties*.

2 Click *GroupWise > Network Address* to display the Network Address page.
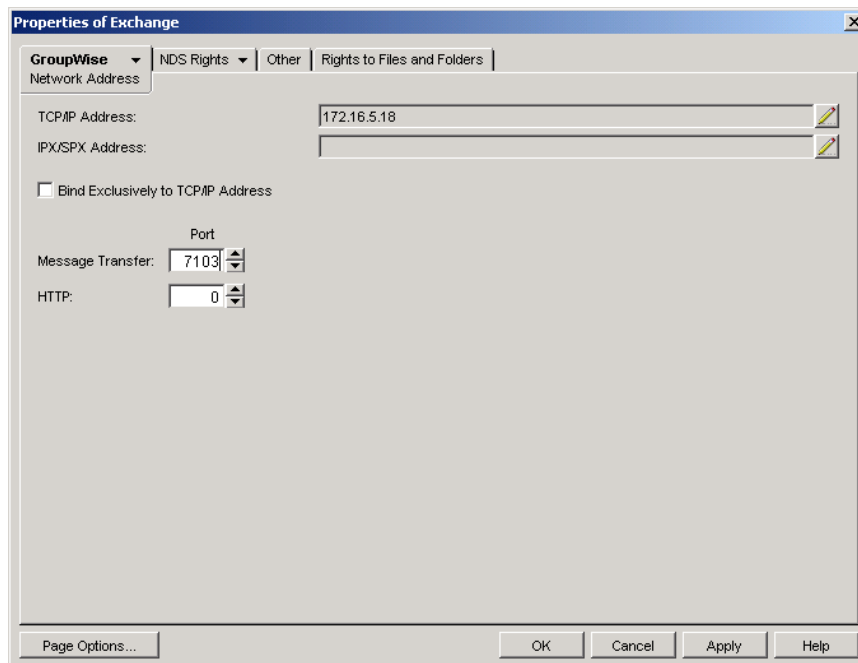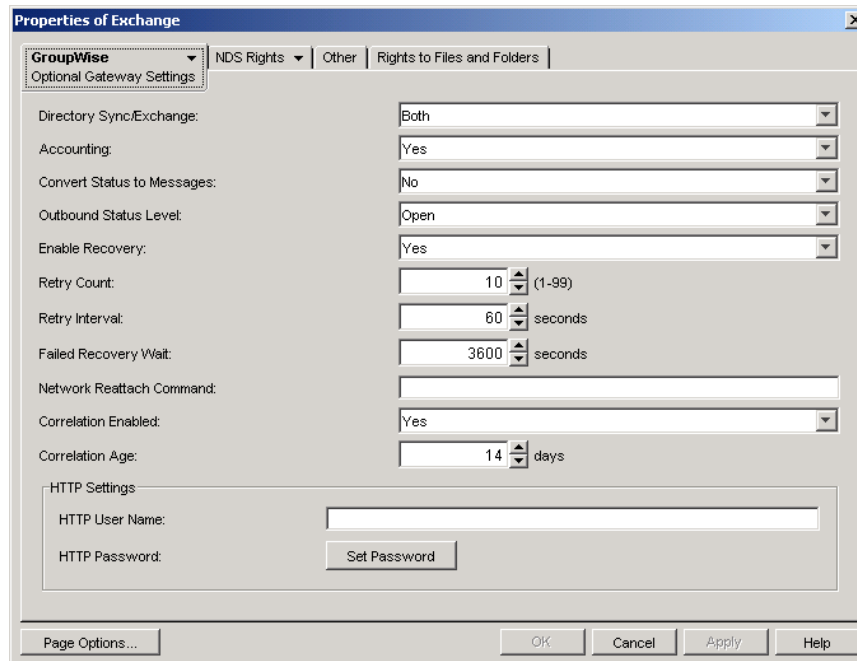
3 In the *HTTP Port* field, provide a unique port number for communication between the Exchange Gateway and your Web browser.

You might want to use a port number close to those used by the MTA and POA, for example, 7183.

4 Make a note of the HTTP port number. You need this information in order to access the Exchange Gateway Web console.

5 Click *Apply* to save your changes on the Network Address page.

If you want to limit access to the Exchange Gateway Web console, you can provide a username and password.

6 Click *GroupWise > Optional Gateway Settings*.

7 In the HTTP Settings box:

7a In the H*TTP User Name* field, specify a unique username.

7b Click *Set Password*.

7c Type the password twice for verification.

7d Click *Set Password*.

Do not use an eDirectory username and password because the information passes over the non-secure connection between your Web browser and the Exchange Gateway.

For convenience, use the same username and password for all GroupWise agents and gateways that you plan to monitor from GroupWise Monitor. This saves you from providing the username and password information as Monitor accesses each agent and gateway.

8 Click *OK* to save the Exchange Gateway Web console settings.

ConsoleOne then notifies the Exchange Gateway to restart so the new settings can be put into effect.

Corresponding Startup Switches: You could also use the /httpport, /httpuser, and /httppassword startup switches in the Exchange Gateway startup file (`gwexch.cfg`) to enable and secure the Exchange Gateway Web console. In addition, you can use the /httprefresh switch to control how often the Exchange Gateway refreshes the information provided to your Web browser.

9.2.2 Accessing the Exchange Gateway Web Console

To monitor the Exchange Gateway from your Web browser, view the URL where the Exchange Gateway is located by supplying the network address of the Windows server where the Gateway runs and the port number as provided on the Network Address page in ConsoleOne.

Syntax:

```
http://IP_address_or_hostname:HTTP_port
```

Examples:

```
http://172.16.5.18:7176http://exchserver1:7176
```

```
GroupWise Gateway for Microsoft Exchange
Status | Configuration | Environment | Log Files | Time Settings | Optional Gateway Settings | Access Control

Up Time: 0 Days 0 Hrs 2 Minutes
Messages Processed
                              Total      Last 10 Minutes
Gateway Input Queue            0              0
Gateway Output Queue           0              0
Gateway Problem Queue          0
Gateway Conversion Queue       0
Send Threads in Use            0
Send Threads available         1
Receive Threads in Use         0
Receive Threads Available      1
```

9.2.3 Monitoring the Exchange Gateway from the Web Console

The Exchange Gateway Web console provides several pages of information to help you monitor the performance of the Exchange Gateway. The bar at the top of the Exchange Gateway Web console displays the name of the Exchange Gateway and its post office. Below this bar appears the Exchange Gateway Web console menu that lists the pages of information available in the Exchange Gateway Web console.

Monitoring Gateway Status

When you first access the Gateway Web console, the Status page is displayed.

```
GroupWise Gateway for Microsoft Exchange
Status | Configuration | Environment | Log Files | Time Settings | Optional Gateway Settings | Access Control

Up Time: 0 Days 0 Hrs 2 Minutes
Messages Processed
                              Total      Last 10 Minutes
Gateway Input Queue            0              0
Gateway Output Queue           0              0
Gateway Problem Queue          0
Gateway Conversion Queue       0
Send Threads in Use            0
Send Threads available         1
Receive Threads in Use         0
Receive Threads Available      1
```

The information is the same as is displayed on the Gateway server console on the Windows server where the gateway runs. For more information, see .

Checking Gateway Configuration

On the Exchange Gateway Web console menu, click *Configuration* to display the configuration information stored on various property pages on the Exchange Gateway object in ConsoleOne.

GroupWise Gateway for Microsoft Exchange

Status | **Configuration** | Environment | Log Files | Time Settings | Optional Gateway Settings | Access Control

GroupWise Exchange Gateway Configuration Settings

TCP/IP Settings

Port for Incoming Connections:	7100
Port for HTTP Connections:	7176
HTTP Refresh Rate:	60 seconds
Connection Timeout:	5
Data Timeout:	20

Event Log Settings

Log Level:	Normal
Disk Logging:	Yes
Log Directory:	\\exchsvr2 d-nt\c$\gwsystem\connectr\wpgate\Exchange\000.prc
Maximum Log File Age:	7
Maximum Log Disk Space:	1024

Configuration Information

Platform:	NT
Domain and Gateway:	Connector.Exchange
Foreign ID:	
Description:	
Alias Type:	
Root Directory:	\\exchsvr2\c$\gwsystem\connectr\wpgate\Exchange\000.prc
Work Directory:	\\exchsvr2\c$\gwsystem\connectr\wpgate\Exchange\000.prc\gwwork
Log File:	\\exchsvr2\c$\gwsystem\connectr\wpgate\Exchange\000.prc\1031log.001
Directory ID:	exc1fa0
Directory Synchronization:	NO
Directory Exchnage:	NO
Accouning:	YES
Access Control:	NO

To change the log settings for the current gateway session, click *Event Log Settings*. All other settings listed on the Configuration page must be changed in ConsoleOne.

Checking the Operating System Environment

On the Exchange Gateway Web console menu, click *Environment* to display information about the operating system where the Exchange Gateway is running.

GroupWise Gateway for Microsoft Exchange- Provo2.Exchange

Status | Configuration | **Environment** | Log Files | Time Settings | Optional Gateway Settings | Access Control

OS Data

Windows 2003 (TM) Version 5.2 (Build 3790) Service Pack 1

Build Dates

Gateway Build Timestamp	Monday, November 21, 2005 14:48:38
GWIN.DLL Build Timpstamp	Monday, November 21, 2005 14:50:38
GWOUT.DLL Build Timpstamp	Monday, November 21, 2005 14:52:18

Viewing Gateway Log Files

On the Exchange Gateway Web console menu, click *Log Files* to display gateway log files.
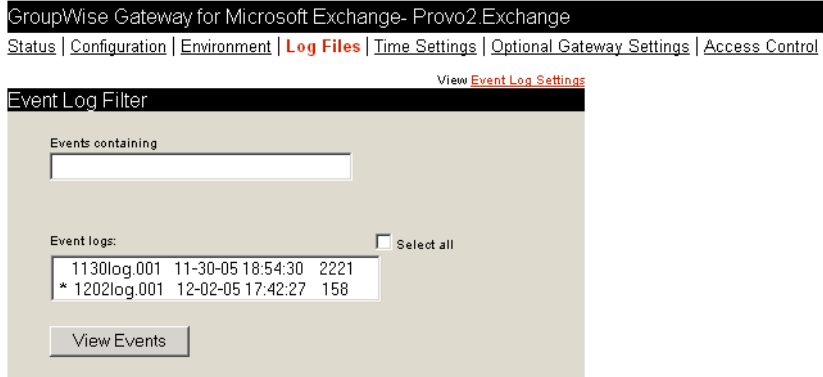
Click *Event Log Settings* to change the log settings for the current Exchange Gateway session.
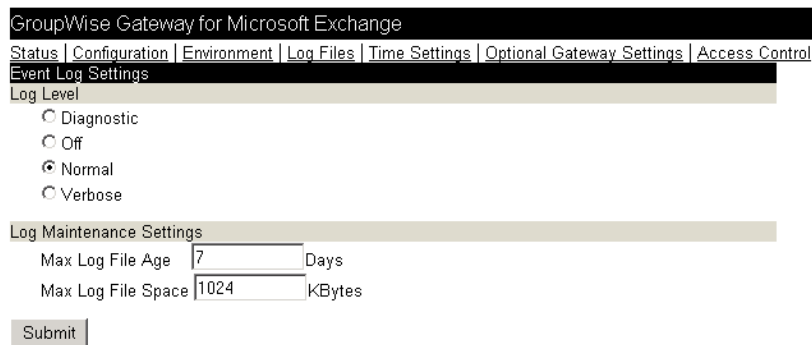
For information about Exchange Gateway log files, see Section 9.3, "Using Exchange Gateway Log Files," on page 98.

Checking and Changing Gateway Time Settings

On the Exchange Gateway Web console menu, click *Time Settings* to display the settings listed on the Time Settings page in ConsoleOne.
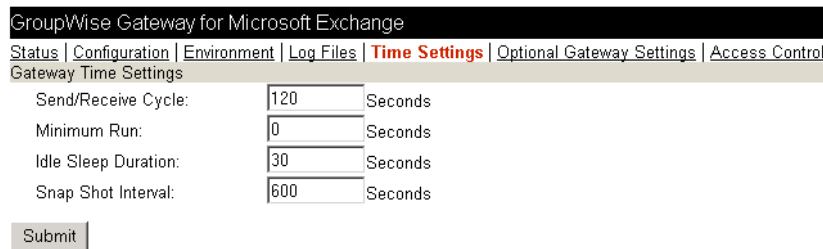
Modify the settings as needed, then click *Submit* to change them for the current Exchange Gateway session. For information about the time settings, see Section 10.1, "Adjusting the Gateway's Send/Receive Cycle," on page 103.

Checking and Changing Optional Gateway Settings

On the Exchange Gateway Web console menu, click *Optional Gateway Settings* to display the settings listed on the Optional Gateway Settings page in ConsoleOne.

Modify the settings as needed, then click *Submit* to change them for the current Exchange Gateway session. For information about the optional gateway settings, see the following topics:

- Section 8.1, "Enabling Directory Synchronization and Exchange of Address Books," on page 61
- Section 8.5, "Setting Up Accounting," on page 81
- Section 8.7, "Enabling Message Status for Sent Items," on page 85
- Chapter 11, "Using Exchange Gateway Startup Switches," on page 107

Changing Gateway Access Control

On the Exchange Gateway Web console menu, click *Access Control* to turn access control on and off and to adjust the maximum message size for the current Exchange Gateway session.

For information about access control, see Section 8.4, "Controlling Gateway Access," on page 73.

9.3 Using Exchange Gateway Log Files

Log files record all message routing data that appears in the Log Message box of the Exchange Gateway server console. You can determine the level of information you want to log, as well as the maximum age for log files and the maximum amount of disk space to be used for log files. Examining log files is useful if you experience any problems with the Exchange Gateway, because the log files record the exact route all messages take. If you have any problems that require assistance from Novell Support (http://www.novell.com/support), it is likely that the technician who helps you will request a copy of this file.

Log files are stored in the gateway's `000.prc` directory (`domain\wpgate\exchange\000.prc`) and can be viewed from the Gateway server console and the Web console. Log files are named `mmddlog.nnn`, where *mmdd* is the month and day and *nnn* is an incrementing number, starting with 001.

1 In ConsoleOne, browse to and right-click the Exchange Gateway object, then click *Properties*.

2 Click *GroupWise > Log Settings* to display the Log Settings page.
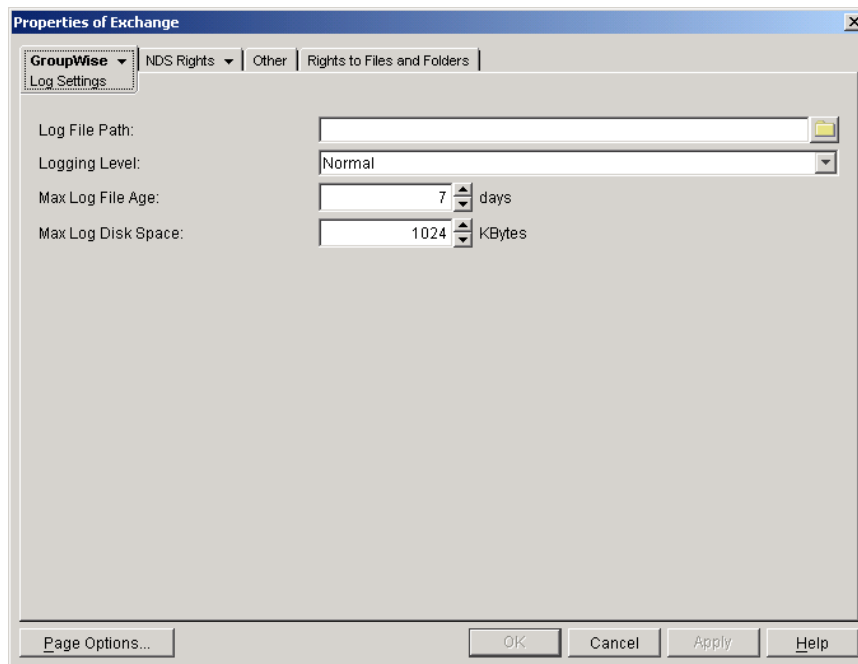
3 Fill in the following fields:

Log File Path: Select the path where the log file should be created. By default, log files are stored in the `domain\wpgate\exchange\000.prc` directory.

Logging Level: Select the logging level you want. Gateway logging levels are hierarchical, with Off as the lowest and Diagnostic as the highest.

   ◆ **Off:** Disables logging.

   ◆ **Normal:** Displays basic message routing information, providing a summary of gateway activity. This is the default setting.

   ◆ **Verbose:** Displays extra message routing details and message processing information.

- **Diagnostic:** Displays all message routing and processing information. You should use this logging level only when troubleshooting a problem with the gateway.

A new log file is created each day, and the files accumulate according to the following settings:

Max Log File Age: Specify the maximum number of days you want to save the log file before the gateway deletes it. The default value is 7 days.

Max Log Disk Space: Specify the amount of disk space you want the limit to be for log files. When the limit is reached, the gateway deletes the oldest file until the space occupied is under the maximum allowable limit. The default value is 1024 KB.

If you set the limit to zero (0), there is no disk space limit for log files.

4 Click *OK* to save the log settings.

ConsoleOne passes the updated log settings to the Exchange Gateway so that the new log settings are in force immediately.

Corresponding Startup Switches You could also use the /log, /loglevel, /logdays, and /logmax startup switches in the Exchange Gateway startup file (`gwexch.cfg`) to control logging.

Exchange Gateway Web Console You can view the Exchange Gateway log files and change the log settings for the current Exchange Gateway session by clicking the Log Settings link on the Log Files page. You can also view and modify log settings at the Exchange Gateway server console on the server where the gateway is running, as listed in .

9.4 Using SNMP Monitoring Programs

You can monitor the Exchange Gateway from Novell ZENworks for Servers or any other SNMP management and monitoring program. When properly configured, the Exchange Gateway sends SNMP traps to network management consoles for display along with other SNMP monitored programs.

During installation, you had the opportunity to configure the Exchange Gateway for SNMP. If the option was dimmed, then SNMP was not installed on the Windows server.
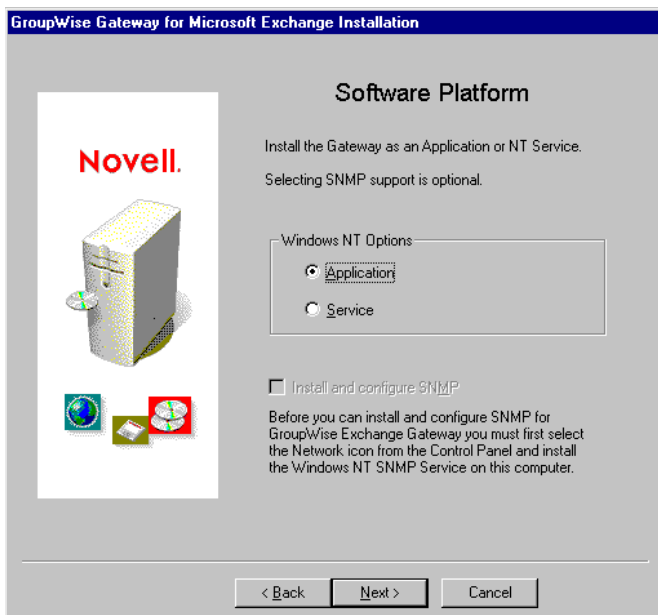
If you did not select SNMP support during installation, there is currently no way to add the functionality short of uninstalling the Exchange Gateway and reinstalling it. See Section 7.4, "Uninstalling the Exchange Gateway," on page 58

To set up SNMP services for the Windows server, complete the following tasks:

- Section 9.4.1, "Copying and Compiling the Exchange Gateway MIB File," on page 100
- Section 9.4.2, "Configuring the Exchange Gateway for SNMP Monitoring," on page 100

9.4.1 Copying and Compiling the Exchange Gateway MIB File

An SNMP-enabled Exchange Gateway returns information contained in a Management Information Base (MIB). The MIB is an ASCII data structure that defines the information gathered. It also defines the properties that can be monitored and managed on the SNMP-enabled Exchange Gateway. You can view the contents of the Exchange Gateway MIB for a description of the SNMP variables available for it. The Exchange Gateway MIB is located in the *domain*\wpgate*exchange* directory.

Before you can monitor an SNMP-enabled Exchange Gateway, you must compile the `ngwln.mib` file using your SNMP management program.

1 Copy the `ngwln.mib` file from the *domain*\wpgate*exchange* directory to the location required by your SNMP management program.

ZENworks users can copy the `ngwln.mib` file to the `\agents\snmp` directory in the GroupWise software distribution directory.

2 Compile or import the `ngwln.mib` file as required by your SNMP management program.

For example, to compile the `ngwln.mib` file for ZENworks:

2a In ConsoleOne, right-click the Site Server object, then click *Properties > MIB Pool*.

2b Click *Modify Pool > Add*.

2c Browse to and select the `ngwln.mib` file, then click *OK*.

2d Click *Compile*.

2e To make sure that the Windows server where the Exchange Gateway is running is configured to send SNMP traps to the ZENworks Site Server, add the IP address or hostname of the Site Server to the list of trap destinations.

- From the Windows NT Control Panel, double-click *Network*, then click *Services > SNMP Service > Properties > Traps*.
- From the Windows 2000/2003 Control Panel, double-click *Administrative Tools*, then click *Services > SNMP Service > Properties > Traps*.

Refer to your SNMP management program documentation for specific instructions.
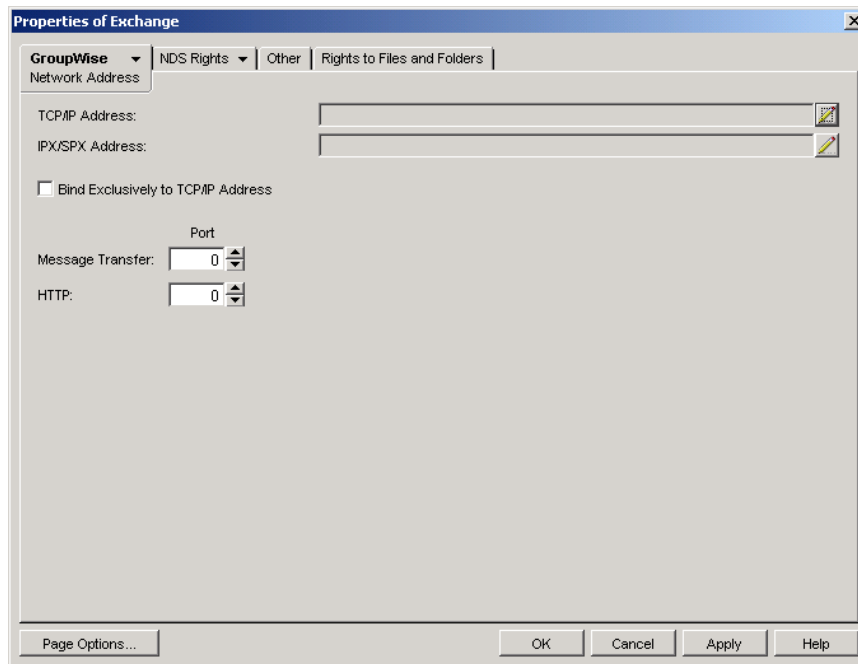
3 Continue with "Configuring the Exchange Gateway for SNMP Monitoring" on page 100.

9.4.2 Configuring the Exchange Gateway for SNMP Monitoring

In order for SNMP monitoring programs to monitor the Exchange Gateway, the Exchange Gateway must be configured with a network address and SNMP community string.

1 Browse to and right-click the Exchange Gateway object, then click *Properties*.

2 Click *GroupWise > Network Address* to display the Network Address page.

3 Click the pencil icon to provide the TCP/IP address or hostname of the server where the Exchange Gateway runs, then click *Apply*.

The Exchange Gateway does not currently support SSL.

4 Click *GroupWise > Identification*.

5 Provide your system SNMP community GET string, then click *OK*.

ConsoleOne then notifies the Exchange Gateway to restart so the new settings can be put into effect.

The Exchange Gateway should now be visible to your SNMP monitoring program.

9.5 Notifying the Exchange Gateway Administrator about Bad Messages

Occasionally, the Exchange Gateway encounters a message that it cannot process, either because the message file has been damaged or because the recipient is not a user that is recognized by the gateway. You can use the /badmsg switch in the Exchange Gateway startup file to indicate how you want the Exchange Gateway to handle messages that are damaged or undeliverable.

By default, bad messages are moved to the *domain*\wpgate*exchange*\gwprob directory (the equivalent of /badmsg-move). If you want to take a look at bad message files, you can have the gateway send th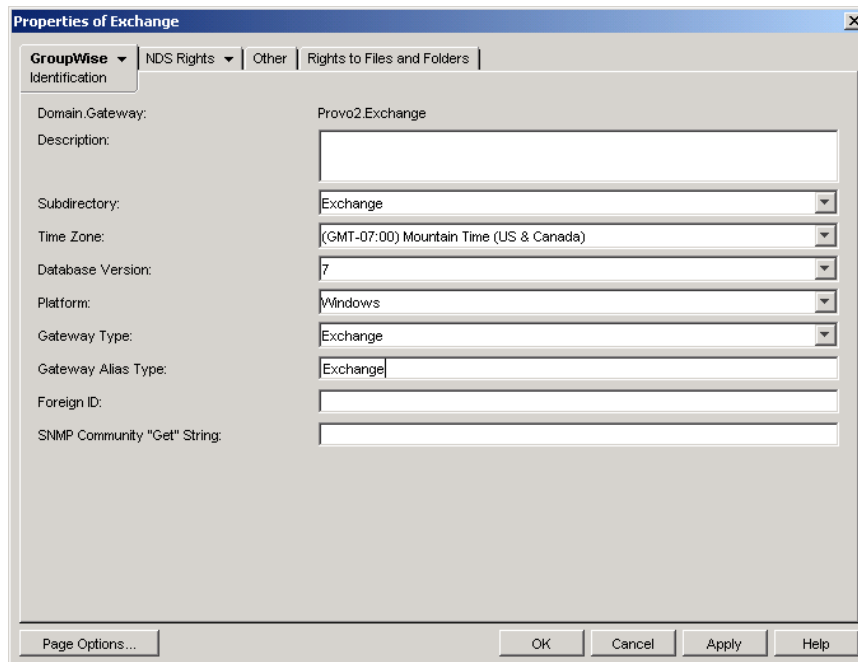e bad message files to the postmaster using /badmsg-send. If you do not yet have a postmaster, see Section 8.6, "Establishing Gateway Administrators," on page 84 for setup instructions.

If you do not want to do anything with bad messages, you can have the gateway delete them immediately using /badmsg-neither.

9.6 Understanding Exchange Gateway Error Messages

As you monitor the Exchange Gateway, you might occasionally see error messages. Exchange Gateway error messages are documented with the source of the error, possible causes of the error, and actions to take to resolve the error. See Appendix A, "Error and Informational Messages," on page 117.

Optimizing the Exchange Gateway

10

You can adjust how the Exchange Gateway functions in order to optimize its performance. Before attempting optimization, you should run the Exchange Gateway long enough to observe its efficiency and its impact on other network applications running on the same server. See Chapter 9, "Monitoring the Exchange Gateway," on page 89.

Also, remember that optimizing your network hardware and operating system can make a difference in Exchange Gateway performance.

The following topics help you optimize the Exchange Gateway:

10.1 Adjusting the Gateway's Send/Receive Cycle

The Exchange Gateway's send/receive cycle determines how much time the gateway spends sending messages as opposed to receiving them. The send process refers to messages sent from GroupWise to Exchange; the receive process refers to messages sent from Exchange to GroupWise.

The default send/receive cycle is 120 seconds, which causes the gateway to send messages for a maximum of 60 seconds and then receive messages for 60 seconds. You can adjust the send/receive cycle to better suit your environment and needs. You can also adjust some additional time-related settings for the gateway.

1 In ConsoleOne, browse to and right-click the Exchange Gateway object, then click *Properties*.

2 Click *GroupWise* > *Gateway Time Settings* to display the Gateway Time Settings page.
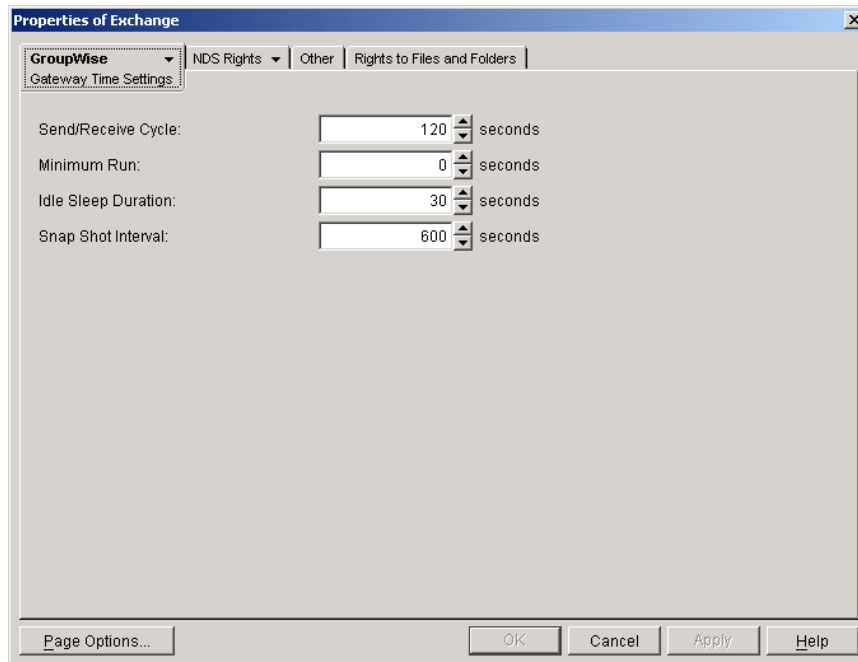
3 Fill in the following fields:

Send/Receive Cycle: Specify the maximum amount of time you want the gateway to spend sending and receiving messages during one cycle. The default cycle is 120 seconds, which causes the gateway to send messages for a maximum of 60 seconds and to receive messages for 60 seconds. The cycle is then repeated.

If the time limit is reached and a message is being processed, the gateway finishes processing the message.

Minimum Run: This field does not apply to the Exchange Gateway.

Idle Sleep Duration: Specify the number of seconds the gateway is to remain idle if it has no commands or messages to process. The default value is 30 seconds.

The gateway constantly polls its directory for messages to process. The purpose of idle time is to save CPU cycles and to keep network traffic manageable.

Snap Shot Interval: The Exchange Gateway server console shows the gateway statistics for the last *x* minutes (an interval you specify). The default interval is 10 seconds. Gateway activity is updated every minute.

4 Click OK to save the updated time settings.

ConsoleOne then notifies the Exchange Gateway to restart so the new settings can be put into effect.

Exchange Gateway Web Console You can adjust these settings for the current gateway session on the Time Settings page.

10.2 Adjusting the Number of Sender and Receiver Threads

The Exchange Gateway can be configured to start from varying numbers of sender and receiver threads, depending on the amount of traffic passing through the gateway. The heavier the traffic, the more threads you should configure the gateway to start. By default, 4 sender threads and 4 receiver threads are started.

Use the /st switch in the Exchange Gateway startup file (`gwexch.cfg`) to set the number of sender threads. Use the /rt switch to set the number of receiver threads.

Exchange Gateway Web Console You can check the number of sender and receiver threads that are currently available and in use on the Status page.

10.3 Automating Network Reattachment

When the Exchange Gateway loses its link to the server where the GroupWise domain directory resides or its link to the Exchange server, it can attempt to reestablish the link.

1 In ConsoleOne, browse to and right-click the Exchange Gateway object, then click *Properties*.

2 Click *GroupWise > Optional Gateway Settings* to display the Optional Gateway Settings page.
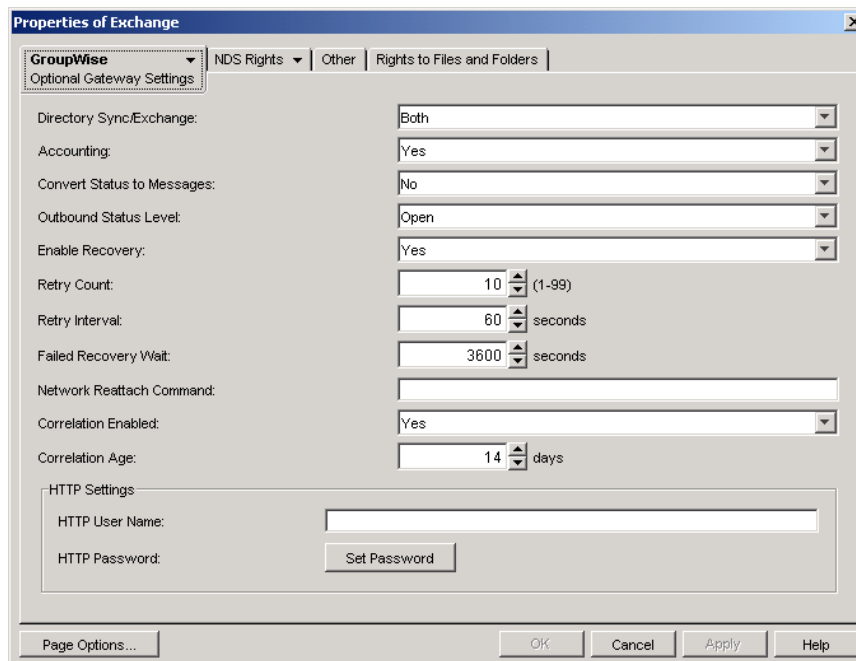
3 Make sure that *Enable Recovery* is set to *Yes*.

4 Fill in the following fields:

Retry Count: Specify the number of times you want the gateway to attempt to recover the network link. The default is 10 times.

Retry Interval: Specify the amount of time you want the gateway to wait between retry attempts. The default value is 60 seconds.

Failed Recovery Wait: If the gateway cannot reconnect to the network after the number of times specified in Retry Count, it stops attempting to reconnect. Specify the amount of time you want the gateway to wait until it starts the reconnect process again. The default value is 3600 seconds (1 hour).

Network Reattach Command: You can create a batch file that the gateway can use to reconnect to the network server where the GroupWise domain directory resides and to the Exchange/Domino server. Specify the name of the batch file in this field.

5 Click *OK* to save the reattachment information.

ConsoleOne then notifies the Exchange Gateway to restart so the new settings can be put into effect.

10.4 Reducing Network Traffic

By default, the Exchange Gateway's queue directories are located in the *domain*\wpgate*exchange* directory on the server where the domain is located. If the gateway is not installed on the same server with the domain directory structure, you can reduce network traffic by redirecting the gateway's queue directories to the Windows server where the gateway is running.

If you choose to place the queue directories on the gateway server's local drive, make sure the gateway server has sufficient disk space, memory, and processing power to handle the load.

Start the gateway using the following startup switch:

```
exgate.exe /work-queue_directory
```

where *queue_directory* is the path to the directory where you want the gateway queues created. For example, you could use a c:\exchgate directory on the local drive. Make sure the directory is not used by any other program. The gateway must have exclusive access to the directory; any unrecognized files in the directory are immediately moved to the gwprob subdirectory.

The first time you start the gateway using the /work switch, the gateway creates the necessary file structure in the specified directory. It creates a wpgate directory, with wpcsin and wpcsout queue directories. This local structure is used as long as you continue to start the gateway with the /work switch. You might want to add the /work switch to the startup file (gwexch.cfg) so the gateway always uses the same queue directory. See Chapter 11, "Using Exchange Gateway Startup Switches," on page 107.

Using Exchange Gateway Startup Switches

11

Startup switches let you set various operational parameters for the gateway. Some startup switches override configuration information, such as logging level, that you can set in ConsoleOne. Other switches provide configuration options not available anywhere else.

To use a startup switch, you can include it on the command line immediately following the `exgate.exe` executable command.

Example:

```
exgate.exe /badmsg-send
```

You can also edit the Exchange Gateway startup file (`gwexch.cfg`) to include the switches you want to use when starting the gateway. The `gwexch.cfg` file is located in the `domain\wpgate\exchange` directory. Use the following syntax to include the startup file:

Example:

```
exgate.exe @gwexch.cfg
```

The table below summarizes Exchange Gateway startup switches and how they correspond to configuration settings in ConsoleOne.

Startup Switch	ConsoleOne Setting
/addressrule	N/A
/allowdom	N/A
/badmsg	N/A
/blockdom	N/A
/corr	N/A
/custom	N/A
/displaynamelastfirst	N/A
/group	N/A
/help	N/A
/home	N/A
/httppassword	HTTP Password
/httpport	HTTP Port
/httprefresh	N/A
/httpuser	HTTP Username
/importsubcontainers	N/A

Startup Switch	ConsoleOne Setting
/ip	TCP/IP Address
/log	Log File Path
/logdays	Maximum Log File Age
/loglevel	Log Level
/logmax	Maximum Log File Size
/nohtml	N/A
/noreadreceipt	N/A
/recv	N/A
/rt	N/A
/send	N/A
/single	N/A
/st	N/A
/useimportcontainer	N/A
/work	N/A

See *Exchange Gateway Best Practices* (http://www.novell.com/documentation/gwgateways/pdfdoc/best_practices/Exchange_Gateway_Best_Practices_by_Consultant_Ed_Hanley.pdf) by consultant Ed Hanley for information about some useful undocumented switches.

11.1 /addressrule

Establishes the format of user addresses when sending a busy search request to the Exchange system.

Syntax:

/addressrule-*address_format*

The *address_format* variable can be replaced with any combination of the following tags:

<domain>
<username>
<firstname>
<lastname>
<firstinitial>
<lastinitial>

See Section 8.2.5, "Setting Up an Addressing Rule to Facilitate Busy Searches," on page 71 for examples.

11.2 /allowdom

Affects outbound directory exchange and allows only users in the specified GroupWise domains to appear in the Microsoft Exchange address book when directory synchronization and exchange are enabled. Users from all unlisted domains are blocked. See Section 8.1, "Enabling Directory Synchronization and Exchange of Address Books," on page 61

Syntax:

/allowdom-*domain*
/allowdom-"*list_of_domains*"

Examples:

/allowdom-domain1
/allowdom-"domain1, domain2, domain3"

See also /blockdom.

IMPORTANT: Do not use the /allowdom and /blockdom switches together. If both are specified, only the /allowdom switch takes effect.

11.3 /badmsg

Indicates what the gateway should do with bad message files (undeliverable or damaged). See Section 9.5, "Notifying the Exchange Gateway Administrator about Bad Messages," on page 102. The following options can be used:

- **Move:** Instructs the gateway to move the bad message files to the *domain*\wpgate*exchange*\gwprob directory. This is the default action.

- **Send:** Instructs the gateway to send the bad message files to the user assigned as the gateway's Postmaster. See Section 8.6, "Establishing Gateway Administrators," on page 84.

- **Both:** Instructs the gateway to both move and send the bad message files.

- **Neither:** Instructs the gateway to delete the files.

Syntax:

/badmsg-*option*

Example:

/badmsg-both

11.4 /blockdom

Affects outbound directory exchange and prevents users in the specified GroupWise domains from appearing in the Exchange Address Book when directory synchronization and exchange are enabled. Users from all unlisted domains are allowed. See Section 8.1, "Enabling Directory Synchronization and Exchange of Address Books," on page 61.

Syntax:

/blockdom-*domain*
/blockdom-"*list_of_domains*"

Examples:

/blockdom-domain1
/blockdom-"domain1, domain2, domain3"

See also /allowdom.

IMPORTANT: Do not use the /allowdom and /blockdom switches together. If both are specified, only the /allowdom switch takes effect.

11.5 /corr

Specifies the path where the correlation database (`gwcorr.db`) used for message status tracking is to be redirected. By default, the correlation database is located in the *domain*\wpgate*exchange* directory. For information about the correlation database, see Section 8.7, "Enabling Message Status for Sent Items," on page 85.

Syntax:

/corr-[*drive:*]*directory*
/corr-*server**sharename**directory*

Example:

/corr-\exchgate\statcorr
/corr-m:\exchgate\statcorr
/corr-\\server2\c$\exchgate\statcorr

11.6 /custom

Enables synchronization of custom recipients from Exchange to GroupWise. By default, custom recipients are not synchronized. See Section 8.1, "Enabling Directory Synchronization and Exchange of Address Books," on page 61 and "Including Custom Users in Directory Synchronization" on page 71.

Syntax:

/custom

11.7 /displaynamelastfirst

Formats the names of GroupWise users as LastName, FirstName in the Exchange Address Book. The default is FirstName LastName

Syntax:

/displaynamelastfirst

11.8 /group

Turns on group expansion. If enabled, incoming messages addressed to a public group (distribution list) are sent to members of that group. Group expansion is on by default.

Syntax:

/group

11.9 /help

Displays information about the Exchange Gateway switches.

Syntax:

/help

11.10 /home

Specifies the path to the gateway root directory (*domain*\wpgate*exchange*).

IMPORTANT: You cannot move the Exchange Gateway software to a different location.

Syntax:

/home-[*drive:*]*directory*
/home-*server**sharename**directory*

Example:

/home-\exchgate\work
/work-m:\exchgate\work
/work-\\server2\c$exchngate\work

11.11 /httppassword

Specifies the password for the Exchange Gateway to prompt for before allowing gateway status information to be displayed in your Web browser. Do not use an existing Novell eDirectory password because the information passes over the non-secure connection between your Web browser and the Exchange Gateway. See Section 9.2, "Using the Exchange Gateway Web Console," on page 92.

Syntax:

/httppassword-*password*

Example:

/httppassword-GWiseExchange

See also /httpuser, /httpport, and /httprefresh.

11.12 /httpport

Sets the HTTP port number used for the Exchange Gateway to communicate with your Web browser. The setting must be unique on the server where the Exchange Gateway runs. See Section 9.2, "Using the Exchange Gateway Web Console," on page 92.

Syntax:

/httpport-*port_number*

Example:

httpport-7175

See also /httpuser, /httppassword, and /httprefresh.

11.13 /httprefresh

Specifies the rate at which the Exchange Gateway refreshes the status information in your Web browser. The default is 60 seconds. See Section 9.2, "Using the Exchange Gateway Web Console," on page 92.

Syntax:

/httprefresh-*seconds*

Example:

/httprefresh-30

See also /httpuser, /httppassword, and /httpport.

11.14 /httpuser

Specifies the username for the Exchange Gateway to prompt for before allowing gateway status information to be displayed in a Web browser. Providing a username is optional. Do not use an existing eDirectory username because the information passes over the non-secure connection between your Web browser and the Exchange Gateway. See Section 9.2, "Using the Exchange Gateway Web Console," on page 92.

Syntax:

/httpuser-*username*

Example:

/httpuser-GateWatcher

See also /httppassword, /httpport, and /httprefresh.

11.15 /importsubcontainers

Causes the gateway to include all nested subcontainers when importing Exchange users from Exchange export containers as part of the connector configuration process See Chapter 5, "Configuring the Exchange Side of the Exchange Gateway," on page 31.

Syntax:

/importsubcontainers

11.16 /ip

Binds the Exchange Gateway to a specific IP address when the server where it runs uses multiple IP addresses, such as in a clustering environment. The specified IP address is associated with all ports used by the gateway (message transfer and HTTP). Without the /ip switch, the gateway binds to all available IP addresses. See Section 8.8, "Binding the Exchange Gateway to a Specific IP Address," on page 86.

Syntax:

/ip-*network_address*

Example:

/ip-172.16.5.18
/ip-exchsvr.provo.novell.com

11.17 /log

Redirects the log files to the specified directory. By default, the log files are created in the *domain*\wpgate*exchange*\000.prc directory. See Section 9.3, "Using Exchange Gateway Log Files," on page 98.

Syntax:

/log-[*drive:*]*directory*
/log-*server**sharename**directory*

Example:

/log-\exchgate\logs
/log-m:\exchgate\logs
/log-\\server2\c$\exchgate\logs

See also /loglevel, /logdays, and /logmax.

11.18 /logdays

Overrides the maximum log file age specified in ConsoleOne. Any log files older than the number of days you specify are deleted. The range is from 1 to 360 days. See Section 9.3, "Using Exchange Gateway Log Files," on page 98.

Syntax:

logdays-*days*

Example:

/logdays-30

See also /log, /loglevel, and /logmax.

11.19 /loglevel

Overrides the log level specified in ConsoleOne. Possible options are Off, Normal, Verbose, and Diagnostic. See Section 9.3, "Using Exchange Gateway Log Files," on page 98.

Syntax:

/loglevel-*level*

Example:

/loglevel-verbose

See also /log, /logdays, and /logmax.

11.20 /logmax

Overrides the maximum log file disk space specified in ConsoleOne. If the maximum disk space limit is reached, the oldest log file is deleted to make room for a new one. Specify the number of kilobytes you want to use. The default is 1024 KB or 1 MB. The range is from 256 KB to unlimited size. Use 0 for unlimited disk space. See Section 9.3, "Using Exchange Gateway Log Files," on page 98.

Syntax:

/logmax-*kilobytes*

Example:

/logmax-2048

See also /log, /loglevel, and /logdays.

11.21 /nohtml

Causes the Exchange Gateway to use RTF format for message bodies, rather than HTML format.

Syntax:

/nohtml

11.22 /noreadreceipt

Suppresses the prompt for sending Outlook read receipts for GroupWise messages, while allowing the read receipt feature in Outlook to work normally for non-GroupWise messages.

Syntax:

/noreadreceipt

11.23 /recv

Puts the gateway in receive-only mode, so that it receives messages from the Exchange system but does not send messages to the Exchange system.

Syntax:

/recv

See also /send.

11.24 /rt

Specifies the number of receiver threads that the Exchange Gateway should start. The default it 4. There is no limit to the number of threads you can start, but nothing is gained by starting threads that are always idle. See Section 10.2, "Adjusting the Number of Sender and Receiver Threads," on page 105.

Syntax:

/rt-*threads*

Example:

/rt-3

See also /st.

11.25 /send

Puts the gateway in send-only mode, so that it sends messages to the Exchange system but does not receive messages from the Exchange system.

Syntax:

/send

See also /recv.

11.26 /single

Instructs the gateway to run for one send/receive cycle, then shut down. For information about the send/receive cycle, see Section 10.1, "Adjusting the Gateway's Send/Receive Cycle," on page 103.

Syntax:

/single

11.27 /st

Specifies the number of sender threads that the Exchange Gateway should start. The default it 4. Valid values range from 1 to 4. See Section 10.2, "Adjusting the Number of Sender and Receiver Threads," on page 105.

Syntax:

/st-*threads*

Example:

/st-3

See also /rt.

11.28 /useimportcontainer

Causes the Exchange Gateway to synchronize GroupWise users into the import container specified in the object properties of the Exchange Gateway's connector object. By default, GroupWise users are synchronized to a container named `GroupWise` at the root of Active Directory when this switch is not used.

For more information, see Section 5.1, "Configuring Exchange 5.5," on page 31 or Section 5.2.1, "Performing Basic Configuration for Exchange 2000/2003," on page 34.

Syntax:

/useimportcontainer

11.29 /work

Indicates the path where temporary files are stored while messages are transferred. You can use a path to a location on the Windows server where the gateway is running or on the server where the domain directory is located. For more information, see Section 10.4, "Reducing Network Traffic," on page 106.

Syntax:

/work-[*drive:*]*directory*
/work-*server**sharename**directory*

Example:

/work-\exchgate\work
/work-m:\exchgate\work
/work-\\server2\c$\exchgate\work

Error and Informational Messages

A

This section helps you resolve error messages that appear in Exchange Gateway log files and other places where gateway status information is displayed:

- "Error Messages" on page 117
- "Informational Messages" on page 132

Additional sources of troubleshooting assistance include:

- Novell Support Knowledgebase (http://www.novell.com/support/supportcentral)
- GroupWise Product Support Forums (http://support.novell.com/forums/2gw.html)
- GroupWise Support Community (http://support.novell.com/products/groupwise)
- GroupWise Cool Solutions (http://www.novell.com/coolsolutions/gwmag/index.html)

A.1 Error Messages

- "Access to a recipient in the message has been denied while processing inbound message" on page 119
- "Configuration database not found" on page 119
- "Conversion cleanup error while processing inbound message" on page 119
- "Conversion error while processing inbound message" on page 119
- "Conversion initialization error while processing inbound message" on page 119
- "Conversion initialization error while processing outbound message" on page 120
- "Could not connect to server share" on page 120
- "Could not remove the file named gwproxydll.bak" on page 120
- "Error accessing Microsoft Exchange message property while processing inbound message" on page 120
- "Error converting addresses between Microsoft Exchange and GroupWise formats while processing inbound or outbound message" on page 121
- "Exchange server was down while initializing the gateway" on page 121
- "Export from Exchange reported problems while performing an inbound directory operation" on page 121
- "Foreign domain information not available while performing an inbound directory operation" on page 121
- "Foreign host information not available while performing an inbound directory operation" on page 121
- "Foreign user information not available while performing an inbound directory operation" on page 122
- "Gateway Object Identifier in the registry was invalid while initializing the gateway" on page 122
- "Ignoring recipient FirstName/LastName (Bad GroupWise proxy)" on page 122

Access to a recipient in the message has been denied while processing inbound message

Source: GroupWise Exchange Gateway.

Explanation: The sender or the recipient has no access to the gateway.

Action: Verify that the sender or recipient has access to the gateway.

Configuration database not found

Source: GroupWise Exchange Gateway.

Explanation: The gateway home directory is not defined during the gateway startup.

Action: Run the gateway from the gateway home directory or specify the /home startup switch correctly in the `gwexch.cfg` file.

Conversion cleanup error while processing inbound message

Source: GroupWise Exchange Gateway.

Explanation: The gateway is unable to delete the message from the `mts-out` folder of the gateway mailbox after converting it to a GroupWise message.

Action: Verify that the Microsoft Exchange server is running.

Conversion error while processing inbound message

Source: GroupWise Exchange Gateway.

Explanation: The gateway is unable to spawn a thread to convert a message from Exchange to GroupWise format.

Possible Cause: Insufficient memory to perform the operation.

Possible Cause: The gateway server might have too many applications running.

Action: Stop some applications or move them to a different server.

Possible Cause: The gateway server might not meet the system memory requirements listed in Chapter 2, "Exchange Gateway System Requirements," on page 13.

Action: Install additional memory.

Conversion initialization error while processing inbound message

Source: GroupWise Exchange Gateway.

Explanation:	The gateway is unable to find the configuration parameters for `gwin.dll` under the registry key HKEY_LOCAL_MACHINE\SOFTWARE\Classes\MAPI Conversions.
Action:	Verify that this registry entry exists. If not, reinstall the gateway after uninstalling the previous instance of the gateway. See Section 7.4, "Uninstalling the Exchange Gateway," on page 58.

Conversion initialization error while processing outbound message

Source:	GroupWise Exchange Gateway.
Explanation:	The gateway is unable to find the configuration parameters for `gwout.dll` under the registry key HKEY_LOCAL_MACHINE\SOFTWARE\Classes\MAPI Conversions.
Action:	Verify that this registry entry exists. If not, reinstall the gateway after uninstalling the previous instance of the gateway. See Section 7.4, "Uninstalling the Exchange Gateway," on page 58.

Could not connect to server share

Source:	GroupWise Exchange Gateway.
Explanation:	Permissions do not exist on the server for remote login during installation.
Action:	Set appropriate permissions on the Windows server to enable remote login.
Explanation:	Network problems are preventing access to the server share during installation.
Action:	Check the network status.

Could not remove the file named gwproxydll.bak

Source:	GroupWise Exchange Gateway.
Explanation:	If you are installing a new version of the gateway while an older version of the gateway exists on the server, the Installation program tries to replace the `gwproxy.dll`, but the process cannot be completed because the existing version of `gwproxy.dll` is loaded into memory.
Action:	Remove `gwproxy.dll` from memory. You can do this by stopping the System Attendant service and restarting it immediately. You can then click *Retry*. Do not click *Retry* before the services and their dependencies have started.

Error accessing Microsoft Exchange message property while processing inbound message

Source:	GroupWise Exchange Gateway.
Explanation:	The message might be damaged.
Action:	Send the message again.
Explanation:	The Exchange server might not be running.
Action:	Verify that the Microsoft Exchange server is running. See Chapter 5, "Configuring the Exchange Side of the Exchange Gateway," on page 31.

Error converting addresses between Microsoft Exchange and GroupWise formats while processing inbound or outbound message

Source: GroupWise Exchange Gateway.

Explanation: The gateway is unable to locate the Exchange address table to map addresses between Exchange and GroupWise formats.

Action: Verify that the GWISE address type is installed. See Chapter 5, "Configuring the Exchange Side of the Exchange Gateway," on page 31.

Action: Verify that the Exchange server is running. See Chapter 5, "Configuring the Exchange Side of the Exchange Gateway," on page 31.

Exchange server was down while initializing the gateway

Source: GroupWise Exchange Gateway.

Explanation: The Exchange server services are not running.

Action: Run the Exchange server services as described in Chapter 5, "Configuring the Exchange Side of the Exchange Gateway," on page 31, then restart the gateway. See Section 7.1, "Starting the Exchange Gateway," on page 55.

Export from Exchange reported problems while performing an inbound directory operation

Source: GroupWise Exchange Gateway.

Explanation: The export of user objects from Exchange has encountered a problem. The gateway is unable to obtain objects to exchange with the GroupWise system.

Action: Any corruption in the Exchange system needs to be identified and corrected.

Foreign domain information not available while performing an inbound directory operation

Source: GroupWise Exchange Gateway.

Explanation: The domain information is not available for the object being processed.

Possible Cause: The object does not have a GroupWise-type address or the address is invalid.

Action: Install the addressing components on the server. See Section 4.4, "Installing the Exchange Gateway Addressing Components," on page 27.

Foreign host information not available while performing an inbound directory operation

Source: GroupWise Exchange Gateway.

Explanation: The host information is not available for the object being processed.

Possible Cause: The object does not have a GroupWise-type address or the address is invalid.

Action: Install the addressing components on the server. See Section 4.4, "Installing the Exchange Gateway Addressing Components," on page 27.

Foreign user information not available while performing an inbound directory operation

Source: GroupWise Exchange Gateway.

Explanation: The user information is not available for the object being processed.

Possible Cause: The object does not have a GroupWise-type address or the address is invalid.

Action: Install the addressing components on the server. See Section 4.4, "Installing the Exchange Gateway Addressing Components," on page 27.

Action: Ensure that the address format for GWISE contains %m as a component. See Section 3.8, "Selecting User Address Type and Format," on page 19 and Chapter 5, "Configuring the Exchange Side of the Exchange Gateway," on page 31.

Gateway Object Identifier in the registry was invalid while initializing the gateway

Source: GroupWise Exchange Gateway.

Explanation: The Gateway Object Identifier in the registry no longer matches a gateway object in the Exchange Directory.

Action: Uninstall the old gateway and reinstall the gateway. See Section 7.4, "Uninstalling the Exchange Gateway," on page 58 and Chapter 4, "Installing the Exchange Gateway," on page 25.

Ignoring recipient FirstName/LastName (Bad GroupWise proxy)

Source: GroupWise Exchange Gateway.

Explanation: Every Exchange recipient object has a GroupWise-type address generated for it when the gateway starts for the first time. If for some reason, this address could not be created, the user cannot be exchanged/synchronized with GroupWise because vital information is missing.

Action: View the application event log (*Start > Programs > Administrative Tools > Event Viewer*) for reasons as to why the address was not created. Reasons could include invalid characters, absence of vital components such as the mailbox name, and so forth.

Explanation: A GroupWise-type address for the recipient object exists but the address has a domain name that is the same as that of the GroupWise primary domain name.

Action: If this is a problem with most of the objects, then you might need to change the address format for GWISE. See "Determining Connections between Systems" on page 19, Section 3.8, "Selecting User Address Type and Format," on page 19, and Chapter 5, "Configuring the Exchange Side of the Exchange Gateway," on page 31.

Ignoring recipient (No FirstName/LastName) (Bad GroupWise proxy)

Source: GroupWise Exchange Gateway.

Explanation: Every Exchange recipient object has a GroupWise-type address generated for it when the gateway starts for the first time. If for some reason, this address could not be created, the user cannot be exchanged or synchronized with GroupWise because vital information is missing.

Action: View the application event log (*Start > Programs > Administrative Tools > Event Viewer*) for reasons as to why the address was not created. Reasons could include invalid characters, absence of vital components such as the mailbox name, and so forth.

Explanation: A GroupWise-type address for the recipient object exists but the address has a domain name that is the same as that of the GroupWise primary domain name.

Action: If this is a problem with most of the objects, then you might need to change the address format for GWISE. See "Determining Connections between Systems" on page 19, Section 3.8, "Selecting User Address Type and Format," on page 19, and Chapter 5, "Configuring the Exchange Side of the Exchange Gateway," on page 31.

MAPI initialization failed while initializing the gateway

Source: GroupWise Exchange Gateway.

Explanation: The MAPI subsystem does not exist or is corrupted.

Action: Reinstall the MAPI subsystem.

Memory allocation failed while performing an inbound directory operation

Source: GroupWise Exchange Gateway.

Explanation: Insufficient memory to perform the current operation.

Possible Cause: The gateway server might have too many applications running.

Action: Stop some applications or move them to a different server.

Possible Cause: The gateway server might not meet the system memory requirements listed in Chapter 2, "Exchange Gateway System Requirements," on page 13.

Action: Install additional memory.

Memory allocation failed while performing an outbound directory operation

Source: GroupWise Exchange Gateway.

Explanation: Insufficient memory to perform the current operation.

Possible Cause: The gateway server might have too many applications running.

Action: Stop some applications or move them to a different server.

Possible Cause: The gateway server might not meet the system memory requirements listed in Chapter 2, "Exchange Gateway System Requirements," on page 13.

Action: Install additional memory.

Message server directories do not exist

Source: GroupWise Exchange Gateway.

Explanation: The MTA is not running or the gateway has not been configured on the GroupWise system.

Action:	Start the MTA for the domain that the gateway belongs to. See the appropriate section of the *GroupWise 7 Installation Guide* for the platform of your MTA:

- "Starting the NetWare GroupWise Agents"
- "Starting the Windows GroupWise Agents"

Action:	Check the GroupWise configuration in ConsoleOne to ensure that the gateway object exists and is correctly configured. See Section 6.2, "Providing Gateway Information," on page 52.

No active recipients while processing inbound message

Source:	GroupWise Exchange Gateway.
Explanation:	The gateway could not determine who to route the message to.
Possible Cause:	The message might be damaged.
Action:	Resend the message.
Possible Cause:	The sender or recipient might not have access to the gateway.
Action:	Verify that sender or recipient has access to the gateway. See Section 8.4, "Controlling Gateway Access," on page 73.

No active recipients while processing outbound message

Source:	GroupWise Exchange Gateway.
Explanation:	The gateway could not determine who to route the message to.
Possible Cause:	The message might be damaged.
Action:	Resend the message.
Possible Cause:	The sender or recipient might not have access to the gateway.
Action:	Verify that sender or recipient has access to the gateway. See Section 8.4, "Controlling Gateway Access," on page 73.

Unable to access the Microsoft Exchange gateway mailbox

Source:	GroupWise Exchange Gateway.
Explanation:	The gateway is unable to access the `mts-in` or `mts-out` folder in the gateway's Mailbox in the Exchange system during inbound or outbound message processing.
Action:	Verify that all Exchange server services are running. See Chapter 5, "Configuring the Exchange Side of the Exchange Gateway," on page 31.
Action:	Verify that the user logged into Windows has enough rights to the Exchange system and the Mailbox store. See Chapter 5, "Configuring the Exchange Side of the Exchange Gateway," on page 31.

Unable to add data to correlation record while processing inbound message

Source:	GroupWise Exchange Gateway.
Explanation:	The gateway cannot write to the correlation database (`gwcorr.db`).

Possible Cause: There might not be enough disk space to perform the operation.

Action: Verify that there is enough free disk space to update the correlation database with new records.

Action: Make sure that the gateway server meets the disk space requirements listed in Chapter 2, "Exchange Gateway System Requirements," on page 13.

Possible Cause: The correlation database might be damaged.

Action: Delete the `corr.db` file, then restart the gateway. This results in lost message status information but re-creates a valid correlation database. For more information, see Section 8.7, "Enabling Message Status for Sent Items," on page 85.

Unable to commit correlation record while processing inbound message

Source: GroupWise Exchange Gateway.

Explanation: The gateway cannot write to the correlation database (`gwcorr.db`).

Possible Cause: There might not be enough disk space to perform the operation.

Action: Verify that there is enough free disk space to update the correlation database.

Action: Make sure that the gateway server meets the disk space requirements listed in Chapter 2, "Exchange Gateway System Requirements," on page 13.

Possible Cause: The correlation database might be damaged.

Action: Delete the `corr.db` file, then restart the gateway. This results in lost message status information but re-creates a valid correlation database. For more information, see Section 8.7, "Enabling Message Status for Sent Items," on page 85.

Unable to construct message while processing inbound message

Source: GroupWise Exchange Gateway.

Explanation: The gateway is unable to add a GroupWise field to the message.

Possible Cause: Insufficient memory to perform the operation.

Possible Cause: The gateway server might have too many applications running.

Action: Stop some applications or move them to a different server.

Possible Cause: The gateway server might not meet the system memory requirements listed in Chapter 2, "Exchange Gateway System Requirements," on page 13.

Action: Install additional memory.

Unable to convert a directory field while performing an inbound directory operation

Source: GroupWise Exchange Gateway.

Explanation: The gateway encountered a damaged field during conversion.

Action: None. The field might not have been exchanged.

Unable to convert attachment while processing inbound message

Source: GroupWise Exchange Gateway.

Explanation: The gateway failed to convert an attachment.

Possible Cause: The attachment might be damaged.

Action: Resend the message and attachment.

Possible Cause: There might not be enough disk space to perform the operation.

Action: Verify that there is enough free disk space to convert the attachment.

Action: Make sure that the gateway server meets the disk space requirements listed in Chapter 2, "Exchange Gateway System Requirements," on page 13.

Unable to convert attachment while processing outbound message

Source: GroupWise Exchange Gateway.

Explanation: The gateway failed to convert an attachment.

Possible Cause: The attachment might be damaged.

Action: Resend the message and attachment.

Possible Cause: There might not be enough disk space to perform the operation.

Action: Verify that there is enough free disk space to convert the attachment.

Action: Make sure that the gateway server meets the disk space requirements listed in Chapter 2, "Exchange Gateway System Requirements," on page 13.

Unable to convert message body while processing inbound message

Source: GroupWise Exchange Gateway.

Explanation: The gateway failed to convert an attachment.

Possible Cause: The attachment might be damaged.

Action: Resend the message and attachment.

Possible Cause: There might not be enough disk space to perform the operation.

Action: Verify that there is enough free disk space to convert the attachment.

Action: Make sure that the gateway server meets the disk space requirements listed in Chapter 2, "Exchange Gateway System Requirements," on page 13.

Unable to create directory

Source: GroupWise Exchange Gateway.

Explanation: The directory could not be created during the installation because of transient network problems.

Action: Click *Retry* in the pop-up.

Action: If the problem persists, manually reconnect to the server and try installing again.

Unable to create correlation record while processing inbound message

Source: GroupWise Exchange Gateway.

Explanation: The gateway cannot write to the correlation database (`gwcorr.db`).

Possible Cause: There might not be enough disk space to perform the operation.

Action: Verify that there is enough free disk space to update the correlation database.

Action: Make sure that the gateway server meets the disk space requirements listed in Chapter 2, "Exchange Gateway System Requirements," on page 13.

Possible Cause: The correlation database might be damaged.

Action: Delete the `corr.db` file, then restart the gateway. This results in lost message status information but re-creates a valid correlation database. For more information, see Section 8.7, "Enabling Message Status for Sent Items," on page 85.

Unable to create gateway profile while initializing the gateway

Source: GroupWise Exchange Gateway.

Explanation: A profile with the same name might already exist.

Action: Restart the gateway so that a profile is created with a different name.

Unable to create message while processing inbound message

Source: GroupWise Exchange Gateway.

Explanation: The gateway cannot create a message file in its output queue.

Possible Cause: There might not be enough disk space to perform the operation.

Action: Verify that there is enough free disk space for the gateway to process message files in its queues (`wpcsin` and `wpcsout`).

Action: Make sure that the gateway server meets the disk space requirements listed in Chapter 2, "Exchange Gateway System Requirements," on page 13.

Possible Cause: The gateway might not have sufficient access rights to the gateway's `wpcsin` directory.

Action: Verify that the gateway has sufficient access rights to the MTA input queue in the domain.

Unable to find gateway root directory while performing an outbound directory operation

Source: GroupWise Exchange Gateway.

Explanation: The gateway root directory (`domain\wpgate\exchange`) could not be found.

Action: Use the /home startup switch to specify the gateway root directory correctly in the `gwexch.cfg` file, then start the gateway. See Section 7.1, "Starting the Exchange Gateway," on page 55.

Unable to find inbound DLL while initializing the gateway

Source: GroupWise Exchange Gateway.

Explanation: The gateway requires `gwin.dll` but is unable to find it.

Action: Add the *domain*`\wpgate\`*exchange* directory to the path variable on the server where the Gateway runs.

At the gateway server:

1 Right-click *My Computer*, then click *Properties*.

2 Click *Environment*.

3 In the User Variables for Administrator list, add the *domain*`\wpgate\`*exchange* directory to the end of the path variable value.

4 Click *Set*, then click *OK*.

Unable to find outbound DLL while initializing the gateway

Source: GroupWise Exchange Gateway.

Explanation: The gateway requires gwout.dll but is unable to find it.

Action: Add the *domain*`\wpgate\`*exchange* directory to the path variable on the server where the Gateway runs.

At the gateway server:

1 Right-click *My Computer*, then click *Properties*.

2 Click *Environment*.

3 In the User Variables for Administrator list, add the *domain*`\wpgate\`*exchange* to the end of the path variable value.

4 Click *Set*, then click *OK*.

Unable to find primary domain name while performing an inbound directory operation

Source: GroupWise Exchange Gateway.

Explanation: The gateway was unable to find primary domain information while trying to add or detect the foreign domain.

Possible Cause: The situation is rare and the problem might be due to internal database damage.

Action: None.

Unable to generate accounting record while processing outbound message

Source: GroupWise Exchange Gateway.

Explanation: The gateway could not update the `acct` file.

Possible Cause: Insufficient memory to perform the operation.

Possible Cause: The gateway server might have too many applications running.

Action: Stop some applications or move them to a different server.

Possible Cause: The gateway server might not meet the system memory requirements listed in Chapter 2, "Exchange Gateway System Requirements," on page 13.

Action: Install additional memory.

Unable to generate status message while processing inbound message

Source: GroupWise Exchange Gateway.

Explanation: The gateway is unable to access the `mts-in` folder of the gateway mailbox in Microsoft Exchange.

Action: Verify that the Exchange server services are running. See Chapter 5, "Configuring the Exchange Side of the Exchange Gateway," on page 31.

Unable to get configuration information from registry while initializing the gateway

Source: GroupWise Exchange Gateway.

Explanation: The gateway is unable to find the gateway's Message Store in Exchange 5.5/2000/2003.

Possible Cause: The Exchange server services might not be running.

Action: Verify that all Exchange server services are running. See Chapter 5, "Configuring the Exchange Side of the Exchange Gateway," on page 31.

Possible Cause: The user logged into Windows with insufficient rights to the Exchange system and the Mailbox store.

Action: Verify that the user logged into Windows has enough rights to the Exchange system and the Mailbox store. See Chapter 5, "Configuring the Exchange Side of the Exchange Gateway," on page 31.

For Exchange 5.5, the user logged into Windows should be a member of the Administrators, Domain Admins, and Domain Users groups and should have administrator permissions to the Exchange Organization, Site, and Configuration container property pages of the Exchange Server.

For Exchange 2000/2003, the user logged into Windows should be member of the Administrators, Domain Admins, and Enterprise Admins group and should have enough rights to the Exchange system. See Section 5.2, "Configuring Exchange 2000/2003," on page 34.

Unable to get configuration information from Site Addressing object while initializing the gateway

Source: GroupWise Exchange Gateway.

Explanation: The Microsoft Exchange server services might not be running.

Action: Run the Microsoft Exchange server services as described in Chapter 5, "Configuring the Exchange Side of the Exchange Gateway," on page 31, then restart the gateway.

Unable to get configuration information from the MAPI Session while initializing the gateway

Source: GroupWise Exchange Gateway.

Explanation:	The gateway is unable to find the gateway's Message Store in Microsoft Exchange during initialization.
Possible Cause:	The Exchange server services might not be running.
Action:	Verify that all Exchange server services are running. See Chapter 5, "Configuring the Exchange Side of the Exchange Gateway," on page 31.
Possible Cause:	The user logged into Windows with insufficient rights to the Exchange system and the Mailbox store.
Action:	Verify that the user logged into Windows has enough rights to the Exchange system and the Mailbox store. See Chapter 5, "Configuring the Exchange Side of the Exchange Gateway," on page 31.
	For Exchange 5.5, the user logged into Windows should be a member of the Administrators, Domain Admins, and Domain Users groups and should have administrator permissions to the Exchange Organization, Site, and Configuration container property pages of the Exchange Server.
	For Exchange 2000/2003, the user logged into Windows should be member of the Administrators, Domain Admins, and Enterprise Admins group and should have enough rights to the Exchange system. See Section 5.2, "Configuring Exchange 2000/2003," on page 34.

Unable to get MAPI Session while initializing the gateway

Source:	GroupWise Exchange Gateway.
Explanation:	Too many sessions have been opened simultaneously.
Action:	Close unused sessions and restart the gateway.

Unable to locate gateway home directory

Source:	GroupWise Exchange Gateway.
Explanation:	The gateway home directory not defined.
Action:	Run the gateway from the gateway home directory or specify the /home startup switch correctly in the `gwexch.cfg` file.

Unable to map recipients while processing outbound message

Source:	GroupWise Exchange Gateway.
Explanation:	The gateway cannot identify the Exchange recipients the message is being sent to.
Possible Cause:	Insufficient memory to perform the operation.
Possible Cause:	The gateway server might have too many applications running.
Action:	Stop some applications or move them to a different server.
Possible Cause:	The gateway server might not meet the system memory requirements listed in Chapter 2, "Exchange Gateway System Requirements," on page 13.
Action:	Install additional memory.

Unable to obtain directory handle while initializing directory operations

Source: GroupWise Exchange Gateway.

Explanation: The gateway was unable to obtain a DAPI session.

Action: Check the application event log (*Start > Programs > Administrative Tools > Event Viewer*) for details of the problem.

Unable to obtain directory handle while performing an outbound directory operation

Source: GroupWise Exchange Gateway.

Explanation: The gateway was unable to obtain a DAPI session

Action: Check the application event log (*Start > Programs > Administrative Tools > Event Viewer*) for details.

Unable to open the configuration file from the MAPI session

Source: GroupWise Exchange Gateway.

Explanation: The Exchange Gateway does not have sufficient rights to access the configuration file.

Action: Make sure that the Send As/Receive As rights on the Exchange message store are properly set, as described in Section 5.2, "Configuring Exchange 2000/ 2003," on page 34.

Unable to open the event log while initializing the gateway

Source: GroupWise Exchange Gateway.

Explanation: The EventLog service might not be running.

Action: Run the EventLog service and restart the gateway.

Unable to send Non-Delivery Report while processing inbound message

Source: GroupWise Exchange Gateway.

Explanation: The gateway is unable to access the `mts-in` folder in the gateway mailbox.

Action: Verify that the Microsoft Exchange server is running. See Chapter 5, "Configuring the Exchange Side of the Exchange Gateway," on page 31.

Unable to set Microsoft Exchange message property while processing outbound message

Source: GroupWise Exchange Gateway.

Explanation: The gateway is unable to access the `mts-in` folder of the gateway mailbox in Microsoft Exchange.

Possible Cause: The Exchange server services might not be running.

Action: Verify that the Exchange server services are running. See Chapter 5, "Configuring the Exchange Side of the Exchange Gateway," on page 31.

Possible Cause: Insufficient memory to perform the operation.

Possible Cause: The gateway server might have too many applications running.

Action:	Stop some applications or move them to a different server.
Possible Cause:	The gateway server might not meet the system memory requirements listed in Chapter 2, "Exchange Gateway System Requirements," on page 13.
Action:	Install additional memory.

Undeliverable message while processing inbound message

Source:	GroupWise Exchange Gateway.
Explanation:	The GroupWise recipient address is invalid.
Action:	Verify that the recipient exists in the GroupWise domain by looking up the user in the GroupWise Address Book.

Unknown message type while processing inbound message

Source:	GroupWise Exchange Gateway.
Explanation:	The gateway does not recognize the type of message file it has received from the Exchange system.
Possible Cause:	The message file is damaged.
Action:	Resend the message.
Possible Cause:	The gateway is working with a Microsoft Exchange system version with which it is not compatible.
Action:	See Chapter 2, "Exchange Gateway System Requirements," on page 13 for a list of supported Exchange versions.

A.2 Informational Messages

Processing <first name last name>

Source:	GroupWise Exchange Gateway.
Explanation:	The first name and last name of the object currently being processed during inbound directory exchange.

Processed XXX Exchange recipients

Source: GroupWise Exchange Gateway.

Explanation: Status message that is displayed for every 50 Exchange recipients processed when the logging is set to Verbose mode.

Number of Additions/Modifications: XXX

Source: GroupWise Exchange Gateway.

Explanation: The number of additions or modifications processed during the current directory exchange operation.

Number of Deletions: XXX

Source: GroupWise Exchange Gateway.

Explanation: The number of deletions processed during the current directory exchange operation. For an inbound directory exchange operation, this includes all the tombstones that were processed, not necessarily the number of deletions made in the GroupWise Address Book.

Number of Domains Allowed: XXX

Source: GroupWise Exchange Gateway.

Explanation: This message appears if the /allowdom switch is in effect and valid domain names have been supplied. It provides statistics on the actual number of domains that were allowed during outbound directory exchange.

Number of Domains Blocked: XXX

Source: GroupWise Exchange Gateway.

Explanation: This message appears if the /blockdom switch is in effect and valid domain names have been supplied. It provides statistics on the actual number of domains that were blocked during outbound directory exchange.

Number of Ignores: XXX

Source: GroupWise Exchange Gateway.

Explanation: The number of ignored objects or records during the current directory exchange operation. For the inbound directory operation, all GroupWise custom recipients are ignored and for the outbound directory operation all foreign recipients under the Exchange foreign domain are ignored.

Total Number Processed: XXX

Source: GroupWise Exchange Gateway.

Explanation: The total number of records or objects obtained and processed during the current directory exchange operation.

Some GroupWise records have not been written to the Exchange directory

Source: GroupWise Exchange Gateway.

Explanation: During the outbound directory operation, errors might have occurred which prevented all records obtained from being exchanged. This happens when the total of the additions, modifications, deletions, and ignores does not match the total number processed.

Some Exchange objects have not been written to the GroupWise directory

Source: GroupWise Exchange Gateway.

Explanation: During the inbound directory operation, errors might have occurred which prevented all objects obtained from being exchanged. This happens when the total of the additions, modifications, deletions, and ignores does not match the total number processed.

Exchange Gateway Directory Structure

<div style="text-align: right; font-size: 2em; font-weight: bold">B</div>

The following directory structure diagrams help you understand the Exchange Gateway:

B.1 Exchange Server Directory Structure

When you run the Exchange Gateway, it adds a file to the Exchange installation directory.

📁 `program files\exchsvr`	Exchange Server installation directory
📁 `bin`	Subdirectory for Exchange server executables
📁 `address`	Subdirectory for addressing-related files
📁 `gwise\i386`	Subdirectory for files that support the GroupWise address type
📄 `gwproxy.dll`	Program that generates GroupWise addresses from Exchange addresses
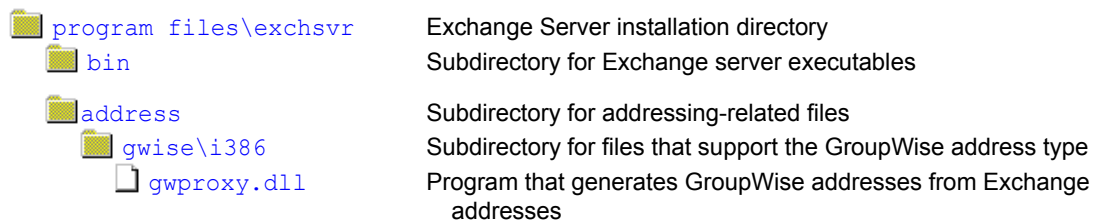
B.1.1 exchsvr directory

The `exchsvr` directory is the standard directory to which Microsoft Exchange is installed on a server. On Windows NT, it is located at the root. On Windows 2000/2003, it is located in the Program Files directory.

B.1.2 bin directory

The `bin` directory contains the Exchange server programs, some of which are used by the Exchange Gateway Installation program.

B.1.3 address directory

The `address` directory contains a subdirectory for each address type that defined in the Exchange system. In addition the GroupWise address type, address types include SNMP, cc:Mail, and X.400.

gwise\i386 directory

The `gwise\i386` directory is where the Exchange Gateway Installation program installs the program that makes GroupWise users addressable in the Exchange system.

gwproxy.dll file

The `gwproxy.dll` file is the program that generates GroupWise-type addresses for all Exchange users.

B.2 Exchange Gateway Directory Structure under the Domain

The Exchange Gateway is installed in a subdirectory of the domain it belongs to.

📁 *domain*\wpgate*exchange*	Exchange Gateway root directory
📁 000.prc	Directory for message processing
📁 cmd	Not used in the current version of the Exchange Gateway
📁 gwwork	Working directory for processing messages
📄 *mmdd*log.*nnn*	Exchange Gateway log files
📄 proc	Process lock file indicating that the Exchange Gateway is running
📁 gwhold	Directory for retaining delayed delivery messages
📁 qfiles	Not used in version 2.0 of the Exchange Gateway
📁 gwprob	Directory for undeliverable incoming messages
📁 ds	Directory for directory synchronization files
📄 gwds	Directory synchronization file
📁 dx	Directory for directory exchange files
📄 gwdx	]Directory exchange file
📁 uninstexchange	Directory for the Exchange Gateway uninstallation program
📁 wpcsin	MTA input queue directory
📁 *0-7*	Priority queue subdirectories
📁 wpcsout	MTA output queue directory
📁 exc*xxxx*	Exchange Gateway input queue
📁 *0-7*	Priority queue subdirectories
📁 problem	Undeliverable messages
📁 api_in	Input queue for free/busy requests from Exchange users
📁 api_out	Output queue for free/busy responses going back to Exchange users
📄 readmeen.txt	Pointer Readme file in ASCII text format
📄 readmeen.html	Pointer Readme file in HTML format
📄 exgate.exe	Exchange Gateway program
📄 gwexch.cfg	Exchange Gateway startup file
📄 access.cfg	Access control configuration file
📄 gwcorr.*	Status message correlation database
📄 acct	Accounting file
📄 stat	Statistics file
📄 ngwexh.mib	Exchange Gateway MIB file
📄 gwexgate.chm	Windows help file for the Exchange Gateway server console
📄 novell_ex.hs	]JavaHelp helpset file for Gateway Administrator snap-in help
📄 map.jhm	]Map file for Gateway Administrator snap-in help
📄 *.htm	]Help topics for Gateway Administrator snap-in help
📄 gwstrs.fil	Exchange Gateway resource file

B.2.1 *domain*\wpgate*exchange* directory

The Exchange Gateway root directory is the default location for all Exchange Gateway files. During installation, you choose the domain where you want to install the Exchange Gateway and you choose the name of the root directory. The default directory name is `exchange`.

To improve performance if you installed the Exchange Gateway on a Windows server remote from the domain directory (for example, if the domain directory is located on a NetWare® server), you can move the queue directories from the domain directory to the Windows server where the gateway is running, as described in Section 10.4, "Reducing Network Traffic," on page 106.

000.prc directory

The `000.prc` directory is where the Exchange Gateway processes messages that are passing through the gateway between the GroupWise and Exchange systems.

*mmdd*log.*nnn* files

The *`mmddlog.nnn`* files are the Exchange Gateway log files where message routing information is recorded. See Section 9.3, "Using Exchange Gateway Log Files," on page 98.

gwwork directory

The `gwwork` directory holds temporary files used in message processing.

gwhold directory

The `gwhold` directory is where delayed delivery messages are held until their delivery times arrive.

gwprob directory

The `gwprob` directory is where the Exchange Gateway places incoming message files that it cannot process. Using the /badmsg switch, you can configure the gateway to retain bad messages, delete bad messages, or send bad messages to the gateway postmaster. See Section 9.5, "Notifying the Exchange Gateway Administrator about Bad Messages," on page 102.

ds directory

The `ds` directory helps the gateway keep track of whether or not directory synchronization has been performed.

gwds file

The `gwds` file indicates that directory synchronization has taken place. If you delete the `gwds` file and restart the gateway, the gateway performs directory synchronization immediately and then recreates the file.

dx directory

The `dx` directory helps the gateway keep track of whether or not directory exchange has been performed.

gwdx file

The `gwdx` file indicates that directory exchange has taken place. If you delete the `gwdx` file and restart the gateway, the gateway performs directory exchange immediately and then recreates the file.

uninstexchange directory

The `uninstexchange` directory contains the Exchange Gateway uninstallation program and supporting files.

wpcsin directory

The `wpcsin` directory is the MTA input queue where the Exchange Gateway places messages from Exchange users for transfer into the GroupWise system. When a new message arrives, the MTA for the domain where the gateway is installed routes it to the appropriate destination. The `wpcsin` directory in the Exchange Gateway directory is parallel to the `wpcsin` directory in the domain. For more information, see:

- "Domain Directory" in the *GroupWise 7 Troubleshooting 3: Message Flow and Directory Structure*
- "Domain Directory" in the *GroupWise 6.5 Troubleshooting 3: Message Flow and Directory Structure*

The MTA input queue contains eight priority subdirectories.

0-7 priority directories

The `0-7` priority subdirectories in the MTA input queue handle different types of messages transferring from the Exchange system into the GroupWise system.

- **0:** Not used by the Exchange Gateway
- **1:** Not used by the Exchange Gateway
- **2:** High priority messages from Exchange users to GroupWise users
- **3:** Status messages notifying Exchange users about the status of high priority messages sent to GroupWise users
- **4:** Normal priority messages from Exchange users to GroupWise users
- **5:** Status messages notifying Exchange users about the status of normal priority messages sent to GroupWise users
- **6:** Low priority messages from Exchange users to GroupWise users
- **7:** Status messages notifying Exchange users about the status of low priority messages sent to GroupWise users

Status message correlation must be enabled in order for Exchange users to receive status information about messages sent to GroupWise users. See Section 8.7, "Enabling Message Status for Sent Items," on page 85.

wpcsout directory

The `wpcsout` directory is the MTA output queue where the MTA for the domain where the gateway is installed places messages for transfer over to the Exchange system.

exc*xxxx* directory

The `excxxxx` directory contains eight priority subdirectories.

0-7 priority directories The *0-7* priority subdirectories in the MTA output queue handle different types of messages transferring from the GroupWise system into the Exchange system.

- **0:** Busy searches from GroupWise users on Exchange users
- **1:** Not used by the Exchange Gateway
- **2:** High priority messages from GroupWise users to Exchange users
- **3:** Status messages notifying GroupWise users about the status of high priority messages sent to Exchange users
- **4:** Normal priority messages from GroupWise users to Exchange users
- **5:** Status messages notifying GroupWise users about the status of normal priority messages sent to Exchange users
- **6:** Low priority messages from GroupWise users to Exchange users
- **7:** Status messages notifying GroupWise users about the status of low priority messages sent to Exchange users

Status message correlation must be enabled in order for GroupWise users to receive status information about messages sent to Exchange users. See Section 8.7, "Enabling Message Status for Sent Items," on page 85.

problem directory

The `problem` directory is where the MTA places message files that it cannot deliver into one of the eight priority subdirectories, perhaps because the message files have been damaged.

api_in directory

The `api_in` directory is where the Microsoft Calendar Connector places free/busy requests from Exchange users. The Exchange Gateway picks up the free/busy requests and passes them into the GroupWise system so that GroupWise users' Calendars can be checked for availability. For setup instructions, see Section 5.2.2, "Setting Up Bidirectional Busy Search for Exchange 2000/2003," on page 39.

api_out directory

The `api_out` directory is where the Exchange Gateway places free/busy requests that have been checked against GroupWise users' Calendars. The Microsoft Calendar Connector picks up the free/busy requests and the associated GroupWise user Calendar information and passes them into the Exchange system so that Exchange users are able to obtain GroupWise users' availability information. For setup instructions, see Section 5.2.2, "Setting Up Bidirectional Busy Search for Exchange 2000/2003," on page 39.

readmeen.txt file

The `readmeen.txt` file lists sources of documentation for the GroupWise 7 Gateway for Microsoft Exchange on the GroupWise Gateways Documentation Web site (http://www.novell.com/documentation/gwgateways).

readmeen.html file

The `readmeen.txt` file lists sources of documentation for the GroupWise 7 Gateway for Microsoft Exchange on the GroupWise Gateways Documentation Web site (http://www.novell.com/documentation/gwgateways).

exgate.exe file

The `exgate.exe` file is the Exchange Gateway executable file. You run this program to start the Exchange Gateway. See Section 7.1, "Starting the Exchange Gateway," on page 55.

gwexch.cfg file

The `gwexch.cfg` file is the Exchange Gateway startup file where you can use startup switches to configure the Exchange Gateway. See Chapter 11, "Using Exchange Gateway Startup Switches," on page 107.

access.cfg file

The `access.cfg` file is the Exchange Gateway access control file where you can control access through the gateway. See Section 8.4, "Controlling Gateway Access," on page 73.

acct file

The `acct` file is the accounting file where information about messages passing through the gateway is recorded. See Section 8.5, "Setting Up Accounting," on page 81.

stat file

The `stat` file is the gateway statistics file that contains the statistics information displayed on the Exchange Gateway server console. See Section 9.1, "Using the Exchange Gateway Server Console," on page 89.

gwcorr.* files

The `gwcorr.db` file is the message status correlation database that enables message status information to be exchanged between GroupWise users and Exchange users. See Section 8.7, "Enabling Message Status for Sent Items," on page 85.

The gwcorr.dc file is the data dictionary file from which the `gwcorr.db` file is created.

ngwexh.mib file

The `ngwexh.mib` file is used if you configure the Exchange Gateway for SNMP. See Section 9.4, "Using SNMP Monitoring Programs," on page 99.

gwexgate.chm file

The `gwexgate.chm` file is the Windows help file that is available from the Exchange Gateway server console.

novell_ex.hs file

The `novell_ex.hs` file is the JavaHelp helpset file for the Exchange Gateway help available in ConsoleOne.

map.jhm file

The `map.jhm` file is the JavaHelp map file that maps contexts to Exchange Gateway help topics in ConsoleOne.

*.htm files

The `*.htm` files are the Exchange Gateway help topics that are available in ConsoleOne.

gwstrs.fil file

The `gwtrs.fil` file is the strings resource file used by the Exchange Gateway server console on the Windows server where the gateway runs.

*.dll files

The `*.dll` files are supporting programs that provide specialized functionality to the Exchange Gateway.

Documentation Updates

C

This section lists updates to the *GroupWise 7 Gateway for Microsoft Exchange Installation and Administration Guide* that have been made since the initial release of the gateway. 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 *GroupWise 7 Gateway for Microsoft Exchange Installation and Administration Guide* was republished. Within each dated section, the updates are listed by the names of the main table of contents sections.

The *GroupWise 7 Gateway for Microsoft Exchange Installation and Administration Guide* has been updated on the following dates:

- Section C.1, "August 24, 2010 (Doc update)," on page 143
- Section C.2, "May 8, 2007 (Exchange Gateway SP2)," on page 144
- Section C.3, "January 24, 2007 (Exchange Gateway SP1)," on page 144

C.1 August 24, 2010 (Doc update)

Location	Change
Chapter 1, "What Is the GroupWise Gateway for Microsoft Exchange?," on page 11	Linked to *Exchange Gateway Best Practices* by consultant Ed Hanley for additional architectural information.
Chapter 2, "Exchange Gateway System Requirements," on page 13	Clarified that the GroupWise 7 Gateway for Microsoft Exchange can be used with a GroupWise 8 system; clarified that the GroupWise 7 Gateway for Microsoft Exchange is not yet supported on Exchange 2007. However, it can be set up successfully on an intermediate Exchange 2003 server between Exchange 2007 and GroupWise.
Section 3.2, "Deciding Where to Install the Exchange Gateway," on page 15	Added a recommendation to create a new Exchange server and GroupWise domain specifically for servicing the Exchange Gateway.
Section 4.1, "Meeting Installation Prerequisites," on page 25	Clarified that the Novell Client is required only on the Exchange server where the Exchange Gateway is installed.
Section 3.9, "Determining Where to Install the Exchange Gateway Administrator Snap-In to ConsoleOne," on page 20 and Section 4.5, "Installing the Exchange Gateway Administrator Snap-In to ConsoleOne," on page 29	Corrected the acceptable locations for installing the Exchange Gateway snap-in to ConsoleOne.

Location	Change
Chapter 11, "Using Exchange Gateway Startup Switches," on page 107	Linked to *Exchange Gateway Best Practices* by consultant Ed Hanley for information about currently undocumented switches.
"/custom" on page 110	Clarified the behavior of this startup switch.
"/useimportcontainer" on page 116	Clarified the behavior of this startup switch.

C.2 May 8, 2007 (Exchange Gateway SP2)

Location	Change
/displaynamelastfirst	Added a new startup switch
/noreadreceipt	Added a new startup switch
/useimportcontainer	Added a new startup switch

C.3 January 24, 2007 (Exchange Gateway SP1)

Location	Change
Section 3.2, "Deciding Where to Install the Exchange Gateway," on page 15	Explained how the Exchange Gateway can be set up in the context of Linux servers.
Section 4.2, "Adding the Exchange Library Directory to the Path Variable," on page 26	Clarified that you need to add the Exchange library directory to the path variable only when Exchange is installed in a non-default location.
Section 5.2.2, "Setting Up Bidirectional Busy Search for Exchange 2000/2003," on page 39	Added the configuration steps so that Busy Search works both ways between GroupWise and Exchange.
Section 8.1, "Enabling Directory Synchronization and Exchange of Address Books," on page 61	Added instructions for overriding the default Internet domain name and e-mail address format when exchanging address books.
Section 9.1.5, "Menu Summary," on page 91	Added Synchronize Directories under F8 on the gateway server console menu.
"/importsubcontainers" on page 112	Added a new startup switch.

Location	Change
Section B.2, "Exchange Gateway Directory Structure under the Domain," on page 136	Added the `api_in` and `api_out` subdirectories that are used for bidirectional Busy Search.