Novell
GroupWise® Gateway
for Microsoft* Exchange
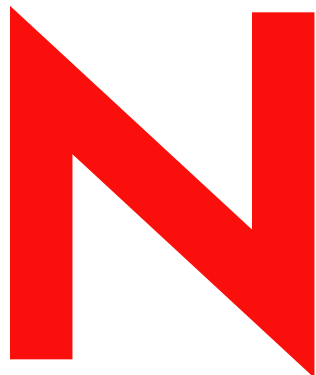
2.0

July 16, 2004

INSTALLATION AND ADMINISTRATION
GUIDE

Novell®

Online Documentation: To access the online documentation for this and other Novell products, and to get updates, see www.novell.com/documentation.

Contents

About This Guide

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

Additional Documentation

For additional GroupWise documentation, see the following guides at the Novell GroupWise 6.5 documentation Web site (http://www.novell.com/documentation/lg/gw65):

- *Installation*

- *Administration*

- *Multi-System Administration*

- *Interoperability*

- *Troubleshooting*

- *GroupWise Windows Client User Guide*

- *GroupWise WebAccess Client User Guide*

- *GroupWise Cross-Platform Client User Guide*

Documentation Updates

For the most recent version of the *GroupWise 6.x Gateway for Microsoft Exchange Installation and Administration Guide*, visit the Novell GroupWise 6.5 documentation Web site (http://www.novell.com/documentation/lg/gw65).

Documentation Conventions

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

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

User Comments

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

1 What Is the GroupWise Gateway for Microsoft Exchange?

The GroupWise® Gateway 2.0 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.
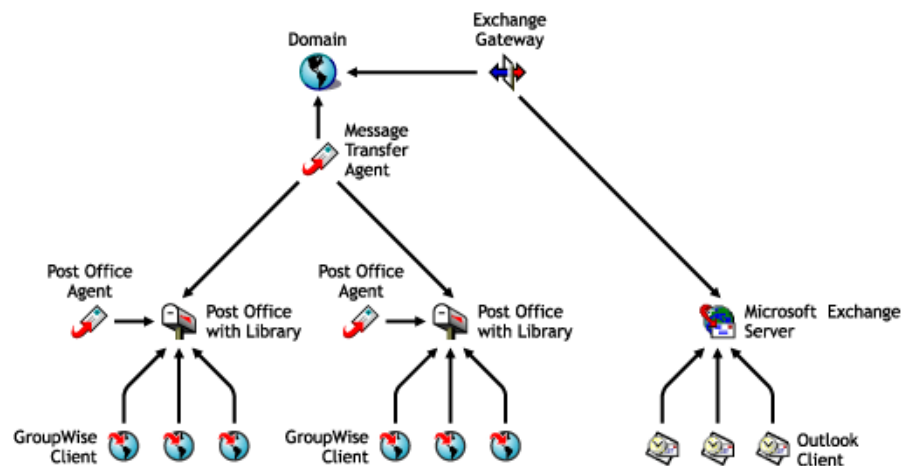
Version 2.0 of the Exchange Gateway provides the following capabilities:

◆ Message exchange between users of GroupWise 5.x and 6.x and users of Exchange 5.x and Exchange 2000.

◆ 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.

Support Pack 1 for the GroupWise Gateway for Microsoft Exchange provides the following enhancements:

◆ Microsoft Exchange 2000 is supported in addition to Exchange 5.x.

◆ The Exchange Gateway has been updated to match GroupWise 6.x functionality in several areas.

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

◆ Busy Search is supported for GroupWise users who want to check the calendars of Exchange users. It is not supported for Exchange users to check GroupWise users' calendars.

◆ 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.

2 Exchange Gateway System Requirements

The Windows machine on which you run the GroupWise® 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.*x*)	Updated with Service Pack 6	Updated with Service Pack 6 or later
Windows 2000 Server (for use with Microsoft Exchange 5.*x*)	Updated with Service Pack 2	Updated with Service Pack 3 or later
Windows 2000 Server 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
Novell® Client™	Any version	Latest version
ConsoleOne®	1.3.4	Latest version
Available Disk Space	80 MB	80 MB or more
Available Memory	32 MB	64 MB or more
Exchange Server	4.0	5.0 updated with Service Pack 3 or later
GroupWise client	5.1	5.2 or later

3 Installing the Exchange Gateway

Before you install the GroupWise® 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:

Planning the Exchange Gateway Installation

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 "Exchange Gateway Installation Worksheet" on page 25 to record your installation and setup information.

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.

Deciding Where to Install the Exchange Gateway

You can install the Exchange Gateway on the same machine 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 machine, regardless of the platform where the domain is located. The machine where you install the Exchange Gateway must be an Exchange server.

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

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.

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.

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 machine. When running as an application, the Exchange Gateway displays a console on the Windows machine 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. When running as a service, the Exchange Gateway does not display a user interface on the Windows machine.

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 (Item 3: Domain Server Type), 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.

Deciding How to Monitor the Exchange Gateway

If you install the Exchange Gateway as an application, the Exchange Gateway console is displayed on the Windows machine 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 console is not displayed, so you must plan for another way to monitor it.

◆ "Using the Exchange Gateway Web Console" on page 17
◆ "Using an SNMP Monitoring Program" on page 17

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 console or an SNMP monitoring program.

EXCHANGE GATEWAY INSTALLATION WORKSHEET

Under Item 7: Web Console Information, provide a unique username and password to protect access to the Exchange Gateway Web console. Also provide an HTTP port number for communication between the Exchange Gateway and your browser. You might want to use a port number close to those used by the MTA and POA, for example, 7176.

Using an SNMP Monitoring Program

If desired, you can monitor the Exchange Gateway from the Management and Monitoring component of Novell ZENworks® for Servers, ManageWise®, 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 machine 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 machine 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 machine:

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.

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

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

To add the SNMP service to a Windows 2000 machine:

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 2000 machine.

For more information about configuring the SNMP service, see your Windows 2000 documentation.

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, you must know the name of the Exchange 2000 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.

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.

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.

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.

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.

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

Exchange Gateway administration is performed through ConsoleOne®, version 1.3.4 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 on an Exchange server where the GroupWise Administrator snap-ins have already been installed. The Gateway Administrator snap-in cannot be installed to a workstation nor can it be used without the GroupWise Administrator snap-ins.

EXCHANGE GATEWAY INSTALLATION WORKSHEET

Under Item 2: Install Gateway Administrator Snap-In to ConsoleOne, specify the path for the ConsoleOne location you want to use to administer the Exchange Gateway.

You can install the Gateway Administrator snap-in files to additional Exchange servers after you have installed the gateway, as described in .

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 machine 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.

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/filedist/pages/PublicSearch.jsp).

2 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. This requires full file system rights to the domain directory.

3 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.

4 Continue with "Installing the Exchange Gateway Software" on page 21.

Installing the Exchange Gateway Software

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

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

2 Run setupexch.exe to extract the Exchange Gateway files and start the Exchange Gateway Installation program on the Exchange server.
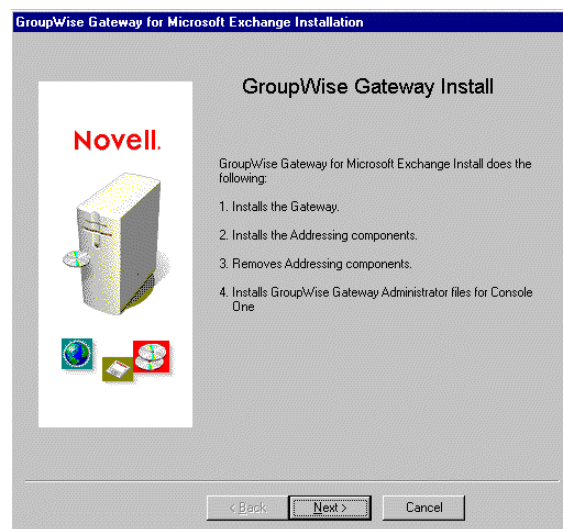
3 Click Next to view the license agreement, then click Accept to accept the license agreement.
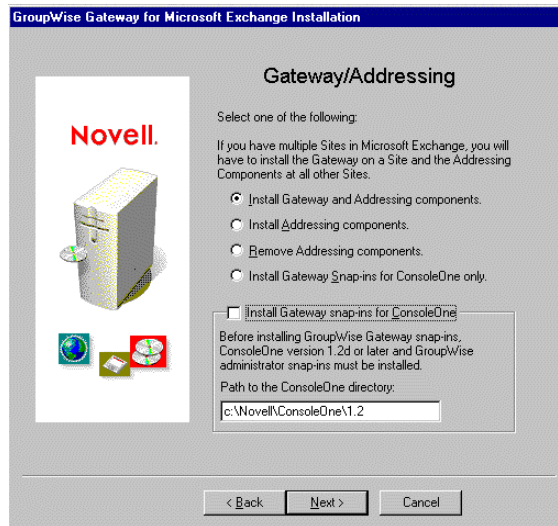
4 Select Install Gateway and Addressing Components.

5 If you want to install the Gateway Administrator snap-in to ConsoleOne on the Exchange server, select Install Gateway Snap-ins for ConsoleOne, then provide the path to the ConsoleOne installation (worksheet item 10).

6 Click Next.

7 Follow the prompts, using the information from items 2 through 9 on the "Exchange Gateway Installation Worksheet" on page 25 to install the Exchange Gateway

IMPORTANT: Do not start the Exchange Gateway after installation.

8 If your Exchange system consists of more than one server, continue with "Installing the Exchange Gateway Addressing Components" on page 22.

9 Continue with "Configuring the Exchange Side of the Exchange Gateway" on page 27.

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 "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 setupexch.exe to start the Installation program.
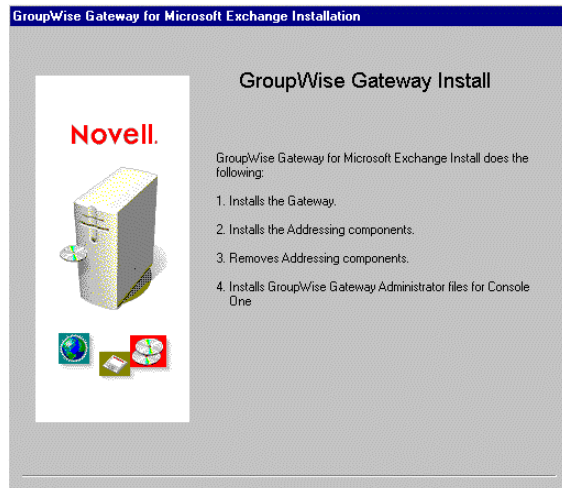
4 Click Next to view the license agreement, then click Accept to accept the license agreement.
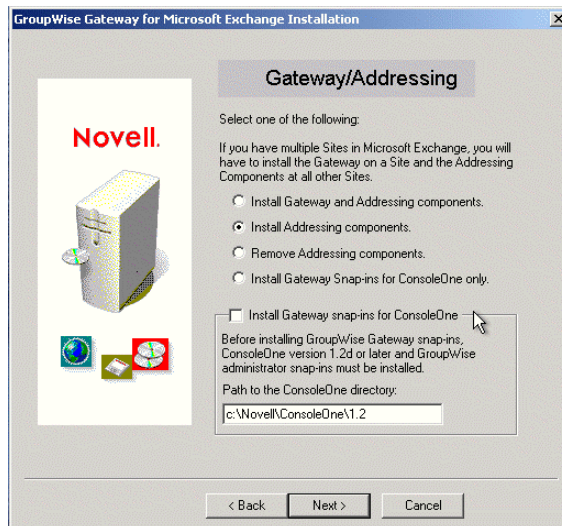
5 Select Install Addressing Components

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 27 to prepare the Exchange server to connect to the original Exchange server where the gateway is installed.

8 Continue with Chapter 6, "Running the Exchange Gateway," on page 39.

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 Exchange servers as needed. The Gateway Administrator snap-in cannot be installed on a workstation.

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

2 At the Exchange server where you want to install the Gateway Administrator snap-in to ConsoleOne, run setupexch.exe to start the Exchange Gateway Installation program.
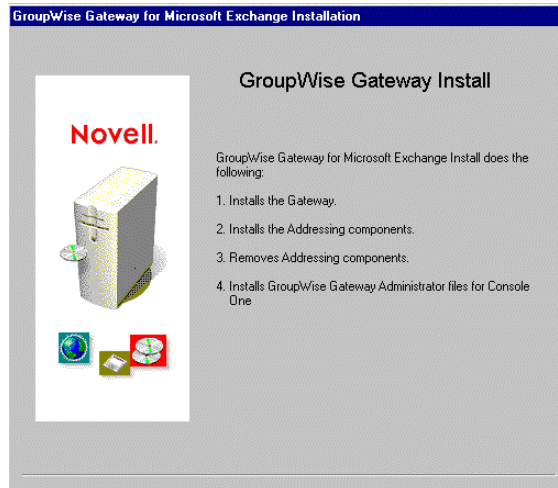
3 Click Next to view the license agreement, then click Accept to accept the license agreement.
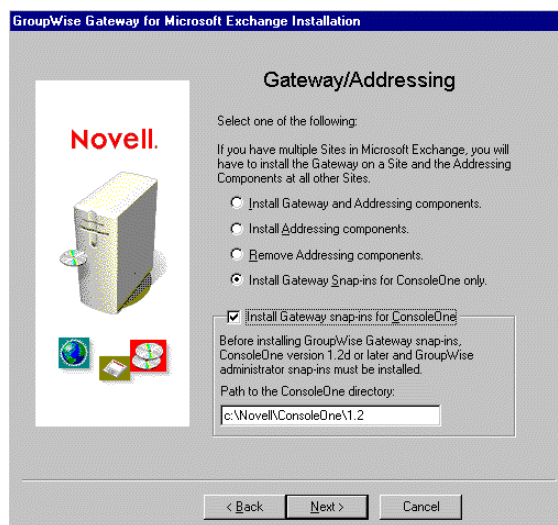
4 Select Install Gateway Administrator Snap-Ins for ConsoleOne Only.

5 Select Install Gateway Administrator Snap-Ins for ConsoleOne, then specify the path to a ConsoleOne installation where you want to install the Gateway Administrator snap-in.

6 Click Next to continue with the installation.

Exchange Gateway Installation Worksheet

Item	Explanation
1) Exchange Gateway Location • Domain machine • Remote machine Username: Password:	Mark whether you want to install the Exchange Gateway on the same machine with the GroupWise domain it belongs to, or on a remote machine. For access to a remote machine, provide a username and password to facilitate logging in with the required rights. See "Deciding Where to Install the Exchange Gateway" on page 16.
2) Install Gateway Administrator Snap-In to ConsoleOne? • Yes ConsoleOne Path: • 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. See "Determining Where to Install the Exchange Gateway Administrator Snap-In to ConsoleOne" on page 20.
3) Exchange Server Information: Exchange 5.5 Server • Site Exchange 2000 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.
4) Domain Server Type: • NetWare • Windows	Mark the platform of the machine where the gateway's domain is located. See "Gathering GroupWise System Information" on page 15.
5) 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
6) 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
7) 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
8) Web Console Information: ◆ Username ◆ Password ◆ HTTP Port	Specify the information required to enable the Exchange Gateway Web console. See "Deciding How to Monitor the Exchange Gateway" on page 17.
9) 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.
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 "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.
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 "Selecting User Address Type and Format" on page 19.

4 Configuring the Exchange Side of the Exchange Gateway

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:

- "Configuring Exchange 5.x" on page 27
- "Configuring Exchange 2000" on page 30

Configuring Exchange 5.*x*

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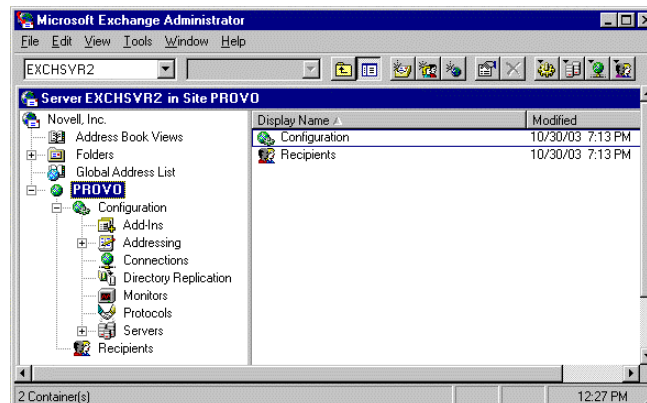
2 Expand the Exchange site, expand the Configuration container, then select the Connections container.
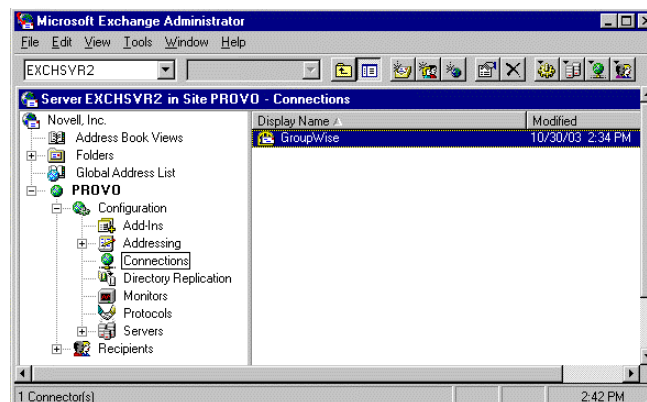
3 Double-click the Exchange Gateway object (worksheet item 6), then click Export Containers.
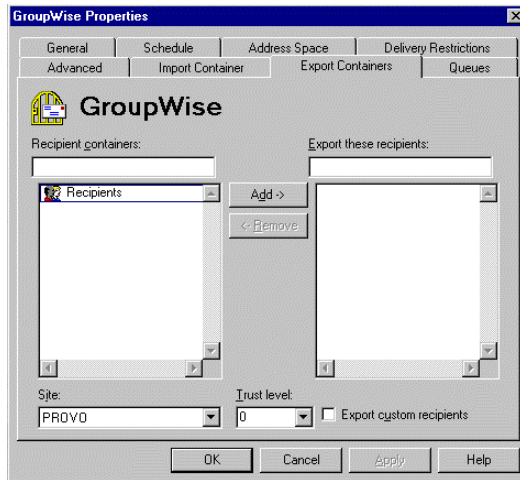
4 Select the Recipient containers that contain users whose Address Book information you want to export into the GroupWise system, then click Add.

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 export information.

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 "Customizing Addressing for Exchange 5.x" on page 29.

or

Continue with Chapter 5, "Configuring the GroupWise Side of the Exchange Gateway," on page 35

Customizing Addressing for Exchange 5.*x*

1 In Exchange Administrator, expand the Site container, then select the Configuration container.
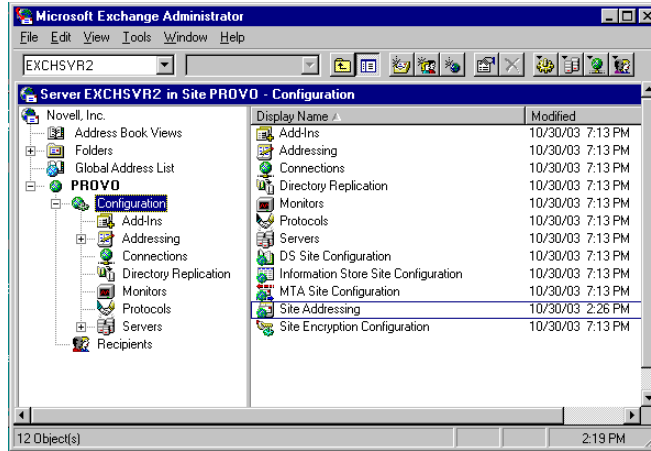
2 Double-click the Site Addressing object, then click the Site Addressing tab.
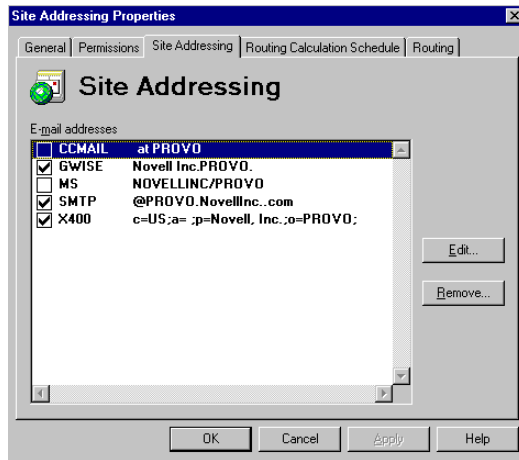
If no GroupWise-specific address type appears in the list, then the addressing components have not been installed on the server. See "Installing the Exchange Gateway Addressing Components" on page 22.

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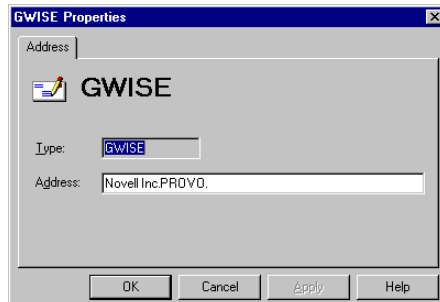
4 To change the name of the non-GroupWise domain that you want to represent your Exchange system, replace the Exchange organization with the domain name you want to use worksheet item 12).

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 Continue with

Configuring Exchange 2000

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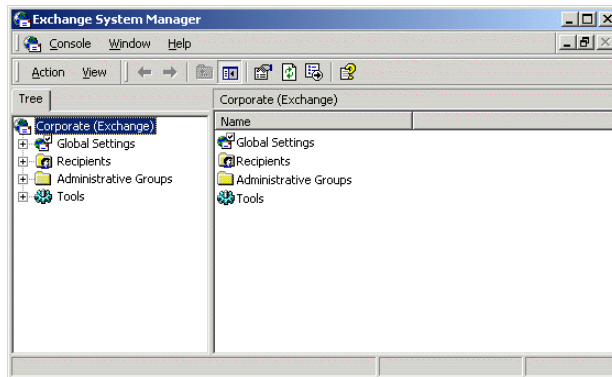
If you do not see the Administrative Groups object, right-click the Organization object, then click Properties. Select Display Administrative Groups and Display Routing Groups, then click OK.

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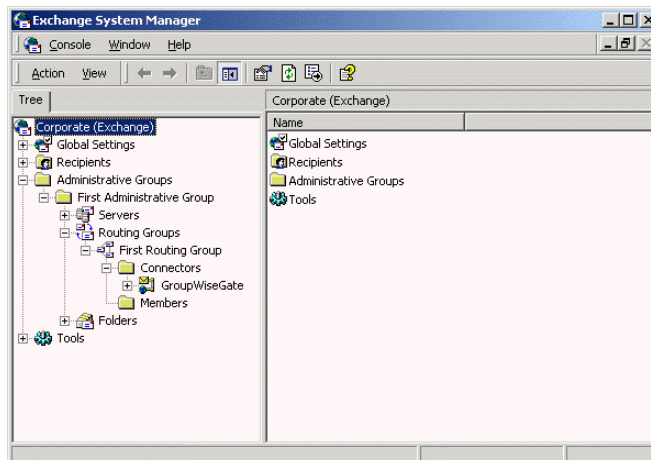
3 Expand Routing Groups, then expand First Routing Group (or whatever your system's routing group is).

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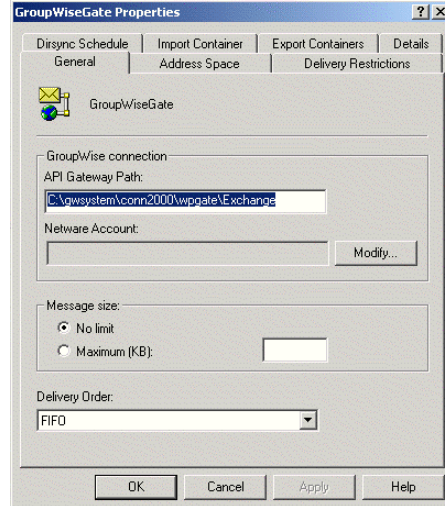
5 Click Modify, enter the administrator username and password, then click OK.

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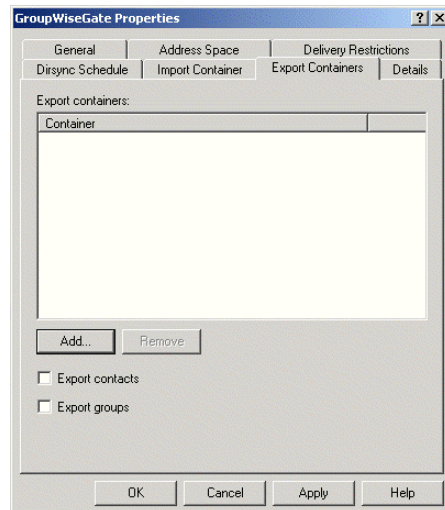
7 Click Add, select the container that contains users whose addresses and information you want to export to the GroupWise system (for example, the Users container), then click OK.

IMPORTANT: Directory synchronization and exchange cannot occur if you have not added any user containers to the Export Containers property page.
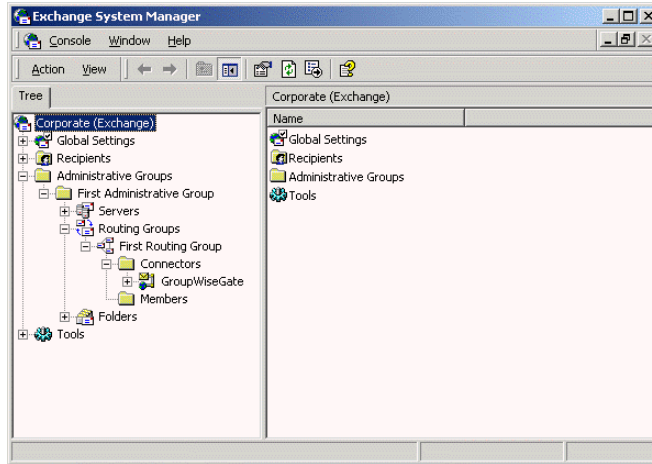
8 Expand Servers, then expand the Server object for your server.
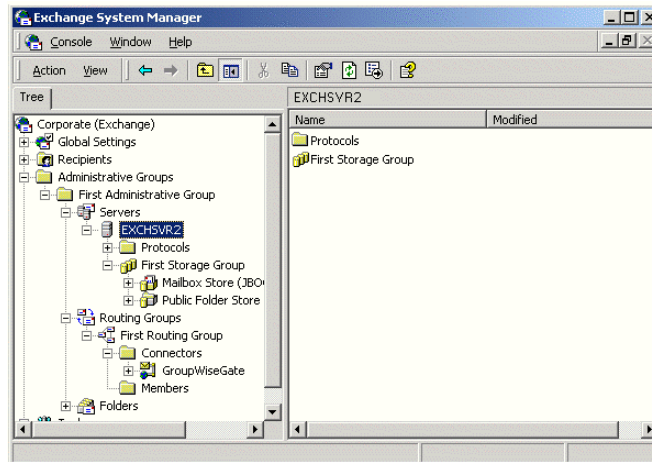
9 Expand First Storage Group (or whatever your system's storage group is).

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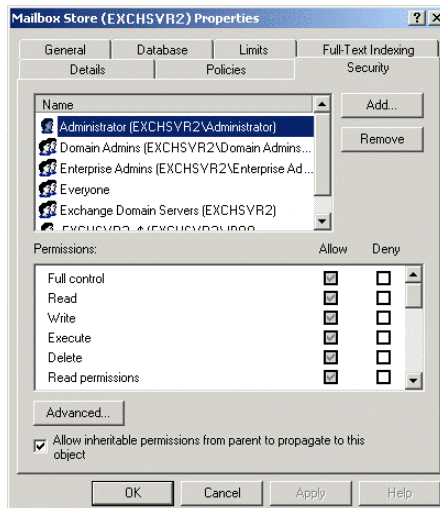
11 Add the user to log in to the Exchange services and the Windows server (if the user has not been added already).

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

13 Make sure that the Exchange services are running.

    13a On the Control Panel, double-click Services.

    13b 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

    13c If any of the Microsoft Exchange services are not running, start them now.

14 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" on page 33.

or

Continue with Chapter 5, "Configuring the GroupWise Side of the Exchange Gateway," on page 35

Customizing Addressing for Exchange 2000

1 In System Manager, expand the Recipients container, then select the Recipient Policies container.
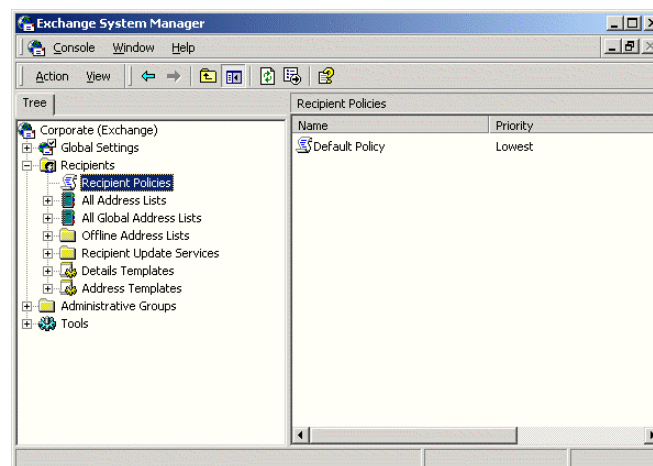
2 Right-click the Default Policy object, click Properties, then click the E-Mail Addresses (Policy) tab.
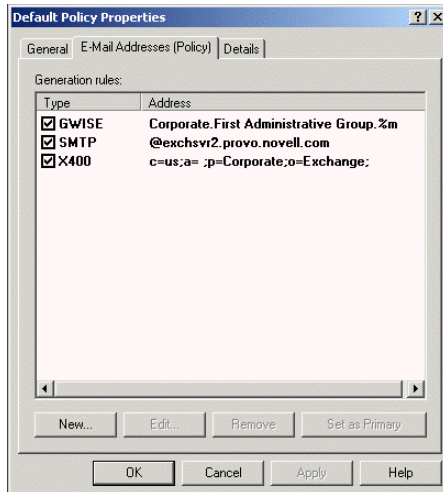
If no GroupWise-specific address type appears in the list, then the addressing components have not been installed on the server. See "Installing the Exchange Gateway Addressing Components" on page 22.

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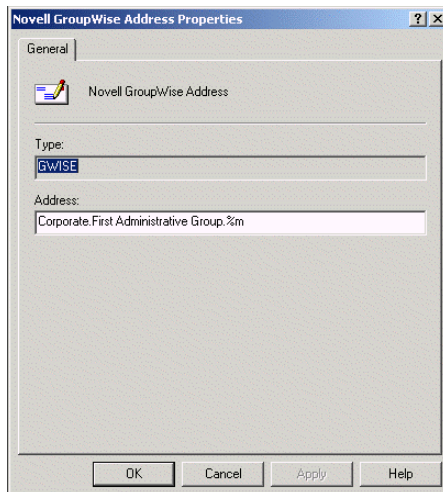
4 To change the name of the non-GroupWise domain that you want to represent your Exchange system, replace the Exchange organization with the domain name you want to use worksheet item 12).

5 To change the name of the external post office, replace the Exchange 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, specify 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.

9 Continue with Chapter 5, "Configuring the GroupWise Side of the Exchange Gateway," on page 35

5 Configuring the GroupWise Side of the Exchange Gateway

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®.

-
-

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 Click Default to populate the fields.
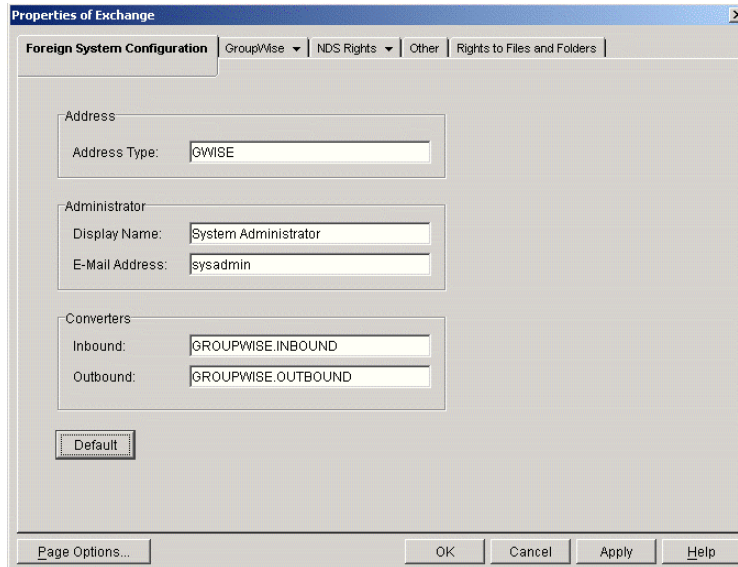
The defaults are typically acceptable, but you can change the information if needed.

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.

4 Click Apply to save the foreign system configuration information.

5 Continue with "Providing Foreign System Configuration Information" on page 35.

Providing Gateway Information

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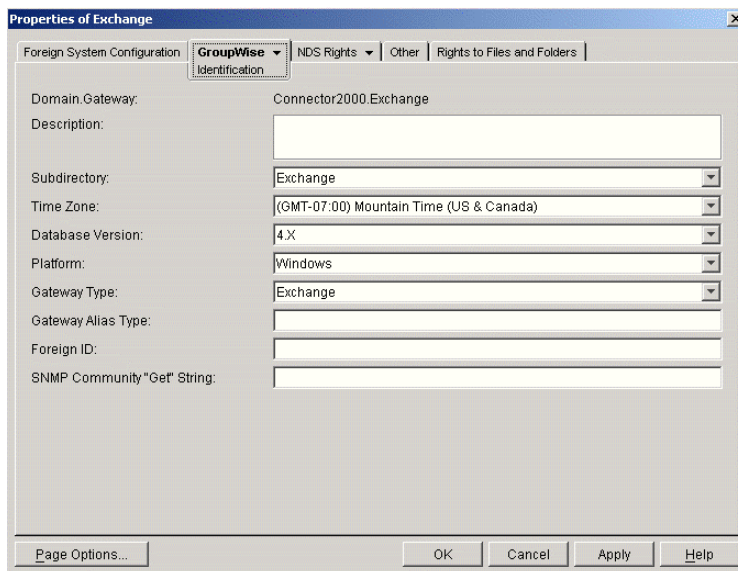
2 Fill in the following fields on the Identification page:

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 5.0 if you have installed the Exchange Gateway in a GroupWise 5.*x* system. Select 6 if you have installed the gateway in a GroupWise 6.*x* 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 .

6 Running the Exchange Gateway

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

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 4, "Configuring the Exchange Side of the Exchange Gateway," on page 27.

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 39
- "Starting the Exchange Gateway As a Windows Service" on page 40

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.

Starting the Exchange Gateway As a Windows Application

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

2 Click GroupWise Exchange Gateway > Exchange > GroupWise Exchange Gateway.
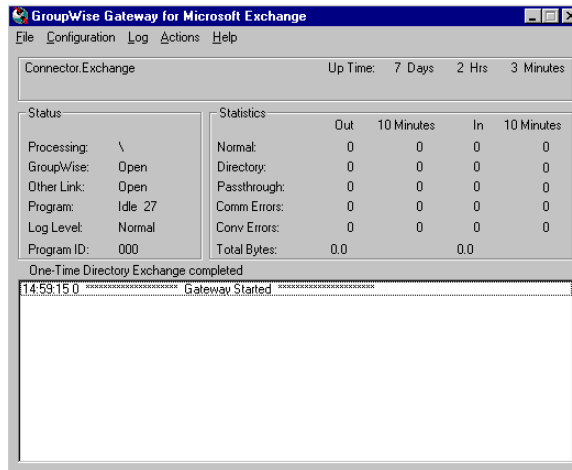
When running as an application, the Exchange Gateway console appears on the machine while it is running. For instructions on interpreting the information displayed on the Exchange Gateway console, and for information about other monitoring alternatives, see Chapter 8, "Monitoring the Exchange Gateway," on page 67.

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., continue with Chapter 7, "Configuring the Exchange Gateway," on page 45.

Starting the Exchange Gateway As a Windows Service

1 At the Windows machine 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 would be ConnectorExchangeService.

3 Select the gateway service, then click Start.

When running as a service, the Exchange Gateway does not have a console on the machine where it is running. However, you can monitor it in other ways, as described in Chapter 8, "Monitoring the Exchange Gateway," on page 67.

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, continue with Chapter 7, "Configuring the Exchange Gateway," on page 45.

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:

Addressing Messages

If you have set up directory synchronization and exchange, as described in "Enabling Directory Synchronization and Exchange of Address Books" on page 45, 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 have not set up directory synchronization and exchange, you should 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 49. You should 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

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 "Enabling Message Status for Sent Items" on page 65)

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

Stopping the Exchange Gateway

Occasionally, it might be necessary to stop the gateway to perform maintenance on the Windows machine 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:

- "Stopping the Exchange Gateway If It Is Running As an Application" on page 42
- "Stopping the Exchange Gateway If It Is Running As a Service" on page 42

Stopping the Exchange Gateway If It Is Running As an Application

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

or

Press F7.

2 Click Yes to stop the gateway.

Stopping the Exchange Gateway If It Is Running As a Service

1 At the Exchange Gateway 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.

Uninstalling the Exchange Gateway

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

- "Uninstalling the Exchange Gateway As an Application" on page 42
- "Uninstalling the Exchange Gateway As a Service" on page 43

Uninstalling the Exchange Gateway As an Application

1 At the Windows machine 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.

Uninstalling the Exchange Gateway As a Service

1 At the Windows machine 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.

7 Configuring the Exchange Gateway

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.

- ◆ "Enabling Directory Synchronization and Exchange of Address Books" on page 45
- ◆ "Configuring Addressing" on page 47
- ◆ "Controlling Gateway Access" on page 54
- ◆ "Setting Up Accounting" on page 61
- ◆ "Establishing Gateway Administrators" on page 64
- ◆ "Enabling Message Status for Sent Items" on page 65

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 4, "Configuring the Exchange Side of the Exchange Gateway," on page 27. 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.
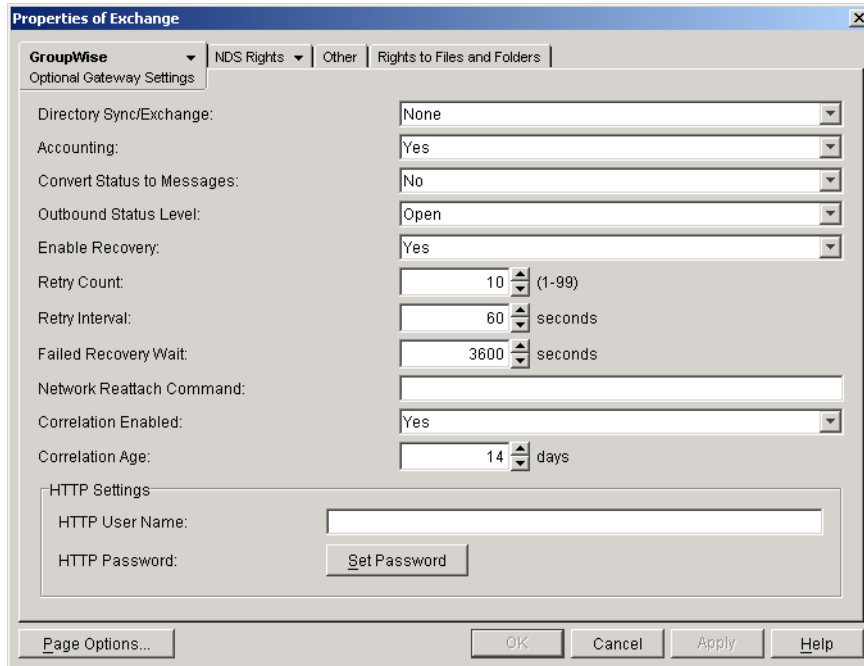
5 In the Directory Sync/Exchange field, select Both, then click OK.

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 edited the gwexch.cfg file in Step 2, 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 "Selecting User Address Type and Format" on page 19.

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.

Configuring Addressing

When you take advantage of directory synchronization and exchange, as described in "Enabling Directory Synchronization and Exchange of Address Books" on page 45, 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:

- "Adding Individual Exchange Users to the GroupWise Address Book" on page 47
- "Adding Individual Exchange Users to Personal Address Books" on page 49
- "Adding Individual GroupWise Users to the Exchange Address Book" on page 50
- "Using Explicit Addressing" on page 53

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.
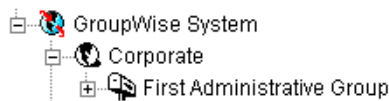
2 Right-click the GroupWise Post Office object that represents the Exchange site or administrative group, then click New > External User.
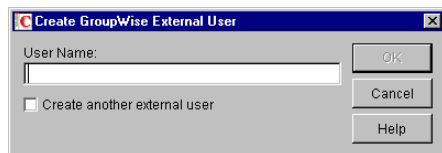
3 Type a username, then click OK.

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.
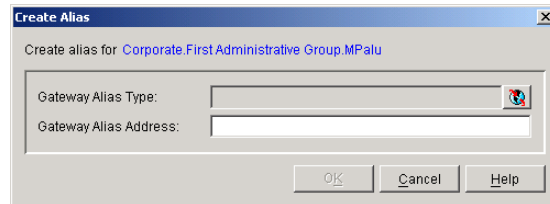
9 Fill in the following fields:

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 "Providing Gateway Information" on page 36.

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

For an example, see "Addressing Messages" on page 41.

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.

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.
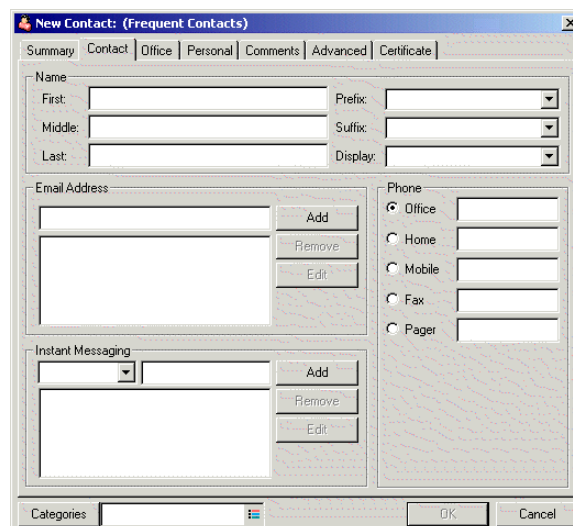
4 Fill in the following fields:

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 41.

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

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.*x*

1 Start Exchange Administrator.
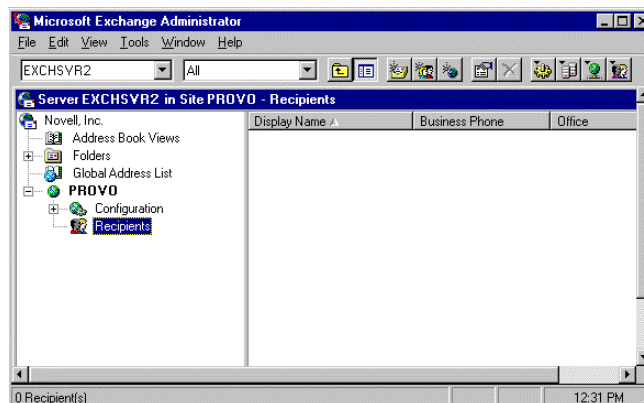
2 Expand the Recipients container.

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.
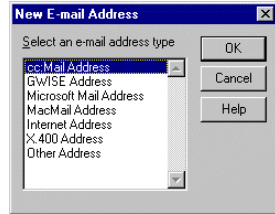
5 Select GWISE Address, then click OK.
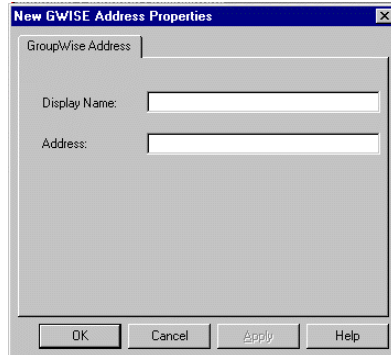
6 In the Display Name field, specify the full name of the GroupWise user.

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

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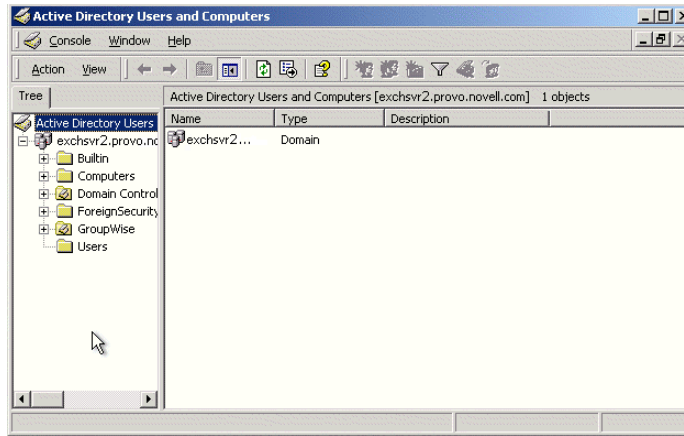
2 Expand the Users container, select the container in which you want to create a Contact, then click Action > New > Contact.
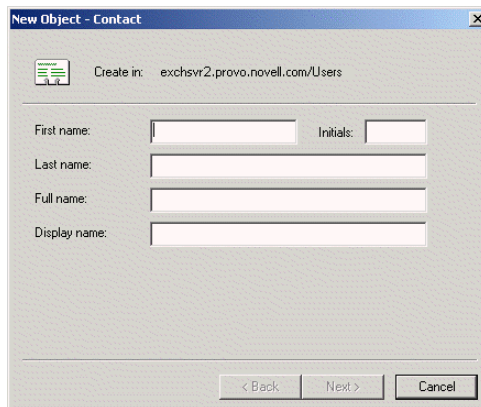
3 Specify the information about the GroupWise user that you want to be available in the Exchange Address Book, then click Next.
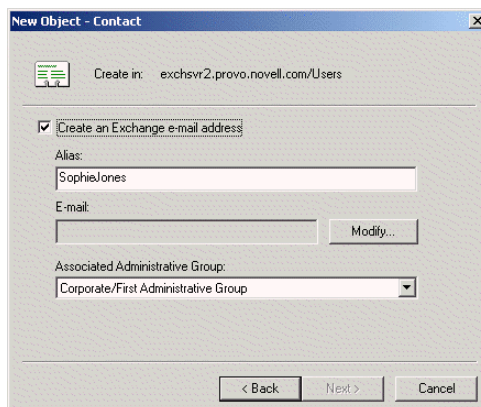
4 In the E-mail Address field, click Modify.
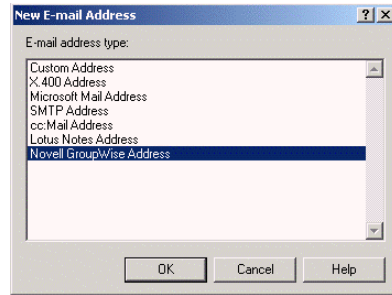
5 Select Novell GroupWise Address, then click OK.
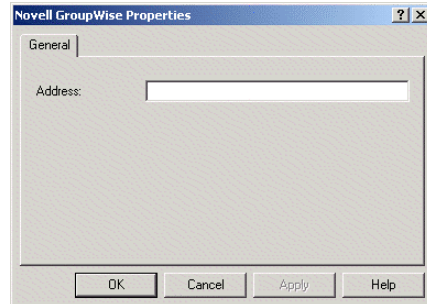
6 In the Address field, specify the GroupWise user's address in the following format:

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 "Enabling Directory Synchronization and Exchange of Address Books" on page 45.

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 41.

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

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.

- "Using the Access.cfg File in the Gateway Directory" on page 54
- "Using the Gateway Access Field on Individual User Objects" on page 59

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.

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] [*groupwise_domain*:In|Out] [*groupwise_domain.post_office*:In|Out] [AccessGroup:*group_name*]	AllAccess NoAccess Block 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 "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 59. 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]
MaxSize=5000000
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 57
- ◆ "NoAccess" on page 57
- ◆ "Block" on page 58
- ◆ "Allow" on page 58
- ◆ "MaxSize" on page 59
- ◆ "AllowRuleGenerated" on page 59

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 specified. 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*

Example:
[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

Example:
[Default:Out]
AllowRuleGenerated=No

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

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 .

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.
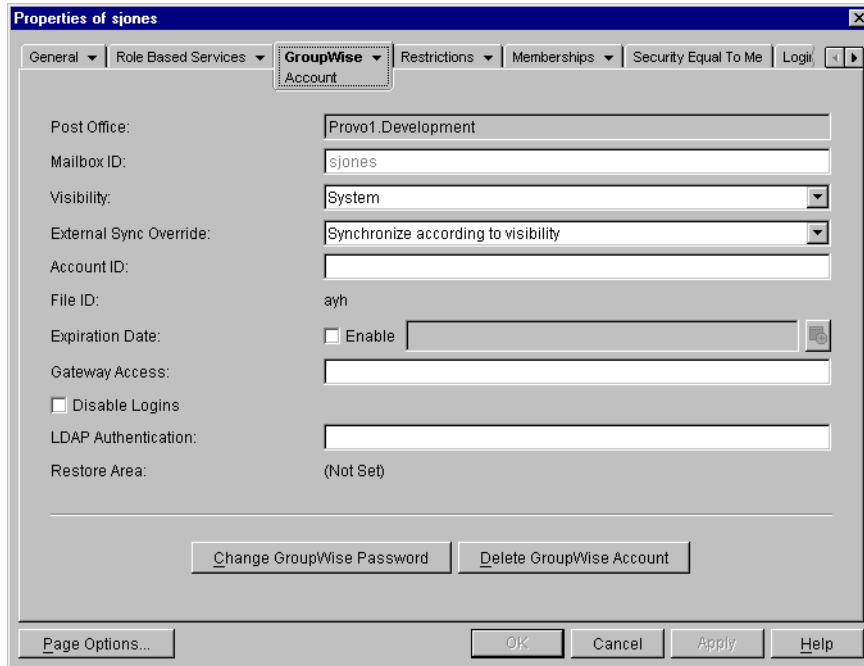
4 Fill in the Gateway Access field.

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=500000

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.

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.

- ◆ "Enabling Accounting" on page 61
- ◆ "Defining an Accountant" on page 62
- ◆ "Understanding the Accounting File" on page 63

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 62.

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

Defining an Accountant

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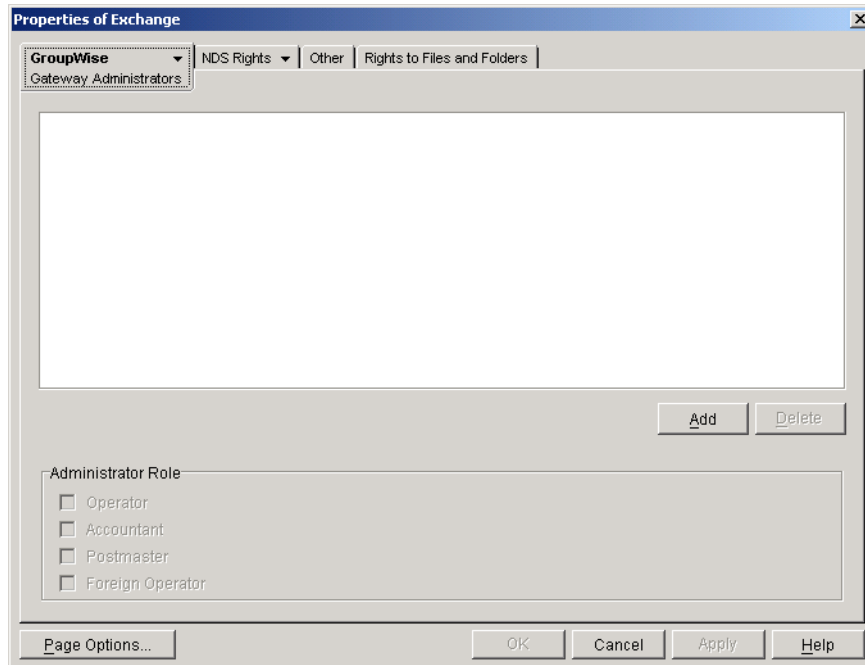
The Gateway Administrators page lets you select a GroupWise user to be the Accountant for the Exchange Gateway. Each night at midnight, the gateway mails the accounting file (acct) to the Accountant.

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 .

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,05/18/03, 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	5/18/03
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

Field	Description	Example
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.

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 "Notifying the Exchange Gateway Administrator about Bad Messages" on page 80.
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 "Setting Up Accounting" on page 61.

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.
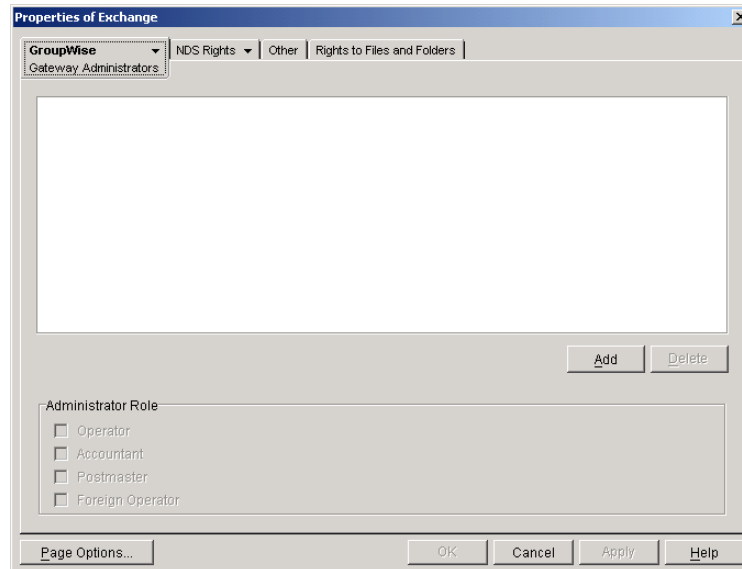
3 Click Add to display the Select Object dialog box, then select the user you want to define as an administrator.

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.

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 (exchange.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.
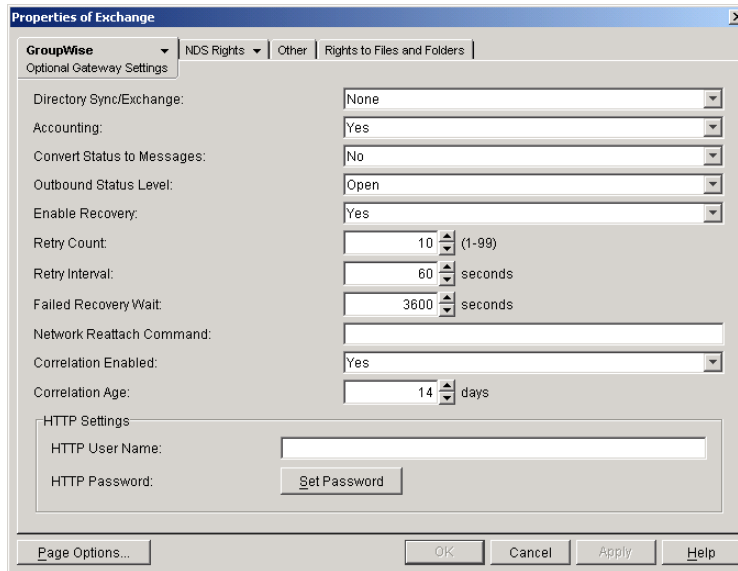
4 Fill in the following fields:

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 choosing 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 exchange.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

Monitoring the Exchange Gateway

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:

Using the Exchange Gateway Console

The Exchange Gateway console displays the gateway's activity when it is running as an application. If you run the Exchange Gateway as a Windows service, the console does not appear and you must use other monitoring alternatives, as described in "Using the Exchange Gateway Web Console" on page 70 and "Using SNMP Monitoring Programs" on page 77.

To properly administer the gateway as an application, you should understand the console and how it works. The screen is divided into various areas.
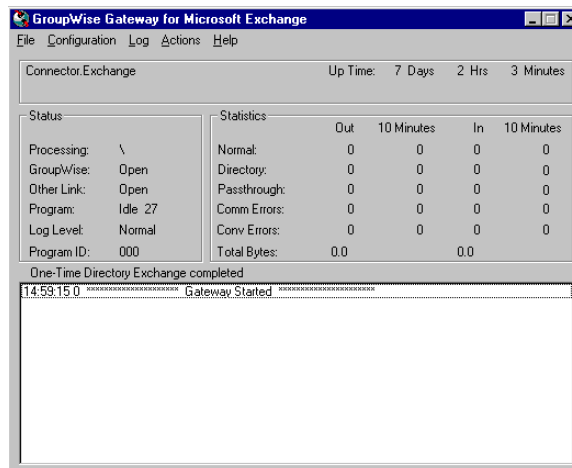
Information Box

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 "Providing Gateway Information" on page 36.

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 93.

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 "Adjusting the Gateway's Send/Receive Cycle" on page 81.

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 "Using Exchange Gateway Log Files" on page 76. You can also change the log level for the current Exchange Gateway session, as described in "Menu Summary" on page 69.

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 "Adjusting the Gateway's Send/Receive Cycle" on page 81

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 "Enabling Message Status for Sent Items" on page 65.

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.

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 "Using Exchange Gateway Log Files" on page 76.

For assistance with error messages that appear in the Log Message box, see Appendix A, "Error and Informational Messages," on page 93.

Menu Summary

At the top of the Exchange Gateway 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 5, "Configuring the GroupWise Side of the Exchange Gateway," on page 35 and various sections in Chapter 6, "Running the Exchange Gateway," on page 39.
Log	View Log Files	F9	Select a log file and view it in Notepad. See "Using Exchange Gateway Log Files" on page 76.
	Log Settings	F2	Override the default log settings for the current Exchange Gateway session. See "Using Exchange Gateway Log Files" on page 76.
Actions	Zero Status	F8	Reset all statistics to zero.

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 console, which can be accessed only from the Windows machine where the Exchange Gateway is running.

Setting Up the Exchange Gateway Web Console

During installation, the Installation program offered you the opportunity to set up the Exchange Gateway Web console.
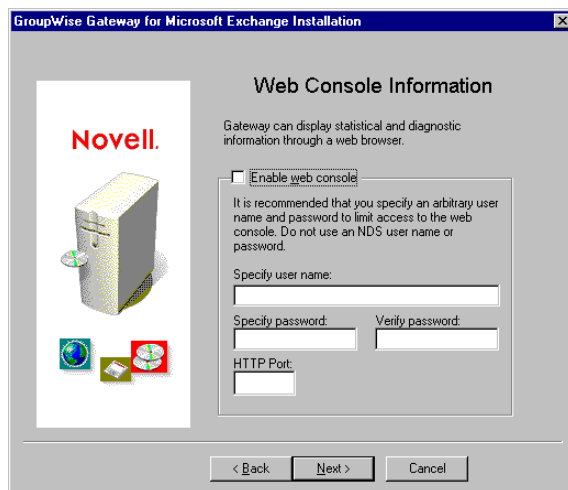
The information that you provided during installation was recorded in the Exchange Gateway startup file (gwexch.cfg). If you want to change the information provided during installation, you must edit the startup file. As an alternative, you can remove the Web console information from the startup file and configure the Web console in ConsoleOne as described below.

If you did not enable the Web console during installation, you can do it 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.
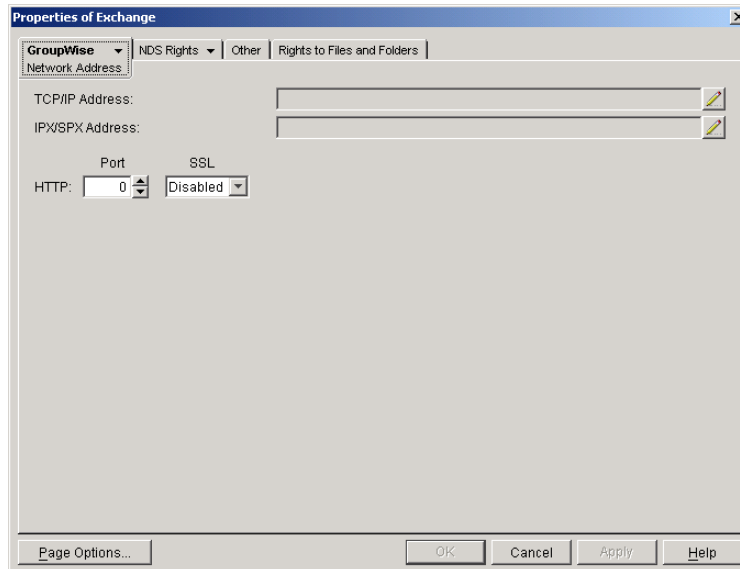
3 In the HTTP Port field, provide a unique port number for communication between the Exchange Gateway and your Web browser.

You might want to use a port number close to those used by the MTA and POA, for example, 7176.

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.
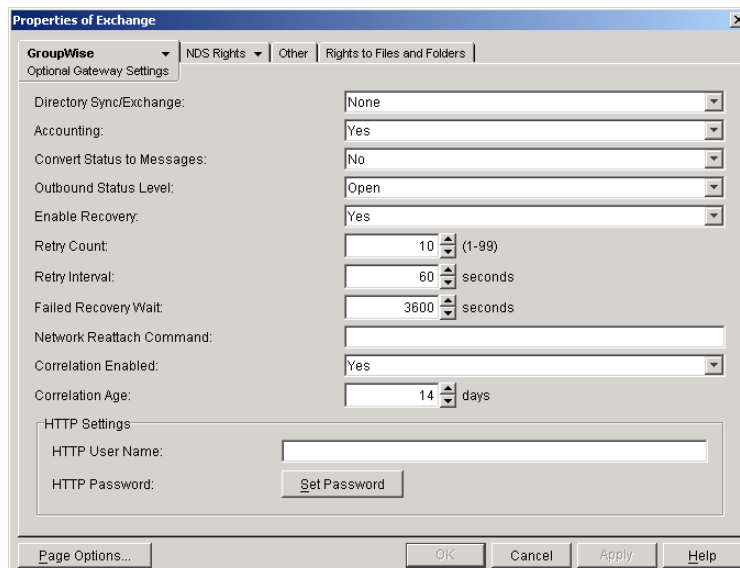
7 In the HTTP Settings box:

7a In the HTTP 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 insecure 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 having to provide 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.

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 machine where the Gateway runs and the port number as provided on the Network Address page in ConsoleOne.
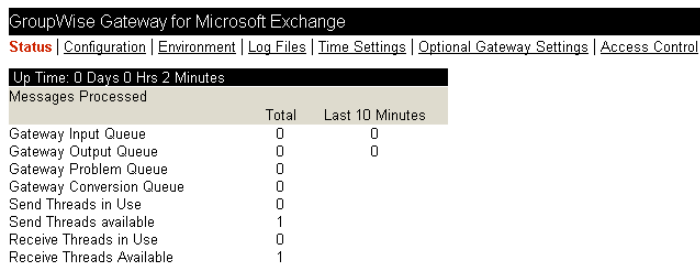
Syntax:
http://*IP_address_or_hostname*:*HTTP_port*

Examples:
http://172.16.5.18:7176

http://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
```
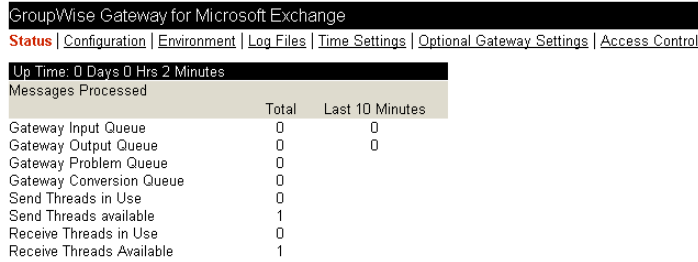
Monitoring the Exchange Gateway from the Web Console

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.

The information is the same as is displayed on the Gateway console on the Windows machine where the gateway runs. For more information, see "Status Box" on page 68.

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.

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.

Viewing Gateway Log Files

On the Exchange Gateway Web console menu, click Log Files to display gateway log files.
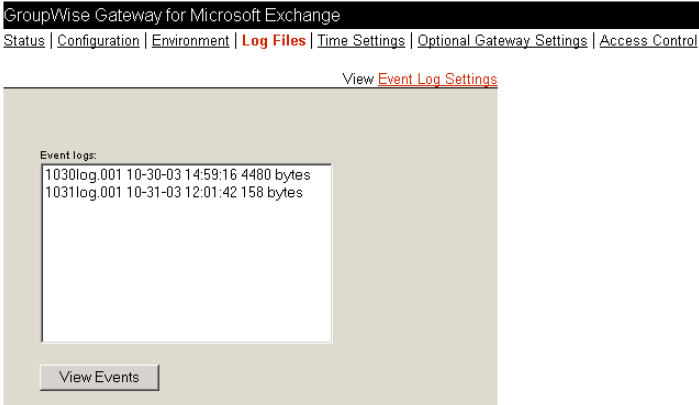
Click Event Log Settings to change the log settings for the current Exchange Gateway session.
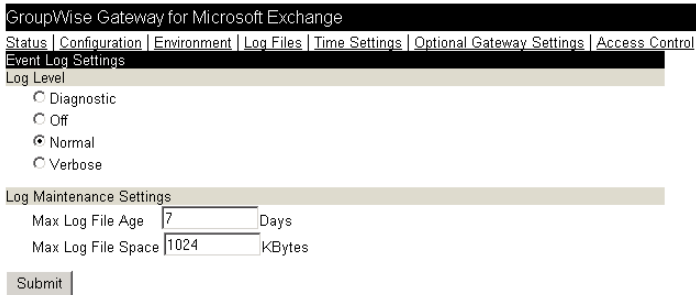
For information about Exchange Gateway log files, see .

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.
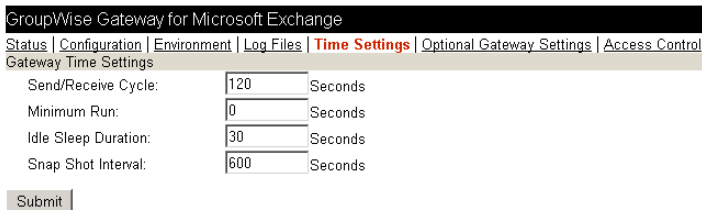
Modify the settings as needed, then click Submit to change them for the current Exchange Gateway session. For information about the time settings, see "Adjusting the Gateway's Send/Receive Cycle" on page 81.

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:

- "Enabling Directory Synchronization and Exchange of Address Books" on page 45
- "Setting Up Accounting" on page 61
- "Enabling Message Status for Sent Items" on page 65
- "Using Exchange Gateway Startup Switches" on page 85

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 "Controlling Gateway Access" on page 54.

Using Exchange Gateway Log Files

Log files record all message routing data that appears in the Log Message box of the Exchange Gateway 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, 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 console and the Web console. Log files are named *mmdd*log.*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.
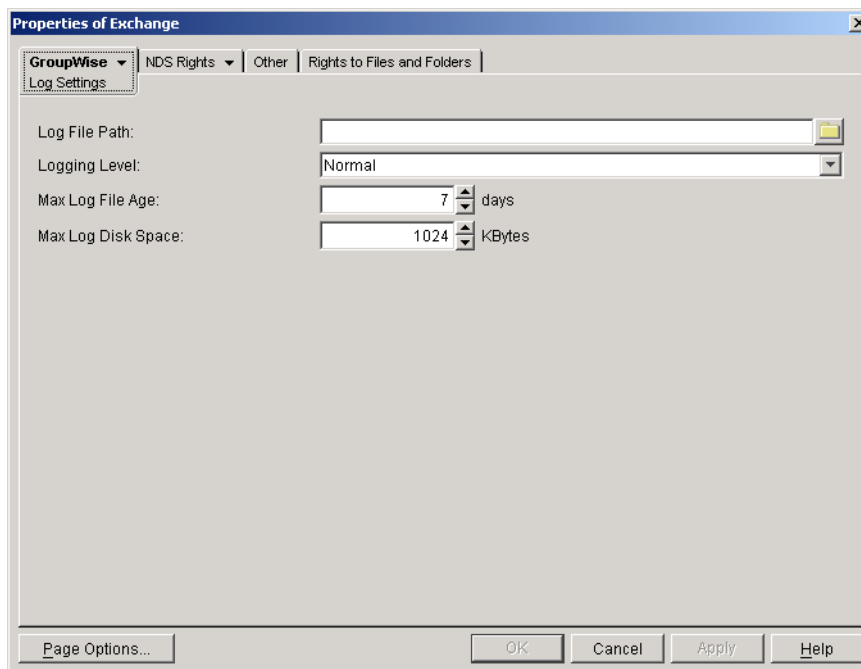
3 Fill in the following fields:

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 console on the machine where the gateway is running, as listed in "Menu Summary" on page 69.

Using SNMP Monitoring Programs

You can monitor the Exchange Gateway from the Management and Monitoring component of Novell ZENworks® for Servers, ManageWise®, 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.
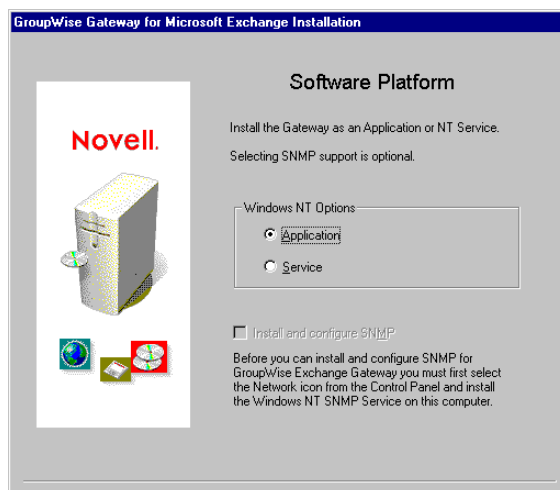
If you did not select SNMP support during installation, there is currently no way to add the functionality short of uninstalling the Exchange Gateway and reinstalling it. See "Uninstalling the Exchange Gateway" on page 42

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

- "Copying and Compiling the Exchange Gateway MIB File" on page 78
- "Configuring the Exchange Gateway for SNMP Monitoring" on page 78

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.

For example, ManageWise users would copy the ngwln.mib file to the \mw\nms\snmpmibs\current directory. The Exchange Gateway MIB file includes annotations that enhance the Alert functions of ManageWise. For example, the Summary provides more detailed information than the Description does in other SNMP management programs. The ManageWise annotations are embedded in comments; therefore, they have no affect on other SNMP management programs.

ZENworks for Servers users could 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 for Servers:

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 machine where the Exchange Gateway is running is configured to send SNMP traps to the ZENworks for Servers Site Server, add the IP address or host name 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 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 78.

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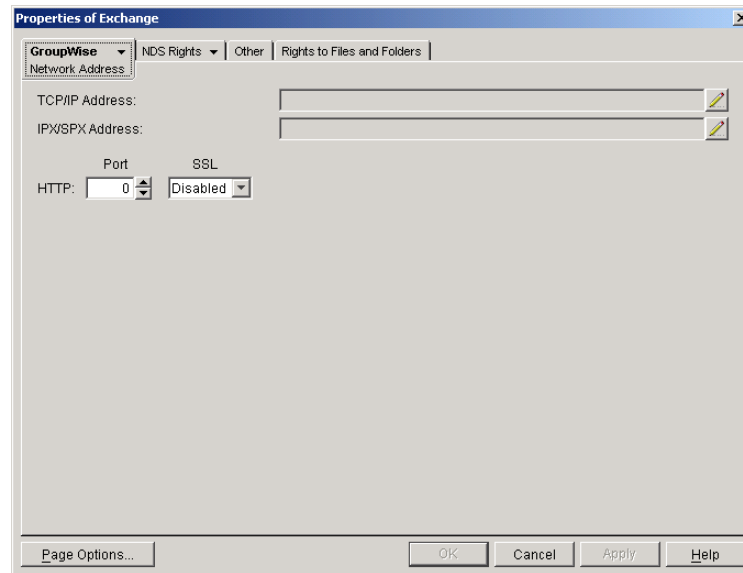
3 Click the pencil icon to provide the TCP/IP address or hostname of the machine where the Exchange Gateway runs, then click Apply.

The Exchange Gateway does not currently support SSL.

4 Click GroupWise > Identification.
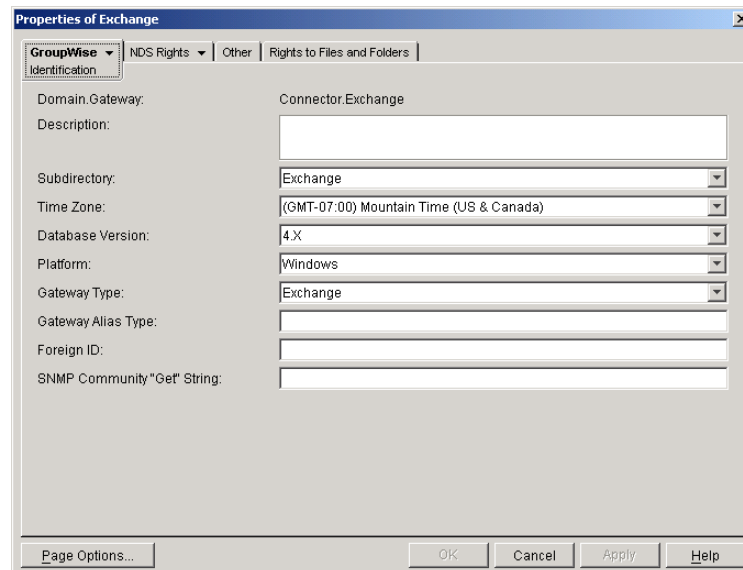
5 Provide your system SNMP community GET string, then click OK.

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.

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. If you do not want to do anything with bad messages, you can have the gateway delete them immediately, or you can have the gateway periodically clean up the gwprob directory, as described in "Setting Up Daily Maintenance Tasks" on page 84.

If you want to take a look at bad message files, you can have the gateway send the bad message files to the postmaster. If you do not yet have a postmaster, see "Establishing Gateway Administrators" on page 64 for setup instructions.

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 93.

9 Optimizing the Exchange Gateway

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 machine. See Chapter 8, "Monitoring the Exchange Gateway," on page 67.

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:

- "Adjusting the Gateway's Send/Receive Cycle" on page 81
- "Adjusting the Number of Sender and Receiver Threads" on page 82
- "Automating Network Reattachment" on page 83
- "Reducing Network Traffic" on page 84
- "Setting Up Daily Maintenance Tasks" on page 84

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.
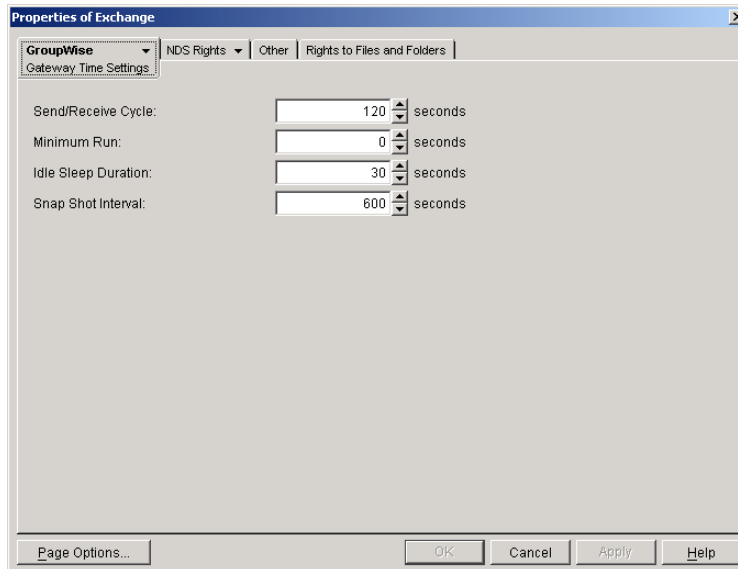
3 Fill in the following fields:

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 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.

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.

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.

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 machine with the domain directory structure, you can reduce network traffic by redirecting the gateway's queue directories to the Windows machine where the gateway is running.

If you choose to place the queue directories on the gateway machine's local drive, make sure the gateway machine 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 10, "Using Exchange Gateway Startup Switches," on page 85.

Setting Up Daily Maintenance Tasks

The Exchange Gateway has the capability of running any maintenance commands you invoke. To take advantage of this capability, you must create a batch file called gwmaint.bat and include your Windows maintenance commands in it. Each day at midnight, the gateway executes the commands in the gwmaint.bat file.

1 Use a text editor to create a gwmaint.bat file in the *domain*\wpgate*exchange* directory.

2 Specify the maintenance commands you want. You can include as many commands as necessary.

For example, the file could include the following line to delete any message files that are undeliverable or damaged.

del j:\connector\wpgate\exchange\gwprob*.bad (queue in the domain directory)

or

del c:\lngate\wpgate\exchange\gwprob*.bad (queue on the local machine)

3 Save the file in the *domain*\wpgate*exchange* directory.

10 **Using Exchange Gateway Startup Switches**

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
/group	N/A
/help	N/A
/home	N/A
/httppassword	HTTP Password
/httpport	HTTP Port
/httprefresh	N/A
/httpuser	HTTP Username
/log	Log File Path

Startup Switch	ConsoleOne Setting
/logdays	Maximum Log File Age
/loglevel	Log Level
/logmax	Maximum Log File Size
/recv	N/A
/rt	N/A
/send	N/A
/single	N/A
/st	N/A
/work	N/A

/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 "Setting Up an Addressing Rule to Facilitate Busy Searches" on page 53 for examples.

/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 "Enabling Directory Synchronization and Exchange of Address Books" on page 45

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.

/badmsg

Indicates what the gateway should do with bad message files (undeliverable or damaged). See "Notifying the Exchange Gateway Administrator about Bad Messages" on page 80. 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 "Establishing Gateway Administrators" on page 64.

- **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

/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 "Enabling Directory Synchronization and Exchange of Address Books" on page 45.

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.

/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 "Enabling Message Status for Sent Items" on page 65.

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

Example:
/corr-\lngate\statcorr
/corr-m:\lngate\statcorr
/corr-\\server2\c$\lngate\statcorr

/custom

Affects inbound directory exchange and enables synchronization of custom recipients from Exchange to GroupWise. See "Enabling Directory Synchronization and Exchange of Address Books" on page 45 and "Including Custom Users in Directory Synchronization" on page 53.

Syntax:
/custom

/group

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

Syntax:
/group

/help

Displays information about the Exchange Gateway switches.

Syntax:
/help

/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

/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 insecure connection between your Web browser and the Exchange Gateway. See "Using the Exchange Gateway Web Console" on page 70.

Syntax:
/httppassword-*password*

Example:
/httppassword-GWiseExchange

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

/httpport

Sets the HTTP port number used for the Exchange Gateway to communicate with your Web browser. The setting must be unique on the machine where the Exchange Gateway runs. See "Using the Exchange Gateway Web Console" on page 70.

Syntax:
/httpport-*port_number*

Example:
httpport-7175

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

/httprefresh

Specifies the rate at which the Exchange Gateway refreshes the status information in your Web browser. The default is 60 seconds. See "Using the Exchange Gateway Web Console" on page 70.

Syntax:
/httprefresh-*seconds*

Example:
/httprefresh-30

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

/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 insecure connection between your Web browser and the Exchange Gateway. See "Using the Exchange Gateway Web Console" on page 70.

Syntax:
/httpuser-*username*

Example:
/httpuser-GateWatcher

/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 "Using Exchange Gateway Log Files" on page 76.

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

Example:
/log-\lngate\logs

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

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

/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 "Using Exchange Gateway Log Files" on page 76.

Syntax:
logdays-*days*

Example:
/logdays-30

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

/loglevel

Overrides the log level specified in ConsoleOne. Possible options are Off, Normal, Verbose, and Diagnostic. See "Using Exchange Gateway Log Files" on page 76.

Syntax:
/loglevel-*level*

Example:
/loglevel-verbose

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

/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 "Using Exchange Gateway Log Files" on page 76.

Syntax:
/logmax-*kilobytes*

Example:
/logmax-2048

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

/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.

/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 "Adjusting the Number of Sender and Receiver Threads" on page 82.

Syntax:
/rt-*threads*

Example:
/rt-3

See also /st.

/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.

/single

Instructs the gateway to run for one send/receive cycle, then shut down. For information about the send/receive cycle, see "Adjusting the Gateway's Send/Receive Cycle" on page 81.

Syntax:
/single

/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 "Adjusting the Number of Sender and Receiver Threads" on page 82.

Syntax:
/st-*threads*

Example:
/st-3

See also /rt.

/work

Indicates the path where temporary files are stored while messages are transferred. You can use a path to a location on the Windows machine where the gateway is running or on the server where the domain directory is located. For more information, see "Reducing Network Traffic" on page 84.

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

Example:
/work-\lngate\work
/work-m:\lngate\work
/work-\\server2\c$\lngate\work

A **Error and Informational Messages**

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

Additional sources of troubleshooting assistance include:

- Novell Support Knowledgebase (http://support.novell.com/search/kb_index.jsp)
- GroupWise 6.*x* Support Forums (http://support.novell.com/forums/gw6.html)
- GroupWise Cool Solutions (http://www.novell.com/coolsolutions/gwmag/index.html)

Error Messages

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

Configuration database not found

Conversion cleanup error while processing inbound message

Conversion error while processing inbound message

Conversion initialization error while processing inbound message

Conversion initialization error while processing outbound message

Could not connect to server share

Could not remove the file named gwproxydll.bak

Error accessing Microsoft Exchange message property while processing inbound message

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

Exchange server was down while initializing the gateway

Export from Exchange reported problems while performing an inbound directory operation

Foreign domain information not available while performing an inbound directory operation

Foreign host information not available while performing an inbound directory operation

Foreign user information not available while performing an inbound directory operation

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

Ignoring recipient FirstName/LastName (Bad GroupWise proxy)

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

MAPI initialization failed while initializing the gateway

Memory allocation failed while performing an inbound directory operation

Memory allocation failed while performing an outbound directory operation

Message server directories do not exist

No active recipients while processing inbound message

No active recipients while processing outbound message

Unable to access the Microsoft Exchange gateway mailbox
Unable to add data to correlation record while processing inbound message
Unable to commit correlation record while processing inbound message
Unable to construct message while processing inbound message
Unable to convert a directory field while performing an inbound directory operation
Unable to convert attachment while processing inbound message
Unable to convert attachment while processing outbound message
Unable to convert message body while processing inbound message
Unable to create directory
Unable to create correlation record while processing inbound message
Unable to create gateway profile while initializing the gateway
Unable to create message while processing inbound message
Unable to find gateway root directory while performing an outbound directory operation
Unable to find inbound DLL while initializing the gateway
Unable to find outbound DLL while initializing the gateway
Unable to find primary domain name while performing an inbound directory operation
Unable to generate accounting record while processing outbound message
Unable to generate status message while processing inbound message
Unable to get configuration information from registry while initializing the gateway
Unable to get configuration information from Site Addressing object while initializing the gateway
Unable to get configuration information from the MAPI Session while initializing the gateway
Unable to get MAPI Session while initializing the gateway
Unable to locate gateway home directory
Unable to map recipients while processing outbound message
Unable to obtain directory handle while initializing directory operations
Unable to obtain directory handle while performing an outbound directory operation
Unable to open the event log while initializing the gateway
Unable to send Non-Delivery Report while processing inbound message
Unable to set Microsoft Exchange message property while processing outbound message
Undeliverable message while processing inbound message
Unknown message type while processing inbound message

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 machine might have too many applications running.
Action:	Stop some applications or move them to a different machine.
Possible Cause:	The gateway machine 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 "Uninstalling the Exchange Gateway" on page 42.

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 "Uninstalling the Exchange Gateway" on page 42.

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 NT 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 4, "Configuring the Exchange Side of the Exchange Gateway," on page 27.

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 4, "Configuring the Exchange Side of the Exchange Gateway," on page 27.
Action:	Verify that the Exchange server is running. See Chapter 4, "Configuring the Exchange Side of the Exchange Gateway," on page 27.

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 4, "Configuring the Exchange Side of the Exchange Gateway," on page 27, then restart the gateway. See "Starting the Exchange Gateway" on page 39.

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 "Installing the Exchange Gateway Addressing Components" on page 22.

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 "Installing the Exchange Gateway Addressing Components" on page 22.

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 "Installing the Exchange Gateway Addressing Components" on page 22.
Action:	Ensure that the address format for GWISE contains %m as a component. See "Selecting User Address Type and Format" on page 19 and Chapter 4, "Configuring the Exchange Side of the Exchange Gateway," on page 27.

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 "Uninstalling the Exchange Gateway" on page 42 and Chapter 3, "Installing the Exchange Gateway," on page 15.

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, "Selecting User Address Type and Format" on page 19, and Chapter 4, "Configuring the Exchange Side of the Exchange Gateway," on page 27.

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, "Selecting User Address Type and Format" on page 19, and Chapter 4, "Configuring the Exchange Side of the Exchange Gateway," on page 27.

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 machine might have too many applications running.

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

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

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

Possible Cause: The gateway machine 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 GroupWise Message Transfer Agent (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 "Starting the MTA" in "Message Transfer Agent" in the GroupWise 6.5 Administration Guide.
Action:	Check the GroupWise configuration in ConsoleOne to ensure that the gateway object exists and is correctly configured. See "Providing Gateway Information" on page 36.

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 "Controlling Gateway Access" on page 54.

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 "Controlling Gateway Access" on page 54.

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 4, "Configuring the Exchange Side of the Exchange Gateway," on page 27.
Action:	Verify that the user logged into Windows has enough rights to the Exchange system and the Mailbox store. See Chapter 4, "Configuring the Exchange Side of the Exchange Gateway," on page 27.

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 machine 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 "Enabling Message Status for Sent Items" on page 65.

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 machine meets the disk space requirements listed in Chapter 2, "Exchange Gateway System Requirements," on page 13.
Possible Cause:	The correlation for 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 "Enabling Message Status for Sent Items" on page 65.

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 machine might have too many applications running.
Action:	Stop some applications or move them to a different machine.
Possible Cause:	The gateway machine 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 machine 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 machine 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 machine 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 machine 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 "Enabling Message Status for Sent Items" on page 65.

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 machine 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 "Starting the Exchange Gateway" on page 39.

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 machine where the Gateway runs.

At the gateway machine:

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 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 machine where the Gateway runs.

At the gateway machine:

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 machine might have too many applications running.

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

Possible Cause: The gateway machine 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 4, "Configuring the Exchange Side of the Exchange Gateway," on page 27.

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.x/2000.

Possible Cause: The Exchange server services might not be running.

Action:	Verify that all Exchange server services are running. See Chapter 4, "Configuring the Exchange Side of the Exchange Gateway," on page 27.
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 4, "Configuring the Exchange Side of the Exchange Gateway," on page 27.
	For Exchange 5.*x*, 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, 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 "Configuring Exchange 2000" on page 30.

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 4, "Configuring the Exchange Side of the Exchange Gateway," on page 27, 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 in Microsoft Exchange 5.*x* or 2000.
Possible Cause:	The Exchange server services might not be running.
Action:	Verify that all Exchange server services are running. See Chapter 4, "Configuring the Exchange Side of the Exchange Gateway," on page 27.
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 4, "Configuring the Exchange Side of the Exchange Gateway," on page 27.
	For Exchange 5.*x*, 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, 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 "Configuring Exchange 2000" on page 30.

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 machine might have too many applications running.

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

Possible Cause: The gateway machine 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 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 4, "Configuring the Exchange Side of the Exchange Gateway," on page 27.

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 4, "Configuring the Exchange Side of the Exchange Gateway," on page 27.
Possible Cause:	Insufficient memory to perform the operation.
Possible Cause:	The gateway machine might have too many applications running.
Action:	Stop some applications or move them to a different machine.
Possible Cause:	The gateway machine 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.

Informational Messages

Processing <first name last name>
Processed XXX Exchange recipients
Number of Additions/Modifications: XXX
Number of Deletions: XXX
Number of Domains Allowed: XXX
Number of Domains Blocked: XXX
Number of Ignores: XXX
Total Number Processed: XXX
Some GroupWise records have not been written to the Exchange directory
Some Exchange objects have not been written to the GroupWise directory

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.

B Exchange Gateway Directory Structure

The following directory structure diagrams help you understand the Exchange Gateway:

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
📁 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

exchsvr directory

The exchsvr directory is the standard directory to which Microsoft Exchange is installed on a server. On Windows 2000, it is located in the Program Files directory. On Windows NT, it is located at the root.

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.

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
📄 *mmdd*log.*nnn*		Exchange Gateway log files
📁 cmd		Not used in version 2.0 of the Exchange Gateway
📁 gwwork		Working directory for processing messages
📁 gwhold		Directory for retaining delayed delivery messages
📁 qfiles		Not used in version 2.0 of the Exchange Gateway
📁 gwprob		Directory for undeliverable 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
📄 readme.txt		Readme file
📄 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
📄 gwmaint.bat		Gateway maintenance batch file

❏ ngwexh.mib		Exchange Gateway MIB file
❏ gwexgate.chm		Windows help file for the Exchange Gateway 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
❏ *.dll		Supporting Windows DLL programs

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 machine 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 machine where the gateway is running, as described in "Reducing Network Traffic" on page 84.

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 *mmdd*log.*nnn* files are the Exchange Gateway log files where message routing information is recorded. See "Using Exchange Gateway Log Files" on page 76.

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 "Notifying the Exchange Gateway Administrator about Bad Messages" on page 80.

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 synchronization has been performed.

gwdx file

The gwdx file indicates that directory synchronization has taken place. If you delete the gwds 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. See "Domain Directory" in the *GroupWise 6.5 Troubleshooting 3: Message Flow and Directory Structure* for more information.

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 "Enabling Message Status for Sent Items" on page 65.

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 exc*xxxx* 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 "Enabling Message Status for Sent Items" on page 65.

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.

readme.txt file

The readme.txt file describes issues and limitations of the Exchange Gateway.

exgate.exe file

The exgate.exe file is the Exchange Gateway executable file. You run this program to start the Exchange Gateway. See "Starting the Exchange Gateway" on page 39.

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 10, "Using Exchange Gateway Startup Switches," on page 85.

access.cfg file

The access.cfg file is the Exchange Gateway access control file where you can control access through the gateway. See "Controlling Gateway Access" on page 54.

acct file

The acct file is the accounting file where information about messages passing through the gateway is recorded. See "Setting Up Accounting" on page 61.

stat file

The stat file is the gateway statistics file that contains the statistics information displayed on the Exchange Gateway console. See "Using the Exchange Gateway Console" on page 67.

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 "Enabling Message Status for Sent Items" on page 65.

The gwcorr.dc file is the data dictionary file from which the gwcorr.db file is created.

gwmaint.bat file

The gwmaint.bat file is run by the Exchange Gateway each night to perform whatever server maintenance tasks you place in it. See "Setting Up Daily Maintenance Tasks" on page 84.

ngwexh.mib file

The ngwexh.mib file is used if you configure the Exchange Gateway for SNMP. See "Using SNMP Monitoring Programs" on page 77.

gwexgate.chm file

The gwexgate.chm file is the Windows help file that is available from the Exchange Gateway 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 console on the Windows machine where the gateway runs.

*.dll files

The *.dll files are supporting programs that provide specialized functionality to the Exchange Gateway.

C Documentation Updates

This section lists updates to the *Exchange Gateway Installation and Administration Guide* that have been made since the initial release of the Exchange Gateway 2.0. 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 *Exchange Gateway 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 *Exchange Gateway Installation and Administration Guide* has been updated on the following dates:

- "July 16, 2004" on page 115

July 16, 2004

Location	Change
Chapter 1, "What Is the GroupWise Gateway for Microsoft Exchange?," on page 11	Clarified that Busy Search is supported for GroupWise users who want to check the calendars of Exchange users, but it is not supported for Exchange users to check GroupWise users' calendars.
"Deciding Where to Install the Exchange Gateway" on page 16	Clarified that the Exchange Gateway must be installed on an Exchange server.
"Installing the Exchange Gateway Software" on page 21	Clarified that the Exchange Gateway must be installed on an Exchange server.
"Exchange Gateway Directory Structure under the Domain" on page 110	Removed reference to Busy Searches on GroupWise® users by Exchange users. Busy Searches cannot be performed from the Exchange site, only from the GroupWise site.