Domains

II

Creating a New Domain

<div style="text-align: right; font-size: xx-large;">8</div>

As your GroupWise® system grows, you might need to add new domains.

IMPORTANT: If you are creating a new domain in a clustered GroupWise system, see the *GroupWise 7 Interoperability Guide* before you create the domain:

8.1 Understanding the Purpose of Domains

The domain functions as the main administrative unit for your GroupWise system. Each GroupWise system has one primary domain, which was created when you first installed GroupWise. All other domains that you add are secondary domains.

The domain serves as a logical grouping of one or more post offices and is used for addressing and routing messages. Each GroupWise user has a GroupWise address that consists of a user ID, the user's post office name, the GroupWise domain name, and, optionally, an Internet domain name.

The following diagram illustrates the logical organization of a GroupWise system with multiple domains and post offices. All of the objects under the domain belong to that domain. All of the objects under a post office belong to that post office.

Figure 8-1 *Logical Organization of a GroupWise System with Multiple Domains and Post Offices*
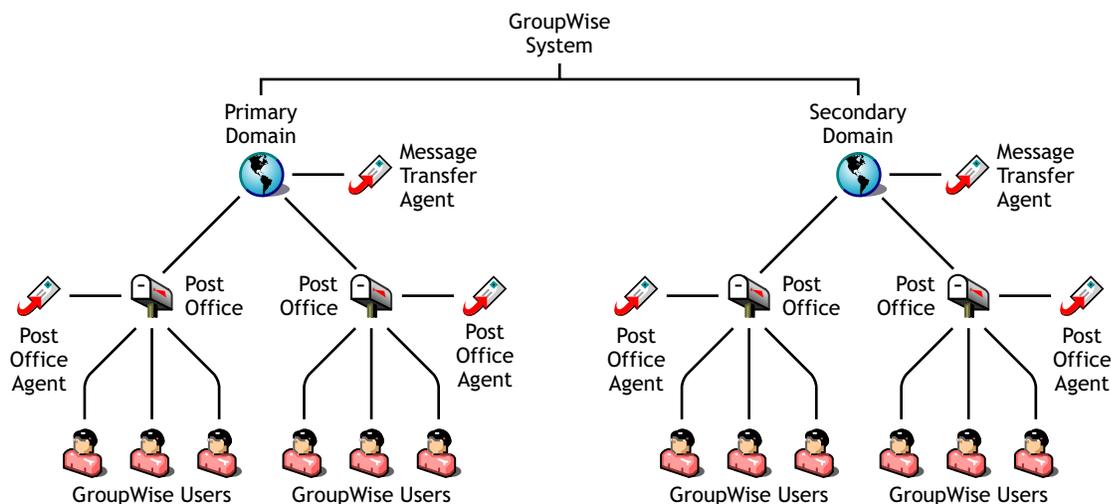
Messages are moved from user to user through your GroupWise system by the GroupWise agents. As illustrated above, each domain must have a Message Transfer Agent (MTA) running for it. The MTA transfers messages between domains and between post offices in the same domain. Each post

office must have at least one Post Office Agent (POA) running for it. The POA delivers messages to users' mailboxes and performs a variety of post office and mailbox maintenance activities.

When you add a new domain to your GroupWise system, links define how messages are routed from one domain to another. When you add the first secondary domain, the links between the primary and secondary domains are very simple. As the number of domains grows, the links among them can become quite complex. Links are discussed in detail in Chapter 10, "Managing the Links between Domains and Post Offices," on page 137.

Physically, a domain consists of a set of directories that house all the information stored in the domain. To view the structure of a domain directory, see "Domain Directory" in *GroupWise 7 Troubleshooting 3: Message Flow and Directory Structure*. The domain directory does not contain mailboxes or messages, but it does contain other vital information. For an overview, see Section 40.3, "Information Stored in the Domain," on page 606. Domain directories can be located on NetWare®, Linux, and Windows servers.

8.2 Planning a New Domain

After you have your basic GroupWise system up and running, you might need to expand it by adding one or more domains. The GroupWise architecture lets you create a simple, single domain system, or a complex system that links dozens of domains across a campus, a city, or around the world.

This section provides the information you need in order to decide when, where, and how to set up a new domain. The "Domain Worksheet" on page 125 lists all the information you need. You should print the worksheet and fill it out as you complete the tasks listed below.

- Section 8.2.1, "Determining When to Add a New Domain," on page 112
- Section 8.2.2, "Deciding Who Will Administer the New Domain," on page 113
- Section 8.2.3, "Planning Post Offices in the New Domain," on page 114
- Section 8.2.4, "Determining the Context for the Domain Object," on page 114
- Section 8.2.5, "Choosing the Domain Name," on page 116
- Section 8.2.6, "Deciding Where to Create the Domain Directory," on page 117
- Section 8.2.7, "Deciding Where to Install the Agent Software," on page 118
- Section 8.2.8, "Deciding How to Link the New Domain," on page 121
- Section 8.2.9, "Selecting the Domain Language," on page 121
- Section 8.2.10, "Selecting the Domain Time Zone," on page 121

After you have completed the tasks and filled out the "Domain Worksheet" on page 125, you are ready to continue with Section 8.3, "Setting Up the New Domain," on page 122.

8.2.1 Determining When to Add a New Domain

How do you know when you should add a domain? The answer to this depends on your administration policies and on physical and logical network organization.

Although a single domain can contain as many post offices and users as you want to add, there are some conditions that indicate the need for a new domain:

* **Administrative Convenience:** To spread out the administrative workload, you can create one or more new domains with their own administrators. Each new domain can be managed by a different administrator as long as each administrator has sufficient rights to connect to it and write to the domain database.

* **Remote Sites:** If communication between servers is slow, or if you have remote sites, you can add a new domain to minimize mail traffic between the servers. For example, if you have locations in three separate cities, you might have an organization that represents each location. You could then create a domain in each organization. You could administer all of the domains from one location or you could assign a different administrator for each one.

* **Demand on the MTA:** Each domain has its own MTA that routes messages between post offices within its domain. If your current domain has many post offices that are placing a heavy workload on the MTA, you might want to create another domain to handle additional post offices.

* **Multiple eDirectory Trees:** All of the objects that are logically subordinate to a GroupWise domain must be in the same Novell® eDirectory™ tree as the domain. If you have users in other eDirectory trees that need GroupWise accounts, you must create secondary domains and post offices in each tree.

8.2.2 Deciding Who Will Administer the New Domain

Any user who is an Admin equivalent can administer GroupWise. We recommend that whoever creates the new domain should be an Admin equivalent so that he or she has the necessary rights to create objects and directories. You can then assign a different user as a domain administrator and limit rights to other objects if necessary. For more information, see Chapter 75, "GroupWise Administrator Rights," on page 1135.

Depending upon the size, complexity, and layout of your eDirectory tree, you might choose a centralized administration model with one person administering both eDirectory and GroupWise, or you might choose a distributed administration model with the administration workload shared by two or more individuals. With a distributed administration model, each administrator obtains rights to the GroupWise objects and directory structures over which he or she has jurisdiction. If you want to restrict access to some network operations or to certain domains, you can limit access rights to domains the user should not administer.

The user assigned as the administrator must be able to create or modify objects in the domain and will receive an e-mail message whenever an agent encounters a problem. You can designate yourself, one or more other users, or a distribution list as an administrator.

WORKSHEET

Under Item 10: Domain Administrator, enter the ID of the user or distribution list that will administer this domain.

The items in the worksheet are listed in the order you will enter them when setting up your domain. This planning section does not follow the same order as the worksheet, but all worksheet items are covered.

8.2.3 Planning Post Offices in the New Domain

Before adding the new domain, you should plan the post offices that you want to belong to the domain. You should consider the following issues when planning post offices.

- **Physical Organization:** If your network spans several sites, you might want to create post offices (if not domains) at each physical location. This reduces the demands on long-distance network links.

- **Logical Organization:** Grouping users who frequently send messages to each other is faster and generates less network traffic than if messages travel between different post offices and domains.

- **Number of Users:** A typical post office can serve from 1000 to 2500 users, depending on its configuration. Larger post offices are possible, but grouping similar users might be preferable.

- **Demand on the POA:** Each post office has at least one POA that delivers messages to user mailboxes and performs other post office maintenance tasks. It is possible to run multiple POAs, located on different servers, for the same post office, or you might prefer to create multiple post offices.

For more details, see Section 11.2, "Planning a New Post Office," on page 156.

8.2.4 Determining the Context for the Domain Object

When deciding where to place the new Domain object in the eDirectory tree, you should consider how you can most easily administer GroupWise and how the domain and its associated post offices fit into the logical organization of your eDirectory tree.

Domains and their associated objects, including Post Offices, Users, Resources, and Distribution Lists, must be located in the same eDirectory tree. If you have multiple trees, you must create a separate domain in each tree. The domains can all belong to the same GroupWise system, even though they are located in different trees.

You can place the domain in any Organization or Organizational Unit container in any context in an eDirectory tree. The following sections provide some examples of how domains can be placed in the eDirectory tree:

- "GroupWise Objects Reflect Physical Locations" on page 115
- "GroupWise Objects Reflect Company Organization" on page 115
- "GroupWise Objects Are Grouped with Servers" on page 115
- "GroupWise Objects Are Located in a Separate GroupWise Container" on page 116

WORKSHEET

Under Item 1: Tree Name, specify the name of the eDirectory tree where you plan to create the new domain.

Under Item 2: eDirectory Container, specify the name of the eDirectory container where you plan to create the new domain.

GroupWise Objects Reflect Physical Locations

The GroupWise system below focuses on the physical layout of the company. Because most mail traffic is probably generated by users in the same location, the mail traffic across the WAN is minimized. An organizational unit is created for each site. A domain is created under each organizational unit, corresponding to the city. The sites can be administered centrally or at each site. Administrator rights can be assigned at the domain level.

Figure 8-2 *A GroupWise System Following the Company's Physical Organization*

```
⊟ 🖧 Corporate
   ⊟ 🖳 Los Angeles
      ⊞ 🌐 LA-Dom1
      ⊞ 📬 LA-PO1-1
   ⊟ 🖳 New York
      ⊞ 📬 NY-PO1-1
      ⊞ 🌐 NY-Dom1
```

GroupWise Objects Reflect Company Organization

The following GroupWise system focuses on departmental organization, as does the eDirectory tree. GroupWise domains and post offices parallel eDirectory organizational units, placing the domains and post offices within the organizational units containing the users that belong to them.

Figure 8-3 *A GroupWise System Following the Company's Departmental Organization*

```
⊟ 🖧 Corporate
   ⊟ 🖳 Accounting
      ⊞ 🌐 Acct-Dom
      ⊞ 📬 Acct-PO1
   ⊟ 🖳 Development
      ⊞ 🌐 Dev-Dom
      ⊞ 📬 Dev-PO1
   ⊞ 🖳 Manufacturing
   ⊞ 🖳 Sales
```
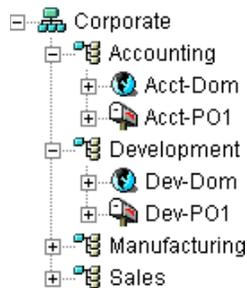
GroupWise Objects Are Grouped with Servers

Because domains and post offices have directory structures on network servers, you could also choose to place the Domain and Post Office objects in the same context as the servers where the directories reside, as shown in the following example.
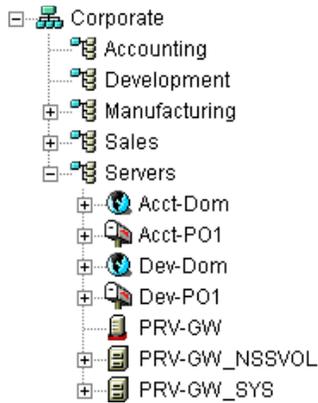
GroupWise Objects Are Located in a Separate GroupWise Container

Domains and post offices can also be created in their own organizational unit. Administratively, this approach makes it easier to restrict a GroupWise administrator's object and property rights to GroupWise objects only. For information about GroupWise Administrator rights, see Section 8.2.2, "Deciding Who Will Administer the New Domain," on page 113.

Figure 8-5   *Groupwise Objects Located in Their Own Organizational Unit*
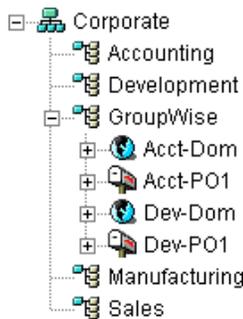
8.2.5 Choosing the Domain Name

The domain requires a unique name. The name is used as the Domain object's name in eDirectory. It is also used for addressing and routing purposes within GroupWise, and might appear in the GroupWise Address Book.

The domain name can reflect a location, company name or branch name, or some other element that makes sense for your organization. For example, you might want the domain name to be the location (for example, Provo) while the post office name is one of the company's departments (for example, Research). Name the new domain carefully. After it is created, the name cannot be changed.

The domain name should consist of a single string. Use underscores (_) rather than spaces as separators between words to facilitate addressing across the Internet. Do not use any of the following invalid characters in the domain name:

ASCII characters 0-13   Comma ,

Asterisk *   Double quote "

At sign @	Extended ASCII characters that are graphical or typographical symbols; accented characters in the extended range can be used
Braces { }	Parentheses ( )
Colon :	Period .

WORKSHEET

Under Item 3: Domain Name, specify the domain name.

Under Item 8: Domain Description, provide a description for the new domain.

8.2.6 Deciding Where to Create the Domain Directory

Logically, the Domain object resides in eDirectory and is administered through ConsoleOne®. Physically, the domain has a directory structure for databases, message queues, and other files. The domain directory structure can be created on any of the supported platforms listed in "GroupWise Administration Requirements" in the *GroupWise 7 Installation Guide*. It can also be located on any platform that an MTA running on a supported platform can access successfully. The server where you create the domain directory structure can be in the same tree as the Domain object or in another tree.

Many different configurations are possible. When deciding where to create the domain directory, you should consider the following.

* **Domain Directory Space Requirements:** The domain directory requires less than 10 MB of free disk space. However, this requirement could increase as your system grows.
* **Network Access by the MTA:** If the MTA is not installed on the same server with the domain directory, the MTA must have direct network access to the domain directory so that it can write to the domain database (wpdomain.db) and, depending on link configuration, to the post office directories so that it can write to the POA input queues. This issue is discussed in detail in Section 8.2.7, "Deciding Where to Install the Agent Software," on page 118.
* **Security from User Access:** Users never need access to the domain directory so you should create it in a location you can easily secure; otherwise, you could have files inadvertently moved or deleted.

Choose an empty directory for the new domain. If you want, the directory can reflect the name of the domain, for example, res_dev for the Research and Development domain. Use the following platform-specific conventions:

NetWare:	Use a maximum of 8 characters
Linux:	Use only lowercase characters
Windows:	No limitations.

Choose the name and path carefully. After the domain directory is created, it is difficult to rename it. If the directory you specify does not exist, it is created when you create the domain. Do not create the domain directory under another domain or post office directory.

Under Item 4: Domain Database Location, enter the full path for the domain directory.

Under Item 9: Network Type, enter the type of network in use at that location.

8.2.7 Deciding Where to Install the Agent Software

You must run a new instance of the MTA for each new domain. To review the functions of the MTA for the domain, see Section 40.4, "Role of the Message Transfer Agent," on page 608. For complete installation instructions and system requirements, see "Installing GroupWise Agents" in the *GroupWise 7 Installation Guide*.

When planning the installation of the MTA, you need to consider how the new domain links to existing domains and how the new domain will link to its post offices. For an overview of link configuration, see Chapter 10, "Managing the Links between Domains and Post Offices," on page 137.

The MTA requires direct network access to the domain directory so that it can write to the domain database (`wpdomain.db`) and, depending on the link configuration, to each post office directory so that it can write to the POA input queues. Consider the following alternatives when selecting a location for the MTA relative to the domain and its post offices:

- ◆ "MTA Access to the New Domain: Local vs. Remote" on page 118
- ◆ "MTA Access to New Post Offices: Mapped and UNC Links vs. TCP/IP Links" on page 119
- ◆ "Cross-Platform Access Issues" on page 120

WORKSHEET

Under Item 11: Agent Location, indicate whether you plan to run the MTA on the same server where the domain directory is located (recommended), or on a different server.

Under Item 12: Agent Platform, enter the platform of the server where the MTA will run (NetWare, Linux, or Windows).

MTA Access to the New Domain: Local vs. Remote

Running the MTA locally on the same server where the domain and post offices reside simplifies network connections (no login is required), reduces network traffic, and protects database integrity. In the following diagram, the agent software is installed on the same server where the domain and post office reside.

Figure 8-6 *Agent Software on the Same Server with the Domain and Post Office*
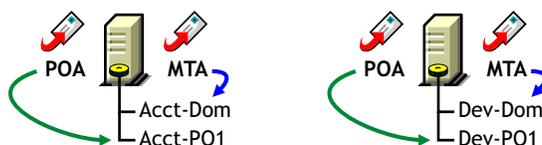
Running the MTA on a remote server allows you to place the heaviest processing load on your highest performing server. In the following diagram, the agent software is installed on a different server from where the domains and post offices reside.

Figure 8-7 *Agent Software on a Different Server than the Domain and Post Office*
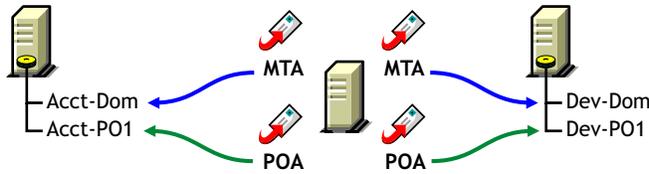
When you run the MTA on a different server from where its directory structures and databases are located, you need to provide adequate access.

NetWare:	If the NetWare MTA needs direct network access to another NetWare server, you must add the /dn switch or the /user and /password switches to the MTA startup file to provide authentication information.
Linux:	If the Linux MTA needs direct network access to another Linux server, you must mount the file system where the domain is located before you start the Linux MTA.
Windows:	If the Windows MTA needs direct network access to another Windows server, you must map a drive to the other server before you start the Windows MTA.

MTA Access to New Post Offices: Mapped and UNC Links vs. TCP/IP Links

If the new domain will include multiple post offices, the post offices will probably reside on different servers from where the domain is located. If you plan to use mapped or UNC links between the domain and its post offices, the MTA requires the same access to the post office directories as it requires to the domain directory.

Figure 8-8 *MTA Access Using Mapped or UNC Links*
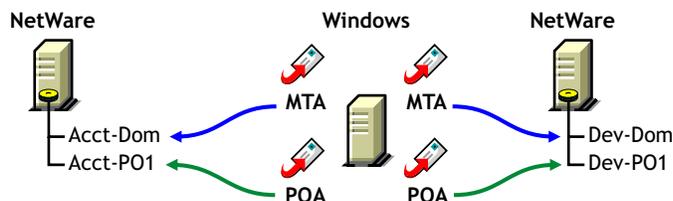
NetWare:	If the NetWare MTA needs access to a post office on another NetWare server, you must add the /dn switch or the /user and /password switches to the MTA startup file to provide authentication information.
Linux:	N/A. The Linux MTA requires TCP/IP links to the POA.
Windows:	If the Windows MTA needs access to a post office on another Windows server, you must map a drive to the other server before you start the Windows MTA.

To avoid these direct network access requirements between the MTA and its post offices, you can use TCP/IP links between the domain and its post offices.

Figure 8-9 *MTA Access Using TCP/IP Links*
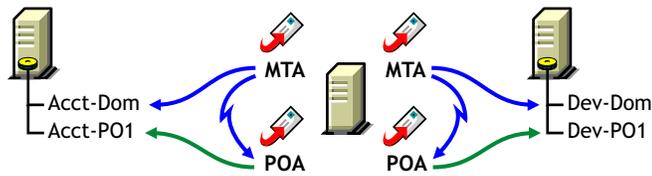
When using TCP/IP links, the MTA does not write message files into message queues in the post office directory structure. Instead, the MTA communicates the information to the POA by way of TCP/IP and then the POA uses its direct network access to write the information.

Cross-Platform Access Issues

In most cases, it is most efficient if you match the MTA platform with the network operating system where the domain resides. For example, if you create a new domain on a NetWare server, use the NetWare MTA.

If you decide not to run the MTA on the same platform as the domain, the MTA must still have direct network access to the domain directory so that it can write to the domain database (`wpdomain.db`). For example, you could set up the new domain on a NetWare server and run the Windows MTA on a Windows server to service it.

Figure 8-10 *A Domain on a NetWare Server and the MTA on a Windows Server*
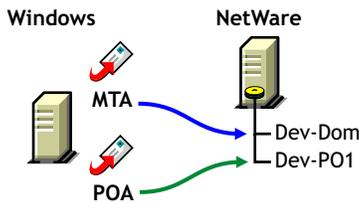
However, the NetWare MTA could not service a domain located on a Windows server because Windows does not support the required cross-platform connection.

If you are using mapped or UNC links to post offices, the MTA must also have direct network access to the post office directories so that it can write messages files into the post office message queues. You could, for example, run the agents on an Windows server while domains and post offices were located on NetWare servers.

Figure 8-11 *Agents on a Windows Server and Domains and Post Offices on a NetWare Server*
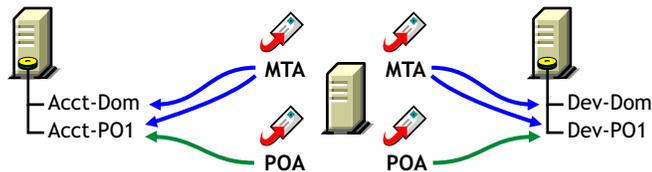
Again, the opposite combination of NetWare agents servicing domains and post offices on Windows servers is not an option because Windows does not support the required cross-platform connection.

To avoid these cross-platform access issues, use TCP/IP links between a domain and its post offices.

For more detailed information, see Section 40.7, "Cross-Platform Issues between Domains and Post Offices," on page 609.

8.2.8 Deciding How to Link the New Domain

Domain links tell the MTAs how to route messages between domains. Properly configured links optimize message flow throughout your GroupWise system. For a review of link types, see Section 10.1.1, "Domain-to-Domain Links," on page 137.

When you create the new domain, you link it to one existing domain. By default, this link is a direct link using TCP/IP as the link protocol, which means the new domain's MTA communicates with the existing domain's MTA through TCP/IP. If desired, you can configure the direct link to use a UNC path as the link protocol, which means the new domain's MTA transfers information to and from the existing domain by accessing the existing domain's directory.

WORKSHEET

Under Item 7: Link to Domain, specify the existing domain that you want to link the new domain to, then specify the link protocol (TCP/IP or UNC path).

After you create the new domain, you can configure links to additional domains as needed. See Section 10.2, "Using the Link Configuration Tool," on page 143.

8.2.9 Selecting the Domain Language

The domain language determines the default sort order for items in the GroupWise Address Book for users in post offices that belong to the domain. For more information, see Section 11.2.8, "Selecting the Post Office Language," on page 165.

WORKSHEET

Under Item 5: Domain Language, specify the domain language.

8.2.10 Selecting the Domain Time Zone

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

The domain time zone becomes the default time zone for each post office in the domain.

WORKSHEET

Under Item 6: Domain Time Zone, enter the time zone.

8.3 Setting Up the New Domain

You should have already reviewed Section 8.2, "Planning a New Domain," on page 112 and filled out Section 8.5, "Domain Worksheet," on page 125. Complete the following tasks to create the new domain.

- Section 8.3.1, "Creating the New Domain," on page 122
- Section 8.3.2, "Configuring the MTA for the New Domain," on page 123
- Section 8.3.3, "Installing and Starting the New MTA," on page 124

8.3.1 Creating the New Domain

1 Make sure you are logged in to the tree where you want to create the domain (worksheet item 1).

2 Click *Tools > GroupWise Utilities > Check eDirectory Schema* to make sure that the tree's schema has been extended to accommodate GroupWise objects.

3 In ConsoleOne®, browse to and right-click the eDirectory container where you want to create the domain (worksheet item 2), then click *New > Object*.
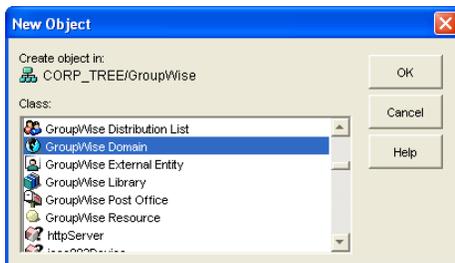
4 Double-click *GroupWise Domain*, then fill in the fields in the Create GroupWise Domain dialog box (worksheet items 3 through 7).

5 Make sure the *Configure Links* and *Define Additional Properties* options are selected, then click *OK* to display the Link Configuration Wizard.

6 Follow the on-screen instructions to define how the new domain links to the existing domain (listed in the *Link to Domain* field). When you've finished defining the link, ConsoleOne creates the Domain object and displays the domain Identification page.
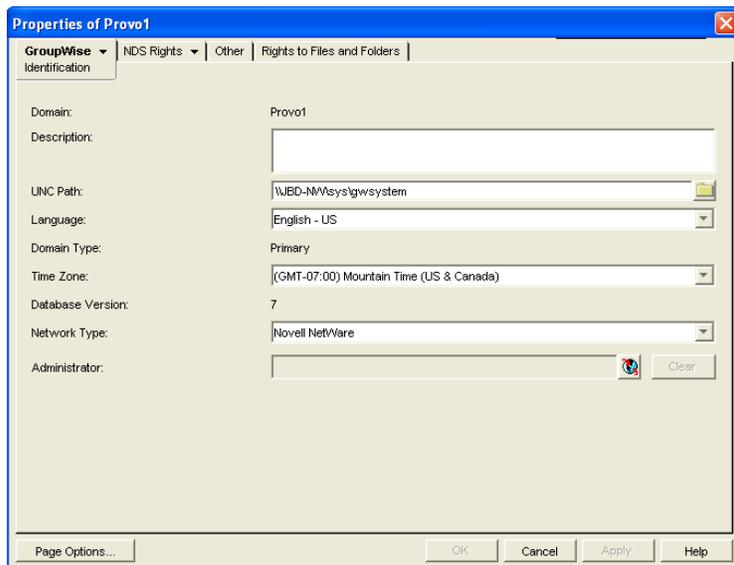
7 Fill in the fields that have not been filled in for you (worksheet items 8 through 10).

8 Click *OK* to save the domain information.

8.3.2 Configuring the MTA for the New Domain

Although there are many MTA settings, the default settings are sufficient to get your domain operational. However, there are a few important settings that you can conveniently modify before you install the agent software.

1 In ConsoleOne, double-click the new Domain object.

2 Right-click the MTA object, then click *Properties* to display the MTA Identification page.
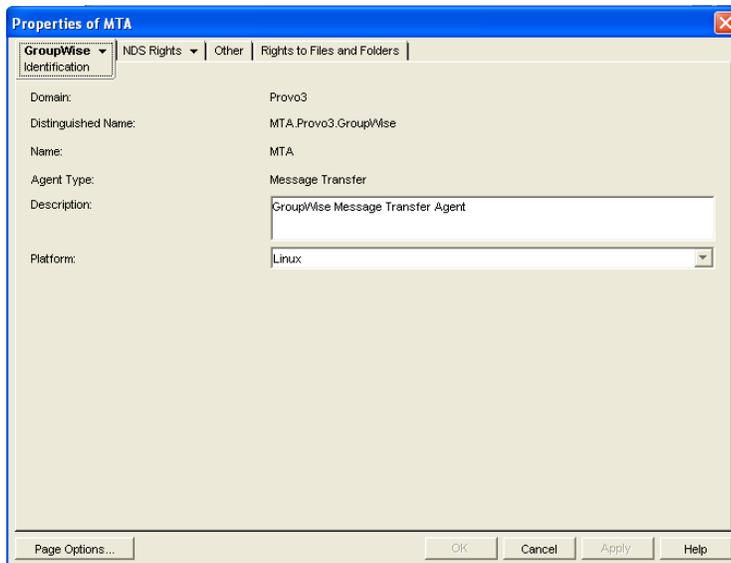
3 Specify a description for the MTA.

This description displays on the MTA agent console as the MTA runs.

4 Select the platform where the MTA will run (worksheet item 12).

5 If you have multiple domains in your system and want to use TCP/IP to link to the other domains (worksheet item 7), follow the instructions in Section , "Using TCP/IP Links between Domains," on page 618.

6 If you have created the domain in a clustered environment, follow the instructions in the appropriate section of the *GroupWise 7 Interoperability Guide*.

7 To ensure that user information in the new domain stays synchronized with user information in eDirectory, follow the instructions in Section 41.4.1, "Using eDirectory User Synchronization," on page 638.

8 For more MTA configuration options, see Section 9.6, "Changing MTA Configuration to Meet Domain Needs," on page 135.

9 Click *OK* to save the MTA configuration information.

8.3.3 Installing and Starting the New MTA

To install the MTA for the new domain to the location recorded under worksheet item 11, follow the instructions in "Installing GroupWise Agents" in the *GroupWise 7 Installation Guide*.

Continue with What's Next.

8.4 What's Next

After you have added the new domain and started its MTA, you are ready to continue to expand and enhance your GroupWise system by:

 • Configuring the Address Book for the new domain. See "GroupWise Address Book" on page 85

 • Adding post offices to the new domain. See "Post Offices" on page 153.

- Configuring the MTA for optimal performance. See "Message Transfer Agent" on page 603.
- Setting up GroupWise Monitor to monitor the GroupWise agents. See "Monitor" on page 963.
- Connecting domains and GroupWise systems across the Internet using the GroupWise Internet Agent. See "Internet Agent" on page 701.
- Connecting domains and GroupWise systems using gateways. For a list of gateways, see the GroupWise Gateways Documentation Web site (http://www.novell.com/documentation/gwgateways).

8.5 Domain Worksheet

Use this worksheet as you complete the tasks described in Section 8.2, "Planning a New Domain," on page 112.

Item	Explanation
1) Tree Name:	Specify the name of the eDirectory tree where you want to create the secondary domain.
	For more information, see Section 8.2.4, "Determining the Context for the Domain Object," on page 114.
2) eDirectory Container:	Specify the name of the eDirectory container where you want to create the new domain.
	For more information, see Section 8.2.4, "Determining the Context for the Domain Object," on page 114.
3) Domain Name:	Specify a name for the new domain. Choose the name carefully. After the domain is created, it cannot be renamed.
	For more information, see Section 8.2.5, "Choosing the Domain Name," on page 116.
4) Domain Database Location:	Specify the path for the domain directory. Choose the domain directory carefully. After it is created, it is difficult to rename.
	For more information, see Section 8.2.6, "Deciding Where to Create the Domain Directory," on page 117.
5) Domain Language:	Specify a default language for the domain.
	For more information, see Section 8.2.9, "Selecting the Domain Language," on page 121.
6) Domain Time Zone:	Specify the time zone where the domain is located.
	For more information, see Section 8.2.10, "Selecting the Domain Time Zone," on page 121.

7) Link to Domain:
 	
Link Protocol:
 	
- UNC path
- TCP/IP
  Address:
  Port:
	Specify the existing domain that you want to link the new domain to, then specify the link protocol. If you select TCP/IP, enter the IP address or hostname of the server where the MTA will run and the port number that the MTA will listen on.
	
	For more information, see Section 8.2.8, "Deciding How to Link the New Domain," on page 121.

Item	Explanation
8) Domain Description:	Enter a description for the domain to help you identify its function in the system.
9) Network Type:	Specify the network type in use on the server where this domain will be located. For more information, see Section 8.2.6, "Deciding Where to Create the Domain Directory," on page 117.
10) Domain Administrator:	Enter the ID of the user or distribution list that will administer this domain. For more information, see Section 8.2.2, "Deciding Who Will Administer the New Domain," on page 113.
11) Agent Location:	Mark the location of the MTA relative to the domain.
◆ MTA on the same server as the domain (local) ◆ MTA on a different server from the domain (remote)	For more information, see Section 8.2.7, "Deciding Where to Install the Agent Software," on page 118.
12) Agent Platform:	Specify the platform on which you plan to run the MTA.
◆ NetWare MTA ◆ Linux MTA ◆ Windows MTA	For more information, see Section 8.2.7, "Deciding Where to Install the Agent Software," on page 118.

Managing Domains

9

As your GroupWise® system grows and evolves, you might need to perform the following maintenance activities on domains:

See also Chapter 26, "Maintaining Domain and Post Office Databases," on page 377.

9.1 Connecting to a Domain

Whenever you change domain information, it is most efficient to connect directly to the domain before you begin making modifications.

To change your domain connection:

1 In ConsoleOne® in the Console View, click *Tools > GroupWise System Operations*, click *Select Domain*, browse to and select the domain directory, then click *OK*.

or

In the GroupWise View, right-click the Domain object, then click *Connect*.

The GroupWise view identifies the domain to which you are connected by adding a plug symbol to the domain icon.
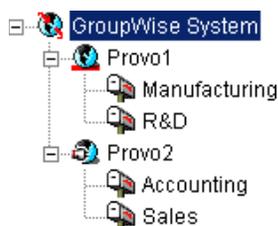
The domain marked with the red underscore is the primary domain.

For cross-platform considerations, see Section 4.1, "Select Domain," on page 51.

9.2 Editing Domain Properties

After creating a domain, you can change some domain properties. Other domain properties cannot be changed.

1 In ConsoleOne, browse to and right-click a Domain object, then click *Properties* to display the domain Identification page.
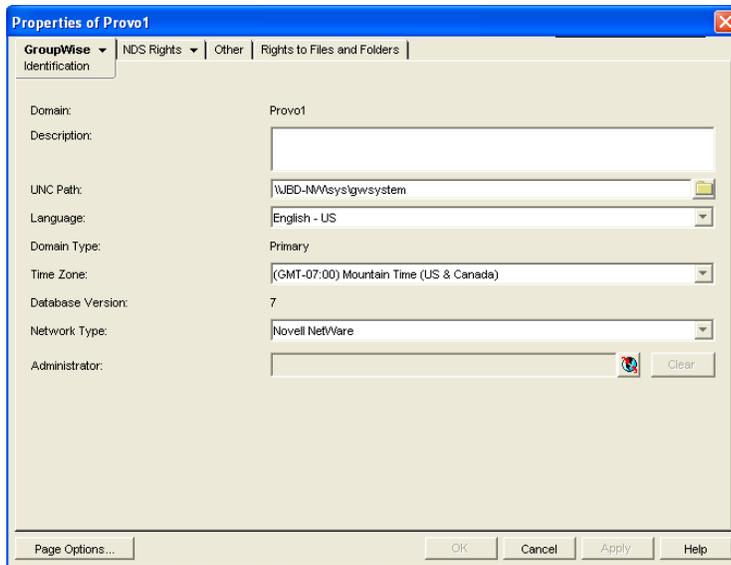
2 Change editable fields as needed. For information about individual fields, see Section 8.2, "Planning a New Domain," on page 112 or use online help when editing the domain information.

3 Click *GroupWise > Post Offices* to display the Post Offices page.
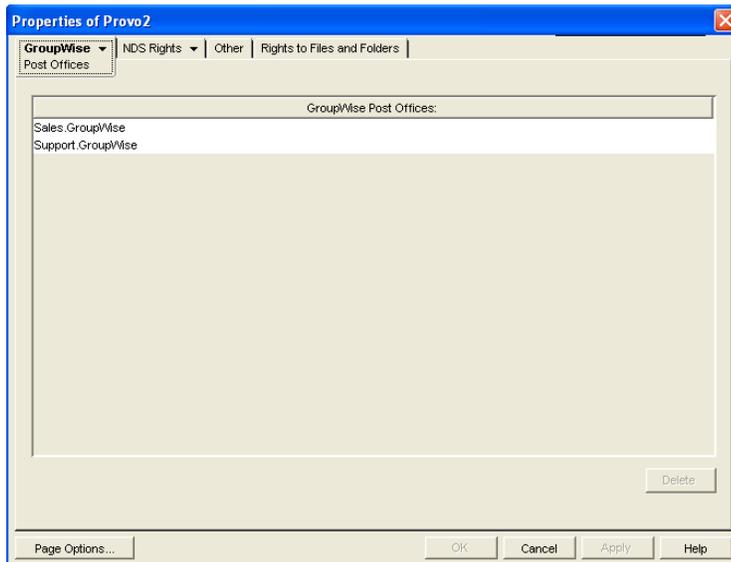
All post offices in the domain are listed, no matter where their Novell® eDirectory™ objects are placed in the tree. This is a convenient place to delete post offices from the domain.

4 Click *GroupWise > Address Book* to display the Address Book page.
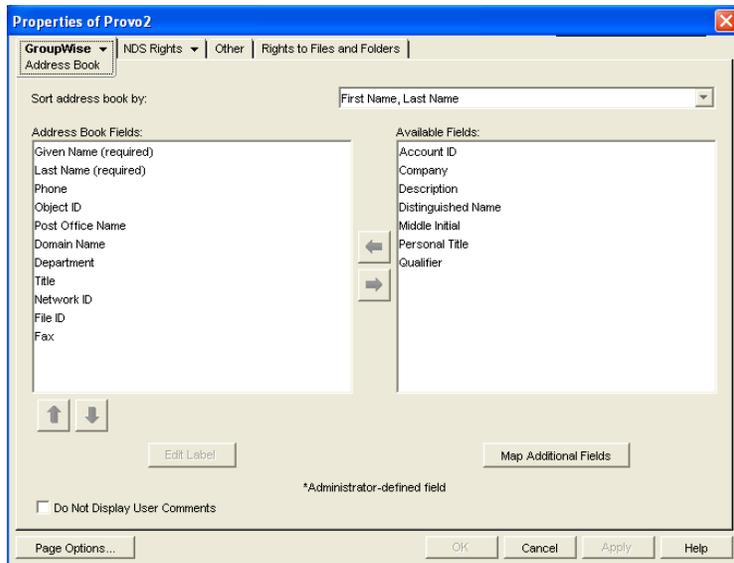
5 Use this page to configure the Address Book to control how it appears to GroupWise client users in all post offices in the domain. See Section 6.1, "Customizing Address Book Fields," on page 85 for more information.

6 Click *GroupWise > Addressing Rules* to display the Addressing Rules page.
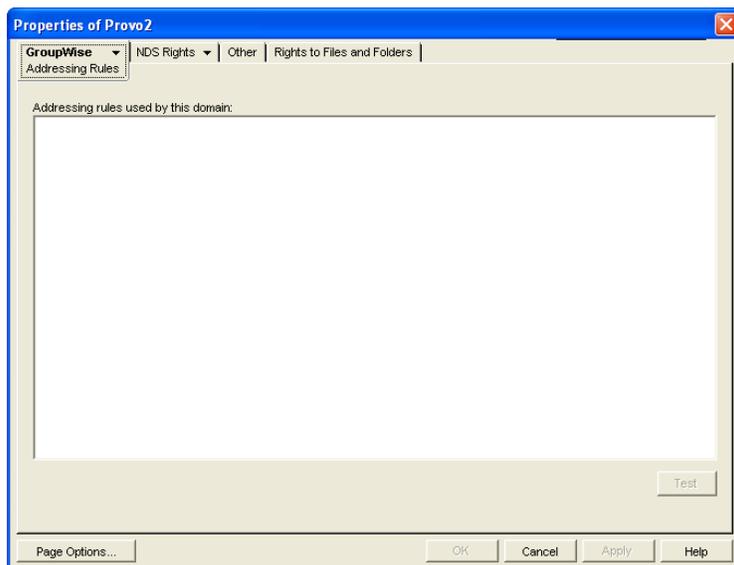
This page lists all addressing rules that have been set up for the domain. See Section 6.8, "Facilitating Addressing through GroupWise Gateways," on page 100 for more information.

7 Click *GroupWise > Internet Addressing* to display the Internet Addressing page.
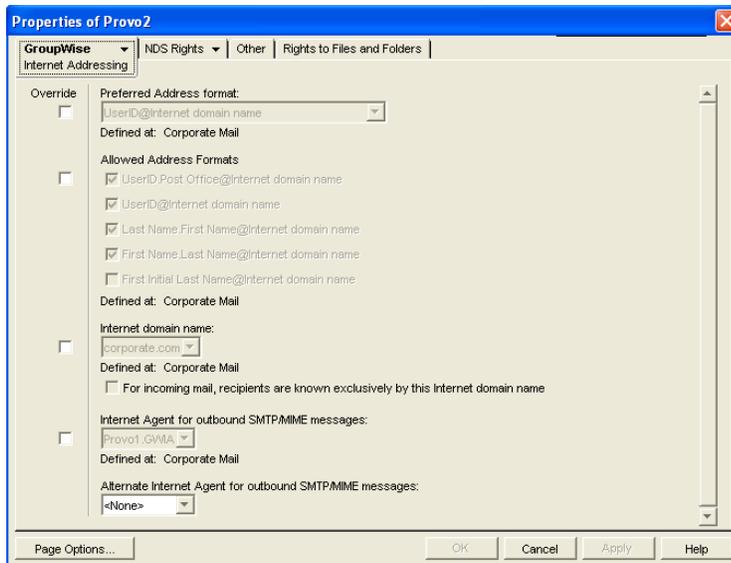
Use this page to override any Internet addressing settings established at the system level. See Section 45, "Configuring Internet Addressing," on page 703 for more information.

8 Click *GroupWise > Default WebAccess* to display the Default WebAccess page.
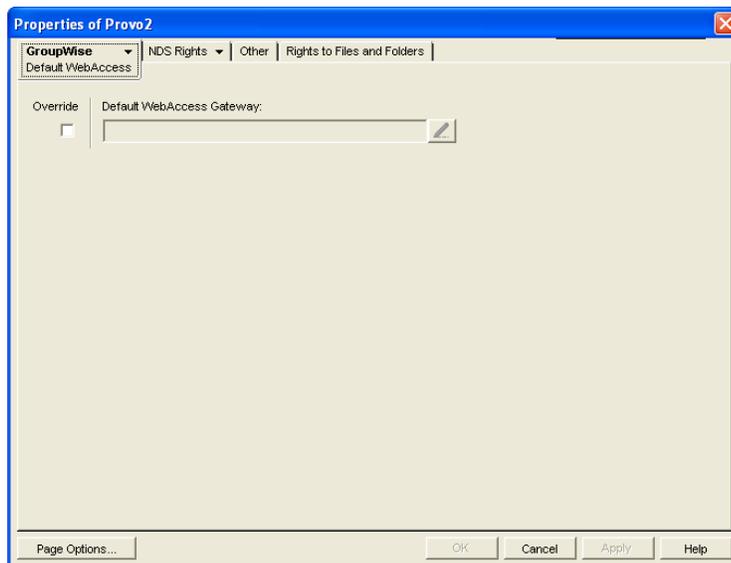
Use this page to designate the default WebAccess Agent (gateway) for the domain. See Part XII, "WebAccess," on page 853 for more information.

9 Click *GroupWise > Admin Lockout Settings*.
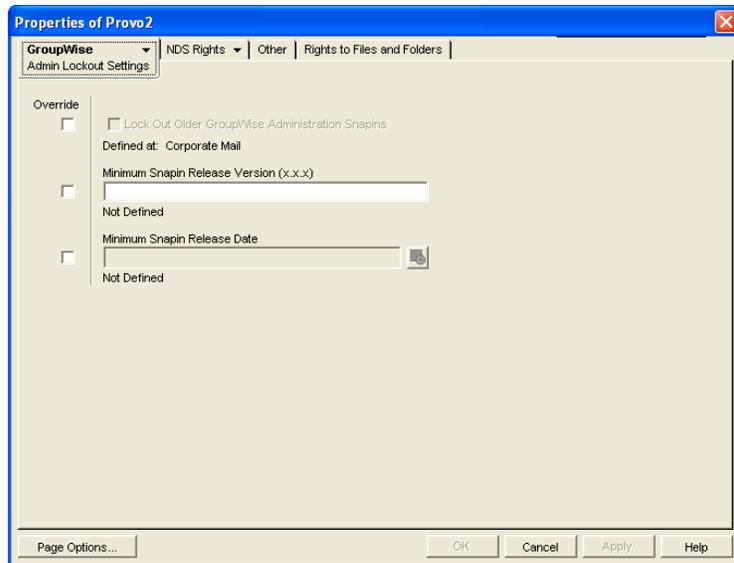
Use this page to control the version of the GroupWise Administrator snap-ins to ConsoleOne that is allowed to access GroupWise databases. See Section 4.2.6, "Admin Lockout Settings," on page 57 for more information.

10 Click *OK* to save the new domain settings.

9.3 Converting a Secondary Domain to a Primary Domain

You can change which domain is primary if it becomes more convenient to administer the primary domain from a different location. You can, however, have only one primary domain at a time. When you convert a secondary domain to primary, the old primary domain becomes a secondary domain.

To convert a secondary domain to primary:

1 In ConsoleOne, connect to the primary domain, as described in Section 9.1, "Connecting to a Domain," on page 127.

2 Make sure there are no pending operations for the primary domain, as described in Section 4.5, "Pending Operations," on page 60.

3 Browse to and select the secondary domain you want to convert.

4 Click *Tools* > *GroupWise Utilities* > *System Maintenance.*
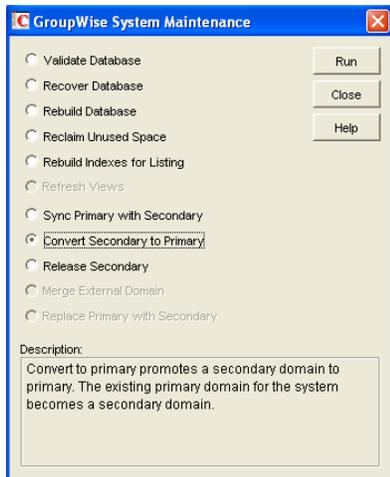
5 Click *Convert Secondary to Primary*.

6 Specify the path to the secondary domain database, then click *OK*.

The GroupWise View in ConsoleOne displays the primary domain with a red underscore.
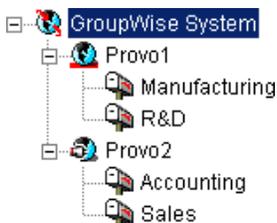
9.4 Moving a Domain

You cannot use ConsoleOne to move a Domain object to a different location in the eDirectory tree because it is a container object. Only leaf objects can be moved. If you need to change the context, graft the GroupWise domain to its corresponding eDirectory object in the new container location. See Section 5.16, "GW / eDirectory Association," on page 77 for more information about grafting objects.

You can, however, move the domain directory and the domain database (wpdomain.db) by copying the domain directory structure and all its contents to the new location.

IMPORTANT: Follow these instructions if you want to move a domain on a NetWare® or Windows server to another directory on the same server or to a different NetWare or Windows server. If you want to move a domain located on a NetWare or Windows server onto a Linux server, see "Manually Migrating a Domain and Its MTA to Linux" in "Update" in the *GroupWise 7 Installation Guide*.

---

1 Back up the domain, as described in Chapter 31, "Backing Up GroupWise Databases," on page 407.

2 In ConsoleOne, browse to and right-click the domain to move, then click *Properties* to display the domain Identification page.

3 In the UNC Path field, change the UNC path to the location where you want to move the domain, then click *OK* to save the new location.

The location change is propagated throughout your GroupWise system.

4 Stop the MTA and any gateways running for the domain.

5 Use `xcopy` with the `/s` and `/e` options to copy the domain directory and database to the new location. These options re-create the same directory structure even if directories are empty.

Example:

    xcopy *domain_directory* /s /e *destination*

6 Give rights to all objects that need to access the domain database.

For example, if the new location is on a different server, the NetWare MTA and GroupWise administrators who run ConsoleOne need adequate rights to the new location, as described in Chapter 75, "GroupWise Administrator Rights," on page 1135.

7 Edit the MTA and gateway startup files to reflect the changes, then restart the MTA and gateways.

See Section 41.1.7, "Adjusting the MTA for a New Location of a Domain or Post Office," on page 626.

8 When you are sure the domain is functioning properly in its new location, delete the original domain directory and its contents.

If you need to move the MTA along with its domain, see Section 41.1.6, "Moving the MTA to a Different Server," on page 626.

9.5 Deleting a Domain

You can delete a domain only when it no longer owns subordinate GroupWise objects. For example, you cannot delete the primary domain of your GroupWise system if it still owns secondary domains. You cannot delete a secondary domain if it still owns post offices. However, MTA and Gateway objects are automatically deleted along with the Domain object. Keep the MTA running until after you have deleted the domain, so that it can process the object deletion requests.

1 In ConsoleOne, connect to the primary domain of your GroupWise system, as described in Section 9.1, "Connecting to a Domain," on page 127.

2 Browse to and right-click the Domain object you want to delete, then click *Properties* to display the domain Identification page.
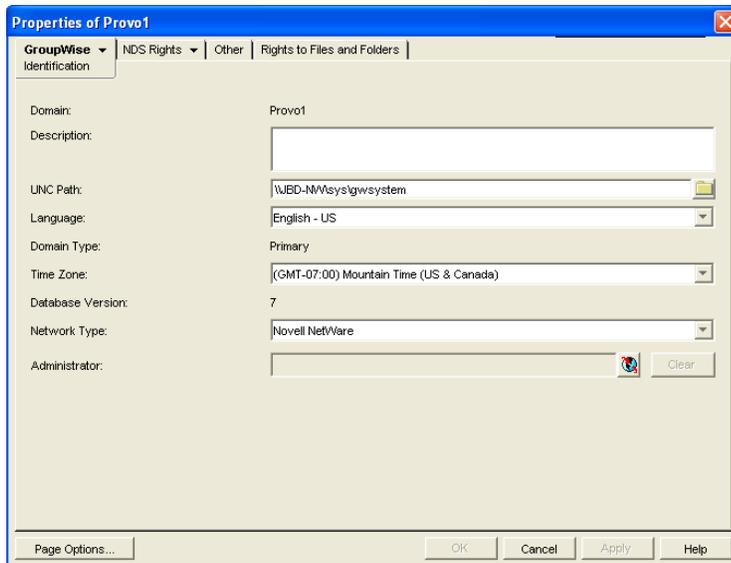
3 Verify that the current directory path displayed on the domain Identification page is correct.

4 Click *Post Offices*, then move or delete any post offices that belong to this domain. See Section 12.8, "Moving a Post Office," on page 196 and Section 12.9, "Deleting a Post Office," on page 197.
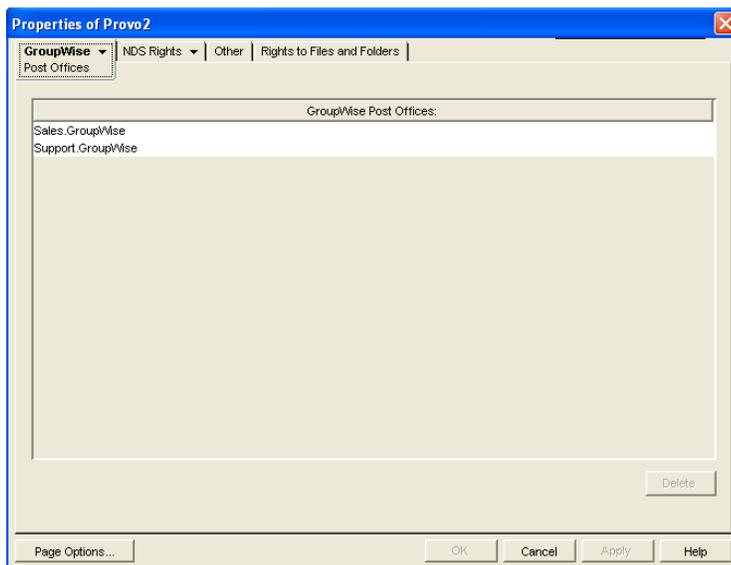
5 Right-click the Domain object, then click *Delete* to delete the Domain object from eDirectory.

6 When prompted, click *Yes* to delete the corresponding domain directory structure.

7 Stop the MTA for the domain, as described in the following sections in the *GroupWise 7 Installation Guide*:

- "Stopping the NetWare GroupWise Agents"
- "Stopping the Linux GroupWise Agents"
- "Stopping the Windows GroupWise Agents"

8 Uninstall the MTA software if applicable, as described in the following sections in the *GroupWise 7 Installation Guide*:

- ◆ "Uninstalling the NetWare GroupWise Agents"
- ◆ "Uninstalling the Linux GroupWise Agents"
- ◆ "Uninstalling the Windows GroupWise Agents"

9.6 Changing MTA Configuration to Meet Domain Needs

Because the MTA transfers messages between domains and between post offices in the same domain, it affects the domain itself, local users in post offices belonging to the domain, and users who exchanges messages with local users in the domain. Proper MTA configuration is essential for a smoothly running GroupWise system. Complete details about the MTA are provided in "Message Transfer Agent" on page 603. As you create and manage domains, you should keep in mind the following aspects of MTA configuration:

- ◆ "Securing the Domain with SSL Connections to the MTA" on page 629
- ◆ "Restricting Message Size between Domains" on page 628
- ◆ "Scheduling Direct Domain Links" on page 633
- ◆ "Optimizing TCP/IP Links" on page 675

Managing the Links between Domains and Post Offices

10

When you create a new secondary domain in your GroupWise® system or a new post office in a domain, you configure one direct link to connect the new domain or post office to a domain in your GroupWise system. For simple configurations, this initial link might be adequate. For more complex configurations, you must modify link types and protocols to achieve optimum message flow throughout your GroupWise system.

The following topics help you manage links between domains and post offices:

10.1 Understanding Link Configuration

In GroupWise, a link is defined as the information required to route messages between domains, post offices, and gateways in a GroupWise system. Initial links are created when domains, post offices, and gateways are created. The following topics help you understand link configuration:

10.1.1 Domain-to-Domain Links

The primary role of the MTA is to route messages from one domain to another. Domain links tell the MTA how to route messages between domains. Domain links are stored in the domain database (`wpdomain.db`). There are three types of links between source and destination domains:

As an alternative to configuring individual links between individual domains throughout your GroupWise system, you can establish a system of one or more routing domains. See Section 41.3.1, "Using Routing Domains," on page 631.

Direct Links

In a direct link between domains, the source domain's MTA communicates directly with the destination domain's MTA. If it is using a TCP/IP link, the source domain MTA communicates messages to the destination domain MTA by way of TCP/IP, which does not require disk access by the source MTA in the destination domain. If it is using a mapped or UNC link, the source domain

MTA writes message files into the destination domain MTA input queue, which does require disk access by the source MTA in the destination domain. For additional details about the configuration options for direct links, see Section 10.1.3, "Link Protocols for Direct Links," on page 141.

Figure 10-1   *Direct Link between Domain A and Domain B*
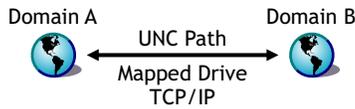
Direct links can be used between all domains. This is a very efficient configuration but might not be practical in a large system.

Figure 10-2   *Direct Links to All Domains*
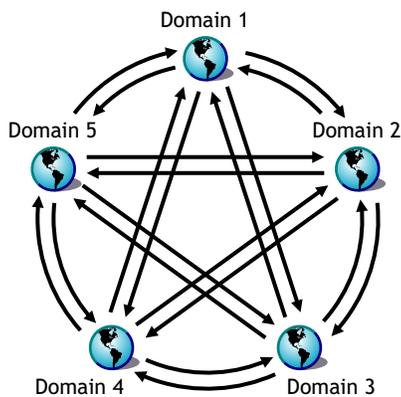
Indirect Links

In an indirect link between domains, the source domain's MTA routes messages through one or more intermediate MTAs in other domains to reach the destination domain's MTA. In other words, an indirect link is a series of two or more direct links. In large systems, direct links between each pair of domains might be impractical, so indirect links can be common. A variety of indirect link configurations are possible, including:

Properly configured links optimize message flow throughout your GroupWise system.

Simple Indirect Links

In simplest form, an indirect link can be used to pass messages between two domains that are not directly linked.

Figure 10-3   *Indirectly Linking Two Domains by Going through a Third Domain*
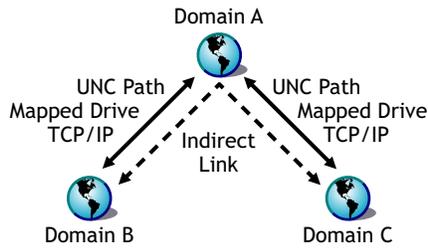
Star Configuration

In a star configuration, one central domain is linked directly to all other domains in the system. All other domains are indirectly linked to each other through the central domain.

Figure 10-4   *Indirect Links through a Central Domain*
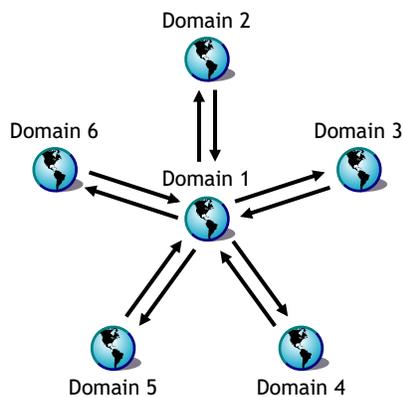
If you have more than ten domains, you might want to designate the central domain as a routing domain. The sole function of a routing domain is to transfer messages between other domains; it has no post offices of its own. See Section 41.3.1, "Using Routing Domains," on page 631.

The major drawback of the star configuration is that the central domain is a single point of failure.

Two-Way Ring Configuration

In a two-way ring configuration, each domain is directly linked to the next and previous domains in the ring and indirectly linked to all other domains in the system.

Figure 10-5 *Ring Configuration with Direct Links to Neighboring Domain and Indirect Links to All Other Domains*
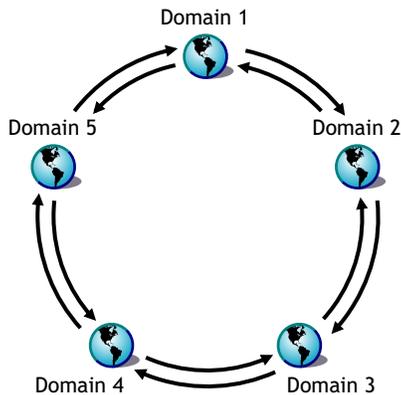
An advantage of the two-way ring configuration is that it has no single point of failure. A disadvantage is that, depending on the size of the system, a message might go through several domains before arriving at its destination. A two-way ring works well in a system with five domains or less because transferring a message never requires more than two hops.

Combination Configuration

These three basic link configurations can be combined in any way to meet the needs of your GroupWise system.

Gateway Links

In a gateway link between domains, the sending domain's MTA must route the message through a gateway to reach its destination. Gateways can be used to:

- Link domains within your GroupWise system. See "Using Gateway Links between Domains" on page 622.
- Link your GroupWise system to another GroupWise system through an external domain. See "Using Direct Links" in "Connecting to GroupWise 5.x, 6.x, and 7.x Systems" in the *GroupWise 7 Multi-System Administration Guide*
- Link your GroupWise system to a different e-mail system through a non-GroupWise domain. See "Connecting to Non-GroupWise Messaging Systems" in the *GroupWise 7 Multi-System Administration Guide*.

For more information, see the GroupWise Gateways Documentation Web site (http://www.novell.com/documentation/gwgateways).

You cannot locate a post office across a gateway link from its domain. This precludes locating a post office across a modem connection.

10.1.2 Domain-to-Post Office Links

Between a domain and its post offices, all links must be direct links. There are no alternative link types between a domain and its post offices.

10.1.3 Link Protocols for Direct Links

The link protocol of a direct link between domains determines how the MTAs for the domains communicate with each other across the link. When you create a new domain, you must link it to an existing domain. This creates the initial domain-to-domain link.

Between a domain and a post office, the link protocol determines how the MTA transfers messages to the post office. Messages do not flow directly from one post office to another within a domain. Instead, they are routed through the domain. When you create a new post office, you must specify which domain it belongs to. This creates the initial domain-to-post office link.

There are three link protocols for direct links between domains and between a domain and its post offices:

NOTE: On Linux, TCP/IP links are required.

TCP/IP Links

Domain-to-Domain TCP/IP Links

In a TCP/IP link between domains, the source MTA and the destination MTA communicate by way of TCP/IP rather than by writing message files into queue directories. The source MTA establishes a TCP/IP link with the destination MTA and transmits whatever messages need to go to that domain. The destination MTA receives the messages and routes them on to local post offices or to other domains as needed. During the process, message files are created in the gwinprog directory for backup purposes and are deleted when the TCP/IP communication process is completed.

Domain-to-Post Office TCP/IP Links

In a TCP/IP link between a domain and a post office, you must configure both the POA and the MTA for TCP/IP. The source MTA establishes a TCP/IP link with the destination POA and transmits whatever messages need to go to that post office. The destination POA receives the messages and delivers them into mailboxes in the post office. During this process, message files are created in the POA input queue for backup purposes and are deleted when delivery is completed.

Mapped Links

Domain-to-Domain Mapped Links

In a mapped link between domains, the location of the destination domain is specified in the following format:

```
drive:\domain_directory
```

The source MTA writes message files into its output queue at the location:

```
drive:\domain_directory\wpcsin
```

as input for the destination domain's MTA. Because drive mappings are changeable, you can move the domain directory structure, map its new location to the original drive letter, and the domain-to-domain link is still intact.

Domain-to-Post Office Mapped Links

In a mapped link between a domain and a post office, the location of the post office is specified in the following format:

```
drive:\post_office_directory
```

The MTA writes message files into its output queue at the location:

```
drive:\post_office_directory\wpcsout
```

as input for the post office's POA. Because drive mappings are changeable, you can move the post office directory structure, map its new location to the original drive letter, and the domain-to-post office link is still intact.

UNC Links

Domain-to-Domain UNC Links

In a UNC link between domains, the location of the destination domain is specified in the following format:

```
\\server\volume\domain_directory
```

The source MTA writes message files into its output queue at the location:

```
\\server\volume\domain_directory\wpcsin
```

as input for the destination domain's MTA. Because UNC paths represent absolute locations on your network, if you move the domain to a new location, you need to edit the link to match.

Domain-to-Post Office UNC Links

In a UNC link between a domain and a post office, the location of the post office is specified in the following format:

```
\\server\volume\post_office_directory
```

The MTA writes message files into its output queue at the location:

```
\\server\volume\post_office_directory\wpcsout
```

as input for the post office's POA. Because UNC paths represent absolute locations in your network, if you move the post office to a new location, you need to edit the link to match.

10.2 Using the Link Configuration Tool

The Link Configuration tool helps you manage the links between the domains and post offices in your GroupWise system. The following topics help you perform basic link management tasks:

10.2.1 Starting the Link Configuration Tool

The Link Configuration tool is provided to help you change from default links to whatever link configuration best suits your GroupWise system.

1 In ConsoleOne®, select the Domain object whose links you want to modify.

2 Click *Tools > GroupWise Utilities > Link Configuration* to display the Link Configuration Tool window.
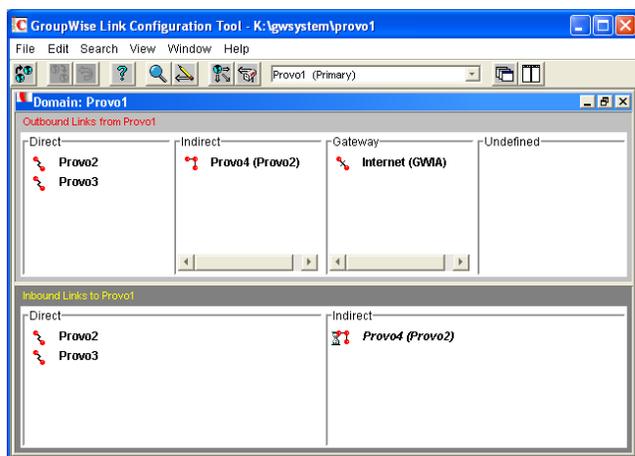
The most frequently used features of the Link Configuration tool are available on the toolbar:

Button	Menu Equivalent	Function
	File > Open	Open a different domain database (wpdomain.db) to modify links in a different domain
	File > Save	Save the current link configuration information to the domain database

Button	Menu Equivalent	Function
	Edit > Undo	Undo your changes to the link configuration (since the last save)
	Help > Help	Display online Help for the Link Configuration tool
	Search > Find	Search for a specified domain
	Double-click object	Display details of the selected object
	View > Domain Links	View domain links for the selected domain
	View > Post Office Links	View post office links for the selected domain

3 Continue with a specific link management task:

10.2.2 Editing a Domain Link

After starting the Link Configuration tool:

1 From the drop-down list, select the domain whose links you want to edit.

2 Click *View > Domain Links* to display domain links.

Outbound and inbound links for the selected domain are listed.
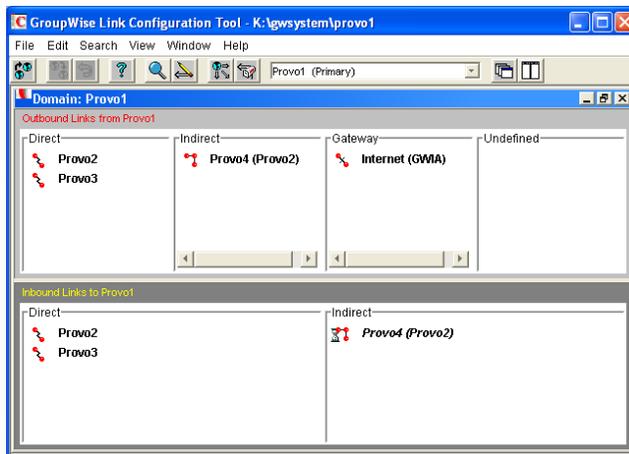
3 Double-click a domain in the *Outbound* Links list to edit the link to that domain from the selected domain.

or

Double-click a domain in the *Inbound Links* list to edit the link from that domain to the selected domain.
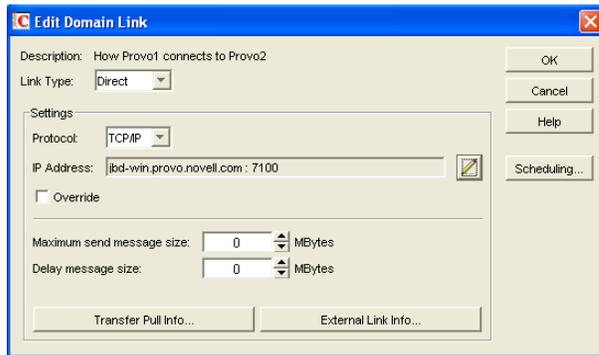
TIP: You can also open the Edit Domain Link dialog box by dragging a domain from one link type to another.

---

4 Select the link type.

   - "Direct Links" on page 137
   - "Indirect Links" on page 138
   - "Gateway Links" on page 140

5 For a direct link, select the link protocol.

   - "Mapped Links" on page 141
   - "UNC Links" on page 142
   - "TCP/IP Links" on page 141

6 Provide the location of the domain in the format appropriate to the selected protocol.

7 Click *OK*.

8 Repeat Step 1 through Step 7 for whatever links you need to modify.

As a time-saving measure, you can make a new domain's links the same as an existing domain's links. Click *Edit > Default Links*, then click the domain whose links you want to use as a pattern for the new domain. Select *Outbound* and/or *Inbound* as needed, then click *OK*.

To look at the same link information from different points of view, you can start the Link Configuration tool multiple times to open multiple Link Configuration Tool windows.

9 To exit the Link Configuration Tool and save your changes, click *File > Exit > Yes*.

10.2.3 Editing Multiple Domain Links

When your GroupWise system includes indirect links, it is not unusual for several domains to link to the same domain. As a time-saving measure, you can create links from multiple domains to the same domain in one operation.

After starting the Link Configuration tool:

1 Click *Edit > Multiple Link Edits*.
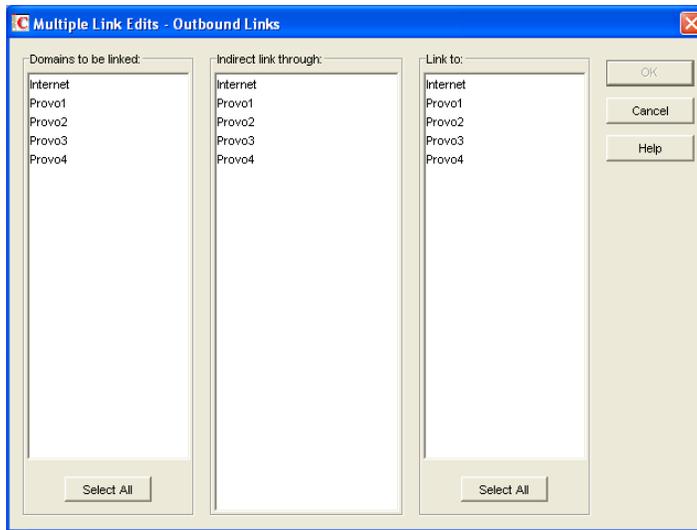
2 In the *Domains to Be Linked* column, select the source domains whose outgoing links you want to modify.

3 In the *Indirect Link Through* column, select the intermediate domain through which you want the indirect links to pass.

4 In the *Link To* column, select one or more destination domains.

5 Click *OK*.

6 Fill in the fields in the Edit Domain Link dialog box for each direct link between a source domain and the intermediate domain, as described in , then click *OK*.
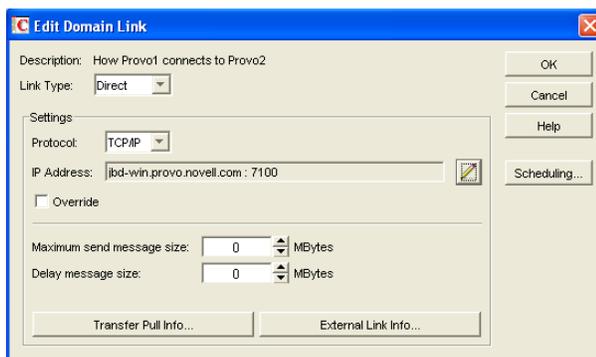
The Edit Domain Link dialog box continues to appear until you have defined all the direct links between the source domains and the intermediate domain.

IMPORTANT: After defining links from the source domains to the intermediate domain, make sure the links from the intermediate domain to other domains are set up the way you want them.

10.2.4 Editing a Post Office Link

After starting the Link Configuration tool:

1 From the drop-down list, select the domain whose post office link you want to edit.

2 Click *View > Post Office Links* to display post office links.
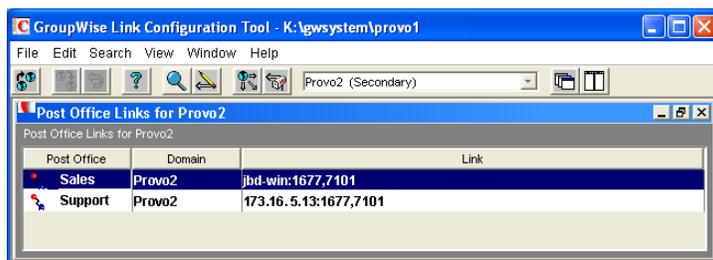
3 Double-click a post office to edit the link from the domain to the post office.
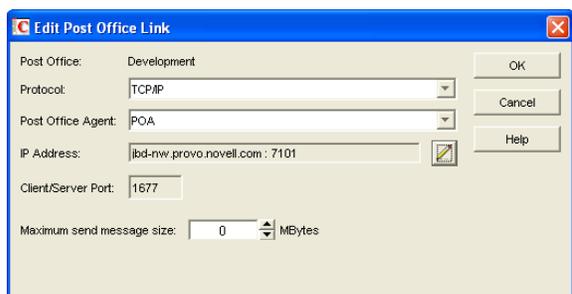
4 Select the link protocol for the direct link.

- ◆ "Mapped Links" on page 141
- ◆ "UNC Links" on page 142
- ◆ "TCP/IP Links" on page 141

5 Provide the location of the post office in the format appropriate to the selected protocol.

6 For a TCP/IP link, provide the message transfer port number where you want the POA to listen for incoming messages from the MTA.

The default message transfer port for the POA is 7101.

7 Click *OK*.

8 To exit the Link Configuration tool and save your changes, click *File > Exit > Yes*.

10.2.5 Viewing the Path of an Indirect Link between Domains

The more hops between two indirectly linked domains, the longer it takes a message to travel between them. To make sure the number of hops between two indirectly linked domains is as small as possible, you can list the route a message would take from one domain to the other in ConsoleOne.

After starting the Link Configuration tool:

1 Select a domain from the drop-down list.

2 Select a domain in the Indirect links list.

3 Click *View > Link Path* to see a list of the hops between the two domains.
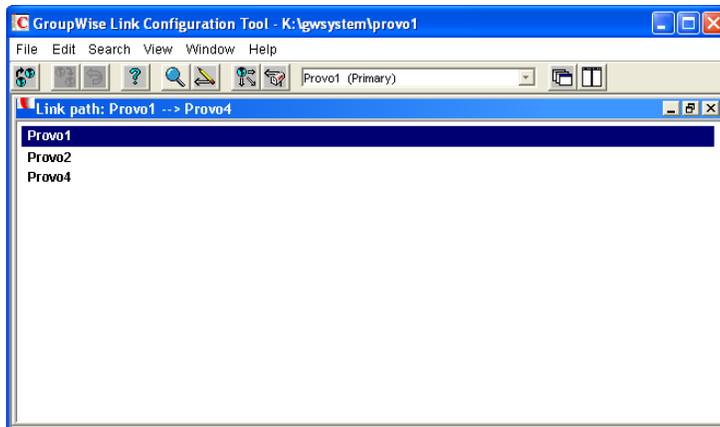
You can also use GroupWise Monitor to trace the path a message would take between two domains. See Section 61.3.1, "Link Trace Report," on page 1002.

10.2.6 Viewing the Indirect Links Passing through a Domain

If a domain serves as a hop in an indirect link, making changes to that domain could affect all indirect links passing through that domain. You can list all the indirect links that pass through a domain in ConsoleOne.

After starting the Link Configuration tool:

1 Click *View > Link Hop* to list all domains in your system.
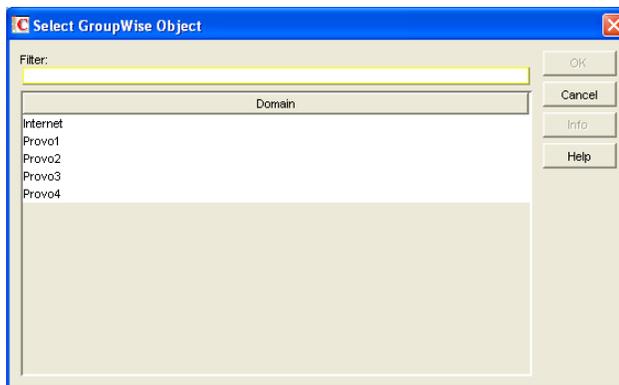
2 Double-click a domain to list the indirect links passing through it.
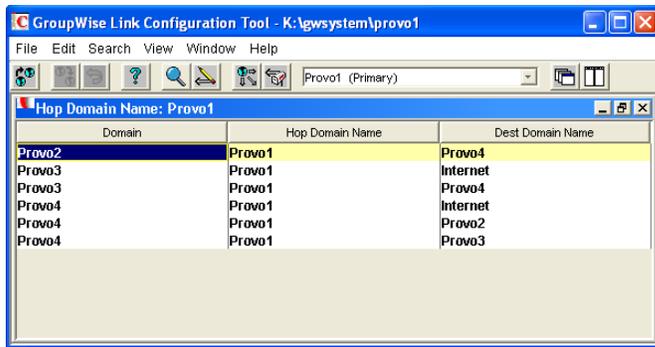
3 If you need to reroute a link, right-click the link, then click *Edit* to open the Edit Domain Link dialog box and make changes as needed.

You can also use GroupWise Monitor to check the links passing through a selected domain. See Section 61.3.2, "Link Configuration Report," on page 1003. However, you cannot change link information using Monitor.

10.2.7 Viewing the Gateway Links Passing through a Gateway

Before making changes to a gateway, you can list all the links that pass through the gateway.

After starting the Link Configuration tool:

1 Click *View > Gateway Hop* to list all gateways in your system.
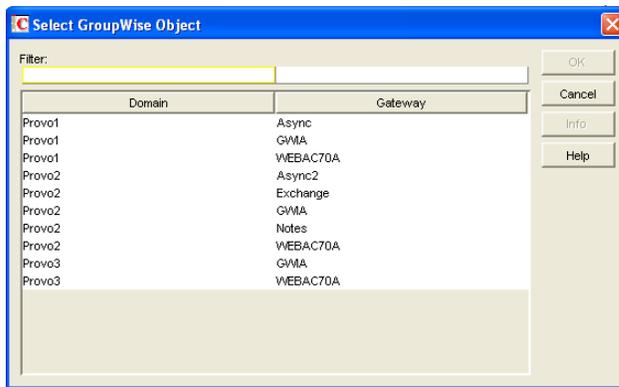
2 Double-click a gateway to list the domains linked through that gateway.
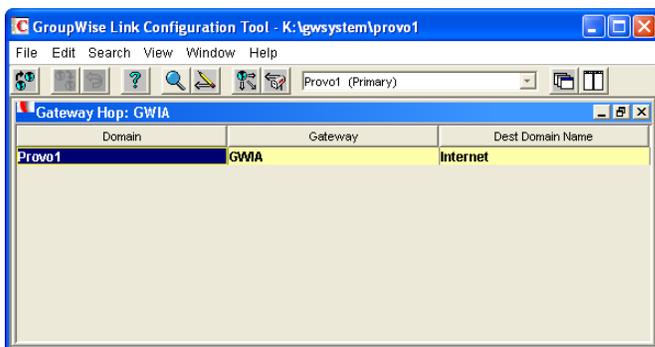
3 If you need to reroute a link, right-click the link, then click *Edit* to open the Edit Domain Link dialog box and make changes as needed.

10.2.8 Saving and Synchronizing Link Configuration Information

Whenever you modify link configuration information, a cautionary symbol (see Section 10.3.2, "Link Status Symbols," on page 150) appears next to the modified link until you save the current link configuration by clicking *Edit > Save*. If you are making extensive changes to link configuration information, you should save regularly. When you save, the information is written out to the domain database (`wpdomain.db`) for the domain to which you are currently connected. You can change to a different domain database without exiting the Link Configuration tool by clicking *File > Open*.

The MTA routinely synchronizes the information in the domain databases throughout your GroupWise system. If you are making extensive changes to link configuration information, you can synchronize the information immediately by clicking *Edit > Synchronize*.

10.3 Interpreting Link Symbols

As you modify links, you see symbols that represent the various link types. Along with the link type symbols, you sometimes see link status symbols.

- Section 10.3.1, "Link Type Symbols," on page 150
- Section 10.3.2, "Link Status Symbols," on page 150

10.3.1 Link Type Symbols

Table 10-1 *Symbols for Link Types*

Link Type Symbol	Meaning
	Direct link
	Indirect link
	Gateway link
	TCP/IP link to domain
	TCP/IP link to post office
	Undefined link

10.3.2 Link Status Symbols

Link Status Symbol	Meaning
	Link modification not yet saved

Link Status Symbol	Meaning
⧖	Link modification not yet synchronized
🔑	Insufficient rights to modify link
?	Rights not yet checked

10.4 Modifying Links

In and , detailed instructions for changing link types are provided as outlined below:

Changing the Link Protocol between the Post Office and the Domain

Changing the Link Protocol between Domains

Customizing Link Configuration