



MeetingPlace Directory Services™ System Manager's Guide

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Welcome to MeetingPlace—the e-conferencing system for your enterprise. MeetingPlace allows users in different locations to collaborate in real time through live voice communication and by sharing applications on their PCs.

Because MeetingPlace integrates with common interfaces, such as standard PSTN and Cisco IP telephones, groupware clients, Web browsers, and wireless handheld devices, users can quickly schedule and attend e-conferences through their preferred interface from any location.

Who Should Use This Guide

This guide is designed for the MeetingPlace Directory Services System Manager. It provides useful guidelines for managing and maintaining the MeetingPlace system, and offers recommendations to aid you in making the right decisions for your organization.

This guide assumes that you are familiar with networking and directory services concepts, as well as have an understanding of how MeetingPlace operates on your network.

MeetingPlace Directory Services System Manager Functions

As the MeetingPlace Directory Services System Manager, you will be responsible for the following functions:

- Installing and configuring MeetingPlace Directory Services
- Maintaining communication with your organization's corporate directory system manager
- Performing maintenance and troubleshooting on an ongoing basis

Other Documents Available

For additional copies of this document or for additional documentation offered by Latitude Communications, contact your MeetingPlace Support or Sales Representative.

For System Managers

- **MeetingPlace Installation Planning Guide.** Instructions and worksheets that prepare you for installing MeetingPlace and the various system options.
- **MeetingPlace System Manager's Guide.** Describes how to configure and maintain MeetingPlace after the system has been installed.
- **MeetingPlace Data Conferencing System Manager's Guide.** Instructions for installing the MeetingPlace Data Conference server and using the various data conferencing applications.
- **MeetingPlace Rollout Planning Guide.** Tools for training others and promoting the use of MeetingPlace in your organization. These tools include internal company announcements, training materials, and user tips.

For MeetingPlace Users

- **MeetingPlace Quick Reference Card.** A “map” to all MeetingPlace functions that are available over the telephone, plus quick tips for setting up better meetings.
- **MeetingPlace Wallet Card.** A plastic wallet-sized card that shows the basic telephone commands for scheduling and attending meetings.
- **Voice Quick Tour.** An overview of the voice user interface features for first-time users.

Online Documentation

- **Online Help.** Detailed instructions for using MeetingTime and MeetingPlace.
- **MeetingPlace Virtual Help Desk.** A browser-based tool that assists help desk staff in supporting MeetingPlace features and troubleshooting end user problems. Built-in search capabilities enable quick access to relevant information. This tool is accessible from the Help menu in MeetingTime.
- **MeetingPlace InfoCenter.** A self-service Web site designed to educate end users about MeetingPlace. This customizable rollout tool is automatically installed with MeetingPlace Web.

Getting Technical Assistance

Should you have questions about MeetingPlace Directory Services, Latitude Communications and its authorized distributors are available to help you within the guidelines of your support program.

When you call, be ready to provide the following information:

- The version of MeetingPlace Directory Services (from the directory you installed MeetingPlace Directory Services, right-click **MPML.dll** and select Properties). _____
- The version of your MeetingPlace system software (after logging into MeetingTime, go to Help, and select About MeetingTime). _____
- The exact wording of any messages or alarm codes reported.

2 Getting Started—A MeetingPlace Overview

This chapter provides you with an overview of how MeetingPlace works and integrates with your organization's network. This chapter also provides information about MeetingTime, MeetingPlace Data Conferencing, and the MeetingPlace gateway options.

MeetingPlace Concepts

MeetingPlace uses your organization's existing IP-based and/or telephony infrastructure to provide voice and data conferencing using Cisco IP and standard PSTN phones.

MeetingPlace can also integrate with your organization's standard e-business applications, such as e-mail, fax, and wireless hand-held devices. To facilitate integration with these resources, system options are installed on a Windows-based server that communicates with MeetingPlace over your network.

Figure 2-1 displays how the entire MeetingPlace family integrates with your organization's network.

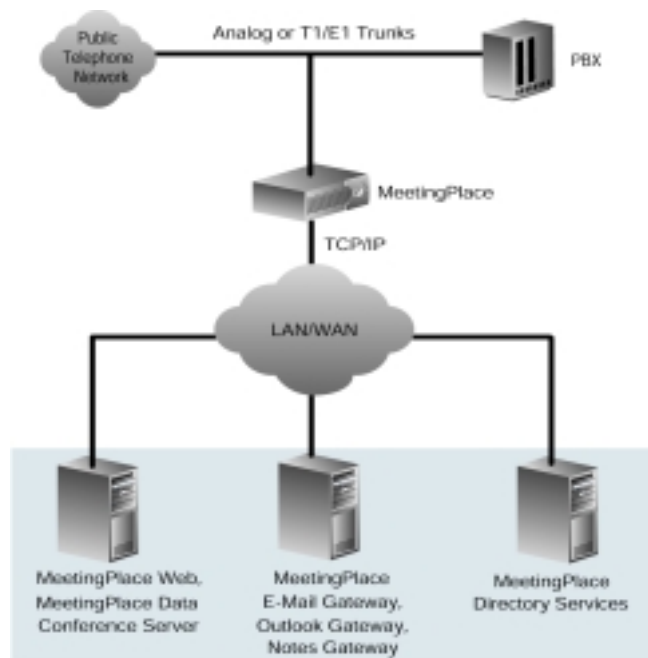


Figure 2-1 How MeetingPlace Integrates with your Organization's Network

MeetingPlace manages the entire meeting process by performing key functions before, during, and after a meeting. These functions include scheduling a meeting, notifying and assembling participants, distributing meeting materials, and allowing users to take advantage of in-meeting features like roll call, record and lock meeting.

MeetingPlace Networked Systems

To expand system capacity to meet increasing conferencing needs, up to eight MeetingPlace conference servers can be networked together. When MeetingPlace conference servers are networked together, a MeetingPlace network server is needed to facilitate communication between the conference servers and to

store key information within its database. Figure 2-2 displays the setup of a networked MeetingPlace system.

The MeetingPlace network server provides a single point for scheduling and managing the other conference servers. This includes database configuration, reporting, backup, and management of all user profiles. The MeetingPlace network server also provides the MeetingPlace gateways with a single point of communication.

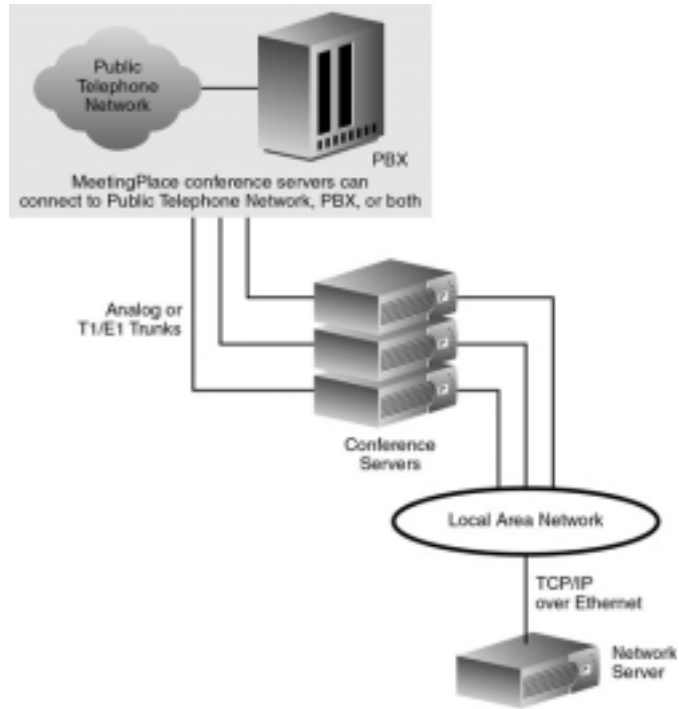


Figure 2-2 How a MeetingPlace Networked System Integrates with your Organization's Network

MeetingTime

MeetingTime is a client software application that runs on Windows desktop computers.

System managers use MeetingTime to run reports, configure the system, manage capacity, and perform routine system management functions. MeetingTime can also be used by your organization's help desk department to handle end user problems and issues.

MeetingTime communicates with a MeetingPlace server over the local or wide area network using TCP/IP, the industry-standard networking protocol.

Figure 2-3 shows the MeetingTime Register Book, which provides access to advanced MeetingPlace functions that are not available over the phone or with MeetingPlace Web.

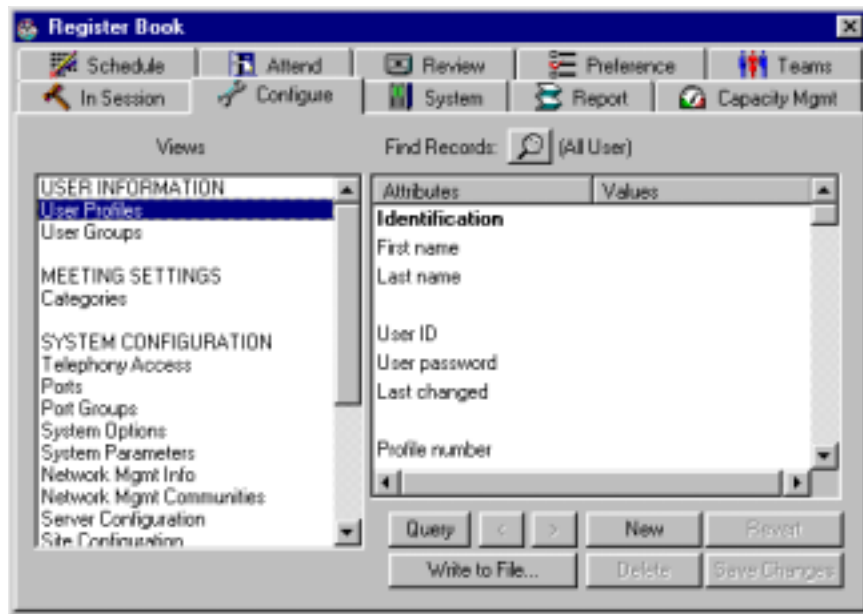


Figure 2-3 MeetingTime Register Book

Data Conferencing

Data conferencing allows multiple individuals to share and collaborate on the same document in real time using their desktop or laptop computer.

The MeetingPlace Data Conferencing server communicates directly with MeetingPlace and is installed on the same Windows server as MeetingPlace Web. This direct communication with MeetingPlace enables users to schedule a single conference instead of individual data and voice meetings.

Data conferencing is ideal for:

- Slide show presentations
- Document reviews
- Sharing applications
- Distance learning sessions

MeetingPlace Gateway Options

MeetingPlace gateway options are designed to integrate MeetingPlace with an organization's existing communication tools, such as:

- Web servers
- E-mail and fax servers
- Groupware products like Microsoft Outlook and Lotus Notes

The following sections describe each of the MeetingPlace gateway options.

MeetingPlace Web

MeetingPlace Web is a Windows-based software product that integrates MeetingPlace with your organization's Web server. The software enables users to schedule and attend meetings and

access meeting recordings from common Web browsers such as Netscape Navigator and Microsoft Internet Explorer.

Because most individuals within an organization are accustomed to using their Web browsers to connect to the Internet or their organization's intranet, MeetingPlace Web provides a user-friendly interface for scheduling and attending meetings. Figure 2-4 displays the MeetingPlace Web interface.



Figure 2-4 MeetingPlace Web Scheduling Interface

For more information about MeetingPlace Web, refer to the *MeetingPlace Web System Manager's Guide*.

MeetingPlace E-mail and Fax Gateways

The MeetingPlace E-mail Gateway and MeetingPlace Fax Gateway enable a MeetingPlace system to communicate with an organization's existing e-mail and fax servers. This communication allows MeetingPlace to notify participants and distribute meeting materials via e-mail and fax.

These gateways can either reside on the same system as your e-mail or fax server or on a separate Windows server.

For more information, refer to the *MeetingPlace E-mail Gateway System Manager's Guide* and the *MeetingPlace Fax Gateway System Manager's Guide*.

MeetingPlace for Microsoft Outlook and Lotus Notes

To allow users to schedule and attend meetings through their groupware client, MeetingPlace can integrate with Microsoft Outlook and Lotus Notes.

Once a meeting is scheduled, MeetingPlace is able to use an organization's existing Exchange or Domino server to deliver meeting notifications to the invited users. If a user chooses to accept a notification, the meeting automatically appears in their Outlook or Notes calendar.

For more information, refer to the *MeetingPlace for Outlook System Manager's Guide* or the *MeetingPlace for Notes System Manager's Guide*.

3 MeetingPlace Directory Services Concepts

This chapter provides you with an overview of MeetingPlace Directory Services concepts. Understanding these concepts is helpful with installing and maintaining MeetingPlace Directory Services. The topics covered in this chapter include:

- Directory Servers
- Lightweight Data Access Protocol (LDAP)
- MeetingPlace Directory Services Architecture
- MetaDirectory and the MetaLink Agreement

Directory Servers

A directory server is used to logically store directory information. It helps to centralize users, groups, and access, which in turn, helps to simplify maintenance of your organization's directory information. You can then use MeetingPlace Directory Services to synchronize this information with your MeetingPlace profiles.

Currently, MeetingPlace Directory Services interacts with the following directory servers:

- **Microsoft Active Directory** – allows you to store, access and manipulate organizational information about users and resources. It is a vital component of Windows 2000 and enables you to manage all elements of a networked environment (computers, groups, users, policies and other user-defined objects).
- **Netscape LDAP Directory Server** – unlike an application directory such as Microsoft Exchange, Netscape is a general purpose LDAP directory that stores, publishes and centrally manages users and network resources.

Lightweight Data Access Protocol

Lightweight Data Access Protocol (LDAP), is a directory services protocol that runs atop TCP/IP. It is an easily deployed, efficient, and highly functional protocol that allows you to search dynamically throughout a system to retrieve data. Typically, it is used among organizations to structure disparate e-mail, network, and human resource databases so that directory information such as an address, resource or department number can be obtained.

The LDAP directory is designed as a simple “tree” hierarchy known as a Directory Information Tree (DIT). This hierarchy provides a method for logically grouping and subgrouping similar information together.

A DIT is based on a root directory that can include several subtrees. As displayed in Figure 3-1, a typical DIT consists of the following subtrees:

- country, **c**, which branches out to
 - organization, **o**, which branches out to
 - organizational unit, **ou**, which branches out to
 - common name, **cn**.

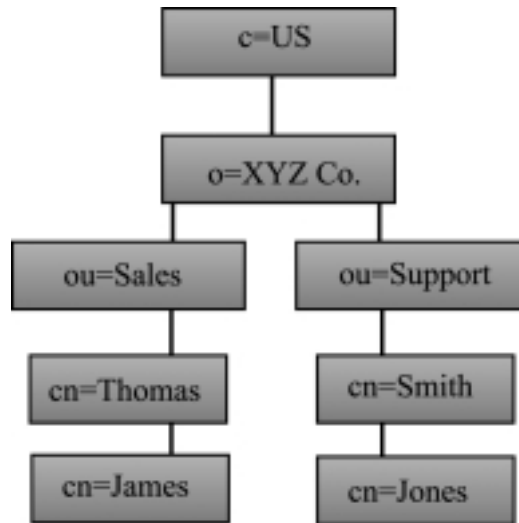


Figure 3-1 LDAP Directory Information Tree

MeetingPlace Directory Services Architecture

MeetingPlace Directory Services easily integrates with your existing network to provide you with the profile maintenance tools used to add, update and delete MeetingPlace profiles. This allows you to keep all the elements of the MeetingPlace profiles in sync with the information stored on your corporate directory server. Figure 3-2 displays how MeetingPlace Directory Services integrates with your network.



Figure 3-2 MeetingPlace Directory Services Architecture

The MeetingPlace Directory Services software, installed on a Windows server, facilitates communication between your corporate directory server and the MeetingPlace server. It is responsible for updating MeetingPlace users' profiles with organizational information located on your corporate directory server.

Figure 3-3 displays how MeetingPlace Directory Services interacts between your corporate directory server and the MeetingPlace server.



Figure 3-3 MeetingPlace Directory Services Overview

- ❶ The MeetingPlace server sends MeetingPlace profiles to the MeetingPlace Directory Services server.
- ❷ The corporate directory server sends organizational information to the MeetingPlace Directory Services server.
- ❸ The MeetingPlace Directory Services server correlates the MeetingPlace profiles with the organizational information and propagates the entries to the MeetingPlace conference server.

MetaDirectory and the MetaLink Agreement

What is a MetaDirectory? A MetaDirectory is a unified, commonly accessible infrastructure that converges an organization's dispersed directories. Creating a single directory allows you to simplify management and administrative tasks. MetaDirectory functionality is provided by a MetaLink agreement.

A MetaLink agreement creates, updates, and deletes MeetingPlace user profiles based on information stored on your corporate directory server. The MeetingPlace Directory Services server acts as the gateway for each MetaLink agreement between the two servers. To utilize MeetingPlace Directory Services, a MetaLink agreement must exist between the:

- MeetingPlace server and the MeetingPlace Directory Services server
- MeetingPlace Directory Services server and your corporate directory server

Standard Synchronization and Correlation

A MetaLink agreement is powered by the synchronization process. The synchronization process is responsible for exchanging data between MeetingPlace and your corporate directory system.

It is comprised of standard synchronization and correlation, which use standard attribute mapping and BootStrap attribute mapping to offer seamless integration of your directory information. Once information changes on your corporate directory server, updates propagate to MeetingPlace Directory Services via the MetaLink agreement.

Initially, you can expect the entries to propagate the MeetingPlace Directory Services server at a rate of about one profile per second.

Each time the MeetingPlace Directory Services server imports data, it goes through a process to determine whether the entry has been imported before.

If this is the **first** time an entry is being imported into MeetingPlace from your corporate directory server, it uses correlation to either create, update or delete a MeetingPlace profile. If the entry has been imported into MeetingPlace before, it uses standard synchronization to update or delete the MeetingPlace profile.

Both correlation and standard synchronization are performed by matching the value of one or more attributes on one server with a corresponding attribute on another server. This attribute mapping is an essential component of correlation and standard synchronization.

Standard and BootStrap Attribute Mapping

3

Attribute mapping is a flexible and powerful tool that allows you to map attribute values between entries in MeetingPlace and your corporate directory system. You create, update, and delete MeetingPlace profiles based on the information obtained from similar attributes in your corporate directory system.

For example, you could obtain a first name, last name, e-mail address, and phone number for each employee from your corporate directory server. Through attribute mapping, you can then update MeetingPlace profiles with that information.

Attribute mapping rules allow you to use more than a simple one-to-one mapping between attributes including:

- Concatenating the values of different attributes with other attributes or constant strings
- Selecting the first attribute that has a value from a list
- Applying custom mappings and conversions to the attribute values

Attribute mapping only occurs when standard synchronization is used in a MetaLink agreement. So, if a user profile has been imported into MeetingPlace before, you can use attribute mapping to update or delete the profile.

Much like attribute mapping, BootStrap attribute mapping allows you to map attribute values between entries in MeetingPlace and your corporate directory server. However, BootStrap attribute mapping **only** occurs when an entry is **first** imported into MeetingPlace. It is used during correlation to ensure that no two entries are created for the same user. Since it only occurs during correlation, BootStrap attribute mapping will not affect the standard synchronization process.

Both standard and BootStrap attribute mappings can utilize plug-in functions to manipulate an attribute's value when it is imported

into MeetingPlace. Plug-in functions are discussed in detail in Chapter 5, and a list of available plug-in functions is available in Appendix B.

For additional information on attribute mapping, see Chapter 5.

Configuration Files

A configuration file stores the parameters used for a MetaLink agreement. It defines which two systems are involved in the agreement, what type of attribute mapping will be used and which attributes will be correlated and/or synchronized. Each configuration file is unique and distinguished by these parameters.

MeetingPlace Directory Services provides default configuration files for each type of directory server supported. These default configuration files provide some sample parameters to create the initial agreement between the two servers.

Once you have created the initial MetaLink agreement and you have a configuration file, you can modify that file to create a new MetaLink agreement.

Suspense Files

A suspense file is a text file that is generated to record any errors that occur when a MetaLink agreement is run.

Some common failures include:

- Directory overload – occurs when the server is too busy to perform the import or export of data.
- Duplicate entry – occurs when MeetingPlace Directory Services recognizes an entry has already been imported (e.g. case-sensitive, DSmith and dSmith).
- Attribute mappings – occurs when a value could not be obtained for an attribute mapping (e.g. when used with the

mandatory plug-in function, **%deptno**, where some entries do not have a department number assigned to them).

Now that you have a basic understanding of MeetingPlace Directory Services concepts, you should install the software.

4 Installing MeetingPlace Directory Services

This chapter describes the MeetingPlace Directory Services system requirements and installation process. The following information is included:

- Preparing for the MeetingPlace Directory Services Installation
- MeetingPlace Directory Services System Requirements
- Installing MeetingPlace Directory Services
- Testing the MeetingPlace Directory Services Installation

Preparing for Installation

Preparing for the installation process may prevent issues from arising while configuring MeetingPlace Directory Services for your network. Table 4-1 provides information that you should have available prior to the installation process.

Description	Value
1. The MeetingPlace server hostname or IP address.	hostname _____ IP address _____
2. Is the MeetingPlace server a network server?	Yes_____ No_____
3. The MeetingPlace server version number.	version number _____

Description	Value
4. The number of profiles in MeetingPlace. <ul style="list-style-type: none"> Refer to the <i>MeetingPlace System Manager's Guide</i> for instructions on how to retrieve this number. 	number of profiles _____
5. The MeetingPlace user name and password. <ul style="list-style-type: none"> This account must have system manager rights. 	user name _____ password _____
6. The MeetingPlace Directory Services server hostname or IP address.	hostname _____ IP address _____
7. The MeetingPlace Directory Services server user name and password. <ul style="list-style-type: none"> This account must have local administrative rights. 	user name _____ password _____
8. The MeetingPlace Directory Services Administration Tool user DN and password. <ul style="list-style-type: none"> This account will be created during MeetingPlace Directory Services installation. 	user DN _____ password _____
9. The MeetingPlace Directory Services suspense file directory.	directory _____
10. The corporate directory server hostname or IP address.	hostname _____ IP address _____
11. The corporate directory server admin node and subtree (LDAP only).	admin node _____ subtree _____

Description	Value
12.The number of profiles in the corporate directory server. <ul style="list-style-type: none"> Contact your corporate directory server system manager. 	number of profiles _____
13.The corporate directory server port number. <ul style="list-style-type: none"> Contact your corporate directory server system manager. 	port number _____

Table 4-1 What You Need to Know to Install MeetingPlace Directory Services

For Netscape LDAP Directory Services System Managers

If your corporate directory server is Netscape LDAP, the first thing you should do prior to installing MeetingPlace Directory Services is determine who will be responsible for resetting the LDAP ChangeLog.

The ChangeLog keeps track of all changes made to your corporate directory server. Once a change is made, it is recorded in a file, in a chronological index, with a number representing its order of creation.

MeetingPlace Directory Services keeps track of this index number to determine the state of your corporate directory server each time a MetaLink agreement is run. This ensures that the latest version of your corporate directory is synchronized with your MeetingPlace profiles as defined by the MetaLink agreements.

If the ChangeLog is reset, you will have to take appropriate steps to compensate for the change. These steps are provided on page 103.

MeetingPlace Directory Services System Requirements

The following section provides the MeetingPlace Directory Services system requirements. You should make sure all requirements are met before installing MeetingPlace Directory Services.

System Requirements		
1. MeetingPlace Directory Services Server	<ul style="list-style-type: none"> • Windows 2000 or Windows NT 4.0 (requires service pack 5.0 or later) • 500 MHz Pentium II/III processor • 512 MB RAM • 4GB hard drive (for installation and suspense files) • NTFS partition • Network Interface Card (100 Mbps) • CD-ROM drive for software installation • Microsoft Windows Networking Support • Microsoft Internet Explorer (version 5.0 or later for recommended backup process) • VGA (1028 x 768) display (SVGA recommended) <p>Note: The account used to access this server must have local administrative rights with the ability to start and stop services.</p>	<input type="checkbox"/>
2. MeetingPlace Server	<ul style="list-style-type: none"> • MeetingPlace 2000.2 (version 4.1.3h or later) • MeetingPlace Directory Services license key 	<input type="checkbox"/>

3. Network	<ul style="list-style-type: none"> • TCP/IP protocol • Connectivity between the MeetingPlace Directory Services server and the MeetingPlace server must be high quality and not subject to interruptions due to traffic congestion. Any time the round trip latency exceeds 100ms or there is more than 1% packet loss, a noticeable reduction in service quality should be expected. 	<input type="checkbox"/>
4. End User	<p>One of the following directory servers:</p> <ul style="list-style-type: none"> • Netscape LDAP Directory version 4 <p>Note: You must have read and search rights on the Changelog property and the subtree(s) you will extract data from.</p> <p>You must also have access privileges to read the entire subtree at once.</p> <ul style="list-style-type: none"> • Microsoft Active Directory version 5.5 <p>Note: You must have replication directory changes, replication synchronization, and read rights on this domain.</p>	<input type="checkbox"/>

Table 4-2 MeetingPlace Directory Services System Requirements

Installing MeetingPlace Directory Services



Note

The account used to install MeetingPlace Directory Services must have local administrative rights.

If, during installation, you prefer to identify a server by its hostname instead of its IP address, DNS must be enabled to resolve the hostname into an IP address.

If you are running other MeetingPlace gateways that utilize the MeetingPlace Agent Service, you should stop the service prior to installing MeetingPlace Directory Services. This will enable the setup program to run more efficiently by releasing system resources.

To stop the MeetingPlace Agent Service, go to Start | Settings | Control Panel | Services. From the list of services, select the MeetingPlace Agent Service and click Stop.

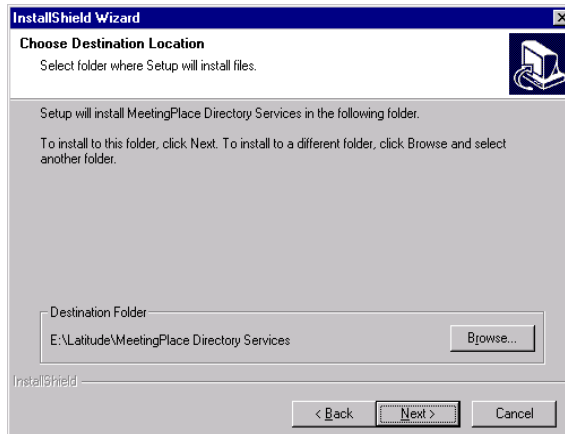
To install MeetingPlace Directory Services:

1. Insert the MeetingPlace Directory Services CD into the Windows server CD-ROM drive. Click Next.

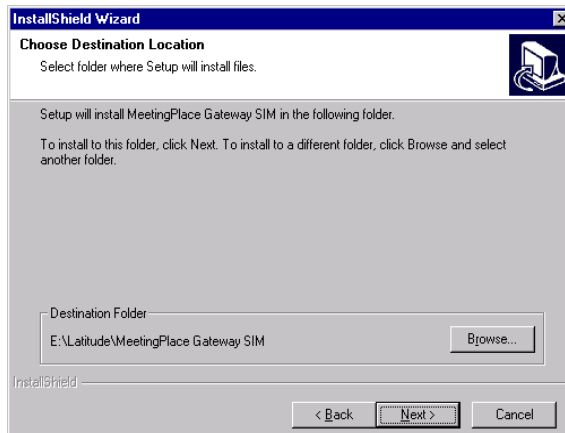
If the installation wizard fails to start (e.g. autorun is disabled), go to Start | Run and enter **X:\SETUP**, where **X:** refers to the CD-ROM drive. Click OK.



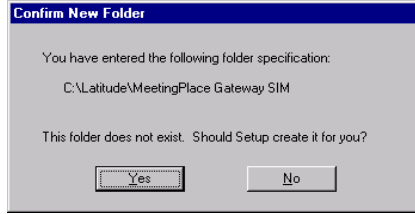
2. From the MeetingPlace Directory Services screen, click Next to accept the default directory or click Browse to specify a directory (4GB disk space required).



3. From the MeetingPlace Gateway SIM screen, click Next to accept the default directory or click Browse to specify a directory.

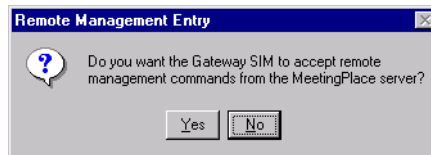


4. If the Confirm New Folder screen appears, click Yes to create the MeetingPlace Gateway SIM directory.



5. If the Remote Management Entry screen appears, click Yes to accept remote management commands for MeetingPlace.

Should a problem occur, an experienced MeetingPlace support technician can remotely access your system and troubleshoot MeetingPlace for you.



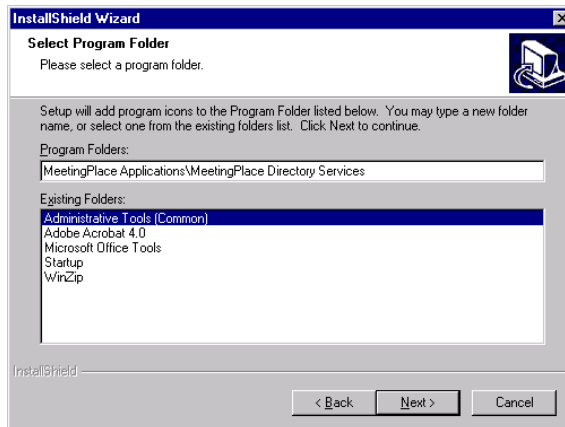
6. From the MeetingPlace Directory Gateway Log Directory Entry screen, click Next to accept the default directory or click Browse to specify a directory.



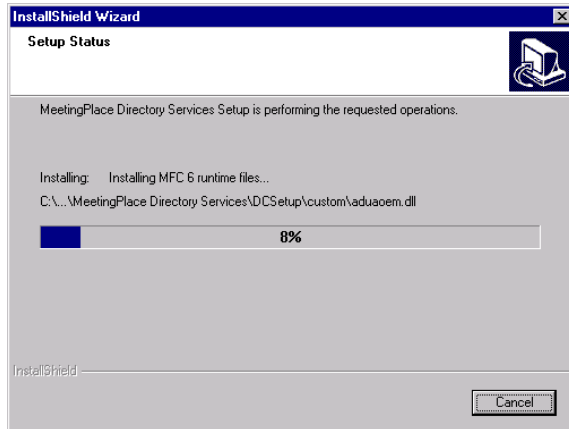
7. From the MeetingPlace Server Entry screen, enter the hostname or IP address of the MeetingPlace server and click Next.



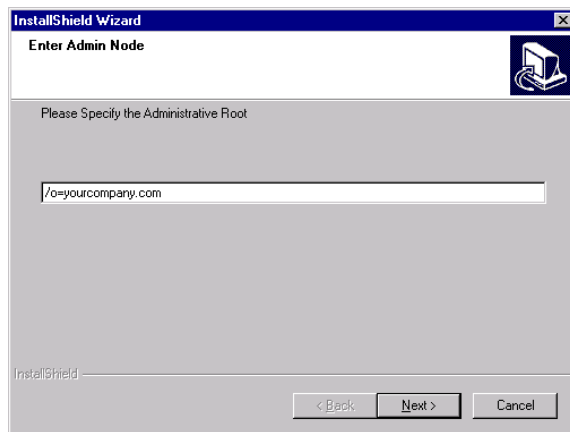
8. From the Select Program Folder screen, click Next to select the default program folder or enter a new program folder name in the space provided.



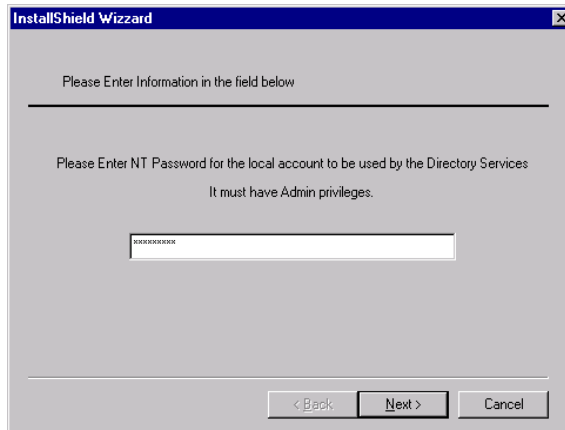
9. Wait for setup to copy files to the specified directory.



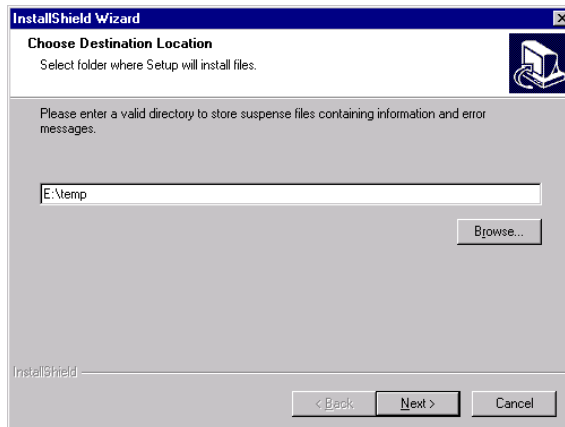
10. From the Admin Node screen, enter the admin node that will be managed by MeetingPlace Directory Services and click Next.



11. From the NT Password screen, enter the password that allows you to log on and access the MeetingPlace Directory Services server. This account must have administrative rights.



12. From the MeetingPlace Suspense File Location screen, click Next to accept the default directory or click Browse to specify a directory.



13. If you do **not** have Java Run-Time Environment version 1.2 or later, it should now be installed by the installation wizard. If it is already installed, skip to Step 17.

14. From the Software License Agreement screen, click Yes to accept the terms of the agreement.
15. From the Java Run-Time Environment Install screen, click Next to accept the default directory or click Browse to specify a directory.



16. Setup will finish installing the files.
17. To complete the MeetingPlace Directory Services installation, you will have to restart your computer. Click Finish.
18. Once the system reboots, enter the user name for the MeetingPlace Directory Services Admin Tool. Click Next. The account used to access the admin tool will now be created.
19. From the MeetingPlace Directory Services Password screen, enter the password for the MeetingPlace Directory Services Admin Tool. Click Next. The password for the above account will now be created.

Testing the MeetingPlace Directory Services Software Installation

Perform the following steps to verify the MeetingPlace Directory Services software was installed properly:

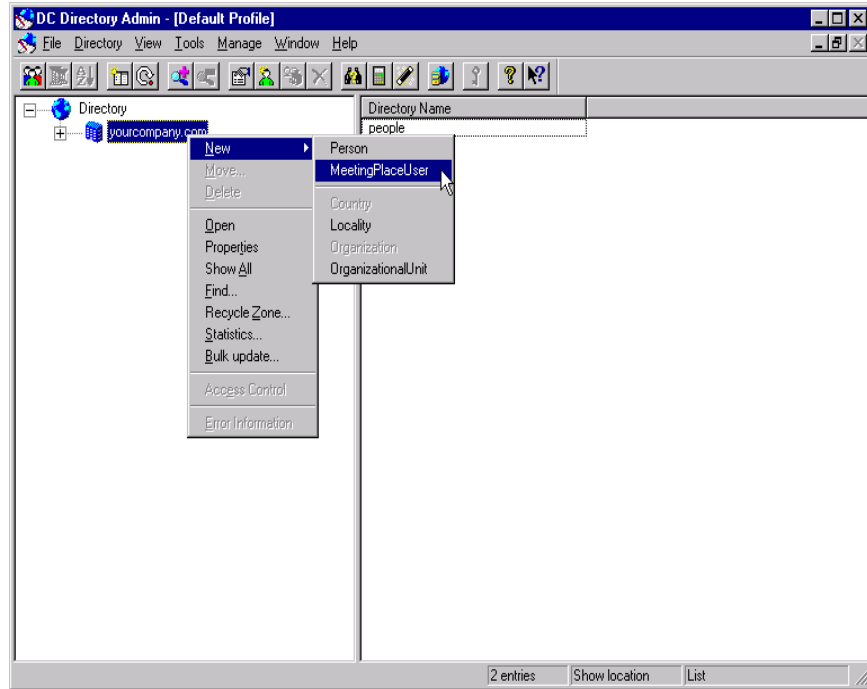
1. From Start | Settings | Control Panel | Services, verify the following services are running:
 - MeetingPlace Gateway SIM
 - MeetingPlace Directory Server



Note

The following steps assume you installed the MeetingPlace Directory Services software to the **default** program group.

2. From Start | Programs | MeetingPlace Applications | MeetingPlace Gateway Configuration, verify the status is connected.
3. From Start | Programs | DC Directory Administrator, perform the following steps:
 - From the Log on to DC Directory Admin – Step 1 of 2 screen, click Next.
 - From the Log on to DC Directory Admin – Step 2 of 2 screen, enter the user name and password, and click Finish.
 - From the DC Directory Admin screen, right-click the admin node from the left panel and select New.
 - Verify that MeetingPlace User is available.



4. At this time, you may also want to make sure the directory to store the suspense files exist. This is the directory you specified in *Installing MeetingPlace Directory Services*, Step 12.

Now that you have installed MeetingPlace Directory Services, you must configure the MetaLink agreements to begin the synchronization process.

5 Managing MeetingPlace Directory Services

This chapter provides you with information about using MeetingPlace Directory Services. The topics covered in this chapter include:

- Managing a MetaLink Agreement
- Viewing a Suspense File
- Backing up Your Work

Managing a MetaLink Agreement

The MetaLink agreement is the driving force behind MeetingPlace Directory Services. A MetaLink agreement is made up of several parameters. It is important to understand how to utilize these parameters before creating the agreement. The topics covered in this section include:

- MeetingPlace Profiles
- Mapping an Attribute
- Using a Correlation Rule
- Using a Plug-in Function
- Using a Configuration File
- MetaLink Management Utility Script

MeetingPlace Profiles

A MeetingPlace profile, which uniquely identifies each MeetingPlace user, can be made up of several attributes. Minimally, a MeetingPlace profile consists of a case-sensitive user name and profile number.



Note

The case-sensitive nature of the user name attribute can have an effect on the MetaLink agreement between the MeetingPlace Directory Services server and the MeetingPlace server. If profiles exist in both upper case and lower case on the MeetingPlace server, only the first profile detected will be propagated when the MetaLink agreement is run.

For example, if "dsmith" and "DSmith" exist on the MeetingPlace server, in that order, the lower case profile will be detected first and propagated to MeetingPlace Directory Services. The user will have to access MeetingPlace using the lower case user name. The "DSmith" entry, when detected by MeetingPlace Directory Services, will cause an error and be written to the suspense file.

Once you run the initial MetaLink agreement between the MeetingPlace Directory Services server and the MeetingPlace server, any changes made to directory information that involve the mapped attributes should be made on your corporate directory server **only**. If you make a change to a profile in MeetingPlace, and then run a MetaLink agreement, the change will be overwritten by the information on your corporate directory server.

Mapping an Attribute

In a MetaLink agreement, entries can be synchronized using either BootStrap or standard attribute mapping. The type of attribute mapping, as well as which attributes to map, is determined by you when you create the MetaLink agreement. Provided there are no errors, the attributes are mapped once the MetaLink agreement is run. If an error does occur, it will be written to the suspense file.

Once a MetaLink agreement is run, correlation is used to determine if the entry, or profile, already exists in MeetingPlace. If the profile does exist, standard synchronization uses standard attribute mapping to update the profile with the information from your corporate directory server.

If the profile does **not** exist, correlation uses BootStrap attribute mapping to create a new profile. BootStrap attribute mapping is an effective way to perform certain mappings when an entry is **first** imported into MeetingPlace.

For example, in BootStrap attribute mapping you can map the **password** attribute to a generic value of **1234**. When a MeetingPlace profile is created initially, it will be assigned a password value of 1234. When a user logs into MeetingPlace for the first time, he can access his profile using this generic password. Once the user accesses his profile, he can change the password to a more secure password. Since BootStrap attribute mapping only occurs when a profile is **first** created, it will not perform updates to profiles that already exist in MeetingPlace.

When you create attribute mappings, you can specify that an attribute must have a value before it gets propagated to MeetingPlace. The **%** sign preceding an attribute ensures that the attribute value is mandatory.

For example, you can map **%LastName=sn** so that **last name** attribute on the source server is mapped to the **sn** attribute on the destination server. The **%** sign guarantees that the **last name** attribute **must** have a value to be propagated to MeetingPlace. If the attribute does not have a value, an error will be written to the suspense file, and the gateway will proceed to the next entry in the directory.

Using a Correlation Rule

In a MetaLink agreement, correlation rules are used to link entries in two directory servers. It is an important part of the synchronization process, because it determines which entry in the destination server corresponds to which entry in the source server.

Only one correlation rule needs to give a match for a destination entry to correlate with a source entry. Each rule consists of at least one attribute mapping, where each source and destination attribute needs to be the same value in order for the rule to correlate.

You can consider a correlation rule to be part of a logical OR statement, and the attribute mappings within the correlation rule part of a logical AND statement.

A correlation rule accommodates both simple and complex correlations. The directory server may have a natural correlator (e.g. unique employee number) or a combination of correlators (e.g. first name, last name, and department number) that establish a correlation rule.

You can combine a number of correlation rules to create complex rules which include logical AND operators, string constants and equality tests.

It is important to consider which attributes to use when creating a correlation rule. The value, or combination of values, **must** be unique in both MeetingPlace and your corporate directory server. If the value of these attributes is not unique, multiple entries could correlate into a single entry. Also, the attributes used in the correlation rule must exist in all entries in both MeetingPlace and your corporate directory server.

Additionally, it is important to remember that if correlation can't be made between entries in MeetingPlace and your corporate directory server, then a new entry will be created using BootStrap attribute mapping. Therefore, a correlation rule must be defined

properly to ensure this doesn't happen if there are corresponding entries (e.g. not correlating when there is a match). You should also consider which key values (e.g. fullDistName) will be unique when BootStrap attribute mapping occurs.



Note

MeetingPlace Directory Services comes with a default correlation rule, **Import Correlation**, which has some attributes mapped for you. You can use this rule in its existing state, modify it, or create a new correlation rule.

The following section details how to add and delete a correlation rule while creating a MetaLink agreement using the MeetingPlace Directory Services Admin Tool. These instructions assume you are starting from the Correlation Rules screen of the MetaLink agreement, as detailed on page 78 and page 90, and are for either type of corporate directory currently supported by MeetingPlace Directory Services. You should use this method if your corporate directory server has less than 50,000 entries to export to MeetingPlace Directory Services.

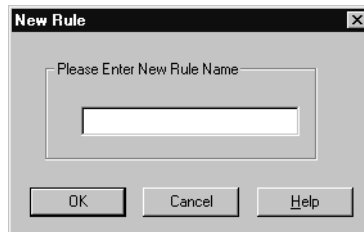
If your corporate directory server has more than 50,000 entries, you should modify the configuration file to create the MetaLink agreement. Details on how to add and edit a correlation rule by modifying the configuration file are provided on page 93.

To add a correlation rule:

1. From the Correlation Rules screen, click New.



2. Enter the name of the correlation rule. Click OK.

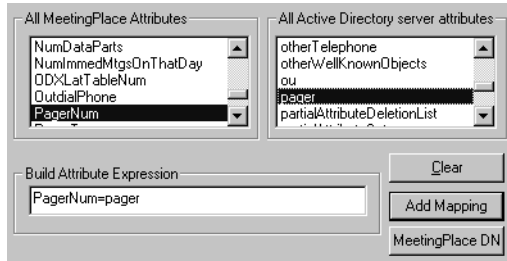
**To add an attribute to a correlation rule:**

1. From the Correlation Rules screen, select the correlation rule that you want to modify from the Correlation Rules drop-down box.



2. From the All MeetingPlace Attributes scroll-down box, select the MeetingPlace attribute.
3. From either the All LDAP Server Attributes or All Active Directory Server Attributes scroll-down box, select the attribute you want to map.
4. Verify the proper attribute mapping is listed in the Build Attribute Expression field.
5. Click Add Mapping.
6. Repeat the above steps until all preferred attributes are mapped.

3



Note

You can use the MeetingPlace DN button to help create an expression that will uniquely identify each user when it is first correlated into MeetingPlace Directory Services. Typically, the MeetingPlace DN syntax is comprised of the admin node + subtree + an attribute that uniquely identifies each user.

You can use the Clear button to delete an attribute listed in the Build Attribute Expression box.

To delete a correlation rule:

1. From the Correlation Rules screen, select the correlation rule that you want to delete from the Correlation Rules drop-down box.
2. Click Delete.

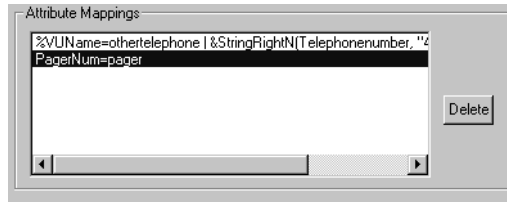


To delete an attribute mapping from a correlation rule:

1. From the Correlation Rules screen, select the correlation rule that you want to modify from the Correlation Rules drop-down box.



2. From the Attribute Mappings box, select the attribute mapping you want to delete.
3. Click Delete.



If you need assistance with creating and managing correlation rules, contact your MeetingPlace Support representative.

Using a Plug-In Function

In attribute mapping, a plug-in function allows you to manipulate the value of an attribute so that it can be assigned to its mapped attribute. MeetingPlace Directory Services comes with several plug-in functions that allow you to:

- Extract, append or replace attributes
- Concatenate attributes
- Assign random attribute values
- Filter attribute values

The standard plug-in function syntax is **&fn(att, [par])**, where

- **fn** is the function name
- **att** is the attribute
- **par** is the optional or required parameter

For example, the StringRight plug-in function allows you to retrieve a substring after the first occurrence of a specified character. This particular function recognizes the first occurrence of the specified character is from the right. So, you could obtain

the last 4 digits of a user's phone number and assign its value to the MeetingPlace extension attribute. The attribute mapping for this task might appear as:

ExtensionNumber = &StringRight(Phone Number, "-")

This example states that the extension number attribute of the MeetingPlace profile will be synchronized with the value of the characters after the first occurrence of the "-", from the right, of the phone number attribute. So, if an entry on your corporate directory has a '770-649-1865' phone number value, '1865' will become the MeetingPlace profile extension number value. Of course, the MetaLink agreement, which should include other meaningful attribute mappings to ensure the correct entries are synchronized, must be run before synchronization will occur.

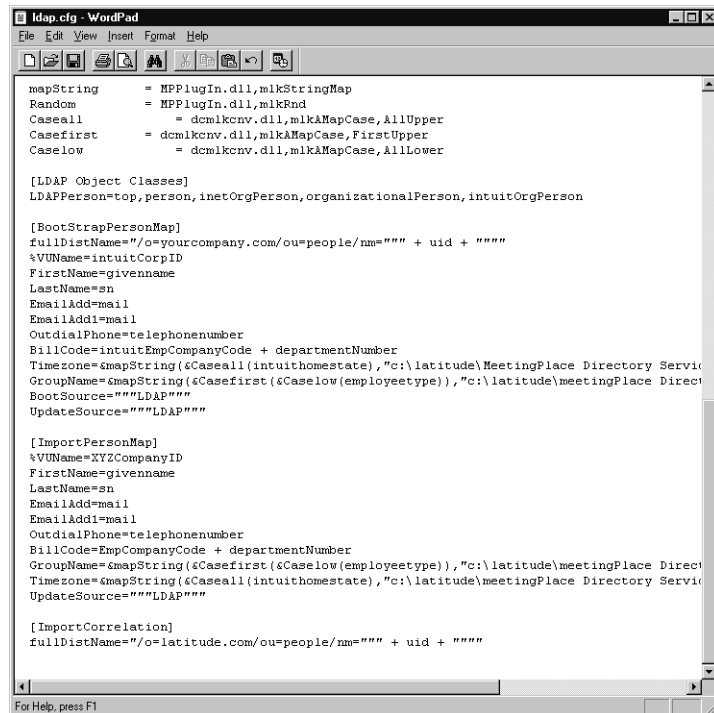
To use a plug-in function, it must be registered in the configuration file. The standard syntax for registering a plug-in function is **Plug-InFunction = Library, EntryPoint, [OptPar]**, where

- **Plug-InFunction** is the name of the plug-in function
- **Library** is the name of the shared library that contains the function
- **EntryPoint** is the name of the entry point to the function in the shared library
- **OptPar** is the optional parameter, a literal string, that will be passed to the function each time it is called

Chapter 6 details the process of registering and using plug-in functions. For a list of plug-in functions and their optional and required parameters, entry points, and libraries, see Appendix B.

Using a Configuration File

A configuration file stores the correlation rules and attribute mappings that define a MetaLink agreement. Figure 5-1 provides a sample configuration file sample that displays both standard and Bootstrap attribute mappings. The configuration file parameters most important to MeetingPlace Directory Services are discussed in detail on page 49.



```

ldap.cfg - WordPad
File Edit View Insert Format Help
mapString      = MPPlugIn.dll,mkStringMap
Random         = MPPlugIn.dll,mkRnd
Caseall        = dcmlkcnv.dll,mk&MapCase,AllUpper
Casefirst      = dcmlkcnv.dll,mk&MapCase,FirstUpper
Caselow        = dcmlkcnv.dll,mk&MapCase,AllLower

[LDAP Object Classes]
LDAPPerson=top,person,inetOrgPerson,organizationalPerson,intuitOrgPerson

[BootstrapPersonMap]
fullDistName="/o=yourcompany.com/ou=people/mm="" + uid + """"
%VUName=intuitCorpID
FirstName=givename
LastName=sn
EmailAdd=mail
EmailAdd1=mail
OutdialPhone=telephonenumber
BillCode=intuitEmpCompanyCode + departmentNumber
Timezone=&mapString(&Caseall(intuithomestate),"c:\latitude\MeetingPlace Directory Service
GroupName=&mapString(&Casefirst(&Caselow(employeetype)),"c:\latitude\meetingPlace Direct
BootSource=""LDAP""
UpdateSource=""LDAP""

[ImportPersonMap]
%VUName=XYZCompanyID
FirstName=givename
LastName=sn
EmailAdd=mail
EmailAdd1=mail
OutdialPhone=telephonenumber
BillCode=EmpCompanyCode + departmentNumber
GroupName=&mapString(&Casefirst(&Caselow(employeetype)),"c:\latitude\meetingPlace Direct
Timezone=&mapString(&Caseall(intuithomestate),"c:\latitude\meetingPlace Directory Service
UpdateSource=""LDAP""

[ImportCorrelation]
fullDistName="/o=latitude.com/ou=people/mm="" + uid + """"
  
```

Figure 5-1 Sample configuration file

MeetingPlace Directory Services offers you two ways to modify the configuration file to meet the needs of your MetaLink agreement. You can either use the MeetingPlace Directory Services Admin Tool or manually edit the configuration file. The following section provides you with information on how to decide which method to use when creating the MetaLink agreements.

When you create the **initial** MetaLink agreement between the MeetingPlace server and the MeetingPlace Directory Services, you use the **meetingplace.cfg** file, which has most of the parameters needed to enable this agreement already mapped for you. Since this agreement requires little modification, you should use the MeetingPlace Directory Services Admin Tool to configure the agreement. This agreement should be configured and **run** before creating any additional agreements.

Once this MetaLink agreement runs and the profiles are imported into MeetingPlace Directory Services, you must create an agreement between the MeetingPlace Directory Services server and your corporate directory server.

If your corporate directory server has less than 50,000 entries, you should use the MeetingPlace Directory Services Admin Tool. If your corporate directory server has more than 50,000 entries, you should modify the configuration file manually to configure the MetaLink agreement.

Currently, MeetingPlace Directory Services provides default configuration files for both Netscape LDAP and Microsoft Active Directory servers. These default configuration files provide some sample parameters to create the agreement between MeetingPlace Directory Services and your corporate directory server. You should examine your business rules to determine which attributes and rules will work best to enable this agreement. If you need assistance, contact your MeetingPlace Support representative.

Table 5-1 lists the default configuration files used to create the MetaLink agreement between the MeetingPlace Directory Services server and your corporate directory server. The default configuration files can be found in **X:\Program Files\Latitude\MeetingPlace Directory Services Gateway\DSG Admin**, where **X:** refers to the drive where the MeetingPlace Directory Services software was installed (this assumes you accepted all the default values during installation).

Select	if your corporate directory server is
ldap.cfg	Netscape LDAP
AD.cfg	Microsoft Active Directory

Table 5-1 Default MetaLink agreement configuration files

As you create new MetaLink agreements, you can specify an existing configuration file as the source file. The source configuration file will already have attribute mappings and correlation rules defined (as stored in the configuration file), which can be edited to create a new agreement. Regardless of which method you use to create the MetaLink agreement, using an existing configuration file can alleviate you from having to define all of the parameters of the agreement. The destination configuration file will store the updated parameters that were created as a result of the modifications made to the source configuration file.

Since you can use the same configuration file more than once, you should consider a meaningful naming convention. This may assist you in specifying the proper source file when creating a MetaLink agreement.



Note

It is highly recommended that you keep a back up copy of the configuration files.

Configuration File Structure

Once you understand the configuration file structure, you can modify it to create a MetaLink agreement. Table 5-2 displays the parameters of a configuration file that are necessary to create a MetaLink agreement.

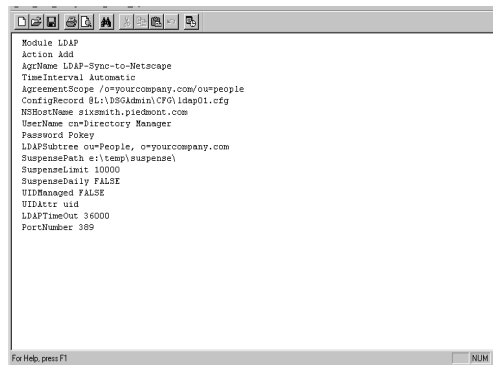
Parameter	Description	Example
LDAPFilters	A condition to filter out entries based on attributes.	Abs_Person = %attrHasValue(*objectClass, "person")
DCDPersonMapping	Allows you to register standard and BootStrap attribute mappings and correlation rules. You must register mappings and rules before you can utilize them.	StandardMapping = ImportPersonMap
ImportCorrelation	The default correlation rule which can be modified to include additional attribute mappings	fullDistName = "/o=yourcompany.com/ ou=people/nm="" + uid + ""
ConversionFunctions	Allows you to register plug-in functions so that you can apply them to standard and BootStrap attribute mappings.	attrHasValue = dcmlkcnv.dll,mlkAMapAttrHasValue
LDAPObjectClass	A list of classes that will be mapped.	LDAPPerson = top,person,inetOrgPerson,organizationPer son,yourcompanyOrgPerson
BootStrapPersonMap	A list of BootStrap attribute mappings.	FirstName = givenname

Parameter	Description	Example
ImportPersonMap	A list of standard attribute mappings.	LastName = sn

Table 5-2 Configuration File Parameters

MetaLink Management Utility Script

Once a MetaLink agreement is configured, a MetaLink Management Utility (mmu) script is created and must be run to enable the agreement. The mmu script stores parameters that determine how and when the agreement will run, and against which servers the agreement will run. Figure 5-2 displays a sample MetaLink Management Script.



```

Module LDAP
Action Add
Agreement LDAP-Sync-to-Netscape
TimeInterval Automatic
AgreementScope /o=yourcompany.com/ou=people
ConfigRecord @L:\DSGAdmin\CP0\ldmp01.cfg
NSSource @L:\msh.p.edmstr.com
Username cn=Directory Manager
Password FoKey
LDAPSubtree ou=People, o=yourcompany.com
SuspensePatch e!(temp\suspense)
SuspenseLimit 10000
SuspenseDaily FALSE
UIDManaged FALSE
UIDAttr uid
LDAPTimeOut 36000
PortNumber 389

```

Figure 5-2 Sample mmu script

By default, MeetingPlace Directory Services names the mmu scripts between the MeetingPlace Directory Services server and your corporate directory server as:

- **ld.mmu** – used for Netscape LDAP
- **ad.mmu** – used for Microsoft Active Directory

The default mmu scripts can be found in **X:\Program Files\Latitude\MeetingPlace Directory Services Gateway\DSG Admin**, where **X:** refers to the drive where the

MeetingPlace Directory Services software was installed (this assumes you accepted all the default values during installation).

MMU Script Structure

The mmu script parameters that are most important to understand, and those that may need to be modified by you are described in Table 5-3.

Parameter	Description	Example
AgreementScope	In MeetingPlace Directory Services, the subtrees that entries will be imported into.	/o=yourcompany.com/ou=people
ConfigRecord	The path of the configuration file.	@C:\DSGAdmin\CFG\ldap01.cfg
NSHostName	The hostname of the corporate directory server.	sixsmith.piedmont.com
UserName	The user name used to log onto the local machine.	cn=Sheryl
Password	The password of the user name used to log onto the local machine.	password
LDAPSubtree	The path that will export the entries into MeetingPlace Directory Services.	ou=people, o=yourcompany.com
SuspensePath	The path of the suspense file.	c:\temp\suspense
UIDAttr	The name of the invariant attribute used to uniquely identify each entry in the corporate directory server.	uid
LDAPTimeOut	The amount of time, in seconds, MeetingPlace Directory Services will wait to receive a response from the corporate directory server.	36000

Parameter	Description	Example
PortNumber	The port number that will tunnel information to MeetingPlace Directory Services.	389

Table 5-3 MetaLink Management Utility Script Parameters

Viewing a Suspense File

A suspense file is created to log any errors that occur when a MetaLink agreement is **run**. It provides details of the failed exchange, the time of the failure, the name of the entry that could not be created, updated, or deleted, and a brief description of the failure.

By default, MeetingPlace names the suspense files created for the agreement between the MeetingPlace server and the MeetingPlace Directory Services server as:

- **MPML Import** – records activity imported into MeetingPlace Directory Services from the MeetingPlace server.
- **MPML Export** – records activity exported from the MeetingPlace Directory Services server into the MeetingPlace server.

The following syntax is used to name suspense files:

xaaaaaa-yyyymmddhhmm.nnn, where

- **x** is the character **"I"** for import or **"E"** for export
- **aaaaaa** is the **ID** for the failed agreement
- **yyyymmdd** is the **date** the suspense file was created
- **hhmm** is the local **time** the suspense file was created
- **nnn** is an **extension** to differentiate files created at the same time (starts at "001")

A suspense file can be replayed in an attempt to re-synchronize the failed entries, and ensure that the information held in the MeetingPlace Directory Services servers is up to date. **Before** you replay a suspense file, you should view it, and any errors that you want to correct should be resolved on the appropriate server (MeetingPlace server or your corporate directory server). Once you have corrected the desired errors, you can replay the suspense file.

To replay a suspense file from the command prompt, type the following:

`dcdrepl <filename>`, where `filename` is the name of the suspense file to be replayed.

On a successful replay, the suspense file is automatically deleted. If synchronization should fail during a replay, then an additional suspense file is generated.

Although it is not necessary to replay a suspense file, they should be replayed in the order they were created because the problem may automatically correct itself on a subsequent synchronization. Alternatively, if there is a problem with the details of a particular entry, and several updates have been made to it, then there may

be several suspense files reporting errors with this entry. In this case, only one suspense file corresponding to this entry needs to be replayed to re-establish synchronization.

Backing Up Your Work

It is advisable to make periodic backups of the directory information in case of hardware failure or corruption. The backup can subsequently be restored so as to minimize the loss of data. Additionally, if you are about to make large scale changes to the directory, it is prudent to make a backup copy before making any changes. If a problem occurs, you can restore the directory to its previous state.

It is recommended that you perform backups at the same time and frequency as you perform your MeetingPlace server backup. If you are uncertain of when the MeetingPlace server backup occurs, or if you do not back up the MeetingPlace server, you should back up the directory information **once** a week to ensure restoration of the directory in case of catastrophic loss.

Backing up the Directory



Note

It is highly recommended that you store the backup copy of directory information on a drive different than the one containing the original directory information.

To perform a backup from a command prompt, type the following:

```
dcbackdib BACKUP <backup directory>
[THRESHOLD] <threshold-in-Kb>], where <backup
directory> is the directory you want to store the backup in.
```

dcbacklib will create this directory and place the backup in a subdirectory beneath it.

Before backing up the directory, dcbackdib will check to make sure there is sufficient space to store the backup copy of the directory.

- If the THRESHOLD parameter is present, dcbckdib will ensure that the backup partition contains at least <threshold-in-Kb> + <maximum-size-of-back-up> disk space.
- If the THRESHOLD parameter is not present, dcbckdib will ensure that the backup partition contains at least twice the <maximum-size-of-back-up> disk space.

The exact size of the compressed data with the original uncompressed data depends on the particular directory information being backed up. To prevent running out of disk space, <maximum-size-of-back-up>, is calculated as the size of the uncompressed database.

dcbckdib will pause the server while it performs a backup. This ensures that the backup will reflect a consistent state of the directory. If the backup fails immediately, because there is not enough disk hspace, either delete unwanted files or choose a directory on a different drive before proceeding with the backup.

Automating the Backup Process

You can take advantage of the Windows Task Scheduler function to schedule automatic backups. This process requires Microsoft Internet Explorer version 5.0 or later. Automating the backup process involves:

- Creating a batch file – general instructions on how to create a batch file to back up the directory.
- Scheduling the process – using Windows Task Scheduler to automate the backup process



Note

If you are running the automatic backup of the directory in sync with the MeetingPlace server backup, you should schedule the directory backup to run about **one** hour prior to running the MeetingPlace server backup.

The following instructions on creating a batch file include commands for deleting an existing back up file, moving the back up file to a different directory, and creating the batch file. The first two commands execute **only** if a backup file already exists. These commands are necessary to update and delete the file so there are no duplicate copies of the backup, and to ensure that this the backup process is performed automatically.

To create a batch file:

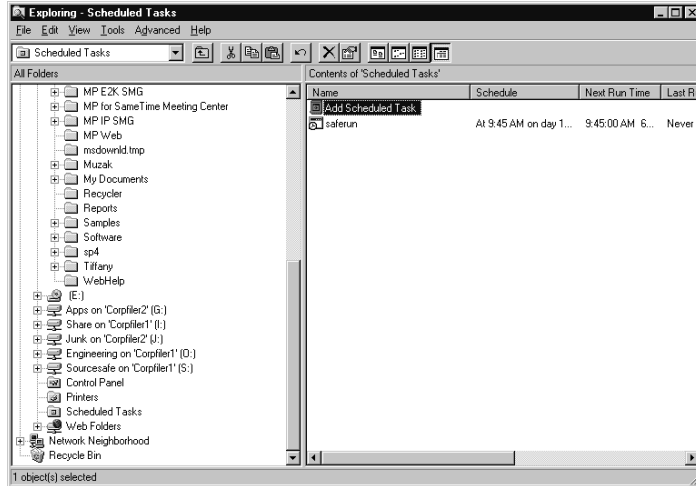
1. From Start | Programs | Accessories, select Notepad.
2. Type the following syntax:

```
del X:\directory\filename
move X:\directory\subdirectory\filename
X:\directory
dcbckdib backup X:directory\subdirectory,
where
```

- `directory` is the root directory you specify
- `subdirectory` is the subdirectory that the `dcbcklib` command places the backup copy in
- `filename` is the name of the backup file.

To schedule the automation process in Windows Task Scheduler:

1. Right-click the Start menu and select Explore.
2. From the All Folders panel, select the Scheduled Tasks folder.
3. From the Contents of Scheduled Tasks panel, double-click Add Scheduled Task.



4. Click Next.
5. Select the application that will run the batch file.



6. Click Browse to select the batch file. Click Open.

7. From the Perform This Task options, select the frequency at which you want the automatic backup to occur. Click Next.



8. Select the frequency parameters and click Next.



9. Enter the NT logon user name, password, and password confirmation in the fields provided. Click Next.

10. Click Finish.



Note

To modify any of the scheduled task settings, right-click the file from the Contents of Scheduled Task panel, and select Properties.

To run the task immediately, right-click the file from the Contents of Scheduled Task panel, and select Run.

Restoring a backup copy of the database

It may be necessary to restore a backup copy of the directory if a serious failure occurs resulting in data loss, or if a large update has ended in error and the previous state of the directory needs to be restored.



Note

Restoring a backup destroys any directory information that may exist. You should back up a corrupted directory before restoring an old database.

The server must be stopped to restore the directory information. Once you have stopped the server, from a command prompt, type the following:

```
dcbackdib RESTORE <backup directory>, where  
<backup directory> is the name of the directory you want  
to restore. If there is an existing directory, you will be prompted  
for confirmation to delete it and replace it with the restored copy.
```

The time it takes to perform and restore a backup depends on:

- The size of the directory
- The speed of the server's processor and hard disk
- Whether the back up directory is on a local or remote drive

Now that you have an understanding of the MetaLink agreement parameters, you should create the agreements between MeetingPlace and your corporate directory server.

6 Creating a MetaLink Agreement

Now that you have learned which parameters comprise a MetaLink agreement, it is now time to create an agreement. This chapter provides you with the following information:

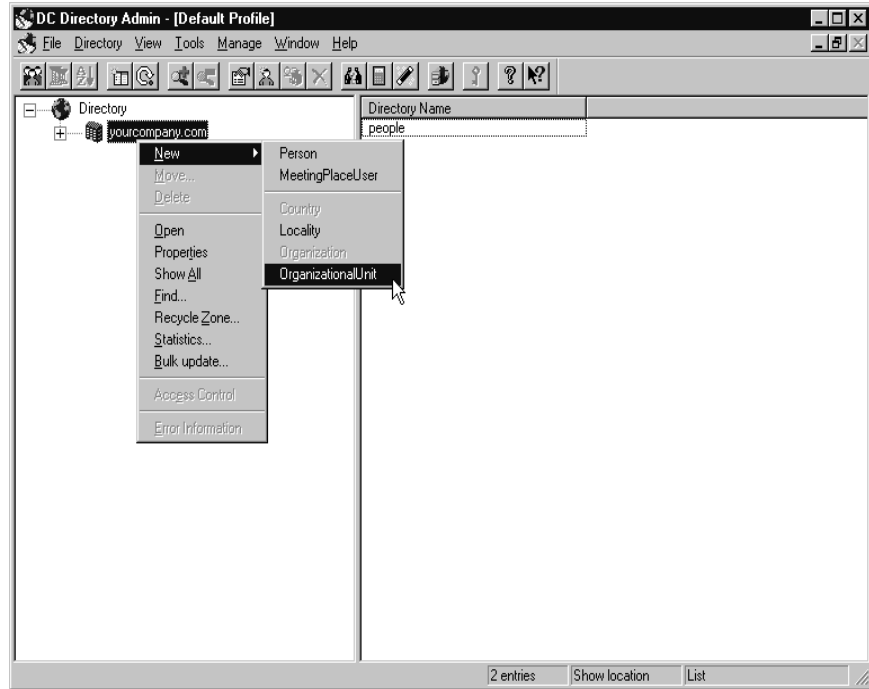
- Preparing for the creation of a MetaLink agreement
- Creating a MetaLink agreement
- Testing a MetaLink agreement

Preparing for the creation of a MetaLink agreement

Before you create the first MetaLink agreement, you should create a directory for the admin node. This directory will store the imported data from the MeetingPlace server and your corporate directory server.

To create a directory:

1. From Start | Programs, select DC Directory Administrator.
2. From the Log on to DC Directory Admin – step 1 of 2 screen, click Next.
3. From the Log on to DC Directory Admin – step 2 of 2 screen, enter the user name and password. Click Finish.
4. From the DC Directory Admin screen, right-click the admin node from the left panel and select New.
5. Select Organizational Unit.



- From the Add New Organizational Unit screen, enter the directory name and click OK.



- From the DC Directory Admin screen, click the File menu and select Exit.

Now that you have created a directory, you should create the initial MetaLink agreement between the MeetingPlace server and the MeetingPlace Directory Services server.

Creating a MetaLink Agreement

A MetaLink agreement creates, updates and deletes MeetingPlace profiles based on attribute mappings and correlation rules established between two servers. The topics covered in the following section include:

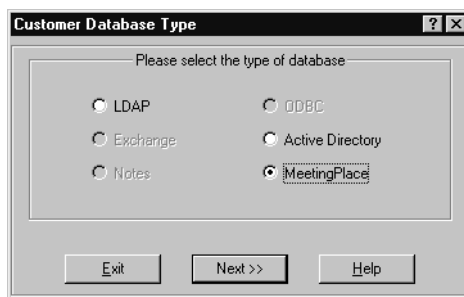
- Creating a MetaLink agreement between the MeetingPlace server and the MeetingPlace Directory Services server
- Creating a MetaLink agreement between the MeetingPlace Directory Services server and your corporate directory server

Creating a MetaLink agreement between the MeetingPlace server and the MeetingPlace Directory Services server

You should allow this initial MetaLink agreement to run before creating and running the MetaLink agreement between the MeetingPlace Directory Services server and the corporate directory server.

To create a MetaLink agreement between the MeetingPlace server and the MeetingPlace Directory Services server:

1. From Start | Programs | MeetingPlace Applications | MeetingPlace Directory Services, select DSG Admin.
2. From the Customer Database Type screen, select MeetingPlace. Click Next.



3. From the MeetingPlace Directory screen, enter the

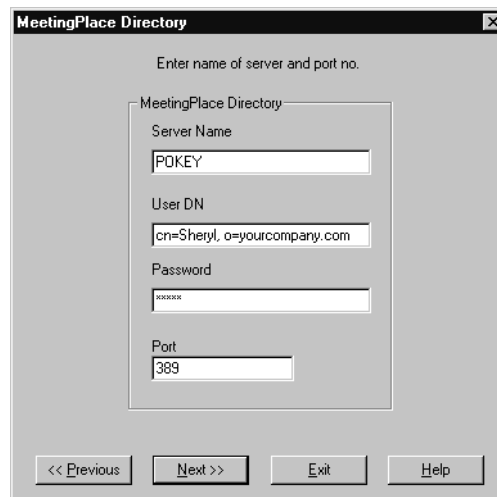
Server Name - the hostname or IP address of the MeetingPlace Directory Services server.

User DN - written in LDAP format, this is a combination of the admin node and user name created during *Installing the MeetingPlace Directory Services*, steps 9 and 18.

Password - this is the password created during *Installing the MeetingPlace Directory Services*, step 19.

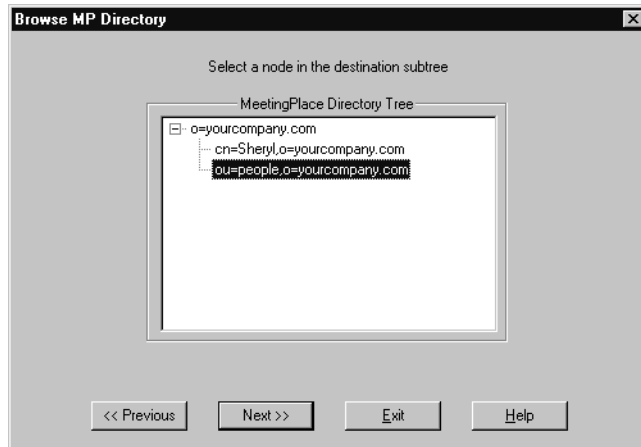
Port Number - typically, this is port 389.

4. Click Next.

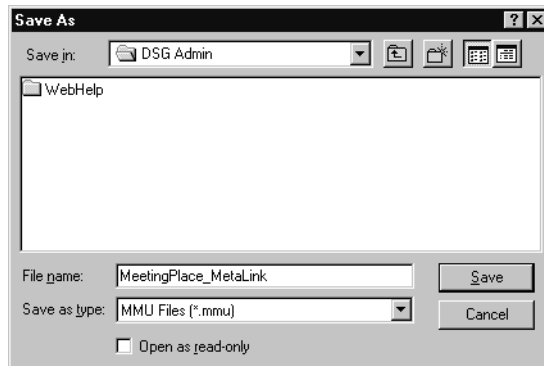


The screenshot shows a dialog box titled "MeetingPlace Directory" with a close button in the top right corner. The main text inside the dialog reads "Enter name of server and port no." Below this, there is a sub-section titled "MeetingPlace Directory" containing four input fields: "Server Name" with the value "POKEY", "User DN" with the value "cn=Sheryl, o=yourcompany.com", "Password" with masked characters "xxxxxx", and "Port" with the value "389". At the bottom of the dialog, there are four buttons: "<< Previous", "Next >>", "Exit", and "Help".

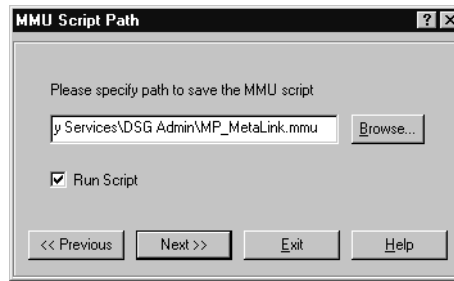
- From the Browse MP Directory screen, click the admin node to expand the MeetingPlace directory tree. Select the directory that will store the directory information. Click Next.



- From the MMU Script Path screen, click Browse.
- From the Save As screen, enter the name of the mmu script in the File name field. Click Save.



8. From the MMU Script Path screen, click Next to run the MetaLink agreement.



Once the MetaLink agreement is run, you can expect the MeetingPlace profiles to propagate the MeetingPlace Directory Services server at a rate of about one profile per second.

Creating a MetaLink agreement between the MeetingPlace Directory Services server and your corporate directory server

MeetingPlace Directory Services offers you a couple of ways to create a MetaLink agreement between the MeetingPlace server and your corporate directory server. You can use the MeetingPlace Directory Services Admin Tool or modify a configuration file to create the agreement.

Since the MeetingPlace Directory Services Admin Tool has to verify all of the entries on the subtree you are importing into MeetingPlace, using this tool can be a time-consuming process. The number of entries that you want to import into MeetingPlace from your corporate directory server will determine which process is best for you.

A general rule is that if you have less than 50,000 entries on your corporate directory server, you should use the MeetingPlace Directory Services Admin Tool. If you have more than 50,000 entries, it is recommended that you modify the default configuration file and run the mmu script manually.

3

The following section provides you with information on:

- Using the MeetingPlace Directory Services Admin Tool
- Modifying the Configuration File
- Modifying the MMU Script



Note

A MetaLink agreement should be created for each subtree that contains entries you want to import into MeetingPlace Directory Services.

Using the MeetingPlace Directory Services Admin Tool

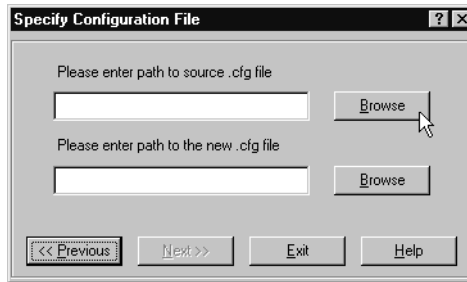
As previously discussed, you should use the MeetingPlace Directory Services Admin Tool if you have less than 50,000 entries on your corporate directory server. The following sections detail how to use the tool to create a MetaLink agreement for both Netscape LDAP and Microsoft Active Directory servers.

To create a MetaLink agreement between the MeetingPlace Directory Services server and your corporate Netscape LDAP server using the MeetingPlace Directory Services Admin Tool:

1. From Start | Programs | MeetingPlace Applications | MeetingPlace Directory Services, select DSG Admin.
2. From the Customer Database Type screen, select LDAP.

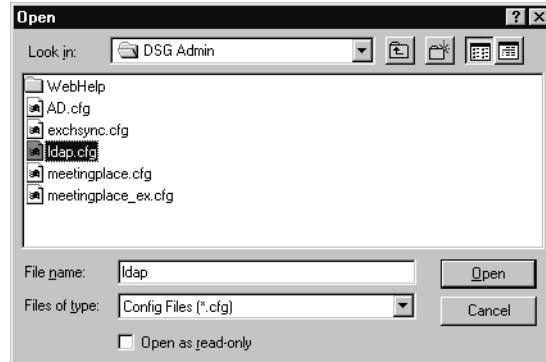


- From the Source .cfg file field, click Browse.

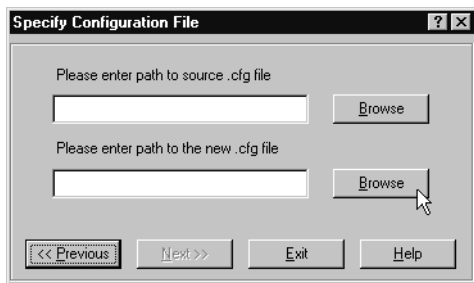


- If this is the **initial** agreement between the two servers, select ldap.cfg from the Open window and click Open.

If this is **not** the initial agreement, select the source configuration file from the Open window and click Open.

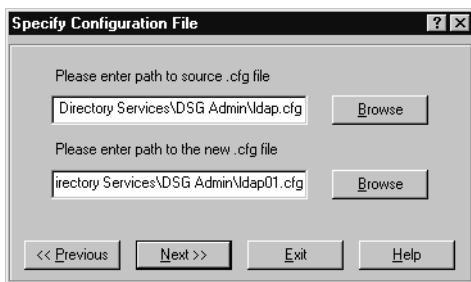


5. From the New .cfg file field, click Browse.



6. If this is the **initial** agreement between the two servers, perform the following steps:
 - Select ldap.cfg and click Open.
 - Place your cursor at the **end** of the new configuration file name, **before** the file extension (.cfg).
 - Append the new configuration file with "01" to distinguish it from the source configuration file. This new file, ldap01.cfg, will contain the parameters of the MetaLink agreement you are now creating.
 - Click Next.

If this is **not** the initial agreement, append the configuration file with a number that will logically define the MetaLink agreement.



7. From the Specify Server screen, enter the following information under the LDAP Server box:

Server Name - the hostname or IP address of the LDAP corporate directory server.

User DN - written in LDAP format, the user name to access your corporate directory server.

Password - the password for the above user name.

Port Number - the default value is 389.

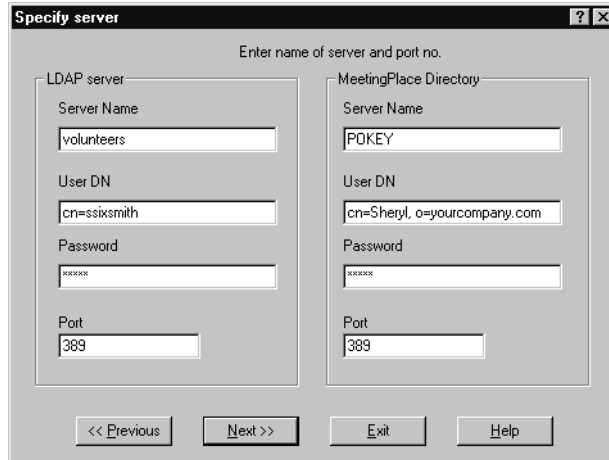
8. From the Specify Server screen, enter the following information under the MeetingPlace Directory box:

Server Name - the hostname or IP address of the MeetingPlace Directory Services server.

User DN - written in LDAP format, this is a combination of the admin node and user name created during *Installing the MeetingPlace Directory Services*, steps 9 and 18.

Password - this is the password created during *Installing the MeetingPlace Directory Services*, step 19.

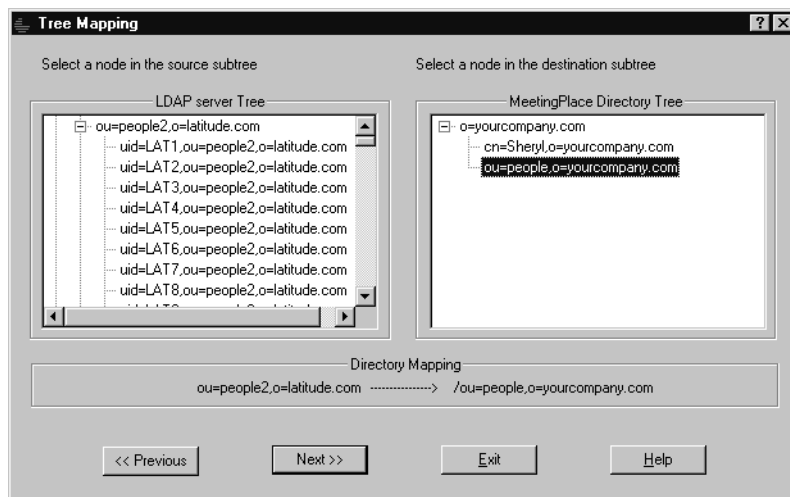
Port Number - the default value is 389.



The image shows a dialog box titled "Specify server" with a subtitle "Enter name of server and port no.". It contains two columns of input fields. The left column is for an "LDAP server" and the right column is for a "MeetingPlace Directory". Both columns have fields for "Server Name", "User DN", "Password", and "Port". The "LDAP server" fields contain "volunteers", "cn=ssixsmith", "xxxxx", and "389". The "MeetingPlace Directory" fields contain "POKEY", "cn=Sheryl.o=yourcompany.com", "xxxxx", and "389". At the bottom, there are four buttons: "<< Previous", "Next >>", "Exit", and "Help".

LDAP server	MeetingPlace Directory
Server Name: volunteers	Server Name: POKEY
User DN: cn=ssixsmith	User DN: cn=Sheryl.o=yourcompany.com
Password: xxxxxx	Password: xxxxxx
Port: 389	Port: 389

9. From the Tree Mapping screen, perform the following steps:
 - From the LDAP Server Tree box, select the subtree on the LDAP server that stores the directory information you want to import into MeetingPlace Directory Services.
 - From the MeetingPlace Directory Tree box, click the admin node to expand the directory. Select the subtree that will store the LDAP directory information.
 - Verify that the proper LDAP and MeetingPlace subtrees are displayed in the Directory Mapping box.
 - Click Next.

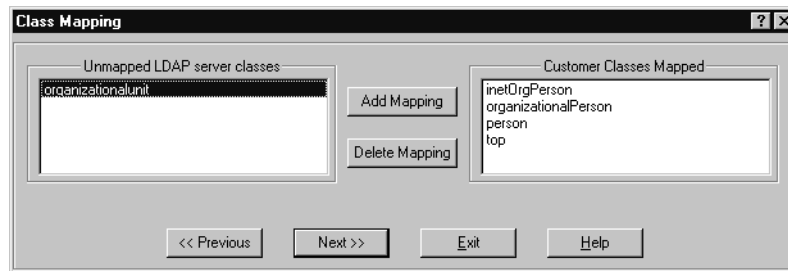


10. Wait while MeetingPlace Directory Services verifies the entries on the specified subtree.

11. By default, standard object classes are mapped in the configuration file. If you created a customized class, it will appear in the Unmapped LDAP Server Classes box and should be mapped manually.

From the Class Mapping screen, perform the following steps:

- From the Unmapped Active Directory Server Classes box, select the class.
- Click Add Mapping.
- Repeat these steps until all classes are mapped.
- Click Next.



12. From the BootStrap Attribute Mapping screen, perform the following steps:

- From the MeetingPlace Attributes box, select the attribute you want to use for BootStrap attribute mapping.
- From the LDAP Server Attributes box, select the corresponding attribute that will be mapped to the MeetingPlace attribute.
- Verify the proper attributes are listed in the Mapping Expression field.
- Click Add Mapping.
- Repeat these steps until all desired attributes are mapped.
- Click Next.



Note

If you want to delete an attribute mapping, select the mapping from the Attribute Mappings box, and click Delete Mapping.



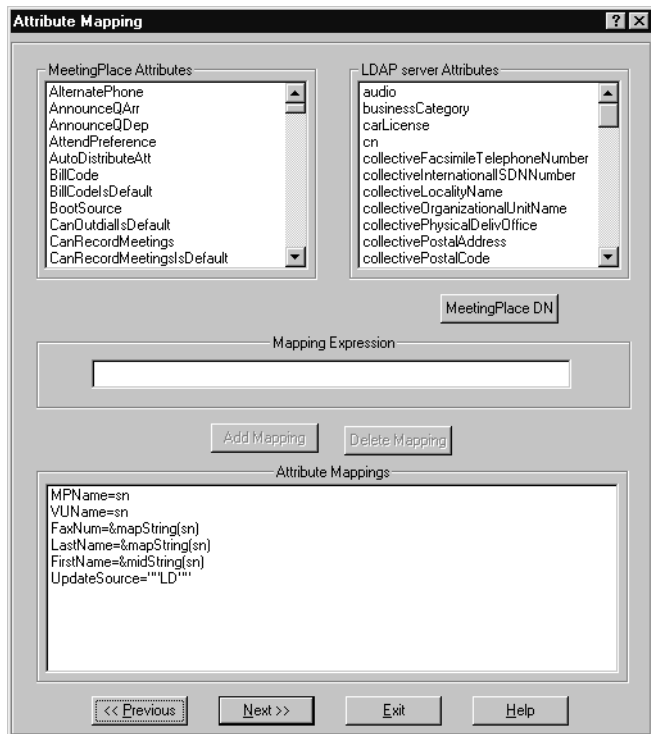
13. From the Attribute Mapping screen, perform the following steps:

- From the MeetingPlace Attributes box, select the attribute you want to use for attribute mapping.
- From the LDAP Server Attributes box, select the corresponding attribute that will be mapped to the MeetingPlace attribute.
- Verify the proper attributes are listed in the Mapping Expression box.
- Click Add Mapping.
- Repeat these steps until all desired attributes are mapped.
- Click Next.



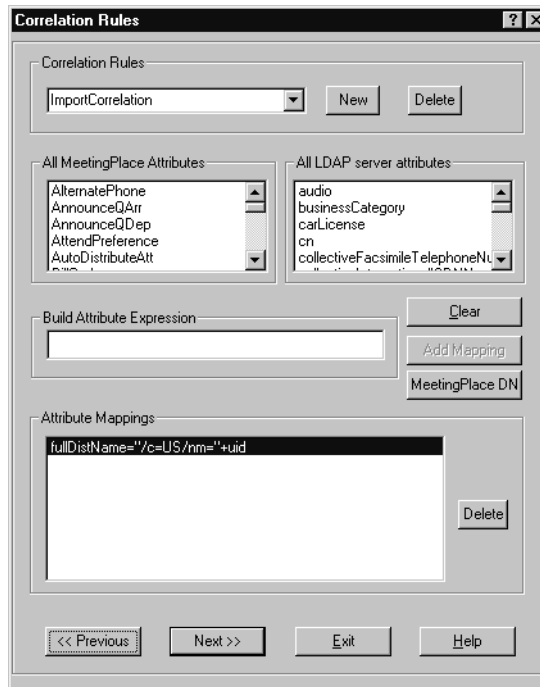
Note

If you want to delete an attribute mapping, select the mapping from the Attribute Mappings box, and click Delete Mapping.



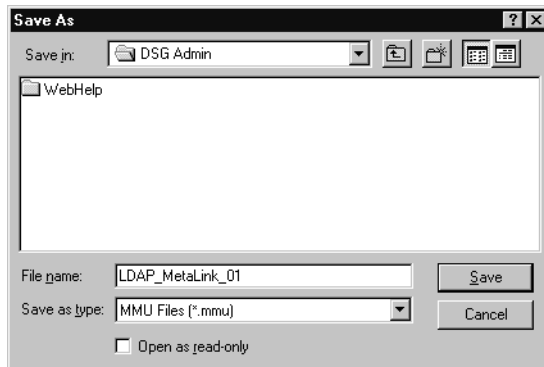
14. From the Correlation Rules screen, select the rule from the Correlation Rules drop-down list, and click Next.

Instructions on how to add, modify and delete a correlation rule using the MeetingPlace Directory Services Admin Tool are provided on page 42.

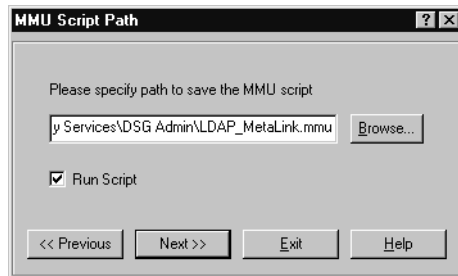


15. From the MMU Script Path screen, click Browse.

16. From the Save As screen, enter the name of the mmu script in the File name field. Click Save.



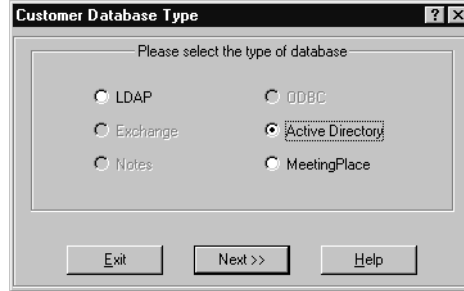
17. From the MMU Script Path screen, click Next to run the MetaLink agreement.



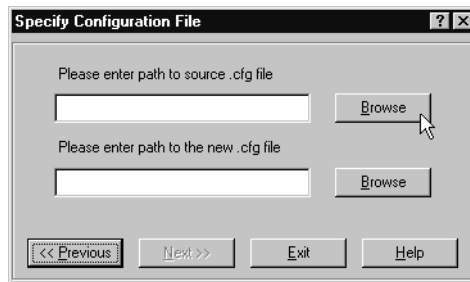
Once the MetaLink agreement is run, you can expect the entries to propagate the MeetingPlace Directory Services server at a rate of about one profile per second.

To create a MetaLink agreement between the MeetingPlace Directory Services server and the corporate Microsoft Active Directory server using the MeetingPlace DSG Admin Tool:

1. From Start | Programs | MeetingPlace Applications | MeetingPlace Directory Services, select DSG Admin.
2. From the Customer Database Type screen, select Active Directory.

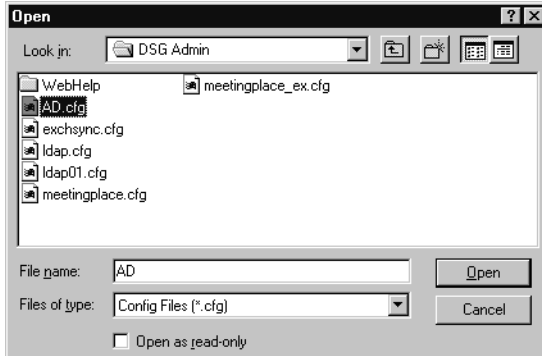


3. From the Source .cfg file field, click Browse.

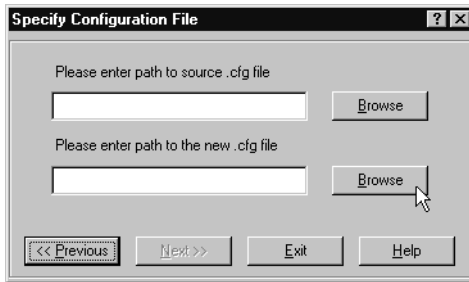


4. If this is the **initial** agreement between the two servers, select AD.cfg from the Open screen and click Open.

If this is **not** the initial agreement, select the source configuration file from the Open screen and click Open.

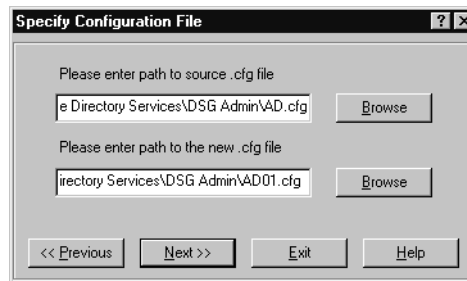


5. From the New .cfg file field, click Browse.



6. If this is the **initial** agreement between the two servers, perform the following steps:
 - Select AD.cfg and click Open.
 - Place your cursor at the **end** of the new configuration file name, **before** the file extension (.cfg).
 - Append the new configuration file with "01" to distinguish it from the source configuration file. This new file, AD01.cfg, will contain the parameters of the MetaLink agreement you are now creating.
 - Click Next.

If this is **not** the initial agreement, append the configuration file with a number that will logically define the MetaLink agreement.



7. From the Specify Server screen, enter the following information under the Active Directory Server box:

Server Name - the hostname or IP address of the Active Directory corporate directory server.

User DN - written in LDAP format, the user name to access the corporate directory.

Password - the password for the above user name.

Port Number - the default value is 389.

- From the Specify Server screen, enter the following information under the MeetingPlace Directory box:

Server Name - the hostname or IP address of the MeetingPlace Directory Services server.

User DN - written in LDAP format, this is a combination of the admin node and user name created during *Installing the MeetingPlace Directory Services*, steps 9 and 18.

Password - this is the password created during *Installing the MeetingPlace Directory Services*, step 19.

Port Number - the default value is 389.

The screenshot shows a dialog box titled "Specify server" with a subtitle "Enter name of server and port no.". It is divided into two main sections: "Active Directory server" and "MeetingPlace Directory".

Active Directory server:

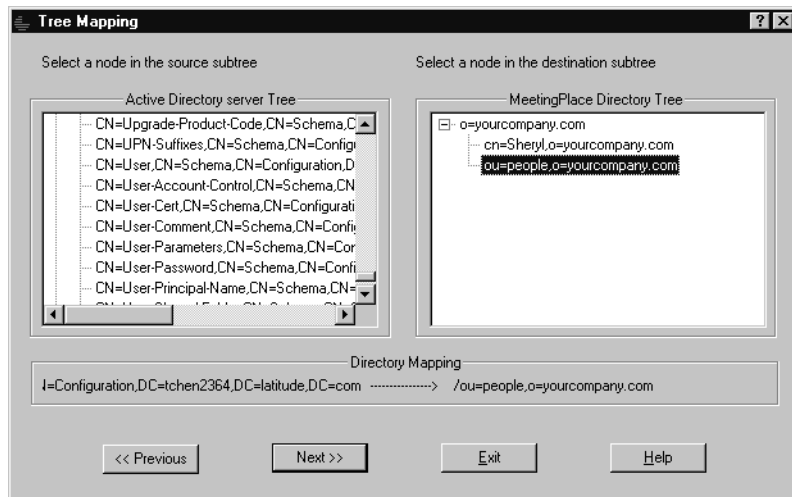
- Server Name:
- User DN:
- Password:
- Port:

MeetingPlace Directory:

- Server Name:
- User DN:
- Password:
- Port:

At the bottom of the dialog box are four buttons: "<< Previous", "Next >>", "Exit", and "Help".

9. From the Tree Mapping screen, perform the following steps:
 - From the Active Directory Server Tree box, select the subtree on the server that stores the directory information you want to import into MeetingPlace Directory Services.
 - From the MeetingPlace Directory Tree box, click the admin node to expand the directory. Select the subtree that will store the Active Directory information.
 - Verify that the proper Active Directory and MeetingPlace subtrees are displayed in the Directory Mapping box.
 - Click Next.

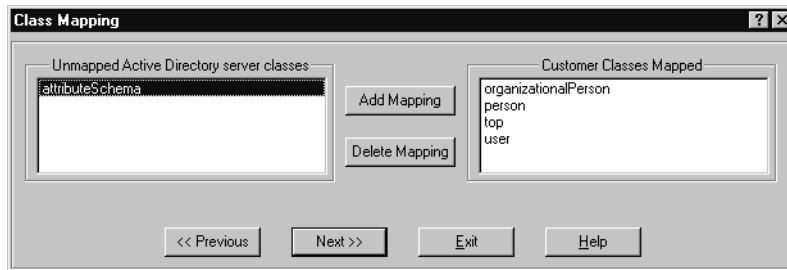


10. Wait while MeetingPlace Directory Services verifies the entries on the specified subtree.

11. By default, standard object classes are mapped in the configuration file. If you created a customized class, it will appear in the Unmapped Active Directory Server Classes box and should be mapped manually.

From the Class Mapping screen, perform the following steps:

- From the Unmapped Active Directory Server Classes box, select the class.
- Click Add Mapping.
- Repeat these steps until all classes are mapped.
- Click Next.



12. From the BootStrap Attribute Mapping screen, perform the following steps:

- From the MeetingPlace Attributes box, select the attribute you want to use for BootStrap attribute mapping.
- From the Active Directory Server Attributes box, select the corresponding attribute that will be mapped to the MeetingPlace attribute.
- Verify the proper attributes are listed in the Mapping Expression box.
- Click Add Mapping.
- Repeat these steps until all desired attributes are mapped.
- Click Next.



Note

If you want to delete an attribute mapping, select the mapping from the Attribute Mappings box, and click Delete Mapping.



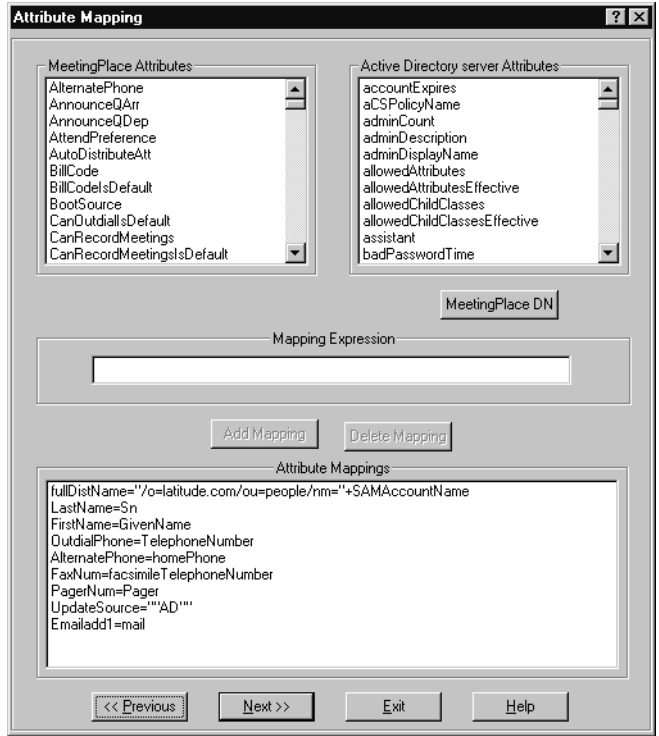
13. From the Attribute Mapping screen, perform the following steps:

- From the MeetingPlace Attributes box, select the attribute you want to use for attribute mapping.
- From the Active Directory Server Attributes box, select the corresponding attribute that will be mapped to the MeetingPlace attribute.
- Verify the proper attributes are listed in the Mapping Expression box.
- Click Add Mapping.
- Repeat these steps until all desired attributes are mapped.
- Click Next.



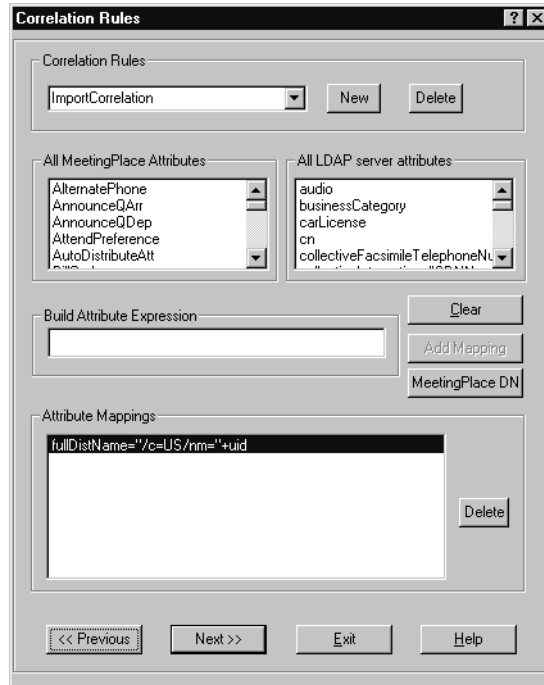
Note

If you want to delete an attribute mapping, select the mapping from the Attribute Mappings box, and click Delete Mapping.



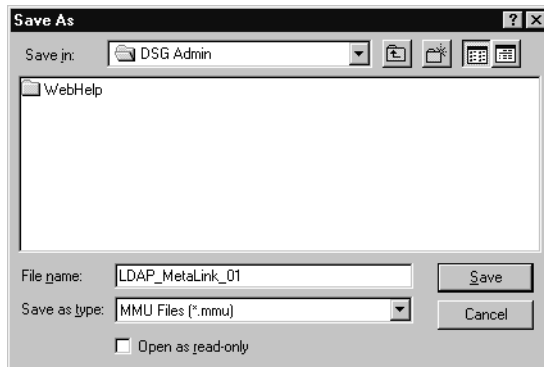
14. From the Correlation Rules screen, select the rule from the Correlation Rules drop-down list, and click Next.

Instructions on how to add, modify and delete a correlation rule using the MeetingPlace Directory Services Admin Tool are provided on page 42.

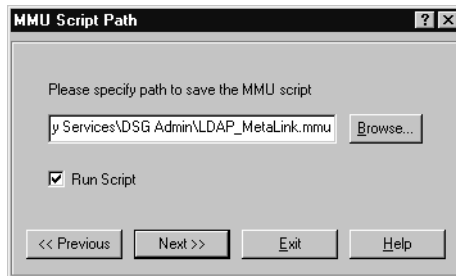


15. From the MMU Script Path screen, click Browse.

16. From the Save As screen, enter the name of the mmu script in the File name field. Click Save.



17. From the MMU Script Path screen, click Next to run the MetaLink agreement.



Once the MetaLink agreement is run, you can expect the entries to propagate the MeetingPlace Directory Services server at a rate of about one profile per second.

Modifying a Configuration File

As previously discussed, you should modify a configuration file to create a MetaLink agreement if your corporate directory server has more than 50,000 entries. A configuration file is a text file, so you can modify it using any text editor. The following section provides information on how to modify a configuration file so that you can create an agreement. For additional information, refer to Table 5-2.

LDAP Filters

The LDAP Filters section of the configuration file contains a list of objects you want to import. By default, MeetingPlace Directory Services imports all entries whose `objectClass` attribute has a value of `person`, as detailed in the `[LDAPFilters]` section of the configuration file:

```
[LDAPFilters]
Abs_Person = &attrHasValue(*objectClass,
"person")
```

You can modify an existing LDAP filter to include additional attributes.

To modify the LDAPFilter expression to include additional attributes:

1. From the `[Conversion Functions]` section, enter the following expression:

```
FilterAnd = MPPlugIn.dll, mlkFilterAnd
```

In order to filter on multiple values, the filters must be appended to one another. This command registers the `FilterAnd` function, which allows you to append an expression, and can be used to filter out more than one attribute. To utilize a plug-in function, it must be registered.

2. From the `[LDAPFilters]` section of the configuration file, alter the expression to appear as:

```
Abs_Person = &filterAnd("2",
&attrHasValue(*objectClass, "person",
&attrHasValue(*attribute name, "attribute
value")), where
```

- `attribute name` is the name of the attribute
- `attribute value` is the filter

3. From the File menu, click Save.

Correlation Rules

Once the MetaLink agreement determines which entries will be imported, it then uses correlation rules to determine if that entry already exists on MeetingPlace. If the entry does exist, it will use standard attribute mapping to perform the update based on the information retrieved from the corporate directory server. If the entry does not exist, a new entry will be created using BootStrap attribute mapping.

You can modify the default correlation rule to include additional attribute mappings and/or add a new correlation rule.

To modify a correlation rule:

1. From the [ImportCorrelation] section, enter the attribute mapping under the section header.
2. From the File menu, click Save.

To add a correlation rule:

1. From the [DCDPersonMapping] section, enter the name of the new correlation rule on the CorrelationRules field. All correlation rules should be separated by a comma.

For example, if you want to add a new correlation rule, ImportCorrelation01, to the default configuration file, the [DCDPersonMapping] section might look like the following:

```
[DCDPersonMapping]
StandardMapping = ImportPersonMap
BootstrapMapping = BootStrapPersonMap
CorrelationRules = ImportCorrelation,
ImportCorrelation01
```

2. After the ImportCorrelation section, enter a new section entitled, ImportCorrelation01.

```
[ImportCorrelation]
```

```
fullDistName="/o=yourcompany.com/
ou=people/nm=" " " + uid + " " " "
[ImportCorrelation01]
```

3. Enter the attribute mapping(s) that will make up this correlation rule.
4. From the File menu, click Save.

BootStrap Attribute Mapping

As previously discussed, BootStrap attribute mapping is used when entries are first imported into MeetingPlace. In the configuration file, you can add, modify, and delete BootStrap attribute mappings to ensure that the MetaLink agreement meets the needs of your organizational directory information.



Note

When defining an attribute mapping, use the following syntax:

MeetingPlace attribute = LDAP attribute

A list of MeetingPlace attributes is provided in Appendix C.

To add a BootStrap attribute mapping:

1. From the [BootStrapPersonMap] section, add the attribute mapping you want to become part of BootStrap attribute mapping.
2. Repeat step 1 until all desired attributes have been modified.
3. From the File menu, click Save.

To modify a BootStrap attribute mapping:

1. From the [BootStrapPersonMap] section, modify the attribute mapping.
2. Repeat step 1 until all desired attributes have been mapped.
3. From the File menu, click Save.

To delete a BootStrap attribute mapping:

1. From the [BootStrapPersonMap] section, highlight the attribute mapping you want to delete.
2. From your keyboard, press the Delete key.
3. Repeat steps 1 and 2 until all desired attribute mappings have been deleted.
4. From the File menu, click Save.

Standard Attribute Mapping

Standard attribute mapping applies to those entries that have already been imported into MeetingPlace Directory Services and will be updated during synchronization. In the configuration file, you can add, modify or delete a standard attribute mapping to ensure that the MetaLink agreement meets the needs of your organizational directory information.



Note

When defining an attribute mapping, use the following syntax:

MeetingPlace attribute = LDAP attribute

A list of MeetingPlace attributes is provided in Appendix C.

To add a standard attribute mapping:

1. From the [ImportPersonMap] section, add the attribute mapping.
2. Repeat step 1 until all desired attributes have been mapped.
3. From the File menu, click Save.

To modify a standard attribute mapping:

1. From the [ImportPersonMap] section, modify the attribute mapping.
2. Repeat step 1 until all desired attributes have been modified.
3. From the File menu, click Save.

To delete a standard attribute mapping:

1. From the [ImportPersonMap] section, highlight the attribute mapping you want to delete.
2. From your keyboard, press the Delete key.
3. Repeat steps 1 and 2 until all desired attribute mappings have been deleted.
4. From the File menu, click Save.

Plug-In Functions

Before you can use a plug-in function, you must register it. For additional information, refer to page 50 and page 114.

To register a plug-in function:

1. From the [Conversion Functions] section, enter the plug-in function.
2. From the File menu, click Save.

To use a plug-in function:

1. From the section you want to apply the plug-function [BootStrapPersonMap], [ImportPersonMap], or [ImportCorrelation], type the function so that it appears **before** the attribute.

A list of plug-in functions, their optional and required parameters, entry points and libraries is provided in Appendix B.

2. From the File menu, click Save.

Modifying the MMU Script

Before you run the mmu script, you may need to modify its parameters to enable the MetaLink agreement. The mmu script is a text file, so you can modify it using any text editor. For additional information, refer to Table 5-3.

To modify the mmu script:

1. From Start | Programs | Windows Explorer, select the drive you installed MeetingPlace Directory Services on.
2. From Latitude | MeetingPlace Directory Services | DSG Admin, double-click:
 - **ld.mmu** if your corporate directory server runs Netscape LDAP
 - **ad.mmu** if your corporate directory server runs Microsoft Active Directory
3. Modify the `AgreementScope` line so that it reflects the local path entries will be imported into.
4. Modify the `ConfigRecord` line so that it reflects the proper path of the configuration file.
5. Modify the `NSHostName` line so that it reflects the hostname or IP address of your corporate directory server.
6. Modify the `UserName` line so that it reflects the log on user name.
7. Modify the `Password` line so that it reflects the proper password for the above user.
8. Modify the `LDAPSubtree` line so that it reflects the path that will export entries to MeetingPlace Directory Services.
9. Modify the `SuspenseFile` path so that it reflects the path that will store the suspense file.
10. Modify the `UIDAttr` line so that it reflects that attribute that will uniquely identify each entry.
11. Modify the `LDAPTimeOut` line so that it reflects that amount of time, in seconds, you want the MeetingPlace

Directory Services server to wait to receive activity from the corporate directory server.

12. Modify the `PortNumber` line so that it reflects the port number that is responsible for tunneling information.

Once you have modified the `mmu` script, you can manually run it to enable the MetaLink agreement.

To manually run the mmu script:

1. From a command prompt, type the following command:

```
dcddmmu PROCESS <filename>, where filename is
the name of the mmu script.
```

2. From your keyboard, press the Enter key to run the command.



Note

You should allow this process to finish running before testing the MetaLink agreement.

Testing the MetaLink Agreement

You should know how many MeetingPlace profiles and entries from your corporate directory server should have propagated to MeetingPlace Directory Services. You can verify the number of profiles and entries that did propagate by using the DC Directory.

To verify how many entries propagated to MeetingPlace Directory Services:

1. From Start | Programs, select DC Directory Administrator.
2. From the Log on to DC Directory Admin – step 1 of 2 screen, click Next.
3. From the Log on to DC Directory Admin – step 2 of 2 screen, enter the user name and password. Click Finish.

- From the DC Directory Admin screen, verify the entries have propagated to MeetingPlace Directory Services by viewing the number at the bottom of the screen.

The screenshot shows the DC Directory Admin application window. The main area displays a table of directory entries. The table has the following columns: MFName, FirstName, LastName, EmailAdd, and VUName. The entries are listed in alphabetical order by MFName. At the bottom of the window, a status bar indicates '47 entries' and 'Show location'.

MFName	FirstName	LastName	EmailAdd	VUName
ahodges	Andy	Hodges	ahodges@yourcompany.com	7884
akim	Arine	Kim	akim@yourcompany.com	7342
arobles	Andrea	Robles	arobles@yourcompany.com	7021
asmith	Andre	Smith	asmith@yourcompany.com	7762
astaples	Alex	Staples	astaples@yourcompany.com	7440
bnarter	Bart	Narter	bnarter@yourcompany.com	7115
brose	Brian	Rose	brose@yourcompany.com	7833
cdrinkwater	Christina	Drinkwater	cdrinkwater@yourcompany.com	7705
ctang	Connie	Tang	ctang@yourcompany.com	7856
dottman	Dave	Ottman	dottman@yourcompany.com	7945
dsixsmith	David	Sixsmith	dsixsmith@yourcompany.com	7990
dtownsend	Dorothy	Townsend	dtownsend@yourcompany.com	7912
hvemulapalli	Harsha	Vemulapalli	hvemulapalli@yourcompany.com	7943
anderson	Joe	Anderson	anderson@yourcompany.com	7612
ibayliss	Jasmine	Bayliss	ibayliss@yourcompany.com	7880
jcauthen	John	Cauthen	jcauthen@yourcompany.com	7941
igrey	Jeanette	Grey	igrey@yourcompany.com	7987
jhartford	John	Hartford	jhartford@yourcompany.com	7448
jensley	Jerry	Hensley	jensley@yourcompany.com	7550
jasper	Jef	Jasper	jasper@yourcompany.com	7905
jpozzy	Jennifer	Pozzy	jpozzy@yourcompany.com	7880
jstrickland	Joseph	Strickland	jstrickland@yourcompany.com	7258
karndt	Kevin	Arndt	karndt@yourcompany.com	7388
kdodson	Karen	Dodson	kdodson@yourcompany.com	7566
kebler	Kimberly	Ehler	kebler@yourcompany.com	7652
kelder	Kelly	Elder	kelder@yourcompany.com	7502
kovens	Keith	Owens	kovens@yourcompany.com	7536
kthompson	Kathy	Thompson	kthompson@yourcompany.com	7145
lharrington	Lori	Harrington	lharrington@yourcompany.com	7656

Once you tested the MetaLink agreement, you should:

- View the suspense file for errors (see page 52).
- Back up the directory (see page 54).

7

Troubleshooting MeetingPlace Directory Services

This chapter explains how to troubleshoot problems that may occur after installing MeetingPlace Directory Services and running the MetaLink agreements. The topics in this chapter include:

- What to do First – provides information on the first things to check if you notice problems
- Resolving Connectivity Issues – provides information on how to resolve connectivity issues between MeetingPlace and your corporate directory
- Resolving MetaLink Agreement Errors – provides information on how to correct errors that occur as a result of running a MetaLink agreement
- Resolving LDAP ChangeLog Issues – provides information on what to do if the LDAP ChangeLog is reset

What to do First

If you experience any problems, perform the following steps to make sure MeetingPlace Directory Services has not lost its connection to the MeetingPlace server. If you experience the same problem after performing these steps, refer to the other troubleshooting topics in this chapter.

Verify the MeetingPlace Directory Services services are running:

1. From the MeetingPlace Directory Services server, go to Start | Settings | Control Panel | Services.
2. Make sure the following services are started:
 - MeetingPlace Gateway SIM
 - MeetingPlace Directory Server

Verify MeetingPlace Directory Services is logging into the MeetingPlace server:

1. Telnet into the MeetingPlace standalone or network server.
2. Run GWSTATUS to verify the gateway status is ok.

Check the event logs of the MeetingPlace Directory Services server and the MeetingPlace server for any errors relating to MeetingPlace.**Resolving Connectivity Issues**

If your corporate directory server is not communicating with MeetingPlace Directory Services, MeetingPlace profiles will not be created, updated or deleted based on the information stored on the corporate directory server.

If a MetaLink agreement fails, you should use an LDAP search utility to test the connectivity to the LDAP server. If you do not have the LDAP search utility, it is downloadable freeware that can be obtained from the Internet.

Resolving MetaLink Agreement Errors

Several issues can cause a MetaLink agreement to fail including directory overload, duplicate entries, and incongruous attribute mappings. If you feel an error has occurred, you should check the suspense file.

You can view the suspense file, correct the error on your corporate directory server, and replay the suspense file.

To replay the file from a command prompt, type the following:

`dcdrepl <filename>`, where `filename` is the suspense file to be replayed.

Resolving LDAP ChangeLog Issues

If the LDAP Changelog is reset, run the following script. Before you begin, it is important to ensure:

- No modifications will take place on the LDAP server until you have finished running the script
- LDAP Sync has imported all outstanding changes
- The script is run on the LDAP server

Begin by increasing the period of the LDAP Sync agreement to a large value (e.g. an hour) and allow the MetaLink to reread its configuration. This assumes you haven't changed the MetaLink configuration reread period, which has a default value of one minute.

Update the following script, **Admin Node/Hostname/Agreement ID**, where

- **Admin node** is the admin node of the MeetingPlace Directory Services server.
- **Hostname** is the name of the MeetingPlace Directory services server.
- **Agreement ID** is the ID of the MetaLink agreement.

For example, if the admin node is /o=yourcompany.com, the hostname is eagle and the MetaLink agreement is 1, the DN in the first line of the script would be:

```
/o=yourcompany.com/cn=DCDMLK/cn=eagle/  
cn="LDAP Live Sync Module"/cn=LDAP-Sync-to-  
Netscape:1
```

Copy the script into the run\dcx500\config directory, and run `cdsadmin resetlog` from the command line.

Allow enough time for the MetaLink to reread its configuration and then set the period of the LDAP Sync agreement back to its original value.

Since the Microsoft Active Directory synchronization, DirSync, uses cookies to pass state information between the server and client, it is not possible to reset it.

If you need additional assistance, contact your MeetingPlace Support representative.

A Glossary

Admin Node – In MeetingPlace Directory Services, the top level of the directory. For example, o=yourcompany.com or c=us.

Attribute – A property of an object class that describes the elements of that object class. For example, the Person object class may have attributes such as first name, last name and phone number.

Attribute Mapping – Attribute mapping is used to obtain a set of values from an entry in one directory system and set those values to an entry in a different system. It is a flexible tool that offers many options including concatenating attribute values with other attributes and strings, and applying custom mappings and conversions to attribute values.

BootStrap Attribute Mapping – A process used to describe how attributes are mapped between an organization's directory and the MeetingPlace conference server when an entry is first created on the MeetingPlace Directory Services server.

Configuration File – A text file, created as a result of attribute mapping, that contains information necessary to run a MetaLink agreement. The parameters stored in a configuration file include which two servers are involved in the agreement and which attributes are mapped for correlation and standard synchronization.

Correlation – Correlation is used to prevent profiles from being duplicated on MeetingPlace. When a profile is imported into MeetingPlace for the first time, the correlation process is used to locate a matching entry on the organization's directory system. If the profile is found, correlation rules can be used to ensure attribute values. If a profile is not found, one will be created using BootStrap Attribute Mapping.

Correlation Rule – A correlation rule consists of one or more attribute mappings that is responsible for ensuring that no two entries are created for the same user. If all of the attributes contained in a rule are mapped, then the source and destination entries will be correlated. If attribute mapping doesn't occur and the entries do not correlate, then a new entry is created.

DC Directory – A MeetingPlace Directory Services graphical interface that allows you to create subtrees and view MeetingPlace profiles and corporate directory information once MetaLink agreements have been run between these servers and the MeetingPlace Directory Services server.

Directory Information Tree – In a directory server, a tree-like structure whereby each entry is uniquely identified by a distinguished name.

Lightweight Directory Access Protocol – Lightweight Directory Access Protocol (LDAP) is a standard protocol which enables you to locate organizations, individuals, and other resources such as files and devices in a network, whether on the Internet or on a corporate Intranet.

Live Synchronization – Live Synchronization can be used by the MetaLink agreement to update directory information. The MetaLink communicates directly with the directory system and propagates any changes to MeetingPlace dynamically. MetaLink can update changes automatically or through a scheduled event. MeetingPlace Directory Services uses live synchronization to identify changes in the directory.

MetaDirectory – A single directory infrastructure that helps simplify management and administrative task, and gives users greater access to information across an organization.

MetaLink Agreement – A MetaLink agreement is an agreement between two servers in MeetingPlace Directory Services. An agreement consists of attribute mappings and correlation rules that defines a Meta-Directory by automatically and dynamically synchronizing data. When data changes in an organization's

directory the changes are propagated to MeetingPlace by the MetaLink, providing a seamless sharing of selected directory information.

MetaLink Management Utility Script – A file, created as a result of configuring a MetaLink agreement, which must be run to enable the agreement.

Plug-In Function – A tool used in correlation and standard synchronization that allows you to convert one or more attribute values.

Subtree – A branch of the admin node that contains directory information to be imported into MeetingPlace.

Suspense File – A text file that contains a list of errors that occurred while running a MetaLink agreement.

Synchronization – In a MetaLink agreement, the process of synchronizing mapped attributes between two servers. This process occurs after the initial import of attributes into MeetingPlace and helps to update and delete profiles.

B MeetingPlace Directory Services Business Rules

The following table is a list of business rules most commonly used for determining which attributes are unique on your corporate directory server. You can then effectively map these attributes when you create a MetaLink agreement.

MeetingPlace Attribute	Potential Source	Business Rule
First Name	named field in the directory	
Last Name	named field in the directory	
User ID	E-mail address Last name First name_last name Employee ID Random	
Password	Microsoft Exchange/Lotus Notes password Windows password Default for all and force a change Random	

MeetingPlace Attribute	Potential Source	Business Rule
Profile ID	Phone extension Employee number	
Profile Password	Same as user ID password Microsoft Exchange/Lotus Notes password Default for all and force a change Random	
Outdial Information	Phone number Alternate phone number Pager number	
Billing Information	Department number Project code	
Group	Department number Division Title Location Randomly assign and use for load balancing	
Home server	Address Group Department number	

MeetingPlace Attribute	Potential Source	Business Rule
E-mail address	E-mail address	
Timezone	Address Location Group default	
Homesite	Address Department number Group	
Recording privileges	Group	
Who can access	Group	
Display meeting to all	Group	
Oudial privileges	Group	
Meeting preferences	Group	
Restrictions	Group	

MeetingPlace Attribute	Potential Source	Business Rule
Notifications	Group	
Type of e-mail system	Group	
Q & A	Group	

C MeetingPlace Directory Services Plug-In Functions

You can use plug-in functions to manipulate the value of an attribute when you import it into MeetingPlace. This can be an effective tool for attribute mapping as it allows you to:

- Extract, append or replace attributes
- Concatenate attributes
- Assign random attribute values
- Filter attribute values

The standard syntax for utilizing a plug-in function is **&fn(att)**, where "**fn**" refers to the function name and "**att**" refers to the attribute.

Some things to consider when using plug-in functions include:

- VU name = MeetingPlace profile number
- The ASCII code for a backslash, "\ ", is \5C
- Each plug-in function has a pre-defined set of optional and required parameters
- A % preceding an attribute means that it must have a value

The following table lists the plug-in functions available in MeetingPlace Directory Services.

Function Entry Point Library	Meaning	Parameter
attrHasValue mlkAMapAttrHasValue dcmlkcnv.dll	returns a non-empty string if a match for the attribute is found and an empty string if a match is not found	attribute, value
Case mlkAMapCase dcmlkcnv.dll	one of: <ol style="list-style-type: none"> 1. AllUpper – converts all characters to upper case 2. FirstUpper – converts first character to upper case 3. WordUpper – converts first character of each word to upper case 4. AllLower – converts all characters to lower case 5. WordLower – converts all characters except the first character to lower case 6. FirstNormal – converts the first character to upper case and remaining characters to lower case 7. WordNormal – converts the first character of each word to upper case and the remaining characters to lower case 	attribute
FilterAND mlkFilterAND MPPlugIn.dll	concatenate 2 or more values	n, attribute a maximum of 9 attributes can be filtered

Function Entry Point Library	Meaning	Parameter
FilterBuiltIn mlkFilterBuiltIn MPPlugIn.dll	filter out any entries with an attribute equal to a given value	attribute
FilterNOT mlkFilterNOT MPPlugIn.dll	invert an expression	attribute
Initials mlkAMapInitials dcmlkcnv.dll	convert each letter to upper case, followed by a dot (.); used to initialize normal values	attribute
MapString mlkStringMap MPPlugIn.dll	map values with table values in a specified file	attribute, directory path
MidString mlkStringMid MPPlugIn.dll	obtain a number of characters starting from a specified location	attribute, index, count
Random mlkRnd MPPlugIn.dll	assign a random number to a value	n, 0 – n
ReparentDN mlkAMapReparentDN dcmlkcnv.dll	allows you to change the subtree to the DN	existing parent (subtree), new parent (subtree)
SingleSpace mlkAMapSingleSpace dcmlkcnv.dll	convert multiple consecutive space characters to a single space character	attribute
String2Number mlkString2Number MPPlugIn.dll	convert a string to a number, based on a standard phone dial pad	attribute

Function Entry Point Library	Meaning	Parameter
StringLeft mlkStringLeft MPPlugIn.dll	obtain substring before (to the left of) a specified character	attribute, " "
StringMidNoEnd mlkStringMidNoEnd MPPlugIn.dll	return a substring from a given start index	n, 0-n
StringRight mlkStringRight MPPlugIn.dll	obtain substring after (to the right of) a specified character	attribute, " "
StringRightN mlkStringRightN MPPlugIn.dll	obtain a number of characters from the right	attribute, n
TelephoneValidate mlkAMapTelValidate dcmlkcnv.dll	remove all characters other than '0' - '9', ' ' and '+'	attribute
Trim mlkAMapTrim dcmlkcnv.dll	remove white space from start to end of each value	attribute
Truncate mlkAMapTruncate dcmlkcnv.dll	number indicating the maximum length of value	attribute

D MeetingPlace Directory Services Attributes

The following table lists attributes specific to MeetingPlace Directory Services. You can utilize this table to map MeetingPlace attributes to corresponding attributes on your corporate directory server.

You can obtain a full list of MeetingPlace attributes from the *MeetingPlace System Manager's Guide*.

MeetingPlace Attribute	Description	Format
MPName	The user's MeetingPlace name.	ASCII text – 17 characters maximum
UserPassword	The user's MeetingPlace password.	ASCII – 11 characters maximum
WFPasswordLastChanged	The date and time of the last MeetingPlace password change for this profile.	MM/DD/YYYY HH:MM
ProfileNumber	The user's profile number.	Numeric – 17 characters maximum
ProfilePassword	The user's profile password.	Numeric – 11 characters maximum
VUPasswordLastChanged	The date and time of the last VUI password change for this profile.	MM/DD/YYYY HH:MM
NetworkCredentials	The user's full network name.	ASCII text

MeetingPlace Attribute	Description	Format
Group Name	The user's group name.	ASCII text – 0 to 17
TimeZone	The user's time zone.	Integer
FirstName	The user's first name.	ASCII text – 17 characters maximum
LastName	The user's last name.	ASCII text – 17 characters maximum
OutdialPhone	The user's phone.	ASCII text – 31 characters maximum
EmailAdd	The user's e-mail address.	Alphanumeric – 127 characters maximum
BillCode	The meeting's billing code.	ASCII text – 0 to 17
UniqueID	The user's internal database identifier.	For internal use only.
BootSource	The origin of the entry.	For internal use only.
UpdateSource	The origin of the last update.	For internal use only.
Custom1 – Custom10	reserved for future use.	ASCII text

E MeetingPlace Time Zone Codes

This appendix includes the Time Zone Import Codes. There are 319 time zones to accommodate the rules of each country and region. MeetingPlace supports all of these time zones, so users do not have to account for time zone differences.

0 factory	18 Africa/Dar_es_Salaam	36 Africa/Maputo
1 local time	19 Africa/Djibouti	37 Africa/Maseru
2 Africa/Adidjan	20 Africa/Douala	38 Africa/Mbabane
3 Africa/Accra	21 Africa/Freetown	39 Africa/Mogadishu
4 Africa/Addis_Ababa	22 Africa/Gaborone	40 Africa/Monrovia
5 Africa/Algiers	23 Africa/Harare	41 Africa/Nairobi
6 Africa/Asmera	24 Africa/Johannesburg	42 Africa/Ndjamena
7 Africa/Bamako	25 Africa/Kampala	43 Africa/Niamey
8 Africa/Bangui	26 Africa/Khartoum	44 Africa/Nouakchott
9 Africa/Banjul	27 Africa/Kigali	45 Africa/Ouagadougou
10 Africa/Bissau	28 Africa/Kinshasa	46 Africa/Porto_Novo
11 Africa/Blantyre	29 Africa/Lagos	47 Africa/Sao_Tome
12 Africa/Brazzaville	30 Africa/Libreville	48 Africa/Timbuktu
13 Africa/Bujumbura	31 Africa/Lome	49 Africa/Tripoli
14 Africa/Cairo	32 Africa/Luanda	50 Africa/Tunis
15 Africa/Casablanca	33 Africa/Lubumbashi	51 Africa/Windhoek
16 Africa/Conakry	34 Africa/Lusaka	52 America/Anchorage
17 Africa/Dakar	35 Africa/Malabo	53 America/Anguilla

54 America/Antigua	79 America/Guayaquil	104 America/Port_au_Prince
55 America/Asuncion	80 America/Guyana	105 America/PortofSpain
56 America/Adak	81 America/Halifax	106 America/Porto_Acre
57 America/Barbados	82 America/Havana	107 America/Puerto_Rico
58 America/Belize	83 America/Jamaica	108 America/Regina
59 America/Bogota	84 America/Knox_IN	109 America/Santiago
60 America/Buenos_Aires	85 America/La_Paz	110 America/SantoDomingo
61 America/Caracas	86 America/Lima	111 America/Sao_Paulo
62 America/Cayenne	87 America/Los_Angeles	112 America/Scoresbysund
63 America/Cayman	88 America/Managua	113 America/St_Johns
64 America/Chicago	89 America/Manaus	114 America/St_Kitts
65 America/Costa_Rica	90 America/Martinique	115 America/St_Lucia
66 America/Curacao	91 America/Mazatlan	116 America/St_Vincent
67 America/Denver	92 America/Mexico_City	117 America/Tegucigalpa
68 America/Detroit	93 America/Miquelon	118 America/Thule
69 America/Dominica	94 America/Montevideo	119 America/Tijuana
70 America/Edmonton	95 America/Montreal	120 America/Vancouver
71 America/El_Salvador	96 America/Montserrat	121 America/Virgin_Is
72 America/Ensenada	97 America/Nassau	122 America/Whitehorse
73 America/Fort_Wayne	98 America/Navajo	123 America/Winnipeg
74 America/Godthab	99 America/New_York	124 Asia/Aden
75 America/Grand_Turk	100 America/Noronha	125 Asia/Alma_Ata
76 America/Grenada	101 America/Panama	126 Asia/Amman
77 America/Guadeloupe	102 America/Paramaribo	127 Asia/Anadyr
78 America/Guatemala	103 America/Phoenix	128 Asia/Ashkhabad

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130 Asia/Bahrain	155 Asia/Magadan	180 Asia/Vientiane
131 Asia/Baku	156 Asia/Manila	181 Asia/Vladivostok
132 Asia/Bangkok	157 Asia/Muscat	182 Asia/Yakutsk
133 Asia/Beirut	158 Asia/Nicosia	183 Asia/Yerevan
134 Asia/Brunei	159 Asia/Novosibirsk	184 Atlantic/Azores
135 Asia/Calcutta	160 Asia/Omsk	185 Atlantic/Bermuda
136 Asia/Colombo	161 Asia/Phnom_Penh	186 Atlantic/Canary
137 Asia/Dacca	162 Asia/Pyongyang	187 Atlantic/Cape_Verde
138 Asia/Damascus	163 Asia/Qatar	188 Atlantic/Faeroe
139 Asia/Dubai	164 Asia/Rangoon	189 Atlantic/Madeira
140 Asia/Dushanbe	165 Asia/Riyadh	190 Atlantic/Reykjavik
141 Asia/Bishkek	166 Asia/Saigon	191 Atlantic/South_Georgia
142 Asia/Gaza	167 Asia/Seoul	192 Atlantic/St_Helena
143 Asia/Hong_Kong	168 Asia/Shanghai	193 Atlantic/Stanley
144 Asia/Irkutsk	169 Asia/Singapore	194 Australia/Adelaide
145 Asia/Istanbul	170 Asia/Yekaterinburg	195 Australia/Brisbane
146 Asia/Jakarta	171 Asia/Taipei	196 Australia/Broken_Hill
147 Asia/Jayapura	172 Asia/Tashkent	197 Australia/Darwin
148 Asia/Kabul	173 Asia/Tbilisi	198 Australia/Hobart
149 Asia/Kamchatka	174 Asia/Tehran	199 Australia/Lord_Howe
150 Asia/Karachi	175 Asia/Tel_Aviv	200 Australia/Melbourne
151 Asia/Katmandu	176 Asia/Thimbu	201 Australia/Perth
152 Asia/Kuala_Lumpur	177 Asia/Tokyo	202 Australia/Sydney
153 Asia/Kuwait	178 Asia/Ujung_Pandang	203 Europe/Amsterdam

204 Europe/Andorra	229 Europe/Oslo	254 GMT+3
205 Europe/Athens	230 Europe/Paris	255 GMT+4
206 Europe/Belfast	231 Europe/Prague	256 GMT+5
207 Europe/Belgrade	232 Europe/Riga	257 GMT+6
208 Europe/Berlin	233 Europe/Rome	258 GMT+7
209 Europe/Bratislava	234 Europe/Sarajevo	259 GMT+8
210 Europe/Brussels	235 Europe/Skopje	260 GMT+9
211 Europe/Bucharest	236 Europe/Sofia	261 GMT-1
212 Europe/Budapest	237 Europe/Stockholm	262 GMT-10
213 Europe/Chisinau	238 Europe/Tallinn	263 GMT-11
214 Europe/Copenhagen	239 Europe/Tirane	264 GMT-12
215 Europe/Dublin	240 Europe/Vaduz	265 GMT-2
216 Europe/Gibraltar	241 Europe/Vienna	266 GMT-3
217 Europe/Helsinki	242 Europe/Vilnius	267 GMT-4
218 Europe/Istanbul	243 Europe/Warsaw	268 GMT-5
219 Europe/Kiev	244 Europe/Zagreb	269 GMT-6
220 Europe/Lisbon	245 Europe/Zurich	270 GMT-7
221 Europe/Ljubljana	246 GMT	271 GMT-8
222 Europe/London	247 GMT+0	272 GMT-9
223 Europe/Luxembourg	248 GMT+1	273 Indian/Antananarivo
224 Europe/Madrid	249 GMT+10	274 Indian/Christmas
225 Europe/Malta	250 GMT+11	275 Indian/Comoro
226 Europe/Minsk	251 GMT+12	276 Indian/Mahe
227 Europe/Monaco	252 GMT+13	277 Indian/Maldives
228 Europe/Moscow	253 GMT+2	278 Indian/Mauritius

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281 Pacific/Auckland	306 Pacific/Ponape	
282 Pacific/Belau	307 Pacific/Port_Moresby	
283 Pacific/Chatham	308 Pacific/Rarotonga	
284 Indian/Cocos	309 Pacific/Pago_Pago	
285 Pacific/Easter	310 Pacific/Tahiti	
286 Pacific/Efate	311 Pacific/Tarawa	
287 Pacific/Enderbury	312 Pacific/Tongatapu	
288 Pacific/Fakaofu	313 Pacific/Truk	
289 Pacific/Fiji	314 Pacific/Wake	
290 Pacific/Funafuti	315 Pacific/Wallis	
291 Pacific/Galapagos	316 Pacific/Yap	
292 Pacific/Gambier	317 Atlantic/Jan_Mayen	
293 Pacific/Guadalcanal	318 Indian/Chagos	
294 Pacific/Guam		
295 Pacific/Honolulu		
296 Pacific/Kiritimati		
297 Pacific/Kwajalein		
298 Pacific/Majuro		
299 Pacific/Marquesas		
300 Pacific/Midway		
301 Pacific/Nauru		
302 Pacific/Niue		
303 Pacific/Norfolk		

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