



Digital Networking

Overview: Digital Networking

Each Cisco Unity server has a maximum number of subscribers that it can serve. When the voice messaging needs of your organizations require more than one Cisco Unity server, the servers can be networked together such that they access a single, global directory, while at the same time, each Cisco Unity installation in the network continues to serve only those subscribers that were created on the server. Digital Networking is the Cisco Unity feature that allows subscribers associated with one Cisco Unity server to exchange messages with subscribers associated with other Cisco Unity servers. With Digital Networking, subscribers can use the phone to log on to Cisco Unity and send voice messages to subscribers associated with other Cisco Unity servers (“To send a message, press 2”). After listening to messages, subscribers can reply to messages sent from subscribers on other Cisco Unity servers.

When the networked Cisco Unity servers are integrated with the same phone system, the servers can be grouped into a [dialing domain](#) and configured such that:

- Calls are transferred from the automated attendant or directory assistance to subscribers who are not associated with the local server.
- Identified subscriber messaging (ISM) works for networked subscribers: subscribers who call and leave messages for subscribers on other Cisco Unity servers in the dialing domain are identified as subscribers.

Subscribers use the same Cisco Unity tools for messaging with subscribers on other networked Cisco Unity servers that they use for messaging with subscribers on the same server. If your organization also has the FaxMail and Text to Speech e-mail features, subscribers can use the phone to forward fax and e-mail messages to any subscriber in the organization.

Although Cisco Unity stores information about subscribers (and other Cisco Unity objects such as call handlers) in a SQL database on the Cisco Unity server, a small subset of information about subscribers, distribution lists, and [locations](#) is also stored in the directory to enable Digital Networking. When subscriber and location data from other Cisco Unity servers replicates in the directory, Cisco Unity detects the data and updates the SQL database. Because of directory replication, each Cisco Unity server has the information that it needs to address voice messages to subscribers associated with the other Cisco Unity servers.

The directory in which Cisco Unity stores data is determined when Cisco Unity is set up. During setup, you specify one Exchange server (the partner Exchange server) through which Cisco Unity communicates with other Exchange servers in the network. If the partner server is Exchange 2000 or Exchange 2003, Cisco Unity uses Active Directory. If the partner server is Exchange 5.5, Cisco Unity uses the Exchange 5.5 directory.

Requirements for Setting Up Digital Networking

The key to Digital Networking is that all of the Cisco Unity servers access a common directory. To use Digital Networking, the Cisco Unity servers must be in one of the following configurations:

- The same Active Directory forest.
- The same Exchange 5.5 site.
- Different sites within the same Exchange 5.5 organization, but with Exchange message and directory replication connectors installed. (Without the message and directory replication connectors, Digital Networking does not work.)

Additionally:

- The Cisco Unity servers that are networked together can be any combination of Cisco Unity servers, version 3.1(2) or later. Note, however, that to take advantage of new features introduced in Cisco Unity 4.0(3) and 4.0(4), all of the Cisco Unity servers must be running the version in which the feature was introduced (or a later version). If you have an existing Cisco Unity server that is version 2.4(6) through 3.1(1), and if you want to add another Cisco Unity server for Digital Networking, the existing server must be upgraded.
- To use Digital Networking in an Exchange mixed-mode environment, all of the Cisco Unity servers must use Exchange 2000 or Exchange 2003 for a partner server. Digital Networking is not supported between a Cisco Unity server with a partner Exchange 5.5 server and a Cisco Unity server with a partner Exchange 2000 or Exchange 2003 server.

Note that Cisco Unity servers licensed for Unified Messaging (UM) and Cisco Unity servers licensed for Voice Messaging (VM) can use Digital Networking to exchange messages, as long as the above requirements are met. There are no licensing issues associated with VM and UM existing in the same Exchange organization or Active Directory forest, as long as the VM subscribers access voice and fax messages only over the phone interface or with the separately licensed Cisco Personal Communications Assistant (PCA).

Licenses

Digital Networking is enabled on every Cisco Unity server. There are no additional licenses that you need to obtain to set up Digital Networking.

License Pooling

Though you do not need a license for Digital Networking, you may want to add a licensed feature called license pooling. License pooling allows Cisco Unity servers that are set up for Digital Networking to pool licenses for subscribers and for the Cisco Unity Inbox. With license pooling, if total utilization across all of the Cisco Unity servers does not exceed total licenses for the feature, the Cisco Unity server is in compliance with licensing restrictions. For example, suppose two Cisco Unity servers each have 500 licenses for subscribers. With license pooling, one of the servers can use 501 or more licenses as long as the total used by both servers does not exceed 1,000.

For all licensed features other than subscriber licenses, licensing is on a per-machine basis. Licensing information is stored with the [primary location](#) for each Cisco Unity server. Because location data is stored in the directory, each Cisco Unity server has the information that it needs to keep track of license usage in the pool.

For more information about license pooling and obtaining licenses for Cisco Unity features, see the *White Paper: Licensing for Cisco Unity (All Versions)*, at http://www.cisco.com/en/US/products/sw/voicesw/ps2237/products_white_paper09186a008019c743.shtml.

In This Chapter

In this chapter, you will find information about procedures for setting up and upgrading Digital Networking, followed by detailed discussions of the concepts and terminology you need to understand. See the following sections:

- [Setting Up Digital Networking, page 2-3](#)—This section describes the prerequisites for setting up Digital Networking, and provides a task list containing a high-level view of all of the tasks you need to complete for the setup, and the order in which they should be completed.
- [Procedures for Setting Up Cisco Unity to Use Digital Networking, page 2-4](#)—This section contains all of the procedures necessary to set up Cisco Unity for Digital Networking.
- [Digital Networking Concepts and Definitions, page 2-16](#)—This section explains Digital Networking concepts in detail. If you are unfamiliar with Digital Networking, we recommend that you read this section prior to completing the setup procedures.
- [Notable Behavior, page 2-27](#)—This section contains information about notable behavior related to Digital Networking.

Related Documentation

- *Accessing Voice Mail in Multiple Unity Server Environments*, at http://www.cisco.com/warp/public/788/AVVID/one_message_button_two_unity_servers.html.
- *White Paper: Cisco Unity Data and the Directory (With Microsoft Exchange)*, at http://www.cisco.com/en/US/products/sw/voicesw/ps2237/products_white_paper09186a00800875c5.shtml.
- *White Paper: Active Directory Capacity Planning, Cisco Unity 3.0(3) and Later (With Microsoft Exchange)*, at http://www.cisco.com/en/US/products/sw/voicesw/ps2237/products_white_paper09186a00800e4535.shtml.

Setting Up Digital Networking

Prerequisites

- Cisco Unity is already installed on the servers, according to instructions in the Cisco Unity installation guide.
- The servers are connected to a network that provides access to a common directory.
- The Cisco Unity servers meet the criteria described in the “[Requirements for Setting Up Digital Networking](#)” section on page 2-2.

Task List: Setting up Digital Networking

Use this task list to set up Digital Networking on each Cisco Unity server. The cross-references take you to detailed procedures. If a system is using failover, do the tasks only on the primary server unless a task requires changing the registry, which must be done on both the primary and secondary servers. (The instructions will note this.)

1. Optionally, obtain and enable a license file for license pooling. See the “[Enabling License Pooling \(Optional\)](#)” section on page 2-5.
2. If the partner Exchange servers are in different sites within the same Exchange 5.5 organization, you need to change registry keys on each Cisco Unity server. You should also verify that site connectors are installed and functioning properly. See the “[Enabling Messaging Among Cisco Unity Servers in Different Exchange 5.5 Sites](#)” section on page 2-6.
3. Customize the primary location. See the “[Customizing the Primary Location](#)” section on page 2-8.
4. Set the addressing, directory handler, and automated attendant search scopes. See the “[Setting the Addressing, Directory Handler, and Automated Attendant Search Scopes](#)” section on page 2-8. The Automated Attendant search option must be set to search the dialing domain in order for identified subscriber messaging to work.
5. Optionally, enable [identified subscriber messaging \(ISM\)](#). See the “[Enabling Identified Subscriber Messaging Between Networked Cisco Unity Subscribers \(Optional\)](#)” section on page 2-10.
6. Modify the All Subscribers public distribution list. See the “[Modifying the All Subscribers Public Distribution List](#)” section on page 2-12.
7. Optionally, add alternate extensions to each subscriber account. For instructions, see the “Subscriber Alternate Extension Settings” section in the “Subscriber Settings” chapter of the *Cisco Unity System Administration Guide*, at http://www.cisco.com/en/US/products/sw/voicesw/ps2237/products_administration_guide_book09186a008043ea39.html.
8. Optionally, set up system broadcast messaging in order to send system broadcasts to all subscribers in the directory. See the “[Setting Up System Broadcast Messaging for Sending to All Subscribers in the Directory \(Optional\)](#)” section on page 2-12.
9. Optionally, change the default search scope in the Cisco Personal Communications Assistant to the global directory. See the “[Changing the Default Search Scope for the Cisco PCA \(Optional\)](#)” section on page 2-13.
10. Optionally, enable live reply between subscribers on different Cisco Unity servers. See the “[Enabling Live Reply Between Cisco Unity Servers in the Same Dialing Domain \(Optional\)](#)” section on page 2-14.
11. Test the Digital Networking setup. See the “[Testing the Digital Networking Setup](#)” section on page 2-14.
12. For Cisco CallManager integrations only: Optionally, enable the cross-server features. See the “[Cross-Server Logon, Transfers, and Live Reply](#)” chapter for details.

Procedures for Setting Up Cisco Unity to Use Digital Networking

This section contains all of the procedures necessary to set up each Cisco Unity server for Digital Networking.

Enabling License Pooling (Optional)

For each Cisco Unity server, you can choose whether it will participate in the license pool. To place a Cisco Unity server in the pool, obtain a license file with license pooling enabled, and then install the license file on the Cisco Unity server. If a license file on a Cisco Unity server does not have the license pooling feature enabled, the server does not participate in the pool, and compliance for licenses on that server is measured on a per-machine basis.

You obtain the license file by completing registration information on Cisco.com. Shortly after registration, Cisco e-mails the license file. The e-mail from Cisco contains instructions on how to save and store the files.



Note

If the system is using failover, you install the license files only on the primary server.

The following information is required during registration:

- The MAC address (physical address) for the network interface card (NIC) in the Cisco Unity computer.
- The product authorization key (PAK) that appears on the sticker located on the front of the sleeve for Cisco Unity DVD 1 or CD 1.

Do the following procedures in the order listed.

To Get the MAC Address of the Cisco Unity Computer

- Step 1** On the Cisco Unity server, on the Windows Start menu, click **Programs > Accessories > Command Prompt**.
- Step 2** In the Command Prompt window, enter **ipconfig /all**, and press **Enter**.
- Step 3** Write down the value of Physical Address, excluding the hyphens, or save it to a file that you can access during online registration. (For example, if the physical address is 00-A1-B2-C3-D4-E5, record 00A1B2C3D4E5.)
- If the server contains more than one NIC, one value will appear for each NIC. Write down the value for the NIC that you will use to connect the Cisco Unity server to the network.
- Step 4** Close the Command Prompt window.

To Register and Obtain the License Files

- Step 1** Browse to the applicable registration site (URLs are case sensitive):

Registered user on Cisco.com	http://www.cisco.com/go/license
Not a registered user on Cisco.com	http://www.cisco.com/go/license/public

- Step 2** Enter the PAK or software serial number, and click **Submit**.

- Step 3** Follow the on-screen prompts.
- Step 4** Shortly after registration, you will receive an e-mail with the Cisco Unity license files. If license files are lost, it can take up to one business day to get another copy.

If you do not receive the license files within 1 hour or to get another copy of a license file, call the Cisco Technical Assistance Center (TAC) and ask for the Licensing Team:

In the U.S.	800 553-2447
Outside the U.S.	For your local Cisco TAC phone number, refer to the website http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml .

Or send e-mail to licensing@cisco.com.

You will need to provide information to verify Cisco Unity ownership—for example, the purchase order number or the PAK (which appears on the sticker located on the front of the sleeve for Cisco Unity DVD 1 or CD 1).

To View the License Pooling Information

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- Step 1** On a Cisco Unity server that has a license file with license pooling enabled, double-click the **Cisco Unity Tools Depot** icon on the desktop.
- Step 2** In the left pane of the Tools Depot window, expand **Administration Tools**.
- Step 3** Double-click **License Info Viewer**.
- Step 4** Under Cisco Unity Licensing, expand **License Pool**.
- Step 5** Under License Pool, click **Subscriber Mailboxes**, **Maximum Unified Messaging Subscribers**, or **Cisco Unity Inbox Subscribers**.
- Step 6** In the right pane, the names of the networked servers that share the subscriber license appear.
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Enabling Messaging Among Cisco Unity Servers in Different Exchange 5.5 Sites

If the partner Exchange servers are in different sites within the same Exchange 5.5 organization, Exchange message and directory replication connectors (also called site connectors) must be installed. If the site connectors are not already installed, install them now according to the instructions in your Microsoft documentation. Verify that the site connectors function properly before proceeding.

Do the following procedure only if the partner Exchange servers are in separate sites in an Exchange 5.5 organization. Skip this procedure if the partner Exchange servers are in the same Exchange 5.5 site, or if the partner Exchange server is running Exchange 2000 or Exchange 2003.



Note

If the system is using failover, you must make these changes on both the primary and secondary servers.

To Allow Messaging Among Cisco Unity Servers in the Entire Exchange 5.5 Organization

Step 1 Stop the AvDSEx55 service. (On the Windows Start menu, click **Programs > Administrative Tools > Services**. Right-click **AvDSEx55**, and select **Stop**.)

Step 2 Start Regedit.



Caution Changing the wrong registry key or entering an incorrect value can cause the server to malfunction. Before you edit the registry, confirm that you know how to restore it if a problem occurs. (See the “Restoring” topics in Registry Editor Help.) Note that for Cisco Unity failover, registry changes on one Cisco Unity server must be made manually on the other Cisco Unity server, because registry changes are not replicated. If you have any questions about changing registry key settings, contact Cisco TAC.

Step 3 If you do not have a current backup of the registry, click **Registry > Export Registry File**, and save the registry settings to a file.

Step 4 Expand the following key:

HKEY_LOCAL_MACHINE\Software\ActiveVoice\Directory
Connectors\DirSynchEx55\1.00\Locations

Step 5 Double-click **SearchRoot** to display the Edit String dialog box.

Step 6 Replace the entire string in the Value Data box with the following:

o=OrganizationName

Substitute the name of your Exchange organization for OrganizationName.

Step 7 Click **OK**.

Step 8 Expand the following key:

HKEY_LOCAL_MACHINE\Software\ActiveVoice\Directory
Connectors\DirSynchEx55\1.00\MailUsers

Step 9 Double-click **SearchRoot** to display the Edit String dialog box.

Step 10 Replace the entire string in the Value Data box with the following:

o=OrganizationName

Substitute the name of your Exchange organization for OrganizationName. Verify that o=OrganizationName is the only value in the box.

Step 11 Click **OK**.

Step 12 Expand the following key:

HKEY_LOCAL_MACHINE\Software\ActiveVoice\Directory
Connectors\DirSynchEx55\1.00\DistributionLists

Step 13 Double-click **SearchRoot** to display the Edit String dialog box.

Step 14 Replace the entire string in the Value Data box with the following:

o=OrganizationName

Substitute the name of your Exchange organization for OrganizationName. Verify that o=OrganizationName is the only value in the box.

Step 15 Click **OK**.

Step 16 Expand the following key:

HKEY_LOCAL_MACHINE\Software\ActiveVoice\Directory Connectors\DirSynchEx55\1.00

- Step 17** Double-click **LastUSN** to display the Edit DWORD Value dialog box.
- Step 18** Replace the value in the Value data box with **0**.
- Step 19** Click **OK** and then close Regedit.
- Step 20** Start the AvDSEx55 service. (On the Windows Start menu, click **Programs > Administrative Tools > Services**. Right-click **AvDSEx55**, and select **Start**.)
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Customizing the Primary Location

See [Table 9-1 on page 9-3](#) for detailed information about the primary location profile settings.

To Customize the Primary Location

- Step 1** In the Cisco Unity Administrator, go to the **Network > Primary Location > Profile** page.
- Step 2** Enter a meaningful name for the location.
- Step 3** Enter a Dial ID. The Dial ID identifies this location to Cisco Unity.
- Step 4** Record a voice name for the location.
- Step 5** For the dialing domain, do one of the following:
- If this server is not integrated with the same phone system as other networked Cisco Unity servers, click **None**.
 - If this server is integrated with the same phone system as other networked Cisco Unity servers, enter the dialing domain name, or select it from the available list. The list contains names of dialing domain names already configured on at least one other Cisco Unity server in the network.
- Note that the dialing domain name is case sensitive and must be entered exactly the same on all of the servers. To ensure that all servers are correctly added to the same dialing domain, enter the dialing domain name on one Cisco Unity server and wait for the name to replicate to the other Cisco Unity servers. By doing so, you also confirm that replication is working correctly among the servers. The time that it takes for the primary location data from other Cisco Unity servers to be reflected on the local server depends on your network configuration and replication schedule.
- Step 6** If you will be setting up for VPIM Networking, enter the SMTP Domain Name.
- Step 7** Click **Save**.
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Setting the Addressing, Directory Handler, and Automated Attendant Search Scopes

Do the procedures in the following sections to set up the search scopes:

- [Setting the Addressing Search Scope, page 2-9](#)
- [Setting the Directory Handler Search Scope, page 2-9](#)
- [Setting the Automated Attendant Search Scope, page 2-9](#)

Setting the Addressing Search Scope

For detailed information about the addressing search options, see the “Primary Location Addressing Option Settings” section on page 9-6.

To Set the Addressing Search Scope

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- Step 1** In the Cisco Unity Administrator, go to the **Network > Primary Location > Addressing Options** page and set the addressing options as necessary.
- To allow subscribers created on the local Cisco Unity server to address messages to subscribers on other Cisco Unity servers that access the same directory, select **Dialing Domain** or **Global Directory**, as applicable.
 - If you are using blind addressing to a Cisco Unity server in a separate directory, or to another voice messaging system, set the Blind Addressing Allowed Locations setting to something other than None, as applicable.
- Step 2** If you want subscribers to be able to do a spell-by-name search that is limited to a specific location, check the **Include Locations in Searches** check box.
- Step 3** Click the **Save** icon.
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Setting the Directory Handler Search Scope

For detailed information about directory handler search options, see the “Directory Handler Search Options Settings” section in the “Directory Handler Settings” chapter of the *Cisco Unity System Administration Guide*. (The guide is available at http://www.cisco.com/en/US/products/sw/voicesw/ps2237/products_administration_guide_book09186a008043ea39.html.)

To Set the Directory Handler Search Scope

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- Step 1** In the Cisco Unity Administrator, go to the **Call Management > Directory Handlers > Profile** page. If you are using only the default directory handler, skip to **Step 3**.
- Step 2** Click the **Find** icon to find and view the directory handler that you want to change.
- Step 3** Go to the **Search Options** page, and click **Dialing Domain**.
- Step 4** Click the **Save** icon.
- Step 5** Repeat **Step 2** through **Step 4** for each directory handler that you want to change.
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Setting the Automated Attendant Search Scope

By default, callers who reach the opening greeting for your organization can be transferred only to subscribers associated with the local Cisco Unity server. If you want to set up the automated attendant so that callers can be transferred to subscribers associated with other Cisco Unity servers in the same dialing domain, change a registry setting as described in the following procedure.

The automated attendant search scope must be set to search the dialing domain in order for the following features to work:

- Identified subscriber messaging between Cisco Unity servers in the dialing domain.
- Cross-server transfers from the automated attendant of one Cisco Unity server to another Cisco Unity server in the dialing domain.



Note If the system is configured for failover, the registry changes must be made on both the primary and secondary Cisco Unity servers.

To Set the Automated Attendant Search Scope

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- Step 1** On the Cisco Unity server desktop, double-click the **Cisco Unity Tools Depot** icon.
- Step 2** In the left pane, under Administrative Tools, double-click **Advanced Settings Tool**.
- Step 3** In the Unity Settings pane, click **Networking—Set Auto Attendant Search Scope**.
- Step 4** In the New Value list, click **1**, and then click **Set** so that Cisco Unity searches for subscribers within the dialing domain.
- Step 5** When prompted, click **OK**.
You do not need to restart Cisco Unity to enable the change.
- Step 6** Click **Exit**.
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Enabling Identified Subscriber Messaging Between Networked Cisco Unity Subscribers (Optional)

Enabling [identified subscriber messaging \(ISM\)](#) between networked Cisco Unity subscribers requires the following:

- The Cisco Unity servers must be connected to the same phone system or phone system network as described in the [“Dialing Domains”](#) section on page 2-17.
- The servers must be configured to be in the same dialing domain, as described in the [“Customizing the Primary Location”](#) section on page 2-8.
- The automated attendant search scope on each server must be set to the dialing domain as described in the [“Setting the Automated Attendant Search Scope”](#) section on page 2-9.
- For systems using Exchange 2000 or Exchange 2003, the applicable permissions must be set, as described in the [“Setting Permissions on Active Directory Containers Used for Importing Subscribers”](#) section on page 2-11.
- Identified subscriber messaging on each server must be enabled in the Cisco Unity Administrator as described in the [“Enabling Identified Subscriber Messaging on Each Cisco Unity Server”](#) section on page 2-11.

Setting Permissions on Active Directory Containers Used for Importing Subscribers

If for all of the Cisco Unity servers combined, you will be importing users from two or more containers, the Cisco Unity message store services account on each Cisco Unity server must be granted SendAs permission on every container from which users will be imported on every Cisco Unity server in the forest, or identified subscriber messaging may not work between Cisco Unity servers. For example, if CiscoUnityServer1 will import users from Container1 and Container2, and if CiscoUnityServer2 will import users from Container3 and Container4, the Cisco Unity message store services account on each Cisco Unity server must have SendAs permission for all four containers.

To Set Applicable Permissions

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- Step 1** On the Cisco Unity server, double-click the **Cisco Unity Tools Depot** icon on the desktop.
- Step 2** In the left pane of the Tools Depot window, expand **Administration Tools**.
- Step 3** Double-click **Permissions Wizard**.
- Step 4** Do one of the following:
- Choose a common parent container.
 - Click **Next** without changing any options until you arrive at the Set Active Directory Container for Import page.
 - Choose all of the containers from which users will be imported by choosing a common parent container.
 - Choose all of the containers from which users will be imported by running the Permissions wizard more than once on each server. Each time that you run Permissions wizard:
 - Click **Next** without changing any options until you arrive at the Set Active Directory Container for Import page.
 - Choose a different container each time.
 - Choose the same Active Directory account for the Cisco Unity message store services account.
 - Click **Next** without changing any options until you arrive at the Choose the Account to Own Cisco Unity Message Store Services page.
 - Choose the same Active Directory account for the Cisco Unity message store services account on every Cisco Unity server.
- Step 5** Repeat [Step 1](#) through [Step 4](#) on each Cisco Unity server in the forest.
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Enabling Identified Subscriber Messaging on Each Cisco Unity Server



Note

If the system is using failover, you must make this change on both the primary and secondary servers, because the setting is stored in the registry.

To Enable Identified Subscriber Messaging on Each Cisco Unity Server

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- Step 1** In the Cisco Unity Administrator, go to the **System > Configuration Settings** page.

- Step 2** In the Identified Subscriber Messaging section, uncheck the **Subscribers Are Identified as Message Senders Only If They Log On** check box.
- Identified subscriber messaging for subscribers on the same Cisco Unity server is enabled when the check box is unchecked. By default, the box is unchecked.
- Step 3** Click the **Save** icon.
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Modifying the All Subscribers Public Distribution List

By default, the predefined All Subscribers public distribution list on each Cisco Unity server has the same recorded voice name and extension. If you do not modify the recorded voice name and extension, subscribers will hear a confusing list of choices when they address messages to an All Subscribers distribution list, and errors will be logged to the Windows Event Viewer on the Cisco Unity server.

To Modify the All Subscribers Public Distribution List

- Step 1** In the Cisco Unity Administrator, go to the **Public Distribution List > Profile** page.
- Step 2** Click the **Find** icon.
- Step 3** In the Find By list, indicate how to find the distribution list, and then click **Find**.
- Step 4** In the Name list, click **All Subscribers -<Server Name>** to display the profile settings for the list.
- Step 5** Record a unique voice name for the list.
- Step 6** Assign a unique extension to the list.
- Step 7** Optionally, change the display name of the list to match the recorded voice name. By default, the Cisco Unity server name is appended to the display name, so the display name is unique in the directory.
- Step 8** Click the **Save** icon.
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Setting Up System Broadcast Messaging for Sending to All Subscribers in the Directory (Optional)

System broadcast messages are recorded announcements that are sent to everyone in an organization (or to particular location(s) within an organization). When each server has been configured for Digital Networking, a system broadcast message can be sent to all subscribers on all Cisco Unity servers that share the same directory. Alternatively, a system broadcast message can be sent to all subscribers on one or more specific Cisco Unity servers that access the same subscriber directory, by addressing the message to the delivery location Dial ID of the desired server.



Note

System broadcast messages do not light message waiting indicators (MWIs) on subscriber phones, nor do they cause distinctive dial tones to notify subscribers of a new message when they pick up their desk phone receiver. System broadcast messages also do not trigger message notifications for alternative devices, such as a pager or another phone.

To allow one or more Cisco Unity subscriber(s) to send system broadcast messages to subscribers on multiple Cisco Unity servers, you first set up and offer the subscriber(s) access to the Cisco Unity Broadcast Message Administrator. For information on setting up the Cisco Unity Broadcast Message Administrator, see the “Sending System Broadcast Messages” section in the “Cisco Unity Conversation” chapter of the *Cisco Unity System Administration Guide*. The guide is available at http://www.cisco.com/en/US/products/sw/voicesw/ps2237/products_administration_guide_book09186a008043ea39.html.

Note that individual subscribers can be granted permissions to send system broadcast messages either on the local Cisco Unity server only, or to subscribers on multiple servers.

In organizations where there are multiple Cisco Unity or Cisco Unity Express servers that access different directories, the VPIM Networking option must be used in order to include subscribers on those servers in the distribution of a system broadcast message. For information on setting up system broadcast messages to be distributed to VPIM locations, see the “[Networked System Broadcast Messages](#)” section on page 8-7.

Changing the Default Search Scope for the Cisco PCA (Optional)

By default, the search scope for the Cisco Personal Communications Assistant (PCA) address book is set to local directory. As a possible convenience to subscribers in your organization, you may want to change the default search scope to global directory instead. When the default search scope is set to the global directory, subscribers can search for subscribers at different locations without having to change the search scope themselves. In addition, subscribers will not need to keep track of which Cisco Unity subscribers are listed in the local directory and which are listed in the global directory.

Regardless of the default search scope that you specify here, subscribers can still switch between the local and global directory as they use the Cisco PCA Address Book in the Cisco Unity Inbox and Cisco Unity Assistant.

Use the following procedure to set the global directory as the default search scope for the Cisco PCA Address Book. The change affects all subscribers that are associated with the Cisco Unity server.

To Set the Default Search Scope to the Global Directory for the Cisco PCA Address Book

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- Step 1** On the Cisco Unity server desktop, double-click the **Cisco Unity Tools Depot** icon.
 - Step 2** In the left pane, under Administrative Tools, double-click **Advanced Settings Tool**.
 - Step 3** In the Unity Settings pane, click **Unity Inbox and Assistant—Set Default Address Book Search Scope**.
 - Step 4** In the New Value list, click **1**, and then click **Set** so that the Address Book searches for subscribers within the dialing domain.
 - Step 5** When prompted, click **OK**.
 - Step 6** Click **Exit**.

You do not need to restart Cisco Unity to enable the change.

Enabling Live Reply Between Cisco Unity Servers in the Same Dialing Domain (Optional)

Live reply allows subscribers who listen to their messages by phone to reply to a message from a subscriber by calling the subscriber. For live reply to work:

- Subscribers must belong to a class of service in which live reply is enabled. Live reply is enabled on the **Subscribers > Class of Service > Messages** page in the Cisco Unity Administrator, by checking the **Subscribers Can Reply to Messages from Subscribers by Calling Them** check box.
- Transfer numbers must be configured for each Cisco Unity subscriber.

By default, live reply is restricted to subscribers on the same Cisco Unity server. Do the following procedure to enable live reply via release to phone system transfer between subscribers on different Cisco Unity servers in the same dialing domain.

To Enable Live Reply Between Cisco Unity Servers in the Same Dialing Domain

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- Step 1** Verify that the addressing search scope has been set to the dialing domain as described in the [“Setting the Addressing, Directory Handler, and Automated Attendant Search Scopes”](#) section on page 2-8.
- Step 2** In the Cisco Unity Administrator, go to the **Network > Dialing Domain Options** page. (If the link is not active, that means that the Cisco Unity server has not been configured to be in a dialing domain.)
- Step 3** In the Live Reply section, check the **Subscribers Can Call Back a Cisco Unity Subscriber on a Different Cisco Unity Server** check box.
- Step 4** Leave the **Release Calls to the Phone System** button selected (this is the default).



Caution Do not select the **Cross-Server Live Reply: Pass Control to the Called Subscriber’s Cisco Unity Server** option unless you have read the restrictions and requirements that are explained in the [“Cross-Server Logon, Transfers, and Live Reply”](#) chapter.

- Step 5** Click the **Save** icon.
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Testing the Digital Networking Setup

Each Cisco Unity server stores the primary location data and a subset of the data about subscriber accounts and distribution lists in the directory. The time that it takes for data from other Cisco Unity servers to be reflected on the local server depends on your Active Directory or Exchange 5.5 network configuration and replication schedule. You need to wait for the Cisco Unity data to replicate to the other servers before testing the Digital Networking setup.

To test the Digital Networking setup, create test subscriber accounts or use existing subscriber accounts on each Cisco Unity server. When setting up subscriber accounts in the Cisco Unity Administrator to be used in the tests, be sure to:

- Record voice names.
- Record and enable internal greetings.
- Check the **List in Phone Directory** check box on the **Subscriber Profile** page.

- Check the Before Playing Each Message, Play the Sender's Name check box on the Subscriber Conversation page.

Do the following tests to make sure Digital Networking is functioning properly:

- [To Verify Messaging Between Subscribers on Different Cisco Unity Servers, page 2-15](#)
- [To Verify Call Transfers from the Automated Attendant to Subscribers on Other Cisco Unity Servers, page 2-15](#)
- [To Verify Call Transfers from a Directory Handler to Subscribers on Other Cisco Unity Servers, page 2-15](#)
- [To Verify Identified Subscriber Messaging Between Networked Subscribers, page 2-16](#)

To Verify Messaging Between Subscribers on Different Cisco Unity Servers

Verify that messaging between subscribers on different Cisco Unity servers works in both directions (for example, from server A to server B and from server B to server A).

-
- Step 1** Log on to a Cisco Unity server as a subscriber.
- Step 2** Press **2** to record and send messages to subscribers associated with other Cisco Unity server(s).
- Step 3** Log on to the applicable Cisco Unity server as the recipient subscriber to verify that the message was received.
- Step 4** Repeat [Step 1](#) through [Step 3](#) in the opposite direction.
-

To Verify Call Transfers from the Automated Attendant to Subscribers on Other Cisco Unity Servers

If the automated attendant search scope is set to search the dialing domain, verify that outside callers are transferred to subscribers associated with other Cisco Unity servers.

-
- Step 1** From a non-subscriber phone, call the Cisco Unity server that has been configured to handle outside callers, and enter the extension of a subscriber associated with another Cisco Unity server.
- Step 2** Verify that you reach the correct subscriber phone.
-

To Verify Call Transfers from a Directory Handler to Subscribers on Other Cisco Unity Servers

If the directory handler search scope is set to search the dialing domain, verify that outside callers can find subscribers associated with other Cisco Unity servers in the phone directory.

-
- Step 1** From a non-subscriber phone, call the Cisco Unity server that has been configured to handle outside callers, and transfer to a directory handler.
- Step 2** Verify that you can find a subscriber associated with another Cisco Unity server in the phone directory, and that the directory handler transfers the call to the correct subscriber phone.
-

To Verify Identified Subscriber Messaging Between Networked Subscribers

Do this test if the Cisco Unity servers have been configured for identified subscriber messaging between networked subscribers.

-
- Step 1** Verify that Cisco Unity plays an internal greeting for subscribers who leave messages, by doing the following sub-steps:
- From a subscriber phone, call a subscriber associated with another Cisco Unity server, and allow the call to be forwarded to voice mail.
 - Verify that the internal greeting plays.
 - Leave a test message.
- Step 2** Verify that subscribers are identified when the recipient listens to a message, by doing the following sub-steps:
- Log on to the applicable Cisco Unity server as the recipient subscriber and listen to the test message you recorded in [Step 1](#).
 - Verify that the subscriber conversation announces who the message is from by playing the recorded voice name of the sending subscriber.
 - After listening to the message, verify that the subscriber conversation allows you to reply to the message.
-

To Verify Live Reply Between Subscribers on Different Cisco Unity Servers in the Dialing Domain

Do this test if the Cisco Unity servers have been configured for live reply (via release to phone system transfer) between subscribers on different Cisco Unity servers in the same dialing domain.

-
- Step 1** From a subscriber phone, call a subscriber associated with another Cisco Unity server, and allow the call to be forwarded to voice mail.
- Step 2** Leave a message.
- Step 3** Log on to the applicable Cisco Unity server as the recipient subscriber and listen to the test message you recorded in [Step 2](#).
- Step 4** After listening to the message, verify that the subscriber conversation allows you to live reply to the message by pressing 4-4 (or by pressing 8-8 if Optional Conversation 1 is used).
- Step 5** Verify that the live reply call is correctly transferred to the phone of the subscriber who left the message.
-

Digital Networking Concepts and Definitions

The following sections explain Digital Networking concepts in detail:

- [Locations and Digital Networking, page 2-17](#)
- [Dialing Domains, page 2-17](#)
- [Addressing Options for Non-Networked Phone Systems, page 2-20](#)
- [Cisco Unity Administrator Scope, page 2-22](#)
- [Granting Administrative Rights to Other Cisco Unity Servers, page 2-24](#)

- [Distribution Lists, page 2-24](#)
- [System Broadcast Messages, page 2-25](#)

Locations and Digital Networking

Central to how Digital Networking works is a Cisco Unity object called a location. Each Cisco Unity server is associated with one location, referred to as the default or primary location, which is created during installation and which cannot be deleted. With the exception of public distribution lists, all subscribers and other Cisco Unity objects (such as call handlers) created on your Cisco Unity server are associated with the primary location.

Each primary location contains the addressing information that Cisco Unity needs to route messages between Cisco Unity servers. Because Cisco Unity stores location and subscriber addressing information in the directory, the addressing information replicates to other Cisco Unity servers on the network.

The primary location also contains a Dial ID, which Cisco Unity uses as an identifier for the location. Carefully plan the numbers that you choose as Dial IDs for the primary location (and for any delivery locations that you create). Without careful planning, it is possible to inadvertently assign Dial IDs that will cause problems in locating message recipients at another location. See the [“Assigning Dial IDs” section on page 9-1](#) and the [“Location Addressing Options Settings” section on page 9-12](#) for more information.

Dialing Domains

A dialing domain is a collection of Cisco Unity servers that access the same directory and that are integrated with the same phone system or phone system network. (Note this includes Cisco Unity servers configured for dual integrations.) A dialing domain is a grouping scheme that allows Cisco Unity to handle call transfers from one Cisco Unity server to another. Within the dialing domain, subscriber extensions in Cisco Unity must be unique just as the phone extensions in the phone system must be unique. (Typically, a subscriber extension and phone extension are the same number.) With a networked phone system, subscribers dial a phone extension without having to dial a trunk access code or prefix when calling someone who is at another location on the phone network. In the same way, when grouped in a dialing domain, subscribers associated with one Cisco Unity server enter a subscriber extension when sending messages to subscribers associated with another Cisco Unity server.

To be in a dialing domain, all of the Cisco Unity servers must access the same directory; a dialing domain cannot span directories. Dialing domains can encompass multiple Exchange 5.5 sites or Exchange 2000 or Exchange 2003 routing groups.

To group the Cisco Unity servers in a dialing domain, you enter information on the primary location page of each Cisco Unity server, as described in the [“Customizing the Primary Location” section on page 2-8](#).

The following sections describe the functionality that can be provided when the Cisco Unity servers are in the same dialing domain:

- [Release to Switch Transfers from the Automated Attendant or a Directory Handler to Subscribers on Other Cisco Unity Servers, page 2-18](#)
- [Identified Subscriber Messaging with Networked Cisco Unity Subscribers, page 2-18](#)
- [Dialing Domains Shield Against Overlapping Numbering Plans, page 2-19](#)

Release to Switch Transfers from the Automated Attendant or a Directory Handler to Subscribers on Other Cisco Unity Servers

By default, when a caller enters the extension of a subscriber from the automated attendant (for example, from the opening greeting), or a caller spells the name of a subscriber from a directory handler, Cisco Unity searches only the local server for a matching subscriber. For calls to be transferred from the auto attendant or a directory handler on one Cisco Unity server to a subscriber on another Cisco Unity server, the servers must be configured to be in the same dialing domain.

To enable this functionality, you set search scopes so that Cisco Unity searches for a matching extension or name among subscribers on other Cisco Unity servers in the dialing domain. There are separate search scopes, one for the automated attendant and one for each directory handler. See the [“Setting the Directory Handler Search Scope”](#) section on page 2-9 and the [“Setting the Automated Attendant Search Scope”](#) section on page 2-9 for details on how to set the search scopes.

Subscriber call transfer settings are not stored in the directory. Because the directory is the means by which Cisco Unity servers share subscriber data, Cisco Unity servers do not have access to the call transfer settings of subscribers on other Cisco Unity servers. By default, when calls are transferred from the automated attendant or a directory handler to subscribers who are not associated with the local server, the transfers are automatically handled by the phone system (release to switch)—rather than by Cisco Unity (supervised transfer)—even if these subscribers are set up for supervised transfers. Note the following limitations:

- The subscriber call screening, call holding, and announce features that are available with supervised transfers are not available on calls that have been transferred via release to switch.
- The call transfer setting that sends calls directly to the greeting of the called subscriber is not available. This means that Cisco Unity cannot take messages for subscribers (either regular Cisco Unity subscribers or AMIS, Bridge, Internet, or VPIM subscribers) who do not have phones on the phone system that Cisco Unity is integrated with. On a release to switch transfer, Cisco Unity dials the subscriber extension and hangs up. What happens to the call after that depends on how the phone system is configured. If you do not configure the phone system to handle this situation, the call may be dropped.

Identified Subscriber Messaging with Networked Cisco Unity Subscribers

When a subscriber calls another subscriber, and the call is forwarded to the greeting of the called subscriber, the ability of Cisco Unity to identify that it is a subscriber who is leaving a message is referred to as identified subscriber messaging. Because Cisco Unity is able to identify the caller as a subscriber:

- Cisco Unity plays the internal greeting of the called subscriber when the caller leaves a message.
- Cisco Unity plays the recorded voice name of the subscriber who left the message when the recipient listens to the message.
- Cisco Unity allows the recipient to record a reply.

For identified subscriber messaging to work when a subscriber on one Cisco Unity server calls a subscriber on another networked Cisco Unity server, the servers must be in the same dialing domain. Note that identified subscriber messaging between Cisco Unity servers is by default not enabled. See the [“Enabling Identified Subscriber Messaging Between Networked Cisco Unity Subscribers \(Optional\)”](#) section on page 2-10 for details.

It is important to note the difference between the following two circumstances:

- A subscriber logs on to Cisco Unity, and then records and sends a message (“To send a message, press 2”)

- A subscriber places a phone call to another subscriber, and then leaves a message

When the subscriber has logged on to Cisco Unity, Cisco Unity can identify the message as being from the subscriber, regardless of which Cisco Unity server the message recipient is homed on. In this case, the phone system is not involved and the recipient phone does not ring. Instead, the message is sent via Digital Networking.

For identified subscriber messaging to work, all of the Cisco Unity servers in the dialing domain must be running Cisco Unity 3.1(6), or Cisco Unity 4.0(3) or later.

Note also that in Cisco Unity 4.0(4) and later, identified subscriber messaging has been enhanced to allow Cisco Unity subscribers to identify messages left from users of legacy voice messaging systems who have corresponding AMIS, Bridge, or VPIM subscriber accounts in Cisco Unity.

Addressing Search Scopes

In addition to the automated attendant and directory handler search scopes mentioned above, a dialing domain provides a means to set the scope for searches that Cisco Unity performs in the following cases:

- When a subscriber addresses a message
- When members are being added to a public or private distribution list

By default, the addressing search scope used for the above searches is set to search only among subscribers on the local Cisco Unity server. You must expand the addressing search scope on each Cisco Unity server to either the dialing domain or the global directory to enable messaging between subscribers on different Cisco Unity servers. See the [“Setting the Addressing Search Scope”](#) section on [page 2-9](#) for information on how to expand the Addressing search scope.

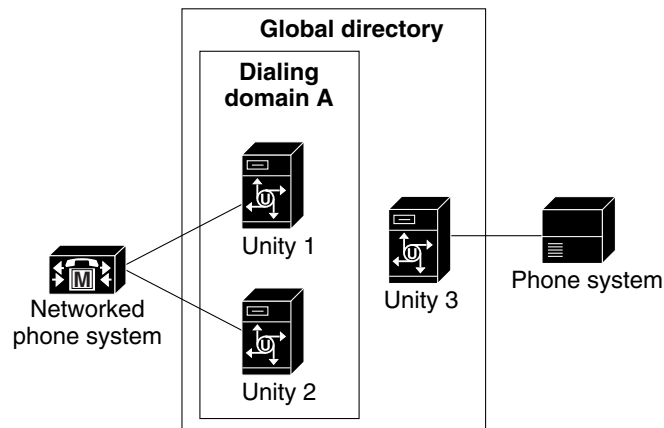
Addressing Options for Subscribers in a Dialing Domain

After expanding the addressing search scope to either the dialing domain or the global directory, subscribers address messages to subscribers on other Cisco Unity servers the same way that they address messages to subscribers on the same Cisco Unity server: either by extension or by spelling the name.

Dialing Domains Shield Against Overlapping Numbering Plans

The two requirements for grouping Cisco Unity servers into a dialing domain are that the servers access the same global directory and are integrated with the same phone system. However, the minimum requirement for the basic messaging functionality provided by Digital Networking is that all of the Cisco Unity servers access the same global directory, as [Figure 2-1](#) illustrates.

Figure 2-1 Multiple Phone Systems But One Global Directory



Subscribers on the Cisco Unity servers in the dialing domain can use the phone to send messages to and reply to messages from the subscribers on Unity 3, and vice versa. However, identified subscriber messaging is not available between the subscribers on Unity 3 and the subscribers on the Cisco Unity servers in dialing domain A.

Although subscriber extensions must be unique within a dialing domain, it is possible that subscribers associated with a Cisco Unity server outside of the dialing domain could have extensions that are the same as extensions used by subscribers associated with the servers within the dialing domain. In other words, it is possible that extensions may overlap in the global directory when there are Cisco Unity servers that are integrated with different phone systems.

Grouping the Cisco Unity servers into a dialing domain allows Cisco Unity to handle overlapping numbering plans. The dialing domain allows the subscribers within the dialing domain to use extensions to address messages without conflicting with the extensions of the subscribers on the other phone system. See the [“How Cisco Unity Searches for a Matching Name”](#) section on page 9-7 and the [“How Cisco Unity Searches for a Matching Number”](#) section on page 9-7 for a detailed description of how dialing domains shield against overlapping numbering plans.

Addressing Options for Non-Networked Phone Systems

If your organization has a separate phone system for each location, subscribers at one location dial a complete phone number, not just an extension, when calling someone at another location. When subscribers log on to Cisco Unity to send messages to subscribers on another Cisco Unity server, the number they enter when addressing the message depends on whether the Cisco Unity numbering plans overlap across locations, as described in the following sections.

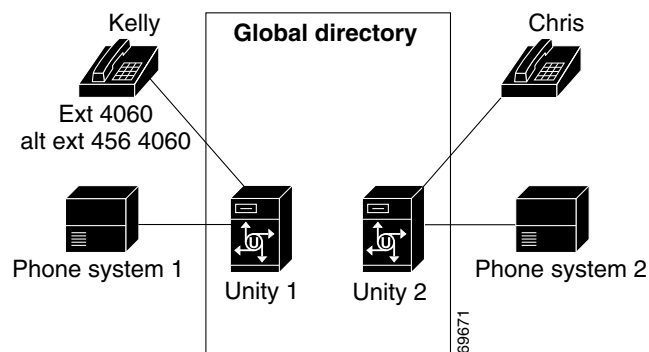
When Numbering Plans Do Not Overlap

When Cisco Unity numbering plans do not overlap across locations—that is, when subscriber extensions are unique across locations—subscribers enter an extension when addressing a message to a subscriber who is associated with another Cisco Unity server.

As a convenience for subscribers, you may choose to add alternate extensions to each subscriber account. With alternate extensions, the number that a subscriber enters when addressing a message to someone at another location can be the same number that the subscriber dials when calling. When set up this way, subscribers do not need to remember two different numbers—one for calling a subscriber directly, and one for addressing a message.

For example, a subscriber, Kelly Bader, has subscriber extension 4060, as illustrated in [Figure 2-2](#). Suppose that Chris, a subscriber at a remote location, dials 456-4060 to reach Kelly by phone. When Chris logs on to Cisco Unity to send a message to Kelly, he has to remember just to dial the extension (4060) and not dial the prefix (456) when addressing the message, rather than using the same number he dials to call Kelly. However, you could assign to Kelly the alternate extension 4564060. If this alternate extension has been set up, Chris can enter either 4060 or 4564060 when addressing a message to Kelly.

Figure 2-2 No Overlapping Extensions



If the numbering plans for each location do not overlap, setting up alternate extensions is optional because they are simply a convenience for subscribers. However, if you do not set up alternate extensions, be sure to tell subscribers to use the extension instead of the full phone number when addressing messages to subscribers associated with another location.

Note that alternate extensions have other purposes beyond their use in Digital Networking, such as handling multiple line appearances on subscriber phones. Subscribers can have up to nine alternate extensions. For more information, see the “Subscriber Alternate Extension Settings” section in the “Subscriber Settings” chapter of the *Cisco Unity System Administration Guide*. (The guide is available at

http://www.cisco.com/en/US/products/sw/voicesw/ps2237/products_administration_guide_book09186a008043ea39.html.)

When Numbering Plans Overlap

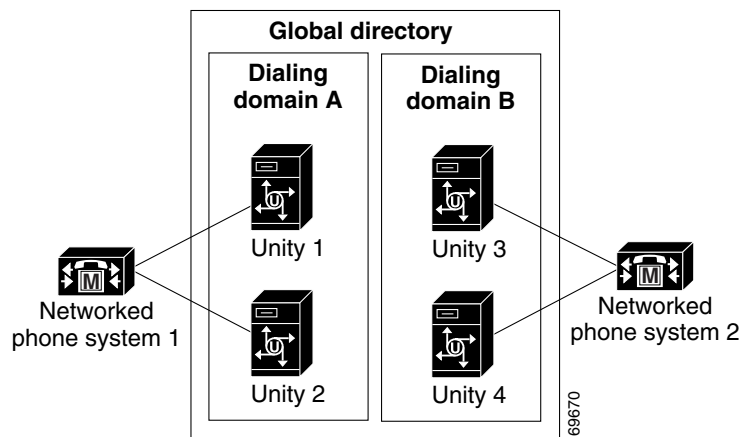
Assume that subscriber extensions on Unity 3 in [Figure 2-3](#) overlap with extensions in dialing domain A. To allow subscribers associated with Unity 3 to use the phone to address messages to subscribers in dialing domain A, and vice versa, you have the following choices:

- Instruct subscribers to enter one number that consists of the primary location Dial ID of the destination Cisco Unity server and the extension of the recipient.
- Set up alternate extensions for each subscriber account. For each subscriber, enter a number for the alternate extension that is the same as the full phone number for the subscriber. In this way, when subscribers log on to Cisco Unity to send messages, the number they enter when addressing messages is the same number that they use when calling.

- Enable the Include Locations in Searches setting. When this setting is enabled, subscribers can address a message in two steps: they first select a location (by spelling the location name or entering a Dial ID) and then spell the recipient name. See [Table 9-1 on page 9-3](#) for more information.

When a subscriber addresses a message, Cisco Unity searches for a matching extension on the local Cisco Unity server first. If a match is found, Cisco Unity ends the search and never looks for a matching extension at another location. Therefore, if a local subscriber and a subscriber on another Cisco Unity server have the same extension, Cisco Unity will find only the subscriber on the local Cisco Unity server. However, when one of the options described above is set up, subscribers on the local server will be able to address messages to subscribers on other Cisco Unity servers.

Figure 2-3 **Numbering Plans Overlap**



Cisco Unity Administrator Scope

With the exception of public distribution lists, all subscribers and other Cisco Unity objects (such as call handlers) created on your Cisco Unity server are associated with the primary location of your server. Because of this association, if you want to access the subscriber accounts and other objects created on another server, you need to run the Cisco Unity Administrator of the server that the object was created on. Note that you can view information about the primary locations of other servers and the delivery locations created on other servers, but you cannot modify or delete them.

The following sections provide information about accessing the Cisco Unity Administrator on other servers:

- [Browsing to Another Cisco Unity Administrator from the Local Cisco Unity Administrator, page 2-22](#)
- [Searching for Subscriber Accounts Created on Another Cisco Unity Server, page 2-23](#)
- [Using Global Subscriber Manager to Browse to Another Cisco Unity Administrator, page 2-23](#)

Browsing to Another Cisco Unity Administrator from the Local Cisco Unity Administrator

The Cisco Unity Administrator on the local server provides links to the Cisco Unity Administrator of other servers. To access the data of any object that was created on another Cisco Unity server, you need to know the name of the server on which the object was created.

To Browse to Another Cisco Unity Administrator on a Networked Cisco Unity Server

- Step 1** Near the bottom of the navigation bar on the left side of the Cisco Unity Administrator interface, click **Unity Servers**. The Server Chooser page appears.
- Step 2** From the list, click the server that you want to access.
- Step 3** If prompted, enter the appropriate credentials to gain access to the Cisco Unity Administrator that you want to access.

Another instance of the Cisco Unity Administrator appears in a separate browser window. This is the Cisco Unity Administrator of the server that you selected.

Searching for Subscriber Accounts Created on Another Cisco Unity Server

Within the local Cisco Unity Administrator, you can search for subscribers on other Cisco Unity servers, and when you select a subscriber account to edit settings, the applicable Cisco Unity Administrator is launched. Do the following procedure to use the Cisco Unity Administrator on your local Cisco Unity server to search for subscriber accounts on other Cisco Unity servers in the network.

To Search for Subscriber Accounts Created on a Cisco Unity Server Other than Your Local Cisco Unity Server

- Step 1** In the Cisco Unity Administrator, go to any **Subscribers > Subscribers** page.
- Step 2** Click the **Find** icon.
- Step 3** Indicate whether to search by alias, extension, first name, or last name.
- Step 4** Enter the appropriate alias, extension, or name. You also can enter * to display a list of all subscribers, or enter one or more characters or values followed by * to narrow your search.
- Step 5** Check the **Search All Cisco Unity Servers** check box.
- Step 6** Click **Find**.
- Step 7** On the list of matches, click the name of the subscriber to display the record.
- Step 8** If prompted, enter the appropriate credentials to gain access to the Cisco Unity Administrator that you want to access.

Another instance of the Cisco Unity Administrator appears in a separate browser window. This is the Cisco Unity Administrator website of the Cisco Unity server on which the subscriber account was created. The subscriber profile page is displayed in the new browser window.

Using Global Subscriber Manager to Browse to Another Cisco Unity Administrator

You can also use the Global Subscriber Manager (GSM) from Tools Depot to launch the Cisco Unity Administrator on another server. The GSM shows your entire Cisco Unity network broken down by dialing domains and servers. The GSM allows you to quickly locate individual subscribers and launch the Cisco Unity Administrator for the subscribers regardless of which server they are homed on. You can select any scope you want and see all of the subscribers at that level. Searching can be done by dialing domain, by server, or globally across the entire Cisco Unity network.

To Use the GSM

-
- Step 1** On the Cisco Unity server desktop, double-click the **Cisco Unity Tools Depot** icon.
- Step 2** In the left pane, double-click **Global Subscriber Manager**.
- Double-click the subscriber account that you want to edit. The applicable Cisco Unity Administrator will be displayed in a browser window. Refer to the GSM Help file for more information.
-

Granting Administrative Rights to Other Cisco Unity Servers

To access the Cisco Unity Administrator on another server, the administrators on the local Cisco Unity server need the applicable class of service (COS) rights. The easiest way to set this up is to run the GrantUnityAccess utility. see the “Granting Administrative Rights to Other Cisco Unity Servers” section in the “Accessing the Cisco Unity Administrator” chapter in the *Cisco Unity System Administration Guide* for instructions. (The guide is available at http://www.cisco.com/en/US/products/sw/voicesw/ps2237/products_administration_guide_book09186a008043ea39.html.)

Distribution Lists

Public distribution lists are not associated with a specific Cisco Unity server. If a list has a recorded voice name, an extension, or both, subscribers can address messages to it—if allowed by their class of service—regardless of which location created the list.

New Lists

When you create a new public distribution list, keep in mind the following:

- The extension for the list must be unique in the entire directory. Therefore, you need to know which extensions are in use at other locations before assigning an extension to the new list.
- In the Cisco Unity Administrator, you can add members from multiple locations to a list, if allowed by the Addressing Options settings for the default location on your Cisco Unity server. See the “[Primary Location Addressing Option Settings](#)” section on page 9-6 for more information.
- In the Cisco Unity Administrator, you can view all members of a list regardless of the location with which the member is associated.

Predefined Public Distribution Lists

Cisco Unity includes the following predefined public distribution lists: All Subscribers, Unaddressed Messages, and System Event Messages (the System Event Messages list is no longer created during Cisco Unity installation; however, you may still have a System Event Messages list if you upgraded from a version of Cisco Unity earlier than 4.0(4), as the list is not removed during the upgrade process). Each Cisco Unity server in your organization has a distinct version of each of these lists. When you view these lists in the Cisco Unity Administrator, the Cisco Unity server name is appended to the list name.

By default, the predefined All Subscribers public distribution list on each Cisco Unity server has the same recorded voice name (“all subscribers”) and extension. When setting up Digital Networking, you should modify the recorded voice name and extension of each All Subscribers list; if you do not,

subscribers will hear a confusing list of choices when they address messages to an All Subscribers distribution list, and errors will be logged to the Windows Event Viewer on the Cisco Unity server because of the non-unique extensions.

**Tip**

Distribution lists can be nested, that is, a distribution list can contain other lists. If desired, you can create one master All Subscribers distribution list that contains the All Subscribers list of each Cisco Unity server.

By default, each Unaddressed Messages and System Event Messages distribution list has the same recorded voice name, but they are not assigned an extension because subscribers typically do not address messages to these lists.

Private Lists

When creating private lists, subscribers can add members from other locations if allowed by the Addressing Options settings for your default location. The location addressing options allow you to control the search that Cisco Unity performs when a subscriber adds members to a private list and when a subscriber addresses a message. For more information, see the [“Primary Location Addressing Option Settings” section on page 9-6](#).

Consider notifying subscribers in the event that the following members are inadvertently removed from their lists:

- When you delete a delivery location, blind addressees are removed from all private lists.
- When an external subscriber (that is, an AMIS, Bridge, or VPIM subscriber) becomes a regular subscriber, the external subscriber is removed from all private lists.

System Broadcast Messages

System broadcast messages are recorded announcements sent to everyone in an organization (or to particular location(s) within an organization). System broadcast messages are played immediately after subscribers log on to Cisco Unity by phone—even before they hear message counts for new and saved messages. Subscribers must listen to each system broadcast message in its entirety before Cisco Unity allows them to hear new and saved messages or to change setup options. They cannot fast-forward or skip a system broadcast message.

**Note**

System broadcast messages do not light message waiting indicators (MWIs) on subscriber phones, nor do they cause distinctive dial tones to notify subscribers of a new message when they pick up their desk phone receiver. System broadcast messages also do not trigger message notifications for alternative devices, such as a pager or another phone.

System broadcast messages can be networked to all subscribers on one or more Cisco Unity servers that access the same subscriber directory by using Digital Networking. In organizations where there are multiple Cisco Unity or Cisco Unity Express servers accessing different directories, system broadcast messages can be sent to all subscribers in the organization (or to all subscribers associated with specific sets of digitally networked servers), provided that the networks are connected by using the VPIM Networking option.

Addressing System Broadcast Messages to Digitally Networked Servers

Depending on the desired set of recipients and the options selected in the Cisco Unity Broadcast Administrator, a subscriber who has been granted permission to send system broadcast messages to subscribers on multiple servers can address messages to all subscribers on the local server, to all subscribers on one or more digitally networked servers, or to all subscribers on all servers in the domain by using Digital Networking.

For example, consider a situation in which three Cisco Unity servers share the same directory. The servers are named ChicagoUnity (dial ID 344), NewYorkUnity (dial ID 444), and AtlantaUnity (dial ID 544). A subscriber on ChicagoUnity who has been granted permission to send system broadcast messages to subscribers on multiple servers can address a message from the Cisco Unity Broadcast Message Administrator by using the options in [Table 2-1](#), which result in a system broadcast being transmitted to all subscribers on the local server or to all subscribers on multiple servers within the directory.

Table 2-1 Using the Cisco Unity Broadcast Administrator to Address Messages to Servers Within the Directory

Cisco Unity Broadcast Administrator Option Selected	Extension Entered	System Broadcast Recipients
Send to Subscribers on this Server	N/A	All subscribers on ChicagoUnity
Send to Subscribers at all Locations	N/A	All subscribers on all Cisco Unity servers in the directory—ChicagoUnity, NewYorkUnity, and AtlantaUnity
Send to One or More Locations, or to a Public Distribution List	444	All subscribers on NewYorkUnity (dial ID 444)
Send to One or More Locations, or to a Public Distribution List	444, then 544	All subscribers on NewYorkUnity (dial ID 444) and AtlantaUnity (dial ID 544)

Individual Cisco Unity servers within the directory can be added by location dial ID as shown in the example above. Public distribution lists are only used for sending system broadcast messages to VPIM locations. For more information on sending system broadcast messages by using VPIM, see the [“Addressing System Broadcast Messages to Multiple Servers”](#) section on page 8-8.

Note that when a system broadcast message is sent to multiple locations, a copy of the message is sent to each server and then distributed to the subscribers homed on that server. As a result, the subscriber sending the system broadcast message must make updates to each message locally. In this example, after the ChicagoUnity subscriber has sent a message, if updates need to be made to any properties on the message at a later time, he or she would need to have permission to log on to the Cisco Unity Broadcast Administrator on each server to make the updates.

How Networked System Broadcast Messages are Processed by Cisco Unity

When Cisco Unity version 4.0(5) or later is installed, a new Windows 2000 service called CsBMessageConnector is created, along with a special mailbox that has the display name USBms_<Servername>. The USBms mailbox is created in the default directory container for Cisco Unity, and is hidden from the address book. The CsBMessageConnector service processes messages that are placed in the USBms mailbox. For systems that use failover, the CsBMessageConnector service runs on both the primary and secondary servers, and both services access the same USBms mailbox, but only the service on the currently active server will process messages.

When a system broadcast message is addressed to multiple Cisco Unity servers, a copy of the message is placed in the USbms mailbox for each server; the CsBMessageConnector service on each server processes the message and makes it available to all Cisco Unity subscribers on the server, based on the start and end dates configured for the message.

Notable Behavior

This section provides information about notable expected behavior associated with Digital Networking. See the following sections for more information:

- [Digital Networking in an Exchange Mixed-Mode Environment, page 2-27](#)
- [Mapping Subscribers to Cisco Unity Servers, page 2-28](#)

Digital Networking in an Exchange Mixed-Mode Environment

To use Digital Networking in an Exchange mixed-mode environment, all of the Cisco Unity servers must use Exchange 2000 or Exchange 2003 for a partner server. When migrating from Exchange 5.5 to Exchange 2000 or Exchange 2003 in stages, all Cisco Unity servers must be reconfigured to use an Exchange 2000 or Exchange 2003 partner server. Digital Networking is not supported between a Cisco Unity server with a partner Exchange 5.5 server and a Cisco Unity server with a partner Exchange 2000 or Exchange 2003 server.

Limitations Subscribers Can Encounter

When a Cisco Unity/Exchange 5.5 server is networked with a Cisco Unity/Exchange 2000 or Exchange 2003 server, primary locations, delivery locations, and other Cisco Unity-specific attributes needed for messaging do not replicate correctly through the Microsoft Active Directory Connector (ADC). Therefore, subscribers with mailboxes on Exchange 5.5 servers are not able to send messages to subscribers with mailboxes on Exchange 2000 or Exchange 2003 servers and vice versa. However, when all of the Cisco Unity servers have Exchange 2000 or Exchange 2003 for a partner server, subscriber messaging in an Exchange mixed-mode environment functions properly.

This limitation also exists when Digital Networking is combined with AMIS, Bridge, SMTP, and VPIM Networking because delivery locations do not replicate through the ADC. For example, if AMIS delivery locations are created in Cisco Unity/Exchange 5.5, only those subscribers on Cisco Unity/Exchange 5.5 are able to send messages to the remote voice messaging system represented by the AMIS delivery location. Similarly, if the AMIS delivery locations are created in Cisco Unity/Exchange 2000 or Exchange 2003, only those subscribers on Cisco Unity/Exchange 2000 or Exchange 2003 are able to send messages to the remote voice messaging system represented by the AMIS delivery location. However, when all of the Cisco Unity servers have Exchange 2000 or Exchange 2003 for a partner server, AMIS messaging in an Exchange mixed-mode environment functions properly.

Mapping Subscribers to Cisco Unity Servers

Each Cisco Unity server handles a distinct group of subscribers. In large organizations, it is possible that more than one Cisco Unity server will be in use at the same physical location. In this case, you need to determine which subscriber accounts to create on each of the Cisco Unity servers (the “home” Cisco Unity server for each subscriber), and keep a record of the mapping. This record is needed for the following reasons:

- Subscriber phones must forward calls to the subscriber home Cisco Unity server.
- If subscriber phones have a “Messages” or a speed-dial button that dials the number to access Cisco Unity, the buttons must be configured to call the subscriber home Cisco Unity server.
- To check their messages, subscribers must dial the Cisco Unity server that they are associated with; therefore you need to tell subscribers the correct number to dial when calling into Cisco Unity. Note that if your Cisco Unity servers are integrated with Cisco CallManager, you may want to configure cross-server logon. For more information, see the “[Cross-Server Logon, Transfers, and Live Reply](#)” chapter.

To create a record of the mapping, run the Subscribers report on each Cisco Unity server. The information in this report includes the subscriber name and primary location. See the “Subscribers Report” section in the “Reports” chapter of the *Cisco Unity Maintenance Guide* for more information. (The guide is available at http://www.cisco.com/en/US/products/sw/voicesw/ps2237/products_maintenance_guide_book09186a008043ea51.html.)