



Networking in Cisco Unity

Overview: Networking in Cisco Unity

In Cisco Unity, “networking” is the general term for messaging between Cisco Unity servers, and between Cisco Unity and other voice messaging systems. The term networking has a broad definition that encompasses the following ideas:

- Subscribers associated with one Cisco Unity server can use the phone to send voice messages to:
 - Subscribers associated with another Cisco Unity server.
 - Individuals with access to a computer connected to the Internet.
 - Individuals who use a voice messaging system other than Cisco Unity.
- Unidentified callers can find any subscriber in the phone directory and leave a voice message. Depending on the phone system and network configuration, unidentified callers who reach the Cisco Unity automated attendant or directory assistance can be transferred to any subscriber phone, even to the phone of a subscriber who is not associated with the local server.

See the following sections in this chapter for more information:

- [New and Changed Functionality, page 1-1](#)
- [Networking Options, page 1-5](#)
- [Locations and External Subscribers, page 1-7](#)
- [Interop Gateway, page 1-7](#)
- [Comparison of AMIS, Bridge, and VPIM Networking, page 1-8](#)
- [Road Map to the Networking Documentation: Where to Go from Here, page 1-15](#)

New and Changed Functionality

This section provides information about new and changed functionality related to the networking options in Cisco Unity 4.0(5) and later. For information about new and changed functionality for all of Cisco Unity, see the *Release Notes for Cisco Unity Release 4.0(5)*, at http://www.cisco.com/en/US/products/sw/voicesw/ps2237/prod_release_notes_list.html.

- [Cisco Personal Communications Assistant \(PCA\): Customizable Search Scope for Finding and Checking Names, page 1-2](#)
- [Enhanced Private Distribution List Management, page 1-2](#)

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- [Live Reply to Subscribers on Networked Cisco Unity Servers via Release to Phone System Transfer](#), page 1-3
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Cisco Personal Communications Assistant (PCA): Customizable Search Scope for Finding and Checking Names

By default, the search scope for the Cisco PCA Address Book is set to the local directory. As a possible convenience to subscribers in your organization, you may want to change the default search scope to the global directory instead. When this is done, 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.

Changing the default search scope for the Cisco PCA Address Book changes the default search scope in the Find Names dialog box in the Cisco Unity Assistant, which subscribers use to add members to private lists.

See the [“Changing the Default Search Scope for the Cisco PCA \(Optional\)”](#) section on page 2-11 for instructions for changing the default search scope.

Enhanced Private Distribution List Management

In Cisco Unity 4.0(5) and later, subscribers can use the Cisco Unity conversation to add and delete blind addresses in their private distribution lists. In contrast, subscribers cannot use the Cisco Unity Assistant to add blind addresses to their private lists, though they can use it to view list members and to delete any blind addresses that were added by phone. The Cisco Unity Administrator also does not allow you to add blind addresses to private lists, but you can use it to view and delete list members.

Importing Subscribers with Recorded Names by Using the Cisco Unity Bulk Import Wizard

The Cisco Unity Bulk Import wizard that is included with Cisco Unity version 4.0(5) has the ability to import audio files that are used to populate the recorded voice name for each subscriber. You can import audio files for regular, Internet, AMIS, Bridge, and VPIM subscribers, both when importing new subscribers and when updating existing ones. The audio files must be recorded by using a codec playable on all networked Cisco Unity servers; no conversion from one codec to another can be done during the import.

Live Reply to Subscribers on Networked Cisco Unity Servers via Release to Phone System Transfer

Live reply allows subscribers who listen to their messages by phone to respond to a message from other subscribers by calling them. Class of service settings control whether the live reply option is offered to subscribers. However, when the message sender and the recipient are homed on different networked Cisco Unity servers in the same dialing domain, additional configuration is required for the live reply option to be offered. To enable live reply in a dialing domain, you configure settings on the Dialing Domain Options page in the Cisco Unity Administrator. With Cisco Unity 4.0(5), you can choose the call transfer method used for live reply calls, as follows:

- Release to phone system—New in Cisco Unity 4.0(5), and supported with all phone system integrations.
- Cross-server live reply, with control passed to the Cisco Unity server of the called subscriber—Supported only with Cisco CallManager integrations. With cross-server live reply, you also have to enter the pilot numbers of all of the other Cisco Unity servers in the dialing domain. For more information, see the [“Cross-Server Logon, Transfers, and Live Reply”](#) chapter.

Receipt Improvements

Beginning with Cisco Unity 4.0(5), the Cisco Unity conversation presents nondelivery receipts (NDRs) and delivery receipts more intuitively, and offers subscribers additional options for managing receipts. The new functionality cannot be disabled.

Cisco Unity Conversation Receipt Improvements

- When subscribers review NDRs, the conversation now identifies all recipients whose mailboxes did not accept the original message. Recipients identified now include blind addressees in addition to regular, Internet, and external subscribers.
- Rather than always presenting the date and time after the recipient information, subscribers hear date and time before other message information when there is more than one recipient related to the NDR or delivery receipt; when there is only one related recipient, the conversation presents the date, time, and reason for the NDR or delivery receipt after playing the recipient information.
- When subscribers review delivery receipts, the conversation now identifies all recipients whose mailboxes accepted the message. Recipients identified include regular, Internet, and external subscribers and blind addressees.
- When subscribers review NDRs, they can also play the original message recording.
- When subscribers resend a message which generated an NDR, they can record an introduction, modify recipient list, and change delivery options.
- When a message could not be delivered from the Cisco Unity Bridge to the remote system because the recipient mailbox is full or does not exist, or because the original message has audio problems, the Cisco Unity conversation presents this information to the subscriber.

In addition, Cisco Unity subscribers receive an NDR for messages that could not be delivered because the Octel user has an extended absence greeting enabled and belongs to an Octel class of service that blocks delivery of incoming messages when the user has an extended absence greeting enabled. Alternatively, subscribers receive a delivery receipt for messages sent to an Octel user who has an extended absence greeting enabled, but belongs to an Octel class of service that permits delivery of incoming messages when the user has an extended absence greeting enabled.

Note that the behaviors described in this bullet occur only when the message was routed through the Interop Gateway by using the Bridge 3.0(4) and later.

Support for AMIS Networking

Support has been added for the Audio Messaging Interchange Specification analog (AMIS-a) protocol, allowing Cisco Unity to exchange voice messages with other AMIS-compliant voice messaging systems. See the following sections for more information:

- For information on the AMIS Networking option and for details on configuring Cisco Unity to use AMIS, see the “AMIS Networking” chapter. Note that in organizations with multiple networked Cisco Unity servers, all the servers must be at Cisco Unity 4.0(5) or later to use AMIS Networking.
- For a list of voice messaging systems qualified for networking with Cisco Unity via AMIS, see the “Support Policy for AMIS Voice Messaging Systems” section of the applicable *Cisco Unity System Requirements, and Supported Hardware and Software*, at http://www.cisco.com/en/US/products/sw/voicew/ps2237/prod_installation_guides_list.html.
- For a list of Cisco gateways supported for use with AMIS, see the “Recommendations for Using AMIS with Cisco Gateways” section of the applicable *Cisco Unity System Requirements, and Supported Hardware and Software*, at http://www.cisco.com/en/US/products/sw/voicew/ps2237/prod_installation_guides_list.html.

Support for Bridge Networking

Support has been added for networking with the Cisco Unity Bridge version 3.0(5) and later, which allows Cisco Unity to exchange voice and fax messages with Avaya voice messaging systems that support Octel Analog Networking. See the following sections for more information:

- For information on planning a migration to Cisco Unity by using the Cisco Unity Bridge, see the *Cisco Unity Bridge Design Guide*, at http://www.cisco.com/en/US/products/sw/voicew/ps2237/products_implementation_design_guide_book09186a0080234212.html.
- For information on setting up the Bridge server, see the *Cisco Unity Bridge Installation Guide, Release 3.0*, at http://www.cisco.com/en/US/products/sw/voicew/ps2237/prod_installation_guides_list.html.
- For information about the Bridge Networking option, and for details on configuring Cisco Unity and the Cisco Unity Bridge for networking, see the *Cisco Unity Bridge Networking Guide, Release 3.0 (with IBM Lotus Domino)*, at http://www.cisco.com/en/US/products/sw/voicew/ps2237/products_feature_guide_book09186a0080441976.html. Note that in organizations with multiple networked Cisco Unity servers, all of the servers must be at Cisco Unity 4.0(5) or later to use Bridge Networking.
- For a list of Avaya voice messaging systems that the Cisco Unity Bridge supports, and requirements for the Bridge server, see the *Cisco Unity Bridge System Requirements, and Supported Hardware and Software*, at http://www.cisco.com/en/US/products/sw/voicew/ps2237/prod_installation_guides_list.html.
- For a list of Cisco gateways supported for use with the Cisco Unity Bridge, see the “Supported Cisco Gateways” section of the *Cisco Unity Bridge System Requirements, and Supported Hardware and Software*, at http://www.cisco.com/en/US/products/sw/voicew/ps2237/prod_installation_guides_list.html.

- For information about the Cisco Unity Bridge, including new and changed requirements and support, new and changed functionality, limitations and restrictions, open and resolved caveats, and documentation updates, see the applicable *Release Notes for Cisco Unity Bridge*, at http://www.cisco.com/en/US/products/sw/voicesw/ps2237/prod_release_notes_list.html.

Support for VPIM Networking

Support has been added for the Voice Profile for Internet Mail (VPIM) protocol, which allows Cisco Unity to exchange voice and fax messages with other voice messaging systems over the Internet or any TCP/IP network.

VPIM Networking can be used for messaging between Cisco Unity with Domino and Cisco Unity with Exchange or Cisco Unity Express. Note, however, that Cisco Unity with Domino does not include the automatic VPIM subscriber directory updates feature that was added in Cisco Unity with Exchange 4.0(5). Cisco Unity with Domino can be configured to send vCards, which can be used by other voice messaging systems (including Cisco Unity with Exchange) for automatic directory updates.

Also note that Cisco Unity 4.0(5) with Domino does not support networked system broadcast messages. System broadcast messages created on the local Cisco Unity server cannot be sent to other Cisco Unity with Domino, Cisco Unity with Exchange, or Cisco Unity Express servers. Likewise, system broadcast messages created on other Cisco Unity with Exchange or Cisco Unity Express servers cannot be received and activated by a Cisco Unity for Domino server.

See the following sections for more information:

- For information on the VPIM Networking option and details on configuring Cisco Unity to use VPIM, see the “[VPIM Networking](#)” chapter. Note that in organizations with multiple networked Cisco Unity servers, all the servers must be at Cisco Unity 4.0(5) or later to use VPIM Networking.
- For a list of voice messaging systems qualified for networking with Cisco Unity via VPIM, see the “Support Policy for VPIM Voice Messaging Systems” section of the *Cisco Unity System Requirements, and Supported Hardware and Software*, at http://www.cisco.com/en/US/products/sw/voicesw/ps2237/prod_installation_guides_list.html.

Networking Options

The main goal of networking in Cisco Unity is to deliver messages from a Cisco Unity server to a target, and to deliver messages from the target to Cisco Unity. The networking options available in Cisco Unity are defined according to a combination of the message transport mechanism and the target, as shown in [Table 1-1](#).

Table 1-1 **Networking Options**

Networking Option	Description
Digital Networking	Allows messaging among multiple Cisco Unity servers connected to a single, global directory. That is, the Domino servers used by the Cisco Unity servers are in the same Domino domain. Message routing is done by the Domino router. In Cisco Unity 4.0(5) and later, if the Domino servers are in different Domino domains, the Cisco Unity servers can be configured to monitor the same set of Domino address books.

Table 1-1 Networking Options (continued)

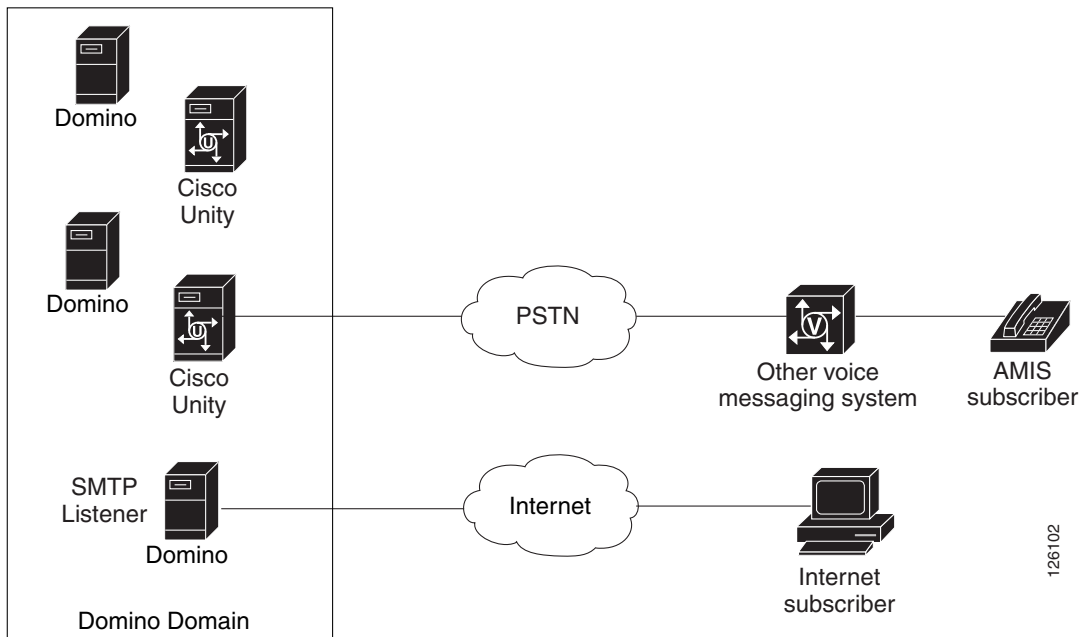
Internet Subscribers	Allows messaging with individuals over the Internet or any TCP/IP network by using SMTP. The recipient receives the message as an e-mail with a WAV attachment. Internet subscribers can have local extensions, recorded voice names, and greetings, and be listed in the directory, but they do not use Notes as their mail system. Messages are addressed to Internet subscribers as they are to regular subscribers, but the messages are sent to the e-mail address that you specify when creating the Internet subscriber account.
AMIS	Allows messaging with other voice messaging systems that support the Audio Messaging Interchange Specification analog (AMIS-a) protocol. In essence, the sending voice messaging system calls the receiving voice messaging system, there is an exchange of DTMF tones as defined by the protocol, the sending system plays the message, and the receiving system records it.
Bridge	Allows messaging between Cisco Unity and an Octel system on an Octel analog network by using the Cisco Unity Bridge. The Cisco Unity Bridge acts as a networking gateway between Cisco Unity and the Octel system, and allows the systems to exchange voice and fax messages. Messaging between Cisco Unity and the Bridge is done over the Internet or any TCP/IP network by using SMTP. Messaging between the Octel servers and the Bridge is done by using the Octel analog networking protocol. The Bridge must be installed on a separate and dedicated platform.
VPIM	Allows messaging with other voice messaging systems that support the Voice Profile for Internet Mail (VPIM) protocol. VPIM allows different voice messaging systems to exchange voice, text, and fax messages over the Internet or any TCP/IP network. VPIM is based on SMTP and the Multi-Purpose Internet Mail Extension (MIME) protocol. VPIM Networking can be used for messaging between Cisco Unity servers that access different directories, between Cisco Unity and Cisco Unity Express, and between Cisco Unity with Exchange and Cisco Unity with Domino systems.

Message Addressing Options

With AMIS, Bridge, and VPIM Networking, you can set up different addressing options, as follows:

- **Blind Addressing**—With blind addressing, Cisco Unity has the information it needs to send messages to the remote voice messaging system, even though the recipient mailbox number, text name, and recorded name are not in the directory.
- **“External” Subscribers**—You create AMIS, Bridge, and/or VPIM subscribers on the local Cisco Unity server to correspond to subscribers on the remote voice messaging system. These external subscribers (also referred to as “proxy users” or “remote subscribers”) can have local extensions, recorded voice names, and greetings, and can be listed in the directory. However, they do not use Notes as their mail system. Messages are addressed to an external subscriber as they are to a regular subscriber, but the messages are sent to the applicable mailbox on the remote voice messaging system. External subscribers have corresponding Domino Person documents that have “Other Internet Mail” set for the Mail System.
- **A Combination**—The various ways of sending and receiving messages, as detailed in Table 1-1, are not mutually exclusive. For example, if the Cisco Unity servers in your organization are set up to access a global directory (and thus can make use of the Digital Networking option), you can still add Internet subscriber accounts for contractors working at home. In addition, if you are migrating users from an existing voice messaging system to Cisco Unity in stages, you can add AMIS, Bridge, or VPIM connectivity to the mix. Figure 1-1 depicts a configuration that uses a mix of the various networking options.

Figure 1-1 Networking in Cisco Unity



Locations and External Subscribers

Regardless of which networking option you choose, the setup process is similar.

For each networking option, you customize the settings for the primary location. Each Cisco Unity server has a default or primary location, which is created during installation and which cannot be deleted. The primary location contains information that identifies the Cisco Unity server to other messaging systems, which may or may not be Cisco Unity systems. See the [“Overview: Primary Location Settings” section on page 9-1](#) for more information.

To set up AMIS, Bridge, or VPIM Networking, you create delivery locations. A delivery location contains the network information that Cisco Unity needs to send messages to other messaging servers, which may or may not be Cisco Unity servers. You create a delivery location for each voice messaging server with which the local Cisco Unity server will communicate.

Optionally, you may also create “external” subscribers (that is, AMIS, Bridge, and/or VPIM subscribers). The messages for external subscribers are stored externally to the Cisco Unity voice message store. When creating an external subscriber, you specify a delivery location that the external subscriber is associated with so that Cisco Unity has the information it needs send them messages.

Interop Gateway

The Interop Gateway for Domino is a Cisco Unity service (called CsDomInteropGty) that enables messaging between Cisco Unity and other voice messaging systems. The Interop Gateway files are copied to the Cisco Unity server during setup; however, the Interop Gateway is not installed as a service until you run the Interop Gateway Configuration wizard when configuring Cisco Unity for AMIS, Bridge, or VPIM Networking. The Interop Gateway Configuration wizard configures and starts the

service. In the Interop Gateway Configuration wizard, you specify a Domino Foreign domain name (for example, “voicemail.domain.com”), a mail file name, and the name of the server where the mail file will be located.

Cisco Unity addresses outbound AMIS, Bridge, and VPIM messages to the specified Foreign domain, and incoming Bridge and VPIM messages are addressed to the specified Foreign domain. Messages addressed to the Foreign domain are routed to the mail file specified in the Foreign domain document by the Domino router. The Interop Gateway monitors the mail file for messages, and performs the following functions:

- **AMIS Networking**—The Interop Gateway routes voice messages to the applicable UAmis_<Servername> mailbox for outgoing analog delivery. Incoming AMIS voice messages received by the Cisco Unity AMIS bridgehead are routed to the Interop Gateway mail file for processing.
- **Bridge Networking**—The Interop Gateway performs the message conversion and address translation that allows Cisco Unity to exchange messages with the Cisco Unity Bridge server.
- **VPIM Networking**—The Interop Gateway performs the message conversion and address translation that allows Cisco Unity to exchange messages with other voice messaging systems by using the VPIM protocol. VPIM Networking also provides messaging between:
 - Cisco Unity servers where the Domino servers are in different Domino domains and cannot be configured for Digital Networking
 - Cisco Unity with Domino systems and Cisco Unity with Exchange systems
 - Cisco Unity and Cisco Unity Express

Note that the Interop Gateway is not needed with Digital Networking because the Cisco Unity servers access the same directory.

Comparison of AMIS, Bridge, and VPIM Networking

AMIS, Bridge, and VPIM Networking can be used for networking Cisco Unity with other voice messaging systems. However, there are several differences among these networking options, as described in the following sections:

- [Cisco Unity Version Support](#)
- [Interoperability](#)
- [General Connectivity Costs](#)
- [Supported Voice Gateways](#)
- [International Availability](#)
- [Blind Addressing](#)
- [Addressing by Name or by Extension](#)
- [Spoken Name Confirmation](#)
- [Audio Formats Supported](#)
- [Delivery Receipt/Read Receipt](#)
- [Directory Information Sharing](#)
- [Distribution Lists](#)
- [Mailbox ID Translation](#)

- Fax Messaging
- Message Transport Time Considerations
- Private Messages
- Simultaneous Analog Sessions for Message Delivery to or from Remote Voice Mail Systems
- Urgent Messages

Table 1-2 Cisco Unity Version Support

AMIS	Bridge	VPIM
Cisco Unity 4.0(5) and later.	Cisco Unity 4.0(5) and later.	Cisco Unity 4.0(5) and later.

Table 1-3 Interoperability

AMIS	Bridge	VPIM
For the most up-to-date list of supported voice messaging systems, see the applicable <i>Cisco Unity System Requirements, and Supported Hardware and Software</i> , at http://www.cisco.com/en/US/products/sw/voicesw/ps2237/prod_installation_guides_list.html .	For the most up-to-date list of supported voice messaging systems, see the applicable <i>Cisco Unity Bridge System Requirements, and Supported Hardware and Software</i> , at http://www.cisco.com/en/US/products/sw/voicesw/ps2237/prod_installation_guides_list.html .	For the most up-to-date list of supported voice messaging systems, see the applicable <i>Cisco Unity System Requirements, and Supported Hardware and Software</i> , at http://www.cisco.com/en/US/products/sw/voicesw/ps2237/prod_installation_guides_list.html .

Table 1-4 General Connectivity Costs¹

AMIS	Bridge	VPIM
<ul style="list-style-type: none"> • License for the Cisco Unity server that functions as an AMIS bridgehead. • Analog ports on the Cisco Unity server. Connectivity can be made in one of two ways: by using voice cards, or through supported voice gateways. (See Table 1-5 on page 1-10.) • Analog lines for message delivery. • Applicable long distance charges if the Cisco Unity bridgehead server and the remote voice messaging system are physically located in different areas. 	<ul style="list-style-type: none"> • License for the Bridge server. • A separate server for the Bridge software. Each server supports up to 24 ports. • Voice cards for the Bridge server. • Analog lines for message delivery between Bridge and Octel nodes. • Applicable long distance charges if the Bridge server and the Octel system are physically located in different areas. • SMTP network bandwidth for message delivery between the Bridge and Cisco Unity. 	<ul style="list-style-type: none"> • License for the Cisco Unity server that functions as a VPIM bridgehead. • SMTP network bandwidth for message delivery.

1. Note that the costs shown in this table are associated with Cisco Unity. There may be additional connectivity costs associated with enabling AMIS, Octel Analog Networking, or VPIM for the voice messaging system with which Cisco Unity exchanges messages.

Table 1-5 Supported Voice Gateways

AMIS	Bridge	VPIM
For the most up-to-date list of supported voice gateways, see the applicable <i>Cisco Unity System Requirements, and Supported Hardware and Software</i> , at http://www.cisco.com/en/US/products/sw/voicesw/ps2237/prod_installation_guides_list.html .	For the most up-to-date list of supported voice gateways, see the applicable <i>Cisco Unity Bridge System Requirements, and Supported Hardware and Software</i> , at http://www.cisco.com/en/US/products/sw/voicesw/ps2237/prod_installation_guides_list.html .	N/A.

Table 1-6 International Availability

AMIS	Bridge	VPIM
All countries in which Cisco Unity is sold.	<p>For a list of countries for which there is a voice-fax card approved for use, see the “Supported Voice-Fax Cards” section in the <i>Cisco Unity Bridge System Requirements, and Supported Hardware and Software</i>, at http://www.cisco.com/en/US/products/sw/voicesw/ps2237/prod_installation_guides_list.html.</p> <p>Some deployments may service users in countries that are not on the “Supported Voice-Fax Cards for the Cisco Unity Bridge Server” list, but only when the Bridge server itself is located in one of the countries listed.</p> <p>The Bridge server is supported only when using the English-language version of Windows 2000 server. The locale must be set to English (United States), and the language settings must be set only to Western Europe and United States. (Choosing additional language settings is not supported.) The Bridge software is not localized in any language other than English.</p>	All countries in which Cisco Unity is sold.

Table 1-7 Blind Addressing

AMIS	Bridge	VPIM
Available through the Cisco Unity Telephone User Interface (TUI) and the IBM Lotus Notes client set up with csClient, a DUC for Cisco component.	Available through the Cisco Unity TUI and the DUC-enabled Notes client.	Available through the Cisco Unity TUI and the DUC-enabled Notes client.

Table 1-8 Addressing by Name or by Extension

AMIS	Bridge	VPIM
Available through the Cisco Unity TUI and the DUC-enabled Notes client.	Available through the Cisco Unity TUI and the DUC-enabled Notes client.	Available through the Cisco Unity TUI and the DUC-enabled Notes client.

Table 1-9 Spoken Name Confirmation

AMIS	Bridge	VPIM
<ul style="list-style-type: none"> Available when a recorded voice name exists for the AMIS subscriber. Voice names for AMIS subscribers must be recorded individually in the Cisco Unity Administrator. In Cisco Unity 4.0(5) and later, voice names for AMIS subscribers can be imported by using the Cisco Unity Bulk Import utility. 	<ul style="list-style-type: none"> Available when a recorded voice name exists for the Bridge subscriber. Voice names for Bridge subscribers can be recorded individually in the Cisco Unity Administrator. However, because the Bridge supports directory information sharing, the text and recorded voice names of Octel subscribers are retrieved on a usage basis, and Bridge subscribers can be automatically created in the Cisco Unity directory with the retrieved text and voice names. Similarly, the text and voice names of Cisco Unity subscribers are retrieved by the Octel servers on a usage basis, and directory entries are automatically created on the Octel servers with the retrieved text and voice names. In Cisco Unity 4.0(5) and later, voice names for Bridge subscribers can be imported by using the Cisco Unity Bulk Import utility. 	<ul style="list-style-type: none"> Available when a recorded voice name exists for the VPIM subscriber. Voice names for VPIM subscribers can be recorded individually in the Cisco Unity Administrator. In Cisco Unity 4.0(5) and later, voice names for VPIM subscribers can be imported by using the Cisco Unity Bulk Import utility.

Table 1-10 Audio Formats Supported¹

AMIS	Bridge	VPIM
<ul style="list-style-type: none"> The AMIS protocol is not dependent on audio format. Any codec supported for use with Cisco Unity can be used. 	<ul style="list-style-type: none"> Octel Analog Networking is not dependent on audio format. The Cisco Unity servers must use either the G.711 or the G.729a codec in order to communicate with the Cisco Unity Bridge servers. 	<ul style="list-style-type: none"> The VPIM Version 3 Specification includes support for the following audio formats: G.711, G.726, and GSM 6.10. Any codec supported for use with Cisco Unity may be used. Outbound VPIM messages can be converted to G.726 or sent in the format in which they were recorded. Incoming VPIM messages can be converted to G.711, G.729a, or GSM 6.10, or remain in the format in which they were sent.

1. For a list of the audio formats supported by Cisco Unity, see the *White Paper: Audio Codecs and Cisco Unity (All Versions)*, at http://www.cisco.com/en/US/products/sw/voicesw/ps2237/products_white_paper09186a00800875b7.shtml.

Table 1-11 *Delivery Receipt/Read Receipt*

AMIS	Bridge	VPIM
The AMIS protocol does not support this functionality. A request for a delivery or read receipt may be allowed on either Cisco Unity or the remote AMIS voice mail system when addressing, but the request will not result in a receipt.	Requests for a delivery or read receipt generated by Cisco Unity are returned from the Octel system as delivery receipts. The receipt is sent to the sender after the message is delivered to the Octel node, regardless of when the Octel system places the message in the subscriber mailbox or when the message is actually read.	Requests for a delivery or read receipt generated by either Cisco Unity or the remote VPIM system are honored, although both are treated as requests for delivery receipts.

Table 1-12 *Directory Information Sharing*

AMIS	Bridge	VPIM
<ul style="list-style-type: none"> • The AMIS protocol does not provide any mechanism for sharing or synchronizing directory information. • If the remote AMIS system is configured to send the recorded voice name in messages, Cisco Unity will play it as part of the message. 	<ul style="list-style-type: none"> • Avaya Octel analog networking includes the NameNet feature, which provides a mechanism to propagate text and voice names among nodes on the Octel analog network, based on message activity or by administrator request. • The Cisco Unity Bridge participates in NameNet. The Bridge retrieves Octel subscriber names and voice names from other Octel nodes, and stores the data in a directory on the Bridge server. The Bridge also maintains a directory of Cisco Unity subscribers, and sends Cisco Unity names and voice names to the Octel nodes upon request. • The Bridge synchronizes Octel subscriber information with Cisco Unity. By default, Cisco Unity allows the automatic creation, modification, and deletion of Bridge subscribers based on the information sent by the Bridge. • Cisco Unity synchronizes Cisco Unity subscriber information with the Bridge. • If the remote Octel system is configured to send the recorded voice name in messages, Cisco Unity will play it as part of the message. 	<ul style="list-style-type: none"> • Although the VPIM specification does not define a mechanism for directory information sharing or synchronization, some VPIM-compliant voice mail systems may process vCards or header information in VPIM messages and update their directories based on message activity. • Cisco Unity can be configured to include the recorded voice name and/or vCard of the sender in messages to the remote VPIM systems. • If the remote VPIM system is configured to send the recorded voice name and/or vCard in messages, Cisco Unity will make them available as part of the message.

Table 1-13 Distribution Lists

AMIS	Bridge	VPIM
<ul style="list-style-type: none"> The AMIS protocol does not support delivery to a distribution list on the recipient voice messaging system. Outbound messages from Cisco Unity to the AMIS system must be addressed to a mailbox ID on the remote system. (However, an administrator on the remote system may be able to configure a mailbox ID to forward messages to a distribution list.) Outbound messages from Cisco Unity can be addressed to a Cisco Unity public or private distribution list that includes AMIS subscribers. In Cisco Unity 4.0(5) and later, private distribution lists can include blind addresses. Incoming AMIS messages are delivered to subscriber mailboxes only, and cannot be delivered to Cisco Unity public distribution lists. (However, you may be able to set up a Cisco Unity subscriber account whose sole purpose is to forward messages to a Cisco Unity public distribution list. See your Domino documentation for more information.) 	<ul style="list-style-type: none"> Octel Analog Networking does not support delivery to a distribution list on the recipient voice messaging system. Outbound messages from Cisco Unity to the Octel system must be addressed to a mailbox ID on the remote system. (However, an administrator on the remote system may be able to configure a mailbox ID to forward messages to a distribution list.) Outbound messages from Cisco Unity can be addressed to a Cisco Unity public or private distribution list that includes Bridge subscribers. In Cisco Unity 4.0(5) and later, private distribution lists can include blind addresses. Incoming Bridge messages are delivered to subscriber mailboxes only, and cannot be delivered to Cisco Unity public distribution lists. (However, you may be able to set up a Cisco Unity subscriber account whose sole purpose is to forward messages to a Cisco Unity public distribution list. See your Domino documentation for more information.) 	<ul style="list-style-type: none"> The VPIM specification does not include support for message delivery to a distribution list on the recipient voice messaging system. Outbound messages from Cisco Unity to the VPIM system must be addressed to a mailbox ID on the remote system. (However, an administrator on the remote system may be able to configure a mailbox ID to forward messages to a distribution list.) Outbound messages from Cisco Unity can be addressed to a Cisco Unity public or private distribution list that includes VPIM subscribers. In Cisco Unity 4.0(5) and later, private distribution lists can include blind addresses. Incoming VPIM messages are delivered to subscriber mailboxes only, and cannot be delivered to Cisco Unity public distribution lists. (However, you may be able to set up a Cisco Unity subscriber account whose sole purpose is to forward messages to a Cisco Unity public distribution list. See your Domino documentation for more information.)

Table 1-14 Mailbox ID Translation¹

AMIS	Bridge	VPIM
Not available.	<p>Prefixes can be defined so that Cisco Unity subscribers can address messages to Octel subscribers by entering a network address consistent with phone network dial plans.</p> <p>All Cisco Unity subscribers are mapped to a configurable mailbox and serial number value for use when communicating with Octel servers. This allows any Cisco Unity subscriber to represent mailbox X at node serial number Y within the Octel network, independent of the Cisco Unity numbering plan.</p>	Additional digits can be automatically added to the beginning of the mailbox numbers associated with the Cisco Unity sender and remote recipient on messages sent from Cisco Unity subscribers. The same digits can be removed from the beginning of the remote sender and Cisco Unity mailbox numbers for delivery to Cisco Unity subscribers.

1. Mailbox ID translation gives Cisco Unity users the ability to address a message to remote subscribers with the number of digits that the remote system expects to receive, without having to manually enter extra digits.

Table 1-15 Fax Messaging

AMIS	Bridge	VPIM
The AMIS protocol does not support this functionality.	Supported.	Supported; however, VPIM supports only the TIFF-F message format.

Table 1-16 Message Transport Time Considerations

AMIS	Bridge	VPIM
<ul style="list-style-type: none"> Analog delivery of the message from the sending system to the receiving system is the most significant contribution to transport time. The minimum analog delivery time can be calculated by multiplying the actual recording length of the message by the number of recipients of the message. The AMIS protocol requires a separate analog transmission of the message for each recipient. For example, a five-minute message with 10 recipients would require a minimum of 50 minutes for the analog transmission. 	<ul style="list-style-type: none"> Analog delivery of the message from the sending system to the receiving system is the most significant contribution to transport time. The minimum analog delivery time is the actual recording length of the message. Octel Analog Networking allows a single analog transmission of a message addressed to multiple recipients, which the receiving node will deliver to all intended recipients. For example, a five-minute message with 10 recipients would require a minimum of 5 minutes for the analog transmission. 	<ul style="list-style-type: none"> Domino routing time and SMTP delivery time to a remote VPIM system are the only considerations. For example, a five-minute message with 10 recipients would likely take less than one minute to transmit.

Table 1-17 Private Messages

AMIS	Bridge	VPIM
The AMIS protocol does not support this functionality. Messages marked private when they are sent are not marked private when the recipient retrieves them.	Supported. Messages marked private when they are sent are marked private when the recipient retrieves them.	Supported. Messages marked private when they are sent are marked private when the recipient retrieves them.

Table 1-18 Simultaneous Analog Sessions for Message Delivery to or from Remote Voice Mail Systems

AMIS	Bridge	VPIM
Supported. <ul style="list-style-type: none"> Limited to the voice mail port availability on the AMIS bridgehead server. Ports available to place outgoing AMIS calls can be configured in the Cisco Unity Administrator (but not per AMIS destination). 	Supported. <ul style="list-style-type: none"> Limited to Bridge server analog port availability. Maximum number of ports to deliver simultaneously to any single node, and the threshold to initiate and disconnect additional calls, can be configured per Bridge server. 	N/A.

Table 1-19 **Urgent Messages**

AMIS	Bridge	VPIM
The AMIS protocol does not support this functionality. Messages marked urgent when they are sent are not marked urgent when the recipient retrieves them.	Supported. Messages marked urgent when they are sent are marked urgent when the recipient retrieves them.	Supported. Messages marked urgent when they are sent are marked urgent when the recipient retrieves them.

Road Map to the Networking Documentation: Where to Go from Here

If your installation includes multiple Cisco Unity servers networked together and accessing a common directory, much of the information that you need is included in the “[Digital Networking](#)” chapter. Start with “[Digital Networking](#)” even if you will also be using other networking options.

If you plan to use AMIS to communicate with another voice messaging system, see the “[AMIS Networking](#)” chapter.

If you plan to use VPIM to communicate with another voice messaging system, see the “[VPIM Networking](#)” chapter.

If you plan to use the Bridge to communicate with Octel systems on an Octel analog network, see the *Cisco Unity Bridge Networking Guide*, at http://www.cisco.com/en/US/products/sw/voicesw/ps2237/products_feature_guide_book09186a0080441976.html.

Regardless of which networking option you choose, you need to customize the settings for the primary location. See the “[Primary Location Settings](#)” chapter.

