



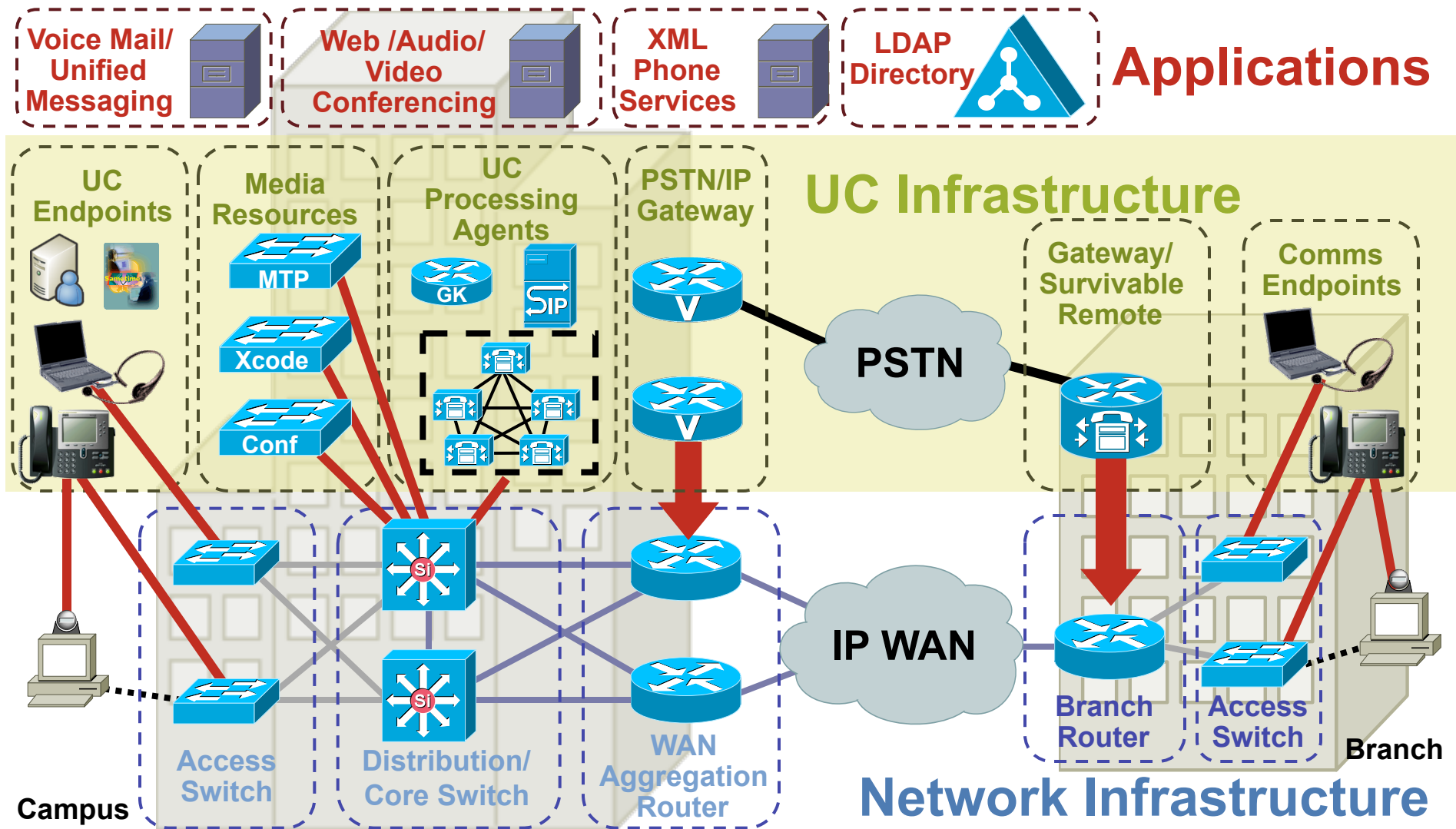
Cisco Unity
Cisco Unity Connection
Interoperability



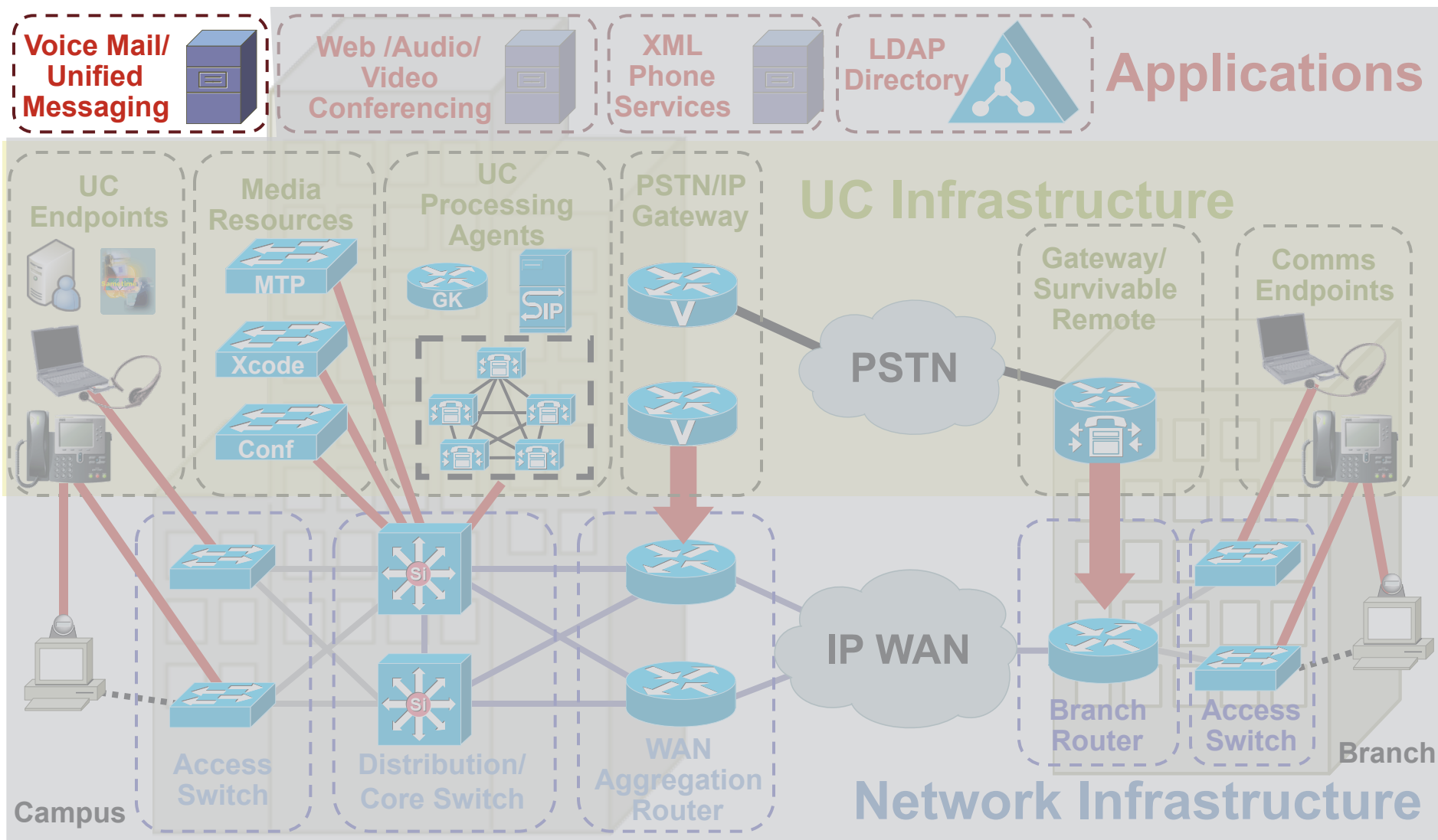
Chris Barlow
Technical Marketing Engineer

UC 8.0 Partner Beta Training
November 5, 2009

Unified Communications Content Mapping



Unified Communications Content Mapping



Session Objectives

At the end of the session, participants should be able to:

- Identify the necessary components and requirements for interoperability between Cisco Unity and Cisco Unity Connection (digital) networks
- Describe the interoperability capabilities between Cisco Unity and Cisco Unity Connection (digital) networks
- Describe the COBRAS tool and its 2 modes (Briefcase Mode and Hot Mode) for migrating users and objects from a Cisco Unity to Cisco Unity Connection (digital) network
- Describe an overview of interoperability between 2 Cisco Unity Connection (digital) networks allowing up to 20 locations or nodes in a Cisco Unity Connection 8.0 network

Cisco Unity Cisco Unity Connection Interoperability

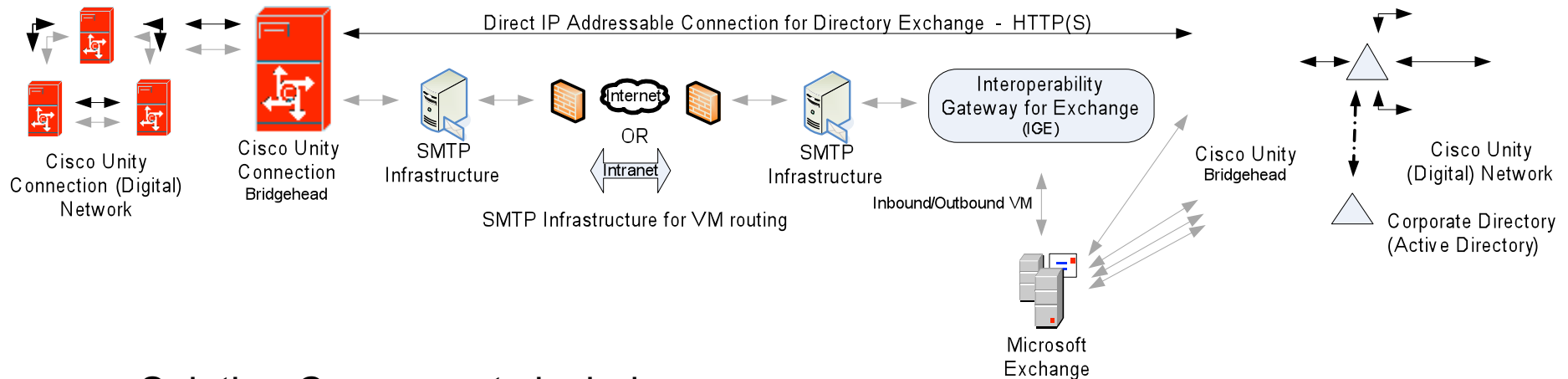


- **Interoperability Between Cisco Unity and Cisco Unity Connection (Digital) Networks**
- **Components and Requirements**

Cisco Unity 8.0 – Cisco Unity Connection 8.0 Introducing Interoperability!

- Prior to Unity Connection 8.0 and Unity 8.0:
 - VPIM Networking was supported for networking Unity Connection and Unity together
 - Directory sharing mostly manual (VPIM contacts, auto-create, directory push)
 - Administration overhead (VPIM locations, contacts, distribution lists)
 - Migration of users mostly manual (create subscriber, delete contact, create contact, COBRAS import in Unity Connection)
- **With Unity Connection 8.0 and Unity 8.0:**
 - Unity Connection and Unity digital networks can be joined!**
 - Directory sharing is automatic after join! (Users, locations, distribution lists)**
 - Administration: Search/view objects from any server! (Can view any supported object on any server and link to object's home server for edits)**
 - Can start adding Unity Connection servers to existing Unity deployments**
 - Users can be copied or migrated “on the fly” to Unity Connection from Unity using COBRAS tool!**

Cisco Unity – Cisco Unity Connection Interoperability Components

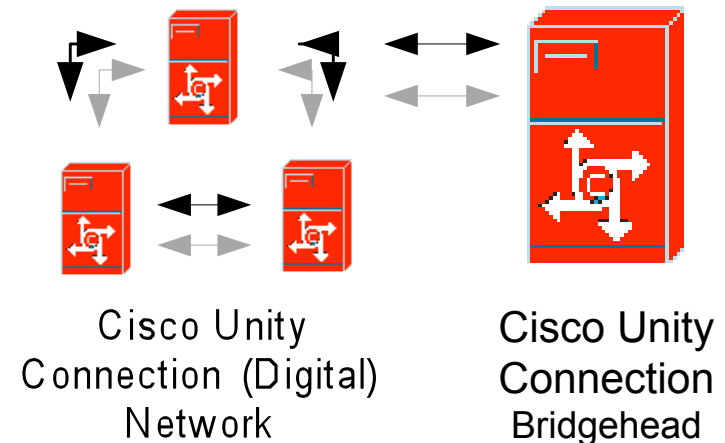


- Solution Components include:
 - One Unity Connection server designated as a “Bridgehead”
 - One Unity server designated as a “Bridgehead”
 - Interoperability Gateway for Microsoft Exchange (IGE) installed on Exchange Server
 - SMTP Infrastructure/transport for voice message (VM) send/receive
 - HTTPS (default) with XML payload for directory sharing/synchronization
 - Bandwidth/latency requirements TBD
- **One Unity Connection digital network can be joined to One Unity digital network**

Cisco Unity – Cisco Unity Connection Interoperability Components/Requirements

Unity Connection Digital Network

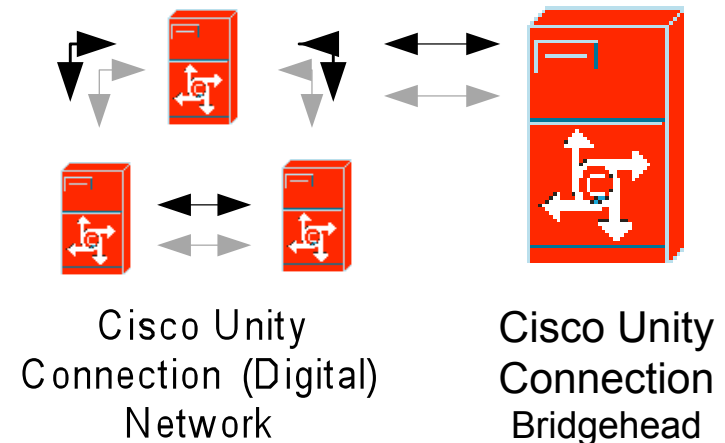
- **Bridgehead must be Unity Connection version 8.0**
- **Bridgehead can be Unity Connection 8.0 cluster or single server**
 - Only Publisher server in Unity Connection 8.0 cluster participates in directory synchronization
 - Subscriber server still provides for message delivery/receipt if Publisher server is down
- **Bridgehead scalability TBD**
- **Bridgehead NOT SUPPORTED with CUCM Business Edition**



Cisco Unity – Cisco Unity Connection Interoperability Components/Requirements

Unity Connection Digital Network

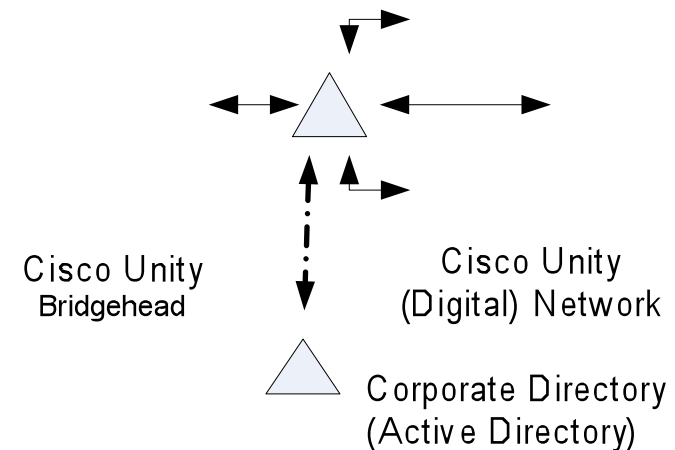
- All Unity Connection servers in digital network must be version 8.0
- Maximum nodes in a Unity Connection 8.0 digital network participating in Unity Interoperability is 10
- Maximum number of entities (local users, remote users, system contacts, VPIM contacts) in a Unity Connection 8.0 digital network is 100K
- Per Unity Connection 8.0 digital network: 100K System Distribution Lists (SDL) supported. Max members per SDL is 25K. Total # of SDL members is 1.5 million.



Cisco Unity – Cisco Unity Connection Interoperability Components/Requirements

Unity Digital Network

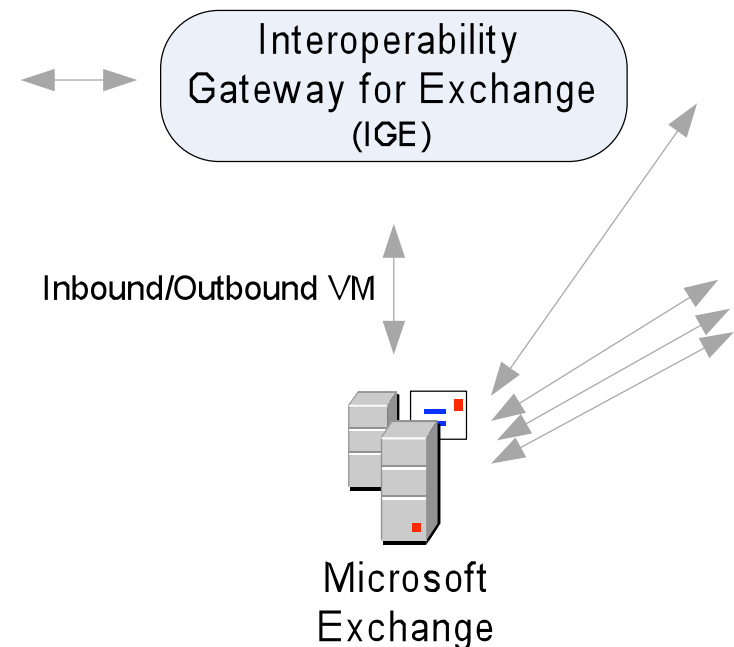
- **Bridgehead must be Unity version 8.0**
- **Bridgehead can be Unity 8.0 failover pair**
 - Only Primary server in Unity 8.0 failover pair participates in directory synchronization
 - Secondary server still provides for message delivery/receipt if Primary server is down
- **Bridgehead scalability TBD**
- **All Unity servers in digital network must be version 5.0 or later with required Engineering Specials**
- **No limit on the number of nodes in a Unity digital network**
- **Active Directory schema must be extended for UCI (Unity/Unity Connection Interoperability)**



Cisco Unity – Cisco Unity Connection Interoperability Components/Requirements

Interoperability Gateway/Microsoft Exchange

- **Interoperability Gateway must be installed on either:**
 - Exchange 2007 SP1 or later on 64-bit Windows, configured with the Hub Transport role, and with Microsoft .net Framework 2.0 SP2 or later installed
- or**
- Exchange 2003 on 32-bit Windows with Microsoft .net Framework 2.0 SP2 or later installed
- **IBM Lotus Domino is not supported**
- **Only 1 Interoperability Gateway may be installed per Exchange server**
- **The interoperability gateway can be installed on multiple Exchange servers for redundancy and/or load balancing (refer to documentation)**



Cisco Unity Cisco Unity Connection Interoperability



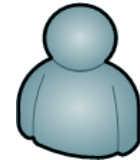
- **Capabilities**

Cisco Unity – Cisco Unity Connection Interoperability Capabilities

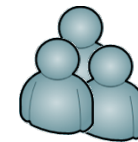
Directory Sharing/Synchronization

- Unity users will synchronize to Unity Connection global users
- Unity Connection users will synchronize to Unity contacts (UCI contacts)
- Distribution Lists (optional) will synchronize between Unity and Unity Connection
 - Distribution list members are not synchronized
 - Private lists are not synchronized
- Locations will synchronize between Unity and Unity Connection
- Internet subscribers (Unity), Bridge subscribers (Unity), AMIS subscribers (Unity), and VPIM subscribers/contacts (Unity/Unity Connection) are not synchronized.

CAUTION: If Bridgehead in Unity Connection digital network detects 100K user/contact or 100K distribution list limits, will go into “delete” mode. Will only process change and delete requests...



Users



Distribution Lists

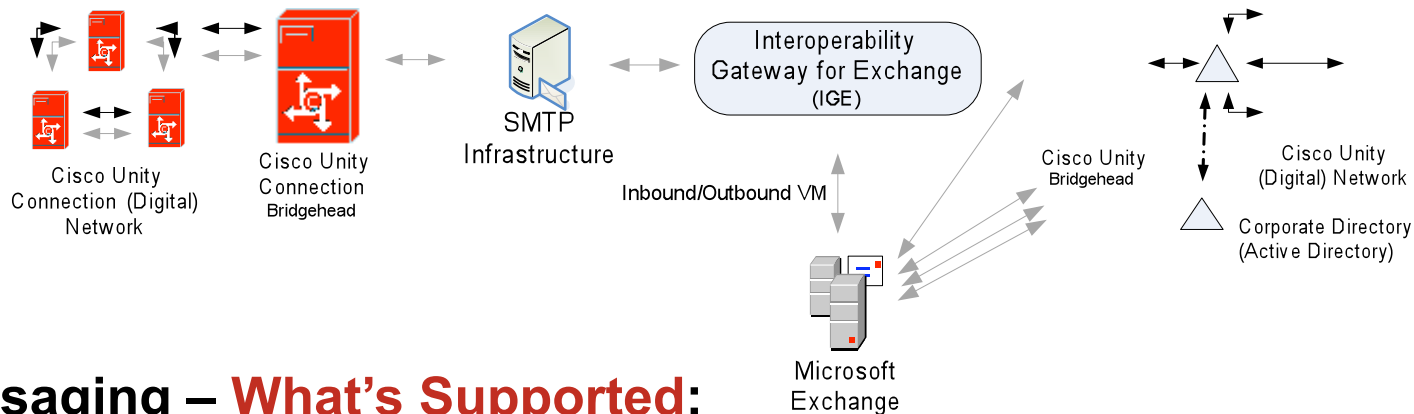


Locations



~~Contacts~~

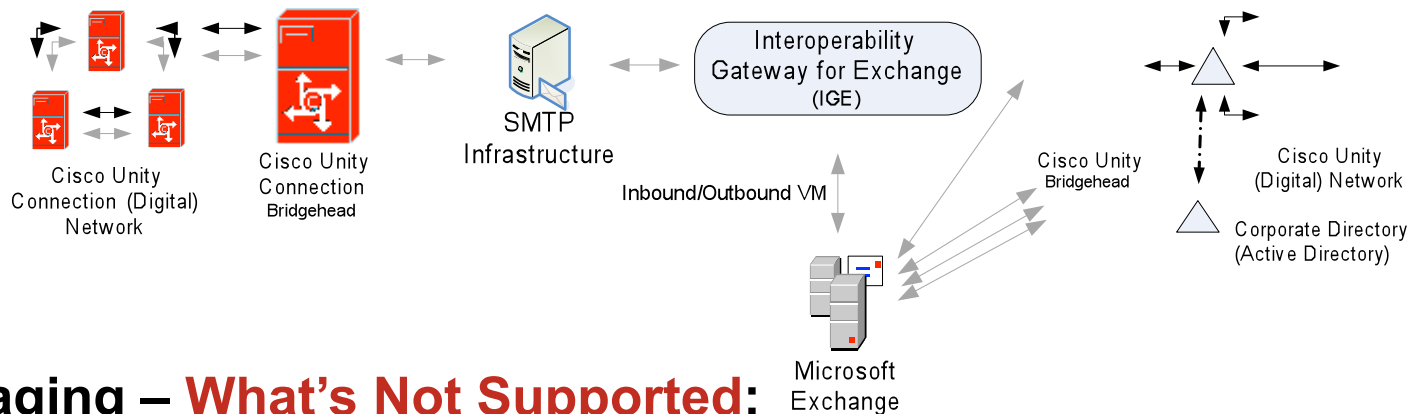
Cisco Unity – Cisco Unity Connection Interoperability Capabilities



Messaging – What's Supported:

- Addressing to and delivery of messages to users and system distribution lists (Unity <-> Unity Connection)
- Transcoding messages and voice names to and from all supported Unity formats to a Unity Connection supported format
- Status of secure messages (optional), private messages (optional) and priority will be preserved when routed between sites.
- Receipts routed between sites (e.g. read receipts, non-delivery receipts)
- Clients supported:
 - TUI/UI
 - Web clients (CPCA/Unity Inbox)
 - Midlets/Visual Voicemail
 - VMO/IMAP

Cisco Unity – Cisco Unity Connection Interoperability Capabilities



Messaging – **What's Not Supported:**

- Addressing (including blind addressing) and delivery of messages to Internet, Bridge, AMIS, and VPIM subscribers on the Unity network
- Addressing (including blind addressing) and delivery of messages to VPIM contacts on the Unity Connection network
- Addressing to and delivery of messages to the following recipients in system distribution lists on either Unity or Unity Connection network:
 - VPIM subscribers/contacts
 - System contacts/Internet subscribers
 - Blind addresses

Cisco Unity – Cisco Unity Connection Interoperability Capabilities

Administration – Setup

The screenshot displays the Cisco Unity Connection Administration web interface. The left sidebar shows a navigation tree with 'Intersite Links' selected under 'Networking'. The main content area is titled 'New Intersite Link' and contains several sections: 'Configuration Exchange' (highlighted with a red box), 'Transfer Protocol', 'Synchronization Settings', 'Synchronization Tasks', and 'Intersite SMTP Routing'. The 'Configuration Exchange' section has two radio buttons: the first is selected and labeled 'Link to Cisco Unity Site or Cisco Unity Connection Site by Manually Exchanging Configuration Files', and the second is labeled 'Link to Cisco Unity Connection Site by Using Automatic Configuration Exchange Between Servers'. Below the first option are fields for 'Local Site Configuration File' with a 'Download' button, and 'Remote Site Configuration File*' with a 'Browse...' button. The 'Transfer Protocol' section has a checked checkbox for 'Use Secure Sockets Layer (SSL)' and sub-options for 'Accept self-signed certificates' (checked) and 'Ignore certificate errors' (unchecked). 'Synchronization Settings' includes a checked checkbox for 'Include distribution lists when synchronizing directory data' and an unchecked checkbox for 'Convert outgoing recorded names to' with a dropdown menu. 'Synchronization Tasks' has two checked checkboxes: 'Enable task to synchronize directory data after the join' and 'Enable task to synchronize recorded names after the join'. 'Intersite SMTP Routing' has three radio buttons, with the first selected: 'Route to this Remote Site Through', 'Route to this Remote Site Through SMTP Smart Host (if one is defined)', and 'Route to this Remote Site Through the Remote Site Gateway'. A 'Link' button is located at the bottom of the configuration area. The status bar at the bottom of the browser window shows 'qa-ks-28.cisco.com:8443'.

- Joining Unity and Unity Connection digital networks is done via manual exchange of configuration files
- On Unity side, configuration file is downloaded via UCINetConfig.exe tool
- Join process will warn if Unity Connection 100K user/contact or 100K distribution list limits will be exceeded upon join

***Disclaimer – Interface may change prior to release**

Cisco Unity – Cisco Unity Connection Interoperability - Capabilities

Administration – Synchronization

The screenshot shows the Cisco Unity Connection Administration interface. The main content area is titled "Search Intersite Links" and contains a table of intersite links. The table has the following structure:

<input type="checkbox"/>	Display Name ^	Directory Limit Exceeded	Directory Synchronization	Recorded Name Synchronization
<input type="checkbox"/>	BETTYUC11	No	<input type="button" value="Start"/>	<input type="button" value="Start"/>

Below the table, there are three buttons: "Add", "Remove Selected", and "Resync Selected". The "Add" button is highlighted with a red box. The "Remove Selected" and "Resync Selected" buttons are also highlighted with a red box.

- After join, intersite link or remote bridgehead is listed...
 - Directory limit is not exceeded in this case..
 - Directory and/or recorded name incremental synchronization can be manually started or scheduled (next slide)
 - Full resynchronization can be started here with “Resync Selected”
 - Intersite link can be marked for removal here with “Remove Selected”
 - Note: Add button will allow you to go to the “New Intersite Link” page, but attempting to add more than 1 intersite link will fail

***Disclaimer – Interface may change prior to release**

Cisco Unity – Cisco Unity Connection Interoperability - Capabilities

Administration – Directory/Voice Name Synchronization Schedules

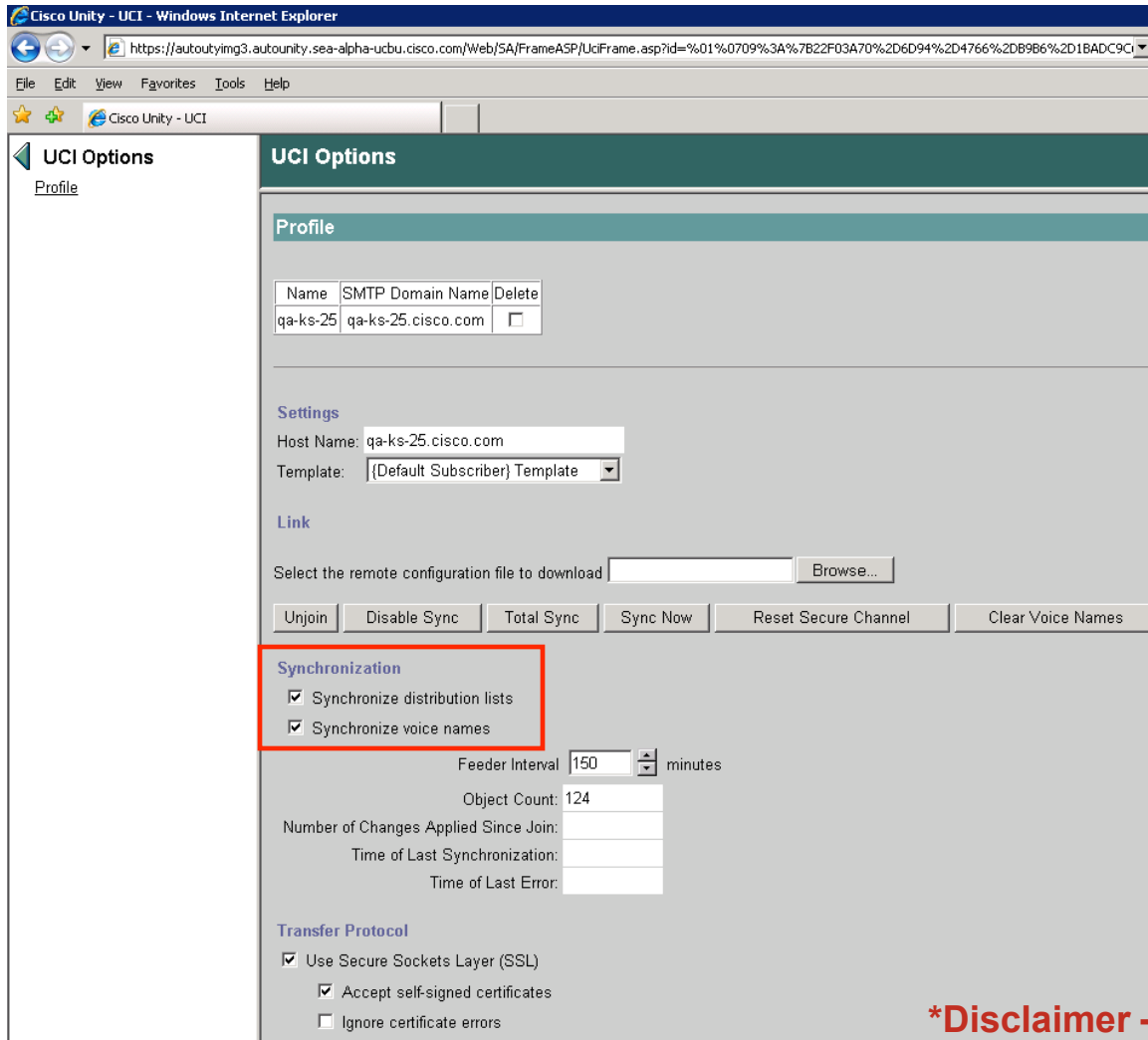
The screenshot displays the Cisco Unity Connection Administration web interface. The left sidebar shows a navigation tree with categories like Users, Class of Service, Templates, Contacts, Distribution Lists, Call Management, and Message Storage. The main content area is titled 'Task Schedule (Directory Synchronization with BETTYUC11)'. It includes a 'Task Definition' section with 'Save' and 'Set to Defaults' buttons. Below that is the 'Task Schedule' section with a text field for 'Task Name' containing 'Synchronize Directory With Remote Network'. The 'Schedule Detail' section contains the text 'This task schedule runs on the primary server only.' and several options: 'Enabled' (checked), 'Run on System Startup After' (minutes), 'Run Task Every' (15 minutes), 'Run Task At' (01:00 AM), 'Every' (Day), and 'Every' (Last Day) Of Every Month. There are also 'Save' and 'Set to Defaults' buttons at the bottom of the configuration area.

- Directory (shown here) and voice name synchronization will have separate schedule details for incremental synchronizations
- Directory and/or voice names can be synchronized immediately after join, scheduled for a later time, or initiated on demand.
- Recommend after-hours for initial synchronization

***Disclaimer – Interface may change prior to release**

Cisco Unity – Cisco Unity Connection Interoperability - Capabilities

Administration – Distribution Lists/Voice Name Options



The screenshot displays the Cisco Unity UCI Options page. The 'Synchronization' section is highlighted with a red box, showing the following options:

- Synchronize distribution lists
- Synchronize voice names

Other visible options include:

- Feeder Interval: 150 minutes
- Object Count: 124
- Number of Changes Applied Since Join: [empty]
- Time of Last Synchronization: [empty]
- Time of Last Error: [empty]
- Transfer Protocol: Use Secure Sockets Layer (SSL), Accept self-signed certificates, Ignore certificate errors

- UCI Options page in Cisco Unity. UCI stands for “Unity/Connection Interoperability”
- Distribution lists and/or voice name synchronization will be optional in both Unity and Unity Connection

***Disclaimer – Interface may change prior to release**

Cisco Unity – Cisco Unity Connection Interoperability - Capabilities

Administration – Individual Distribution List Options

The screenshot displays the Cisco Unity Connection Administration interface. The left-hand navigation pane shows a tree structure with categories like Users, Class of Service, Templates, Contacts, Distribution Lists, Call Management, and Message Storage. The 'Distribution Lists' category is expanded, showing 'System Distribution Lists'. The main content area is titled 'Edit Distribution List Basics (allvoicemailusers)'. It features a status bar with an information icon and the text 'This distribution list contains 104 members'. Below this are 'Save', 'Delete', 'Previous', and 'Next' buttons. The 'Edit Distribution List' section contains several fields: 'Alias*' (allvoicemailusers), 'Display Name*' (All Voice Mail Users), 'Extension' (99991), 'Partition' (qa-ks-28 Partition), and 'Recorded Name' (Play/Record). A checkbox labeled 'Allow Contacts' is highlighted with a red box. Below it is another checkbox 'Accept messages from Foreign System'. At the bottom, there are 'Save', 'Delete', 'Previous', and 'Next' buttons, and a note: 'Fields marked with an asterisk (*) are required.'

- Synchronizing all distribution lists is optional in both Unity and Unity Connection
- Synchronizing individual distribution lists is also optional in both Unity and Unity Connection
- By checking “Allow Contacts” on the “Edit Distribution List Basics” page in Unity Connection, prohibits list from being synchronized
- Individual distribution lists can be removed from synchronization in Unity via the Public Distribution List Builder tool

***Disclaimer – Interface may change prior to release**

Cisco Unity – Cisco Unity Connection Interoperability - Capabilities

Administration – Distribution Lists

The screenshot shows the Cisco Unity Connection Administration interface. The left sidebar contains a navigation tree with categories like Users, Class of Service, Templates, Contacts, Distribution Lists, Call Management, and Message Storage. The main content area is titled 'Distribution List Members' and includes a search bar, a status message 'Found 4 Distribution List Member(s)', and search filters. Below the search filters is a table of search results.

<input type="checkbox"/>	Display Name ▲	Alias	Member Type
<input type="checkbox"/>	Albus Crumbledore	acrumbledore	Cisco Unity User
<input type="checkbox"/>	Larry Potter	lpotter	Local User
<input type="checkbox"/>	Stella Swan	sswan	Remote User
<input type="checkbox"/>	Temple, Celeste	ctemple	Cisco Unity User

- Both Cisco Unity and Cisco Unity Connection support distribution lists that contain Unity and Unity Connection users and/or distribution lists as members
- Again, distribution list membership is not synchronized. Only distribution lists are synchronized
- Each server “owns” its distribution lists and is responsible for message delivery to its recipients

***Disclaimer – Interface may change prior to release**

Cisco Unity – Cisco Unity Connection Interoperability - Capabilities

Administration – Voice Name/Message Codec Conversion

UCI Options

Select the remote configuration file to download

Synchronization

Synchronize distribution lists

Synchronize voice names

Feeder Interval: minutes

Object Count:

Number of Changes Applied Since Join:

Time of Last Synchronization:

Time of Last Error:

Transfer Protocol

Use Secure Sockets Layer (SSL)

Accept self-signed certificates

Ignore certificate errors

Audio format conversion:

Voice Names:

Messages:

Cisco Unity will send messages in the selected format.
Make sure that the recipient supports the selected format.

Secure Messaging

Outgoing messages to this location:

Do not decrypt messages (Voice Connector will NDR all encrypted messages)

Decrypt non-private messages (Voice Connector will NDR private encrypted messages)

Decrypt all messages

- Both Cisco Unity and Cisco Unity Connection will have the ability to convert outgoing voice names and messages to the following codecs:
 - G.711 mu-law
 - G.711 a-law (Unity does not support a-law voice names/messages)
 - G.729a
 - G.726
 - PCM Linear
 - GSM 6.10
- Note that PCM Linear is not listed in the UCI Options page here in Cisco Unity, but will be available at release
- Both Cisco Unity and Cisco Unity Connection will have the ability to “Clear Voice Names” for remote users (e.g. in case the wrong codec was used during directory synchronization)

***Disclaimer – Interface may change prior to release**

Cisco Unity – Cisco Unity Connection Interoperability - Capabilities

Administration – Secure/Private Messages Options

Unity Connection – Edit Intersite Link page

Message Settings

- Enable Outgoing Secure Messages
- Enable Outgoing Private Messages
- Mark All Incoming Messages Secure
- Convert outgoing messages to

Unity – UCI Options page

Secure Messaging

Outgoing messages to this location:

- Do not decrypt messages (Voice Connector will NDR all encrypted messages)
- Decrypt non-private messages (Voice Connector will NDR private encrypted messages)
- Decrypt all messages

Incoming messages from this location:

- Do not encrypt messages
- Encrypt only private messages
- Encrypt all messages
- Respect message X-header

- Both Cisco Unity and Cisco Unity Connection allow for preservation of message type (e.g. private, secure) during message exchange
- However, secure and private secure messages can be prohibited from being sent out of Cisco Unity and/or Cisco Unity Connection
- Option to secure all incoming messages regardless of whether or not messages are secure or non-secure

***Disclaimer – Interface may change prior to release**

Cisco Unity – Cisco Unity Connection Interoperability - Capabilities

Administration - Unity Connection Locations

Cisco Unity Connection Administration
For Cisco Unified Communications Solutions

Cisco Unity Connection

- Users
 - Users
 - Import Users
 - Synch Users
- Class of Service
 - Class of Service
 - Class of Service Membership
- Templates
 - User Templates
 - Call Handler Templates
 - Contact Templates
- Contacts
 - Contacts
- Distribution Lists
 - System Distribution Lists
- Call Management
 - System Call Handlers
 - Directory Handlers
 - Interview Handlers
 - Call Routing
- Message Storage
 - Mailbox Stores
 - Mailbox Stores Membership
 - Message Aging Policy
 - Mailbox Quotas
- Networking
 - Links
 - Locations

Edit Location

Location Refresh Help

Save Previous Next

Edit Location

Display Name* qa-ks-28

Host Address 10.93.224.95

SMTP Domain Name qa-ks-28.cisco.com

Connection Version 8.0.0.213

Local Partition That Cisco Unity Users Can Address To By Extension

Partition qa-ks-28 UCI

Save Previous Next

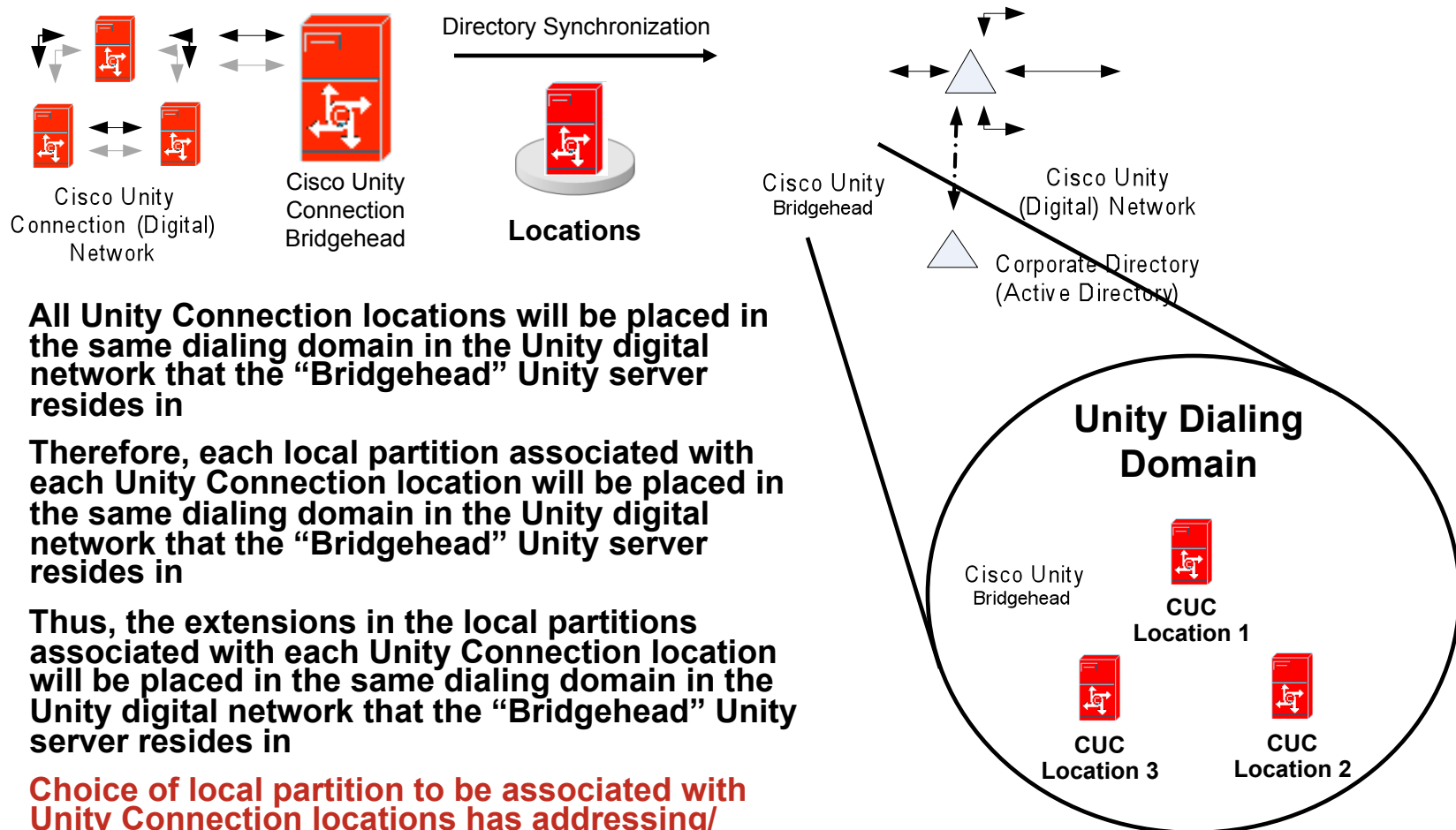
Fields marked with an asterisk (*) are required.

- Each Unity Connection location will need to be assigned a local partition that Unity users can address to by extension
- Only extensions in this selected local partition will be addressable from Unity users for this Unity Connection location
- When performing cross-server logons, transfers, or live replies from Unity to Unity Connection, only extensions in this selected local partition for this Unity Connection location will be available
- **Note: All Unity Connection locations will be placed in the same dialing domain in Unity that the “Bridgehead” Unity server resides in**

***Disclaimer – Interface may change prior to release**

Cisco Unity – Cisco Unity Connection Interoperability - Capabilities

Unity Connection Locations – Synchronization



- All Unity Connection locations will be placed in the same dialing domain in the Unity digital network that the “Bridgehead” Unity server resides in
- Therefore, each local partition associated with each Unity Connection location will be placed in the same dialing domain in the Unity digital network that the “Bridgehead” Unity server resides in
- Thus, the extensions in the local partitions associated with each Unity Connection location will be placed in the same dialing domain in the Unity digital network that the “Bridgehead” Unity server resides in
- **Choice of local partition to be associated with Unity Connection locations has addressing/ dialing consequences in Unity!**

Cisco Unity – Cisco Unity Connection Interoperability - Capabilities

Administration - Unity Locations, Partitions, Search Spaces

The screenshot displays the Cisco Unity Connection Administration web interface. The left-hand navigation pane is expanded to show the 'Partitions' option under the 'Dial Plan' category. The main content area is titled 'Search Partitions' and includes a search bar, a 'Status' section indicating 'Found 11 Partition(s)', and a 'Search Limits' section. Below this is a table of partitions with checkboxes for selection. The 'BETTYUCI1 Partition' is highlighted with a red rectangular box. At the bottom of the table are 'Delete Selected' and 'Add New' buttons.

Partition	Refresh	Help
<input type="checkbox"/>		
<input type="checkbox"/> 28- bulk users		
<input type="checkbox"/> 28-Test Users		
<input type="checkbox"/> 46-Bulk Users		
<input type="checkbox"/> 46-Test Users		
<input type="checkbox"/> AVINGER2 Partition		
<input type="checkbox"/> BETTYUCI1 Partition		
<input type="checkbox"/> qa-ks-28 Partition		
<input type="checkbox"/> qa-ks-28 UCI		
<input type="checkbox"/> qa-ks-46 Partition		
<input type="checkbox"/> qa-ks-46 UCI		
<input type="checkbox"/> qaks13 VPIM Contacts		

- For each Cisco Unity location that is synchronized into Cisco Unity Connection, a partition is automatically created representing that Cisco Unity location
- It's created with the name "{Unity Location} Partition"
- In this example, BETTYUCI1 Partition is the partition that was automatically created when the Unity BETTYUCI1 location was synchronized into Unity Connection's database

***Disclaimer – Interface may change prior to release**

Cisco Unity – Cisco Unity Connection Interoperability - Capabilities

Administration - Unity Locations, Partitions, Search Spaces

- The Unity location partition will need to be added to the appropriate search spaces in the Unity Connection digital network and ordered in each search space as needed
- **If this is not done, Unity Connection users will not be able to dial or address messages to Unity subscribers**
- **DO NOT forget this step as it has addressable/dialable consequences in Unity Connection!**

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Cisco Unity – Cisco Unity Connection Interoperability - Capabilities

Administration – Users, Locations, Distribution Lists

The screenshot displays the Cisco Unity Connection Administration console. The left sidebar shows a navigation tree with categories like Users, Class of Service, Templates, Contacts, Distribution Lists, Call Management, and Message Storage. The main content area is titled 'Search Users' and shows a search for 425 users. Below the search results, a table lists the first 25 users. The table has columns for Alias, Extension, First Name, Last Name, and Display Name. The results include users with green person icons (Unity users) and blue person icons (Unity Connection users).

	Alias	Extension	First Name	Last Name	Display Name
<input type="checkbox"/>	acrumbledore	1001	Albus	Crumbledore	Albus Crumbledore
<input type="checkbox"/>	asvenson	2003	Abelard	Svenson	Svenson, Abelard
<input type="checkbox"/>	cchang	2002	Cardinal	Chang	Chang, Cardinal
<input type="checkbox"/>	ccmadministrator				ccmadministrator
<input type="checkbox"/>	ctemple	2001	Celeste	Temple	Temple, Celeste
<input type="checkbox"/>	dweasley	2802	Don	Weasley	Don Weasley

- Both Cisco Unity (Green person icon) and Cisco Unity Connection (Blue person icon) users are visible in the Cisco Unity Connection administration console, in this example. Unity will also display both Unity and Unity Connection subscribers
- Locations and public/system distribution lists from both Cisco Unity and Cisco Unity Connection will be visible in both Cisco Unity and Cisco Unity Connection's administration consoles
- Links are provided to remote users, locations, distribution lists for immediate administration

***Disclaimer – Interface may change prior to release**

Cisco Unity – Cisco Unity Connection Interoperability - Capabilities

Administration – Users, Locations, Distribution Lists

The screenshot displays the Cisco Unity Connection Administration web interface. The left sidebar shows a navigation tree with categories like Users, Class of Service, Templates, Contacts, Distribution Lists, Call Management, and Message Storage. The main content area is titled 'Edit User Basics (acrumbledore)' and contains a form with the following fields:

- Status:** A message box indicating the user is a remote user and can be edited from location [BETTYUCI1](#).
- Name:** Fields for Alias* (acrumbledore), First Name (Albus), Last Name (Crumbledore), and Display Name (Albus Crumbledore).
- Phone:** Fields for Extension* (1001), Cross-Server Transfer Extension (1001), and Partition (BETTYUCI1 Partition).
- Recorded Name:** A button labeled 'Play/Record'.

Navigation buttons for 'Previous' and 'Next' are present at the top and bottom of the form. A note at the bottom states: 'Fields marked with an asterisk (*) are required.'

Example: User

- On “Edit User Basics” page, remote Unity user is grayed out, but a link is provided to the user’s home Unity server
- Clicking on link will take administrator to user’s home Unity server and prompt for login credentials
- After logging in, administrator will land on user/subscriber’s profile page in Unity

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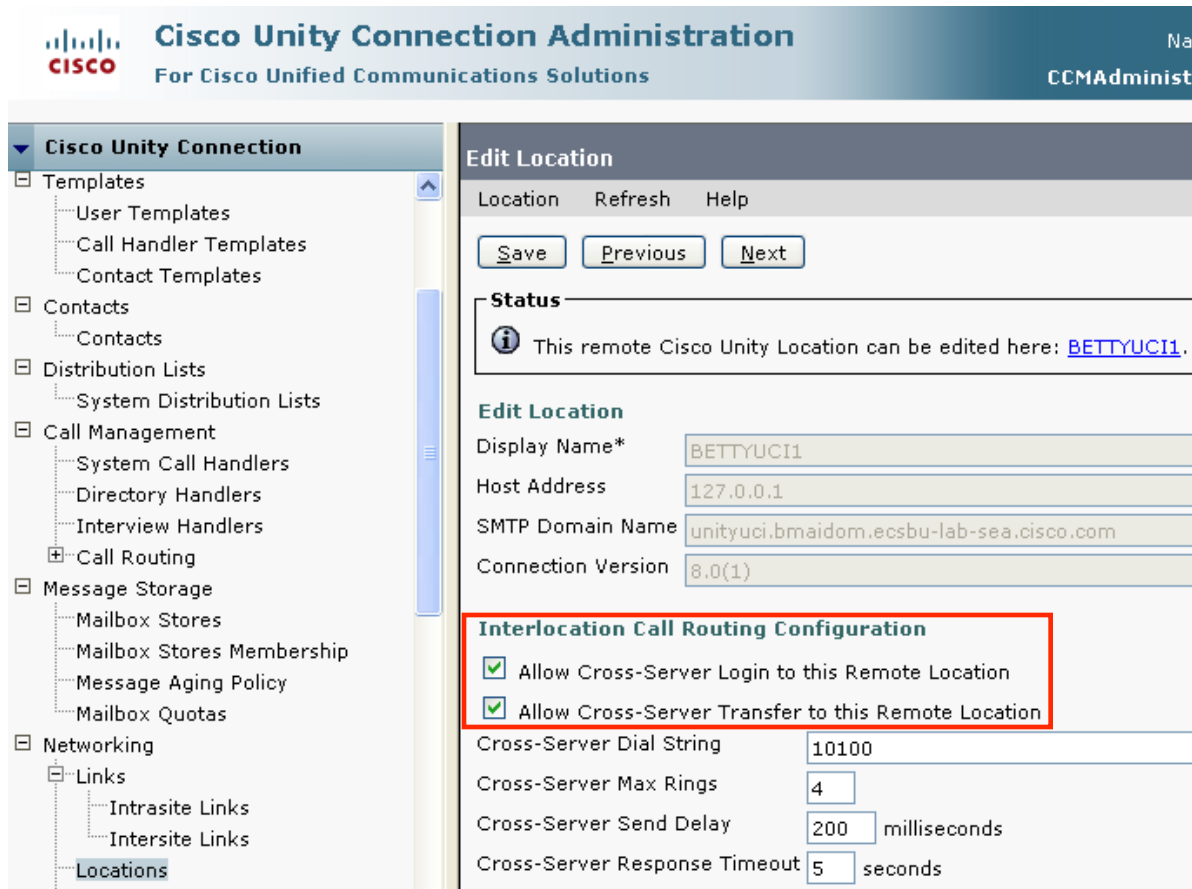
Cisco Unity – Cisco Unity Connection Interoperability - Capabilities

Cross-server Features

- Cross-server login, transfer, and live reply will be supported between Cisco Unity and Cisco Unity Connection
- Cross-server login and/or transfer can be enabled/disabled per Cisco Unity location in Cisco Unity Connection. Cross-server live reply is turned on/off by turning on cross-server transfer
- Cross-server login, transfer, and live reply are turned on/off by entering or not entering extension for each Unity Connection location in Cisco Unity's dialing domain page
- Each Cisco Unity Connection location in Cisco Unity is associated with a default partition from that Cisco Unity Connection location. Only extensions in this default partition will be reachable when Cisco Unity performs a cross-server login, transfer, or live reply to that Cisco Unity Connection location
- Each Cisco Unity location in Cisco Unity Connection is assigned a default partition. Every time a Cisco Unity location is added to Cisco Unity Connection, administrator must add the new Cisco Unity location's default partition to the appropriate search spaces to be able to dial and address messages to users at that Cisco Unity location

Cisco Unity – Cisco Unity Connection Interoperability - Capabilities

Administration – Cross-server login, transfer, live reply



Cisco Unity Connection Administration
For Cisco Unified Communications Solutions

Navigation: Home, Search, Help, CCMAdminstr

Left Navigation Tree:

- ▼ Cisco Unity Connection
 - Templates
 - User Templates
 - Call Handler Templates
 - Contact Templates
 - Contacts
 - Contacts
 - Distribution Lists
 - System Distribution Lists
 - Call Management
 - System Call Handlers
 - Directory Handlers
 - Interview Handlers
 - Call Routing
 - Message Storage
 - Mailbox Stores
 - Mailbox Stores Membership
 - Message Aging Policy
 - Mailbox Quotas
 - Networking
 - Links
 - Intrasite Links
 - Intersite Links
 - Locations

Edit Location

Location Refresh Help

Save Previous Next

Status

This remote Cisco Unity Location can be edited here: [BETTYUCI1](#).

Edit Location

Display Name* BETTYUCI1

Host Address 127.0.0.1

SMTP Domain Name unityuci.bmaidom.ecsbu-lab-sea.cisco.com

Connection Version 8.0(1)

Interlocation Call Routing Configuration

- Allow Cross-Server Login to this Remote Location
- Allow Cross-Server Transfer to this Remote Location

Cross-Server Dial String 10100

Cross-Server Max Rings 4

Cross-Server Send Delay 200 milliseconds

Cross-Server Response Timeout 5 seconds

- Cross-server login and/or transfer can be enabled/disabled per Cisco Unity location in Cisco Unity Connection. Cross-server live reply is turned on/off by turning on cross-server transfer
- Enter cross-server dial string to access each Unity location

***Disclaimer – Interface may change prior to release**

Cisco Unity – Cisco Unity Connection Interoperability - Capabilities

Administration – Cross-server login, transfer, live reply

◀ Dialing Domain Profile

Dialing Domain Options*

(Cross-server logon uses server and dial string information entered in Pilot Numbers section to transfer calls.)

Transfer Options for Calls Transferred from Auto Attendant and Directory Handlers to Cisco Unity Subscriber
Cisco Unity Servers

Release calls to the phone system

Cross-server transfer: Pass control to the called subscriber's Cisco Unity server
(Cross-server transfer uses server and dial string information entered in Pilot Numbers section to transfer calls.)

Live Reply

Subscribers with class of service rights can reply to messages from subscribers homed on other Cisco Unity calling them

Release calls to the phone system

Cross-server live reply: Pass control to the called subscriber's Cisco Unity server
(Cross-server live reply uses server and dial string information entered in Pilot Numbers section to transfer calls.)

Prompt Option for Cross-Server Logon, Transfer, and Live Reply

Play prompt during cross-server logon, transfer, and live reply so that callers know something is happening

Pilot Numbers for Cross-Server Logon, Transfer, and Live Reply

Server Name	Dial String	Number of Rings	Timeout (ms)
Connection Cluster B	<input type="text"/>	4 <input type="button" value="▲"/> <input type="button" value="▼"/>	5000 <input type="button" value="▲"/> <input type="button" value="▼"/>
AUTOUTYIMG1	<input type="text"/>	2 <input type="button" value="▲"/> <input type="button" value="▼"/>	5000 <input type="button" value="▲"/> <input type="button" value="▼"/>
Connection Cluster A	<input type="text"/>	2 <input type="button" value="▲"/> <input type="button" value="▼"/>	5000 <input type="button" value="▲"/> <input type="button" value="▼"/>

- Cross-server login, transfer, and live reply are turned on/off by entering or not entering an extension for each Unity Connection location in Cisco Unity's dialing domain page

[Search Documentation](#)

***Disclaimer – Interface may change prior to release**

Cisco Unity Cisco Unity Connection Interoperability



- **Migrating Users and Objects from Cisco Unity to Cisco Unity Connection**

Cisco Unity – Cisco Unity Connection Migrating Users and Objects

- The **COBRAS (Cisco Object Backup and Restore Application Suite) tool** is currently used to migrate users and objects from Cisco Unity 4.0(5) and later and Cisco Unity Connection 1.2 to Cisco Unity Connection 7.x
- In Cisco Unity Connection 8.0 and Cisco Unity 8.0, the COBRAS tool will offer two modes of migrating users off of Cisco Unity and into Cisco Unity Connection:
 - “Briefcase Mode”
 - “Hot Mode”
- **Briefcase mode:** COBRAS copies objects from a Cisco Unity or Cisco Unity Connection server and imports them into a Cisco Unity Connection 7.x or later server in “stand alone” mode
 - This implies no connectivity whatsoever between the server being backed up and the server being restored to.
 - This is a “copy” operation in which the server being backed up is not modified in any way
- **Hot mode:** COBRAS copies and “moves” objects from a Cisco Unity 5.x, 7.x, or 8.x server to a Cisco Unity Connection 8.x server where both servers can directly connect to one another
 - The operation is a copy operation with the exception of users which are “demoted” to contacts on the Unity server and “promoted” to users with mailboxes on the Connection server
 - This requires that the servers being copied to and from both be digitally networked first

Cisco Unity – Cisco Unity Connection Migrating Users and Objects

COBRAS: Briefcase Mode – Usage Scenarios

- Straight backup and restore
 - Cisco Unity's DiRT and Cisco Unity Connection's DRS (Disaster Recovery System) are also options
- Restore only select objects
 - More flexibility than DiRT or DRS. Settings, greetings, voice names, messages...
- **Restore onto a different version or product (migration)!**
 - **Cisco Unity to Cisco Unity Connection**
- **Merge multiple backups onto a single server**
 - **Merge two Cisco Unity backups onto a single Unity Connection server**
- Copy complete audio text applications onto many servers
 - Sets of call handlers comprising an audio text application can be copied

Cisco Unity – Cisco Unity Connection Migrating Users and Objects

COBRAS: Briefcase Mode – Version Support

Backed Up Version	Can Be Restored To:
Unity 4.0(5)	Unity 4.0(5), 4.1, 4.2, 5.0, 7.0, Unity Connection 7.x, 8.x
Unity 4.1	Unity 4.1, 4.2, 5.0, 7.0, Unity Connection 7.x, 8.x
Unity 4.2	Unity 4.2, 5.0, 7.0, Unity Connection 7.x, 8.x
Unity 5.0	Unity 5.0, 7.0, Unity Connection 7.x, 8.x
Unity 7.0	Unity 7.0, Unity Connection 7.x, 8.x
Unity Connection 1.2	Unity Connection 7.x, 8.x
Unity Connection 7.0	Unity Connection 7.x, 8.x
Unity Connection 7.1	Unity Connection 7.1, 8.x
Unity Connection 8.0	Unity Connection 8.0

***Cisco Unity Connection 2.x to Cisco Unity Connection 7.x, 8.x is NOT supported!
This is a straight upgrade.**

***Briefcase mode will support Unity servers connected to Exchange 5.5, 2000, 2003, 2007 and all IBM Lotus Domino versions.**

***Cisco Unified Communications Manager – Business Edition is NOT supported!**

Cisco Unity – Cisco Unity Connection Migrating Users and Objects

COBRAS: Briefcase Mode – Supported Data

- Subscribers
 - Full Subscribers
 - Does NOT Support Internet, VPIM, Bridge, or AMIS subscribers
 - (Optional) Includes greetings, voice names, and messages (non-secure)
- Call Handlers
 - (Optional) Includes greetings and voice names
- Interview Handlers
- Distribution Lists
 - (Optional) Including membership
- Schedules

***For details, see:**

<http://www.ciscounitytools.com/Applications/General/COBRAS/Help/COBRAS.htm>

Cisco Unity – Cisco Unity Connection Migrating Users and Objects

COBRAS: Briefcase Mode – Data NOT Supported

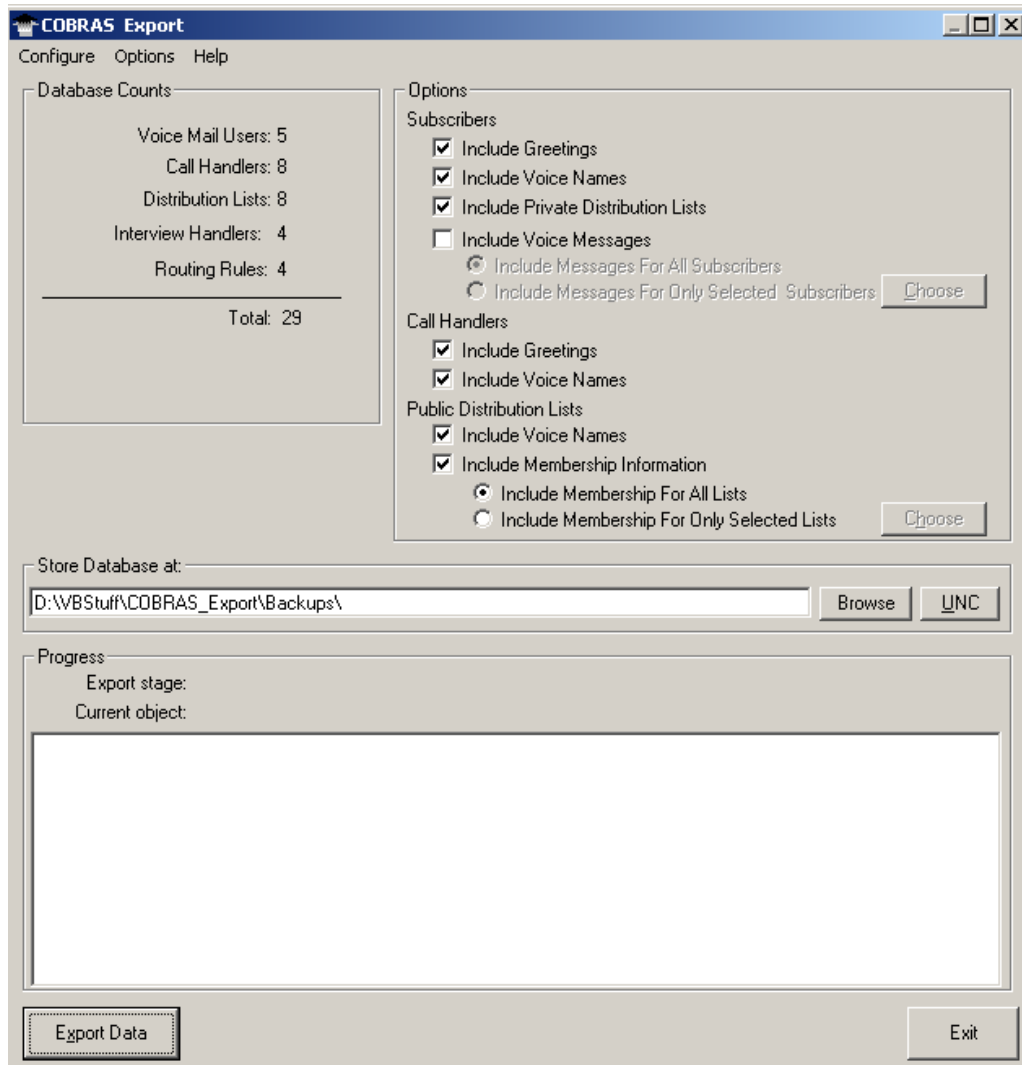
- Class of Service
- Restriction tables
- Name Lookup Handlers (a.k.a. Directory Handlers)
- Locations
- Contacts (includes SMTP/AMIS/Bridge/VPIM subscribers)
- Holidays
- System configuration data such as switch configuration, LDAP integration details, IMAP login data, RSA configuration, advanced settings etc..
- Subscriber templates
- Password policy information
- Secure (encrypted) messages. If you've selected to backup messages for subscribers on Unity, secure messages will not be included. If only part of the message is secure (such as a forwarded message with introduction) then that message part will not be playable when restored to another server.

***For details, see:**

<http://www.ciscounitytools.com/Applications/General/COBRAS/Help/COBRAS.htm>

Cisco Unity – Cisco Unity Connection Migrating Users and Objects

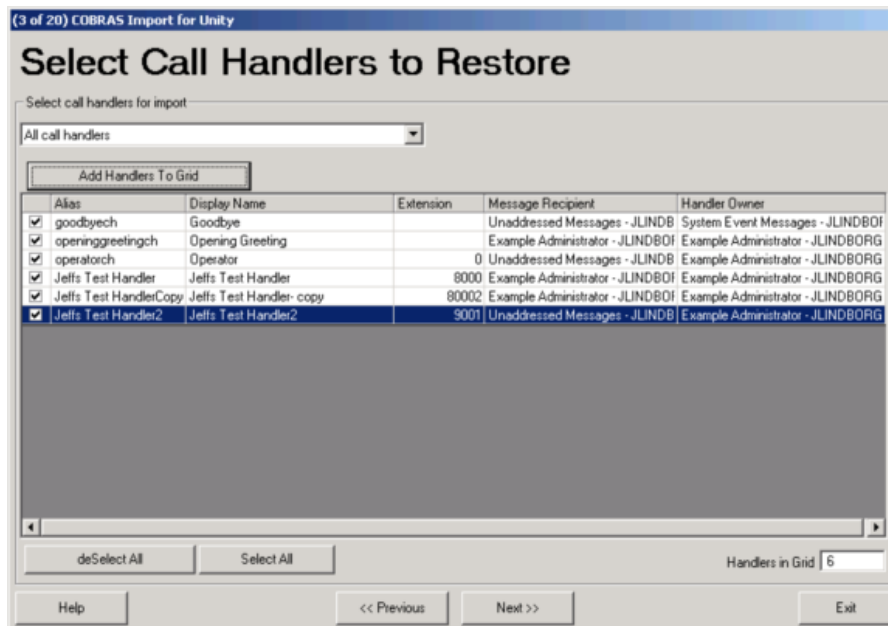
COBRAS: Briefcase Mode - Export Screenshot



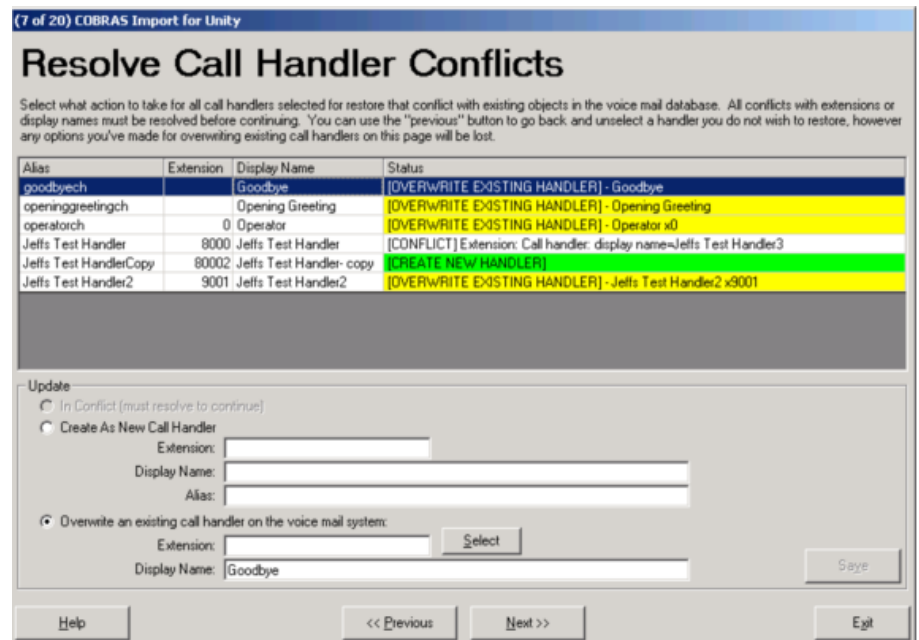
- Schedules not shown but backed up...
- Routing Rules (for restores onto Unity servers only)

Cisco Unity – Cisco Unity Connection Migrating Users and Objects

COBRAS: Briefcase Mode - Restore Screenshots



- Will require object selection, object conflict resolution and object reference resolution



Cisco Unity – Cisco Unity Connection Migrating Users and Objects

COBRAS: Hot Mode – Version Support

Copy/Moves From:	To:
Unity 5.0	Unity Connection 8.0
Unity 7.0	Unity Connection 8.0
Unity 8.0	Unity Connection 8.0

***Hot mode requires Cisco Unity and Cisco Unity Connection 8.0 systems to be digitally networked**

***Hot mode requires at least one Unity 8.0 server (Bridgehead server) in Unity digital network. Other servers in the Unity digital network can be version 5.0 or later**

***Hot mode requires all Unity Connections servers to version 8.0**

***Hot mode will support Unity servers connected to Exchange 2000, 2003, 2007. Hot mode DOES NOT support Unity servers connected to IBM Lotus Domino (any version).**

***Cisco Unified Communications Manager – Business Edition is NOT supported!**

Cisco Unity – Cisco Unity Connection Migrating Users and Objects

COBRAS: Hot Mode – Supported Data

- Subscribers (Move)
 - Full Subscribers
 - Does NOT Support Internet, VPIM, Bridge, or AMIS subscribers
 - (Optional) Includes greetings, voice names
- Call Handlers (Copy)
 - (Optional) Includes greetings and voice names
- Interview Handlers (Copy)
- Schedules (Copy)

***For details, see (when Cisco Unity Connection 8.0 releases):**

<http://www.ciscounitytools.com/Applications/General/COBRAS/Help/COBRAS.htm>

Cisco Unity – Cisco Unity Connection Migrating Users and Objects

COBRAS: Hot Mode – Moving Subscribers

- Digital networking between Unity and Unity Connection must be working!
- Must have permissions to connect to Unity Connection 8.0 server
- **Any subscribers selected for move will be changed to contacts on the Unity server and made full users with mailboxes on the Connection server**
- Each user will be moved one at a time and if at any point there is a failure either creating the full user on the Connection server or changing the subscriber to a contact on the Unity server the entire migration process will halt
- Distribution list membership on both Unity and Unity Connection will be updated accordingly for each subscriber moved

***For details, see (when Cisco Unity Connection 8.0 releases):**

<http://www.ciscounitytools.com/Applications/General/COBRAS/Help/COBRAS.htm>

Cisco Unity – Cisco Unity Connection Migrating Users and Objects

COBRAS: Hot Mode – Distribution Lists

- COBRAS Hot Mode will resolve references to distribution lists from Call Handler recipients...
- COBRAS Hot Mode will **NOT** “re home” distribution lists
- **“Re homing” of distribution lists will be done in an extension of the Public Distribution List Builder (PDL Builder) tool in Cisco Unity**
- A public distribution list is “owned” by the server responsible for delivering messages to its recipient list – public distribution list members are not replicated between Cisco Unity and Cisco Unity Connection
- An extension of the PDL Builder tool will “re home” distribution lists from Cisco Unity to Cisco Unity Connection and rebuild the membership data as much as possible
- This is a one way move only – no ability to “re home” public distribution lists from Cisco Unity Connection to Cisco Unity will be provided.

***For details, see (when Cisco Unity Connection 8.0 releases):**

<http://www.ciscounitytools.com/Applications/General/COBRAS/Help/COBRAS.htm>

Cisco Unity – Cisco Unity Connection Migrating Users and Objects

COBRAS: Hot Mode – Data NOT Supported

- **Subscriber Messages (both non-secure and secure)**
 - Unity users will be allowed to call into the Unity server to retrieve their messages and nothing else
- Class of Service
- Restriction tables
- Name Lookup Handlers (a.k.a. Directory Handlers)
- Locations (already synchronized via digital networking)
- Contacts (includes SMTP/AMIS/Bridge/VPIM subscribers)
- Holidays
- System configuration data such as switch configuration, LDAP integration details, IMAP login data, RSA configuration, advanced settings etc..
- Subscriber templates
- Password policy information

***For details, see (when Cisco Unity Connection 8.0 releases): :**

<http://www.ciscounitytools.com/Applications/General/COBRAS/Help/COBRAS.htm>

Cisco Unity Connection Cisco Unity Connection Interoperability

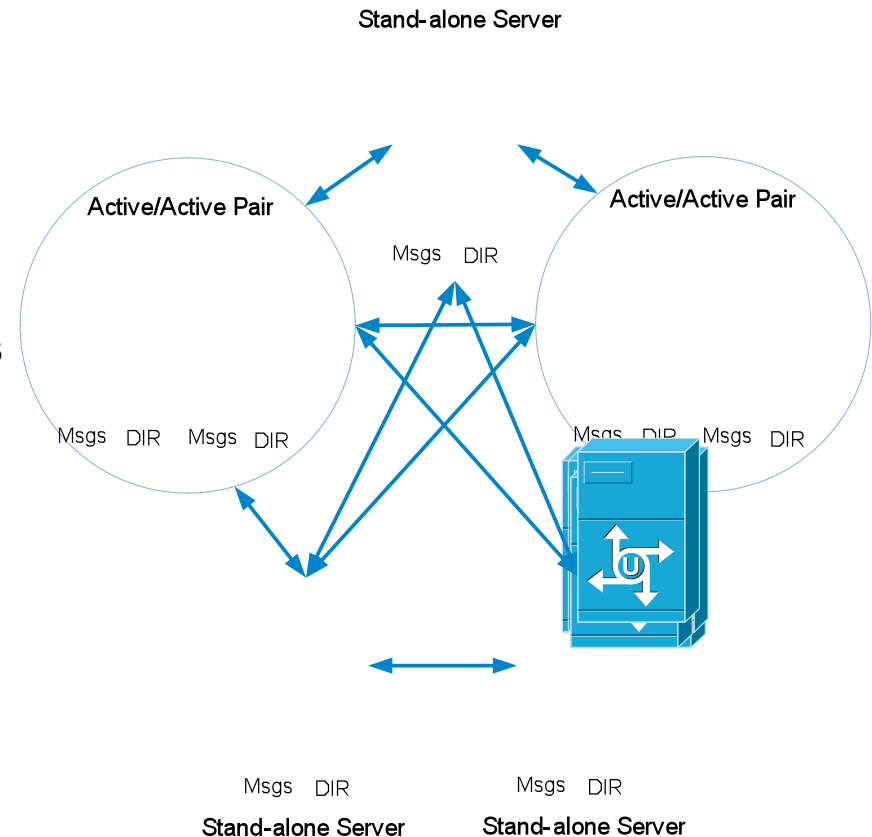


- **Overview of linking 2 Cisco Unity Connection 8.0 digital networks for up to 20 nodes**

Cisco Unity Connection 7.1 Digital Networking

Unity Connection Digital Networking Today...

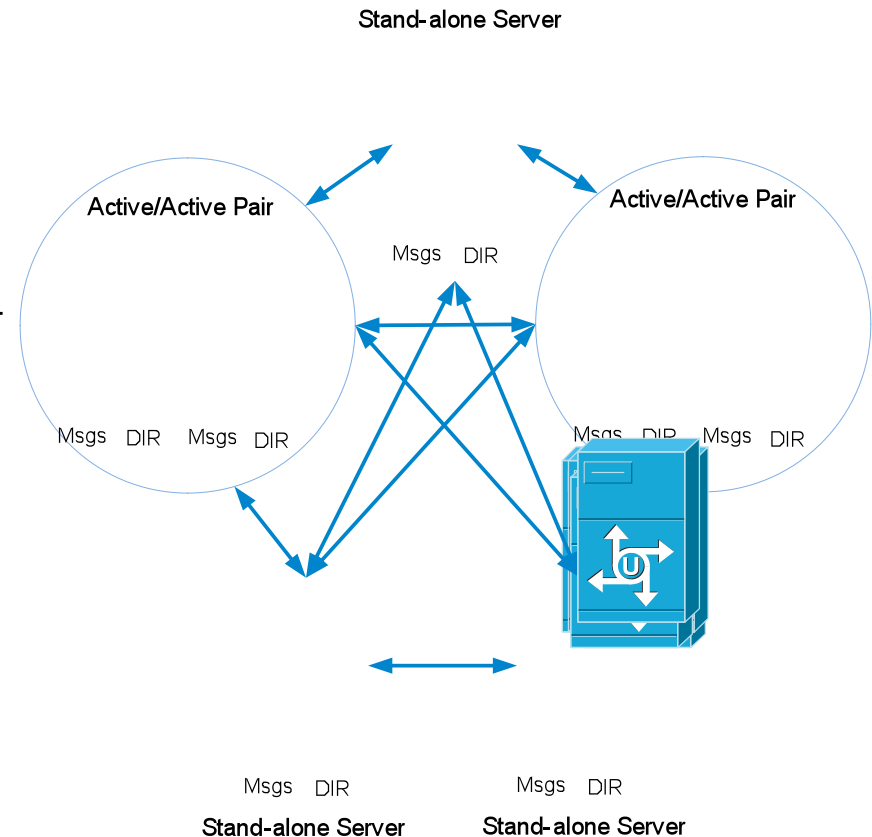
- Stand-alone and Active/Active pairs can be networked together to form a larger messaging deployment
- **Maximum of 10 Unity Connection Locations or Nodes in CUC 7.1.** Locations or Nodes are stand-alone servers or active/active pairs
- Locations can be placed across WAN from each other (must be SMTP routable)
- User must be homed on one Unity Connection Location. Can send/receive messages with users in the network
- Can also network with other 3rd party voicemail products, including Unity via VPIM
- **Maximum of 50,000 entities (CUC subscribers and/or VPIM contacts) in the CUC 7.1 digital network.** Maximum of 10 VPIM locations in a CUC 7.1 digital network
- Cross-server logon, transfer, and live reply supported
- Not supported with CUCMBE



Cisco Unity Connection 8.0 Digital Networking

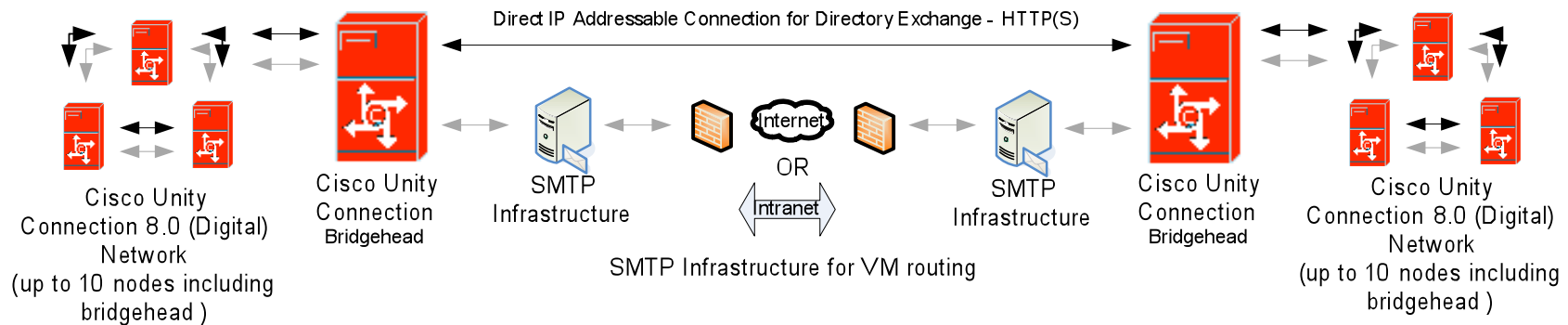
Unity Connection Digital Networking Coming...

- Stand-alone and Active/Active pairs can be networked together to form a larger messaging deployment
- **Maximum of 10 Unity Connection Locations or Nodes in CUC 8.0.** Locations or Nodes are stand-alone servers or active/active pairs
- Locations can be placed across WAN from each other (must be SMTP routable)
- User must be homed on one Unity Connection Location. Can send/receive messages with users in the network
- Can also network with other 3rd party voicemail products, including Unity via VPIM
- **Maximum of 100,000 entities (CUC subscribers and/or VPIM contacts) in the CUC 8.0 digital network.** Maximum of 10 VPIM locations in a CUC 8.0 digital network
- If digital network contains 7.x nodes in addition to 8.0 nodes, maximum of 50,000 entities applies
- Cross-server logon, transfer, and live reply supported
- Not supported with CUCMBE



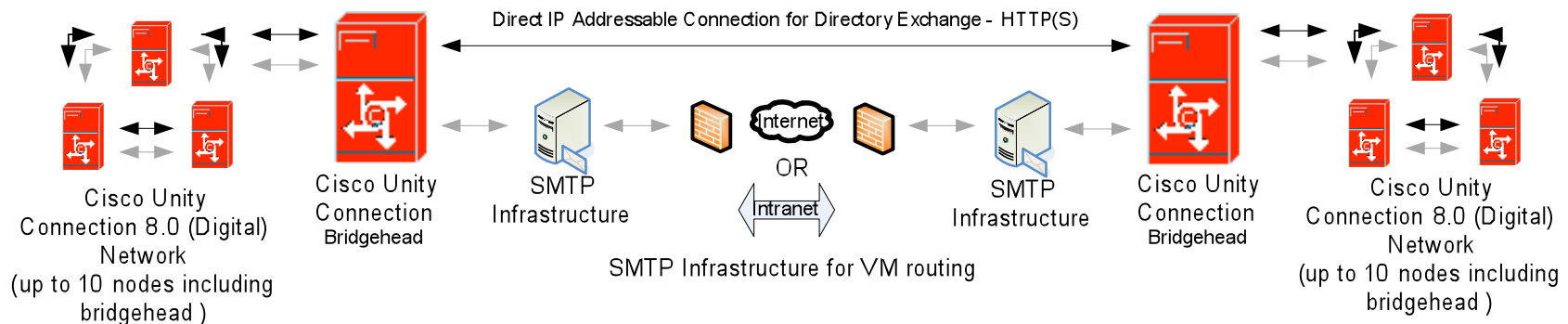
Cisco Unity Connection – Cisco Unity Connection Interoperability

What is Unity Connection – Unity Connection Interoperability?



- Linking together two Unity Connection 8.0 digital networks, creating a Voicemail Organization
- Requires all servers within the Voicemail Organization to be Unity Connection 8.0 and above
 - All MCS Servers must have at least 146 GB Hard Drives to Install Unity Connection 8.0
- **Maximum of 20 Network nodes**
- **100,000 User/Contact Global Directory**
 - Same as single Unity Connection 8.0 digital network

Cisco Unity Connection – Cisco Unity Connection Interoperability

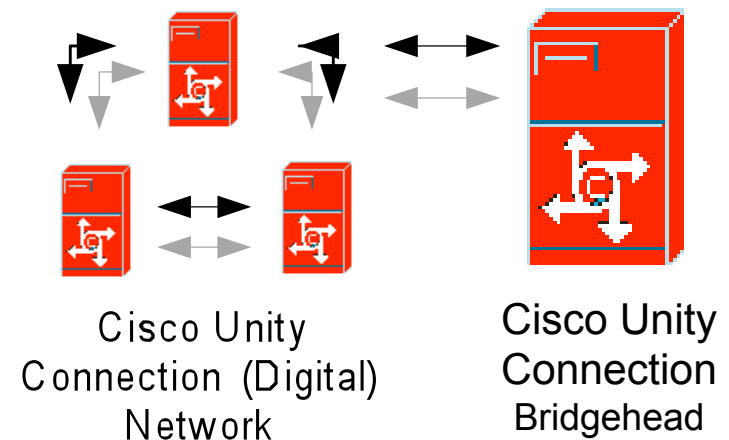


- **Not Compatible with Cisco Unity Interoperability!** Cannot link 2 Cisco Unity Connection 8.0 digital networks and then link these to a Cisco Unity digital network
- 1-to-1 model allows for 1 Cisco Unity Connection 8.0 digital network to be linked to 1 other Cisco Unity Connection 8.0 digital network. Cannot link a single Unity Connection digital network to 2 other Unity Connection digital networks, for example
- SMTP Infrastructure/transport for voice message (VM) send/receive
- HTTPS (default) with XML payload for directory sharing/synchronization
- Bandwidth/latency requirements TBD

Cisco Unity Connection – Cisco Unity Connection Interoperability

Each Unity Connection Digital Network

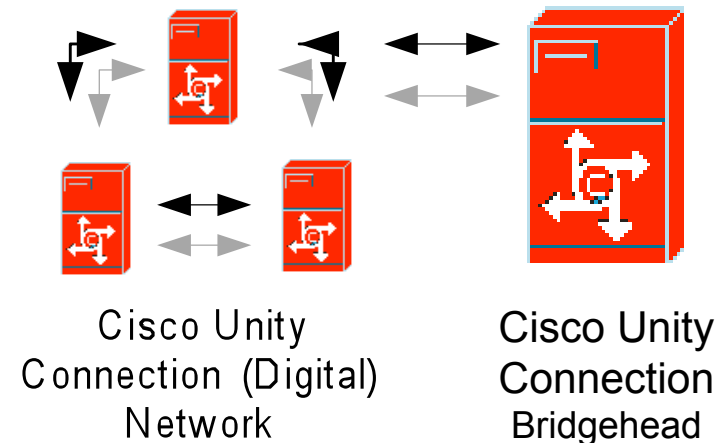
- **Bridgehead must be Unity Connection version 8.0**
- **Bridgehead can be Unity Connection 8.0 cluster or single server**
 - Only Publisher server in Unity Connection 8.0 cluster participates in directory synchronization
 - Subscriber server still provides for message delivery/receipt if Publisher server is down
- **Bridgehead scalability TBD**
- **Bridgehead NOT SUPPORTED with CUCM Business Edition**



Cisco Unity Connection – Cisco Unity Connection Interoperability

Each Unity Connection Digital Network

- All Unity Connection servers in digital network must be version 8.0
- Maximum nodes in a Unity Connection 8.0 digital network, including bridgehead, participating in Unity Connection Interoperability is 10
- Maximum number of entities (local users, remote users, system contacts, VPIM contacts) in a Unity Connection 8.0 digital network is 100K
- Per Unity Connection 8.0 digital network: 100K System Distribution Lists (SDL) supported. Max members per SDL is 25K. Total # of SDL members is 1.5 million.

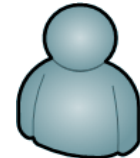


Cisco Unity Connection – Cisco Unity Connection Interoperability

Directory Sharing/Synchronization

- Users will be synchronized
- Distribution Lists (optional) will be synchronized
 - Distribution list members are not synchronized
 - Private lists are not synchronized
- Locations will be synchronized
- Partitions and search spaces will be synchronized
- VPIM, system, and personal contacts are not synchronized

CAUTION: If Bridgehead in Unity Connection digital network detects 100K user/contact or 100K distribution list limits, will go into “delete” mode. Will only accept delete requests...



Users



Distribution Lists

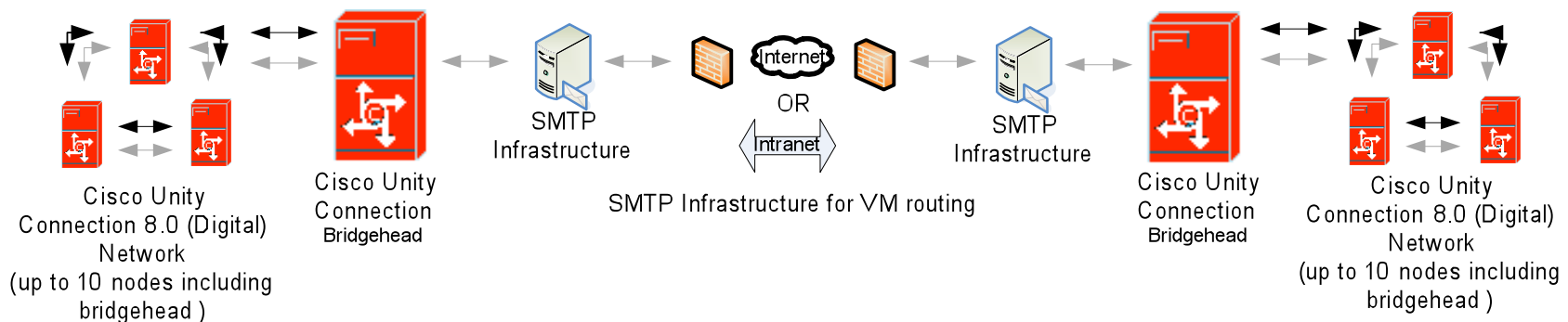


Locations



~~Contacts~~

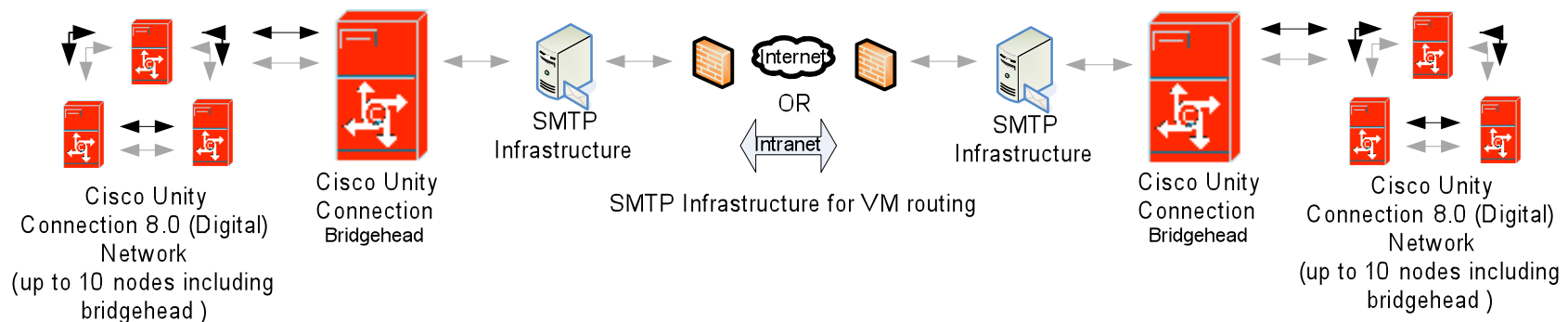
Cisco Unity Connection – Cisco Unity Connection Interoperability



Messaging – **What's Supported:**

- Addressing to and delivery of messages to users and system distribution lists
- Status of secure messages (optional), private messages (optional) and priority will be preserved when routed between sites
- Specifying codec for outgoing messages and voice names
- Receipts routed between sites (e.g. read receipts, non-delivery receipts)
- Clients supported:
 - Telephone User Interface/Voice User Interface
 - Web clients (Cisco Personal Communications Assistant/Unity Inbox)
 - Midlets/Visual Voicemail
 - ViewMail for Outlook/ViewMail for Notes/IMAP

Cisco Unity Connection – Cisco Unity Connection Interoperability



Messaging – **What's Not Supported:**

- Addressing (including blind addressing) and delivery of messages to VPIM and system contacts
- Broadcast Messages
- Dispatch Messages
- Message Recall
- Addressing to and delivery of messages to the following recipients in system distribution lists:
 - VPIM contacts
 - System contacts
 - Blind addresses

Cisco Unity Connection – Cisco Unity Connection Interoperability

Administration Features

- Automatic or manual exchange of configuration files for linking digital networks
- Separate synchronization schedules for messages and voice names
- On-demand synchronization (full or incremental)
- Search/view/edit remote users, distribution lists, and locations
 - Link provided to remote object's home server for editing
- Search/view remote partitions, search spaces
 - Allows for adding remote partitions to local search spaces
- Enable/disable synchronization of all distribution lists and/or voice names
 - Cannot disable distribution lists after enabling them (may change at release)
- Cross-server (logon, transfer, live reply) settings for remote Unity Connection locations
- Choice of outgoing voice name and message codecs
- Secure and private message settings between digital networks

Cisco Unity Connection – Cisco Unity Connection Interoperability

Digital Networking versus Interoperability Deployment Considerations

	Digital Networking	Interoperability
Pros	<ul style="list-style-type: none"> ▪Easier to administer: <ol style="list-style-type: none"> 1) You only have to setup one VPIM location and configure the VPIM contacts once. (You have to do this once per digital network) 2) Distribution list membership is replicated everywhere, so you don't have to decide which digital network to configure the distribution lists in ▪You can use Unity Interoperability (if you have only one Connection digital network) ▪Dispatch message works across all locations ▪Message recall works across all locations 	<ul style="list-style-type: none"> ▪ Supports 20 nodes ▪ Reduced bandwidth required for replication traffic over a specific link in the customers network if the customer has a significant number of servers on both sides of the link. Here are a couple reasons that replication traffic is reduced in a two digital network configuration: <ol style="list-style-type: none"> 1) Data is replicated once between the bridgeheads instead of being replicated directly to all the nodes on the remote digital network. 2) Distribution list membership isn't replicated across the digital network boundary 3) The intersite link replication can be scheduled so it happens in off-hours. 4) The intersite link uses a synchronous protocol so it is more efficient from a bandwidth point of view.
Cons	<ul style="list-style-type: none"> ▪ Increased bandwidth requirements ▪ Only supports 10 nodes 	<ul style="list-style-type: none"> ▪More administration overhead ▪Unity Interoperability not available ▪Dispatch messaging not available between all locations ▪Message recall not available between all locations

Key Takeaways

The Key Takeaways of this presentation are:

- **A Cisco Unity 8.0 digital network and a Cisco Unity Connection 8.0 digital network can be linked!**
 - Directories are shared (Users, Distribution Lists, Locations)
 - Users can address messages (secure and non-secure) to any Unity or Unity Connection user or distribution list
 - Can search/view/edit any Unity or Unity Connection user, distribution list, or location from any server
- **Users can be migrated from Cisco Unity to Cisco Unity Connection “on the fly” using the COBRAS tool in “Hot Mode”!**
- **Two Cisco Unity Connection 8.0 digital networks can be linked to provide support for up to 20 nodes and 100K users/contacts!**

Additional Resources

- Cisco.com (Customers and Partners)

Unity Connection: <http://www.cisco.com/en/US/products/ps6509/index.html>

Unity: <http://www.cisco.com/en/US/products/sw/voicesw/ps2237/index.html>

- Training and Podcasts

<http://www.ciscounitytools.com/>

Cobras Tool:

<http://www.ciscounitytools.com/Applications/General/COBRAS/COBRAS.html>

