

Chapter 6: Migrating from Exchange 5.5 to Exchange 2000 for the Message Store

Overview

To understand how Cisco Unity supports a migration from Exchange 5.5 to Exchange 2000, you need to understand the following:

- Characteristics of an Exchange mixed-mode environment.
- How Cisco Unity uses the directory.
- How Cisco Unity can be affected by replication between the Exchange 5.5 directory and Active Directory.
- How to design a Cisco Unity 4.0 deployment in a mixed-mode configuration.
- How to upgrade from an earlier version of Cisco Unity that is currently running in a mixed-mode configuration.

Note the following about Cisco Unity support in an Exchange mixed-mode environment:

- A single Cisco Unity server can directly support either Active Directory or the Exchange 5.5 directory, but not both. However, a single Cisco Unity server can service both Exchange 2000 and Exchange 5.5 mailboxes when Cisco Unity is connected to Exchange 2000 and when it uses Active Directory as its primary directory. The Exchange 5.5 servers must replicate directory data to Active Directory, and an Exchange 2000 server must join the Exchange 5.5 site serviced by Cisco Unity. (In this configuration, there need not be any Cisco Unity subscribers homed in Exchange 2000.)
- A Cisco Unity server connected to Active Directory and servicing only Exchange 2000 mailboxes, and another Cisco Unity server connected to the Exchange 5.5 directory and servicing only Exchange 5.5 mailboxes, cannot share directory data. However, Cisco Unity subscribers on one server can send voice messages to subscribers on the other server by using blind addressing or Internet subscriber accounts.
- A Cisco Unity server that services Exchange 5.5 mailboxes in a mixed-mode environment is not affected by standard directory replication between the Exchange 5.5 directory and Active Directory. However, the Cisco Unity Exchange 5.5 location object can be affected if a customer changes the object and attribute mapping in the Active Directory Connector to allow that object to be replicated to Active Directory and back.
- Versions of Cisco Unity prior to Cisco Unity 3.0 may be severely affected if replication is set up between Exchange 5.5 and Active Directory, depending on how replication is set up.



If the customer has both Exchange 2000 and Exchange 5.5 servers in the same Windows 2000 domain, but has not set up an Exchange mixed-mode environment:

- Exchange 5.5 sees Active Directory as another accounts domain, just as it sees a Windows NT domain.
- An Active Directory user is associated with an Exchange 5.5 mailbox, but the Exchange 5.5 directory does not use the Exchange attributes in Active Directory.
- The Active Directory user is not mail-enabled in Active Directory.
- If Exchange 2000 is installed, it cannot join the existing Exchange 5.5 organization and site.
- Exchange 2000 mailboxes can mistakenly be created for users who already have Exchange 5.5 mailboxes.
- A Cisco Unity server that services Exchange 5.5 mailboxes would not be aware of Exchange 2000 mailboxes.
- Another Cisco Unity server that services Exchange 2000 mailboxes would not be aware of the Cisco Unity server that services the Exchange 5.5 mailboxes.

Running both Exchange 2000 and Exchange 5.5 servers in the same Windows 2000 domain without setting up an Exchange mixed-mode environment is not a recommended configuration for Cisco Unity.

Cisco Unity 4.0 supports Exchange mixed-mode environments in the following configurations:

- Unified Messaging for new installations and for upgrades to Cisco Unity 4.0.
- Voice Messaging for upgrades to Cisco Unity 4.0.

The Voice Messaging configuration is not supported for new installations in Exchange mixed-mode environments if the Cisco Unity server is servicing both Exchange 2000 and Exchange 5.5 servers.

This chapter discusses the requirements for Cisco Unity and provides design guidelines necessary for Cisco Unity to support a migration from Exchange 5.5 to Exchange 2000.

Requirements for Servicing Subscribers in an Exchange Mixed-Mode Environment

For Cisco Unity to service subscribers who are homed in Exchange 2000 and subscribers who are homed in Exchange 5.5, an Exchange mixed-mode environment must be correctly set up. For detailed information on setting up a mixed-mode environment, refer to the Microsoft website. The requirements of a mixed-mode environment that are most important to Cisco Unity are the following:

- There is only one Exchange 5.5 organization, with one or more Exchange 5.5 sites.



- The Exchange 5.5 servers can be installed into a Windows NT or Windows 2000 domain. However, it is best to upgrade the domains to Windows 2000 domains before introducing the other components of a mixed-mode Exchange environment.
- A Windows 2000 domain has been installed. The domain can be either a new domain or a Windows NT domain that has been migrated to a Windows 2000 domain.
- The Exchange version of the Microsoft Active Directory Connector is installed.
- A connection agreement (CA) has been created that replicates Recipients containers from Exchange 5.5 to Active Directory. The CA can be created at any container level in Exchange 5.5 and Active Directory.
- Exchange 2000 schema extensions have been added to Active Directory. ForestPrep, which adds Exchange 2000 schema extensions, prompts whether to create a new Exchange 2000 organization or to join an existing Exchange 5.5 organization.
- If the customer wants Cisco Unity to service subscribers in both Exchange 2000 and Exchange 5.5, the new Exchange 2000 server must join the existing Exchange 5.5 organization.

If the requirements listed here are not met, the customer will need one or more Cisco Unity servers to service subscribers in the Exchange 5.5 organization and one or more Cisco Unity servers to service subscribers in the Exchange 2000 organization. If the customer wants subscribers on a Cisco Unity server in the Exchange 5.5 organization to address messages to subscribers on a Cisco Unity server in the Exchange 2000 organization, it is necessary to set up SMTP Networking between the two Cisco Unity systems. For more information on SMTP Networking, refer to the *Networking in Cisco Unity Guide*, which is available at http://www.cisco.com/en/US/products/sw/voicesw/ps2237/products_installation_and_configuration_guides_list.html.

Permissions Required by Cisco Unity

When a single Cisco Unity server services mailboxes on both Exchange 2000 and Exchange 5.5, the permissions that Cisco Unity requires for Exchange 2000 and the permissions that Cisco Unity requires for Exchange 5.5 must both be set. These permissions are detailed in the chapters “Creating Accounts for the Installation and Setting Rights and Permissions,” and “Permissions Set by the Cisco Unity Permissions Wizard,” in the *Cisco Unity Installation Guide*, available at http://www.cisco.com/en/US/products/sw/voicesw/ps2237/prod_installation_guides_list.html.

How Cisco Unity Operates in an Exchange Mixed-Mode Environment

In an Exchange mixed-mode environment, Cisco Unity can connect with Exchange 2000 or with Exchange 5.5. When Cisco Unity connects with:



- Exchange 2000, a single Cisco Unity server can service subscribers homed on Exchange 2000, on Exchange 5.5, or on both. For Cisco Unity to service subscribers homed on both, an Exchange mixed-mode environment must be properly configured, and Cisco Unity must be configured for Unified Messaging.
- Exchange 5.5, a single Cisco Unity can service only subscribers homed on Exchange 5.5, even if Exchange 2000 is present and an Exchange mixed-mode environment is properly configured.

Cisco Unity Connected with an Exchange 2000 Server

When the Cisco Unity partner server is an Exchange 2000 server and an Exchange mixed-mode environment is properly configured, Cisco Unity can also service Exchange 5.5 mailboxes. In this configuration, Cisco Unity gets information from Active Directory about both Exchange 5.5 and Exchange 2000 mailboxes. Cisco Unity can service Exchange 5.5 mailboxes only in the site to which the Exchange 2000 servers are joined.

Ideally, a two-way CA is configured between Exchange 5.5 and Windows 2000. When a one-way CA is configured from Exchange 5.5 to Windows 2000, the Cisco Unity system mailbox must be created in Exchange 5.5 and moved to Exchange 2000, as documented in the chapter “Creating Accounts for the Installation and Setting Rights and Permissions,” in the *Cisco Unity Installation Guide*, which is available at http://www.cisco.com/en/US/products/sw/voicesw/ps2237/prod_installation_guides_list.html.

The CA allows data in the Exchange 5.5 directory to replicate to Active Directory and, for a two-way CA, allows changes to Active Directory data to replicate back to the Exchange 5.5 directory. When a two-way CA is configured, Cisco Unity-specific Active Directory attributes (which are added when the Active Directory schema is extended for Cisco Unity) do not replicate to the Exchange 5.5 directory; therefore, those attributes cannot be changed in the Exchange 5.5 directory.

Cisco Unity Connected with an Exchange 5.5 Server

When the Cisco Unity partner server is an Exchange 5.5 server, Cisco Unity can service only Exchange 5.5 mailboxes, regardless of whether Exchange 2000 servers are present or an Exchange mixed-mode environment is set up.

In this configuration, Cisco Unity uses the Exchange 5.5 directory exclusively. If the customer sets up an Exchange mixed-mode environment, care must be taken to ensure that replication does not adversely affect Cisco Unity data in the Exchange 5.5 directory. A one-way CA from Exchange 5.5 to Active Directory will not affect Cisco Unity, because the directory that Cisco Unity uses cannot be changed through Active Directory. However, an improperly configured two-way CA could cause problems for Cisco Unity.

For example, the customer might set up a connection agreement that replicates data from the Exchange 5.5 Recipients container to Users in Active Directory, and from Users in Active Directory to a Users container in Exchange 5.5. In this circumstance, changes to the Exchange 5.5 directory will be made in one location (Recipients), and changes to Active Directory data that are replicated to Exchange 5.5 will be replicated to a



different location (Users). If the customer now makes all changes to the directory in Active Directory, the Exchange 5.5 directory data that Cisco Unity accesses (Recipients) is not updated.

If the customer has an Exchange mixed-mode environment set up, the best model for Cisco Unity is for Exchange 5.5 Recipients data to replicate to Active Directory Users, and for Active Directory Users data to replicate back to Exchange 5.5 Recipients.

Multiple Cisco Unity Servers Connected with Different Versions of Exchange

A customer can install two Cisco Unity 4.0 servers, configure one to service Exchange 5.5 mailboxes, and configure the other to service Exchange 2000 mailboxes. However, in this configuration, Cisco Unity Digital Networking is not available, so subscribers on one server can send voice messages to subscribers on the other server only by using blind addressing or Internet Subscribers.

The same is true if one Cisco Unity server services Exchange 5.5 mailboxes and another services both Exchange 2000 and Exchange 5.5 mailboxes in a mixed-mode environment. The Cisco Unity server servicing both Exchange 2000 and Exchange 5.5 mailboxes cannot service the same Exchange 5.5 mailboxes as the Cisco Unity server that is servicing only Exchange 5.5 mailboxes.

Cisco Unity 2.4(6) and 4.0 Servers Connected with the Same Exchange 5.5 Site

If a customer has a Cisco Unity 2.4(6) server, and adds a Cisco Unity 4.0 server to service the same Exchange 5.5 site, the Cisco Unity 4.0 server can see Cisco Unity 2.4(6) subscribers as unimported mailboxes. If these Cisco Unity 2.4(6) subscribers are mistakenly imported into Cisco Unity 4.0, the Cisco Unity 2.4(6) subscriber data stored in the Exchange 5.5 directory will be overwritten with Cisco Unity 4.0 subscriber data.

The same problem can occur if the Cisco Unity 4.0 server services both Exchange 2000 mailboxes and Exchange 5.5 mailboxes in a mixed-mode configuration.

In addition, Cisco Unity version 2.4(6) connected to Exchange 5.5 can be adversely affected if connection agreements replicate the Unity container in Exchange 5.5, for example when a CA is established at the site level or higher. This can render the Cisco Unity server inoperable and could require a reinstallation or restore. We recommend that CAs be configured to replicate containers at the level of the Unity folder or below.

Migrating from Exchange 5.5 to Exchange 2000

There are several different methods for migrating from Exchange 5.5 to Exchange 2000. The customer can set up an Exchange mixed-mode environment, move user accounts from Windows NT to Active Directory, and move mailboxes from Exchange 5.5 to Exchange 2000.



The customer can also create a brand new infrastructure for Active Directory, create a new Exchange 2000 organization, and migrate by exporting user and mailbox information from the old environment and importing it into the new environment. However, note that this is not considered an Exchange mixed-mode environment, and the migration steps are different.

Exchange Mixed-Mode Environment

If a customer is currently using Exchange 5.5 and wants to migrate from Exchange 5.5 to Exchange 2000 gradually, Cisco Unity can be configured to service Exchange 5.5 mailboxes until the Exchange mixed-mode environment is properly configured (however, the customer must upgrade the Cisco Unity installation to versions 4.0(3) or 4.0(4) first). Then Cisco Unity can be reconfigured to service mailboxes in both versions of Exchange.

For information on reconfiguring an existing Cisco Unity server that is currently servicing only Exchange 5.5 mailboxes so that it will service both Exchange 5.5 and Exchange 2000 mailboxes, refer to the *Cisco Unity Reconfiguration and Upgrade Guide*, available at http://www.cisco.com/univercd/cc/td/doc/product/voice/c_unity/rug/index.htm.

Exchange 2000 and Exchange 5.5 Are Not Connected

If a customer wants to cut over from Exchange 5.5 to Exchange 2000 all at once without setting up an Exchange mixed-mode environment first, they have two options for migrating Cisco Unity, as follows:

Option 1: Reinstall Cisco Unity Without Saving Cisco Unity Settings

If the customer does not want to preserve Cisco Unity settings or Exchange 5.5 directory data, Cisco Unity can be reinstalled and reconfigured in the new environment, and the mailbox-enabled Active Directory users imported into Cisco Unity.

Option 2: Save Cisco Unity Settings, Reinstall Cisco Unity, and Restore Cisco Unity Settings

If the customer wants to preserve Cisco Unity subscriber settings, the following process is recommended:

- Back up Cisco Unity data by using the Cisco Unity Disaster Recovery Tool (DiRT).

Note: The Disaster Recovery Tool does not support versions of Cisco Unity earlier than version 3.1. A customer using an earlier version must upgrade to 3.1 or 4.0 before backing up.

If the customer also wants to preserve Exchange messages, either ExMerge or DiRT (which uses ExMerge for messages) can be used. In order to make this effective, verify that you use the same alias names on the Exchange 5.5 server that you use on the Exchange 2000 server. This is necessary before you begin your migration. Otherwise, the account names that exist in the Exchange 5.5 server will be recreated in the Exchange 2000 server.



- Install a new Cisco Unity server in the new environment by using the exact version of Cisco Unity for which data was backed up. (The Disaster Recovery Tool will restore data only to the exact version of Cisco Unity that was backed up.)
- Restore Cisco Unity data by using the Disaster Recovery Tool, which restores Cisco Unity data to the Cisco Unity SQL Server/MSDE database.

After data has been restored to the database, Cisco Unity goes through the database one subscriber at a time and searches Active Directory for a matching user based on Directory ID, relative distinguished name (RDN), or Alias. If a match is found, the Active Directory user is updated with Cisco Unity data from the Exchange 5.5 directory. If no match is found, Cisco Unity creates a new user in Active Directory (in the OU that was specified during Cisco Unity installation) and updates the user with Cisco Unity data.

- If Exchange 5.5 messages were backed up, restore them to Exchange 2000.
- If the customer wants to change aliases on the Active Directory accounts:
 - Create accounts that have the desired aliases, if they do not already exist.
 - Use the Cisco Unity Move Subscriber tool to merge the accounts that were created when you restored Cisco Unity into the new Active Directory accounts.
 - Delete the accounts that have the old aliases.
- Restore the settings that the Disaster Recovery Tool did not restore. For more information, refer to the Disaster Recovery Tool Help.

Migrating from Cisco Unity 2.4(6) to 4.0: An Example

A customer has an existing Exchange 5.5 organization with one Exchange 5.5 site. A Cisco Unity 2.4(6) server services subscribers in the default Recipients container.

To begin the migration from Windows NT and Exchange 5.5 to Windows 2000 and Exchange 2000, the customer upgrades all PDCs and BDCs to Windows 2000 domain controllers.

The use of Cisco Unity 2.4(6) in an Exchange mixed-mode environment imposes some limits on the configuration of connection agreements and on changes to attribute mappings, so this is a good time to upgrade Cisco Unity to version 4.0, before installing the Microsoft Active Directory Connector and setting up connection agreements. During the upgrade, the installer reconnects Cisco Unity with Exchange 5.5, because replication between the Exchange 5.5 directory and Active Directory has not been set up.

CAUTION! The customer must ensure that connection agreements do not replicate the Unity container in the Exchange 5.5 directory, located at the same level as the Recipients container. In addition, the customer should not change the object and attribute mappings in the Active Directory Connector.



The customer installs the Microsoft Active Directory Connector and sets up connection agreements between Active Directory and Exchange 5.5, to replicate Exchange 5.5 directory data to Active Directory.

Before beginning to migrate mailboxes to Exchange 2000, disconnect Cisco Unity from Exchange 5.5 and reconnect to Exchange 2000. This allows Cisco Unity to service both the mailboxes that have been migrated to Exchange 2000 and the mailboxes that remain in Exchange 5.5.

When the migration from Exchange 5.5 is complete, the Exchange 5.5 server can be removed.

Attributes in the Exchange 5.5 Directory Used by Cisco Unity

Cisco Unity 3.x and later use the following attributes in the Exchange 5.5 directory. These attributes should not be altered through replication, either by the Active Directory Connector or by a third-party replication application.

- Extension-Attribute-12
- Extension-Attribute-14
- Recipient or Mail User
- Voice-Mail-Flags
- Voice-Mail-Greetings
- Voice-Mail-Speed
- Voice-Mail-Recorded-Name
- Voice-Mail_User-ID

For Cisco Unity versions 3.0 and later, the Cisco Unity location object is created from the Exchange 5.5 Person object found in the Exchange 5.5 schema. This Person object does not have an exact parallel in Active Directory (it is just one part of an Active Directory contact), so it is not replicated through the Microsoft Active Directory Connector via any connection agreement. The ADC can replicate Exchange 5.5 mailboxes (recipients) to an Active Directory mail-enabled user, an Exchange 5.5 custom recipient to an Active Directory contact, and an Exchange 5.5 distribution list to an Active Directory distribution group.