

Microsoft[®] **Exchange** 2000 **Server**

Migrating Mailboxes from Microsoft[®] Exchange Server version 5.5 to Microsoft Exchange 2000 Server

Exchange Core Documentation

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Introduction

Migration Wizard provided with both Microsoft® Exchange 2000 Server Service Pack 1 (SP1) and Service Pack 2 (SP2) has all of the mailbox migration capabilities of previous versions, with the added capability of migrating from one Microsoft Exchange organization to another. Previous versions of Migration Wizard allowed you to migrate to Exchange 2000 from other mail systems, such as Lotus cc:Mail, Lotus Notes, and GroupWise. These options are still available in the Exchange 2000 SP1 and SP2 versions of Migration Wizard, but the SP1 version also allows you to migrate mailbox data from an Exchange 5.5 organization. The SP2 version extends the capabilities of the SP1 version by allowing you to migrate from one Exchange 2000 organization to another Exchange 2000 organization.

This paper describes the Exchange 2000 SP1 and Exchange 2000 SP2 versions of Migration Wizard, provides methods and tips for their use, and discusses common migration strategies. This paper also follows the fictitious Lucerne Publishing Company as it migrates from Exchange 5.5 to Exchange 2000 using Migration Wizard with Microsoft Active Directory Connector (ADC).

Migration Wizard Overview

This section describes the differences between the SP1 and SP2 versions of Migration Wizard and discusses the features and limitations of Migration Wizard.

A Comparison of SP1 and SP2 Versions of Migration Wizard

Both the SP1 and SP2 versions of Migration Wizard move mailbox data, calendar data, and groups from one Exchange organization to a new, separate Exchange organization. However, the SP1 version of Migration Wizard only migrates data from an Exchange 5.5 organization to a separate Exchange 2000 organization. The SP2 version of Migration Wizard migrates data from an Exchange 5.5 organization *or* from an Exchange 2000 organization to a separate Exchange 2000 organization.

The SP2 version of Migration Wizard also includes enhancements in the following areas:

- The SP2 version uses Intermediate Format Files (IFFs) to make a two-step personal store file (.pst) migration possible. With either the SP1 or the SP2 version, you can migrate data to .pst files. However, only the SP2 version of Migration Wizard imports the .pst files into the target mailbox store.

- You can migrate mail without creating new mailbox accounts in the Microsoft Active Directory™ directory service.
- You can use a date range to specify the messages you want to migrate.
- You can exclude messages with specific subject lines.

Note If you use this option, ensure that you save the subject file list in Unicode format; for more information, see Microsoft Knowledge Base article [Q303002](#), "XFOR: Exchange 2000 Server SP2 Migration Wizard Generates Ambiguous Error Message."

For more information about these enhancements, see Microsoft Knowledge Base article [Q307706](#), "XCON: Exchange 2000 Server Service Pack 2 Migration Enhancements."

Migrating from Exchange 5.5

The most notable difference between Exchange 5.5 and Exchange 2000 is the location where directory information is stored. In Exchange 5.5, directory information resides in the Exchange 5.5 directory. Exchange 2000, however, relies entirely on Active Directory. To migrate mailboxes from Exchange 5.5 to Exchange 2000, you must update Active Directory with all of the accounts that exist in the Exchange 5.5 directory. You can use Migration Wizard to perform this process for you by allowing Migration Wizard to match Exchange 5.5 mailboxes with existing Active Directory users and create users if they do not already exist.

You access Migration Wizard from the **Start** menu (click **Start**, point to **Programs**, point to **Microsoft Exchange**, and then click **Migration Wizard**).

Note You can also use the command prompt utility, Mailmig.exe, with a combination of switches and a control file to perform a batch-process migration. For more information about using this command prompt utility, see the Exchange 2000 online documentation.

When you run Migration Wizard, you use the **Account Migration** page to select the Exchange 5.5 mailboxes you want to migrate. If the mailboxes do not currently exist as users or contacts in Active Directory, Migration Wizard creates new Active Directory users. If an Exchange 5.5 mailbox already exists as a contact in Active Directory, Migration Wizard matches the Exchange 5.5 mailbox with the contact and then converts the contact to an Active Directory user. After Migration Wizard creates new users, it migrates mailbox data to Exchange 2000 mailbox stores.

You can choose from several migration strategies, depending on the needs of your organization. For example, you can set up ADC before migration to update Active Directory and maintain coexistence between the Exchange 5.5 organization and the Exchange 2000 organization. This strategy is useful when users must have access to e-mail during the migration process. You can also use Active Directory Migration Tool to retain any permissions that were assigned to accounts before migration. This strategy is useful if your organization is large, and you do not want to manually reassign permissions after migration.

Migrating from Exchange 2000 Server SP2

You can use the Exchange SP2 version of Migration Wizard to migrate from servers in either an Exchange 5.5 organization or an Exchange 2000 organization to a separate Exchange 2000 organization. When you migrate accounts from an Exchange 2000 organization using the SP2 version of Migration Wizard, disabled user accounts are created in the target directory. If you decide to enable these accounts, you should first use Active Directory Migration Tool to migrate the accounts with security identifiers (SIDs). For more information, see "Strategies for Migrating from Exchange 2000" later in this document.

What Migration Wizard Does

Migration Wizard is designed to perform the following tasks:

- Migrate all mailbox data to the new Exchange 2000 mailboxes, including the following data:
 - Inbox
 - Drafts
 - Sent Items
 - Calendar
 - Tasks
 - Custom folders created by the mailbox owner
 - Contacts
- Create new Active Directory users based on Exchange 5.5 accounts in the source organization (if matching users do not already exist in Active Directory).
- Migrate X.400, SMTP, cc:Mail, Microsoft Mail, and other e-mail addresses into the e-mail addresses attribute of the new Active Directory user.
- Convert Active Directory contacts to users (only when migrating from Exchange 5.5).
- Update Exchange 2000 groups, but not migrate Exchange 5.5 distribution lists (only when migrating from Exchange 5.5). For example, a distribution group in Active Directory may contain contacts. During migration, the Active Directory contacts become disabled user accounts, and the distribution group in Active Directory is updated to reflect this change.

What Migration Wizard Does Not Do

Migration Wizard is not designed to perform the following tasks:

- Clean up mailboxes on the source server after migration. Old mailboxes continue to receive mail after migration, unless you delete the old mailboxes or set up alternate recipients that point to the new Exchange 2000 mailboxes.
- Migrate custom recipients. Instead, Migration Wizard creates contacts from the custom recipients.

- Preserve access control lists (ACLs) to other mailboxes or public folders. For example, after migration, if a mailbox owner updates his or her profile to reference the new mailbox, he or she will not be able to access any mail resources in the old Exchange 5.5 organization.
- Migrate mailboxes within an organization (in other words, migrate from Exchange 5.5 to Exchange 2000 in the same Exchange organization). The source server running Exchange must be in a different organization from the target server running Exchange 2000.

Note However, you can use Migration Wizard if the source Exchange 5.5 organization is located in the same forest as the target Exchange 2000 organization, but has not yet joined the Exchange 2000 organization. For example, the source Exchange 5.5 servers may be running on Windows 2000 in an Active Directory forest that also contains the target Exchange 2000 organization. As long as the Exchange 5.5 organization and the Exchange 2000 organization have different organization names, you can use Migration Wizard.

- Migrate personal mail archives or personal address books. For information about methods for migrating personal mail archives or personal address books, see the Exchange 2000 online documentation.
- Migrate distribution lists. Two options exist for migrating distribution lists. Either convert distribution lists to public folders and then migrate the public folders, or export the distribution lists and use the LDIFDE or CSVDE command prompt utilities to convert them.
- Migrate Inbox rules. After migration, mailbox owners must re-create their Inbox rules in Microsoft Outlook®.
- Migrate public folders. You can migrate public folder data in two ways:
 - In small organizations, you can copy public folder data to a personal store file (.pst), and then copy the .pst data to a new target public folder. For more information, see the section titled "Using the .Pst Method" in Microsoft Knowledge Base article [Q178927](#), "XADM: How to Rehome Public Folders in Exchange."
 - In large organizations, it is more practical to use Exchange InterOrg Replication Utility to replicate standard and free and busy public folders to Active Directory and Exchange 2000 public folder stores. After you replicate these folders, locate each public folder in the new organization by adding a public folder replica to the server running Exchange 2000 and removing the public folder from the source server. (For more information, see Microsoft Knowledge Base article [Q288150](#), "XADM: How to Rehome Public Folders in Exchange 2000.") InterOrg Replication Utility is available in the Support\Exchsycn\ directory on the Exchange 2000 compact disc. For more information about how to use InterOrg Replication Utility, see Microsoft Knowledge Base article [Q238573](#), "XADM: Installing, Configuring, and Using the InterOrg Replication Utility."

Strategies for Migrating from Exchange 5.5

There are several ways to migrate mailboxes using Migration Wizard. Options range from using Migration Wizard alone to using it in conjunction with ADC, Active Directory Migration Tool, or Active Directory Account Cleanup Wizard (ADClean).

Some factors to consider when choosing the most appropriate strategy for your organization include the size of your organization, the amount of data to be migrated, whether you want to retain user access to e-mail during migration, and whether you want to retain the permissions associated with accounts.

For example, smaller companies may not be concerned about the time it takes to migrate mailboxes or reassign permissions. However, in larger companies, migration may take weeks or months, and reassigning permissions for thousands of accounts may not be feasible. Therefore, a larger company may decide to use ADC to maintain coexistence between the two organizations and Active Directory Migration Tool to migrate permissions.

Table 1 summarizes common migration strategies. Tools are shown in the order in which you use them, with an arrow (→) showing the order of use. Each strategy is described in more detail later in this document. You can use any of these strategies to migrate from Exchange 5.5 running on either Microsoft Windows NT[®] Server version 4.0 or Windows[®] 2000 Server to Exchange 2000. Your overall migration plan may be complex and require considerable planning. For more information, see *Microsoft Exchange 2000 Server Planning and Installation Guide* on the Exchange 2000 CD.

Table 1 Summary of migration strategies

Strategy	Best for	Advantages	Considerations
Migration Wizard alone	<ul style="list-style-type: none"> • Small companies. • Migration from Windows 2000. • Migration from Windows NT Server 4.0 where the company plans to upgrade to Windows 2000 at a later time. 	Streamlined process (for small number of mailboxes).	<ul style="list-style-type: none"> • When migrating from Windows NT Server 4.0, Migration Wizard creates disabled accounts in Active Directory. Access the new mailboxes through the Windows NT Server 4.0 accounts. • A trust relationship must exist between the organizations.

Strategy	Best for	Advantages	Considerations
ADC → Migration Wizard	<ul style="list-style-type: none"> • Large companies. • Migration from Windows 2000. • Migration from Windows NT Server 4.0 where the company plans to upgrade to Windows 2000 at a later time. 	<ul style="list-style-type: none"> • Exchange 5.5 directory and Active Directory coexist. • Users can send and receive e-mail during migration. 	<ul style="list-style-type: none"> • When migrating from Windows NT Server 4.0, Migration Wizard creates disabled accounts in Active Directory. Access the new mailboxes through the Windows NT Server 4.0 accounts. • A trust relationship must exist between the organizations.
Active Directory Migration Tool* → Migration Wizard	<ul style="list-style-type: none"> • Small companies. • Migration from Windows 2000 or Windows NT Server 4.0. 	Permissions migrate from old accounts to new accounts	<ul style="list-style-type: none"> • Run Active Directory Migration Tool with the security identifier (SID) option. • A trust relationship must exist between the organizations.
Active Directory Migration Tool* → ADC → Migration Wizard	<ul style="list-style-type: none"> • Large companies. • Migration from Windows 2000 or Windows NT Server 4.0. 	<ul style="list-style-type: none"> • Exchange 5.5 directory and Active Directory coexist. • Users can send and receive e-mail during migration. • Active Directory Migration Tool migrates permissions from old accounts to new accounts. 	<ul style="list-style-type: none"> • Run Active Directory Migration Tool with the SID option. • A trust relationship must exist between the organizations.

Strategy	Best for	Advantages	Considerations
ADC → Active Directory Migration Tool* → ADClean → Migration Wizard	<ul style="list-style-type: none"> • Large companies. • Migration from Windows 2000 or Windows NT Server 4.0. 	<ul style="list-style-type: none"> • Exchange 5.5 directory and Active Directory coexist. • Users can send and receive e-mail during migration. • Active Directory Migration Tool migrates permissions from old accounts to new accounts. 	<ul style="list-style-type: none"> • Run Active Directory Migration Tool with the security SID option. • A trust relationship must exist between the organizations.

* When migrating from Windows NT Server 4.0, you can either use Active Directory Migration Tool or follow the standard process for upgrading to Windows 2000 as described in the Windows 2000 Server online documentation.

Migration Wizard Alone

Migration Wizard matches Exchange 5.5 accounts with Active Directory accounts and, if accounts do not exist in Active Directory, Migration Wizard creates them. Then, Migration Wizard migrates the mailbox data. This method is common in smaller companies where the migration period is brief, and the impact of not having access to e-mail during migration is minimal.

Important Migration Wizard is not designed to migrate accounts from Windows NT Server 4.0 to Windows 2000 Server. If you want to create enabled accounts in Active Directory, follow a strategy that includes Active Directory Migration Tool (or perform a standard Windows NT Server 4.0 upgrade to Windows 2000 as described in the Windows 2000 Server online documentation).

If you want upgrade to Windows 2000 at a later time, but you want to use Migration Wizard to migrate mailboxes immediately, be aware of the following:

- After migration is complete, the accounts created by Migration Wizard in Active Directory are disabled. You must use the source accounts to access the mailboxes.
- You must continue to use the source account to maintain permissions (such as delegate access or public folder permissions).
- A trust relationship must exist between the two organizations.
- Upgrade to Windows 2000 at a later time using Active Directory Migration Tool and ADClean, standard Windows NT Server 4.0 upgrade processes, or an appropriate third-party tool.

Active Directory Connector (ADC) → Migration Wizard

You can set up an inter-organizational ADC and then run Migration Wizard. This method is most common in large companies where migration is time consuming and it is important that users are able to send and receive e-mail during the migration process.

You must configure ADC to create contacts in Active Directory. Then, when Migration Wizard runs, it finds the contacts in Active Directory, deletes them, and creates new mailbox-enabled user accounts that are disabled. Finally, Migration Wizard migrates mailbox data from Exchange 5.5 mailboxes to the new mailboxes.

Note Use the version of ADC included in Exchange 2000 SP1 or SP2. ADC is not updated automatically with the installation of SP1 or SP2 and, instead, has its own separate setup program located in the ADC\i386 directory on the Exchange 2000 SP1 or SP2 Setup compact disc.

Important If you use a version of ADC that is earlier than the version provided with Exchange SP1 or SP2, you will encounter an error (error code 0x80072030) when you uninstall ADC. This error occurs because the uninstall option in the earlier version removes the Active Directory Connections container from Active Directory. Always use the SP1 or SP2 version of Active Directory to uninstall ADC. For more information about this error, see Microsoft Knowledge Base article [Q287172](#), "XADM: Exchange 2000 Setup Does Not Work with 0x80072030 Error Code."

As with the previous strategy, be aware of the following things if you are migrating from Windows NT Server 4.0:

- After migration is complete, the accounts created by Migration Wizard in Active Directory are disabled. You must use the source accounts to access the mailboxes.
- You must continue to use the source account to maintain permissions (such as delegate access or public folder permissions).
- A trust relationship must exist between the two organizations.

Active Directory Migration Tool → Migration Wizard

You can run Active Directory Migration Tool to migrate user security identifiers (SIDs) and create active user accounts, and then run Migration Wizard. Migration Wizard matches accounts to the new accounts and configures the new accounts so they are mailbox-enabled.

If the Exchange 2000 domain is in native mode, running Active Directory Migration Tool offers the advantage of carrying over permissions from the old account to the new account. Run Active Directory Migration Tool with the option to migrate SIDs. When Active Directory Migration Tool creates a new account, it populates the new account's **sidHistory** attribute with the old account SID. Migration Wizard then searches for matching SIDs and, if it finds a match, converts the account to a mailbox-enabled user account.

Important To retain permissions, the target domain in Windows 2000 (the domain where you install Active Directory Migration Tool and into which security principals or resources are migrated) must be in native mode. The **sIDHistory** attribute exists in the domain schema only if the domain in Windows 2000 is in native mode.

Note As an alternative to using Active Directory Migration Tool, you can follow the standard process for upgrading from Windows NT Server 4.0 to Windows 2000 while preserving the **sIDHistory** attribute. (For more information, see the Windows 2000 Server online documentation.) A number of third-party tools that allow you to upgrade to Windows 2000 while preserving the **sIDHistory** attribute are also available.

Active Directory Migration Tool → ADC → Migration Wizard

You can run Active Directory Migration Tool to create accounts, set up ADC to create mail-enabled accounts, and then run Migration Wizard. Large companies should follow this strategy if they want to do the following things:

- Retain account permissions (for example, permissions to printers, file shares, other mailboxes, and so forth).
- Allow users to send and receive e-mail during the migration process.

Important To retain permissions, the target domain in Windows 2000 (the domain where you install Active Directory Migration Tool and into which security principals or resources are migrated) must be in native mode. The **sIDHistory** attribute exists in the domain schema only if the domain in Windows 2000 is in native mode.

As in the previous scenario, using Active Directory Migration Tool with the SID option allows you to carry over permissions from old accounts to new accounts.

In this migration scenario, the following steps occur.

1. Active Directory Migration Tool finds Exchange 5.5 accounts and creates new Active Directory users. Active Directory Migration Tool populates the **sIDHistory** attribute for each new user.
2. ADC finds the new Active Directory users and assigns e-mail addresses, making the users mail-enabled.
3. Migration Wizard finds the Active Directory users by searching for the **sIDHistory** attribute. Migration Wizard creates mailboxes (making the users mailbox-enabled), and then migrates the mailbox data.

This method is illustrated later in this paper, when we follow the fictitious Lucerne Publishing Company as it migrates from Exchange 5.5 to Exchange 2000 using ADC and Migration Wizard.

ADC → Active Directory Migration Tool → ADClean → Migration Wizard

If the process of creating accounts with Active Directory Migration Tool and ADClean is expected to take a long time, you may want to set up ADC first to create contacts in

Active Directory. Setting up ADC first allows Active Directory users to exchange e-mail with Exchange 5.5 users during lengthy periods of coexistence. As with the previous scenario, you then use Active Directory Migration Tool to retain the account permissions (for example, permissions to printers, file shares, and other mailboxes).

Important To retain permissions, the target domain in Windows 2000 (the domain where you install Active Directory Migration Tool and into which security principals or resources are being migrated) must be in native mode. The **sIDHistory** attribute exists in the domain schema only if the domain in Windows 2000 is in native mode.

In this migration scenario, the following steps occur.

1. ADC creates contacts in Active Directory with e-mail addresses.
2. Active Directory Migration Tool creates new user accounts in Active Directory but does not match the new accounts to the existing contacts.
3. ADClean creates mail-enabled user accounts. ADClean merges the new user accounts (from Active Directory Migration Tool) with the existing contacts (from ADC).
4. Migration Wizard finds the mail-enabled users, creates Exchange 2000 mailboxes, and migrates Exchange 5.5 mailbox data to the new mailboxes.

Sharing the SMTP Domain During Coexistence

If your organization is large, and you require a long period of coexistence, you should ensure that both the source organization and the target organization share the same SMTP domain. Sharing the SMTP domain creates a centralized hub for SMTP traffic, in which all outgoing e-mail has a consistent address, and all incoming e-mail that is addressed to the domain is centrally queued and routed to the appropriate mail organization. For more information, see Microsoft Knowledge Base article [Q260973](#), "XCON: Setting Up SMTP Domains for Inbound and Relay E-Mail in Exchange 2000 Server."

How Migration Wizard Creates Accounts

Migration Wizard migrates mailbox data only after the proper accounts exist in Active Directory. The following scenarios describe the ways in which Migration Wizard matches or creates accounts in Active Directory:

- **Clean account creation** If the source accounts are Windows NT Server 4.0 accounts that have not been upgraded to Windows 2000, or if the source accounts are located in an external forest, they will not exist in Active Directory. Migration Wizard creates a new, disabled account in Active Directory with the same name as the Exchange 5.5 mailbox alias. The source account maintains mailbox permissions.
- **Unique account name prompt** If a user or contact created in Active Directory has the same logon name as an Exchange 5.5 mailbox alias, Migration Wizard assigns a default name (by appending the name with a "1") and allows you to modify it before Migration Wizard creates the account.

- **Account creation using Active Directory Migration Tool** If you first use Active Directory Migration Tool (or other Windows NT Server 4.0 upgrade methods) to migrate Windows NT Server 4.0 user SIDs and generate Active Directory accounts, you can run Migration Wizard to match the SIDs for existing accounts (not mailboxes) between source and target directories. For more information about Active Directory Migration Tool, see Microsoft Knowledge Base article [Q260871](#), "HOW TO: Set Up ADMT for Windows NT 4.0 to Windows 2000 Migration."
- **Direct mapping to Active Directory accounts** If an Active Directory account already exists, Migration Wizard matches the SID associated with the Exchange 5.5 mailbox with the appropriate Active Directory account. For more information about how to determine if an Exchange 5.5 mailbox is already mapped to an Active Directory account, see Microsoft Knowledge Base article [Q297349](#), "XADM: Description of Account Creation in the Exchange 2000 SP1 Migration Wizard."
- **Contacts converted to users** When Migration Wizard matches migrating mail or directory data to a contact in Active Directory, it creates a new user object from the contact object. Users are placed in the container that you specify during migration and the contact information is deleted. During migration, Migration Wizard converts the contacts to users. If the contacts are members of any groups in the domain, the new users replace the contacts in those groups. If the contact and group reside in two different domains that do not have a trust relationship, the group is not updated.

Note For detailed information about how Migration Wizard creates accounts and the type of information that is migrated, see the Exchange 2000 online documentation. More information is also available in Microsoft Knowledge Base article [Q297349](#), "XADM: Description of Account Creation in the Exchange 2000 SP1 Migration Wizard."

Verifying Account Matches Before They Are Saved

You can use the Windows Account Creation and Association page to view the matches Migration Wizard finds and change them if necessary.

- Use **Find Existing Account** to determine which Active Directory account matches the Exchange 5.5 mailbox.
- Use **Create New Account** to view matches in the **Existing Windows Account** column and, if necessary, undo a match and create a new user object.

Note To undo a hard match, where the e-mail addresses match, return to the **Account Migration** page in Migration Wizard and clear the user check box. Then, before you restart the migration, edit the user's e-mail address in the migrating messaging system or the e-mail address of the Active Directory user object so that the addresses no longer match.

- To edit the **Full Name** and **Logon ID** for a new Active Directory account, double-click the account to open **Mail Account Properties**, and then edit the account information.

Cleaning Up Old Mailboxes After Migration

Migration Wizard copies the account and mailbox data to the new Exchange 2000 organization, but it does not delete or disable the old Exchange 5.5 accounts or mailboxes. The old mailboxes continue to receive mail unless you determine how to handle incoming mail. To handle incoming mail, you can:

- Set up an alternate recipient on the old mailbox that points to the new mailbox.
- Delete the Exchange 5.5 mailboxes and set up custom recipients that point to the new mailboxes. You can manually create custom recipients, or you can allow the inter-organizational ADC connection agreement to create them.

For more information about setting up alternate recipients and custom recipients, see the Exchange 5.5 online documentation.

Re-Establishing Coexistence Between Exchange 2000 and Exchange 5.5

If you want to re-establish coexistence between Exchange 2000 and Exchange 5.5, create a custom recipient in Exchange 5.5 for each mailbox that you migrated and deleted. Custom recipients appear in the address book and can receive messages from Exchange 5.5 users. You can create custom recipients manually or automatically:

- If you installed ADC and suspended replication before running Migration Wizard, resume replication after migration. ADC automatically creates custom recipients for the migrated mailboxes.
- You can manually create custom recipients in Exchange 5.5. For information about creating custom recipients, see the Exchange 5.5 online documentation.

Strategies for Migrating from Exchange 2000

You can use the Exchange SP2 version of Migration Wizard to migrate from servers in one Exchange 2000 organization to a separate Exchange 2000 organization. When you use Migration Wizard to migrate accounts, a disabled user account is created in the target directory. If you decide to enable these accounts, you should first use Active Directory Migration Tool to migrate the accounts with security identifiers (SIDs). This strategy is depicted as follows:

Active Directory Migration Tool → Migration Wizard

Active Directory Migration Tool migrates user security identifiers (SIDs) and creates active user accounts. Then, Migration Wizard matches accounts to the new accounts and configures the new accounts so that they are mailbox-enabled.

If the Exchange 2000 domain is in native mode, running Active Directory Migration Tool offers the advantage of carrying over permissions from the old account to the new account. To carry over these permissions, run Active Directory Migration Tool with the option to migrate SIDs. When Active Directory Migration Tool creates a new account, it populates the new account's **sIDHistory** attribute with the SID from the old account. Migration Wizard then searches for matching SIDs and, if it finds a match, converts the account to a mailbox-enabled user account.

Important To retain permissions, the target domain in Windows 2000 (the domain where you install Active Directory Migration Tool and into which security principals or resources are migrated) must be in native mode. The **sIDHistory** attribute exists in the domain schema only if the domain in Windows 2000 is in native mode.

If your organization is large, and you require a long period of coexistence, you should ensure that both the source organization and the target organization share the same SMTP domain. Sharing the SMTP domain creates a centralized hub for SMTP traffic, in which all outgoing e-mail has a consistent address and all incoming e-mail that is addressed to the domain is centrally queued and routed to the appropriate mail organization. For more information, see Microsoft Knowledge Base article [Q260973](#), "XCON: Setting Up SMTP Domains for Inbound and Relay E-Mail in Exchange 2000 Server."

Troubleshooting Errors in the Event Log

If there are problems during migration, you can troubleshoot the errors from the **Application** event log, correct any problems, and repeat the migration of problematic Exchange 5.5 mailboxes. Be aware that repeated migrations to the same target mailbox can result in duplicate messages.

A Typical Migration Scenario: Lucerne Publishing

Lucerne Publishing is a large organization that plans to migrate thousands of user mailboxes from an Exchange 5.5 organization to an Exchange 2000 organization. Both Exchange organizations are running on servers running Windows 2000 Server. The scenario for Lucerne Publishing illustrates a common migration strategy, in which Active Directory Migration Tool, ADC, and Migration Wizard are used.

Migration Requirements for Lucerne Publishing

Lucerne Publishing requires coexistence during the migration period. To ensure that users in Exchange 5.5 and Exchange 2000 organizations can send each other e-mail during the migration process, Lucerne Publishing requires full mailbox directory replication between the Exchange 5.5 directory and Active Directory.

To accomplish this migration, Lucerne Publishing decides to use ADC to replicate directory information between Exchange 5.5 and Active Directory and create accounts before it runs Migration Wizard to migrate mailbox data.

Because there are thousands of users, Lucerne Publishing wants to migrate permissions from the source accounts using Active Directory Migration Tool instead of manually setting permissions.

Migration Plan for Lucerne Publishing

The system administrator at Lucerne Publishing plans to run Active Directory Migration Tool to migrate permissions from the source Exchange 5.5 accounts to the Active

Directory accounts. Then, the system administrator plans to configure ADC with an inter-organizational recipient connection agreement. The system administrator also needs to configure the recipient connection agreement to create contacts in Active Directory, as opposed to creating enabled or disabled user accounts.

Because Lucerne Publishing requires that message transfer and directory synchronization between Exchange 5.5 and Exchange 2000 be maintained during migration, the system administrator plans to use an SMTP connector for message transfer and ADC for directory synchronization.

After the system administrator sets up ADC, the system administrator runs Migration Wizard, which matches Exchange 5.5 mailboxes with the contacts generated by the recipient connection agreement, converts the contacts into disabled Windows accounts, and then migrates mailbox data.

After Migration Wizard finishes migrating all mailboxes, Windows 2000 users are not able to access their new Exchange 2000 mailboxes until Recipient Update Service writes a series of mail attributes to the user accounts.

Figure 1 illustrates the migration strategy of Lucerne Publishing.



Figure 1 Migration Strategy for Lucerne Publishing: Inter-organizational ADC and Migration Wizard

Migration Steps for Lucerne Publishing

The migration process for Lucerne Publishing consists of seven steps. The process requires preparation on the part of the system administrator and the mailbox owners.

The following steps summarize the tasks that the system administrator needs to perform.

Note For detailed instructions about how to perform the steps and run Migration Wizard, see the Exchange 2000 online documentation.

Step 1. Reduce the Exchange 5.5 Data to Be Migrated

To reduce the amount of directory information and mailbox data as much as possible, the system administrator performs the following tasks.

1. Deletes outdated files from the Exchange 5.5 mail system.
2. Instructs users to delete old mail and calendar data.
3. Makes a note to select only the accounts to be migrated on the Account Migration page in Migration Wizard.

Step 2. Identify Resource Mailboxes

Lucerne Publishing has mailboxes for resources such as conference rooms or group mailboxes. Because these resource mailboxes belong to users who already have primary mailboxes, the resource mailboxes must be identified as such before they can be migrated.

In Exchange 2000, a mailbox is an attribute of an object in Active Directory, not an object itself (as in the Exchange 5.5 directory). Therefore, each user object in Active Directory is matched to only one mailbox. Migration Wizard does not migrate multiple resource mailboxes that are associated with a single user unless the mailboxes are assigned the **NTDSNoMatch** value.

The system administrator can perform either of the following tasks:

- Individually assign the **NTDSNoMatch** value to each resource mailbox (excluding primary mailboxes) using one of the mailbox's fifteen custom attribute fields. Because Lucerne Publishing has hundreds of resource mailboxes, the system administrator rejects this method.
- Identify resource mailboxes automatically by running the NTDSNoMatch Utility. The NTDSNoMatch Utility is included with Exchange 2000 SP1 and must be run on a computer running Windows 2000.

Note For more information about the NTDSNoMatch Utility, see Microsoft Knowledge Base article [Q274173](http://support.microsoft.com/kb/q274173), "XADM: Documentation for the NTDSNoMatch Utility."

Step 3. Run Active Directory Migration Tool

The system administrator installs Active Directory Migration Tool on the server running Exchange 2000 and runs the tool.

Note For detailed information about how to use Active Directory Migration Tool, see the Windows 2000 Server online documentation or the following Web site:

<http://go.microsoft.com/fwlink/?LinkId=3540>

Step 4. Install Active Directory Connector and Perform Successful Replication

The system administrator performs the following tasks.

1. Runs Active Directory Connector Installation Wizard to install ADC.
2. Configures inter-organizational connection agreements between the Exchange 5.5 organization and Active Directory. Because inter-organizational connection

agreements are one-way agreements, a connection agreement must exist in each direction.

Note When the inter-organizational option is selected, ADC is not restricted and replicates mailboxes in Exchange 2000 as custom recipients in the Exchange 5.5 directory. If the inter-organizational option remains cleared, ADC restricts the Exchange 2000 mailboxes it replicates to the Exchange 5.5 directory. In addition, Exchange 2000 mailboxes are represented as mailboxes in the Exchange 5.5 directory.

3. Configures the inter-organizational connection agreements to create contacts in Active Directory. On the **Advanced** tab in connection agreement **Properties**, the system administrator selects the **Create a Windows contact** option. Contacts are created only when Active Directory Connector replicates a mailbox whose primary Windows account does not exist in Active Directory.
4. Configures the inter-organizational connection agreement that has a target container in Active Directory to include X.500 addresses with replicated objects. By default, Active Directory Connector does not include X.500 addresses with user objects. However, the objects that replicate from the Exchange 5.5 directory to Active Directory must include the X.500 addresses to ensure that the "reply" feature works for e-mails sent to a mailbox owner after migration. The system administrator must use either LDP or ADSI Edit to assign the **SMTP,X500** value to the **msExchInterOrgAddressType** attribute on the connection agreement object in Active Directory.

Note LDP and ADSI Edit are available on the compact disc for Windows 2000 Server in the Support\Tools folder.

Step 5. Ask Users to Perform Initial Tasks

The system administrator provides instructions to mailbox owners so that they can perform the following tasks:

- Remote access users: Synchronize the offline folder file (.ost) with the server running Exchange 2000 so that any messages in **Outbox** are sent.
- Exchange client and Schedule+ users: Synchronize the schedule file (.scd) with the server running Exchange 2000.
- All users: decrypt encrypted messages before the migration process.

Note The keys required for encryption are not available after migration. After the migration process, the system administrator must issue new keys to users so they can encrypt their messages.

Step 6. Run Migration Wizard

The system administrator performs the following tasks.

1. Pauses ADC replication so that ADC and Migration Wizard do not both modify Active Directory at the same time.
2. Runs Migration Wizard from the **Start** menu (click **Start**, point to **Programs**, point to **Microsoft Exchange**, and then click **Migration Wizard**).

3. Before resuming replication, deletes Exchange 5.5 mailboxes so that ADC can replicate the new mailboxes back to Exchange 5.5 as custom recipients.
4. Resumes ADC replication.

Step 7. Perform Final Migration Tasks

The system administrator performs the following tasks.

1. Verifies that the migration was successful and that directory information and mailbox content for the migrated mailboxes are available on the server running Exchange 2000.
2. Re-creates directory links associated with each migrated mailbox. For example, if a manager's mailbox was migrated, the system administrator must re-create the directory links representing the manager's direct reports after the migration process.
3. Regenerates the offline address books.

Step 8. Ask Users to Perform Final Tasks

The system administrator asks mailbox users to perform the following tasks:

- Delete schedule files (.scd) before they re-create their profiles.
- Remote access users only: delete offline folder files (.ost) before they re-create their profiles.
- Re-create their profile and specify their new mailbox names. They must not copy or edit the original profile.
- Encrypt the messages that they decrypted prior to the migration process.
- Users who have rules based on mailbox name, private folders, or public folders must re-create their rules after the migration process.
- Download the regenerated offline address books.
- Update entries in their personal address books that contain users who have not migrated to the same Exchange 2000 organization. Users do not need to update personal address book entries for users whose mailboxes were migrated to the same Exchange 2000 organization.
- Re-establish additional folder permissions.
- Re-establish inbox rules.

Frequently Asked Questions

How does Migration Wizard find mailboxes in Exchange 5.5?

Migration Wizard queries the server running Exchange 5.5 for objects where the **objectClass** attribute is equal to **person** and the **MAPI-Recipient** attribute is equal to **True**. You can see these attributes if you connect to the Exchange 5.5 directory with LDP.exe and view a mailbox's properties. If Migration Wizard does not find both of these attributes for a mailbox, Migration Wizard will not migrate the mailbox.

Note If a mailbox is created in Active Directory Users and Computers in a mixed-mode Exchange 5.5 organization, ADC replicates the mailbox to the Exchange 5.5 directory as a mailbox with no **MAPI-Recipient** attribute. In this case, Migration Wizard does not find the mailbox during migration. For more information, see Microsoft Knowledge Base article [Q297007](#), "XFOR: MAPI Migration Does Not Find Accounts Created by ADC in Exchange Server 5.5."

Can I use Migration Wizard to migrate mailboxes within the same forest?

You can use Migration Wizard if the source Exchange 5.5 organization is located in the same forest as the target Exchange 2000 organization, but has not yet joined the Exchange 2000 organization. For example, the source Exchange 5.5 servers may be running on Windows 2000 in an Active Directory forest that also contains the target Exchange 2000 organization. As long as the Exchange 5.5 organization and the Exchange 2000 organization have different organization names, you can use Migration Wizard.

Why does Migration Wizard create a disabled user account in Active Directory?

A disabled mailbox uses the security identifier (SID) from the external account for all mailbox permissions, including public folder and access delegation permissions. This design is based on the assumption that a user accesses the mailbox from one account (in this case, the external account). If it becomes necessary to access the mailbox from the new account, you can migrate the external account to the new account and use ADClean to merge the old and new accounts together. This method preserves the original SID that the store used for the ACL. For more information, see Microsoft Knowledge Base article [Q270652](#), "XADM: Possible Uses of the Active Directory Account Cleanup Wizard."

Where can I find Active Directory Migration Tool?

Active Directory Migration Tool is located at:

<http://go.microsoft.com/fwlink/?LinkId=3540>

Where can I find ADClean?

ADClean is installed with Exchange 2000. To run ADClean, click **Start**, point to **Programs**, point to **Microsoft Exchange**, and then click **Active Directory Cleanup Wizard**.

How do I decide which migration strategy is best for my organization?

Test the various migration strategies in your lab to determine which strategy best meets your requirements.

Additional Resources

The following Microsoft Knowledge Base articles are available on the Web at <http://support.microsoft.com/>:

- [Q178927](#) XADM: How to Rehome Public Folders in Exchange
- [Q238573](#) XADM: Installing, Configuring, and Using the InterOrg Replication Utility
- [Q260871](#) HOW TO: Set Up ADMT for Windows NT 4.0 to Windows 2000 Migration

- [Q260973](#) XCON: Setting Up SMTP Domains for Inbound and Relay E-Mail in Exchange 2000 Server
- [Q274173](#) XADM: Documentation for the NTDSNoMatch Utility
- [Q278017](#) XADM: Introduction to the Enhanced Migration Wizard
- [Q287172](#) XADM: Exchange 2000 Setup Does Not Work with 0x80072030 Error Code.
- [Q288150](#) XADM: How to Rehome Public Folders in Exchange 2000
- [Q297349](#) XADM: Description of Account Creation in the Exchange 2000 SP1 Migration Wizard
- [Q303002](#) XFOR: Exchange 2000 Server SP2 Migration Wizard Generates Ambiguous Error Message
- [Q307706](#) XCON: Exchange 2000 Server Service Pack 2 Migration Enhancements
- [Q297007](#) XFOR: MAPI Migration Does Not Find Accounts Created by ADC in Exchange Server 5.5
- [Q270652](#) Possible Uses of the Active Directory Account Cleanup Wizard

For more information: <http://www.microsoft.com/exchange/>

Did this paper help you? Please give us your feedback. On a scale of 1 (poor) to 5 (excellent), how would you rate this paper?

<mailto:exchdocs@microsoft.com?subject=Feedback: Migrating Mailboxes from Exchange Server version 5.5 to Microsoft Exchange 2000 Server>