Scalix Migration Guide

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Scalix Migration Guide

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Introduction To This Guide

About This Guide

This guide outlines the preparation, system requirements, processes and procedures for migrating existing Microsoft Exchange, POP or IMAP users onto the Scalix mail system. It covers only the migration process. For installation or use of the system, see the other, related product manuals.

Contents of this Guide

Included in this guide are the following topics:

- "Introduction To Scalix" on page 12
- "System Requirements" on page 17
- "Planning Your Migration" on page 19
- "Case Studies in Mail System Migration" on page 31
- "How Coexistence Works in a Phased Migration" on page 36
- "Task 1: Fine-tuning LDAP on the Scalix Server" on page 50
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- "Guide to Synchronization Commands" on page 189

How to Use This Guide

This guide uses the following typographical conventions:

Table 1: Typographical Conventions and their Explanations

Typographical Convention	Explanation
<Angle Brackets>	Values that you need to supply on your own are shown within angle brackets.
Numbered and alphabetized lists versus bullets	Numbered and alphabetized lists denote steps to be followed while bullets provide information.
Buttons	The larger boldface Verdana font indicates a button, a link, a field or any other UI element to click or press as well as a keyboard stroke. For example: Click **Finish**. Or In the **Username** field.
Code	This smaller Lucida font indicates a piece of code to write or run. For example: `Launch scalix-installer.sh`

Table 1: Typographical Conventions and their Explanations

Typographical Convention	Explanation
Document Names	References to other documents appear in italic font.
Italics	Indicates a directory path, a file or the name of a window or dialog box. For example: Go to */var/opt/scalix.* Or: You see the *Reply* screen.

Using the CLI

As with any procedure done on the command line, there may be more than one way to accomplish many of the tasks outlined in this manual. In many cases, these procedures are intended only as examples of how to complete a setup or configuration. If another method is more comfortable or more in keeping with your unique setup, it may be the best approach.

In addition, Scalix offers complete man pages for all commands. Please consult them whenever needed.

Identifying the Instance Home Directory

Throughout the various migration procedures, there are repeated references to the instance's home directory, known as "~". The location of this directory varies depending on how you ran your initial setup. For example, if you named the instance when you created it, the home directory becomes /var/opt/scalix/<instance>/s, where <instance> is a two-letter code created from the first and last letter of the instance name. If the instance is unnamed, the home directory becomes /var/opt/scalix/<nn>/s where <nn> is the first and last letter of the host name for that instance.

To determine the home directory for a particular instance, look in /etc/opt/scalix/instance.cfg for the appropriate value of OMDATADIR.

Related Documentation

Other Scalix product manuals include:

- Scalix Installation Guide
- Scalix Server Setup Guide
- Scalix Administration Guide
- Scalix Client Deployment Guide
- Scalix Evaluation Guide

In addition, there are online help systems in:

- Scalix Management Console
- Scalix Web Access
- Outlook (if enabled for the Scalix connector)

Introduction To Scalix

This chapter introduces the Scalix system: Its different editions, access levels and licensing system.

Contents

This chapter includes the following information:

- "About the Scalix System" on page 12
- "About Scalix Product Editions" on page 13
- "About Scalix User Types" on page 15
- "Required Licenses" on page 15

About the Scalix System

Capitalizing on a proven technology foundation and the openness of Linux, Scalix gives enterprise customers a simple to manage, highly reliable, and feature-rich Linux email and calendaring platform.This offers superior price and performance advantages with greater security, reliability, performance, openness and flexibility, when compared to other operating and messaging systems.

Based on open standards and a proven email server technology foundation, Scalix enables customers to create a robust and scalable environment that is flexible enough to adapt to their changing needs over time. The Scalix platform scales up to support organizations with hundreds of thousands of users and scales down for offices with fewer than one hundred users, making it a viable alternative for a broad range of organizations.

The Scalix architecture supports virtually any email client and device, without loss of functionality or data integrity. This means full-function support for popular clients like Microsoft Outlook and Novell Evolution, as well as the broad range of POP or IMAP clients available. Users can count on advanced features like enterprise calendaring and scheduling with real-time free/busy lookup, contact and task management, public folders, rich text formatting, offline folder synchronization, secure delegate access to calendar and email, email rules and more.

About Scalix Product Editions

Scalix offers three editions of its powerful email and calendaring platform based on Linux and open systems: Scalix *Enterprise Edition, Small Business Edition* and Scalix *Community Edition*.

Scalix Enterprise Edition is the company's flagship product and is ideal for organizations that demand the full range of functionality in a commercial email and calendaring system. It includes multi-server support, unlimited number of *Standard* users, any number of *Premium* users, the full complement of Scalix advanced capabilities, and a wide variety of technical support options.

Scalix Small Business Edition targets organizations getting started with a commercial version of Scalix that do not have the higher end requirements of Enterprise Edition. It is functionally equivalent to Enterprise Edition except that it allows only single-server installations instead of multi-server, and does not include the capabilities for high availability and multi-instance support.

Scalix Community Edition is the free, single-server, unlimited-use version of the Scalix product and is great for cost-conscious organizations that desire a modern email and calendaring system but do not require advanced groupware and collaboration functionality for their entire user population. It includes unlimited Standard users, twenty-five free Premium users, a subset of Scalix functionality, and fee-based, incident-based technical support.

The following table compares the Scalix product editions in greater detail:

Table 1: Product Editions and their Features

Product Feature	Community Edition	Small Business Edition	Enterprise Edition
User Types			
Standard Users	Free, unlimited	Free, unlimited	Free, unlimited
Premium Users	Included: 25 Max: 25	Included: 50 Max: Unlimited	Min Purchase: 25 Max: Unlimited
Core Functionality			
Email & calendaring Server	Single-server	Single-server	Multi-server
Internal user directory	[X]	[X]	[X]
Choice of GUI-based or command line installation and administration	[X]	[X]	[X]
Unlimited POP/IMAP email client access	[X]	[X]	[X]
Native MS Outlook support (via MAPI)	Premium users only (max 25)	Premium users only	Premium users only
Fully functional AJAX web client (Scalix Web Access)	[X] (group scheduling in calendar for 25 premium users only)	[X] (group scheduling in calendar for all premium users)	[X] (group scheduling in calendar for all premium users)

Table 1: Product Editions and their Features

Native Novell Evolution support	[X] (group scheduling in calendar for 25 premium users only)	[X] (group scheduling in calendar for all premium users)	[X] (group scheduling in calendar for all premium users)
Public folders	Premium users only (max 25)	Premium users only	Premium users only
High availability	Not available	Not available	[X]
Multiple instances per server	Not available	Not available	[X]
Migration tools	Not available	[X]	[X]
Upgrade To Enterprise Edition	Via license key. Re-installation not required	Via license key. Re-installation not required	Not applicable
Mobile Access	[X]	[X]	[X]
Ecosystem Support			
Meta-directory support via LDAP	[X]	[X]	[X]
iCal support	[X]	[X]	[X]
Native Exchange Interoperability (via TNEF)	Not available	[X]	[X]
Active Directory integration with MMC plug-in	Not available	[X]	[X]
Anti-virus	Via flexible 3rd party interface	Via flexible 3rd party interface	Via flexible 3rd party interface
Anti-spam	Via flexible 3rd party interface	Via flexible 3rd party interface	Via flexible 3rd party interface
Archiving	Via flexible 3rd party interface	Via flexible 3rd party interface	Via flexible 3rd party interface
Wireless email & PIM	Email-only via POP/IMAP	Email & PIM via Notify	Email & PIM via Notify
Technical Support			
Community Forum	Free	Free	Free
Knowledgebase, Tech notes	Free	Free	Free
Incident-based Support	Fee-based	Fee-based	Fee-based
Software subscription	Not available	[X]	[X]
Premium 7x24 Support	Not available	[X]	[X]
Cost			
Licensing	Free, unlimited use	$995 for First 50 Premium Users	Per-user License; No Per-server Fees

About Scalix User Types

Scalix users can be defined as *Standard* or *Premium* users, as defined in the following:

Standard Users

Standard users gain access to a subset of Scalix functionality including email, personal calendar and contacts through Scalix Web Access and Novell Evolution as well as email access using POP/IMAP clients. The ability to deploy standard users is ideal for cost-conscious organizations with users who do not have high-end groupware and collaboration requirements. An unlimited number of standard users may be deployed with any Scalix edition for free.

Premium Users

Premium users have access to the full benefits and functionality of the Scalix email and calendaring system. The following Scalix product capabilities are available only to premium users:

- Native MS Outlook support (via MAPI)
- Group scheduling functionality including free/busy lookup in Outlook, Scalix Web Access and Evolution clients
- Access to public folders
- Wireless email and PIM

Any number of licensed premium users may be deployed with Scalix Enterprise Edition. Scalix Community Edition is limited to a maximum of twenty-five (25) free premium users, who enjoy many of the features available to Enterprise Edition premium users.

Flexible, Cost-Effective Email For Everyone

The distinction between standard and premium users provides organizations with the flexibility to cost-effectively provide email for all users. For example, manufacturers and retailers may desire headquarters staff to be designated as premium users as they require advanced groupware capabilities, while less demanding users, such as shop floor or store personnel, would be satisfied as standard users with only email and personal calendaring capabilities. Similarly, educational institutions may decide that faculty and staff are premium users that need advanced collaboration capabilities while students are standard users that just need email and personal calendaring. There is no cost for deploying standard users with either Scalix Community Edition or Scalix Enterprise Edition.

Required Licenses

Scalix *Community Edition, Small Business Edition* and *Enterprise Edition* use the same installer. The main difference is that Small Business Edition and Enterprise Edition require a license key while Community Edition does not. Additionally, if you are a Scalix Community Edition customer, you can only perform the “typical” installation, in which all the Scalix components are stored on a single host computer.

To activate your Scalix system as either a Small Business or Enterprise Edition system, you must enter a license key at a strategic point in the installation process. Please obtain your Scalix license key and have it ready for use before installing Scalix 10.0 or 10.0.1.

You may proceed with the installation without a license key, however, your system is treated as a Community Edition system and your users as Standard users until the correct license key is entered by means of the Scalix Management Console.

Additionally, you can install Scalix Enterprise Edition onto a single host, or distribute the primary components onto separate hosts—both of which are detailed fully in this guide.

System Requirements

This chapter details the requirements for running the Scalix migration tool.

Contents

This chapter includes the following information:

- "Approved Software and Client Components" on page 17

Approved Software and Client Components

Scalix is compatible with the following versions of Windows, Outlook and Scalix.

Table 1: Approved Software and Client Components

Components	Requirements
Exchange Versions	• Exchange 5.5 • Exchange 2000 • Exchange 2003
Outlook Versions	• Microsoft Outlook versions XP and 2003 or later with service pack 2 (versions 10, 11)
Windows OS versions	• Windows 2000 • Windows XP (All earlier versions of Windows are not supported, regardless of which version of Outlook you have installed.)
Scalix Versions	• Scalix 10.0.0 and above * • Scalix 11.0.0 and above
MAPI Connector	• Scalix Connect for Microsoft Outlook version 10.0.0 or above

* Scalix 10.0.0 and its associated versions do not support internationalization, so only support the English and German languages.

Part 1

What are the Migration Options?

Planning Your Migration

This section explains the options for migration, which tools to use, and how to plan.

Contents

This chapter includes the following information:

- "What are the Options?" on page 19
- "Decision: To Migrate User Data or Not" on page 20
- "Decision: Who Does the Migration?" on page 20
- "Migration Strategies and Their Benefits" on page 21
- "Migration Strategies for Specific Formats" on page 21
- "What is Involved in Each Migration Method" on page 22
- "Which Migration Method is Best?" on page 24
- "Achieving Successful Coexistence" on page 25
- "Picking a Mailbox and Directory Provisioning Method" on page 26
- "Continuing Coexistence" on page 29

What are the Options?

You are about to move all users and possibly their message archives and other data from an old mail system to Scalix. What are the options?

There are two principal methods:

- A "flash" migration is best used with fewer users and smaller quantities of data. It transfers all users and data to Scalix in a day or two - usually a weekend. Users are told to stay off email for that weekend and on Monday, the new server is online, ready for a new work week.
- A "phased" migration is best when there are large numbers of users with large quantities of data that are best moved in smaller bunches, a few at a time. The complexity of data is the critical deciding factor; if you are migrating mail, notes, scheduling, and more, phased migration may be the better choice.

In a phased migration, you set up a state of coexistence, in which both Scalix and legacy mail servers work in tandem while small batches of users are transfered over to the new system at strategic intervals.

The Key Considerations

The primary concerns are the number of users and how much data each user has.

- With a POP server, you can either migrate the basic user data (as the mail is stored on the user's client) or recreate all-new records in Scalix.
- With an IMAP- or MAPI-based system, if you are either not transferring users' data, or your users will copy their own data over, your migration can be a "flash" process.

If your system is IMAP or MAPI, and you have more than 100 users, all of whom expect their files and data to be accessible in Scalix, your migration will most likely be "phased".

Decision: To Migrate User Data or Not

You must decide whether any, or all of the user data needs to be migrated. Data migration is the most time consuming task of the overall project, whether it is executed by the administrators or the end-users.

Consider the alternative: Migrating users to "green field" (empty) mailboxes. This offers significant benefits—

- Much less work to migrate large groups of users onto Scalix
- Eliminates the majority of time-consuming efforts by the IT staff
- Reduces overall size of Scalix message store
- Streamlines backup efforts initially
- Enables implementation of new email retention and mailbox quota policies

Moving users to Scalix mailboxes without any of their pre-existing data doesn't mean the data is lost, or will never be transferred. Most email clients have the ability to keep a locally stored copy of the legacy email data.

Decision: Who Does the Migration?

Who actually completes the data migration is another important consideration. There are typically two options:

- The users themselves
- The Information Technology resources.

Often organizations jump to the conclusion that all data must be migrated by the IT team, when in fact an end-user-executed local data migration strategy might be ideal.

One approach that might work for your organization is to coordinate the data-migration activities of both users and IT staff. First, provide a special timeframe, plus instructions for all of the users to execute the migration themselves. At the same time, have emergency assistance for those users who need help.

The following table presents the possibilities for user data migration:

Migration Strategies and Their Benefits

Table 1: Strategies and their Benefits

	No Data Migration	Client-side Data Migration	Server-side Data Migration
Process	Data is left in the legacy message store and will continue to be accessible through the legacy mail client.	Data is extracted from the legacy email client in a format that can be imported into the new email client. Or, the same legacy email client is used to access the Scalix system.	Using the available migration tools, user data is transferred directly from the legacy mail store into the Scalix mail store.
Advantages	Dramatically streamlines overall project efforts Clean start with "green field" (empty) Scalix mailboxes.	Legacy data is still accessible within the email client. If legacy system was POP or IMAP, the user retains full reply capabilities. Clean start with "green field" (empty) Scalix mailboxes.	All data remains accessible in the same server-side folders. Full reply capabilities. No end-user involvement.
Disadvantages	Accessing legacy data is somewhat cumbersome. Minimal capabilities with legacy mail data (copy and paste).	The same procedure must be manually executed at every client workstation (either by end-users or IT staff).	Requires more work behind the scenes by IT staff. Dedicated migration workstation required.

Migration Strategies for Specific Formats

Potential Migration Strategies for POP3 Server Data

Due to the fact that all mail has been "popped" to each user's local computer in a POP-based system, data migration options are limited, and are best left to the client user. If the same email client that connected to the POP-based legacy system is used to connect to Scalix, then all legacy data remains fully accessible. If a new email client is used to connect to Scalix, then it should be determined if the old client's data can be exported in a format compatible with the new email client (such as a .PST format for Outlook clients).

At a minimum, users can leave their legacy email client installed on their computers, providing access to the local POP mail archives. They can copy-and-paste the original content into any outgoing messages created and sent by means of their new email client.

Potential Migration Strategies for IMAP Server Data

IMAP servers offer more migration options: Client users can copy the data to their local computers, or IT staff can use a migration utility application to extract/import data from more than one user onto the Scalix system.

Email data is stored directly on the IMAP server, but because most IMAP servers also support POP3 access, most email clients allow the user to download the data to a local store. This means at a minimum the POP-specific options explained in the previous section are applicable to IMAP client users.

The recommended migration utility, The Scalix Migration Tool (SMT), has IMAP capabilities and can extract user data from the legacy IMAP server in bulk (one or more users at a time). Next, IMAP should be used (as the target) to import the data into Scalix. This is arguably the best migration option from any IMAP server to Scalix and should also be considered as the best migration methodology for proprietary messaging servers that provide IMAP support (Groupwise, Exchange, Notes, etc.).

Possible Migration Strategies for Proprietary Data Formats

Messaging systems such as Groupwise, Exchange and Notes typically provide support for both IMAP and POP, but they also utilize RPC-based communication that enables extended capabilities or properties within the message data. This means much of the data is in a proprietary format. Although the POP and IMAP strategies discussed in the previous sections could be used to extract data from these systems, some loss of message fidelity or exclusion of some data types might occur.

These systems usually permit a mail client user to save all server mail data in a local storage file (such as an Outlook .PST file). If the original email client can connect to Scalix, or a new email client is used that can access or import the local storage file, then all the legacy data becomes available. Note, however, that the message headers in the local archive may not contain standards-based (RFC 822/823) address definitions (being proprietary formats). As a result, replies to the messages may not route correctly, but forwarded copies will send correctly.

Bulk server-to-server migration is also possible for many of these proprietary email products by means of the Scalix Migration Tool. Using SMT provides broader support for different message formats and address resolution mechanisms. This assures full reply capabilities to all legacy messages and the ability to migrate most non-message data (calendars, tasks, notes, contacts, etc.) from the legacy system.

After extracting data from the legacy mail system, you import that file into Scalix using either MAPI or IMAP. An IMAP extraction from the legacy environment and subsequent IMAP import into Scalix processes approximately 1 GB of data in 60 minutes.

What is Involved in Each Migration Method

After considering how much user data to migrate, review the overall user/data migration methodologies. Transferring users (and any user data) from the legacy mail system to Scalix is done in one of two ways:

- Migrating your user base all at once (a “flash” transition)
- Migrating separate subgroups of your user base at different times (a “phased” transition)

Each of these is detailed in the following sections.

Flash Transition

A *flash* transition simply means that the entire user base is migrated from the legacy system to Scalix at one time. There is no interim period where some users are on Scalix and others are still on the legacy system. A flash transition is an obvious choice for smaller organizations, or organizations whose user-data migration requirements are minimal.

The typical flash migration follows these steps:

1. Provision (set up) the needed Scalix mailboxes and directory entries
2. Transfer the users and their data to Scalix
3. Change the MX record to the Scalix server

A flash migration ise significantly less complex than the phased approach for several key reasons:

- There is no need to configure auto-forwards on either server
- There is no need to continually synchronize directories on each server
- The overall migration project is simpler, and can be executed much more quickly

While this seems like a logical approach, due to its simplicity, it is often dismissed by organizations with a large number of users to migrate. There are drawbacks to a flash transition:

- There may be too much data to migrate in the short period of one weekend. (Flash migrations ideally occur over a single weekend such that when system users log in on Monday, all their data is present.)
- There may be a spike in end-user requests for assistance if they are unfamiliar with the new system.

While these fears may in some circumstances have some validity, it is important to explore several options to reduce them.

- Spending a little more time in advance planning to produce tools for end users to get help: instructions, quick-reference guides, knowledgebase material, etc.
- Maximizing the appropriate usage of DNS. You can inform users in advance that the switch to the new mail system will occur at 6:00pm on a Friday night. Switching MX records or C-names to the new systems could occur right at 6:00pm, but all mailboxes are actually be provisioned in advance of this. They would have full mail capabilities and any new mail that arrives after 6:00pm from on the new Scalix environment. Legacy mail however might not be available in the Scalix mailbox until Monday.
- Optional: Employ an end-user-executed data migration strategy for either all or a significant portion of the users. This minimizes the amount of server-side data to migrate.
- Retain user access to the legacy data on the legacy server until the data is fully migrated.

Phased Transition

A phased transition, where only a partial amount of users are migrated at a time, means the two messaging environments must coexist until the transfer is complete. Coexistence

requires some careful set-up procedures, but can be utterly transparent to system users who have no idea their mail and data is moving from one system to another.

The typical phased migration follows these steps:

1 Set up message routing
   - Configure routing between Scalix and the legacy system
   - Make necessary DNS changes (adding any needed MX records)
2 Synchronize and provision the Scalix system
   - Load all mailboxes and/or directory entries
   - Configure the forwarding mechanism on mailboxes (for coexistence)
3 Set up coexistence processes on the legacy system
   - Load custom recipient/contact entries
4 Transfer the first subgroup (users and their data)
   - Migrate legacy data to the local store, then to the Scalix message store
   - Activate just-migrated mailboxes on Scalix
   - Configure migrated mailbox auto-forwarding on legacy system
5 Repeat step 4 at strategic intervals, until all groups of users and their data are transferred to Scalix.
6 Make the necessary MX record changes, redirecting inbound internet mail to Scalix.
7 The legacy server could be left in place for a period of time, and eventually decommissioned for other uses.

Which Migration Method is Best?

After you take the following inventory of your system, you'll have a good idea which method—*flash* or *phased*—you'll be able to utilize.

How many mail users are to be migrated?

A: The number is not as critical as the amount of *user data* (messages, contacts, notes, tasks, etc.) that will—or won't—be transferred with each user.

Will user data be copied to Scalix or will other access points to their archives be provided to users?

A: If you don't want to transfer user's IMAP system data to Scalix, you may want to convert the old system to a client-accessible archive instead.

How much of which data types will be migrated?

A: Is it just messages, or does it include calendars, contacts, tasks, notes, folders?

Will mail users be involved in the process?

In some cases, you can employ your mail user base to copy their own messages to Scalix, or transfer them to their own client computer for archiving.

Is a coexistence period necessary or can all users be migrated at once?

A: That depends on this formula: Number of users plus amount of user data. As you can see, the more complex the data to be transferred, the more likely you'll start a phased migration and have to set up coexistence.

How will the users on the two systems communicate with each other during a coexistence period?

A: They'll communicate the same way as before the migration process and they'll have no awareness of the two-system coexistence.

What migration strategies did other, similar Scalix customers use?

A: The answer to this question can be found in "Case Studies in Mail System Migration" on page 31.

How do I assess the success of migration, during and after it's done?

A: Information on testing the migration in progress or at the end is provided in this guide.

Achieving Successful Coexistence

If you choose to do a phased migration, a successful state of coexistence and a satisfying migration to Scalix depend on the following.

- All inbound internet mail must continue to be routed to the legacy mail service until the last user is migrated to Scalix. Only then can the MX records can be changed to direct mail to the Scalix service.
- Once a legacy mail service user has been migrated to Scalix, both inbound Internet mail and mail from other users on the legacy system is still directed to the user's legacy mailbox. You must have activated a forwarding mechanism on the legacy mailbox, along with an alternate directory entry in the legacy mail environment to successfully redirect all incoming mail to the Scalix server.
- Every newly migrated Scalix user needs access to a complete address book listing all users, whether on Scalix or on the legacy system. When they send email to any user, it should be routed to the appropriate environment (wherever the destination recipient's mailbox truly exists). This means you need mailbox forwarding mechanisms and/or directory entries within the Scalix environment as well, to make sure mail routes to the legacy environment.
- Each time a user (or a group of users) is migrated from the legacy environment to Scalix, auto-forwarding mechanisms must be active and directory entries must be updated.

Additional important points to consider:

- Executing a migration between two email environments typically involves the exact same requirements, if a phased approach to the transition is used.
- Most email environments do, in fact, provide the necessary forwarding mechanisms for mailboxes.

- Scalix provides a selection of advanced tools (sxaa, omldapsync) to execute the necessary mailbox forwarding process (described in later sections of this guide) that will provide significant time savings.
- A flash transition is much more feasible than most organizations realize and should be strongly considered as a way to streamline the overall migration process.

NOTE	This procedure does not support cross-system Free/Busy retrieval. So if one user is still on Exchange and another user has been migrated to Scalix, you will see valid Free/Busy information for the second user once Outlook or SWA has published it. But you will not see it for the first user. In addition, only Outlook or SWA publishes Free/Busy information for Scalix. This must be done once a user has been migrated or they won't display as having any Free/Busy information.

Picking a Mailbox and Directory Provisioning Method

Having considered the data to be migrated, and chosen a migration methodology, you can now decide how you will set up the needed directory entries and mailboxes on the Scalix server. There are two ways to set up (or, "provision") these items, before transferring users and data from the legacy mail system:

- The Scalix Management Console is adequate but inefficient, as it restricts your work to only one directory entry/mailbox at a time. This may not be suitable for organizations that want to load hundreds of users in as short a time as possible.
- Several Scalix-produced command line tools can be utilized, as each offers multiple options that can be used to bulk-load thousands of names into a Scalix server.

In most cases you simply need to make sure the appropriate mailboxes or directory entries are provided, either through ready-formatted text files or through some means of accessing the records on the legacy mail system.

The primary tools for mailbox and directory provisioning (*omldapsync*, *omaddent* and *omaddu*) are detailed in the following sections:

About the Synchronizationn Command omldapsync

Any legacy messaging environment that provides LDAP support can take advantage of the **omldapsync** tool provided by Scalix. This tool not only assists in provisioning Scalix mailboxes with auto-forwards, but it also provides the ability to load directory objects in the legacy environment (such as Contacts or Custom Recipients in Exchange environments).

The step-by-step use of omldapsync is detailed at the appropriate time, later in this user guide.

About the Commands omaddent and ommaddu

Scalix also provides an advanced method of loading directory entries and mailboxes using separate utilities, **omaddu** and **omaddent**. These can be integrated into scripts and can be customized for bulk data loading. Additionally the ability to load mailboxes with auto-forwards is provided by means of the **sxaa** utility.

The step-by-step use of omaddent and omaddu in provisioning is detailed later in this user guide.

How to use omaddent

In most cases, mail server directory entries (as contrasted with mailbox entries) provide an easy way for the users to send mail to destinations external to Scalix (Internet recipients). A text file of the current directory entries can be created as follows:

```
CN=Smith, John/OU1=Internet/IA=john.smith@company.com

CN=Jones, Fred (Pager)/OU1=Internet/IA=216.2725566@mobile.att.net

CN=Catering Orders/OU1=Internet/IA=Creighton.Catering@sbcglo-
bal.net
```

This can then be imported into Scalix with this command.

```
#omaddent -f filename.txt
```

The Scalix users will now be able to select (or search for) “Smith, John”, “Jones, Fred” and “Catering Orders” in the Scalix address books, and the message will route to the destination Internet address as specified in the input file (filename.txt).

How to use omaddu

In preparation for migrating user data, you must create mailboxes on your Scalix system with the same parameters as those on the legacy system. New mailboxes on Scalix can be efficiently provisioned by means of omaddu, utilizing the bulk parameter: Enter the name of an input file that contains most if not all of the necessary information for a user.

A simple way to do this is to take advantage of the automatic generators for the display name, internet addresses, and authentication ID, thus simplifying the contents of the input file to be passed to omaddu.

To prepare your Scalix system for bulk mailbox provisioning with omaddu with the Scalix Management Console:

1. Log in to your Scalix server (as a root user).
2. Start your browser and connect to the Scalix server.
3. When the Scalix Management Console appears, choose **Settings**.
4. Set the appropriate mail address settings for generating the following:
   - The Internet Address
   - The Display Name Rule (which determines how the users will be displayed in the System Address book)
   - The Authentication ID Rule
5. Note the Default Domain is appended to the Authentication ID Rule to form the entire Authentication ID for each Scalix account.

Once this has been established, test the provisioning process by creating a single mailbox on Scalix through omaddu. Following this, use omshowu to verify all values were correctly transferred to Scalix.

```
#omaddu -n "Test User/mailnode" -p pass
```

Verify that the internet address and authentication ID are created correctly and the common name (cn=) value is what is desired for the System Address book.

To load all users, create a simple text file with their names. The format of the text file should look like:

```
@ Firstname Lastname

@ Firstname Lastname

@ Firstname M. Lastname

@ Firstname Lastname Jr.
```

To verify the transfer of values:

1 Run this command:

```
#omshowu -n "Test User/mailnode"
```

To format the text file:

1 Enter a last name (family name), up to 40 characters. This is called Surname (or "S") in the X.400 syntax.

2 Enter an optional first name (given name, i.e. "G"), up to 16 characters.

3 Add any optional initials (for example ?K?), up to five. Each initial must be followed by a period (.) when you define or use the name. They are automatically capitalized.

4 Enter an optional suffix (generation qualifier, ?Q?), up to 3 characters

5 Next, the file (named "dirload.txt" in the example below) can be used to bulk load all users with the following command.

```
# omaddu -bulk -p pass mailnode dirload.txt
```

Note the -e switch can also be passed in the same omaddu command line (shown above) which will set each mailbox to the "pre-expired" state and force users to replace the existing password with a new password when they first log in to the Scalix server.

If you want deeper control you can simply specify exactly what you want for each user in the input file and it will override the settings in the Scalix Management Console. For example, in the input file below, for the first three users the authentication ID is specified, followed by the user's name, then the display name, then primary internet address (with friendly name) and in the case of ?Ed Ott? even a second Internet address. Notice however the mailbox ?Room 22? will have everything but the user name automatically generated.

```
jdoe@SRV.LOCAL Joe Doe/CN=Doe, Joe/IA="Joe Doe" <joe.doe@corp.com>

eott@SRV.LOCAL Ed Ott/CN=Ott, Ed/IA="Ott, Ed"
ed.ott@corp.com=eott@corp.com

tfjones@SRV.LOCAL Ty F. Jones/CN=Jones, Ty F/IA="Jones, Ty F"
<ty.f.jones@corp.com>

@ Room 22
```

Continuing Coexistence

If you are planning to operate both Exchange and Scalix servers after the initial migration, you will be running omldapsync on a regular basis to synchronize directories. This is entirely feasible, but you should remember the following, as you perform regular updates of both server directories:

Do not change or delete user records on the Scalix server. Always edit the records on the originating Exchange/IMAP server.

Then, start a new omldapsync operation to update the Scalix server.

If you synchronize directories on Scalix and Exchange, the operation involves two sequential unidirectional synchronizations—that are entirely independent of each other:

- Scalix users become "foreign address" entries in the Exchange GAL
- Exchange users become "Internet" users in Scalix

There is no duplication of directory entries; during omldapsync, each set of users is treated differently on the target server. Scalix users are kept in a separate Exchange recipients container, and Exchange users are never given Standard or Premium user status in Scalix.

As a result, problems may arise from mistaken assumptions about "synchronization".

Consider this example: You synchronize a "Jane Smith" user record from Exchange to Scalix. Later, you either edit the Scalix "Jane Smith" record on Scalix, or delete that record from Scalix. (If a record originates in Exchange, resist the impulse to edit or delete it in Scalix!)

It later becomes apparent that the "Jane Smith" record should not have been changed or deleted. You assume that the record will be replaced in the next omldapsync operation, but you discover nothing has changed afterwards.

The explanation is simple, and the solution is also simple:

- omldapsync does not compare each directory (Scalix and Exchange) for changes or deletions in shared records, so it will not detect the missing "Jane Smith" record on Scalix and replace it.
- You must manually edit the files used by omldapsync (as detailed following), specifically the "Jane Smith" record", to force omldapsync to reload that "Jane Smith" record from Exchange to Scalix.

How omldapsync Works

omldapsync, when run, takes a snapshot of the entire Scalix directory—including Scalix users and "internet" users. omldapsync also polls the Exchange directory for both kinds of users and notes them in the same snapshot. It then compares the aggregate snapshot file with the previously-saved snapshot file. Any additions or changes are then recorded in a [name] file, that is exported to Exchange and to Scalix.

Again, there is no direct comparison of the two server's user directories. An intermediary process is used.

Editing the omldapsync [name] File

If you accidentally delete a record on Scalix or Exchange that originated from the other server, you can force omldapsync to reload the original record on the destination server.

1 Log into Scalix as root.

2 Use a text editor to open the snapshot file that contains the original "Jane Smith" record.

```
~/ldapsync/[name_of_sync_agreement]/search.last
```

3 Find and delete the “Jane Smith” record—and the following carriage return.

4 Save the change to the snapshot file.

5 Restart omldapsync.

After comparing the latest collection of user records with the previous snapshot, it will create a [name] file that will replace the missing “Jane Smith” record in the destination server.

Case Studies in Mail System Migration

This chapter offers three case studies to help you understand how different migration scenarios can work.

Contents

This chapter includes the following information:

- "Overview" on page 31
- "Company A" on page 31
- "Company B" on page 32
- "Company C" on page 34

Overview

To help you determine which migration method to use, we offer the following case studies to illustrate basic strategies for mail migration used by actual Scalix customers.

Company A

Pre-Migration Environment: 1000 users on Exchange 5.5, all using Outlook (MAPI)

Post-Migration Environment: 1000 users on Scalix 9.2, all using Outlook (MAPI)

High-Level Decisions		Benefits and Implications
Architecture	Single Server (dual P4, 4GB RAM, SCSI, RAID 5, 400GB, SCSI)	Provided approximately 300+ MB of storage per mailbox, plus room for LVM snapshots, suitable CPU, disk and memory for Outlook (MAPI) or SWA with excellent performance.

High-Level Decisions		Benefits and Implications
Transition Strategy	Flash transition - no coexistence required. An initial load of a few mailboxes and testing occured, then all mailboxes were loaded into Scalix. MX records were then redirected to Scalix server.	Flash transition dramatically shortened the overall project. Post migration results included an initial spike in help desk requests due to minor end-user issues, mostly educational in nature. No directory synchronization was required.
Data Migration Strategy	Deployed four migration workstations to accomplish full transfer over one weekend. Pace: 125 mailboxes per day, per workstation in a 12 hour period.	All users accessed legacy data (mail, contacts, calendar, etc.) from within their Scalix mailbox on Monday and had full reply capability. Required an intensive weekend for the IT staff.
Provisioning Method	Used omaddu with the bulk option, and preset automatic generators in the Scalix Management Console for display name and Internet addresses.	Extremely fast way to create all mailboxes on Scalix, and automatically have standards for the display name and Internet addresses. Required a simple flat file created in advance based on Exchange users.

Notes

- The installation of Scalix Connect and subsequent generation of Scalix profiles was executed by end users on Monday morning as a first step, followed by the entry of their username and password. This took about two minutes per user, with a few taking up to five minutes. Once the users successfully logged in to their Scalix mailboxes, all mail data was available.
- Instructions for using Scalix Web Access were provided for users who were not able to access Outlook through Scalix Connect. The IT team later helped each of these users attain the files to install Scalix Connect and generate the Scalix profile.
- By the close of business on Monday, approximately 90 help-desk queries were logged. Of these, approximately 65 were resolved in 5 minutes or less. 40 queries were attributed to users not reading the provided instructions for installing Scalix Connect. Another 25 queries were from the users entering invalid username or password. There were 12 pre-scheduled incidents for remote users who required extra assistance, and the remaining queries were miscellaneous issues (not understanding how to link .PST files, enabling off-line synchronization). On Tuesday there were only 16 help-desk queries relating to email.

Company B

Pre-Migration Environment: 1800 users on IMAP server with various IMAP clients

Post-Migration Environment: 1600 on SWA only, 200 on Outlook (MAPI)

High-Level Decisions		Benefits and Implications
Architecture	Single Server (dual P4, 6GB RAM, SCSI, RAID 1+0, 250 GB, SCSI)	Provided approximately 50+ MB of storage per mailbox for SWA users (mailbox limits enforced), 500+MB for Outlook users, and room for LVM snapshots, suitable CPU, disk and memory for SWA with snappy performance. Peak SWA logins were less than 300 in a 30 minute time period.
Transition Strategy	No coexistence required. All mailboxes were loaded into Scalix; inbound MX records were then modified at 9:00 pm on Friday evening.	Lack of coexistence dramatically shortened the overall project. IT staffers saw an initial spike in help desk requests due to minor end-user issues, mostly educational in nature.
Data Migration Strategy	Used four migration workstations to migrate approximately 250 mailboxes per day, per workstation in a 12-hour period. Completed the entire migration over the weekend.	All users accessed their legacy data (mail, contacts) from within their new Scalix mailboxes on Monday with full reply capability. Required an intensive weekend for the IT staff.
Provisioning Method	Used omaddu with the bulk option, but because no standard Internet address were used, specified all values in the bulk input file.	Extremely fast way to create all mailboxes on Scalix while accounting for lack of standard Internet addresses, but apply standards to display names.

Notes

- This organization declared an email outage from 9:00pm Friday evening until 6:00am Monday morning, and let all mail queue on the perimeter mail relay during that time. This provided an effective back out strategy. If the migration process had issues during the weekend, they could simply let the mail route to the legacy server and try again another weekend and users would not lose any mail. If all was successful then the queued mail would be routed to the new Scalix server on Sunday night.
- No client software deployment was necessary for 1600 of the 1800 users who used Scalix Web Access; the other 200 on Outlook (MAPI) were provided the instructions for installing Scalix Connect, creating the profile and accessing their mailbox.
- All Scalix users authenticated against a corporate LDAP server through Scalix Web Access and Outlook. Authentication IDs were pre-loaded on all mailboxes through bulk load process and PAM-based authentication configuration completed with the help of Scalix-ready documentation.

Company C

Pre-Migration Environment:3000 users on a POP server with various POP and IMAP-supporting clients

Post-Migration Environment: 2800 users on Scalix Web Access only, 200 on Outlook (MAPI)

High-Level Decisions		Benefits and Implications
Architecture	Dual Server (dual P4, 6GB RAM, SCSI, RAID 5, 1 TB)	Provided approximately 250+ MB of storage per mailbox for all users and room for LVM snapshots, suitable CPU, disk and memory for SWA with snappy performance. Peak SWA logins were less than 300 in a 30 minute time period.
Transition Strategy	Transitioned in three phases. Loaded 200 mailboxes on the first Scalix server in phase 1), then 1300 three weeks later. Loaded the final 1500 on the second Scalix server four weeks later.	Enabled large groups of users to be transitioned, but not too many that it overwhelmed the support group. Did have to script the loading of forwards for the first 1500 mailboxes during coexistence (Phase 1 and 2).
Data Migration Strategy	Legacy data was left locally in the legacy POP store for most users; some data was migrated using a client-to-server method.	End-users did not have legacy mail data inside the Scalix mailbox, but had access through the legacy client. Administrators benefited from s fresh start with empty mailboxes.
Provisioning Method	Used omaddu with the bulk option and the preset automatic generators in the Scalix Management Console for display name and Internet addresses. Also used the Scalix Management Console to manually add extra Internet addresses for some users.	Extremely fast way to create all mailboxes on Scalix, and automatically have standards for the display name and Internet addresses applied, and account for users who had been receiving mail on non-standard Internet addresses.

Notes

- Outbound SMTP server setting in each legacy POP client pointed to a C-Name DNS entry that was then redirected to the Scalix server. This provided the users an option of accessing their legacy mail by means of their old POP client and simply replying.
- Many of executive-level team required their legacy mail data migrated to their Scalix mailbox. For these users, the Netscape client used for POP access to the legacy server was configured with an additional IMAP service that connected to the Scalix server. Once connected, this data was simply dragged and dropped into the server-side Scalix folders.
- The */etc/opt/scalix/webmail/partner.xml* file was configured to provide LDAP searches against the legacy POP server in addition to Scalix system address book and each user's local contacts. Since addressing in Scalix Web Access is primarily per-

formed through the Search Names functionality (which then uses the LDAP settings in the partner.xml), this enables full address book capabilities for all Scalix Web Access users but with only a partial amount of the mailbox actually loaded on Scalix. Even though there was a coexistence period, no forwards or extra directory entries were required.

How Coexistence Works in a Phased Migration

This chapter illustrates the concepts in phased migration to explain what is done—and why. It starts with a sequence of pictures showing how phased migration works on a per-server basis.

Contents

This chapter includes the following information:

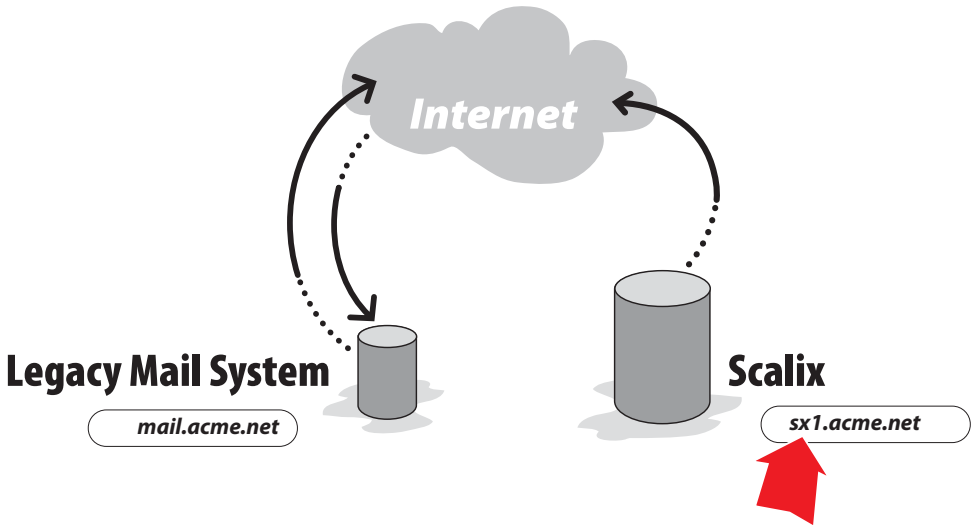
- "Overview" on page 36
- "Co-Existence Steps" on page 37
- "How to Manage Mailboxes during Coexistence" on page 44
- "Coexistence in a single picture..." on page 48

Overview

In a "phased" migration, you have a lot of users and data, so you move users (and their data) in smaller groups, a few at a time. The complexity of data is the critical dependency; if you are not migrating mail, notes, scheduling, and more, the transfer from a legacy system to Scalix can be done with a flash migration. Otherwise, it must be done carefully, in small groups.

If a phased migration is required, you must set up a state of coexistence in which both Scalix and legacy mail servers communicate with one another while you move batches of users at strategic intervals.

Important! It is absolutely imperative that each server not share the same DNS entry, but have distinct addressing, as shown below.

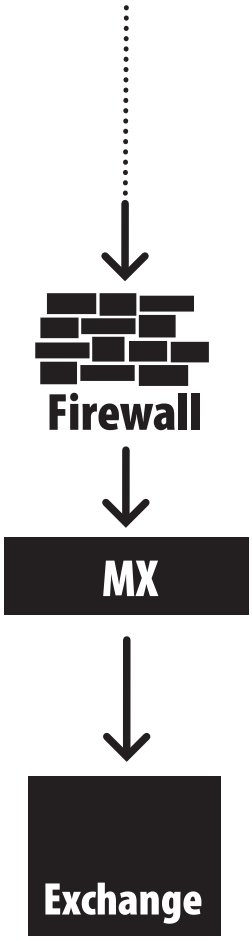


The separate DNS records must be in effect all through migration, as well as afterwards.

Co-Existence Steps

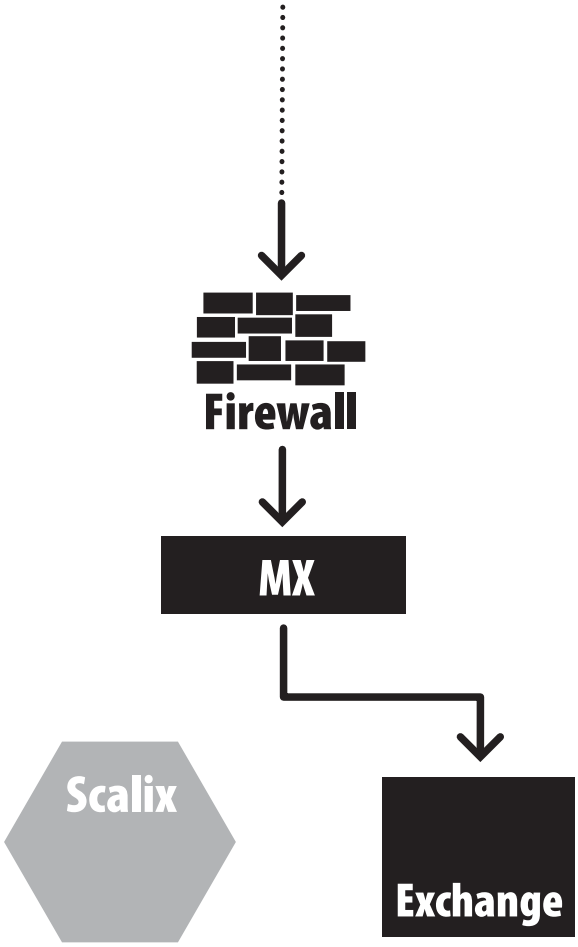
The following series of pictures shows how individual mailboxes are able to coexist during a phased migration.

Step 1



Before migration: All corporate email is managed by the legacy mail system server.

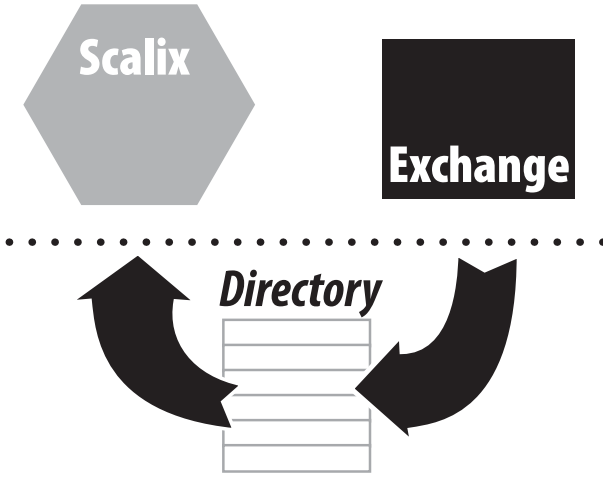
Step 2



Before migration: The new Scalix server is installed and configured, ready for use. But all corporate email is still managed by the legacy server.

All that's needed is (1) to make sure that Scalix and the legacy system can cooperate/co-exist while (2) you continue the migration of the users and their data.

Step 3

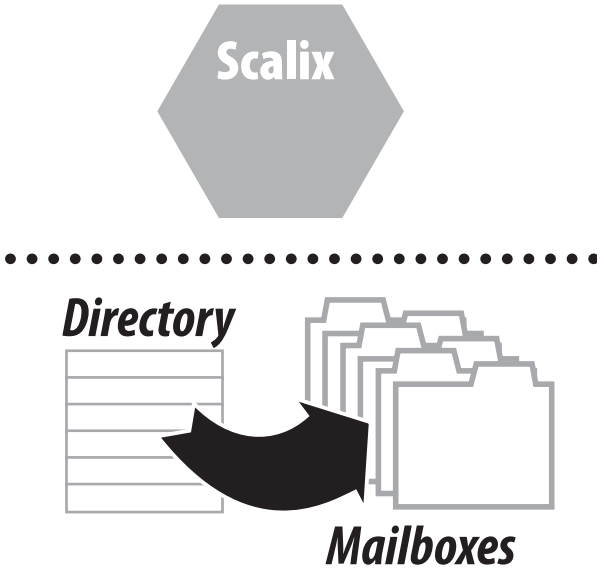


The contents of the legacy system's directory are synchronized to Scalix.

This can be done with one of three CLI utilities:

- *omldapsync*
- *omloadfile*
- *sxaa*

Step 4

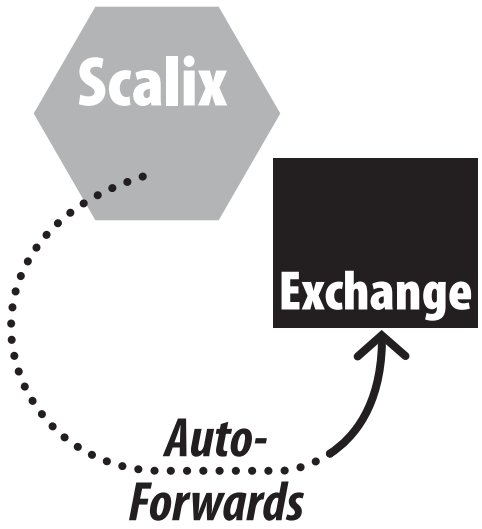


Using the new Scalix directory as the source, migration-ready mailboxes are created for all listed users and groups.

(All of these mailboxes are locked.)

If you use sxaa, directory pointers are created for all listed users and groups.

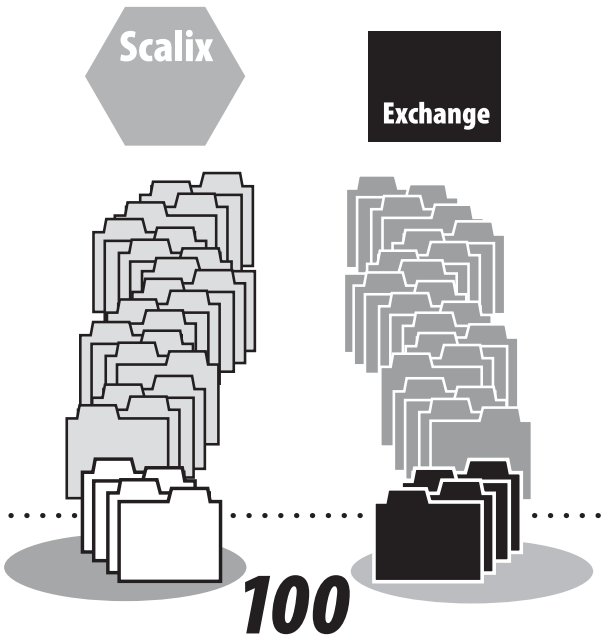
Step 5



An auto-forward is applied to each new Scalix mailbox, to automatically redirect any communications sent to Scalix back to the still-active legacy server.

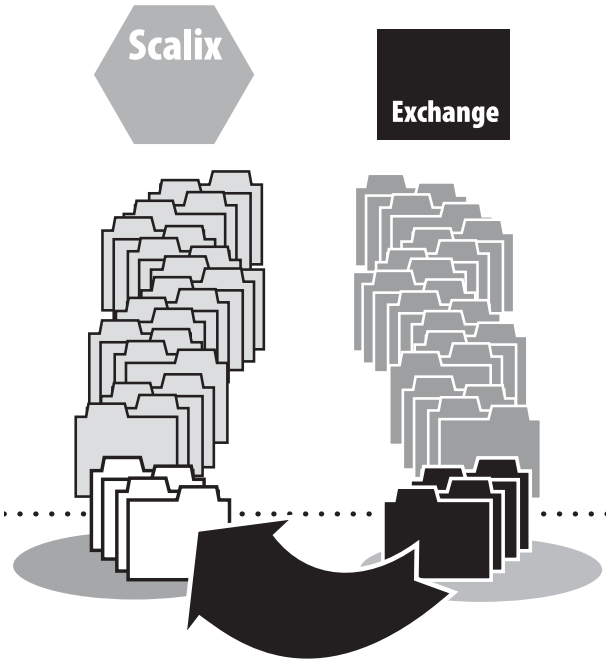
Remember!—The legacy server is still managing all email, incoming and outgoing.

Step 6



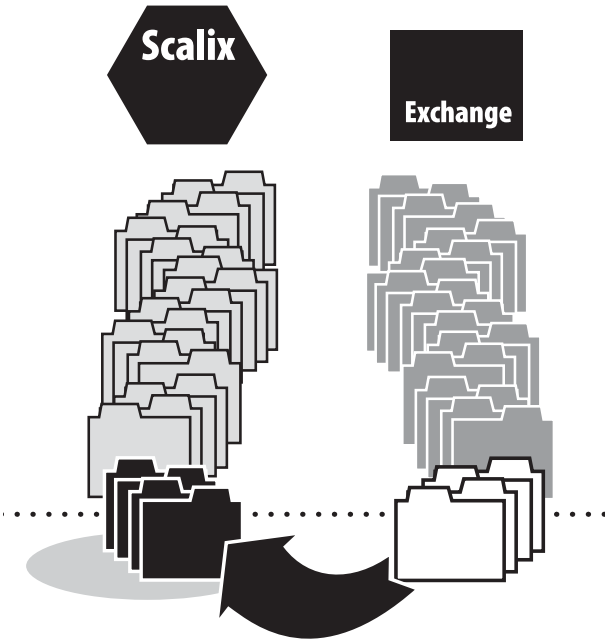
Divide your legacy-system users into small groups of users that can be migrated at one time. It may be 20, 50, 100; time and resources are the guides to the exact number you choose.

Step 7



Starting: The actual migration of a group of users (and their data) begins with copying the contents of the first group of mailboxes.

Step 8



Finished: When migration of the first group is complete, you can:

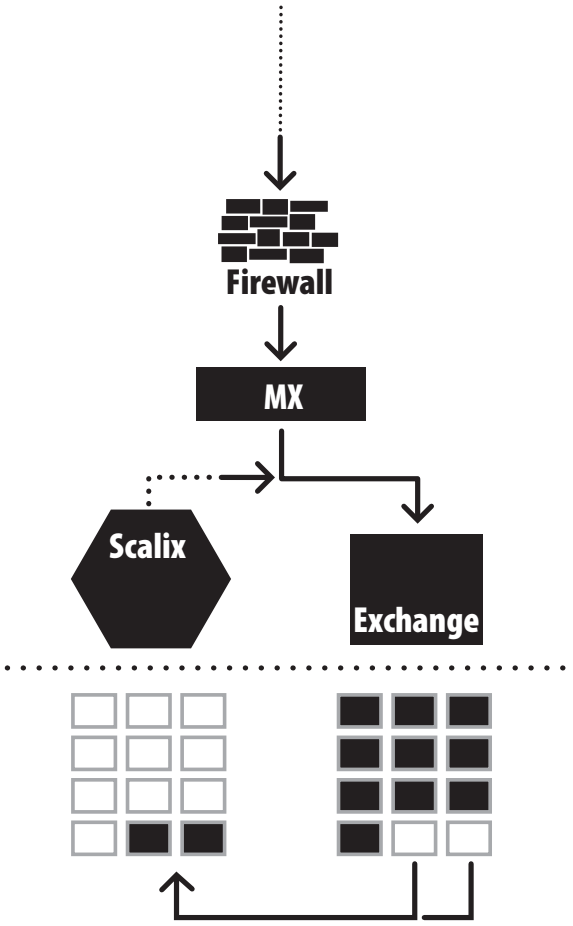
(1) Turn off auto-forwarding on the just-migrated Scalix mailboxes

(2) Activate an alternate address on each of the just-migrated legacy mailboxes

(3) Or use .forward files

The legacy system now forwards all incoming mail to the Scalix version of each mailbox.

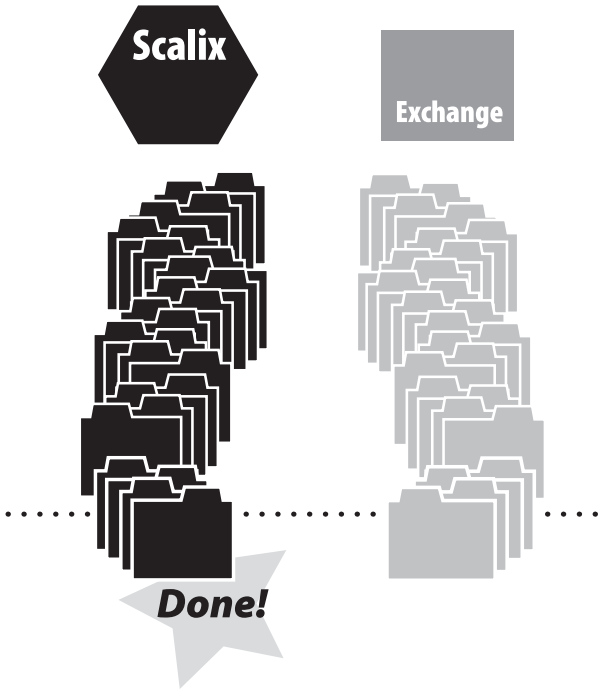
Step 9



The mailboxes are present on both systems. Migration now transfers the data from selected legacy mailboxes to Scalix in an orderly manner.

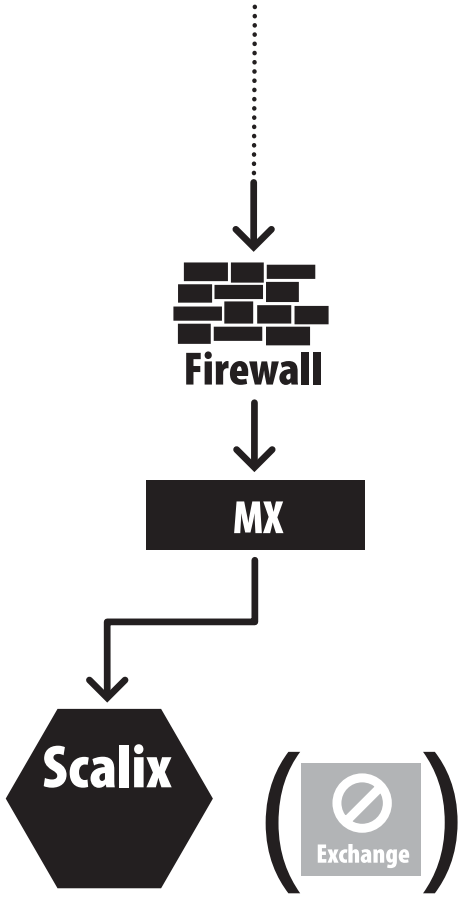
What's happening: The legacy system is still managing all incoming email and scheduling communications. But is now forwarding all incoming messages to the just-migrated Scalix users. Scalix is now managing outgoing communications from all migrated mailboxes. The servers are now actively coexisting.

Step 10



Migration is complete. You can now stop all auto-forwarding from Scalix back to the legacy system. All mail going to the legacy system is redirected to Scalix mailboxes.

Step 11



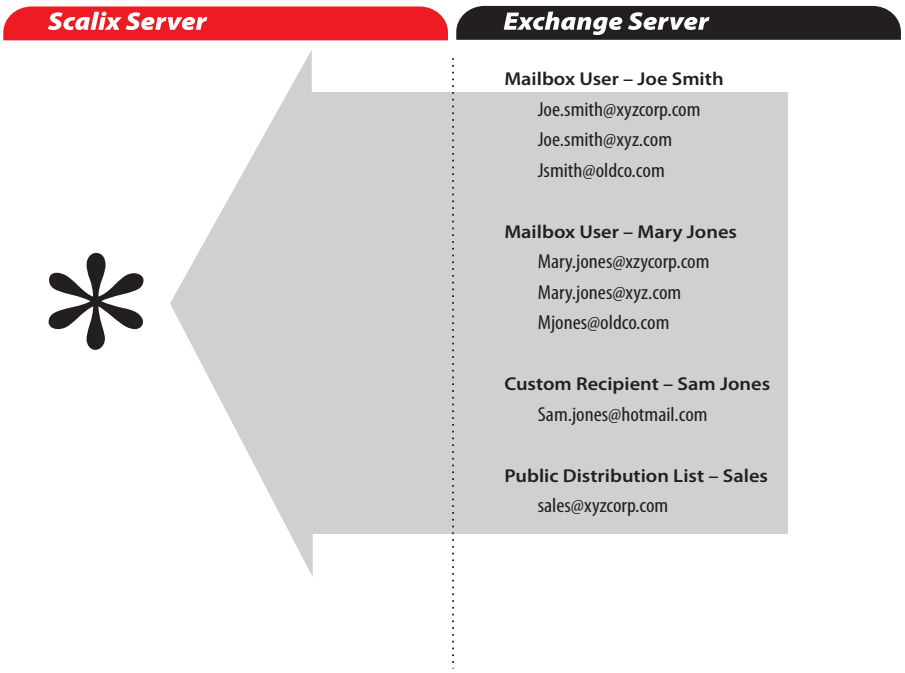
Done: The MX record can now be revised so that all mail goes to the Scalix Server.

From now on, the Scalix server manages all email and scheduling, or any other services formerly managed by the legacy system.

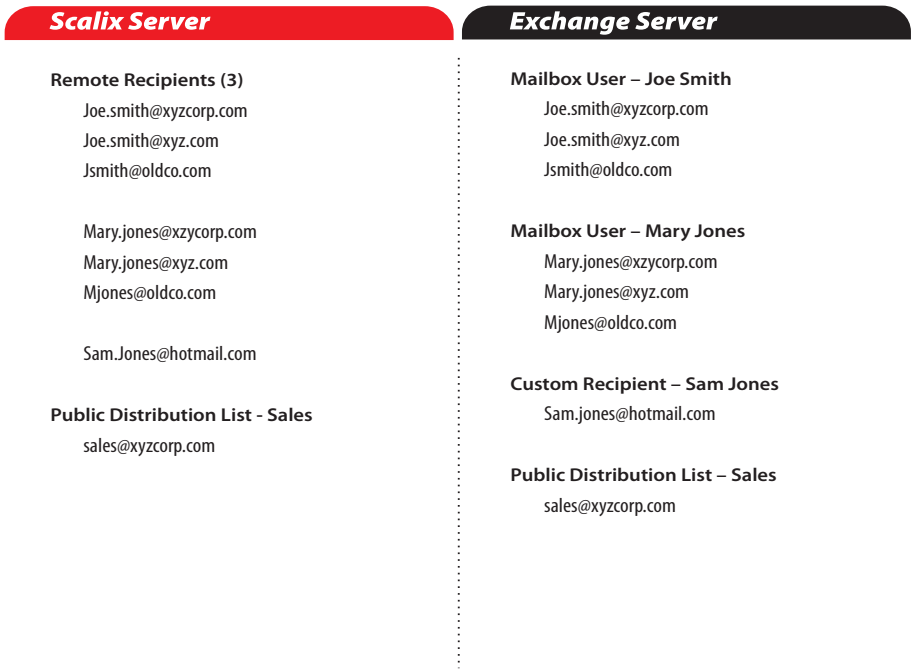
The legacy server can now be decommissioned and reused for other purposes.

How to Manage Mailboxes during Coexistence

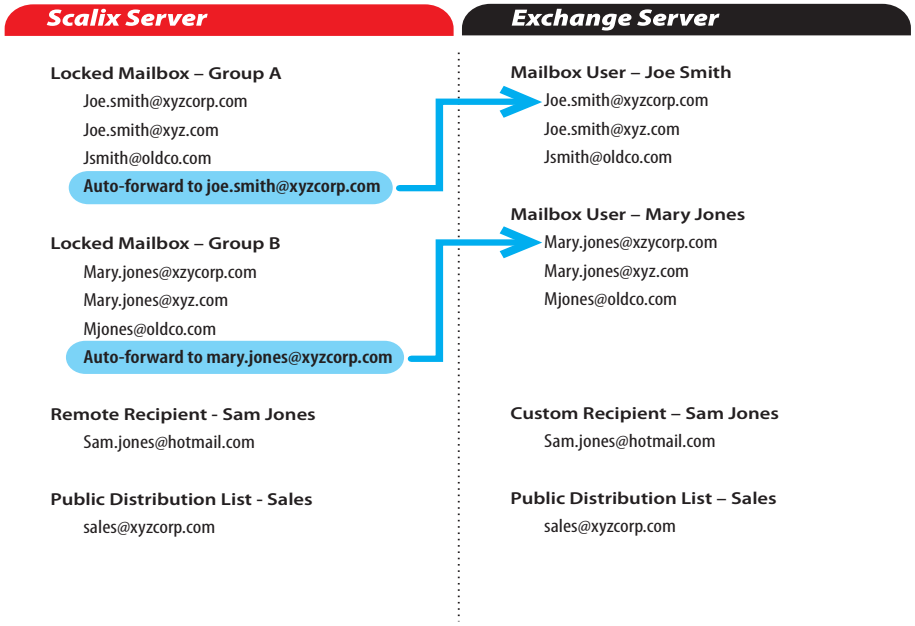
Mailbox management tasks begin after a directory synchronization with the legacy system. You now complete a directory-based provisioning of new mailboxes on the Scalix server.



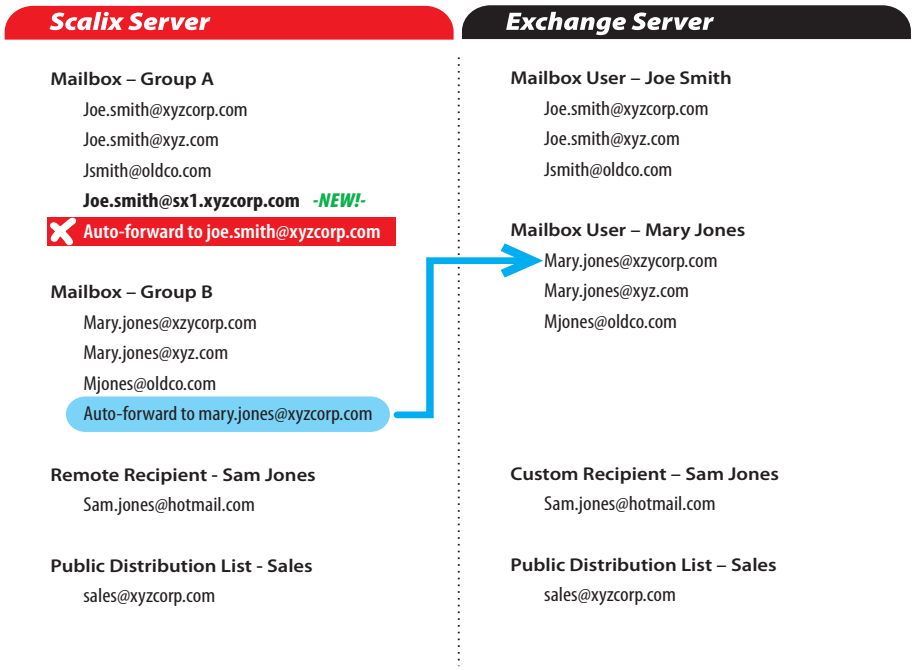
You now have the same users on each server, though in different states.



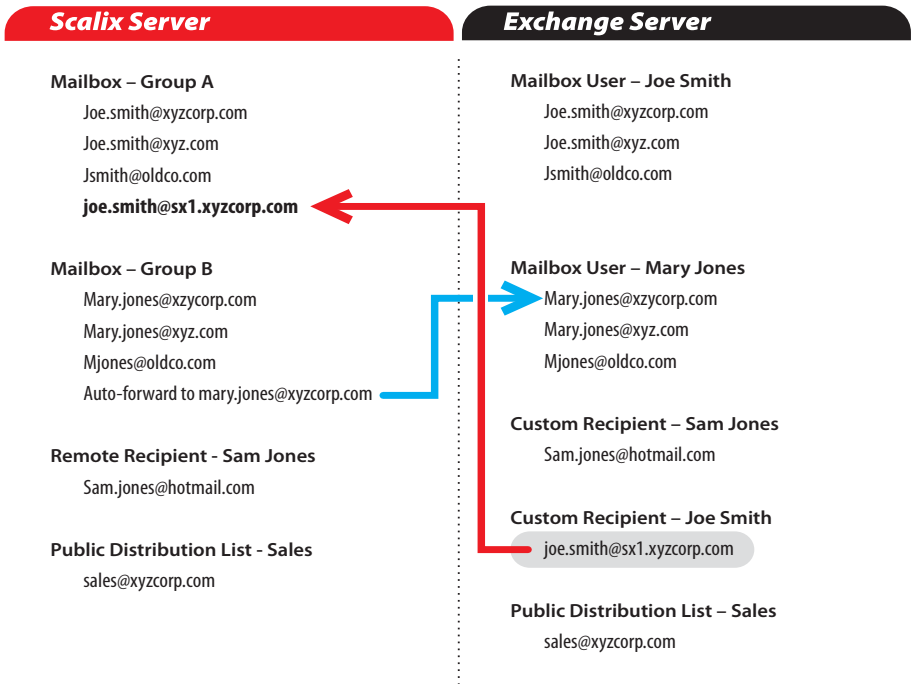
Next, you create auto-forwarding from the new mailboxes on Scalix that route mail to the legacy mail system. This is a precautionary step, as the Scalix mailboxes should not be receiving incoming mail.



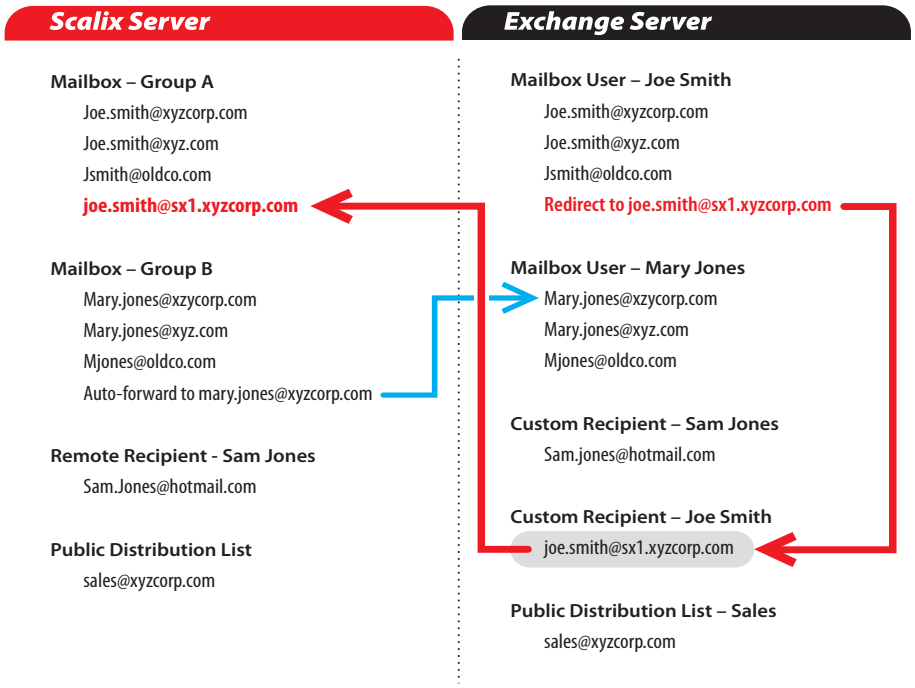
At this point, you can add a new, correct Scalix-specific address to each Scalix mailbox, and then turn off the precautionary auto-forward.



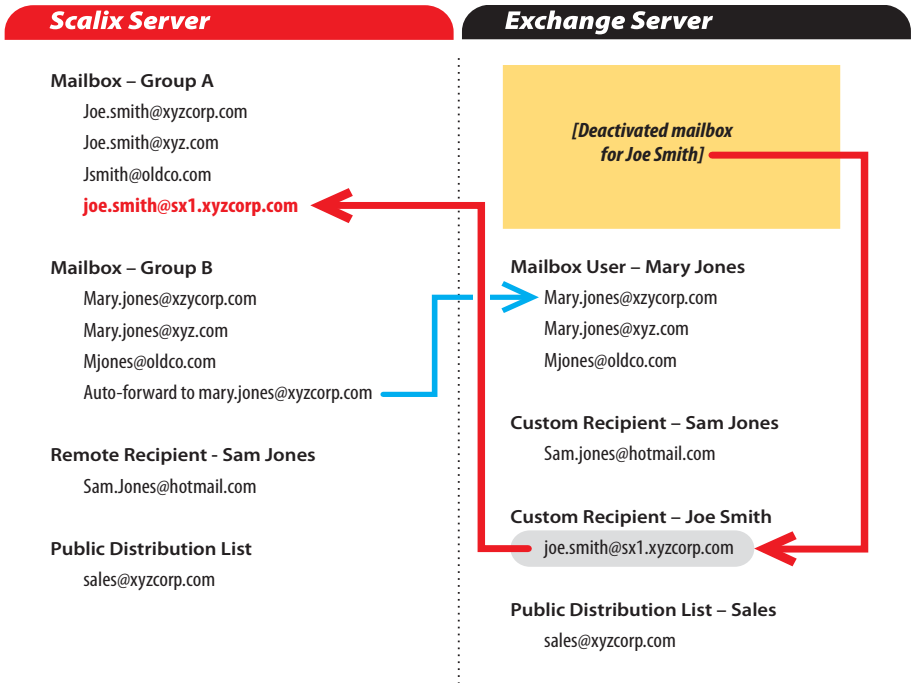
Now you start to create a custom recipient that matches each of the users on the legacy system, and each recipient points to that user's Scalix-addressed mailbox.



The next step is to add a redirection address to each legacy mailbox, pointing to the corresponding custom recipient. This routes all incoming mail from the original mailbox to the custom mailbox (on the legacy system) then to the Scalix mailbox.

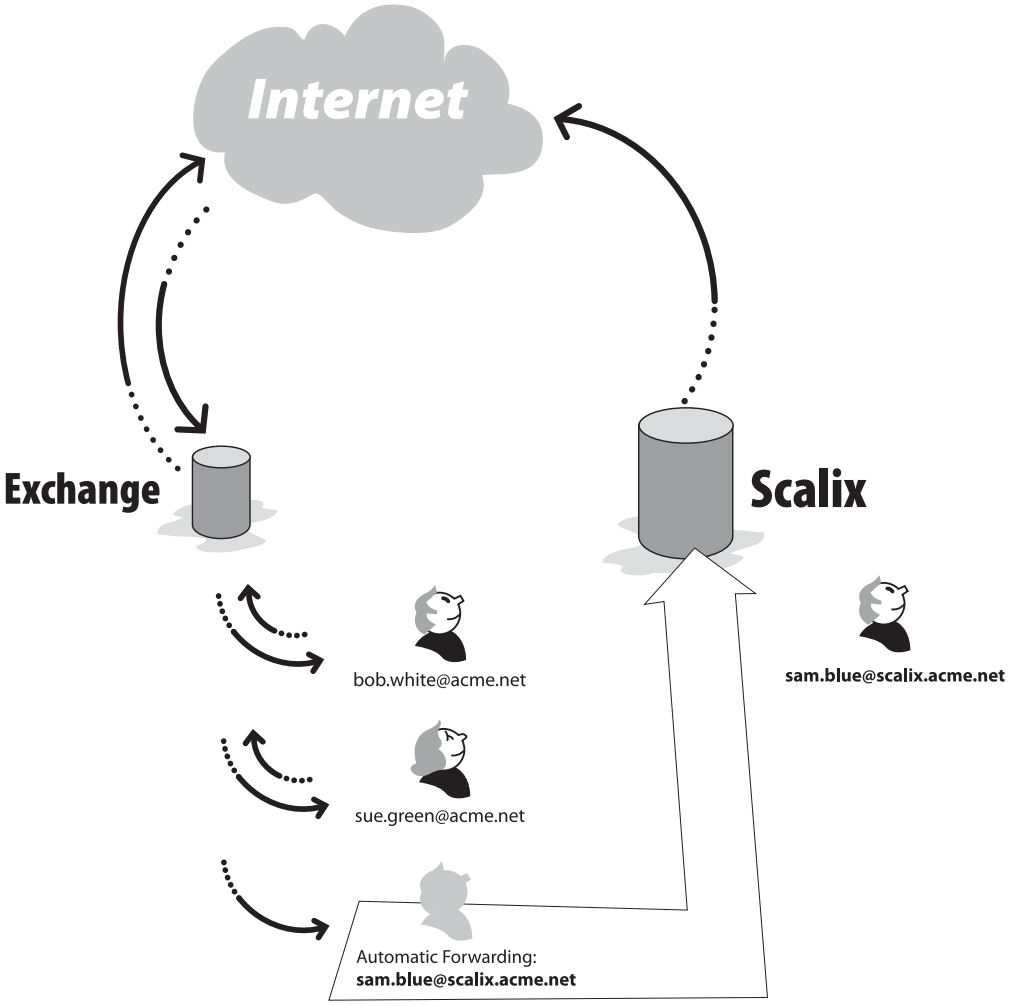


Once this is in effect, you can deactivate the original mailbox, as the custom recipient redirection process now channels all incoming mail to that user's Scalix mailbox.



If you repeat this process with all your legacy user mailboxes, you will migrate your system successfully, the two servers will coexist effectively, and your mail system users will never notice any effect on their service.

Coexistence in a single picture...



The effect of coexistence, as pictured above, is to make sure all incoming and outgoing mail goes through the legacy mail system—until all mailboxes are migrated.

Once a matching Scalix mailbox is ready and all the auto-forwarding/custom redirection takes effect, the legacy server continues to manage all incoming mail for that user, but it ends up on the Scalix server in the migrated mailbox.

At this point, outgoing mail from that user's mailbox goes directly to the networks from the Scalix server, with the user never noticing a thing. All other un-migrated mailboxes are served as before by the legacy mail system.

Part 2

Flash Migration from Microsoft Exchange to Scalix

Task 1: Fine-tuning LDAP on the Scalix Server

The chapter covers an optional procedure for modifying one key LDAP setting on the Scalix server.

Contents

This chapter includes the following information:

- "Overview" on page 50
- "Procedure" on page 50

Overview

If you are migrating more than one thousand user mailboxes from the Exchange server to Scalix Server, you must modify a key LDAP setting on the Scalix Server to increase the default capacity.

Procedure

To fine-tune LDAP on the Scalix server:

1. Log in to the Scalix server as root.
2. Use an editor to open this configuration file:

   ```
   ~/sys/slapd.conf
   ```

   The configuration file contents appear.
3. Look for and change the size limit values, which are shown in bold text in the following example of an sldap.conf file.

   Increase the size limit values large enough to extract all entries in the Exchange directory to the Scalix Server. If the migrateable mailboxes number 1,800, replace "1000" with "2000" (to allow for increases during the phased migration.)

   ```
   database        om

   suffix          "o=MyContacts"
   ```

```
flatSuffix      "o=MyContacts"
directory       _MYCONTACTS_
sizelimit       1000
timelimit       15
useDit          false
#
database        om
suffix          "o=Scalix"
flatSuffix      "o=Scalix"
#directory      SYSTEM
sizelimit       1000
timelimit       15
useDit          false
#
database        om
suffix          ""
flatSuffix      "o=Scalix"
#directory      SYSTEM
sizelimit       1000
timelimit       15
useDit          false
```

4 Save any changes you made to the slapd.conf file.

5 To restart the LDAP service, enter this command:

```
omoff -a slapd
```

6 Wait approximately one minute and enter:

```
omon -a slapd
```

The reconfigured LDAP service is now in effect.

Task 2: Creating the Synchronization Agreement

This chapter covers the synchronization agreement needed to create users on the Scalix system, based on user records from the Exchange server.

Contents

This chapter includes the following information:

- "Requirements" on page 52
- "Completing a Synchronization Agreement" on page 54
- "Using the Synchronization Command" on page 54
- "Resolving Error Messages" on page 58

Requirements

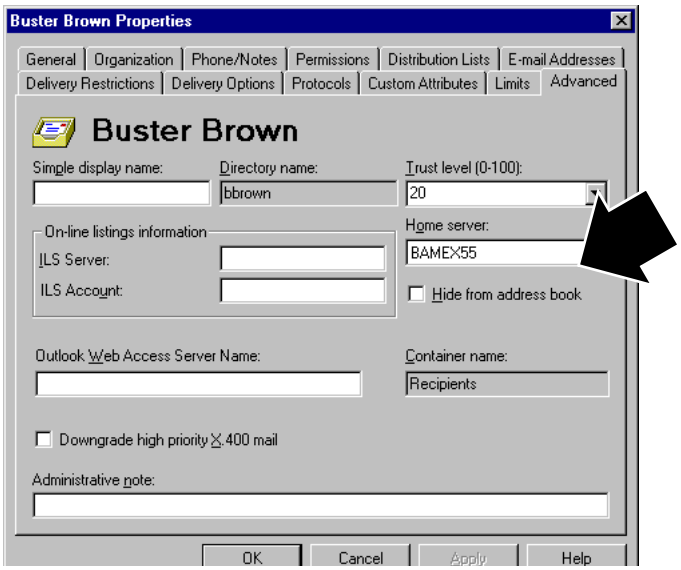
There are two requirements before beginning this procedure:

1. Collect the required information:
   - Domain name or IP address of the source Exchange server
   - The password for the Exchange administrator user account
2. Pre-configure the "Service Account Admin" rights/permissions for the Administrator account (in Exchange) that you want to use for coexistence with Scalix. This is detailed in the next section.

To Add "Service Account Admin" rights to an existing user:

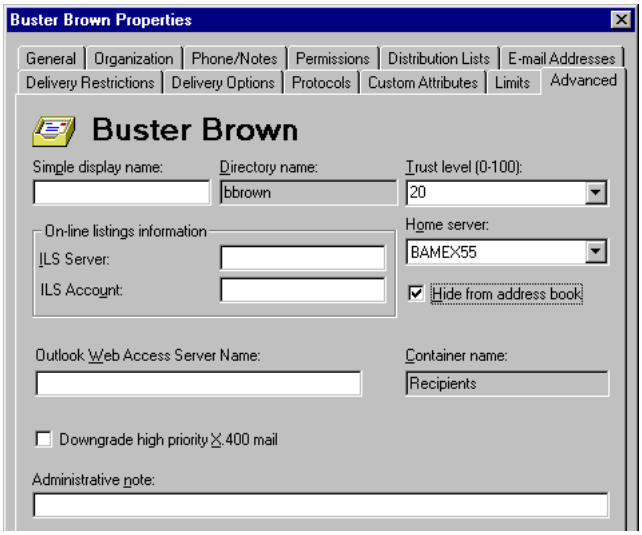
1. Start Exchange Administrator.
2. Click the relevant mail site name.
3. Choose **File > Properties.**

4 When the [Name] Properties dialog box appears, click the **Permissions** tab.



5 Click **Add**.

The Add Users and Groups dialog box appears.



6 Open the **List Names From** menu and choose the relevant server name.

7 In the Name list, select the relevant administrator or admin group name.

8 Click **Add**.

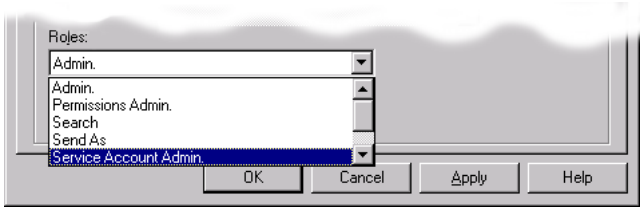
The selected name should appear in the **Add Names** field below.

9 Click **OK** to close the Add Users and Groups dialog box.

10 If a Permissions/Domains confirmation dialog box appears, click **OK** to close it.

The [name] Properties dialog box reappears.

11 Open the **Roles** menu and choose **Service Account Admin**.



12 Click **Apply**, then click **OK** to save this new permission state and close the [name] Properties dialog box.

Completing a Synchronization Agreement

Before starting the agreement, you must obtain the Exchange values for the synchronization command (omldapsync) "a" attribute from the Exchange server.

To find and note down these values from the Exchange server:

1 Open the Microsoft Exchange Administrator application.

2 Select the site container that you are synchronizing.

3 Double-click any of the current user accounts.

4 When the [User Name] **Properties** dialog box appears, click the **E-mail Addresses** tab.

5 Note the following X.400 values as shown here:

```
C= country

P= organization

O= your_site
```

6 Write down this information and have it ready for use in the following procedure.

Using the Synchronization Command

To configure a synchronization agreement for the Exchange-to-Scalix migration:

1 Log in to Scalix Server as root.

2 To execute omldapsync in "interactive" mode, enter this command:

```
omldapsync -i syncid
```

- Replace **syncid** with a name for your Exchange-Scalix migration synchronization agreement. The name should be no more than six alphanumeric characters in length. For example, Ex2Sx.

3 When the omldapsync menu appears, enter the number 1 at the prompt.

The omldapsync command determines that this is the initial directory synchronization and creates the subdirectory for the synchronization agreement along with the sync.cfg file.

4 When omldapsync displays this prompt:

```
INPUT: Select sync agreement type to create (00):
```

5 Enter 00 (two zero's) to specify that you are synchronizing with an Exchange 5.5 server.

6 When omldapsync displays this prompt:

```
Edit config file now y/n (n)
```

Enter y.

7 When omldapsync displays this prompt:

```
Use vi to edit y/n (n)
```

Enter n.

NOTE After you are familiar with the synchronization agreement process and the VI editor, you can enter y at the Use vi to edit y/n (n): prompt if future configuration changes are needed. For the initial configuration, enter n so that the omldapsync command can step you through configuration of the sync.cfg file.

8 When omldapsync displays the following information:

```
# PART 1 General Configuration

#########################################################################

. . .

EX_HOST[]:
```

Enter the fully qualified domain name or IP address of the Exchange server at the EX_HOST prompt. Use this format for the entry:

```
server.domain.ext
```

- The EX_ variable indicates an export from the Exchange server.

9 When omldapsync displays the following prompt:

```
EX_LOGON[Export Admin]:
```

Enter the Exchange Administrator account user name.

10 When omldapsync displays the following prompt:

```
EX_PASS[]:
```

Enter the Exchange administrator password.

This password automates the entire migration process. If you do not enter the password, omldapsync prompts you for a password every time you run the command. If security is a question, the password is saved in the sync.cfg file and is protected by the security policies configured for the Linux host system on which Scalix Server operates.

11 When omldapsync displays the following information:

```
# PART 1.2 for IMPORT/EXPORT - local host

########################################
```

```
. . .

IM_LOGON[Import Admin]:
```

Enter the Scalix Server administrator user name.

Alert Enter just the user name, NOT the "@domain" texts.

12 When omldapsync displays the following prompt:

```
IM_PASS[]:
```

Enter the Scalix Server administrator password.

As noted previously, entry of the password automates the entire migration process.

13 When omldapsync displays the following information:

```
# PART 1.3 for IMPORT - ldap parameters

########################################

. . .

EX_BASE1[cn=recipients,ou=your_site,o=your_org]:
```

Enter the Exchange Global Address List (GAL) container. The entry should be in the following format:

```
cn=container name,ou=site,o=organization
```

This parameter defines the Exchange GAL container, where "cn" defines the name on the GAL container (that you want to migrate), "ou" defines the Exchange 5.5 site, and "o" defines the name of the organization (domain). You can specify up to three containers using the subsequent prompts (EX_BASE2 and EX_BASE3)—but only if you have more than one container. If not, EX_BASE is sufficient.

14 When omldapsync displays the following information:

```
IM_OMADDRESS[/remote,tnef]:
```

15 Enter the route you want to use throughout the duration of migration coexistence.

16 When typing the route name, type only the name (not the "tnef" text) and be sure to enter a "/" preceding the name. For example:

For example:

```
/route_name
```

17 When omldapsync displays the following:

```
# PART 1.4 for EXPORT - ldap parameters

########################################

IM_LOCAL_DOMAIN[@scalix_server.your_domain.com]:
```

Enter the domain portion for the Scalix Server SMTP address of the user.

Your entry should be in this format:

```
@scalixserver.domain.com
```

The parameter for this command is configured as the local mailnode domain. Because message routing already exists for the Exchange system, Scalix Server is configured to coexist alongside the Exchange mail system without having to modify the message routing topology. This requires that you use @scalixserver.domain.com format for this command. Although entries that Scalix Server imports to Exchange use this format, the external address of a user remains name@domain.

18 When omldapsync displays the following prompt:

```
EX_DN_SUFFIX[cn=ldapsync-
sync_agreement_name,ou=your_site,o=your_org]
```

Enter the location for the exported entries.

- The container name (cn=) should be a name that you previously created for Scalix users.

19 When omldapsync displays the following prompt:

```
EX_TEXT_EOA[c=US;a= ;p=your_org;o=your_site;]:
```

Enter the address where the entries are to be exported.

For example:

```
c=country;a= ;p=yourorg;o=yoursite;
```

- Enter the X.400 value you previously noted down from Exchange (as detailed earlier in this chapter) for the a= attribute.

20 When omldapsync displays the following information:

```
# PART 2 Mapping Configuration

######################################################################

. . .

# END

######################################################################

Result=0

INPUT: Compare old config with new y/n (n):
```

Enter y at the prompt.

21 When omldapsync displays the following prompt:

```
INPUT: Replace old config with new y/n (?):
```

Enter y at the prompt.

22 When omldapsync displays the following information:

```
INPUT: Attempt to test data extraction now y/n (n):
```

Enter y at the prompt.

Output similar to the following (for an example agreement named “sa1”) should appear on-screen:

```
INFO: test searching from bamex55.bamail.net ...

INFO: search base is cn=Recipients,ou=BAMUS,o=bamail
```

```
INFO: ... test searched OK.

INFO: test searching from localhost ...

INFO: search base is o=Scalix

INFO: ... test searched OK.

STATUS: Configuration of sa1 completed ########
```

This completes the agreement setup process.

Resolving Error Messages

If any WARNING or ERROR messages appear during this procedure, verify the synchronization agreement.

To verify the agreement:

1 While logged in to Scalix, enter this command:

```
omldapsync -i syncid
```

Replace **syncid** with the name of the Exchange-Scalix migration synchronization agreement.

2 When the omldapsync menu appears, enter 1 and press Enter.

The synchronization agreement is now complete and ready for use.

Task 3: Completing the Initial Directory Synchronization

This chapter covers how to run the initial directory synchronization

Contents

- "Overview" on page 59
- "Synchronizing the Directories" on page 59
- "Managing Errors" on page 60

Overview

After you complete the synchronization agreement, you can now synchronize the directories on the Exchange and Scalix servers. As with the agreement procedure, you will execute the omldapsync command in interactive mode and enter the Exchange-Scalix synchronization ID you previously configured.

The initial directory synchronization process does the following:

- Exports all entries in the Exchange LDAP container specified in the synchronization ID file
- Adds all entries to the Scalix Server directory
- Converts Distribution Lists into Public Distribution Lists in Scalix Server
- Imports all entries from Scalix Server
- Adds all entries to the specified Exchange container

Synchronizing the Directories

To synchronize the directories for the first time:

1. Log into Scalix Server.
2. To execute omldapsync in "interactive" mode, enter this command:

```
omldapsync -i syncid
```

- Replace **syncid** with the name of your Exchange-Scalix migration synchronization agreement.

3 When the omldapsync menu appears, enter the number 2.

This prompts omldapsync to synchronize the directory for the first time.

When you see the "export sa1 completed" confirmation message, the synchronization is complete, and was successful.

- If any error messages appear, follow the procedure in the next section to resolve the situation.

Managing Errors

It is not uncommon to encounter minor errors during the directory synchronization process. The omldapsync command notifies you of errors that occur during the synchronization of directories and provides an option to manage errors so that synchronization continues uninterrupted.

The following procedure describes a scenario in which the Exchange Distribution List representing the Scalix Server users was added and an error occurs when Scalix Server attempts to export the Distribution List.

1 Execute omldapsync in "interactive" mode by entering the following command:

```
omldapsync -i syncid
```

2 When the omldapsycn menu appears, enter 3.

The following information displays:

```
STATUS: LDAP dir sync import sync01 started ###############

...

INFO: ... 0 entries to delete

INFO: ... 2 entries to add

INFO: ... 1 entries to modify

STATUS: delete old entries from flipper.bamail.net ...

INFO: ... 0 entries deleted

STATUS: add new entries to doclab.bamail.net ...

adding new entry cn=Scalix UsersDL,o=Scalix

ldap_add: Already exists

adding new entry cn=sName,o=Scalix
```

The ldap_add process notifies you that an entry already exists (this is where the Distribution List originated).

3 If you intentionally added the Exchange Distribution List knowing that omldapsync generates errors in this situation, you can "accept" the error by entering the following at the omldapsync prompt:

```
omldapsync -i syncid
```

4 When the omldapsync menu appears, enter 4 to accept the error and update the directory.

The directory synchronization should now be complete.

Resetting After a Failed Synchronization

There are multiple scenarios in which you would want to reset the Scalix after an initial omldapsync from Exchange is completed.

1. Create a file with the name of all of the mailboxes that were to have been synchronized in the first attempt. To do so, run this command:

   ```
   omshowu –m all > allmailboxes.out
   ```

2. Use your preferred editor and open the file **allmailboxes.out**.

3. Delete the lines that contain the two system accounts: sxadmin and sxqueryadmin. These mailboxes should not be deleted along with the others.

4. Purge the other mailboxes by running this command:

   ```
   omdelu –f allmailboxes.out
   ```

5. To create a new list of directory entries that you want to migrate to mailboxes, run this command:

   ```
   omsearch –e “cn=*” –m cn > alldir.out
   ```

6. Use your editor to open this newly created file and remove the following entries:

   ```
   sxadmin, sxqueryadmin, ScalixAdmins, ScalixUserAdmins, ScalixGrou-
   pAdmins, ScalixUserAttribtesAdmins.
   ```

   These mailboxes either already exist (sxadmin and sxqueryadmin) or are mailboxes representing groups.

7. Run the original ommigu command with this new imput file, as shown here:

   ```
   ommigu –userfile alldir.out –m mailnode –p password –expire >
   ommigu.stdout 2> ommigu.stderr
   ```

8. Run the ommigu command, including the –raf option:

   ```
   ommigu –userfile alldir.out –raf
   ```

   The synchronization should now run without errors.

Alert	Don’t run the command in step 8 if the command run in step 7 results in errors.

Important Note

Note that the omldapsync command does not report errors. Subsequent updates will not attempt to add a missing entry. However, there are instances that require you to perform more labor-intensive tasks such as manually modifying a directory entry on the Exchange or Scalix Server.

Scalix Corporation recommends that you change the target side of the directory synchronization to resolve conflicts. For example, if you are trying to synchronize a new Exchange user named "John Doe", and the remote recipient with the same name already exists in Scalix Server, change the remote recipient entry to "John Doe1" (or something similar) and select option 3 (Update the directory after some changes) in the omldapsync menu. omldapsync should report no errors. If errors do occur after you successfully add the "John Doe1" entry in the Scalix Server directory, select option 4 (Accept previous error and update directory) in the omldapsync menu to ignore the error.

Task 4: Migrating Public Folder Data to Scalix Server

This chapter covers the procedure for migrating public folder data from Exchange to Scalix.

Contents

This chapter includes the following information:

- "Requirements:" on page 64
- "Exporting Exchange Public Folder Data" on page 64
- "Importing Exported Data into the Migratable Folder" on page 67

Requirements:

If you have not already done so, create the two e-mail user profiles in the Windows Mail control panel that Outlook will refer to in this process:

- Scalix
- Exchange

Exporting Exchange Public Folder Data

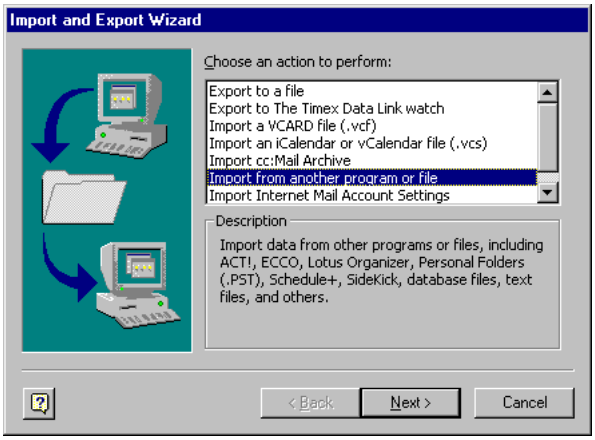
To migrate the contents of a specific Public Folder to Scalix Server:

1. Using a "Microsoft Exchange" profile, start the Outlook Client.

   This allows you to connect to the Exchange server as a Public Folder owner.

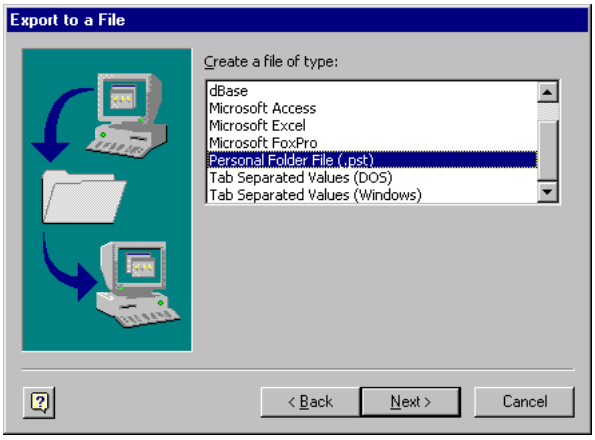
2. Choose **File** > **Import/Export**.

The Import/Export Window (for export) appears.



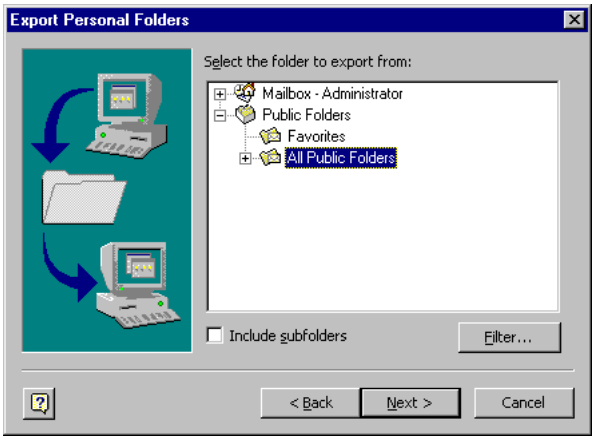
3 Select **Export to a File**, and click **Next**.

The Export To a File wizard panel appears.



4 Select **Personal Folder File (.pst)**, and click **Next**.

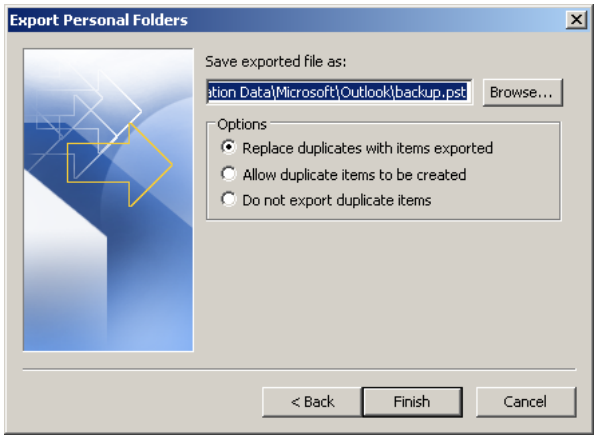
The Export Personal Folders (Selection) wizard panel appears.



5 Navigate to the folder into which you copied the Exchange Public Folders that you want to migrate ("Clean and migrate").

6 Make sure you check the **Include Subfolders** check box.

7 Click **Next**. The Export Personal Folders (Save As) wizard panel appears.



8 Enter a name for the file (in the format "file_name.pst") and specify a folder location in which to save the file.

Note	Write down the filename and location pathway for future reference (in the context of migration).

9 Click **Finish**.

A dialog box appears

10 If you have concerns about the vulnerability of your public folder data, enter a password for the .pst file.

11 Click **OK** to proceed.

12 A series of export status dialog boxes appears, representing the contents of each folder.

When the status dialog boxes cease, you can now import the .pst file to the Scalix Server.

Importing Exported Data into the Migratable Folder

To import the just-exported .PST files into Scalix:

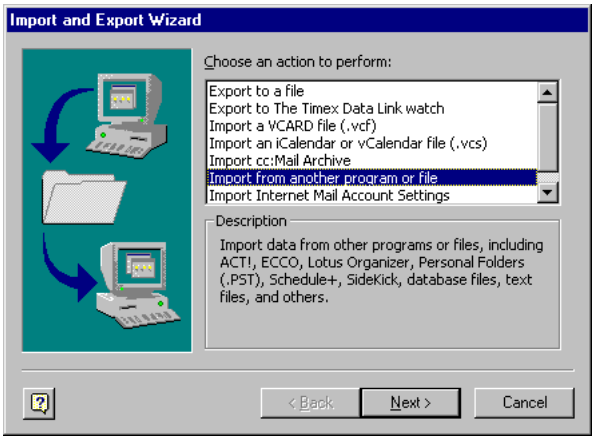
1 Using a Scalix profile, start Outlook.

This allows you to log in as a public folder owner on the Scalix server.

2 In the folder list, select **Public Folders**.

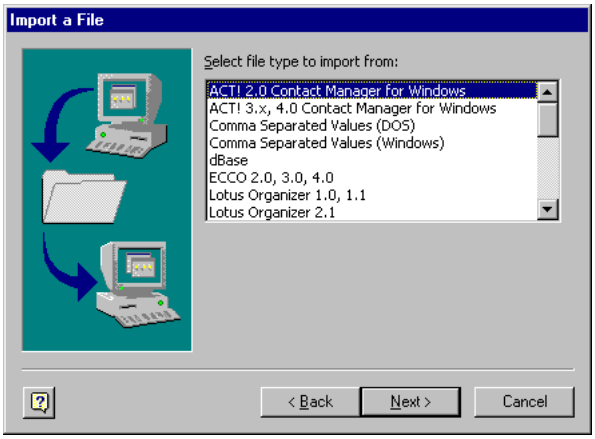
3 Choose **File** > **Import/Export**.

The Import and Export wizard appears.



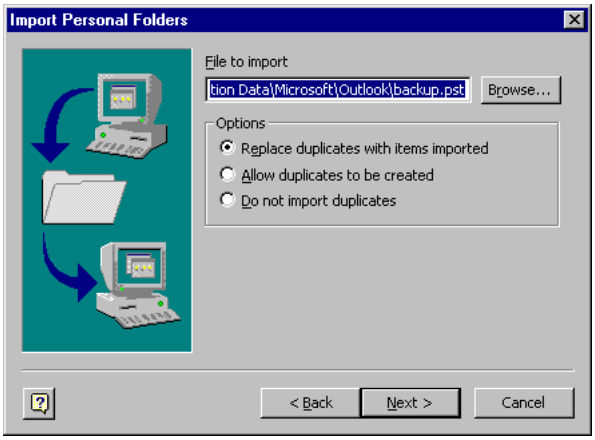
4 Select **Import from Another Program or File,** and click **Next**.

The Import a File wizard panel appears.



5 Select **Personal Folder File (.pst)**, and click **Next**.

The Import Personal Folders wizard panel appears.

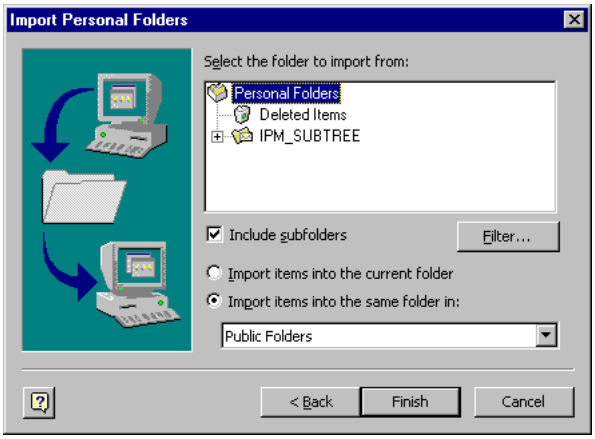


6 Click **Browse**, and use the browse dialog box to locate and select the file that you created previously.

7 Click the check box by **Replace Duplicates with Items Imported**.

8 Click **Next**.

The Import Personal Folders wizard panel appears.



9 Use the explorer view to locate and select the top-level folder (“clean and migrate”) that contains the Public Folder(s) you want to migrate.

10 Click the check box by **Include Subfolders** to enter a check mark.

11 Click the button by **Import Items into the Current Folder**.

12 Choose **Mailbox - username** from the pull-down menu.

13 Click **Finish**.

Task 5: Loading Scalix Server Mailboxes

This chapter covers the procedure for converting Exchange directory entries to Scalix Server mailboxes via the command ommigu.

Contents

This chapter includes the following information:

- "Overview" on page 69
- "Provisioning a Single Mailbox" on page 70
- "Verifying the New Mailbox" on page 70

Overview

The actual Scalix Server migration process (outside of coexistence) initially requires that you convert Exchange directory entries to Scalix Server mailboxes. The principal tool is a Scalix-originated command, ommigu. This command specifically modifies Scalix Server directory entries that represent Exchange users. After omldapsync loads a Scalix Server directory with Exchange directory objects (such as mailboxes, custom recipients, distribution lists), the next step is to modify the objects so that they become mailboxes, ready for use or for data importation.

You must apply ommigu to all Scalix directory objects that will become local Scalix mailboxes. For example, if an organization has 10,000 Exchange mailboxes planned for migration onto two Scalix Servers (5000 users on each), you can now provision all 5000 users at this stage of the migration process. The unprovisioned 5000 users remain on the other Scalix server as directory entries that (respectively) reference (using a SMTP address) the original Exchange mailbox (similar to the period after the initial synchronization occurred using omldapsync).

The ommigu command converts each directory object to a full Scalix Server mailbox while excluding it from the omldapsync process. ommigu also creates auto-forwarding information in the mailbox so that mail addressed to a Scalix Server mailbox routes back to the respective Exchange mailbox (using an SMTP address).

Provisioning a Single Mailbox

To provision a single directory entry as a mailbox (to validate the process):

1 Log in to Scalix.

2 Open a terminal window and enter the following:

```
ommigu -n “Exchange Display Name” -m “Scalix mailnode of the user” -G
```

The command arguments include the following:

- “Exchange Display Name” is the equivalent of the Scalix Server *Common Name* attribute.
- –G generates a random password for the mailbox.
- –p <password> lets you specify a specific password.
- -expire force users to specify a new account password the first time they log in to Scalix Server.

Here are some example mailbox-provisioning commands

```
ommigu –n “Forest Stevens” –m “xyzcorp,usa” –G

ommigu –n “Dave Johnson” –m “xyzcorp.usa –p 123456 –e
```

3 Use these two commands to assess the results in Scalix:

```
omsearch -e cn=*
```

(This will list the new mailbox by Common Name.)

```
omshowiam -m -ca="exchange_display_name"
```

(This will list the attributes for the user.)

Note	The mailbox should note the status of ‘unlocked”.

Verifying the New Mailbox

To see if the new mailbox appears in Outlook:

1 Start Outlook, using a Scalix profile.

2 Set up an account for the new mailbox.

3 Log into that mailbox.

4 Choose **Tools** > **Send / Receive**. This will verify a connection to the server.

Task 6: Reconfiguring Auto-Forward for the New Scalix Mailboxes

This chapter covers the process for cancelling the auto-forward on Scalix mailboxes and then updating the Exchange directory via the synchronization command.

Contents

This chapter includes the following information:

- "Overview" on page 71
- "Removing the forwarding Address" on page 71

Overview

After provisioning the new Scalix mailboxes from the directory entries, do the following:

- Remove the forwarding (SMTP) address on Scalix Server mailboxes
- Allow the omldapsync command to update the Exchange directory

Both tasks can be accomplished with the CLI command, *ommigu*, as detailed here.

Removing the forwarding Address

To reconfigure auto forwarding:

1. Log in to Scalix.
2. Open a terminal window and enter the following:

   ```
   ommigu -n "Exchange display name" --raf
   ```

   This command removes the auto-forwarding to Exchange mailboxes

   It also updates other mailbox settings to indicate that the mailbox is associated to a migrated user and is ready for use.
3. To run omldapsync in "interactive" mode, enter the following:

   ```
   omldapsync -i syncid
   ```

- Replace *syncid* with the actual agreement name.

4 At the prompt, enter 3 to update the directory.

5 The results scroll on-screen.

6 When this task is complete, you are prompted to exit.

Task 7: Configuring Message Forwarding from Exchange to Scalix

This chapter covers the procedure for routing all new mail to Scalix.

Contents

This chapter includes the following information:

- "Overview" on page 73
- "Adding Alternate Recipient Information for a Single Mailbox" on page 74
- "Adding Alternate Recipient Information for Several Mailboxes" on page 75

Overview

At this point, you must configure Exchange to route all new mail messages to Scalix Server mailboxes. This enables you to migrate data from what are now *legacy* Exchange mailboxes without having new mail or other data reaccumulate in just-migrated Exchange mailboxes.

To do this, you must configure an *Alternate Recipient* address for every Exchange mailbox you plan to migrate. The Alternate Recipient address routes messages originally destined for the Exchange mailbox to a different address—the Scalix Server mailbox. This alternate address must exist in the Exchange GAL.

The omldapsync command already added an Exchange custom recipient entry for each mailbox in the current migration group. This custom recipient entry contains an SMTP address that routes to the Scalix Server mailbox. You must now record these custom recipient entries in Exchange as the alternate recipients for each mailbox.

There are two methods you can use to add alternate recipient information in Exchange:

- One entry at time
- Multiple entries at one time

Each of these methods are detailed in this chapter

Adding Alternate Recipient Information for a Single Mailbox

To add Alternate Recipient information for a single Exchange mailbox:

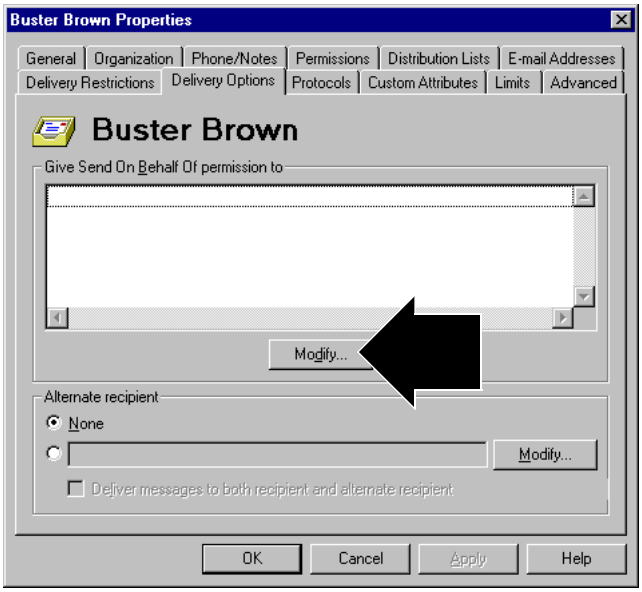
1 Start the Microsoft *Exchange Administration* application.

2 Open the **Recipients** list (or whichever list you've created) for your Exchange site.

3 Locate the first mailbox associated with a user you are migrating to Scalix Server, and double-click the entry.

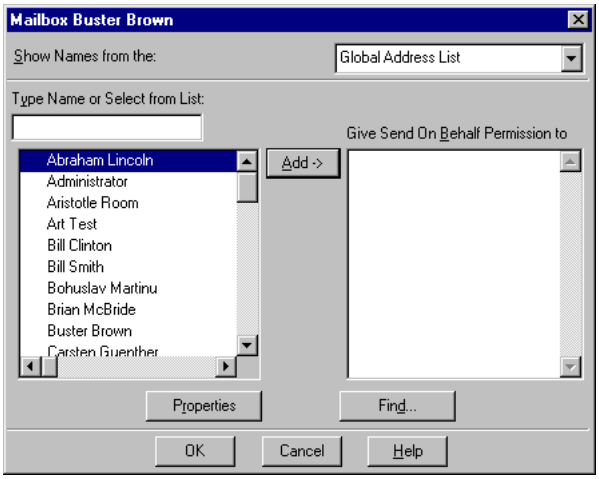
The [username] **Properties** dialog box appears.

4 Click the **Delivery Options** tab.



5 Click **Modify** (in the middle of the dialog box.)

The Mailbox [username] dialog box appears.



6 Make sure **Global Address Files** is selected in the upper-right menu.

7 Scroll through the left-hand column and find the directory entry with a Globe icon that has the same name as this user's mailbox.

Note	There should be a listing for this user's mailbox—with no icon—as well as a second listing with a globe icon—representing the custom recipient that routes incoming mail to this user's Scalix mailbox.

8 Select this entry and click **Add**.

The selected directory entry appears in the list column to the right.

9 Click **OK** to close the Mailbox dialog box.

10 When the Properties dialog box reappears, click **OK** to put the custom recipient entry into effect.

Adding Alternate Recipient Information for Several Mailboxes

Typically, the migration from Exchange to Scalix Server includes hundreds of users. Therefore, adding alternate recipient information one mailbox at a time would be inefficient.

Using the Exchange Import and Export tools in conjunction with modified output files, you can add hundreds of alternate recipients to existing Exchange mailboxes at the same time.

1 Open the Exchange Administration application.

2 Choose **Tools** > **Directory Export**.

The Directory Export dialog box appears.

3 To create a directory export file of Exchange mailboxes, make these entries:

- The default Exchange server and Home server names are acceptable.
- The default settings/selections in Export Objects, Logging Level, and Separators are acceptable.
- Do not check "Include Hidden Objects".
- Click **Export File**.

- When a dialog box appears, name this file and pick a target folder.
- Enter a name that identifies the contents of the output file, and make sure the ".csv" extension is present.

4 Click **Export** to start the process.

Tip	Write down the name and folder location of this file.

Modifying the Output File

Typically, you are migrating users in groups that are a subset of the container you specify in Step 3 above. Therefore, you must modify the output file so that it contains only the mailboxes to which you want to add alternate recipient information.

To modify the output file:

1 Start Microsoft Excel.

2 Choose **File** > **Open**, and open the output file from your directory export.

3 Choose **File** > **Save As**.

4 When the Save As dialog box appears, save this file with a different file name.

5 Verify that the output file ends with column M, and that column N is empty.

6 In cell N1 (of column N), type "Alternate Recipient" as the column header.

7 Save these changes.

Entering Custom Recipient Container and Alias Name Parameters

Before you modify the exported-directory output file in Excel, be aware:

- The output file displays the following string in Column E:

```
/o=Organization/ou=Site/cn=Custom_Recipient_Container/
cn=alias_name
```

- The MS Excel output file displays the following string in Column L (the Obj-Container header):

```
/o=XYZ/ou=XYZNA/cn=America
```

Using the Exchange Administration application, you can determine that omldapsync stored the custom recipients in the America-CR container.

To complete the alternate recipient entry process for your Exchange mailboxes:

1 With your exported directory output file open in Excel, enter the following string at the bottom of the spreadsheet (in the first empty row below all existing entries):

```
/o=XYZ/ou=XYZNA/cn=America-CR/cn=
```

2 Enter a concatenation formula in cell N2 that adds the string from the static cell and the value in column E. For example, if you enter static data in cell A120, cell N2 must have the following formula:

```
=concatenate($A$120,E2)
```

3 Apply the same formula for all other entries in column N. Select (highlight) cell N2 and press Ctrl + c to copy the contents. Highlight all the other entries in column N and press Ctrl + v to paste the contents.

The text string that displays in the Alternate Recipient column contains four parameters (with delimiters).

```
/o=Organization/ou=Site/cn=Custom_Recipient_Container/
cn=alias_name
```

Here are the alternate recipient column parameters

Parameter	Description
Organization	Displayed in column L.
Site	Displayed in column L.
Custom_Recipient_ Container	The container into which omldapsync inserted the Custom Recipient information. Use the Exchange Administration application to obtain the name of the container.
alias_name	The Alias Name displays in column E, and the text string you enter in column N depends on the alias_name value.The rest of the string is identical for each cell. You can enter static information in a single cell and use the Concatenate function in Excel to combine the data from column E in the same row.

4 Verify the accuracy of the data, then choose **File** > **Save As** to save the file with a different name. Make sure you click **Yes** at the **Retain the Format** prompt.

5 Choose **Tools** > **Import** > **Select File** to import the file into Exchange.

You can use the default values for Account creation, Logging level, and Separators. The Container value is where the mailboxes (not the custom recipients) reside.

Use the Exchange Administration application to check the properties of a sampling of mailboxes—especially the Delivery Options tab where an Alternate Recipient should appear.

Task 8: Migrating Mailbox Data with SMT

After you modify the Exchange server with Scalix Server mailbox information and provision the target mailboxes on the Scalix Server, you can begin migrating actual mailbox data. This chapter explains how to do that with the Scalix Migration Tool.

Contents

This chapter includes the following information:

- "Requirements" on page 78
- "Introduction" on page 79
- "Before You Begin" on page 79
- "Procedure Overview" on page 79
- "Extracting Microsoft Exchange Mailbox Data" on page 80
- "Copying .pst Files into Scalix" on page 83
- "Creating the Target Mailboxes" on page 85
- "Running the Migration Tool" on page 85
- "Additional Notes" on page 86

Requirements

- Scalix 10.0 or higher*
- Scalix Connect 10.0 or higher
- A Windows 2000 or XP-installed workstation with Service Pack 2
- Microsoft Office 2000 or XP

*For foreign-language mailboxes, migration can only take place with Scalix 11.0 or higher.

Introduction

The Scalix Migration Tool is a command-line-based Windows application that moves mailbox data from the source server (Microsoft Exchange) to the destination server (Scalix) in a two-part process:

- Using ExMerge to extract the mailbox data from Microsoft into .pst files.
- Moving the data from the .pst files into Scalix.

Migration is a read-only process that does not change mailbox contents in any way. The tool works by opening the source mailbox at root, and then traversing the folder hierarchy copying messages and other mailbox data from each source folder. Once the copy is done, the migration tool makes sure the new mailbox exists on the destination server, then pastes the contents into it. As it pastes the data, it updates any changes to internal email addresses that it encounters. These internal address updates are done according to the latest data in the LDAP server and are executed ONLY on the destination server. When it finishes with one folder, it moves on to the next until all mail folders have been copied over.

"Hidden messages" that store display data or other message parameters automatically transfer during this process.

If the tool encounters a problem with a specific message or folder, it logs the information and continues with the migration until it is done. For that reason, it is essential that you review the logs after any migration to see what messages, if any, the tool skipped over and why. You can manually copy those messages over later if needed.

Before You Begin

Before you begin mass extractions, try extracting one mailbox, then importing it in to Scalix to verify the process' efficacy. Once a successful process is proven, you can undertake "batch" extractions.

Procedure Overview

A broad overview of the Scalix Migration Tool procedure includes:

1. Install ExMerge and configure it to extract .PST files from your Exchange environment.
2. Build (or use an existing) Windows XP machine, with Office 2003 installed, including Outlook 2003. This will be the migration workstation.
3. Create a directory on the migration workstation to run the tool from (C:\SMT is recommended), and save the sxmigrate.exe program in this directory.
4. Perform a few test mailbox extracts from the Exchange environment with Exmerge.exe, then copy these machines to the local drive of the Windows migration workstation, into the directory where sxmigrate.exe exists.
5. Create the target mailboxes on Scalix (use SAC or omaddu commands).
6. Do a test run to load a few mailboxes. The mailbox must already exist on Scalix. Typically, Exmerge will name the .pst file with the RDN attribute of the given mailbox. Once you get a clean migration, do the remainder as a batch process.

Extracting Microsoft Exchange Mailbox Data

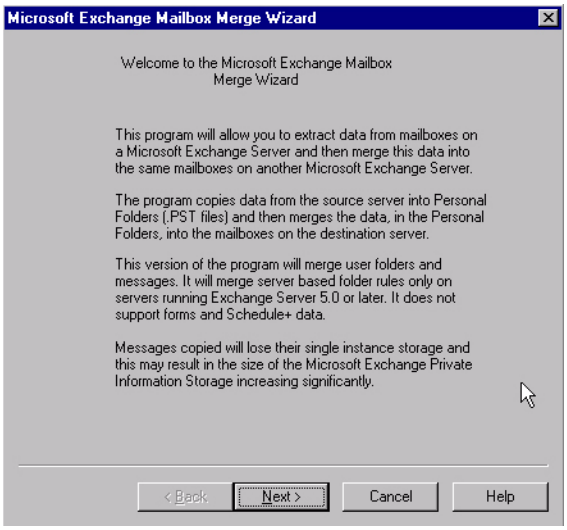
The Microsoft Exchange Mailbox Merge Program (Exmerge.exe) enables an Exchange Server administrator to extract data from mailboxes on an Exchange Server. The Exchange Server 5.5 version of this program is included in the Microsoft BackOffice Resource Kit, Second Edition. The Exchange 2000 Server version of Exmerge is included on the Exchange 2000 Server CD in the Support\Utils\I386\Exmerge folder.

One of the options this tool offers is to write each user's mailbox data into individual .PST files. The Scalix Migration Tool can be used to then read each of the .PST files, and load the data into the users corresponding Scalix mailbox.

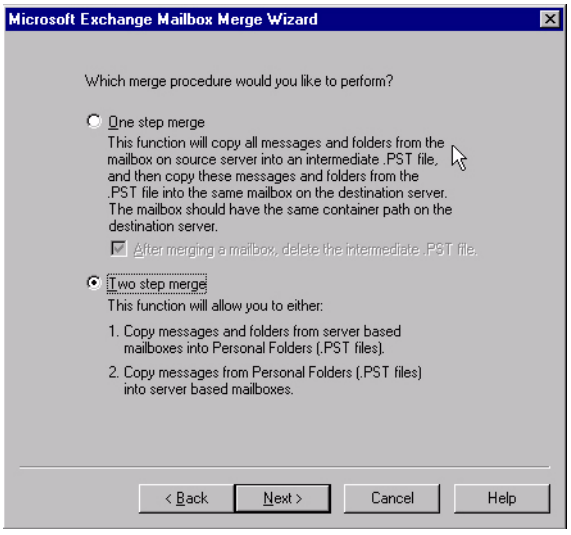
Note	If using exmerge, the export language should match the native language of the mailbox. If the two languages don't match, string properties are exported incorrectly.

To run the exmerge.exe program:

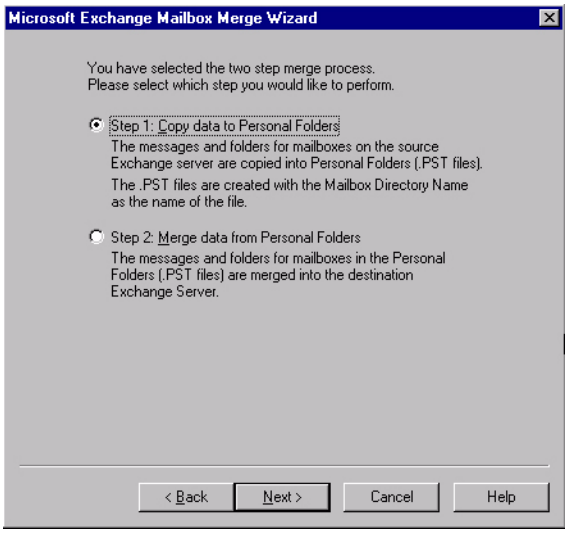
1 At the Exchange server containing the mailboxes you want to migrate, run exmerge.exe. You get the welcome screen. Click **Next**.



2 At the next screen, select the T**wo step merge option** and click **Next**.

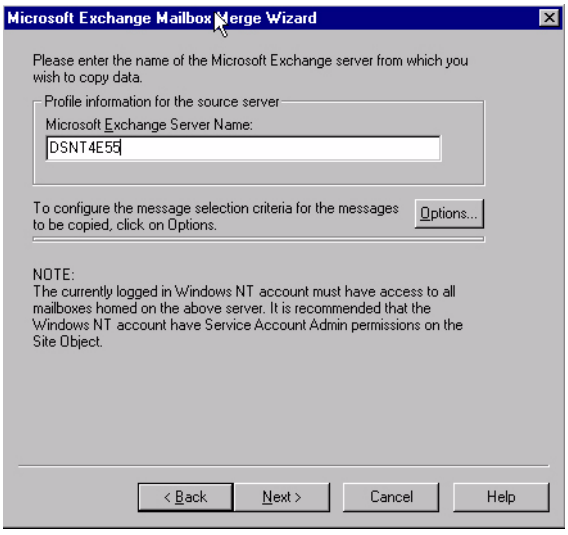


3 At the next screen, select **Copy data to Personal Folders** and click **Next**.

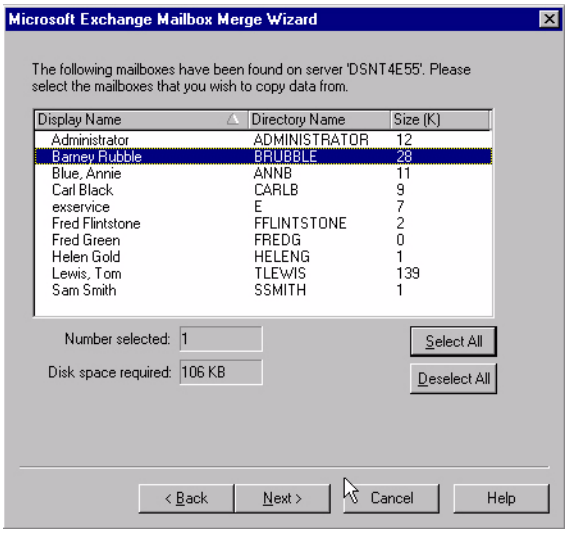


4 At the next screen, enter the name of the Exchange server from which you wish to extract mailbox data and click **Next**.

At this point, you can select the **Options** button, which provides additional filtering capabilities against the mailbox data. For example you could base the amount of data extracted by dates.

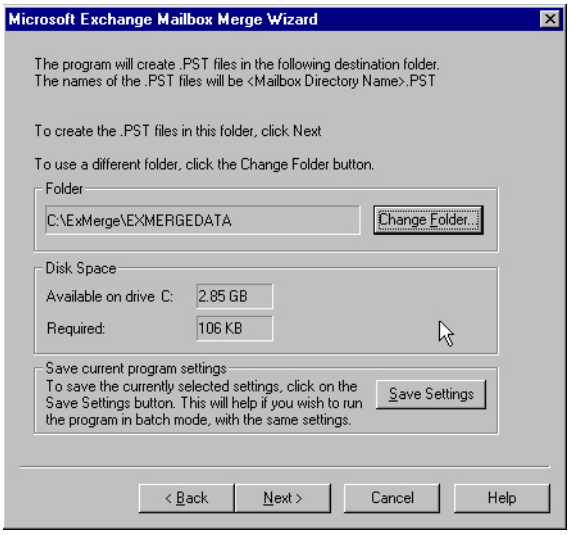


5 The next screen prompts for the mailboxes you want to merge. Choose specific mailboxes or all mailboxes.

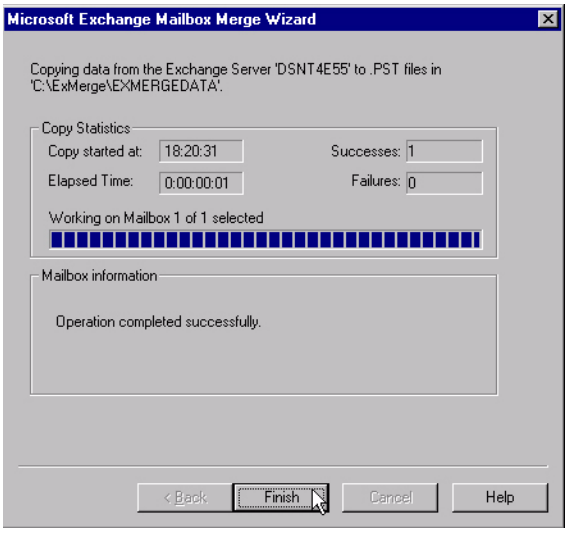


6 At the next prompt, select the destination directory to write the.PST files to.

At this point, you should also write the files to a network file share that will be accessible by the Windows PCs that will be used next to run the Scalix Migration Tool.



7 The final screen shows a progress bar and ultimately completes, after which you can click **Finish**.



8 At this point the .PST files will have been created in the target directory specified on the prior screen.

Copying .pst Files into Scalix

Once all Exchange data has been extracted into .pst files, you can use the migration tool to copy the data over to Scalix.

The sxmigrate Command and its Parameters

The basis of the migration tool is the command, sxmigrate. An example of this command would be:

sxmigrate –s pst:///c:/test/mailbox.pst –d “scalix://Test User:password@<fqdn>” –dir ldap://<fqdn>/cn=users,dc=Scalix,dc=local?mail –dirauth <username>@scalix.local:password1

This command can take several parameters or switches:

Table 1: Parameters or Switches for the sxmigrate Command

Parameter or Switch	Definition
-s	Use this parameter to designate the source mailbox. The mailbox location should be expressed in the form of a URL *
-d	Use this parameter to designate the destination mailbox. The mailbox location should be expressed in the form of a URL.*
-dir	Use this parameter to designate the location of the LDAP directory that SMT should refer to when updating any changes to internal email addresses that it encounters during migration. This LDAP directory may be the Exchange AD directory, the Scalix SYSTEM directory or any suitable directory that can provide the old email address information and the new email address information. The LDAP directory location should be expressed in the form of a URL*
-diroff	Use this parameter to designate the credentials to access the LDAP directory if needed. This parameter is optional because some directories require credentials while others do not. Many can be accessed anonymously.
-log	Use this parameter to designate the path and filename for the log file
--copy	Copies mailbox data over to the destination server without the additional updating of internal email addresses
--fixup	Updates internal email addresses without copying the data over to the destination server
--ex55	Tells the migration tool that the source data is coming from Microsoft Exchange 5.5
--noui	Suppresses the UI

* In the Scalix Migration Tool, the -s, -d, -dir parameters all use URLs as locators. The form the URL takes can vary. Here are several examples:

- **For the source .pst file:** –s pst:///c://test/mailbox.pst

  This specifies the source mailbox as the .pst file located in c:\test\mailbox.pst. The mailbox is specified as a .pst URL. Notice the three slashes - the first two are part of

the URL spec, the third is to specify an empty or non-existent hostname. Also notice the use of forward slash in the URL instead of backslash.

- **For the destination Scalix server:** –d "scalix://Test User:password@stingray.scalix.com"

  This specifies the destination mailbox as the Scalix mailbox "Test User" located on the server stringray.scalix.com. The password for the mailbox is defined as "password" and follows the mailbox name after a colon character. Again, this is consistent with the URL RFC.

- **For an LDAP server:** –dir ldap://exchang1.scalix.com/cn=users,dc=Scalix,dc=local?mail

  This specifies the directory to use for directory fixup. In this example, the source exchange directory is used because the SMTP address will not change as a part of this migration. This method has no additional requirements on the Scalix server. If the Scalix directory is to be used, then a new attribute must be synchronized over from the source exchange directory (typically proxyAddresses à omLegacyEmailAddresses).

  This is an LDAP URL, the server name is exchange1.scalix.com. The DN to the user root is cn=users,dc=Scalix,dc=local (in our example server) and the attribute to use is the mail attribute. See an example of a Scalix server in the help screen. If a –dir parameter is provided, then it is assumed that if the destination mailbox is a Scalix mailbox, the Scalix directory will be used (equivalent to specifying on the command line "-dir ldap://stingray.scalix.com/o=Scalix"omLegacyEmailAddress"

Note	Running sxmigrate.exe displays the tool's help screen.

Creating the Target Mailboxes

Once you have performed a few test mailbox extracts from the Exchange environment with ExMerge.exe and have copied these to the local drive of the Windows migration workstation, you can move on to the next step. Remember that the .pst files must be copied into the directory where sxmigrate.exe exists.

The next step is to create the target mailboxes on Scalix. For this, use the Scalix Management Console. For more on how to create mailboxes in the SMC, see the *Scalix Administration Guide.* If you want to use the command line, use the omaddu command, which also is covered in the Administration Guide.

Running the Migration Tool

After creating the target mailboxes, the next step is to execute the sxmigrate program. Because the specifics of the commands you use will vary according to your own, unique setup, we provide only a sample command line.

Alert	If you are migrating from Microsoft Exchange 5.5, you must include the -ex55 parameter.

.

NOTE	This procedure does not support cross-system Free/Busy retrieval. So if one user is still on Exchange and another user has been migrated to Scalix, you will see valid Free/Busy information for the second user once Outlook or SWA has published it. But you will not see it for the first user. In addition, only Outlook or SWA publishes Free/Busy information for Scalix. This must be done once a user has been migrated or they won't display as having any Free/Busy information.

To migrate users with the Scalix Migration Tool:

1. Download the tool on the Windows migration workstation (in C:\SMT or something) and unzip.
2. Run several test mailbox migrations individually. The mailbox must already exist on Scalix. Typically Exmerge will name the .pst file with the RDN attribute of the given mailbox (ldapsearch it - you'll see).

   An example command line is.

   ```
   C:\SMT>sxmigrate -s pst:///c:\smt\rdn.pst -d "scalix://Bart
   Jones:mailpass@sxserver.abcco.com"

    -dir "ldap://exserver.abcco.com/cn=Recipients,ou=Chi-
   cago,o=ABCco?mail" -dirauth "cn=exservice":Pa$$w0rd

    --ex55
   ```

   Where:

   - The name of the .PST file created by exmerge.exe is rdn.pst
   - The Scalix User Account (Common Name) is Bart Jones, whose Scalix password is mailpass
   - The Scalix server FQDN is sxserver.abcco.com
   - The Exchange server FQDN is exserver.abcco.com
   - The Exchange organizational hierarchy is cn=Recipients,ou=Chicago,o=ABCco
   - Exchange SMTP addresses are loaded in the "mail" attribute (sometimes rfc822Mailbox is used here).
   - Exservice is an account in Exchange that has "service account" privileges on all levels of the hierarchy (the Administrator account can also typically be used), with a password of Pa$$w0rd.
3. Once you've successfully migrated several individual mailboxes, try a small batch.
4. When that succeeds, try a larger batch.

Additional Notes

A few additional things to keep in mind when using the Scalix Migration Tool:

- Typically Exmerge.exe creates the .pst file names with the RDN attribute of the given mailbox.

- You can use ldapsearch from a Linux host just to make sure you get the search base and hierarchy that are correct against the Exchange environment, and also reveal the RDN of each object.
- You can use multiple migration workstations running in parallel.
- While the 10.0.x builds of Scalix Connect can be used, it is best to use Scalix Connect (11.x).

Task 9: Decommissioning the Exchange Mailboxes

This chapter explains how to deactivate the Exchange mailboxes, preventing them from being accessed by their users without deleting them.

Contents

This chapter includes the following information:

- "Decommissioning Mailboxes One at a Time" on page 88
- "Decommissioning Multiple Mailboxes at a Time" on page 89

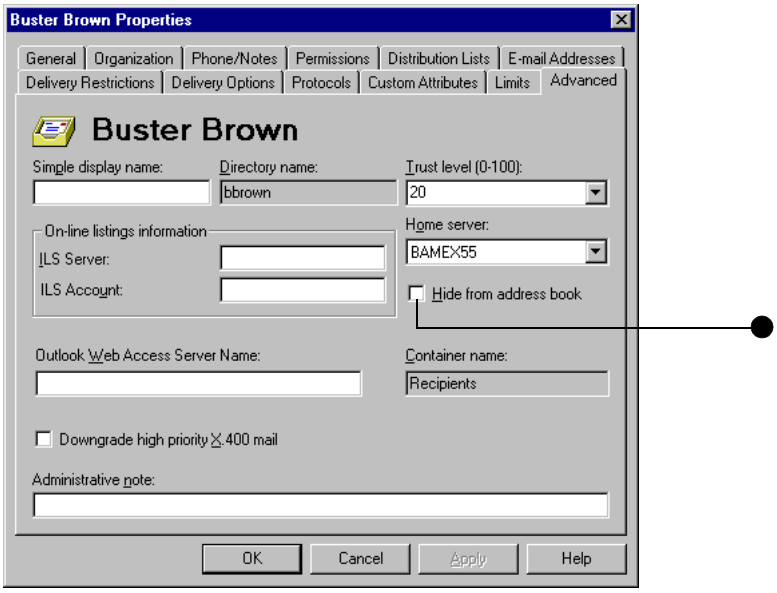
When you complete the migration of all the mailboxes (including mailbox data), you can decommission the Exchange mailboxes. This process makes them unusable without deleting them. Since a custom recipient of the same name already exists in the GAL, you can hide the Exchange mailboxes without adversely affecting the system.

Decommissioning Mailboxes One at a Time

To decommission a single mailbox:

1. Start the Exchange Administration application.
2. Open the container (by default, "Recipients") containing the migrated mailboxes.
3. Double-click any mailbox entry, to open the **Properties** dialog box.

4 Click the **Advanced** tab.



5 Click the check box by **Hide from Address Book** (as highlighted above).

6 Click **OK** to save the change and close the dialog box.

Decommissioning Multiple Mailboxes at a Time

To simultaneously decommission (hide) a number of Exchange mailboxes:

1 Open the backup file you created previously.

2 Verify that Column M contains a header named **Hide from AB** (address book) and has a value of "**0**" (zero).

3 Change the value in column M to "**1**".

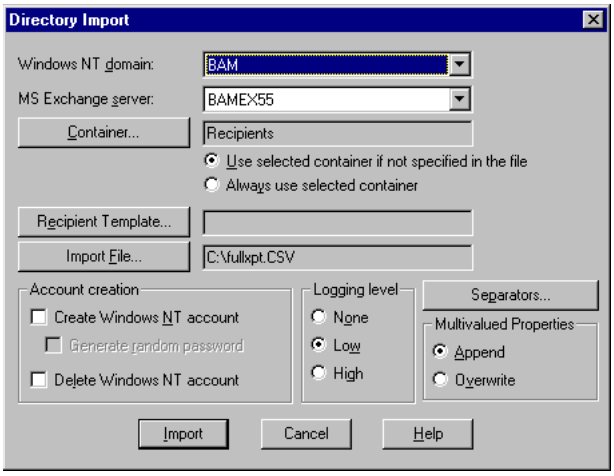
4 Save the file.

You can now import the file into Exchange:

1 Start Exchange Administration.

2 Choose **Tools** > **Directory Import**.

The Directory Import dialog box appears.



3 Choose from the following options.

- Click **Import File** and use the dialog box to locate and open the Excel file.
- Use the default values for Account Creation, Logging Level, and Separators.
- The Container value indicates where the mailboxes (not the custom recipients) reside.

4 Click **Import**.

A status dialog box appears, and closes when this task is complete.

Verifying the Decommissioning

1 Start the Exchange Administration application—or the Outlook client.

2 Verify that the mailboxes are no longer visible in the Exchange GAL.

Task 10: Post-Migration and Coexistence Closure Tasks

This chapter outlines the tasks needed to end coexistence between Scalix Server and Exchange, and complete the migration of Exchange users and data to Scalix Server.

Contents

This chapter includes the following information:

- "Managing Distribution Lists" on page 91
- "Scalix Server Distribution List Synchronization" on page 92
- "Managing Distribution Lists from Exchange" on page 92
- "Switching Distribution List Management to Scalix" on page 92
- "Switching PDL Management After Coexistence" on page 97

Managing Distribution Lists

As a phased migration proceeds, one serious question arises: how to coordinate Distribution Lists. Some recipients on a Distribution List still reside in the old environment (Exchange) while some recipients are migrated to the new environment (Scalix Server).

If you delete Exchange mailboxes (after successful migration to Scalix Server), any alternate recipient information (referencing the new Scalix Server mailbox) will be removed from all Exchange Distribution Lists. If this poses a problem, you can manually insert the reference to the Scalix Server mailbox back into all Exchange Distribution Lists to which the just-migrated users belong.

However, during the migration process, Scalix Server provisions directory entries as mailboxes with automatic redirection instead of redirection-only entries. The benefit of provisioning entries in this manner is that it enables the option of mirroring the structure and members of Public Distribution Lists on Scalix Server at anytime. As users are migrated from Exchange to Scalix Server, you do not have to delete and add the directory entry into the list. Similarly in the Exchange environment, the management of Distribution Lists during the migration to Scalix Server is simplified because you do not have to remove mailboxes.

Although you eventually add (and hide) alternate recipient information to Exchange mailboxes, you do not need to remove mailboxes and replace them with custom recipients during the migration process.

Scalix Server Distribution List Synchronization

Exchange objects that are either custom recipients or mailboxes (that eventually reside on the Scalix Server) are classified as remote recipients by Scalix Server. All Exchange Distribution Lists become Scalix Server Public Distribution Lists (PDL's) and all Distribution Lists are configured to automatically forward to the SMTP address of the respective Exchange Distribution List.

Managing Distribution Lists from Exchange

After you execute the omldapsync and ommigu commands, create a test account on Scalix Server to validate Distribution List routing. A message addressed to the Scalix Server PDL from the test account should be delivered to the recipients on the PDL. The message should also deliver a copy of the message to the respective Exchange Distribution List, where it is then delivered to the respective recipients of the Exchange Distribution List. In this scenario, a single message is routed from Scalix Server to Exchange, where it is then dispersed to the recipients, none of which reside in the Scalix Server environment at this point of the process.

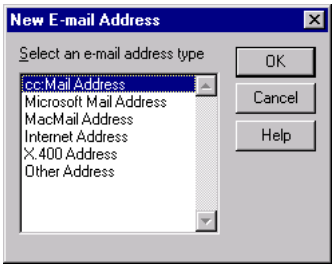
Switching Distribution List Management to Scalix

You can switch Distribution List management from Exchange to Scalix either during the coexistence period or after coexistence. This requires the creation of an Exchange *Custom Recipient* entry with the Internet address of a specific Scalix Server Public Distribution List and a unique display name (for example, SALES-PDL).

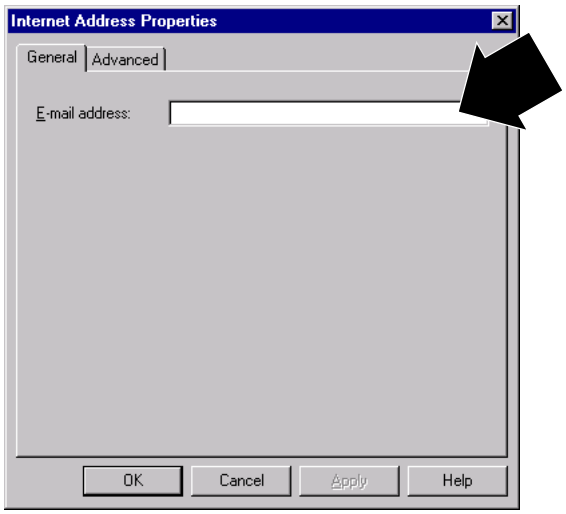
To switch distribution list management to Scalix:

1 Create a custom recipient pointing to the Scalix group: In Exchange Administrator, choose **File / New Custom Recipient**.

The New Email Address dialog box appears.



2 Select **Internet Address** and click **OK**. The Internet Address Properties DB appears.

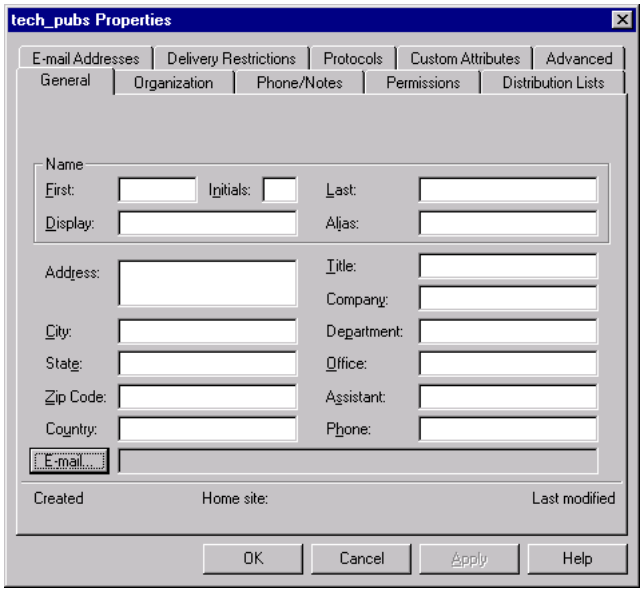


3 Click in the **Email Address** field and type the Scalix group's full email address.

E.g, “sales-pdl@mailserver.scalix.company.com”

4 Click **OK** to proceed.

The Properties DB appears.



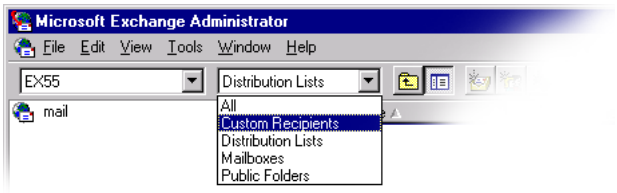
5 Click in the **Display** field and type the Scalix group's name (probably the same name as the original Exchange PDL).

6 Click in the **Alias** field and type the scalix group's full email address.

- Ignore all the other fields.

7 Click **Apply**, then click **OK**, to close this dialog box and save your entries.

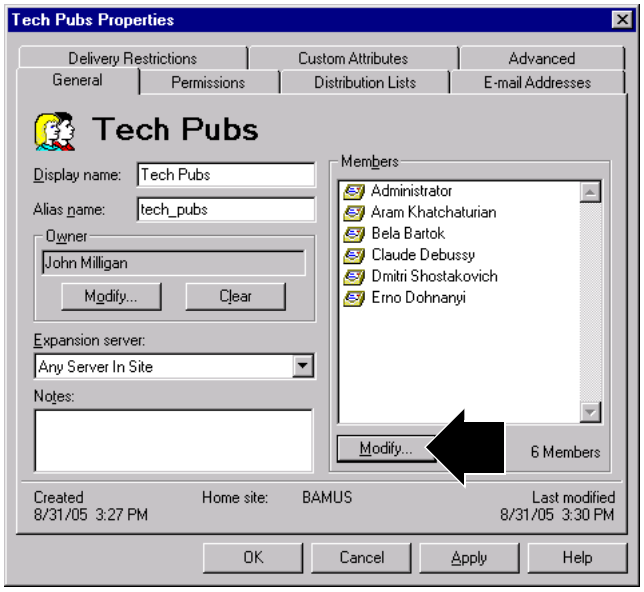
8 When Exchange reappears, open the Lists menu and choose **Custom Recipients**.



The new custom recipient should appear in the now-visible list.

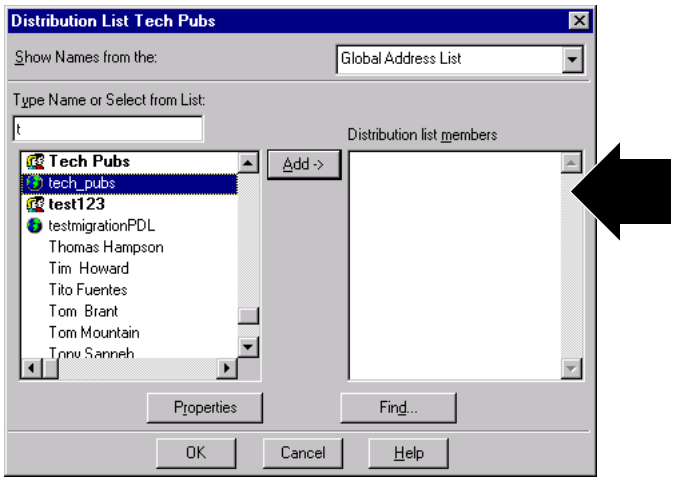
9 Remove the Exchange auto-forward from the Scalix Group/Public Distribution List that refers to the original Exchange Public Distribution List.

10 Set up the auto-forwarding for the Exchange group: In Exchange Administrator, double-click the original PDL entry to open that list's Properties dialog box.



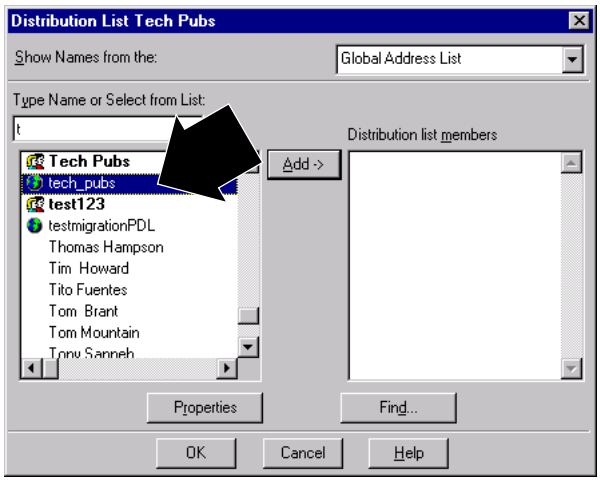
11 Click the **Modify** button below the Users list (as highlighted above).

The Distribution List [Name] dialog box appears.



12 Select and delete all the entries in the **Distribution List Members** list (as highlighted above).

13 In the same dialog box, locate the custom recipient (representing the Scalix group).



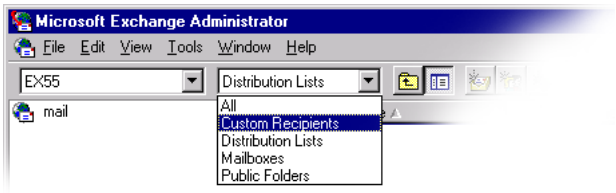
14 Select it and click **Add ->**.

15 Click **OK** to save the change and close the dialog box.

16 When the Properties dialog box reappears, click **Apply**, then click **OK** to save your changes.

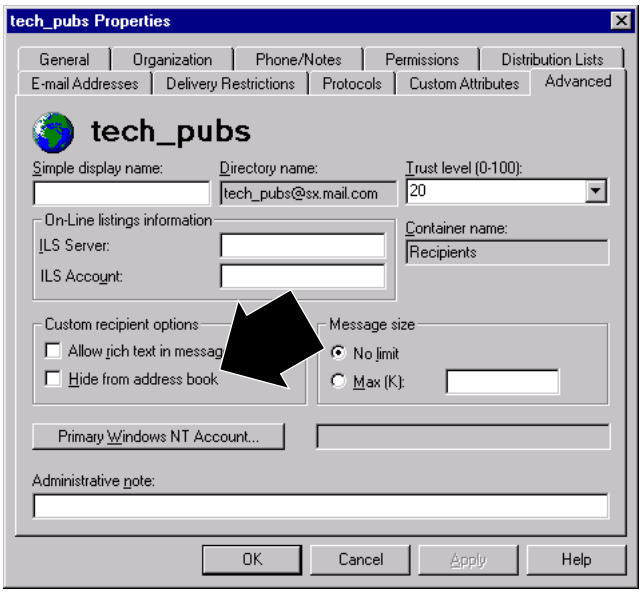
17 Now hide the custom recipient from Exchange view: Start Exchange Admin.

18 Open the List menu (in the Exchange Administrator toolbar) and choose **Custom Recipients**.



19 Locate and double-click the Scalix-group custom recipient in the list that appears.

20 When the [RecipientName] Properties dialog box appears, click the **Advanced** tab.



21 In the Custom Recipient Options, click the check box by **Hide from address book** (as highlighted above).

22 Click **Apply** to activate your changes, then click **OK** to close the [RecipientName] Properties dialog box.

23 You can exit Exchange Administrator.

What happens?

Any remaining Exchange users can address messages to the same Exchange-based Public Distribution List that now has only one member—the custom recipient that contains the Internet Address of the corresponding Scalix Server Public Distribution List.

You can now switch administration of this distribution list (including additions or deletions of recipients) to the Scalix Server copy.

Switching PDL Management After Coexistence

If you switch Distribution List management after coexistence (when there are no more actively used mailboxes on Exchange), you must add all relevant users to the Scalix Server Distribution List in one of two ways:

- Using the Web Administration client
- Open a terminal window (CLI) and run the omaddpdln command

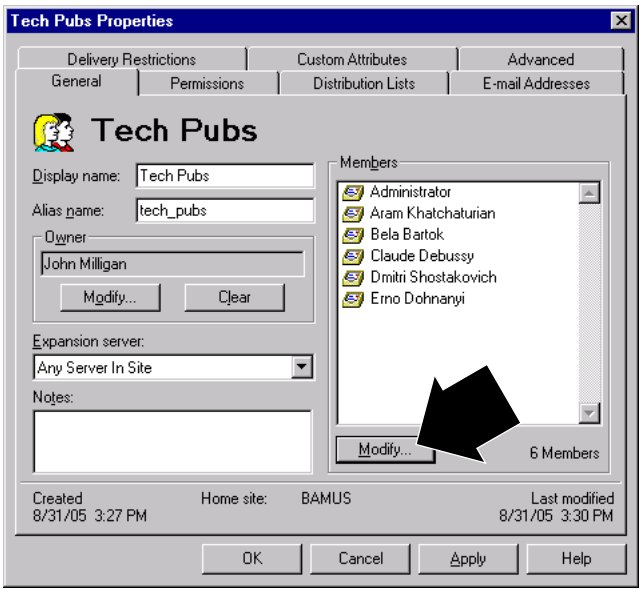
Adding a number of names to a Scalix Public Distribution List can be made more efficient by extracting the original Exchange recipient list to a convenient text file, then formatting the file for importation into Scalix.

Copying the PDL from Exchange

1 In Microsoft Exchange Server Administrator, open the Recipients container where the Public Distribution Lists are stored.

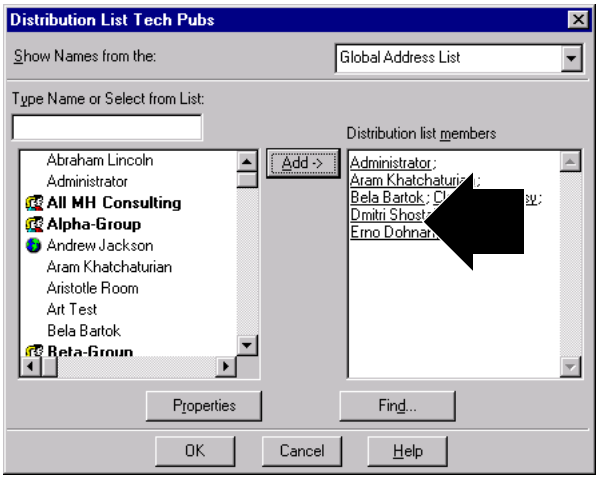
2 Right-click the appropriate Public Distribution List entry and choose **Properties**.

The [ListName] Properties dialog box appears.



3 In the General tab, click **Modify**.

A Distribution List [name] dialog box appears.



4 Select all of the list's users (by clicking in the Members list and pressing Control-A) and copy them to the Windows clipboard.

5 Close the Distribution List and Properties dialog boxes.

6 Open a new Notepad or Wordpad document and paste the collection of users into the document window.

7 Save this document as **Dlist.txt**.

8 You can exit Exchange Administrator.

Formatting theList File for Importation

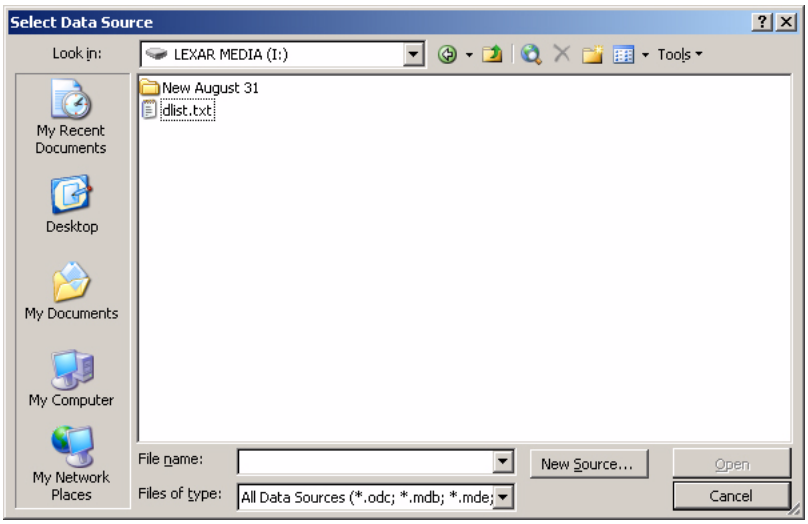
To process this text document in Microsoft Excel for use in Scalix:

1 Open a new Excel workbook.

The active cell should be A1.

2 Choose **Data** > **Import External Data** > **Import Data**

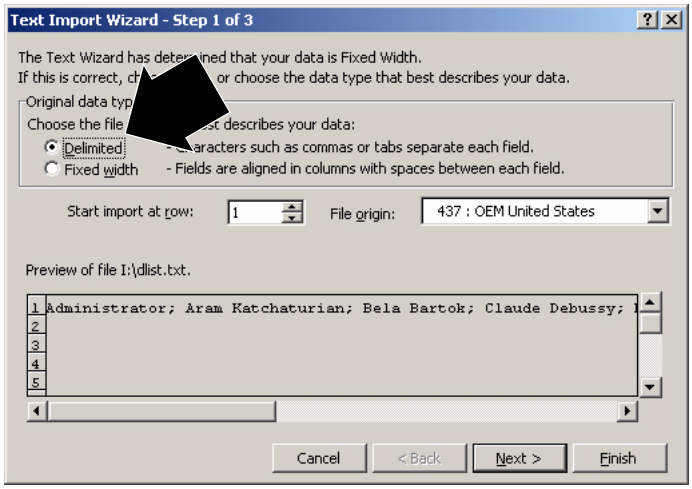
The Select Data Source DB appears.



3 Locate and select the user names text file.

4 Click **Open**.

The Text Import Wizard appears.

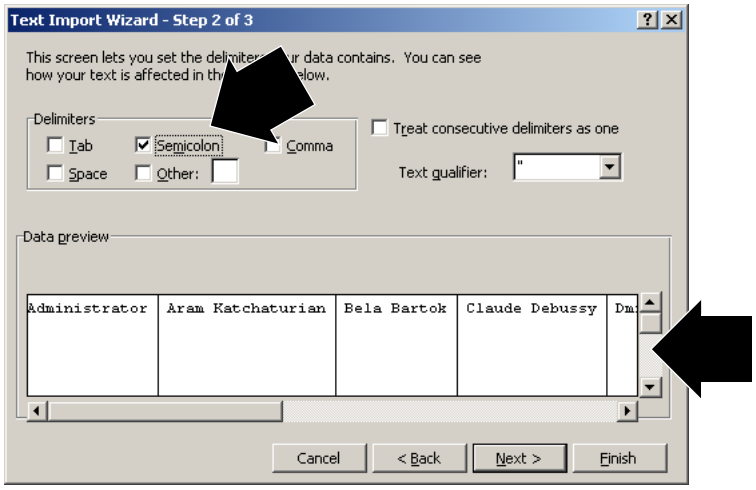


5 In Text Import Wizard 1/3, click the **Delimited** button.

Tip: take advantage of the “preview” pane in the lower half of this dialog box to verify your text file's contents.

6 Click **Next**.

The Text Import Wizard 2/3 appears.

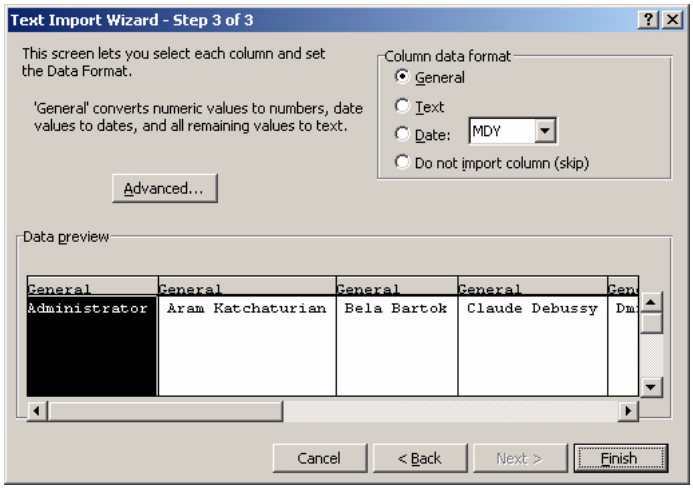


7 Click the **Delimited** check box. (Make sure this is the only active selection. Uncheck any others.)

8 Make sure that both first and last names are sorted into the same cell/column as shown in the preview area of this dialog box.

9 Click **Next**.

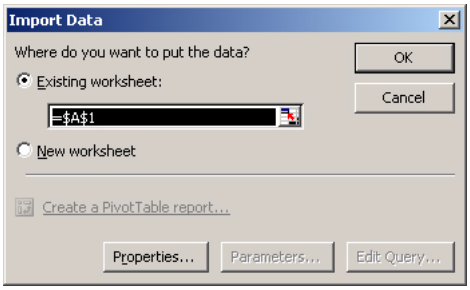
The Text Import Wizard 3/3 appears.



No changes are needed.

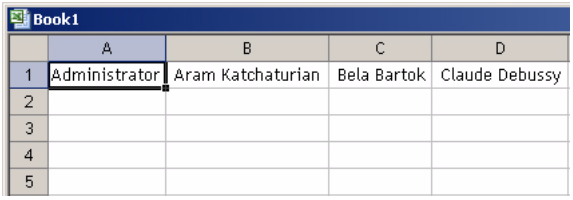
10 Click **Finish**.

The Import Data dialog box appears.



11 Click **OK**. (The default location should be the current worksheet, in cell =$A$1)

Row 1 should display names from the list, one first/last name pairing per cell.



12 Select the entire row. (Selecting empty cells does not affect this procedure.)

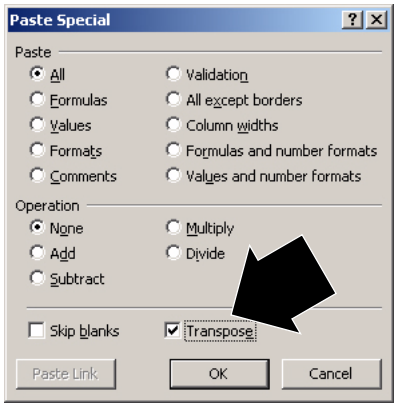
13 Copy the row's contents to the Windows clipboard.

14 Open a new Excel workbook.

(Cell A1 is auto-selected.)

15 Choose **Edit / Paste** Special

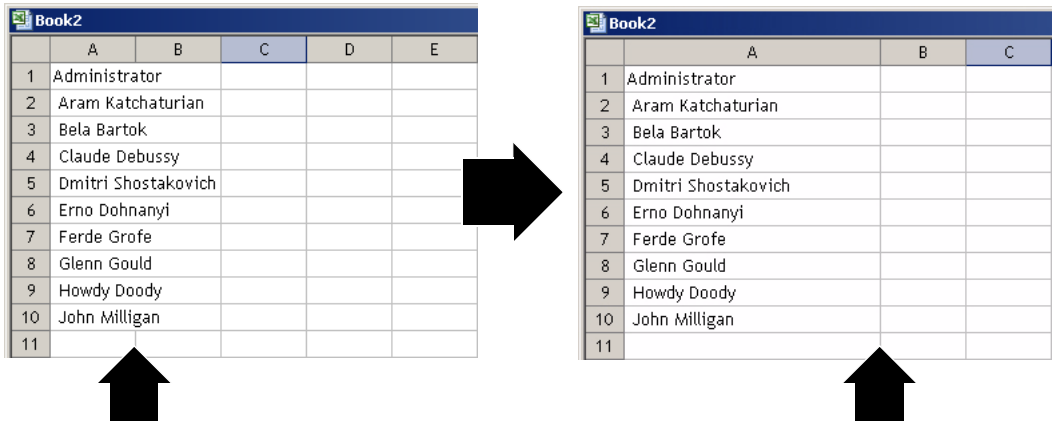
The Paste Special dialog box appears.



16 Click the check box by **Transpose**. (All other default settings are OK.)

17 Click **OK** to complete the pasting of data.

Excel redistributes the first and last names in Column A.



18 Due to the default column width, the name entries may appear to spill into column B, and maybe C. Widen Column A (as shown above) to verify that each first/last name entry fits in its own Column A cell.

19 Save this file/workbook as a text file for importation into Scalix.

20 Print the file.

Part 3

Phased Migration from Exchange to Scalix

Task 1: Activating Auto-Forwarding on Microsoft Exchange

This chapter covers the first "official" migration task, which is to activate *Auto-Forwards* on the Exchange Internet Mail Server. During the coexistence period, mail will be routed from an Exchange server using Exchange *Internet Mail Service* (IMS) to a Scalix Server within the same internet domain, by means of the auto-forwarding.

Contents

This chapter includes the following information:

- "Requirements" on page 104
- "Activating auto-forwarding on Exchange" on page 105

Requirements

Before starting this task, you must have completed the following:

- Activated an Exchange server administrative user account (login)
- Installed and fully configured a working Scalix server
- Completed the DNS setup (for host.domain.extension) for the Scalix server
- Opened a shell terminal as root on the Scalix server

Alert	The DNS setup is critically important. If your Exchange server is registered as (for example) "company.mail.com" then you will need to assign the Scalix server a distinct DNS record, such as "company.scxmail.com".

- On your migration Windows workstation (with access to both Scalix and Exchange servers), create the needed e-mail user profiles (using the Windows Mail control panel). There must be one for "Exchange" and one for "Scalix", that have the proper settings. See the *Installation Guide* for your Scalix system for specific instructions on creating a Scalix profile.
- You must also create an Exchange *container* to which you will import Scalix mailboxes.

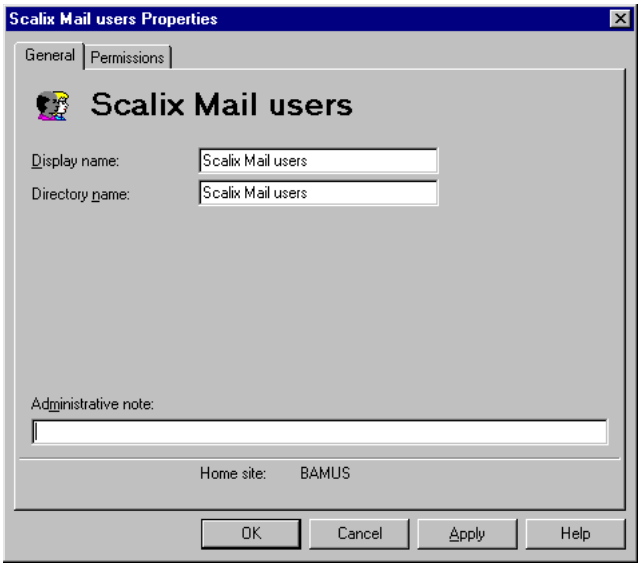
Activating auto-forwarding on Exchange

To activate auto-forwarding on an Exchange server:

1 Start the Microsoft *Exchange Administrator* application.

2 Select the site to be migrated, and then choose **File** > **New Other** > **Recipients Container**.

A blank Properties dialog box appears.

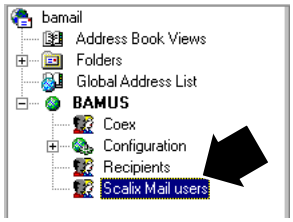


3 Enter a name for the new recipient container (for example, *Scalix Mail Users*) in both the **Display name** and the **Directory name** fields.

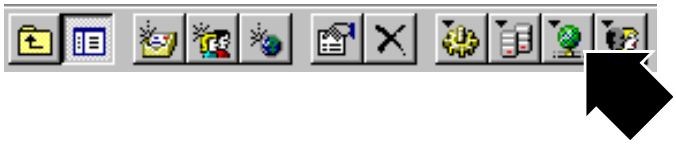
Note the new name appears in the dialog box and the title bar.

4 Click **OK**.

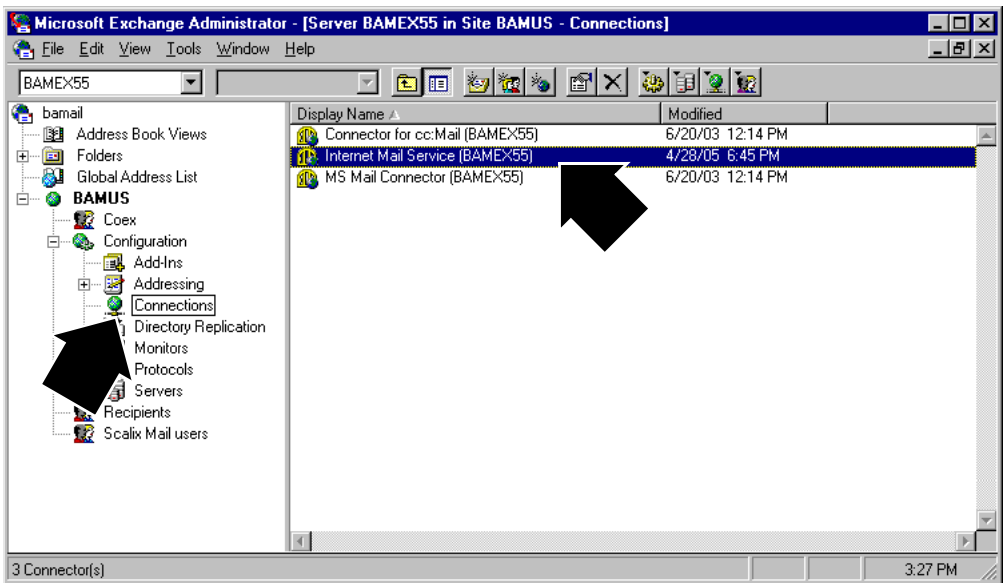
After a brief pause for processing, the new container name appears in the Exchange Administration explorer view.



5 In the main Exchange Administration window, click the Connections button in the toolbar.



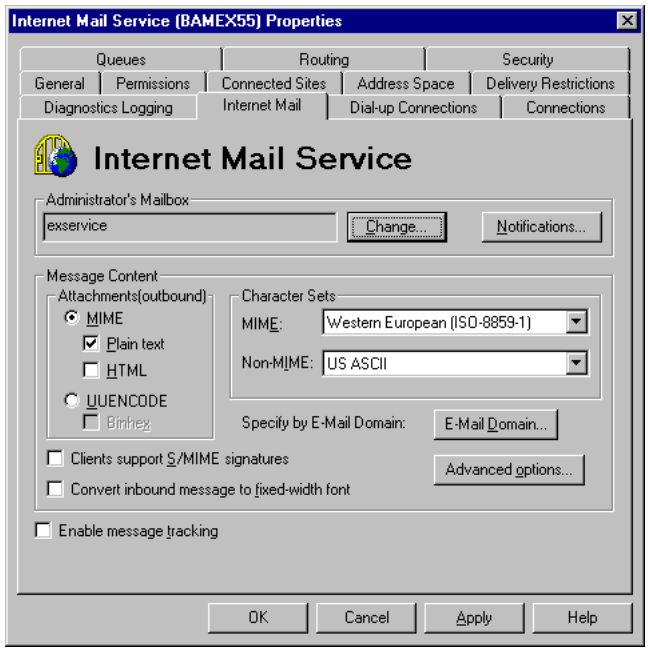
The explorer view expands, to show “Connections”.



6 Click the **Connections** node in the explorer view.

7 Double-click **Internet Mail Service** in the listing to the right.

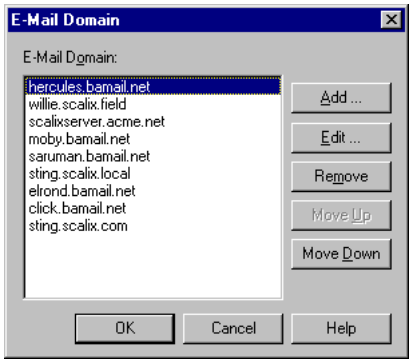
The Internet Mail Service dialog box appears.



8 Click the **Internet Mail** tab, if it’s not already in view.

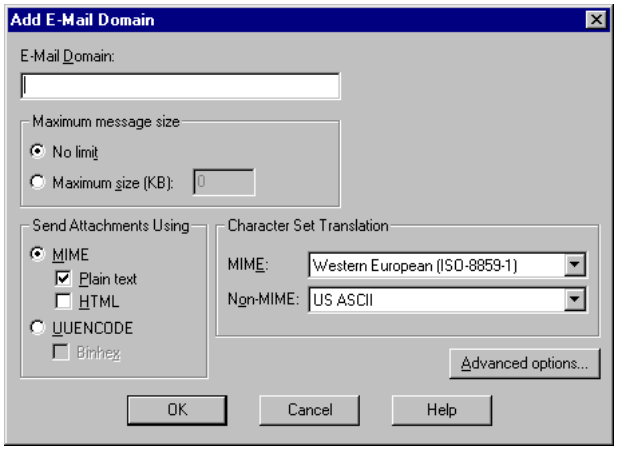
9 Click **E-Mail Domain**.

The Email Domain dialog box appears.



10 Click **Add**.

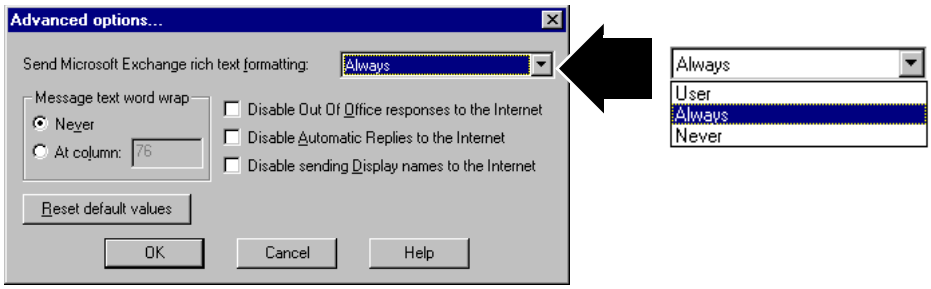
The Add E-Mail Domain window appears.



11 Click in the **E-Mail Domain** field and enter the fully qualified domain name (host.domain.ext) of the destination Scalix server.

12 Click **Advanced Options**.

The Advanced Options dialog box appears.



13 Open the *Send Microsoft Exchange Rich Text Formatting* pull-down menu and select **Always**.

14 Remove the check mark in the *Disable Automatic Replies to the Internet* field.

15 Click **OK** to close this dialog box.

16 Click **OK** to close each of the other currently open dialog boxes/windows.

An alert dialog box appears, prompting you to restart the Internet Mail Service.

17 Click **OK** to close this dialog box.

Stopping and Restarting the Exchange Internet Mail service

1 Open the Services control panel (Choose Start > Settings > Control Panel > Services).

The Services control panel appears.

2 Locate and select the *Microsoft Exchange Internet Mail Service*.

3 Click **Stop**.

4 Leave the Services control panel open, and, after the "Started" notation is erased from Exchange, restart the service by selecting the name and clicking **Start**.

This completes the activation of auto-forwarding.

Task 2: Preparing the Exchange Users Distribution List

This chapter describes how to create a distribution list that includes all Exchange users in the environment. This list is used during the Public Folder coexistence and migration process.

Contents

This chapter includes the following information:

- "Creating the Exchange Users Distribution List" on page 109

Creating the Exchange Users Distribution List

To prepare the Exchange users distribution list:

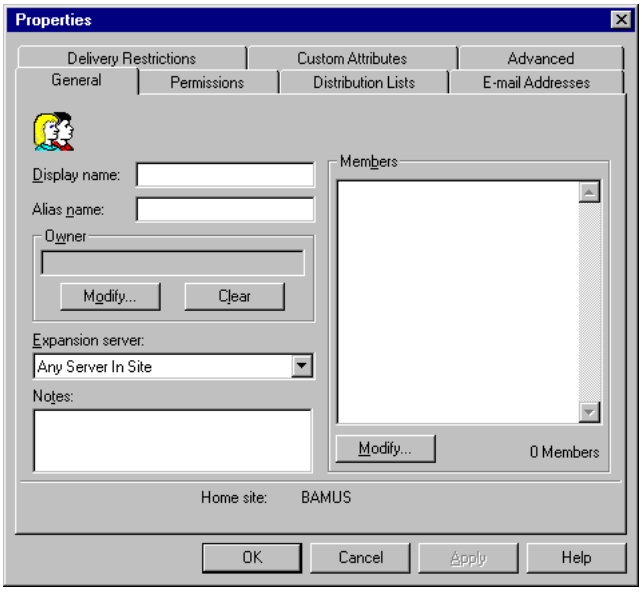
1 On the Exchange server, start the Microsoft *Exchange Administrator* application.

2 Select a container that contains Exchange users you want to migrate.

Note	The default selection/container is "Recipients".

3 Select **File** > **New Distribution List**.

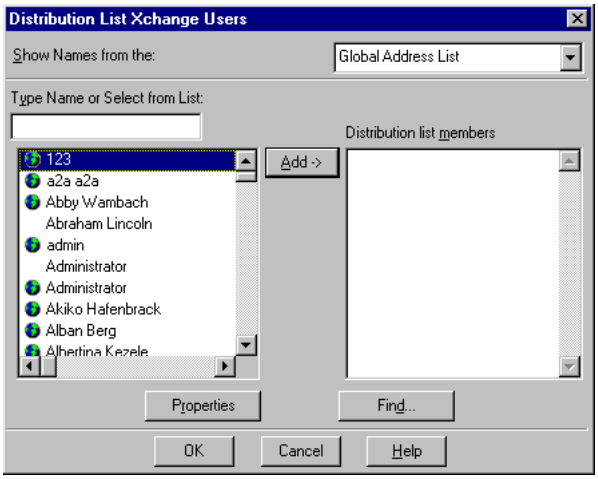
A blank Properties dialog box appears.



4 Enter “Exchange Users” in both **Display name** and **Alias name** fields.

5 Click **Modify** in the Members area.

A Distribution List dialog box appears.



6 Select all the Exchange users in the Global Address List field (left column) and click **Add**.

The selected names should all appear in the right column “Distribution List Members” field (in a “text-only” run-on list).

7 Click **OK** to close this dialog box and save your entry.

Depending upon the number of users in your system, this may take some time to complete.

8 Click OK to close each of the remaining Exchange Administration dialog boxes.

Task 3: Configuring a TNEF route for Exchange Users

This chapter covers the configuration of the Transport Neutral Encapsulation Format (TNEF) route, which enables Exchange recipients in the Scalix environment.

Contents

This chapter includes the following information:

- “Overview” on page 111“Overview” on page 111
- “Configuring TNEF Routes” on page 111

Overview

Scalix Server uses the Sendmail *message transfer agent* (MTA) and SMTP to route messages between servers. To configure Scalix Server for coexistence, you must configure a TNEF route on Scalix Server for the Exchange recipients in the Scalix Server directory. When LDAP synchronization occurs, the Exchange recipient entries are assigned to a Scalix Server mailnode that corresponds to the omAddress value in sync.cfg file. By default, the omAddress value in sync.cfg file is set to remote,tnef.

ALERT	If you route messages directly between Scalix Server and Exchanges servers during coexistence, message formatting is downgraded to plain text.

Configuring TNEF Routes

To configure a single route between the Exchange server and the Scalix Server (with TNEF encoding):

1. Log in to the Scalix Server, and open a terminal window.
2. Enter this command:

   ```
   omshowrt -q all
   ```

   A table appears, showing the existing routes on the Scalix server. This table is organized in three columns—Queue - Mailnode - Format.

```
LOCAL           mailnode
UNIX            internet        MIME
UNIX            internet,tnef   TNEF
```

3 Enter this command:

```
omaddrt -m <route_name> -q unix -i tnef
```

(Replace the "**<route_name>**" entry with a name of your own choosing that represents this new route.)

Alert Write down the new route name, as you will need it in future steps.

This new route uses the SMTP queue while retaining all TNEF attributes.

A confirmation message appears:

```
omaddrt: Route successfully added.
```

4 To verify the existence and content of the route, enter this command:

```
omshowrt -q all
```

The routes table reappears, listing your new entry (highlighted in Bold):

```
LOCAL           mailnode,mailnode
UNIX            internet        MIME
UNIX            internet,tnef   TNEF
UNIX            <route_name>    TNEF
```

5 To verify the route configuration, enter this command:

```
omshowux
```

A list of configurations appears, as shown here:

```
MIME Mailnode                   : internet
TNEF Mailnode                   : internet,tnef
TNEF Domains                    :
Dist List Abbreviation Limit: 0
```

6 Make sure that **internet,tnef** is listed as the TNEF Mailnode attribute. This ensures that TNEF routing is enabled.

NOTE TNEF routing also supports domain-based encoding. See the man pages for omconfux and omshowux for more information.

7 To list and verify the mailnodes that route mail to the UNIX queue for SMTP delivery, enter this command:

```
omshowrt -q unix
```

8 A table appears, listing mailnodes and formatting:

```
<route_name>    TNEF
```

```
internet         MIME

internet,tnef    TNEF
```

9 To verify the routing configuration, send a test email message to both of the following:

- From a Scalix server user to an Exchange user
- From an Exchange server user to a Scalix user

For example, send a message from an address in this format:

```
sxadmin@mailnode.domain.ext
```

to an address in this format:

```
exchange_user@domain.ext.
```

If the message exchange is successful, the route configuration is complete.

Task 4: Fine-tuning LDAP on the Scalix Server

This chapter covers the optional step of find tuning the LDAP server for higher numbers of users. If you are migrating more than one thousand user mailboxes from the Exchange server to Scalix Server, you must modify a key LDAP setting on the Scalix Server to increase the default capacity.

Contents

This chapter includes the following information:

- "Fine Tuning LDAP" on page 114

Fine Tuning LDAP

To change this setting:

1. Log in to the Scalix server as root.
2. Use an editor to open this configuration file:

   ```
   ~/sys/slapd.conf
   ```

   The configuration file contents appear.
3. Look for and change the size limit values, shown in bold text in the following example of an sldap.conf file.

   Increase the size limit values large enough to extract all entries in the Exchange directory to the Scalix Server. If the migrateable mailboxes number 1,800, replace "1000" with "2000" (to allow for increases during the phased migration.)

   ```
   database        om
   suffix          "o=MyContacts"
   flatSuffix      "o=MyContacts"
   directory       _MYCONTACTS_
   sizelimit       1000
   timelimit       15
   ```

```
useDit          false
#
database        om
suffix          "o=Scalix"
flatSuffix      "o=Scalix"
#directory      SYSTEM
sizelimit       1000
timelimit       15
useDit          false
#
database        om
suffix          ""
flatSuffix      "o=Scalix"
#directory      SYSTEM
sizelimit       1000
timelimit       15
useDit          false
```

4 Save any changes you made to the slapd.conf file.

5 To restart this service, enter this command:

```
omoff -a slapd
```

6 Wait approximately one minute and enter:

```
omon -a slapd
```

The LDAP service reconfiguration is now in effect.

Task 5: Creating the Synchronization Agreement

This chapter covers the synchronization agreement needed to provision users on the Scalix system based on pre-existing user records on the Exchange server.

Contents

This chapter includes the following information:

- "Requirements" on page 116
- "Completing a Synchronization Agreement" on page 118
- "Using the Sync Command to Create the Agreement" on page 118
- "Resolving Error Messages" on page 122

Requirements

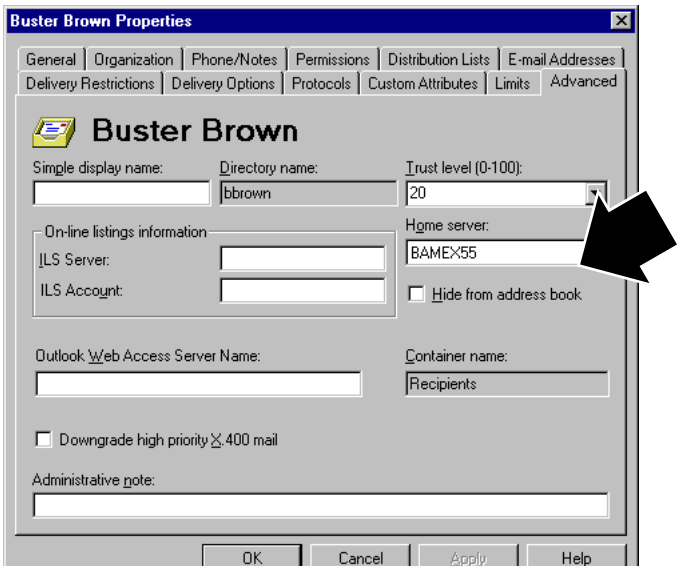
There are two requirements before beginning this procedure:

1. Collect the required information:
   - Domain name or IP address of the source Exchange server
   - The password for the Exchange administrator user account
2. Pre-configure "Service Account Admin" rights/permissions for the Administrator account (in Exchange) that you want to use for coexistence with Scalix. This is detailed in the next section.

To Add "Service Account Admin" rights to an existing user:

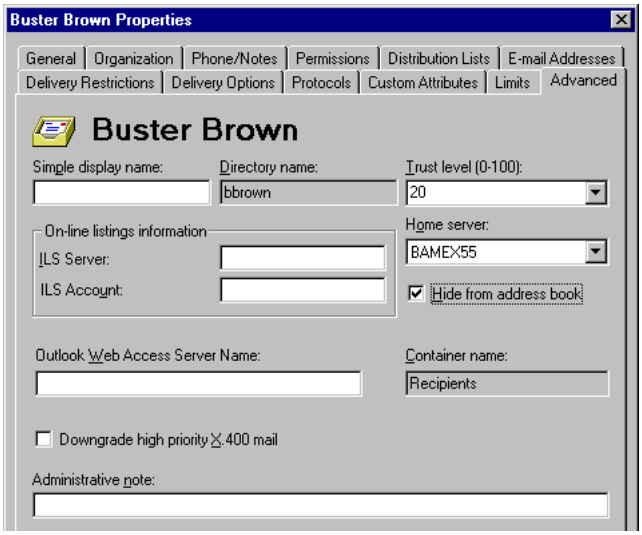
1. Start Exchange Administrator.
2. Click the relevant mail site name.
3. Choose **File > Properties.**

4 When the [Name] Properties dialog box appears, click the **Permissions** tab.



5 Click **Add**.

The Add Users and Groups dialog box appears.



6 Open the **List Names From** menu and choose the relevant server name.

7 In the Name list, select the relevant administrator or admin group name.

8 Click **Add**.

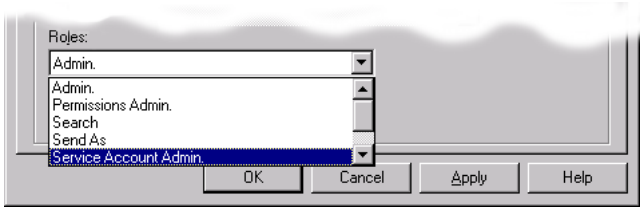
The selected name should appear in the **Add Names** field below.

9 Click **OK** to close the Add Users and Groups dialog box.

10 If a Permissions/Domains confirmation dialog box appears, click OK to close it.

The [name] Properties dialog box reappears.

11 Open the **Roles** menu and choose **Service Account Admin**.



12 Click **Apply**, then click **OK** to save this new permission state and close the [name] Properties dialog box.

Completing a Synchronization Agreement

Before starting the agreement, you must obtain the Exchange values for the omldapsync "a" attribute from the Exchange server.

To find and note down these values from the Exchange server:

1 Open the Microsoft Exchange Administrator application.

2 Select the site container that you are synchronizing.

3 Double-click any of the current user accounts.

4 When the [Name] **Properties** dialog box appears, click the **E-mail Addresses** tab.

5 Note the following X.400 values for the following fields:

```
C= country

P= organization

O= <your_site>
```

6 Write down this information and have it ready for use in the following procedure.

Using the Sync Command to Create the Agreement

To configure a synchronization agreement for the Exchange-to-Scalix migration:

1 Log into Scalix Server as root.

2 To execute omldapsync in "interactive" mode, enter this command:

```
omldapsync -i syncid
```

- Replace **syncid** with a name for your Exchange-Scalix migration synchronization agreement. The name should be no more than six alphanumeric characters in length. For example, Ex2Sx.

3 When the omldapsync menu appears, enter the number 1 at the prompt.

The omldapsync command determines that this is the initial directory synchronization and creates the subdirectory for the synchronization agreement along with the sync.cfg file.

4 When omldapsync displays this prompt:

```
INPUT: Select sync agreement type to create (00):
```

5 Enter 00 (two zero's) to specify that you are synchronizing with an Exchange 5.5 server.

6 When omldapsync displays this prompt:

```
Edit config file now y/n (n)
```

Enter y.

7 When omldapsync displays this prompt:

```
Use vi to edit y/n (n)
```

Enter n.

NOTE After you are familiar with the synchronization agreement process and the VI editor, you can enter y at the Use vi to edit y/n (n): prompt if future configuration changes are needed. For the initial configuration, enter n so that the omldapsync command can step you through configuration of the sync.cfg file.

8 When omldapsync displays the following information:

```
# PART 1 General Configuration

#########################################################################

. . .

EX_HOST[]:
```

Enter the fully qualified domain name or IP address of the Exchange server at the EX_HOST prompt. Use this format for the entry:

```
server.domain.ext
```

- The EX_ variable indicates an export from the Exchange server.

9 When omldapsync displays the following prompt:

```
EX_LOGON[Export Admin]:
```

Enter the Exchange Administrator account user name.

10 When omldapsync displays the following prompt:

```
EX_PASS[]:
```

Enter the Exchange administrator password.

This password automates the entire migration process. If you do not enter the password at this time, omldapsync prompts you for a password every time you run the command. If security is a question, the password is saved in the sync.cfg file and is protected by the security policies configured for the Linux host system on which Scalix Server operates.

11 When omldapsync displays the following information:

```
# PART 1.2 for IMPORT/EXPORT - local host

########################################
```

```
. . .

IM_LOGON[Import Admin]:
```

Enter the Scalix Server administrator user name.

Alert Enter just the user name, NOT the "@domain" texts.

12 When omldapsync displays the following prompt:

```
IM_PASS[]:
```

Enter the Scalix Server administrator password.

As noted previously, entry of the password at this point automates the entire migration process.

13 When omldapsync displays the following information:

```
# PART 1.3 for IMPORT - ldap parameters

########################################

. . .

EX_BASE1[cn=recipients,ou=your_site,o=your_org]:
```

Enter the Exchange Global Address List (GAL) container. The entry should be in the following format:

```
cn=container name,ou=site,o=organization
```

This parameter defines the Exchange GAL container, where "cn" defines the name on the GAL container (that you want to migrate), "ou" defines the Exchange 5.5 site, and "o" defines the name of the organization (domain). You can specify up to three containers using the subsequent prompts (EX_BASE2 and EX_BASE3)—but only if you have more than one container. If not, EX_BASE is sufficient.

14 When omldapsync displays the following information:

```
IM_OMADDRESS[/remote,tnef]:
```

Enter the TNEF route name you configured previously (in "Task 3: Configuring a TNEF route for Exchange Users" on page 111).

15 When typing the route name, type only the name (not the "tnef" text) and be sure to enter a "/" preceding the name. For example:

```
/route_name
```

16 When omldapsync displays the following:

```
# PART 1.4 for EXPORT - ldap parameters

########################################

IM_LOCAL_DOMAIN[@scalix_server.your_domain.com]:
```

Enter the domain portion for the Scalix Server SMTP address of the user.

Your entry should be in this format:

```
@scalixserver.domain.com
```

The parameter for this command is configured as the local mailnode domain. Because message routing already exists for the Exchange system, Scalix Server is configured to coexist alongside the Exchange mail system without having to modify the message routing topology. This requires that you use @scalixserver.domain.com format for this command. Although entries that Scalix Server imports to Exchange use this format, the external address of a user remains name@domain. (This should have been part of the pre-requisite setup.)

17 When omldapsync displays the following prompt:

```
EX_DN_SUFFIX[cn=ldapsync-
sync_agreement_name,ou=your_site,o=your_org]
```

Enter the location for the exported entries.

- The container name (cn=) should be the name that you previously created for Scalix users in “Task 1: Activating Auto-Forwarding on Microsoft Exchange” on page 104.

18 When omldapsync displays the following prompt:

```
EX_TEXT_EOA[c=US;a= ;p=your_org;o=your_site;]:
```

Enter the address where the entries are to be exported.

For example:

```
c=country;a= ;p=yourorg;o=yoursite;
```

- Enter the X.400 value you previously noted down from Exchange (as detailed earlier in this chapter) for the a= attribute.

19 When omldapsync displays the following information:

```
# PART 2 Mapping Configuration

########################################################################

. . .

# END

########################################################################

Result=0

INPUT: Compare old config with new y/n (n):
```

Enter y at the prompt.

20 When omldapsync displays the following prompt:

```
INPUT: Replace old config with new y/n (?):
```

Enter y at the prompt.

21 When omldapsync displays the following information:

```
INPUT: Attempt to test data extraction now y/n (n):
```

Enter y at the prompt.

Output similar to the following (for an example agreement named “sa1”) should appear on-screen:

```
INFO: test searching from bamex55.bamail.net ...
INFO: search base is cn=Recipients,ou=BAMUS,o=bamail
INFO: ... test searched OK.
INFO: test searching from localhost ...
INFO: search base is o=Scalix
INFO: ... test searched OK.
STATUS: Configuration of sa1 completed ########
```

This completes the agreement setup process.

Resolving Error Messages

If any WARNING or ERROR messages appear during this procedure, verify the synchronization agreement file.

To verify the sync agreement file:

1 While logged into Scalix, enter this command:

```
omldapsync -i syncid
```

Replace **syncid** with the name of the Exchange-Scalix migration synchronization agreement.

2 When the omldapsync menu appears, enter 1.

3 The verification results scroll on screen, and at the end, you will be prompted to exit.

Reminder...

In the omldapsync interactive command menu, the following options are available:

- "1" allows you to simultaneously create and configure a sync agreement. If an agreement doesn't exist for the name you enter, omldapsync creates the needed directory structure and corresponding files.
- "2" lets you perform the initial sync of XS and SX directories.
- "3" Synchronizes the directories on the Scalix Server and Exchange servers by comparing the current export file (which is created by selecting this option) with the previous export file. The omldapsync command adds, deletes, and modifies entries in the appropriate directory.

For more information on omldapsync commands, see "Guide to Synchronization Commands" on page 189.

Task 6: Completing the Initial Directory Synchronization

This chapter covers the procedure to complete the intial directory synchronization between Exchange and Scalix, which is done after you finish creating the synchronization agreement. As with the agreement procedure, you execute the omldapsync command in interactive mode and enter the Exchange-Scalix synchronization ID you previously configured.

Contents

This chapter includes the following information:

- "Overview" on page 123
- "Synchronizing the Directories" on page 123
- "Managing Errors" on page 124
- "Important Note" on page 125
- "Resetting after a Failed Synchronization" on page 125

Overview

The initial directory synchronization process does the following:

- Exports all entries in the Exchange LDAP container specified in the synchronization ID file
- Adds all entries to the Scalix Server directory
- Converts Distribution Lists into Public Distribution Lists in Scalix Server
- Imports all entries from Scalix Server
- Adds all entries to the specified Exchange container

Synchronizing the Directories

To synchronize the directories for the first time:

1 Log into Scalix Server.

2 To execute omldapsync in "interactive" mode, enter this command:

```
omldapsync -i syncid
```

- Replace **syncid** with the name of your Exchange-Scalix migration synchronization agreement.

3 When the omldapsync menu appears, enter the number 2.

This prompts omldapsync to synchronize the directory for the first time. A series of status messages scrolls on-screen.

4 When the "**export sa1 completed**" confirmation message appears, the synchronization is complete, and was successful.

- If any error messages appear, follow the procedure in the next section to resolve the situation.

Managing Errors

It is not uncommon to encounter minor errors during the directory synchronization process. The omldapsync command notifies you of errors that occur during the synchronization of directories and provides an option to manage errors so that synchronization continues uninterrupted.

The following procedure describes a scenario in which the Exchange Distribution List representing the Scalix Server users was added and an error occurs when Scalix Server attempts to export the Distribution List.

1 Execute omldapsync in "interactive" mode by entering the following command:

```
omldapsync -i syncid
```

2 When the omldapsycn menu appears, enter 3.

The following information displays:

```
STATUS: LDAP dir sync import sync01 started ###############

...

INFO: ... 0 entries to delete

INFO: ... 2 entries to add

INFO: ... 1 entries to modify

STATUS: delete old entries from flipper.bamail.net ...

INFO: ... 0 entries deleted

STATUS: add new entries to doclab.bamail.net ...

adding new entry cn=Scalix UsersDL,o=Scalix

ldap_add: Already exists

adding new entry cn=sName,o=Scalix
```

The ldap_add process notifies you that an entry already exists (this is where the Distribution List originated).

3 If you intentionally added the Exchange Distribution List knowing that omldapsync generates errors in this situation, you can "accept" the error by entering the following at the omldapsync prompt:

```
omldapsync -i syncid
```

4 When the omldapsync menu appears, enter 4 to accept the error and update the directory.

The directory synchronization should now be complete.

Important Note

Note that omldapsync does not report errors. Subsequent updates will not attempt to add any missing entries. However, there are instances that require you to perform more labor-intensive tasks such as manually modifying a directory entry on the Exchange or Scalix Server.

Scalix Corporation recommends that you change the target side of the directory synchronization to resolve conflicts. For example, if you are trying to synchronize a new Exchange user named "John Doe", and the remote recipient with the same name already exists in Scalix Server, change the remote recipient entry to "John Doe1" (or something similar) and select option 3 (Update the directory after some changes) in the omldapsync menu. omldapsync should report no errors. If errors do occur after you successfully add the "John Doe1" entry in the Scalix Server directory, select option 4 (Accept previous error and update directory) in the omldapsync menu to ignore the error.

Resetting after a Failed Synchronization

There are multiple scenarios in which you would want to reset the Scalix after an initial omldapsync from Exchange is completed.

1 Create a file with the name of all of the mailboxes that were to have been synchronized in the first attempt. To do so, run this command:

```
omshowu –m all > allmailboxes.out
```

2 Use your preferred editor and open the file **allmailboxes.out**.

3 Delete the lines that contain the two system accounts: sxadmin and sxqueryadmin. These mailboxes should not be deleted along with the others.

4 Purge the other mailboxes by running this command:

```
omdelu –f allmailboxes.out
```

5 To create a new list of directory entries that you want to migrate to mailboxes, run this command:

```
omsearch –e "cn=*" –m cn > alldir.out
```

6 Use your editor to open this newly created file and remove the following entries:

```
sxadmin, sxqueryadmin, ScalixAdmins, ScalixUserAdmins, ScalixGroupAdmins, ScalixUserAttribtesAdmins.
```

These mailboxes either already exist (sxadmin and sxqueryadmin) or are mailboxes representing groups.

7 Run the original ommigu command with this new imput file, as shown here:

```
ommigu –userfile alldir.out –m mailnode –p password –expire >
ommigu.stdout 2> ommigu.stderr
```

8 Run the ommigu command, including the –raf option:

```
ommigu –userfile alldir.out –raf
```

The synchronization should now run without errors.

Alert	Don't run the command in step 8 if the command run in step 7 results in errors.

Task 7: Updating Exchange and Scalix Directories

In the course of a phased migration, during which your Exchange directory (and mailboxes) may be modified daily, you should regularly update the Exchange and Scalix Server directories. This chapter explains how.

Contents

This chapter includes the following information:

- "Updating Exchange and Scalix Directories" on page 127

Updating Exchange and Scalix Directories

To update:

1. Log in to the Scalix server.
2. Run omldapsync in "interactive" mode by entering the following command:

   ```
   omldapsync -i sync_id
   ```

   - Replace **syncid** with a name for your Exchange-Scalix migration synchronization agreement.
3. Enter 3 to update the directories.

   This command synchronizes the directories on the Scalix Server and Exchange servers by comparing the current export file (which is created by selecting this option) with the previous export file. The omldapsync command adds, deletes, and modifies entries in the appropriate directory
4. The results scroll on-screen, and when this update is complete, you will be prompted to exit.

Tip	You can automate this directory update process by creating a script file that executes omldapsync with the appropriate command line switches—which are detailed in the man pages. You can schedule regular execution of the script as a cron job.

Task 8: Updating the Client Directory Access

Scalix Server provides a client interface to the directory that acts as an index of all users. You can use this index to specify the directory entries that clients (such as MS Outlook, Internet clients, and LDAP clients) can access. When you modify the directory through any interface (including omldapsync), you must update client directory access before clients can view any new entries in the directory. This chapter explains how.

Contents

This chapter includes the following information:

- "Updating the Client Directory Access Index" on page 128

Updating the Client Directory Access Index

You must update the client directory access index after you successfully synchronize the Scalix Serer and Exchange directories.

To update the client directory access index:

1. Log in to Scalix Server.
2. Enter the following command:

   ```
   omexeccda
   ```

   The results scroll on-screen as illustrated here:

   ```
   Fetching all entries from Directory

   Sorting Directory entries

   Building Directory Access Tables... Please wait

   ... Please wait

   ... Please wait
   ```

   When this is finished, the directory index will be updated.

3 You are prompted to exit.

Tip	You can automate this process by including this script in a cron job.

Task 9: Hiding Directory Entries in Scalix Server

During the coexistence period, you may need to hide unwanted entries in the Scalix Server Directory, and at the same time, hide them from the Outlook Client Address Book. This requires the modification of a parameter in the Scalix Server Directory, which is described in this chapter.

Contents

This chapter includes the following information:

- "Hiding Directory Entries in Scalix" on page 130

Hiding Directory Entries in Scalix

In the following example, the Exchange entry for Scheduling and Freebusy lookup exports to Scalix Server are named "Microsoft Schedule+ Free\/Busy Connector (BAMEX55)".

To hide selected directory entries:

1 Enter the following command:

```
omsearch -e common-name=adm*
```

The following information appears on-screen:

```
COMMON-NAME=AdminSch=Microsoft Schedule+ Free\/Busy Connector
(BAMEX55)/OU1=exchange/S=(BAMEX55)/OU2=bamail/ALIAS=AdminSch/
INTERNET-ADDR=AdminSch@bamail.net/G=Microsoft/LDAP-OBJECT-
CLASS=Mailbox-Agent=organizationalPerson=person=Top=ldapsync-
first/I=S COMMON-NAME=Administrator/OU1=exchange/S=Administrator/

OU2=bamail/ALIAS=Administrator/INTERNET-ADDR=Administrator@bam-
ail.net/LDAP-OBJECT-CLASS=organizationalPerson=person=Top=lda-
psync-first
```

2 To hide the COMMON-NAME=AdminSch=Microsoft Schedule+ Free\/Busy Connector (BAMEX55) directory entry, enter:

```
ommodent -e common-name=adminsch -n EX-CDA-DIRECTORY=1
```

The following information appears:

```
Modified 1 entry in the Directory
```

3 To update the CDA, enter:

```
omexeccda
```

Task 10: Preparing for Public Folder Migration

This chapter explains how to prepare for public folder migration.

Contents

This chapter includes the following information:

- "Overview" on page 132
- "Determining Which Public Folders to Migrate" on page 133
- "Resetting Permissions on Public Folders" on page 133
- "Reorganizing Public Folders and Data" on page 133
- "Creating Public Folders on Scalix Server" on page 135
- "Checking Your Work" on page 135

Overview

Public Folder coexistence depends on the auto-forwarding of messages between Exchange and Scalix Public Folders. Only new messages are forwarded to Scalix Server after you enable auto-forwarding.

Because enabling auto-forwarding before migrating data causes duplicate messages to display in the Scalix Server Public Folder, you must migrate Exchange Public Folder data to Scalix Server before enabling auto-forwarding.

Scalix recommends creating a backup folder for your Public Folders before you begin the migration and coexistence process.

During the Public Folder data migration process, you can migrate all data and maintain the current folder structure, or migrate some data and use the public folder data migration process as an opportunity to delete old data and unwanted folders.

The Import/Export Wizard in the Outlook client manages the migration of public folder data. Before you begin migrating public folder data, you must:

- Determine the Public Folders you want to migrate.
- Reset the permissions on the Public Folders you want to migrate.

- Reorganize the Public Folders you want to migrate.
- Prepare the Public Folders you want to migrate.

Each of these topics is covered separately in the rest of this chapter.

Determining Which Public Folders to Migrate

When determining the public folders to migrate to Scalix Server, remember that any Exchange user can potentially create and manage access to a Public Folder. Some Public Folders might be very restricted and even administrators might not be able to access or manage these Public Folders. Alternatively, some organizations might have strict Public Folder policies where only administrators can create and manage Public Folders.

Scalix Corporation recommends that you notify all Exchange users before you migrate Public Folders so that Public Folder owners can consider whether to include their folders in the migration.

You should also notify users that a new Public Folder owner will be established during migration and that all data messages will be visible to an administrator.

Notes:	Any folder that is restricted in Exchange (a default Role set to the value of None) is set to a default Role of Publishing Author after it is imported into Scalix Server. To prevent restricted users from viewing the contents of a Public Folder, change the default role to None after you create the Public Folder using the .PST import.

Resetting Permissions on Public Folders

After you identify the Public Folders you want to migrate, you must assign a new owner to each Public Folder so that you can create:

- The exported .pst file which you import into Scalix Server
- A new rule using the Folder Assistant that enables cross-platform synchronization

For example, your organization may want to designate one of your administrative-access accounts (that is part of an Administration group) to be the “owner” of most of the Public Folders within the organization. You need to make sure that this admin account is an owner of all Public Folders that you eventually choose to migrate.

Tip	Write down the user name of this “folder owner” administrator account.

Reorganizing Public Folders and Data

When you determine the Public Folders that you want to migrate to Scalix and configure the Public Folder owner permissions for those folders, Scalix Corporation recommends that you create a “clean and migrate” directory where you can reorganize public folders and data.

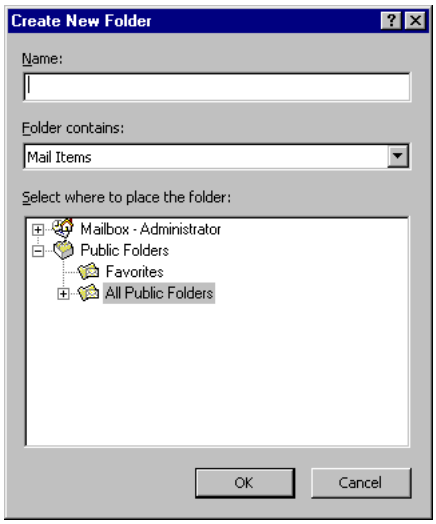
To create a directory for reorganizing public folders and data:

1 Using a Microsoft Exchange profile, log into the Outlook Client as the designated administrative-access Public Folders owner.

2 Click the **All Public Folders** folder (inside Public Folders).

3 Choose **File** > **Folder** > **New Folder**.

The Create New Folder dialog box appears.



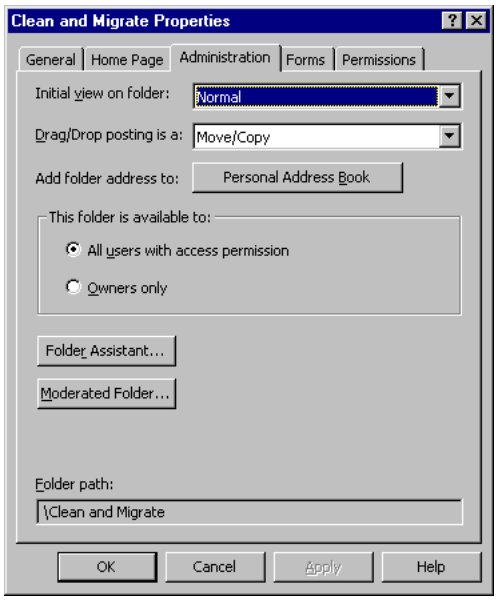
4 Enter "Clean and migrate" in the **Name** field.

- Note that the target folder is shown in the explorer view in this dialog box.

5 Click **OK**.

6 When the Outlook window reappears, right-click the "Clean and migrate" folder icon and choose **Properties** from the popup menu.

The Properties dialog box appears.



7 Make sure the following settings are in effect:

- **Initial View** -- Should be "Normal"

- **Drag/Drop posting** -- Should be “Move/Copy”.
- **This folder is available to** -- Should be “All users with access permission”

8 Click **OK** to save your settings and close this dialog box.

9 Right-click all of the to-be-migrated public folders and drag them onto the “Clean and migrate” folder.

10 When the popup menu appears, click **Copy**.

The contents of all public folders are copied into this migratable folder.

Tip	The migration process provides you an excellent opportunity to delete legacy data from your Public Folders. The data that you decide to exclude (if any) from the migration process depends on the migration policies implemented by your organization. To remove unwanted messages, open the Public Folders and delete the messages that you do not want to migrate to Scalix Server.

Creating Public Folders on Scalix Server

After you determine the Public Folders to migrate from Exchange, you should first create a matching set of Public Folders on the Scalix Server. The name of each Public Folder must be exactly the same as the name of the source Public Folder on Exchange server.

For example, if you want to migrate the Exchange Public Folder “For Sale” to Scalix, enter this command:

```
omaddbb -s “For Sale”
```

Repeat this command to create all the other source public folders.

Checking Your Work

To verify the success of your work:

1 Start Outlook, using the Scalix profile.

2 Open the Public Folders list.

3 Verify that the folders that should have been migrated from “Clean and migrate” are listed here.

Task 11: Migrating Public Folder Data to Scalix Server

This chapter explains the method for doing the actual migration of public folder data to Scalix.

Contents

This chapter includes the following information:

- "Requirements:" on page 136
- "Exporting Exchange Public Folder Data" on page 136
- "Importing the Exported Public Folders into Scalix" on page 139

Requirements:

If you have not already done so, create the two e-mail user profiles in the Windows Mail control panel that Outlook will refer to in this process:

- Scalix
- Exchange

Exporting Exchange Public Folder Data

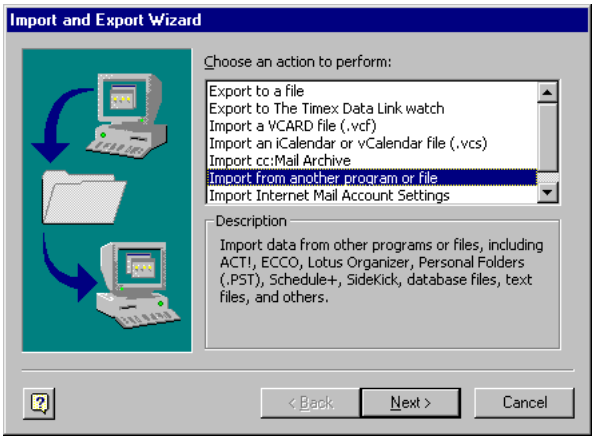
To migrate the contents of a specific Public Folder to Scalix Server.

1. Using a Microsoft Exchange profile, start the Outlook Client.

   This allows you to connect to the Exchange server as a Public Folder owner.

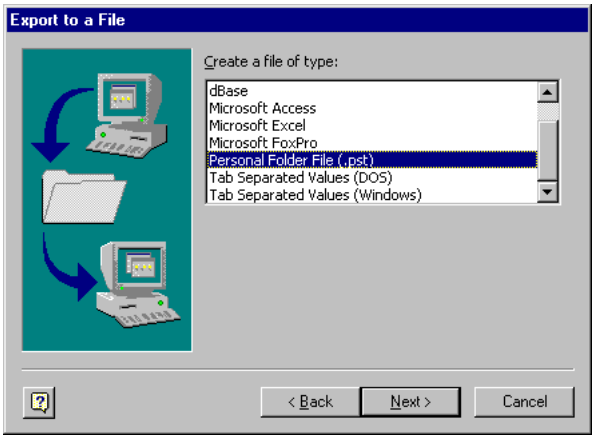
2. Choose **File** > **Import/Export**.

The Import/Export Window (for export) appears.



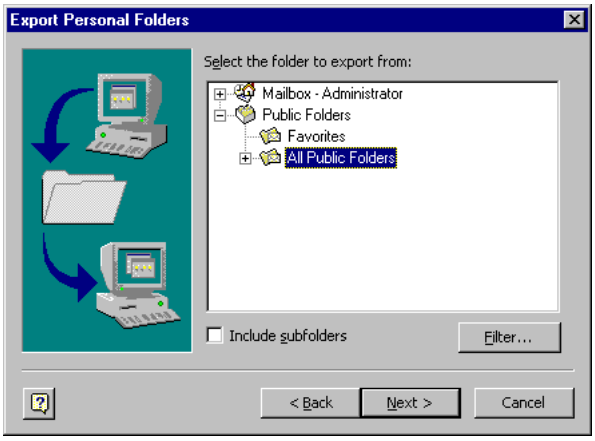
3 Select "Export to a File", and click **Next**.

The Export To a File wizard panel appears.



4 Select **Personal Folder File (.pst)**, and click **Next**.

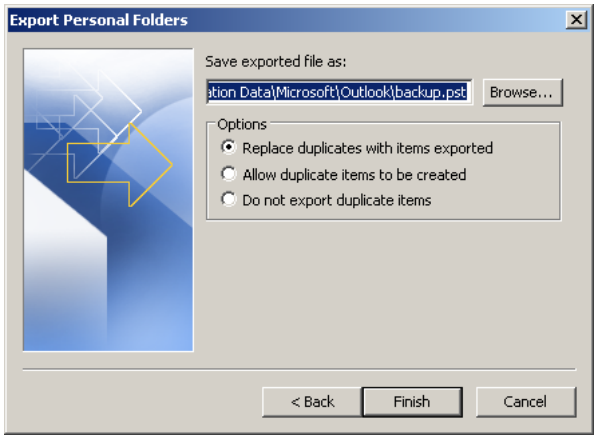
The Export Personal Folders (Selection) wizard panel appears.



5 Navigate to the folder into which you copied the Exchange Public Folders that you want to migrate ("Clean and migrate").

6 Make sure you check the **Include Subfolders** check box.

7 Click **Next**. The Export Personal Folders (Save As) wizard panel appears.



8 Enter a name for the file (in the format "file_name.pst") and specify a folder location in which to save the file.

Note	Write down the filename and location pathway for future reference (in the context of migration).

9 Click **Finish**.

A dialog box appears

10 If you have concerns about the vulnerability of your public folder data, enter a password for the .pst file.

11 Click **OK** to proceed.

12 A series of export status dialog boxes appears, representing the contents of each folder.

When the status dialog boxes cease, you can now import the .pst file to the Scalix Server.

Importing the Exported Public Folders into Scalix

To import the just-exported .PST files into Scalix:

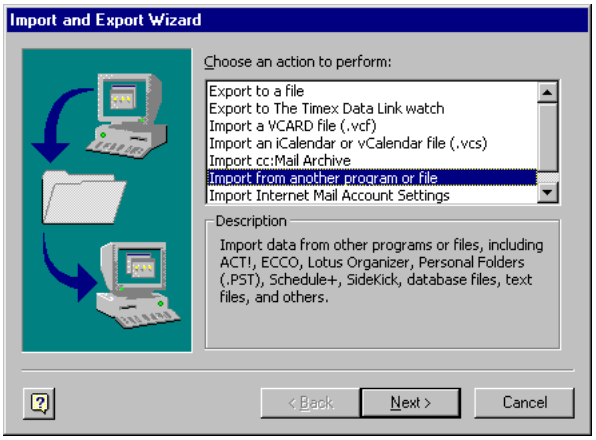
1 Using a "Scalix" profile, start Outlook.

This allows you to log in as a Public folder owner on the Scalix server.

2 Select "Public Folders" in the Folder List.

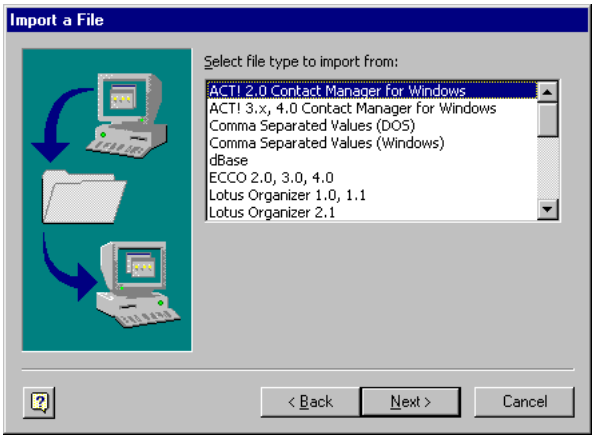
3 Choose File > Import/Export.

The Import and Export wizard appears.



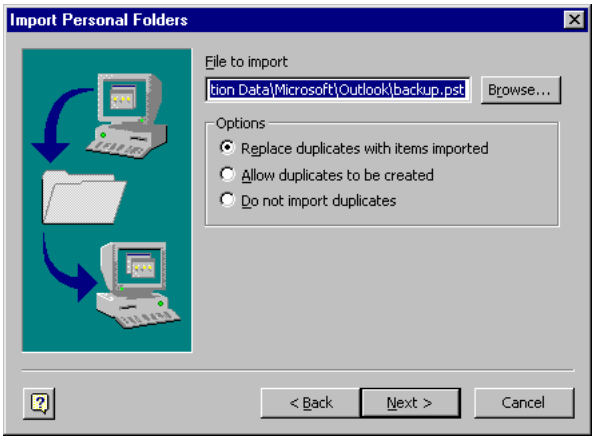
4 Select "Import from Another Program or File", and click **Next**.

The Import a File wizard panel appears.



5 Select "Personal Folder File (.pst)", and click **Next**.

The Import Personal Folders wizard panel appears.

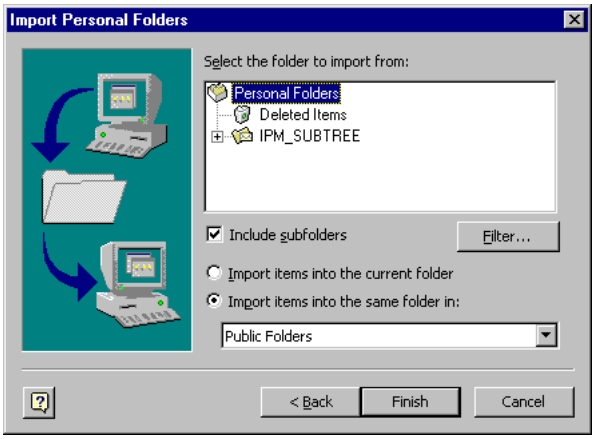


6 Click **Browse**, and use the browse dialog box to locate and select the .PST file that you exported previously.

7 Click the check box by "Replace Duplicates with Items Imported".

8 Click **Next**.

The Import Personal Folders wizard panel appears.



9 Use the explorer view to locate and select the top-level folder ("clean and migrate") that contains the Public Folder(s) you want to migrate.

10 Click the check box by **Include Subfolders** to enter a check mark.

11 Click the button by "Import Items into the Current Folder".

12 Choose "Mailbox - username" from the pull-down menu.

13 Click **Finish**.

Task 12: Enabling Public Folder Forwarding on Scalix Server

This chapter explains how to enable public folder forwarding in Scalix.

Contents

This chapter includes the following information:

- "Overview" on page 141
- "Examples" on page 141
- "Arguments for the Command" on page 142
- "Activating Forwarding" on page 143
- "Testing Your Work" on page 143

Overview

The Public Folder coexistence process requires you to (1) enable forwarding capabilities on the Scalix Server Public Folder, then (2) to create an Internet-routable e-mail address to be applied to public folders on Scalix. This address could take the format:

[publicfoldername]@scalixserver.companyname.com

Enabling forwarding allows a copy of a message posted to a given Public Folder in Scalix Server to automatically be forwarded to a similarly-named Public Folder on Exchange.

You must use the following two commands to enable Public Folder forwarding on Scalix Server:

- omaddent
- omaddbbsa

Examples

The specific use of omaddent results in a directory entry associated with the Public Folder and creates an SMTP address to receive inbound mail. It can be used three ways:

Example 1: *Create a directory entry with accompanying e-mail address*

We want to create a new Scalix Server Public Folder named *For Sale* (to be used by Acme Corporation mail users. The Internet domain is *acme.net*, on a mailnode named *scalix-server*. To do so, we create a directory entry as shown here (each item on a single line):

```
omaddent –e "S=+BB/G=For Sale /CN=For Sale/ OU1=scalixserver/
OU2=acme/DDT1=BB-NAME/DDV1=For Sale/

IA=ForSale@scalixserver.acme.net"
```

Note	If the public folder name contains non-ASCII characters such as Japanese characters or German umlauts, DDV1-TX must be used instead of just DDV1.

Example 2: *Hide the new entry (and e-mail address) immediately after creation*

To create and then hide the directory entry for the "For Sale" Public Folder on Scalix, we enter the following:

```
omaddent –e "S=+BB/G=For Sale /CN=For Sale/ OU1=scalixserver/
OU2=acme/DDT1=BB-NAME/DDV1=For Sale/

IA=ForSale@scalixserver.acme.net/ EX-CDA-DIRECTORY=1"
```

Note	If the public folder name contains non-ASCII characters such as Japanese characters or German umlauts, DDV1-TX must be used instead of just DDV1.

Example 3: *Retroactively hide the previously created (visible) entry*

If we previously created the "For Sale" Public Folder entry and want to hide the entry at a later time, we enter the following:

```
ommodent -e S=+BB/G=For Sale/CN=For Sale/OU1=scalixserver/OU2=acme
-n EX-CDA-DIRECTORY=1
```

Arguments for the Command

The arguments of this command must include the following:

S	This argument must be set to +BB.
G	This argument specifies the user-visible name of the Public Folder.
CN	This argument specifies the Common Name which is required by the omldapsync command.
OU	This argument specifies the mailnode components, and you must enter the primary mailnode to route messages to the Public Folder server. Use the omshowmn command to display the primary mailnode. The primary mailnode displays with two asterisks (**) before the mailnode name.
DDT1	This is an internal tag that must be set to BB-NAME. Leaving the DDT1 blank causes Scalix Server to route Public Folder messages to a Unix gateway.
DDV1	This is an internal tag and must be set to the name of the Public Folder you are enabling. If the public folder name contains non-ASCII characters such as Japanese characters or German unlauts, DDV1-TX must be used instead of just DDV1.

INTERNET-ADDR This is the SMTP address that is used outside the Scalix Server system to send messages to the Public Folder.

- Make sure you update the CDA after adding or modifying entries in Scalix (using omex-eccda) as described previously in "Task 8: Updating the Client Directory Access" on page 128.

Activating Forwarding

After you create a directory entry associated with the Public Folder, you must activate a forwarding option in the similarly-named Exchange Public Folder. This is done by providing a "forward to external address" option in the Scalix Server Public Folder Synchronization mechanism.

Note	This option provides functionality equivalent to the Exchange Public Folder forwarding rule, that is, only new Public Folder messages are synchronized between the Scalix Server and Exchange server. Modified and deleted messages are not synchronized.

The omaddbbsa command allows you configure a forwarding address that forwards any new messages to the specified Public Folder to an address that you specify as follows:

```
omaddbbsa –f /route/forwarding_address/ -s public_folder_name
```

For example, to configure forwarding from the Scalix Server "For Sale" Public Folder to the external SMTP address "ForSale@bamex55.bamail.net", enter the following:

```
omaddbbsa –f /remote,tnef/IA=ForSale@bamex55.bamail.net –s "For Sale"
```

The remote,tnef parameter is the mailnode route that references the Exchange server. This ensures that the forwarded messages preserve all MAPI properties.

Testing Your Work

To verify that the public folder forwarding mechanism is functioning, post a message to a public folder in Scalix, then check the corresponding folder in Exchange to see if that message was successfully forwarded.

Task 13: Enabling Public Folder Forwarding Capabilities on Exchange

The final task in the Public Folder coexistence process requires you to enable forwarding capabilities on the Exchange server. This chapter explains how.

Contents

This chapter includes the following information:

- “Overview” on page 144
- “Requirements” on page 144
- “Activating Folder Forwarding” on page 145

Overview

To complete bidirectional bulletin board message routing, you must configure Exchange Public Folders to forward a copy of a newly posted message to similarly-named Scalix Server Public Folders. The Exchange server has custom recipients that have an SMTP address that reference similarly-named Scalix Server Public Folders. For example, the “For Sale” Public Folder, which now has a similarly-named Public Folder on Scalix Server, now has a custom recipient.

The Internet address for “For Sale”, like other custom recipients, references an external SMTP address (for example, ForSale@scalixserver.acme.net). You must then add a forwarding rule that enables the Exchange server to forward a copy of a “For Sale” Public Folder message to the “For Sale” custom recipient. Exchange then routes the message to the Scalix Server Public Folder (named For Sale).

ALERT Notes in Public Folders cannot be forwarded to Scalix.

Requirements

To prevent message loops, you must configure Exchange to only forward messages (to Scalix Server) posted by Exchange mailbox users. The most efficient method of archiving this is by using Distribution Lists.

Most organizations have a method of broadcasting a messages to some or all members of an organization by using one or more Distribution Lists. However, you can also use Distribution Lists for Public Folder forward functionality.

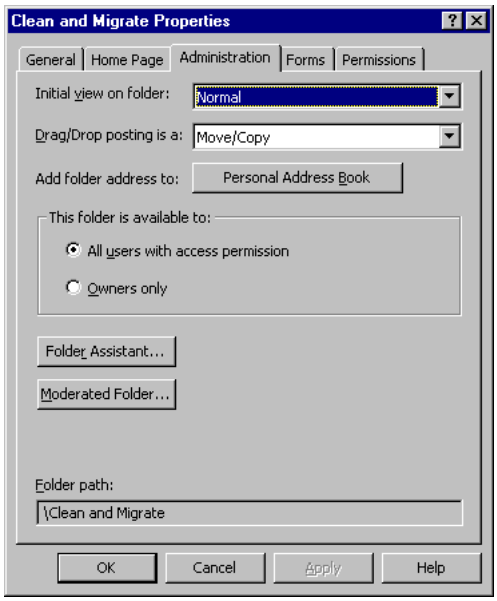
Activating Folder Forwarding

To enable Exchange to forward messages from Exchange public folders to corresponding folders on Scalix:

1 Start Outlook as the "owner" of an Exchange-based Public Folder.

2 Right-click the Public Folder you want to set up and choose **Properties** in the popup menu.

3 When the [Foldername] Properties dialog box appears, click the **Administration** tab.

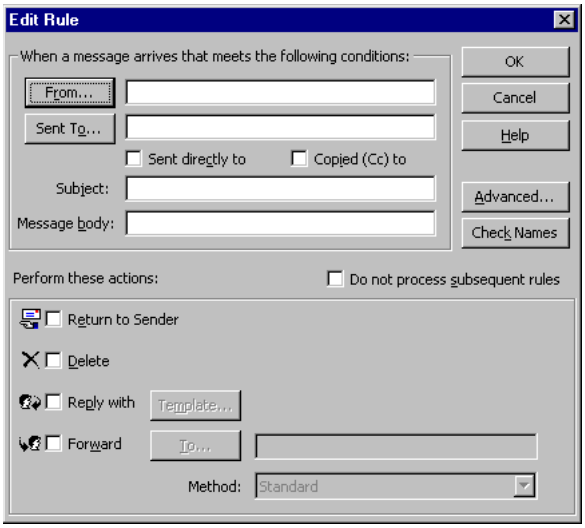


4 Click **Folder Assistant.**

The Folder Assistant dialog box appears.

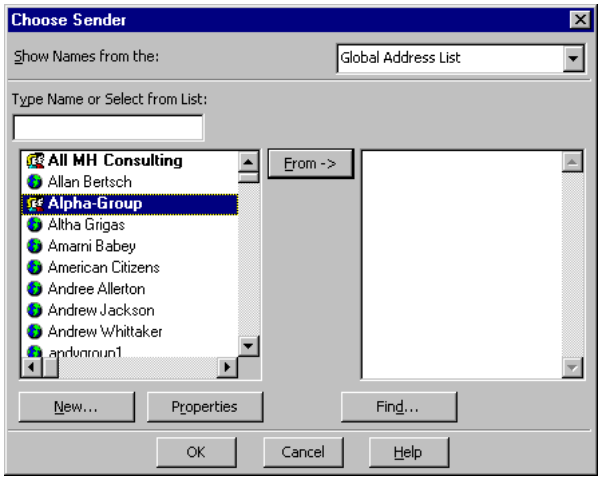
5 Click **Add Rule**.

The Edit Rule dialog box appears.



6 Click **From**.

The Choose Sender dialog box appears.



7 Make sure "Global Address List" is the **Show Names From** option

8 Select an Exchange distribution lists (represented by two-headed icons) whose users you want to allow to post to Public Folders.

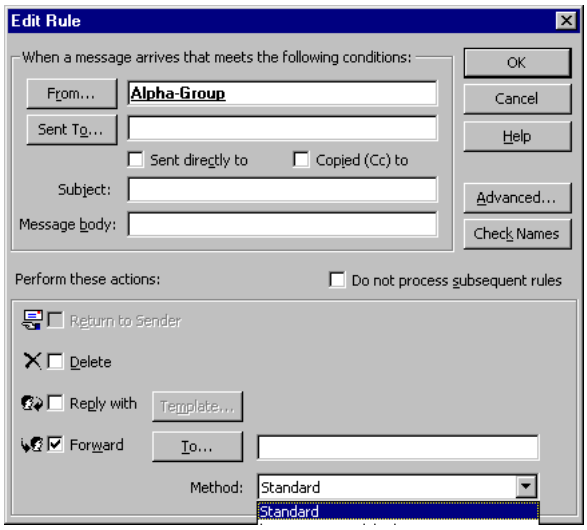
9 Click **From** to move that list to the right list area.

10 Repeat this process to add other lists to the From list area.

The selected names should all appear in the right-hand field in a "text-only" run-on list.

11 Click **OK** to save the selections and close the Choose Sender dialog box.

The Edit Rule dialog box reappears, displaying the selected groups.



12 Click the **Forward** check box to enter a check mark.

13 Select "Leave Message Intact" from the **Method** pulldown menu.

14 In the **To** button text field (above the **Method** menu), enter the Internet address of the similarly named Public Folder stored on Scalix.

15 Click **OK** to close this dialog box and save the entries.

16 Click **OK** to close all other currently open dialog boxes.

17 To test the success of your efforts, post a new message to an Exchange Public Folder, then see if it's visible in the corresponding Scalix Public Folder.

Task 14: Effective Distribution List Coexistence

This chapter covers several tips for effective coexistence of public distribution lists (PDLs or Groups).

Contents

This chapter includes the following information:

- "Overview" on page 148
- "Creating the PDL and Custom Recipient" on page 148

Overview

There is no central mechanism that synchronizes Distribution Lists. Instead, Distribution Lists are managed by either the Scalix Server or Exchange system. Whichever system is not the manager must include a reference entry that sends a single message to the host system where the Distribution List resides. The Distribution List is then updated.

Although the Exchange or Scalix Server system can manage Distribution Lists, Scalix Corporation recommends that you manage Distribution Lists in Exchange until the end of the coexistence process.

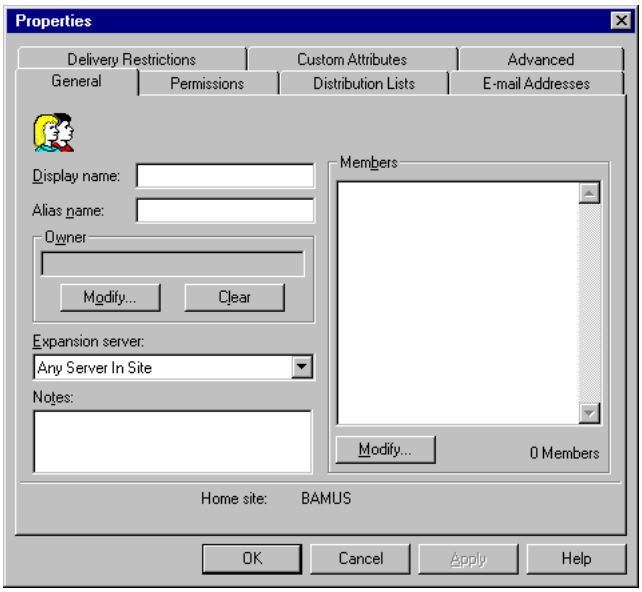
As previously noted in "Task 2: Preparing the Exchange Users Distribution List" on page 109, Scalix Server creates directory entries that represent Exchange Distribution Lists and displays them as PDLs. To achieve this in Exchange, you must create a Distribution List and add the Scalix Server custom recipient of the same name.

Creating the PDL and Custom Recipient

To create a PDL and add the Scalix custom recipient:

1. Start the MS Exchange Administrator application.
2. Select the *container* from which you migrated Exchange users (for example, Recipients).
3. Choose **File** > **New Distribution List**.

A Properties dialog box appears.



4 Click **Modify** (in the Members area).

5 Add all Scalix users to the Distribution List.

ALERT Do not add ScalixAdmins, ScalixGroupAdmins, ScalixUserAdmins, ScalixUserAttributeAdmins, or querymgr to the new Scalix Distribution List.

6 Enter a name in the **Display Name** field.

7 Enter a name in the **Alias Name** field. (It doesn't have to be different.)

8 Click **OK** to save your entries and close the Properties dialog box.

Updating Directory Information

9 Log in to Scalix.

10 Enter the following omldapsync directory-update command at the prompt:

```
omldapsync -i syncid
```

- Replace "syncid" with your existing synchronization agreement name.

11 When the omldapsync menu appears, enter 3 to update the directory.

The results scroll on-screen, then, at the conclusion, you are prompted to exit omldapsync.

Updating Client Directory Access List

12 Log in to Scalix (if you have not already done so).

13 Enter this command at the prompt:

```
omexeccda
```

That completes this task.

Note

You cannot view Exchange PDL members in Scalix (using either Scalix Connect for MS Outlook or Scalix Web Access), however you can see the PDL name. Be sure to exist and then restart Outlook, if you were logged into Scalix during the recent operations. This allows it to refresh its displays.

Task 15: Planning the Exchange to Scalix Migration

If you have completed all the coexistence and pre-migration setup tasks (detailed in the previous chapters), you can now begin the process of migrating all Exchange users to the Scalix Server environment. But first, some planning guidelines, as migration of legacy data (users and data) will involve many tasks (and potentially a number of co-workers.) This chapter outlines some of those guidelines.

Contents

This chapter includes the following information:

- "Planning Guidelines" on page 151

Planning Guidelines

Scalix Corporation recommends that you create a planning document that includes how you will group migrated users. Migration considerations include (but are not limited to):

- Geographic location
- Workgroup
- Server consolidation efforts
- Network bandwidth availability
- Scheduling (including down times for the legacy system)
- Number of users and subgroups of migratable users
- Migration intervals (e.g., which weekends to book in advance)
- Number of available migration workstations to employ in data migration

The migration information described in the following chapters describe how to migrate either a single user, one at a time, or multiple users, all at the same time. Migrating multiple users concurrently involves creating input files for scripts, writing or customizing scripts in Scalix Server, while using Microsoft utilities to manipulate data within Exchange.

The actual migration process involves the following procedures:

- "Loading Scalix Server Mailboxes" on page 45

- “Configuring Forwarding in Exchange” on page 50
- “Migrating Mailboxes” on page 56
- “Decommission the Exchange Mailbox” on page 71

Task 16: Provisioning Scalix Server Mailboxes

This chapter explains how to provision Scalix mailboxes using the ommigu command.

Contents

This chapter includes the following information:

- "Overview" on page 153
- "Provisioning a Single Test Mailbox" on page 154
- "Verifying the New Mailbox" on page 154

Overview

The actual Scalix Server migration process (outside of coexistence) initially requires that you convert Exchange directory entries to Scalix Server mailboxes. The principal tool is a Scalix-originated command, ommigu. This command specifically modifies Scalix Server directory entries that represent Exchange users. After omldapsync loads a Scalix Server directory with Exchange directory objects (such as mailboxes, custom recipients, distribution lists), the next step is to modify the objects so that they become mailboxes, ready for use or for data importation.

You must apply ommigu to all Scalix directory objects that will become local Scalix mailboxes. For example, if an organization has 10,000 Exchange mailboxes planned for migration onto two Scalix Servers (5000 users on each), you can now provision all 5000 users at this stage of the migration process. The unprovisioned 5000 users remain on the other Scalix server as directory entries that (respectively) reference (using a SMTP address) the original Exchange mailbox (similar to the period after the initial synchronization occurred using omldapsync).

ommigu converts each directory object to a full Scalix Server mailbox while excluding it from the omldapsync process. ommigu also creates auto-forwarding information in the mailbox so that mail addressed to a Scalix Server mailbox routes back to the respective Exchange mailbox (using an SMTP address).

Provisioning a Single Test Mailbox

To provision a single directory entry as a mailbox (to validate the process):

1 Log in to Scalix.

2 Open a terminal window and enter the following:

```
ommigu -n "Exchange Display Name" -m "Scalix mailnode of the user"
-G
```

The command arguments include the following:

- "Exchange Display Name" is the equivalent of the Scalix Server *Common Name* attribute.
- –G generates a random password for the mailbox.
- –p <password> lets you specify a specific password.
- -expire force users to specify a new account password the first time they log in to Scalix Server.

Here are some example mailbox-provisioning commands

```
ommigu –n "Forest Stevens" –m "xyzcorp,usa" –G
```

```
ommigu –n "Dave Johnson" –m "xyzcorp.usa –p 123456 –e
```

3 Use these two commands to assess the results in Scalix:

```
omsearch -e cn=*
```

(This will list the new mailbox by Common Name.)

```
omshowiam -m -ca="exchange_display_name"
```

(This will list the attributes for the user.)

Note	The mailbox should note the status of 'unlocked".

Verifying the New Mailbox

To see if the new mailbox appears in Outlook:

1 Start Outlook, using a Scalix profile.

2 Set up an account for the new mailbox.

3 Log into that mailbox.

4 Choose **Tools** > **Send/Receive**. This will verify a connection to the server.

Task 17: Bulk Mailbox Provisioning and Configuration

This chapter explains how to provision Scalix mailboxes in bulk, using the ommigu command.

Contents

This chapter includes the following information:

- "Overview" on page 155
- "Using Exchange Attributes to Provision Scalix Mailboxes" on page 155
- "Using Scalix Server Attributes" on page 156
- "Using the Userfile Option" on page 157

Overview

The ommigu script contains powerful filtering capabilities that you can use to organize users into migration groups. This enables you to migrate the users in your organization in phases. A phased migration implies that there will be (for select users) an extended coexistence period between Exchange and Scalix Server.

Performing the tasks described in "Loading Scalix Server Mailboxes" provisions and configures a mailbox for use with Scalix Server. ommigu filtering capabilities enable you to provision and configure groups of users based on:

- Attributes in the Exchange directory
- Attributes in the Scalix Server directory
- A userlist text file

Each of these options are detailed separately in the rest of this chapter.

Using Exchange Attributes to Provision Scalix Mailboxes

To use Exchange attributes to provision a group of users (mailboxes):

1 Use the –ldapfilter option as follows:

```
ommigu –ldapfilter “attribute=string” –h ldapserver
```

2 In this command line, the following are true:

- **attribute** represents the LDAP representation of the Exchange attribute
- **string** represents the string within the Exchange attribute
- **ldapserver** represents the server against which you are executing the query (typically, the Exchange server itself).

For example:

```
ommigu –ldapfilter “l=Boston” –h ex55ord.xyzcorp.com –m “xyz-corp,hq”
```

Because the city attribute in Exchange contains the LDAP representation of l, ommigu queries the Exchange server for all users that contain the string Boston in the city field.

All users matching this criteria are provisioned for use with Scalix Server.

3 Configure these users for use with Scalix Server by entering:

```
ommigu –ldapfilter “attribute=string” –h ldapserver --raf
```

4 Execute omldapsync in “interactive” mode. Enter,

```
omldapsync -i syncid
```

5 Enter 3 to update the directory.

6 The results scroll on-screen, and when this task is complete, you will be prompted to exit.

Using Scalix Server Attributes

When the initial synchronization between Scalix Server and Exchange (using omldapsync) occurs, most of the information stored in Exchange directory attributes is mapped to corresponding attributes in the Scalix Server directory. Therefore, you can provision the Scalix Server system directory using either the –ldapfilter or –filter option.

Using the –ldapfilter option requires that you include the LDAP representation of the Scalix Server attribute. Using the –filter option requires you include the Scalix Server name of the attribute (typically referred to as a tag). For example:

1 Provision all users (mailboxes) in the Scalix Server directory with the Given Name of Mark by entering:

```
ommigu –filter “G=Mark” –show
```

Note	The name of the Scalix Server is not required.

2 Because the LDAP representation of this field is givenName, you can also provision the Exchange server for all directory objects with a given name of Mark.

3 To do so, enter the following command:

```
ommigu –ldapfilter “givenName=Mark” –h ldapserver –show
```

4 Configure these users for use with Scalix Server by entering:

```
ommigu –ldapfilter “givenName=Mark” –h ldapserver --raf
```

5 Execute omldapsync in “interactive” mode. Enter,

```
omldapsync -i syncid
```

6 See “omldapsync Interactive Menu Options” on page 12 for information about the menu options for the omldapsync command.

7 Enter 3 to update the directory. The following information displays:

8 Enter 3 to update the directory.

9 The results scroll on-screen, and when this task is complete, you will be prompted to exit.

Using the Userfile Option

You bulk provision and configure users using the ommigu -userfile option. The userfile itself (from which the name of the option is derived) is a text file that lists the Scalix Server common name attribute for all users. Because the Scalix Server common name corresponds to the Exchange display name attribute, you can use the directory export capabilities in the Exchange Administration application to extract users to a comma-separated file.

To provision and configure a group of users (mailboxes) using the -userfile option:

1 Using the Exchange Administration application, extract the current users to a comma-separated file.

2 Edit the file to remove the users you do not want to migrate.

3 Save the file in .txt format, using the “.txt” extension.

4 Provision the mailboxes in this list by entering this command:

```
ommigu –userfile <path>/grp1.txt
```

5 Configure these users for use with Scalix Server by entering:

```
ommigu –userfile <path>/grp1.txt --raf
```

6 To run omldapsync in “interactive” mode, enter the following:

```
omldapsync -i syncid
```

- Replace syncid with the actual agreement name.

7 At the next prompt, enter 3 to update the directory.

The results scroll on-screen, and you are prompted to exit.

If You are Asked for Passwords

1 If this prompt appears after you’ve entered “3”:

```
INPUT: please enter password for EX_PASS=
```

Enter the Exchange migration user password.

2 When this prompt appears:

```
INPUT: please enter password for IM_PASS=
```

Enter the Scalix Server administrator password.

The results scroll on-screen, and when this task is complete, you will be prompted to exit.

Task 18: Reconfiguring Auto-Forwarding for the New Scalix Mailboxes

This chapter provides steps for removing the auto-forwarding on Scalix mailboxes so that mail goes directly to Scalix.

Contents

This chapter includes the following information:

- "Disabling Auto Forwarding" on page 159

Disabling Auto Forwarding

After you provision the new Scalix mailboxes from the directory entries, you must do the following:

- Remove the forwarding (SMTP) address on Scalix Server mailboxes
- Allow omldapsync to update the Exchange directory

Both tasks can be accomplished with the CLI command, *ommigu*, as detailed here.

To reconfigure auto-forwarding:

1. Log in to Scalix.
2. Open a terminal window and enter the following:

   ```
   ommigu -n "Exchange display name" --raf
   ```

   This command removes the auto-forwarding to Exchange mailboxes

   It also updates other mailbox settings to indicate that the mailbox is associated to a migrated user and is ready for use.
3. To run omldapsync in "interactive" mode, enter the following:

   ```
   omldapsync -i syncid
   ```

   - Replace syncid with the actual agreement name.
4. At the prompt, enter 3 to update the directory.
5. The results scroll on-screen, and when this task is complete, you will be prompted to exit.

Task 19: Configuring Message Forwarding from Exchange to Scalix

At this point, you must configure Exchange to route all new mail messages to Scalix Server mailboxes. This enables you to migrate data from what are now *legacy* Exchange mailboxes without having new mail or other data reaccumulate in just-migrated Exchange mailboxes. This chapter explains how to configure the routes.

Contents

This chapter includes the following information:

- "Overview" on page 160
- "Adding Alternate Recipient Information for a Single Mailbox" on page 161
- "Adding Alternate Recipient Information for Several Mailboxes" on page 162

Overview

You must configure an *Alternate Recipient* address for every Exchange mailbox you plan to migrate. The Alternate Recipient address routes messages originally destined for the Exchange mailbox to a different address—the Scalix Server mailbox. This alternate address must exist in the Exchange GAL.

The omldapsync command has already added an Exchange custom recipient entry for each mailbox in the current migration group. This custom recipient entry contains an SMTP address that routes to the Scalix Server mailbox. You must now record these custom recipient entries in Exchange as the Alternate Recipients for each mailbox.

There are two methods you can use to add alternate recipient information in Exchange:

- One entry at time
- Multiple entries at one time

Each of these methods are detailed in this chapter

Adding Alternate Recipient Information for a Single Mailbox

To add Alternate Recipient information for a single Exchange mailbox:

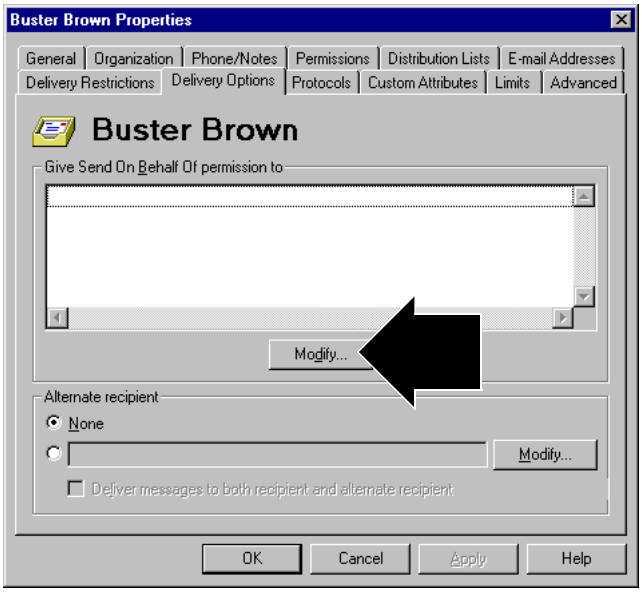
1 Start the Microsoft Exchange Administration application.

2 Open the **Recipients** list (or whichever list you've created) for your Exchange site.

3 Locate the first mailbox associated with a user you are migrating to Scalix Server, and double-click the entry.

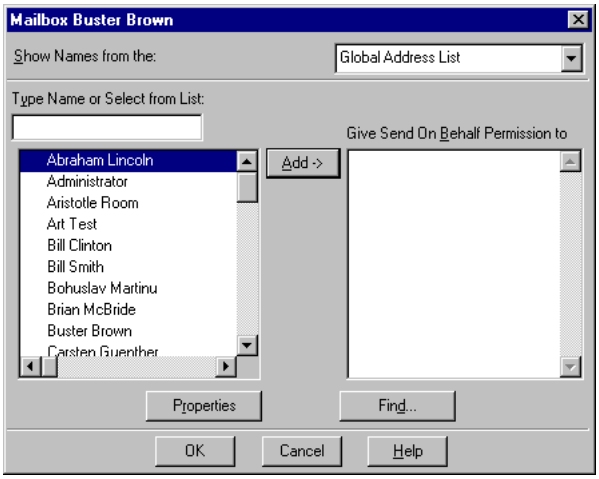
The [username] Properties dialog box appears.

4 Click the **Delivery Options** tab.



5 Click **Modify** (in the middle of the dialog box.)

The Mailbox [username] dialog box appears.



6 Make sure **Global Address Files** is selected in the upper-right menu.

7 Scroll through the left-hand column and find the directory entry with a Globe icon that has the same name as this user's mailbox.

Note	There should be a listing for this user's mailbox—with no icon—as well as a second listing with a globe icon—representing the custom recipient that routes incoming mail to this user's Scalix mailbox.

8 Select this entry and click **Add**.

The selected directory entry appears in the list column to the right.

9 Click **OK** to close the Mailbox dialog box.

10 When the Properties dialog box reappears, click **OK** to put the custom recipient entry into effect.

Adding Alternate Recipient Information for Several Mailboxes

Typically, the migration from Exchange to Scalix Server includes hundreds of users. Therefore, adding alternate recipient information one mailbox at a time would be inefficient.

Using the Exchange Import and Export tools in conjunction with modified output files, you can add hundreds of alternate recipients to existing Exchange mailboxes at the same time.

To add alternate recipient information for a large number of mailboxes:

1 Open the Exchange Administration application.

2 Choose **Tools** > **Directory Export**.

The Directory Export dialog box appears.

3 To create a directory export file of Exchange mailboxes, make these entries:

- The default Exchange server and Home server names are acceptable.
- The default settings/selections in Export Objects, Logging Level, and Separators are acceptable.

- Do not check “Include Hidden Objects”.
- Click **Export File**.
- When a dialog box appears, name this file and pick a target folder.
- Enter a name that identifies the contents of the output file, and make sure the “.csv” extension is present.

4 Click **Export** to start the process.

Tip	Write down the name and folder location of t his file.

Modifying the Output File

Typically, you are migrating users in groups that are a subset of the container you specify in Step 3 of “Adding Alternate Recipient Information for Several Mailboxes” on page 52. Therefore, you must modify the output file so that it contains only the mailboxes to which you want to add alternate recipient information.

To modify the output file:

1 Start Microsoft Excel.

2 Choose **File** > **Open**, and open the output file from your directory export.

3 Choose **File** > **Save As.**

4 When the **Save As** dialog box appears, save this file with a different file name.

5 Verify that the output file ends with column M, and that column N is empty.

6 In cell N1 (of column N), type “Alternate Recipient” as the column header.

7 Save these changes.

Entering Custom_Recipient_Container and Alias_Name Parameters

Before you modify the exported-directory output file in Excel, be aware of the following information:

- The output file displays the following string in Column E:

```
/o=Organization/ou=Site/cn=Custom_Recipient_Container/
cn=alias_name
```

- The MS Excel output file displays the following string in Column L (the Obj-Container header):

```
/o=XYZ/ou=XYZNA/cn=America
```

Using the Exchange Administration application, you can determine that omldapsync stored the custom recipients in the America-CR container.

To complete the alternate recipient entry process for your Exchange mailboxes:

1 With your exported directory output file open in Excel, enter the following string at the bottom of the spreadsheet (in the first empty row below all existing entries):

```
/o=XYZ/ou=XYZNA/cn=America-CR/cn=
```

2 Enter a concatenation formula in cell N2 that adds the string from the static cell and the value in column E. For example, if you enter static data in cell A120, cell N2 must have the following formula:

```
=concatenate($A$120,E2)
```

3 Apply the same formula for all other entries in column N. Select (highlight) cell N2 and press Ctrl + c to copy the contents. Highlight all the other entries in column N and press Ctrl + v to paste the contents.

The text string that displays in the Alternate Recipient column contains four parameters (with delimiters).

```
/o=Organization/ou=Site/cn=Custom_Recipient_Container/
cn=alias_name
```

Here are the alternate recipient column parameters

Parameter	Description
Organization	Displayed in column L.
Site	Displayed in column L.
Custom_Recipient_ Container	The container into which omldapsync inserted the Custom Recipient information. Use the Exchange Administration application to obtain the name of the container.
alias_name	The Alias Name displays in column E, and the text string you enter in column N depends on the alias_name value.The rest of the string is identical for each cell. You can enter static informaation in a single cell and use the Concatenate function in Excel to combine the data from column E in the same row.

4 Verify the accuracy of the data, then choose File > Save As to save the file with a different name. Make sure you click **Yes** at the *Retain the Format* prompt.

5 Choose Tools > Import > Select File to import the file into Exchange.

You can use the default values for Account creation, Logging level, and Separators. The Container value is where the mailboxes (not the custom recipients) reside.

6 Use the Exchange Administration application to check the properties of a sampling of mailboxes—especially the Delivery Options tab where an Alternate Recipient should appear.

Task 20: Decommissioning the Exchange Mailboxes

This chapter explains how to decommission the old mailboxes so that they are hidden from use but not deleted.

Contents

This chapter includes the following information:

- "Overview" on page 165
- "Decommissioning Mailboxes One at a Time" on page 165
- "Decommissioning Multiple Mailboxes at a Time" on page 166

Overview

When you complete the migration of all the mailboxes (including mailbox data), you can decommission the Exchange mailboxes. This process makes them unusable without deleting them. Since a custom recipient of the same name already exists in the GAL, you can hide the Exchange mailboxes without adversely affecting the system.

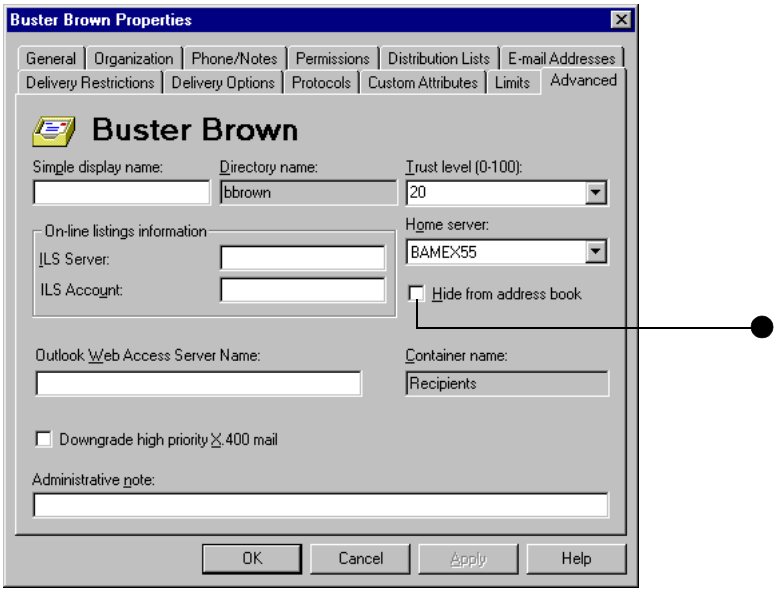
This task will result in the deactivation of all Exchange mailboxes, preventing them from being accessed by their users.

Decommissioning Mailboxes One at a Time

To decommission a single mailbox:

1. Start the Exchange Administration application.
2. Open the container (by default, "Recipients") containing the migrated mailboxes.
3. Double-click any mailbox entry, to open the **Properties** dialog box.

4 Click the **Advanced** tab.



5 Click the checkbox by **Hide from Address Book** (as highlighted above).

6 Click **OK** to save the change and close the dialog box.

Decommissioning Multiple Mailboxes at a Time

To simultaneously decommission (hide) a number of Exchange mailboxes:

1 Open the backup file you created previously.

2 Verify that Column M contains a header named "Hide from AB" (address book) and has a value of "0" (zero).

3 Change the value in column M to "1".

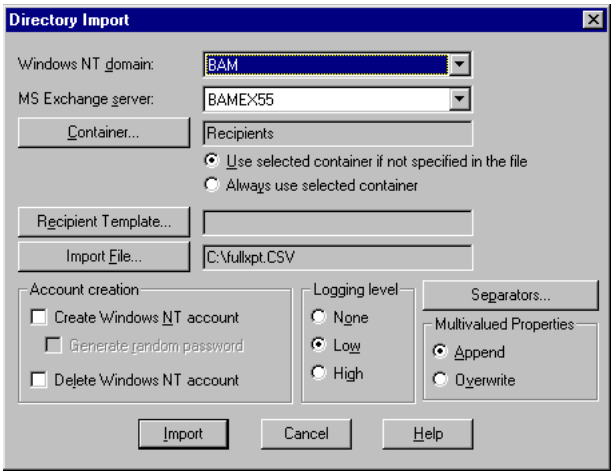
4 Save the file.

You can now import the file into Exchange by following these steps:

1 Start Exchange Administration.

2 Choose **Tools** > **Directory Import**.

3 The Directory Import dialog box appears.



4 Choose from the following options.

- Click **Import File** and use the dialog box to locate and open the Excel file.
- Use the default values for Account Creation, Logging Level, and Separators.
- The Container value indicates where the mailboxes (not the custom recipients) reside.

5 Click **Import**.

A status dialog box appears, and closes when this task is complete.

Verifying Decommissioning

1 Start the Exchange Administration application—or the Outlook client.

2 Verify that the mailboxes are no longer visible in the Exchange GAL.

Task 21: Post-Migration and Coexistence Closure Tasks

The chapter outlines a series of tasks that will end coexistence between Scalix Server and Exchange, and complete the migration of Exchange users and data to Scalix Server.

Contents

This chapter includes the following information:

- "Managing Distribution Lists" on page 168
- "Scalix Server Distribution List Synchronization" on page 169
- "Managing Distribution Lists from Exchange" on page 169
- "Switching Distribution List Management to Scalix" on page 169
- "Switching PDL Management After Coexistence" on page 174

Managing Distribution Lists

As a phased migration proceeds, one serious question arises: how to coordinate Distribution Lists. Some recipients on a Distribution List still reside in the old environment (Exchange) while some recipients are migrated to the new environment (Scalix Server).

If you delete Exchange mailboxes (after successful migration to Scalix Server), any alternate recipient information (referencing the new Scalix Server mailbox) will be removed from all Exchange Distribution Lists. If this poses a problem, you can manually insert the reference to the Scalix Server mailbox back into all Exchange Distribution Lists to which the just-migrated users belong.

However, during the migration process, Scalix Server provisions directory entries as mailboxes with automatic redirection instead of redirection-only entries. The benefit of provisioning entries in this manner is that it enables the option of mirroring the structure and members of Public Distribution Lists on Scalix Server at anytime. As users are migrated from Exchange to Scalix Server, you do not have to delete and add the directory entry into the list. Similarly in the Exchange environment, the management of Distribution Lists during the migration to Scalix Server is simplified because you do not have to remove mailboxes.

Although you eventually add (and hide) alternate recipient information to Exchange mailboxes, you do not need to remove mailboxes and replace them with custom recipients during the migration process.

Scalix Server Distribution List Synchronization

Exchange objects that are either custom recipients or mailboxes (that eventually reside on the Scalix Server) are classified as remote recipients by Scalix Server. All Exchange Distribution Lists become Scalix Server Public Distribution Lists (PDL's) and all Distribution Lists are configured to automatically forward to the SMTP address of the respective Exchange Distribution List.

Managing Distribution Lists from Exchange

After you execute omldapsync and ommigu, create a test account on Scalix Server to validate Distribution List routing. A message addressed to the Scalix Server PDL from the test account should be delivered to the recipients on the PDL. The message should also deliver a copy of the message to the respective Exchange Distribution List, where it is then delivered to the respective recipients of the Exchange Distribution List. In this scenario, a single message is routed from Scalix Server to Exchange, where it is then dispersed to the recipients, none of which reside in the Scalix Server environment at this point of the process.

Switching Distribution List Management to Scalix

You can switch Distribution List management from Exchange to Scalix either during the coexistence period or after coexistence. This requires the creation of an Exchange *Custom Recipient* entry with the Internet address of a specific Scalix Server Public Distribution List and a unique display name (for example, SALES-PDL).

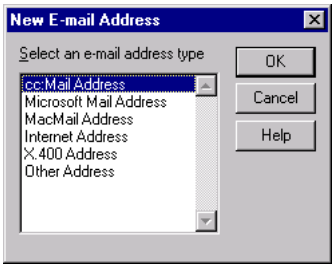
To switch distribution list management to Scalix:

Creating a Custom Recipient Pointing to the Scalix Group

To create a custom recipient that points to the Scalix group:

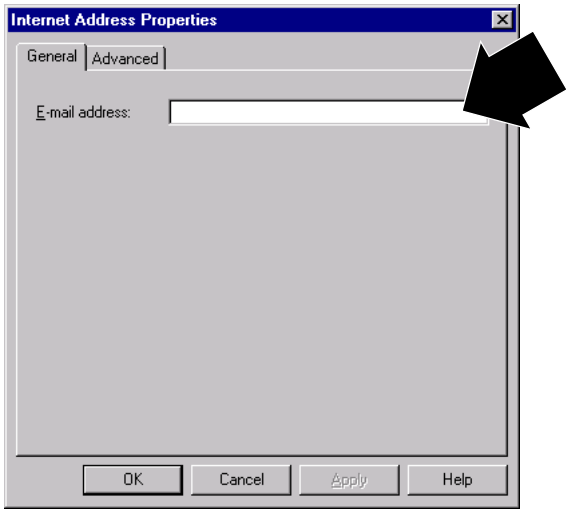
1 In Exchange Administrator, choose **File** / **New Custom Recipient**.

The New Email Address dialog box appears.



2 Select "Internet Address" and click **OK**.

The Internet Address Properties DB appears.

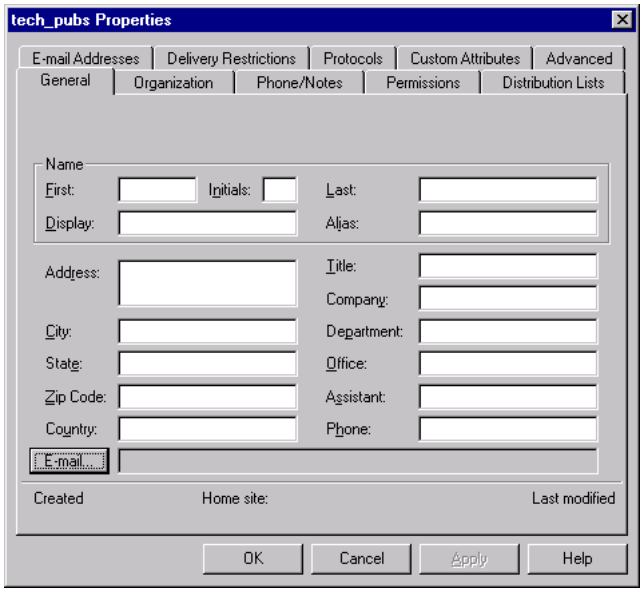


3 Click in the **Email Address** field and type the Scalix group's full email address.

E.g, “sales-pdl@mailserver.scalix.company.com”

4 Click **OK** to proceed.

The Properties DB appears.



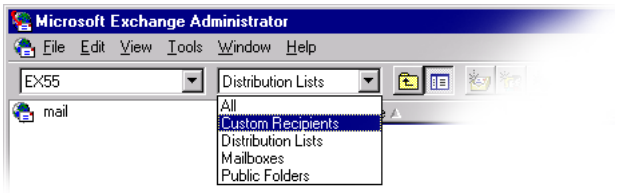
5 Click in the **Display** field and type the Scalix group's name (probably the same name as the original Exchange PDL).

6 Click in the **Alias** field and type the scalix group's full email address.

- Ignore all the other fields.

7 Click **Apply**, then click **OK**, to close this dialog box and save your entries.

8 When Exchange reappears, open the Lists menu and choose **Custom Recipients**.



The new custom recipient should appear in the now-visible list.

Removing the Exchange auto-forward from this group address in Scalix

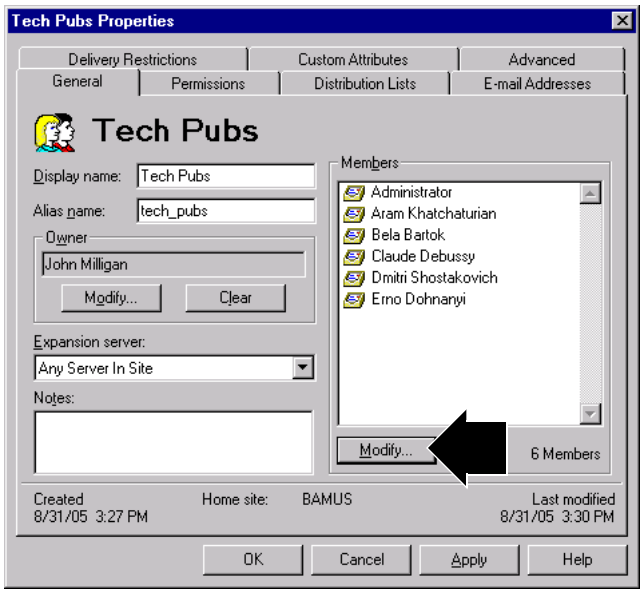
To remove the auto forward from this group address:

1 Remove the auto-forward from the Scalix Group/Public Distribution List that refers to the original Exchange Public Distribution List.

Setting up the auto-forwarding for the Exchange group

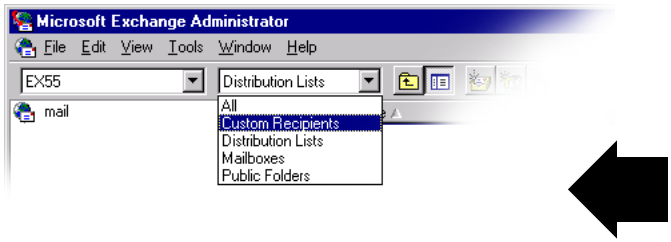
To set up the auto forwarding for the Exchange group:

1 In Exchange Administrator, double-click the original PDL entry to open that list's Properties dialog box.



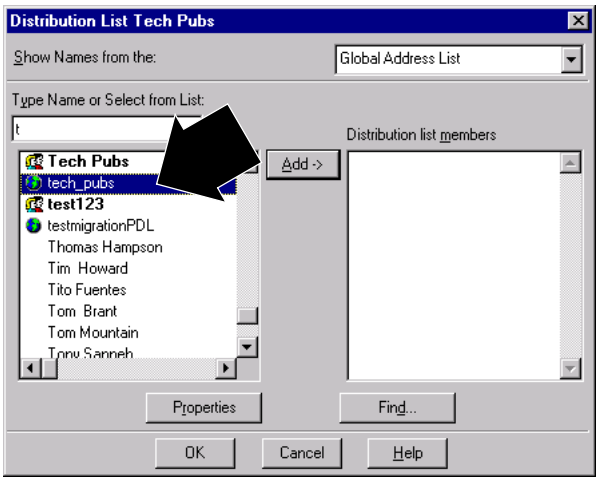
2 Click the **Modify** button below the Users list (as highlighted above).

The Distribution List [Name] dialog box appears.



3 Select and delete all the entries in the "Distribution List Members" list (as highlighted above).

4 In the same dialog box, locate the custom recipient (representing the Scalix group).



5 Select it and click **Add ->**.

6 Click **OK** to save the change and close the dialog box.

7 When the Properties dialog box reappears, click **Apply**, then click **OK** to save your changes.

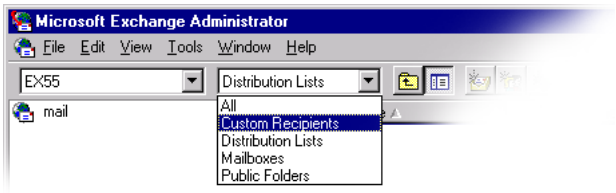
Hiding the Custom Recipient from Exchange View

You should now hide the custom recipient that refers to the Scalix group address.

To hide the recipient:

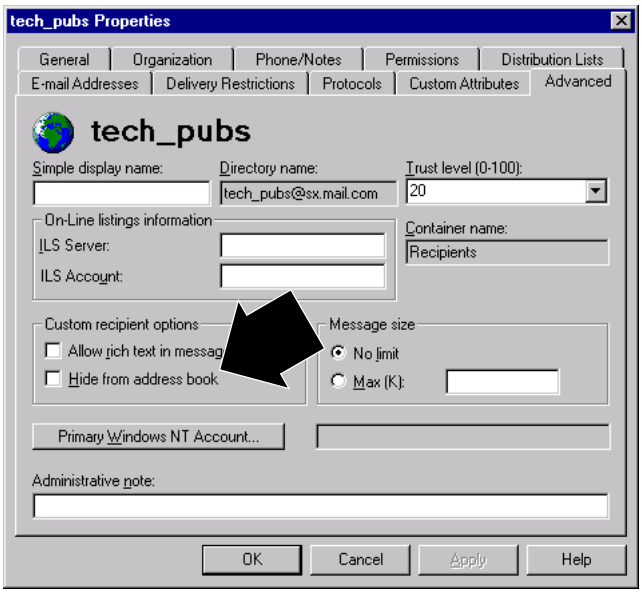
1 Start Exchange Admin.

2 Open the List menu (in the Exchange Administrator toolbar) and choose **Custom Recipients**.



3 Locate and double-click the Scalix-group custom recipient in the list that appears.

4 When the [RecipientName] Properties dialog box appears, click the **Advanced** tab.



5 In the Custom Recipient Options, click the check box by **Hide from address book** (as highlighted above).

6 Click **Apply** to activate your changes, then click **OK** to close the [RecipientName] Properties dialog box.

7 You can exit Exchange Administrator.

What happens?

Any remaining Exchange users can address messages to the same Exchange-based Public Distribution List that now has only one member—the custom recipient that contains the Internet Address of the corresponding Scalix Server Public Distribution List.

You can now switch administration of this distribution list (including additions or deletions of recipients) to the Scalix Server copy.

Switching PDL Management After Coexistence

If you switch Distribution List management after coexistence (when there are no more actively used mailboxes on Exchange), you must add all relevant users to the Scalix Server Distribution List in one of two ways:

- Using the Web Administration client
- Open a terminal window (CLI) and run the omaddpdln command

Adding a number of names to a Scalix Public Distribution List can be made more efficient by extracting the original Exchange recipient list to a convenient text file, then formatting the file for importation into Scalix.

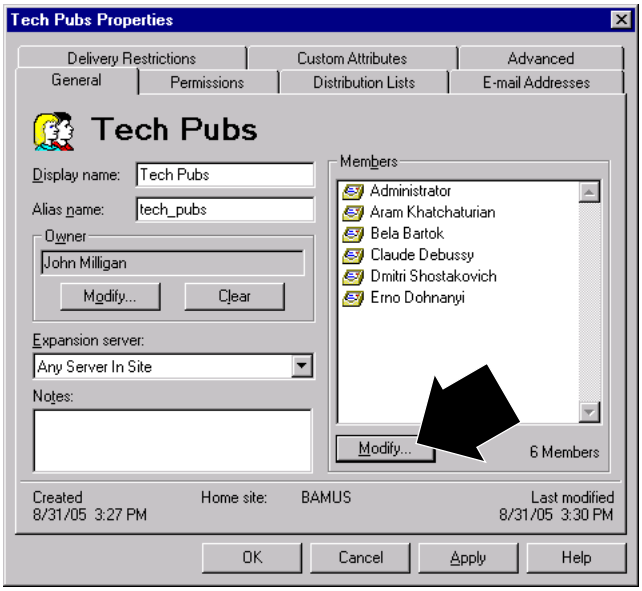
Copying the PDL list from Exchange

To copy the PDL list from Exchange:

1 In Microsoft Exchange Server Administrator, open the Recipients container where the Public Distribution Lists are stored.

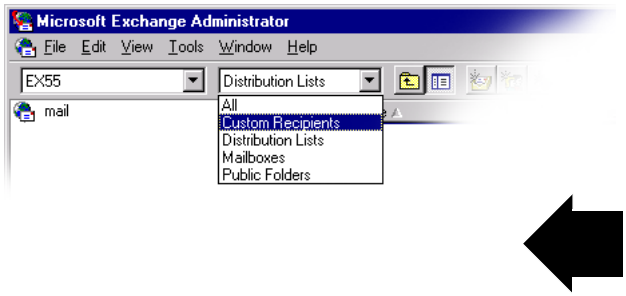
2 Right-click the appropriate Public Distribution List entry and choose **Properties**.

The [ListName] Properties dialog box appears.



3 In the General tab, click **Modify**.

A Distribution List [name] dialog box appears.



4 Select all of the list's users (by clicking in the Members list and pressing Control-A) and copy them to the Windows clipboard.

5 Close the **Distribution List** and **Properties** dialog boxes.

6 Open a new Notepad or Wordpad document and paste the collection of users into the document window.

7 Save this document as **Dlist.txt**.

8 You can exit Exchange Administrator.

Formatting the List File for Importation

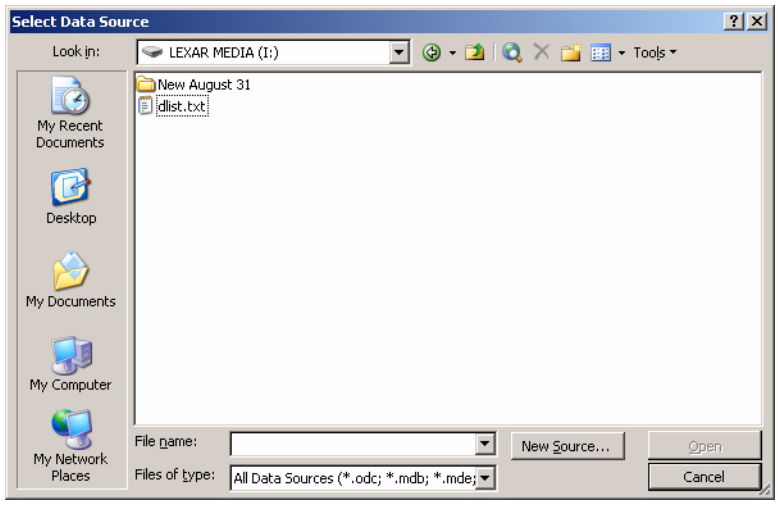
To process this text document in Microsoft Excel for use in Scalix:

1 Open a new Excel workbook.

The active cell should be A1.

2 Choose **Data** > **Import External Data** > **Import Data.**

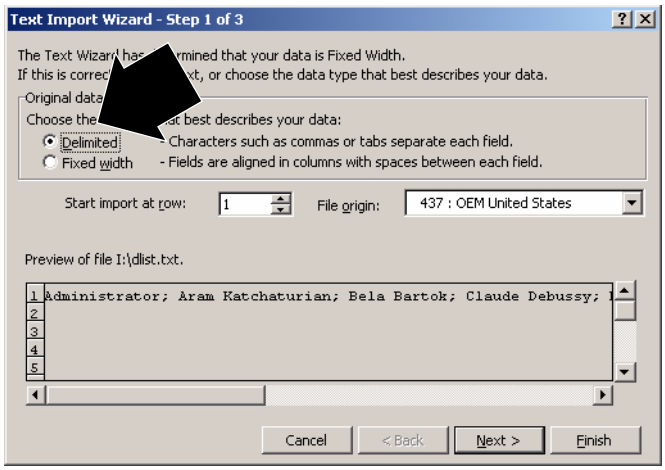
The Select Data Source DB appears.



3 Locate and select the user names text file.

4 Click **Open**.

The Text Import Wizard appears.

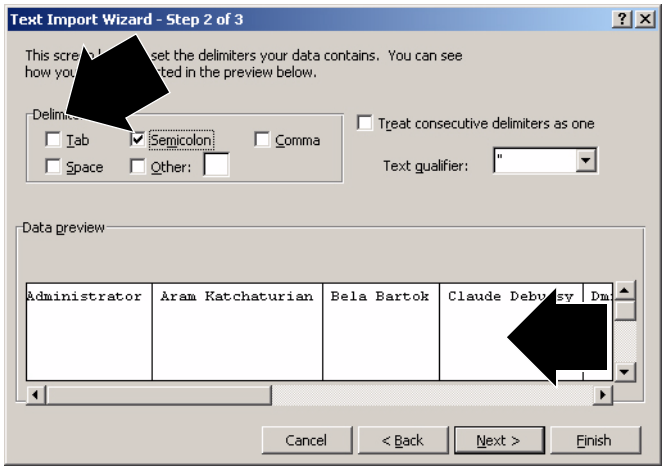


5 In Text Import Wizard 1/3, click the **Delimited** button.

Tip: take advantage of the "preview" pane in the lower half of this dialog box to verify your text file's contents.

6 Click **Next**.

The Text Import Wizard 2/3 appears.

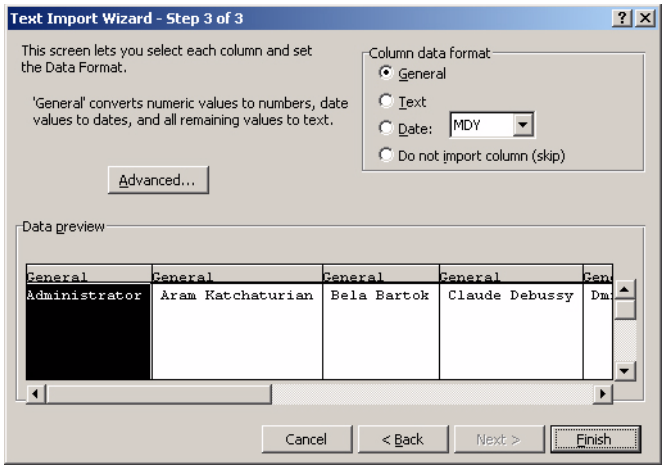


7 Click the **Delimited** check box. (Make sure this is the only active selection. Uncheck any others.)

8 Make sure that both first and last names are sorted into the same cell/column as shown in the preview area of this dialog box.

9 Click **Next**.

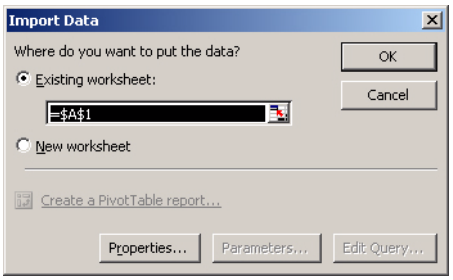
The Text Import Wizard 3/3 appears.



No changes are needed.

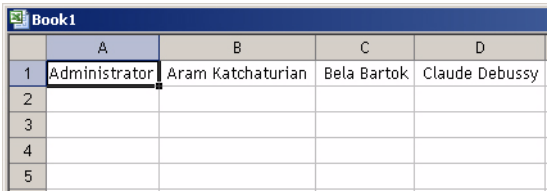
10 Click **Finish**.

The Import Data dialog box appears.



11 Click **OK**. (The default location should be the current worksheet, in cell =$A$1)

Row 1 should display names from the list, one first/last name pairing per cell.



12 Select the entire row. (Selecting empty cells does not affect this procedure.)

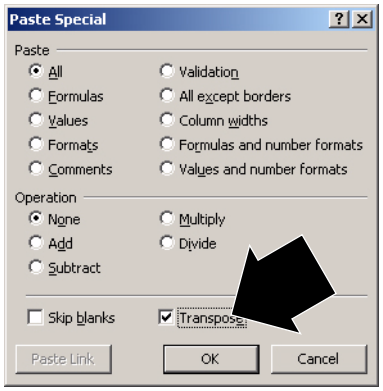
13 Copy the row's contents to the Windows clipboard.

14 Open a new Excel workbook.

(Cell A1 is auto-selected.)

15 Choose **Edit** / **Paste Special**

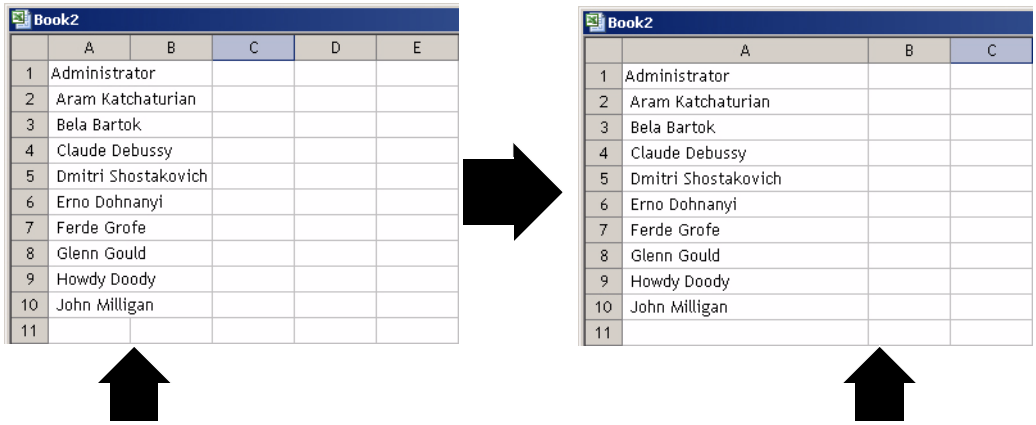
The Paste Special dialog box appears.



16 Click the check box by **Transpose**. (All other default settings are OK.)

17 Click **OK** to complete the pasting of data.

Excel redistributes the first and last names in Column A.



18 Due to the default column width, the name entries may appear to spill into column B, and maybe C. Widen Column A (as shown above) to verify that each first/last name pairing fits in its own Column A cell.

19 Save this file/workbook as a text file for importation into Scalix.

20 Print the file.

Part 4

Migrating an IMAP system to Scalix

Completing an IMAP–IMAP Mail System Migration

If your current mail system allows only IMAP4 or POP3 access and/or if the system has no LDAP v2 support, you can still migrate the users and their data from that legacy system to Scalix. This chapter will guide you, step-by-step, through a "flash" data migration from any e-mail system that supports IMAP4 protocol to Scalix (also using IMAP4 protocol).

This particular migration process employs a set of utilities included in *Stellar* (formerly CompuSven) *E-Mail Shuttle*.

Requirements

- A Windows 2000 or XP-installed workstation
- Microsoft Office 2000 or XP
- An extractor code for E-Mail Shuttle, provided by Stellar or Scalix
- The administrator account login for Scalix
- The administrator account login for your legacy IMAP server

Installing and Setting up Stellar E-Shuttle

1 Install E-Shuttle (as directed by the Stellar documentation.)

  This requires downloading the installer package from the Stellar Website, unzipping the package, then starting and running the installer program.

2 When working through the installer wizard, make sure you choose the following:

  - Extractor — "any IMAP4-compliant system"
  - Loader — "any IMAP4-compliant system"

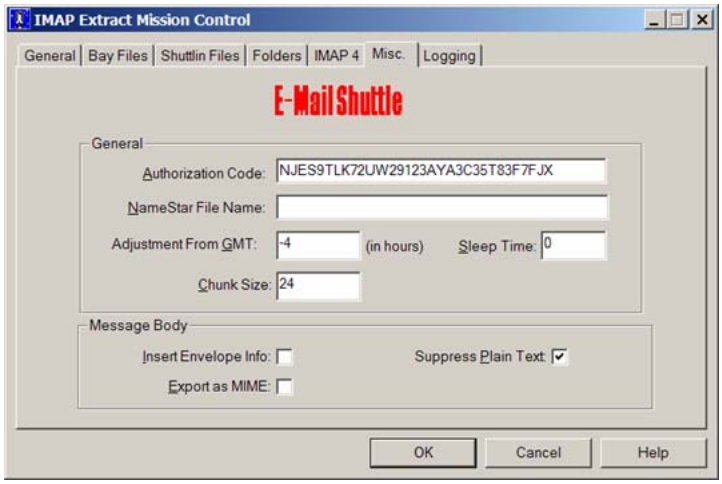
3 To complete the installation, select the appropriate directories where you wish to install E-mail Shuttle. (The Windows "Program files" default values are acceptable.)

Getting Started

You can now configure E-Mail Shuttle through the Mission Control application.

1 Choose Start >Programs >CompuSven E-Mail Shuttle Applications >Extractor >E-Mail Shuttle Tools >E-Mail Shuttle Mission Control for IMAP4

The E-mail Shuttle Mission Control window appears.

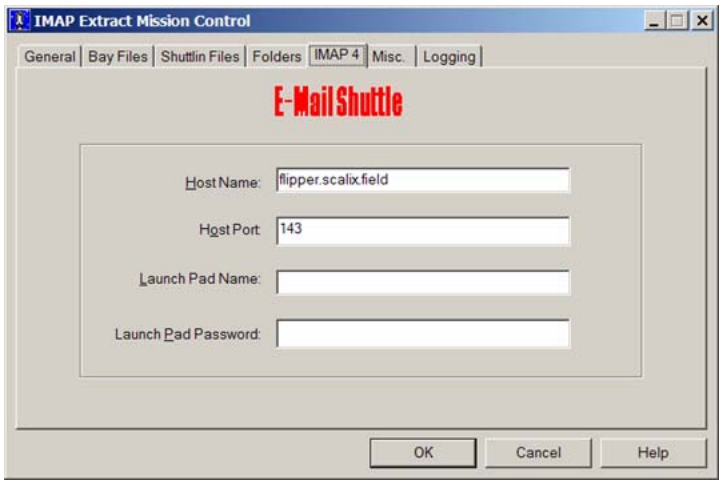


The default settings in the window tabs are acceptable, with two exceptions: the Misc and IMAP tabs.

2 Click the **Misc** tab (shown in the previous illustration).

3 Click in the **Authorization Code** field and type the extractor code.

4 Click the **IMAP 4** tab.



5 Click in the **Host Name** field and type the fully-qualified domain name of the legacy IMAP4 server.

- Leave the **Launch Pad Name** and **Launch Pad Password** empty.
- The “143” value in the **Host Port** is an acceptable default for IMAP4.

6 Exit the IMAP Extract Mission Control application.

This will update the \eshuttle\Extractor\IMAP4\eshuttle.ini file with your new entries.

Before proceeding with migration

YOu may want to test the following migration process on a small sampling of users, before undertaking the migration of your entire system.

Loading the Mailboxes on the Scalix Server

The next step is to load (provision?) the mailboxes on the Scalix server. There are several way to do this:

- Use the Scalix Management Console
- Use the omaddu command
- Use a combination of omldapsync and ommigu
- Using more advanced methods that use auto-forwarding mechanisms.

The most important consideration is to make sure that the primary Internet Address of the Scalix user is loaded correctly before initiating any mailbox migration.

Listing the Current System Users

The first phase is to create a file that lists the users on the legacy IMAP4 mail system. The filename must be named “shuttlin*” (with an asterisk) and have a file extension of “.txt”.

Example: **shuttlin1.txt**

There are two ways to create a shuttlin*.txt file:

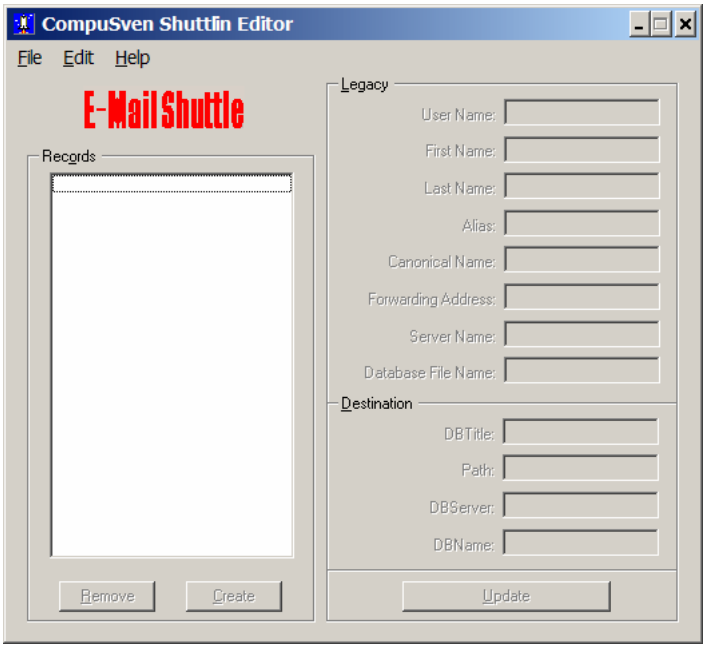
- Use the EShuttlin Edit application provided by Stellar
- Use any other editing application (**Windows or Linux/Unix**) that can save the contents of a file as ASCII text. The file format and content format information are provided.

1: Using EShuttlinEdit

Stellar provides the EShuttlinEdit program (EShuttlinEdit.exe), stored in the \EShuttle\Extractor\IMAP\Users\ directory.

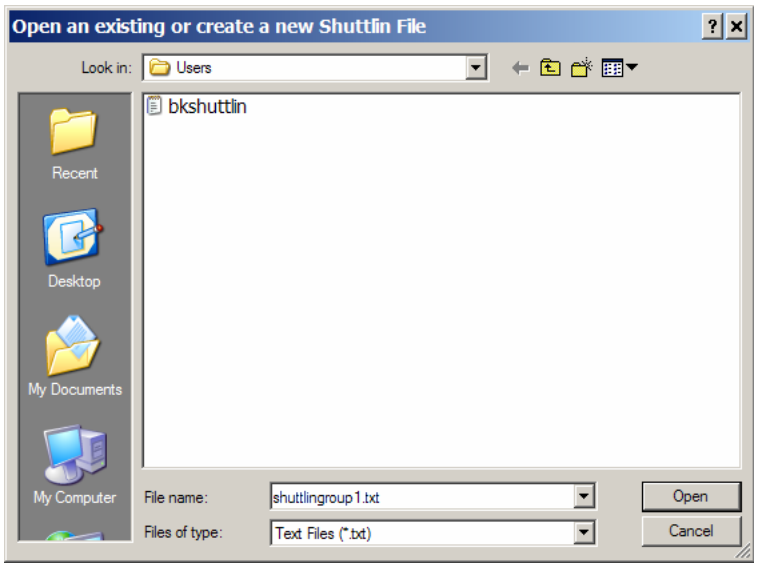
1 Start EShuttlinEdit (with the Start menu).

The Eshuttlin Edit Program window appears.



2 Choose File >Open/New.

The Open Existing/Create New File dialog box appears.



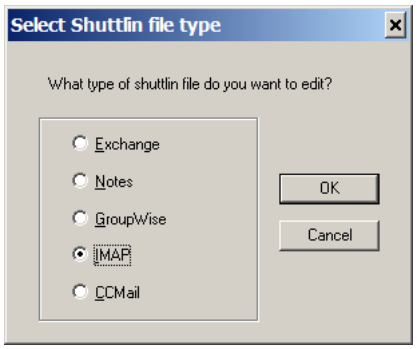
3 Enter a name for the file in the **File Name** field, ending the filename with a ".txt" extension. (Make sure the file type is "Text file".

4 Use the dialog box features to navigate to the target directory:

\Eshuttle\Extractor\IMAP\Users directory

5 Click **Open**.

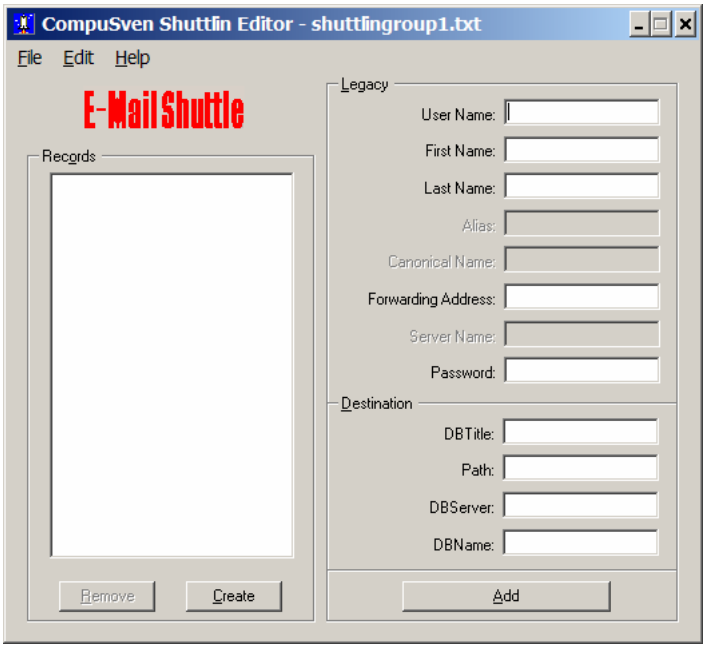
The Select File Type dialog box appears.



6 Click the button by **IMAP**

7 Click **OK** to save the file type selection.

The Eshuttlin Edit program window reappears, listing the new file name in the title bar.



8 Fill in the **Legacy** and **Destination** fields to add information for a current user.

The entries include the following:

User Name — The login name used for access to the IMAP4 server. Quite often this is formatted as “First Last”, but optionally “FirstLast”, or “First.Last”. On some systems, it may be an internet email address (first.last@domain.com).

First Name — The *first* name of the user, sometimes referred to as the given name.

Last Name	The *last* name of the user, sometimes referred to as the surname.
Forwarding Address	The internet address for the user on the legacy IMAP4 server. (In this format: [name]@pop.company.net)
Password	The password used to access the mailbox on the legacy IMAP4 server.

Destination Values include the following:

DBTitle	The primary internet address of the corresponding mailbox on the Scalix server.
Path	The password used for access to the Scalix mailbox
DBServer	The fully qualified domain name of the Scalix server
DBName	This value should always be **DBTitle**

9 Click **Add** to store this user's information.

Note The Create button has no purpose. You can ignore it for this task.

10 When you are finished making entries, exit the Eshuttlin Edit application.

2: Using a Text Editor or Spreadsheet

You can also create a shuttlin*.txt file using an application (Microsoft Word, Excel, NotePad, etc.) that saves files in a text (*.txt) format. The contents must be organized according to these requirements:

- The file must begin with a single ES_System^IMAP^ line.
- Each user's information must be placed in a separate ES_Export line.
- Placement of the "^" delimiter characters as letter- and word-spacing is important, as shown here:

```
ES_System^IMAP^

ES_Export^Ed Fry^^^^pa$$w0rd^ed.fry@cpg-
corp.com^Ed^Fry^ed.fry@cpg-
corp.com^123456^scalix.cpgcorp.local^DBTitle^
```

Extracting the Mailbox Contents

After completing the shuttlin*.txt file, you can run the E-Mail Shuttle extractor. This application, IMAPExtract.exe, can be found in the \Eshuttle\Extractor\IMAP directory

1 To run this application, open a command prompt window and type

```
IMAPExtract console
```

The extractor script will automatically open the users' list and start the extraction.

The results of the extraction process will be displayed on the screen (and will be logged in the EShuttle\Extractor\IMAP\LogFile directory.)

A sample of successful results is shown here:

```
================================================================
=========
Tue Dec 07 13:33:04 2004    User [Dan Smith] Summary:
Tue Dec 07 13:33:04 2004
Tue Dec 07 13:33:04 2004    Successfully unloaded: 4 messages
Tue Dec 07 13:33:04 2004                           3 folders
Tue Dec 07 13:33:04 2004    Errors:
Tue Dec 07 13:33:04 2004        0 messages not unloaded due to
errors
Tue Dec 07 13:33:04 2004                  0 folders not unloaded
due to errors
Tue Dec 07 13:33:04 2004
================================================================
=========
```

Loading the Extracted Data onto Scalix

After extracting the data from your legacy mailboxes, you can run the loader and transfer the data from the previously-created .txt file to Scalix mailboxes. This application can be found in the \Eshuttle\Loader\IMAP directory, named: “IMAP_Loader.exe”.

1 To run this application, open a command prompt window and type

```
IMAP_Loader ?debug
```

Results of the data loading process will be displayed on the screen (and will be logged in the EShuttle\Loader\IMAP\LogFile directory.)

Part 5

An OMLDAPSYNC Command Reference Guide

Guide to Synchronization Commands

Successful communication between the Scalix Server and Exchange server requires that you synchronize entries in both the Scalix Server and Exchange directories. Later in the migration process, the directory entries are used to set up mailboxes on the Scalix Server and enable coexistence between both e-mail systems.

The directory synchronization process uses *Lightweight Directory Access Protocol* (LDAP) as the method for exchanging directory entries. As described in XREF, coexistence uses a single connection point between Scalix Server and Exchange.

The omldapsync command is the tool that you use to synchronize Scalix Server and Exchange directories. The omldapsync command is executed on the Scalix Server and uses a mapping file which is created during the Scalix Server installation. If required, you can edit the mapping file at any time to make configuration changes.

For every synchronization agreement (or relationship), omldapsync creates a directory that contains configuration files, logging files, and Import and Export subdirectories. The Import directory contains files used during the Exchange-to-Scalix Server synchronization, and the Export directory contains files used during the Scalix Server-to-Exchange synchronization.

Because LDAP is typically used as a directory search tool rather than a directory synchronization utility, you must modify some default settings for LDAP on the Scalix Server and the Exchange server to enable the directory integration to operate correctly.

OPTION: omldapsync Interactive Menu Options

You can use the omldapsync command in two ways. You can use omldapsync in “interactive” mode, or in “command-line” mode, which allows you more control over omldapsync.

When you execute omldapsync in “interactive” mode, you can do the following:

- Create the synchronization agreement
- Perform an initial synchronization of the directories
- Update the directories based on changes since the last synchronization
- Accept manual error-correction modifications to the directories (for errors detected during the synchronization)

1 To execute omldapsync in “interactive” mode and perform omldapsync tasks, enter the following command:

```
omldapsync -i syncid
```

The following menu options appear:

```
0. Display this menu

1. Configure the LDAP dir sync settings

2. Load the directory for the first time

3. Update the directory after some changes

4. Accept previous error and update directory

q. Quit
```

2 Enter the appropriate number to proceed.

Synchronization Menu

This section lists the commands available in the interactive menu and the specific tasks you can perform with those commands.

0 Displays the omldapsync menu.

1 Allows you to configure the synchronization agreement. If an agreement does not exist for the agreement name you enter, omldapsync creates a new directory structure and corresponding files.

2 Allows you to perform an initial synchronization of the Scalix Server and Exchange directories. omldapsync extracts all entries from the Exchange directory and creates a file which it imports to the Scalix Server directory. omldapsync also extracts all entries from the Scalix Server directory and creates an import file for the Exchange directory.

Note that you should only perform an initial synchronization once. While it is possible to execute an “initial synchronization” several times, omldapsync returns errors if you do not delete all remote recipient entries in both the Scalix Server and Exchange directories before executing the initial synchronization again. To accept these errors, select option 4.

3 Synchronizes the directories on the Scalix Server and Exchange servers by comparing the current export file (which is created by selecting this option) with the previous export file.

omldapsync adds, deletes, and modifies entries in the appropriate directory. Note that Import directory corresponds to the Exchange server, and the Export directory corresponds to the Scalix Server.

4 Select this option only when you want to accept errors that occur during the synchronization process.

When you accept errors indicates that a conflict exists between the Exchange and Scalix Server directories, or that a conflict has been resolved (see Option 2 for more information).

Note that accepting errors causes omldapsync to disregard the error condition during future directory synchronizations.

Correcting errors typically involves modifying one or more directory entries on the Scalix Server or the Exchange server.

q Quits the omldapsync command.

Synchronization Command Options

The following section details the options that can be used with the omldapsync command. If you want more control over the process, use the following with omldapsync in place of the interactive menu.

-s sync id Displays details of the agreement. If the synchronization agreement ID does not exist or is set to all, all available synchronization agreement IDs are displayed. Otherwise, the most recent log file for the synchronization agreement ID is displayed.

-c sync id Configures synchronization agreement. If the synchronization agreement ID does not exist, you are prompted to create a new agreement.

-r sync id Deletes synchronization agreement information. All files and data associated with this agreement is deleted from the Scalix Server. Imported and exported directory entries are not deleted.

-i sync id Displays the interactive menu for the agreement.

-l sync id Loads the directories using the synchronization agreement. This option is used to populate the directories with the initial contents of each system for the first time. If -I is used in with the -l option, an import occurs. Using -E with -l option executes an export to the Exchange server. Using the -l option exclusively executes both an import and an export.

Note: You can use this option to resynchronize information. However, you must manually delete the already imported and exported entries.

-u syncid Updates the directories using the synchronization agreement. Use this option to keep the directories up-to-date. Use this option after the first-time synchronization (the -l option).

If -I is used in with the -u option, an import occurs. Using -E with -u option executes an export to the Exchange server. Using the -l option exclusively executes both an import and an export.

Use the -A option to accept any previously reported errors.

Note:	Use a system scheduler such as cron to update directories on a regular (hourly, daily, weekly, etc.) basis.

-d level Debugs the command execution. The default level is 0, which generates status and information messages. To generate more messages for debugging purposes, set the level to 1, 3, 7 or 15. The greater the value you enter, the more output the command produces. However, this can reduce the performance and create large log files.

Note:	Output for last execution of omldaputil is saved in the omldaputil.log file in the respective import or export directory.

Synchronization Command Examples

- To list all agreements present on the system, enter:

```
omldapsync -s all
```

- To configure a new or existing agreement named “100”, enter:

```
omldapsync -c 100
```

- To interactively choose common tasks for agreement 100, enter:

```
omldapsync -i 100
```

- To load directories for the first time with agreement 100, and use debug level 3, enter:

```
omldapsync -l 100 -d 3
```

- To accept previous errors and update the import directory with agreement 100, enter:

```
omldapsync -u 100 -I -A
```

Glossary

Some terms and acronyms in this manual may be unfamiliar to users. Here are some terms and definitions that are specific to the Scalix product and the Linux platform.

Table 1: Terms and their Definitions

Term	Definition
Address Directories	In Scalix terminology, the address directories are databases that clients use to look up names and addresses. Scalix directories can hold addresses of both Scalix and non-Scalix users, and other information that an administrator can configure such as job titles and phone numbers. Directories can be searched by any number of attributes.
Management Console or SAC	The Scalix Management Console (SAC) is a browser-based application that enables most day-to-day system administration tasks on a Scalix messaging system through an easy-to-use GUI. It is a separate component of Scalix that users can access with any approved browser on either Microsoft Windows or Linux workstations. SAC provides efficient access to a wide range of Scalix server options, including user account management, starting and stopping server services, administering queues, public distribution list or group management, and changing low-level server configuration settings. It also provides system monitoring to assess the status of processes and resources.
ADUC	(Active Directory Users and Computers)...
Authentication Identifier	The Scalix system has several ways of identifying users for different purposes: Display names, personal names, authentication IDs and Internet addresses. The display name (also known as a “common name”) is used in Outlook and other clients as the “displayed” address. It can serve authentication purposes and determines the sort order in the Outlook address book. Authentication IDs support the concept of a separate login name and allow for integration with external authentication systems that may have their own naming rules. Internet addresses are SMTP addresses of the form name@domain. Personal names are used for internal addressing of email and are sometimes referred to as “X.400 addresses,” “OpenMail addresses” or “ORN (originator Recipient name.”
Bulletin Board	In Scalix terminology, a bulletin board is a set of public folders where members can share files, ideas, documents and more. They are a shared area in the Scalix message store.
Clam AV	An open source freeware program that protects against viruses.

Table 1: Terms and their Definitions

Term	Definition
Community Edition	The free, single-server, unlimited-use version of the Scalix product. Does not include advanced groupware and collaboration functionality.
Display Names vs User Names vs Personal Names vs authentication ID vs Internet address	The Scalix system has several ways of identifying users for different purposes: Display names, personal names, authentication IDs and Internet addresses. The display name (also known as a "common name") is used in Outlook and other clients as the "displayed" address. It can be used for authentication purposes and determines the sort order in the Outlook address book. Authentication IDs support the concept of a separate login name and allow for integration with external authentication systems that may have their own naming rules. Internet addresses are SMTP addresses of the form name@domain. Personal names are used for internal addressing of email and are sometimes referred to as "X.400 addresses," "OpenMail addresses" or "ORN (originator Recipient name."
Enterprise Edition	The company's flagship product, which includes multi-server support, unlimited number of Standard users, any number of Premium users, the full complement of Scalix advanced capabilities, and a wide variety of technical support options.
Gateway	Gateways are a way of passing messages out of the Scalix network to different mail environments. The gateway converts outgoing messages from a Scalix format to a format that external services can use to do send processes, and later to a format that target environments can receive such as an SMTP address. Scalix comes with a standard SMTP gateway that converts Scalix-formatted messages to SMTP and vice-versa. This SMTP gateway is called the Unix Mail Gateway or Internet Mail Gateway.
Groups and PDLs	In Scalix terminology, the terms "group" and "PDL" are used interchangeably to mean a group of people organized into a mailing list. PDLs can contain both local and remote users, and can contain nested PDLs.
IMAP	(Internet Message Access Protocol) A standard interface between an e-mail client program and the mail server. In Scalix, the iMAP4 server enables a client to: Access, list, read, and delete items from inboxes, filing cabinets and public folders; read parts of a message without downloading the entire thing, keep a record of which messages have been read, and update messages on the server from a client. IMAP extension also provide for calendaring and contact management.
Internet Domains vs mailnodes	Mailnodes have no direct relationship to Internet domains. However, you can set up rules so that when a user is created on a mailnode, Internet address generation kicks in and creates an Internet address for the user. You can map multiple mailnodes to the same Internet domain name.
LDAP	(Lightweight Directory Access Protocol) A protocol used to access a directory listing. In Scalix, the LDAP server is a daemon process based on a client/server model that provides an interface to enable LDAP clients to store and retrieve data from a Scalix directory without any information about the operation of Scalix. It provides LDAP clients access to shared Scalix directories that do not have an associated password.
LVM	(Logical Volume Manager) Used for backing up Scalix directories.

Table 1: Terms and their Definitions

Term	Definition
Mail Nodes	A logical structure used to organize users into administrative groupings. For example, some companies organize their email users by work group whereas others break their users down by employment status. Each Scalix server is associated with a single mail node created during installation. After installation, you can use the Management Console to create additional mail nodes on a server, including customizing any new mail nodes with a specific Internet address or domain name.
MAPI	(Mail API) A programming interface from Microsoft that enables a client application to send to and receive mail from Exchange Server or a Microsoft Mail (MS Mail) messaging system. Microsoft applications such as Outlook, the Exchange client and Microsoft Schedule use MAPI.
Message Store	The message store is a collection of flat Linux files held in file system directories on the Scalix server. It holds new messages received as well as messages in transit. For clients that use the message store (server-based clients), It also holds old messages that are files for reference in folders, copies of outgoing messages, draft messages, private distribution lists, personal information such as calendaring, tasks, bulletin boards, public folders and more.
Mx Records	Mail exchanger records inside DNS servers. These decide which server is responsible for dealing with mail or domain DNS actions.
OpenMail	The original technology, licensed from Hewlett Packard, upon which the Scalix system is based.
O/R or Originator/Recipient Address	An attribute list that distinguishes one user, or distribution list, from another and defines the user's point of access to the message handling system or the distribution list's location.
PAM	(Pluggable Authentication Modules). A standard library in Linux that connects applications that require authentication with shared library modules interfacing with authentication mechanisms.
PDL	In Scalix terminology, the terms “group” and “PDL” are used interchangeably to mean a group of people organized into a mailing list. PDLs can contain both local and remove users, and can contain nested PDLs.
Personal Name	The Scalix system has several ways of identifying users for different purposes: Display names, personal names, authentication IDs and Internet addresses. The display name (also known as a “common name”) is used in Outlook and other clients as the “displayed” address. It can be used for authentication purposes and determines the sort order in the Outlook address book. Authentication IDs support the concept of a separate login name and allow for integration with external authentication systems that may have their own naming rules. Internet addresses are SMTP addresses of the form name@domain. Personal names are used for internal addressing of email and are sometimes referred to as “X.400 addresses,” “OpenMail addresses” or “ORN (originator Recipient name.”

Table 1: Terms and their Definitions

Term	Definition
POP	(Post Office Protocol) A standard interface between an e-mail client program and the mail server. The Scalix POP3 server enables clients to list, read and delete items from the inbox area of the Scalix message store. The Scalix POP3 server does not provide access to any other areas of the message store such as public folders.
Premium Users	Scalix has two levels of access and usage: Premium and Standard. Premium users have access to the full benefits and functionality of the Scalix email and calendaring system. Standard users gain access to a subset of Scalix functionality including email, personal calendar and contacts through Scalix Web Access and Novell Evolution as well as email access using POP/IMAP clients.
SAC	The Scalix Management Console (SAC) is a browser-based application that enables most day-to-day system administration tasks on a Scalix messaging system through an easy-to-use GUI. It is a separate component of Scalix that users can access with any approved browser on either Microsoft Windows or Linux workstations. SAC provides efficient access to a wide range of Scalix server options, including user account management, starting and stopping server services, administering queues, public distribution list or group management, and changing low-level server configuration settings. It also provides system monitoring to assess the status of processes and resources.
Scalix Connect	A MAPI application that enables the use of the Outlook client interface and all of its functionality.
Sendmail	An SMTP-based message transfer agent (MTA) that runs under Unix and Linux. It is the mail transfer process used inside the Scalix system.
SSL	(Secure Socket Layer) A protocol for transmitting private documents via the Internet. SSL uses a cryptographic system that uses two keys to encrypt data - a public key known to everyone and a private or secret key known only to the recipient of the message.
Small Business Edition	A version of the Scalix system that targets organizations getting started with a commercial version of Scalix that do not have the higher end requirements of Enterprise Edition. It is functionally equivalent to Enterprise Edition except that it allows only single-server installations
Spam Assasin	An open source freeware program that filters spam.
Standard Users	Scalix has two levels of access and usage: Premium and Standard. Premium users have access to the full benefits and functionality of the Scalix email and calendaring system. Standard users gain access to a subset of Scalix functionality including email, personal calendar and contacts through Scalix Web Access and Novell Evolution as well as email access using POP/IMAP clients.
SWA	Scalix Web Access, the browser-based email, calendar, contacts and public folders client that comes with any Scalix installation.
Transports	Transports are services that Scalix uses to pass Scalix format messages to other Scalix services. Scalix uses Sendmail and SMTP formatted messages to send messages between servers in the Scalix network, but other connections can be written. The transport service on the Scalix server is called the Sendmail Interface.

Table 1: Terms and their Definitions

Term	Definition
UAL	(User Access Layer) A proprietary Scalix protocol that enables communication between clients and the Scalix server.
WAP	(Wireless Application Protocol) A standard for providing cellular phones, pagers and other handheld devices with secure access to e-mail and text-based Web pages.