

InterMail[®]**Mx**

M I G R A T I O N G U I D E

Software Version 5.1

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InterMail Mx Migration Guide, Version 5.1

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Preface

Welcome to InterMail Mx!

The *InterMail Mx Migration Guide* describes migration concepts and detailed instructions for transferring an existing mail system to InterMail.

Intended Audience

This guide assumes that you are experienced with the UNIX operating system at a system administration level, and that you have an understanding of databases as well as of networking protocols and related technology.

Organization

This manual is organized as follows:

- Chapter 1, Understanding Migration, provides an overview of migration, instructions on preparing for migration, and an explanation of the migration output files.
- Chapter 2, Migrating from Post.Office, provides instructions on migrating accounts and moving messages from a Post.Office mail system to InterMail.
- Chapter 3, Migrating from Sendmail, provides instructions on migrating accounts and moving messages from a Sendmail system to InterMail.
- Chapter 4, Migrating from Netscape, provides instructions on migrating accounts and moving messages from a Netscape mail system to InterMail.
- Chapter 5, Troubleshooting Migration, deals with problems that may occur during the migration process.

Conventions

Convention	Description	Example
\$ at the start of a string	An environment variable (set at the time of installation)	\$spoolDir
monospace type	<ul style="list-style-type: none"> • Commands • Directory and file names • Hostnames • Configuration keys and their values • Utility names 	<pre>imdbcontrol command cron utility Set this key to true.</pre>
<angle brackets> in a command	A required variable	imboxget <address>
[square brackets] in a command	An optional parameter	imctrl [-verbose]
(a vertical bar) between options in a command	Exclusive options, of which you can use only one	impwdhash -a [md5-po unix]
{braces} around options in a command	A list of options, one of which is required	immsgdelete {<msgID>... -all}
. . . (an ellipsis) after an optional entry in a command	An option for which you may have multiple entries	imbucketscreate [<cl...cn>]
boldface in an example	User input	venus% imservctrl stop

Related Documentation

This manual is one of a set. Other manuals in this set are:

- *InterMail Mx Reference Guide*, which contains background information about the InterMail servers and databases, configuration keys, management utilities, administrative utilities, APIs, and event messages.
- *InterMail Mx Operations Guide*, which provides instructions for the operation and administration of the InterMail system.
- *Integrated Services Directory User Guide*, which contains conceptual information about the Integrated Services Directory (ISD) architecture, configuration keys, directory schema, directory structure, and directory management utilities, as well as procedural information to help you customize the ISD.

- *InterMail Mx Installation Guide*, which provides instructions for installing InterMail.
- *InterMail Mx Upgrade Guide*, which provides instructions for upgrading from previous versions of the InterMail product.

Questions and Comments

Your feedback is important to us! To suggest improvements or make comments on the content of this manual, please send e-mail to InterMail.Manual@Software.com.

1

Understanding Migration

Migration involves moving account information and mailbox data from one mail system to another. You first migrate the accounts, then the messages.

This chapter describes the concepts for migrating an existing mail system to InterMail. It contains the following sections:

- Preparing for Migration
- Migrating Accounts
- Migrating Mail
- Output Files

For detailed migration procedures, see Chapter 2, 3, or 4, which discuss migration from specific systems. For migration command syntax, see Appendix A.

Preparing for Migration

Before migrating accounts, you must complete the following tasks:

1. Installing the InterMail software and the migration package on the same host.
2. Identifying supported domains.
3. Configuring your InterMail system to proxy mail to the server being replaced so that you can provide continuous mail service to end users during migration.
4. Creating a blackout window by not permitting changes to existing account information.
5. Preparing the server and network infrastructure for the high volumes of data needed during the mailbox migration phase.
6. Setting up FTP service access (root-level or Post.Office-owner-level accounts and permissions) on all existing servers.

This section describes these tasks in detail.

Installing the InterMail Software

In order to migrate accounts, you must first install the InterMail software. The instructions in this manual assume that the InterMail software has already been installed and is fully functional. To install InterMail, see the *InterMail Mx Installation Guide*.

Make sure you install the migration package on the same host as the InterMail software, as well as on the existing mail server in order to run the `imaccountexport` command.

Identifying Supported Domains

This manual assumes that you have already created and provisioned domains. Before you can import accounts into the InterMail system, you must search the following for a list of supported domains:

- Domain name system (DNS) tables
- Customer (accounts) database
- System user/login tables

Once you have identified the domains and classified them as local, rewrite, or non-authoritative, you are ready to create these domains in the Integrated Services Directory (ISD). For details on creating domains, see the *InterMail Integrated Services Directory User Guide*. Domains can number into the thousands at the beginning of a migration, and the more domains there are, the longer the migration process.

Allow for a 24-hour period to complete DNS updates and propagation before continuing with mailbox migrations.

Proxying Messages

Accounts are migrated in stages. By configuring your InterMail system to proxy messages to the existing mail server, you provide continuous mail service to end users regardless of whether their accounts reside on the new or the existing mail system.

Note: IMAP and Web mailboxes are not supported and cannot be proxied.

Preparing for Proxy Mode

Before setting the global or account proxy settings, regardless of the type of mail server you have, you must configure the existing mail server to accept mail for an alternate hostname. This is important especially if the DNS service name is the same as the existing mail server hostname, because mail loops and POP3 login errors can occur when users start using the InterMail MTA and POP3 servers.

If the existing mail server has a unique name that is not the same as the SMTP or POP3 service name, then you do not have to change the server name. Use the existing mail server name as the proxy and SMTP relay host values.

If the original SMTP server name is the same as the POP3 service name, set up an alternate DNS entry that points to the original server. Use this new host name as the proxy host and the SMTP relay host values.

Test the POP3 proxy and SMTP relay service using the real hostname, or new DNS name for the global proxy host and default relay host configuration keys. All imported user accounts should also use these values when you set the per-account proxy and SMTP relay fields.

Migrating from a Single Server

To proxy messages from a single server, use the `imconfedit` command to change the Configuration database. If you are not familiar with `imconfedit`, see the *InterMail Mx Operations Guide*.

Setting the Configuration database to proxy messages has the following effects:

- If a user logs in to retrieve mail and supplies an unknown username (because that user's account does not yet exist in the ISD), the InterMail POP server connects to the host defined in the `popProxyHost` configuration key using the port defined in the `popProxyPort` configuration key.

Note: The `popProxyPort` configuration is not included in the `config.db` file, so you must add this key manually.

- Mail messages destined for accounts that belong to a local domain known to InterMail (but that do not yet exist in the ISD) are relayed to the SMTP server defined in the `relayHost` configuration key.

To configure InterMail to proxy mail messages, use the `imconfedit` command to:

1. Set the `popProxyHost` configuration key to the hostname of your existing mail system. For example:

```
/*/popserv/popProxyHost: [jupiter.software.com]
```

2. Verify that the `popProxyPort` configuration key is set to the port value used by the host specified in `popProxyHost`. The default value is 110.

3. Set the `relayHost` configuration key to the SMTP hostname of your existing mail system. For example:

```
/*/mta/relayHost: [venus.software.com]
```

4. Exit `imconfedit` and accept these changes.

InterMail is configured to proxy mail messages.

Migrating from Multiple Servers

If you are migrating multiple e-mail servers, use account proxy and SMTP relay instead of a global proxy to redirect each user to the appropriate old server.

To put an account into Proxy mode and set the POP3 proxy host, enter the following command:

```
imldapsh ModifyAccount pSMTP <Original_POP3_Host>  
<internal-id> <password> <pw_type> <domain> P <accounttype> <COS>
```

To set SMTP host while accounts are in Proxy mode, enter the following command:

```
imldapsh SetAutoReplyHost pSMTP <domain> <Original_SMTP_Host>
```

For more details on using the imldapsh command, refer to the *Integrated Services Directory User Guide*.

Creating a Blackout Window

A blackout window is a period during which the existing account provisioning systems are shut down. A blackout window is required from the beginning of account migration until after all account information has been imported into the ISD.

During the blackout, it is not possible to provision new users or to change the passwords of existing users. If you want to provision new accounts, you should do so before the InterMail directory is populated. You can lessen the impact of the blackout period if you schedule it during hours with no or little expected provisioning activity.

Preparing the Server and Network Infrastructure

The following is a list of questions to be answered before migration can begin. These issues should be resolved by the organization that is being migrated.

- Make sure there are no dropped packets through the routers/switches. Who will monitor the network performance while mailbox migrations are happening? Is this monitoring already in place? Is it needed? How reliable is the network? Are the router/switch ports and the servers' network interfaces set to the same speeds and duplex. For example, 100 BaseT, full duplex, and so on?
- Make sure that the FTP rate for large files (5 MB) is maximized, given the network pipes between the existing mail server and the InterMail servers. The maximum rate is the capacity of the smallest pipe. Is this rate enough to support the desired migration rate, or are there other physical WAN/LAN connections that can be used during mailbox migration?
- What kind of traffic will be on the network during the mailbox migrations? Will network backups occur on the same network? Will the existing server be performing heavy administrative work during the mailbox migration?
- Can the existing mail server support the login or input and output rates required? Is its kernel file descriptor limit high enough?

Setting Up FTP Service Access

Set up a standard UNIX login and FTP service access (root level or Post.Office owner level accounts and permissions) on all existing servers. This is required in order for account and mailbox information to be read during migration.

Migrating Accounts

Before moving messages to InterMail, you must migrate accounts to the InterMail system. This involves the following steps:

1. Defining the accounts you want to migrate.
2. In a text file, recording the accounts you want to move to the InterMail system.
3. Using the text file as input for exporting the account information to standard LDAP Data Interchange Format (LDIF).
4. Importing account information from the LDIF file to create the accounts in the InterMail system.
5. Verifying externally that the imported accounts can access their old servers through the InterMail Message Transport Agent (MTA) and POP3 servers.
6. Starting dual provisioning and ending the blackout window.
7. Changing DNS entries to route all traffic through the InterMail system.

Defining Accounts to Migrate

The first step in migration is defining which existing mail accounts you want to migrate to the InterMail system and recording them in a text file. You define the accounts to be migrated based on your business rules.

For example, you could begin migrating:

- Accounts that have been active in the last 90 days
- Users requiring early access to features not offered in the mail system they are currently using

If you plan to use the InterMail class-of-service option, consider the class of service when defining the list of accounts you want to migrate. The import command allows you to import only one class of service at a time, and each batch of accounts you migrate must be associated with a single class of service. If you are not familiar with classes of service, see the *InterMail Mx Operations Guide*.

Exporting Account Data

After defining the accounts you want to migrate, you are ready to export account information from the existing mail system. You export account information, using the `imaccountexport` command, into an LDIF file and use this LDIF file as input into InterMail.

Note: In the `imaccountexport` command, `po` represents Post.Office, `sm` represents Sendmail, and `ldif` represents an Netscape migration.

The following is an example of account information for an account found in the `imaccountexport.out` LDIF file:

```
DN: Mail=john@software.com,dc=software,dc=com
mail: john@software.com
adminPolicyDN: cn=default,cn=admin root
CN: john
SN: john@software.com
mailAlternateAddress: john@software.com
mailAlternateAddress: john.jones@software.com
mailAlternateAddress: jjohn@software.com
mailBoxId: 1000018
mailboxStatus: A
mailLogin: john
mailPassword: IYmH8Vx8mcr7Q
mailPasswordType: U
mailAutoReplyMode: none
x-Mig-SM-FileLocation: /nfs/sandbox/sendmail/home/john/mbox
x-Mig-SM-LocalDelivery: true
x-Mig-MailAutoreplyMessage:
ObjectClass: top
ObjectClass: person
ObjectClass: MailUser
ObjectClass: MailUserPrefs
```

Note: Before migrating accounts, export account data from the existing server and import the data into the ISD at least twice in order to verify that dual provisioning works and there are no internal network issues. Before performing the final account import, clear the ISD of all accounts.

InterMail provides commands for exporting account information from Post.Office, Sendmail, and Netscape. If you are migrating from a different mail system, you must develop export and mail move commands for your mail system using the commands discussed in the migration procedures as a guide.

For information on the Perl migration modules in the migration package, use the `pod2text` command:

```
pod2text <ModuleName.pm>
```

where:

`pod2text` Is the command used to display the Perl documentation.

`<ModuleName.pm>` Is the Perl script you want information about.

For example:

```
pod2text SendmailAcct.pm
```

Importing Account Data

Next, you create new accounts in the InterMail ISD based on the account information described in the LDIF file. These accounts are in Proxy status, such that mail coming to the InterMail system for new accounts is sent to the original mail system. This enables you to provide continuous service to end users during migration because they can access their e-mail on the old system until the data is completely migrated.

After all accounts have been imported to the InterMail system through the `imaccountimport` command, you can move existing mail messages to these accounts. Once all the messages for an account are migrated, the account is associated with the new access servers, and the account status changes from Proxy to Active.

Verifying Server Access

Verify externally that the imported accounts can access their old servers through the InterMail MTA and POP3 servers. This means that you have to dial up as a user would, set your mail client to use the InterMail hosts, and then log in and retrieve your mail.

Starting Dual Provisioning

With dual provisioning, new accounts are provisioned both in the existing mail system and in the new mail system. The main purpose of dual provisioning is to make sure that during and after the account and mailbox migration, the existing directory and InterMail ISDs are synchronized.

Changing DNS Entries

In order to migrate accounts, you must change the MX records so that they point to the InterMail system.

Note: Do not change the MX records until you have either set up Proxy mode or provisioned all users in your Directory database in Proxy mode, so that the InterMail system can handle incoming requests and e-mail.

It is recommended that you keep the TTL short so that the DNS servers update their cached information frequently. The shortened TTL avoids connections being made to the existing servers instead of the InterMail server, because the MX changes have not yet been updated by the DNS servers.

Migrating Messages

The last phase of migration involves moving mail and auto-reply messages from the existing mail system to the newly created InterMail accounts. This involves the following steps:

1. Moving the mail and auto-reply messages from the existing system to the InterMail system, and activating accounts in batches.
2. Verifying migration by making sure that no users are left on the existing system.
3. After moving all accounts and messages to InterMail, removing the global proxy configuration setting.
4. Shutting down the existing mail system.

Moving Messages and Activating Accounts

Before you start moving messages, you should consider changing the status of the new InterMail accounts to Maintenance. While accounts are in Maintenance status, users are denied access to their mailboxes, and incoming mail messages are deferred for later processing. For this reason, if you use Maintenance status, it is recommended that you perform this phase of the migration process in small increments during off-peak hours.

Use Maintenance status if the tested mailbox migration completion rate is slower than 30 accounts per second. Such a slow rate may be due to the existing server's ability to handle only 15 FTP logins per second instead of the 30 needed to support the required 50 simultaneous FTP sessions. Other factors may be system or network bottlenecks that cannot be fixed, or mailboxes that cannot be retrieved and imported into the MSS within 30 seconds.

Note: You do not have to use Maintenance status for migrating a mailbox that take a short time (less than 30 seconds) between when you start downloading the mailbox and when the messages are inserted into InterMail.

To move mail and auto-reply messages from the existing mail system to the newly created InterMail account, use the `immailmove` command.

Upon successful migration of all mailboxes in each batch, the migrated accounts are automatically switched to Active status. If any accounts are not in Active status, determine the reason and correct any problems that may have prevented a successful migration. After all accounts have been migrated, the Directory Cache server modifies account information in its local cache by communicating with the Directory server to receive updates from the master Directory database. Mailbox access is reinstated and all messages that were deferred during migration are delivered to their intended recipients.

Verifying Migration

Verify the migration process to ensure that all messages in a mailbox were moved over to InterMail successfully and that the migration logs did not report any errors. The process should be fully scripted, and all logs should be saved for future reference.

Verify the following:

- On the POP and IMAP servers, make sure that users are able to log in to InterMail and retrieve their messages. The log should show only connection-related entries and no proxy connections. If there are proxy connections, the account or mailbox migration missed some users.
- On the Directory Cache server, check the log files for suspicious `AcctNotUser` or `AcctBadPswd` entries. Some entries of the type are to be expected, but individual account names should not show up repeatedly over many hours.
- On the MTA, check that all the Relay log messages are reasonable. For example:
 - Are outgoing messages from customers being rejected on the Internet?
 - Are incoming messages to users or known domains being rejected for reasons other than message or mailbox size quotas?
 - Are any messages still being sent to the old mail server? If so, why?
 - Are many messages flowing into the Message Store Server (MSS) and very few into the Queue servers? If not, why?

Typical errors that cause mailbox migration to fail are:

- Exceeded mailbox quota
- Suspended account status
- Exceeded message size

Removing the Global Proxy

Remove the global proxy configuration setting from the InterMail system. From this point forward, InterMail owns the accounts and all received mail is delivered within the InterMail system.

Shutting Down the Old Mail System

Once you remove the global proxy, you can decommission the old mail server. Migration is complete.

Output Files

By default, the name of output files in the migration process is the migration command name combined with `.log`, `.err`, or `.out`.

Each time you run a migration command, information is written to the following output files:

- `.log`—Contains account status, such as information about whether an account was successfully exported or an error occurred. Log files are always opened in Append mode, so that data is never lost through accidental overwriting.
- `.err`—Lists accounts that were not successfully exported, imported, or moved. If an account error is recorded in the `.err` file, fix the error and then use this file as input to the command that produced the error.
- `.out`—Contains the output of a finished process. For example, `imaccountexportpo.out` contains the output of the account export process and serves as input into the next process, such as `imaccountimport`. Use this file as input to the `import` and `move` commands.

All of the migration tools have arguments that enable you to specify the names of the `.out`, `.log`, and `.err` files.

2

Migrating from Post.Office

This chapter describes the steps for migrating a Post.Office system, version 2.2 or greater, to InterMail. It contains the following sections:

- Migrating Accounts
- Migrating Mail

Caution! Before migrating accounts, you must complete the migration preparation tasks discussed in Chapter 1.

Migrating Accounts

Before moving mail messages to InterMail, you must create accounts in the InterMail system. This involves the following steps:

1. Defining accounts to migrate
2. Exporting account data
3. Importing account data

For a conceptual overview about migration and the migration steps, see Chapter 1.

Note: Migration from a Post.Office system to the InterMail Mx mail system is supported under variants of the UNIX operating system only.

Defining Accounts to Migrate

The first step in creating accounts is defining the mail accounts you want to move to the InterMail system.

To define the accounts you will migrate from the existing system directory:

1. Decide which accounts you want to migrate.
2. Use the Post.Office `listacct` utility to create a text file containing the names of the accounts you want to migrate
3. Move the text file to the directory containing your InterMail system. You will use this file as input for the export command.

Exporting Account Data

Accounts are created from account information exported from your existing Post.Office system into a file in LDAP Data Interchange Format (LDIF) format.

To export accounts from the Post.Office system directory:

1. Export account information to LDIF using the following command:

```
imaccountexportpo -mailMessageStore <hostName>  
-mailAutoReplyHost <hostName> <domain1>
```

where <domain1> is the domain that completes the address.

Note: The `-mailMessageStore` and `-mailAutoReplyHost` arguments should be included even though they are optional arguments. Failure to do so, may result in an incomplete `imaccountexportpo.out` file.

For a description of the command arguments and options, see Appendix A.

2. Find the errors by:
 - a. Checking the directory in which you ran the command for an error file that lists the accounts for which information could not be exported. The default error file is `imaccountexportpo.err`.
 - b. Checking the log file for the accounts listed in the error file to see why the errors occurred.
3. Resolve the errors.

4. After all errors are resolved, enter the following command to reprocess the accounts for which errors occurred, using the error file as input:

```
imaccountexportpo -badaccts <badAcctsFile>  
-acctIDFile imaccountexportpo.err <domain1>
```

Note: To avoid losing the contents of an error file when using it as input, use the `-badaccts` option when you reprocess accounts.

All successfully exported accounts and mailboxes are written to the output file in LDIF format. The default file is `imaccountexportpo.out`.

Once all desired data is successfully exported, you are ready to import account data using `imaccountexportpo.out` as input.

Importing Account Data

Accounts are imported from account information in LDIF in the output file of the export command. If your Post.Office system is not NFS mounted to the InterMail system, FTP the file to the InterMail machine where the InterMail Integrated Services Directory (ISD) is located.

To import accounts into the InterMail system directory:

1. Enter the following command:

```
imaccountimport -smtprelay <smtpRelayHost>  
-popproxy <popProxyHost> imaccountexportpo.out
```

where `imaccountexportpo.out` is the LDIF output file generated when you exported account data.

For a description of the command arguments and options, see Appendix A.

2. Find the errors by:
 - a. Checking the directory in which you ran the command for an error file that lists the accounts for which information could not be imported. The default error file is `imaccountimport.err`.
 - b. Checking the log file for the accounts listed in the error file to see why the errors occurred.
3. Resolve the errors.

4. After all errors are resolved, enter the following command to reprocess the accounts for which errors occurred, using the error file as input:

```
imaccountimport -badaccts <badAcctsFile>  
-acctIDFile imaccountimport.err -smtprelay <smtpRelayHost>  
-popproxy <popProxyHost> imaccountexportpo.out
```

Note: To avoid losing the contents of an error file when using it as input, use the `-badaccts` option when you reprocess accounts.

All successfully imported accounts are recorded in an output file. The default file is `imaccountimport.out`.

Once all desired data is successfully imported, accounts on the InterMail system have been created. The next step in the migration process is moving the messages from the Post.Office system to the InterMail system using `imaccountimport.out` as input.

Migrating Mail

The last phase of migration involves moving mailboxes, mail messages, and auto-reply messages to the newly created InterMail accounts. You may need to lock accounts before moving your messages.

Locking Post.Office Accounts

You should lock accounts before moving messages from a Post.Office system under the following circumstances:

- When more than one machine can access the Post.Office system
- When MX records do not point to the InterMail system

The `immailmove` command includes an optional port number where `immigagentpo` listens for a connection. When you specify a number for `<poMigAgtPort>`, the `immailmove` utility instructs the agent to listen for a connection at that port number. Just before `immailmove` starts gathering information on the messages to be moved, `immigagentpo` locks the account. When the messages have been moved or if the command fails, the accounts are unlocked.

To lock an account:

1. Go to the directory where Post.Office is installed, and run `immigagentpo`.
`immigagentpo <PO_utilDir> <IPAllowed1[:IPAllowed2...:IPAllowedN]>`
 For a description of the command arguments and options, see Appendix A.
2. Go to the InterMail system directory, and run the `immailmove` command with a port number.

Note: Use the `-badacct`s option every time you reprocess accounts to avoid losing the contents of the error file when using it as input.

For detailed instructions on using the `immailmove` command, see “Moving Mailboxes and Messages”.

Moving Mailboxes and Messages

The mailboxes and messages moved are those associated with the accounts listed in the `imaccountimport` output file.

Note: If you stop `immailmove` while it is in process and then restart it, previously moved mail is moved again, leaving you with two sets of the same mail messages.

To move mailboxes and messages:

1. Enter the following command:
`immailmove -sourceHost <host[:port]> -source PO
 -adminUser <username> -adminPass <password> imaccountimport.out`
 where `imaccountimport.out` is the LDIF output file generated when you imported account data.
 For a description of the command arguments and options, see Appendix A.
2. Find the errors by:
 - a. Checking the directory in which you ran the command for an error file that lists the accounts for which mailboxes and messages could not be moved. The default error file is `immailmove.err`.
 - b. Checking the log file for the accounts listed in the error file to see why the error occurred.
3. Resolve the errors.

4. After all errors are resolved, enter the following command to reprocess the messages for which errors occurred, using the error file as input:

```
immailmove -badaccts <filename> -sourceHost <host[:port]>  
-source PO -adminUser <username> -adminPass <password>  
immailmove.err
```

Note: To avoid losing the contents of an error file when using it as input, use the `-badaccts` option when you reprocess accounts.

All accounts and mail messages are moved. You can now decommission the old mail server.

3

Migrating from Sendmail

This chapter describes the steps for migrating a Sendmail system, version 8.9.3 or earlier, to InterMail. It contains the following sections:

- Configuring Sendmail Accounts
- Migrating Accounts
- Migrating Mail

Caution! Before migration accounts, you must complete the migration preparation tasks discussed in Chapter 1.

Configuring Sendmail Accounts

Before you migrate a Sendmail system, you may need to configure the account information. Start by checking whether the account information is configured in one of these ways:

- Account information contained in the `passwd` and `aliases` file is in one of the following locations, depending on the system configuration:
 - In the standard UNIX configuration, the account information is usually in `/etc/passwd` directory or in the NIS or NIS+ databases. Consult `/etc/nsswitch.conf` for the actual settings. The mail aliases files are in one of the following directories:
 - `/etc`
 - `/etc/mail`
 - `/etc/inetd`
 - `/etc/sendmail`
 - In a customized configuration, the `aliases` file and account information contained in the `passwd` file reside in an arbitrary directory.

- The following files reside in the user's home directory:
 - A forward file containing forwarding information
 - A vacation file containing vacation and auto-reply messages

If information for a user account is not configured in one of these ways, the Sendmail export command generates an error for that account, although it continues exporting the remaining accounts.

Configurations that do not conform to either of these models require account and perhaps data manipulation to comply with the configuration described above.

Migrating Accounts

Before moving mail messages to InterMail, you must create accounts in the InterMail system. This involves the following steps:

1. Defining accounts to migrate
2. Exporting account data
3. Importing account data

For a conceptual overview about migration and the migration steps, see Chapter 1.

Note: For Sendmail systems that use an LDAP directory, see Migrating Accounts in Chapter 4.

Defining Accounts to Migrate

The first step in creating accounts is defining the mail accounts you want to move to the InterMail system.

To define the accounts you will migrate from the existing system directory:

1. Decide which accounts you want to migrate.
2. Create a text file containing a list of the UNIX account names of the accounts you want to migrate.
3. Move the text file to the directory containing your InterMail system. You will use this file as input for the export command.

Exporting Account Data

Accounts are created from account information exported from your existing Sendmail system into a file in LDAP Data Interchange Format (LDIF) format.

To export accounts from the Sendmail system directory:

1. Export account information to LDIF using the following command:

```
imaccountexportsm -mailMessageStore <hostName>  
-mailAutoReplyHost <hostName> <domain1>
```

where <domain1> is the domain that completes the address.

Note: The `-mailMessageStore` and `-mailAutoReplyHost` arguments should be included even though they are optional arguments. Failure to do so, may result in an incomplete `imaccountexportsm.out` file.

For a description of the command arguments and options, see Appendix A.

2. Find the errors by:
 - a. Checking the directory in which you ran the command for an error file that lists the accounts for which information could not be exported. The default error file is `imaccountexportsm.err`.
 - b. Checking the log file for the accounts listed in the error file to see why the errors occurred.
3. Resolve the errors.
4. After all errors are resolved, enter the following command to reprocess the accounts for which errors occurred, using the error file as input:

```
imaccountexportsm -badaccts <fileName>  
-users imaccountexportsm.err <domain1>
```

Note: To avoid losing the contents of an error file when using it as input, use the `-badaccts` option when you reprocess accounts.

All successfully exported accounts and mailboxes are written to the output file in LDIF format. The default file is `imaccountexportsm.out`.

Once all desired data is successfully exported, you are ready to import account data using `imaccountexportsm.out` as input.

Importing Account Data

Accounts are imported from account information in LDIF in the output file of the export command. If your Sendmail system is not mounted to the InterMail system, FTP the file to the InterMail machine where the InterMail Integrated Services Directory (ISD) is located.

To import accounts into the InterMail system directory:

1. Enter the following command:

```
imaccountimport -smtprelay <smtpRelayHost>  
-popproxy <popProxyHost> imaccountexportsm.out
```

where `imaccountexportsm.out` is the LDIF output file generated when you exported account data.

For a description of the command arguments and options, see Appendix A.

2. Find the errors by:
 - a. Checking the directory in which you ran the command for an error file that lists the accounts for which information could not be imported. The default error file is `imaccountimport.err`.
 - b. Checking the log file for the accounts listed in the error file to see why the errors occurred.
3. Resolve the errors.
4. After all errors are resolved, enter the following command to reprocess the accounts for which errors occurred, using the error file as input:

```
imaccountimport -badaccts <badAcctsFile>  
-acctIDFile imaccountimport.err -smtprelay <smtpRelayHost>  
-popproxy <popProxyHost> imaccountexportsm.out
```

Note: To avoid losing the contents of an error file when using it as input, use the `-badaccts` option when you reprocess accounts.

All successfully imported accounts are recorded in an output file. The default file is `imaccountimport.out`.

Once all desired data is successfully imported, accounts on the InterMail system have been created. The next step in the migration process is moving the messages from the Sendmail system to the InterMail system using `imaccountimport.out` as input.

Migrating Mail

The last phase of migration involves moving mailboxes, mail messages, and auto-reply messages to the newly created InterMail accounts.

The mailboxes and messages moved are those associated with the accounts listed in the `imaccountimport` output file.

Note: If you stop `immailmove` while it is in process and then restart it, previously moved mail is moved again, leaving you with two sets of the same mail messages.

To move mailboxes and messages:

1. Enter the following command:

```
immailmove -sourceHost <host> -source SM  
-adminUser <username> -adminPass <password> imaccountimport.out
```

where `imaccountimport.out` is the LDIF output file generated when you imported account data.

For a description of the command arguments and options, see Appendix A.

2. Find the errors by:
 - a. Checking the directory in which you ran the command for an error file that lists the accounts for which mailboxes and messages could not be moved. The default error file is `immailmove.err`.
 - b. Checking the log file for the accounts listed in the error file to see why the error occurred.
3. Resolve the errors.
4. After all errors are resolved, enter the following command to reprocess the messages for which errors occurred, using the error file as input:

```
immailmove -badacct <filename> -sourceHost <host>  
-source SM -adminUser <username> -adminPass <password>  
immailmove.err
```

Note: To avoid losing the contents of an error file when using it as input, use the `-badacct` option when you reprocess accounts.

All accounts and mail messages are moved. You can now decommission the old mail server.

4

Migrating from Netscape

This chapter describes the steps for migrating a Netscape Directory server version 3.12 and Netscape Message server version 3.6 to InterMail. It contains the following sections:

- Configuring the Netscape Server
- Migrating Accounts
- Migrating Mail

Caution! Before migrating accounts, you must complete the migration preparation tasks discussed in Chapter 1.

Configuring the Netscape Server

When you migrate a Netscape system, you must configure the server before migrating mail.

To configure the Netscape server:

1. Open the Netscape `/etc/netscape.mail.conf` file in a text editor.
2. Add the following line to the end of the file:

```
ProxyAuthUser = <admin_user>
```

where `<admin_user>` is the name of the administrator or postmaster user who is authorized to access all mailboxes.

3. Save the file and restart the Netscape server.

The Netscape server is configured.

Migrating Accounts

Before moving mail messages to InterMail, you must create accounts in the InterMail system. This involves the following steps:

1. Defining accounts to migrate
2. Exporting account data
3. Importing account data

For a conceptual overview about migration and the migration steps, see Chapter 1.

Defining Accounts to Migrate

The first step in creating accounts is defining the mail accounts you want to move to the InterMail system.

To define the accounts you will migrate from the existing system directory:

1. Export the Netscape Directory server information to an LDIF (LDAP Data Interchange Format) file.

You will later use the InterMail export command, `imaccountexportldif`, to export account information from this Netscape LDIF file into an InterMail LDIF file.

2. Map Netscape LDAP attributes to those in the InterMail system using the `NSExportConfig.pm` file.

This section describes these steps in details.

Exporting the Netscape Directory Server

The first step in defining accounts to migrate is to export the Netscape Directory server information to an LDIF file. You must shut down the Netscape Directory server before you can create an export file. The information in this Netscape file is exported into an InterMail LDIF file using the `imaccountexportldif` command.

To export the Netscape Directory server information either follow the steps below or use the command line utility mentioned in the Netscape documentation for Netscape Directory Backup:

1. Log in to the Netscape GUI administrator server.
A list of directories and mail servers appear.
2. Select Directory Server.
3. Select Database Management.
4. From the menu, choose Export.
5. Enter the name of the LDIF file you want to create.

An LDIF file containing the Netscape Directory server information is created in the directory in which Netscape is installed.

Mapping Netscape LDAP Attributes

To map Netscape LDAP attributes:

1. Open the `NSExportConfig.pm` file in a text editor.

`NSExportConfig.pm` is a migration toolkit template that you can customize in order to map Netscape LDAP attributes to InterMail LDAP attributes. The functions contained within `NSExportConfig.pm` are called as needed by `imaccountexportldif`.

2. Modify the `getAttrMapping()` function to reflect the source directory schema and ensure that all attributes are mapped correctly, as follows:

```
Netscape attribute name = > InterMail attribute name
```

Note: To omit an attribute from the InterMail directory, leave the right-hand side of the function for that attribute blank.

For more information on the customizable functions and attributes of `NSExportConfig.pm`, see Appendix B.

Exporting Account Data

Accounts are created from account information exported from the Netscape LDIF file to the InterMail LDIF file.

To export accounts from the Netscape Directory LDIF file:

1. Export account information to InterMail LDIF using the following command:

```
imaccountexportldif -mailMessageStore <hostName>  
-mailAutoReplyHost <hostName> -ldifsource <fileName>
```

where `<fileName>` is the file that contains the account data from the Netscape mail system.

Note: The `-mailMessageStore` and `-mailAutoReplyHost` arguments should be included even though they are optional arguments. Failure to do so, may result in an incomplete `imaccountexportldif.out` file.

For a description of the command arguments and options, see Appendix A.

2. Find the errors by:
 - a. Checking the directory in which you ran the command for an error file that lists the accounts for which information could not be exported. The default error file is `imaccountexportldif.err`.
 - b. Checking the log file for the accounts listed in the error file to see why the errors occurred.
3. Resolve the errors.
4. After all errors are resolved, enter the following command to reprocess the accounts for which errors occurred, using the error file as input:

```
imaccountexportldif -badaccts <filename>  
-users imaccountexportldif.err -ldifsource <fileName>
```

Note: To avoid losing the contents of an error file when using it as input, use the `-badaccts` option when you reprocess accounts.

All successfully exported accounts and mailboxes are written to the output file in LDIF format. The default file is `imaccountexportldif.out`.

Once all desired data is successfully exported, you are ready to import account data using `imaccountexportldif.out` as input.

Importing Account Data

Accounts are imported from account information in LDIF in the output file of the export command. If your Netscape system is not mounted to the InterMail system, FTP the file to the InterMail machine where the InterMail Integrated Services Directory (ISD) is located.

To import accounts into the InterMail system directory:

1. Enter the following command:

```
imaccountimport -smtprelay <smtpRelayHost>  
-popproxy <popProxyHost> imaccountexportldif.out
```

where `imaccountexportldif.out` is the LDIF output file generated when you exported account data.

For a description of the command arguments and options, see Appendix A.

2. Find the errors by:
 - a. Checking the directory in which you ran the command for an error file that lists the accounts for which information could not be imported. The default error file is `imaccountimport.err`.
 - b. Checking the log file for the accounts listed in the error file to see why the errors occurred.
3. Resolve the errors.

4. After all errors are resolved, enter the following command to reprocess the accounts for which errors occurred, using the error file as input:

```
imaccountimport -badaccts <badAcctsFile>  
-acctIDFile imaccountimport.err imaccountexportldif.out
```

Note: To avoid losing the contents of an error file when using it as input, use the `-badaccts` option when you reprocess accounts.

All successfully imported accounts are recorded in an output file. The default file is `imaccountimport.out`.

Once all desired data is successfully imported, accounts on the InterMail system have been created. The next step in the migration process is moving the messages from the Netscape system to the InterMail system using `imaccountimport.out` as input.

Migrating Mail

The last phase of migration involves moving mailboxes, mail messages, and auto-reply messages to the newly created InterMail accounts.

The mailboxes and messages moved are those associated with the accounts listed in the `imaccountimport` output file.

Note: If you stop `immailmove` while it is in process and then restart it, previously moved mail is moved again, leaving you with two sets of the same mail messages.

To move mailboxes and messages:

1. Enter the following command:

```
immailmove -sourceHost <host[:port]> -source IMAP -proxyauth  
-adminUser <username> -adminPass <password> imaccountimport.out
```

where `imaccountimport.out` is the output file containing the account and mailbox directory information formatted by `imaccountimport`.

For a description of the command arguments and options, see Appendix A.

Note: If you have not already specified the Message Store Server (MSS) for migrated mailboxes in either the export or import command, the `-mailmessageStore <host>` option is mandatory.

2. Find the errors by:
 - a. Checking the directory in which you ran the command for an error file that lists the accounts for which mailboxes and messages could not be moved. The default error file is `immailmove.err`.
 - b. Checking the log file for the accounts listed in the error file to see why the error occurred.
3. Resolve the errors.
4. After all errors are resolved, enter the following command to reprocess the messages for which errors occurred, using the error file as input:

```
immailmove -badaccts <filename> -sourceHost <host> -source IMAP  
immailmove.err
```

Note: To avoid losing the contents of an error file when using it as input, use the `-badaccts` option when you reprocess accounts.

All accounts and mail messages are moved. You can now decommission the old mail server.

5

Troubleshooting Migration

This chapter deals with problems that may occur during the migration process. It contains the following sections:

- Migration Errors
- Post-Migration Problems

Migration Errors

This section deals with the errors that may occur when you run the following migration commands, described in Appendix A:

- `imaccountexporttpo`
- `imaccountexportsm`
- `imaccountimport`
- `immailmove`
- `immigagentpo`

Note: This chapter does not cover problems that may occur with the `imaccountexportldif` command.

imaccountexportpo

The `imaccountexportpo` command exports mail account information from an existing Post.Office mail system into LDAP Data Interchange Format (LDIF). For more information on `imaccountexportpo`, see Appendix A.

Error Messages

```
Can't call method "autoflush" without a package or object reference
at ./imaccountexportpo line 332.
```

Cause You are not logged in as the Post.Office administrative user.

Action Switch your current user to the Post.Office administrative user, usually `mta` or `root`.

```
Error; Cannot locate program /opt/post.office/cmdutils/getacct
Make sure that the -utilsdir command line option is pointing to the
right location at ./imaccountexportpo line 337
```

Cause You are unable to access Post.Office command utilities. To run `imaccountexportpo`, you must have access to the Post.Office command utilities.

Action Do any of the following:

- Log in to the machine on which Post.Office was installed and make sure you have permissions to use the command utilities directory (the default location is `/opt/post.office/cmdutils`).
- Mount the command utilities directory from your machine.
- If the Post.Office installation is in a non-default location, use `imaccountexportpo -utilsdir` to point to the correct location.

Output File Errors

The LDIF `dc` fields in the output file (`imaccountexportpo.out` by default) have the following incorrect value:

```
dn: uid=somebody@somewhere.com, dc=somewhere, dc=com
```

Cause The value of the command line parameter `domain` is used as the domain of the new InterMail system and to complete the `dc` fields for each user in the LDAP database.

Action Run `imaccountexportpo` again, specifying the domain of the new InterMail system.

imaccountexportsm

The `imaccountexportsm` command exports mail account information from an existing Sendmail mail system into LDIF format. For more information on `imaccountexportsm`, see Appendix A.

Error Messages

```
Can't call method "autoflush" without a package or object reference
at ./imaccountexportsm line 335.
```

Cause You are not logged in as the Sendmail administrative user.

Action Switch your current user to the Sendmail administrative user, which is usually `root`.

Output File Errors

In the output file (`imaccountexportsm.out` by default) you notice something like this:

```
Tue Mar 30 11:08:36 1999; Warn; Cannot find mailbox location for
john
Tue Mar 30 11:08:36 1999; Note; Account: john successfully exported.
```

Cause The LDIF file does not include mailbox information, and the export command cannot determine the mailbox location from the entries in the `passwd` file. `imaccountexportsm` expects a user's mailbox to be:

- Located in the user's home directory
- Named `mbox`

Action

1. Make a copy of the suspect `passwd` file.
2. Change the location of the user's home directory to the directory that contains that user's mailbox.
3. Use this modified `passwd` file as input to `imaccountexportsm`.

The generated LDIF file is empty.

Cause The LDIF file is generated by either the contents of the `passwd` file entered as a parameter or the results of the system call `getpwent`. InterMail cannot access the `passwd` file either because the `passwd` file is empty or because the system cannot make the `getpwent` system call.

Action Do any of the following:

- Make sure that the entries in the `passwd` file are properly formatted.
- Ensure that the Sendmail system administrator can access the password entries.

imaccountimport

The `imaccountimport` command imports account information to the InterMail system. For more information on `imaccountimport`, see Appendix A.

Error Messages

You receive an error message like the following while running `imaccountimport`:

```
On Apr 5 05:29:31 1999; Error; No Such COS[000007d0]. Program aborted.
```

Cause In the `cosName` parameter, you specified a class of service (COS) that does not exist.

- Action**
1. Use the `imdbcontrol listcosnames` command to determine the classes of service that exist.
 2. If no classes of service exist, create one using the `imdbcontrol` command.
 3. Rerun the `imaccountimport` command with an existing class of service as the `cosName` parameter.

Relay Errors

After accounts have been successfully imported but before the mail is migrated, mail is not being relayed to the existing system.

- Cause** There are invalid parameters in `imaccountimport`.
- Action** Set the configuration keys `smtpRelayHost` and `popProxyHost` to the existing system. Accounts are created in Proxy mode so inbound mail and incoming POP requests are then diverted to `smtpRelayHost` and `popProxyHost`, respectively.

immailmove

The `immailmove` command moves mailboxes and messages from the existing mail system to the InterMail system. For more information on `immailmove`, see Appendix A.

Log File Errors

The log file (`immailmove.log` by default) shows something like this:

```
Mon Apr 5 11:43:16 1999; Note; Log Opened
Mon Apr 5 11:43:16 1999; Error; Cannot create client socket: Bad
file number
Mon Apr 5 11:43:16 1999; Error; Make sure that PO agent is listening
on dunkel.somewhere.com:7007
```

- Cause** Mail is not being migrated because the `immigagentpo` server is not running on the port specified by the optional parameter `port` in `immailmove`. Normally `immailmove` does not use `immigagentpo`, but if a port number is specified, `immailmove` locks each user's Post.Office account while mail is migrated.
- Action** This locking requires that `immigagentpo` be run on the existing system. If you do not wish to lock mailboxes, run both `immigagentpo` and `immailmove` using the default port numbers.

Mismatch Errors

The migrated InterMail mailboxes are bigger in byte size than the corresponding Post.Office mailboxes.

- Cause** InterMail mailboxes may contain extra information, making a direct comparison inaccurate.
- Action** None. An InterMail mailbox should contain at least the same number of bytes as the corresponding Post.Office mailbox.

Message Quota Errors

The mailbox migration failed with a `cannot create message type error`, even though earlier messages were migrated.

Cause Either the mailbox or the per-message quotas were exceeded.

Action Use `imboxstats primarySMTPAddress@domain` to find the current mailbox size, and quota, and per message quota.

- If the mailbox is almost at its maximum size, the original mailbox is too large.
- If the mailbox is far from its maximum size, a single message may be too large.

Depending on which quota is exceeded, increase the corresponding class of service setting for either the user or the whole class.

immigagentpo

The `immigagentpo` command locks Post.Office accounts during migration. For more information on `immigagentpo`, see Appendix A.

Error Messages

You receive the following error message while running `immigagentpo`:

```
ERROR: Cannot create socket: Bad file number
```

Cause The port number that the server is trying to start up on is already in use.

Action(s) 1. Enter the following command to confirm that the port number is being used:

```
netstat -a | grep <portnum>
```

where:

<portnum> is the number used (7007 by default).

2. Check your system processes to determine if `immigagentpo` was previously started. Then do one of the following:
 - Stop the first process.
 - Specify an alternate port with the `-port` parameter. If you specify a port number with `-port` on the existing system, be sure to specify this when running `immailmove` on the InterMail system.

Post-Migration Problems

This section deals with the most common migration problems experienced by mail users after migration.

The mail user can no longer log into his or her mailbox after either account or mailbox migration.

- Cause** The dual provisioning system was changed, but did not update the InterMail Integrated Services Directory (ISD) with the changes.
- If the problem occurs after account migration, the proxy host setting is pointing to the wrong mail server.
 - If the problem occurs after mailbox migration, the user's password is different from what is stored in the ISD. When the account was switched from Proxy mode, the POP3 server enforced the password in the InterMail system, causing either the wrong password type or the wrong password was migrated.
- Action(s)** • Change the ISD password entry if the user's password and the provisioning system match each other but not the ISD.
- Correct the user's password if it is incorrect.

The mail user can no longer send mail.

- Cause** • If small messages are going through but large message are not, the user is sending messages that exceed the account's max message size quota and/or the MTA configuration key setting.
- If no messages are getting through, the user is using an incorrect From: address. The domain part of the From: address must match one of the configured domains. The username part and the domain must match either an SMTP alias or the primary SMTP address.
 - If no outbound mail (to remote sites) is going through, the anti-relay configuration keys are too restrictive.
- Action(s)** • Check that message limits and quotas match the sizes the user may send according to his or her class of service. The class of service may be too restrictive or the user may be in the wrong server group.
- If many users are using host aliases from the old mail server, consider using the mail routing and header rewriting rules in the Configuration database. This allows for continuous mail service while you track these users down.

The mail user receives multiple copies of messages.

- Cause**
- The mail user is using Microsoft Outlook, which contains a bug related to a mail server changing IP addresses while it is running.
 - The user is on multiple mailing lists, and the lists are sending the same message to the user.

Action(s) There is nothing in InterMail to cause duplicate messages. Most of these problems are client-related or message-related.

- Exit Microsoft Outlook and start it again.
- Check the information in the Received header lines and check the value in the `To:` field.

The mail user can log in but no longer receives new mail.

- Cause**
- After account migration there may be mail loops if the DNS names and the ISD set of domains are not set correctly.
 - The SMTP relay field is set to the same name as the DNS names configured for the InterMail Message Transport Agent (MTAs). It must be set to the old DNS value and not the new DNS value. If the account has the wrong values, such as the same host as before but a new IP address, the MTA detects a mail loop and sends the message to the spool/errors directory for manual resolution. If many users have the same problem, the error queue cannot manage the mail flow, and no one receives new mail.
 - The user has sent mail using the wrong DNS address. This means that the mail either is being relayed to the old server or is being rejected because that DNS address is not a valid ISD account.

- Action(s)**
- Check the various MTA log files and error queues for messages that were sent to the user but could not be delivered. Correct the DNS name in either the ISD or the DNS tables.
 - Check whether the old mail server recognizes the old DNS address as an alternative name for itself. If e-mail is being sent to the old DNS address during the proxy transition phase, set up the old system so that it recognizes the old DNS address as a host alias, alternate name, or other DNS name for itself.
 - Check the MTA logs for anti-relay messages. If you find anti-relay messages, do the following:
 - Add the old DNS address as a rewrite ISD domain for the new DNS address.
 - Change anti-relay rules to allow local users to send outbound mail.

A

Migration Commands

This appendix describes the following InterMail migration commands:

- `imaccountexport`, which exports account data from the existing mail system
- `imaccountimport`, which imports account data from an LDIF file to the InterMail mail system
- `immailmove`, which moves mailboxes and messages from the existing mail system to the InterMail system
- `immigagentpo`, which locks Post.Office accounts during migration

Note: In the `imaccountexport` command, `po` represents Post.Office, `sm` represents Sendmail, and `ldif` represents an IMAP migration.

imaccountexportpo

Use the `imaccountexportpo` command to export mail account information from an existing Post.Office system into LDIF.

Syntax

```
imaccountexportpo [-help][--version][--trace][--uid <BaseUId>]
[-badaccts <badAcctsFile>][--utilsdir <poCmdUtilsDir>]
[-acctIDFile <fileName>][--mailMessageStore <hostName>]
[-mailAutoReplyHost <hostName>][--outfile <acctDataFile>]
[-log <fileName>] domain1[:domain2:::domainN]
```

Where:

<code>-help</code>	Provides a detailed description of the various command options and arguments.
<code>--version</code>	Specifies the version of the command.
<code>--trace</code>	Displays informational processing messages for troubleshooting in <code>stdout</code> .
<code>--uid <BaseUId></code>	Specifies the first number assigned to the range of internal e-mail IDs (InterMail <code>uid</code>) for the accounts listed in the output file. The first account starts with the <code>baseUId</code> number, and each additional account in the range uses the next incremented number. The base ID number resides in the <code>uid: LDIF</code> line. The default is 1,000,000.
<code>-badaccts <badAcctsFile></code>	Specifies the file containing error messages for accounts that are not exported. Fix the errors, then use this file to process only accounts that had errors. If this option is missing, the default file is <code>imaccountexportpo.err</code> .
<code>--utilsdir <poCmdUtilsDir></code>	Specifies the path to the directory containing the Post.Office command utilities. If this path is not specified, the program locates the directory based on the information in the Post.Office configuration file, usually <code>/etc/post.office.conf</code> .
<code>-acctIDFile <fileName></code>	Specifies the file that contains the names of the Post.Office accounts to be exported. If this option is missing, all existing accounts are exported. You can use the Post.Office utility <code>listacct</code> to display the names of all existing accounts.
<code>--mailMessageStore <hostName></code>	Specifies the MSS host name for all exported accounts. <i>Note: If you do not specify the MSS host at this time, you will have to specify it when you import the accounts into the InterMail directory or when the mail is moved.</i>

- `-mailAutoReplyHost <hostName>` Specifies the mailAutoReplyHost name for all exported accounts.
Note: If you do not specify mailAutoReplyHost at this time, you will have to specify it when you import the accounts into the InterMail directory or when the mail is moved.
- `-outfile <acctDataFile>` Specifies the LDIF output file that contains the account information. The default file name is `imaccountexportpo.out`. Use this file as input for the `imaccountimport` command.
- `-log <fileName>` Provides the full path of the log file. The default file is `imaccountexportpo.log`.
- `<domain1[:domain2:...:domainN]>` Is a list of domain names used to fully qualified SMTP addresses in the InterMail system.

imaccountexportsm

Use the `imaccountexportsm` command to export mail account information from an existing Sendmail system into LDIF.

Syntax

```
imaccountexportsm [-help][--version][--trace][--users <namesFile>]
[-uid <baseUid>][--outfile <fileName>][--log <fileName>]
[-badaccts <fileName>][--pwdfile <fileName>][--aliases <fileName>]
[--useHomeDir][--mailMessageStore <hostName>]
[--mailAutoReplyHost <hostName>] domain1[:domain2:...:domainN]
```

Where:

<code>-help</code>	Provides a detailed description of the various command options and arguments.
<code>--version</code>	Specifies the version of the command.
<code>--trace</code>	Displays informational processing messages for troubleshooting in <code>stdout</code> .
<code>--users <namesFile></code>	Specifies the text file containing the UNIX names that correspond to the accounts you want to export. If this option is not used, all accounts on the existing mail system are exported.
<code>-uid <baseUid></code>	Specifies the first number assigned to the range of internal e-mail IDs (InterMail <code>uid</code>) for the accounts listed in the output file. The first account starts with the <code>baseUid</code> number, and each additional account in the range uses the next incremented number. The base ID number resides in the <code>uid: LDIF</code> line. The default is 1,000,000.
<code>--outfile <fileName></code>	Specifies the LDIF output file that contains the account information. The default file name is <code>imaccountexportsm.out</code> . Use this file as input for the <code>import</code> command.
<code>--log <fileName></code>	Provides the full path of the log file. The default file is <code>imaccountexportsm.log</code> .
<code>--badaccts <fileName></code>	Specifies the file containing error messages for accounts that are not exported. Fix the errors, then use this file to process only accounts that had errors. If this option is missing, the default file is <code>imaccountexportsm.err</code> .

<code>-pwdfile <fileName></code>	Specifies the UNIX password file from which account information is extracted. As the default, this command uses the UNIX call <code>getpwent()</code> to find password entries. For example, on the Solaris platform, entries can come from any of the sources for passwords specified in the <code>/etc/nsswitch.conf</code> file.
<code>-aliases <fileName></code>	Specifies the file containing alias information. The default file is name is <code>/etc/aliases</code> .
<code>-useHomeDir</code>	Specifies the mail file <code>\$HOME/mbox</code> rather than <code>/var/mail/username</code> .
<code>-mailMessageStore <hostName></code>	Specifies the MSS host name for all exported accounts. <i>Note: If you do not specify the MSS host at this time, you will have to specify it when you import the accounts into the InterMail directory or when the mail is moved.</i>
<code>-mailAutoReplyHost <hostName></code>	Specifies the <code>mailAutoReplyHost</code> name for all exported accounts. <i>Note: If you do not specify <code>mailAutoReplyHost</code> at this time, you will have to specify it when you import the accounts into the InterMail directory or when the mail is moved.</i>
<code><domain1[:domain2:...:domainN]></code>	Is a list of domain names used to fully qualified SMTP addresses in the InterMail system.

imaccountexportldif

Use the `imaccountexportldif` command to export mail account information from a Netscape LDIF file into an InterMail LDIF file.

Syntax

```
imaccountexportldif [-help][-version][-trace][-users <fileName>]
[-uid <baseUid>][-outfile <fileName>][-log <fileName>]
[-badaccts <fileName>][-mailMessageStore <hostName>]
[-mailAutoReplyHost <hostName>]-ldifsource <fileName>
```

Where:

<code>-help</code>	Provides a detailed description of the various command options and arguments.
<code>-version</code>	Specifies the version of the command.
<code>-trace</code>	Displays informational processing messages for troubleshooting in <code>stdout</code> .
<code>-users <fileName></code>	Specifies the text file containing the UNIX names that correspond to the accounts you want to export. If this option is not used, all accounts on the existing mail system are exported.
<code>-uid <baseUid></code>	Specifies the first number assigned to the range of internal e-mail IDs (InterMail <code>uid</code>) for the accounts listed in the output file. The first account starts with the <code>baseUid</code> number, and each additional account in the range uses the next incremented number. The base ID number resides in the <code>uid: LDIF</code> line. The default is 1,000,000.
<code>-outfile <fileName></code>	Specifies the LDIF output file that contains the account information. The default file name is <code>imaccountexportldif.out</code> . Use this file as input for the import command.
<code>-log <fileName></code>	Provides the full path of the log file. The default file is <code>imaccountexportldif.log</code> .
<code>-badaccts <fileName></code>	Specifies the file containing error messages for accounts that are not exported. Fix the errors, then use this file to process only accounts that had errors. If this option is missing, the default file is <code>imaccountexportldif.err</code> .
<code>-mailMessageStore <hostName></code>	Specifies the MSS host name for all exported accounts. <i>Note: If you do not specify the MSS host at this time, you will have to specify it when you import the accounts into the InterMail directory or when the mail is moved.</i>

- `-mailAutoReplyHost <hostName>` Specifies the mailAutoReplyHost name for all exported accounts.
Note: If you do not specify mailAutoReplyHost at this time, you will have to specify it when you import the accounts into the InterMail directory or when the mail is moved.
- `-ldifsource <fileName>` Names the input LDIF file. This file contains the account data from the Netscape mail system.

imaccountimport

Use the `imaccountimport` command to import account information in LDIF format to your InterMail system.

Syntax

```
imaccountimport [-help][--version][--acctIDFile <fileName>][--trace]
[-log <fileName>][--outfile <mboxMigDataFile>]
[-badaccts <badAcctsFile>][--[no]proxy]-smtprelay <smtpRelayHost>
--popproxy <popProxyHost>[--popdomain <domainName>]
[--defaultmss <mssHost>][--defaultautoreply <mssHost>]
[--defaultadminpolicydn <dn>] <acctDataFile>
```

where:

<code>-help</code>	Provides a detailed description of the various command options and arguments.
<code>--version</code>	Specifies the version of the command.
<code>--acctIDFile <fileName></code>	Enables you to import specific accounts from the file specified by <code><acctDataFile></code> . If this option is missing, all accounts in the <code><acctDataFile></code> file are imported. Use this option if you have to reprocess a handful of accounts, such as accounts that failed migration.
<code>--trace</code>	Displays informational processing messages for troubleshooting in <code>stdout</code> .
<code>-log <fileName></code>	Provides the full path of the log file. The default file is <code>imaccountimport.log</code> .
<code>--outfile <mboxMigDataFile></code>	Specifies the output file containing the mailbox and account information in the format <code>uid psmtPAddr mboxlocation</code> . The default file is <code>imaccountimport.out</code> . Use this file as input for <code>immailmove</code> .
<code>-badaccts <badAcctsFile></code>	Specifies the file containing error messages for accounts that are not imported. Fix the errors, then use this file to process only accounts that had errors. If this option is missing, the default file is <code>imaccountimport.err</code> .
<code>--proxy</code>	Creates accounts in Proxy mode. This is the default setting.
<code>--noproxy</code>	Creates accounts in the account status specified in the source file. Use this mode for importing accounts from another InterMail installation or for creating active accounts in the InterMail installation.

<code>-smtprelay <smtpRelayHost></code>	Specifies the host on which the original SMTP server is running.
<code>-popproxy <popProxyHost></code>	Specifies the host on which the original POP server is running.
<code>-popdomain <domainName></code>	Appends a default login domain to the imported accounts if none is specified in the input attribute <code>userLogin</code> LDIF. This option allows the POP domain feature to be enabled without the domain being set in the LDIF file.
<code>-defaultmss <mssHost></code>	Specifies the <code>mailmessagestore</code> LDAP attribute to <code>mssHost</code> if none is specified in the incoming LDAP object. <i>Note: Use this only with <code>-noproxy</code>.</i>
<code>-defaultautoreply <mssHost></code>	Specifies the <code>mailautoreplyhost</code> LDAP attribute to <code>mssHost</code> if none is specified in the incoming LDAP object. <i>Note: Use this only with <code>-noproxy</code>.</i>
<code>-defaultadminpolicydn <dn></code>	Specifies the <code>AdminPolicyDN</code> for any object that does not already have it set.
<code><acctDataFile></code>	Specifies the LDIF file containing account information generated from <code>imaccountexportpo.out</code> , <code>imaccountexportsm.out</code> , or <code>imaccountexportldif.out</code> .
<code>-sourcePopHost <host></code>	Specifies the host on which the Sendmail, Post.Office or IMAP source mail system is running its POP server and restores accounts if problems arise. If <code>-sourcePopHost</code> is not specified, the value for <code>sourceHost</code> is used.
<code>-sourceSmtpHost <host></code>	The name of the host on which the Sendmail, Post.Office or IMAP source mail system is running its SMTP server and restores accounts if problems arise. If <code>-sourceSmtpHost</code> is not specified, the value for <code>sourceHost</code> is used.

immailmove

Use the `immailmove` command to move mailboxes and messages from the existing mail system to the InterMail system.

Syntax

For moving mailboxes, mail messages, and auto-reply messages from Post.Office to the newly created InterMail accounts:

```
immailmove [-help][-version] [-trace][-badaccts <fileName>]
[-log <fileName>][-mailMessageStore <host>]
-sourceHost <host[:port]> -source PO -adminUser <username>
-adminPass <password> <acctDataFile> [-sourcePopHost <host>]
[-sourceSmtpHost <host>]
```

For moving mailboxes, mail messages, and auto-reply messages from Sendmail to the newly created InterMail accounts:

```
immailmove [-help][-version][-trace][-badaccts <fileName>]
[-log <fileName>][-mailMessageStore <host>] -sourceHost <host>
-source SM -adminUser <username> -adminPass <password>
<acctDataFile> [-sourcePopHost <host>]
[-sourceSmtpHost <host>]
```

For moving mailboxes, mail messages, and auto-reply messages from Netscape to the newly created InterMail accounts:

```
immailmove [-help][-version][-trace][-badaccts <fileName>]
[-log <fileName>][-mailmessageStore <host>]
-sourceHost <host[:port]> -source IMAP [-imapPassword <password>]
[-proxyauth -adminUser <username> -adminPass <password>]
[-sourcePopHost <host>] [-sourceSmtpHost <host>] <acctDataFile>
```

Where:

<code>-help</code>	Provides a detailed description of the various command options and arguments.
<code>-version</code>	Specifies the version of the command.
<code>-trace</code>	Displays informational processing messages for troubleshooting in <code>stdout</code> .
<code>-badaccts</code> <code><fileName></code>	Specifies the file containing error messages for the accounts whose mail messages are not moved. Fix the errors, then use this file to process only accounts that had errors. If this option is missing, the default file is <code>immailmove.err</code> .
<code>-log <fileName></code>	Provides the full path of the log file. The default file is <code>immailmove.log</code> .

<pre>-mailMessageStore <host></pre>	<p>Specifies the host running the InterMail Message Store Server (MSS) for the migrated mailboxes. The value of <host> is used for any account that does not have a message store host specified.</p> <p><i>Note: If you have not already specified the MSS for migrated mailboxes in either the export or import command, this option is mandatory.</i></p>
<pre>-sourceHost <host[:port]></pre>	<p>Specifies the host running the existing mail system. In a migration from Post.Office, the port number specifies where <code>immigagentpo</code> listens for connections.</p> <p>When you use this option for a Post.Office migration, <code>immailmove</code> remotely locks and unlocks accounts while migrating the associated mailbox. If <code>poMigAgtPort</code> is not specified, <code>immailmove</code> does not communicate with <code>immigagentpo</code>.</p> <p>When you use this option for a Sendmail migration, do not specify the port.</p> <p>When you use this option for an IMAP migration, the port defaults to 143 if one is not specified.</p>
<pre>-source <PO SM IMAP></pre>	<p>Names the existing mail system from which you are migrating. Valid values are PO for Post.Office, SM for Sendmail, or IMAP for Netscape.</p>
<pre>-imapPassword <password></pre>	<p>Specifies the password for all IMAP accounts.</p> <p><i>Note: You cannot use -imapPassword <password> with the -proxyauth option.</i></p>
<pre>-proxyauth</pre>	<p>Use this option only with IMAP migrations. Log in using the <code>adminUser</code> and <code>adminPass</code> values, then use <code>PROXYAUTH <loginname></code> to access each account.</p> <p><i>Note: You cannot use -proxyauth in combination with the -imapPassword <password> option.</i></p>
<pre>-adminUser <username></pre>	<p>Specifies the Sendmail or Post.Office administrator who has permission to read all mailbox directories.</p> <p><i>Note: Use -adminUser <username> with the -proxyauth option for IMAP migrations.</i></p>
<pre>-adminPass <password></pre>	<p>Specifies the password for <code>admin_user</code>.</p> <p><i>Note: Use -adminPass <password> with the -proxyauth option for IMAP migrations.</i></p>
<pre><acctDataFile></pre>	<p>Names the file containing the account and mailbox directory information formatted by <code>imaccountimport</code>.</p>

immigagentpo

Use the `immigagentpo` command only if it is necessary to lock the Post.Office accounts during migration. For more information on `immigagentpo`, see Chapter 2.

Syntax

```
immigagentpo [-help][-version][-allowAll][-logname <log>]  
[-port <portNum>][-tmpdir <dir>] <PO_utilDir>  
<IPAllowed1[:IPAllowed2..:IPAllowedN]>
```

Where:

<code>-help</code>	Provides a detailed description of the various command options and arguments.
<code>-version</code>	Specifies the version of the command.
<code>-allowAll</code>	Enables connection requests from any host.
<code>-logname <log></code>	Specifies the log file. The default file is <code>immigagentpo.log</code> .
<code>-port <portNum></code>	Specifies the listener port number for the agent. The default port number is 7007.
<code>-tmpdir <dir></code>	Specifies the directory used as a temporary area.
<code><PO_utilDir></code>	Specifies the directory where the Post.Office utilities are installed.
<code><IPAllowed1 [:IPAllowed2..:IPAllowedN]></code>	Specifies one or more IP addresses that are allowed to connect to the agent.

B

Mapping LDAP Attributes

`NSExportConfig.pm` is a customizable template for mapping Netscape LDAP attributes into InterMail LDAP attributes. The functions in `NSExportConfig.pm` are called as needed by `imaccountexportldif`.

The `NSExportConfig.pm` file is broken down into the following functions, which are read in the following order:

- `verifyIsMailAccount()`
- `getAttrMapping()`
- `makeCustomAttrsChanges()`
- `getAdditionalObjectClasses()`
- `getAdditionalAttributes()`

This appendix describes the `NSExportConfig.pm` functions.

verifyIsMailAccount()

Description	Detects mail accounts in a stream of LDIF objects.
Action	Do one of the following: <ul style="list-style-type: none">• If you know that the input stream contains only mail accounts, leave this function empty.• To identify mail accounts from the source directory schema, write a filter.

getAttrMapping()

Description	Maps Netscape attributes to InterMail attributes. <ul style="list-style-type: none">• The Netscape attribute names are on the left side, and the InterMail attribute names on the right.• A blank value on the right indicates that the attribute should be omitted from the migrated directory.
Action	On the right side of the => sign, enter the InterMail attribute that corresponds to the Netscape attribute on the left. For example, uid => maillogin maps the Netscape attribute uid to the InterMail attribute maillogin.

makeCustomAttrsChanges()

Description	Customizes the translation of attributes from the Netscape LDAP schema to the InterMail schema. This function allows you to make more complex attribute translations during migration than can be performed by a simple lookup table.
Action	Add or modify the Perl code in this function as required to translate the source directory schema. For example: <pre># Change the netscape quota into an InterMail # quota. Netscape value is specified in bytes, # InterMail in Megabytes if (\$acctRef->{'mailquota'}) { \$acctRef->{'mailquotatotMegb'} = int(\$acctRef->{'mailquota'} / 1048576); delete \$acctRef-{'mailquota'}; }</pre>

getAdditionalObjectClasses()

Description Lists additional object classes defined by the new InterMail accounts. These additional object classes are assigned to the accounts in addition to the standard object classes normally associated with InterMail accounts.

Action Add new object class entries to the array returned by the `getAdditionalObjectClasses` function.

For example:

```
sub getAdditionalObjectClasses
{
    return [
        'inetorgperson',
        'organizationalPerson',
    ];
}
```

getAdditionalAttributes()

Description Lists the attributes that will be migrated from the Netscape mail system to the new InterMail directory. These attributes are in addition to the standard attributes normally associated with InterMail accounts.

Action Add new attribute entries to the array returned by the `getAdditionalAttributes` function.

For example:

```
sub getAdditionalAttributes
{
    return [
        'givenname',
        'telephonenumber',
    ];
}
```

Note: *There are restrictions associated with using additional attributes, such as making schema additions to the InterMail directory, see the Integrated Services Directory User Guide.*

C

License Information

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[This is the first released version of the library GPL. It is numbered 2 because it goes with version 2 of the ordinary GPL.]

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