

Migration Guide

iPlanet™ Messaging Server

Release 5.2

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About This Guide

The *iPlanet Messaging Server Migration Guide* describes how to migrating from a Sun Internet Mail Server (SIMS) 4.0 or Netscape Messaging Server 4.x email system to an iPlanet Messaging Server email system.

This preface contains the following sections:

- Who Should Read This Book
- What You Need to Know
- How This Book is Organized
- Typographical Conventions
- Where to Find Related Information
- Listed below are the additional documents that are available:

Who Should Read This Book

You should read this book if you are responsible for migrating from SIMS 4.0 or Netscape Messaging Server 4.x to the iPlanet Messaging Server.

What You Need to Know

This book assumes that you have a general understanding of the following:

- The Internet and the World Wide Web
- iPlanet Administration Server
- iPlanet Directory Server and LDAP
- Netscape Console
- Either SIMS or Netscape Messaging Server

How This Book is Organized

This book contains the following chapters and appendix:

- About This Guide (this chapter)
- Chapter 1, “SIMS 4.0 and Netscape Messaging Server 4.x Changes, Regressions, and Transitions to the iPlanet Messaging Server”
- Chapter 2, “Migration Overview”
- Chapter 3, “Scenarios and Procedures for Migrating a Single-Server System to the iPlanet Messaging Server”
- Chapter 4, “Scenarios and Procedures for Migrating a Multi-Server System to the iPlanet Messaging Server”
- Chapter 5, “Troubleshooting iPlanet Messaging Server Migrations”
- Appendix A, “Command-Line Interface”
- Appendix B, “Common Migration Procedures”
- “Glossary”

Typographical Conventions

Table 1 Typographical Conventions

Typeface or Symbol	Meaning	Example
AaBbCc123	The names of commands, files, code, directories, hostnames, distinguished names, on-screen computer output.	Edit your <code>msg.conf</code> file. Use <code>ls -a</code> to list all files. Error: illegal port #
AaBbCc123	User entered text.	% cd madonna
<i>the_variable</i>	Command-line place holder or variable. Replace with a real name or value.	# <i>instance_root/start-msg</i>
<i>AaBbCc123</i>	Book titles, new words or terms, or words to be emphasized.	<i>iPlanet Messaging Server Provisioning Guide</i>

Directory and File Conventions

After you install iPlanet Messaging Server, its directories and files are arranged in the organization depicted in Table 2. The table is not exhaustive; it shows only those directories and files of most interest for typical server migration tasks.

Table 2 Post-Installation Directories and Files

Directory	Default Location and Description
server root directory (<i>server_root</i>)	<p><code>/usr/iplanet/server5/</code> (default location)</p> <p>The directory into which all servers of a given server group (that is, all servers managed by a given Administration Server) are installed. This may include other iPlanet servers in addition to Messaging Server.</p> <p>This directory also contains the binary executables for starting and stopping the administration server (<code>start-admin</code>, <code>stop-admin</code>) and for starting the Console (<code>startconsole</code>).</p>
instance directory (<i>instance_root</i>)	<p><code>server_root/msg-instance_name/</code> (required location)</p> <p><i>instance_name</i> is the name of this instance of Messaging Server, as specified at installation. (Default = host name of server machine)</p> <p>This directory contains the configuration files that define a given instance of Messaging Server. Multiple instances of Messaging Server, all using the same binary files, may exist on a given host machine.</p> <p>This directory also contains some of the executables of the installed Messaging Server, such as <code>configutil</code>, <code>start-msg</code>, <code>stop-msg</code>, and so on.</p>

Where to Find Related Information

In addition to this guide, iPlanet Messaging Server comes with supplementary information for administrators as well as documentation for end users and developers. Use the following URL to see all the Messaging Server documentation:

<http://docs.iplanet.com/docs/manuals/messaging.html>

Listed below are the additional documents that are available:

- iPlanet Messaging Server Administrator's Guide
- iPlanet Messaging Server Reference Manual
- iPlanet Messaging Server Schema Reference

Where to Find Related Information

- [iPlanet Messaging Server Provisioning Guide](#)
- [iPlanet Delegated Administrator for Messaging and Collaboration Installation and Administration Guide](#)

SIMS 4.0 and Netscape Messaging Server 4.x Changes, Regressions, and Transitions to the iPlanet Messaging Server

The iPlanet Messaging Server is a “best of breed” integration of the Netscape Messaging Server and Sun Internet Messaging Server (SIMS). The most robust and highest performing components of each product have been combined to produce the iPlanet Messaging Server. Because of its dual heritage, Netscape Messaging Server and SIMS customers may find that many processes and procedures are different in the iPlanet Messaging Server.

This chapter describes the major differences between the Netscape Messaging Server and SIMS systems and iPlanet Messaging Server, as well as other factors that affect migration to the iPlanet Messaging Server. This chapter contains the following sections:

- “Evolution of Messaging Components,” on page 14
- “Changes in Directory Support,” on page 15
- “SIMS 4.0 Regressions/Changes/Transitions,” on page 20
- “Netscape Messaging Server 4.x Regressions/Changes/Transitions,” on page 23
- “Migrating SIMS/Netscape Messaging Server on a High-Availability Cluster,” on page 26

Evolution of Messaging Components

The iPlanet Messaging Server is an evolution of the Netscape Messaging Server and SIMS products. The following iPlanet Messaging Server components are based on components in Netscape Messaging Server 4.x, and thus use similar data formats and configuration information:

- Mail access (IMAP and POP) servers.
- Web browser mail access (Messenger Express)
- Directory service (Netscape Directory Server)
- GUI Administration through the Netscape Console

The following iPlanet Messaging Server components are based on the equivalent components in Sun Internet Mail Server 4.0:

- Mail transfer agent (MTA)
- Basic administrative methods for delegated administration of hosted domains (with additional architecture and implementation from iPlanet Delegated Administrator for Messaging)
- Directory Architecture for hosted domains.

Although iPlanet Messaging Server includes equivalent components to those of its predecessors, the administration procedures and data are not completely upwardly compatible. Table 1-1 itemizes some major differences between SIMS, Netscape Messaging Server and the iPlanet Messaging Server.

Table 1-1 Differences between SIMS 4.0/Netscape Messaging Server 4.x and the iPlanet Messaging Server 5.x

Messaging Component	5.x Changes from SIMS 4.0	5.x Changes from Netscape Messaging Server 4.x
MTA	Uses updated version of the SIMS MTA. Administration, configuration, and customization processes are almost identical. For new options see Administration Guide.	Netscape Messaging Server MTA replaced with a new MTA. Administration, configuration, and customization processes are different.
Message Store	Different message store. Some administration commands are retained.	Netscape Messaging Server message store as used. Additional utilities added.
Provisioning ¹	Uses SIMS provisioning CLI. New Delegated Administrator provides GUI provisioning. New Provisioning Guide.	New CLI provided. New Delegated Administrator provides GUI provisioning. New Provisioning Guide

Table 1-1 Differences between SIMS 4.0/Netscape Messaging Server 4.x and the iPlanet Messaging Server 5.x

Messaging Component	5.x Changes from SIMS 4.0	5.x Changes from Netscape Messaging Server 4.x
System Admin CLI	Some similar commands, but most commands are different.	Some similar commands, but many different. <code>configutil</code> is still used.
System Admin GUI	Old GUI replaced with Netscape Admin Console	No Change. Uses Netscape Admin GUI
LDAP Directory	Sun Internet Directory Server replaced with Netscape Directory Server	No Change. Uses Netscape Directory
Schema	Different schema used, but supports old schema.	Different schema used, but supports old schema.

1. If you have custom provisioning tools for creating and modifying user and group directory entries based on data provided by account management systems, you must modify these tools before migrating entries to the new directory schema. See the iPlanet Messaging Server Provisioning Guide for details

Changes in Directory Support

This section discusses changes in directory support in iPlanet Messaging Server.

Directory Servers

Table 1-2 shows the directory servers supported by iPlanet Messaging Server and its predecessors. At a minimum, installations using Sun Directory Server or earlier versions of Netscape Directory Server should upgrade to Netscape Directory Server 4.12 before migrating to iPlanet Messaging Server.

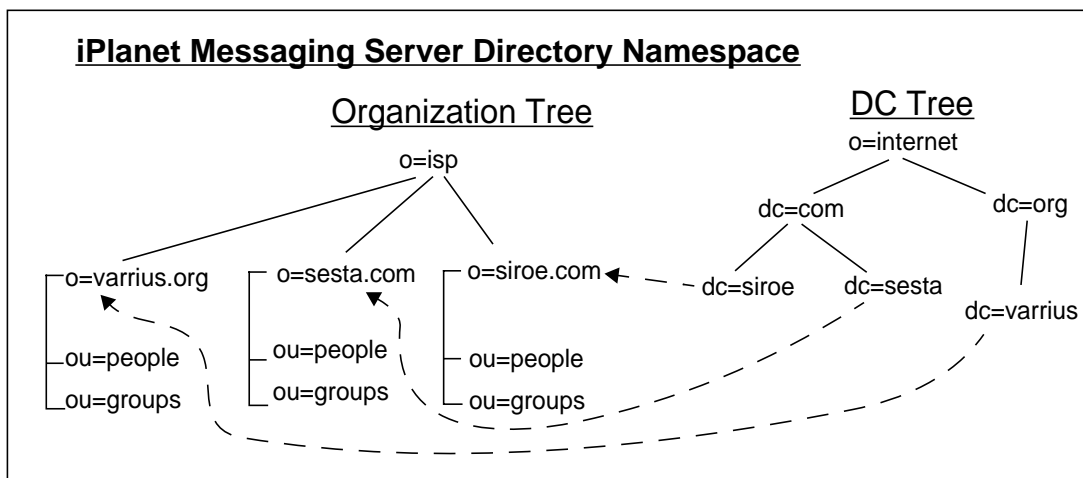
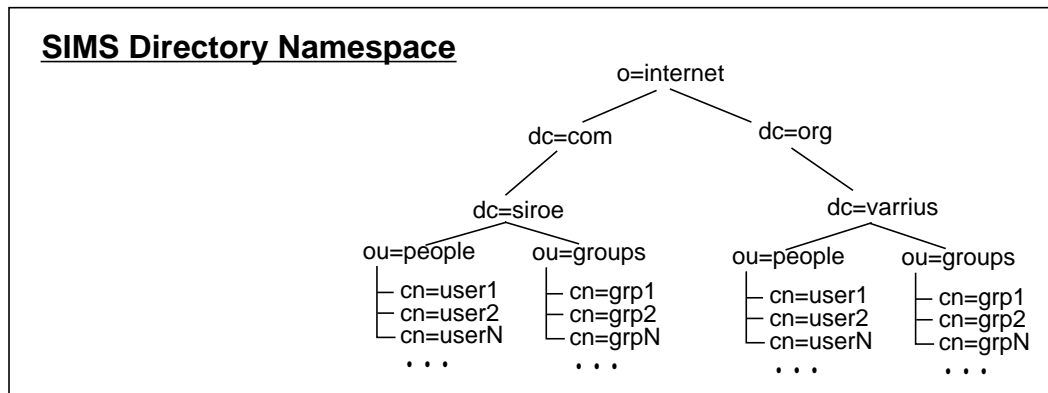
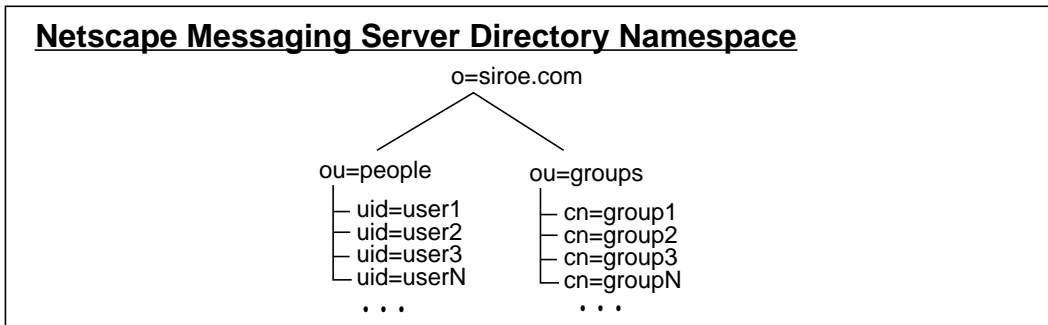
Table 1-2 Directory Server Support

Messaging Server	Supports Sun Directory Server 3.1	Supports Netscape Directory Server 4.12
Netscape Messaging Server 4.x	No	Yes
Sun Internet Mail Server 4.0	Yes	Yes
iPlanet Messaging Server	No	Yes

Directory Information Trees

The iPlanet Messaging Server default DIT is different from the Netscape Messaging Server and SIMS directory DIT. The three DITs are shown below.

Figure 1-1 Example Directory Information Trees (DIT)



As installed, the iPlanet Messaging Server namespace consists of two directory trees, an Organization Tree and a domain component tree (DC Tree). Organization trees (additional Organization Trees can be added to support a system) contain the user and group entries. The DC Tree mirrors the local DNS structure, and is used by the system as an index to the data entries (see Figure 1-1 on page 17). The DC Tree also specifies the various domain's operating parameters such as smart hosts, routing, hosts, domain disk quota, and so on.

The iPlanet Messaging Server fully supports the SIMS-style namespace, Netscape Messaging Server migration has some limitations at this time. These are described in the next section.

Netscape Messaging Server 4.x Directory Namespace Limitations

To use the Netscape Messaging Server directory namespace in the iPlanet Messaging Server the Netscape Messaging Server Directory Information Trees (DIT) must be mapped to the iPlanet Messaging Server DC Tree. The procedure for doing this will depend upon whether your current system supports virtual domains and how the UIDs are specified. UID specification can limit your ability to migrate to the iPlanet Messaging Server. UID specifications can be divided into roughly four categories:

- No virtual domains. UIDs of the form *LocalPart* (where there is only one domain). Examples:

```
uid: wallyc
uid: ofanning
```

- Contains virtual domains. UID separated by @. Fully qualified domain names (FQDN) to the right of @. UIDs are of the form *LocalPart@FQDN*. Examples:

```
uid: wallyc@varrius.org
uid: ofanning@siroe.com
```

- Contains virtual domains. Uses an @ separator. Part to the right of @ is not an FQDN. Examples:

```
ofanning@siroe
havlicek@sesta
barkley@florizel
```

Systems using this form of UID cannot be migrated at this time.

- Contains virtual domains with UIDs using something other than @ as the separator. Examples:

```

ofanning#siroe
eddie#sesta
barkley#florizel.com

```

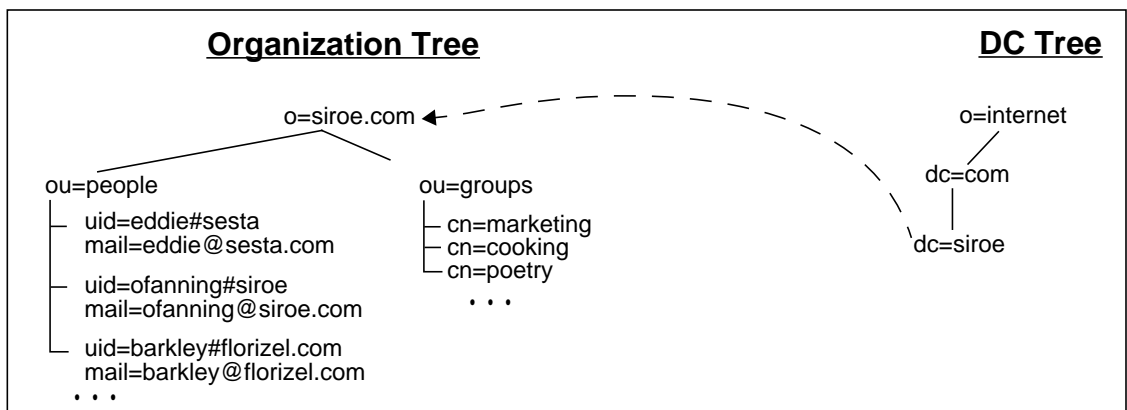
imsdirmig, does not fully support this style of UID at this time. However, you have the option of using vanity domains to migrate this type of deployment to iPlanet Messaging Server with the restriction that domain-level administration is not supported (no Delegated Administrator).

In order to support this style of UID do the following:

- Include all users/groups in the default domain. This is done by setting the `inetDomainBaseDN` attribute of the default domain node in the DC Tree to the root suffix of the Organization Tree. For `dc=siroe,dc=com,o=internet` set `inetDomainBaseDN` to the root suffix `o=siroe.com`. This includes users/groups of all the virtual domains in the default domain.
- Add the object class `msgVanityDomainUser` to all user entries and set the attribute `msgVanityDomain` to the fully qualified domain name of the user's virtual domain. The user's virtual domain is the domain part of the user's mail address. For example, the value of `msgVanityDomain` for the entry `uid=eddie#sesta` would be `sesta.com` since `sesta.com` is the domain part of the mail address `eddie@sesta.com`. (See Figure 1-2.)

Refer to the *iPlanet Messaging Server Provisioning Guide* for information on setting the `inetDomainBaseDN` to the Root Suffix. For information on mapping Netscape Messaging Server namespaces to iPlanet Messaging Server namespaces refer to "Using Existing Directory Information Trees in the iPlanet Messaging Server," on page 121.

Figure 1-2 Using Vanity Domains for Virtual Domain Support



iPlanet Messaging Server Schema

To support various features such as hosted domains and the iPlanet Delegated Administrator, the iPlanet Messaging Server has introduced a number of extensions and changes to the directory *schema*. These changes, however, are optional, and the iPlanet Messaging Server will support both the Netscape Messaging Server and SIMS schemas.

To take advantage of all new iPlanet Messaging Server features, however, you must upgrade directory objects to the new schema. We recommend that you upgrade the data entries to the iPlanet Messaging Server schema to take advantage of the new features. Features requiring the iPlanet Messaging Server schema are:

- The iPlanet Delegated Administrator for Messaging command line utilities
- iPlanet Delegated Administrator for Messaging GUI tool
- Server-side filtering rules
- Vacation attributes
- Support for hosted domains

Migration to the new schema can be done incrementally and without any service interruption. However, once this migration is done for a group or user it is difficult to move that group or user back to a host running the old messaging server. Migrate only when you're sure you won't want to return to the old servers. A complete description of the schema can be found in the *iPlanet Messaging Server Schema Reference Manual*.

Upgrading to the iPlanet Messaging Server schema is done with the `imsdirmig` utility, and is described in each of the migration scenarios. `imsdirmig` is available with the migration toolkit.

SIMS 4.0 Regressions/Changes/Transitions

SIMS 4.0 MTA Regressions and Changes

Although the iPlanet Messaging Server is using the same MTA as was used in SIMS, it is a more advanced version, and there are a few changes to be noted. These are described in this section.

Vacation Functions

The vacation attributes are different in the iPlanet Messaging Server. Unless you convert the user LDAP entries to iPlanet Messaging Server schema, the vacation function does not work.

imta startup

The `imsimta startup` and `imsimta restart` commands no longer automatically compile the configuration. The iPlanet Messaging Server can choose whether or not to use a compiled configuration. (Using a compiled configuration is recommended for performance and is required in order for `dirsync` operations to succeed. However, running without a compiled configuration may be temporarily useful, for example, on test systems.) If you wish to compile the configuration, you must issue an explicit `imsimta cnbuild` command or use the `imsimta refresh` command which is equivalent to doing `imsimta cnbuild` and `imsimta restart`.

Allowing or Blocking Access to a Mailing List

`mgrpAllowedBroadcaster` or `mgrpDisallowedBroadcaster` can be set to the address of a static group in the iPlanet Messaging Server, however, nested groups—groups within groups—are not supported. For specific posters, set `mgrpAllowedBroadcaster` and `mgrpDisallowedBroadcaster` to the address of a specific poster or specify as a dynamic group (LDAP search using URL criteria).

Adding SMTP Relaying

The iPlanet Messaging Server is by default configured to block attempted SMTP relays; that is, it rejects attempted message submissions to external addresses from unauthenticated external sources (external systems are any other system than the host on which the server itself resides). This default configuration is quite aggressive in blocking SMTP relaying in that it considers all other systems to be external systems. To add SMTP Relaying, refer to the *iPlanet Messaging Server Administrators Guide*.

SIMS 4.0 Message Store Regressions/Changes

Existing SIMS 4.0 message stores are not compatible with the new iPlanet Messaging Server formats. You must convert the SIMS 4.0 message stores to the new message store format. This is described in the following chapter.

In SIMS, message store configuration and administration was done by modifying configuration files using the SIMS Admin Console or by running some command line utilities. The iPlanet Messaging Server does not use configuration files, but instead stores its configuration parameters in the directory. These parameters are modified using Administration Console and the `configutil` command. In addition, many of the message store command line utilities have been retained in the iPlanet Messaging Server. Below are a few of the changes encountered in migrating from SIMS. For more details refer to the *iPlanet Messaging Server Administrators Guide* and the *iPlanet Messaging Server Reference Manual*.

- The iPlanet Messaging Server has a message store daemon that automatically executes functions previously handled by `imexpire` and `impurge`. This daemon also automatically manages message store locks and transaction logs. This daemon must always be running.
- Backup and restore is similar to SIMS 4.0.
- No `/var/mail` message access.
- `imsrestore` does not have an interactive mode.
- `imcheck` is replaced by `reconstruct`.
- No IMAP IDLE command.
- `imdeluser` is replaced by `mboxutil -d`.
- `imexpire`, `iminitquota`, and `impurge` are no longer need or supported.
- `imquotacheck` is now `quotacheck`.
- No POP before SMTP. (This functionality is available using the directory to control aspects of how UIDs are interpreted.)
- No AUTH API.

Netscape Messaging Server 4.x Regressions/Changes/Transitions

Netscape Messaging Server 4.x MTA Regressions/Changes

The iPlanet Messaging Server uses a completely different MTA than Netscape Messaging Server and therefore there are many changes. Below are a few of the changes encountered. For more details refer to the *iPlanet Messaging Server Administrators Guide* and the *iPlanet Messaging Server Reference Manual*.

Plug-ins

iPlanet Messaging Server does not support messaging plug-ins, although many of the most common plug-in functions have equivalents in the iPlanet Messaging Server MTA. Some Netscape Messaging Server options and customizations, however, may have no direct replacement in the iPlanet Messaging Server, especially undocumented features and custom plug-ins. Since iPlanet Messaging Server channel programs are not compatible with the Netscape Messaging Server plug-in APIs, this requires re-coding Netscape Messaging Server plug-ins as a custom channel program for the iPlanet Messaging Server. **Any such new programs should be developed and tested before migration begins.**

Sending Notifications Regarding Bad Mailing List ErrorsTo Addresses to the Postmaster

In Netscape Messaging Server, if a mail list has an invalid member and invalid `ErrorsTo` address, then a message sent to the group resulted in two error messages sent to the postmaster: one error message about the invalid group member, and another message about the invalid `ErrorsTo` address. In the iPlanet Messaging Server, by default, the postmaster only receives one message about the invalid group member. By default, the postmaster does not receive notice about any bounces of attempted notification messages, such as for instance notification of an invalid `ErrorsTo` address.

The `sendpost` keyword can instead be used by those sites that want the postmaster to get copied even on bounces of notification messages (for example, bounces of bounces, such as the bounce of the attempted notification to the `ErrorsTo` address.)

Group Attribute Migration Issues

The following group attributes/values are not supported

Group Attribute mgrpMsgRejectAction Not Supported

Group attributes `mgrpMsgRejectAction` and `mgrpMsgRejectText` are not supported at this time. These attributes allowed you to specify an action to be taken if a message to the group is rejected. These attributes are allowed, but will not be supported until a future version.

Group Attribute Value 'mgrpBroadcasterPolicy=PASSWORD_REQUIRED' Not Supported

Group attribute `mgrpBroadcasterPolicy` will not act on a value of `PASSWORD_REQUIRED`. It will be implemented in a later release.

Group Attribute mgrpErrorsTo Does Not Work If a Group is Specified as a LDAP Value

You can specify the value as a `mailto` address. Example:

```
mgrpErrorsTo: mailto: baseball@siroe.com
```

You cannot specify an LDAP value. Example:

```
mgrpErrorsTo: ldap:///cn=baseball,ou=Groups,o=siroe.com,o=siroe.com
```

This will not be fixed.

Setting Authorized Senders

If you try to set an authorized sender, the attribute of `mgrpAllowedBroadcaster` will be set in LDAP for a mailing list which will disallow everyone else from sending to the mailing list. For example, listing `mike` as an authorized sender means that `mike` is the only one who is allowed to send to that mailing list. See the *iPlanet Messaging Server Schema Reference Manual* for the syntax for using `mgrpAllowedBroadcaster`.

SMTP Relay Function

In Netscape Messaging Server, the “anti-relay” function (where mail sent from an external domain will not be relayed to another external domain) was provided by a plug-in. In iPlanet Messaging Server this function is provided by the MTA. The initial default configuration of the iPlanet Messaging Server is configured to block attempted SMTP relays; that is, it rejects attempted message submissions to external addresses from unauthenticated external sources (external systems are

any other system than the host on which the server itself resides). This default configuration is quite aggressive in blocking SMTP relaying in that it considers all other systems to be external systems. To add SMTP Relaying, refer to the *iPlanet Messaging Server Administrators Guide*.

Allowing SMTP Relaying for External Sites

All internal IP addresses should be added to the `INTERNAL_IP` mapping table. If you have friendly or companion systems/sites from which you wish to allow SMTP relaying, the simplest approach is to include them along with your true internal IP addresses in your `INTERNAL_IP` mapping table. This is described in the *iPlanet Messaging Server Administrators Guide*.

DNS Lookups Including RBL Checking

In the Netscape Messaging Server, to ensure that all mail accepted for delivery or forwarding comes from an address with a valid DNS name, administrators used the MTA configuration parameter `service.smtp.domainnotallowed` with the filter `ALL: UNKNOWN`.

In the iPlanet Messaging Server, this functionality can be achieved in different ways. The simplest way is to put the `mailfromdnsverify` channel keyword on the `tcp_local` channel.

The iPlanet Messaging Server also provides the `dns_verify` program which allows you perform the same functionality with the following rule in `ORIG_MAIL_ACCESS`:

```
ORIG_MAIL_ACCESS

TCP|*|*|*|*|SMTP|MAIL|*|*|*|*|* \
    $[server_root/bin/msg/imta/lib/dns_verify, \
dns_verify,$6|$$y|$$NInvalid$ host:$ $$6$ -$ %e]
```

DNS Lookups are described in the *iPlanet Messaging Server Administrators Guide*.

Unauthorized Bulk Email (UBE) Filtering

Refer to the previous section for anti-relay information. Refer to the *iPlanet Messaging Server Administrators Guide System Administration Guide* for instructions on server-side mailbox filter. Filtering incoming messages based on message headers can be done using the iPlanet Delegated Administrator for Messaging.

Netscape Messaging Server 4.x Message Store Regressions/Changes

The message store data format used by iPlanet Messaging Server is based on that of Netscape Messaging Server 4.x. Existing Netscape Messaging Server message stores are automatically converted to the new iPlanet Messaging Server format, though a simple conversion step is required. This is described in the next chapter.

Migrating SIMS/Netscape Messaging Server on a High-Availability Cluster

The scenarios described in this book can be used to upgrade email systems on High-Availability Clusters. Details such as upgrading the cluster software itself and the specifics of how to split a clustered node, are beyond the scope of this book. Refer to the documentation provided by the cluster vendor.

Migration Overview

This chapter provides an overview of the migration process. The sections in this chapter are:

- “Migration Prerequisites,” on page 27
- “Migration Toolkit,” on page 28
- “Migration Process,” on page 28
- “Choosing a SIMS Message Store Migration Method,” on page 30
 - “Off-line Message Store Migration,” on page 30
 - “On-line Message Store Migration,” on page 31
 - “Incremental Message Store Migration,” on page 32

Migration Prerequisites

These migration procedures and scenarios assume the following prerequisites:

- The system to be migrated from is a SIMS 4.0 or Netscape Messaging Server 4.x system.
- The LDAP directory used with the system is the Netscape Directory Server 4.12
- The Netscape Messaging Server system uses UIDs of the form *local_part* or *local_part@FQDM*. (See “Netscape Messaging Server 4.x Directory Namespace Limitations,” on page 18.)

Migration Toolkit

The migration toolkit is required for the procedures described in this book. It consists of the following:

- Schema files which provide multi-schema support during migration.
- `imsdirmig` command which converts directory entries to use the iPlanet Messaging Server schema. This command will run on all iPlanet Messaging Server supported platforms.
- `imsdaaci` command which creates an LDIF file to support iPlanet Delegated Administrator for Messaging. This command will run on all iPlanet Messaging Server supported platforms.

Migration Process

The migration method you choose will depend upon three parameters. These are:

- Whether you are migrating a system from SIMS or the Netscape Messaging Server.
- The complexity of the mail system (whether the system operates on a single-standalone system, or consists of numerous systems fulfilling different functions and acting in concert together).
- Tolerance of downtime (that is how long customers can go without sending or receiving mail).

Whatever method is selected, certain basic objectives and procedures will be the same. These are briefly describe below.

For Netscape Messaging Server migrations, reimplement customized plug-ins. Since the iPlanet Messaging Server does not support messaging plug-ins, plug-in functionality will need to be redesigned and recoded using features of the new MTA. The MTA has functions that handle the most common plug-in functions. See “Netscape Messaging Server 4.x MTA Regressions/Changes,” on page 23.

Upgrade the directory server to Netscape Directory Server 4.12. See “Upgrading SIMS/Netscape Messaging Server to Netscape Directory Server 4.12,” on page 119.

Enable multi-schema support in the directory server. During migration it may be necessary to support the iPlanet Messaging Server schema simultaneously with the SIMS or Netscape Messaging Server schema. This involves installing the new schema files for SIMS and the Netscape Messaging Server on the LDAP master server as well as on all its replicas. (See “Supporting a Multiple Schemas,” on page 120.)

For multi-server deployments, install a configuration server. A configuration server is an LDAP server containing iPlanet Messaging Server configuration data. Note that you can install the iPlanet Messaging Server into the existing Netscape Messaging Server configuration server after you have A) upgraded to the new schema, and B) created a new Admin Domain in the configuration server.

Install the iPlanet Messaging Server. After the new iPlanet Messaging Server is installed, configure it so that it obtains user/group entries from the pre-existing directory server. (See the *iPlanet Messaging Server Installation Guide*.)

Convert/move message store. *For SIMS environments:* convert the SIMS message store to the iPlanet Messaging Server message store. This may be done off-line, on-line, or in user batches incrementally. (Refer to “Choosing a SIMS Message Store Migration Method,” on page 30). *For Netscape Messaging Server environments:* Message store migration is automatic and on-line once the system is pointed to the message store.

Upgrade user, group, and domain entries to use the iPlanet Messaging Server schema. Since the iPlanet Messaging Server components can deal with users and groups in a mixed schema, this migration can be done incrementally and without any service interruption. However, once the migration to the new schema is done, it is difficult to move a group or user back to a host running the old messaging server. A utility, `imsdirmig`, is used to migrate entries to use the new schema.

For Netscape Messaging Server migrations, modify the directory such that all user and mailing list entries are located under a domain node in the Organization Tree. This is necessary to support domains as well as the iPlanet Delegated Administrator for Messaging GUI tool and utilities. This is described in “Using Existing Directory Information Trees in the iPlanet Messaging Server,” on page 121.

Modify the system to support the iPlanet Delegated Administrator for Messaging. Create the Delegated Administrator Service Administrator entry and Delegated Administrator Service Admin Group entry. Add the appropriate ACIs.

NOTE The iPlanet Delegated Administrator should only be installed after the ACIs are added to the user/group LDAP server.

Choosing a SIMS Message Store Migration Method

There are three methods for migrating the SIMS message store to the iPlanet Messaging Server message store. These are *Off-line Migration*, *On-line Migration*, and *Incremental Migration*. The method you choose will depend on the size of your message store, your tolerance for downtime, and whether you are running POP or IMAP. This section describes each of these methods, the advantages and disadvantages of each, and system scenarios for each method. The actual step-by-step migration procedures are described in later sections.

Off-line Message Store Migration

Off-line message store migration involves shutting down SIMS, installing the iPlanet Messaging Server, backing up the old SIMS message store data, restoring/converting it to the iPlanet Messaging Server message store data, and bringing the iPlanet Messaging Server on-line.

Advantages of off-line message store migration:

- Simplest and most straight forward of migration methods.
- Easiest to revert back to SIMS if desired.
- Maintains the correct message arrival order.
- Shortest overall migration time.

Disadvantages of off-line message store migration:

- Requires the longest server downtime (no client access). The downtime is approximately 1-2 hours for each 20 Gigabytes of message store to migrate¹ plus 1-2 hours to upgrade LDAP entries (depending on the number of entries and whether or not the mail host name changes).

Scenarios for off-line message store migration:

- Single or multiple server systems with 20 GB message store, 50K users, using either POP or IMAP.

Estimated Downtime: 2-3 hours.

1. Offline migration time depends on the hardware. An Ultra Enterprise E450 with two UltraSPARC processors running multiple concurrent backup/restore sessions can migrate up to 20 gigabytes of message store in one hour. Experiment with a subset of your message store to determine the total migration time.

- Single or multiple server system with 100 GB message store, 200K users, either POP or IMAP.

Estimated Downtime: 7-12 hours.

For detailed information on off-line migration, refer to “Upgrading from a Single-Server SIMS System Using the Offline Message Store Migration Method,” on page 36 or “Migrating Backend SIMS Mail Store Servers to the iPlanet Messaging Server Using the Off-line Migration Method,” on page 74.

On-line Message Store Migration

On-line message store migration involves installing the iPlanet Messaging Server and activating it as the default server such that new messages are received in new message store. Afterwards, the SIMS message store is migrated to the newly installed server while that server remains active and on-line.

Advantages of on-line message store migration:

- Minimal downtime.
- Simple and straight forward migration method.

Disadvantages:

- Message store migration may create an incorrect arrival order in the message store queue. As older messages are migrated from SIMS, they will be added atop new messages received in the iPlanet Messaging Server. The order of newly received messages may be mixed with older messages.
- Message store migration is slower because of the need to turn on `sync` (2-4 GB/hour depending on hardware compared to 10-20GB/hour when migrating off-line).
- Users who log in may temporarily see an empty mailbox, until their old messages and folders are migrated. Old messages in IMAP mailboxes are unavailable during migration. New messages that come into iPlanet Messaging Server message store are available.

Scenarios for on-line message store migration:

- POP-only user community.

- Single or multiple server system with 20 GB message store, 50K users, either POP or IMAP where A) minimal downtime is important, B) misordering of new messages with old messages is not crucial and C) temporary disappearance of all messages in users mailbox is allowable. If IMAP, users will not be able to access their old email until after it is migrated. Estimated Migration Time: 5-10 hours.
- Single or multiple server system with 100 GB message store, 200K users, either POP or IMAP. Estimated Migration Time: 25-50 hours.

For detailed information on on-line migration, refer to “Upgrading from a Single-Server SIMS System Using the On-line Message Store Migration Method,” on page 41 and “Migrating Backend SIMS Mail Store Servers to the iPlanet Messaging Server Using the On-line Migration Method,” on page 79.

Incremental Message Store Migration

In this scenario, the iPlanet Messaging Server is installed a new machine and activated for migrated users, while SIMS remains on active on the existing machine for users not yet migrated. Batches of user mailboxes are incrementally migrated from the old SIMS system to the new iPlanet Messaging Server system.

The basic steps of incremental migration are as follows: the iPlanet Messaging Server is installed while SIMS remains active. A batch of users is temporarily disabled from using the mail system and migrated from SIMS to the iPlanet Messaging Server. The iPlanet Messaging Server is then activated as the mail host for the migrated users, while the SIMS system remains active for the unmigrated users. Batches of users are continually migrated from SIMS to the iPlanet Messaging Server. When all users are migrated, SIMS can be deactivated. Downtime is limited to the batch of users being migrated.

Advantages of incremental message store migration:

- Downtime limited to batch of users being migrated.
- Useful for migrating very large message stores with many users where downtime is not well-tolerated.
- Allows you to migrate small numbers of users to the new system, while other users can continue to use the SIMS system.

Disadvantages of using the incremental migration:

- Requires extra hardware.
- The process is more complex.

- Once users are migrated to the new system, it is difficult to return those migrated users back to SIMS system. We recommend practicing on a small number of users before doing a full-scale deployment.

Scenarios for incremental message store migration:

- 500GB message store, 500K users, IMAP system, minimum user downtime.
- Any system where you want to migrate users gradually instead of all at once.

Migration performance is comparable to on-line migration. For details, refer to “Upgrading from a Single-Server SIMS System Using the Incremental Message Store Migration Method,” on page 47 and “Migrating SIMS Message Store Servers to the iPlanet Messaging Server Using the Incremental Migration Method,” on page 90.

Choosing a SIMS Message Store Migration Method

Scenarios and Procedures for Migrating a Single-Server System to the iPlanet Messaging Server

This chapter describes the procedures for migrating from a SIMS 4.0 or Netscape Messaging Server 4.x single-server system¹ to an iPlanet Messaging Server system. The four scenarios in this chapter cover many SIMS 4.0 and Netscape Messaging Server 4.x deployments. Note, however, that each deployment is unique, and your particular situation may require some modification of these procedures.

NOTE Please read this entire book to become familiar with all aspects of your particular migration issues. Once you feel comfortable with the process, back up all directory and message store data, and practice migration on a small number of users before attempting to migrate the whole system.

The sections in this chapter are:

- “Upgrading from a Single-Server SIMS System Using the Offline Message Store Migration Method,” on page 36
- “Upgrading from a Single-Server SIMS System Using the On-line Message Store Migration Method,” on page 41
- “Upgrading from a Single-Server SIMS System Using the Incremental Message Store Migration Method,” on page 47

1. By single-server system we mean that the MTA and message store are on a single host. The directory can be on the same host or a different host.

- “Migrating from a Single-Server Netscape Messaging Server System,” on page 56

Upgrading from a Single-Server SIMS System Using the Offline Message Store Migration Method

Scenario Assumptions:

- iPlanet Messaging Server to replace SIMS 4.0 on the same host
- Mail service will be unavailable (offline) while message store is being migrated.
- System uses the Netscape Directory Server 4.12 (directory server can be on the same host or a different host)
- SIMS user/group Directory Suffix: `o=internet`
SIMS/iPlanet Messaging Server Mail server name: `mail.siroe.com`
Master Directory Server: `mail.siroe.com`
Directory Server Bind password: `secret`
SIMS Default Organization DN: `dc=siroe,dc=com,o=internet`
User/group entries are contained in the DC Tree (one DIT)

Migration Procedures:

1. Backup the directory server database.

The command is `DirServer_instance_root/bin/db2ldif`. Refer to the Netscape Directory Server documentation for complete instructions:

<http://docs.iplanet.com/docs/manuals/directory.html#dirserver41>

2. Enable multi-schema support (SIMS/Netscape Messaging Server/iPlanet Messaging Server).

Add the merged schema files (`merged.oc.conf` and `merged.at.conf`) to the directory server. This directory server will be used by the iPlanet Messaging Server as the user/group server. Refer to “Supporting a Multiple Schemas,” on page 120.

3. Ensure that all the messages in the SMTP server queues server are processed and that the queues are empty.

One way to do this is to stop dispatcher:

```
/opt/SUNWmail/sbin/imta stop dispatcher
```

At this point the SMTP server is shut down, however the job controller continues to process messages in the queue. You can verify that the queues are empty by entering the following command:

```
/opt/SUNWmail/sbin/imta qm counters
```

4. Stop SIMS.

Use: `/opt/SUNWmail/sbin/im.server stop`.

Make sure all SIMS processes are stopped. Do not stop the LDAP server, `slapd`. During this time mail cannot be sent or received.

5. (Skip this step if you have enough system disk space to hold two and a half times the size of the message store.) Backup the SIMS message store on another device (for example, a tape drive) using the SIMS `imbackup` command.

This SIMS message store backup copy will be moved to the iPlanet Messaging Server message store in a later step. An example of using the `imbackup` command to backup to tape is as follows:

```
imbackup -f /dev/rmt/0
```

If you have the extra disk space you can minimize downtime by leaving the SIMS message store in place and streaming the data from `imbackup` directly to `imsrestore` as described in Step 10.

6. Install and configure the iPlanet Messaging Server including the bundled directory server. Stop all iPlanet Messaging Server processes.

During installation do not specify the existing SIMS directory server as the server for storing user/group information. This will be done later, but for now a new directory server must be installed to store configuration data for the iPlanet Messaging Server. Answer No to the following install question:

Do you want to use another directory to store your data? [No]:

Use the default installation options, but do not use the same directory server network port used by the SIMS directory server. This is typically 389. You may use 390 instead. User and mailing list entries will remain on the existing directory server.

Note that the installer starts all the server processes at the end of install. You will want to stop all processes after installation. As root do the following:

```
instance_root/stop-msg
```

7. Change the iPlanet Messaging Server configuration to point to the user/group directory server used by SIMS. This can be run concurrently with the previous step.

Use `configutil` to change the following configuration parameters:

```
local.ugldapbasedn = o=internet (Suffix which SIMS 4.0 used to store their users)
local.ugldapbinddn = "cn=Directory Manager" (DS bind DN)
local.ugldapbindcred = secret (DS bind password)
local.ugldapdeforgdn = "dc=siroe,dc=com,o=internet" (Default organization DN)
local.ugldaphost = mail.siroe.com (The host where user/group ldap server located)
local.ugldapport = 389 (The port where the user/group LDAP server is located)
```

8. If the old SIMS server is using “+” as the login separator, change it in the iPlanet Messaging Server as well, since “@” is the default.

Use the following command:

```
configutil -o service.loginseparator -v +
```

9. Upgrade domain, user and group directory entries to use the iPlanet Messaging Server schema.
 - a. Upgrade domain entries using the `imsdirmig` command (see Appendix A, “Command-Line Interface”):

```
imsdirmig -h mail.siroe.com -b "o=internet" -M sims -D
"cn=Directory Manager" -w secret -m domains
```

In this case all domains under `o=internet` are upgraded.

- b. Upgrade user/group entries:

```
imsdirmig -h mail.siroe.com -b "o=internet" -M sims -D
"cn=Directory Manager" -w secret -m both
```

In this case all user/group entries under `o=internet` are upgraded.

10. Convert the SIMS message store to the iPlanet Messaging Server message store.

This step is accomplished by backing up the SIMS message store using `imsbackup` and restoring the message store to the iPlanet Messaging Server using `imsrestore`. The procedures are described below.

NOTE

If the LDAP directory has any user identifications (UIDs) with uppercase characters, then you **MUST** use `imsrestore` with the `-u filename` option to rename the user's SIMS message store—which is always lowercase—to the UID in the LDAP directory that has uppercase characters.

For example, if your LDAP directory has two UIDs with upper-case characters called `Anderson` and `Kolander`, you will have two user message stores in SIMS called `anderson` and `kolander`. You will need to use the `-u filename` option with `imsrestore` to rename those iPlanet Messaging Server message stores to `Anderson` and `Kolander`. The contents of `filename` would be:

```
anderson=Anderson
kolander=Kolander
```

Failure to do this, will result in user's with uppercase characters in their UIDs NEVER being able to access their migrated mail. If the LDAP directory has no UIDs with uppercase characters, then you do not need to follow these procedures.

- a. If you backed up the SIMS message store on tape or some other device as instructed in Step 5, restore/convert it to the iPlanet Messaging Server message store using the following command. If you didn't back up the message store to some other device, skip this sub-step and go to Step b.

NOTE

Characters in a mailbox name that are not encoded in UTF-7 (Modified Unicode Transformation Format, see RFC 2060) will be replaced with blank spaces by `imsrestore`. Users can correct folder names through their mail client. To avoid folder names being translated into the same name, use the `-n` option of `imsrestore`.

```
configutil -o "local.store.synclevel" -v 0
instance_root/start-msg store
imsrestore -f /dev/rmt/0 -cy -n -v1
```

- b. If you have extra disk space, convert the SIMS message store directly to the iPlanet Messaging Server message store using the following commands:

```
configutil -o "local.store.synclevel" -v 0
instance_root/start-msg store
imbackup -f- -u user_file | server_root/bin/msg/store/bin/imsrestore
-f- -cy -n -v1
```

where *user_file* is a file containing user mailbox names. Split the user entries into equal groups for each user file and run 10 to 15 concurrent backup/restore sessions for optimal restore speed.

11. After conversion is complete, change the sync level:

```
configutil -o local.store.synclevel -v -1
```

12. Stop *stored*.

```
instance_root/stop-msg store
```

13. Start the iPlanet Messaging Server.

Run the command `imsimta dirsync -F` on the iPlanet Messaging Server and start all other server processes using the `'start-msg'` command. At this point, the iPlanet Messaging Server is fully functional.

NOTE The default configuration of the newly installed iPlanet Messaging Server blocks all SMTP relaying. To align default configuration to your site policy, refer to "SMTP Relay Function," on page 24.

14. Before installing the iPlanet Delegated Administrator for Messaging, add the appropriate ACIs.

The `imsdaaci` command, packaged with the migration toolkit and shown below, generates an LDIF file that can be used to create a Delegated Administrator Service Administrator Group and Delegated Administrator Domain Administrator Group along with the required ACIs.

```
server_root/bin/msg/migrate/bin/imsdaaci
```

Use `ldapmodify` to add the LDIF file into the DIT. For an explanation of the ACIs refer to the *iPlanet Messaging Server Provisioning Guide*.

Upgrading from a Single-Server SIMS System Using the On-line Message Store Migration Method

The following step-by-step procedures describe how to migrate a single-server SIMS email system to a single server iPlanet Messaging Server using the on-line message store migration method.

Scenario Assumptions:

- iPlanet Messaging Server will be installed on either a new host or the same as host of the current SIMS 4.0 system.
- The directory server is Netscape Directory Server 4.12 and can be on the same host as SIMS or on a different host. A new directory server will be installed for iPlanet Messaging Server, but it will only contain server configuration data. The old directory, that is, the directory supporting SIMS, will support the new iPlanet Messaging Server with the same (but upgraded) user, group, and domain entries.
- The SIMS message store will be migrated to the iPlanet Messaging Server message store while the server is active and on-line. Messages being migrated will be mixed in with new messages delivered before the migration process.
- These assumptions are for an example of a system being installed on a new host. We will note where the procedures are different when the iPlanet Messaging Server has been installed on the same host. Assumptions:
SIMS user/group Directory Suffix: o=internet
SIMS Mail server name: oldmail.siroe.com
iPlanet Messaging Server Mail server name: newmail.siroe.com
Master Directory Server: ldap.siroe.com
Directory Server Bind password: secret
SIMS Default Organization DN: dc=siroe,dc=com,o=internet

Migration Procedures:

1. Backup the directory server database.

The command is *DirServer_instance_root*/bin/db2ldif. Refer to the Netscape Directory Server documentation for complete instructions.

<http://docs.iplanet.com/docs/manuals/directory.html#dirserver41>

2. Enable multi-schema support (SIMS/Netscape Messaging Server/iPlanet Messaging Server) by adding the merged schema files (`merged.oc.conf` and `merged.at.conf`) to the directory server. Refer to “Supporting a Multiple Schemas,” on page 120.
3. Ensure that all the messages in the SMTP server queues server are processed and that the queues are empty.

One way to do this is to stop dispatcher:

```
/opt/SUNWmail/sbin/imta stop dispatcher
```

At this point the SMTP server is shut down, however the job controller continues to process messages in the queue. You can verify that the queues are empty by entering the following command:

```
/opt/SUNWmail/sbin/imta qm counters
```

4. If installing on the same host, stop SIMS:

```
/opt/SUNWmail/sbin/im.server stop.
```

Make sure all SIMS processes are stopped. Do not stop the LDAP server, `slapd`. During this time mail cannot be sent or received.

5. Install and configure the iPlanet Messaging Server, including the bundled directory server. Stop all iPlanet Messaging Server processes.

During installation do not specify the existing SIMS directory server as the server for storing user/group information. This will be done later, but for now a new directory server must be installed to store configuration data for the iPlanet Messaging Server. Answer No to the following install question:

Do you want to use another directory to store your data? [No]:

Use the default installation options, but if the directory server is being installed on the same host, do not use the same directory server network port used by the SIMS directory server. This is typically 389. You may use 390 instead. User and mailing list entries will remain on the existing directory server.

Note that the installer starts all the server processes at the end of install. Stop all processes after installation. As root do the following:

```
instance_root/stop-msg
```

6. Change the iPlanet Messaging Server configuration to make it point to the SIMS 4.0 user/group directory.

Use `configutil` to change the following configuration parameters:

```
local.ugldapbasedn = o=internet (Suffix which SIMS 4.0 used to store their users)
local.ugldapbinddn = "cn=Directory Manager" (DS bind DN)
local.ugldapbindcred = secret (DS bind password)
local.ugldapdeforgdn = "dc=siroe,dc=com,o=internet" (Default organization DN)
local.ugldaphost = ldap.siroe.com (The host where ldap server located)
local.ugldapport = 389
```

7. If the old SIMS server is using "+" as the login separator, change it to '+' in the iPlanet Messaging Server as well, since "@" is the default.

```
instance_root/configutil -o service.loginseparator -v +
```

8. (Do these steps only if the iPlanet Messaging Server is being installed on the same host as the old SIMS server (oldmail.siroe.com). If it is being installed on a different host, go to the next step.) Upgrade domain, user and mailing list directory entries to use iPlanet Messaging Server schema.

- a. Upgrade domain entries using `imsdirmig` command (see Appendix A, "Command-Line Interface"):

```
imsdirmig -h ldap.siroe.com -b "o=internet" -M sims -D
"cn=Directory Manager" -w secret -m domains
```

All domains under `o=internet` are upgraded.

- b. Upgrade the user/group entries:

```
imsdirmig -h ldap.siroe.com -b "dc=com,o=internet" -M sims -D
"cn=Directory Manager" -w secret -m both
```

All user/group entries under `o=internet` are upgraded.

- c. Start the stored.

```
instance_root/start stored
```

- d. Run the command `imsimta dirsync -F` on the iPlanet Messaging Server.

```
instance_root/imsimta dirsync -F
```

9. (Do these steps only if the iPlanet Messaging Server is being installed on a new host.) Upgrade domain, user and group directory entries to use iPlanet Messaging Server schema and set the `mailhost` attribute in the user/group entries to the new host (newmail.siroe.com).

- a. Stop SIMS by using `/opt/SUNWmail/sbin/im.server stop`. Make sure all SIMS processes are stopped. Do not stop the LDAP server, `slapd`. During this time mail cannot be sent or received.

- b. Upgrade domain entries to use the iPlanet Messaging Server schema.

Use the `imsdirmig` command (see Appendix A, “Command-Line Interface”):

```
imsdirmig -h ldap.siroe.com -b "o=internet" -M sims -D  
"cn=Directory Manager" -w secret -m domains -A  
mailroutinghosts:newmail.siroe.com
```

All domains under `o=internet` are upgraded.

- c. Upgrade user/group entries:

```
imsdirmig -h ldap.siroe.com -b "dc=com,o=internet" -M sims -D  
"cn=Directory Manager" -w secret -m both -A  
mailhost:newmail.siroe.com
```

All user/group entries under `o=internet` are assigned a new mailhost and are upgraded to the new schema.

- d. Ensure that the user clients are pointing to the new mail server. Notify them of possible temporary inaccessibility of old mail.

Have the migrated users change their mail client program to point to the new mail server (in this example, have it point to `newmail.siroe.com` from `oldmail.siroe.com`). This is necessary because a new mail host is replacing the existing mail host.

Notify users that until message store migration is completed, they will not have access to their old mail and that their mailboxes may temporarily appear to be empty. Furthermore, new incoming mail messages (that is, messages that come into the new iPlanet Messaging Server) might get mixed in with old messages when the message store migration occurs.

- e. Start the `stored`.

```
instance_root/start stored
```

- f. Run a full `dirsync` on `newmail.siroe.com`

```
instance_root/imsimta dirsync -F
```

Messages will now be routed to the `newmail.siroe.com` message store.

- g. Set the iPlanet Messaging Server to be the new default messaging server for the system.

Change the A record of `oldmail.siroe.com` to point to `newmail.siroe.com` (the server responsible for domain(s) previously hosted on `oldmail.siroe.com`).

- h. After migration, ensure that the `mailhosts` and `preferredmailhost` attributes of domains whose attribute values were set to `oldmail.siroe.com` are now set to `newmail.siroe.com`. For example, use the following `ldapsearch` command to find the domain mail entries where `preferredmailhost` needs to be modified:

```
ldapsearch -h ldap.siroe.com -b "o=internet"  
"(&(objectclass=maildomain)(preferredmailhost=oldmail.siroe.com))"
```

Use the following `ldapsearch` command to find the domain mail entries where `mailhosts` needs to be modified:

```
ldapsearch -h ldap.siroe.com -b "o=internet"  
"(&(objectclass=maildomain)(mailhosts=oldmail.siroe.com))"
```

10. Start the messaging server.

Old messages will not be retrievable until after the SIMS messages store is migrated to the iPlanet Messaging Server message store. In addition, when old messages are migrated from SIMS, they will be mixed in with new messages that went directly into the iPlanet Messaging Server message store. This could result in some incorrect arrival ordering of messages.

and start all other server processes:

```
instance_root/start-msg
```

At this point, the iPlanet Messaging Server is fully functional.

NOTE The default configuration of the newly installed iPlanet Messaging Server blocks all SMTP relaying. To align default configuration to your site policy, refer to "SMTP Relay Function," on page 24.

11. Convert the SIMS message store to the iPlanet Messaging Server message store.

This step is accomplished by backing up the SIMS message store using `imsbackup` and restoring the message store to the iPlanet Messaging Server using `imsrestore`. The procedures are described below.

NOTE If the LDAP directory has any user identifications (UIDs) with uppercase characters, then you **MUST** use `imsrestore` with the `-u filename` option to rename the user's SIMS message store—which is always lowercase—to the UID in the LDAP directory that has uppercase characters.

For example, if your LDAP directory has two UIDs with upper-case characters called `Anderson` and `Kolander`, you will have two user message stores in SIMS called `anderson` and `kolander`. You will need to use the `-u filename` option with `imsrestore` to rename those iPlanet Messaging Server message stores to `Anderson` and `Kolander`. The contents of `filename` would be:

```
anderson=Anderson
kolander=Kolander
```

Failure to do this, will result in user's with uppercase characters in their UIDs NEVER being able to access their migrated mail. If the LDAP directory has no UIDs with uppercase characters, then you do not need to follow these procedures.

NOTE Characters in a mailbox name that are not encoded in UTF-7 (Modified Unicode Transformation Format, see RFC 2060) will be replaced with blank spaces by `imsrestore`. Users can correct folder names through their mail client. To avoid folder names being translated into the same name, use the `-n` option of `imsrestore`.

Upgrading on the same host: Run this command on `oldmail.siroe.com`

```
imsbackup -f- -u user_file | server_root/bin/msg/store/bin/imsrestore
-f- -cy -n -v1
```

Upgrading to a new host: Run this command on `newmail.siroe.com`

```
rsh ipaddress_of_oldmail.siroe.com /opt/SUNWmail/sbin/imsbackup -f- -u
user_file | server_root/bin/msg/store/bin/imsrestore -f- -cy -n -v1
```

where `user_file` is a file containing user mailbox names. Split the user entries into equal groups for each user file and run 10 to 15 concurrent backup and restore sessions to maximize the restore speed into the new message store.

NOTE Do not disable `fsync` using
`configutil -o "local.store.synclevel" -v 0`

12. Before installing the iPlanet Delegated Administrator for Messaging, add the appropriate ACIs.

The `imsdaaci` command, packaged with the migration toolkit and shown below, generates an LDIF file that can be used to create a Delegated Administrator Service Administrator Group and Delegated Administrator Domain Administrator Group along with the required ACIs.

```
server_root/bin/msg/migrate/bin/imsdaaci
```

Use `ldapmodify` to add the LDIF file into the DIT. For an explanation of the ACIs refer to the *iPlanet Messaging Server Provisioning Guide*

Upgrading from a Single-Server SIMS System Using the Incremental Message Store Migration Method

The following step-by-step procedures describe how to migrate a single-server SIMS email system to a single server iPlanet Messaging Server using the incremental message store migration method.

Scenario Assumptions:

- iPlanet Messaging Server will be installed on a new host and will replace SIMS 4.0. (Requires extra hardware.)
- The directory server is Netscape Directory Server 4.12 and can be on the same host as SIMS or on a different host. A new directory server will be installed for iPlanet Messaging Server, but it will only contain server configuration data. The old directory, that is, the directory supporting SIMS, will support the new iPlanet Messaging Server with the same (but upgraded) user, group, and domain entries.
- User mailboxes will be migrated in batches rather than all at once.

- SIMS user/group Directory Suffix: `o=internet`
SIMS Mail server name: `oldmail.siroe.com`
iPlanet Messaging Server Mail server name: `newmail.siroe.com`
Master Directory Server: `ldap.siroe.com`
Directory Server Bind password: `secret`
SIMS Default Organization DN: `dc=siroe,dc=com,o=internet`

Migration Procedures:

1. Backup the directory server database.

The command is `DirServer_instance_root/bin/db2ldif`. Refer to the Netscape Directory Server documentation for complete instructions.

<http://docs.iplanet.com/docs/manuals/directory.html#dirserver41>

2. Enable multi-schema support (SIMS/Netscape Messaging Server/iPlanet Messaging Server) by adding the merged schema files (`merged.oc.conf` and `merged.at.conf`) to the SIMS directory servers (master and replicas). Refer to "Supporting a Multiple Schemas," on page 120.
3. Install and configure the iPlanet Messaging Server, including the bundled directory server on the new system called `newmail.siroe.com`. Stop all iPlanet Messaging Server processes.

During installation do not specify the existing SIMS directory server as the server for storing user/group information. This will be done later, but for now a new directory server must be installed to store configuration data for the iPlanet Messaging Server. Answer No to the following install question:

Do you want to use another directory to store your data? [No]:

Note that the installer starts all the server processes at the end of install. You will want to stop all processes after installation. As root do the following:

```
instance_root/stop-msg
```

4. Change the iPlanet Messaging Server configuration so that it points to the SIMS 4.0 user/group directory. Use `configutil` to change the following configuration parameters:

```
local.ugldapbasedn = o=internet (Suffix which SIMS 4.0 used to store their users)
local.ugldapbinddn = "cn=Directory Manager" (DS bind DN)
local.ugldapbindcred = secret (DS bind password)
local.ugldapdeforgdn = "dc=siroe,dc=com,o=internet" (Default organization DN)
local.ugldaphost = ldap.siroe.com (The host where ldap server located)
local.ugldapport = 389
```


5. If the old SIMS server is using “+” as the login separator, change it to ‘+’ in the iPlanet Messaging Server as well, since “@” is the default. You can use the following command:

```
configutil -o service.loginseparator -v +
```

6. Upgrade the SIMS domain entries. This procedure upgrades the domain entries with new attributes to support the iPlanet Messaging Server schema. The command is:

```
imsdirmig -h ldap.siroe.com -b "o=internet" -M sims -D  
"cn=Directory Manager" -w secret -m domains -A  
mailroutinghosts:newmail.siroe.com -P
```

This example only upgrades the domain entries, not the user or mailing list entries in the domain. This step will occur later.

7. Configure the `dirsync` command in the iPlanet Messaging Server (`newmail.siroe.com`) to support multi-schema LDAP entries.

Use `configutil` to set the following three parameters:

```
instance_root/configutil -o local.imta.schematag -v "sims40,ims50"  
instance_root/configutil -o local.imta.ugfilter -v  
"(|(objectClass=inetLocalMailRecipient)(|(objectClass=inetMailUser)(objectClass=inetMailGroup)))"  
instance_root/configutil -o local.imta.sims_migrate -v True
```

8. Start the `stored`.

```
instance_root/start stored
```

9. Do a full `dirsync` on `newmail.siroe.com`.

```
instance_root/imsimta dirsync -F
```

10. Start all server processes on `newmail.siroe.com`

```
instance_root/start-msg
```

NOTE The default configuration of the newly installed iPlanet Messaging Server blocks all SMTP relaying. To align default configuration to your site policy, refer to “SMTP Relay Function,” on page 24.

11. Configure a SIMS 4.0 Proxy server on `oldmail.siroe.com`.

This step avoids the inconvenience of making users change their mail client configuration to point to `newmail.siroe.com` after they are migrated from `oldmail.siroe.com`. Once `oldmail.siroe.com` has been configured to act as an IMAP/POP proxy, incoming client connections are made to the appropriate mail server.

Edit the message store configuration file on `oldmail.siroe.com` `/etc/opt/SUNWmail/ims/ims.cnf` and make the following change:

```
ims-proxy: on
```

This allows the IMAP/POP server on `oldmail.siroe.com` to act as a proxy server while at the same time granting access to local mailboxes.

`oldmail.siroe.com` will run as both a proxy server and a message store server.

Restart IMAP/POP server:

```
/opt/SUNWmail/sbin/mt.scheduler stop  
/opt/SUNWmail/sbin/mt.scheduler start
```

12. Migrate a batch of users from `oldmail.siroe.com` to `newmail.siroe.com`

You can minimize user downtime (the amount of time users are blocked from accessing their mailboxes) by selecting a subset of users to migrate to the new system. We recommend migrating a small number of users at first to see how the process works. For each batch of users, perform the following steps.

- a. Select a batch of users to migrate. Notify users that they will not be able to access their mail during the migration process.

- b. Direct all incoming messages to these users into the Hold Channel instead of their mailboxes and lock the user's mailboxes so that they cannot be opened during migration. The command is:

```
imsdirmig -b "dc=siroe,dc=com,o=internet" -M sims -D  
"cn=Directory Manager" -w secret -m users -F "(uid=s*)" -A  
mailDeliveryOption:hold\;mailFolderMap:LOCK -O
```

In the above example, all the user entries in `siroe.com` whose `uid` value begins with an "s" (you can use any LDAP filter as per the RFC-1558) are updated with the new attributes values for `mailDeliveryOption` and `mailFolderMap`. Note that this command does not upgrade the entries to support the iPlanet Messaging Server schema. This step will occur later in the migration process.

After this command is run, these users cannot access their mailboxes, though they can continue to send mail. Incoming mail is saved in the Hold channel and will be delivered to the mailbox at the end of this step.

- c. Run an incremental `dirsync` on both `oldmail.siroe.com` and `newmail.siroe.com` to pick up the changes instigated in the previous step.

- d. Convert and move the batch of SIMS user message stores to the iPlanet Messaging Server message store.

This step is accomplished by backing up the SIMS message store using `imsbackup` and restoring the message store to the iPlanet Messaging Server using `imsrestore`. The procedures are described below.

NOTE If the LDAP directory has any user identifications (UIDs) with uppercase characters, then you **MUST** use `imsrestore` with the `-u filename` option to rename the user's SIMS message store—which is always lowercase—to the UID in the LDAP directory that has uppercase characters.

For example, if your LDAP directory has two UIDs with upper-case characters called `Anderson` and `Kolander`, you will have two user message stores in SIMS called `anderson` and `kolander`. You will need to use the `-u filename` option with `imsrestore` to rename those iPlanet Messaging Server message stores to `Anderson` and `Kolander`. The contents of `filename` would be:

```
anderson=Anderson
kolander=Kolander
```

Failure to do this, will result in user's with uppercase characters in their UIDs NEVER being able to access their migrated mail. If the LDAP directory has no UIDs with uppercase characters, then you do not need to follow these procedures.

NOTE Characters in a mailbox name that are not encoded in MUTF-7 (Modified Unicode Transformation Format, see RFC 2060) will be replaced with blank spaces by `imsrestore`. Users can correct folder names through their mail client. To avoid folder names being translated into the same name, use the `-n` option of `imsrestore`.

Run the following on the iPlanet Messaging Server:

```
rsh SIMS_host /opt/SUNWmail/ims/sbin/imsbackup -f- -u
usernames_file | server_root/bin/msg/store/bin/imsrestore -f- -cy -n
-v1
```

`imsbackup` is executed on the SIMS host. `usernames_file` is a file containing user mailbox names. Split the user entries into equal groups for each user file and run 10 to 15 such backup and restore sessions at the same time for the optimal restore speed. `imsrestore` is run on the iPlanet Messaging Server host.

- e. Change the user entries to point to the new iPlanet Messaging Server and unset the mailbox hold by setting `mailDeliveryOption:mailbox`, and `mailhost:newmail.siroe.com` in the user entries. Use `imsdirmig` with `-O` and `-A` options:

```
imsdirmig -b "dc=siroe,dc=com,o=internet" -M sims -D  
"cn=Directory Manager" -w secret -m users -F "(uid=s*)" -O -A  
mailDeliveryOption:mailbox\;mailhost:newmail.siroe.com
```

Migrated users can now access their mailboxes.

- f. Run an incremental `dirsync` on `newmail.siroe.com` and `oldmail.siroe.com`.

Messages to the migrated users will now be routed by the `oldmail.siroe.com` MTA to the `newmail.siroe.com` message store.

- g. Drain the hold queue on `oldmail.siroe.com` and `newmail.siroe.com` to redirect all messages that came into the system while users mailbox was being moved to the new server, `newmail.siroe.com`.

On `oldmail.siroe.com`:

```
/opt/SUNWmail/imta/sbin/hold_master -u uid -d domain
```

where `-u` specifies the name of the recipient, and `-d` specifies the domain to which the user belongs.

13. Repeat the previous step for the next batch of users/groups. See previous step.
14. For group entries, change the `mailhost` attribute to the fully qualified name of the new iPlanet Messaging Server host (example: `newmail.siroe.com`). If this is not done, mail will bounce to the old SIMS server when a local delivery is attempted.

```
imsdirmig -b "dc=siroe,dc=com,o=internet" -M sims -D  
"cn=Directory Manager" -w secret -m groups -F  
"(objectclass=inetmailgroup)" -O -A mailhost:newmail.siroe.com
```

This upgrades the LDAP entries for all groups.

15. Set the new iPlanet Messaging Server to be the new default messaging server for the system.

Change the DNS record of `oldmail.siroe.com` to be CNAME or A record pointing to `newmail.siroe.com`

16. Ensure that all the messages in the SMTP server queues server are processed and that the queues are empty.

One way to do this is to stop dispatcher:

```
/opt/SUNWmail/sbin/imta stop dispatcher
```

At this point the SMTP server is shut down, however the job controller continues to process messages in the queue. You can verify that the queues are empty by entering the following command:

```
/opt/SUNWmail/sbin/imta qm counters
```

17. Decommission old host.
18. After migrating all the users, upgrade all user/group directory entries to the iPlanet Messaging Server schema using `imsdirmig`. The command for `imsdirmig` is:

```
imsdirmig -b "o=internet" -M sims -D "cn=Directory Manager" -w  
secret -m both
```

19. Disable multi-schema support.

Once all the directory entries have been upgraded to iPlanet Messaging Server schema, multi-schema support is no longer needed. Using `configutil`, delete the following two parameters:

```
instance_root/configutil -o local.imta.schematag -v ""  
instance_root/configutil -o local.imta.ugfilter -v ""
```

20. After migration, ensure that the `mailhosts` and `preferredmailhost` attributes of domains whose attribute values were set to `oldmail.siroe.com` are now set to `newmail.siroe.com`. For example, use the following `ldapsearch` command to find the domain mail entries where `preferredmailhost` needs to be modified:

```
ldapsearch -h ldap.siroe.com -b "o=internet"  
"(&(objectclass=maildomain)(preferredmailhost=oldmail.siroe.com)  
)"
```

Use the following `ldapsearch` command to find the domain mail entries where `mailhosts` needs to be modified:

```
ldapsearch -h ldap.siroe.com -b "o=internet"  
"(&(objectclass=maildomain)(mailhosts=oldmail.siroe.com))"
```

21. Do an incremental `dirsync` on `newmail.siroe.com`

22. Before installing the iPlanet Delegated Administrator for Messaging, add the appropriate ACIs.

The `imsdaaci` command, packaged with the migration toolkit and shown below, generates an LDIF file that can be used to create a Delegated Administrator Service Administrator Group and Delegated Administrator Domain Administrator Group along with the required ACIs.

```
server_root/bin/msg/migrate/bin/imsdaaci
```

Use `ldapmodify` to add the LDIF file into the DIT. For an explanation of the ACIs refer to the *iPlanet Messaging Server Provisioning Guide*

SIMS Incremental Migration—Addendum

Message store configuration can be modified (as shown below) to enhance mailbox migration performance for the first batch of users. However, it is unsafe to run an active messaging server with this configuration in place. Our recommendation is to reset the configuration change once the first batch of user mailboxes have been migrated from the SIMS server to the iPlanet Messaging Server.

Steps for mailbox migration optimization:

1. Stop the messaging server after Step 12, Step c.

```
instance_root/stop-msg
```

2. Set the sync level to 0.

```
instance_root/configutil -o "local.store.synclevel" -v 0
```

3. Start the store daemon.

```
instance_root/start store
```

4. Return to Step 12, Step d.

5. After the first batch of mailbox migrations is complete, reset the sync level.

```
configutil -o "local.store.synclevel" -v -1
```

6. Restart the messaging server processes.

```
instance_root/start-msg
```

Migrating from a Single-Server Netscape Messaging Server System

The following step-by-step procedures describe how to migrate a single-server Netscape Messaging Server email system to a single server iPlanet Messaging Server without extra hardware.

Scenario Assumptions:

- iPlanet Messaging Server will replace Netscape Messaging Server 4.x on the same server.
- User and group UIDs are of the form *LocalPart* (example: ofanning, wallyc) or *LocalPart@FQDN* (example: wallyc@varrius.org, ofanning@siroe.com). If your UIDs are of a different form, see “Netscape Messaging Server 4.x Directory Namespace Limitations,” on page 18 for namespace limitations and workarounds.
- Minimal user downtime.
- The directory server is the Netscape Directory Server 4.12 and can be on the same host as the Netscape Messaging Server or on a different host. A new directory server will be installed for iPlanet Messaging Server, but it will only contain server configuration data. The old directory, that is, the directory supporting the Netscape Messaging Server, will also support the new iPlanet Messaging Server with the same, but upgraded, user, group, and domain entries.
- iPlanet Messaging Server user/group Directory Suffix: `o=siroe.com` (existing user/group base suffix)
Master Directory Server: `ldap.siroe.com`
Directory Server Bind DN: `cn=Directory Manager`
Directory Server Bind password: `secret`
Netscape Messaging Server user/group base DN: `o=siroe.com`
iPlanet Messaging Server Default Organization DN: `o=siroe.com`
Directory server network port: 389
iPlanet Messaging Server server user: `mailsrv`

Netscape Messaging Server Migration Procedures for UNIX

We strongly recommend backing up the message store before attempting migration.

1. Ensure that all the messages in the SMTP server queues server are processed and that the queues are empty.

One way to do this is to change the SMTP port number and restart the SMTP server. This allows the server to continue processing any messages in the queue while not accepting messages on the standard SMTP port.

```
instance_root/configutil -o service.smtp.port -v 901
instance_root/stop-msg smtp
instance_root/start-msg smtp
```

You can verify that the queues are empty by entering the following command:

```
/usr/bin/mailq
```

2. Enable multi-schema support (SIMS/Netscape Messaging Server/iPlanet Messaging Server) by adding the merged schema files (`merged.oc.conf` and `merged.at.conf`) to the directory server. Refer to “Supporting a Multiple Schemas,” on page 120.
3. Run `perl ims_dssetup.pl` against the Netscape Messaging Server LDAP server, and chose NOT to update the schema.

See *iPlanet Messaging Server Installation Guide* for details.

4. Stop Netscape Messaging Server 4.x. Do not stop the directory server.
5. Reimplement Netscape Messaging Server vanity domains in iPlanet Messaging Server.

Refer to the *iPlanet Messaging Server Provisioning Guide*.

6. Restart the Netscape Messaging Server directory server.

```
instance_root/restart-slapd
```

7. Install the iPlanet Messaging Server in a new server root directory. You may use the default installation selections with the following exceptions:
 - a. Install a new directory server to hold configuration information, but point the new messaging system to the existing Netscape Messaging Server directory server for user/group data.

Enter the default (No) when you see the following install screen prompt:

```
Do you want to register this software with an existing netscape configuration
directory server? [No]:
```

But when the following install question comes up, do not use the default answer, but answer Yes and enter the appropriate directory information:

```
Do you want to use another directory to store your data? [No]: Yes
```

- b. For the following install prompt:

Default Organization DN [o=siroe.com,o=Old_Dir_Root]:

Use the default value (o=siroe.com,o=Old_Dir_Root). Note that this is not where the Netscape Messaging Server user entries reside. The entries will remain in the current namespace for now.

8. Stop all server processes.

```
instance_root/stop-msg
```

9. Map or modify the existing Netscape Messaging Server directory namespace to the iPlanet Messaging Server directory namespace.

Refer to “Using Existing Directory Information Trees in the iPlanet Messaging Server,” on page 121.

10. Set the default Organization Tree.

- a. Use `configutil` to set `local.ugldapdeforgdn` to `o=siroe.com`

```
instance_root/configutil -o "local.ugldapdeforgdn" -v  
"o=siroe.com"
```

`o=siroe.com` is the DN of the Organization Tree that corresponds to the default domain.

- b. Use `configutil` to set `local.service.pab.migrate415` to 1

```
./configutil -o local.service.pab.migrate415 -v 1
```

11. Migrate the Netscape Messaging Server message store to iPlanet Messaging Server message store.

Change the primary store partition path to point at the Netscape Messaging Server 4.x message store path as follows:

- a. Use the iPlanet Messaging Server Admin Console to change the message store configuration to point at all the Netscape Messaging Server 4.x mail store partitions. (See *iPlanet Messaging Server Administrators Guide*.)

NOTE When cleaning out the Netscape Messaging Server 4.x do not remove the message store directories as this is where the message store data resides.

- b. Remove user subscriptions directory:

```
rmdir iMS_server_root/msg-instance/store/user/
```

- c. Set up a symbolic link to the Netscape Messaging Server user's subscriptions folders:

```
ln -s NMS_Server_Root/msg-instance/store/user/  
iMS_server_root/msg-instance/store/user/
```

- d. Copy the `mboxlist` file:

```
cp NMS_Server_Root/msg-instance/store/mboxlist/data.db2  
iMS_server_root/msg-instance/store/mboxlist/folder.db
```

- e. Copy the quota files:

```
cp NMS_server_root/msg-instance/store/quota.db2  
iMS_server_root/msg-instance/mboxlist/quota.db
```

- f. Make sure files are owned by the mail server user. Example:

```
chown mailsrv iMS_server_root/msg-instance/store/mboxlist/*
```

- g. Do not copy any other files!

12. Configure `dirsync` to support the new multi-system schema by using `configutil` to add the following two parameters:

```
instance_root/configutil -o local.imta.schematag -v "ims50,nms41"  
instance_root/configutil -o local.imta.ugfilter -v  
"(|(objectClass=inetLocalMailRecipient)(|(objectClass=mailRecipient)  
(objectClass=mailGroup)))"
```

13. Start the `stored`.

```
instance_root/start stored
```

14. Run a full `dirsync` to pick up the user and group entries.

```
instance_root/imsimta dirsync -F
```

15. Restart the iPlanet Messaging Server. You can now see the Netscape Messaging Server 4.x user mailboxes.

The mail server is now available for use. At this time iPlanet Messaging Server is working off the old directory entries in `ldap.siroe.com` using multi-schema support. New user and group entries will be created in the new directory nodes.

NOTE The default configuration of the newly installed iPlanet Messaging Server blocks all SMTP relaying. To align default configuration to your site policy, refer to "SMTP Relay Function," on page 24.

16. Upgrade quota database to enable new features.

Run the following as mail server user:

```
su mailsrv
cd iMS_server_root/bin/msg/admin/bin
setenv CONFIGROOT iMS_server_root/msg-instance/config
./reconstruct -q
exit
```

17. Once the new server is up, upgrade all user and group directory entries to the iPlanet Messaging Server schema using `imsdirmig`:

```
imsdirmig -b "o=siroe.com" -M nms -D "cn=Directory Manager" -F
"(!(cn=postmaster))" -w secret -m both
```

`-F "(!(cn=postmaster))"` is a filter which excludes the postmaster entry from migration processing. If such a filter is not specified, `imsdirmig` fails to process the entry and exits on the resulting error. (`-c` can also be specified to force `imsdirmig` to continue processing after it encounters an error.)

18. Disable multi-schema support.

Once all the directory entries have been upgraded to iPlanet Messaging Server schema, multi-schema support is no longer needed. Using `configutil`, delete the following two parameters:

```
instance_root/configutil -o local.imta.schematag -v ""
instance_root/configutil -o local.imta.ugfilter -v ""
```

19. Before installing the iPlanet Delegated Administrator for Messaging, add the appropriate ACIs.

The `imsdaaci` command, packaged with the migration toolkit and shown below, generates an LDIF file that can be used to create a Delegated Administrator Service Administrator Group and Delegated Administrator Domain Administrator Group along with the required ACIs.

```
server_root/bin/msg/migrate/bin/imsdaaci
```

Use `ldapmodify` to add the LDIF file into the DIT. For an explanation of the ACIs refer to the *iPlanet Messaging Server Provisioning Guide*

Netscape Messaging Server Migration Procedures for Windows NT

We strongly recommend backing up the message store before attempting migration.

1. Ensure that all messages in the SMTP server queues are processed and that the queues are empty.

One way to do this is to change the SMTP port number and restart the SMTP server. This allows the server to continue processing any messages in the queue while not accepting messages on the standard SMTP port.

```
instance_root\configutil -o service.smtp.port -v 901
instance_root\stop-msg smtp
instance_root\start-msg smtp
```

Wait for the queue to empty.

2. Run `perl ims_dssetup.pl` against the Netscape Messaging Server LDAP server; when prompted by `ims_dssetup.pl` to update the DS schema, chose to update the schema.
3. Enable multi-schema support (SIMS/Netscape Messaging Server/iPlanet Messaging Server) by adding the merged schema files (`merged.oc.conf` and `merged.at.conf`) to the directory server. Refer to "Supporting Multiple Schemas" in Appendix B of the *iPlanet Messaging Server Migration Guide*. Also, comment out any `include` directives for the following schema files added in the previous step: `um50-common-schema.conf` and `ims50-schema.conf` by adding a `#` before the `include` keyword and following the steps outlined in that step.

See the *iPlanet Messaging Server Installation Guide* for details.

4. Uninstall Netscape Messenger Server only, and choose to preserve the user mail store. Do not uninstall Directory Server.
5. Rename the `msg-instance` directory (where the user mail store is located) to another name, such as "mailstore".
6. Re-implement Netscape Messaging Server vanity domains in iPlanet Messaging Server.

7. Install iPlanet Messaging Server in the same server directory where Netscape Messaging Server is located. Choose NOT to install Directory Server. For the following install prompt, Default Organization DN [o=siroe.com,o=OldDirRoot], use the default value (o=siroe.com,o=OldDirRoot). Note that this is not where the Netscape Messaging Server user entries reside. The entries will remain in the current namespace for now.

8. Stop all server processes.

```
instance_root/stop-msg
```

9. Map or modify the existing Netscape Messaging Server directory namespace to the iPlanet Messaging Server directory namespace.

Refer to "Using Existing Directory Information Trees in the iPlanet Messaging Server" in Appendix B of the *iPlanet Messaging Server Migration Guide*.

10. Set the default Organization Tree.

Use configutil to set local.ugldapdeforgdn to o=sesta.com

```
instance_root/configutil -o "local.ugldapdeforgdn" -v "o=sesta.com"
```

o=sesta.com is the DN of the Organization Tree that corresponds to the default domain.

11. Migrate the Netscape Messaging Server message store to iPlanet Messaging Server message store.

Change the primary store partition path to point at the Netscape Messaging Server 4.x message store path as follows:

- a. Use the iPlanet Messaging Server Administration Console to change the message store configuration to point to all the Netscape Messaging Server 4.x mail store partitions (*mailstore* is the example given in step 5).
- b. Remove the user subscriptions directory.
- c. Copy the Netscape Messaging Server message store:

```
NMS_server_root/mailstore/store/user/
```

to:

```
iMS_server_root/msg-instance/store/user/
```

(*mailstore* is the example given in step 5.)

- d. Copy the `mbxlist` file:

```
NMS_server_root/mailstore/store/mboxlist/data.db2
```

to

```
iMS_server_root/msg-instance/store/mboxlist/folder.db
```

- e. Copy the quota files:

```
NMS_server_root/mailstore/store/quota.db2
```

to

```
iMS_server_root/msg-instance/mboxlist/quota.db
```

- f. Do not copy any other files!

12. Configure `dirsync` to support the new multi-system schema by using `configutil` to add the following two parameters:

```
instance_root/configutil -o local.imta.schematag
```

```
-v "ims50,nms41"
```

```
instance_root/configutil -o local.imta.ugfilter
```

```
-v (|(objectClass=inetLocalMailRecipient)
```

```
(|(objectClass=mailRecipient) (objectclass=mailGroup)))
```

13. Start the `stored`.

```
instance_root/start stored
```

14. Run a full `dirsync` to pick up the user and group entries:

```
instance_root/imsimta dirsync -F
```

15. Restart iPlanet Messaging Server. You can now see the Netscape Messaging Server 4.x user mailboxes.

The mail server is now available for use. At this time iPlanet Messaging Server is working off the old directory entries in: `ldap.sesta.com` using multi-schema support. New user and group entries will be created in the new directory nodes.

NOTE The default configuration of the newly installed iPlanet Messaging Server blocks all SMTP relaying. To align default configuration to your site policy, refer to the iPlanet Messaging Server Migration Guide, Chapter 1, section titled "Netscape Messaging Server 4.x Regressions/Changes/Transitions," sub-section titled "SMTP Relay Function."

16. Upgrade the quota database to enable new features. Run the following as a mail server user:

```
cd ims_server_root/bin/msg/admin/bin  
reconstruct -q
```

17. Once the new server is up, upgrade all user and group directory entries to the iPlanet Messaging Server schema using `imsdirmig`:

```
imsdirmig -b "o=sesta.com" -M nms -D "cn=Directory Manager" -w  
secret -m both -F "!(cn=postmaster)"
```

18. Disable multi-schema support.

Once all the directory entries have been upgraded to iPlanet Messaging Server schema, multi-schema support is no longer needed. Using `configutil`, delete the following two parameters:

```
instance_root/configutil -o local.imta.schematag -v ""  
instance_root/configutil -o local.imta.ugfilter -v ""
```


Scenarios and Procedures for Migrating a Multi-Server System to the iPlanet Messaging Server

This chapter describes how to migrate from a multi-server SIMS 4.0 or Netscape Messaging Server 4.x system to an iPlanet Messaging Server system. Five scenarios to cover SIMS 4.0 and Netscape Messaging Server 4.x deployments are presented. Note, however, that each deployment is unique, and your particular situation may require some modification of these procedures.

NOTE Please read this entire book to become familiar with all aspects of your particular migration issues. Once you feel comfortable with the process, back up all directory and message store data, and practice migration on a small number of users before attempting to migrate the whole system.

The sections in this chapter are:

- “Multi-Server Migration Overview,” on page 66
- “Installing a Configuration Server,” on page 69
- “Migrating from a SIMS Multi-Server Deployment,” on page 70
 - “Upgrading SIMS Domain Entries to iPlanet Messaging Server Domain Entries,” on page 71
 - “Upgrading SIMS SMTP Relay Servers,” on page 71
 - “Upgrading SIMS POP/IMAP Proxy Servers,” on page 73

- “Migrating Backend SIMS Mail Store Servers to the iPlanet Messaging Server Using the Off-line Migration Method,” on page 74
- “Migrating Backend SIMS Mail Store Servers to the iPlanet Messaging Server Using the On-line Migration Method,” on page 79
- “Migrating SIMS Message Store Servers to the iPlanet Messaging Server Using the Incremental Migration Method,” on page 90
- “Upgrading a Netscape Messaging Server Multi-Server Deployment,” on page 97
 - “Adding the Required Naming Contexts,” on page 98
 - “Upgrading Netscape Messaging Server SMTP Relay Servers,” on page 99
 - “Upgrading Netscape Messaging Server MMP Servers,” on page 103
 - “Migrating Netscape Messaging Server Backend Message Stores,” on page 103

Multi-Server Migration Overview

When migrating a multiple server deployment, the basic process is as follows:

1. Install a configuration server
2. Migrate the outermost servers (SMTP relay servers and message access proxies)
3. Migrate the backend message store servers

Topology for Multiple Server Scenarios

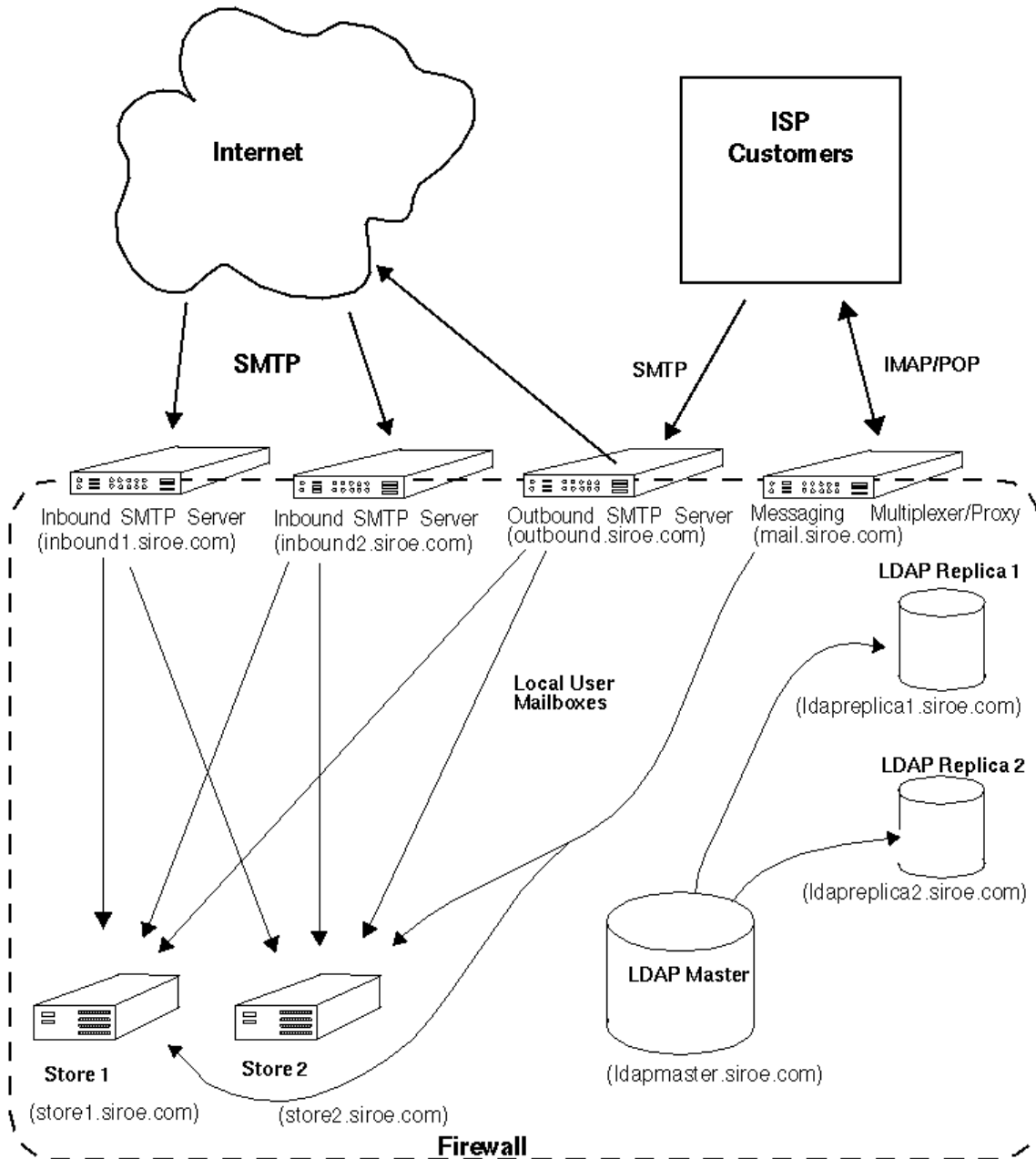
The scenarios in this section refer to the server deployment shown in Figure 4-1 on page 68. The following assumptions are made:

- Current system is either SIMS 4.0 or Netscape Messaging Server 4.15
- Server distribution is:
 - 2 inbound SMTP servers: `inbound1.siroe.com` & `inbound2.siroe.com`
 - 1 outbound SMTP relay server: `outbound.siroe.com`
 - 1 messaging multiplexor (MMP) proxy: `mail.siroe.com`

- 2 backend (message store) servers: store1.siroe.com & store2.siroe.com
- 1 LDAP master for user/group data and iPlanet Messaging Server configuration information: ldapmaster.siroe.com (port 389 for user/group server and port 390 for configuration server)
- 2 LDAP replicas: ldapreplica1.siroe.com & ldapreplica2.siroe.com

NOTE We highly recommend backing up your LDAP database prior to making changes to the directory server.

Figure 4-1 Multiple Server Sample Scenario



Installing a Configuration Server

A configuration server is an LDAP server containing iPlanet Messaging Server configuration data. This is a departure for SIMS in that configuration data was stored in configuration files.

Typically you only need one configuration server per deployment. For Netscape Messaging Server deployments with an existing configuration server, you can use this machine, but you will need to install an additional directory server to be used as the new configuration server.

For SIMS, pick a machine on which you will install a new directory server to be used as the configuration server. In the examples that follow, we use the machine that holds the LDAP server containing the user/group entries (`ldapmaster.siroe.com`) to also host the new configuration server. `ldapmaster.siroe.com` will host an LDAP server for user and group entries and iPlanet Messaging Server configuration data.

1. Install only directory server from the iPlanet Messaging Server CD.

During installation, you can choose to install only a directory server. See the Installation Guide. When you receive the follow prompt, enter 1, 2, 3.

```
Sun-Netscape Alliance
iPlanet Server Products Installation/Uninstallation
```

```
iPlanet Server Products components:
Components with a number in () contain additional subcomponents
which you can select using subsequent screens.
```

1. Netscape Server Products Core Components (3)
2. Netscape Directory Suite (2)
3. Administration Services (2)
4. iPlanet Messaging Suite (5)

```
Specify the components you wish to install [All]: 1, 2,3
```

```
Since the existing user/group directory is using port 389, use a unused port,
for example, 390.
```

2. Run `ims_dssetup.pl` to prepare the directory server for later use by the iPlanet Messaging Server installation. For more information refer to the *iPlanet Messaging Server Installation Guide*.
3. (For Netscape Messaging Server deployments only.) Change the default user/group server in the newly installed configuration server.
 - a. Run `startconsole` from the server root of the configuration server.

- b. Double click on the *Administration Server* to bring up the console for the Admin Server.
- c. Select the *Configuration* tab on the Administration Server console and then the *User DS* tab.
- d. Select radio button for *Set User Directory*. Enter the *LDAP Host and Port* for the user/group directory (example: ldapmaster.siroe.com:389) and the *User Directory Subtree* (example: o=siroe.com). Press *Save*.

Migrating from a SIMS Multi-Server Deployment

This section describes how to migrate from a SIMS Multi-Server deployment to an iPlanet Messaging Server deployment. The basic steps are as follows:

- “Installing a Configuration Server,” on page 69.
- “Upgrading SIMS Domain Entries to iPlanet Messaging Server Domain Entries,” on page 71.
- “Upgrading SIMS SMTP Relay Servers,” on page 71.
- “Upgrading SIMS POP/IMAP Proxy Servers,” on page 73.
- Upgrade Backend Message Stores. There are three ways to this, and they are described in the following sections:
 - “Migrating Backend SIMS Mail Store Servers to the iPlanet Messaging Server Using the Off-line Migration Method,” on page 74
 - “Migrating Backend SIMS Mail Store Servers to the iPlanet Messaging Server Using the On-line Migration Method,” on page 79
 - “Migrating SIMS Message Store Servers to the iPlanet Messaging Server Using the Incremental Migration Method,” on page 90

For a description of the advantages and disadvantages of each migration method refer to “Choosing a SIMS Message Store Migration Method,” on page 30.

Upgrading SIMS Domain Entries to iPlanet Messaging Server Domain Entries

Before proceeding on SIMS migration you must upgrade all the SIMS domain entries to the iPlanet Messaging Server domain entries.

```
imsdirmig -h ldapmaster.siroe.com -b "o=internet" -M sims -D
"cn=Directory Manager" -w secret -m domains
```

In this case all domains under `o=internet` are upgraded.

Upgrading SIMS SMTP Relay Servers

This procedure applies to SIMS inbound and outbound SMTP servers.

1. Before upgrading any SMTP or mail multiplexor (called proxy servers in SIMS) servers, you must first add the merged schema files (`merged.oc.conf` and `merged.at.conf`) to the directory server. Refer to “Supporting a Multiple Schemas,” on page 120.
2. Stop the old SIMS SMTP Server (`inbound1.siroe.com`). During this time, incoming messages will be handled by the second inbound SMTP server (`inbound2.siroe.com`).

If your servers sit behind a load balancer, ensure that its configuration is modified to not redirect inbound connections to `inbound1.siroe.com`. If you are using round-robin DNS to do load balancing, then remove the DNS entry for the server going off-line.

3. Ensure that all the messages in the SMTP server queues server are processed and that the queues are empty.

One way to do this is to stop the dispatcher:

```
/opt/SUNWmail/sbin/imta stop dispatcher
```

At this point the SMTP server is shut down, however the job controller continues to process messages in the queue. You can verify that the queues are empty by entering the following command:

```
/opt/SUNWmail/sbin/imta qm counters
```

4. Install and configure the iPlanet Messaging Server.

Do not install a new directory server. Enter 1,3,4 for the following prompt:

Components with a number in () contain additional subcomponents which you can select using subsequent screens.

1. Netscape Server Products Core Components (3)
2. Netscape Directory Suite (2)
3. Administration Services (2)
4. iPlanet Messaging Suite (5)

Specify the components you wish to install [All]: 1,3,4

When you are prompted for the configuration server enter the URL and port number. (The one installed as described in "Installing a Configuration Server," on page 69.)

Enter the non-secured LDAP URL of the server that contains the Configuration Directory using the form:

```
ldap://<hostname>:<port>
```

```
URL of Directory Server [ldap://inbound1.siroe.com:389/]:  
ldap://ldapmaster.siroe.com:390
```

5. After installation, configure the newly installed iPlanet Messaging Server to point to the SIMS 4.0 user/group directory. Use `configutil` to change the following configuration parameters:

```
local.ugldapbasedn = o=internet (Suffix SIMS 4.0 uses to store users)  
local.ugldapbinddn = "cn=Directory Manager" (DS bind DN)  
local.ugldapbindcred = secret (DS bind password)  
local.ugldaphost = ldapreplica1.siroe.com (ldap server located)  
local.ugldapport = 389
```

6. Configure `dirsync` to support the new multi-system schema by using `configutil` to add the following two parameters:

```
instance_root/configutil -o local.imta.schematag -v "ims50,sims40"  
instance_root/configutil -o local.imta.ugfilter -v  
( |(objectClass=inetLocalMailRecipient)( |(objectClass=inetMailUser)(objectclass=inetmailGroup)) )
```

7. If the old SIMS SMTP relay server is using "+" as the login separator, change it in the iPlanet Messaging Server as well, since "@" is the default. This allows users to do SMTP AUTH using the existing login separator.

Use the following command:

```
configutil -o service.loginseparator -v +
```


8. If this is an outbound SMTP server, enable SMTP relaying as per your site policy.

- a. If you want to allow all the nodes on your class C network to relay through the server, edit the `mappings` file under `server_root/msg-instance/imta/config` by changing "`* $N`" to "`* $Y`"

```

+++++++
INTERNAL_IP

    $(192.18.74.57/24)    $Y
    127.0.0.1            $Y
    *                    $Y
+++++++

```

- b. Then run the command `imsimta cnbuild`. At this point you have a fully functioning relay server.

- c. Start the `stored`.

```
instance_root/start stored
```

- d. Do a full `dirsync`:

```
instance_root/imsimta dirsync -F
```

- e. Start the SMTP server.

```
instance_root/start-msg smtp
```

For more information on enabling SMTP relaying, see “Adding SMTP Relaying,” on page 21.

9. If you have modified your load balancing configuration as described in the initial step of this procedure (Step 2), make the required readjustments.
10. Upgrade the other SMTP inbound and outbound relay servers.

Upgrading SIMS POP/IMAP Proxy Servers

Use the following procedures to upgrade from a SIMS Proxy Server to an iPlanet Messaging Server MMP.

1. Before upgrading any SMTP or mail multiplexor (called proxy servers in SIMS) servers, you must first add the merged schema files (`merged.oc.conf` and `merged.at.conf`) to the directory server. Refer to “Supporting a Multiple Schemas,” on page 120.
2. Stop the SIMS proxy server.

3. Install the iPlanet Messaging Server MMP. See *iPlanet Messaging Server Installation Guide*. During installation, provide the name of the SIMS user/group LDAP server when prompted:

Please enter the LDAP URL to the domain component tree

```
[ldap://siroe.com:389/o=internet]: ldap://ldapmaster.siroe.com:389/o=internet
```

4. If the SIMS server was using “+” as the login separator, then change the following configuration parameters in both `ImapProxyAService.cfg` and `PopProxyAService.cfg` file to accommodate the default login separator “@” for the iPlanet Messaging Server.

```
#
# list of valid delimiters
#
default:VirtualDomainDelim +@

#
# canonical delimiter
#
default:CanonicalVirtualDomainDelim +
```

Migrating Backend SIMS Mail Store Servers to the iPlanet Messaging Server Using the Off-line Migration Method

Before migrating the backend SIMS messaging servers, be sure all message access proxies and SMTP relay servers have been upgraded. For a discussion of the advantages and disadvantages of off-line migration, refer to “Off-line Message Store Migration,” on page 30.

Assumptions:

- iPlanet Messaging Server to replace SIMS 4.0 on the same host.
- iPlanet Messaging Server will use the existing user/group directory server and the configuration directory server.
- Mail service will be unavailable (mail access will be off-line, but incoming messages will be stored in the inbound SMTP server) while message store is being migrated.
- System uses the Netscape Directory Server 4.12.

- SIMS user/group Directory Suffix: `o=internet`
SIMS/iPlanet Messaging Server backend server name: `store1.siroe.com`
Master Directory Server: `ldapmaster.siroe.com`
Master Directory server network port: 389
Configuration Directory Server: `ldapmaster.siroe.com`
Configuration Directory server network port: 390
Directory Server Bind password: `secret`
SIMS Default Organization DN: `dc=siroe,dc=com,o=internet`
User/group entries are contained in the DC Tree (one DIT)

Migration Procedures:

1. Ensure that all the messages in the SMTP server queues server are processed and that the queues are empty.

One way to do this is to stop dispatcher:

```
/opt/SUNWmail/sbin/imta stop dispatcher
```

At this point the SMTP server is shut down, however the job controller continues to process messages in the queue. You can verify that the queues are empty by entering the following command:

```
/opt/SUNWmail/sbin/imta qm counters
```

2. Stop SIMS by using `/opt/SUNWmail/sbin/im.server stop`.

Make sure all SIMS processes are stopped. During this time users cannot access their mailboxes. They can send mail through outbound SMTP server `outbound.siroe.com`.

3. If there is not enough system disk space to hold two and one-half times the size of the message store, the next step is to backup the SIMS message store on another device (for example, a tape drive) using the SIMS `imbackup` command. This SIMS message store backup will be moved to the iPlanet Messaging Server message store.

An example of using the `imbackup` command to backup to tape is as follows:

```
imbackup -f /dev/rmt/0
```

If you have the extra disk space you can minimize downtime by leaving the SIMS message store in place and streaming the data from `imbackup` directly to `imsrestore` as described in a later step.

4. Install and configure the iPlanet Messaging Server.

Do not install a new directory server. Enter 1,3,4 for the following prompt:

Components with a number in () contain additional subcomponents which you can select using subsequent screens.

1. Netscape Server Products Core Components (3)
2. Netscape Directory Suite (2)
3. Administration Services (2)
4. iPlanet Messaging Suite (5)

Specify the components you wish to install [All]: 1,3,4

When you are prompted for the configuration server enter the URL and port number. (The one installed as described in "Installing a Configuration Server," on page 69.)

Enter the non-secured LDAP URL of the server that contains the Configuration Directory using the form:

```
ldap://<hostname>:<port>
```

URL of Directory Server [ldap://store1.siroe.com:389/]: ldap://ldapmaster.siroe.com:390

5. Stop all server processes.

The installer starts all the server processes at the end of install. You will want to stop all processes after installation. As root do the following:

```
instance_root/stop-msg
```

6. Change the iPlanet Messaging Server configuration to make it point to the SIMS 4.0 user/group directory.

Use `configutil` to change the following configuration parameters:

```
local.ugldapbasedn = o=internet (Suffix which SIMS 4.0 used to store their users)
local.ugldapbinddn = "cn=Directory Manager" (DS bind DN)
local.ugldapbindcred = secret (DS bind password)
local.ugldapdeforgdn = "dc=siroe,dc=com,o=internet" (Default organization DN)
local.ugldaphost = ldapreplica1.siroe.com (The host where ldap replica is located)
local.ugldapport = 389
```

7. Convert the SIMS message store to the iPlanet Messaging Server message store.

This step is accomplished by backing up the SIMS message store using `imsbackup` and restoring the message store to the iPlanet Messaging Server using `imsrestore`. The procedures are described below.

NOTE If the LDAP directory has any user identifications (UIDs) with uppercase characters, then you **MUST** use `imsrestore` with the `-u filename` option to rename the user's SIMS message store—which is always lowercase—to the UID in the LDAP directory that has uppercase characters.

For example, if your LDAP directory has two UIDs with upper-case characters called `Anderson` and `Kolander`, you will have two user message stores in SIMS called `anderson` and `kolander`. You will need to use the `-u filename` option with `imsrestore` to rename those iPlanet Messaging Server message stores to `Anderson` and `Kolander`. The contents of `filename` would be:

```
anderson=Anderson
kolander=Kolander
```

Failure to do this, will result in user's with uppercase characters in their UIDs NEVER being able to access their migrated mail. If the LDAP directory has no UIDs with uppercase characters, then you do not need to follow these procedures.

- a. If you backed up the SIMS message store on tape (see Step 3), restore it to the iPlanet Messaging Server message store as root using the following commands:

NOTE Characters in a mailbox name that are not encoded in UTF-7 (Modified Unicode Transformation Format, see RFC 2060) will be replaced with blank spaces by `imsrestore`. Users can correct folder names through their mail client. To avoid folder names being translated into the same name, use the `-n` option of `imsrestore`.

```
configutil -o "local.store.synclevel" -v 0
instance_root/start-msg store
imsrestore -f /dev/rmt/0 -cy -n -v1
```

- b. If you have extra disk space you can convert the SIMS message store format directly to the iPlanet Messaging Server message store as root using the following commands:

```
configutil -o "local.store.synclevel" -v 0
instance_root/start-msg store
imbackup -f- -u user_file | server_root/bin/msg/store/bin/imsrestore
-f- -cy -n -v1
```

where *user_file* is a file containing user mailbox names. Split the user entries into equal groups for each user file and run 10 to 15 concurrent backup and restore sessions for optimal restore speed to the new message store.

8. Once the restore is completed, change back the configuration parameter `local.store.synclevel`:

```
configutil -o local.store.synclevel -v -1
```

9. Stop `store`.

```
instance_root/stop-msg store
```

10. If the old SIMS server is using “+” as the login separator, we need to change it in iPlanet Messaging Server as well, since “@” is the default. You can use the following command:

```
configutil -o service.loginseparator -v +
```

11. Start the `stored`.

```
instance_root/start stored
```

12. Do a full `dirsnc`:

```
instance_root/imsimta dirsnc -F
```

13. Start the messaging server.

```
instance_root/start-msg
```

At this point, the backend server is fully functional.

NOTE The default configuration of the newly installed iPlanet Messaging Server blocks all SMTP relaying. To align default configuration to your site policy, refer to “SMTP Relay Function,” on page 24.

14. Migrate the next backend server.

Go to step 1 and repeat for each remaining backend server.

15. After all backend servers are migrated, do the following steps:

- a. Upgrade user and group entries to use iPlanet Messaging Server schema.

Use `imsdirmig`:

```
imsdirmig -b "o=internet" -M sims -F  
"(mailhost=store1.siroe.com)" -D "cn=Directory Manager" -w  
secret -m both
```

In this case all user/group entries under `o=internet` are upgraded.

- b. Disable multi-schema support on all SMTP servers (backend message store servers, SMTP relay servers, etc.).

Once all the directory entries have been upgraded to iPlanet Messaging Server schema, multi-schema support is no longer needed. Using `configutil`, delete the following two parameters:

```
instance_root/configutil -o local.imta.schematag -v ""  
instance_root/configutil -o local.imta.ugfilter -v ""
```

- c. Before installing the iPlanet Delegated Administrator for Messaging, add the appropriate ACIs.

The `imsdaaci` command, packaged with the migration toolkit and shown below, generates an LDIF file that can be used to create a Delegated Administrator Service Administrator Group and Delegated Administrator Domain Administrator Group along with the required ACIs.

```
server_root/bin/msg/migrate/bin/imsdaaci
```

Use `ldapmodify` to add the LDIF file into the DIT. For an explanation of the ACIs refer to the *iPlanet Messaging Server Provisioning Guide*

Migrating Backend SIMS Mail Store Servers to the iPlanet Messaging Server Using the On-line Migration Method

Before migrating the backend messaging servers, be sure all message access proxies and SMTP relay servers have been upgraded. For a discussion of the advantages and disadvantages of off-line migration, refer to “On-line Message Store Migration,” on page 31. The migration process will differ depending on whether you have extra hardware or not. If you do not have extra hardware see “Migration Procedures for Multi-Server, On-line, No Extra Hardware:,” on page 80. If you have extra hardware see “Migration Procedures for Multi-Server, On-line, Extra Hardware,” on page 85.

Assumptions:

- iPlanet Messaging Server to replace SIMS 4.0 on the same host or a new host.
- iPlanet Messaging Server will use the existing user/group directory server and the configuration directory server.
- The directory server is Netscape Directory Server 4.12 and can be on the same host as SIMS or on a different host. A new directory server has already been installed to hold the iPlanet Messaging Server configuration data (see “Installing a Configuration Server,” on page 69). The old directory, that is, the directory supporting SIMS, will support the new iPlanet Messaging Server with the same (but upgraded) user, group, and domain entries.
- The SIMS message store will be migrated to the iPlanet Messaging Server message store while the server is active and on-line. Messages being migrated will be mixed in with new messages delivered during the migration process.
- These assumptions are for an example of a system being installed on a new host. Assumptions:
 - SIMS user/group Directory Suffix: o=internet
 - SIMS Mail server name: store1.siroe.com
 - iPlanet Messaging Server Mail server name: store1.siroe.com (same host) or newstore1.siroe.com (if new host)
 - Master Directory Server: ldapmaster.siroe.com
 - Master Directory server network port: 389
 - Configuration Directory Server: ldapmaster.siroe.com
 - Configuration Directory server network port: 390
 - Directory Server Bind password: secret
 - SIMS Default Organization DN: dc=siroe,dc=com,o=internet

Migration Procedures for Multi-Server, On-line, No Extra Hardware:

1. Ensure that all the messages in the SMTP server queues server are processed and that the queues are empty.

One way to do this is to stop dispatcher:

```
/opt/SUNWmail/sbin/imta stop dispatcher
```

At this point the SMTP server is shut down, however the job controller continues to process messages in the queue. You can verify that the queues are empty by entering the following command:

```
/opt/SUNWmail/sbin/imta qm counters
```


2. Stop SIMS by using `/opt/SUNWmail/sbin/im.server stop`.

Make sure all SIMS processes are stopped. During this time users cannot access their mailboxes. They can send mail through outbound server `outbound.siroe.com`.

3. Install and configure the iPlanet Messaging Server.

Do not install a new directory server. Enter 1,3,4 for the following prompt:

Components with a number in () contain additional subcomponents which you can select using subsequent screens.

1. Netscape Server Products Core Components (3)
2. Netscape Directory Suite (2)
3. Administration Services (2)
4. iPlanet Messaging Suite (5)

Specify the components you wish to install [All]: 1,3,4

When you are prompted for the configuration server enter the URL and port number. (The one installed as described in "Installing a Configuration Server," on page 69.)

Enter the non-secured LDAP URL of the server that contains the Configuration Directory using the form:

```
ldap://<hostname>:<port>
```

URL of Directory Server [ldap://store1.siroe.com:389/]: ldap://ldapmaster.siroe.com:390

4. Stop all server processes.

The installer starts all the server processes at the end of install. You will want to stop all processes after installation. As root do the following:

```
instance_root/stop-msg
```

5. Change the iPlanet Messaging Server configuration to make it point to the SIMS 4.0 user/group directory.

Use `configutil` to change the following configuration parameters:

```
local.ugldapbasedn = o=internet (Suffix which SIMS 4.0 used to store their users)
local.ugldapbinddn = "cn=Directory Manager" (DS bind DN)
local.ugldapbindcred = secret (DS bind password)
local.ugldapdeforgdn = "dc=siroe,dc=com,o=internet" (Default organization DN)
local.ugldaphost = ldapreplica1.siroe.com (The host where ldap replica is located)
local.ugldapport = 389
```

6. If the old SIMS server is using “+” as the login separator, we need to change it in iPlanet Messaging Server as well, since “@” is the default. You can use the following command:

```
configutil -o service.loginseparator -v +
```

7. Start the `stored`.

```
instance_root/start stored
```

8. Run a full `dirsync` on the SMTP relay servers and the upgraded backend stores.

```
instance_root/imsimta dirsync -F
```

9. Start the messaging server.

Start all other server processes:

```
instance_root/start-msg
```

At this point, the iPlanet Messaging Server is fully functional (users can log in, new messages are delivered, etc.). Normal deferred message processing delivers deferred messages on the inbound SMTP servers to `store1.siroe.com`.

NOTE The default configuration of the newly installed iPlanet Messaging Server blocks all SMTP relaying. To align default configuration to your site policy, refer to “SMTP Relay Function,” on page 24.

10. Migrate SIMS mailboxes to iPlanet Messaging Server.

Users will not be able to retrieve messages until after the SIMS message store is migrated to the iPlanet Messaging Server message store. The situation may arise where they see a temporarily empty mailbox. In addition, when old messages are migrated from SIMS, they will be mixed in with new messages that went directly into the iPlanet Messaging Server message store. This could result in some incorrect ordering of the messages.

Migration is accomplished by backing up the SIMS message store using `imsbackup` and restoring the message store to the iPlanet Messaging Server using `imsrestore`. The procedures are described below.

NOTE If the LDAP directory has any user identifications (UIDs) with uppercase characters, then you **MUST** use `imsrestore` with the `-u filename` option to rename the user's SIMS message store—which is always lowercase—to the UID in the LDAP directory that has uppercase characters.

For example, if your LDAP directory has two UIDs with upper-case characters called `Anderson` and `Kolander`, you will have two user message stores in SIMS called `anderson` and `kolander`. You will need to use the `-u filename` option with `imsrestore` to rename those iPlanet Messaging Server message stores to `Anderson` and `Kolander`. The contents of `filename` would be:

```
anderson=Anderson
kolander=Kolander
```

Failure to do this, will result in user's with uppercase characters in their UIDs NEVER being able to access their migrated mail. If the LDAP directory has no UIDs with uppercase characters, then you do not need to follow these procedures.

NOTE Characters in a mailbox name that are not encoded in UTF-7 (Modified Unicode Transformation Format, see RFC 2060) will be replaced with blank spaces by `imsrestore`. Users can correct folder names through their mail client. To avoid folder names being translated into the same name, use the `-n` option of `imsrestore`.

Run this command on `store1.siroe.com`

```
imsbackup -f- -u user | server_root/bin/msg/store/bin/imsrestore -f-
-cy -n -v1
```

where `user_file` is a file containing user mailbox names. Split the user entries into equal groups for each user file and run 10 to 15 concurrent backup and

restore sessions to maximize the restore speed into the new message store.

NOTE Do not disable `fsync` using
`configutil -o "local.store.synclevel" -v 0`

11. Repeat this process for all other SIMS backend message store servers.

Go to step 1.

12. After all backend message stores have been migrated do the following steps.

- a. Upgrade user and group entries to use iPlanet Messaging Server schema.

Use `imsdirmig`:

```
imsdirmig -h ldapmaster.siroe.com -b "o=internet" -M sims -F  
(mailhost=store1.siroe.com) -D "cn=Directory Manager" -w secret  
-m both
```

In this case all user/group entries under `o=internet` are upgraded.

- b. Disable multi-schema support on all SMTP servers (backend message store servers, SMTP relay servers, etc.).

Once all the directory entries have been upgraded to iPlanet Messaging Server schema, multi-schema support is no longer needed. Using `configutil`, delete the following two parameters:

```
instance_root/configutil -o local.imta.schematag -v ""  
instance_root/configutil -o local.imta.ugfilter -v ""
```

- c. Before installing the iPlanet Delegated Administrator for Messaging, add the appropriate ACIs.

The `imsdaaci` command, packaged with the migration toolkit and shown below, generates an LDIF file that can be used to create a Delegated Administrator Service Administrator Group and Delegated Administrator Domain Administrator Group along with the required ACIs.

```
server_root/bin/msg/migrate/bin/imsdaaci
```

Use `ldapmodify` to add the LDIF file into the DIT. For an explanation of the ACIs refer to the *iPlanet Messaging Server Provisioning Guide*

Migration Procedures for Multi-Server, On-line, Extra Hardware

1. Install and configure the iPlanet Messaging Server on the new machine (`newstore1.siroe.com`).

Do not install a new directory server. Enter 1,3,4 for the following prompt:

Components with a number in () contain additional subcomponents which you can select using subsequent screens.

1. Netscape Server Products Core Components (3)
2. Netscape Directory Suite (2)
3. Administration Services (2)
4. iPlanet Messaging Suite (5)

Specify the components you wish to install [All]: 1,3,4

When you are prompted for the configuration server enter the URL and port number. (The one installed as described in "Installing a Configuration Server," on page 69.)

Enter the non-secured LDAP URL of the server that contains the Configuration Directory using the form:

```
ldap://<hostname>:<port>
```

```
URL of Directory Server [ldap://newstore1.siroe.com:389]:  
ldap://ldapmaster.siroe.com:390
```

2. Stop all server processes.

The installer starts all the server processes at the end of install. You will want to stop all processes after installation. As root do the following:

```
instance_root/stop-msg
```

3. Change the iPlanet Messaging Server configuration to make it point to the SIMS 4.0 user/group directory.

Use `configutil` to change the following configuration parameters:

```
local.ugldapbasedn = o=internet (Suffix which SIMS 4.0 used to store their users)  
local.ugldapbinddn = "cn=Directory Manager" (DS bind DN)  
local.ugldapbindcred = secret (DS bind password)  
local.ugldapdeforgdn = "dc=siroe,dc=com,o=internet" (Default organization DN)  
local.ugldaphost = ldapreplica1.siroe.com (The host where ldap replica is located)  
local.ugldapport = 389
```

4. If the old SIMS server is using "+" as the login separator, we need to change it in iPlanet Messaging Server as well, since "@" is the default. You can use the following command:

```
configutil -o service.loginseparator -v +
```

5. Upgrade domain entries to add to the new backend SMTP routing hosts.

```
imsdirmig -h ldap.siroe.com -b "o=internet" -M sims -D  
"cn=Directory Manager" -w secret -m domains -A  
mailroutinghosts:newstore1.siroe.com -P -O
```

6. Upgrade user and group entries to point to the new mailhost.

Using `imsdirmig`:

```
imsdirmig -h -b "o=internet" -M sims -F  
(mailhost=store1.siroe.com) -D "cn=Directory Manager" -w secret  
-m both -A mailhost:newstore1.siroe.com -O
```

In this case all user/group entries under `o=internet` are assigned a new mailhost and are upgraded to the new schema.

7. Configure `dirsync` to support the new multi-system schema by using `configutil` to add the following two parameters:

```
instance_root/configutil -o local.imta.schematag -v "ims50,sims40"  
instance_root/configutil -o local.imta.ugfilter -v  
(|(objectClass=inetLocalMailRecipient)(|(objectClass=inetMailUse  
r)(objectclass=inetmailGroup)))
```

8. Start the `stored`.

```
instance_root/start stored
```

9. Run a full `dirsync` on the upgraded backend store `newstore1.siroe.com`.

This will allow the new server to start accepting messages from the SMTP servers:

```
instance_root/imsimta dirsync -F
```

10. Start the messaging server.

Start all other server processes using the `'start-msg'` command. At this point, the iPlanet Messaging Server is fully functional (users can log in, new messages can be delivered, etc.).

Old messages will not be retrievable until after the SIMS message store is migrated to the iPlanet Messaging Server message store. In addition, when old messages are migrated from SIMS, they will be mixed in with new messages that went directly into the iPlanet Messaging Server message store. This could result in some incorrect ordering of the messages.

NOTE The default configuration of the newly installed iPlanet Messaging Server blocks all SMTP relaying. To align default configuration to your site policy, refer to "SMTP Relay Function," on page 24.

11. After migration, ensure that the `mailhosts` and `preferredmailhost` attributes of domains whose attribute values were set to `store1.siroe.com` are now set to `newstore1.siroe.com`. For example, use the following `ldapsearch` command to find the domain mail entries where `preferredmailhost` needs to be modified:

```
ldapsearch -h ldapmaster.siroe.com -b "o=internet"  
"(&(objectclass=maildomain)(preferredmailhost=store1.siroe.com))"  
"
```

Use the following `ldapsearch` command to find the domain mail entries where `mailhosts` needs to be modified:

```
ldapsearch -h ldapmaster.siroe.com -b "o=internet"  
"(&(objectclass=maildomain)(mailhosts=store1.siroe.com))"
```

12. Run an incremental `dirsync` on all SMTP servers.

```
instance_root/imsimta dirsync
```

Messages to the migrated users will now be routed by the `inbound1.siroe.com` and `inbound2.siroe.com` to the `newstore1.siroe.com` message store.

13. Ensure that all the messages in the SIMS SMTP server queues server are processed.

At this point no messages will be routed by the inbound SMTP servers to the SIMS backend message store. Before shutting down the SIMS backend server make sure that all the messages in the MTA queues are delivered.

14. Stop SIMS by using `/opt/SUNWmail/sbin/im.server stop`.

Make sure all SIMS processes are stopped.

15. Migrate SIMS mailboxes to iPlanet Messaging Server.

This step is accomplished by backing up the SIMS message store using `imsbackup` and restoring the message store to the iPlanet Messaging Server using `imsrestore`. The procedures are described below.

NOTE If the LDAP directory has any user identifications (UIDs) with uppercase characters, then you **MUST** use `imsrestore` with the `-u filename` option to rename the user's SIMS message store—which is always lowercase—to the UID in the LDAP directory that has uppercase characters.

For example, if your LDAP directory has two UIDs with upper-case characters called `Anderson` and `Kolander`, you will have two user message stores in SIMS called `anderson` and `kolander`. You will need to use the `-u filename` option with `imsrestore` to rename those iPlanet Messaging Server message stores to `Anderson` and `Kolander`. The contents of `filename` would be:

```
anderson=Anderson
kolander=Kolander
```

Failure to do this, will result in user's with uppercase characters in their UIDs NEVER being able to access their migrated mail. If the LDAP directory has no UIDs with uppercase characters, then you do not need to follow these procedures.

NOTE Characters in a mailbox name that are not encoded in UTF-7 (Modified Unicode Transformation Format, see RFC 2060) will be replaced with blank spaces by `imsrestore`. Users can correct folder names through their mail client. To avoid folder names being translated into the same name, use the `-n` option of `imsrestore`.

Run this command on `newstore1.siroe.com`

```
rsh store1.siroe.com /opt/SUNWmail/sbin/imsbackup -f- -u user |
server_root/bin/msg/store/bin/imsrestore -f- -cy -n -v1
```

where `user` is a file containing user mailbox names. Split the user entries into equal groups for each user and run 10 to 15 such backup and restore sessions at the same time for the optimal way to maximize the restore speed into the new message store.

NOTE Do not disable `fsync` using `configutil -o "local.store.synclevel" -v 0`

Old messages will not be retrievable until after the SIMS message store is migrated to the iPlanet Messaging Server message store. The situation may arise where they see a temporarily empty mailbox. In addition, when old messages are migrated from SIMS, they will be mixed in with new messages that went directly into the iPlanet Messaging Server message store. This could result in some incorrect ordering of the messages.

16. Repeat this process for all other SIMS backend message store servers.

Go to step 1.

17. After all backend message stores have been migrated do the following steps.

- a. Upgrade user and group entries to use iPlanet Messaging Server schema.

Using `imsdirmig`:

```
imsdirmig -h ldapmaster.siroe.com -b "o=internet" -M sims -D  
"cn=Directory Manager" -w secret -m both
```

In this case all user/group entries under `o=internet` are upgraded to the new schema.

- b. Disable multi-schema support on all SMTP servers (backend message store servers, SMTP relay servers, etc.).

Once all the directory entries have been upgraded to iPlanet Messaging Server schema, multi-schema support is no longer needed. Using `configutil`, delete the following two parameters:

```
instance_root/configutil -o local.imta.schematag -v ""  
instance_root/configutil -o local.imta.ugfilter -v ""
```

- c. Before installing the iPlanet Delegated Administrator for Messaging, add the appropriate ACIs.

The `imsdaaci` command, packaged with the migration toolkit and shown below, generates an LDIF file that can be used to create a Delegated Administrator Service Administrator Group and Delegated Administrator Domain Administrator Group along with the required ACIs.

```
server_root/bin/msg/migrate/bin/imsdaaci
```

Use `ldapmodify` to add the LDIF file into the DIT. For an explanation of the ACIs refer to the *iPlanet Messaging Server Provisioning Guide*

Migrating SIMS Message Store Servers to the iPlanet Messaging Server Using the Incremental Migration Method

Before migrating the backend messaging servers, be sure all message access proxy servers, and SMTP relay servers have been upgraded. For a discussion of the advantages and disadvantages of incremental migration, refer to “Off-line Message Store Migration,” on page 30.

Assumptions:

- iPlanet Messaging Server will be installed on a new host and will replace SIMS 4.0.
- iPlanet Messaging Server will use the existing user/group directory server and the configuration directory server.
- The directory server is Netscape Directory Server 4.12 and can be on the same host as SIMS, or on a different host. A new directory server has already been installed to hold the iPlanet Messaging Server configuration data (see “Installing a Configuration Server,” on page 69). The user/group directory, that is, the directory supporting SIMS, will support the new iPlanet Messaging Server with the same (but upgraded) user, group, and domain entries.
- SIMS user mailboxes will be migrated in batches rather than all at once.
- These assumptions are for an example of a system being installed on a new host. Assumptions:
 - SIMS user/group Directory Suffix: `o=internet`
 - SIMS Mail server name: `store1.siroe.com`
 - iPlanet Messaging Server Mail server name: `newstore1.siroe.com`
 - Master Directory Server: `ldapmaster.siroe.com`
 - Master Directory server network port: `389`
 - Configuration Directory Server: `ldapmaster.siroe.com`
 - Configuration Directory server network port: `390`
 - Directory Server Bind password: `secret`
 - SIMS Default Organization DN: `dc=siroe,dc=com,o=internet`

Migration Procedures

1. Install and configure the iPlanet Messaging Server on the new machine (newstore1.siroe.com).

Do not install a new directory server. Enter 1,3,4 for the following prompt:

Components with a number in () contain additional subcomponents which you can select using subsequent screens.

1. Netscape Server Products Core Components (3)
2. Netscape Directory Suite (2)
3. Administration Services (2)
4. iPlanet Messaging Suite (5)

Specify the components you wish to install [All]: 1,3,4

When you are prompted for the configuration server enter the URL and port number. (The one installed as described in "Installing a Configuration Server," on page 69.)

Enter the non-secured LDAP URL of the server that contains the Configuration Directory using the form:

```
ldap://<hostname>:<port>
```

URL of Directory Server [ldap://newstore1.siroe.com:389]:

```
ldap://ldapmaster.siroe.com:390
```

2. Stop all server processes.

The installer starts all the server processes at the end of install. You will want to stop all processes after installation. As root do the following:

```
instance_root/stop-msg
```

3. Change the iPlanet Messaging Server configuration to make it point to the SIMS 4.0 user/group directory.

Use `configutil` to change the following configuration parameters:

```
local.ugldapbasedn = o=internet (Suffix which SIMS 4.0 used to store their users)
```

```
local.ugldapbinddn = "cn=Directory Manager" (DS bind DN)
```

```
local.ugldapbindcred = secret (DS bind password)
```

```
local.ugldapdeforgdn = "dc=siroe,dc=com,o=internet" (Default organization DN)
```

```
local.ugldaphost = ldapreplica1.siroe.com (The host where ldap replica is located)
```

```
local.ugldapport = 389
```

4. If the old SIMS server is using "+" as the login separator, we need to change it in iPlanet Messaging Server as well, since "@" is the default. You can use the following command:

```
configutil -o service.loginseparator -v +
```

5. Configure the `dirsync` command in the iPlanet Messaging Server (`newstore1.siroe.com`) to support multi-schema LDAP entries. This is done by using `configutil` to set the following three parameters:

```
instance_root/configutil -o local.imta.schematag -v "sims40,ims50"
instance_root/configutil -o local.imta.ugfilter -v
"(|(objectClass=inetLocalMailRecipient)(|(objectClass=inetMailUser)(objectClass=inetMailGroup)))"
instance_root/configutil -o local.imta.sims_migrate -v True
```

6. Start the `stored`.

```
instance_root/start stored
```

7. Do a full `dirsync`.

```
instance_root/imsimta dirsync -F
```

8. Start all server processes on `newstore1.siroe.com`

```
instance_root/start-msg
```

NOTE The default configuration of the newly installed iPlanet Messaging Server blocks all SMTP relaying. To align default configuration to your site policy, refer to "SMTP Relay Function," on page 24.

9. After migration, ensure that the `mailhosts` and `preferredmailhost` attributes of domains whose attribute values were set to `store1.siroe.com` are now set to `newstore1.siroe.com`. For example, use the following `ldapsearch` command to find the domain mail entries where `preferredmailhost` needs to be modified:

```
ldapsearch -h ldapmaster.siroe.com -b "o=internet"
"(&(objectclass=maildomain)(preferredmailhost=store1.siroe.com))"
"
```

Use the following `ldapsearch` command to find the domain mail entries where `mailhosts` needs to be modified:

```
ldapsearch -h ldapmaster.siroe.com -b "o=internet"
"(&(objectclass=maildomain)(mailhosts=store1.siroe.com))"
```

10. Migrate a batch of user mailboxes from `store1.siroe.com` to `newstore1.siroe.com`

You can minimize user downtime (the amount of time users are blocked from accessing their mailboxes) by selecting a subset of users to migrate to the new system. We recommend migrating a small number of users at first to see how the process works. For each batch of users, perform the following steps.

- a. Select a batch of users to migrate. Notify users that they will not be able to access their mail during the migration process.
- b. Direct all incoming messages to these users into the Hold Channel instead of their mailboxes and lock the user's mailboxes so that they cannot be opened during migration. The command is:

```
imsdirmig -h ldapmaster.siroe.com -b
"dc=siroe,dc=com,o=internet" -M sims -D "cn=Directory
Manager" -w secret -m users -F "(uid=s*)" -A
mailDeliveryOption:hold\;mailFolderMap:LOCK -O
```

In the above example, all the user entries in `siroe.com` whose `uid` value begins with an "s" (you can use any LDAP filter as per the RFC-1558) are updated with the new attributes values for `mailDeliveryOption` and `mailFolderMap`. Note that this command does not upgrade the entry's to support the iPlanet Messaging Server schema. This will occur later in the migration process.

After this command is run, these users cannot access their mailboxes, though they can continue to send mail. Incoming mail is saved in the Hold channel and will be delivered to the mailbox at the end of this process.

- c. Run `dirsync` on the inbound and outbound SMTP relay hosts as well as `store1.siroe.com` and `newstore1.siroe.com` to pick up the routing changes specified in the previous step.

- d. Convert and move the batch of SIMS users to the iPlanet Messaging Server message store as follows (on iPlanet Messaging Server).

This step is accomplished by backing up the SIMS message store using `imsbackup` and restoring the message store to the iPlanet Messaging Server using `imsrestore`. The procedures are described below.

NOTE If the LDAP directory has any user identifications (UIDs) with uppercase characters, then you **MUST** use `imsrestore` with the `-u filename` option to rename the user's SIMS message store—which is always lowercase—to the UID in the LDAP directory that has uppercase characters.

For example, if your LDAP directory has two UIDs with upper-case characters called `Anderson` and `Kolander`, you will have two user message stores in SIMS called `anderson` and `kolander`. You will need to use the `-u filename` option with `imsrestore` to rename those iPlanet Messaging Server message stores to `Anderson` and `Kolander`. The contents of `filename` would be:

```
anderson=Anderson
kolander=Kolander
```

Failure to do this, will result in user's with uppercase characters in their UIDs NEVER being able to access their migrated mail. If the LDAP directory has no UIDs with uppercase characters, then you do not need to follow these procedures.

NOTE Characters in a mailbox name that are not encoded in UTF-7 (Modified Unicode Transformation Format, see RFC 2060) will be replaced with blank spaces by `imsrestore`. Users can correct folder names through their mail client. To avoid folder names being translated into the same name, use the `-n` option of `imsrestore`.

```
rsh store1.siroe.com /opt/SUNWmail/ims/sbin/imsbackup -f- -u
user_file | server_root/bin/msg/store/bin/imsrestore -f- -cy -n -v1
```

`imsbackup` is executed on the SIMS host. `user_file` is a file containing user mailbox names. Split the user entries into equal groups for each user file and run 10 to 15 concurrent backup and restore sessions to maximize the restore speed. `imsrestore` is run on the iPlanet Messaging Server host.

- e. Change the user entries to point to the new iPlanet Messaging Server and unset the mailbox hold by setting `mailDeliveryOption=mailbox`, and `mailhost:newmail.siroe.com` in the user entries. Use `imsdirmig` with `-O` and `-A` options:

```
imsdirmig -h ldapmaster.siroe.com -b
"dc=siroe,dc=com,o=internet" -M sims -D "cn=Directory
Manager" -w secret -m users -F "(uid=s*)" -O -A
mailDeliveryOption:mailbox\;mailhost:newstore1.siroe.com
```

Migrated users can now access their mailboxes.

- f. Run an incremental `dirsync` on `newstore1.siroe.com`, `store1.siroe.com`, and all the relay servers. Messages to the migrated users will now be routed by the inbound SMTP relay servers to the `newstore1.siroe.com` message store.
- g. Drain the hold queue on `store1.siroe.com` and `newstore1.siroe.com` to redirect all messages that came into the system while users mailbox was being moved to the new server, `newstore1.siroe.com`:

```
/opt/SUNWmail/imta/sbin/hold_master -u uid -d domain
```

You can write a script to do more than one user at a time.

11. Migrate the next batch of users and mailing lists. See previous step.
12. For mailing list entries, change the `mailhost` attribute to the fully qualified name of the new iPlanet Messaging Server host (example: `newstore1.siroe.com`). If this is not done, mail will be misdirected to the old SIMS server when a local delivery is attempted.

```
imsdirmig -h ldapmaster.siroe.com -b
"dc=siroe,dc=com,o=internet" -M sims -D "cn=Directory Manager" -w
secret -m groups -F "(objectclass=inetmailgroup)" -O -A
mailhost:newstore1.siroe.com
```

This upgrades the LDAP entries for all groups .

13. Ensure that all the messages in the SMTP server queues server are processed and that the queues are empty.

One way to do this is to stop dispatcher:

```
/opt/SUNWmail/sbin/imta stop dispatcher
```

At this point the SMTP server is shut down, however the job controller continues to process messages in the queue. You can verify that the queues are empty by entering the following command:

```
/opt/SUNWmail/sbin/imta qm counters
```

14. After all mailboxes are migrated, then `store1.siroe.com` is ready to be decommissioned.
15. Repeat the previous steps for all backend servers.
16. After all backend message stores are migrated, do the following:

- a. Upgrade ALL user/group directory entries to the iPlanet Messaging Server schema using `imsdirmig`:

```
imsdirmig -h ldapmaster.siroe.com -b "o=internet" -M sims -D  
"cn=Directory Manager" -w secret -m both
```

- b. Disable multi-schema support on all SMTP servers.

Once all the directory entries have been upgraded to the iPlanet Messaging Server schema, multi-schema support is no longer needed. Using `configutil`, delete the following two parameters on all SMTP servers (message store servers and all inbound and outbound relay servers):

```
instance_root/configutil -o local.imta.schematag -v ""  
instance_root/configutil -o local.imta.ugfilter -v ""
```

- c. Start the `stored` on all SMTP servers (message store servers and all inbound and outbound relay servers).

```
instance_root/start stored
```

- d. Run the command `imsimta dirsync -F` on all SMTP servers (message store servers and all inbound and outbound relay servers).

- e. Before installing the iPlanet Delegated Administrator for Messaging, add the appropriate ACIs.

The `imsdaaci` command, packaged with the migration toolkit and shown below, generates an LDIF file that can be used to create a Delegated Administrator Service Administrator Group and Delegated Administrator Domain Administrator Group along with the required ACIs.

```
server_root/bin/msg/migrate/bin/imsdaaci
```

Use `ldapmodify` to add the LDIF file into the DIT. For an explanation of the ACIs refer to the *iPlanet Messaging Server Provisioning Guide*

Addendum

Message store configuration can be modified (as shown below) to enhance mailbox migration performance on the first batch of users. However, it is unsafe to run a live messaging server with this configuration in place. Our recommendation is to reset the configuration change once the first batch of user mailboxes have been migrated from the SIMS server to the iPlanet Messaging Server.

Steps for mailbox migration optimization:

1. Stop the messaging server after Step 10Step c.

```
instance_root/stop-msg
```

2. Set the sync level to 0.

```
instance_root/configutil -o "local.store.synclevel" -v 0
```

3. Start the store daemon.

```
instance_root/start stored
```

4. Return to Step 10Step d.

5. After the first batch of mailbox migrations is complete, reset the sync level.

```
configutil -o "local.store.synclevel" -v 1
```

6. Restart the messaging server processes.

```
instance_root/start-msg
```

Upgrading a Netscape Messaging Server Multi-Server Deployment

This section describes the process of upgrading a Netscape Messaging Server multi-server deployment to an iPlanet Messaging Server deployment. The basic steps are as follows:

1. "Adding the Required Naming Contexts," on page 98.
2. "Upgrading Netscape Messaging Server SMTP Relay Servers," on page 99.
3. "Upgrading Netscape Messaging Server MMP Servers," on page 103.
4. "Migrating Netscape Messaging Server Backend Message Stores," on page 103

Adding the Required Naming Contexts

In order to use the existing user/group directory, you must create the required DC and Organization Tree root suffixes and additional directory indices in the user/group directory server. This is described below.

1. Run `ims_dssetup.pl` against the Netscape Messaging Server user/group LDAP server (`ldapmaster.siroe.com`).

Below is an example screen prompts with the appropriate responses:

Welcome to the iMS Directory Server preparation tool.

This tool will help you setup a Netscape Directory Server and make it ready to use for installing iPlanet Messaging Server.

Do you want to continue [y]:

Please enter the full path to the directory where Netscape Directory Server was installed.

Directory server root [/usr/netscape/server4]:

Please select a directory server instance from the following list:

[1] slapd-users

Which instance do you want [1]:

Please enter the base suffix for DC Tree [o=internet]:

Please enter the base suffix under which the Users/Groups data should be setup [o=siroe.com]:

Do you want to update the schema files [yes]: no

Do you want to configure new indexes [yes]:

Please enter the schema directory [/cdrom/cdrom0/solaris/iMS/msg/config]:

Here is a summary of the settings that you chose:

Server Root:	/usr/netscape/server4
Server Instance:	slapd-users
Update Schema:	no
DC Root:	o=internet
User/Group Root:	o=siroe.com
Add New Indexes:	yes
Schema Directory:	/cdrom/cdrom0/solaris/iMS/msg/config

Do you want to continue [y]:

The script proceeds to create the naming contexts and index the new attributes.

2. Restart the Netscape Messaging Server user/group directory server

```
instance_root/restart-slapd
```

Upgrading Netscape Messaging Server SMTP Relay Servers

1. Before upgrading any SMTP or mail multiplexor (called proxy servers in SIMS) servers, you must first add the merged schema files (`merged.oc.conf` and `merged.at.conf`) to the directory server. Refer to “Supporting a Multiple Schemas,” on page 120.
2. Ensure that all the messages in the SMTP server queues server are processed and that the queues are empty.

One way to do this is to change the SMTP port number and restart the SMTP server. This allows the server to continue processing any messages in the queue while not accepting messages on the standard SMTP port.

```
instance_root/configutil -o service.smtp.port -v 901  
instance_root/stop-msg smtp  
instance_root/start-msg smtp
```

You can verify that the queues are empty by entering the following command:

```
/usr/bin/mailq
```

3. Stop the old SMTP Server. During this time, incoming messages will be handled by the second inbound SMTP server.
4. Install and configure the iPlanet Messaging Server. Use the default selections except when you see the following screen prompts:
 - a. Do not install a new directory server. Enter 1,3,4 for the following prompt:

Components with a number in () contain additional subcomponents which you can select using subsequent screens.

1. Netscape Server Products Core Components (3)
2. Netscape Directory Suite (2)
3. Administration Services (2)
4. iPlanet Messaging Suite (5)

Specify the components you wish to install [All]: 1,3,4

- b. When you are prompted for the configuration server enter the URL and port number. (The one installed as described in “Installing a Configuration Server,” on page 69.)

Enter the non-secured LDAP URL of the server that contains the Configuration Directory using the form:

```
ldap://<hostname>:<port>
```

URL of Directory Server [ldap://inbound1.siroe.com:389]:

```
ldap://ldapmaster.siroe.com:390
```

- c. For the following install prompt:

Default Organization DN [o=siroe.com,o=siroe.com]:

Use the default value (o=siroe.com,o=siroe.com). Note that this is not where the Netscape Messaging Server user/group entries reside. The entries will remain in the current namespace for now.

5. After the iPlanet Messaging Server is installed, change the value of the `inetdomainbasedn` attribute in the default domain entry of the DC Tree (in this case `dc=siroe,dc=com,o=internet`) to the DN where the Netscape Messaging Server users are located (in this case, `o=siroe.com`). Also, use `configutil` to set `local.ugldapdeforgdn` to `o=siroe.com`

```
instance_root/configutil -o "local.ugldapdeforgdn" -v "o=siroe.com"
```

By default the installer configures the default domain to look for users/groups in `o=siroe.com,o=siroe.com`, but the existing Netscape Messaging Server users and groups are located under `o=siroe.com`. Thus DN reference of the DT tree domain node `siroe.com` must point at the correct organization subtree. See “Using Existing Directory Information Trees in the iPlanet Messaging Server,” on page 121 on how this change allows iPlanet Messaging Server to recognize the existing Netscape Messaging Server users/groups in the user/group directory server.

6. Configure `dirsync` to support the new multi-system schema:

```
instance_root/configutil -o local.imta.schematag -v "ims50,nms41"
```

```
instance_root/configutil -o local.imta.ugfilter -v  
( |(objectClass=inetLocalMailRecipient)( |(objectClass=mailRecipient)  
nt)(objectclass=mailGroup))
```

7. If the old Netscape Messaging Server SMTP relay server is using “+” as the login separator, change it in the iPlanet Messaging Server as well, since “@” is the default. This allows users to do SMTP AUTH using the existing login separator.

Use the following command:

```
configutil -o service.loginseparator -v +
```

8. If this is an outbound SMTP server, enable SMTP relaying as per your site policy.
 - a. Add the `dequeue_removeoute` option into `tcp_local` and `tcp_intranet` channel in `imta.cnf` file.

The channels blocks will look like this:

```
! tcp_local
tcp_local smtp mx single_sys remotehost inner switchchannel \
identnonelimited subdirs 20 maxjobs 7 pool SMTP_POOL \
maytlsserver maysaslserver saslswitchchannel tcp_auth \
dequeue_removeoute
tcp-daemon
```

```
!
! tcp_intranet
tcp_intranet smtp mx single_sys subdirs 20 noreverse \
maxjobs 7 pool SMTP_POOL maytlsserver allowswitchchannel \
saslswitchchannel tcp_auth dequeue_removeoute
tcp_intranet-daemon
```

- b. If you want to allow all the nodes on your class C network to relay through the server, edit the `mappings` file under `server_root/msg-instance/imta/config` by changing “* \$N” to “* \$Y”

```
+++++
INTERNAL_IP

    $(192.18.74.57/24)    $Y
    127.0.0.1            $Y
    *                    $Y
+++++
```

- c. You will want to change the configuration of the MTA to allow users on your internal network to relay mail through the server. To do this you need to change the INTERNAL_IP section of the mappings file under *server_root/msg-instance/imta/config*. As installed, iMS only permits relaying from the server itself. So if the ip address of the server is 192.168.23.23, the INTERNAL_IP mapping as installed would be

```

+++++
INTERNAL_IP

    $(192.168.23.23/32)      $Y
    127.0.0.1              $Y
    *                      $N
+++++

```

If your internal network is a class C network, then this should be changed to read:

```

+++++
INTERNAL_IP

    $(192.168.23.0/24)     $Y
    127.0.0.1              $Y
    *                      $N
+++++

```

- d. Then run the command `imsimta cnbuild`. At this point you have a fully functioning relay server.

- e. Start the `stored`.

```
instance_root/start stored
```

- f. Do a full `dirsnc`:

```
instance_root/imsimta dirsnc -F
```

- g. Start the SMTP server.

```
instance_root/start-msg smtp
```

For more information on enabling SMTP relaying, see “Adding SMTP Relaying,” on page 21.

Upgrading Netscape Messaging Server MMP Servers

1. Before upgrading any SMTP or mail multiplexor servers, you must first add the merged schema files (`merged.oc.conf` and `merged.at.conf`) to the directory server. Refer to “Supporting a Multiple Schemas,” on page 120.
2. When you installed the SMTP server, the installer created a DC Tree in `ldapmaster.siroe.com`. However, there is no replication agreement between the master and the replicas to replicate the data in the DC Tree. You must create this replication agreement. Refer to the *Netscape Directory Server Administrator's Guide*.
3. Stop the old Netscape Messaging Server MMP Server.
4. Install and configure the MMP server. Use the default selections except when you see the following screen prompt:

```
Please enter the LDAP URL to the domain component tree
[ldap://siroe.com:389/o=internet]: ldap://ldapreplica2.siroe.com:389/o=internet
```

Enter the Netscape Messaging Server LDAP server information. This is the existing Netscape Messaging Server user/group LDAP server.

Migrating Netscape Messaging Server Backend Message Stores

Before migrating the backend messaging servers, be sure all MMPs and SMTP relay servers have been upgraded.

Assumptions:

- iPlanet Messaging Server will replace Netscape Messaging Server 4.x on the same server.
- iPlanet Messaging Server will use the existing user/group directory server and the configuration directory server installed earlier.
- iPlanet Messaging Server DC Tree Suffix: `o=internet`
Master Directory Server: `ldapmaster.siroe.com`
Master Directory server network port: 389
Configuration Directory Server: `ldapmaster.siroe.com`
Configuration Directory server network port: 390
Directory Server Bind DN: `cn=Directory Manager`
Directory Server Bind password: `secret`

Netscape Messaging Server user/group base DN: `o=siroe.com`
iPlanet Messaging Server Default Organization DN:
`dc=siroe,dc=com,o=internet`
iPlanet Messaging Server server user: `mailsrv`

Migration Procedures for UNIX

We strongly recommend backing up the message store before attempting migration.

1. Ensure that all the messages in the SMTP server queues server are processed and that the queues are empty.

One way to do this is to change the SMTP port number and restart the SMTP server. This allows the server to continue processing any messages in the queue while not accepting messages on the standard SMTP port.

```
instance_root/configutil -o service.smtp.port -v 901  
instance_root/stop-msg smtp  
instance_root/start-msg smtp
```

You can verify that the queues are empty by entering the following command:

```
/usr/bin/mailq
```

2. Stop Netscape Messaging Server 4.x.

```
instance_root/stop-msg
```


3. Install and configure the iPlanet Messaging Server.

Do not install a new directory server. Enter 1,3,4 for the following prompt:

Components with a number in () contain additional subcomponents which you can select using subsequent screens.

1. Netscape Server Products Core Components (3)
2. Netscape Directory Suite (2)
3. Administration Services (2)
4. iPlanet Messaging Suite (5)

Specify the components you wish to install [All]: 1,3,4

When you are prompted for the configuration server enter the URL and port number. (The one installed as described in “Installing a Configuration Server,” on page 69.)

Enter the non-secured LDAP URL of the server that contains the Configuration Directory using the form:

```
ldap://<hostname>:<port>
```

URL of Directory Server [ldap://store1.siroe.com:389/]: ldap://ldapmaster.siroe.com:390

4. Stop all server processes.

```
instance_root/stop-msg
```

5. Map or modify the existing Netscape Messaging Server directory namespace to the iPlanet Messaging Server directory namespace.

Refer to “Using Existing Directory Information Trees in the iPlanet Messaging Server,” on page 121.

6. Set the default Organization Tree.

- a. Use `configutil` to set `local.ugldapdeforgdn` to `o=siroe.com`

```
instance_root/configutil -o "local.ugldapdeforgdn" -v  
"o=siroe.com"
```

`o=siroe.com` is the DN of the Organization Tree that corresponds to the default domain.

- b. Use `configutil` to set `local.service.pab.migrate415` to 1

```
./configutil -o local.service.pab.migrate415 -v 1
```

7. Migrate the Netscape Messaging Server message store to iPlanet Messaging Server message store.

Change the primary store partition path to point at the Netscape Messaging Server 4.x message store path as follows:

- a. Use the iPlanet Messaging Server Admin Console to change the message store configuration to point at all the Netscape Messaging Server 4.x mail store partitions. (See *iPlanet Messaging Server Administrators Guide*.)

NOTE When cleaning out Netscape Messaging Server 4.x do not remove the message store directories as this is where the message store data resides.

- b. Remove user subscriptions directory:

```
rmdir IMS_server_root/msg-instance/store/user/
```

- c. Set up a symbolic link to the Netscape Messaging Server user's subscriptions folders:

```
ln -s NMS_server_root/msg-instance/store/user/
    IMS_server_root/msg-instance/store/user/
```

- d. Copy the mboxlist file:

```
cp NMS_server_root/msg-instance/store/mboxlist/data.db2
    IMS_server_root/msg-instance/store/mboxlist/folder.db
```

- e. Copy the quota files:

```
cp NMS_server_root/msg-instance/store/quota.db2
    IMS_server_root/msg-instance/mboxlist/quota.db
```

- f. Make sure files are owned by the mail server user. Example:

```
chown mailsrv IMS_server_root/msg-instance/store/mboxlist/*
```

- g. Do not copy any other files!

8. Configure dirsync to support the new multi-system schema by using configutil to add the following two parameters:

```
instance_root/configutil -o local.imta.schematag -v "ims50,nms41"
```

```
instance_root/configutil -o local.imta.ugfilter -v
"(|(objectClass=inetLocalMailRecipient)(|(objectClass=mailRecipient)(objectclass=mailGroup)))"
```

9. Start the stored.

```
instance_root/start stored
```

10. Run a full dirsync on store server.

```
instance_root/imsimta dirsync -F
```

11. Restart the iPlanet Messaging Server.

The mail server is now available for use. At this time iPlanet Messaging Server is working off the old directory entries in `ldapmaster.siroe.com` using multi-schema support. New user and group entries will be created in the new directory nodes.

NOTE The default configuration of the newly installed iPlanet Messaging Server blocks all SMTP relaying. To align default configuration to your site policy, refer to "SMTP Relay Function," on page 24.

12. Upgrade quota database to enable new features.

Run the following as mail server user:

```
su mailsrv
cd iMS_server_root/bin/msg/admin/bin
setenv CONFIGROOT iMS_server_root/msg-instance/config
./reconstruct -q
exit
```

13. Repeat these procedures for all backend servers.

14. After all backend servers are migrated do the following steps:

- a. Upgrade user/group entries to the iPlanet Messaging Server schema using `imsdirmig`:

```
imsdirmig -h ldapmaster.siroe.com -b "o=siroe.com" -M nms -D
"cn=Directory Manager" -F "(!(cn=postmaster))" -w secret -m
both
```

`-F "(!(cn=postmaster))"` is a filter which excludes the postmaster entry from migration processing. If such a filter is not specified, `imsdirmig` fails to process the entry and exits on the resulting error. (`-c` can be specified to force `imsdirmig` to continue processing after it encounters an error.)

- b. Disable multi-schema support for all SMTP servers.

Once all the directory entries have been upgraded to iPlanet Messaging Server schema, multi-schema support is no longer needed. Using `configutil`, delete the following two parameters:

```
instance_root/configutil -o local.imta.schematag -v ""
instance_root/configutil -o local.imta.ugfilter -v ""
```

Migration Procedures for Windows NT

We strongly recommend backing up the message store before attempting migration.

1. Ensure that all messages in the SMTP server queues are processed and that the queues are empty.

One way to do this is to change the SMTP port number and restart the SMTP server. This allows the server to continue processing any messages in the queue while not accepting messages on the standard SMTP port.

```
instance_root\configutil -o service.smtp.port -v 901
instance_root\stop-msg smtp
instance_root\start-msg smtp
```

Wait for the queue to empty.

2. Run `perl ims_dssetup.pl` against the Netscape Messaging Server LDAP server; when prompted by `ims_dssetup.pl` to update the DS schema, chose to update the schema.
3. Enable multi-schema support (SIMS/Netscape Messaging Server/iPlanet Messaging Server) by adding the merged schema files (`merged.oc.conf` and `merged.at.conf`) to the directory server. Refer to "Supporting Multiple Schemas" in Appendix B of the *iPlanet Messaging Server Migration Guide*. Also, comment out any `include` directives for the following schema files added in the previous step: `um50-common-schema.conf` and `ims50-schema.conf` by adding a `#` before the `include` keyword and following the steps outlined in that step.

See the *iPlanet Messaging Server Installation Guide* for details.

4. Uninstall Netscape Messenger Server only, and choose to preserve the user mail store. Do not uninstall Directory Server.
5. Rename the `msg-instance` directory (where the user mail store is located) to another name, such as "mailstore".
6. Re-implement Netscape Messaging Server vanity domains in iPlanet Messaging Server.

7. Install iPlanet Messaging Server in the same server directory where Netscape Messaging Server is located. Choose NOT to install Directory Server. For the following install prompt, Default Organization DN [o=siroe.com,o=OldDirRoot], use the default value (o=siroe.com,o=OldDirRoot). Note that this is not where the Netscape Messaging Server user entries reside. The entries will remain in the current namespace for now.

8. Stop all server processes.

```
instance_root/stop-msg
```

9. Map or modify the existing Netscape Messaging Server directory namespace to the iPlanet Messaging Server directory namespace.

Refer to "Using Existing Directory Information Trees in the iPlanet Messaging Server" in Appendix B of the *iPlanet Messaging Server Migration Guide*.

10. Set the default Organization Tree.

Use configutil to set local.ugldapdeforgdn to o=sesta.com

```
instance_root/configutil -o "local.ugldapdeforgdn" -v "o=sesta.com"
```

o=sesta.com is the DN of the Organization Tree that corresponds to the default domain.

11. Migrate the Netscape Messaging Server message store to iPlanet Messaging Server message store.

Change the primary store partition path to point at the Netscape Messaging Server 4.x message store path as follows:

- a. Use the iPlanet Messaging Server Administration Console to change the message store configuration to point to all the Netscape Messaging Server 4.x mail store partitions (*mailstore* is the example given in step 5).
- b. Remove the user subscriptions directory.
- c. Copy the Netscape Messaging Server message store:

```
NMSServerRoot/mailstore/store/user/
```

to:

```
iMSServerRoot/msg-instance/store/user/
```

(*mailstore* is the example given in step 5.)

- d. Copy the `mbxlist` file:

```
NMSServerRoot/mailstore/store/mboxlist/data.db2
```

to

```
iMSServerRoot/msg-instance/store/mboxlist/folder.db
```

- e. Copy the quota files:

```
NMSServerRoot/mailstore/store/quota.db2
```

to

```
iMSServerRoot/msg-instance/mboxlist/quota.db
```

- f. Do not copy any other files!

12. Configure `dirsync` to support the new multi-system schema by using `configutil` to add the following two parameters:

```
instance_root/configutil -o local.imta.schematag
```

```
-v "ims50,nms41"
```

```
instance_root/configutil -o local.imta.ugfilter
```

```
-v (|(objectClass=inetLocalMailRecipient)
```

```
(|(objectClass=mailRecipient) (objectclass=mailGroup)))
```

13. Start the `stored`.

```
instance_root/start stored
```

14. Run a full `dirsync` to pick up the user and group entries:

```
instance_root/imsimta dirsync -F
```

15. Restart iPlanet Messaging Server. You can now see the Netscape Messaging Server 4.x user mailboxes.

The mail server is now available for use. At this time iPlanet Messaging Server is working off the old directory entries in: `ldap.sesta.com` using multi-schema support. New user and group entries will be created in the new directory nodes.

NOTE The default configuration of the newly installed iPlanet Messaging Server blocks all SMTP relaying. To align default configuration to your site policy, refer to the iPlanet Messaging Server Migration Guide, Chapter 1, section titled "Netscape Messaging Server 4.x Regressions/Changes/Transitions," sub-section titled "SMTP Relay Function."

16. Upgrade the quota database to enable new features. Run the following as a mail server user:

```
cd iMSServerRoot/bin/msg/admin/bin  
reconstruct -q
```

17. Once the new server is up, upgrade all user and group directory entries to the iPlanet Messaging Server schema using `imsdirmig`:

```
imsdirmig -b "o=sesta.com" -M nms -D "cn=Directory Manager" -w  
secret -m both -F "!(cn=postmaster)"
```

18. Disable multi-schema support.

Once all the directory entries have been upgraded to iPlanet Messaging Server schema, multi-schema support is no longer needed. Using `configutil`, delete the following two parameters:

```
instance_root/configutil -o local.imta.schematag -v ""  
instance_root/configutil -o local.imta.ugfilter -v ""
```


Troubleshooting iPlanet Messaging Server Migrations

Backout Strategy

It is always advisable to have a backout strategy in case unforeseen problems with the new system arise and it becomes necessary to revert to the old system until the problems with the new system are resolved.

As long as directory entries have not been migrated to the new schema, it is possible to back out user migrations by simply reversing the steps:

1. Put the user back in the hold state by changing `mailUserStatus` to `hold`.
2. Backup and restore (or use `MoveUser`) to move the mailboxes back to the original system.
3. Update mail host to be the old system.
4. Take the user out of hold.
5. Process the hold queue on the new system to route any held mail back to the user's mailbox on the old system.

Errors During Directory Migration

`imsdirmig` migrates individual directory entries in what is called an "idempotent" fashion; if `imsdirmig` is told to migrate an entry that has already been migrated, it simply leaves the entry alone. Thus, all you have to do is keep restarting `imsdirmig` (after dealing with any reported errors) until `imsdirmig` reports that no directory entries were processed.

Command-Line Interface

This appendix describes the migration commands “`imsdirmig`,” on page 115 and “`imsdaaci`,” on page 117

imsdirmig

The `imsdirmig` command upgrades SIMS 4.0 or NMS 4.x directory entries (users, groups, domains) to use the attributes for the iPlanet Messaging Server schema. It can also add attribute value pairs to entries without upgrading to the new schema.

Synopsis

```
imsdirmig [-h ldaphost[:ldapport]] -D AdminDN -M mailserver -b dirname
[-A attr:val[\;attr:val ] [\;attr:val][...] [-P] [-O]] [-C configfile] [-F LDAPFilter]
[-T number] [-r val1[,val2][,val3][...]] [-c ] [-f logfile] [-l debuglevel]
[-m user|group|domain|both] [-n] [-w password]
```

Options

Option	Description
<code>-D <i>AdminDN</i></code>	Mandatory. Specifies the DN of the entry to bind to LDAP server. Typically administrator or directory manager DN.
<code>-M <i>mailserver</i></code>	Mandatory. Specifies if the mail server is <code>sims</code> (Sun Internet Mail Server) or <code>nms</code> (Netscape Messaging Server).

Option	Description
-b <i>DirectoryBaseDn</i>	Mandatory. Specifies the DN of the directory base containing the entries to be migrated. The DN is a starting point for fetching the entries.
-A <i>attr: val</i> [\ ; <i>attr: val</i>] [\ ; <i>attr: val</i>][. . .]	Specifies a separated list (;) of attribute value pairs to be set during migration. Default value is NULL <i>attr: val</i> pairs.
-P	Used in conjunction with -A. When specified, the attributes values provided in -A are added to existing value pairs instead of the default behavior of replacing the existing value pairs.
-C <i>configfile</i>	Specifies the configuration file. This file can be used to store command flags and parameters. See <i>config.fmt</i> for format.
-F <i>LDAPFilter</i>	Specifies the LDAP filter. The default value is NULL. See RFC 1558.
-O	Provides an optimization feature. If specified, <i>imsdirmig</i> processes only the <i>attr: val</i> pair specified in the -A option and does not apply the default migration. It is a quick-run option that applies just the migration rule supplied with -A option. This option is valid only with -A option.
-T <i>number</i>	Specifies the number of update threads to be spawned by <i>imsdirmig</i> . The default value is 2.
-c	Specifies continuous mode operation. When specified, <i>imsdirmig</i> reports any errors and continues the migration process. If omitted, <i>imsdirmig</i> stops after the first error it encounters. Whether the -c option is used or not, <i>imsdirmig</i> produces a report for all errors it encounters.
-f <i>logfile</i>	Specifies the report log file. The default location is <i>/var/tmp/toolname.<TimeStamp></i> .
-h <i>hostname[:port]</i>	Specifies the LDAP host and port of the master LDAP directory. The default value is local host. LDAP port is 389.
-l <i>debuglevel</i>	Specifies the level of debug information to be written to the debug file, which is stored in <i>/var/tmp/toolname.dbg</i> . Valid debug level values are: 0 - Default messages 1 - Messages that are treated as log always 2 - Error messages 3 - Warning messages 4 - Debug messages The default value is 0.
-m <i>user group domain both</i>	Specifies the entry type. The default value is <i>both</i> , which means user and group entry types.
-n	Specifies the preview option for all entries. The default value is NULL.

Option	Description
<code>-r val1[, val2] [, val3][...]</code>	<p>Specifies comma separated list of the report options. The values are:</p> <ul style="list-style-type: none"> <code>totals</code> - Lists the counts of entries migrated and entries not migrated because of errors by entry type. <code>nototals</code> - Does not list counts. <code>names</code> - Lists distinguished name of each entry as migration is done. <code>nonames</code> - Does not list distinguished name of each entry. <code>before</code> - Lists the values of all attributes examined by <code>imsdirmig</code> before any changes are made, for each entry examined. <code>nobefore</code> - Does not list values of all attributes before change. <code>after</code> - Lists values of all attributes altered by <code>imsdirmig</code> after any changes have been made, for each entry examined. <code>noafter</code> - Does not list attributes altered after any changes have been made. <p>The default values for report options are <code>totals</code>, <code>nonames</code>, <code>nobefore</code>, and <code>noafter</code>.</p>
<code>-w password</code>	<p>Specifies the bind password. If omitted, <code>imsdirmig</code> prompts for the password with echo suppressed.</p>

Example

```
imsdirmig -b "dc=com,o=internet" -M sims -D "cn=Directory Manager"
-w secret -m both -A mailhost:newmail.siroe.com
```

All user/group entries under `o=internet` are assigned a new mailhost and are upgraded to the new schema.

imsdaaci

The `imsdaaci` command creates an LDIF file used to create the Service Administrators group and Domain Administrators group along with the required ACIs. Use `ldapmodify` to add the groups and ACIs into the DIT. Note that the groups are empty and that in order for user(s) to have administrator privileges, one or more users must be made a member of the Service Administrator group. Refer to the section “Creating Top-level Administrators” in the *iPlanet Messaging Server Provisioning Guide*.

Synopsis

```
imsdaaci [-h LDAP_host] -D AdminDN -w password -b DC_Suffix [-p LDAP_Port] [-o OSI_Suffix]
```

Options

The options for this command are:

Option	Description
-D <i>AdminDN</i>	Mandatory. Specifies the administrator distinguished name.
-w <i>password</i>	Mandatory. Password for <i>AdminDN</i> .
-b <i>DC_Suffix</i>	Mandatory. Specifies the root suffix of the DC tree. Example: o=internet
-h <i>LDAP_host</i>	Optional. Specifies the host name for user/group LDAP server. The default value is local host.
-p <i>LDAP_Port</i>	Optional. Specifies the port number of the user/group LDAP server. The default value is 389.
-o <i>OSI_Suffix</i>	Optional. Specifies the root suffix of the OSI tree. When not specified, it defaults to the value of the DC suffix, which is typically used for existing SIMS deployments where the DC Tree contains the user/group data.

Example

```
imsdaaci -h ldap.siroe.com -D "cn=Directory Manager" -w secret -b "o=internet" -o "o=siroe.com"
```

Common Migration Procedures

This appendix describes procedures common to a number of migration scenarios. This appendix consists of the following sections:

- “Upgrading SIMS/Netscape Messaging Server to Netscape Directory Server 4.12,” on page 119.
- “Supporting a Multiple Schemas,” on page 120.
 - “Enabling Multi-schema Support On SIMS,” on page 120.
 - “Enabling Multi-schema Support On Netscape Messaging Server 4.x,” on page 121.
- “Using Existing Directory Information Trees in the iPlanet Messaging Server,” on page 121.
 - “Mapping an Netscape Messaging Server Namespace with a Single Domain to an iPlanet Messaging Server Namespace,” on page 122.
 - “Mapping a Netscape Messaging Server Namespace with Multiple Domains to an iPlanet Messaging Server Namespace,” on page 125.
 - “Using SIMS Directory Namespaces,” on page 128.

Upgrading SIMS/Netscape Messaging Server to Netscape Directory Server 4.12

Installations using Sun Directory Server or earlier versions of Netscape Directory Server should switch over to Netscape Directory Server 4.12 before installing the iPlanet Messaging Server. For information on upgrading from an earlier version of the Netscape Directory Server to version 4.12, refer to the Netscape Directory Server documentation. For information on installing the Netscape Directory

Server version 4.12 to use with SIMS 4.0, refer to Appendix A of the SIMS 4.0 Installation Guide at <http://docs.iplanet.com/docs/manuals/messaging/sims40/install/cookbook.doc.html#1000692>.

Supporting a Multiple Schemas

In some migration scenarios, it may be necessary to simultaneously support the iPlanet Messaging Server and SIMS 4.0 or Netscape Messaging Server 4.1 schemas while migration is taking place. This involves installing the merged schema files for SIMS and Netscape Messaging Server. The merged schema files must be installed on the LDAP master server as well as on all its replicas.

The two merged schema files, `merged.oc.conf` and `merged.at.conf`, provide schema support for the SIMS, the Netscape Messaging Server and iPlanet Messaging Servers. Depending on the operating system, these files are located at:

HP-UX: `CDRoot/HPUX/ims/msg/msg.zip`

Windows NT: `CDRoot/ntx86/ims/msg/msg.zip`

Solaris: `CDRoot/Solaris/ims/msg/msg.zip`

They are also packaged with the migration toolkit.

To install the merged schema file, copy the files to `server_root/slaped-instance/config`. Depending on whether you are running SIMS or the Netscape Messaging Server, you will need to perform a few more procedures. These are described below.

Enabling Multi-schema Support On SIMS

1. Comment out the following files from the `ns-schema.conf` file in the `config` directory of the Netscape Directory Server.

```
#include $INSTANCEROOT/ns-mail-schema.conf
```

2. Comment out the following files from the `slaped.conf` file in the `config` directory of the Netscape Directory Server being used.

```
#include $INSTANCEROOT/config/sims-sisp.at.conf
#include $INSTANCEROOT/config/sims-sisp.oc.conf
#include $INSTANCEROOT/config/sims.at.conf
#include $INSTANCEROOT/config/sims.oc.conf
```


3. Add the `merged.oc.conf` and `merged.at.conf` to the `ns-schema.conf` file using the appropriate `include` statements. Note that `merged.at.conf` must be included first. Example:

```
include "server_root/slapd-instance/config/merged.at.conf"
include "server_root/slapd-instance/config/merged.oc.conf"
```

4. Do a directory server restart (GUI or command line) to have the changes take effect.

Enabling Multi-schema Support On Netscape Messaging Server 4.x

1. Open file `server_root/slapd-instance/config/slapd.conf` and add the following two lines. (The `at.conf` files must precede the `oc.conf` file).

```
include "server_root/slapd-instance/config/merged.at.conf"
include "server_root/slapd-instance/config/merged.oc.conf"
```

2. In file `ns-schema.conf`, comment out the following line:

```
# include "server_root/slapd-instance/config/ns-mail-schema.conf"
```

3. Do a directory server restart (GUI or command line) to install the merged schema files.

Using Existing Directory Information Trees in the iPlanet Messaging Server

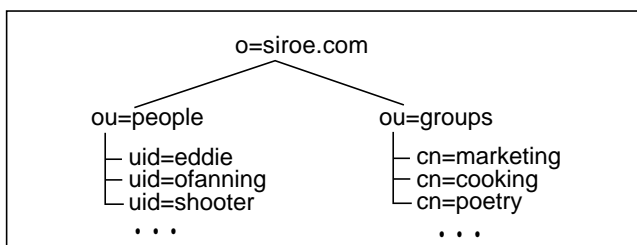
The iPlanet Messaging Server allows you to use the existing directory information trees (DITs) from your SIMS 4.0 deployments and some Netscape Messaging Server 4.1 deployments (see “Netscape Messaging Server 4.x Directory Namespace Limitations,” on page 18). This section describe the following namespace migration scenarios:

- “Mapping an Netscape Messaging Server Namespace with a Single Domain to an iPlanet Messaging Server Namespace,” on page 122.
- “Mapping a Netscape Messaging Server Namespace with Multiple Domains to an iPlanet Messaging Server Namespace,” on page 125.
- “Using SIMS Directory Namespaces,” on page 128.

Mapping an Netscape Messaging Server Namespace with a Single Domain to an iPlanet Messaging Server Namespace

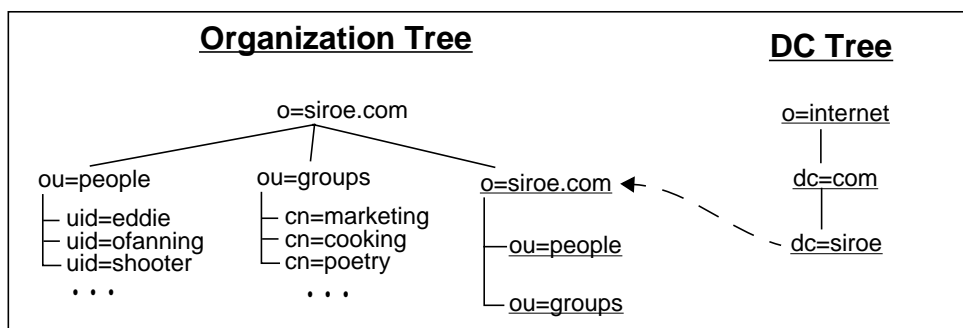
To describe how to map a Netscape Messaging Server namespace with a single domain to the iPlanet Messaging Server namespace, let us start by showing a simplified example of an Netscape Messaging Server namespace with a single domain (Figure B-1).

Figure B-1 Netscape Messaging Server Single Domain Namespace



When the iPlanet Messaging Server is installed (Figure B-2) three things relating to namespace mapping occur: 1) A DC Tree with a default domain node is created; 2) An empty default domain is created in the Organization Tree; 3) The `inetDomainBaseDN` attribute in DC Tree's default domain entry is set to the default domain node in the Organization Tree. (`inetDomainBaseDN` is the DN of the organization subtree where all user/group entries are stored.)

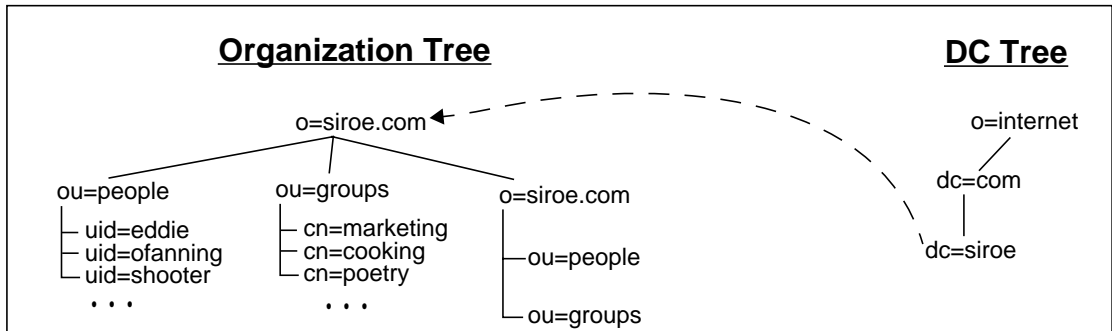
Figure B-2 Single-domain Namespace after iPlanet Messaging Server is Installed (underscored nodes created by install program)



The iPlanet Messaging Server will not work in this configuration because the DC Tree needs to be mapped to the Organization Tree where the user and group entries exist. This involves setting the `inetDomainBaseDN` in the DC Tree domain entry to point to the organization subtree containing the user and group data.

Using our example, the simplest way to map the Netscape Messaging Server namespace to the iPlanet Messaging Server namespace is shown in Figure B-3.

Figure B-3 Single-domain Netscape Messaging Server Namespace Mapped to iPlanet Messaging Server Namespace—Delegated Administrator and Hosted Domains Not Supported



In this example, we changed the attribute-value pair in the DC Tree domain node entry `dc=siroe,dc=com,o=internet` from

```
inetDomainBaseDN: o=siroe.com,o=siroe.com
```

to

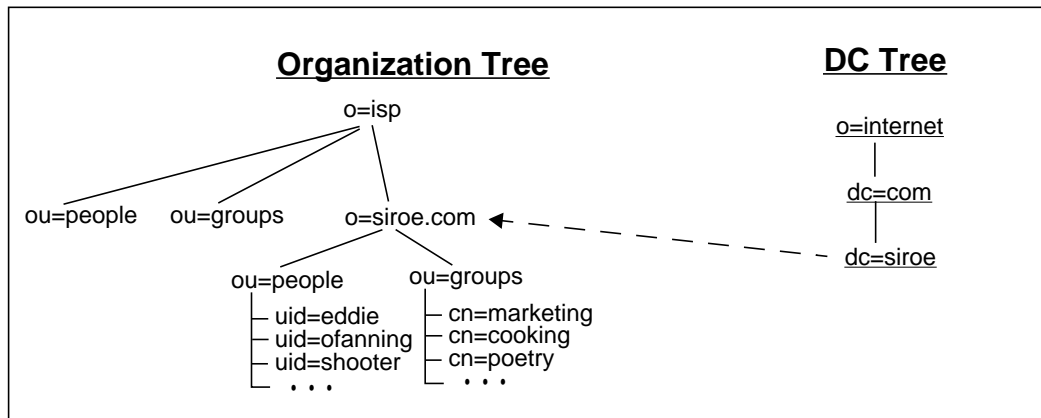
```
inetDomainBaseDN: o=siroe.com.
```

This can be done with following LDIF change file:

```
dn: dc=siroe,dc=com,o=internet
changetype: modify
replace: inetdomainbasedn
inetDomainBaseDN: o=siroe.com
```

While this namespace configuration will work with the iPlanet Messaging Server, it will not support Delegated Administrator or hosted domains. To support Delegated Administrator and hosted domains, user and group entries must be moved into the organization subtree node, and the `inetDomainBaseDN` attribute in the DC Tree domain node needs to be reset as shown in Figure B-4.

Figure B-4 Single-domain Netscape Messaging Server Namespace Mapped to iPlanet Messaging Server Namespace—Delegated Administrator and Hosted Domains Supported



In this example we did the following:

1. In the Organization Tree we changed root suffix to `o=siroe.com` to `o=isp`. While this wasn't operationally necessary, it makes the Organization Tree more standard.
2. In the Organization Tree we moved user and group entries from `ou=people, o=siroe.com` and `ou=groups, o=siroe.com` to `ou=people, o=siroe.com, o=isp` and `ou=group, o=siroe.com, o=isp`.
3. In the DC Tree entry `dc=siroe, dc=com, o=internet` we replaced the existing `inetDomainBaseDN` attribute value pair with `inetDomainBaseDN: o=siroe.com, o=isp`

This namespace configuration will now support Delegated Administrator and hosted domains.

Before installing the iPlanet Delegated Administrator for Messaging, add the appropriate ACIs. To add Delegated Administrator functionality, run the `imsdaaci` command (packaged with the migration toolkit). This generates an LDIF file that can be used to create a Delegated Administrator Service Administrator Group and Delegated Administrator Domain Administrator Group along with the required ACIs.

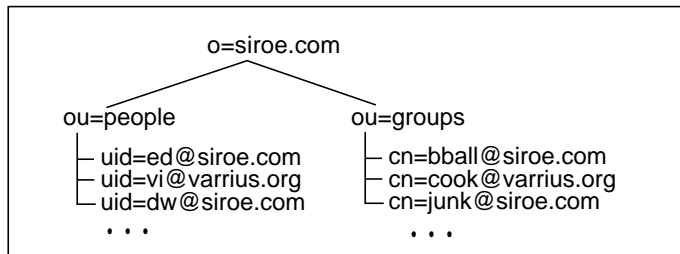
```
server_root/bin/msg/migrate/bin/imsdaaci
```

Use `ldapmodify` to add the LDIF file into the DIT. For an explanation of the ACIs refer to the *iPlanet Messaging Server Provisioning Guide*

Mapping a Netscape Messaging Server Namespace with Multiple Domains to an iPlanet Messaging Server Namespace

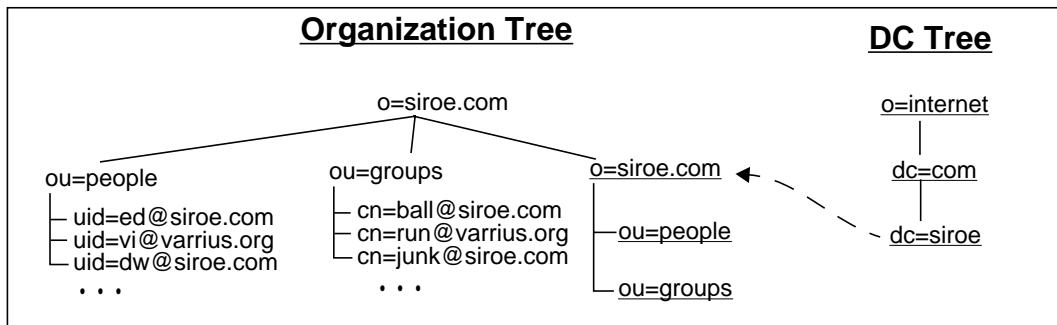
To describe how to map a Netscape Messaging Server namespace with multiple domains to the iPlanet Messaging Server namespace, let us start by showing a simplified example of a Netscape Messaging Server namespace with multiple domains (Figure B-5).

Figure B-5 Netscape Messaging Server Multiple Domain Namespace



When the iPlanet Messaging Server is installed (Figure B-6) three things relating to namespace mapping occur: 1) A DC Tree with a default domain node is created; 2) An empty default domain is created in the Organization Tree; 3) The `inetDomainBaseDN` attribute in DC Tree's default domain entry is set to the default domain node in the Organization Tree. (`inetDomainBaseDN` is the DN of the organization subtree where all user/group entries are stored.)

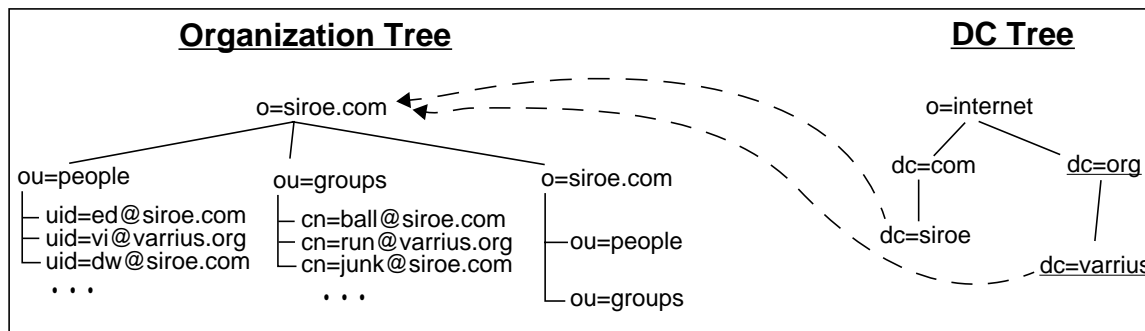
Figure B-6 Multiple-domain Namespace after iPlanet Messaging Server is Installed (underscored nodes created by install program)



The iPlanet Messaging Server will not work in this configuration because the DC Tree needs to be mapped to the Organization Tree where the user and group entries exist. This involves two steps: 1) For each domain in the Organization Tree, a corresponding domain node in the DC Tree must be created; 2) The `inetDomainBaseDN` attribute in each DC Tree domain entry must be set to the organization subtree containing the user and group data.

Using our example, the simplest way to map the Netscape Messaging Server namespace to the iPlanet Messaging Server namespace is shown in Figure B-7.

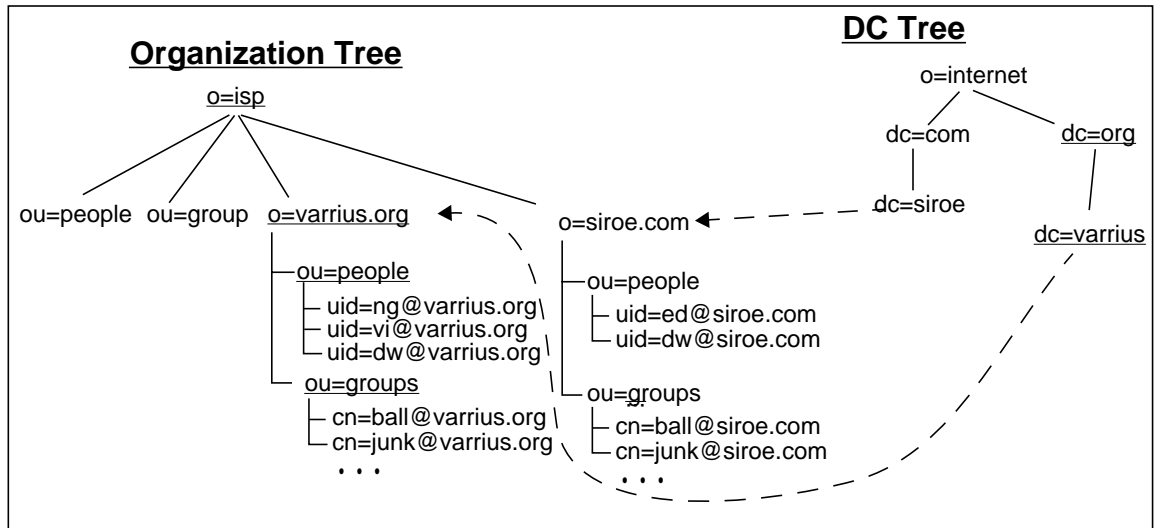
Figure B-7 Simple Multiple-domain Netscape Messaging Server Namespace Mapping to iPlanet Messaging Server Namespace—Delegated Administrator and Hosted Domains Not Supported (underscored nodes created by administrator)



In this example, we created a new DC Tree domain node called `dc=varrius,dc=org,o=internet`. (See the *iPlanet Messaging Server Provisioning Guide* for details on how to do this.) We also replaced the `inetDomainBaseDN` attribute-value pair in `dc=siroe,dc=com,o=internet` and `dc=varrius,dc=org,o=internet` with `inetDomainBaseDN: o=siroe.com`

While this namespace configuration will work in the iPlanet Messaging Server, it will not support Delegated Administrator or hosted domains. To support Delegated Administrator and hosted domains, separate domain nodes in the Organization Tree and the DC Tree need to be created, user and group entries need to be moved into those Organization Tree nodes, and the `inetDomainBaseDN` attribute in the DC Tree domain nodes need to be reset. This is shown in Figure B-8.

Figure B-8 Multiple-domain Netscape Messaging Server Namespace Mapped to DC Tree in the iPlanet Messaging Server Namespace—Delegated Administrator and Hosted Domains Supported (underscored nodes created/changed by administrator)



In this example we did the following:

1. In the Organization Tree we changed root suffix from `o=siroe.com` to `o=isp`. While this wasn't operationally necessary, it makes the Organization Tree more standard.

2. In the Organization Tree we created the subtree `o=varrius.org,o=isp` as well as two containers, `ou=people` and `ou=groups`. (See the *iPlanet Messaging Server Provisioning Guide* for information on how to create domains and containers.)
3. In the Organization Tree we moved user and group entries from `ou=people,o=siroe.com` and `ou=groups,o=siroe.com` to the people and group containers in `varrius.org` and `siroe.com`
4. In the DC Tree, we created the domain nodes `dc=org,o=internet` and `dc=varrius,dc=org,o=internet`
5. In the domain node entries `dc=siroe,dc=com,o=internet` and `dc=varrius,dc=org,o=internet` we added the attribute value pair `inetDomainBaseDN: o=siroe.com,o=isp` and `inetDomainBaseDN: o=varrius.org,o=isp`.

This namespace configuration will now support Delegated Administrator and hosted domains. To add Delegated Administrator functionality, run the `imsdaaci` command (packaged with the migration toolkit). This generates an LDIF file that can be used to create a Delegated Administrator Service Administrator Group and Delegated Administrator Domain Administrator Group along with the required ACIs.

```
server_root/bin/msg/migrate/bin/imsdaaci
```

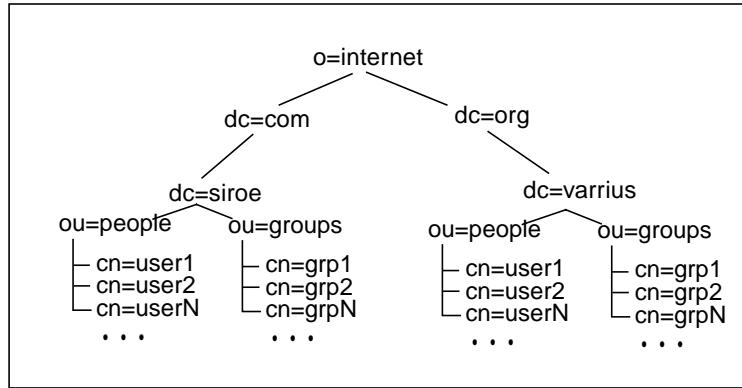
Use `ldapmodify` to add the LDIF file into the DIT. For an explanation of the ACIs refer to the *iPlanet Messaging Server Provisioning Guide*

Using SIMS Directory Namespaces

Using a SIMS 4.0 DIT with the iPlanet Messaging Server simply involves running the `imsdirmig` utility. This procedure is described in the sections discussing the various SIMS migration scenarios.

`imsdirmig` sets the `inetDomainBaseDN` attribute for each DC Tree domain entry to the domain node containing the user/group data. This value is the domain node itself. For the directory below, the domain entry for `dc=siroe,dc=com,o=internet` would contain the attribute pair `inetDomainBaseDN: dc=siroe,dc=com,o=internet`. The domain entry for `dc=varrius,dc=org,o=internet` would contain the attribute pair `inetDomainBaseDN: dc=varrius,dc=org,o=internet`.

Figure B-9 SIMS Directory Namespace



Glossary

A record A type of DNS record containing a host name and its associated IP address. A records are used by messaging servers on the Internet to route email. See also **Domain Name System (DNS)**, **MX record**.

access control A method for controlling access to a server or to folders and files on a server.

access control information (ACI) A single item of information from an access control list.

access control list (ACL) A set of data associated with a directory that defines the permissions that users and/or groups have for accessing it.

access control rules Rules specifying user permissions for a given set of directory entries or attributes.

access domain Limits access to certain Messaging Server operations from within a specified domain. For example, an access domain can be used to limit where mail for an account can be collected.

account Information that defines a specific user or user group. This information includes the user or group name, valid email address or addresses, and how and where email is delivered.

address Information in an email message that determines where and how the message must be sent. Addresses are found both in message headers and in message envelopes. Envelope addresses determine how the message gets routed and delivered; header addresses are present merely for display purposes.

address handling The actions performed by the MTA to detect errors in addressing, to rewrite addresses if necessary, and to match addresses to recipients.

addressing protocol The addressing rules that make email possible. RFC 822 is the most widely used protocol on the Internet and the protocol supported by iPlanet Messaging Server. Other protocols include X.400 and UUCP (UNIX to UNIX Copy Protocol).

address token The address element of a rewrite rule pattern.

administration console See **Console**.

administration domain A region of administrative control. See also **domain**.

administration privileges A set of privileges that define a user's administrative role.

administration server administrator User who has administrative privileges to start or stop a server even when there is no Directory Server connection. The administration server administrator has restricted server tasks (typically only Restart Server and Stop Server) for all servers in a local server group. When an administration server is installed, this administrator's entry is automatically created locally (this administrator is not a user in the user directory).

administrator A user with a defined set of administrative privileges. See also **configuration administrator**, **Directory Manager**, **administration server administrator**, **server administrator**, **message store administrator**, **top-level administrator**, **domain administrator**, **organization administrator**, **family group administrator**, **mail list owner**.

alias An alternate name of an email address.

alias file A file used to set aliases not set in a directory, such as the postmaster alias.

Allow filter A Messaging Server access-control rule that identifies clients that are to be allowed access to one or more of the following services: POP, IMAP, or HTTP. See also **Deny filter**.

allowed attributes The attributes that optionally can be present in entries using a particular object class, but are not required to be present. See also **attributes**, **required attributes**.

alternate address A secondary address for an account, generally a variation on the primary address. In some cases it is convenient to have more than one address for a single account.

APOP Authenticated Post Office Protocol. Similar to the Post Office Protocol (POP), but instead of using a plaintext password for authentication, it uses an encoding of the password together with a challenge string.

attributes LDAP data is represented as attribute-value pairs. Any specific piece of information is associated with a descriptive attribute. See also **allowed attributes, required attributes**.

AUTH An SMTP command enabling an SMTP client to specify an authentication method to the server, perform an authentication protocol exchange, and, if necessary, negotiate a security layer for subsequent protocol interactions.

authentication (1) The process of proving the identity of a client user to iPlanet Messaging Server. (2) The process of proving the identity of iPlanet Messaging Server to a client or another server.

authentication certificate A digital file sent from server to client or client to server to verify and authenticate the other party. The certificate ensures the authenticity of its holder (the client or server). Certificates are not transferable.

autoreply option file A file used for setting options for autoreply, such as vacation notices.

AutoReply utility A utility that automatically responds to messages sent to accounts with the AutoReply feature activated. Every account in iPlanet Messaging Server can be configured to automatically reply to incoming messages.

backbone The primary connectivity mechanism of a distributed system. All systems that have connectivity to an intermediate system on the backbone are connected to each other. This does not prevent you from setting up systems to bypass the backbone for reasons of cost, performance, or security.

backend server An email server whose only function is to store and retrieve email messages. Also called a message store server.

backup The process of backing up the contents of folders from the message store to a backup device. See also **restore**.

banner A text string displayed by a service such as IMAP when a client first connects to it.

base DN A distinguished name entry in the directory from which searches will occur. Also known as a search base. For example, `ou=people, o=siroe.com`.

Berkeley DB A transactional database store intended for high-concurrency read-write workloads, and for applications that require transactions and recoverability. iPlanet Messaging Server uses Berkeley databases for numerous purposes.

bind DN A distinguished name used to authenticate to the Directory Server when performing an operation.

body One part of an email message. Although headers and envelopes must follow a standard format, the body of the message has a content determined by the sender—the body can contain text, graphics, or even multimedia. Structured bodies follow the MIME standard.

class path A path to directories and `.jar` files needed to run the servlet engine and servlet templates.

capability A string, provided to clients, that defines the functionality available in a given IMAP service.

CA Certificate Authority. An organization that issues digital certificates (digital identification) and makes its public key widely available to its intended audience.

Certificate Authority See **CA**.

certificate-based authentication Identification of a user from a digital certificate submitted by the client. See also **password authentication**.

certificate database A file that contains a server's digital certificate(s). Also called a certificate file.

certificate name The name that identifies a certificate and its owner.

channel The fundamental MTA component that processes a message. A channel represents a connection with another computer system or group of systems. Each channel consists of one or more channel programs and an outgoing message queue for storing messages that are destined to be sent to one or more of the systems associated with the channel. See also **channel block**, **channel host table**, **channel program**.

channel block A single channel definition. See also **channel host table**.

channel host table The collective set of channel definitions.

channel program Part of a channel that performs the following functions: (1) transmits messages to remote systems and deletes messages from the queue after they are sent and (2) accepts messages from remote systems placing them in the appropriate channel queues. See also **master channel program**, **slave channel program**.

cipher An algorithm used in encryption.

ciphertext Text that has been encrypted. Opposite of **cleartext**.

client A software entity that requests services or information from a server.

CNAME record A type of DNS record that maps a domain name alias to a domain name.

cleartext Unencrypted text.

CLI See **command line interface**.

client-server model A computing model in which networked computers provide specific services to other client computers. Examples include the name-server/name-resolver paradigm of the DNS and file-server/file-client relationships such as NFS and diskless hosts.

cn LDAP alias for common name.

command line interface Command that can be executed from the command-line. Also called utility.

comment character A character that, when placed at the beginning of a line, turns the line into a nonexecutable comment.

configuration administrator Person who has administrative privileges to manage servers and configuration directory data in the entire iPlanet topology. The configuration administrator has unrestricted access to all resources in the iPlanet topology. This is the only administrator who can assign server access to other administrators. The configuration administrator initially manages administrative configuration until the administrators group and its members are in place.

Configuration Directory Server A Directory Server that maintains configuration information for a server or set of servers.

configuration file A file that contains the configuration parameters for a specific component of the iPlanet Messaging system.

congestion thresholds A disk space limit that can be set by the system administrator that prevents the database from becoming overloaded by restricting new operations when system resources are insufficient.

Console A GUI (graphical user interface) that enables you to configure, monitor, maintain, and troubleshoot many iPlanet components.

cookie Text-only strings entered into the browser's memory automatically when you visit specific web sites. Cookies are programmed by the web page author. Users can either accept or deny cookies. Accepting the cookies allows the web page to load more quickly and is not a threat to the security of your machine.

CRAM-MD5 A lightweight standards track authentication mechanism documented in RFC 2195. It provides a fast (albeit somewhat weaker) alternative to TLS (SSL) when only the user's login password needs to be protected from network eavesdroppers.

cronjob UNIX only. A task that is executed automatically by the cron daemon at a configured time. See also **crontab file**.

crontab file UNIX only. A list of commands, one per line, that executes automatically at a given time.

daemon A UNIX program that runs in the background, independent of a terminal, and performs a function whenever necessary. Common examples of daemon programs are mail handlers, license servers, and print daemons. On Windows NT machines, this type of program is called a service. See also **service**.

data store A store that contains directory information, typically for an entire directory information tree.

DC Tree Domain Component tree. A directory information tree that mirrors the DNS network syntax. An example of a distinguished name in a DC Tree would be `cn=billbob,dc=bridge,dc=net,o=internet`.

defragmentation The Multipurpose Internet Mail Extensions (MIME) feature that enables a large message that has been broken down into smaller messages or fragments to be reassembled. A Message Partial Content-Type header field that appears in each of the fragments contains information that helps reassemble the fragments into one message. See also **fragmentation**.

Delegated Administrator Console A web browser-based software console that allows domain administrators to add and modify users and groups to a hosted domain. Also allows end users to change their password, set message forwarding rules, set vacation rules, and list mail list subscriptions.

Delegated Administrator for Messaging and Collaboration. A set of interfaces (GUI and utilities) that allow domain administrators to add and modify users and groups to a hosted domain.

delegated administrator server A daemon program that handles access control to the directory by hosted domains.

delete message The act of marking a message for deletion. The deleted message is not removed from the message store until it is expunged or purged in a separate action by the user. See also **purge message**, **expunge message**.

delivery See **message delivery**.

delivery status notification A message giving status information about a message in route to a recipient. For example, a message indicating that delivery has been delayed because of network outages.

denial of service attack A situation where an individual intentionally or inadvertently overwhelms your mail server by flooding it with messages. Your server's throughput could be significantly impacted or the server itself could become overloaded and nonfunctional.

Deny filter A Messaging Server access-control rule that identifies clients that are to be denied access to one or more of the following services: POP, IMAP, or HTTP. See also **Allow filter**.

dereferencing an alias Specifying, in a bind or search operation, that a directory service translate an alias distinguished name to the actual distinguished name of an entry.

DIGEST-MD5 A lightweight standards track authentication mechanism that is more secure than CRAM-MD5. Documented in RFC 2831 which also provides an option to protect the entire connection without the setup overhead of TLS (SSL).

directory context The point in the directory tree information at which a search begins for entries used to authenticate a user and password for message store access. See also **base DN**.

directory entry A set of directory attributes and their values identified by its distinguished name. Each entry contains an object class attribute that specifies the kind of object the entry describes and defines the set of attributes it contains.

directory information tree The tree-like hierarchical structure in which directory entries are organized. Also called a DIT. DITs can be organized along the DNS (DC Trees) or Open Systems Interconnect networks (OSI trees).

directory lookup The process of searching the directory for information on a given user or resource, based on that user or resource's name or other characteristic.

Directory Manager User who has administrative privileges to the directory server database. Access control does not apply to this user (think of the directory manager as the directory's superuser).

directory schema The set of rules that defines the data that can be stored in the directory.

Directory Server The iPlanet directory service based on LDAP. See also **directory service**, **Lightweight Directory Access Protocol**, **Configuration Directory Server**, **User/Groups Directory Server**.

directory service A logically centralized repository of information about people and resources within an organization. See also **Lightweight Directory Access Protocol**.

directory synchronization The process of updating—that is, synchronizing—the MTA directory cache with the current directory information stored in the directory service. See also **MTA directory cache**.

disconnected state The mail client connects to the server, makes a cache copy of selected messages, then disconnects from the server.

Dispatcher The MTA component that handles connection requests for defined TCP ports. The Dispatcher is a multi-threaded connection dispatching agent that permits multiple multi-threaded servers to share responsibility for a given service. When using the Dispatcher, it is possible to have several multi-threaded SMTP server processes running concurrently.

distinguished name The comma-separated sequence of attributes and values that specify the unique location of an entry within the directory information tree. Often abbreviated as DN.

distribution list See **mail list**.

distribution list owner See **mail list owner**.

DIT See **directory information tree**.

DN See **distinguished name**.

dn LDAP alias for distinguished name. See also **distinguished name**.

DNS See **Domain Name System**.

DNS alias A host name that the DNS server recognizes as pointing to a different host—specifically a DNS CNAME record. Machines always have one real name, but they can have one or more aliases. For example, `www.siroe.domain` might be an alias that points to a real machine called `realthing.siroe.domain` where the server currently exists.

DNS database A database of domain names (host names) and their corresponding IP addresses.

DNS domain A group of computers whose host names share a common suffix, the domain name. Syntactically, an Internet domain name consists of a sequence of names (labels) separated by periods (dots), for example, `corp.mktng.siroe.com`. See also **domain**.

DNS spoofing A form of network attack in which a DNS server has been subverted to provide false information.

document root A directory on the server machine that contains files, images, and data that will be displayed to users accessing iPlanet Web Server.

domain Resources under control of a single computer system. See also **administration domain**, **DNS domain**, **hosted domain**, **virtual domain**.

domain administrator User who has administrative privileges to create, modify, and delete mail users, mail lists, and family accounts in a hosted domain by using the Delegated Administrator for Messaging and Collaboration GUI or CLIs. By default, this user can act as a message store administrator for all messaging servers in the topology.

domain alias A domain entry that points to another domain. By using aliases, hosted domains can have several domain names.

domain hosting The ability to host one or more domains on a shared messaging server. For example, the domains `siroe.com` and `sesta.org` might both be hosted on the `siroe.net` mail server. Users send mail to and receive mail from the hosted domain—the name of the mail server does not appear in the email address.

domain name (1) A host name used in an email address. (2) A unique name that defines an administrative organization. Domains can contain other domains. Domain names are interpreted from right to left. For example, `siroe.com` is both the domain name of the Siroe Company and a subdomain of the top-level `com` domain. The `siroe.com` domain can be further divided into subdomains such as `corp.siroe.com`, and so on. See also **host name**, **fully-qualified domain name**.

Domain Name System (DNS) A distributed name resolution software that allows computers to locate other computers on a network or the Internet by domain name. The system associates standard IP addresses with host names (such as `www.siroe.com`). Machines normally get this information from a DNS server. DNS servers provide a distributed, replicated, data query service for translating hostnames into Internet addresses. See also **A record**, **MX record**, **CNAME record**.

domain organization A sub-domain below a hosted domain in the Organization Tree. Domain organizations are useful for companies that wish to organize their user and group entries along departmental lines.

domain part The part of an email address to the right of the @ sign. For example, `siroe.com` is the domain part of the email address `dan@siroe.com`.

domain quota The amount of space, configured by the system administrator, allocated to a domain for email messages.

domain rewrite rules See **rewrite rules**.

domain template The part of a rewrite rule that defines how the host/domain portion of an address is rewritten. It can include either a full static host/domain address or a single field substitution string, or both.

DSN See **Delivery Status Notification**.

dsservd A daemon that accesses the database files that hold the directory information, and communicates with directory clients using the LDAP protocol.

dssetup A Directory Server preparation tool that makes an existing Directory Server ready for use by an iPlanet Messaging Server.

dynamic group A mail group defined by an LDAP search URL. Users usually join the group by setting an LDAP attribute in their directory entry.

EHLO command An SMTP command that queries a server to find out if the server supports extended SMTP commands. Defined in RFC 1869.

encryption The process of disguising information so that it cannot be deciphered (decrypted) by anyone but the intended recipient who has the code key.

enterprise network A network that consists of collections of networks connected to each other over a geographically dispersed area. The enterprise network serves the needs of a widely distributed company and is used by the company's mission-critical applications.

envelope A container for transport information about the sender and the recipient of an email message. This information is not part of the message header. Envelopes are used by various email programs as messages are moved from place to place. Users see only the header and body of a message.

envelope field A named item of information, such as RCPT TO, in a message envelope.

error handler A program that handles errors. In Messaging Server, issues error messages and processes error action forms after the postmaster fills them out.

Error-Handler Action form A form sent to the postmaster account that accompanies a received message that Messaging Server cannot handle. The postmaster fills out the form to instruct the server how to process the message.

error message A message reporting an error or other situation. iPlanet Messaging Server generates messages in a number of situations, notably when it gets an email message that it can't handle. Others messages, called notification errors, are for informational purposes only.

ESMTP See **Extended Simple Mail Transfer Protocol**.

ESP Enterprise Service Provider.

ETRN An SMTP command enabling a client to request that the server start the processing of its mail queues for messages that are waiting at the server for the client machine. Defined in RFC 1985.

expander Part of an electronic mail delivery system that allows a message to be delivered to a list of addressees. Mail expanders are used to implement mail lists. Users send messages to a single address (for example, `hacks@somehost.edu`) and the mail expander takes care of delivery to the mailboxes in the list. Also called mail exploders. See also **EXPN**.

expansion This term applies to the MTA processing of mail lists. The act of converting a message addressed to a mail list into enough copies for each mail list member.

EXPN An SMTP command for expanding a mail list. Defined in RFC 821.

expunge message The act of marking a message for deletion and then permanently removing it from the INBOX. See also **delete message**, **purge message**.

Extended Simple Mail Transfer Protocol (ESMTP) An Internet message transport protocol. ESMTP adds optional commands to the SMTP command set for enhanced functionality, including the ability for ESMTP servers to discover which commands are implemented by the remote site.

extranet The part of a company intranet that customers and suppliers can access. See also **intranet**.

facility In a Messaging Server log-file entry, a designation of the software subsystem (such as Network or Account) that generated the log entry.

failover The automatic transfer of a computer service from one system to another to provide redundant backup.

family group administrator User who has administrative privileges to add and remove family members in a family group. This user can grant family group administrative access to other members of group.

firewall A network configuration, usually both hardware and software, that forms a barrier between networked computers within an organization and those outside the organization. A firewall is commonly used to protect information such as a network's email, discussion groups, and data files within a physical building or organization site.

folder A named collection of messages. Folders can contain other folders. Also called a mailbox. See also **personal folder**, **shared folder**, **INBOX**.

forwarding See **message forwarding**.

FQDN See **fully-qualified domain name**.

fragmentation The Multipurpose Internet Mail Extensions (MIME) feature that allows the breaking up of a large message into smaller messages. See also **defragmentation**.

fully-qualified domain name (FQDN) The unique name that identifies a specific Internet host. See also **domain name**.

gateway The terms gateway and application gateway refer to systems that do translation from one native format to another. Examples include X.400 to/from RFC 822 electronic mail gateways. A machine that connects two or more electronic mail systems (especially dissimilar mail systems on two different networks) and transfers messages between them. Sometimes the mapping and translation can be complex, and it generally requires a store-and-forward scheme whereby the message is received from one system completely before it is transmitted to the next system after suitable translations.

greeting form A message usually sent to users when an account is created for them. This form acts as confirmation of the new account and verification of its contents.

group A group of LDAP mail entries that are organized under a distinguished name. Usually used as a mail list, but may also be used to grant certain administrative privileges to members of the group. See also **dynamic group**, **static group**.

group folders These contain folders for shared and group folders. See also **shared folder**.

GUI Graphical User Interface

HA See **High Availability**.

hashdir A command-line utility for determining which directory contains the message store for a particular user.

header The portion of an email message that precedes the body of the message. The header is composed of field names followed by a colon and then values. Headers contain information useful to email programs and to users trying to make sense of the message. For example, headers include delivery information, summaries of contents, tracing, and MIME information; they tell whom the message is for, who sent it, when it was sent, and what it is about. Headers must be written according to RFC 822 so that email programs can read them.

header field A named item of information, such as From: or To:, in a message header. Often referred to as a “header line”.

High Availability Enables the detection of a service interruption and provides recovery mechanisms in the event of a system failure or process fault. In addition, it allows a backup system to take over the services in the event of a primary system failure.

hop A transmission between two computers.

host The machine on which one or more servers reside.

hosted domain An email domain that is outsourced by an ISP. That is, the ISP provides email domain hosting for an organization by operating and maintaining the email services for that organization. A hosted domain shares the same Messaging Server host with other hosted domains. In earlier LDAP-based email systems, a domain was supported by one or more email server hosts. With Messaging Server, many domains can be hosted on a single server. For each hosted domain, there is an LDAP entry that points to the user and group container for the domain. Hosted domains are also called virtual hosted domains or virtual domains. See also **domain, virtual domain**.

host name The name of a particular machine within a domain. The host name is the IP host name, which might be either a “short-form” host name (for example, mail) or a fully qualified host name. The fully qualified host name consists of two parts: the host name and the domain name. For example, mail.siroe.com is the machine mail in the domain siroe.com. Host names must be unique within their domains. Your organization can have multiple machines named mail, as long as the machines reside in different subdomains; for example, mail.corp.siroe.com and mail.field.siroe.com. Host names always map to a specific IP address. See also **domain name, fully-qualified domain name, IP address**.

host name hiding The practice of having domain-based email addresses that do not contain the name of a particular internal host.

HTTP See **HyperText Transfer Protocol**.

hub A host that acts as the single point of contact for the system. When two networks are separated by a firewall, for example, the firewall computer often acts as a mail hub.

HyperText Transfer Protocol A standard protocol that allows the transfer of hypertext documents over the Web. iPlanet Messaging Server provides an HTTP service to support web-based email. See also **Messenger Express**.

IDENT See **Identification Protocol**.

Identification Protocol A protocol that provides a means to determine the identity of a remote process responsible for the remote end of a particular TCP connection. Defined in RFC 1413.

IMAP4 See **Internet Message Access Protocol Version 4**.

imsadmin commands A set of command line utilities for managing domain administrators, users, and groups.

imsimta commands A set of command line utilities for performing various maintenance, testing, and management tasks for the Message Transfer Agent (MTA).

INBOX The name reserved for a user's default mailbox for mail delivery. INBOX is the only folder name that is case-insensitive. For example: INBOX, Inbox, and inbox are all valid names for a users default mailbox.

installation directory The directory into which the binary (executable) files of a server are installed. For the Messaging Server, it is a subdirectory of the server root: *server-root/bin/msg/*. See also **instance directory**, **server root**.

instance A separately executable configuration of a server or other software entity on a given host. With a single installed set of binary files, it is possible to create multiple instances of iPlanet servers that can be run and accessed independently of each other.

instance directory The directory that contains the files that define a specific instance of a server. For the Messaging Server, it is a subdirectory of the server root: *server-root/msg-instance/*, where *instance* is the name of the server as specified at installation. See also **installation directory**, **server root**.

Internet The name given to the worldwide network of networks that uses TCP/IP protocols.

Internet Message Access Protocol Version 4 (IMAP4) A standard protocol that allows users to be disconnected from the main messaging system and still be able to process their mail. The IMAP specification allows for administrative control for these disconnected users and for the synchronization of the users' message store once they reconnect to the messaging system.

Internet Protocol (IP) The basic network-layer protocol on which the Internet and intranets are based.

internet protocol address See **IP address**.

intranet A network of TCP/IP networks within a company or organization. Intranets enable companies to employ the same types of servers and client software used for the World Wide Web for internal applications distributed over the corporate LAN. Sensitive information on an intranet that communicates with the Internet is usually protected by a firewall. See also **firewall**, **extranet**.

invalid user An error condition that occurs during message handling. When this occurs, the message store sends a communication to the MTA, the message store deletes its copy of the message. The MTA bounces the message back to the sender and deletes its copy of the message.

IP See **Internet Protocol**.

IP address A set of numbers, separated by dots, such as 198.93.93.10, that specifies the actual location of a machine on an intranet or the Internet. A 32-bit address assigned to hosts using TCP/IP.

iPlanet Setup The installation program for all iPlanet servers and for iPlanet Console.

ISP Internet Service Provider. A company that provides Internet services to its customers including email, electronic calendaring, access to the world wide web, and web hosting.

Job Controller The MTA component responsible for scheduling and executing tasks upon request by various other MTA components.

key database A file that contains the key pair(s) for a server's certificate(s). Also called a key file.

knowledge information Part of the directory service infrastructure information. The directory server uses knowledge information to pass requests for information to other servers.

LDAP See **Lightweight Directory Access Protocol**.

LDAP Data Interchange Format (LDIF) The format used to represent Directory Server entries in text form.

LDAP filter A method of specifying a set of entries, based on the presence of a particular attribute or attribute value.

LDAP referrals An LDAP entry that consists of a symbolic link (referral) to another LDAP entry. An LDAP referral consists of an LDAP host and a distinguished name. LDAP referrals are often used to reference existing LDAP data so that this data does not have to be replicated. They are also used to maintain compatibility for programs that depend on a particular entry that may have been moved.

LDAP search string A string with replaceable parameters that defines the attributes used for directory searches. For example, an LDAP search string of "uid=%s" means that searches are based on the user ID attribute.

LDAP Server A software server that maintains an LDAP directory and services queries to the directory. The iPlanet Directory Services are implementations of an LDAP Server.

LDAP server failover A backup feature for LDAP servers. If one LDAP server fails, the system can switch over to another LDAP server.

LDBM LDAP Data Base Manager.

LDIF See **LDAP Data Interchange Format**.

Legato Networker A third-party backup utility distributed by Legato®.

level A designation of logging verbosity, meaning the relative number of types of events that are recorded in log files. At a level of Emergency, for example, very few events are logged; at a level of Informational, on the other hand, very many events are logged.

Lightweight Directory Access Protocol (LDAP) Directory service protocol designed to run over TCP/IP and across multiple platforms. A simplification of the X.500 Directory Access Protocol (DAP) that allows a single point of management for storage, retrieval, and distribution of information, including user profiles, mail lists, and configuration data across iPlanet servers. The iPlanet Directory Server uses the LDAP protocol.

listen port The port that a server uses to communicate with clients and other servers.

local part The part of an email address that identifies the recipient. See also **domain part**.

log directory The directory in which all of a service's log files are kept.

log expiration Deletion of a log file from the log directory after it has reached its maximum permitted age.

log rotation Creation of a new log file to be the current log file. All subsequent logged events are to be written to the new current file. The log file that was the previous current file is no longer written to, but remains in the log directory.

lookup Same as a search, using the specified parameters for sorting data.

mailbox A place where messages are stored and viewed. See also **folder**.

mail client The programs that help users send and receive email. This is the part of the various networks and mail programs that users have the most contact with. Mail clients create and submit messages for delivery, check for new incoming mail, and accept and organize incoming mail.

mail exchange record See **MX record**.

mail list A list of email addresses to which a message can be sent by way of a mail list address. Sometimes called a group.

mail list owner A user who has administrative privileges to add members to and delete members from the mail list.

mail relay A mail server that accepts mail from a MUA or MTA and relays it to the mail recipient's message store or another router.

mail router See **mail relay**.

mailing list See **mail list**.

mailing list owner See **mail list owner**.

managed object A collection of configurable attributes, for example, a collection of attributes for the directory service.

master channel program A channel program that typically initiates a transfer to a remote system. See also **slave channel program**.

master directory server The directory server that contains the data that will be replicated.

MD5 A message digest algorithm by RSA Data Security. MD5 can be used to produce a short digest of data that is unique with high probability. It is mathematically extremely hard to produce a piece of data that produces the same message digest email.

member A user or group who receives a copy of an email addressed to a mail list. See also **mail list**, **expansion**, **moderator**, and **owner**.

message The fundamental unit of email, a message consists of a header and a body and is often contained in an envelope while it is in transit from the sender to the recipient.

message access services The protocol servers, software drivers, and libraries that support client access to the Messaging Server message store.

message delivery The act that occurs when an MTA delivers a message to a local recipient (a mail folder or a program).

message forwarding The act that occurs when an MTA sends a message delivered to a particular account to one or more new destinations as specified by the account's attributes. Forwarding may be configurable by the user. See also **message delivery**, **message routing**.

Message Handling System (MHS) A group of connected MTAs, their user agents, and message stores.

message routing The act of transferring a message from one MTA to another when the first MTA determines that the recipient is not a local account, but might exist elsewhere. Routing is normally configurable only by a network administrator. See also **message forwarding**.

message queue The directory where messages accepted from clients and other mail servers are queued for delivery (immediate or deferred).

message quota A limit defining how much disk space a particular folder can consume.

message store The database of all locally delivered messages for a Messaging server instance. Messages can be stored on a single physical disk or stored across multiple physical disks.

message store administrator User who has administrative privileges to manage the message store for a Messaging Server installation. This user can view and monitor mailboxes, and specify access control to the store. Using proxy authorization rights, this user can run certain utilities for managing the store.

message store partition A message store or subset of a message store residing on a single physical file system partition.

message submission The client User Agent (UA) transfers a message to the mail server and requests delivery.

Message Transfer Agent (MTA) A specialized program for routing and delivering messages. MTAs work together to transfer messages and deliver them to the intended recipient. The MTA determines whether a message is delivered to the local message store or routed to another MTA for remote delivery.

Messaging Multiplexor A specialized iPlanet Messaging Server that acts as a single point of connection to multiple mail servers, facilitating the distribution of a large user base across multiple mailbox hosts.

Messaging Server administrator The administrator whose privileges include installation and administration of an iPlanet Messaging Server instance.

Messenger Express A mail client that enables users to access their mailboxes through a browser-based (HTTP) interface. Messages, folders, and other mailbox information are displayed in HTML in a browser window. See also **webmail**.

Messenger Express Multiplexor A proxy messaging server that acts as a Multiplexor; it allows you to connect to the HTTP service of iPlanet Messaging Server (Messenger Express). The Messenger Express Multiplexor facilitates distributing mail users across multiple server machines.

MHS See **Message Handling System**.

MIME See **Multipurpose Internet Mail Extension**.

MMP See **Messaging Multiplexor**.

moderator A person who first receives all email addressed to a mail list before (A) forwarding the message to the mail list, (B) editing the message and then forwarding it to the mail list, or (C) not forwarding the message to the mail list. See also **mail list**, **expansion**, **member**.

MTA See **Message Transfer Agent**.

MTA configuration file The file (`imta.cnf`) that contains all channel definitions for the Messaging Server as well as the rewrite rules that determine how addresses are rewritten for routing. See also **channel**, **rewrite rules**.

MTA directory cache a snapshot of the directory service information about users and groups required by the MTA to process messages. See also **directory synchronization**.

MTA hop The act of routing a message from one MTA to another.

MUA See **user agent**.

Multiplexor See **Messaging Multiplexor**.

Multipurpose Internet Mail Extension (MIME) A protocol you can use to include multimedia in email messages by appending the multimedia file in the message.

MX record Mail Exchange Record. A type of DNS record that maps one host name to another.

name resolution The process of mapping an IP address to the corresponding name. See also **DNS**.

namespace The tree structure of an LDAP directory. See also **directory information tree**.

naming attribute The final attribute in a directory information tree distinguished name. See also **relative distinguished name**.

naming context A specific suffix of a directory information tree that is identified by its DN. In iPlanet Directory Server, specific types of directory information are stored in naming contexts. For example, a naming context which stores all entries for marketing employees in the Siroe Corporation at the Boston office might be called `ou=mktg, ou=Boston, o=siroe, c=US`.

NDN See **nondelivery notification**.

network manager A program that reads, formats, and displays SNMP data. Also called an SNMP client.

next-hop list A list of adjacent systems a mail route uses to determine where to transfer a message. The order of the systems in the next-hop list determines the order in which the mail route transfers messages to those systems.

node An entry in the DIT.

nondelivery notification During message transmission, if the MTA does not find a match between the address pattern and a rewrite rule, the MTA sends a nondelivery report back to the sender with the original message.

notary messages Nondelivery notifications (NDNs) and delivery status notifications (DSNs) that conform to the NOTARY specifications RFC 1892.

notification message A type of message, sent by the Messaging Server providing the status of message delivery processing, as well as the reasons for any delivery problems or outright failures. It is for informational purposes and requires no action from the postmaster. See also **delivery status notifications**.

object class A template specifying the kind of object the entry describes and the set of attributes it contains. For example, iPlanet Directory Server specifies an `emailPerson` object class which has attributes such as `commonname`, `mail` (email address), `mailHost`, and `mailQuota`.

off-line state A state in which the mail client downloads messages from a server system to a client system where they can be viewed and answered. The messages might or might not be deleted from the server.

online state A state in which messages remain on the server and are remotely responded to by the mail client.

organization administrator User who has administrative privileges to create, modify, and delete mail users and mail lists in an organization or suborganization by using the Delegated Administrator for Messaging and Collaboration GUI or CLIs.

OSI tree A directory information tree that mirrors the Open Systems Interconnect network syntax. An example of a distinguished name in an OSI tree would be `cn=billt,o=bridge,c=us`.

partition See **message store partition**.

password authentication Identification of a user through user name and password. See also **certificate-based authentication**.

pattern A string expression used for matching purposes, such as in Allow and Deny filters.

permanent failure An error condition that occurs during message handling. When this occurs, the message store deletes its copy of an email message. The MTA bounces the message back to the sender and deletes its copy of the message.

personal folder A folder that can be read only by the owner. See also **shared folder**.

plaintext Refers to a method for transmitting data. The definition depends on the context. For example, with SSL plaintext passwords are encrypted and are therefore not sent as cleartext. With SASL, plaintext passwords are hashed, and only a hash of the password is sent as text. See also **SSL** and **SASL**.

plaintext authentication See **password authentication**.

POP3 See **Post Office Protocol Version 3**.

port number A number that specifies an individual TCP/IP application on a host machine, providing a destination for transmitted data.

postmaster account An alias for the email group and email addresses who receive system-generated messages from the Messaging Server. The postmaster account must point to a valid mailbox or mailboxes.

Post Office Protocol Version 3 (POP3) A protocol that provides a standard delivery method and that does not require the message transfer agent to have access to the user's mail folders. Not requiring access is an advantage in a networked environment, where often the mail client and the message transfer agent are on different computers.

process A self-contained, fully functional execution environment set up by an operating system. Each instance of an application typically runs in a separate process. See also **thread**.

protocol A formal description of messages to be exchanged and rules to be followed for two or more systems to exchange information.

provisioning The process of adding, modifying or deleting entries in the iPlanet Directory Server. These entries include users and groups and domain information.

proxy The mechanism whereby one system "fronts for" another system in responding to protocol requests. Proxy systems are used in network management to avoid having to implement full protocol stacks in simple devices, such as modems.

public key encryption A cryptographic method that uses a two-part key (code) that is made up of public and private components. To encrypt messages, the published public keys of the recipients are used. To decrypt the messages, the recipients use their unpublished private keys known only to them.

purge message The process of permanently removing messages that have been deleted and are no longer referenced in user and group folders and returning the space to the message store file system. See also **delete message**, **expunge message**.

queue See **message queue**.

RC2 A variable key-size block cipher by RSA Data Security.

RC4 A stream cipher by RSA Data Security. Faster than RC2.

RDN Relative distinguished name. The name of the actual entry itself, before the entry's ancestors have been appended to the string to form the full distinguished name.

referral A process by which the directory server returns an information request to the client that submitted it, with information about the Directory Service Agent (DSA) that the client should contact with the request. See also **knowledge information**.

regular expression A text string that uses special characters to represent ranges or classes of characters for the purpose of pattern matching.

relative distinguished name See **RDN**.

relaying The process of passing a message from one messaging server to another messaging server.

replica directory server The directory that will receive a copy of all or part of the data.

required attributes Attributes that must be present in entries using a particular object class. See also **allowed attributes**, **attributes**.

restore The process of restoring the contents of folders from a backup device to the message store. See also **backup**.

reverse DNS lookup The process of querying the DNS to resolve a numeric IP address into the equivalent fully qualified domain name.

rewrite rules Also known as domain rewrite rules. A tool that the MTA uses to route messages to the correct host for delivery. Rewrite rules perform the following functions: (1) extract the host/domain specification from an address of an incoming message, (2) match the host/domain specification with a rewrite rule pattern, (3) rewrite the host/domain specification based on the domain template, and (4) decide which channel queue the message should be placed in.

RFC Request For Comments. The document series, begun in 1969, describes the Internet suite of protocols and related experiments. Not all (in fact very few) RFCs describe Internet standards, but all Internet standards are published as RFCs. See <http://www.imc.org/rfcs.html>.

root entry The top-level entry of the directory information tree (DIT) hierarchy.

router A system responsible for determining which of several paths network traffic will follow. It uses a routing protocol to gain information about the network, and algorithms to choose the best route based on several criteria known as “routing matrix.” In OSI terminology, a router is a Network Layer intermediate system. See also **gateway**.

routing See **message routing**.

safe file system A file system performs logging such that if a system crashes it is possible to rollback the data to a pre-crash state and restore all data. An example of a safe file system is Veritas File System, VxFS.

SASL See **Simple Authentication and Security Layer**.

schema Definitions—including structure and syntax—of the types of information that can be stored as entries in iPlanet Directory Server. When information that does not match the schema is stored in the directory, clients attempting to access the directory might be unable to display the proper results.

SCM See **Service Control Manager**.

search base See **base DN**.

Secure Sockets Layer (SSL) A software library establishing a secure connection between two parties (client and server).

security-module database A file that contains information describing hardware accelerators for SSL ciphers. Also called `secmod`.

sendmail A common MTA used on UNIX machines. In most applications, iPlanet Messaging Server can be used as a drop-in replacement for sendmail.

server administrator Person who performs server management tasks. The server administrator provides restricted access to tasks for a particular server, depending upon task ACIs. The configuration administrator must assign user access to a server. Once a user has server access permissions, that user is a server administrator who can provide server access permissions to users.

server instance The directories, programs, and utilities representing a specific server software installation.

server root The directory into which all iPlanet servers associated with a given Administration Server on a given host are installed. Typically designated *server-root*. See also **installation directory**, **instance directory**.

server side rules (SSR) A set of rules for enabling server-side filtering of mail. Based on the Sieve mail filtering language.

service (1) A function provided by a server. For example, iPlanet Messaging Server provides SMTP, POP, IMAP, and HTTP services. (2) A background process on Windows NT that does not have a user interface. iPlanet servers on Windows NT platforms run as services. Equivalent to **daemon** on UNIX platforms.

Service Control Manager Windows NT administrative program for managing services.

servlet server-side Java programs that Web servers run to generate content in response to a client request. Servlets are similar to applets in that they run on the server-side but do not use a user interface.

session An instance of a client-server connection.

shared folder A folder that can be read by more than one person. Shared folders have an owner who can specify read access to the folder and who can delete messages from the shared folder. The shared folder can also have a moderator who can edit, block, or forward incoming messages. Only IMAP folders can be shared. See also **personal folder**.

Sieve A proposed language for filtering mail.

Simple Authentication and Security Layer (SASL) A means for controlling the mechanisms by which POP, IMAP or SMTP clients identify themselves to the server. iPlanet Messaging Server support for SMTP SASL use complies with RFC 2554 (ESMTP AUTH). SASL is defined in RFC 2222.

Simple Mail Transfer Protocol (SMTP) The email protocol most commonly used by the Internet and the protocol supported by the iPlanet Messaging Server. Defined in RFC 821, with associated message format descriptions in RFC 822.

SIMS Sun Internet Mail Server.

single field substitution string In a rewrite rule, part of the domain template that dynamically rewrites the specified address token of the host/domain address. See also **domain template**.

single sign-on The ability for a user to authenticate once and gain access to multiple services (mail, directory, file services, and so on).

SIZE An SMTP extension enabling a client to declare the size of a particular message to a server. The server may indicate to the client that it is or is not willing to accept the message based on the declared message size; the server can declare the maximum message size it is willing to accept to a client. Defined in RFC 1870.

slave channel program A channel program that accepts transfers initiated by a remote system. See also **master channel program**.

smart host The mail server in a domain to which other mail servers forward messages if they do not recognize the recipients.

SMTP See **Simple Mail Transfer Protocol**.

SMTP AUTH See **AUTH**.

sn Aliased directory attribute for surname.

spoofing A form of network attack in which a client attempting to access or send a message to a server misrepresents its host name.

SSL See **Secure Sockets Layer**.

SSR See **Server Side Rules**.

static group A mail group defined statically by enumerating each group member. See also **dynamic group**.

subdomain A portion of a domain. For example, in the domain name `corp.siroe.com`, `corp` is a subdomain of the domain `siroe.com`. See also **host name, fully-qualified domain name**.

subnet The portion of an IP address that identifies a block of host IDs.

subordinate reference The naming context that is a child of the naming context held by your directory server. See also **knowledge information**.

synchronization (1) The update of data by a master directory server to a replica directory server. (2) The update of the MTA directory cache.

TCP See **Transmission Control Protocol**.

TCP/IP See **Transmission Control Protocol/Internet Protocol**.

thread A lightweight execution instance within a process.

TLS See **Transport Layer Security**.

top-level administrator User who has administrative privileges to create, modify, and delete mail users, mail lists, family accounts, and domains in an entire Messaging Server namespace by using the Delegated Administrator for Messaging and Collaboration GUI or CLIs. By default, this user can act as a message store administrator for all messaging servers in the topology.

transient failure An error condition that occurs during message handling. The remote MTA is unable to handle the message when it's delivered, but may be able to later. The local MTA returns the message to the queue and schedules it for retransmission at a later time.

Transmission Control Protocol (TCP) The basic transport protocol in the Internet protocol suite that provides reliable, connection-oriented stream service between two hosts.

Transmission Control Protocol/Internet Protocol (TCP/IP) The name given to the collection of network protocols used by the Internet protocol suite. The name refers to the two primary network protocols of the suite: TCP (Transmission Control Protocol), the transport layer protocol, and IP (Internet Protocol), the network layer protocol.

Transport Layer Security (TLS). The standardized form of SSL. See also **Secure Sockets Layer**.

transport protocols Provides the means to transfer messages between MTAs, for example SMTP and X.400.

UA See **user agent**.

UBE See **Unsolicited Bulk Email**.

UID (1) User identification. A unique string identifying a user to a system. Also referred to as a userID. (2) Aliased directory attribute for userID (login name).

unified messaging The concept of using a single message store for email, voicemail, fax, and other forms of communication. iPlanet Messaging Server provides the basis for a complete unified messaging solution.

Unsolicited Bulk Email (UBE) Unrequested and unwanted email, sent from bulk distributors, usually for commercial purposes.

upper reference Indicates the directory server that holds the naming context above your directory server's naming context in the directory information tree (DIT).

user account An account for accessing a server, maintained as an entry on a directory server.

user agent (UA) The client component, such as Netscape Communicator, that allows users to create, send, and receive mail messages.

User/Groups Directory Server A Directory Server that maintains information about users and groups in an organization.

user entry or user profile Fields that describe information about each user, required and optional, examples are: distinguished name, full name, title, telephone number, pager number, login name, password, home directory, and so on.

user folders A user's email mailboxes.

user quota The amount of space, configured by the system administrator, allocated to a user for email messages.

UUCP UNIX to UNIX Copy Program. A protocol used for communication between consenting UNIX systems.

vanity domain A domain name associated with an individual user—not with a specific server or hosted domain. A vanity domain is specified by using the `MailAlternateAddress` attribute. The vanity domain does not have an LDAP entry for the domain name. Vanity domains are useful for individuals or small organizations desiring a customized domain name, without the administration overhead of supporting their own hosted domain. Also called custom domain.

/var/mail A name often used to refer to Berkeley-style inboxes in which new mail messages are stored sequentially in a single, flat text file.

Veritas Cluster Server High availability clustering software from Veritas Software with which iPlanet Messaging Server can integrate.

virtual domain (1) An ISP hosted domain. (2) A domain name added by the Messaging Multiplexor to a client's user ID for LDAP searching and for logging into a mailbox server. See also **domain, hosted domain**.

VERFY An SMTP command for verifying a user name. Defined in RFC 821.

Web server A software program or server computer equipped to offer World Wide Web access. A Web server accommodates requests from users, retrieves requested files or applications, and issues error messages.

webmail A generic term for browser-based email services. A browser-based client—known as a “thin” client because more processing is done on the server—accesses mail that is always stored on a server. See also **Messenger Express**.

wildcard A special character in a search string that can represent one or more other characters or ranges of characters.

workgroup Local workgroup environment, where the server performs its own routing and delivery within a local office or workgroup. Interdepartmental mail is routed to a backbone server. See also **backbone**.

X.400 A message handling system standard.

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