

Installation Guide for UNIX

iPlanet Messaging Server

Release 5.1

May 2001

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About This Guide

This guide explains how to install iPlanet Messaging Server 5.1 and its accompanying software components. Messaging Server provides a powerful and flexible cross-platform solution to the email needs of enterprises and messaging hosts of all sizes using open Internet standards.

Topics covered in this chapter include:

- Who Should Read This Book
- What You Need to Know
- How This Book is Organized
- Document Conventions
- Where to Find Related Information
- Where to Find This Book Online

Who Should Read This Book

You should read this book if you are responsible for installing and deploying Messaging Server at your site.

NOTE The installation program does not give you the option to migrate any existing mailboxes and message queues from Netscape Messaging Server or Sun Internet Mail Server products to iPlanet Messaging Server. If you choose to migrate your existing data, you should refer to the *iPlanet Messaging Server 5.0 Migration Guide*.

What You Need to Know

This book assumes that you are responsible for installing the Messaging Server software and 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

How This Book is Organized

This book contains the following chapters and appendixes:

- About This Guide (this chapter)
- Chapter 1, “Preparing for Installation.”

This chapter provides much of the information you will need to know before beginning the installation. Some of the topics covered include system requirements, installation options, and descriptions of the components that you will install.

- Chapter 2, “Installation Instructions.”

In this chapter, you will learn how to run the `setup` program, the directory `setup` program, and silent installation. In addition, you will be walked through common installation scenarios and post-installation configuration procedures.

- Chapter 3, “Installation Questions.”

This chapter explains the questions that make up Messaging Server installation and will show you how to respond to these questions in order to get the appropriate installation.

- Appendix A, “High Availability.”

This appendix describes the high availability models and outlines the advantages and disadvantages of each model. It also provides pre- and post-installation instructions and some configuration information. High Availability products discussed in this appendix include: Veritas Cluster Server 1.1 or later, Sun Cluster 2.2, and Sun Cluster 3.0.

- Appendix B, “Installing the Messaging Multiplexor.”

This appendix contains detailed instructions for installing and starting the Messaging Multiplexor. It also contains sample configuration files. More detailed information about the Messaging Multiplexor can be found in the *iPlanet Messaging Server 5.1 Administrator's Guide* and *iPlanet Messaging Server 5.1 Reference Manual*.

- Appendix C, “Running the uninstall Program.”

This appendix provides instructions on how to run the `uninstall` program to remove instances of Messaging Server.

- Appendix D, “Upgrading Your Messaging Server.”

This appendix contains instructions on how to upgrade from previous versions of iPlanet Messaging Server to iPlanet Messaging Server 5.1.

Document Conventions

Monospaced Font

Monospaced font is used for any text that appears on the computer screen or text that you should type. It is also used for filenames, distinguished names, functions, and examples.

Bold Monospaced Font

bold monospaced font is used to represent text within a code example that you should type. For example, you might see something like this:

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

```
Welcome to the iPlanet Server Products installation program. This  
program will install iPlanet Server Products and the iPlanet Console  
on your computer.
```

```
It is recommended that you have "root" privilege to install the  
software.
```

```
Tips for using the installation program:
```

- Press "Enter" to choose the default and go to the next screen
- Type "Control-B" to go back to the previous screen
- Type "Control-C" to cancel the installation program
- You can enter multiple items using commas to separate them.
For example: 1, 2, 3

```
Would you like to continue with installation? [Yes]:
```

In this example, `./setup` is what you would type at the command line and the rest is what would appear as a result.

Italicized Font

Italicized font is used to represent text that you enter using information that is unique to your installation (for example, variables). It is used for server paths and names and account IDs.

For example, throughout this document you will see path references of the form:

```
server-root/msg-serverID/...
```

In these situations, *server-root* represents the directory path in which you install the server, and *msg-serverID* represents the server instance you use when you install it. For example, if you install your server in the directory `/usr/iplanet/server5` and use the server instance `tango`, the actual path is:

```
/usr/iplanet/server5/msg-tango/
```

Square or Straight Brackets

Square (or straight) brackets `[]` are used to enclose optional parameters. For example, in this document you will see the usage for the `setup` command described as follows:

```
./setup [options] [argument]
```

It is possible to run the `setup` command by itself as follows to start the Messaging Server installation:

```
./setup
```

However, the presence of `[options]` and `[arguments]` indicate that there are additional optional parameters that may be added to the `setup` command. For example, you could use `setup` command with the `-k` option to keep the installation cache:

```
./setup -k
```

Command Line Prompts

Command line prompts (for example, % for a C-Shell, or \$ for a Korn or Bourne shell) are not displayed in the examples. Depending on which operating system environment you are using, you will see a variety of different command line prompts. However, you should enter the command as it appears in the document unless specifically noted otherwise.

Where to Find Related Information

In addition to this guide, 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 5.1 Administrator's Guide*

NOTE A complete glossary of terminology is documented in the Administrator's Guide.

- *Messaging Server Reference Manual*
- *iPlanet Messaging Server 5.0 Schema Reference*
- *iPlanet Messaging Server 5.0 Provisioning Guide*
- *iPlanet Delegated Administrator for Messaging Installation Guide*

The iPlanet Messaging Server product suite contains other products such as Netscape Console, Directory Server, and Administration Server. Documentation for these and other products can be found at the following URL:

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

Where to Find This Book Online

You can find the *iPlanet Messaging Server 5.1 Installation Guide* online in PDF and HTML formats. This book can be found at the following URL:

<http://docs.iplanet.com/docs/manuals/messaging/ims51/ig/unix/contents.htm>

Where to Find This Book Online

Preparing for Installation

This chapter contains the following sections to help you prepare for a UNIX installation of iPlanet Messaging Server 5.1:

- Installation Overview
- System Requirements
- Graphical Overview of the Messaging Suite
- Installation Components
- Product Hierarchy and Interaction
- Configuring an Existing Directory Server
- Types of Installations
- Suggested Guidelines
- Installation Steps
- iPlanet Messaging Server Installation Checklist

Installation Overview

iPlanet Messaging Server 5.1 uses a common installation program for performing the installation process. The program provides a consistent installation interface and procedure across the entire iPlanet Server product set.

In addition, Messaging Server provides tools for completing and upgrading your installation, for stopping and starting various server processes, for migrating existing users to an upgraded server, and so on.

Before you install Messaging Server, you should verify that the systems on which you plan to install the software meet the minimum product requirements. In addition, you should have a general understanding of Messaging Server components and the directory schema used by them. If you have not already done so, you should read Chapter 1 of the *iPlanet Messaging Server 5.0 Provisioning Guide* before proceeding with installation. It is also a good idea to plan how you want to configure the software components before you begin the installation process.

The Messaging Server installation program contains everything you need to install this release of Messaging Server, including:

- iPlanet Messaging Server 5.1
- iPlanet Web Server Enterprise Edition 4.1 SP 7 (Service Pack 7)
- Netscape Administration Server 4.2
- Netscape Directory Server 4.13
- Netscape Console
- iPlanet Delegated Administrator for Messaging
- iPlanet Messaging Server Directory setup (`ims_dssetup`) if you have an existing Directory Server.

If you do not already have a Directory Server installed, you can install Directory Server 4.13 during the Messaging Server installation process. If you already have an existing 4.1x Directory Server installation, you must first run the `ims_dssetup` utility to prepare the directory before you install Messaging Server. For more information, see “Configuring an Existing Directory Server” on page 27.

System Requirements

This section outlines the minimum hardware and software requirements and installation privileges needed to install Messaging Server. You should make certain that these requirements are met before performing the installation. Refer to the *iPlanet Messaging Server 5.1 Release Notes* for any updates on hardware or software requirements.

Hardware Requirements

The minimum hardware requirements for Messaging Server are:

- Approximately 500 MB of disk space for a standard installation. For production systems, you should plan at least 1 GB to support the product binaries.
- 128 MB of RAM. For production systems, you should have a minimum of 256 MB of RAM; be sure to allocate this accordingly depending on the size of your site and number of users.
- Adequate space for your user mailboxes (message store), database, log files, and message queue directory. These can grow in size dramatically depending on the size of your site, so be sure to allocate space accordingly.
- RAID (Redundant Array of Independent Disk) storage for fast access (optional).

Software Requirements

Messaging Server is supported on Solaris 2.6, Solaris 8, and HP-UX 11.0. This guide will focus on these UNIX platforms. Please refer to *iPlanet Messaging Server 5.1 Installation Guide for Windows NT* to install Messaging Server on Windows NT. The following patches are required with for each UNIX platform:

- Solaris 2.6 for Sparc requires patch 105591-09 (Shared library patch for C++), patch 106613-01 (character set conversion), and other recommended patches.
- Solaris 8 for Sparc requires patch 108827-08 and 109461-02 (or later versions) in addition to the recommended patches listed in the link below.

A list of recommended patches for Solaris 2.6 and Solaris 8 can be found at the following URL:

<http://access1.sun.com/patch.public/>.

Additionally, ensure that in your Solaris setup, it is clearly specified how to route to hosts that are not on the local subnet:

- The `/etc/defaultrouter` should contain the IP address of the gateway system. This address must be on a local subnet.
- The `/etc/resolv.conf` exists and contains the proper entries for reachable DNS servers and domain suffixes.
- In `/etc/nsswitch.conf`, the `hosts:` line has the `dns` keyword added.
- HP-UX 11.0 with the following required operating system bundles and patches:

XSWG1100 (HP-UX 11.0 General Release Patches, September 2000)

XSWHWCR1100 (HP-UX 11.0 Hardware Enablement and Critical Patches)

PHCO_21902 (df(1M) cumulative patch)

PHCO_22314 (libc cumulative patch)

PHCO_23499 (LVM commands cumulative patch)

A list of recommended patches for HP-UX 11.00 can be found at the following URL:

<http://us-support.external.hp.com/index.html/>

To use the iPlanet Delegated Administrator command line utilities, it is required that you also install the iPlanet Delegated Administrator for Messaging from the product CD or the iPlanet Web site. See the *iPlanet Messaging Server Delegated Administrator for Messaging Installation and Administration Guide*.

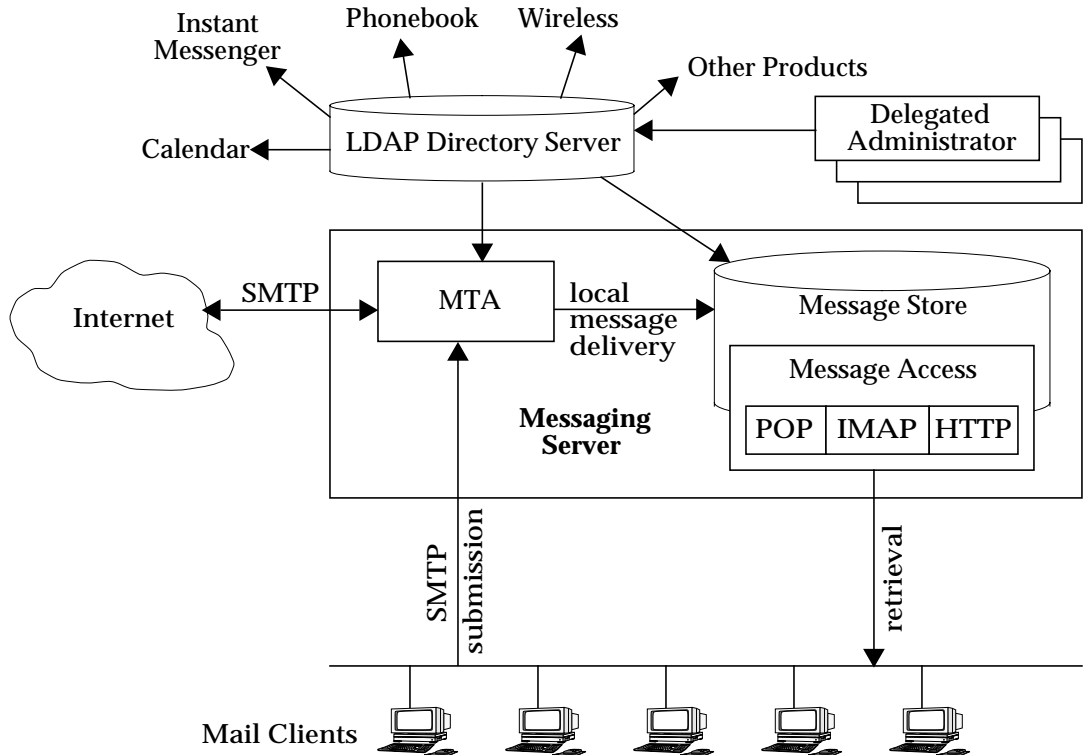
For Messenger Express access, Messaging Server requires a JavaScript-enabled browser. For optimal performance, iPlanet recommends using the following browsers:

- Netscape Navigator 4.7 or later
- Internet Explorer 5.0 or later

Graphical Overview of the Messaging Suite

Figure 1-1 illustrates the relationships between the various products and components within the Messaging Suite.

Figure 1-1 Messaging Suite Products and Components



Installation Components

The Messaging Server suite contains the following separate software components:

- Netscape Server Core
- Netscape Directory Suite
- Administration Services
- iPlanet Messaging Applications

Netscape Server Core

During the installation, you will have the option of installing the Netscape Server Core, which contains the products described in the following subsections:

- Netscape Product Core Components (Netscape Console 4.2)
- Netscape Core Java Classes
- Java Runtime Environment (JRE)

Netscape Product Core Components (Netscape Console 4.2)

Netscape Console provides the common user interface for all Netscape and iPlanet server products. From it you can perform common server administration functions, such as stopping and starting non-SMTP servers, installing new server instances, and managing user and group information. Netscape Console can be installed stand-alone on any machine on your network and can be used to manage remote servers.

Netscape Core Java Classes

The Java classes run and support the Netscape and iPlanet server product core components.

Java Runtime Environment (JRE)

The tools and binaries needed to run and support the Netscape and iPlanet server product core components.

Netscape Directory Suite

The products in the Netscape Directory Suite are described in the following subsections:

- Netscape Directory Server
- Netscape Directory Server Console

Netscape Directory Server

The Directory Server is iPlanet's LDAP-compliant server that manages directory database services and responds to requests from LDAP clients such as Messaging Server. It runs as the `ns-slapd` process on your machine

Netscape Directory Server Console

This is the portion of the Netscape Console designed specifically for use with the Directory Server. The Directory Server Console enables you to perform most Directory Server administrative tasks, such as starting and stopping the server, managing access control, viewing and configuring server logs, backing up and restoring directory databases, and so forth.

Administration Services

The products in the Administration Services installation component are described in the following subsections:

- Netscape Administration Server
- Administration Server Console

Netscape Administration Server

The Administration Server receives communications from the Netscape Console and passes those communications to the appropriate iPlanet server. Your site will have at least one Administration Server for each *server-root* in which you have installed an iPlanet server.

Administration Server Console

This is the portion of the Netscape Console designed specifically for use with the Administration Server. You can perform most Administration Server tasks through the Administration Server Console (for example, starting and stopping servers).

iPlanet Messaging Applications

The products and components in the Messaging Applications installation component are described in the following subsections. The following components make up Messaging applications:

- iPlanet Message Store and Message Access (MSMA)
- iPlanet Message Transfer Agent (MTA)
- iPlanet Messaging Multiplexor (MMP)
- High Availability for iPlanet Messaging Server (HA)
- iPlanet Delegated Administrator for Messaging Command Line Utilities (iDA)

iPlanet Message Store and Message Access (MSMA)

Messaging Server provides the foundation for unified messaging services through its universal Message Store. Access to the message store is available through multiple protocols (HTTP, POP, IMAP). The Message Access component is responsible for handling the retrieval of messages from the Message Store.

iPlanet Message Transfer Agent (MTA)

The MTA handles tasks such as routing and delivering user mail and handling SMTP authentication. The MTA provides support for features such as hosted domains, domain aliases, and server-side filters.

iPlanet Messaging Multiplexor (MMP)

The MMP is a proxy server that acts as a single point of connection to multiple instances of Messaging Server. With the MMP, large-scale mail-service providers can distribute POP and IMAP user mailboxes across many machines to increase messaging capacity. All users connect to the single Multiplexor server, which redirects each connection to the appropriate mail server.

For information on MMP installation, see Appendix B, “Installing the Messaging Multiplexor.”

High Availability for iPlanet Messaging Server (HA)

High Availability enables server management functions such as expansion of message store capacity and backup and recovery of user folders. Messaging Server is designed to integrate with the Veritas Cluster Server 1.1 or later, Sun Cluster 2.2, and Sun Cluster 3.0 high availability clustering software.

For information about the various high availability models, configuration information, and installation instructions, see Appendix A, “High Availability.”

iPlanet Delegated Administrator for Messaging Command Line Utilities (iDA)

These command line utilities (CLIs) provide the capability to perform provisioning on domains, users, and groups. They also grant privileges to the Domain Administrators.

Product Hierarchy and Interaction

This section outlines dependencies within the installation components and sub-components, shows you how to determine port numbers, and describes the interaction between installation products.

Installation Component and Sub-Component Dependencies

Each Messaging Server component has multiple sub-components. There are dependencies that allow or prevent you from installing various components together. Table 1-1 shows the components and sub-component dependencies.

Table 1-1 Messaging Server Component and Sub-component Dependencies

Sub-Components	Corresponding Component Group	Dependent on:
Netscape Server Products Core Components	Netscape Server Products Core Components	n/a
Netscape Core Java Classes	Netscape Server Products Core Components	n/a
Java Runtime Environment	Netscape Server Products Core Components	n/a
Netscape Directory Server	Netscape Directory Suite	Netscape Server Products Core Components Netscape Administration Server
Netscape Directory Server Console	Netscape Directory Suite	n/a
Netscape Administration Server	Administration Services	Netscape Server Products Core Components
Administration Server Console	Administration Services	Netscape Server Products Core Components
iPlanet Message Store and Message Access	iPlanet Messaging Suite	Administration Services Component
iPlanet Internet Message Transport Agent	iPlanet Messaging Suite	Administration Services Component
iPlanet Messaging Multiplexor	iPlanet Messaging Suite	iPlanet Messaging Libraries
High Availability for iPlanet Messaging Server	iPlanet Messaging Suite	n/a

Table 1-1 Messaging Server Component and Sub-component Dependencies (*Continued*)

Sub-Components	Corresponding Component Group	Dependent on:
iPlanet Delegated Administrator Command Line Utilities	iPlanet Messaging Suite	n/a

Port Numbers

Throughout the installation program, you will choose port numbers for various services. These port numbers can be any number from 1 to 65535. Be sure to specify different port numbers to avoid any conflicts in your Messaging installation. By the end of your installation, the following port numbers will be designated:

- Standard Directory Server LDAP port for managing and provisioning users and services (Default: 389).
- Administration Server HTTP port for listening to the Netscape Console requests (Choose a port number that is easy to remember.).
- Messenger Express (Webmail) HTTP port (Default: 80).
- Delegated Administrator for Messaging HTTP port (Default: 8080) This port should correspond to the iPlanet Web Server User HTTP port. See the *iPlanet Delegated Administrator for Messaging and Collaboration Installation and Administration Guide* for more information.

The following default port numbers may be specified during the installation process; if you select Custom Installation (or if these any of these ports are in use), these port numbers can be changed:

- POP3 (default 110)
- IMAP4 (default: 143)
- SMTP (default: 25)

The Administration Server must run as `root` if the Directory Server is going to use standard port numbers (only `root` authenticated user accounts can access ports lower than 1024.).

TIP It is recommended that you record all of the port numbers you specify during the installation, along with the specific component using that port number. See Table 1-2 on page 33.

When and Where to Install each Product

Although the Directory Server is included, you may choose to use an existing Directory Server and not install the one that is included with the Messaging Server. If you do so, you must run `ims_dssetup` (See “Running the `ims_dssetup` Utility” on page 38.) against that existing Directory Server prior to installing the Messaging Server. See “Configuring an Existing Directory Server” on page 27 for more information.

The iPlanet Web Server must be installed on the same machine as the Delegated Administrator, but the Messaging Server can be installed on a separate machine. Since the existence of the Web Server is required for the Delegated Administrator, you must install the Web Server before you install the Delegated Administrator.

The Delegated Administrator should be installed immediately after the Messaging Server; if you start to provision the Messaging Server before installing the Delegated Administrator, you may encounter some complications in the Delegated Administrator installation.

TIP It is recommended that you install the Messaging Server first, then the Web Server, then the Delegated Administrator.

Required Information for the iPlanet Delegated Administrator for Messaging Installation

The Delegated Administrator requires the following information from the Messaging Server installation; make sure you accurately record this information in Table 1-2 on page 33, before or during the Messaging Server installation. Relevant iPlanet Delegated Administrator information to note during Messaging installation includes:

- Fully Qualified host name and domain name of the Users and Groups Directory Server
- Port number on which the Users and Groups Directory Server listens
- Suffix for this Users and Groups Directory Server
- Bind DN and password of the Directory Manager
- Login ID and password for the Service Administrator (also known as the Top-Level Administrator for the Delegated Administrator)
- Messaging Server host name and domain name
- Host name and port of the Web server that will host the iPlanet Delegated Administrator for Messaging

Configuring an Existing Directory Server

This section provides information for configuring an existing Directory Server in preparation for a Messaging Server installation. If you do not have an existing Directory Server, or you want to install the Directory Server that comes with the Messaging Server, you do not need to read this section.

Messaging Server is compatible with Netscape Directory Server 4.1x. Messaging Server and Directory Server need not be installed and run on the same platform. While Messaging Server requires Solaris 2.6, 8, HP-UX 11.00, or Windows NT 4.0, the Directory Server can run on any platform on which it is supported. For example, a Directory Server running on Solaris can provide LDAP services to a messaging server running on HP-UX or Windows NT.

NOTE If you plan to use an existing Directory Server with Messaging Server, you must use the `ims_dssetup` program to configure it as described in “Running the `ims_dssetup` Utility” on page 38.

Choosing a Configuration Directory Server

All iPlanet servers use a Directory Server to store configuration information. This information is stored in the `o=NetscapeRoot` directory tree. Your configuration directory is the Directory Server that contains the `o=NetscapeRoot` tree used by your servers. For more information, refer to your Directory Server documentation.

When setting up your Directory Servers, you will want to centralize the administrative configuration settings on a single LDAP server and use it to host the configurations of any number of iPlanet Servers. When you open Netscape Console for any server, you will see all the other servers that are using the same LDAP server as the Configuration Server directory.

Administration Domains

On any configuration LDAP server, you can group your servers under different administration domains for increased manageability. When you first install a Directory server and choose it to be your Configuration Directory Server, you can specify an Administration Domain. If you later want to add administration domains to an existing Configuration Directory Server, you can use the Administration Console.

The administration domain allows you to logically group iPlanet servers together so that you can more easily distribute server administrative tasks. A common scenario is for two divisions in a company to each want control of their individual iPlanet servers. However, you may still want some centralized control of all the servers in your enterprise. Administration domains allow you to meet these conflicting goals.

Administration domains have the following qualities:

- All servers share the same configuration directory, regardless of the domain that they belong to.
- Servers in two different domains may use two different user directories for authentication and user management.
- The configuration directory administrator has complete access to all installed Netscape servers, regardless of the domain that they belong to.
- Each administration domain can be configured with an administration domain owner. This owner has complete access to all the servers in the domain but does not have access to the servers in any other administration domain.

- The administration domain owner can grant individual users administrative access on a server by server basis within the domain.

Choosing a Users and Groups Directory Server

When setting up Messaging Server, it is recommended that you specify one Directory Server as the Configuration Directory Server and another Directory Server for Users and Groups for increased manageability.

When you install the Messaging Server, there are two ways to specify your Users and Groups Directory Server:

- Install a new version of the Users and Groups Directory Server with your Messaging Server installation.
- Use an existing Users and Groups Directory Server with your Messaging Server installation.

NOTE After completing the installation, you can use Netscape Console to change the Users and Groups Directory that your Messaging Server uses, regardless of what was specified during the installation.

Types of Installations

The Messaging Server installation program lets you install in four basic ways:

- **Express Installation.** This type of installation performs a “quick” installation. Because most options at this level are automatically configured with default values, it is recommended for novice users. Use Express Installation if you want to evaluate Messaging Server.
- **Typical Installation.** This type of installation is more complex than the Express level. Some options are automatically configured with default values, but some require that you choose or enter the value you wish to use. Typical installation is recommended for intermediate users or for any installation that does not require custom configuration. Use this type of installation if you are performing a normal installation of Messaging Server.
- **Custom Installation.** This is the most complex type of installation. You must choose and enter all configuration options. Custom installation is recommended for expert users. Use this type of installation if you want to perform advance activities during installation such as specifying SMTP and IMAP network ports other than the default values.
- **Silent Installation.** Use this type of installation if you want to automate your installation process when installing more than one instance of Messaging Server. This feature is especially useful for installing several servers in your enterprise. Instructions on how to run this type of installation are described in “Silent Installation” on page 41.

Suggested Guidelines

This section contains suggested guidelines you should follow as you prepare for your Messaging Server installation.

- **Installation Privileges.** You must install Messaging Server logged in as `root`.
- **Host and Domain Names.** The iPlanet installation utilities assume that your host and domain names are defined correctly in your UNIX system files. Make sure that both the `hostname` and `domainname` commands return the correct information before installing iPlanet servers. If your system does not support the `domainname` command, check the domain name in the `/etc/resolv.conf` file.

- **Server-root Directories.** The Messaging Server, Directory Server, and Administration Servers are installed into directories referred to as *server-roots*. These directories provide a known file location structure (file directory path) that enables the servers to identify one another.
- **Create nobody for HP-UX installations.** Prior to an HP-UX installation, you will need to create a user called `nobody` who has no privileges, does not reside in any group, is not `root`, and does not have a home directory. The user, `nobody`, should not be a user in your Messaging or Directory Server.
- **Resource Contention.** To avoid resource contention between the servers, it is recommended that you install the Directory Server on a different machine than where you install Messaging Server. This is not necessary for single system installations, like an evaluation installation.
- **Hardened Solaris Machines.** To install Messaging Server on a hardened Solaris machine, create a dummy file called `libx11.so.4` and add it to the `LD_LIBRARY_PATH` prior to installation.
- **High Availability installation.** High availability for the Messaging Server is not installed by default; be sure to select High Availability Components from the Custom Installation menu if you install Sun Cluster 2.2 or Veritas Cluster Server 1.1 or later.

NOTE If you install Sun Cluster 3.0, you should select Custom Installation as your installation type, however you should not select High Availability components during Messaging Server installation. See Appendix A, “High Availability.”

- **MMP installation.** The MMP is not installed by default; be sure to select it from the menu if you want it installed. You may use either the Typical or Custom installation to install the MMP. See Appendix B, “Installing the Messaging Multiplexor.”

Installation Steps

The basic steps that should be followed for installing Messaging Server and its suite of products are listed below:

1. Review “System Requirements” on page 17 and verify that they have been met.
2. Record the information you’ll need to complete the installation based on the type of installation you want to perform (for example, IDs, passwords, and so forth) as described in Table 1-2 on page 33.
3. Determine whether you want to use an existing Directory Server or install the Directory Server that is included with the Messaging Server.
 - a. If you choose to use an existing Directory Server, you must run the `ims_dssetup` script on this existing Directory Server before you install Messaging Server. For more information, see “Running the `ims_dssetup` Utility” on page 38.
 - b. If you do not have an existing Directory Server, you must install the Directory Server provided with the Messaging Server installation. Messaging Server installation creates only one instance of the Directory Server.

NOTE If you install the Directory Server that comes with the Messaging Server, you do not need to run the `ims_dssetup` program that is described in “Running the `ims_dssetup` Utility” on page 38; this utility is only used for a pre-existing Directory Server to prepare it for the Messaging Server installation.

4. Make sure that the installation files are available, either from the product CD or downloaded from the iPlanet Web site. See “Transferring Messaging Server Installation Files” on page 36 for more information.
5. Run the `setup` program to perform the installation. See Chapter 2, “Installation Instructions” for more information on how to run the `setup` program.
6. Verify that the installation was successful.

iPlanet Messaging Server Installation Checklist

Use Table 1-2 to record installation and configuration values during the installation process. This information will be particularly helpful when installing other Messaging products and for subsequent installations of Messaging Server.

Table 1-2 iPlanet Messaging Server Installation Checklist

Parameter	Specified During	Value
Location of Product CD Image	The path of the install-binaries from the installation CD or from the iPlanet Web site.	Example: /usr/temp/msg51opt <i>install-binaries:</i> _____
Directory Manager DN	Messaging Server Installation: Directory Manager Settings	Directory Manager DN Example (default): cn=Directory Manager Password: iPLAnEt1 Directory Manager DN: _____ Password: _____
Directory Server Identifier, Port, and Suffix	Messaging Server Installation: Directory Server Settings	Server Identifier Example: budgie Server Port Example: 389 (default) User Suffix Example: o=siroe.com Server Identifier _____ Port _____ Suffix _____
Directory Host and Domain Name	Messaging Server Installation: Directory Server Settings	Host and Domain Name Example: budgie.siroe.com Host Name Identifier _____
Administration Server Port for Messaging and Directory Servers	Messaging Server Installation: Administrator Server Port Selection Also specified in the Web Server installation	Administration Port Example: 5000 Administration Port Number: _____
Messaging Server Ports SMTP Webmail (Messenger Express) POP3 IMAP4	Messaging Server Installation: Messaging Server Ports	Ports Example (defaults): POP3: 110 POP3: _____ IMAP4: 143 IMAP4: _____ SMTP: 25 SMTP: _____ Webmail: 80 Webmail: _____

Table 1-2 iPlanet Messaging Server Installation Checklist (*Continued*)

Parameter	Specified During	Value
Messaging Server Fully Qualified Host Name	Messaging Server Installation: Messaging Server Host and Domain Name	Fully qualified example: budgie.siroe.com Host example: budgie Domain example: siroe.com Messaging Server Fully Qualified Host Name: _____
Messaging Server Service Administrator	Messaging Server Installation: Service Administration	User example (default): ServiceAdmin Password example: iPlAnEt1 Messaging Server Services User: _____ Password: _____
Postmaster User Account	Messaging Server Installation: Postmaster Address	Postmaster Address example: pma@siroe.com Postmaster Address: _____
Delegated Administrator for Messaging running on Web Server Port	Messaging Server Installation: Messaging Server Delegated Administration Host and Port (Web Server installation)	Delegated Administration Host and Port example: Host Name: budgie.siroe.com Port: 8080 (default) Delegated Administration Host Name: _____ Port Number: _____
Web Server Port	Delegated Administrator for Messaging Product Installation (Web Server installation)	Administration Server Port for Web Server Example: 8000 Administration Server Port for Web Server: _____
Web Server Configuration Directory	Delegated Administrator for Messaging Product Installation	Example: /usr/netscape/server4/https-budgie/ \\ config Directory: _____

Installation Instructions

This chapter describes how to run the `setup` program, directory `setup` program, and silent installation. In addition, common installation scenarios and post-installation configuration steps are outlined. It is assumed that you have reviewed the previous sections in Chapter 1, “Preparing for Installation.”

This chapter includes the following sections:

- Installation Readiness
- Transferring Messaging Server Installation Files
- Running the `ims_dssetup` Utility
- Running the `setup` Program
- Silent Installation
- Installation Scenarios
 - Scenario One: Install Messaging and Directory Servers on the Same Machine
 - Scenario Two: Install Messaging Server with Existing Configuration and Users and Groups Directory Servers
 - Scenario Three: Install Messaging Server with Existing Users and Groups Directory Server and New Configuration Directory Server
- Post-Installation Configuration

Installation Readiness

At this point, you are almost ready to run the `setup` program and begin Messaging Server installation. You should be able to answer “yes” to the following questions before you continue:

1. Have you reviewed the “System Requirements” on page 17 and verified that they have been met?
2. Have you reviewed the “Product Hierarchy and Interaction” on page 24 to determine which components you will be installing and where you will be installing them?
3. Have you determined the “Types of Installations” on page 30 that you would like to perform, and have you gathered all of the necessary information?
4. Have you decided if you will use an existing Directory Server or install the one that comes with the Messaging Server? You should review “Configuring an Existing Directory Server” on page 27 for more information on using an existing Directory Server.
5. Are you ready to your record installation and configuration values in the installation checklist in Table 1-2 on page 33?

Transferring Messaging Server Installation Files

To transfer and extract the product archive files, use the following steps.

From the Web

To transfer and extract the compressed installation program files from the iPlanet Web site, locate the Messaging Server archive file. The file will be in the format `archive.tar.gz`, where *archive* represents the name of the compressed archive file.

After you have located the archive file:

1. Create a directory (for example, `/opt/msg5install`) on the machine that will host the Messaging Server and copy the archive file to that directory.
2. Go to the directory where you copied the archive file and then uncompress and extract the contents. Use the following command:

```
gunzip -c archive.tar.gz | tar -xvf -
```

From the CD

1. Locate the Messaging Server archive from the product CD:

Insert the CD into the CD-ROM drive on your installation machine and locate the `/solaris` (for Solaris 2.6 and Solaris 8) or `/hpux` (for HP-UX 11.0) directory. Next, locate the appropriate subdirectory you want to install:

- ES - iPlanet Web Server
- iDA - iPlanet Delegated Administrator for Messaging
- iMS - iPlanet Messaging Server

NOTE If you do not have an existing Directory Server installation, skip the next step. It is recommended that you install a new configuration directory server with the HP or Solaris version of Messaging Server if you are migrating your users and groups from Netscape Messaging System or Sun Internet Messaging System. Refer to the *iPlanet Messaging Server 5.0 Migration Guide* for more information.

2. Locate the `ims_dssetup` script (on CD: `/solaris/ims/msg/dssetup.zip` or `/hpux/ims/msg/dssetup.zip`), and copy it to the machine where you installed your existing Directory Server. In addition, you should copy the supporting `config/` (located in `dssetup.zip`) directory to your existing Directory Server machine.

NOTE If you have two existing directory servers (one for users and groups and one for configuration data), you will need to run the `ims_dssetup` on both directory servers.

Running the `ims_dssetup` Utility

This section provides instructions on how to run the `ims_dssetup` utility to configure an existing Directory Server for Messaging Server installation. If you do not have an existing Directory Server, you do not need to read this section. The `ims_dssetup` utility is located in the `msg` directory where you downloaded the archive file from the web; on the CD-ROM, it is also located in the `msg` directory:

1. Execute the `ims_dssetup` utility with the following command:

```
perl5 ims_dssetup.pl
```

NOTE The `ims_dssetup.pl` utility is a Perl script; you must have `perl` available on your system to run it; Messaging Server provides a Perl (version 5.005) executable program in the `server-root/install` directory of the existing Directory Server installation. It is recommended that you use this version of Perl script.

2. Enter `y` to continue,

```
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]:
```

3. Specify the Directory Server root where the existing directory server resides.

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

```
Directory server root [/usr/iplanet/server5] :
```

4. Select a Directory Server instance that you plan to use with the Messaging Server installation.

```
Please select a directory server instance from the following  
list:
```

```
[1]  slapd-budgie
```

```
Which instance do you want [1]:
```

5. Specify the base suffix for the DC tree or press Return to accept the default value. In the DC Tree, the convention is to set the root to `o=internet`.

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

6. Specify the base suffix under which the Users and Groups data should be set up. Press Return to accept the default value.

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

7. Answer `yes` or press Return to update the schema files.

Do you want to update the schema files [yes]:

8. Answer `yes` or press Return to configure the new indexes.

Do you want to configure new indexes [yes]:

9. Specify the schema directory; this is the `config` subdirectory of the directory where the `ims_dssetup` utility is located:

Please enter the schema directory
[/usr/iplanet/server5/msg/config]:

At this point, you will see a summary of your options. It will look similar to the following:

Here is a summary of the settings that you chose:

```
Server Root           : /usr/iplanet/server5
Server Instance      : slapd-budgie
Update Schema        : yes
DC Root              : o=internet
User/Group Root      : o=siroe.com
Add New Indexes      : yes
Schema Directory     : /usr/iplanet/server5/msg/config
```

Answer `yes` or press Return to continue, or answer `no` to start over.
Do you want to continue [y]: At this point, the configuration of the specified Directory Server begins.

Running the setup Program

The installation binaries, where the iPlanet Messaging Server files reside, contain the `setup` program. Make sure you are logged on as `root` when you run the `setup` program. See “Suggested Guidelines” on page 30 to review the guidelines prior to installing Messaging Server.

You can run the `setup` command as follows:

```
./setup [options]
```

The optional parameters for the `setup` command are listed in Table 2-1:

Table 2-1 Optional parameters for the `setup` command

Parameter	Description
<code>-s</code>	Silent installation mode. This parameter must be used in conjunction with the <code>-f file</code> parameter.
<code>-f file</code>	Specify file as the silent installation script. This parameter must be used in conjunction with <code>-s</code> parameter.
<code>-k</code>	Keep the installation cache.

Silent Installation

The installation program allows you to create a silent installation cache file that can be used to quickly install additional Messaging Server instances in your enterprise. When you use the `-k` option during your first installation, you create the silent installation cache file. All of your responses to the installation prompts are recorded in that file.

By running the silent installation, you instruct the `setup` program to read the silent installation cache file. The `setup` program uses the responses in this file rather than ask the same installation questions again for subsequent Messaging Server installations. When you use the cache file in a new installation, you are not asked any questions. Instead, all of the cache file responses are automatically applied as the new installation parameters.

The silent installation cache file is saved in the `/server-root/setup` directory. For example, if you installed the server into `/usr/iplanet/server5`, the cache file for that installation is:

```
/usr/iplanet/server5/setup/install.inf
```

To use the cache file for a fast installation of another iPlanet Messaging Server 5.1 instance, follow these steps:

1. Copy the silent installation cache file to the installation directory that you are using for the new installation.
2. Review and edit the silent installation cache file as necessary.

You will probably want to change some of the parameters and specifications in the cache file. For example, the host name for this installation may be different than the host name recorded in the cache file. Remember that the parameters listed in the cache file will be automatically applied to this installation.

3. Run `setup` with the `-s -f filename` options where *filename* represents the full path and name of the silent installation cache file (Additional `setup` options are listed in “Running the setup Program” on page 40.). For example:

```
./setup -s -f /home/foo/install.inf
```

NOTE When you use a cache file, no new cache file is created from a silent installation.

If you have many similar server configurations to set up, you can place the configuration file and the server installation package on each machine. You execute the `setup` program on each machine; it then extracts all information it needs from the configuration file as it performs the installation.

Installation Scenarios

This section describes three common Messaging Server installation scenarios:

NOTE The instructions in these scenarios are geared for a Custom Installation. If you are performing an Express or Typical Installation, you will not see all of the questions listed here.

- “Scenario One: Install Messaging and Directory Servers on the Same Machine.” You are installing the Messaging Server and Directory Server on the same server. Typically, you will follow this installation scenario when you want to evaluate the Messaging Server product.
- “Scenario Two: Install Messaging Server with Existing Configuration and Users and Groups Directory Servers.” You are installing the Messaging Server with an existing Configuration and Users and Groups Directory Server.
- “Scenario Three: Install Messaging Server with Existing Users and Groups Directory Server and New Configuration Directory Server.” You are installing the Messaging Server with an existing Users and Groups Directory Server only. You may follow this installation scenario if you migrate your users and groups from the Netscape Messaging Server to iPlanet Messaging Server. Refer to the *iPlanet Messaging Server 5.0 Migration Guide* for more information.

NOTE If you are installing the Messaging Server with an existing Directory Server, you must run the `ims_dssetup` utility against that existing Directory Server to prepare it for the Messaging Server installation. For more information, see “Configuring an Existing Directory Server” on page 24 and “Running the `ims_dssetup` Utility” on page 38.

For some questions, you are instructed to provide a specific answer; for the others, you will need to provide your own answer. Detailed information about each question can be found in Chapter 3, “Installation Questions.”

TIP It is important that you record your answer for each question (See Table 1-2 on page 33.); you may need them for another product installation (for example, iPlanet Delegated Administrator for Messaging requires answers to several of the questions specified during the Messaging Server installation. See “Required Information for the iPlanet Delegated Administrator for Messaging Installation” on page 27.).

Prior to beginning your installation, you can run the `script` command to record your entire installation process. Review the UNIX man page for more information.

Scenario One: Install Messaging and Directory Servers on the Same Machine

Follow the installation instructions provided below if you are installing Messaging and Directory Servers on the same machine:

1. Go to the directory where you downloaded the install files. For example:

```
cd /opt/msg5install
```

2. Run the `setup` program to begin installation. See “Running the setup Program” on page 40 for more information on `setup`. For example:

```
./setup -k
```

3. Provide answers for the following questions as described in Chapter 3, “Installation Questions.”
 - Question 1. Welcome Screen
 - Question 2. License Agreement
 - Question 3. Install Netscape Servers
 - Question 4. Installation Type
 - Question 5. Installation Location (server-root)
 - Question 6. iPlanet Server Products Components (select all the components on this screen.)
 - Question 7. Netscape Server Products Core Components
 - Question 8. Netscape Directory Suite Components
 - Question 9. Administration Services Components
 - Question 10. iPlanet Messaging Suite Components
 - Question 11. Fully Qualified Domain Name of the installation machine
 - Question 12. System User and System Group
 - Question 16. Register with an existing Configuration Directory Server?
 - Question 25. Do you want another Directory Server to store your Users and Groups data? (answer `no` to this question)
 - Question 21. Directory Server network port
 - Question 22. Unique ID for this Directory Server

- Question 19. Login ID and password of the Configuration Server Administrator
- Question 23. Suffix
- Question 24. Bind DN and password of the Directory Manager
- Question 20. Administration Domain
- Question 30. Directory Server replication
- Question 31. Sample entries (answer `no` to this question)
- Question 32. Populate your new Directory Instance with some data (answer `suggest` to this question)
- Question 33. Disable schema checking (answer `no` to this question)
- Question 34. Administration Server Port
- Question 35. Bind the Administration Server to a specific IP address rather than the default IP address of the current host?
- Question 36. User name of the Administration Server
- Question 37. Unique identifier for this Messaging Server
- Question 38. Messaging Server host name and domain name
- Question 39. User name of the Messaging Server
- Question 40. Default domain and organization for the Messaging Server
- Question 42. Host name and port of the Web server that will host the iPlanet Delegated Administrator for Messaging
- Question 43. Specify whether or not the Messaging Server will be run from behind a firewall
- Question 44. Primary message store directory
- Question 45. TCP/IP port numbers for POP3, IMAP, SMTP, and Messenger Express
- Question 46. Login ID and password for the Service Administrator
- Question 47. Email address that you want to add to the postmaster group

Scenario Two: Install Messaging Server with Existing Configuration and Users and Groups Directory Servers

Follow the installation instructions provided below if you are installing Messaging Server with existing Configuration and Users and Groups Directory Servers:

1. Go to the directory where you downloaded the install files. For example:

```
cd /opt/msg5install
```

2. Run the `setup` program to begin the installation. See “Running the setup Program” on page 40 for more information on `setup`. For example:

```
./setup -k
```

3. Provide answers for the following questions as described in Chapter 3, “Installation Questions.”
 - o Question 1. Welcome Screen
 - o Question 2. License Agreement
 - o Question 3. Install Netscape Servers
 - o Question 4. Installation Type
 - o Question 5. Installation Location (server-root)
 - o Question 6. iPlanet Server Products Components (select all components except Directory Server)
 - o Question 7. Netscape Server Products Core Components
 - o Question 8. Netscape Directory Suite Components
 - o Question 10. iPlanet Messaging Suite Components
 - o Question 11. Fully Qualified Domain Name of the installation machine
 - o Question 12. System User and System Group
 - o Question 13. LDAP URL of the Directory Server (Configuration Directory)
 - o Question 14. Administration Domain in the Configuration Directory
 - o Question 15. Login ID and password of the Configuration Server Administrator
 - o Question 34. Administration Server Port

- Question 35. Bind the Administration Server to a specific IP address rather than the default IP address of the current host?
- Question 36. User name of the Administration Server
- Question 37. Unique identifier for this Messaging Server
- Question 38. Messaging Server host name and domain name
- Question 39. User name of the Messaging Server
- Question 40. Default domain and organization for the Messaging Server
- Question 42. Host name and port of the Web server that will host the iPlanet Delegated Administrator for Messaging
- Question 43. Specify whether or not the Messaging Server will be run from behind a firewall
- Question 44. Primary message store directory
- Question 45. TCP/IP port numbers for POP3, IMAP, SMTP, and Messenger Express

Scenario Three: Install Messaging Server with Existing Users and Groups Directory Server and New Configuration Directory Server

Follow the installation instructions provided below if you are installing the Messaging Server with an existing Users and Groups Directory Server only:

1. Go to the directory where you downloaded the installation files. For example:

```
cd /opt/msg5install
```

2. Run the `setup` program to begin the installation. See “Running the setup Program” on page 40 for more information on `setup`. For example:

```
./setup -k
```

3. Provide answers for the following questions as described in Chapter 3, “Installation Questions.”

- Question 1. Welcome Screen
- Question 2. License Agreement
- Question 3. Install Netscape Servers

- Question 4. Installation Type
- Question 5. Installation Location (server-root)
- Question 6. iPlanet Server Products Components (select all the components on this screen)
- Question 7. Netscape Server Products Core Components
- Question 9. Administration Services Components
- Question 10. iPlanet Messaging Suite Components
- Question 11. Fully Qualified Domain Name of the installation machine
- Question 12. System User and System Group
- Question 16. Register with an existing Configuration Directory Server? (answer `no` to this question)
- Question 25. Do you want another Directory Server to store your Users and Groups data? (answer `yes` to this question)
- Question 26. Fully Qualified host name and domain name of the Users and Groups Directory Server
- Question 27. Port number on which the Users and Groups Directory Server listens
- Question 28. Suffix for this Users and Groups Directory Server
- Question 29. Login ID and password for the Users and Groups Server Administrator
- Question 21. Directory Server network port
- Question 22. Unique ID for this Directory Server
- Question 19. Login ID and password of the Configuration Server Administrator
- Question 24. Bind DN and password of the Directory Manager
- Question 20. Administration Domain
- Question 30. Directory Server replication
- Question 31. Sample entries (answer `no` to this question)
- Question 32. Populate your new Directory Instance with some data (answer `suggest` to this question)
- Question 33. Disable schema checking (answer `no` to this question)

- Question 34. Administration Server Port
- Question 35. Bind the Administration Server to a specific IP address rather than the default IP address of the current host?
- Question 36. User name of the Administration Server
- Question 37. Unique identifier for this Messaging Server
- Question 38. Messaging Server host name and domain name
- Question 39. User name of the Messaging Server
- Question 40. Default domain and organization for the Messaging Server
- Question 42. Host name and port of the Web server that will host the iPlanet Delegated Administrator for Messaging
- Question 43. Specify whether or not the Messaging Server will be run from behind a firewall
- Question 44. Primary message store directory
- Question 45. TCP/IP port numbers for POP3, IMAP, SMTP, and Messenger Express
- Question 46. Login ID and password for the Service Administrator
- Question 47. Email address that you want to add to the postmaster group

Post-Installation Configuration

At this point, you will have finished installing Messaging Server onto your system. You may need to perform additional post-installation configuration, particularly if you install multiple instances of Messaging Server.

Messaging Servers Sharing Common Users and Groups Directory

If you install multiple instances of the messaging server that use a common Users and Groups Directory Server, Installer fails to add the `msg-admin-xxx` account to Messaging End User Administrator group.

All instances of Messaging Server create an LDAP account in the Users and Groups Directory. These instances use the account credentials to access Users and Groups data from the LDAP directory.

This account, created during installation, is permitted read access to necessary directory data, that is granted via access control items (ACI) in the directory. The ACI grants access to members of the Messaging End User Administrator group. This group is located in the `'ou=Groups'` branch of the default domain's organization subtree. The DN of the Messaging End User Administrator Group is `'cn=Messaging End User Administrators Group, ou=Groups, o=siroe.com, o=ISP'`, where:

- The default domain is `siroe.com`
- The base suffix of the users and groups LDAP directory is `'o=ISP'`
- The default organization's subtree (one that `'dc=siroe, dc=com, o=internet'` has a DN reference to) is `'o=siroe.com, o=ISP'`

ACIs in the directory permit access to the directory data to members of the group referenced above, but only the first Messaging Server servers account is added as a member of this group. Installer creates the account for other servers and stores their credentials in the following pair of attributes: `local.ugldapbasedn` and `local.ugldabindcred`. However, Installer fails to add this account as a member of the Messaging End User Administrator Group thereby preventing Messaging Server from accessing the necessary data from the users and groups directory server.

To properly configure the LDAP directory, you must add the DN of Messaging Server account as a member of the Messaging End User Administrator Group by following these steps:

1. Determine the DN of the Messaging End User Administrator Group (For example: 'dn: cn=Messaging End User Administrators Group, o=siroe.com, o=ISP').
2. Determine the DN of the Messaging Server account. Use the command '\$INSTANCEROOT/getconf local.ugldapbinddn' to retrieve the DN (For example: uid=msg-admin-2, ou=People, o=siroe.com, o=ISP).
3. Add the DN as a value of the 'uniquemember' attribute of the Messaging End User Administrator Group. The LDIF example shown below will add the account DN to the group:

```
dn: cn=Messaging End User Administrators Group, ou=Groups,
    o=siroe.com,o=ISP
changetype: modify
add: uniquemember
uniquemember: uid=msg-admin-2, ou=People, o=siroe.com, o=ISP
```

4. Use the LDIF file as an argument to `ldapmodify` the Messaging End User Administrator Group to grant the required access privileges to the Messaging Server.

Adding Service Administrators Group to Second Messaging Server

If a Service Administrators group already exists, adding a second Messaging Server fails to add its own service administrator into the group. As a workaround, manually add the second service administrator user to the service administrator group.

Installation Questions

This chapter provides a description of all of the questions you may be asked during an installation. Depending on your installation options (for example, whether you are performing a Typical or Custom installation), you may or may not see all of the questions described in this chapter.

It is assumed that you have reviewed the previous sections in Chapter 2, “Installation Instructions.” In particular, you should review “Installation Scenarios” on page 43 to determine how the installation questions (detailed in this chapter) correspond to common installation scenarios. When you review the scenarios, you can also determine the questions you will need to answer and the order in which you will need to answer them.

This chapter includes the following sections:

- Common Questions
- Component Questions
- Directory Server Questions
- Administration Server Questions
- Messaging Server Questions

Common Questions

You will see the questions in this section regardless of the type of installation you are performing.

1. Welcome Screen

Welcome to the iPlanet Server Products installation program. This program will install iPlanet Server Products and the iPlanet Console on your computer.

It is recommended that you have "root" privilege to install the software.

Tips for using the installation program:

- Press "Enter" to choose the default and go to the next screen
- Type "Control-B" to go back to the previous screen
- Type "Control-C" to cancel the installation program
- You can enter multiple items using commas to separate them.
For example: 1, 2, 3

Would you like to continue with installation? [Yes]:

This is the first screen you will see. It reminds you that you must have the privileges of a `root` user in order to perform the installation, and also provides some keyboard shortcuts and instructions for how to select multiple items from a menu. Be sure to read this screen, then answer `yes` or press **Return to continue with the installation.**

2. License Agreement

BY INSTALLING THIS SOFTWARE YOU ARE CONSENTING TO BE BOUND BY AND ARE BECOMING A PARTY TO THE AGREEMENT FOUND IN THE LICENSE.TXT FILE. IF YOU DO NOT AGREE TO ALL OF THE TERMS OF THIS AGREEMENT, PLEASE DO NOT INSTALL OR USE THIS SOFTWARE.

Do you agree to the license terms? [No]:

Read the license agreement and answer `yes` to this question to continue. The license agreement is located in the `LICENSE.txt` file in the directory where you downloaded the installation software.

3. Install Netscape Servers

Select the items you would like to install:

1. iPlanet Servers

Installs iPlanet Servers with the integrated Netscape Console onto your computer.

2. Netscape Console

Installs Netscape Console as a stand-alone Java application on your computer.

To accept the default shown in brackets, press the Enter key.

Select the component you want to install [1]:

Select option 1 from this menu to continue. Choose option 2 if you only want to administer a server installed on a remote machine. For example, if you are using a Windows NT machine and want to administer a Messaging Server hosted on another machine (Unix or Windows NT), you need to install only the Netscape Console. This installation guide will not cover installing just the Netscape Console. Refer to the Netscape Console documentation if you want more information. Note that Netscape Servers and iPlanet Servers refer to the same set of components.

4. Installation Type

Choose an installation type:

1. Express installation

Allows you to quickly install the servers using the most common options and pre-defined defaults. Useful for quick evaluation of the products.

2. Typical installation

Allows you to specify common defaults and options.

3. Custom installation

Allows you to specify more advanced options. This is recommended for experienced server administrators only.

To accept the default shown in brackets, press the Enter key.

Choose an installation type [2]:

Select an installation type from this menu. For a more information on each installation type, see “Types of Installations” on page 30.

5. Installation Location (*server-root*)

This program will extract the server files and install them into a directory you specify. That directory is called the server root in the product documentation and will contain the server programs, the Administration Server, and the server configuration files.

To accept the default shown in brackets, press the Enter key.

Install location [/usr/iplanet/server5]:

Specify the desired installation location, or press Return to accept the default. This installation location is referred to as the *server-root* in the remainder of this document.

Component Questions

The questions in this section relate to the Messaging Server suite of products and which ones you would like to install. Be sure to review “Installation Component and Sub-Component Dependencies” on page 24 prior to determining the components you will install.

6. iPlanet Server Products Components

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]:

Specify which products in the Messaging Server suite you want to install. For a detailed description of each product and component, see “Installation Components” on page 20.

7. Netscape Server Products Core Components

Netscape Server Products Core Components components:

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

1. Netscape Server Products Core Components
2. Netscape Core Java classes
3. Java Runtime Environment

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

Specify which of the Netscape Server Products Core components you want to install. See “Netscape Server Core” on page 20 for details on each component.

8. Netscape Directory Suite Components

Netscape Directory Suite components:

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

1. Netscape Directory Server
2. Netscape Directory Server Console

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

Specify which of the Netscape Directory Suite components you want to install. See “Netscape Directory Suite” on page 21 for details on each component.

9. Administration Services Components

Administration Services components:

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

1. Netscape Administration Server
2. Administration Server Console

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

Specify which of the Administration Services components you want to install. See “Administration Services” on page 21 for details on each component.

10. iPlanet Messaging Suite Components

iPlanet Messaging Applications components:

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

1. iPlanet Message Store and Message Access
2. iPlanet Internet Message Transport Agent
3. iPlanet Messaging Multiplexor
4. High Availability for iPlanet Messaging Server
5. iPlanet Delegated Administrator Command Line Utilities

Specify the components you wish to install [1, 2, 5,]:

Specify which iPlanet Messaging Applications components you want to install. See “iPlanet Messaging Applications” on page 22 for details on each component.

Directory Server Questions

The questions in this section relate to the Directory Server. The questions you will see and the answers you are expected to provide differ depending on your specific installation scenario.

11. Fully Qualified Domain Name of the installation machine

Enter the fully qualified domain name of the computer on which you’re installing server software. Using the form

```
<hostname>.<domainname>
```

Example: eros.airius.com.

To accept the default shown in brackets, press the Enter key.

Computer name [budgie.siroe.com]:

Specify the fully qualified domain name of the machine on which you are installing the server software.

12. System User and System Group

Choose a Unix user and group to represent the iPlanet server in the user directory. The iPlanet server will run as this user. It is recommended that this user should have no privileges in the computer network system. The Administration Server will give this group some permissions in the server root to perform server-specific operations.

If you have not yet created a user and group for the iPlanet server, create this user and group using your native UNIX system utilities.

To accept the default shown in brackets, press the Return key.

System User [nobody]:

System User and System Group are configuration variables used to set ownership for the configuration files and directories that are shared by all the servers in the *server-root* (for example, SSL key files, LDAP tools, libraries, and so on). Any server installed in the same *server-root* would have the same privileges in terms of accessing this information.

NOTE For HP-UX platforms, make sure that you create a user called *nobody* prior to installation. See “Suggested Guidelines” on page 30 for details.

The default for both the system user and group is *nobody*; this account should already exist on all Solaris systems. It is recommended that rather than using the default, you create a new user for running your Messaging Server (for example, *imsuser*). This user should be in the same group as the user in Step 39 on page 70.

NOTE The system group ID should be the same as the one used for the Directory Server so that the Messaging Server has access to configuration and security data. For security reasons, it is recommended that this user ID does not have any privileges elsewhere on the system.

13. LDAP URL of the Directory Server

iPlanet Server Products require an LDAP-based Directory Server for the administration of server configuration. This server contains the Configuration Directory.

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://budgie.siroe.com:389/]:

Specify the LDAP URL of your existing Directory Server in the form `ldap://hostname:port`. This question will be asked if you have an existing Directory Server. To determine the *port* that the Directory Server is using, check the `slapd.conf` file in this Directory Server's `server-root/slapd-serverID/config` directory. See your Directory Server documentation for detailed information.

14. Administration Domain in the Configuration Directory

Please specify the name of the Administration Domain in the Configuration Directory where your server configuration information is to be stored.

You must have already been granted write access to this Administration Domain in order to install the software.

To accept the default shown in brackets, press the Enter key.

Administration Domain name [siroe.com]:

You may use the same domain name that you used for your Configuration Directory Server, or some other Administration Domain that you may have created in your Configuration Directory Server. The Administration Domain is part of the Configuration Directory Server; if you are managing multiple software releases at the same time, or are managing information about multiple domains, you can use the Administration Domain to keep them separate.

You are asked this question if you chose to install Messaging Server with an existing Directory Server.

15. Login ID and password of the Configuration Server Administrator

Enter the User ID or Distinguished Name of the administrator who is authorized to access the Configuration Directory at

```
ldap://budgie.siroe.com:6892/
```

Configuration Admin ID or DN: [admin]:

This is the user name and associated password of the account that can make configuration changes to the servers through Netscape Console. The Configuration Server Administrator has administration privileges over all of the servers (such as Messaging Server) that use the Configuration Directory Server instance, but not over the Configuration Directory Server itself.

You are asked this question if you choose to use an existing Configuration Directory Server, and you install any server that will use this existing Configuration Directory Server, or when you run the `ims_dssetup` utility to prepare this existing Configuration Directory Server for a Messaging Server installation. The default is `admin`.

16. Register with an existing Configuration Directory Server?

Netscape server information is stored in the Netscape configuration directory server, which you may have already set up. If so, you should configure this server to be managed by the configuration server. To do so, the following information about the configuration server is required: the fully qualified host name of the form `<hostname>.<domainname>` (e.g. `hostname.domain.com`), the port number, the suffix, and the DN and password of a user having permission to write the configuration information, usually the Netscape configuration directory administrator.

If you want to install this software as a standalone server, or if you want this instance to serve as your Netscape configuration directory server, press Enter.

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

If you answer `yes` to this question, make certain that your existing Configuration Directory Server is up and running, and that you have run the `ims_dssetup` script against it to prepare it for this Messaging Server installation. For more information, see “Configuring an Existing Directory Server” on page 27.

17. Fully Qualified Domain Name of the existing Configuration Directory Server in the form *hostname.domainname*

Enter the fully qualified domain name of the Netscape configuration directory server host in the form `<hostname>.<domainname>` (e.g. `hostname.domain.com`).

Netscape configuration directory server host name:

Specify the fully qualified domain name of the machine on which the existing Configuration Directory Server resides.

18. Port number on which the Configuration Directory Server listens

Please specify the port number on which the Netscape configuration directory server listens.

Netscape configuration directory server port number [389]:

To determine the *port* that the server is using, check the `slapd.conf` file in this Directory Server's `server-root/slapd-serverID/config` directory. See your Directory Server documentation for detailed information.

You are asked this question if you are installing the Messaging Server with an existing Configuration Directory Server.

19. Login ID and password of the Configuration Server Administrator

To write configuration information into the Netscape configuration directory, you must bind to the server as an entity with the appropriate permissions. Usually, the Netscape configuration directory administrator is used for this purpose, although you can give other directory accounts the proper access.

Netscape configuration directory server administrator ID [admin]:

The Configuration Server Administrator can make configuration changes to the servers through Netscape Console. This user has administration privileges over all of the servers (such as Messaging Server) that use the Configuration Directory Server instance, but not over the Configuration Directory Server itself.

You are asked this question if you do not have an existing Configuration Directory Server or you chose to install the one included with the Messaging Server software. You are prompted for the password twice.

20. Administration Domain

The Administration Domain is a part of the configuration directory server used to store information about Netscape software. If you are managing multiple software releases at the same time, or managing information about multiple domains, you may use the Administration Domain to keep them separate.

If you are not using administrative domains, press Enter to select the default. Otherwise, enter some descriptive, unique name for the administration domain, such as the name of the organization responsible for managing the domain.

Administration Domain [siroe.com]:

Specify the Administration Domain; refer to your Directory Server documentation for information about Administration Domains.

You are asked this question if you do not have an existing Directory Server and you are installing the one included with the Messaging Server.

21. Directory Server network port

The standard directory server network port number is 389. However, if you are not logged as the superuser, or port 389 is in use, the default value will be a random unused port number greater than 1024. If you want to use port 389, make sure that you are logged in as the superuser, that port 389 is not in use, and that you run the admin server as the superuser.

```
Directory server network port [389]:
```

Specify the Directory Server network port number.

You are asked this question if you do not have an existing Directory Server and you are installing the one included with Messaging Server.

22. Unique ID for this Directory Server

Each instance of a directory server requires a unique identifier. Press Enter to accept the default, or type in another name and press Enter.

```
Directory server identifier [budgie]:
```

This is the unique identifier for this instance of the Directory Server; each Directory Server instance must have a unique identifier, called a *serverID*. The installation program automatically adds the prefix “slapd-” to the name you specify. For example, if you name the server instance `tango`, the installation program creates the *serverID* called `slapd-tango`.

23. Suffix

The suffix is the root of your directory tree. You may have more than one suffix.

```
Suffix [o=siroe.com]:
```

This is the root of your directory tree beneath which users and groups for all hosted domains are defined, including the hosted domain that corresponds to the default domain. The Messaging Server installation program will attempt to provide a reasonable default; you may change this if you like. However, you must provide a properly formatted organizational DN in the following format:

```
o=suffix
```

CAUTION The root suffix you specify here must be the same for the Messaging Server, Directory Server, and Delegated Administrator. If you already have a Directory Server installed, you must use this existing root suffix for the Messaging Server and Delegated Administrator.

You are asked this question if you do not have an existing Directory Server and you are installing the one included with the Messaging Server. The suffix you specify here will be created for you.

24. Bind DN and password of the Directory Manager

Certain directory server operations require an administrative user. This user is referred to as the Directory Manager and typically has a bind Distinguished Name (DN) of `cn=Directory Manager`. Press Enter to accept the default value, or enter another DN. In either case, you will be prompted for the password for this user. The password must be at least 8 characters long.

```
Directory Manager DN [cn=Directory Manager]:
```

The Directory Manager has privileges to make changes in the Directory Server schema. This user has overall administrator privileges on the Directory Server and all iPlanet servers that make use of the Directory Server (for example, the Messaging Server) and has full administration access to all entries in the Directory Server.

The default and recommended DN is `cn=Directory Manager`.

25. Do you want another Directory Server to store your Users and Groups data?

If you already have a directory server you want to use to store your data, such as user and group information, answer Yes to the following question. You will be prompted for the host, port, suffix, and bind DN to use for that directory server.

If you want this directory server to store your data, answer No.
Do you want to use another directory to store your data? [No]:

If you answer *yes* to this question, make certain that your existing Users and Groups Directory Server is up and running, and that you have run the `ims_dssetup` script against it to prepare it for this Messaging Server installation. For more information, see “Configuring an Existing Directory Server” on page 27.

26. Fully Qualified host name and domain name of the Users and Groups Directory Server

Enter the fully qualified domain name of the user directory host of the form `<hostname>.<domainname>` (e.g. `hostname.domain.com`).

User directory host name :

Specify the fully qualified host name and domain name of the machine on which the existing Users and Groups Directory Server resides in the form `hostname.domainname` (for example: `budgie.siroe.com`).

27. Port number on which the Users and Groups Directory Server listens

Please specify the port number on which the user directory listens.

User directory port number [389]:

To determine the *port* that the server is using, check the `slapd.conf` file in this Directory Server’s `server-root/slaped-serverID/config` directory. See your Directory Server documentation for detailed information.

28. Suffix for this Users and Groups Directory Server

Please specify the suffix for the user directory server.

User directory server suffix [o=siroe.com]:

You are asked this question if you are installing the Messaging Server with an existing Users and Groups Directory Server. The suffix you specify here must already exist.

29. Login ID and password for the Users and Groups Server Administrator

In order to add and modify information in the user directory, you must be able to bind to the server as an entity with the correct permissions. This user is usually the Directory Manager, although other users may be given the proper access. You will also be asked to provide the password.

User directory administrator ID [cn=Directory Manager]:

This person has administration privileges for the Users and Groups directories on the Directory Server. You can use different directories for managing server configuration (a Configuration Server) and for users and groups (a Users and Groups Server). The Users and Groups Server Administrator should have all privileges over the Users and Groups directory. The default and recommended value is cn=Directory Manager.

NOTE The Users and Groups Administrator account is not created by the `ims_dssetup` utility; you must create this account from the Messaging Server installation.

30. Directory Server replication

Replication is used to duplicate all or part of a directory server to another directory server. This can be used for failsafe purposes, to ensure that the directory data is always online and up-to-date in case one server goes down. It is also useful for distributing directory data from a central main repository to remote directory servers.

Do you want to configure this directory server to use replication? [No]:

For this installation, answer No. You can configure the Directory Server to use replication at a later time. Refer to your Directory Server documentation for detailed information and instructions.

31. Sample entries

You may install some sample entries in this directory instance. These entries will be installed in a separate suffix and will not interfere with the normal operation of the directory server.

Do you want to install the sample entries? [No]:

The samples are installed in a separate suffix and will not interfere with the normal operation of this Directory Server.

32. Populate your new Directory Instance with some data

You may wish to populate your new directory instance with some data. You may already have a file in LDIF format to use or some suggested entries can be added. If you want to import entries from an LDIF file, you may type in the full path and filename at the prompt. If you want the install program to add the suggested entries, type the word `suggest` at the prompt. The suggested entries are common container entries under your specified suffix, such as `ou=People` and `ou=Groups`, which are commonly used to hold the entries for the persons and groups in your organization. If you do not want to add any of these entries, type the word `none` at the prompt.

Type the full path and filename, the word `suggest`, or the word `none` [`suggest`]:

If you want to import entries from an existing LDIF file, specify the full path and filename. If you want the install program to add the suggested entries, type the word “`suggest`” at the prompt. If you do not want any of these entries, type the word “`none`” at the prompt. The default is “`suggest`.”

33. Disable schema checking

If you are going to import an old database immediately after or during installation, and you think you may have problems with your old schema, you may want to turn off schema checking until after the import. If you choose to do this, schema checking will remain off until you manually turn it back on. Netscape recommends that you turn it back on as soon as possible.

Do you want to disable schema checking? [`No`]:

Answer `No` if you do not want to disable schema checking. If you choose to turn schema checking off, it will remain off until you manually turn it back on. It is recommended that you turn it back on as soon as possible.

Administration Server Questions

The questions in this section relate to the Administration Server. The questions you will see and the answers you are expected to provide differ depending on your specific installation scenario.

34. Administration Server Port

The Administration Server is separate from any of your application servers since it listens to a different port and access to it is restricted.

Pick a port number between 1024 and 65535 to run your Administration Server on. You should NOT use a port number which you plan to run an application server on, rather, select a number which you will remember and which will not be used for anything else.

The default in brackets was randomly selected from the available ports on your system. To accept the default, press return.

Administration port [6910]:

You should pick an unused port number between 1024 and 65535.

NOTE Be sure to note this port number. If you forget to do so, you can find it in the *server-root/admin-serv/config/adm.conf* file.

35. Bind the Administration Server to a specific IP address rather than the default IP address of the current host?

If you want to configure the Administration Server to bind to a specific IP address rather than the default IP address of the current host, enter the address below.

To accept the default shown in brackets, press the Return key.

IP address [192.18.126.126]:

Refer to your Administration Server documentation for detailed information.

36. User name of the Administration Server

The Administration Server program runs as a certain user on your system. This user should be different than the one which your application servers run as. Only the user you select will be able to write to your configuration files. If you run the Administration Server as "root", you will be able to use the Server Administration screen to start and stop your application servers.

Run Administration Server as [root]:

The Administration Server runs as this user who will have write privileges for all of your configuration files. This user should be different from your Directory Server user. The default and recommended user is `root`, that lets you use the Netscape Console interface to start and stop your servers.

NOTE The Administration Server is primarily used to change Users and Groups information. To administer your Directory Server and Messaging Server configurations, it is recommended that you use Netscape Console.

Messaging Server Questions

The questions in this section relate to the Messaging Server. The questions you will see and the answers you are expected to provide differ depending on your specific installation scenario.

37. Unique identifier for this Messaging Server

The instance name is the unique identifier for this installed Messaging Server. It is customary to use the host name as instance name. However, you may choose any name you wish.

The instance name will be prefixed with "msg-" to identify the installed server as a Messaging Server.

Instance Name [budgie]:

This is the unique identifier for this instance of the Messaging Server; each Messaging Server instance must have a unique identifier, called a *serverID*. The installation program automatically adds the prefix "msg-" to the name you specify. For example, if you name the server instance `tango`, the installation program creates the *serverID* called `msg-tango`.

It is recommended that server identifiers be a single, unqualified element using only alphanumeric characters, hyphens, and underscores.

38. Messaging Server host name and domain name

The Messaging Server responds to requests for a particular host and domain. It is recommended you use the host and domain name of the machine on which you are installing the Messaging Server.

Host Name [budgie.siroe.com]:

This is the host and domain name of the machine where the Messaging Server resides and executes commands. Be sure to specify this in the form *hostname.domainname* (for example: budgie.siroe.com).

39. User name of the Messaging Server

The Messaging Server runs as a privileged user. The account should already exist on the system and should be a member of the iPlanet Group.

User Name [mailsrv]:

This is the user ID under which the Messaging Server runs; the Messaging Server must be run as a privileged user.

The messaging data files, such as the message store, are owned by this user, meaning that this user should be highly secure. This user should also be a member of the iPlanet group (See Step 12 on page 59.). For security reasons, this user account should have no special privileges on the system. In the course of operation, servers will assign some directory permissions to this user and the iPlanet group for certain server-specific operations. The default user ID is mailsrv.

40. Default domain and organization for the Messaging Server

Please enter the default domain and the default organization DN below. The default domain is the domain of unqualified user-id's that do not belong to any particular domain.

The default organization DN should represent the subtree under which all users that belong to the default domain are located. All users that belong to the default domain are managed under this subtree.

Default Domain [budgie.siroe.com]:

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

Specify the domain and organization for this Messaging Server. The default domain is the domain of unqualified user IDs that do not belong to any particular domain. The default organization DN should represent the subtree under which all users belonging to the default domain are located. All users belonging to the default domain are managed under this subtree.

41. Distinguished name and password of the Directory Manager

The Directory Manager DN and password.

```
ldap://budgie.siroe.com:389/o=siroe.com
```

User DN:

Certain Directory Server operations require an administrative user. This user is referred to as the Directory Manager and typically has a bind Distinguished Name (DN) of `cn=Directory Manager`. Specify the DN and password for the Directory Manager.

42. Host name and port of the Web server that will host the iPlanet Delegated Administrator for Messaging

The Messaging Server requires the use of a Delegated Administration Server. The Delegated Administration Server is used by administrators and endusers to manage user accounts and their preferences.

A Delegated Administration Server does not have to exist at the given host and port. It may be installed later.

```
Host Name [budgie.siroe.com]:
```

Messaging Server requires the use of a Delegated Administration Server, which is used by administrators and end users to manage user accounts and their preferences.

NOTE A Delegated Administrator server does not have to pre-exist at this specified port and server; it can be installed later.

The host name must be the name of the machine that will host the Web server for the Delegated Administrator; this machine can be either local or remote. The port number is the port on which that Web server listens.

NOTE If you choose to install the iPlanet Delegated Administrator for Messaging client on a different machine from the iPlanet Delegated Administrator for Messaging CLI, then you will be asked for this information in the iPlanet Delegated Administrator for Messaging installation. Be sure to record it.

43. Specify whether or not the Messaging Server will be run from behind a firewall

The Messaging Server can route mail through a firewall. The firewall controls access between the Internet and your internal network.

If you choose to operate your Messaging Server behind a firewall, you must specify the fully qualified host name of the Smart Host, which has the Messaging Server routing information.

If your Messaging Server cannot route mail to a recipient's address, it forwards the message to its Smart Host.

[1] Yes, the Messaging Server is behind a firewall.

[2] No, the Messaging Server will not use a firewall.

Will the Messaging Server use a firewall [2]:

Select option 1 if your Messaging Server is behind a firewall; you must specify the fully qualified host name of the Smart Host, which has the ability to route messages beyond the firewall.

44. Primary message store directory

The Messaging Server will use the directory shown below as its primary message store.

Store Directory

`[/usr/iplanet/server5/msg-budgie/store/partition/primary]:`

This is the path to the message storage area to which messages will be written and from which they will be retrieved. You must specify the absolute path name for this directory. The default location is

`server-root/msg-serverID/store/partition/primary.`

NOTE If you specify a non-default path, Installer will not create the directory.

45. TCP/IP port numbers for POP3, IMAP, SMTP, and Messenger Express

The Messaging Server uses TCP/IP ports for sending and receiving messages.

POP3 Port [110]:

The default port numbers are:

- POP3 (110)
- IMAP (143)
- SMTP (25)
- Messenger Express (80)

46. Login ID and password for the Service Administrator

The Messaging Server requires a Service Administrator account to exist in the Users Directory Server. The account has privileges to manage the various services of the Messaging Server.

The account will be created and given the necessary privileges.

User ID [ServiceAdmin]:

This is the top-level administrator for the Delegated Administrator. The Messaging Server requires that this account exist in the Users and Groups Directory Server; this user has privileges (for example, create, modify, or delete) to manage any user, group, domain, domain organization, and mailing list defined in the directory.

Additionally, the Service Administrator is implicitly granted Store Administrator privileges; for example, they can authenticate as another user via the proxy and perform such functions as checking their quota status.

47. Email address that you want to add to the postmaster group

A Postmaster alias will be created and used to distribute administrative email related to the Messaging Server. Mail sent to the Postmaster will be distributed to the members of the postmaster group. An email address that will be the initial member of the postmaster group is required. The given address (e.g. admin@domain.com) must be a valid address (it will NOT be created during the install).

Do not use an email address that begins with "Postmaster@". This email address is already assigned to the Postmaster alias.

Email Address:

A postmaster group (like the email group) will be created by the installation program and you are asked to specify an email address which will be made a member of that group. Any mail addressed to the postmaster in the Users and Groups Directory Server will be sent to this email account. Note that this alias is not recognized until the `imsimta dirsync` command is run. See the *iPlanet Messaging Server 5.1 Reference Manual* for more information on `imsimta dirsync`.

NOTE The email address you specify for the postmaster is accepted during installation; a postmaster group is added and the email address is added to the postmaster group. However, the email address that you specify may not previously exist in the Directory Server. In this case, a user or group account must be created with this email address, using either the Console or the iPlanet Delegated Administrator for Messaging.

High Availability

This appendix contains the following sections to help you determine which high availability (HA) model is right for you, and how to setup your system to run high availability with Messaging Server:

- High Availability Models
- Installing High Availability for Veritas Cluster Server 1.1 or later or Sun Cluster 2.2
- Installing High Availability for Sun Cluster 3.0
- Notes for Multiple Instances of Messaging Server

NOTE At this time high availability is only available on Solaris platforms.

High Availability Models

There are different high availability models that can be used with Messaging Server. Three of the more basic ones are:

- Asymmetric (hot standby)
- Symmetric
- N + 1 (N Over 1)

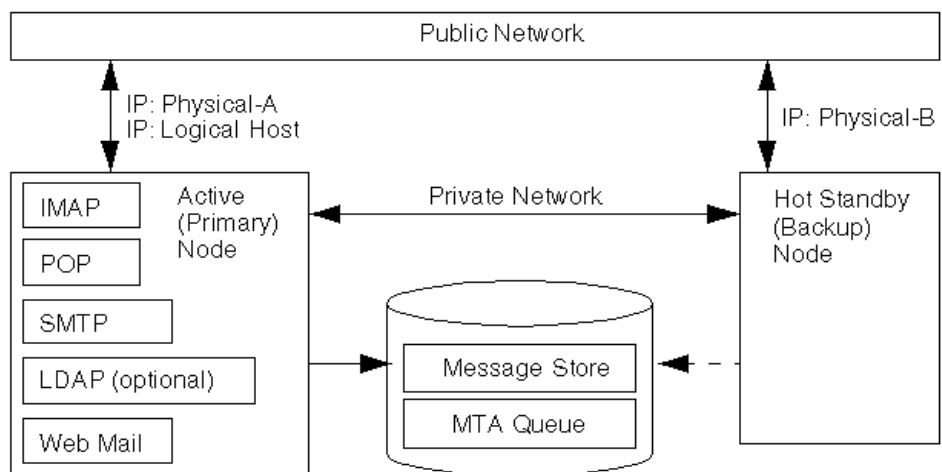
Each of these models is described in greater detail in the following subsections. Note that different HA products may or may not support different models. Refer to the HA documentation to determine which models are supported.

Asymmetric

The basic asymmetric or “hot standby” high availability model (Figure A-1) consists of two clustered host machines or “nodes.” A logical IP address and associated hostname are designated to both nodes.

In this model, only one node is active at any given time; the backup or hot standby node remains idle most of the time. A single shared disk array between both nodes is configured and is mastered by the active or “primary” node. The message store partitions and Mail Transport Agent (MTA) queues reside on this shared volume.

Figure A-1 Asymmetric High Availability Model



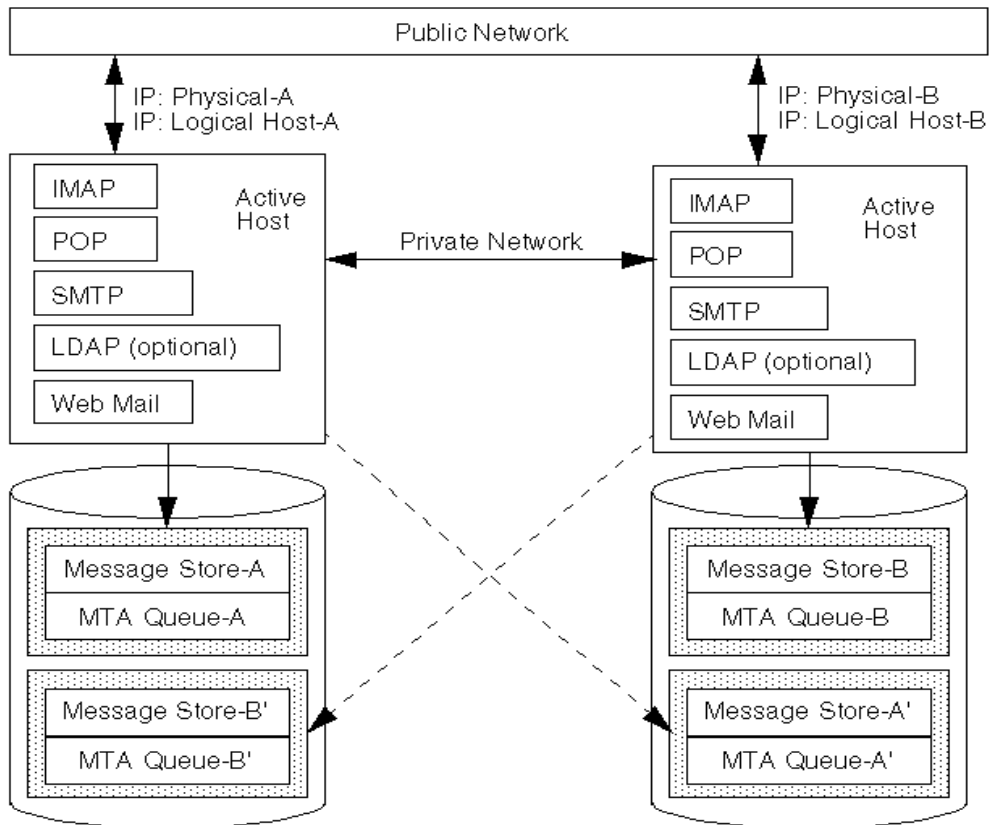
Before failover, the active node is Physical-A. Upon failover, Physical-B becomes the active node and the shared volume is switched so that it is mastered by Physical-B. All services are stopped on Physical-A and started on Physical-B.

The advantage of this model is that the backup node is dedicated and completely reserved for the primary node; there is no resource contention on the backup node when a failover occurs. However, this model also means that the backup node stays idle most of the time and this resource is thus under utilized.

Symmetric

The basic symmetric or “dual services” high availability model consists of two hosting machines, each with its own logical IP address. Each logical node is associated with one physical node, and each physical node controls one disk array with two storage volumes. One volume is used for its local message store partitions and MTA queues, and the other is a mirror image of its partner’s message store partitions and MTA queues.

In the symmetric high availability mode (Figure A-2), both nodes are active concurrently, and each node serves as a backup node for the other. Under normal conditions, each node runs only instances of the messaging server.

Figure A-2 Symmetric High Availability Model

Upon failover, the services on the failing node are shut down and restarted on the backup node. At this point, the backup node is running all instances of Messaging Server from both nodes and is managing two separate volumes.

The advantage of this model is that both nodes are active simultaneously, thus fully utilizing machine resources. However, during a failure, the backup node will have more resource contention as it runs services for all instances of the Messaging Server from both nodes. Therefore, you should repair the failed node as quickly as possible and switch the servers back to their dual services state.

This model also provides a backup storage array; in the event of a disk array failure, its mirror image can be picked up by the service on its backup node.

N+1 (N Over 1)

The N + 1 or “N over 1” model operates in a multi-node asymmetrical configuration. N logical hostnames and N shared disk arrays are required. A single backup node is reserved as a hot standby for all the other nodes. The backup node is capable of concurrently running all of the Messaging Server instances from the N nodes.

Figure A-3 illustrates the basic N + 1 high availability model.

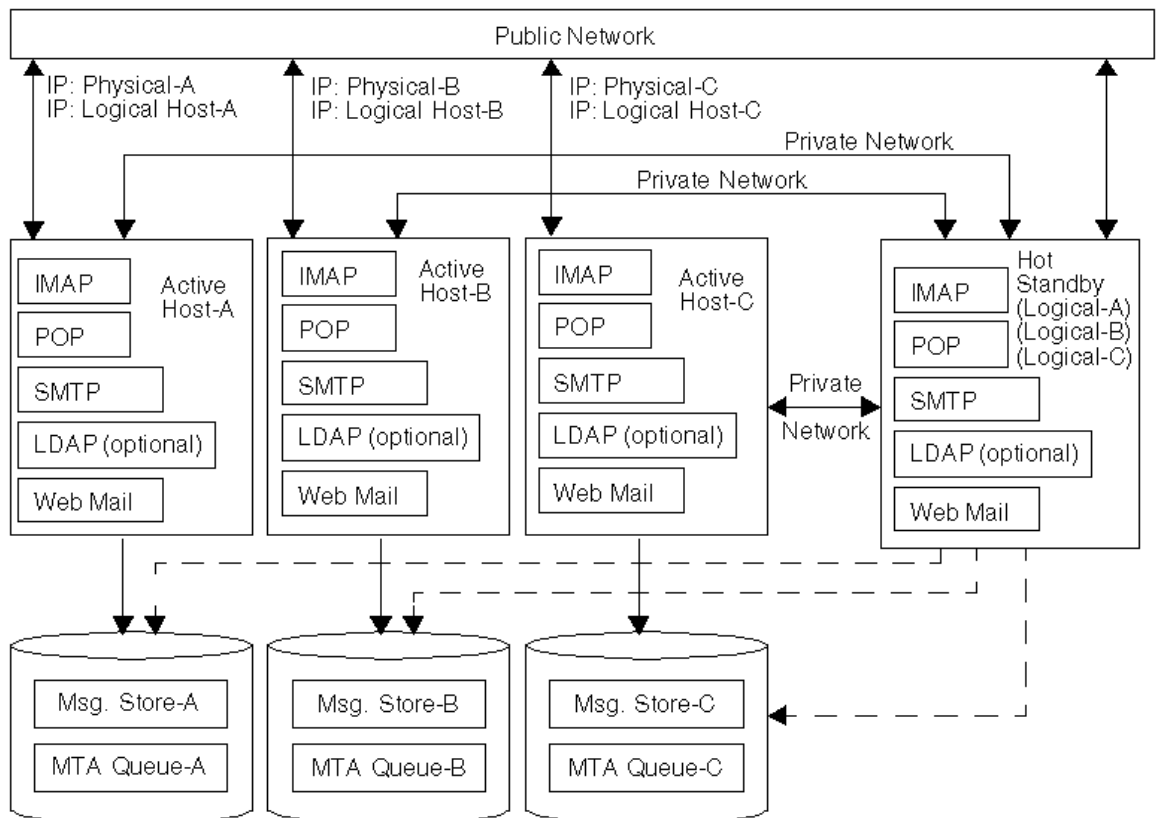


Figure A-3 N + 1 High Availability Model

Upon failover of one or more active nodes, the backup node picks up the failing node's responsibilities.

The advantages of the N + 1 model are that the server load can be distributed to multiple nodes and that only one backup node is necessary to sustain all the possible node failures. Thus, the machine idle ratio is 1/N as opposed to 1/1, as is the case in a single asymmetric model.

Which High Availability Model is Right for you?

Table A-1 summarizes the advantages and disadvantages of each high availability model. Use this information to help you determine which model is right for you.

Table A-1 High Availability Model Advantages and Disadvantages

Model	Advantages	Disadvantages	Recommended User
Asymmetric	<ul style="list-style-type: none"> Simple Configuration Backup node is 100 percent reserved 	<ul style="list-style-type: none"> Machine resources are not fully utilized 	A small service provider with plans to expand in the future.
Symmetric	<ul style="list-style-type: none"> Better use of system resources Higher availability 	<ul style="list-style-type: none"> Resource contention on backup node Mirrored disks reduce disk write performance 	A medium-sized service provider with no expansion plans on their backup systems in the near future.
N + 1	<ul style="list-style-type: none"> Load distribution Easy expansion 	<ul style="list-style-type: none"> Configuration complexity 	A large service provider who requires distribution with no resource constraints.

System Down Time Calculations

Table A-2 illustrates the probability that on any given day the mail service will be unavailable due to system failure. These calculations assume that on average, each server goes down for one day every three months due to either a system crash or server hang, and that each storage device goes down one day every 12 months. They also ignore the small probability of both nodes being down simultaneously.

Table A-2 System Down Time Calculations

Model	Server Down Time Probability
Single server (no high availability)	$\text{Pr}(\text{down}) = (4 \text{ days of system down} + 1 \text{ day of storage down})/365 = 1.37\%$
Asymmetric	$\text{Pr}(\text{down}) = (0 \text{ days of system down} + 1 \text{ day of storage down})/365 = 0.27\%$
Symmetric	$\text{Pr}(\text{down}) = (0 \text{ days of system down} + 0 \text{ days of storage down})/365 = (\text{near } 0)$

Table A-2 System Down Time Calculations

Model	Server Down Time Probability
N + 1	$\text{Pr}(\text{down}) = (0 \text{ days of system down} + 1 \text{ day of storage down}) / (365 \times N) = 0.27\% / N$

Installing High Availability for Veritas Cluster Server 1.1 or later or Sun Cluster 2.2

This section provides the information you need to install either the Veritas Cluster Server 1.1 or later or Sun Cluster 2.2 high availability clustering software and prepare it for use with the Messaging Server. (Refer to your Veritas or Sun Cluster Server documentation for detailed installation instructions and information as needed.) The example used in this section is based on a simple, two node cluster server (the asymmetric model).

The basic asymmetric model requires one public and two private network interfaces and one shared disk. The private network interface is used for cluster communications. The shared disk must be connected to both nodes.

Cluster Agent Installation

A cluster agent is a Messaging Server program that runs under the cluster framework. During the Messaging Server 5.1 installation process, if you choose to install the High Availability component, the `setup` program will automatically detect the clustering software you have installed on your server and install the appropriate set of agent programs into the appropriate location.

NOTE The `setup` program will only copy one set of agents—SC 2.2 or VCS 1.1—onto your server, so be sure to install and configure only one type of clustering software on your server.

For Veritas Clustering Software 1.1 or later, the agent type file is located in the `/etc/VRTSvcs/conf/config` directory and the agent programs are in the `/opt/VRTSvcs/bin/MsgSrv` directory. For Sun Cluster 2.2, the agents are installed in the `/opt/SUNWcluster/ha/msg` directory.

Some items of note regarding the Messaging Server installation and high availability:

- When running the installation, make sure that the HA logical host names and associated IP addresses for Messaging and Directory servers are functioning (for example, active). The reason for this is because portions of the installation will make TCP connections using them (for example, to provision the directory server with configuration information). If Messaging and Directory servers are to run on the same host, then they may use the same logical host name and IP address. Run the installation on the cluster node currently pointed at by the HA logical host name for the messaging server.
- When you are asked for the *server-root* (see Step 5 in Chapter 3, “Installation Questions.”), be sure that the *server-root* is on the shared file system; otherwise, high availability will not work correctly. For example, after failing over to another node, the servers will no longer see the data accumulated by the servers on the failed node.
- When you are asked for the fully-qualified domain name of the messaging server host (see Step 11 in Chapter 3, “Installation Questions.”), be sure to specify the fully-qualified HA logical hostname for the messaging server. During the install, TCP connections using this logical hostname will be attempted.
- When you are asked for the Directory Server identifier (see Step 22 in Chapter 3, “Installation Questions.”), specify the fully-qualified HA logical hostname for the directory server. This logical host name must also be active as connection attempts using it will be made.
- When you are asked for the IP address of Messaging Server (see Step 35 in Chapter 3, “Installation Questions.”), be sure to specify the IP address associated with the logical host name for Messaging Server. Do not use the IP address for the physical host.

If you are using the Veritas Cluster Server 1.1 or later high availability software, go to “Veritas Cluster Server Agent Installation” on page 83. If you are using the Sun Cluster 2.2 high availability software, go to “Sun Cluster Agent Installation” on page 87.

Veritas Cluster Server Agent Installation

After you decide which high availability model you want to implement, you are ready to install the Veritas Cluster Server software and prepare it for use with Messaging Server. The procedures in this section must be completed before you install the Messaging Server.

NOTE It is assumed that you are already familiar with Veritas Cluster Server concepts and commands.

Pre-Installation Instructions

This section describes the procedures for installing the Veritas Cluster Server and preparing it for use with the Messaging Server.

To install and set up the Veritas Cluster Server for use with Messaging Server:

1. Install Veritas Cluster Server 1.1 or later on both nodes.
2. Configure and start the Veritas Cluster Server.

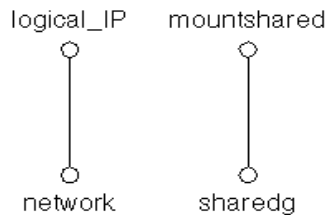
NOTE For these first two steps, you should refer to your Veritas Cluster Server documentation for detailed information and instructions.

3. Create the `/etc/VRTSvcs/conf/config/main.cf` file.
4. Create a service group called `ims5`.

Within this service group:

- a. Create the `network` resource (specify `NIC` as the resource type).
Use the public network interface name for the Device attribute (for example, `hme0`).
- b. Create the `logical_IP` resource (specify `IP` as the resource type).
Use the logical IP for the Address attribute and the public interface for the Device attribute.
- c. Create a `sharedg` resource (specify `DiskGroup` as the resource type).
Use the disk group name for the DiskGroup attribute.

- d. Create a `mountshared` resource (specify `Mount` as the resource type).
Use the shared device name `BlockDevice`, specify `MountPoint` as the mount point, and set `FSType` to the appropriate file system type.
5. Bring all of the above resources online on the primary (active) node.
6. Start the dependency tree as follows: the `logical_IP` resource depends on the `network` resource, and the `mountshared` resource depends on the `sharedg` resource. Your dependency tree should look like this:



Installing High Availability

At this point, you have successfully installed Veritas Cluster Server and have prepared it for the Messaging Server installation. You must install the Messaging Server on the first node, but only the High Availability component on the second node. To do so, select only the iPlanet Messaging Suite component from the iPlanet Server Products menu, then select only the High Availability component from the iPlanet Messaging Applications menu.

When you run the Messaging Server installation, the `setup` program checks to see if the Veritas Cluster Server has been installed and properly configured. If so, then the appropriate high availability files are installed.

Post-Installation Instructions

After these steps are completed, you must perform the following on the secondary node:

1. Switch the `logical_IP` and shared disk to the secondary node.
2. Run the `setup` program on the secondary node to start the Messaging Server installation:

```
./setup
```
3. From the list of installation types, select Custom installation, then select just the high availability packages in the iPlanet Messaging Applications component.

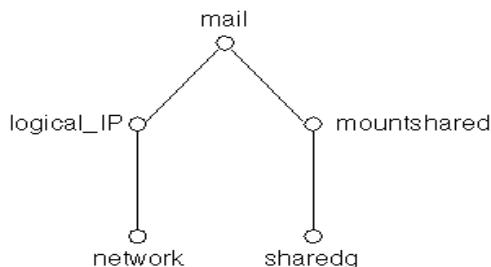
On the machine where you installed the Veritas Cluster Server software:

1. Stop the Veritas Cluster Server.
2. Add the following line in `main.cf`:


```
include "MsgSrvTypes.cf"
```
3. Start the Veritas Cluster Server.
4. Create a resource named `mail` (specify `MsgSrv` as the resource type) and enter the instance name (`InstanceName`) and the log host name (`LogHostName`).
5. Set the `logical_IP` and `mountshared` resources as children of the `mail` resource.

This means that the `mail` resource depends on both the `logical_IP` and `mountshared` resources.

Your dependency tree should now look like this:



Now, you are ready. On any node, bring up the `mail` resource online. This automatically starts the mail server on that node.

Configuring High Availability for Veritas Cluster Server

To configure high availability for the Veritas Cluster Server, you can modify the parameters in the `MsgSvrType` configuration file. Below is the relevant entry:

```

type MsgSrv (
    static int MonitorInterval = 180
    static int MonitorTimeout = 180
    static int OnlineRetryLimit = 1
    static int OnlineWaitLimit = 1
    static int RestartLimit = 2
    static str ArgList[] = { State, InstanceName, LogHostName,
    PrtStatus, DebugMode }

```

```

    NameRule = resource.InstanceName
    str InstanceName
    str LogHostName
    str PrtStatus
    str DebugMode
)

```

Table A-3 describes the various parameters:

Table A-3 MsgSrv Parameters

Parameter	Description
MonitorInterval	The duration in seconds between each probing.
MonitorTimeout	The duration in seconds before a probe times out.
OnlineRetryLimit	The number of times to retry online.
OnlineWaitLimit	The number of MonitorIntervals to wait after completing the online procedure and before the resource comes online.
RestartLimit	The number of restarts before the resource is failed over.

Table A-4 describes the various arguments:

Table A-4 MsgSrv Arguments

Parameter	Description
State	Indicates if the service is online or not in this system. This value is not changeable by the user.
InstanceName	The Messaging Server's instance name without the msg- prefix.
LogHostName	The logical host name that is associated with this instance.
PrtStatus	If set to TRUE, the online status is printed to the Veritas Cluster Server log file.
DebugMode	If set to TRUE, the debugging information is sent to the Veritas Cluster Server log file.

Sun Cluster Agent Installation

After you decide which high availability model you want to implement, you are ready to install the Sun Cluster high availability software and prepare it for use with Messaging Server. The procedures in this section must be completed before you install the Messaging Server.

NOTE It is assumed that you are already familiar with Sun Cluster concepts and commands.

Pre-Installation Instructions

This section describes the procedures for installing the Sun Cluster software and preparing it for use with Messaging Server.

To install and set up the Sun Cluster for use with Messaging Server:

1. Install Sun Cluster 2.2 on both nodes.

NOTE The HA fault monitor agent requires the `tcpclnt` binary file in Sun Cluster 2.2 SUNWscpro package. Thus, you must also install this package for the probing feature to fully work.

2. Configure and start the Sun Cluster so you have access to both the logical IP and the shared volume.

NOTE For these first two steps, you should refer to your Sun Cluster documentation for detailed information and instructions.

Installing High Availability

At this point, you have successfully installed the Sun Cluster software and have prepared it for the Messaging Server installation. You must install the Messaging Server on the first node, but only the High Availability component on the second node. (You must switch the `logical_IP` and shared disk to the secondary node before installing High Availability components.) To do so, select only the iPlanet Messaging Suite component from the iPlanet Server Products menu, then select only the High Availability component from the iPlanet Messaging Applications menu.

When you run the Messaging Server installation, the `setup` program checks to see if the Sun Cluster software has been installed and properly configured. If so, then the appropriate high availability files are installed.

Post-Installation Instructions

You must perform the following on the secondary node:

1. Conduct a failover to the secondary node.
2. Run the `setup` program on the secondary node to start the Messaging Server installation:

```
./setup
```
3. From the list of installation types, select Custom installation, then select just the high availability packages in the iPlanet Messaging Applications component.

After these steps are completed, you must copy the `server-root/bin/msg/ha/sc/config/ims_ha.cnf` file to your shared disk mount point directory (for example, `/mnt` if your shared disk is mounted under the `/mnt` directory).

Additionally, you must first register the Messaging Server data service before using it by running the `hareg -Y` command.

If you want to change the logical host timeout value, use the following command:

```
scconf cluster_name -l seconds
```

where `cluster_name` is the name of the cluster and `seconds` is the number of seconds you want to set for the timeout value. The number of seconds should be twice the number of seconds needed for the start to complete. For more information, refer to your Sun Cluster documentation.

Directory Server Configuration

If you install and configure your Directory Server under the same `server-root` as the Messaging Server, there is no need for additional Sun Cluster agent files. If not, then there is an existing Sun-supplied agent package that you can use. The package is `SUNWscnsl`, which is supported by the Sun Cluster team at Sun.

Un-Installing Veritas Cluster Server 1.1 or later and Sun Cluster 2.2

To uninstall Veritas Cluster Server and Sun Cluster 2.2:

1. Perform the normal uninstall procedures as described in Appendix C, “Running the uninstall Program.”
2. Remove the instance entry from the `/etc/msgregistry.inf` file if multiple instances are installed; otherwise, remove the `/etc/msgregistry.inf` file on both nodes.

At this point, `uninstall` instructions differ depending on whether you are removing Veritas Cluster Server or Sun Cluster. If you are using the Veritas Cluster Server 1.1 or later high availability software, go to “Un-Installing High Availability for Veritas Cluster Server” on page 89. If you are using the Sun Cluster 2.2 high availability software, go to “Un-Installing High Availability for SunCluster” on page 90.

Un-Installing High Availability for Veritas Cluster Server

To un-install the high availability components for Veritas Cluster Server:

1. Remove the `dirsync` entries from cron job table on both nodes.
2. Delete all of the Veritas Cluster Server resources created during installation.
3. Stop the Veritas Cluster Server and remove following files on both nodes if no more instances exist:

```
/etc/VRTSvcs/conf/config/MsgSrvTypes.cf
/opt/VRTSvcs/bin/MsgSrv/online
/opt/VRTSvcs/bin/MsgSrv/offline
/opt/VRTSvcs/bin/MsgSrv/clean
/opt/VRTSvcs/bin/MsgSrv/monitor
/opt/VRTSvcs/bin/MsgSrv/sub.pl
```

4. Remove the Messaging Server entries from the `/etc/VRTSvcs/conf/config/main.cf` file on both nodes.

Un-Installing High Availability for SunCluster

To un-install the high availability components for SunCluster:

1. Run the following command:

```
hareg -u ims50
```

2. Remove the following:

```
/opt/SUNWcluster/ha/msg/ims_common  
/opt/SUNWcluster/ha/msg/ims_fm_probe  
/opt/SUNWcluster/ha/msg/ims_start_net  
/opt/SUNWcluster/ha/msg/ims_stop_net
```

3. Remove the `ims_ha.cnf` file from your shared disk mount point directory (for example, `/mnt` if your shared disk is mounted under the `/mnt` directory).

Installing High Availability for Sun Cluster 3.0

This section describes how to install and configure the Messaging Server as a Sun Cluster 3.0 Highly Available (HA) Data Service. Documentation for Sun Cluster 3.0 may be found at:

<http://docs.sun.com/ab2/coll.572.7/>

Sun Cluster 3.0 Limitations and Performance

- Veritas File System (VxFS) not supported for this release. (Committed to support in Sun Cluster 3.1.)
- No rolling upgrade support.

Sun Cluster 3.0 Prerequisites

This section presumes the following:

- Sun Cluster 3.0 is installed in a Solaris 2.8 environment with required patches.
- The HA agent for Netscape Directory Server is installed (on Sun Cluster 3.0 Agents CDROM).
- If the system is using shared disks, either Solstice DiskSuite or Veritas Volume Manager is used.

Installing the Messaging Server HA support for Sun Cluster 3.0

Each cluster node requires three packages to be installed to run the Messaging Server:

- SUNWscdev from the Sun Cluster 3.0 CDROM (704-7524-10).
- SUNWscsdk from the iPlanet Messaging Server CD in the directory `solaris/sc30`. This is an updated version of the SUNWscsdk package found on the Sun Cluster 3.0 Cool Stuff CDROM (704-7494-10). The version on the CDROM has a memory leak (Bugtraq #4398767).
- SUNWscims from the iPlanet Messaging Server CD in the directory `solaris/ims_sc30`.

Install each of these packages on each cluster node using `pkgadd`. For instance, if each of these packages are present in the current working directory, then use the following command to install them:

```
# pkgadd -d . SUNWscsdk SUNWscdev SUNWscims
```

Once these three packages are installed, you're ready to configure Messaging Server for HA.

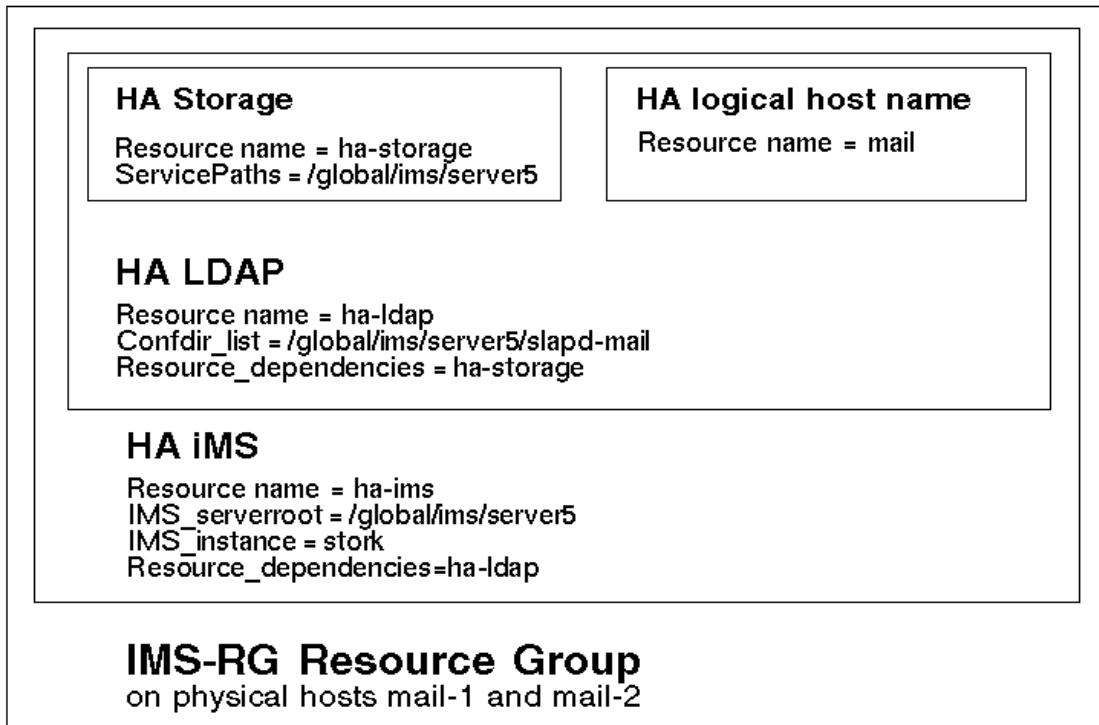
Configuring the Messaging Server HA Support for Sun Cluster 3.0

This section describes how to configure HA support for the iPlanet Messaging Server by providing a simplified example and a more complex example.

NOTE The Messaging Server must be installed in the global file system directories, not the local system.

Simple Example

This example assumes that the messaging and directory server run on the same cluster node and use the same HA logical host name and IP address. The physical host names are assumed to be `mail-1` and `mail-2`, with an HA logical host name of `mail`. Figure A-4 depicts the nested dependencies of the different HA resources you will create in configuring Messaging Server HA support.

Figure A-4 A simple iPlanet Messaging Server HA configuration

Before proceeding, make sure that the Messaging Server is shut down on all cluster nodes. The easiest way to check this is to issue the command:

```
# ps -ef | grep <server-root>
```

on each cluster node where *server-root* is the path to the Messaging Server top-level directory (for example, /global/ims/server5/). If no messaging servers are running, then you should see no processes other than your *grep*.

1. Become the root user and create a console device.

All of the following Sun Cluster commands require that you have logged in as root. You will also want to have a console device or window for viewing messages output to /dev/console.

2. Add required resource types.

Configure Sun Cluster to know about the resources types we will be using. This is done with the *scrgadm -a -t* command:

```
# scrgadm -a -t SUNW.HAStorage
# scrgadm -a -t SUNW.nslsap
# scrgadm -a -t SUNW.ims
```

3. Create a resource group for the Messaging Server instance.

If you have not done so already, create a resource group and make it visible on the cluster nodes which will run the Messaging Server instance. The following command creates a resource group named `IMS-RG`, making it visible on the cluster nodes `mail-1` and `mail-2`:

```
# scrgadm -a -g IMS-RG -h mail-1,mail-2
```

You may, of course, use whatever name you wish for the resource group.

4. Create an HA logical host name resource.

If you have not done so already, create and enable a resource for the HA logical host name, placing it in the resource group for the Messaging Server instance. The following command does so using the logical host name `mail`. Since the `-j` switch is omitted, the name of the resource created will also be `mail`.

```
# scrgadm -a -L -g IMS-RG -l mail
# scswitch -Z -g IMS-RG
```

5. Install Messaging Server.

Install Messaging Server using the HA logical host name created and enabled in Step 4. Make sure you replicate `/etc/msgregistry.inf` on the second node.

6. Create an HA storage resource.

Next, you need to create an HA storage resource type for the file systems on which the messaging and directory server are dependent. The following command creates an HA storage resource named `ha-storage` and the file system `/global/ims/server5` is placed under its control:

```
# scrgadm -a -j ha-storage -g IMS-RG \
-t SUNW.HAStorage \
-x ServicePaths=/global/ims/server5
```

The comma-separated list of `ServicePaths` are the mount points of the cluster file systems on which the messaging and directory server are both dependent. In the above example, only one mount point, `/global/ims/server5` is specified. If one of the servers has additional file systems on which it is dependent, then you can create an additional HA storage resource and in Step 6 or 8 indicate that additional dependency.

7. Create an HA LDAP resource.

To your growing resource group, add a resource of type `SUNW.nslldap` to monitor the directory server. The `Confdir_list` extension property of `SUNW.nslldap` is used to indicate the path to the directory server's top level directory on the global file system. Note also that this resource is dependent upon both the HA logical host name and HA storage resources established in Steps 4 and 5. However, since the `SUNW.nslldap` resource type specifies `Network_resources_used` in its resource type registration file, you do not need to explicitly specify the HA logical host name resource in the `Resource_dependencies` option below. You only need to specify the HA storage resource with that option. The following command accomplishes all of this, naming the HA LDAP resource `ha-ldap`.

```
# scrgadm -a -j ha-ldap -t SUNW.nslldap -g IMS-RG \
  -x Confdir_list=/global/ims/server5/slapd-mail \
  -y Resource_dependencies=ha-storage
```

8. Enable the HA LDAP resource.

Before proceeding with creating the HA Messaging Server resource, we must bring the HA LDAP resource online. This because the act of creating the HA Messaging Server resource will attempt to validate the Messaging Server resource definition. Part of doing that requires accessing the Messaging Server configuration information stored in the LDAP server.

If you skipped Steps 3 through 5 because you had done them previously, then the IMS-RG resource group is partially online already. In that case, issue the following commands to enable the HA storage and LDAP resources:

```
# scswitch -e -j ha-storage
# scswitch -e -j ha-ldap
```

If you did execute Steps 3 through 5, then instead use the command:

```
# scswitch -Z -g IMS-RG
```

9. Create an HA Messaging Server resource.

It's now time to create the HA Messaging Server resource and add it to the resource group. This resource is dependent upon the HA logical name, HA storage, and HA LDAP resources. As with the HA LDAP resource, we do not need to specify the HA logical name resource. Moreover, since the HA LDAP resource is itself dependent upon the HA storage resource, we merely need to specify a dependency upon the HA LDAP resource.

In creating the HA Messaging Server resource, we need to indicate the path to the Messaging Server top-level directory—the *server-root* path—as well as the name of the Messaging Server instance to make HA. These are done with the `IMS_serverroot` and `IMS_instance` extension properties as shown in the following command.

```
# scrgadm -a -j ha-ims -t SUNW.ims -g IMS-RG \
-x IMS_serverroot=/global/ims/server5 \
-x IMS_instance=stork \
-y Resource_dependencies=ha-ldap
```

The above command, makes an HA Messaging Server resource named `ha-ims` for the Messaging Server instance `stork` installed on the global file system at `/global/ims/server5`. The HA Messaging Server resource is dependent upon the HA LDAP resource named `ldap` created in Step 6 above.

If the Messaging Server instance has file system dependencies beyond that of the directory server, then you can create an additional HA storage resource for those additional file systems. Then include that additional HA storage resource name in the `Resource_dependencies` option of the above command.

10. Enable the Messaging Server resource.

It's now time to activate the HA Messaging Server resource, thereby bringing the messaging server online. To do this, use the command

```
# scswitch -e -j ha-ims
```

The above command enables the `ha-ims` resource of the `IMS-RG` resource group. Since the `IMS-RG` resource was previously brought online, the above command also brings `ha-ims` online.

11. Verify that things are working.

Use the `scstat` command to see if the `IMS-RG` resource group is online. You may want to look at the output directed to the console device for any diagnostic information. Also look in the `syslog` file, `/var/adm/messages`.

12. Fail the resource group over to another cluster node.

Manually fail the resource group over to another cluster node. Use the `scstat` command to see what node the resource group is currently running on ("online" on). For instance, if it is online on `mail-1`, then fail it over to `mail-2` with the command:

```
# scswitch -z -g IMS-RG -h mail-2
```

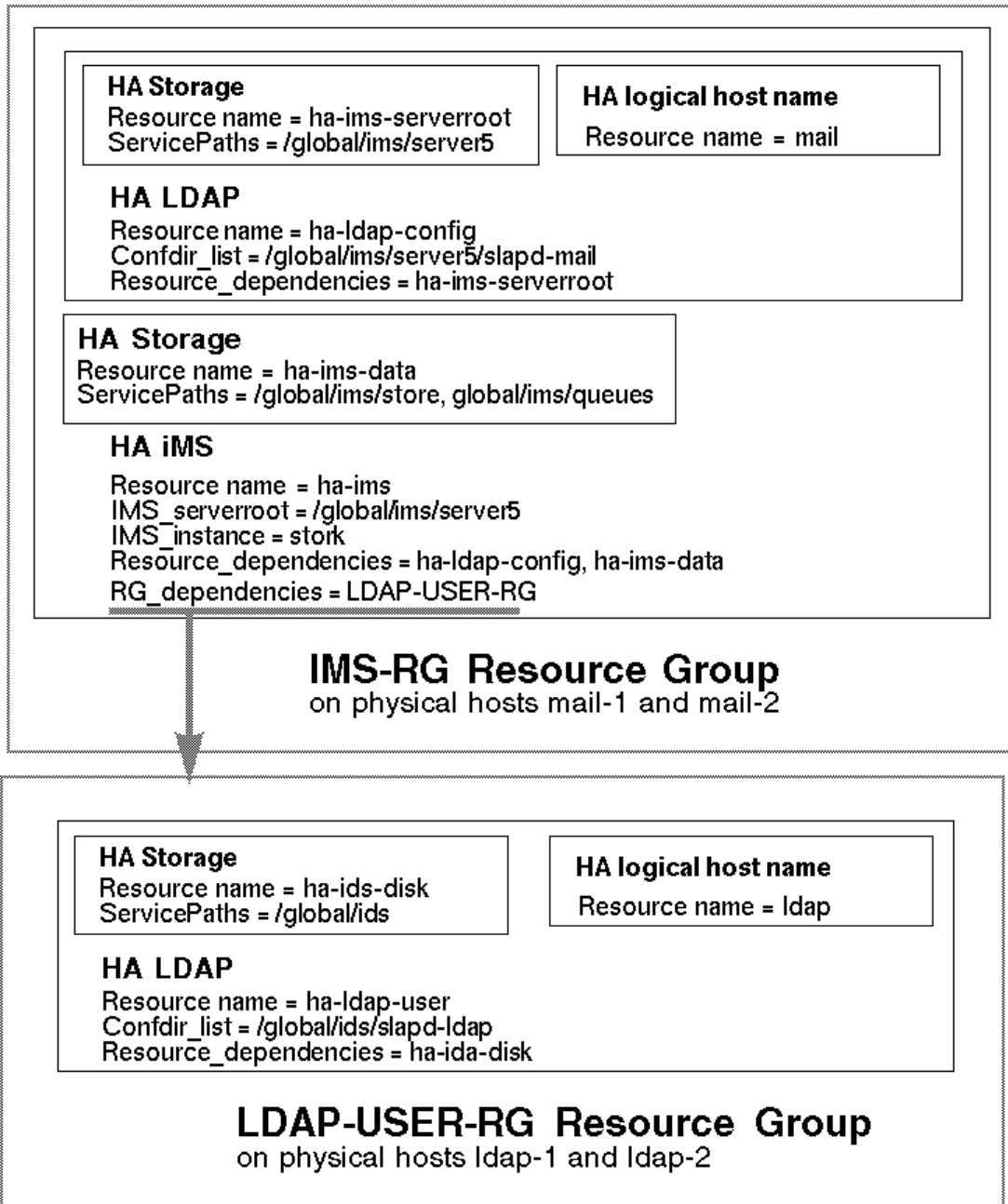
Complex Example

In this more complicated example, we consider the case where iPlanet Messaging Server is dependent upon the following:

- An LDAP server running on the same node and containing configuration information.
- An LDAP server running on a different node and containing user information.
- Some additional file systems containing message store partitions and MTA message queues.

Figure A-5 shows how these dependencies are realized using Sun Cluster resource groups. Key parameters of each resource are shown in the figure. The commands required to realize this configuration follow.

Figure A-5 A complex iPlanet Messaging Server HA configuration



```

# scrgadm -a -t SUNW.HAStorage           Make these resource types known
# scrgadm -a -t SUNW.nslldap
# scrgadm -a -t SUNW.ims

# scrgadm -a -g LDAP-USER-RG -h ldap-1,ldap-2   Create LDAP-USER-RG resource group
# scrgadm -a -L -g LDAP-USER-RG -l ldap         Create HA logical host name
# scswitch -Z -g LDAP-USER-RG                 Bring LDAP-USER-RG online

... Install and configure directory server in /global/ids

# scrgadm -a -j ha-ids-disk -g LDAP-USER-RG \   Create HA storage resource
-t SUNW.HAStorage \
-x ServicePaths=/global/ids

# scrgadm -a -j ha-ldap-user -g LDAP-USER-RG \  Create HA LDAP resource
-t SUNW.nslldap \
-x Confdir_list=/global/ids/slaped-ldap \
-y Resource_dependencies=ha-ids-disk

# scswitch -e -j ha-ids-disk                 Bring rest of LDAP-USER-RG online
# scswitch -e -j ha-ldap-user

# scrgadm -a -g IMS-RG -h mail-1,mail-2       Create IMS-RG resource group
# scrgadm -a -L -g IMS-RG -l mail             Create HA logical host name
# scswitch -Z -g IMS-RG                     Bring IMS-RG online

... Install and configure messaging server and 2nd directory server in /global/ims/server5

# scrgadm -a -j ha-ims-serverroot -g IMS-RG \  Create HA storage resource
-t SUNW.HAStorage \
-x ServicePaths=/global/ims/server5

# scrgadm -a -j ha-ldap-config -g IMS-RG \     Create HA LDAP resource
-t SUNW.nslldap \
-x Confdir_list=/global/ims/server5/slaped-mail \
-y Resource_dependencies=ha-ims-serverroot

# scrgadm -a -j ha-ims-data -g IMS-RG \       Create another HA storage resource
-t SUNW.HAStorage \
-x ServicePaths=/global/ims/store,/global/ims/queues

# scswitch -e -j ha-ims-serverroot           Bring LDAP online
# scswitch -e -j ha-ldap-config

# scrgadm -a -j ha-ims -g IMS-RG \           Create HA Messaging Server resource
-t SUNW.ims \
-x IMS_serverroot=/global/ims/server5 \
-x IMS_instance=stork \
-y Resource_dependencies=ha-ldap-config,ha-ims-data \
-y RG_dependencies=LDAP-USER-RG

```

# scrgadm -a -t SUNW.HAStorage	Make these resource types known
# scswitch -e -j ha-ims-data	Bring Messaging Server online
# scswitch -e -j ha-ims	

Unconfiguring the Messaging Server HA Support for Sun Cluster 3.0

This section describes how to undo the HA configuration. This section assumes the simple example configuration. For other configurations, the specific commands (for example, Step 3) may be different but will otherwise follow the same logical order.

1. Become the root user.

All of the following Sun Cluster commands require that you be running as user root.

2. Bring the resource group offline.

To shut down all of the resources in the resource group, issue the command

```
# scswitch -F -g IMS-RG
```

This shuts down all resources within the resource group (for example, the Messaging Server, LDAP, and the HA logical host name).

3. Disable the individual resources.

Next, remove the resources one-by-one from the resource group with the commands

```
# scswitch -n -j ha-ims
# scswitch -n -j ha-ldap
# scswitch -n -j ha-storage
# scswitch -n -j mail
```

4. Remove the individual resources from the resource group.

Once the resources have been disabled, you may remove them one-by-one from the resource group with the commands:

```
# scrgadm -r -j ha-ims
# scrgadm -r -j ha-ldap
# scrgadm -r -j ha-storage
# scrgadm -r -j mail
```

5. Remove the resource group.

Once all the resources have been removed from the resource group, the resource group itself may be removed with the command:

```
# scrgadm -r -g IMS-RG
```

6. Remove the resource types (optional).

Should you need to remove the resource types from the cluster, issue the commands:

```
# scrgadm -r -t SUNW.ims
# scrgadm -r -t SUNW.nslsap
# scrgadm -r -t SUNW.HAStorage
```

Notes for Multiple Instances of Messaging Server

If you are using the Symmetric or N + 1 high availability models, there are some additional things you should be aware of during installation and configuration in order to prepare the Cluster Server for multiple instances of Messaging Server. This section covers those issues and procedures.

NOTE During the Messaging Server installation, be sure that all the mail services are offline during the installation process; running mail services may interfere with the Messaging Server installation.

Making Additional Messaging Server Instances Highly Available

If you are using Veritas Cluster Server 1.1 or later, you must create a second service group in addition to the `ims5` group you created earlier. This group should have the same set of resources and the same dependency tree as `ims5`.

If you are using Sun Cluster 2.2, create another logical host which consists of a different logical IP and a shared volume. The new instance can then be installed on this volume.

NOTE When bringing up Sun Cluster 2.2 using the `hareg -Y` command, be sure there is only one instance on each node. Sun Cluster 2.2 does not allow you to bring up multiple logical IPs on one node using this command.

For Sun Cluster 3.0, whether or not you create another resource group will depend upon the usage of the additional Messaging Server instance. If failover of the additional instance is to be independent of the existing instance, then you will likely want to create a new resource group for the additional instance. If, however, the additional instance should failover when the existing instance does, then you may want to use the same resource group for both instances.

Binding IP Addresses for Each Messaging Server Instance on the Same Server

Multiple instances of the Messaging Server running on the same server require that the correct IP address binds to each instance. The following subsections provide instructions on how to bind the IP address for each instance. If this is not done correctly, the multiple instances could interfere with each other. These instructions refer to Sun Cluster 2.2, Sun Cluster 3.0, and the Veritas Cluster Server.

Part of configuring Messaging Server for HA involves configuring the interface address on which the Messaging Servers bind and listen for connections. By default, the servers bind to all available interface addresses. However, in an HA environment, you want the servers to bind specifically to the interface address associated with an HA logical host name. (Were they to bind to all available interfaces, then difficulties would arise when two different Messaging Server instances attempt to run on the same physical host.)

A script is therefore provided to configure the interface address used by the servers belonging to a given Messaging Server instance. Optionally, the script can be directed to configure an LDAP server instance living in the same Messaging Server root to use the same interface address. Note that the script identifies the interface address by means of the IP address which you have or will be associating with the HA logical host name used by the servers.

If the LDAP server or servers you will be using are located on a different host, then the `ha_ip_config` script does not configure those LDAP servers. In general, they should not require additional configuration as a result of configuring the Messaging Server to be HA.

The script effects the configuration changes by modifying or creating the following configuration files. For the file

```
<server-root>/msg-<instance>/imta/config/dispatcher.cnf
```

it adds or changes `INTERFACE_ADDRESS` option for the SMTP and SMTP Submit servers. For the file

```
<server-root>/msg-<instance>/imta/config/job_controller.cnf
```

it adds or changes the `INTERFACE_ADDRESS` option for the Job Controller. For the file

```
<server-root>/slapd-<instance>/config/slapd.conf
```

it adds or changes the `listenhost` option for the LDAP server (optional) and, finally it sets the `configutil service.listenaddr` parameter used by the POP, IMAP, and Messenger Express HTTP servers.

Note that the original configuration files, if any, are renamed to `*.pre-ha`.

Run the script as follows:

1. Become root
2. Execute `<server-root>/bin/msg/install/bin/ha_ip_config`
3. The script presents the questions described below. The script may be aborted by typing `control-d` in response to any of the questions. Default answers to the questions will appear within square brackets, []. To accept the default answer, simply press the RETURN key.
 - a. Logical IP address: Specify the IP address assigned to the logical host name which the Messaging Server instance will be using. The IP address must be specified in dotted decimal form, for example, 10.0.100.10.
 - b. Messaging Server root: Specify the absolute path to the top-level directory in which Messaging Server is installed. Within this directory resides the Messaging Server instances, each in a `msg-*` subdirectory.
 - c. Messaging Server instance name: Specify the name of the Messaging Server instance to configure. Do not include the leading `msg-` in the instance name.

- d. Also configure an LDAP server instance in the same Messaging Server root: Answer “yes” if you would like to configure an LDAP server instance located in the same Messaging Server root. The LDAP server instance will be configured with the same IP address as the Messaging Server instance. Answer “no” to skip configuring an LDAP server instance.

This question will not appear if the Messaging Server root does not contain any subdirectories whose name begin with `slapd-`.

- e. LDAP instance name: specify the name of the LDAP server instance to configure. Omit the leading `slapd-` from the instance name.

This question will not appear if you answered “no” to previous question on configuring an LDAP server instance (d).

- f. Do you wish to change any of the above choices: answer “no” to accept your answers and effect the configuration change. Answer “yes” if you wish to alter your answers.

4. A sample run of the script is shown below.

```
# su root
# <server-root>/bin/msg/install/bin/ha_ip_config
```

Please specify the IP address assigned to the HA logical host name. Use dotted decimal form, a.b.c.d

Logical IP address: 10.0.37.10

Please specify the path to the top level directory in which iMS is installed. This is the server root directory which contains the instance directories.

iMS server root: /opt/iplanet/server5

Next, please specify the name of the iMS instance for which to effect the configuration changes. Omit the leading "msg-" from the name. Possible instances include:

```
mail-1
mail-2
```

iMS instance name [mail-1]: mail-1

Also configure an LDAP server instance in the same iMS server root [yes]? yes

Please specify the name of the LDAP server instance for which to effect the configuration changes. This LDAP server instance must live in a subdirectory of the iMS server root previously specified. Omit the leading "slapd-" from the LDAP server instance name. Possible instances include:

```
elenchus
```

LDAP instance name [elenchus]: elenchus

Logical IP address: 10.0.37.10

iMS server root: /opt/iplanet/server5

iMS instance name: mail-1

LDAP instance name: elenchus

Do you wish to change any of the above choices (yes/no) [no]? no

Updating the file /opt/iplanet/server5/msg-mail-1/imta/config/dispatcher.cnf

Updating the file /opt/iplanet/server5/msg-mail-1/imta/config/job_controller.cnf

Updating the file /opt/iplanet/server5/slapped-elenchus/config/slapped.conf

Setting the service.listenaddr configutil parameter

Configuration successfully changed

#

5. If running or potentially running more than one instance of the messaging server on the same node, then edit the `job_controller.cnf` files located in the `<server-root>/msg-instance/imta/config/` directories. Ensure that each instance is using a different TCP port number for the Job Controllers. This is done via the `TCP_PORT` option setting in that file.

Testing Nodes

Before proceeding, take the time to ensure that the iPlanet Messaging Server can be started and stopped on each node in the cluster. Begin by testing on the node on which you installed the Messaging Server. Then, fail the logical host name over to another cluster node with the command (Sun Cluster 3.0):

```
# scswitch -z -g IMS-RG -h name-of-physical-host-to-failover-to
```

When you're done testing, be sure to shutdown the Messaging Server before configuring it for HA. Likewise for the directory server if running it on a different host or otherwise separated from Messaging Server.

Installing the Messaging Multiplexor

This appendix contains the following sections to help you install and configure the Messaging Multiplexor:

- Installing and Configuring Multiplexor
- Starting the Multiplexor
- Sample Messaging Topology

Installing and Configuring Multiplexor

The iPlanet Messaging Multiplexor (MMP) is a specialized messaging server that acts as a single point of connection to multiple messaging servers. With the Multiplexor, large-scale messaging-service providers can distribute POP and IMAP user mailboxes across many machines to increase messaging capacity. All users connect to the single Multiplexor server that will direct each connection to the appropriate messaging server.

You can install the MMP at the same time as you install Messaging Server, or you can install it later using the `setup` program. Either way, you first need to prepare the system to support the MMP.

NOTE If you install MMP on the same machine as Messaging Server, you must perform a Custom Installation of Messaging Server, so that the POP and IMAP servers can be set to non-standard ports. That way, the MMP and Messaging Server ports will not conflict with one another.

More information about the MMP can be found in the following:

- *iPlanet Messaging Server 5.1 Administrator's Guide*
- *iPlanet Messaging Server 5.1 Reference Manual*

Before You Install

Before installing the MMP:

1. Choose the machine on which you will install the MMP. It is best to use a separate machine for the MMP.

NOTE It is recommended that the MMP not be installed on a machine that is also running either Messaging Server or Directory Server.

2. Check that the system meets all the hardware and software requirements for using iPlanet Messaging Server. For more information about installation requirements, see "System Requirements" on page 17.
3. On the machine that the MMP is to be installed on, create a new user to be used by the MMP. This new user must belong to a group. Suggested names for the user are `mmpsrv` or `mailsrv`. The default is `mailsrv`.

4. Set up the LDAP Directory Server and its host machine for use with Messaging Server, if they are not already set up. For more information, see your Directory Server documentation.
5. If you already have an older version of the MMP installed and want to replace it, you must remove the old version of MMP before you can install the new one. To do this, run the Messaging Server `uninstall` script located in `server-root`.

Multiplexor Files

The Messaging Multiplexor files are stored in the `mmp-hostname` subdirectory of the `server-root`. Each MMP instance will have its own `mmp-hostname` directory that contains the files described in Table B-1:

Table B-1 Messaging Multiplexor Files

File	Description
<code>PopProxyAService.cfg</code>	Configuration file specifying environment variables used for POP services.
<code>ImapProxyAService.cfg</code>	Configuration file specifying environment variables used for IMAP services.
<code>AService.cfg</code>	Configuration file specifying which services to start and a few options shared by both POP and IMAP services.
<code>AService.rc</code>	Script used to start, stop, restart, and reload the MMP. For more information, see “Starting the Multiplexor” on page 115. To enable automatic startup of the MMP after reboot, the <code>AService.rc</code> script can be copied to <code>/etc/init.d</code> and symbolically linked to the appropriate <code>/etc/rc?.d</code> directories. For more information about initialization and termination scripts, refer to the man page on <code>init.d</code> .

Multiplexor Installation

To install the MMP, you must use the Messaging Server `setup` program, which gives you the option of choosing to install the Messaging Multiplexor. For detailed information about the setup program refer to “Running the setup Program” on page 40.

NOTE The MMP is not installed by default; you must select it as part of the Messaging Server Applications component in the Messaging Server installation. If you install MMP with your Messaging Server installation, both components will use the same user ID (`mailsrv`). If you want to use a different user ID for MMP, it will need to be installed in a different `server-root` from your Messaging Server’s `server-root`.

To install the MMP:

1. Login as `root`.
2. Run the Messaging Server `setup` program.
3. Answer yes or press Return for the following to continue with the installation:

```
Welcome to the iPlanet Server Products installation program. This
program will install iPlanet Server Products and the iPlanet
Console on your computer.
```

```
It is recommended that you have "root" privilege to install the
software.
```

```
Tips for using the installation program:
```

- Press "Enter" to choose the default and go to the next screen
- Type "Control-B" to go back to the previous screen
- Type "Control-C" to cancel the installation program
- You can enter multiple items using commas to separate them.
For example: 1, 2, 3

```
Would you like to continue with installation? [Yes]:
```

4. Read the license agreement and answer *yes* to the following question to continue. The license agreement is located in the `LICENSE.txt` file in the directory where you downloaded the installation software.

BY INSTALLING THIS SOFTWARE YOU ARE CONSENTING TO BE BOUND BY AND ARE BECOMING A PARTY TO THE AGREEMENT FOUND IN THE LICENSE.TXT FILE. IF YOU DO NOT AGREE TO ALL OF THE TERMS OF THIS AGREEMENT, PLEASE DO NOT INSTALL OR USE THIS SOFTWARE.

Do you agree to the license terms? [No]:

5. Select option 1 from the following:

Select the items you would like to install:

1. iPlanet Servers

Installs iPlanet Servers with the integrated Netscape Console onto your computer.

2. Netscape Console

Installs Netscape Console as a stand-alone Java application on your computer.

To accept the default shown in brackets, press the Enter key.

Select the component you want to install [1]:

6. Select either the Typical or Custom installation from the following menu:

NOTE You cannot install the Messaging Multiplexor with the Express Installation; you must use either the Typical or Custom Installation.

Choose an installation type:

1. Express installation

Allows you to quickly install the servers using the most common options and pre-defined defaults. Useful for quick evaluation of the products.

2. Typical installation

Allows you to specify common defaults and options.

3. Custom installation

Allows you to specify more advanced options. This is recommended for experienced server administrators only.

To accept the default shown in brackets, press the Enter key.

Choose an installation type [2]:

7. Specify the desired installation location, or press Return to accept the default.

This program will extract the server files and install them into a directory you specify. That directory is called the server root in the product documentation and will contain the server programs, the Administration Server, and the server configuration files.

To accept the default shown in brackets, press the Enter key.

Install location [/usr/iplanet/server5]:

8. Select option 4 from the following menu:

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]:

9. Select option 3 from the following menu:

iPlanet Messaging Suite components:

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

1. iPlanet Message Store and Message Access
2. iPlanet Internet Message Transport Agent
3. iPlanet Messaging Multiplexor
4. High Availability for iPlanet Messaging Server
5. iPlanet Delegated Administrator Command Line Utilities

Specify the components you wish to install [1, 2, 5]:

10. Specify the fully qualified domain name of the installation machine.

Enter the fully qualified domain name of the computer on which you're installing server software. Using the form <hostname>.<domainname>

Example: eros.airius.com.

To accept the default shown in brackets, press the Enter key.

Computer name [budgie.siroe.com]:

11. Specify a system user and system group.

Choose a Unix user and group to represent the iPlanet server in the user directory. The iPlanet server will run as this user. It is recommended that this user should have no privileges in the computer network system. The Administration Server will give this group some permissions in the server root to perform server-specific operations.

If you have not yet created a user and group for the iPlanet server, create this user and group using your native UNIX system utilities.

To accept the default shown in brackets, press the Return key.

System User [nobody]:

12. Specify the user ID under which the MMP will run:

The Mail Multiplexor runs as a privileged user. The account should already exist on the system and should be a member of the iPlanet Group.

Please enter the Mail Multiplexor user [mailsrv]:

At this point, the installation begins. Messages are displayed as the installation proceeds.

Configuring the MMP to use SSL

To configure the MMP to use SSL, do the following:

NOTE It is assumed that the MMP is installed on a machine that does not have a Message Store or MTA.

1. Install the Administration Console, Administration Server, and MMP on the machine.

Point the MMP to a Directory Server on a different machine that is already configured as a Messaging Server Message Store.

2. Go to your *server-root* and run `startconsole` to login to the Netscape Console:

```
./startconsole
```

3. Open up the “server group” for the MMP server.

The MMP server does not appear, but the Administration Server does; double-click on the Administration Server icon.

4. Click on the “configuration” tab and within that tab, click on the “Encryption” tab.
5. Click on “Certificate Setup Wizard.”

The setup wizard walks you through a certificate request.

6. Install the certificate as the certificate for “This Server.”
7. From the command line, make the following symbolic links to simplify things:

```
cd server-root/mmp-hostname
ln -s ../alias/admin-serv-instance-cert7.db cert7.db
ln -s ../alias/admin-serv-instance-key3.db key3.db
ln -s ../admin-serv/config/secmod.db secmod.db
```

Also, make sure that those files are owned by the user ID under which the MMP will run.

8. Create an `sslpassword.conf` file in this directory.

This file contains:

```
Internal (Software) Token:password
```

where *password* is the password you specified in the Certificate Setup Wizard.

NOTE An alternative approach to steps 1-8 is to copy the following files: `cert7.db`, `key3.db`, `secmod.db`, and `sslpassword.conf` from an existing Messaging or Directory Server. These servers must have a server certificate and a key appropriate for the same domain already installed.

9. Edit the `ImapProxyAService.cfg` file and uncomment all the SSL settings.
10. If you want SSL and POP, edit the `PopProxyAService.cfg` file and uncomment all the SSL settings.

Additionally, you must edit the `AService.cfg` file and add “|995” after the “110” in the `ServiceList` setting.

- 11. Make sure that the `BindDN` and `BindPass` options are set in the `ImapProxyAService.cfg` and `PopProxyAService.cfg` files.**

It is possible to copy these values from the `local.ugldapbinddn` and `local.ugldapbindcred` `configutil` options on the Messaging Server, but you can also create a new user with search privileges (for plain text support) or search privileges and user password read privileges (for CRAM-MD5/APOP support). You should also set the `DefaultDomain` option to your default domain (the domain to use for unqualified user names).

If you just want server-side SSL support, you are finished. Start the MMP with the following command:

```
AService.rc start
```

If you want client certificate based login, do the following:

- 12. Get a copy of a client certificate and the CA certificate which signed it.**
- 13. Start the Netscape Console and Certificate Wizard as before (on the same machine as the MMP), but this time import the CA certificate as a “Trusted Certificate Authority.”**
- 14. Use the Store Administrator you created during your Messaging Server installation.**

For more information, see the *iPlanet Messaging Server 5.1 Administrator’s Guide*.

- 15. Create a `certmap.conf` file for the MMP. For example:**

```
certmap default      default
default:DNComps
default:FilterComps e=mail
```

This means to search for a match with the “e” field in the certificate DN by looking at the “mail” attribute in the LDAP server.

- 16. Edit your `ImapProxyAService.cfg` file and:**
- a. Set `CertMapFile` to `certmap.conf`**
 - b. Set `StoreAdmin` and `StorePass` to values from Step 14.**
 - c. Set `CertmapDN` to the root of your Users and Groups tree.**
- 17. If you want client certificates with POP3, repeat Step 16 for the `PopProxyAService.cfg` file.**
- 18. If the MMP is not already running, start it with:**

```
AService.rc start
```

or

```
AService.rc restart
```

19. Import the client certificate into your client. In Netscape, click on the padlock (Security) icon, then select “Yours” under “Certificates,” then select “Import a Certificate...” and follow the instructions.

NOTE All your users will have to perform this step if you want to use client certificates everywhere.

Creating Additional Instances

Use the Messaging Server setup program to create new instances of the MMP after an initial installation. You will run through the same installation procedure as when you created your first instance; you will be asked all the same questions. The setup program automatically creates a new instance in the *server-root*; for example, if you are installing on a machine called `tarpit`, the first instance you created would be called `mmp-tarpit`, and the second instance would be `mmp-tarpit-1`.

Modifying an Existing Instance

To modify an existing instance of the MMP, edit the `ImapProxyAService.cfg` and/or `PopProxyAService.cfg` configuration files as necessary. These configuration files are located in the `mmp-hostname` subdirectory.

Starting the Multiplexor

To start an instance of the Messaging Multiplexor, run the `AService.rc` script in the `server-root/mmp-hostname` directory:

```
./AService.rc [options]
```

Optional parameters for the `AService.rc` script are described below in Table B-2.

Table B-2 Optional Parameters for the `AService.rc` Script

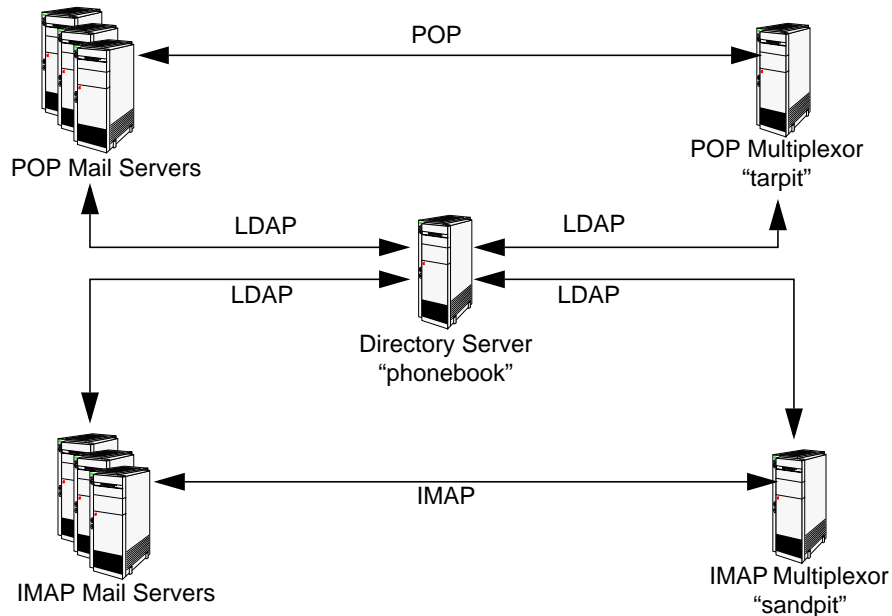
Option	Description
<code>start</code>	Start the MMP (even if one is already running).
<code>stop</code>	Stop the most recently started MMP.
<code>restart</code>	Stop the most recently started MMP, then start an MMP.
<code>reload</code>	Causes an MMP that is already running to reload its configuration without disrupting any active connections.

Sample Messaging Topology

The fictional Siroe Corporation has two Multiplexors on separate machines, each supporting several Messaging Servers. POP and IMAP user mailboxes are split across the Messaging Server machines, with each server dedicated exclusively to POP or exclusively to IMAP. (You can restrict client access to POP services alone by removing the IMAP-server binary; likewise, you can restrict client access to IMAP services alone by removing the POP-server binary.) Each Multiplexor also supports only POP or only IMAP. The LDAP directory service is on a separate, dedicated machine.

This topology is illustrated below in Figure B-1.

Figure B-1 Multiple MMPs Supporting Multiple Messaging Servers



IMAP Configuration Example

The IMAP Multiplexor in Figure B-1 is installed on sandpit, a machine with two processors. This Multiplexor is listening to the standard port for IMAP connections (143). Multiplexor communicates with the LDAP server on the host phonebook for user mailbox information, and it routes the connection to the appropriate IMAP server. It overrides the IMAP capability string, provides a virtual domain file, and supports SSL communications.

This is its ImapProxyAService.cfg configuration file:

```

default:LdapUrl          ldap://phonebook/o=Siroe.com
default:LogDir           /usr/iplanet/server5/mmp-sandpit/log
default:LogLevel         5
default:BindDN           "cn=Directory Manager"
default:BindPass         secret
default:BacksidePort     143
default:Timeout          1800
default:Capability       "IMAP4 IMAP4rev1 ACL QUOTA LITERAL+ NAMESPACE
UIDPLUS CHILDREN LANGUAGE XSENDER X-NETSCAPE XSERVERINFO AUTH=PLAIN"
default:SearchFormat     (uid=%s)
default:SSLEnable        yes
default:SSLPorts         993
default:SSLSecmodFile    /usr/iplanet/server5/mmp-sandpit/secmod.db
default:SSLCertFile      /usr/iplanet/server5/mmp-sandpit/cert7.db
default:SSLKeyFile       /usr/iplanet/server5/mmp-sandpit/key3.db
default:SSLKeyPasswdFile ""
default:SSLCipherSpecs   all
default:SSLCertNicknames Siroe.com Server-Cert
default:SSLCacheDir      /usr/iplanet/server5/mmp-sandpit
default:SSLBacksidePort  993
default:VirtualDomainFile /usr/iplanet/server5/mmp-sandpit/vdmap.cfg
default:VirtualDomainDelim @
default:ServerDownAlert  "your IMAP server appears to be temporarily out of
service"
default:MailHostAttrs    mailHost
default:PreAuth          no
default:CRAMs            no
default:AuthCacheSize    10000
default:AuthCacheTTL     900
default:AuthService       no
default:AuthServiceTTL   0
default:BGMax            10000
default:BGPenalty        2
default:BGMaxBadness     60
default:BGDecay          900
default:BGLinear         no
default:BGExcluded       /usr/iplanet/server5/mmp-sandpit/bgexcl.cfg
default:ConnLimits       0.0.0.0|0.0.0.0:20
default:LdapCacheSize    10000
default:LdapCacheTTL     900
default:HostedDomains    yes
default:DefaultDomain    Siroe.com

```

POP Configuration Example

The POP Multiplexor example in Figure B-1 is installed on tarpit, a machine with four processors. This Multiplexor is listening to the standard port for POP connections (110). Multiplexor communicates with the LDAP server on the host phonebook for user mailbox information, and it routes the connection to the appropriate POP server. It also provides a spoof message file.

This is its `PopProxyAService.cfg` configuration file:

```
default:LdapUrl          ldap://phonebook/o=Siroe.com
default:LogDir           /usr/iplanet/server5/mmp-tarpit/log
default:LogLevel        5
default:BindDN           "cn=Directory Manager"
default:BindPass         password
default:BacksidePort     110
default:Timeout         1800
default:Capability       "IMAP4 IMAP4rev1 ACL QUOTA LITERAL+ NAMESPACE
UIDPLUS CHILDREN LANGUAGE XSENDER X-NETSCAPE XSERVERINFO AUTH=PLAIN"
default:SearchFormat     (uid=%s)
default:SSLEnable       no
default:VirtualDomainFile /usr/iplanet/server5/mmp-tarpit/vdmap.cfg
default:VirtualDomainDelim @
default:MailHostAttrs   mailHost
default:PreAuth         no
default:CRAMs           no
default:AuthCacheSize   10000
default:AuthCacheTTL    900
default:AuthService     no
default:AuthServiceTTL  0
default:BGMax           10000
default:BGPenalty       2
default:BGMaxBadness    60
default:BGDecay         900
default:BGLinear        no
default:BGExcluded      /usr/iplanet/server5/mmp-tarpit/bgexcl.cfg
default:ConnLimits      0.0.0.0|0.0.0.0:20
default:LdapCacheSize   10000
default:LdapCacheTTL    900
default:HostedDomains   yes
default:DefaultDomain   Siroe.com
```

Running the `uninstall` Program

This appendix describes how to remove an existing instance of the Messaging Server from a machine.

NOTE The `uninstall` program will not attempt to remove any log files, silent installation files, or mailboxes; if you want to remove these, you must do so manually.

The `uninstall` program does not remove any high availability components. See “Un-Installing High Availability” on page 123 for instructions on removing the high availability components.

In the directory in which you installed the Messaging Server files, you will find the `uninstall` program. To run `uninstall`, use the following steps:

1. Login as `root`.
2. Change to the `server-root` directory.

NOTE Do not manually stop the Directory Server; the `uninstall` program requires the Directory Server to be up and running and it will handle the shutting down of the Directory Server.

3. Run the `uninstall` program:

```
./uninstall
```

NOTE The screens you see here may vary depending on which components you have installed. This example assumes you have all components installed.

4. Select which components you want to remove:

The following are the SuiteSpot components currently installed on your machine:

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 Applications (5)

Select the components you wish to uninstall (default: all) [All]:

5. Select which Server Core Product components you want to remove:

The following are the Netscape Server Products Core Components components currently installed on your machine:

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

1. Netscape Server Products Core Components
2. Netscape Core Java classes
3. Java Runtime Environment

Specify the components you wish to uninstall [1, 2, 3]:

6. Select which Directory Suite components you want to remove.

The following are the Netscape Directory Suite components currently installed on your machine:

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

1. Netscape Directory Server
2. Netscape Directory Server Console

Specify the components you wish to uninstall [1, 2]:

7. Select which Administration Services components you want to remove:

The following are the Administration Services components currently installed on your machine:

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

1. Netscape Administration Server
2. Administration Server Console

Specify the components you wish to uninstall [1, 2]:

8. Select which iPlanet Messaging Suite components you want to remove.

The following are the iPlanet Messaging Suite components currently installed on your machine:

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

1. iPlanet Message Store and Message Access
2. iPlanet Internet Message Transport Agent
3. iPlanet Messaging Multiplexor
4. High Availability for iPlanet Messaging Server
5. iPlanet Delegated Administrator Command Line Utilities

Specify the components you wish to uninstall [1, 2, 5]:

CAUTION If you installed any high availability components, you must manually remove them (See “Un-Installing Veritas Cluster Server 1.1 or later and Sun Cluster 2.2” on page 89). Although it is presented as an option, the automatic un-install of high availability components is not supported at this time; do not select this option.

9. Enter the login ID and password of the Configuration Administrator:

Enter the User ID or Distinguished Name of the administrator who is authorized to access the Configuration Directory at

```
ldap://budgie.siroe.com:389/
```

Configuration Admin ID or DN: [admin]:

At this point, the `uninstall` program should begin removing the various components you specified from your system.

Your uninstall is now complete.

In many cases, `uninstall` may not have been able to remove some of your installation files. Please check for any remaining files and remove them manually.

NOTE The `uninstall` script does not reinstate the original `sendmail` link. You must manually restore this link if you want receive mail on the server via `sendmail`.

Upgrading Your Messaging Server

This appendix contains instructions to help you upgrade previous versions of iPlanet Messaging Server to iPlanet Messaging Server 5.1.

To upgrade from an older version of iPlanet Messaging Server (such as iPlanet Messaging Server 5.0 and its subsequent patches), follow these steps:

1. Shut down all servers before performing the upgrade.
2. Save the `job_controller.cnf` and `dispatcher.cnf` files prior to the upgrade. At the completion of upgrade, you should restore the files.
3. Make sure that your upgrade takes place on the same machine and the same *server-root* where you originally installed iPlanet Messaging Server.
4. Login as `root` and run `./setup -k` from Messaging installation binaries. This is the same `setup` program you would run if you were installing a new instance of Messaging Server.

5. During the installation process, Installer detects existing file, directory, and configuration values as the defaults and fills in missing values with standard default suggestions. You will get the following question when Installer detects the existing configuration values of your prior Messaging Server installation:

This machine has a Messaging Server instance installed already.
Please choose below whether you want to upgrade the existing server instance or create a new server instance.

If you choose to create a new server instance, the configuration for the existing server instance will not be touched. If you choose to upgrade the existing server instance, any missing configuration will be detected and the configuration will be repaired if necessary.

- [1] Create New
- [2] Upgrade

NOTE Mailbox and message queues do not require migration from a 5.x to 5.1 system.

Choose option 2 to upgrade your Messaging Server. The upgrade process will complete once Installer updates the necessary configuration values.

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