



**Upgrading to
Mac OS X Server**
Migration Guide

 **Apple Computer, Inc.**

© 2002 Apple Computer, Inc. All rights reserved.

Under the copyright laws, this manual may not be copied, in whole or in part, without the written consent of Apple. Your rights to the software are governed by the accompanying software license agreement.

The Apple logo is a trademark of Apple Computer, Inc., registered in the U.S. and other countries. Use of the “keyboard” Apple logo (Option-Shift-K) for commercial purposes without the prior written consent of Apple may constitute trademark infringement and unfair competition in violation of federal and state laws.

Every effort has been made to ensure that the information in this manual is accurate. Apple is not responsible for printing or clerical errors.

Apple Computer, Inc.
1 Infinite Loop
Cupertino, CA 95014-2084
408-996-1010
www.apple.com

Apple, the Apple logo, AppleScript, AppleShare, Mac, Macintosh, Power Macintosh, QuickTime, and WebObjects are trademarks of Apple Computer, Inc., registered in the U.S. and other countries. At Ease, Extensions Manager, and Finder are trademarks of Apple Computer, Inc.

Copyright © 1995-2000 The Apache Group. All rights reserved.

Other company and product names mentioned herein are trademarks of their respective companies. Mention of third-party products is for informational purposes only and constitutes neither an endorsement nor a recommendation. Apple assumes no responsibility with regard to the performance or use of these products.

Simultaneously published in the United States and Canada.

022-0200/08-08-02



Contents

Preface

What's in This Guide 5

About This Document 5

1 Importing Account Information in Mac OS X Server 7

Using Workgroup Manager to Import Account Information 7

Using dsimportexport to Import Account Information 9

 About dsimportexport Parameters 9

 About dsimportexport Status and Log Information 12

Creating an XML File 12

Creating a Character-Delimited File 13

 Writing a Record Description 13

 Using the StandardUserRecord Shorthand 15

 Using the StandardGroupRecord Shorthand 15

2 Upgrading From Mac OS X Server Version 10.0 or Later 17

About Migrating Web Services 17

 About Migrating MySQL 18

About Migrating the Mail Server 18

 About Migrating SquirrelMail 18

Migrating in Place 19

Migrating to a New Server 22

3 Upgrading From Mac OS X Server Version 1.2 27

About Migrating MySQL 27

About Migrating SquirrelMail 27

Migrating in Place 28

Migrating to a New Server	32
4 Upgrading From AppleShare IP	37
About the AppleShare IP Migration Utility	37
Creating XML Files With AppleShare IP 6.3	38
About Primary and Secondary Servers	38
Reserved User and Group Names	39
Migrating in Place	40
Migrating to a New Server	45
5 Migrating to Macintosh Manager Version 2.2	51
Where User Account Information Is Stored	52
About Automatic Migration	52
About Migrating in Place on an AppleShare IP Server	53
Migrating From Macintosh Manager 2.0 and Later	54
Migrating Early Macintosh Manager or At Ease for Workgroups	55
6 Migrating to Workgroup Manager	61
Migrating From Macintosh Manager 2.0 or Later	61
Migrating From At Ease for Workgroups or Early Macintosh Manager	62

What's in This Guide

Welcome to Mac OS X Server version 10.2. This document explains the steps you need to take to successfully migrate to Mac OS X Server version 10.2 and Macintosh Manager version 2.2 from

- Mac OS X Server versions 10.0–10.1.5
- Mac OS X Server version 1.2
- Macintosh Manager or At Ease for Workgroups version 5.0
- AppleShare IP version 6.2 or later

This guide gives detailed instructions for upgrading from earlier versions of Apple server products. If you are migrating from another type of server using a directory service such as Lightweight Directory Access Protocol (LDAP), you can use the information in this guide to create a character-delimited or XML file of user information that you can import into Mac OS X Server version 10.2.

Important Make sure you read the appropriate sections of this guide before you install the Mac OS X Server software on a Macintosh that's already on your network, or before you add a new Mac OS X Server to your network. In some cases, there are critical steps you need to take before installation or migration.

About This Document

This guide contains the following chapters:

- Chapter 1, “Importing Account Information in Mac OS X Server,” describes how to use the import and export features in Workgroup Manager and the `dsimportexport` command-line tool to migrate user accounts.
- Chapter 2, “Upgrading From Mac OS X Server Version 10.0 or Later,” gives steps to follow if you have Mac OS X Server version 10.0 or later and want to migrate to the new version.
- Chapter 3, “Upgrading From Mac OS X Server Version 1.2,” gives steps to follow if you have Mac OS X Server version 1.2 and want to migrate to Mac OS X Server version 10.2.

- Chapter 4, “Upgrading From AppleShare IP,” provides information about migrating existing information from an AppleShare IP server to Mac OS X Server version 10.2.
- Chapter 5, “Migrating to Macintosh Manager Version 2.2,” explains the steps involved in migrating existing Macintosh Manager or At Ease for Workgroups users to Mac OS X Server version 10.2 and Macintosh Manager version 2.2.
- Chapter 6, “Migrating to Workgroup Manager,” provides information about migrating from Macintosh Manager and At Ease for Workgroups.

Importing Account Information in Mac OS X Server

When you upgrade from your current server to Mac OS X Server version 10.2, you will probably want to transfer user and group information, home directories, and data from your existing server to your new server environment. This process is called migration.

For Mac OS X Server version 10.2, the user and group account attributes you can migrate vary depending on the kind of import file you use. Mac OS X Server version 10.2 can import

- character-delimited files created by exporting accounts on Mac OS X Server versions later than 10.1, or created by hand, or by using a database or spreadsheet application
- XML files created by exporting accounts on Mac OS X Server versions 10.1 and earlier
- XML files created by exporting accounts on AppleShare IP 6.3 servers

This chapter provides instructions for creating XML and character-delimited files that can be imported into Mac OS X Server version 10.2. You may also find alternative methods and tools for creating these files in the chapters devoted to migrating from a particular server product.

Mac OS X Server version 10.2 provides two ways to import user accounts: using Workgroup Manager or using the `dsimportexport` command-line tool.

- Use `dsimportexport` for more control over the import processes.
- Use Workgroup Manager for a simpler, graphical user experience.

Using Workgroup Manager to Import Account Information

You can use Workgroup Manager in Mac OS X Server to import a character-delimited or XML file containing the accounts you want to migrate. Instructions for creating these files are in “Creating a Character-Delimited File” on page 13 and “Creating an XML File” on page 12.

To import accounts using Workgroup Manager:

- 1 In Workgroup Manager, click the Account button, then use the At pop-up menu to open the directory domain into which you want to import accounts.

- 2** Click the lock to authenticate as domain administrator.
- 3** Choose Import from the Server menu, then select the import file.
- 4** Select one of the Duplicate Handling options to indicate what to do when the short name of an account being imported matches that of an existing account or attributes conflict.
 - “Overwrite existing record” overwrites any existing record in the directory domain.
 - “Ignore new record” ignores an account in the import file.
 - “Add to empty fields” merges data from the import file into the existing account when the data is for an attribute that currently has no value.
 - “Append to existing record” appends data to existing data for a particular multivalued attribute in the existing account. Duplicates are not created. This option might be used, for example, when importing new members into an existing group.
- 5** Select one of the Record Format options.
 - “Import standard users” indicates that your import file contains user accounts with these attributes in the order listed: short name, password, UID, primary group ID, full name, path to the home directory on the user’s computer, and default shell. The first line of the file must contain “StandardUserRecord.”
 - “Import standard groups” indicates that your import file contains group accounts with these attributes in the order listed: group name, group ID, and short names of group members. The first line of the file must contain “StandardGroupRecord.”
 - “Use record description in file” indicates that the first line of the file is a complete record description. “Creating a Character-Delimited File” on page 13 describes what the record description must look like.
 - “Import XML from AppleShare IP” indicates that your import file is an XML file created using AppleShare IP.
 - “Import XML from Server Admin” indicates that your import file is an XML file created using Server Admin on Mac OS X Server 10.1 or earlier.
- 6** In the First User ID field, enter the UID at which to begin assigning UIDs to new user accounts for which the import file contains no UID.
- 7** In the Primary Group ID field, enter the group ID to assign to new user accounts for which the import file contains no primary group ID.
- 8** Click Import to start the import operation.

Using dsimportexport to Import Account Information

You can use Workgroup Manager in Mac OS X Server to import a character-delimited or XML file containing the accounts you want to migrate. Instructions for creating these files are in “Creating a Character-Delimited File” on page 13 and “Creating an XML File” on page 12.

Note: If you have very little experience using command-line tools, you may want to consult a more experienced administrator to help you with this procedure.

To import accounts using dsimportexport:

- 1 As domain administrator, log in to a server that has access to the directory domain into which you want to import accounts.
- 2 Open the Terminal application and type the dsimportexport command. The dsimportexport tool is located in /Applications/Utilities/Workgroup Manager.app/Contents/Resources.

Because there is a space in the path name, use quotation marks when you type it in the Terminal application. For example:

```
"/Applications/Utilities/Workgroup Manager.app/Contents/Resources/  
dsimportexport" -h
```

About dsimportexport Parameters

There is no man (manual) page for this tool. Here are the parameters that dsimportexport accepts when importing user and group accounts. Parameters are delimited using angle brackets (<>) if they are required and square brackets ([]) if they are optional:

```
dsimportexport <-g or -s or -p> <file> <directoryDomain>  
    <userName> <password> <O or M or I or A> <-s startingUID>  
    [-r primaryGroupID] [-k keyIndex ...] [-n recNameIndex] [-v]  
    [-T standardRecordType] [-yrnm userName] [-yrpwd password]  
    [-y ipAddress] [-V] [-h] [-err]
```

where

-g

imports accounts from a character-delimited file. See “Creating a Character-Delimited File” on page 13 for information about the format of this kind of file.

-s

imports accounts from an XML file formatted as described in “Creating an XML File” on page 12.

-p

imports accounts from an XML file formatted as described in “Creating XML Files With AppleShare IP 6.3” on page 38.

file

names the file from which you want to import accounts, including the path to the file (for example, /tmp/Import1).

directoryDomain

is the full path to the NetInfo or LDAPv3 directory domain into which you want to import the accounts. For a NetInfo domain, you might type /NetInfo/root/someDomain. For an LDAPv3 domain, an example is /LDAPv3/ldap.example.com.

userName

is the full or short name of a user who has domain administrator privileges for the directory domain.

password

is the password associated with the userName you specify.

O

overwrites any existing record in the directory domain with the value(s) in the attribute(s) identified using the -k option.

M

merges data from the import file into an existing account, using the value(s) in the attribute(s) identified using the -k option when the data is for an attribute that currently has no value.

I

ignores an account in the import file if a record with the same value(s) in the attribute(s) identified using the -k option already exists in the directory domain.

A

appends data to existing data for a particular multivalued attribute in an account in the directory domain with the value(s) in the attribute(s) identified using the -k option. Duplicates are not created. This option might be used, for example, when importing new members into an existing group.

-s startingUID

specifies the starting user ID (UID) to use when importing from an ASIP XML file or a character-delimited file that contains new user accounts with no UIDs specified. You can omit this argument if all the accounts in the import file contain UIDs, but use it if some or all of the accounts do not contain UIDs. For example, -s 559 assigns UIDs to imported users starting at 559 and incrementing by one for each new user.

-r primaryGroupID

identifies the primary group ID to assign a new user when an account in the import file has no group ID specified. For example, -r 20 makes the group with a group ID of 20 the primary group of an imported user with no group ID defined in the file.

-k keyIndex ...

is for character-delimited import files only. It is used to identify as many as four attributes of an account in the file that you want to use to determine whether the account already exists. The keyIndex is 0 based, so -k 0 points to the *first* attribute of an account in the import file. Separate multiple keyIndex values with commas (for example, -k 1,5,6,8). If you omit the -k parameter, -k 0 is assumed.

-n recNameIndex

is for character-delimited import files only. It is used to identify the attribute providing a user's short name or a group name. The nameIndex is 0 based, so -n 0 points to the first attribute. If you omit the -n parameter, -n 0 is assumed.

-v

generates verbose output during import. Because this option generates a large amount of status data for each account (including all data in the import file), use this option only when debugging import files. The default status data provides counts of the number of accounts and bytes processed and the record name of the account currently being processed.

-T standardRecordType

is for character-delimited import files only. It is used to indicate that the first line of the file does not contain a record description because the file contains accounts in standard formats. A standardRecordType value of xDSStandardUser is used for standard user accounts, and xDSStandardGroup is used for standard group accounts. See "Creating a Character-Delimited File" on page 13 for details about account formatting.

-yrnm userName

is the user name for logging in to a remote Mac OS X Server identified in the -y parameter.

-yrpwd password

is the password for logging in to a remote Mac OS X Server identified in the -y parameter.

-y ipAddress

is the IP address of a remote Mac OS X Server from which the directory domain is visible.

-V

adds the version number of dsimportexport to the log file.

-h

displays usage information for dsimportexport.

-err

displays error information.

About dsimportexport Status and Log Information

During import processing, dsimportexport displays status information for each user or group imported. Status information includes

- the total number of records processed so far
- the number of bytes processed so far
- the identity of the record being processed currently

During import processing, dsimportexport also writes to a log file that provides both processing information and error indications. Information logged includes

- the date and time that the import or export operation started
- the total number of users and groups imported or exported
- the identity of any accounts that generated errors during import or export

The dsimportexport log file is located in

```
/Users/<user name>/Library/Logs/ImportExport/  
DSImportExport.logYYYY.MMDD.mmmmmm
```

where <user name> identifies the user who invoked dsimportexport and mmmmmm is milliseconds.

Creating an XML File

You can create an XML file using AppleShare IP 6.3 or Mac OS X Server 10.0 or later. Be sure to place the file you create in a location accessible from the server on which you will use Workgroup Manager. Ensure the file contains no more than 10,000 records.

When you create this XML file, the following user account attributes are exported. Attributes in angle brackets (<>) are required and will generate an error if they are absent when you use the file as an import file:

- <name> (mapped to a full name)
- inetAlias (mapped to a short name)
- comment
- indication of whether the user can log in
- <password format> and <password text>. (If the password format is clear text or encrypted, a Password Server is used if one is configured.)

- Apple mail data
- indicator for whether the user is a server administrator, password change data, and indicator for forcing a password to change (this data is ignored)

You can find instructions for creating an XML file using AppleShare IP 6.3 or Mac OS X Server in Chapter 4, “Upgrading From AppleShare IP,” and Chapter 2, “Upgrading From Mac OS X Server Version 10.0 or Later.”

Creating a Character-Delimited File

You can create a character-delimited file by using Workgroup Manager or the `dsimportexport` command-line tool to export accounts in NetInfo or LDAPv3 directory domains into a file. You can also create a character-delimited file by hand or by using a database or spreadsheet application.

Be sure to place the file you create in a location accessible from the server on which you will use Workgroup Manager. Ensure the file contains no more than 10,000 records.

The first record in the file you create will characterize the format of each account in the file. There are three options:

- Write a full record description.
- Use the shorthand `StandardUserRecord`.
- Use the shorthand `StandardGroupRecord`.

The other records in the file describe user or group accounts, encoded in the format you specified in the first record.

Any line of a character-delimited file that begins with “#” is ignored during the import process.

Writing a Record Description

A record description identifies the fields in each record you want to import from a character-delimited file; indicates how records, fields, and values are separated; and describes the escape character that precedes special characters in a record. Encode the record description using the following elements in the order specified, separating them with a space:

- end-of-record indicator (in hex notation)
- escape character (in hex notation)
- field separator (in hex notation)
- value separator (in hex notation)
- type of accounts in the file (`dsRecTypeStandard:Users` or `dsRecTypeStandard:Groups`)
- number of attributes per account
- list of attributes

Here is an example of a record description:

- 0x0A 0x5C 0x3A 0x2C dsRecTypeStandard:Users 7
- RecordName Password UniqueID PrimaryGroupID
- RealName NFSHomeDirectory UserShell

Here is an example of a record encoded using the description:

```
jim:Adl47E$:408:20:J. Smith, Jr., M.D.:/Network/Servers/somemac/  
Homes/jim:/bin/csh
```

Following are the attributes you must include for user and group accounts.

User Accounts

For user accounts, the list of attributes must include the following, although you can omit UID and PrimaryGroupID if you specify a starting UID and a default primary group ID when you import the file:

- RecordName (the user's short name)
- Password
- UniqueID (the UID)
- PrimaryGroupID
- RealName (the user's full name)

In addition, you can include

- UserShell (the default shell)
- NFSHomeDirectory (the path to the user's home directory on the user's computer)
- Other user attributes, described in Appendix A of the *Mac OS X Server Administrator's Guide*

Group Accounts

For group accounts, the list of attributes must include

- RecordName (the group name)
- PrimaryGroupID (the group ID)
- GroupMembership

In addition, you can include other user attributes, described in Appendix A of the *Mac OS X Server Administrator's Guide*.

Using the StandardUserRecord Shorthand

When the first line in a character-delimited import file contains StandardUserRecord, the record description assumed is

- 0x0A 0x5C 0x3A 0x2C dsRecTypeStandard:Users 7
- RecordName Password UniqueID PrimaryGroupID
- RealName NFSHomeDirectory UserShell

Here is an example of a user account encoded using the description:

```
jim:Ad147E$:408:20:J. Smith, Jr., M.D.:/Network/Servers/somemac/  
Homes/jim:/bin/csh
```

Using the StandardGroupRecord Shorthand

When the first line in a character-delimited import file contains StandardGroupRecord, the record description assumed is

- 0x0A 0x5C 0x3A 0x2C dsRecTypeStandard:Groups 4
- Record Name PrimaryGroupID GroupMembership

Here is an example of a record encoded using the description:

```
students:Ad147:88:jones,thomas,smith,wong
```


Upgrading From Mac OS X Server Version 10.0 or Later

This chapter gives instructions for upgrading to Mac OS X Server version 10.2 from Mac OS X Server version 10.1 or later.

Important If you are using Mac OS X Server version 10.0, you cannot upgrade directly to Mac OS X Server version 10.2; you must do a clean install. If you want to preserve your existing settings and you have access to Mac OS X Server version 10.1, you can upgrade first to Mac OS X Server version 10.1 and then upgrade to Mac OS X Server version 10.2.

This chapter provides information for these scenarios:

- *Migrating in place:* You are installing Mac OS X Server version 10.2 on a computer that is running Mac OS X Server version 10.1 or later, and you want to migrate information from the current server for reuse on the upgraded server.
- *Migrating to a new server:* You are adding a new server to your network that will run Mac OS X Server version 10.2. You have another computer on the network running Mac OS X Server 10.1 or later, and you want to migrate information on it to the new server.

About Migrating Web Services

A Mac OS X Server version 10.2 clean installation installs new Apache configuration files. For Web server files, do not copy the old Apache configuration files, which may have names such as `Apache.config`, `httpd.conf`, or `httpd_macosxserver.conf`, to your new Mac OS X Server. If you do, you may not be able to administer the Web server. You can keep them in a separate location in case you need to refer to them.

If you made manual modifications to `httpd.conf` with a previous version of Mac OS X Server, you should start with the new `httpd.conf` installed by the previous version of Mac OS X Server and add any required changes manually, following the guidelines contained in the new `httpd.conf`.

About Migrating MySQL

Mac OS X Server version 10.2 installs a version of MySQL configured to store the database in `/var/mysql`. To migrate your data to this location, follow the instructions provided in the MySQL documentation. Once you migrate your data, you can consider deleting the old version of MySQL.

If you want to continue using the version of MySQL you installed and disregard the pre-installed version, you cannot use the MySQL Manager application to control this version. It is configured to control only the version installed by Mac OS X Server version 10.2.

About Migrating the Mail Server

The first time you start mail service in Mac OS X Server version 10.2, the mail database used in Mac OS X Server versions 10.0–10.1.5 is automatically upgraded. Before you start mail service for the first time, check the following points to ensure a successful migration.

- Make sure the original mail database is in the default location. The default location is `/Library/AppleMailServer`.
- Make sure only the original Mac OS X Server 10.0–10.1.5 mail database is in the default location. If any other files are found, the upgrade will not occur.
- There must be free space on the same disk drive where the mail database is located equal to the size of the mail database.

The time needed for the automatic update to finish will vary depending on the number of mail messages to be imported into the new database. When the update is finished, Apple Mail Server will launch normally.

During the upgrade, the original database is renamed and left in the default database location. You can delete it, as it is no longer needed by the Apple Mail Server.

About Migrating SquirrelMail

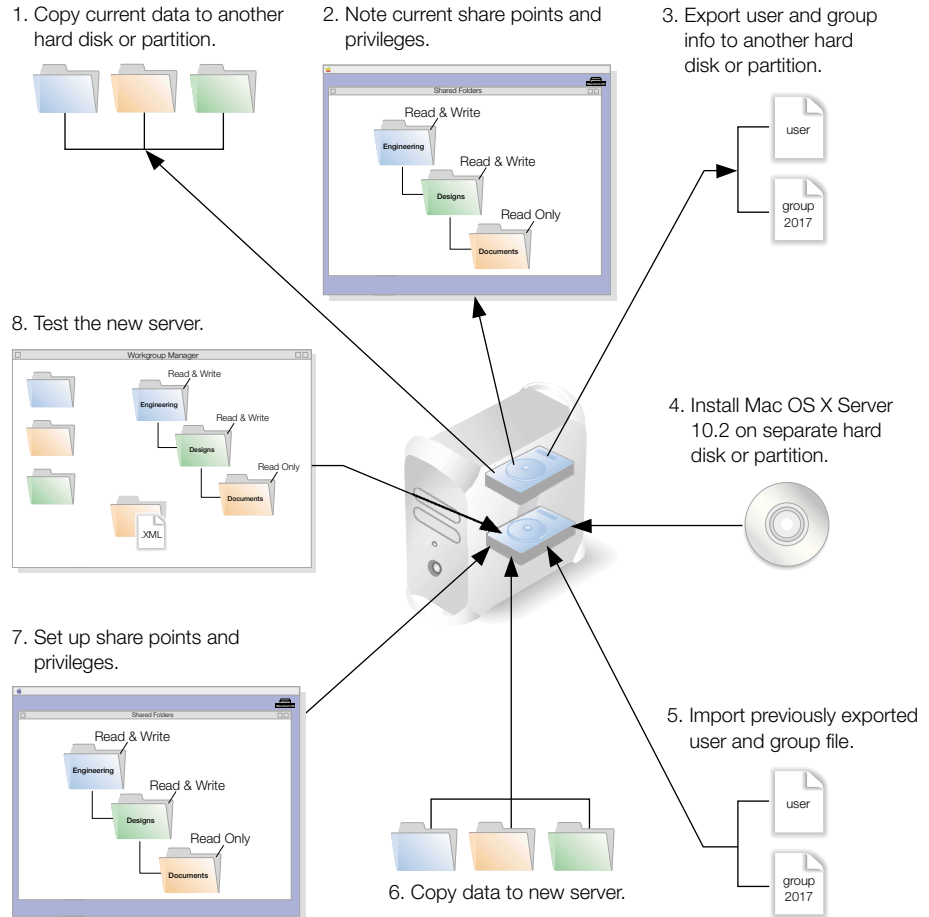
Mac OS X Server version 10.2 installs a version of SquirrelMail configured to use the mail server running on the local computer. Address books are stored in `/var/db/squirrelmail/data`. You may want to migrate your users' address books to that location.

You can also continue to use the version of SquirrelMail you installed previously and disregard the pre-installed version.

Migrating in Place

If your current server is installed on a Mac OS Extended (HFS Plus) volume, you can perform an upgrade installation of Mac OS X Server version 10.2. If you need to reformat the server hard drive, or if you want to perform a clean installation, follow the instructions in this section.

Migrating in Place From Mac OS X Server Version 10.1 or Later



Step 1: Copy all current data

Copy to another disk or partition all the data files on your current server that you want to reuse on the new server. These files include:

- User data files
- Web (Apache) files located in either `/Local/Library/WebServer` or `/Library/WebServer`.

Note: You may want to save old Apache configuration files, which may have names such as Apache.config, httpd.conf, or httpd_macosxserver.conf, but only for archival purposes. A Mac OS X Server version 10.2 clean installation will install new Apache configuration files.

- WebObjects applications and frameworks located in either /Local/Library/WebServer or /Library/WebServer.

Note: You may want to save a copy of the webobjects.conf file to refer to when you add these settings to the new apache.conf file on your new server. See the Java Converter documentation on the *WebObjects 5 Developer CD* for information about migrating WebObjects applications to the new Mac OS X Server.

- QuickTime Streaming Server (QTSS) files, located in /Local/Library/QuickTimeStreaming. Also, if you want to migrate the relay file, copy the qtsrelay.conf file in /etc.

Note: For additional information about migrating QuickTime Streaming Server, consult the support page at www.info.apple.com/qtss.

- Macintosh Manager files located in /Library or these folders for older versions:

Macintosh Manager 1.1–2.x: Multi-User Items

Macintosh Manager 1.0–1.0.x: Macintosh Manager Items

At Ease for Workgroups 5.0: At Ease Items WG 5.0

Important To migrate Macintosh Manager or At Ease for Workgroups, see Chapter 5, “Migrating to Macintosh Manager Version 2.2,” or Chapter 6, “Migrating to Workgroup Manager.”

You cannot migrate NetBoot images to Mac OS X Server version 10.2. Re-create your old images using the default startup images provided with Mac OS X Server version 10.2.

Step 2: Note current share points and privileges

If your current server has share points and privileges you want to re-create on the new server, make a note in writing of these share points and privileges.

Step 3: Export user and group information

To migrate user and group information between servers, you’ll need to export the information into a file that can be imported. You can either use the Users & Groups module in Server Admin to export user and group data into an XML file, or use some of the more advanced options described in Chapter 1, “Importing Account Information in Mac OS X Server.”

To export user and group information using Server Admin:

- 1 Open Server Admin and log in to the server that stores user and group information.
- 2 Click Users & Groups and choose Show Users & Groups.

- 3 Select the user and group names that you want to export and click Export to save this information to a file.

Step 4: Install Mac OS X Server

You can now install Mac OS X Server version 10.2 by following the instructions in *Getting Started With Mac OS X Server*. Be sure that you select the current server partition as the location for the new server software, and select the option to erase the destination. Then choose Mac OS Extended (HFS Plus) as the file format.

Step 5: Import user and group information

With Mac OS X Server version 10.2 installed on your disk or partition, you can use either of the methods described in Chapter 1 to import the file you created earlier in step 3, “Export user and group information.”

Step 6: Copy data files to the new server

Now that your user accounts are imported, you can copy the data files and other information from the partition where you stored them to the new server. Follow these guidelines for file placement:

- Place the Web files in `/Library/WebServer`.
- If you have manually downloaded and installed Axis, place any SOAP services from your old installation in `/Library/Tomcat/webapps/axis` (a symlink to `/System/Library/Axis/webapps/axis`). Mac OS X Server version 10.2 installs a beta version of Axis that may be newer or older than the Axis version you have installed.
- Place any Tomcat servlets from your old installation in `/Library/Tomcat/webapps`. Mac OS X Server version 10.2 installs Tomcat version 3.2.4.
- Place the QuickTime Streaming Server files in `/Library/QuickTimeStreaming`. Place the old relay file `qtssrelay.conf` in `/etc/streaming/` and rename it `streamingrelay.conf`.
Note: For additional information about migrating QuickTime Streaming Server, consult the support page at www.info.apple.com/support/pages.taf?product=qtss
- Place user data files in `/Library/Classic` inside the user’s home directory.

Step 7: Set up share points and privileges

Re-create the share points and privileges you noted in step 2, “Note current share points and privileges.” For instructions, check the *Mac OS X Server Administrator’s Guide* or the onscreen help.

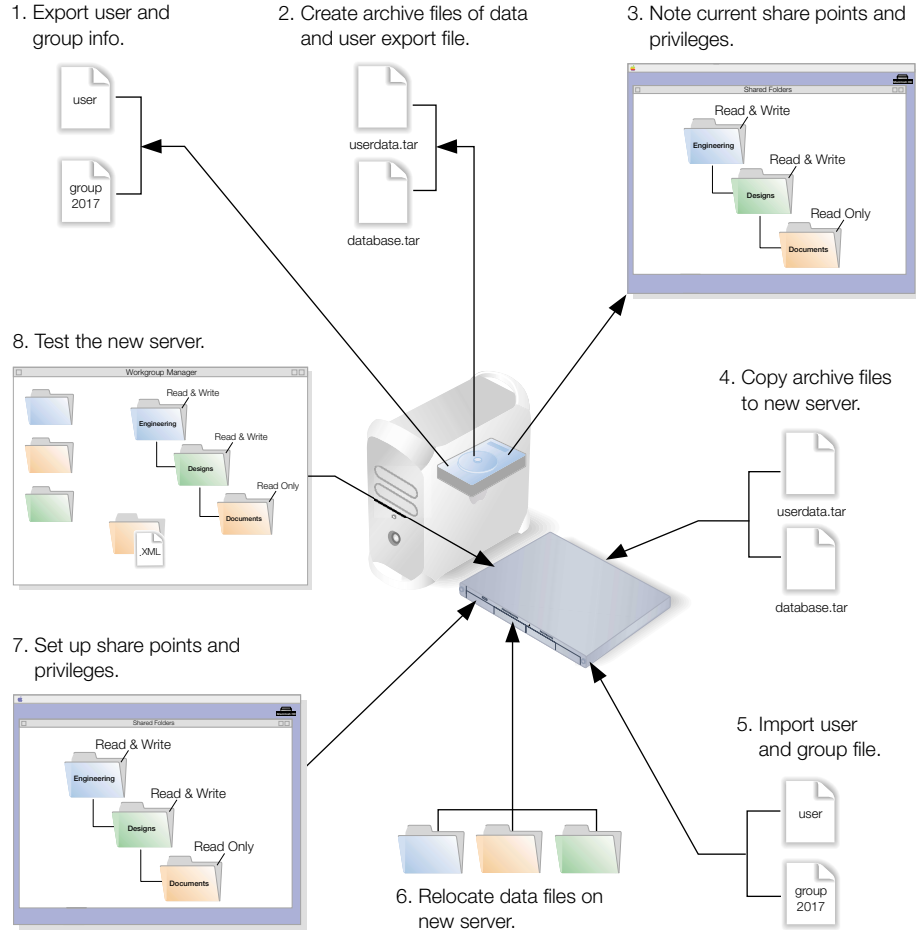
Step 8: Test the new server

Test the new server by opening Workgroup Manager and examining the users and groups and other content you migrated from your original server.

Migrating to a New Server

Follow the steps in this section to migrate from an existing Mac OS X Server to a different computer with Mac OS X Server version 10.2 already installed. If you are performing a remote server installation, your admin computer must have the latest version of Mac OS X and the administration tools for Mac OS X Server version 10.2 installed.

Migrating From Mac OS X Server Version 10.1 or Later to a New Server



Step 1: Export user and group information

To migrate user and group information between servers, you'll need to export the information into a file that can be imported. You can either use the Users & Groups module in Server Admin to export user and group data, or use some of the more advanced options described in Chapter 1, "Importing Account Information in Mac OS X Server."

To export user and group information using Server Admin:

- 1 Open Server Admin and log in to the server that stores user and group information.
- 2 Click Users & Groups and choose Show Users & Groups.
- 3 Select the user and group names that you want to export and click Export to save this information to a file.

Step 2: Create archive files

To move your data files over the network to your new server, you can use Apple file service to copy them once your share points are set up. For large amounts of data, you may want to create one or more *tar* files (the UNIX command *tar* creates a single archive file out of multiple files). Or you can use `/usr/bin/mkdmg` to create disk image files. Disk images and *tar* files can be transferred later using FTP.

The files you should migrate include

- user data files
- Web (Apache) files located in either `/Local/Library/WebServer` or `/Library/WebServer`
Note: You may want to save old Apache configuration files, which may have names such as `Apache.config`, `httpd.conf`, or `httpd_macosxserver.conf`, but only for archival purposes. A Mac OS X Server version 10.2 clean installation will install new Apache configuration files.
- WebObjects applications and frameworks located in either `/Local/Library/WebServer` or `/Library/WebServer`
Note: You may want to save a copy of the `webobjects.conf` file to refer to when you add these settings to the new `apache.conf` file on your new server. See the Java Converter documentation on the *WebObjects 5 Developer CD* for information about migrating WebObjects applications to the new Mac OS X Server.
- QuickTime Streaming Server (QTSS) files, located in `/Local/Library/QuickTimeStreaming`

- Macintosh Manager files, located in /Library or in these folders for older versions:
 - Macintosh Manager 1.1–2.x: Multi-User Items
 - Macintosh Manager 1.0–1.0.x: Macintosh Manager Items
 - At Ease for Workgroups 5.0: At Ease Items WG 5.0

Important To migrate Macintosh Manager or At Ease for Workgroups, see Chapter 5, “Migrating to Macintosh Manager Version 2.2,” or Chapter 6, “Migrating to Workgroup Manager.”

You cannot migrate NetBoot images to Mac OS X Server version 10.2. Re-create your old images using the default startup images provided with Mac OS X Server version 10.2.

Step 3: Note current share points and privileges

If your old server has share points and privileges you want to re-create on the new server, make a note in writing of these share points and privileges.

Step 4: Copy the data files to the new server

You can now move files across the network to your new share points, or copy the tar files or disk images you created earlier to their new locations. (Once the files are transferred, double-click a tar file to extract its contents or double-click a disk image to mount it.)

To transfer tar files or disk images using FTP:

- 1** Use Server Settings on the new Mac OS X Server to start FTP service. A globe appears on the service icon when the service is turned on.
- 2** Set up sharing for a folder on the new Mac OS X Server where you can place the files from the old server.
- 3** On the old Mac OS X Server, use FTP service to copy the tar files or disk images to the new Mac OS X Server.

Step 5: Import user and group information

Use the appropriate method described in Chapter 1 to import the user and group file you created earlier in step 1, “Export user and group information.”

Step 6: Relocate the data files

Follow these guidelines for file placement:

- Place the Web files in /Library/WebServer.
- If you have manually downloaded and installed Axis, place any SOAP services from your old installation in /Library/Tomcat/webapps/axis (a symlink to /System/Library/Axis/webapps/axis). Mac OS X Server version 10.2 installs a beta version of Axis that may be newer or older than the Axis version you have installed.
- Place any Tomcat servlets from your old installation in /Library/Tomcat/webapps. Mac OS X Server version 10.2 installs Tomcat version 3.2.4.
- Place the QuickTime Streaming Server files in /Library/QuickTimeStreaming.
Note: For additional information about migrating QuickTime Streaming Server, consult the support page at www.info.apple.com/support/pages.taf?product=qtss
- Place user data files in /Library/Classic inside the user's home directory.

Step 7: Set up share points and privileges

Re-create the share points and privileges for any user data files you migrated. For instructions, check the *Mac OS X Server Administrator's Guide* for Mac OS X Server or the onscreen help.

Step 8: Test the new server

Test the new server by opening Workgroup Manager and examining the users and groups and other content you migrated from the previous Mac OS X Server.

Upgrading From Mac OS X Server Version 1.2

This chapter gives instructions for upgrading from Mac OS X Server 1.2 to Mac OS X Server version 10.2.

Important If you are using Macintosh Manager with Mac OS X Server version 1.2 and want to migrate to Mac OS X Server version 10.2, see Chapter 5, “Migrating to Macintosh Manager Version 2.2,” or Chapter 6, “Migrating to Workgroup Manager.”

This chapter provides information for these scenarios:

- *Migrating in place from Mac OS X Server version 1.2:* You are installing the new Mac OS X Server software on a computer that is running Mac OS X Server version 1.2, and you want to migrate information from the current server for reuse on the upgraded server.
- *Migrating to a new server:* You are adding a new server to your network with the new version of Mac OS X Server already installed. You have another computer on the network running Mac OS X Server 1.2, and you want to migrate information from the older server to the new server.

About Migrating MySQL

Mac OS X Server version 10.2 installs a version of MySQL configured to store the database in `/var/mysql`. To migrate your data to this location, follow the instructions provided in the MySQL documentation. Once you migrate your data, you can consider deleting the old version of MySQL.

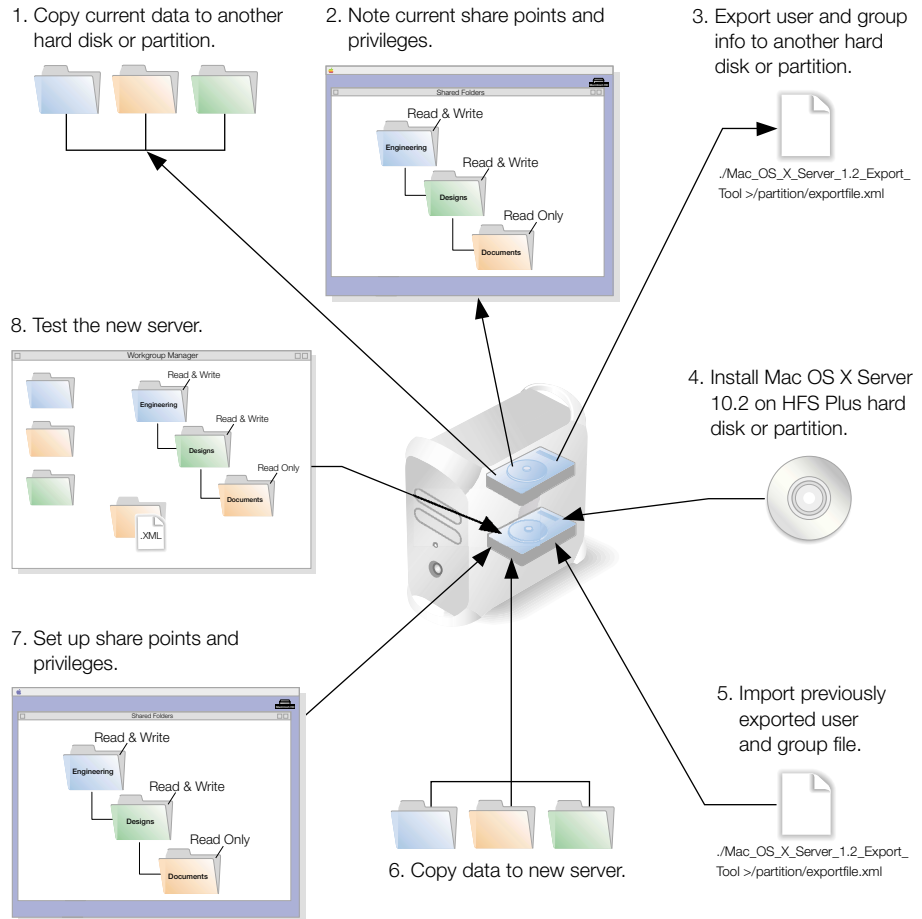
About Migrating SquirrelMail

Mac OS X Server version 10.2 installs a version of SquirrelMail configured to use the mail server running on the local computer. Address books are stored in `/var/db/squirrelmail/data`. You may want to migrate your users' address books to that location.

Migrating in Place

Since migrating in place requires reformatting the server hard disk, you first need to copy to another hard disk or partition all the data files on your current server that you want to reuse on the new server. Follow the steps in this section to migrate in place to the new server.

Migrating in Place From Mac OS X Server Version 1.2



Step 1: Copy all current data

Since migrating in place requires reformatting the server hard disk, you need to first copy to another disk or partition all the data files on your current server that you want to reuse on the new server. These files include:

- User data files.
- Web (Apache) information, located in `/Local/Library/WebServer`.

Note: You may want to copy the Apache.config file, but only for archival purposes. A Mac OS X Server version 10.2 clean installation will install new Apache configuration files.

- WebObjects applications and frameworks located in /Local/Library/WebServer.

Note: You may want to save a copy of the webobjects.conf file to refer to when you add these settings to the new apache.conf file on your new server. See the Java Converter documentation on the *WebObjects 5 Developer CD* for information about migrating WebObjects applications to the new Mac OS X Server.

- QuickTime Streaming Server (QTSS) files, located in /Local/Library/QuickTimeStreaming. Also, if you want to migrate the relay file, copy the qtssrelay.conf file in /etc.

Note: For additional information about migrating QuickTime Streaming Server, consult the support page at www.info.apple.com/qtss.

- Macintosh Manager files located in /Library or in these folders for older versions:

Macintosh Manager 1.1–2.x: Multi-User Items

Macintosh Manager 1.0–1.0.x: Macintosh Manager Items

At Ease for Workgroups 5.0: At Ease Items WG 5.0

Important For more information about migrating Macintosh Manager or At Ease for Workgroups, see Chapter 5, “Migrating to Macintosh Manager Version 2.2,” or Chapter 6, “Migrating to Workgroup Manager.”

NetBoot images from Mac OS X Server version 1.2 cannot migrate to Mac OS X Server version 10.2. Re-create your old images using the default startup images provided with Mac OS X Server version 10.2.

Step 2: Note current share points and privileges

If your current server has share points and privileges you want to re-create on the new server, make a note in writing of these share points and privileges.

Step 3: Export user and group information

Mac OS X Server version 10.2 comes with a command-line tool to export user and group information.

The tool, called `Mac_OS_X_Server_1.2_Export_Tool`, is located on the *Mac OS X Server Install CD* in this location:

Welcome to Mac OS X Server/Migration Tools

When you run the tool, you must save the exported information in a file with the suffix “.xml” on a partition or disk other than the server partition.

To export user and group information:

- 1 Insert the *Mac OS X Server Install CD* in the CD-ROM drive.
- 2 Log in to the root account.
- 3 Open the Terminal application.
- 4 Navigate to the Migration Tools folder on the *Mac OS X Server Install CD* by entering the following:

```
cd "/Mac OS X Server Install/Welcome to Mac OS X Server/  
    Migration Tools/"
```

- 5 Run the tool and save the results in an XML file on a partition other than the server partition. (See “Export Tool Options,” next.) For example:

```
./Mac_OS_X_Server_1.2_Export_Tool > /partition/exportfile.xml
```

where “partition” is the name of the partition where you want to save the file and “exportfile” is a file name of your choice.

- 6 Check the partition where you saved the export file and make sure it is there.

Export Tool Options

You can limit the user and group accounts exported to a specific range. To do this, use the `-u` and `-g` command-line arguments. For example, to export only user accounts that have a user ID in the range of 100 to 199, and to export all groups, use the following command:

```
./Mac_OS_X_Server_1.2_Export_Tool -u 100,199 > exported-ug.xml
```

To export all user accounts, but limit the exported groups to those that have a group ID in the range of 200 to 500, use this command:

```
./Mac_OS_X_Server_1.2_Export_Tool -g 200,500 > exported-ug.xml
```

When specifying an ID range, the range must contain two numbers separated by a comma and must not contain any spaces.

Note: The export tool remaps users in primary group 80 to primary group 20 for security reasons. To override this behavior, use the `-x` command-line option.

Step 4: Install Mac OS X Server

You can now install Mac OS X Server version 10.2 by following the instructions in *Getting Started With Mac OS X Server*. Be sure to select the current server partition as the location for the new server software, and select the option to erase the destination. Then choose Mac OS Extended (HFS Plus) as the file format.

Step 5: Import user and group information

With Mac OS X Server version 10.2 installed on your disk or partition, you can use either of the methods described in Chapter 1 to import the file you created earlier in step 3, “Export user and group information.”

Step 6: Copy data files to the new server

Now you can copy the data files and other information from your previous server to the new server. Follow these guidelines for file placement:

- Place the Web files in /Library/WebServer.
 - Important** For Web server files, do not copy the file Apache.conf to your new Mac OS X Server. A clean installation of Mac OS X Server version 10.2 installs new Apache configuration files.
- If you have manually downloaded and installed Axis, place any SOAP services from your old installation in /Library/Tomcat/webapps/axis (a symlink to /System/Library/Axis/webapps/axis). Mac OS X Server version 10.2 installs a beta version of Axis that may be newer or older than the Axis version you have installed.
- Place any Tomcat servlets from your old installation in /Library/Tomcat/webapps. Mac OS X Server version 10.2 installs Tomcat version 3.2.4.
- Place the QuickTime Streaming Server files in /Library/QuickTimeStreaming. Place the old relay file “qtssrelay.conf” in /etc/streaming/ and rename it streamingrelay.conf.
 - Note:** For additional information about migrating QuickTime Streaming Server, consult the support page at www.info.apple.com/support/pages.taf?product=qtss
- Place user data files in /Library/Classic inside the user’s home directory.

Step 7: Set up share points and privileges

Re-create the share points and privileges you noted in step 2, “Note current share points and privileges.” For instructions, check the *Mac OS X Server Administrator’s Guide* or the onscreen help.

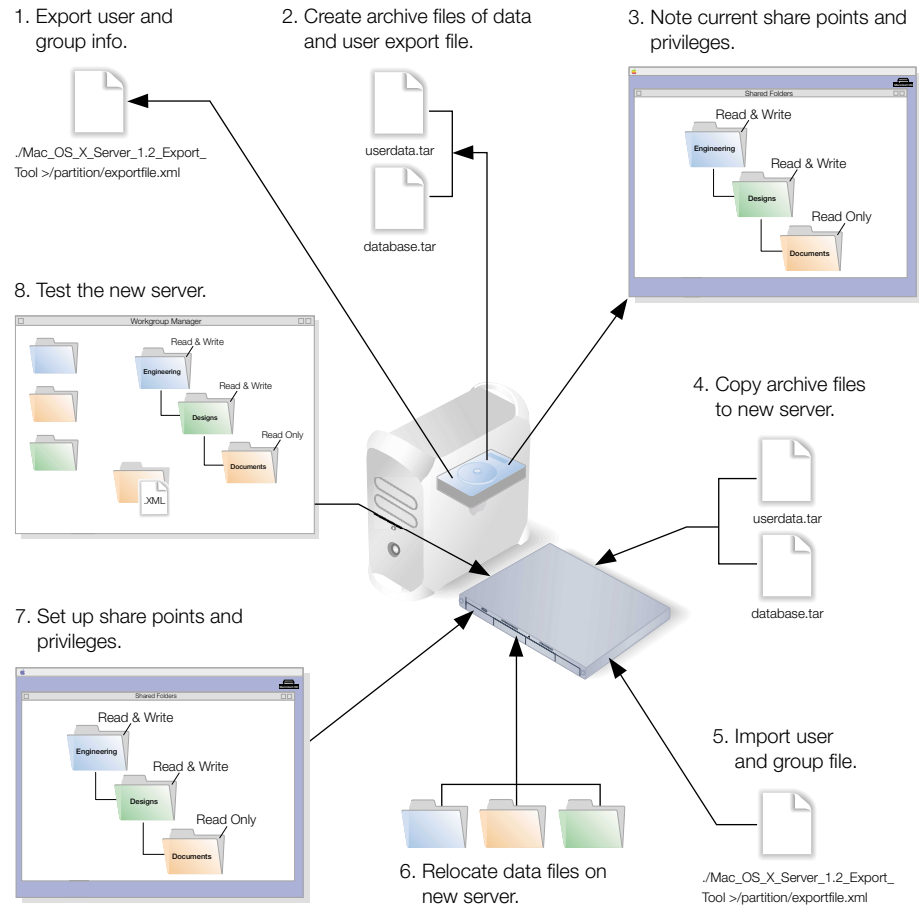
Step 8: Test the new server

Test the new server by opening Workgroup Manager and examining the users and groups and other content you migrated from the earlier version of Mac OS X Server.

Migrating to a New Server

Follow the steps in this section to migrate from an existing Mac OS X Server to a different computer with Mac OS X Server version 10.2 already installed. If you are performing a remote server installation, your admin computer must have the latest version of Mac OS X and the administration tools for Mac OS X Server version 10.2 installed.

Migrating From Mac OS X Server Version 1.2 to a New Server



Step 1: Export user and group information

Mac OS X Server version 10.2 comes with a command-line tool to export user and group information.

The tool, called `Mac_OS_X_Server_1.2_Export_Tool`, is located on the *Mac OS X Server Install CD* in the Migration Tools folder.

When you run the tool, you must save the exported information in a file with an “.xml” suffix.

To export user and group information:

- 1 Insert the *Mac OS X Server Install CD* in the CD-ROM drive of the old Mac OS X Server.
- 2 Log in to the Root account on the old server and open the Terminal application.
- 3 Navigate to the Tools folder on the *Mac OS X Server Install CD* by typing the following:

```
cd "/Mac OS X Server Install/Welcome to Mac OS X Server/  
Migration Tools/"
```

- 4 Run the tool and save the results in an XML file in a known location. (See “Export Tool Options” below.) For example:

```
./Mac_OS_X_Server_1.2_Export_Tool > /location/exportfile.xml
```

where “location” is an appropriate location and “exportfile” is a file name of your choice.

- 5 Check the location where you saved the export file and make sure it is there.

Export Tool Options

You can limit the user and group accounts exported to a specific range. To do this, use the `-u` and `-g` command-line arguments. For example, to export only user accounts that have a user ID in the range of 100 to 199, and to export all groups, use the following command:

```
./Mac_OS_X_Server_1.2_Export_Tool -u 100,199 > exported-ug.xml
```

To export all user accounts, but limit the exported groups to those that have a group ID in the range of 200 to 500, use this command:

```
./Mac_OS_X_Server_1.2_Export_Tool -g 200,500 > exported-ug.xml
```

When specifying an ID range, the range must contain two numbers separated by a comma and must not contain any spaces.

Note: The export tool remaps users in primary group 80 to primary group 20 for security reasons. To override this behavior, use the `-x` command-line option.

Step 2: Move data files

To move your data files over the network to your new server, you can use Apple file service to copy them once your share points are set up. For large amounts of data, you may want to create one or more *tar* files (the UNIX command `tar` creates a single archive file out of multiple files). You can transfer *tar* files later using FTP.

The files you should migrate include

- any user data files you want to migrate
- Web (Apache) information, located in `/Local/Library/WebServer`

Note: You may want to copy the Apache.config file, but only for archival purposes. A Mac OS X Server version 10.2 clean installation will install new Apache configuration files.

- WebObjects applications and frameworks located in /Local/Library/WebServer

Note: You may want to save a copy of the webobjects.conf file to refer to when you add these settings to the new apache.conf file on your new server. See the Java Converter documentation on the *WebObjects 5 Developer CD* for information about migrating WebObjects applications to the new Mac OS X Server.

- QuickTime Streaming Server (QTSS) files, located in /Local/Library/QuickTimeStreaming
- Macintosh Manager files, located in /Library or in these folders for older versions:
Macintosh Manager 1.1–2.x: Multi-User Items
Macintosh Manager 1.0–1.0.x: Macintosh Manager Items
At Ease for Workgroups 5.0: At Ease Items WG 5.0

Important For more information about migrating Macintosh Manager or At Ease for Workgroups, see Chapter 5, “Migrating to Macintosh Manager Version 2.2,” or Chapter 6, “Migrating to Workgroup Manager.”

Note: NetBoot images from Mac OS X Server version 1.2 cannot migrate to Mac OS X Server version 10.2. Re-create your old images using the default startup images provided with Mac OS X Server version 10.2.

Step 3: Note current share points and privileges

If your old server has share points and privileges you want to re-create on the new server, make a note in writing of these share points and privileges.

Step 4: Copy the data files to the new server

You can now move files across the network to your new share points, or copy the tar files you created earlier to their new locations. (Once the files are transferred, double-click a tar file to extract its contents.)

To transfer tar files using FTP:

- 1 Use Server Settings on the new Mac OS X Server to start FTP service. A globe appears on the service icon when the service is turned on.
- 2 Set up sharing for a folder on the new Mac OS X Server where you can place the files from the old server.
- 3 On the old Mac OS X Server, use FTP service to copy the tar files to the new Mac OS X Server.

Step 5: Import user and group information

You can use either of the methods described in Chapter 1 to import the file you created earlier in step 1, “Export user and group information.”

Step 6: Relocate the data files

Now relocate the data files and other information you copied from your old server. Follow these guidelines for file placement:

- Place the Web files in `/Library/WebServer`.
 - Important** For Web server files, do not copy the file `Apache.conf` to your new Mac OS X Server. A clean installation of Mac OS X Server version 10.2 installs new Apache configuration files.
- If you have manually downloaded and installed Axis, place any SOAP services from your old installation in `/Library/Tomcat/webapps/axis` (a symlink to `/System/Library/Axis/webapps/axis`). Mac OS X Server version 10.2 installs a beta version of Axis that may be newer or older than the Axis version you have installed.
- Place any Tomcat servlets from your old installation in `/Library/Tomcat/webapps`. Mac OS X Server version 10.2 installs Tomcat version 3.2.4.
- Place the QuickTime Streaming Server files in `/Library/QuickTimeStreaming`.
 - Note:** For additional information about migrating QuickTime Streaming Server, consult the support page at www.info.apple.com/support/pages.taf?product=qtss
- Place user data files in `/Library/Classic` inside the user’s home directory.

Step 7: Set up share points and privileges

Re-create the share points and privileges for any user data files you migrated. For instructions, check the *Mac OS X Server Administrator’s Guide* or the onscreen help.

Step 8: Test the new server

Test the new server by opening Workgroup Manager and examining the users and groups and other content you migrated from the previous Mac OS X Server.

Upgrading From AppleShare IP

This chapter gives instructions for migrating from an AppleShare IP (ASIP) server to Mac OS X Server version 10.2.

Important The AppleShare IP server you want to migrate must be running ASIP version 6.2 or later with Mac OS 8.6 or later.

This chapter provides information for two scenarios:

- *Migrating in place:* You are installing Mac OS X Server version 10.2 on a computer that is running AppleShare IP, and you want to migrate information from the current ASIP server to the Mac OS X Server.
- *Migrating to a new server:* You are adding a new computer with Mac OS X Server version 10.2 already installed to your network, which also includes an existing AppleShare IP server. You want to migrate information from the ASIP server to the new Mac OS X Server.

About the AppleShare IP Migration Utility

You can use the AppleShare IP Migration utility to migrate the existing AppleShare IP users and groups, share points and privileges, and mail database to Mac OS X Server. The Migration utility supports partial migration of ASIP server information over the network to Mac OS X Server. (See “Migrating to a New Server” on page 45.)

You cannot use the AppleShare IP Migration Utility to migrate this information:

- ASIP Web server data
- AppleShare IP 6.3 home directories (you can create home directories for users during migration and then copy the contents from the ASIP 6 home directories)
- Macintosh Manager information

For information about migrating Macintosh Manager, see Chapter 5, “Migrating to Macintosh Manager Version 2.2,” or Chapter 6, “Migrating to Workgroup Manager.”

Creating XML Files With AppleShare IP 6.3

You can use the Web & File Admin application in AppleShare IP 6.3 to create an XML export file of user information. If you have an earlier version of AppleShare IP 6.3, use the AppleShare IP Migration utility described on page 43.

To export user information from AppleShare IP6.3:

- 1 Open Mac OS Server Admin and log in to the server you want to administer. If you have secondary servers, use the primary server to export information.
- 2 Click Users & Groups and choose Show Users & Groups List.
- 3 Select the users or groups in the list that you want to export. If you select a group, the individual users in the group are exported. Guest attributes cannot be exported.
- 4 Click Users & Groups and choose Export Selected Items.
- 5 Save the exported file.

Use Workgroup Manager or the `dsimportexport` command-line tool to import the file into your Mac OS X Server. For instructions on using the `dsimportexport` tool or Workgroup Manager to import this file, see Chapter 1.

If you import this file using the `dsimportexport` tool, UIDs and primary group IDs are generated if you don't specify them. For more information, read about the `-s` and `-r` parameters for the tool on page 9.

If you import this file using Workgroup Manager, you specify the UIDs and primary group IDs in the Import dialog box.

About Primary and Secondary Servers

If you have a primary AppleShare IP server and one or more secondary AppleShare IP servers on your network and you want to migrate all these servers to Mac OS X Server, note these points:

- You should synchronize all secondary servers with the primary server before starting migration.
- You cannot use the migration utility to merge user data from multiple AppleShare IP servers to a single Mac OS X Server. However, you can manually copy Web or user data from a secondary server using steps 10 and 11 on page 49.
- You should migrate the primary server first and then migrate the secondary servers.

Reserved User and Group Names

Certain user and group names in Mac OS X Server are reserved. If one of these reserved names is in use on the AppleShare IP server, you may want to modify it before running the migration utility. In Mac OS X Server, the following names are reserved:

Name	Type	ID
DisUsersDontTouch	Group	-7
nobody	Group	-2
Unprivileged User	User	-2
nogroup	Group	-1
System Administrator	Administrator	0
wheel	Group	0
daemon	Group	1
System Services	User	1
kmem	Group	2
sys	Group	3
tty	Group	4
operator	Group	5
mail	Group	6
bin	Group	7
staff	Group	20
smmsp	User	25
smmsp	Group	25
guest	Group	31
utmp	Group	45
uucp	Group	66
dialer	Group	68
network	Group	69
World Wide Web Server	User	70
www	Group	70
admin	Group	80
mysql	User	74
mysql	Group	74

Name	Type	ID
sshd	User	75
sshd	Group	75
unknown	Group	99
Unknown User	User	99

Migrating in Place

You can migrate your existing AppleShare IP users and groups, share points and privileges, and mail database to Mac OS X Server on the same computer. If your volume is not HFS Plus, you must reformat the server hard disk (be sure to copy to another hard disk or partition all the data files on your current server that you want to reuse on the new server).

The disk or partition on which you install Mac OS X Server must meet these requirements:

- 4 gigabytes (GB) of free disk space. (For a beige Power Macintosh G3, this space must be available in the first 8 GB of disk space.)
- The partition on which you install must be formatted in Mac OS Extended (HFS Plus) format. You can check this using the Devices and Volumes tab in Apple System Profiler. If your partition is formatted in HFS, rather than HFS Plus, you must back up the partition, reformat it in HFS Plus, and then restore the contents before installing Mac OS X Server.

Note: If the partition is RAID formatted, check with the vendor for compatibility with Mac OS X.
- Mac OS 9.1 must be installed on the AppleShare IP server if you want to support the Classic environment on the Mac OS X Server. (You can provide the Classic environment later by starting up from a Mac OS 9.1 CD and installing Mac OS 9.1 on the same partition as Mac OS X Server. It is not possible to run the AppleShare IP server in the Classic environment. You should install Mac OS 9.1 only if you don't need to run AppleShare IP 6.3 or earlier after restarting from an older version of the Mac OS installed on the partition.)
- If your AppleShare IP volume is formatted as Mac OS Extended (HFS Plus), you can install in place and have Mac OS 9 and Mac OS X coexist on the same partition.

Follow the steps in this section to migrate in place to the new server.

Migrating in Place From an AppleShare IP Server

1. Make a full backup of current server.

2. Create Internet aliases for users.

3. Reassign access privileges for folders owned by groups.

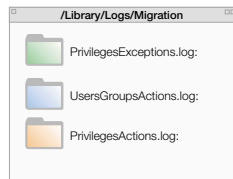
11. Copy Web data to the new server (optional).

4. Check for reserved user and group names.

Name	Type	ID
nobody	Group	-2
nogroup	Group	-1
System Admin	Admin	0
wheel	Group	0
daemon	Group	1

5. Install Mac OS X Server.

10. Check the migration.



6. Set up the server's IP configuration.

TCP/IP

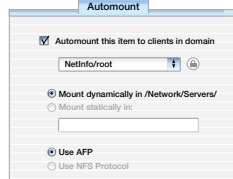
Configure:

IP Address:

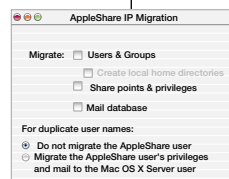
Subnet Mask:

Router:

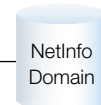
9. Enable automounting of home directories.



8. Run the AppleShare IP Migration utility.



7. Run Open Directory Assistant (optional).



Step 1: Make a full server backup of your current ASIP server

Use your current backup program to create a backup copy of your current ASIP server.

Step 2: Provide Internet aliases (if necessary)

During migration, the migration utility uses the Internet alias in the AppleShare IP user account to create the required “short name” for the new user account in Mac OS X Server. If no Internet alias exists, the migration utility generates a short name.

Before running the AppleShare IP Migration utility, you should create an Internet alias for any AppleShare IP user account that does not have one. To do this, use AppleShare IP Admin (in ASIP 6.3) or Web and File Admin (in ASIP 6.2).

Note: If you are planning to migrate both a primary ASIP server and a secondary ASIP server, you should first provide the Internet aliases on the primary server. Then synchronize the secondary server with the primary server.

Step 3: Reassign privileges (if necessary)

With Mac OS X Server, groups can't own folders. Before you migrate from AppleShare IP to Mac OS X Server, you need to assign a new owner to any folders that were owned by a group in AppleShare IP. Otherwise, folders still having group owners are assigned to the administrator during migration. Reassign owners using AppleShare IP Admin (in ASIP 6.3) or Web and File Admin (in ASIP 6.2). You can later reassign privileges using Workgroup Manager in Mac OS X Server version 10.2.

Step 4: Check for reserved user and group names

Check the list of reserved names beginning on page 39. If one of these reserved names is in use on the AppleShare IP server, you may want to modify the name before running the migration utility.

Step 5: Install Mac OS X Server

Install Mac OS X Server, following the instructions in *Getting Started With Mac OS X Server*. Select the hard disk or partition where the AppleShare IP server is installed as the location for the new version of the server. (Make sure the option “Erase destination” is not checked.) When you set up the server using Server Assistant, choose not to start any Mac OS X Server services when the computer restarts.

Step 6: Set up the server's IP configuration

Set the final IP configuration on the Mac OS X Server, including TCP and DNS settings. (Changing the server's DNS or IP settings after migration may prevent user access to home directories.)

Step 7: Run Open Directory Assistant (optional)

Use Open Directory Assistant to make sure the NetInfo domains for your network are configured according to your design. Choose “Provide directory information to other computers” and “Enable LDAP support on this server” (if applicable) if you plan to automount home directories. The NetInfo domain—or, if there are multiple domains, the highest-level domain on the computer to which you are migrating—should be a parent domain.

Step 8: Run the AppleShare IP Migration utility

If you have AppleShare IP 6.3, you can create an XML file and later import it. See “Creating XML Files With AppleShare IP 6.3” on page 38 for information. Otherwise, use the AppleShare IP Migration utility to create an export file. The AppleShare IP Migration utility is located in /Applications/Utilities/.

To use the AppleShare IP Migration utility:

- 1 Double-click the AppleShare IP Migration utility icon to open the program.
- 2 Click the lock in the lower-left corner.
- 3 Enter the name and password for an administrator account and click OK.
- 4 Select migration options. (For information on migrating Macintosh Manager, see Chapter 5, “Migrating to Macintosh Manager Version 2.2,” and Chapter 6, “Migrating to Workgroup Manager.”)

If you choose to migrate users and groups, you have the option of creating local home directories for the users you are migrating. The users are migrated to the highest-level NetInfo domain on the server where you are running the migration utility.

You can migrate users and groups without migrating share points and privileges or the mail database, but you cannot migrate share points and privileges or the mail database without migrating users and groups.

When migrating users and groups, the migration utility checks to see if a duplicate user exists in a parent domain on a different computer. To determine what happens when a duplicate user name occurs, choose an option:

- *Do not migrate the AppleShare user:* The ASIP data is reassigned to the administrator and the mail inbox is converted to a text file. (Choose this option if you are migrating a primary server.)
- *Migrate the AppleShare user’s privileges and mail:* The ASIP data is assigned to the existing user in the parent NetInfo domain and the ASIP mail is made available to this user. (Choose this option if you are migrating a secondary server.)

Note: If a duplicate group exists in a parent domain on another computer, the membership of this group is not updated.

- 5 Click Migrate.
- 6 If you are migrating users and groups, locate the file Users & Groups Data File and click Choose. (The default location is the Preferences folder in the System Folder.)
- 7 If you are migrating the mail database, locate the file AppleShare IP Mail 6.0 Data and click Choose.

During migration, the utility displays a progress bar and status information.

- 8 When migration is complete, click Quit.

Step 9: Enable automounting of home directories (optional)

If you created local home directories in a parent domain, enable automounting for these home directories.

To enable automounting of home directories:

- 1 Open Workgroup Manager and log in as an administrator.
- 2 Click the Share Points tab and select the home directory you want to automount.
- 3 Click the Automount tab and choose “Automount this item to clients in domain.”
- 4 Use the pop-up menu to choose the shared directory domain to which you want to automount this home directory.
- 5 Enter your user name and password.
- 6 Choose “Mount dynamically in /Network/Servers/.”
- 7 Choose whether you want to automount the share point using AFP or NFS.
- 8 Click Save.

Step 10: Check the migration

Check to make sure the information you migrated was correctly set up and that everything works as you intended.

To check the migration:

- 1 Examine the log files, which are located in /Library/Logs/Migration. They include
 - UserGroupsActions.log: Steps taken during user and group migration.
 - UserGroupsExceptions.log: Steps taken or not taken during user and group migration that may require additional administrative attention. For example, the Exceptions log records the detection of duplicate users and the assignment of data to the administrator or to an existing user.
 - PrivilegesActions.log: Steps taken during privileges migration.
 - PrivilegesExceptions.log: Steps taken or not taken during privileges migration that may require additional administrative attention.
 - MailActions.log: Steps taken during mail migration.
 - MailExceptions.log: Steps taken or not taken during mail migration that may require additional administrative attention.
- 2 Examine a sample of users and groups to see if the settings were migrated correctly.
- 3 Examine a sample of share points and privileges to see if the settings were migrated correctly.
- 4 Examine a sample of migrated mail accounts.

Step 11: Copy Web data to the new server (optional)

If you have Web content from the AppleShare IP server that you want to move to Mac OS X Server, follow these instructions.

For static HTML content:

- 1 On the Mac OS X Server, delete the contents of `/Library/Webserver/Documents`.
- 2 Copy the static Web pages from the ASIP server to `/Library/Webserver/Documents`.

For dynamic HTML content:

In general, you can achieve superior performance generating dynamic HTML pages by using the Apache Web server included in Mac OS X Server. You should first consider recoding your existing CGIs using the native Mac OS X Server Web server capabilities.

You can run AppleShare IP CGIs based on AppleScript, and it is no longer necessary to have the Classic environment available to run them. You must run the ACGI Enabler utility (located in `/Applications/Utilities`) to set up Apache support for these legacy CGIs.

Step 12: Copy user data files to the new server (optional)

You may want to copy user data files from the AppleShare IP server to the Mac OS X Server.

- 1 Make a note of existing share points and privileges on the AppleShare IP server backup that you want to re-create on the Mac OS X Server.
- 2 Copy the files to the Mac OS X Server.
- 3 Use Workgroup Manager to re-create the share points and privileges on the Mac OS X Server. See the *Mac OS X Server Administrator's Guide* or the onscreen help for instructions.
- 4 Place user data files in `/Library/Classic` inside the user's home directory.

Migrating to a New Server

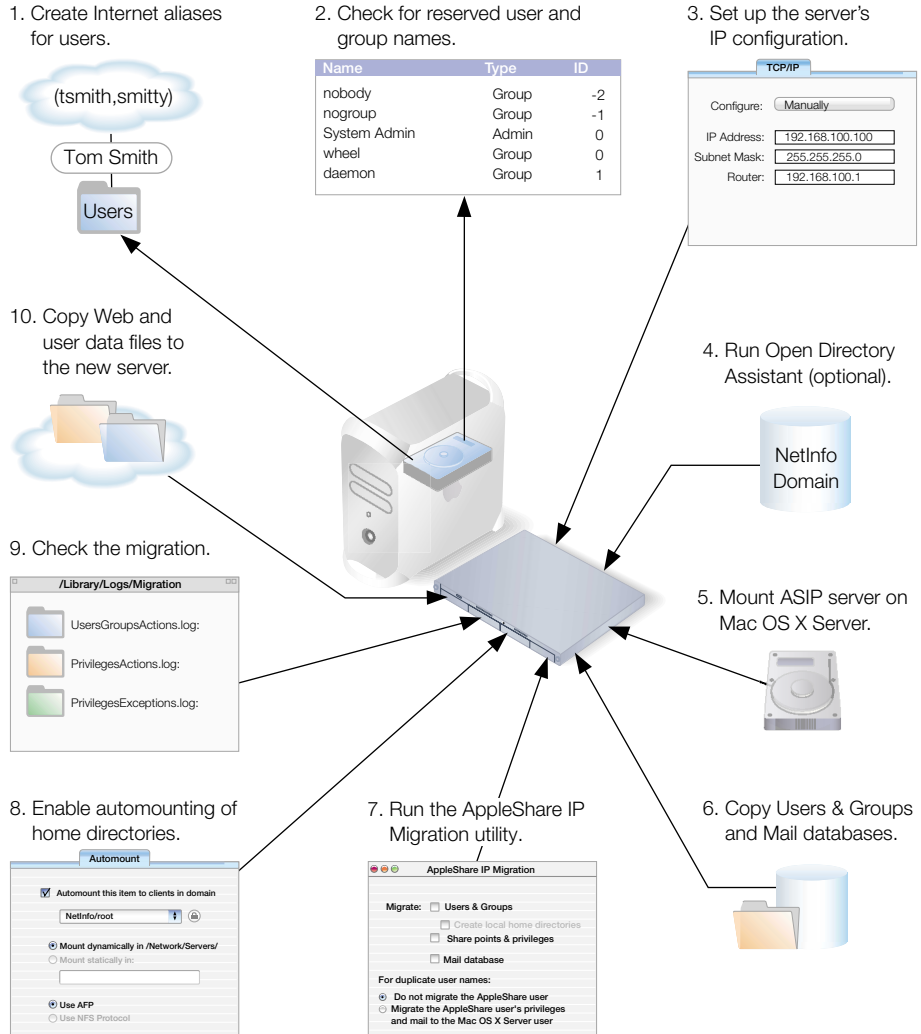
You can use the AppleShare IP Migration utility to migrate users and groups and mail information from an AppleShare IP server to a new Mac OS X Server over a network connection.

It is not possible to remotely migrate share points and privileges. (You can, however, copy files to the Mac OS X Server and then re-create share points and privileges.)

Note: Mac OS 9.1 must be installed on the Mac OS X Server if you want to use the Classic environment. (You can provide the Classic environment later by starting up from a Mac OS 9.1 CD and installing Mac OS 9.1 on the same partition as Mac OS X Server.)

Follow the steps in this section to migrate to the new server.

Migrating From an AppleShare IP Server to a New Mac OS X Server



Step 1: Provide Internet aliases (if necessary)

During migration, the migration utility uses the Internet alias in the AppleShare IP user account to create the required “short name” for the new user account in Mac OS X Server. If no Internet alias exists, the migration utility generates a short name.

Before running the migration utility, you should create an Internet alias for any AppleShare IP user account that does not have one. To do this, use AppleShare IP Admin (in ASIP 6.3) or Web and File Admin (in ASIP 6.2).

Note: If you are planning to migrate both a primary ASIP server and a secondary ASIP server, you should first provide the Internet aliases on the primary server. Then synchronize the secondary server with the primary server.

Step 2: Check for reserved user and group names

Check the list of reserved names on page 39. If one of these reserved names is in use on the AppleShare IP server, you may want to modify it before running the migration utility.

Step 3: Set up IP configuration for the Mac OS X Server

Set the final IP configuration on the Mac OS X Server, including TCP and DNS settings. (Changing the server's DNS or IP settings after migration may prevent user access to home directories.)

Step 4: Run Open Directory Assistant (optional)

Use Open Directory Assistant to make sure the NetInfo domains for your network are configured according to your design. Choose “Provide directory information to other computers” and “Enable LDAP support on this server” (if applicable) if you plan to automount home directories. The NetInfo domain—or, if there are multiple domains, the highest-level domain on the computer to which you are migrating—should be a parent domain.

Step 5: Mount the AppleShare IP server on the Mac OS X Server

- 1** On the remote AppleShare IP server, disconnect all users and administrators and shut down the mail server.
- 2** On the Mac OS X Server, log in as an administrator and turn off all services.
- 3** Choose Connect to Server from the Go menu.
- 4** Enter the IP address or DNS name of the AppleShare IP server.
- 5** Log in to the AppleShare IP server as an administrator.
- 6** Mount the startup volume for the AppleShare IP server.

Step 6: Copy the Users & Groups Data File and the mail database

- 1** Navigate to the Users and Groups Data File on the remote AppleShare IP server. (The default location is the Preferences folder in the System Folder.)
- 2** Copy it to a local partition on the Mac OS X Server.
- 3** Navigate to the AppleShare IP Mail 6.0 Data file and copy it to the same local partition on the Mac OS X Server.

Step 7: Run the AppleShare IP Migration utility

Follow these steps to create an export file. The AppleShare IP Migration utility is located in `/Applications/Utilities/`.

- 1 Double-click the AppleShare IP Migration utility icon to open the program.
- 2 Click the lock in the lower-left corner.
- 3 Enter the name and password for an administrator account and click OK.
- 4 Select migration options. (For information on migrating Macintosh Manager, see Chapter 5, “Migrating to Macintosh Manager Version 2.2,” and Chapter 6, “Migrating to Workgroup Manager.”)

Note: Do not choose to migrate share points and privileges. You can’t use this option when migrating remotely.

If you choose to migrate users and groups, you have the option of creating local home directories for the users you are migrating. The users are migrated to the highest-level NetInfo domain on the server where you are running the migration utility.

You can migrate users and groups without migrating the mail database, but you cannot migrate the mail database without migrating users and groups.

When migrating users and groups, the migration utility checks to see if a duplicate user exists in a parent domain on a different computer. To determine what happens when a duplicate user name occurs, choose an option:

- *Do not migrate the AppleShare user:* The ASIP data is reassigned to the administrator and the mail inbox is converted to a text file. (Choose this option if you are migrating a primary server.)
- *Migrate the AppleShare user’s privileges and mail:* The ASIP data is assigned to the existing user in the parent NetInfo domain and the ASIP mail is made available to this user. (Choose this option if you are migrating a secondary server.)

Note: If a duplicate group exists in a parent domain on another computer, the membership of this group is not updated.

- 5 Click Migrate.
- 6 If you are migrating users and groups, locate the file Users & Groups Data File on the local partition and click Choose.
- 7 If you are migrating the mail database, locate the file AppleShare IP Mail 6.0 Data on the local partition and click Choose.

During migration, the utility displays a progress bar and status information.

- 8 When migration is complete, click Quit.

Step 8: Enable automounting of home directories (optional)

If you created local home directories in a parent domain, enable automounting for these home directories.

To enable automounting of home directories:

- 1 Open Workgroup Manager and log in as an administrator.
- 2 Click the Share Points tab and select the home directory you want to automount.
- 3 Click the Automount tab and choose “Automount this item to clients in domain.”
- 4 Use the pop-up menu to choose the shared directory domain to which you want to automount this home directory.
- 5 Enter your user name and password.
- 6 Choose “Mount dynamically in /Network/Servers/.”
- 7 Choose whether you want to automount the share point using AFP or NFS.
- 8 Click Save.

Step 9: Check the migration

Check to make sure the information you migrated was correctly set up and that everything works as you intended.

To check the migration:

- 1 Examine the log files, which are located in /Library/Logs/Migration. They include
 - UserGroupsActions.log: Steps taken during user and group migration.
 - UserGroupsExceptions.log: Steps taken or not taken during user and group migration that may require additional administrative attention. For example, the Exceptions log records the detection of duplicate users and the assignment of data to the administrator or to an existing user.
 - MailActions.log: Steps taken during mail migration.
 - MailExceptions.log: Steps taken or not taken during mail migration that may require additional administrative attention.
- 2 Examine a sample of users and groups to see if the settings were migrated correctly.
- 3 Examine a sample of migrated mail accounts.

Step 10: Copy Web data to the new server (optional)

If you have Web content from the AppleShare IP server that you want to move to Mac OS X Server, follow these instructions.

For static HTML content:

- 1 On the Mac OS X Server, delete the contents of `/Library/Webserver/Documents`.
- 2 Copy the static Web pages from the ASIP server to `/Library/Webserver/Documents`.

For dynamic HTML content:

In general, you can achieve superior performance generating dynamic HTML pages by using the Apache Web server included in Mac OS X Server. You should first consider recoding your existing CGIs using the native Mac OS X Server Web server capabilities.

You can run AppleShare IP CGIs based on AppleScript, and it is no longer necessary to have the Classic environment available to run them. You must run the ACGI Enabler utility (located in `/Applications/Utilities`) to set up Apache support for these legacy CGIs.

Step 11: Copy user data files to the new server (optional)

You may want to copy user data files from the AppleShare IP server to the Mac OS X Server.

- 1 Make a note of existing share points and privileges on the AppleShare IP server that you want to re-create on the Mac OS X Server.
- 2 Mount the appropriate AppleShare IP server volumes on the Mac OS X Server.
- 3 Copy the files to the Mac OS X Server.
- 4 Use Workgroup Manager to re-create the share points and privileges on the Mac OS X Server. See the *Mac OS X Server Administrator's Guide* or the onscreen help for instructions.
- 5 Place user data files in `/Library/Classic` inside the user's home directory.

Migrating to Macintosh Manager Version 2.2

Macintosh Manager version 2.2 provides network administrators with a centralized method of managing Mac OS 9 and Mac OS 8 clients. Workgroup Manager provides management of Mac OS X clients. In Mac OS X Server version 10.2, all user accounts are first created in Workgroup Manager and then imported into Macintosh Manager for clients who use Mac OS 9 and Mac OS 8.

Settings for a user account are made in Workgroup Manager for Mac OS X clients and in Macintosh Manager for Mac OS 9 and Mac OS 8 clients. The user's home directory is shared between these applications, allowing users to log in to a Mac OS 9 client or a Mac OS X client with the same account information.

This chapter provides the information you need to migrate to Macintosh Manager version 2.2 from

- Macintosh Manager 2.0 or later
- At Ease for Workgroups 5.0
- AppleShare IP

Note: You cannot migrate versions of At Ease for Workgroups earlier than version 5.0

For information about migrating to Workgroup Manager, read Chapter 6, "Migrating to Workgroup Manager."

Before you begin any migration tasks, you should read Chapter 10 in the *Mac OS X Server Administrator's Guide* to learn about Macintosh Manager version 2.2, and Chapter 3 to learn about setting up and managing user accounts in Workgroup Manager. An understanding of these concepts will help you migrate successfully.

Where User Account Information Is Stored

In Mac OS X Server versions earlier than version 10.0, Macintosh Manager user account information was maintained separately from the AppleShare IP or Mac OS X Server user database. In Mac OS X Server versions 10.0 and later, the account information for a Macintosh Manager user is maintained in the Mac OS X Server NetInfo database.

In addition, a user account in Mac OS X Server version 10.0 and later specifies the location of the user's home directory. Personal user documents and user-specific settings such as Apple menu items or preferences are stored here. In earlier versions, these documents and settings were kept on the volume designated as a workgroup's document storage volume. This meant that users who belonged to different workgroups with different storage volumes could have distinct sets of personal documents and settings stored on different volumes.

In Macintosh Manager 2.2, user preferences are stored in `/Library/Classic` in the user's home directory. This is a change from earlier versions of Macintosh Manager, where user preferences were stored in `/Library` on the server volume.

As you begin to move information from an earlier Macintosh Manager system to Mac OS X Server version 10.2, it is important to understand some of the differences in how user account information and user documents are stored. You should read the chapters in the *Mac OS X Server Administrator's Guide* that provide information on user and group accounts and client management before you get started.

About Automatic Migration

Macintosh Manager version 2.2 includes a built-in migration utility that will automatically migrate user account information, user documents, and user settings if you have set up the migration process correctly. When you open the Macintosh Manager administration application, any legacy information that you have placed correctly on the server is located, and you're asked if you want to convert the information for use in Macintosh Manager 2.2. Existing user documents and settings are copied to the user's home directory. Note these points about the copy process:

- *If two user documents with identical file names are found on separate volumes*, both documents are copied to the home directory and the name of one of the documents is modified.
- *If two sets of user settings are stored on separate volumes*, the settings with the most recent date are copied to the home directory.

During migration, the application may find that a user from the Macintosh Manager or At Ease for Workgroups database already exists in the Mac OS X Server users database on the server. If so, the program does one of the following:

- *If login for the user is enabled and the user has a home directory*, the program assumes it is the same user and copies the user documents to the home directory.

- *If login for the user is enabled and the user does not have a home directory*, the program creates a new home directory in /Users and copies the user documents to it.
- *If login for the user is disabled and the user has a home directory*, the program enables login for the user, sets a password, and copies user documents to the home directory.
- *If login for the user is disabled and the user does not have a home directory*, the program enables login for the user, sets a password, creates a home directory, and copies user documents to the new home directory.

If a user already exists in a parent domain on a different server, the program does not enable login for a user with login disabled or create a home directory if none exists. User documents and settings are copied to the home directory if user login is enabled and if the volume with the home directory can be mounted.

About Migrating in Place on an AppleShare IP Server

If you are upgrading an existing server to run Mac OS X Server version 10.2 and Macintosh Manager 2.2, note these requirements:

- The AppleShare IP server must be running ASIP version 6.2 or later with Mac OS 8.6 or later.
- The server must have 4 GB of free disk space. (Note that for a beige Power Macintosh G3, this space must be available in the first 8 GB of disk space.)
- The partition on which you install must be formatted in Mac OS Extended (HFS Plus) format. You can check this using the Devices and Volumes tab in Apple System Profiler. If your partition is formatted in HFS rather than HFS Plus, you must back up the partition, reformat it in HFS Plus, and then restore the partition data before installing Mac OS X Server.

Note: If the partition is RAID formatted, check with the vendor for compatibility with Mac OS X.

- Mac OS 9.2 must be installed on the AppleShare IP server if you want to support the Classic environment on the Mac OS X Server. (You can provide the Classic environment later by starting up from a Mac OS 9.2 CD and installing Mac OS 9.2 on the same partition as Mac OS X Server. Note, however, that it is not possible to run the AppleShare IP server or the older version of Macintosh Manager or At Ease for Workgroups in the Classic environment. Also note that you should install Mac OS 9.2 only if you don't need to run AppleShare IP 6.3 or earlier after restarting from an older version of the Mac OS installed on the partition.)

After migrating Macintosh Manager from an AppleShare IP server, you may want to use the AppleShare IP Migration utility to migrate certain AppleShare IP information. For example, you might need to do this if

- not all users are specified in the Macintosh Manager database (that is, you want to migrate additional users that are specified in the AppleShare IP database)

- you use any AppleShare IP share points from Macintosh Manager. For example, certain share points (such as hard disks or CDs) are mounted when a Macintosh Manager user logs in.
- you want to migrate mail users from AppleShare IP to Mac OS X Server

You can find information about the AppleShare IP Migration utility on page 37.

Important If you use the AppleShare IP Migration utility to migrate share points and privileges, make sure the Macintosh Manager folder in /Library is still the Macintosh Manager share point.

Migrating From Macintosh Manager 2.0 and Later

Follow the steps in this section to upgrade from Macintosh Manager versions 2.0 and later.

Step 1: Upgrade the server

Follow the instructions in the appropriate chapter of this guide to upgrade your server to Mac OS X Server version 10.2. During the server setup process, choose not to start any services.

- For instructions on upgrading from AppleShare IP, see Chapter 4, “Upgrading From AppleShare IP.”
- For instructions on upgrading from Mac OS X Server version 1.2, see Chapter 3, “Upgrading From Mac OS X Server Version 1.2.”

Step 2: Set up a Macintosh Manager administrative client computer

You can use Macintosh Manager administrator software on a computer running Mac OS X or Mac OS 9, but not Mac OS 8. The administrator computer should have access to the same printers and applications you want to use for your client computers. This makes it easier to create lists of allowed applications and printer lists for the clients. The administrator computer can have access to more printers and applications than its clients do, but shouldn't have access to fewer.

To set up an administrative client computer:

- 1 Make sure the computer meets minimum requirements.
- 2 Make sure the system software is either Mac OS X or Mac OS 9.2.
- 3 Make sure necessary applications are installed.
- 4 Set up printer access using either Print Center (for Mac OS X) or Desktop Printer Utility (for Mac OS 9).
- 5 Install Macintosh Manager administrator and client software from the Macintosh Manager CD that came with Mac OS X Server version 10.2.

Step 3: Relocate home directory preferences files

The Preferences folder in a user's home directory Library folder is now located inside a new folder named Classic. The new path is

~/Library/Classic/Preferences

Move the user's Preferences to this location if you want to preserve existing preferences. If you don't move the Preferences folder, the user can log in, but all application preferences are new.

Migrating Early Macintosh Manager or At Ease for Workgroups

This section gives instructions for migrating information from At Ease for Workgroups 5.0 and versions of Macintosh Manager earlier than 2.0. Follow these steps to migrate your existing information. Exceptions for migrating remotely are noted.

Step 1: Upgrade to Mac OS X Server version 10.2

Install Mac OS X Server version 10.2 on the partition where Macintosh Manager or At Ease for Workgroups 5.0 is installed. During the server setup process, choose not to start any services.

- For instructions on upgrading from AppleShare IP, see Chapter 4, "Upgrading From AppleShare IP."
- For instructions on upgrading from Mac OS X Server version 1.2, see Chapter 3, "Upgrading From Mac OS X Server Version 1.2."

Step 2: Set up an administrative client computer

You can use Macintosh Manager administrator software on a computer running Mac OS X or Mac OS 9, but not Mac OS 8. The administrator computer should have access to the same printers and applications you want to use for your client computers. This makes it easier to create lists of allowed applications and printer lists for the clients. The administrator computer can have access to more printers and applications than its clients do, but shouldn't have access to fewer.

To set up an administrative client computer:

- 1** Make sure the computer meets minimum requirements.
- 2** Make sure the system software is either Mac OS X or Mac OS 9.2.
- 3** Make sure necessary applications are installed.
- 4** Set up printer access using either Print Center (for Mac OS X) or Desktop Printer Utility (for Mac OS 9).

- 5 Install Macintosh Manager administrator and client software from the Macintosh Manager CD that came with Mac OS X Server version 10.2.

Step 3: Shut down all services

If any services are running on the server, log in to the server as the administrator and use the Server Settings program to shut down all Mac OS X Server services.

Step 4: Confirm Open Directory settings

When you upgraded your server to Mac OS X Server version 10.2, you used the Open Directory Assistant to configure how your server interacts with users and resources on the network (using NetInfo or LDAP). If you need to change your setup, use the Open Directory Assistant application, located in /Applications/Utilities.

You can find common Macintosh Manager setup strategies and instructions for setting up multiple servers to host user home directories in the AppleCare Knowledge Base (www.info.apple.com).

For more detailed information about NetInfo, read *Understanding and Using NetInfo*, available as a download from the Mac OS X Server Web site (www.apple.com/macosx/server).

Step 5: Create a new Macintosh Manager share point

If it doesn't already exist, create a new folder in /Library and name it "Macintosh Manager." Then open the Macintosh Manager folder and create a new folder inside it called "Old MM Items." You should now have this folder structure:

```
/Library/Macintosh Manager/Old MM Items
```

Step 6: Mount the AppleShare IP server (remote migration only)

If you are migrating remotely:

- 1 Go to the remote AppleShare IP server and shut down Macintosh Manager service. Use the Extensions Manager to disable the Macintosh Manager Server extension. Then restart the server.
- 2 On the Mac OS X Server, choose Connect to Server from the Go menu.
- 3 Enter the IP address or DNS name of the AppleShare IP server.
- 4 Log in to the AppleShare IP server as an administrator.
- 5 Mount the volume where the Macintosh Manager or At Ease for Workgroups database is located.

Step 7: Copy information to the new folder

- 1 Use the Finder to navigate to the old Macintosh Manager folder or to the folder containing the At Ease Items WG 5.0 folder. Then copy all the information in the old folder to the new Macintosh Manager folder in /Library.

Note: At Ease Items can be shared in any share point on the server. Macintosh Manager always uses a share point named Macintosh Manager.

- 2 Open the Macintosh Manager folder in /Library and drag a specified folder from there into the Old MM Items folder you created in step 5. The folder you drag depends on which system you're migrating from:
 - For Macintosh Manager 1.1–2.x: Multi-User Items
 - For Macintosh Manager 1.0–1.0.x: Macintosh Manager Items
 - For At Ease for Workgroups 5.0: At Ease Items WG 5.0

Step 8: Start up Apple file and Macintosh Manager services

Open the Server Settings program and log in as an administrator. Then start up Apple file service and Macintosh Manager service.

Step 9: Check the disk space available for migration

Make sure that there is sufficient disk space on the Mac OS X Server where the user home directories reside to store user documents and settings. Estimate the number of megabytes of data in the existing Macintosh Manager or At Ease for Workgroups user folders (folders for deleted users are not copied during migration). If you have more than one server for workgroup storage, you need to check each volume.

To calculate the space needed:

- 1 Note the size of the Users folder.
- 2 Subtract the size of the Groups folder inside the Users folder from the first number.
- 3 If you have multiple volumes, add together the results from all the volumes in your system.

Step 10: Check script settings

The server and each client machine have script settings to designate the primary language for each computer. Make sure these three language script settings match:

- The default script for logging in and using the Macintosh Manager 2.2 administration program. (For Mac OS X Server, use the International pane of System Preferences to change this setting. On Mac OS 9, the script setting is determined by the localization of the current system.)
- The script setting for the old Macintosh Manager or At Ease for Workgroups database. This setting is determined by the localization of the system the database was created on.

- The script setting in the “Encoding for older clients” pop-up menu in the Apple file service configuration settings on the Mac OS X Server. (To access this setting, click the Access tab in the Configure Apple File Service window in the Apple file service module of Server Admin.) Do not change this setting after migration.

Step 11: Begin the automatic migration process

When you open the Macintosh Manager 2.2 administration application, the application automatically detects the presence of the legacy information you copied previously. The user information is copied to the NetInfo database on the Mac OS X Server and a home directory is created for each user. The program then copies user documents and preferences from their old locations to the new home directories on the Mac OS X Server.

Important You must run the Macintosh Manager administration program on a remote computer. That is, you cannot run the program on the Mac OS X Server itself. If the remote computer is running Mac OS X, set the Energy Saver settings in System Preferences to Never.

To migrate user information:

- 1 Open the Macintosh Manager administration program on a remote computer and log in as an administrator.
- 2 Click Yes when you see the dialog box asking if you want to convert previous Macintosh Manager settings.
- 3 Choose one of these options for password creation:
 - “Use a randomly generated password” creates a unique password for each user. The password appears in the log file.
 - “Use this password” lets you select a password that is assigned to all users.
- 4 Click Update. The administration program displays a progress bar during the migration process.

Step 12: Check the log file

Once migration is complete, you need to check the log file, which is called “MM Migration Log.txt.” If you used the Macintosh Manager administration program from a computer with Mac OS 9 installed, the file is at the root of the startup volume. If you used the administration program from a computer with Mac OS X installed, the file is in the home directory of the account you used to log in.

Based on the contents of the log file, you may need to

- set a password for a user
- create a home directory for a user
- clean up documents for a user when more than one workgroup volume document was copied to a home directory

- check to see if any user documents were not copied to the new server

The document-copy process may fail if a volume that stores user documents is not available at the time of migration.

Step 13: Check the new server

Check the server to see that information was migrated properly. You should

- check the settings for a sample of migrated Macintosh Manager or At Ease for Workgroups users
- check the workgroup volume settings for the migrated workgroups
- log in as various Macintosh Manager 2.2 users from a client computer

Migrating to Workgroup Manager

This chapter provides the information you need to migrate existing user accounts to Workgroup Manager from

- Macintosh Manager 2.0 or later
- At Ease for Workgroups 5.0
- AppleShare IP

Note: You cannot migrate versions of At Ease for Workgroups earlier than version 5.0.

In Mac OS X Server version 10.2, you use Workgroup Manager to set up and administer user accounts, home directories, and workgroups for all clients. If you have Mac OS 8 and Mac OS 9 clients, you use Macintosh Manager version 2.2 to make user settings for these clients. You can find information about this in Chapter 5, “Migrating to Macintosh Manager Version 2.2.”

Migrating From Macintosh Manager 2.0 or Later

For Macintosh Manager versions 2.0 and later, user and group accounts and users’ home directories are automatically migrated when you upgrade to Mac OS X Server version 10.2. Follow the steps in this section to upgrade from Macintosh Manager versions 2.0 and later.

Step 1: Upgrade the server

Follow the instructions in the appropriate chapter of this guide to upgrade your server to Mac OS X Server version 10.2. During the server setup process, choose not to start any services.

- For instructions on upgrading from AppleShare IP, see Chapter 4, “Upgrading From AppleShare IP.”
- For instructions on upgrading from Mac OS X Server version 1.2, see Chapter 3, “Upgrading From Mac OS X Server Version 1.2.”

Step 2: Create user and group accounts in Workgroup Manager

Use Workgroup Manager to create any additional user and group accounts.

Migrating From At Ease for Workgroups or Early Macintosh Manager

If you want to migrate user accounts from At Ease for Workgroups or Macintosh Manager versions earlier than 2.0, you can create an XML or character-delimited file that can be imported into Mac OS X Server version 10.2. User documents and preferences must then be placed manually in each user's home directory. Another option is to upgrade first to Macintosh Manager 2.2, then migrate from that system to Workgroup Manager.

You can find information about importing an XML or character-delimited file into Workgroup Manager in Chapter 1, "Importing Account Information in Mac OS X Server."

You can find information about migrating to Macintosh Manager version 2.2 in Chapter 5, "Migrating to Macintosh Manager Version 2.2."