

# Getting Started

This guide shows you how to get ListSTAR automated services up and running. These are the topics covered in this guide:

[Installing ListSTAR](#)

[Network Setup](#)

[Introduction to ListSTAR Services](#)

[Setting Up Email-On-Demand](#)

[How Rules Are Organized](#)

[Working With the Administration Service](#)

[Setting the Administrator Address](#)

[About AppleScripts](#)

[Setting Up a Listserver](#)

[Frequently Asked Questions](#)

For a technical description of each element of the ListSTAR Server interface, see this guide:

[ListSTAR Technical Reference](#)

For the latest information about ListSTAR and additional AppleScripts, see our Web server:

<http://www.starnine.com/>

Use these procedures to navigate this online guide:



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Click a bookmark name in the Table of Contents to go to that topic. The triangle to the left of a bookmark opens or closes a list of subordinate bookmarks, just like the triangle preceding folder names in the Finder. The bookmarks for this guide provide a complete list of topics.



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# Installing ListSTAR

## Macintosh System Requirements

These are the minimum requirements for running ListSTAR:

- System 7 Macintosh (ListSTAR will not run on a Mac Plus, 512E, or 512K)
- 1200 KB of RAM recommended
- Enough disk space to store messages
- Network connection
- AppleTalk
- Apple's MacTCP™ software (present in most System 7 Macs, also included with ListSTAR)
- Valid IP configuration
- SLIP or PPP dial-up software, if applicable
- POP3 e-mail accounts, one per ListSTAR service

The AppleScripts distributed with ListSTAR have these additional requirements:

- System 7.5 with AppleScript v1.1 or later installed (this is the preferred option), or
- Scriptable Finder add-on package installed on earlier System 7 releases with AppleScript v1.1 or later

## Network Requirements

The Macintosh must have a full TCP/IP connection to a network (to publish data locally on that network) or to the Internet. That means you need to obtain an IP address and configure it in MacTCP (see the *MacTCP Administrator's Guide*, which is available online in PDF format).

If you are installing ListSTAR on a local TCP/IP network, the IP address can be obtained from the network administrator.

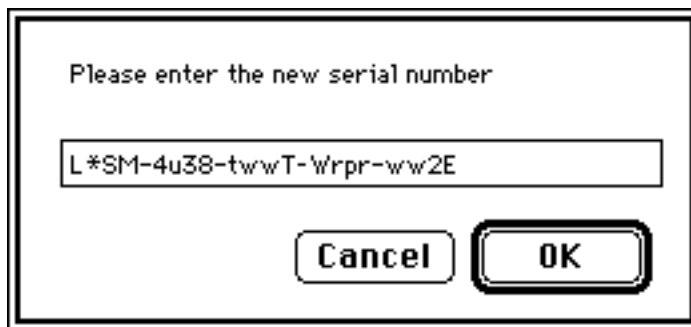
If you are connecting directly to the Internet through a service provider, you need to obtain the IP address from that provider. In addition, the service provider can usually register a domain name for you, provide Domain Name Server (DNS) services, help with configuration and security issues, and work with a telecommunications provider to establish the type of connection you need.

If you are using a modem to connect to the Internet, you can use a standard phone line. However, even if you have a 28.8 kbps modem, dial-up access can be too slow for fast transmission of images, sounds, and video. Often a higher-speed, dedicated line is recommended, such as an ISDN Basic Rate Interface (BRI) line, which provides two 64 kbps channels, a T1 line (1.544 mpbs), or a T3 line (45 mpbs).

## Installation

ListSTAR installation requires the use of the Installer. To install it, follow these steps:

- 1 Verify that the system and network requirements have been met.
- 2 Insert the ListSTAR™ Installer disk.
- 3 Launch the ListSTAR Installer script.
- 4 Click Install to do an Easy Install.  
MacTCP will be updated to version 2.0.6 unless that version or Open Transport is already installed. You can do a custom install to avoid updating MacTCP if you prefer.
- 5 When the install has finished, open the ListSTAR Folder on the hard disk.
- 6 Double-click the ListSTAR application to start it up.  
You will be prompted to enter your serial number.



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FIGURE 1 Entering your serial number

- 7 Type your serial number and then click OK.  
If you ordered the ListSTAR software electronically, your serial number was sent via E-mail. If you ordered the hard copy, it is on the registration card.
- 8 You're now ready to start working with ListSTAR!

# Network Setup

This guide does not explain how to configure MacTCP™ from Apple Computer, Inc. If you need help configuring MacTCP, see *MacTCP Administrator's Guide*.

▲ **Important:** If you are not the IP network administrator, you must ask the administrator or service provider for a valid IP configuration that will enable the Macintosh to communicate another IP host. Do not attempt to configure a TCP/IP connection using guesswork!

## TCP/IP Requirements

The Macintosh running ListSTAR/POP must have a TCP/IP connection to an SMTP/POP3 server. (Typically both SMTP and POP are supported on one host, but they can be supported on separate hosts.) The connection can be a direct connection on the local IP network (FIGURE 2) or across a dial-up connection via Serial Line Internet Protocol (SLIP) or Point-to-Point Protocol (PPP), as shown in FIGURE 3.

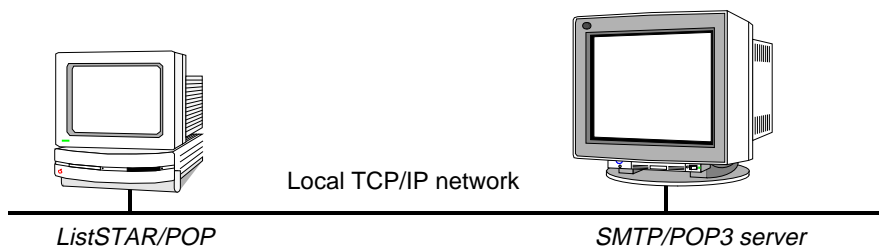


FIGURE 2 TCP/IP connection on a local network

A local connection relies on the MacTCP configuration. If MacTCP has not been configured, ask the IP administrator to provide a valid configuration.

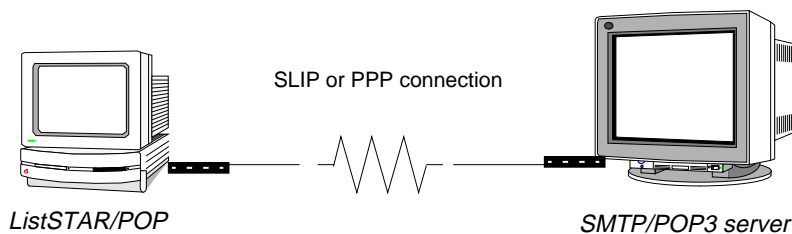


FIGURE 3 TCP/IP across a dial-up connection

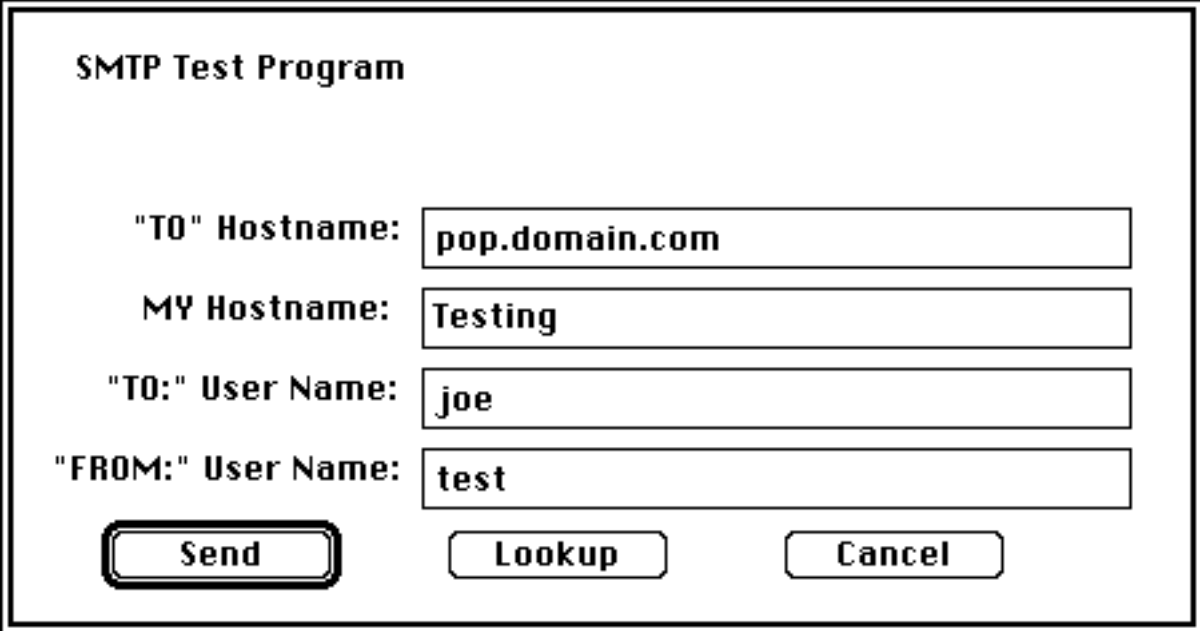
A dial-up connection requires both a MacTCP and a SLIP or PPP configuration. This guide does not explain how to configure dial-up IP software (such as SLIP or PPP). For information about configuring SLIP or PPP,

see the documentation for that dial-up IP software and ask the administrator or service provider for a valid setup.

### Testing the SMTP Connection

After you have set up MacTCP and (if necessary) a dial-up connection, you can test connectivity by using the StarNine SMTP Test application. This section shows how to perform a simple verification test.

- 1 If you are using a dial-up IP software, manually establish a connection.
- 2 Open the ADMIN folder and launch the SMTP Test application.
- 3 Choose Send from the Test menu (Command-s).
- 4 Enter the hostname of the SMTP/POP3 server in the first text field, next to "TO" Hostname.  
If the SMTP host used to send outbound mail is a different system than the POP3 server, enter the name of the SMTP host. If you don't know the hostname, ask the administrator or service provider.
- 5 Replace "postmaster" in the "TO: User Name" field with your full POP3 e-mail address.



The image shows a screenshot of the "SMTP Test Program" dialog box. The dialog has a title bar with the text "SMTP Test Program". Below the title bar, there are four text input fields, each with a label to its left. The first field is labeled "'TO' Hostname:" and contains the text "pop.domain.com". The second field is labeled "MY Hostname:" and contains the text "Testing". The third field is labeled "'TO:' User Name:" and contains the text "joe". The fourth field is labeled "'FROM:' User Name:" and contains the text "test". At the bottom of the dialog, there are three buttons: "Send", "Lookup", and "Cancel". The "Send" button is highlighted with a thick border.

FIGURE 4 Sending a test message

- 6 Leave the default values in the other two fields, and click Send.  
SMTP Test initiates a connection with the host and sends a test message. It records its action, and then reports whether the test succeeded or failed.  
If the test does not work successfully, see *SMTP Test Administrator's Guide*.  
If SMTP Test reports success, leave the application running and go check the postmaster account on the default mail host to verify that the mail message was received. If the default mail host is a UNIX system, you can type the following command at that system's console:

`ping IP-address`

where *IP-address* is the IP address assigned to the Macintosh in MacTCP.

If the Macintosh responds to this command, the IP address of the Macintosh (configured in the MacTCP Control Panel) will be displayed on the console of the UNIX system.

### **POP3 Account Requirements**

Each service configured in the ListSTAR Server logs into the POP3 server as a user to get its mail. The ListSTAR Server assumes that it has exclusive access to the POP3 accounts for its services, and it deletes mail from those accounts as it downloads the mail to its spool folder for processing. So, each service must have its own POP3 account.

- ❖ **Note:** It's a good idea to set up POP3 accounts before specifying mail-account information in a service. That way, you can be sure you have valid information when you set up the service.

## Introduction to ListSTAR Services

A *service* is a named series of functions in ListSTAR. Depending on how a service is configured, it could be a Listserver, Email-On-Demand system, administrative service, or some custom service for processing mail.

If you have not already launched the ListSTAR Server, launch it now by double-clicking its icon. You will see a list of services in the ListSTAR Services window.

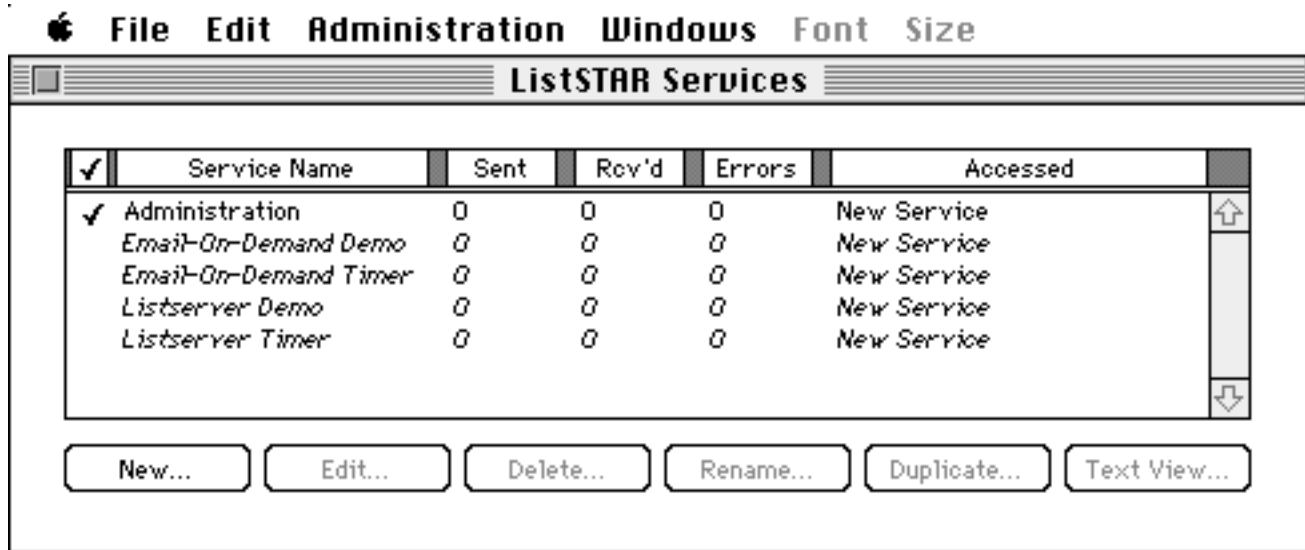


FIGURE 5 Services in the Services window

The services in FIGURE 5 will be present in the initial Services window if you did an Easy Install or if you selected the example services in a Custom Install. For more detail about the Services window, see the [ListSTAR Technical Reference](#).

### Mailer and Timer Services

There are two types of ListSTAR services:

- *Mailer services* process E-mail and perform related actions. If you installed the examples with ListSTAR, your initial Services window will contain two example Mailer services: Listserver Demo and Email-On-Demand Demo.
  - *Timer services* perform actions at specified times. If you installed the examples with ListSTAR, your initial Services window will contain two example Timer services as well as the Administration service, which is a Timer service.
- ❖ **Note:** A Timer service often performs functions related to a Mailer service, for example, sending digest files. Timer services are also used to perform administrative functions such as managing log files.

When you create a new service by clicking the New button, a dialog opens in which you must supply a name for the service and choose the appropriate type in a pop-up menu.

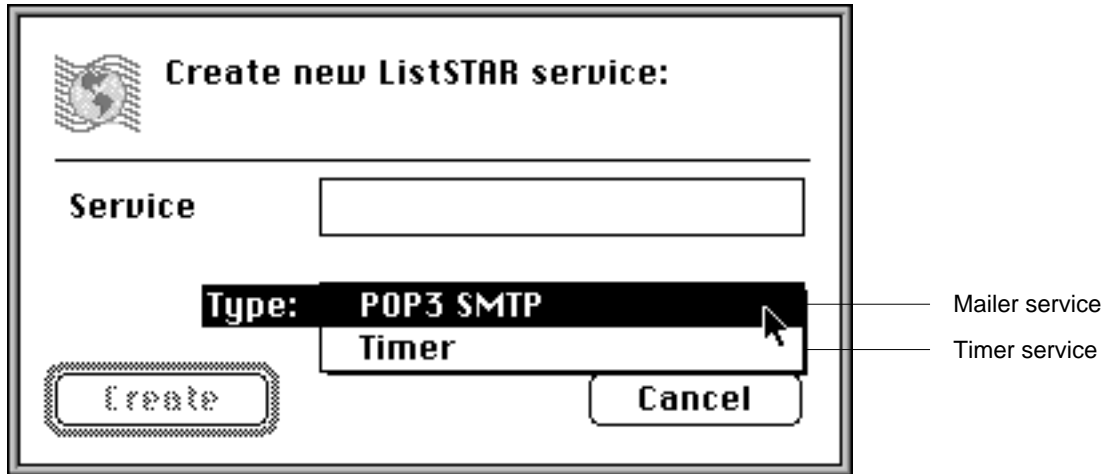


FIGURE 6 Creating a New Service

The Type pop-up menu contains entries for the mailer type and Timer. If you don't see POP3 SMTP in the pop-up menu, there was probably an error on initialization. You should check the log file for error messages. Then, quit the ListSTAR Server and restart it.

### How Mailer Services Are Organized

Mailer services include the components shown in FIGURE 7.

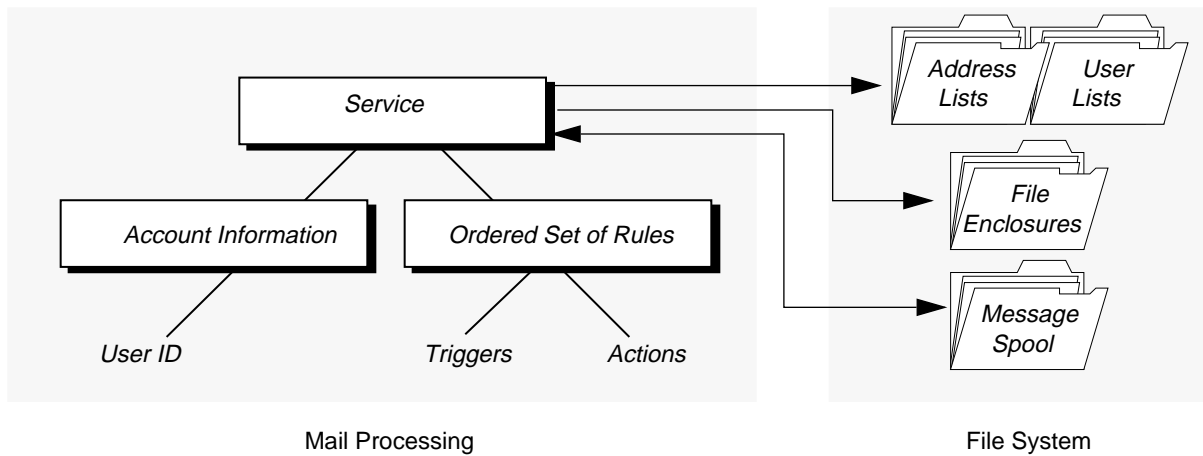


FIGURE 7 How a Mailer Service is Structured

Address Lists and User Lists are folders within the ADMIN folder. They are globally accessible to all services. File enclosures, on the other hand, are usually service-specific and are often located within a service's folder. See *Important File System Issues*.



The mail-processing components of a service are represented in the Service Preferences dialog as shown in FIGURE 8.

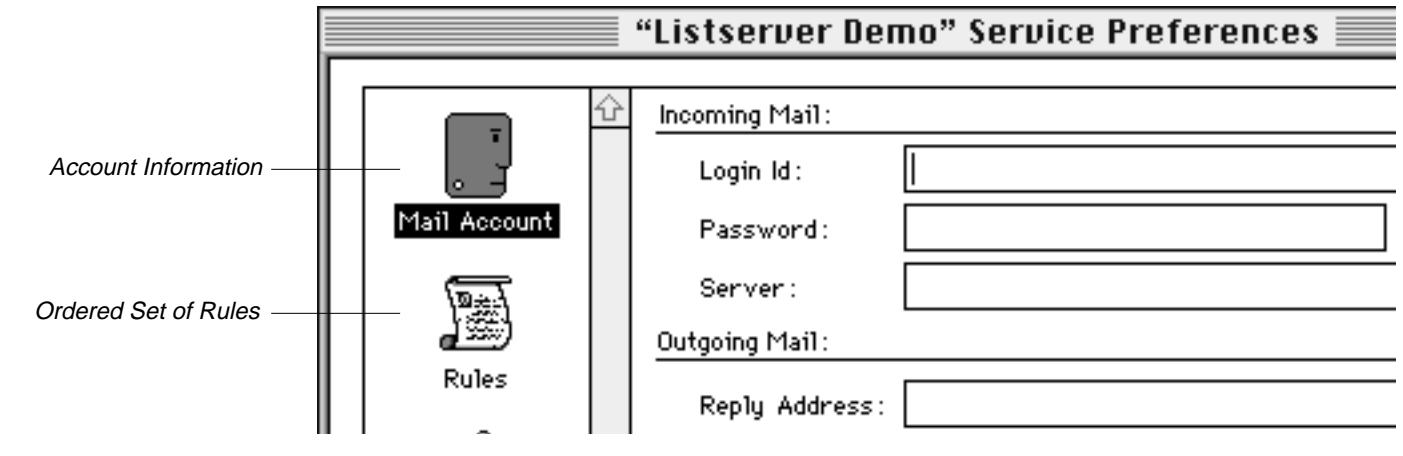


FIGURE 8 A Mailer Service Preferences Dialog

To receive and send mail, each service needs its own address.

To process the messages it receives, ListSTAR applies a set of *rules* to incoming mail messages. These rules take specific actions based on the content of the message (subject, address, or message content). Because ListSTAR can execute AppleScripts, you can extend the basic set of rules to perform almost any action you wish. For details, see *How Rules Are Organized*.

### How Timer Services Are Organized

Timer services include the components shown in FIGURE 9.

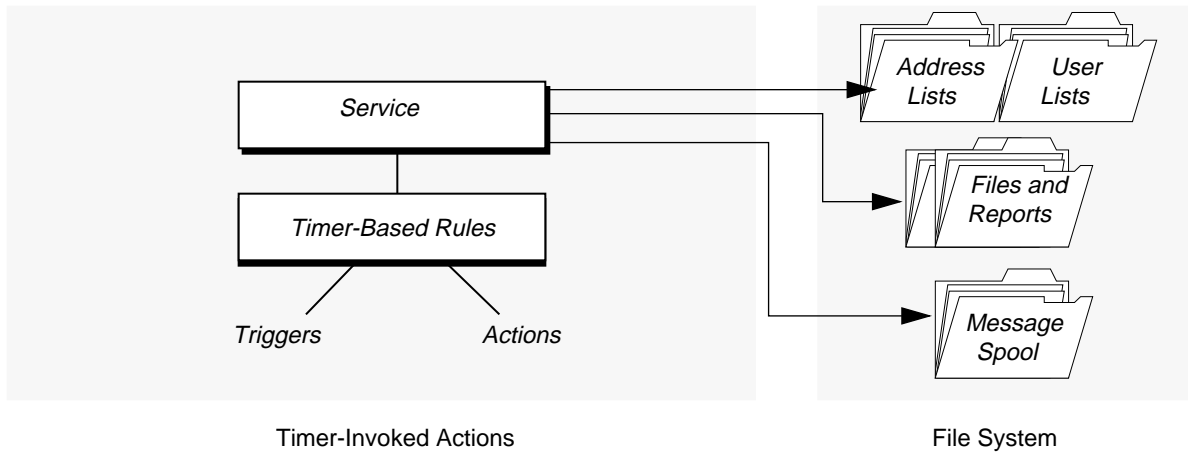


FIGURE 9 How a Timer Service is structured

The Service Preferences dialog for a Timer service contains only rules, as shown in FIGURE 10.

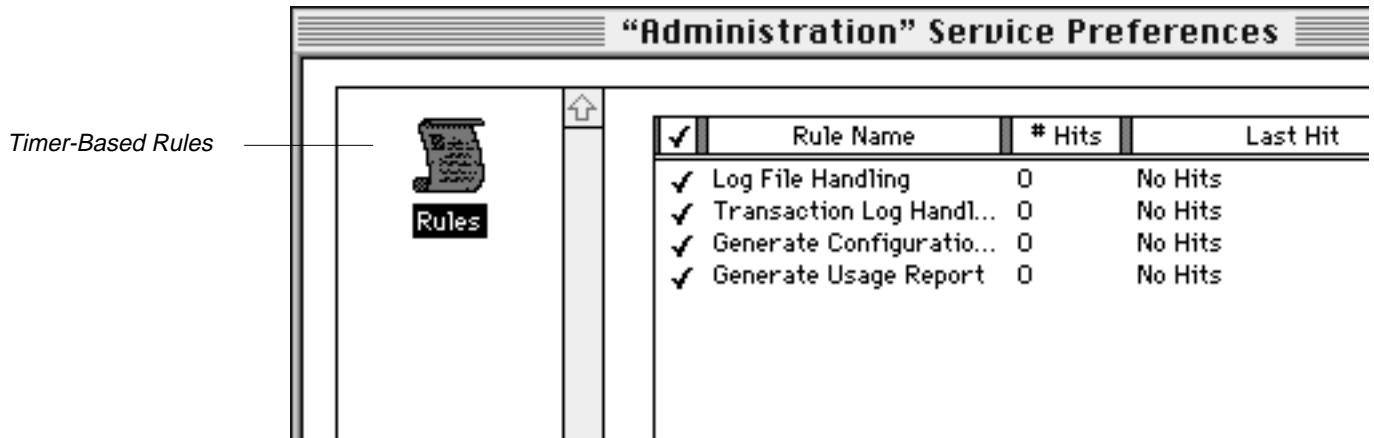


FIGURE 10 A Timer Service Preferences Dialog

Because a Timer service does not receive messages, it does not need its own mail address. If a Timer service sends outbound messages (such as a digest file), it uses the address of a selected Mailer service as its From address.

- ❖ **Note:** Rule order in this window is important only for rules whose timer triggers become true at the same time. If that situation occurs, the rules will be executed in the order shown.

## Important File System Issues

As shown in FIGURE 7 and FIGURE 9, ListSTAR services create or make use of ordinary files stored on the Macintosh hard disk. This section points out some important issues related to those files.

- **Prefs Files**

When you create a service, a folder with the same name as the service is created in the Services folder. A Prefs file within that folder will contain all of the rules for that service. The main Prefs file in the ADMIN folder contains overall configuration information such as what services are configured and how they are configured (account name, password, login times, and so forth for each service). The information in the Prefs file in the ADMIN folder points to the per-service records.

- ▲ **Important:** We strongly recommend that you back up all Prefs files after you have configured a service.

- **Address List Files**

The ListSTAR Server has an Address Lists window that lets you edit address lists, see which services reference them, and so forth. See [Address Lists window](#). The display name assigned to an address list in that window is linked to a file located in the Address Lists or User Lists folder. While it's possible to edit the file by using a text processor such as BBEdit or SimpleText, it's important not to use a word processing application that can modify newlines or add special characters. We recommend that you use the Address Lists window to work with lists.

- ▲ **Important:** We strongly recommend that you do not rename or remove the files in the Address Lists or User Lists folder. Removing an address list file that is referenced by a service causes unpredictable results.

- File Enclosures

We recommend that you create a folder within a service's folder to contain files related to that service. This is not required, but it makes it easier to keep track of the files.

If you are making a service accessible on the Internet, you can expect file requests from any kind of platform. So, you need to be aware of file formats. Macintosh, UNIX, DOS, Windows, or other types of systems each have their own way of dealing with enclosure data. So, you should make several different versions of a document available for retrieval, with each clearly labeled as to file format.

TEXT files are really the only common denominator between all mail systems, and even they aren't always treated in a friendly manner by some mail systems.

Because file enclosures are processed separately and can sometimes be unreadable by the recipient when transmitted to different platforms, most administrators choose to send text files as part of the body of the outbound message. However, this is not an option when Email-On-Demand returns graphic files. Graphic files must always be sent as an enclosure.

You need to configure enclosure handling methods in the General Preferences dialog. The ListSTAR Server provides a large variety of enclosure handling options for different types of requesting systems. See the *ListSTAR Technical Reference*.

- Saving Files, Reports, or Messages

Both Mailer and Timer services let you write files to disk automatically.

If there are more than 100 files in a folder, the Macintosh Finder GetFileList operation can become very, very slow and it can take minutes to open a folder. This can affect the performance of applications or AppleScripts that access the folder as well as annoying anyone who attempts to open the folder manually. Therefore, the rules definition window provides action items for assigning a unique filename and preventing the folder from becoming too full when writing files to disk automatically.

- Spool Folder Overflow Conditions

Inbound and outbound messages are stored in the server's spool folder. When processing files in its spool folder, the ListSTAR Server performs the GetFileList operation and expects that operation to be very quick. When there are more than 100 files in the spool folder for more than a few minutes, the GetFileList operation can become very slow and consume too much of the ListSTAR Server's time.

- ❖ **Note:** Occasional overflow conditions in the spool folder are normal and will be resolved automatically by the ListSTAR Server.

To determine if the spool folder is in an overflow condition, open the Status window by selecting Status in the Windows menu. The number of queued messages will be shown there. Each message is stored as two files (or three files if the message contains an enclosure), so you can get an idea of how many files are in the folder. If you find an overflow condition that repeatedly affects ListSTAR Server performance, contact StarNine Technical Support for help.

# How Rules Are Organized

## Ordered Rules List

In a Mailer service, the order in which rules appear in the Preferences window is significant. To see an ordered list of rules, open the Listserv Demo service and click the Rules icon in the left column of the Preferences dialog.

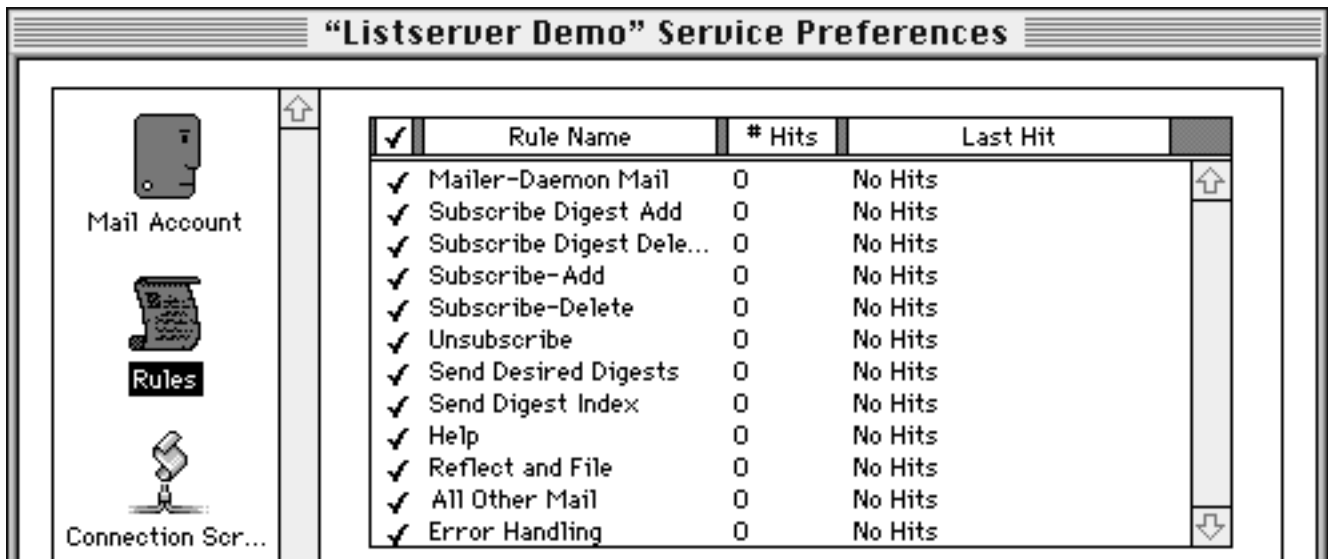


FIGURE 11 Ordered set of rules

A service's rules are applied to a target mail message in the order in which they appear in the list.

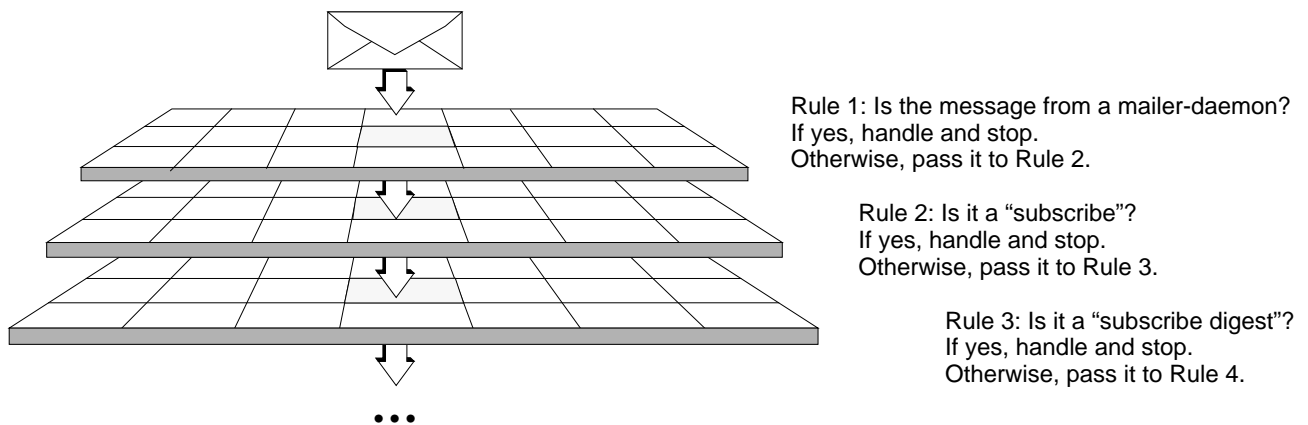


FIGURE 12 Rules are applied to a message in the order in which they appear

## General Logic Guidelines

You can avoid mistakes by handling certain conditions before others. Here are some important guidelines:

### 1. Handle mail from reserved addresses first.

The most common reason for a service to receive mail from mailer-daemon is that an address in mail sent out by the service is either temporarily inaccessible or no longer valid. These are important conditions that are bound to occur in any active service, and each service should provide the logic to handle them. The rule that recognizes and handles these messages should be first in the list, and should set the Stop Processing flag.

### 2. Use the Stop Processing flag when it is appropriate.

You should analyze which messages need to be processed by more than one rule, and which ones should not be processed further once that rule has been hit.

For example, you can create one new (outbound) message per rule. If you are configuring a service to reply to the sender and then forward the original message on to the mailing list, you need two rules. The first rule to reply to the sender would *not* set the stop processing flag. The second rule to forward the original message on to the list *would* use the stop processing flag.

*When planning the service, keep in mind that the majority of rules are self-contained and should set the stop processing flag.*

### 3. Perform content searches in the correct order.

When processing the body or address fields of a message to search for specific content, you should check for more fully qualified items before checking for less qualified items. For example, a rule that searches for the string Subscribe Digest should be positioned before a rule that searches for Subscribe, especially if the rules use the Starts With, Contains, or Regular Expression text-matching options. If you position those rules in the incorrect order, the rule searching for Subscribe Digest would never be executed.

### 4. Handle error conditions.

We recommend that you include at least one on-error rule in every service. An on-error rule is one that uses the When Processing Errors Occurred trigger and is executed only when errors occur during rules processing, not when errors occur while sending or receiving mail or performing other processing.

You need to clearly think out what actions should be specified in on-error rules. For example, suppose you send yourself a mail message each time an error occurs and the error first occurs in the middle of the night. If your retry time is 15 minutes (the default), your mailbox will be flooded with error messages. However, you could remedy this condition by using an AppleScript that keeps track of how many times it was called and when it was last called to make some intelligent decision about whether or not it should send a mail message.

You can use a different type of error tracking by using an AppleScript that executes once an hour (or at some similar interval) to scan the log file looking for error messages that have occurred since the last time it was executed. That script could then make some intelligent decision about what to do, and if appropriate, send a message. When an error occurs while processing a rule, the ListSTAR Server looks for the next rule specifying the When Processing Errors Occurred trigger and executes it. Unless a rule needs special error-handling, you can handle all processing errors with the same rule by placing it near the end of the list.

## 5. Handle no-hit messages.

What will the service do with messages that do not match any of its rules? If you don't specify an explicit method of handling these messages, they will be discarded. To do something other than just discard no-hit messages, use the No Previous Rules Hit trigger and position it at or near the end of the rule list. You might want to file these message, write a message to the log, or send a Help message stating that the mail was not understood. See *ListSTAR Technical Reference*.

## 6. Remember that a rule cannot generate more than one outbound message.

The ListSTAR Server can generate exactly one outbound message per rule. If you want your service to generate more than one outbound message for each received message, you must use multiple rules to do so.

## 7. Always test a service before enabling it for users.

Testing is one of the most important steps in creating a service. Because a service operates automatically, it's crucial that you test it thoroughly before making it available to users. To test a service, exercise each of its rules by sending it messages and seeing that each message is handled correctly. In designing test messages, think about the rules you set up, the order in which the rules appear, and the types of messages that will or won't cause a hit. Use the log window, at DEBUG level, when testing a service. It will show each rule that was executed, and the results of each trigger and action within a rule.

### Reordering the Rule List

To change the order in which rules appear (to change the logic of the service), just click on a rule and drag it up or down in the list. The mouse-arrow changes to a hand. When you release the mouse button, the rule will be placed in the position indicated by the arrow when you release the mouse button.

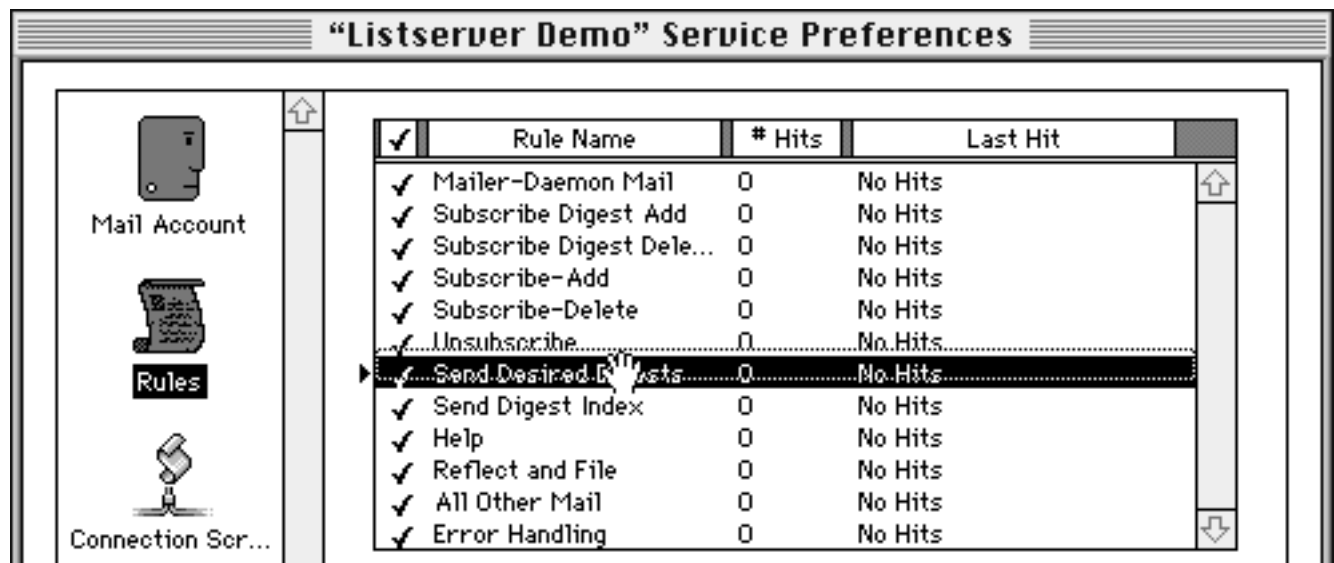


FIGURE 13 Reordering Rules

### Defining A Rule

Each rule contains a set of questions to be asked about each incoming message (*triggers*) and one or more actions to be performed when the answer to all of the questions is Yes.

For example, when the ListSTAR Server processes the incoming message shown in FIGURE 14, it asks “Is the Subject ‘subscribe’?” If the answer is Yes, the rule is executed. The ListSTAR Server then performs the actions specified in the rule, in this example, adding the sender’s address to the mailing list.

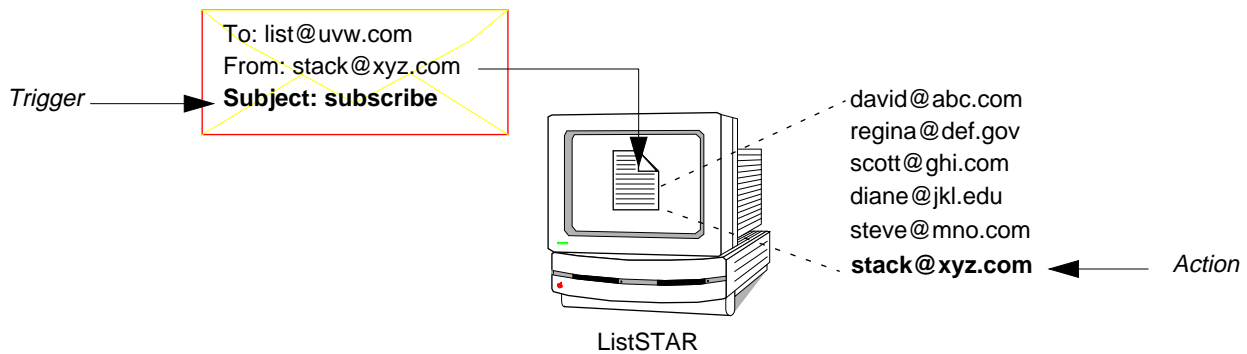


FIGURE 14 The sender is added to the list

You can define more than one trigger and action in a rule. If you specify more than one trigger, the answer to all of the triggers must be Yes or none of the actions are performed.

To define triggers and actions, double-click a rule, or click the New button and assign a name to a new rule. Either way, the rule definition window opens.

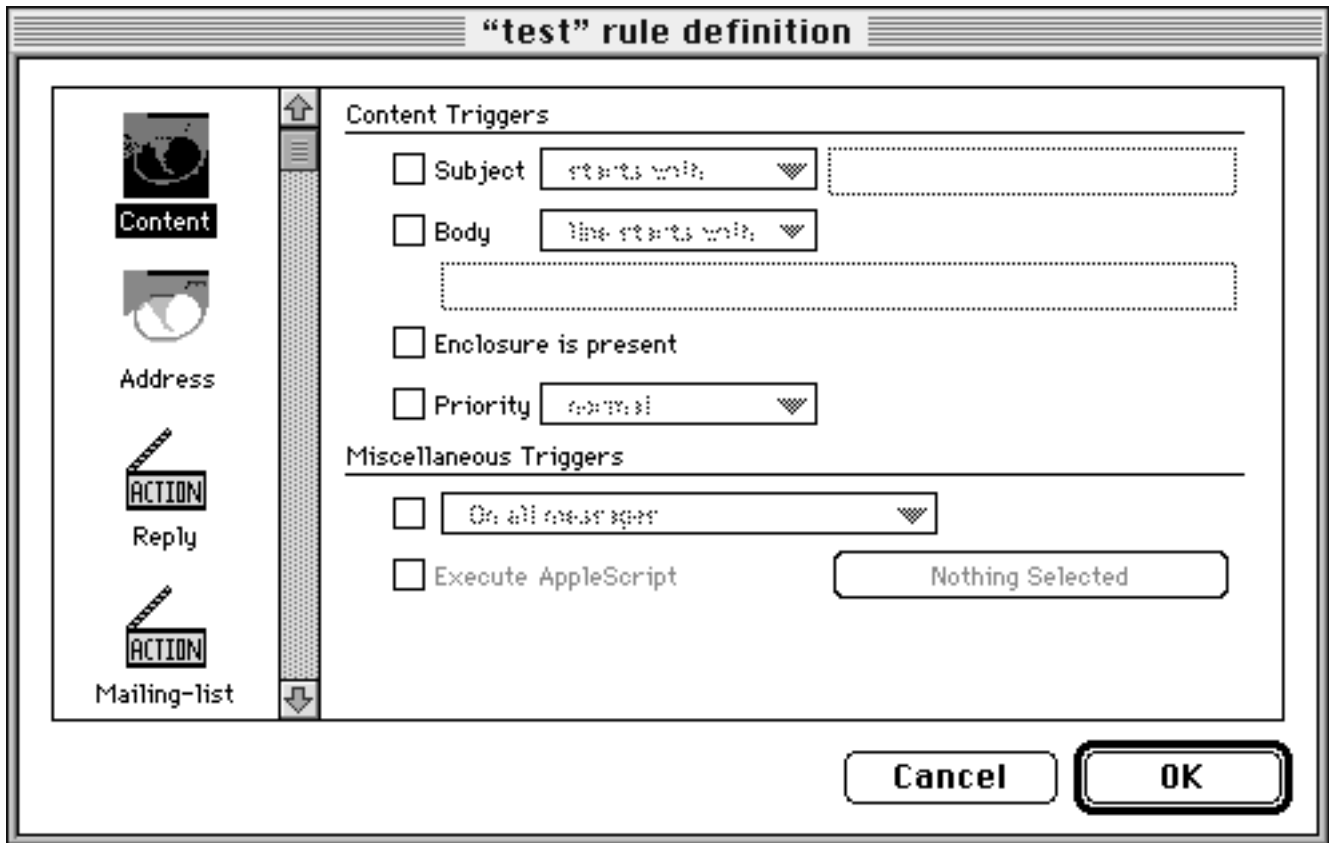


FIGURE 15 Rule Definition interface

Selecting one of the icons in the left column opens a group of related triggers or actions. For a new rule, where no triggers or actions have been defined, all options are unchecked and dimmed. Check the check box for a trigger or action to enable other items relating to that item. To view the options for an item, check the check box, look at its options, and then uncheck it.

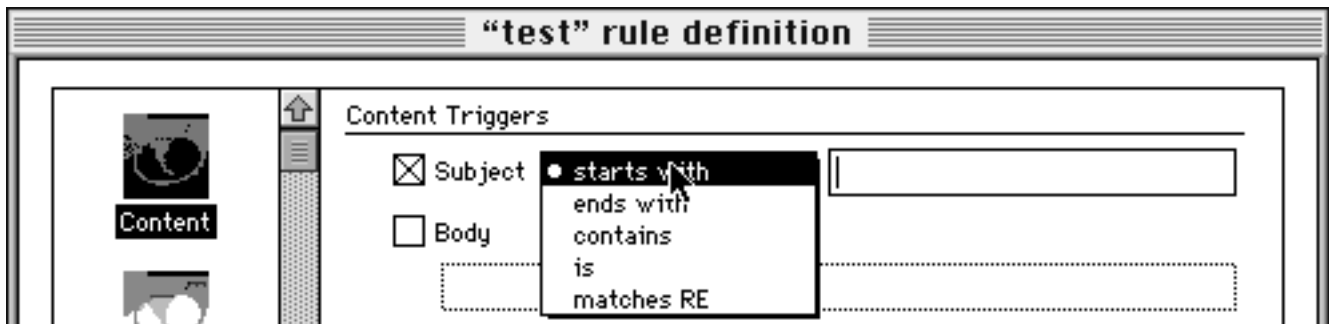


FIGURE 16 Check an item to view its options



## Setting the Administrator Address

The Administration and Demo services described in this guide require a valid E-mail address for the person administering services. To configure your E-mail address in ListSTAR, follow these steps:

- 1 Choose Address Lists in the Windows menu.

This window opens:

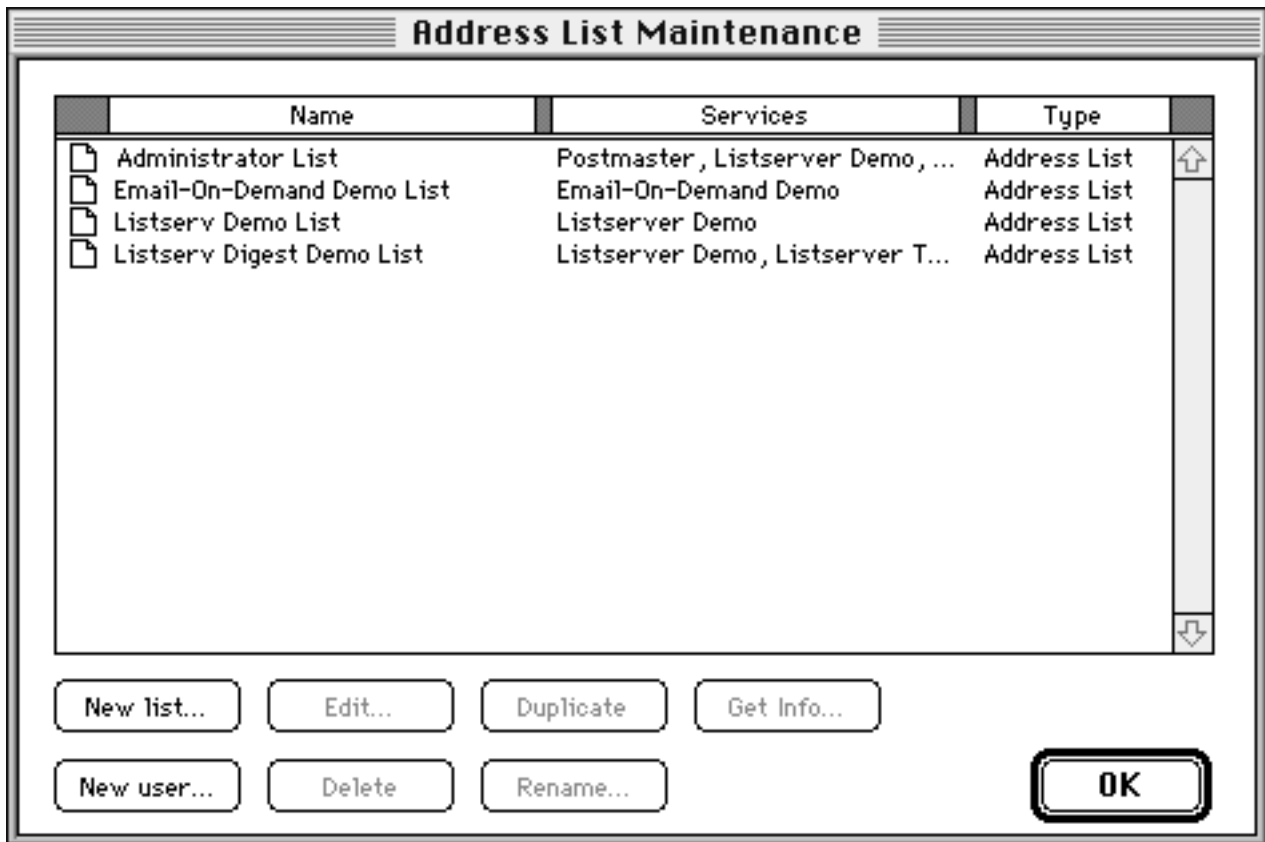


FIGURE 17 Address Lists window

- 2 Double-click Administrator List to open a Modify window.
- 3 In the Modify window, click New to add your address.  
An Add User dialog opens.

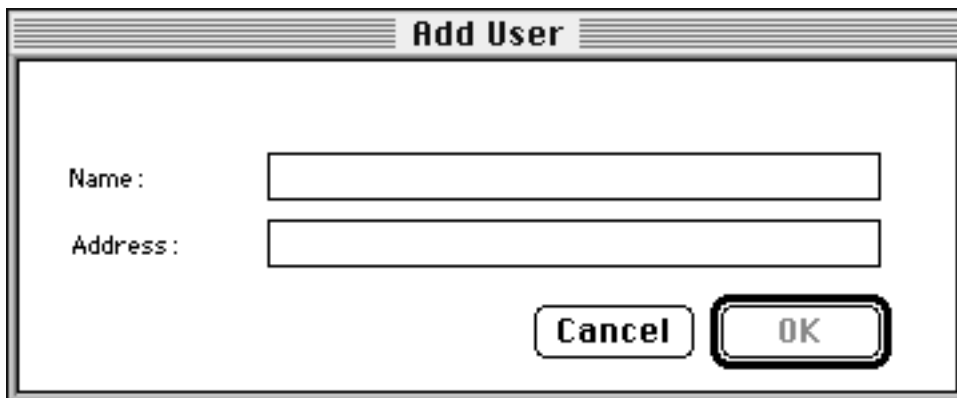


FIGURE 18 Specifying your address

- 4 Type your name or “Administrator” in the Name field.
  - 5 Type your E-mail address in the Address field.
  - 6 Click OK in the Add User dialog and again in the Modify window.
  - 7 Click OK to save your changes and exit the Address Lists window.
- ▲ **Important:** Address Lists are global—once you create an address list or user list, it is available to all services in the ListSTAR Server.

See *ListSTAR Technical Reference* for more information about address lists.

## Setting Up a Listserver

### What Is a Listserver?

Listserver have been used on the Internet for years to share ideas and publish information in academic and other fields. They provide discussion forums by allowing subscribers to post messages to whole lists of users. You can automate subscription and posting to a list, or create a moderated list where the list administrator must approve subscriptions and postings. FIGURE 19 shows a very simple Listserver that performs these actions:

- On receipt of an incoming message (in the example, from david@abc.com), first verify that the sender is in the Listserver's address list.
- If the sender is in the mailing list, reflect the incoming message out to members of the list.

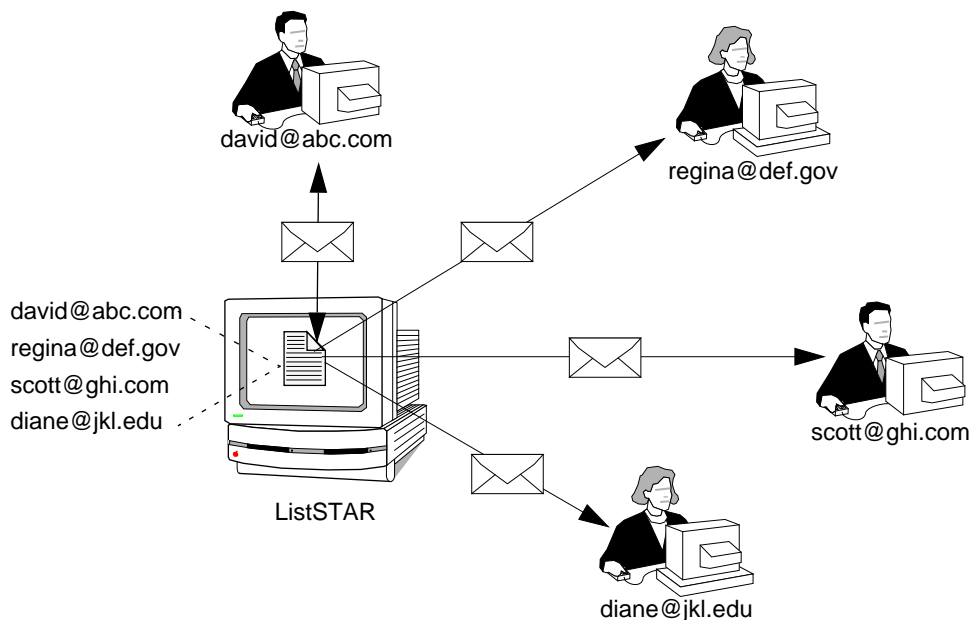


FIGURE 19 Listserver

Typically, an E-mail user can join a list by sending a message to the Listserver's address with a subject such as *Subscribe*. If a message is received from someone whose address is not already in the list, the Listserver typically sends back a message telling the sender how to subscribe.

### Understanding the Listserver Demo Rules

This section shows you how a Listserver works by viewing the Listserver Demo distributed with ListSTAR. If the Listserver Demo is not visible in the Services window, you probably didn't install the example service, or you may have deleted it. To install it now, launch the Installer application, select Custom Install, check Listserver Demo in the custom install window, and then click Install.

To view the Listserver Demo rules, follow these steps:

- 1 Launch the ListSTAR Server if it is not already running.
- 2 Double-click the Listserver Demo in the Services window.
- 3 Click the Rules icon in the left column.

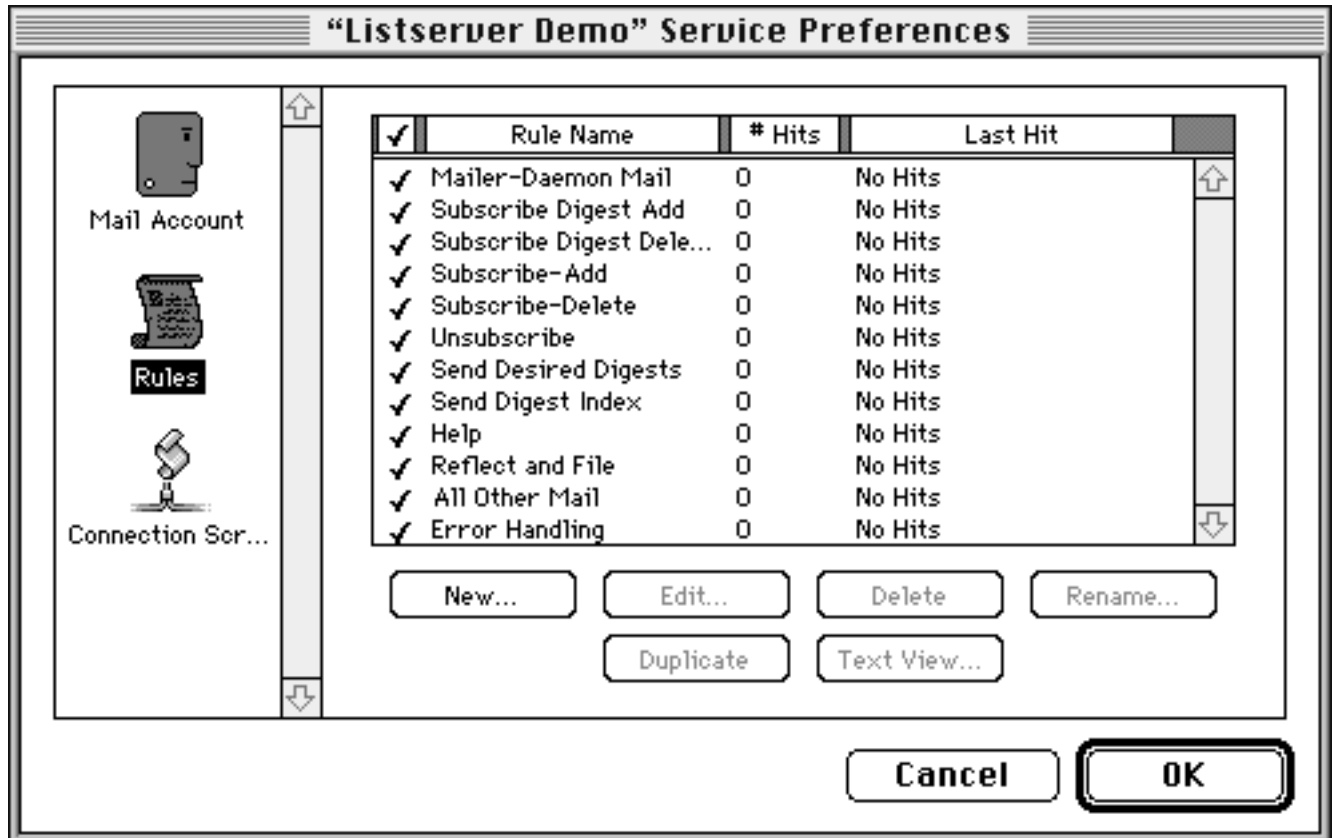


FIGURE 20 Listserver Demo rules list

The Listserver Demo rules are processed in the order in which they appear in this list. The rules fall into these general categories:

- Handling mail from reserved addresses
- Subscribe and unsubscribe rules
- Providing access to back-dated digests: AutoResponder
- Returning a help message
- Reflecting a message out to members of the list and creating a digest of accumulated messages
- Handling all other mail
- Handling errors

#### Handling Mail From Reserved Addresses

The first rule recognizes mail from reserved addresses such as mailer-daemon and handles that mail first. See *Handle mail from reserved addresses first*.

## Subscribe Rules

The Listserver Demo has these rules related to list subscription:

- **Subscribe Digest Add and Delete**  
These rules look for a message with the Subject “subscribe digest.” The first rule adds the user’s address to an address list used to forward digest files and the second deletes the same address from the regular subscribe list if it is there. The Delete rule handles the case where a user initially subscribed to the list format that receives each message as it is received and then, as the list got busier, the same user subscribes to the digest format of the list.
- **Subscribe Add and Delete**  
These rules work like the ones immediately above, but look for a message with the Subject “subscribe.”
- **Unsubscribe**  
This rule looks for a message with the Subject “unsubscribe” and removes the sender’s address from the appropriate address list.

In addition to these basic subscription rules, these are some hints that may apply to Listservers you create:

- **Moderated Lists:** You can use AppleScripts to intercept a subscription message and pass it to the administrator, who can then approve or reject it. StarNine provides sample AppleScripts that implement moderation, including moderated subscription. The sample scripts and an explanatory Read Me file are located in the AppleScripts folder.
- **Using a Control Address for Subscription:** One way to guard against forwarding subscription or other administrative messages to members of the address list is to set up the Listserver with two E-mail addresses: one for administrative functions such as subscribing or unsubscribing, and another address for the main actions of the service, such as distributing information. The disadvantage of having two separate addresses is that users need to know about both addresses and use them appropriately. The advantage is that the members of the list are protected from receiving unwanted administrative messages.
- **Digests:** A digest is a file containing accumulated messages sent to the list. Typically, digests are offered via a separate subscribe message. For example, users who send Subscribe Digest messages are added to an address list whose members receive the digest. Regular Subscribe messages are added to a different address list, whose members get each message as it is received.

## Providing Access to Back-Dated Digests: AutoResponder

Typically, digests are not discarded after being forwarded. They are filed in a folder with a filename that indicates the date when the digest was forwarded and filed. This store of back-dated digests represents an important asset of the Listserver, and members of the list can be allowed to access those digests.

The Listserver Demo has two rules for offering back-dated digests. These rules use the *AutoResponder* advanced feature that uses both regular expression parsing and AppleScripts to provide an “order form” capability, where a user can find out what files are available and “order” specific files in a fully automated way.

- **Send Digest Index**  
If a user sends a message with the Subject “Digests” to this service, this rule returns a file that is kept up-to-date with the list of available digests. The file uses a checklist format like this:

```
[ ] Get file digest/5/1/95
[ ] Get file digest/5/2/95
[ ] Get file digest/5/3/95
[ ] Get file digest/5/4/95
[ ] Get file digest/5/5/95
```

The file is updated daily by an AppleScript executed in the Administration service.

#### ■ Send Desired Digests

When the requesting user receives the checklist file, he or she can retrieve specific digests by placing an X in the empty brackets, like this:

```
[x] Get file digest/5/1/95
[ ] Get file digest/5/2/95
[ ] Get file digest/5/3/95
[x] Get file digest/5/4/95
[x] Get file digest/5/5/95
```

and then replying to the message. The requested digests will be sent, one at a time, by using Apple events.

#### Returning a Help Message

Sending a Help message is the typical response to a message from an unknown user that contains no special keywords such as Subscribe. Here is the sample Help message for the Listserver Demo:

```
This listserver supports the following commands. These commands
should be the text in the subject field of your mail message.
```

```
subscribe
```

```
Your address will be added to the list of subscribers. You
will then be able to send messages to this list that will
be forwarded to all other list subscribers.
```

```
subscribe digest
```

```
Your address will be added to the list of subscribers who receive
a digest instead of each forwarded message. You will be able to
send messages to this list, and will receive a digest of accumulated
messages once a day.
```

```
digests
```

```
A list of available digests will be returned to you.
```

```
unsubscribe
```

```
Your address will be removed from the list of subscribers.
You will no longer be able to send messages to the members
of the list.
```

```
help
```

```
This help message will be returned.
```

#### Reflecting a Message and Creating a Digest

The Reflect and File rule performs two functions. It reflects the message being processed to members of one address list. When the ListSTAR Server reflects a message, the From address of reflected mail is the address

of the originating user (the sender) unless you configure the rule to set the From address to the service's account address instead. The "reflect" actions represent the regular form of the service, where each message is forwarded as it is received. The Reflect and File also adds the message to a digest file. Because the digest is sent out at a specified time (such as once a day), it depends on a Timer service to send it.

### Handling All Other Mail

Near the end of the rules list, the All Other Mail rule handles messages that did not trigger any of the preceding rules. It's a good idea to handle these messages explicitly; otherwise, they are simply discarded. See [\*Handle no-hit messages\*](#).

### Handling Errors

The last rule in the list is an on-error rule. When an error occurs during rule processing, the ListSTAR Server searches through the rules list until it finds an on-error rule and uses the first such rule it finds. Unless certain rules need special error-handling, it's most efficient to place one on-error rule at the end of the list. See [\*Handle error conditions\*](#).

### Viewing the Details of a Rule

To see how a rule is implemented, you can either view a text description of the rule or open the rule definition interface and step through the triggers and actions, one by one.

For details on the individual triggers and actions that can be specified in any rule, see the reference section on the rule definition interface in the [\*ListSTAR Technical Reference\*](#).

To view a text description, follow these steps:

- 1 Highlight a rule in the rules list. For example, highlight the Reflect and File rule.
- 2 Click Text View.

A scrollable read-only window opens, where you can read the details of how the rule is configured.

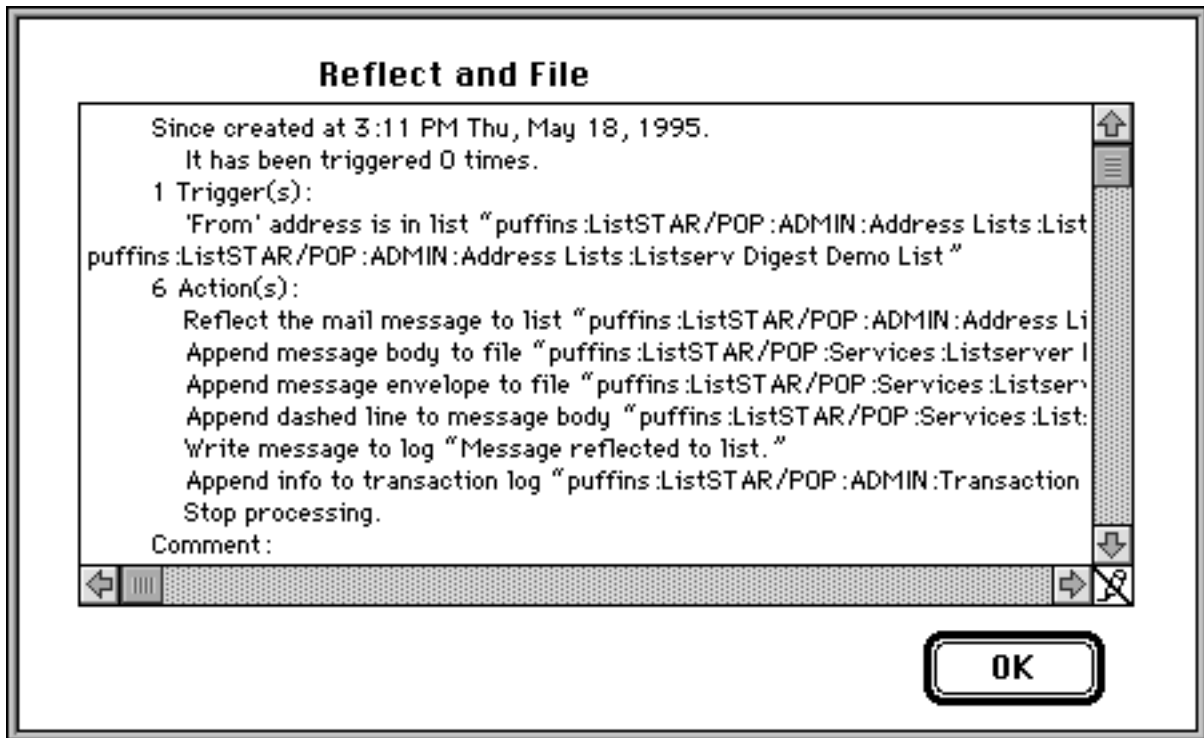


FIGURE 21 Text view of a rule

This rule has one trigger, which checks that the sender is a member of the address list. If that condition is true, the rule performs these actions:

- Reflect the message to members of one address list.
- Append the message and its address information to the digest file, and follow the message by dashed line to improve readability of the digest.
- Write a message to the log.
- Add an entry to the transaction log.
- Stop processing.

### Timer Rules Used by the Listserver Demo

The Listserver Demo has two important functions that must be performed at regular time intervals:

- The current digest must be forwarded to members of the Digest list and archived
- The Index of back-dated digests must be updated whenever a new digest is added

Both of these functions are performed in the Listserver Timer service distributed with ListSTAR. To view the rules, follow these steps:

- 1 Click OK to close the Listserver Demo.
- 2 Double-click Listserver Timer in the Services window.  
The Preferences window opens for the Timer service.



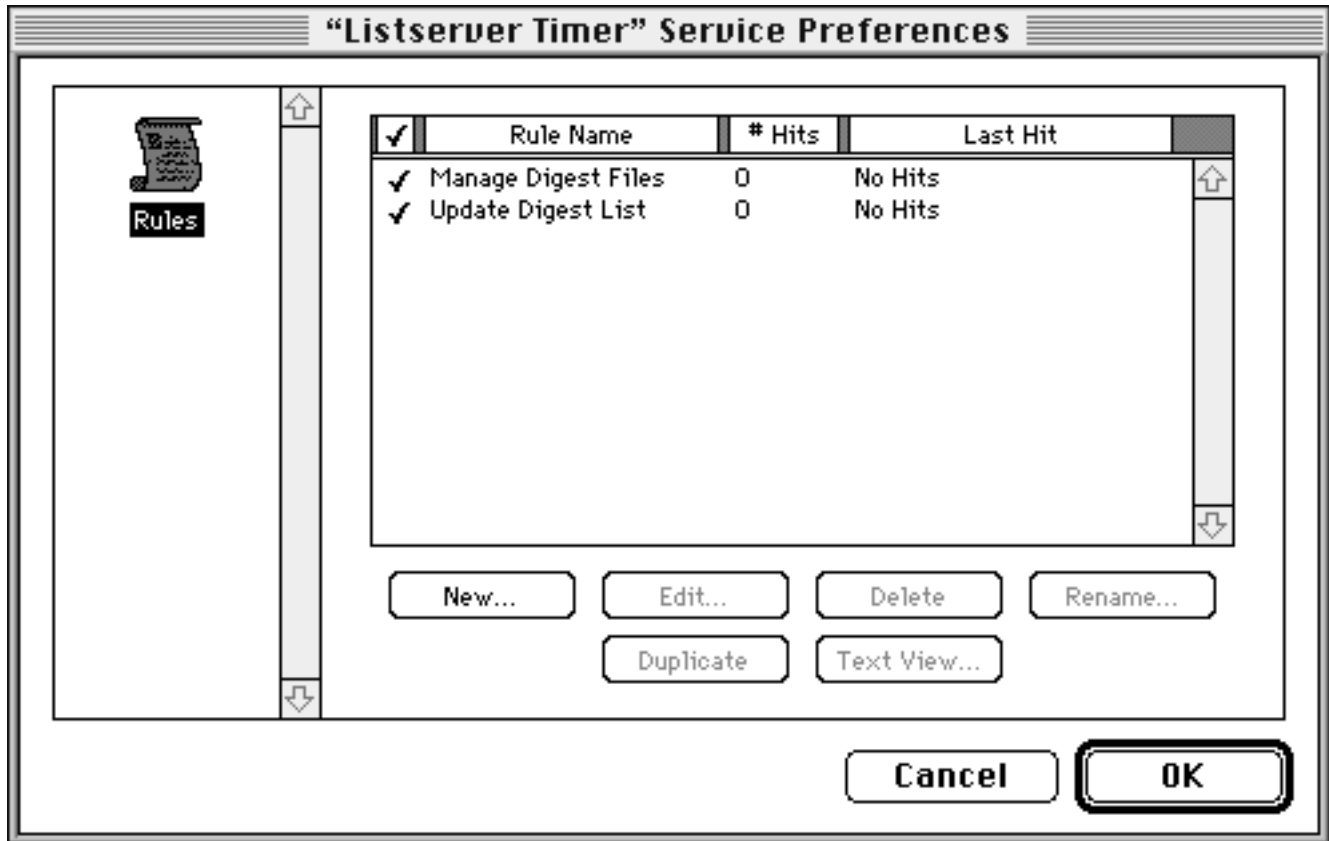


FIGURE 22 Listserver Timer service

These two timer rules are related to the Listserver Demo:

- Manage Digest Files

This rule forwards the current digest to members of the Digest list, using the Listserver's account address as the From address of the message. It then files the digest with a filename that includes the current date, and clears the old digest.

- Update Digest List

This rule executes an AppleScript that updates a file that lists back-dated digests. The file created by this rule has a checklist format like this:

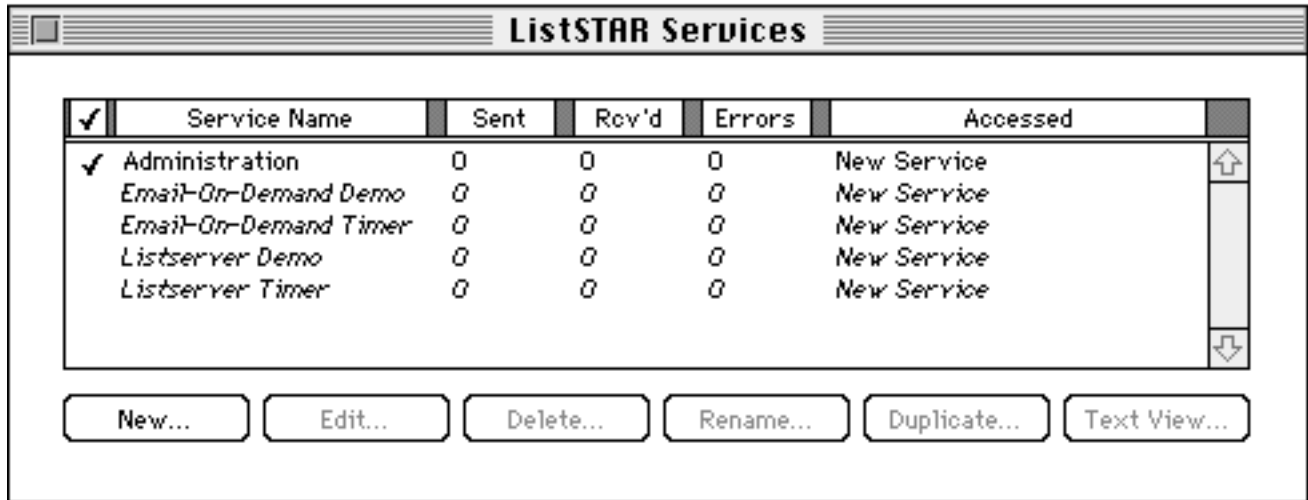
```
[ ] Get file digest/5/1/95
[ ] Get file digest/5/2/95
[ ] Get file digest/5/3/95
[ ] Get file digest/5/4/95
[ ] Get file digest/5/5/95
```

- 3 If you wish, open the rules to view their triggers and actions, or highlight a rule and click Text View.
- 4 Click OK to close the Listserver Timer service.

## Creating a New Listserver Service

To create a new Listserver, we recommend that you duplicate the Listserver Demo and modify its rules to perform the functions you need. Follow these steps:

- 1 If necessary, click Cancel until the Service window is frontmost and active.



- 2 Highlight Listserver Demo and click the Duplicate button.

A dialog opens prompting for a name for the new service:



FIGURE 23 Assigning a name to the duplicate service

- 3 Type a name and then click Create.
- 4 Double-click on the new service in the Services window to open the Preferences dialog.

FIGURE 24 Account information

- 5 Enter the POP3 account name in the Login ID text field.
- 6 Type the password needed to log into the POP3 account. You will be asked to confirm the password before closing this window.
- 7 Check the APOP check box if appropriate. (If you are not sure, ask the network administrator.)
- 8 Type the hostname of the POP3 server in the first Server text field.
- 9 Type the service's SMTP address in the Reply Address text field. This must be a valid SMTP address (user@domain).
- 10 Type a descriptive name for the service in the Real Name field. This name will appear enclosed as part of the RFC header in outgoing mail. For example, "Comments" in the FROM address in this example header:

```
Received: from abc.abc.com (comments.abc.com [198.211.93.25]) by abc.com
(8.6.10/8.6.10) with SMTP id NAA22662 for <bid@starnine.com>; Fri, 24 Feb 1995
13:22:40 -0800
Date: Fri, 24 Feb 1995 13:22:40 -0800
Message-ID: <n1418490334.60185@sparky.abc.com>
From: "Comments" <liststar@abc.com>
Subject: Re: help
```

- 11 Type the name of the SMTP host (the system handling outbound mail) in the last Server text field.  
This is often the same hostname as the POP3 server specified above, but it is not necessarily so. If you are not sure, ask the network administrator.
- 12 Click the Timing button and set the times at which the ListSTAR Server will login to its POP3 account to send and receive mail.

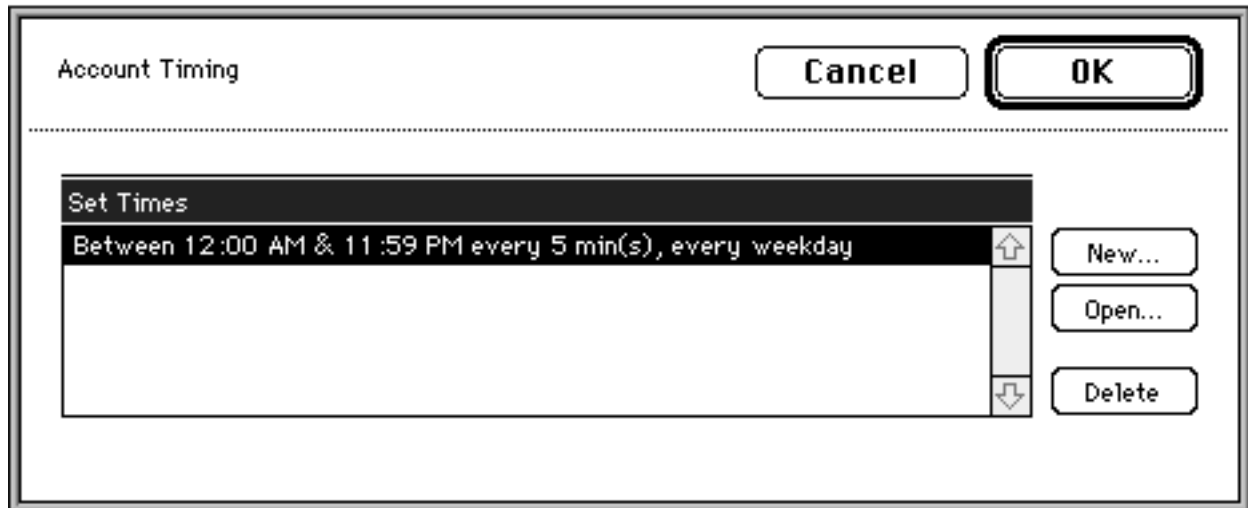


FIGURE 25 Setting connection times

- 13 Click the New button to configure additional connection times, or click Open to reconfigure the connection time shown. When you are done, click OK.
- 14 If the POP3 account for this service has already been set up, leave the Verify Account at Close option checked. Otherwise, uncheck it now and then make sure the account has been set up on the POP server.
- 15 At this point, you can click the Rules icon and then begin modifying the Listserver Demo rules to fit your purposes.

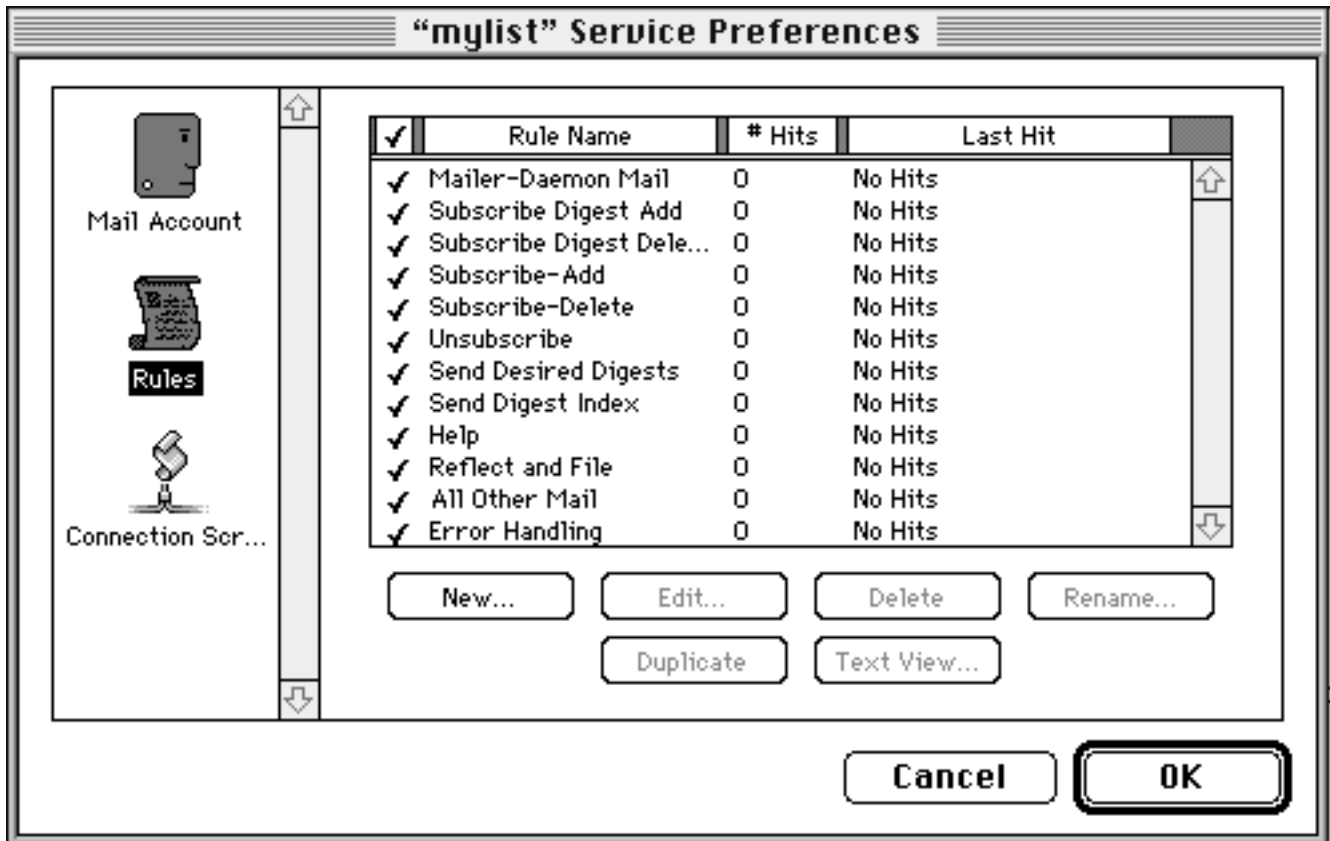


FIGURE 26 Accessing the rules list for your new service

To modify a rule, double-click it in the list and then modify its triggers or actions. To rename it, highlight the rule and click **Rename**.

See *General Logic Guidelines* for important issues related to creating rules.

See the *ListSTAR Technical Reference* for detailed descriptions of each trigger and action in the rules definition interface.

### Including AutoResponder in the New Listserver

If you want to include AutoResponder functionality in your Listserver, you must also duplicate the Listserver Timer service and then modify the duplicated scripts to point to your service instead of the Listserver Demo. Follow these steps:

- 1 Highlight Listserver Timer in the Services window and click **Duplicate**.
- 2 Type a new name and then click **Create**.
- 3 In the Finder, open the new Timer service folder and then open the AutoResponder script named

```
script.create Digest list
```

You can open the script in any text editor.

4 At the top of the script, you will see this text:

```
-- These are the required variable definitions.
--
set strServiceName to "Listserver Demo"

-- If you copy the "Listserver Demo" Service you Must change the value for
-- the strServiceName variable to be the same as the name of the new
-- service (not the name of the Timer service that is associated with the
-- "Listserver Demo" Service).
-- Instead of "Listserver Demo" it is "<New Service Name>"
```

5 Change the string in quotes to the name you assigned to your new Listserver, for example:

```
set strServiceName to "mylist"
```

6 Close the script.

7 In the Finder, open the new Listserver service folder and then open the AutoResponder script named

```
script.return Digests
```

You can open the script in any text editor.

8 Make the same name change described above, for example:

```
set strServiceName to "mylist"
```

9 Close the script.

As long as you don't change folder names within the new Listserver service, the new Timer should work as is. See [About AppleScripts](#) for background information about these scripts.

### **Sending Test Messages**

Make sure that you test your service adequately before making it public!

To test a service, exercise its rules by sending it messages and seeing that each message is handled correctly. In designing test messages, think about the rules you set up and the types of messages that will or won't cause a hit. Keep in mind that the rules are applied in sequence. For example, if a user must be a member of a mailing list to forward a message to the list, you must test the "subscribe" action before the "forward to list" action, and the "forward to list" action before the "unsubscribe" action. You should also test what happens if a message is received from a user who isn't in the list and whose message doesn't contain the word help.

After you have verified the complete sequence of rules, log in as several users, one after another, and send subscribe messages followed by general messages to be added to the digest. That way, you will create a sample mailing list and digest file. To test the digest capability, you might want to temporarily modify the timer rule to send digests every 15 minutes, so you can verify that the digest is forwarded correctly to the proper address list at the time(s) you specified.

If you run into unexpected behavior during the testing procedures, choose Plus Debug Messages in the Set Log Level hierarchical menu in the Administration menu. Debug messages provide much more information about the steps taken by individual rules, triggers, and actions. Then, repeat the tests and follow the Debug messages in the log. See also [Frequently Asked Questions](#).

## Setting Up Email-On-Demand

### What is Email-On-Demand?

Email-On-Demand works like Fax-On-Demand. Instead of using a telephone keypad to indicate what type of information you want (“press 1 for product information, press 2 for company information,” and so forth), users send an E-mail message that contains a particular string, such as Product Info, and ListSTAR returns the requested information. FIGURE 27 shows a very simple Email-On-Demand service that performs these actions:

- On receipt of an incoming message that contains the Subject field “data,” send back a data file in Microsoft® Word format.
- On receipt of an incoming message that contains the Subject field “graphics,” send back a graphic file in EPS format.

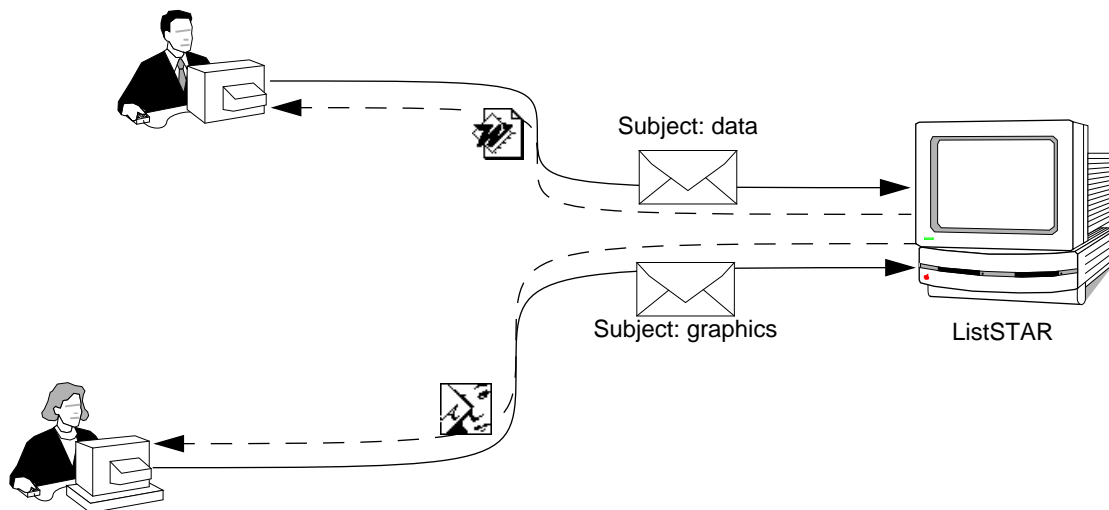


FIGURE 27 Email-On-Demand

Typically, anyone can request files from an Email-On-Demand system. If a message is received that contains the right key words, a file is sent back automatically.

### Understanding the Email-On-Demand Demo Rules

This section shows you how Email-On-Demand works by using the Email-On-Demand Demo distributed with ListSTAR. If the Email-On-Demand Demo is not visible in the Services window, you probably didn’t install the example service, or you may have deleted it. To install it now, launch the Installer application, select Custom Install, check Email-On-Demand Demo in the custom install window, and then click Install.

To view the Email-On-Demand Demo rules, follow these steps:

- 1 Launch the ListSTAR Server if it is not already running.

- 2 Double-click Email-On-Demand Demo in the Services window.
- 3 Click the Rules icon in the left column.

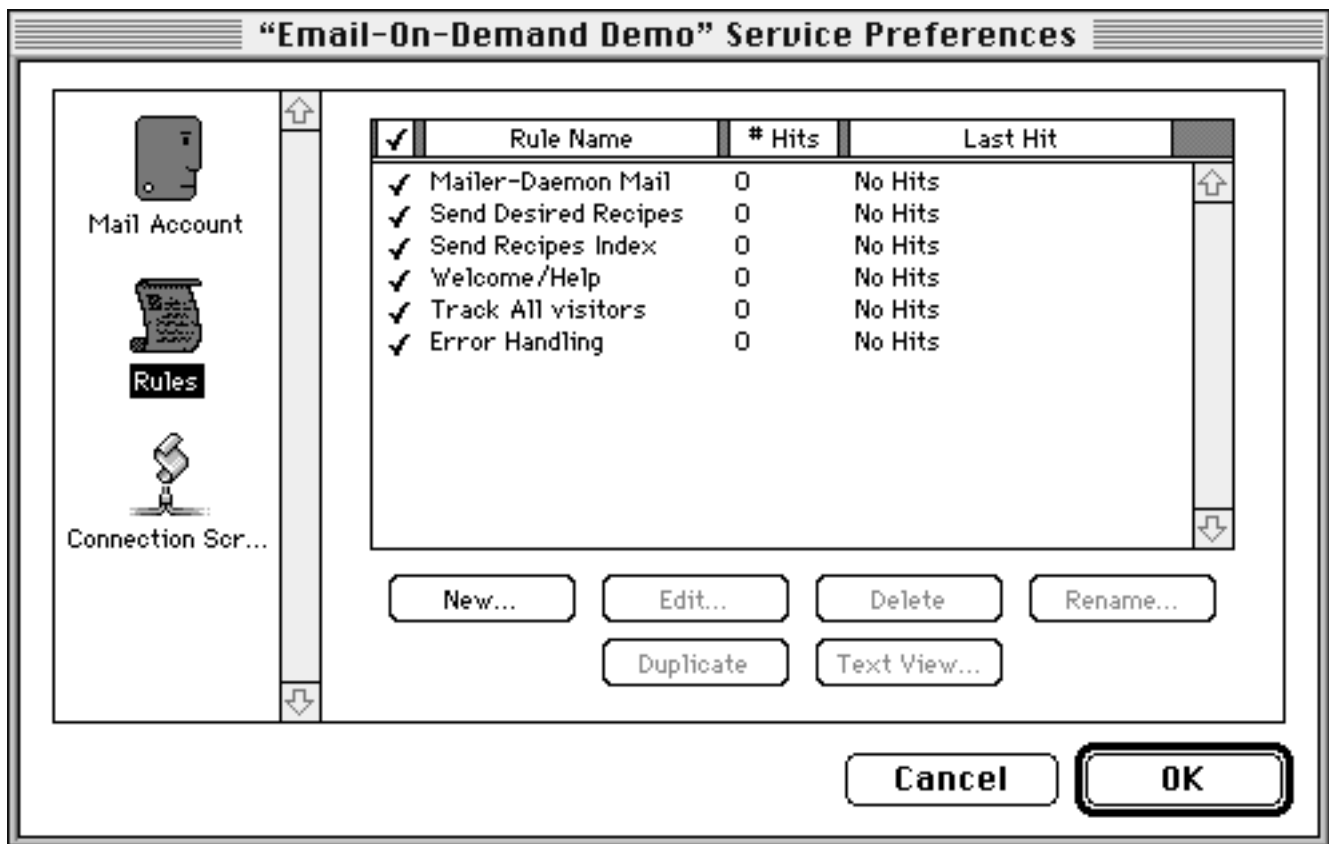


FIGURE 28 Email-On-Demand Demo rules list

The Email-On-Demand Demo rules will be executed in the order in which they appear in this list. The rules fall into these general categories:

- Handling mail from reserved addresses
- Providing access to recipes: AutoResponder
- Returning a help message
- Tracking visitors
- Handling errors

#### Handling Mail From Reserved Addresses

The first rule recognizes mail from reserved addresses such as mailer-daemon and handles that mail first. See *Handle mail from reserved addresses first*.



### Providing Access to Recipe Files: AutoResponder

The Email-On-Demand Demo system has two rules for offering recipe files. These rules use the *AutoResponder* advanced feature that uses both regular expression parsing and AppleScripts to provide an “order form” capability, where a user can find out what files are available and “order” specific files in a fully automated way. See [About AppleScripts](#) for background information.

- Send Recipes Index

If a user sends a message with the Subject “Recipes” to this service, this rule returns a file that is kept up-to-date with the list of available recipes. The file uses a checklist format like this:

```
[ ] Get file "Banana Cream Cake"
[ ] Get file "Beer Cheese Soup"
[ ] Get file "Buffalo Wings"
[ ] Get file "Buttermilk Carrot Cake"
[ ] Get file "Californian Chicken Salad"
[ ] Get file "Calzone Di Broccoli"
```

The file is updated daily by an AppleScript executed in the Administration service.

- Send Desired Recipes

When the requesting user receives the checklist file, he or she can retrieve specific recipes by placing an X in the empty brackets, like this:

```
[x] Get file "Banana Cream Cake"
[ ] Get file "Beer Cheese Soup"
[ ] Get file "Buffalo Wings"
[x] Get file "Buttermilk Carrot Cake"
[ ] Get file "Californian Chicken Salad"
[ ] Get file "Calzone Di Broccoli"
```

and then replying to the message. The requested recipes will be sent, one at a time, by using Apple events.

### About Commercial Uses

At this release, there is no built-in way to charge users for information they retrieve. However, you can create a service that can be tracked for retrieval charges by setting up an address list that is direct-administered, where a user’s name is added to the list only after the user calls and provide a credit card number. The end user can then send a message to get the list and request files. As each file is sent, the rule that sends the file places an entry in the Transaction Log. Those entries can be used to calculate the charges for which the user can be billed once a month, or at some other interval.

### Returning a Help Message

Near the end of the rules list, a rule named Welcome/Help will handle messages that did not trigger any of the preceding rules. It’s always a good idea to handle these messages explicitly. Otherwise, they are simply discarded. See [Handle no-hit messages](#).

This rule sends the following Help message:

Welcome to the Recipes Email-On-Demand system. To receive a list of the different kind of Recipes that are available to you please send an E-mail message with "Recipes" as the subject.

### Tracking Visitors

If the sender's address is not already in the address list, this rule adds it to the list. The list will accumulate the addresses of everyone who retrieves recipes from your system.

### Handling Errors

The last rule in the list is an on-error rule. When an error occurs during rule processing, the ListSTAR Server searches through the rules list until it finds an on-error rule and uses the first such rule it finds. Unless certain rules need special error-handling, it's most efficient to place one on-error rule at the end of the list. See [Handle error conditions](#).

### Viewing the Details of a Rule

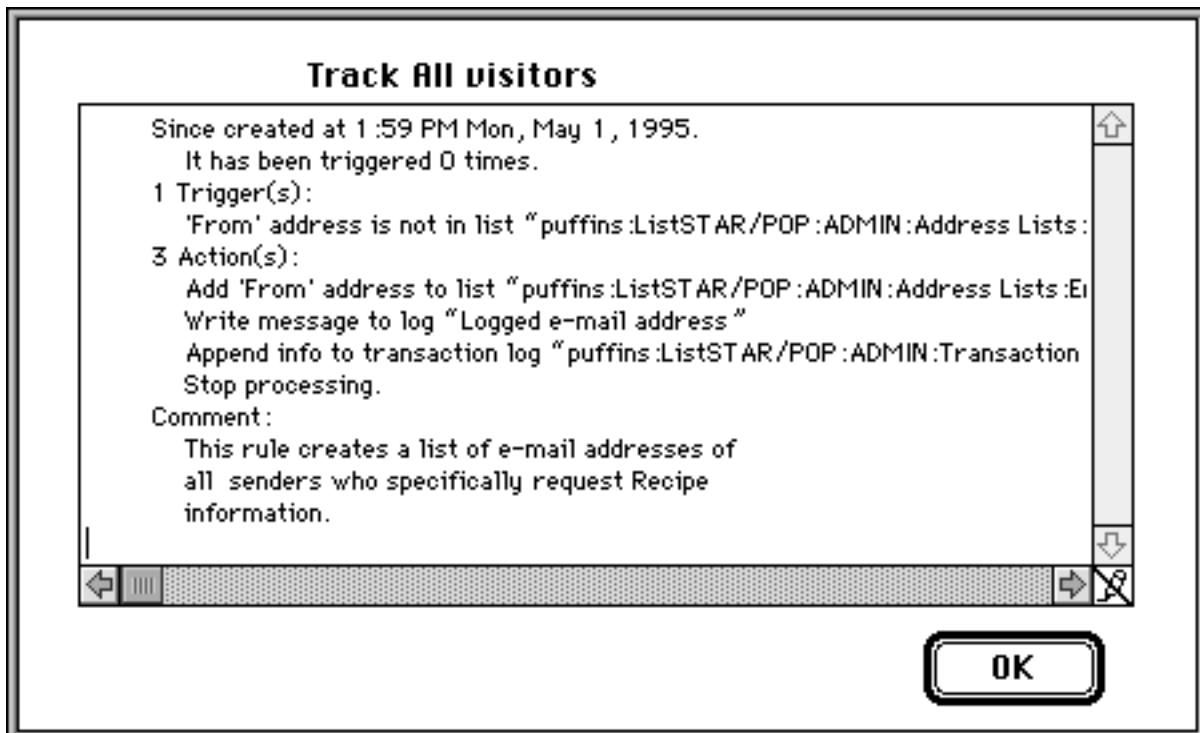
To see how a rule is implemented, you can either view a text description of the rule or open the rule definition interface and step through the triggers and actions, one by one.

For details on the individual triggers and actions that can be specified in any rule, see the reference section on the rule definition interface in the [ListSTAR Technical Reference](#).

To view a text description, follow these steps:

- 1 Highlight a rule in the rules list. For example, highlight the Track All Visitors rule.
- 2 Click Text View.

A scrollable read-only window opens, where you can read the details of how the rule is configured.



This rule has one trigger, which checks that the sender's address is not already in the address list. If the address is not in that list, the rule performs these actions:

- Add the sender's address to the selected address list.
- Write a message to the log.
- Add an entry to the transaction log.
- Stop processing.

### A Timer Rule Used by the Email-On-Demand Demo

The Email-On-Demand Demo has one function that is performed at regular time intervals: The Index of available recipes is kept up-to-date each day. This timer-based function is performed in the Email-On-Demand Timer service distributed with ListSTAR. To view the rule, follow these steps:

- 1 Click OK to close the Email-On-Demand Demo.
- 2 Double-click Email-On-Demand Timer in the Services window.

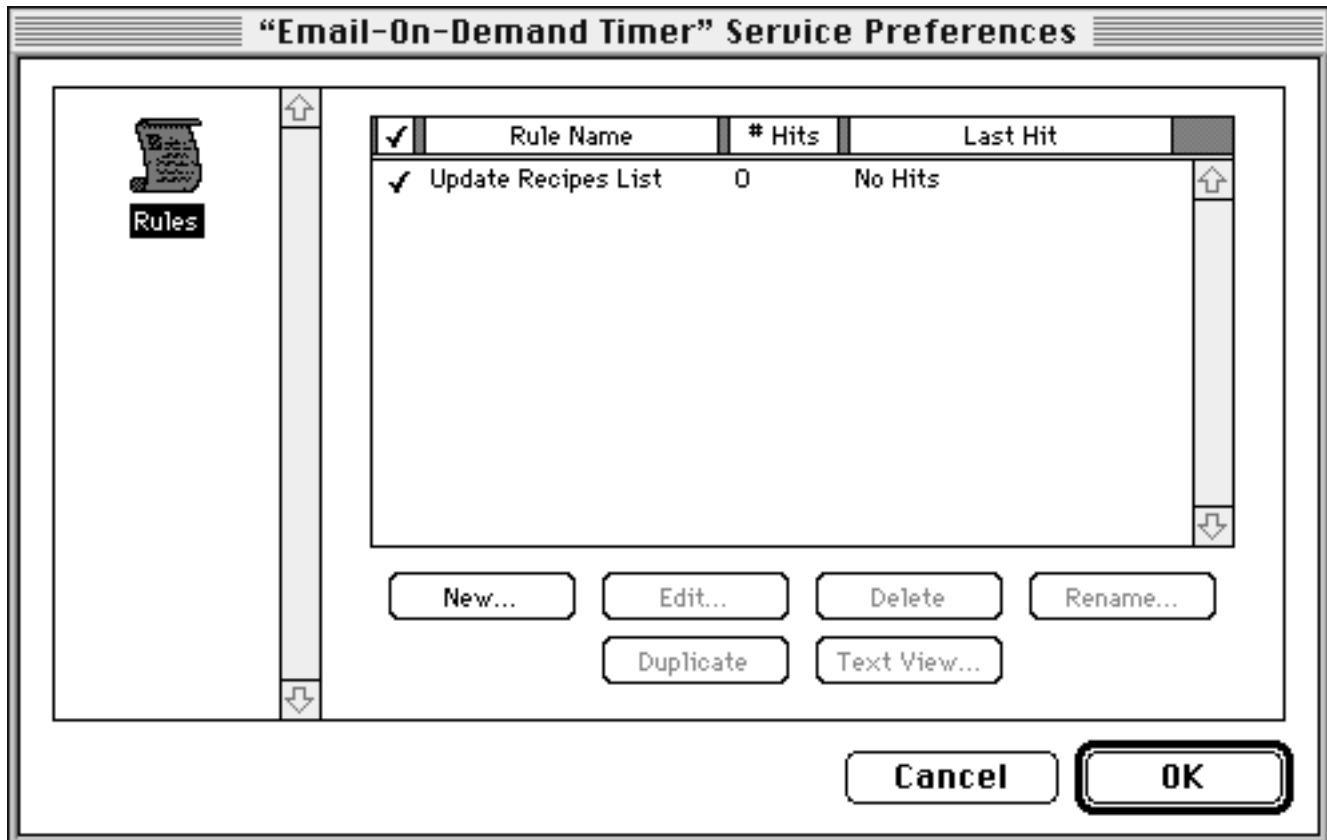


FIGURE 29 Email-On-Demand Timer service

These Update Recipe List rule executes an AppleScript that updates a file that lists available recipes. The file created by this rule has a checklist format like this:

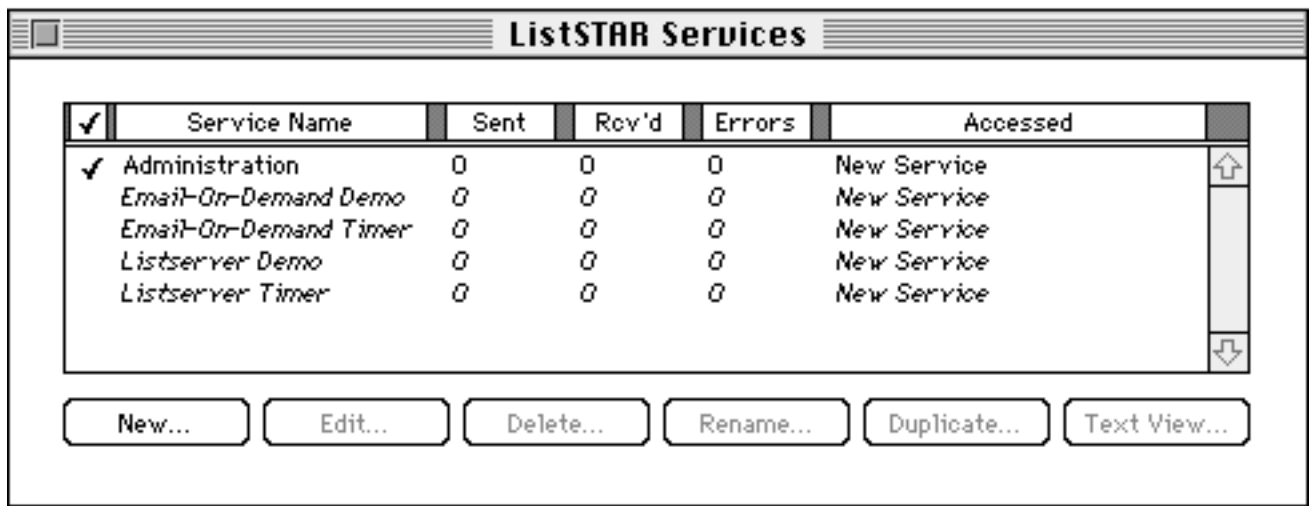
```
[ ] Get file "Banana Cream Cake"
[ ] Get file "Beer Cheese Soup"
[ ] Get file "Buffalo Wings"
[ ] Get file "Buttermilk Carrot Cake"
```

- 3 If you wish, open the rule to view its triggers and actions, or highlight it and click Text View.
- 4 Click OK to close the Email-On-Demand Timer service.

### Creating a New Email-On-Demand

To create a new Email-On-Demand, we recommend that you duplicate the Email-On-Demand Demo and modify its rules to perform the functions you need. Follow these steps:

- 1 If necessary, click Cancel until the Service window is frontmost and active.



- 2 Highlight Email-On-Demand Demo and click the Duplicate button.  
A dialog opens prompting for a name for the new service:

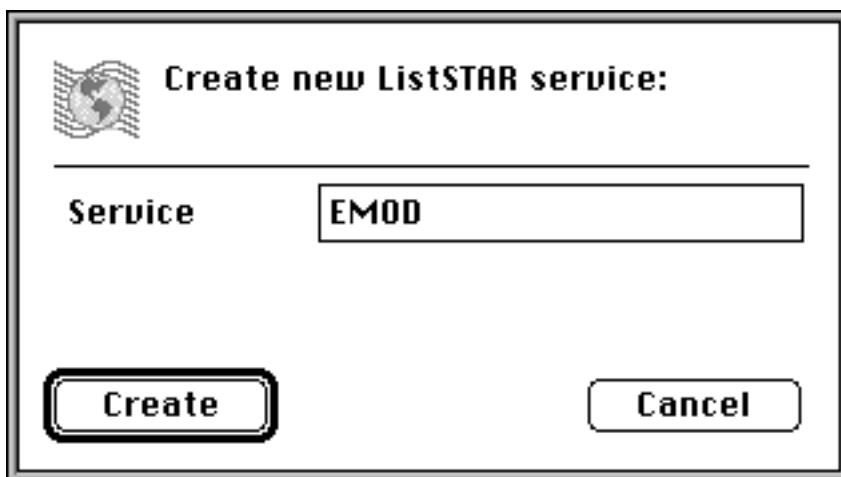


FIGURE 30 Assigning a name to the duplicate service

- 3 Type a name and then click Create.
- 4 Double-click on the new service name to open the Preferences dialog.

**“EMOD” Service Preferences**

**Incoming Mail:**

Login Id:

Password:   APOP

Server:

**Outgoing Mail:**

Reply Address:

Real Name:

Server:

All day every 15 min(s), everyday

Verify account on close

FIGURE 31 Account information

- 5 Enter the POP3 account name in the Login ID text field.
- 6 Type the password needed to log into the POP3 account. You will be asked to confirm the password before closing this window.
- 7 Check the APOP check box if appropriate. (If you are not sure, ask the network administrator.)
- 8 Type the hostname of the POP3 server in the first Server text field.
- 9 Type the service’s SMTP address in the Reply Address text field.  
This must be a valid SMTP address (user@domain).
- 10 Type a descriptive name for the service in the Real Name field.  
This name will appear enclosed as part of the RFC header in outgoing mail. For example, “Get File” in the FROM address in this example header:

```
Received: from abc.abc.com (comments.abc.com [198.211.93.25]) by abc.com
(8.6.10/8.6.10) with SMTP id NAA22662 for <bid@starnine.com>; Fri, 24 Feb 1995
13:22:40 -0800
```

```
Date: Fri, 24 Feb 1995 13:22:40 -0800
Message-ID: <n1418490334.60185@sparky.abc.com>
From: "Get File" <emod@abc.com>
Subject: Re: help
```

- 11 Type the name of the SMTP host (the system handling outbound mail) in the last Server text field.  
This is often the same hostname as the POP3 server specified above, but it is not necessarily so. If you are not sure, ask the network administrator.
- 12 Click the Timing button and set the times at which the ListSTAR Server will login to its POP3 account to send and receive mail.

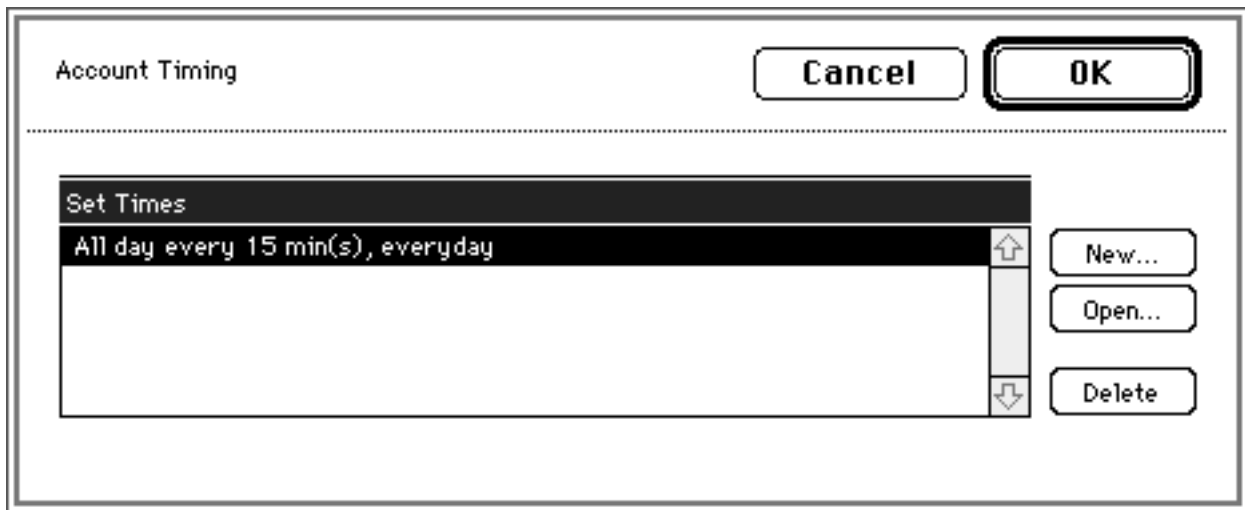


FIGURE 32 Setting connection times

- 13 Click the New button to configure additional connection times, or click Open to reconfigure the connection time shown. When you are done, click OK.
- 14 If the POP3 account for this service has already been set up, you can leave the Verify Account at Close option checked. Otherwise, uncheck it now and make sure the account has been created.
- 15 At this point, you can click the Rules icon and then begin modifying the Email-On-Demand Demo rules to fit your purposes.

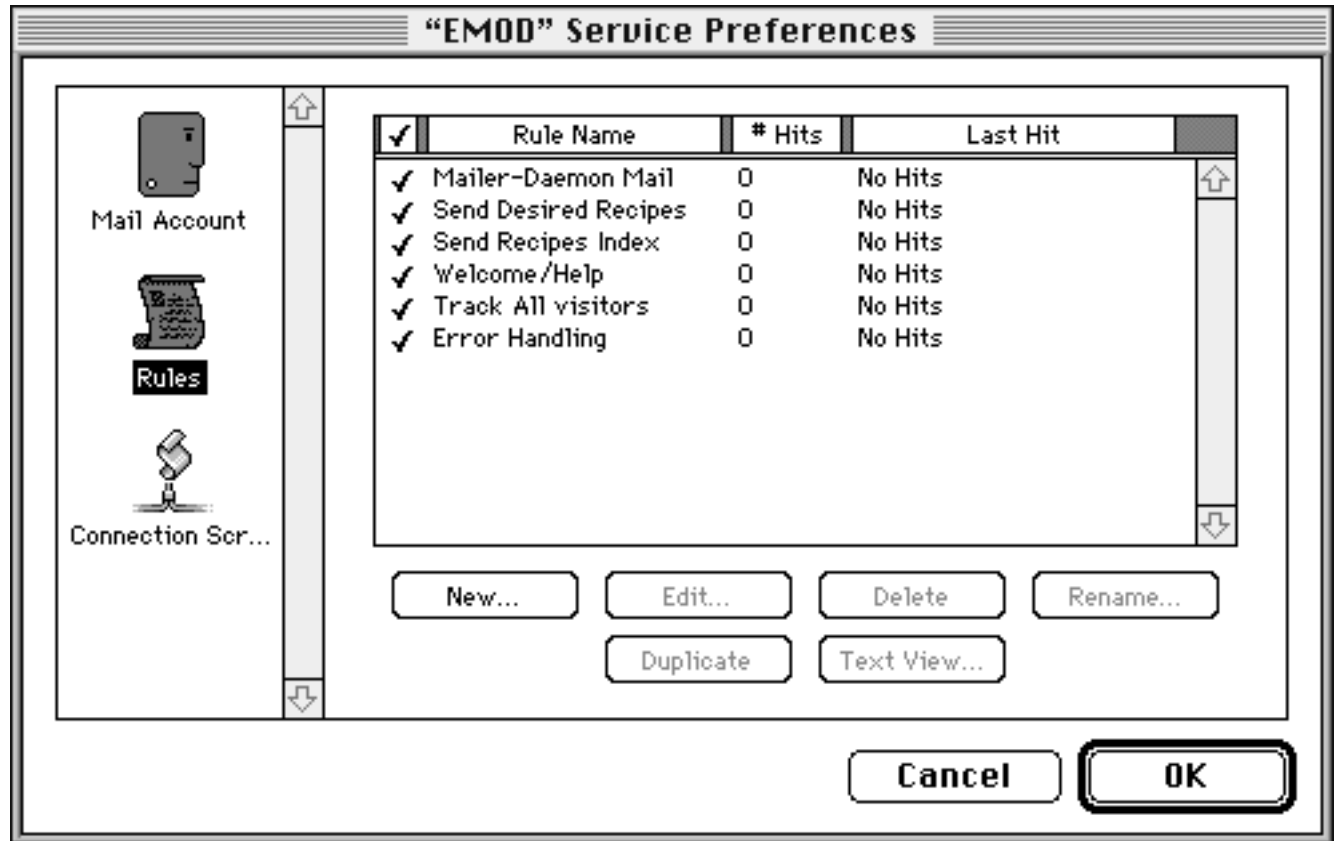


FIGURE 33 Accessing the rules list for your new service

To modify a rule, double-click it in the list and then modify its triggers or actions. To rename it, highlight the rule and click Rename.

See *General Logic Guidelines* for important issues related to creating rules.

See the *ListSTAR Technical Reference* for detailed descriptions of each trigger and action in the rules definition interface.

### Including AutoResponder in the New Email-On-Demand

If you want to include AutoResponder functionality in your Email-On-Demand system, you must also duplicate the Email-On-Demand Timer service and then modify the duplicated scripts as described below. Follow these steps:

- 1 Highlight Email-On-Demand Timer in the Services window and click Duplicate.
- 2 Type a new name and then click Create.
- 3 In the Finder, open the new Timer service folder and then open the AutoResponder script named

```
script.create Recipe list
```

You can open the script in any text editor.

**4** At the top of the script, you will see this text:

```
-- These are the required variable definitions.
--
set strServiceName to "Email-On-Demand Demo"
-- If you copy the "Email-On-Demand Demo" Rule Service you must change the
-- value for the strServiceName variable to be the same
-- as the name of the new service (not the name of the Timer service that
-- is associated with the "Email-On-Demand Demo" Service).
-- Instead of "Email-On-Demand Demo" it is "<New Service Name>"
set strFolderName to "Filed Recipes"
set strListName to "Recipes List"
-- If you want a different name for the folder that contains the Files you
-- need to change the value for the strFolderName variable. Instead of
-- "Available Recipes" it is "<New Folder Name>"
-- If you want to change the name of the text file that contains the list
-- of the different files in the folder then change the value for the
-- strListName variable. Instead of "Recipes List" it is "<New File Name>"
```

**5** Change the string in quotes to the name you assigned to your new Email-On-Demand, for example:

```
set strServiceName to "EMOD"
```

**6** The folder and file names are not seen by the outside world, so you can leave “Recipes” in the names if you wish. Or, change the string specified for those variables as well, for example:

```
set strFolderName to "Filed Scoreboards"
set strListName to "Scoreboards List"
```

**7** Close the script.**8** In the Finder, open the new Email-On-Demand service folder and then open the AutoResponder script named

```
script.return Recipes
```

You can open the script in any text editor.

**9** Make the same name change (or name changes) described above, for example:

```
set strServiceName to "mylist"
set strFolderName to "Filed Scoreboards"
set strListName to "Scoreboards List"
```

**10** Close the script.

See [About AppleScripts](#) for background information about these scripts.

**Sending Test Messages**

Make sure that you test your service adequately before making it public!

To test a service, exercise its rules by sending it messages and seeing that each message is handled correctly. To test the Email-On-Demand service, send several messages requesting files and see what you receive. Then,



add new files to the AutoResponder folder and verify that it is updated at the appropriate time. Make sure your address is added to the address list correctly. If you run into unexpected behavior during the testing procedures, choose Plus Debug Messages in the Set Log Level hierarchical menu in the Administration menu. Debug messages provide much more information about the steps taken by individual rules, triggers, and actions. Then, repeat the tests and follow the Debug messages in the log. See also *Frequently Asked Questions*.

## Working With the Administration Service

The Administration service is enabled and ready to begin operating as soon as ListSTAR has been installed. This is not an example service. It is a working service that provides useful functions and can be modified as needed. The Administration service performs these actions once a day:

- File the log in the Filed Log Files folder and clear the ListSTAR Log file in the ADMIN folder.
- File the Transaction Log in the Filed Transaction Logs folder and clear the one in the ADMIN folder.
- File the Usage Report in the Filed Usage Reports folder and generate a new one, overwriting the file in ADMIN.
- File the Configuration Report in the Filed Configuration Reports folder and generate a new one, overwriting the file in ADMIN.

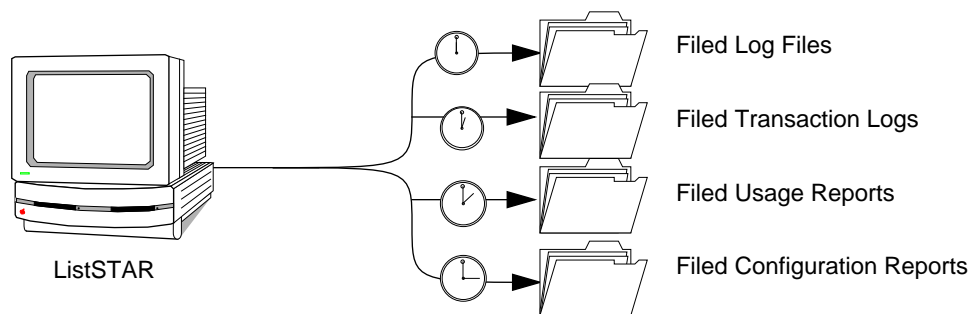


FIGURE 34 Administration service

### Understanding Administration Rules

This section describes the Administration service distributed with ListSTAR as well as the files and reports it generates. If the Administration service is not visible in the Services window, you probably didn't install it, or you may have deleted it. To install it now, launch the Installer application, select Custom Install, check Administration in the custom install window, and then click Install.

To view the Administration rules, follow these steps:

- 1 Launch the ListSTAR Server if it is not already running.
- 2 Double-click Administration in the Services window.

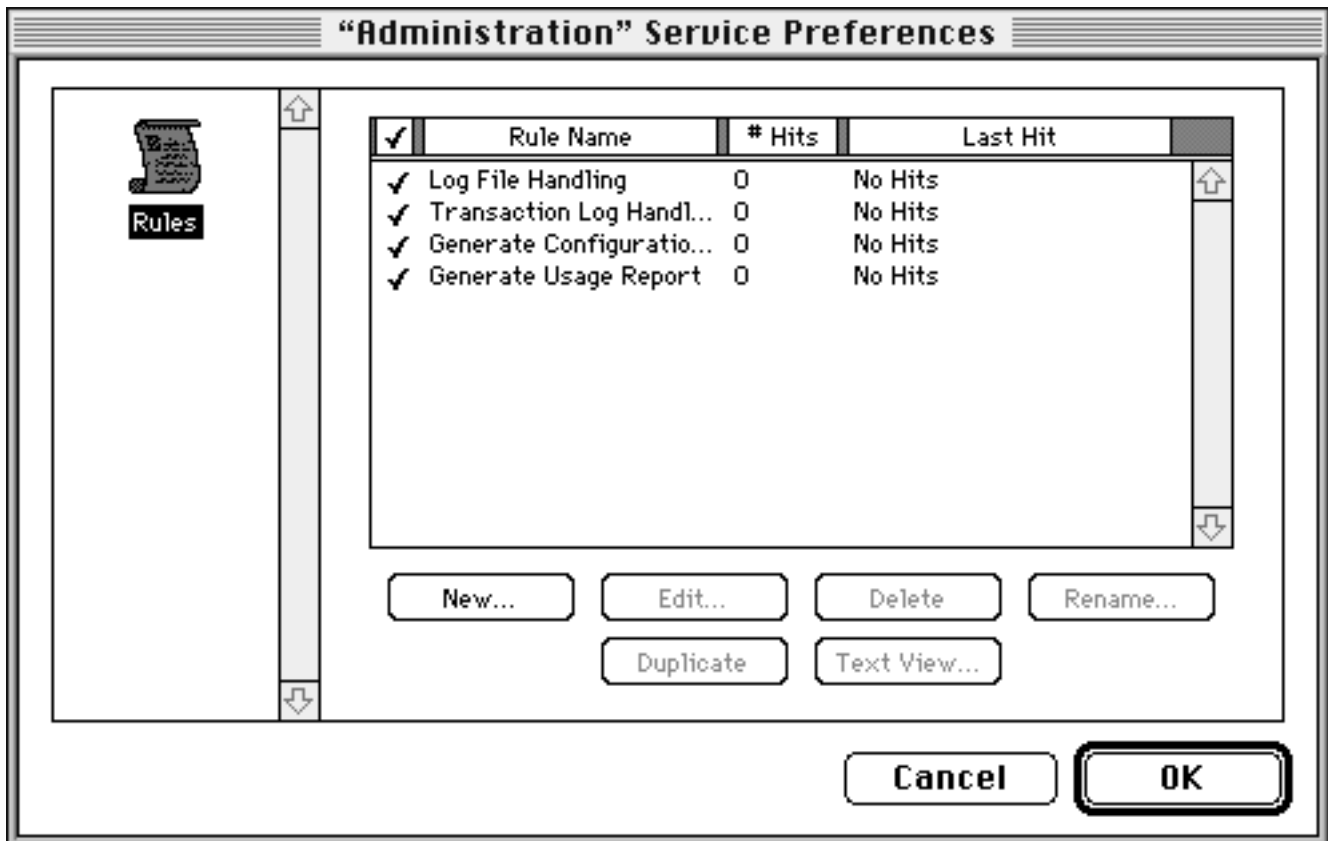


FIGURE 35 Administration Rules

Administration rules are executed based on a timer specification within each rule. If two rules are triggered at exactly the same time, then those rules are executed in the sequence in which they appear in this list. Otherwise, the order of the rules is not important.

The rules fall into these general categories:

- Handling administrative files
- Generating and handling reports

#### Handling Administrative Files

The ListSTAR log file is located in the ADMIN folder. It contains log messages generated by the ListSTAR Server, which may vary in level of detail based on the log level set in the ListSTAR Server. This rule files the log in a folder named Filed Log Files (after assigning the file a unique name) once a day at midnight, and then clears the ListSTAR log file located in the ADMIN folder.

The log file, audit messages, and error codes are described in the *ListSTAR Technical Reference*.

The transaction log is a tab-separated text file that can be imported into other applications such as databases or spreadsheets. It is located in the ADMIN folder. A transaction entry includes the date the rule was hit, the name of both the service and rule that hit, the subject of the message, and addressing information about the From address.

This rule files the Transaction Log in a folder named Filed Transaction Logs (after assigning the file a unique name) once a day at midnight, and then clears the Transaction Log located in the ADMIN folder.

### Generating and Managing Reports

A configuration report contains a text version of all defined services and rules. You can open and print a configuration report by using TeachText or other editor applications.

The Generate Configuration Report rule generates a full configuration report once a day and places it in the ADMIN folder in a file named Configuration Report. Each time a new report is generated, the previous report is overwritten. You can change this default behavior by modifying the Generate Configuration Report rule in the Administration service.

Here is a fragment of a Configuration Report that shows the configuration of just the Generate Configuration Report rule in the Administration service:

```
Configuration Report generated at 12:00 AM Wed, Mar 22, 1995

Service Administration:
  Account type is Timer, 1 attributes defined:
    Free Form Name (required): .
...
Rule Generate Configuration Report (2,3,3):
  1 Trigger(s):
    Timer At 12:00 AM, Everyday;
  3 Action(s):
    Deferred: select & generate the configuration report
    Write message to log Configuration Report Generated
    Append info to transaction log macintosh
hd:ListSTAR/POP:ADMIN:Transaction Log
Comment:
  This rule will generate a configuration report
  once a day. The configuration report will be
  located in the folder ADMIN and will be named
  "Configuration Report". This report contains a
  textized version of all defined services and
  rules.
```

A usage report specifies how many times each defined service has been accessed, and the number of hits on each rule since this the Generate Usage Report rule was last executed. The resettable counters within the service and rules list are set back to 0 by the Clear action of this rule. You can open and print a configuration report by using TeachText or other editor applications.

The Generate Usage Report rule generates a full usage report once a day and places it in the ADMIN folder in a file named Usage Report. Each time a new report is generated, the Administration service copies the existing usage report to a folder named Filed Usage Reports (assigning the file a unique name) and clears the original Usage Report file.

Here is a fragment of a Usage Report that shows the configuration of just the Administration service:

```
Usage Report generated at 12:00 AM Wed, Mar 22, 1995
```

## Service Administration:

Since created at 2:30 PM Sat, Jan 21, 1995.  
0 messages have been received.  
0 messages have been sent.  
Last activity was at 10:38 AM Wed, Mar 22, 1995.  
Since 3:18 PM Mon, Mar 20, 1995.  
0 messages have been received.  
0 messages have been sent.  
0 errors have occurred.  
Rule Log File Handling (0,1,1):  
Since created at 8:30 AM Thu, Jan 19, 1995.  
It has been triggered 7 times.  
Last triggered at 12:00 AM Wed, Mar 22, 1995.  
Rule Transaction Log Handling (1,2,2):  
Since created at 8:31 AM Thu, Jan 19, 1995.  
It has been triggered 7 times.  
Last triggered at 12:00 AM Wed, Mar 22, 1995.  
Rule Generate Configuration Report (2,3,3):  
Since created at 8:33 AM Thu, Jan 19, 1995.  
It has been triggered 7 times.  
Last triggered at 12:00 AM Wed, Mar 22, 1995.  
Rule Generate Usage Report (3,4,4):  
Since created at 8:33 AM Thu, Jan 19, 1995.  
It has been triggered 6 times.  
Last triggered at 12:00 PM Mon, Mar 20, 1995.  
Rule new MagicFolder help file (4,0,0):  
Since created at 8:21 AM Mon, Mar 6, 1995.  
It has been triggered 0 times.

**Mailing Files and Reports to the Administrator**

The Administration service is set up to file log files and generated reports. In these steps we are using the log file as an example, but the same operation could be applied to each of the other reports and files handled by rules in this service.

To receive the log file via E-mail, you can modify the Log File Handling rule to save the files to disk and forward them to your E-mail address. To do so, follow these steps:

- 1 Double-click the Administration service in the Services window.
- 2 Double-click the Log File Handling rule.
- 3 Click the Admin Action icon.
- 4 Click the Send to check box and then click Nothing Selected to open the Address List Maintenance window.

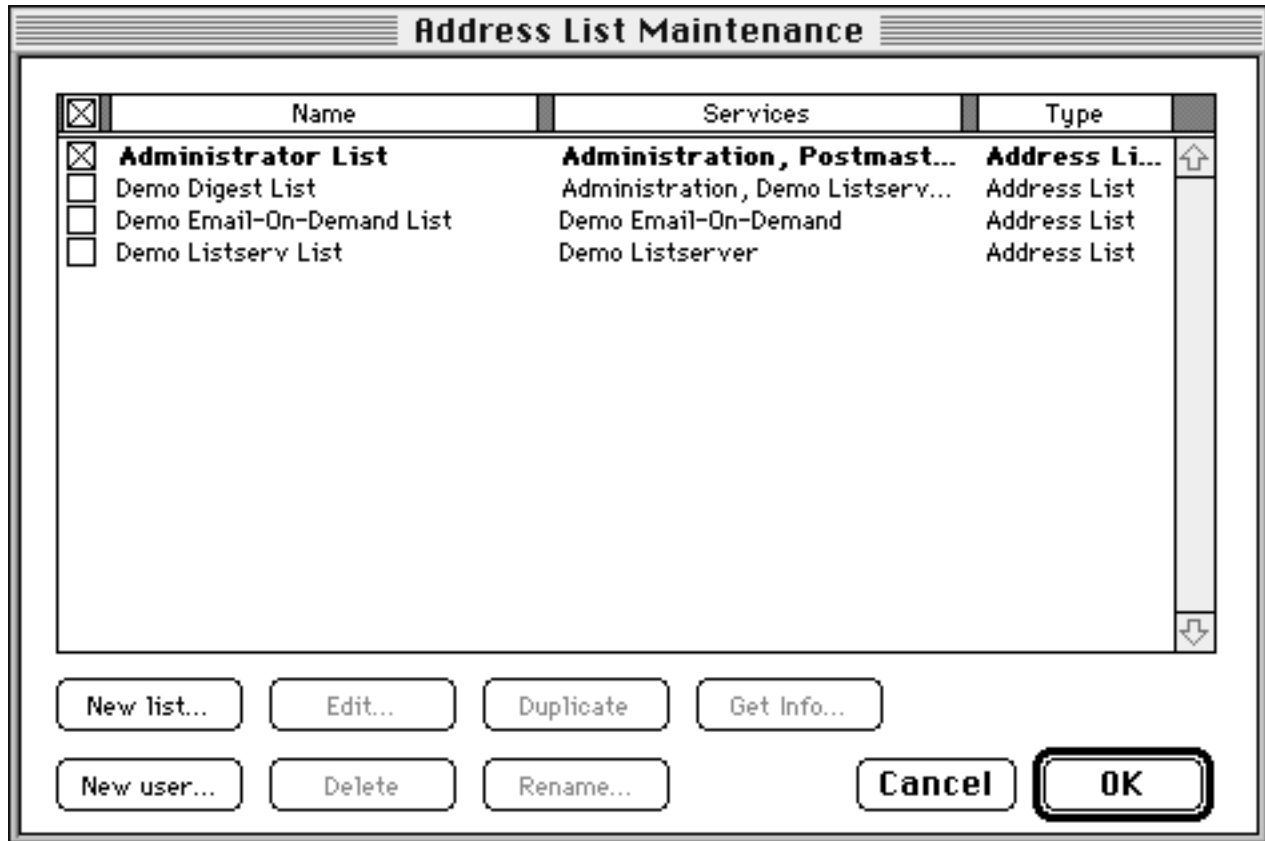


FIGURE 36 Selecting the Administrator Address

- 5 Make sure the Administrator list is checked.

This list must contain a valid E-mail address for the person administering services. See [Setting the Administrator Address](#) if you need more information.

- 6 Click OK to return to the Admin Action pane.

**“Log File Handling” rule definition**

**Report and File Actions**

Select

File in folder

by

Clear

**Mail Actions**

Send to  from:

Set Subject to

Add message

Send "selected" item as

- 7 Choose a service whose account address will be the From address of the message containing the log file. Then, set the subject and specify that the file should be sent as the message body (not an enclosure).
- ▲ **Important:** It's very important that the service you choose for the From address is enabled. If it isn't checked in the Services window, the mail message it generates may remain in the spool folder and never be sent.
- 8 Click OK in this window and again in the Rules List to return to the Services window.

## About AppleScripts

StarNine distributes sample AutoResponder AppleScripts with the Demo services. For details on AppleScript support in the ListSTAR Server and Apple events, see the AppleScript section of the [ListSTAR Technical Reference](#).

For the latest available AppleScripts, check out our Web server. See [SUPPORT](#) for details.

### AutoResponder Scripts

The *AutoResponder* feature uses regular expression parsing and AppleScripts to provide an “order form” listing of a folder, so a user can find out what files are available and “order” specific files automatically. This is how it works:

- 1 A user sends a message that causes the Mailer service to generate a reply message that includes a check list, or “order form” that uses this format:

```
[ ] Get file "filename1"
[ ] Get file "filename2"
[ ] Get file "filename3"
```

- 2 The file is updated by executing an AppleScript.

The AppleScript can be executed by a Timer rule like the ones in the Administration service.

Or, the script could be executed in a Mailer service, for example, on receipt of a message from the administrator or from a user.

Another alternative would be to execute the script manually by double-clicking it.

(Because executing AppleScripts incurs some overhead, it's a good idea to update the list only when needed, such as once a day or when you know the folder contents have changed.)

- 3 When the user receives the check list, he or she can “order” certain files by placing an X in the empty brackets, like this:

```
[ ] Get file "filename1"
[x] Get file "filename2"
[ ] Get file "filename3"
```

and then replying to the message.

- 4 The Mailer service parses the file using regular expressions, extracts the requested filenames, and uses Apple events to send the files, one at a time, back to the user.

For details about regular expressions and Apple events, see the [ListSTAR Technical Reference](#).

### Information Needed by the AppleScripts

The application named Setup AutoResponder Scripts is a front-end that prompts for information and then generates two AppleScripts needed to implement the AutoResponder feature. To generate these scripts for a



Mailer service, double-click the Setup AutoResponder Scripts application to launch it. The application will prompt for the following information:

- the pathname of the AutoResponder folder
  - the name and location of the “order form” file (the one that is kept up-to-date)  
We recommend that you store this file in the service’s folder.
  - an optional message to be included at the top of the order form
  - optional information to include in the order form, such as the size and modification date of each file
  - the name and location of the AppleScript that will update the order form
  - the name and location of the AppleScript that retrieves requested files and sends them back to the user
- ❖ **Note:** When you are prompted to select the folder where the scripts and related files will be stored, we recommend that you select the Mailer service’s folder (the folder within the Services folder that has the same name as the service).

When the application has finished its processing, two AppleScripts will be generated in the location you specified, with the script names you specified. The first AppleScript creates the list of files in the order form. If you wish, you can compile this script in the Script Editor application to get a slight performance enhancement.

The second AppleScript retrieves requested files and uses an Apple event to send them one by one to the requesting user. When the service receives a message that contains lines such as:

```
[x] Get file "filename1"
[x] Get file "filename2"
[ ] Get file "filename3"
```

the ListSTAR Server uses regular expressions to extract the filenames marked with an x. It then passes the filenames to this AppleScript. This script retrieves the filenames it receives from the ListSTAR Server and sends them to the user who requested them. Each file is sent as a separate message with the Subject Requested file x of y, for example, Requested file 1 of 3.

### **Integrating the AutoResponder Feature into a Service**

To see rules that integrate the AutoResponder feature into a service, see the Listserver Demo or Email-On-Demand Demo distributed with ListSTAR. These rules are described in *Providing Access to Back-Dated Digests: AutoResponder* and *Providing Access to Recipe Files: AutoResponder*.

If you have created a new service from scratch instead of duplicating one of these Demo services, you can copy the AutoResponder rules by opening a Demo service, highlighting the rule in the list and selecting Copy in the Edit menu. Then, display the rules list of the target service and select Paste in the Edit menu.

You then need to open the copied rules and select the scripts you just generated.

## **Frequently Asked Questions**

These questions and answers apply to all ListSTAR products. In some cases, the information is relevant to only one or two ListSTAR products, but often the information applies across the product line.

**Q:** Can I run ListSTAR/POP and ListSTAR/SMTP on the same machine?

**A:** Yes. Both versions of ListSTAR send mail via SMTP, but that's okay for two applications on the same box.

**Q:** What is the difference between the POP3 and SMTP versions of ListSTAR?

**A:** While both of these products provide Internet-wide access, there are important differences.

The POP3 version of ListSTAR has dial-up capabilities and logs in as a user to a POP3 account. That means that a POP3 account must be set up for each service configured in the product.

The SMTP version operates as a server. No actual user accounts are required: the ListSTAR Server routes mail to its individual services internally. Once the one-time TCP/IP and DNS configuration has been set up, the SMTP version of ListSTAR requires no further administrative intervention. (That is, you don't need to go to other administrators to set up accounts.) The SMTP version also runs in a threaded environment, so many more requests can be handled efficiently.

**Q:** Can I run MailShare and ListSTAR/SMTP on the same machine?

**A:** No. Socket 25 is dedicated to listening for SMTP messages. There is only one socket 25 on any given machine, and both ListSTAR/SMTP and MailShare need to listen to it. If two applications are listening for an incoming message on the same socket, there is no guarantee as to which one of the applications will actually receive the message. So, these two programs cannot run concurrently on the same machine.

**Q:** When I send digests, enclosures sent with the original messages are not forwarded. Why?

**A:** Digest files currently cannot include enclosures, for a variety of reasons. For example, in a digest file the correlation a between the original message and enclosures is lost, and incoming enclosures may be encoded in different ways.

**Q:** Is there any way to change the filename of an address list?

**A:** No. The files that contain address lists and user names are used internally by the ListSTAR system. Do not change the filenames! You can change the name that is displayed in the address list window (the "display name" of an address list) as much as you like.

The address list Get Info button lets you determine the filename associated with a list in case you need to access the actual file. However, we recommend that you don't edit the file manually, because adding or deleting special characters in the file can cause problems. In addition, if you change the filename in the Finder or delete the file, all rules that point to that address list will function abnormally and the automatic audit performed by the ListSTAR Server will not be able to fix the problem.

**Q:** Is there any way to reassign a different address list to an existing service?

**A:** You must manually change each rule that points at the old address list.

**Q:** Do you recommend setting up a Timer service for each Mailer service?

**A:** No, there's no real reason to. You might want to create separate timer accounts to logically group services together, but there is no requirement to do this.

It's important to understand that you can have any number of rules in a Timer service and each rule is independent. A Timer-based rule is not related to any other rule in the service. (You can relate a series of rules, but there is no requirement that they be related.)

In addition, each timer-based rule that contains a send action can be associated with a different From address (the From address associated with a selected Mailer service). So, you can simply add the appropriate Timer-based rules to the Administration service, and everything will function properly.

**Q:** Is there a easy way to add my E-mail address for all logs and reports to be mailed to my account?

**A:** Yes. See *Mailing Files and Reports to the Administrator*.

**Q:** Can I set up a service to allow users to choose if they want to receive a digest instead of multiple messages?

**A:** Yes. Typically, users subscribe to the digest version or a Listserver by specifying the digest in the subscribe message. Separate address lists are maintained for those users who receive each message as it is received and for those who receive digests. See *Setting Up Email-On-Demand* for an example of how to set this up.

**Q:** I used Eudora to send a test message to a new service in the POP3 version of ListSTAR. When I checked my mail, it was there but there was a mysterious equal sign where the first sentence of the message body wrapped to the second line.

**A:** What you are seeing are the results of a MIME Quoted-Printable message not being recognized as such and decoded by Eudora.

The ListSTAR Server does not do additional processing for forwarded messages. If the message is in MIME format when the service receives it, it will remain in MIME format when it is forwarded to list members. The enclosure and message-processing options configured in General Preferences (SMTP and POP3 versions only) are used to process messages originating in ListSTAR, like Help messages, or AppleScript-generated messages, but do not affect forwarded messages.

There are lots of configuration problems with some UNIX systems in that they can strip out information from RFC 822 headers that keep them from being recognized as MIME messages.

**Q:** When users subscribe to my list, their subscribe message gets forwarded to the entire list even though the subscribe rule comes before reflect and the subscribe rule has the stop processing flag set. Where did I mess up?

**A:** Check if you have set the Forward To List option in the Address List Actions window of the subscribe rule.

**Q:** When users receive a message from the Listserver, they click on Reply and the reply message is addressed to the original sender. I would like to set the Listserver so that replies are directed to the Listserver address instead.

- A: In the QuickMail or Microsoft Mail version of ListSTAR, the From address will always be the Listserver's account address. In the SMTP or POP3 version, the default From address is that of the original sender, but you can set it to the Listserver's address by using an option in the Reply Actions window. See the description of Reply Actions in the *ListSTAR Technical Reference*.
- Q:** When multiple triggers are set, they seem always to be ANDed together. (The rule executes only if all triggers are satisfied.) Is there a way to set them up so the rule executes if *any one* of the triggers is satisfied?
- A: The only way to do an OR operation with triggers is to use separate rules.
- Q:** The Mailer-Daemon/Listserv address trigger doesn't detect mail that is sent from a discussion list. What do I have to do to make a rule that will recognize that the message is from a discussion list?
- A: If you know the exact address of the discussion list, supply it as an explicit Address Trigger. Instead of using the From address as a list-server/mail-daemon trigger, use From and specify the address exactly. If you want to specify a general address that handles addresses from a variety of discussion lists, you can do so by using the OR operator in a regular expression. See the discussion of regular expressions in the *ListSTAR Technical Reference*.
- Q:** Can I use ListSTAR as a personal rules/filtering system to handle my mail?
- A: Yes. You can use ListSTAR rules to implement any type of service you wish, including such things as recognizing mail from particular From addresses and handling it separately, or forwarding your mail to another address.
- Q:** How do I publish information that contains graphics, not just text?
- A: You should first make sure that the graphic files are in a commonly recognized format, such as GIF or PICT. Then, when you configure a service to send these files out, make sure that you specify that the file is sent as an enclosure, not as part of the outbound message body.
- Q:** I'm running ListSTAR/SMTP and want to move it to a different machine. Can I just move the ListSTAR folder?
- A: The best way is to move the entire ListSTAR/SMTP folder to the new volume. When the ListSTAR Server starts up, it will audit all rules and patch up references to files/folders. There are a couple of items that can make the audit have problems, leaving with you dysfunctional rules. These are described below.
- First, your content/filing locations (all files and folders referenced by a rule) should be in that service's folder. If they aren't, the audit might not be able to find them and patch them up.
- Second, AppleScripts will not be patched. The AppleScripts built by the setup AutoResponder scripts script have full pathnames to files/folders (includes the volume name), so if the volume name changes, these scripts will need to be edited to show the new volume name.
- When you startup the ListSTAR Server on the new system, look for ERROR messages in the log file. These will tell you what service and rule the audit code was unable to fix. You should fix these rules by hand (remember, AppleScripts are not audited, so you will need to verify these yourself).
- Of course, you will have to modify the TCP/IP and DNS setup as well.

**Q:** Does ListSTAR have to be on the same Macintosh as my QuickMail or Microsoft Mail server, and if it does, should that Macintosh be dedicated?

**A:** No, ListSTAR does not have to be on the same Macintosh as the QuickMail or Microsoft Mail server software.

In the QuickMail version, the ListSTAR Server uses QuickMessenger to log in to a MailCenter across the AppleTalk network. In the Microsoft Mail version, it uses the Microsoft Mail extension (the client software) to log in across AppleTalk.

**Q:** Does the user's client software have to be open in QuickMail or Microsoft Mail for ListSTAR to get messages for that user account and process them?

**A:** No, the user's client software does not need to be open, but in the case of Microsoft Mail, the client software does have to be on the same Macintosh as ListSTAR.

**Q:** I'm running Microsoft Mail version of ListSTAR and the Macintosh seems to freeze now and then.

**A:** Occasionally the Macintosh running ListSTAR can appear to freeze for a few seconds or more. This is caused by the Microsoft Mail login process, which occurs synchronously, so other processes are temporarily suspended while it is logging in. This temporary suspension is usually not noticeable on smaller networks. However, on a large, busy network, you could notice a brief freeze of operations on the Macintosh.

If you are on a large network and are physically remote from the MS Mail Server, you may want to ask the administrator to move Microsoft Mail accounts for ListSTAR services to a different server that is closer to the Macintosh running ListSTAR. Or, you can increase the timing interval to log in less frequently.

If the ListSTAR Server is transferring mail that includes very large file enclosures, the temporary freeze caused by the login procedure can be extended to a longer period, sometimes as long as a few minutes. This delay is again caused by the synchronous operation of the Microsoft Mail extension in communication with the MS Mail Server. It should occur only if a large application or file is enclosed in one of the messages being transferred.

**Q:** What is AppleScript and where can I get it?

**A:** AppleScript is a scripting language that allows you to communicate with Macintosh applications and without using the keyboard or mouse. It is available from Apple Computer, Inc. and is included as a part of System 7.5.

**Q:** I wrote an AppleScript that compiles fine, but it fails when executed by the ListSTAR Server. I can't figure out what's wrong with it.

**A:** First, check that you are executing the script in the proper context. A common mistake is to execute an AppleScript as a trigger when its real intention is to be executed as an action. See the *ListSTAR Technical Reference* for details.

**Q:** When I try to use the AppleScripts included with ListSTAR, they fail. It seems like some variables aren't being defined.

**A:** Make sure the script is saved as Text Only if it contains variables ListSTAR is supposed to append. See the *ListSTAR Technical Reference* for information on scripts of type text, compiled scripts, and scripts of type application.

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- A mailing list devoted to ListSTAR issues:

`liststar-talk@starnine.com`

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- Our support staff can be reached at (510) 649-4949, or at any of the addresses shown below:

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