IBM Advanced Interactive Executive
for the Personal System/2
(AIX PS/2)
INmail/INnet/INftp User's Guide
Version 1.1

Document Number SC23-2087-0

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About This Book

 This book explains how to use the INmail/INnet/INftp/Connect facilities on
 the IBM Advanced Interactive Executive (AIX) for the Personal System/2.
 It provides both guide and reference information on how to:

    Configure your system for local mail and remote function

    Use INmail with the INed edito

    Interact with remote systems

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 Subtopics
Who Should Read This Book
What You Should Know
Related Publications

PREFACE.1 Who Should Read This Book

This book is written for AIX PS/2 Operating System users who need to use
the mail, terminal emulation and file transfer facilities of
INmail/INnet/INftp in their day-to-day activities.

The parts of this book that discuss how to use the INmail/INnet/INftp
functions are designed for users who have an understanding of the IBM PS/2
functions and who are familiar with AIX PS/2 Operating System commands.

The system configuration and technical reference parts of this book are
designed for users with a basic understanding of the AIX PS/2 Operating
System, networking experience, and system administration experience.
Parts of the technical reference sections also require some programming
experience.

What You Should Know

 If you are unfamiliar with a term used in this book, refer to the glossary
 in the back of the book. For information on specific AIX PS/2 commands,
 see the *AIX Operating System Command Reference*.

 Subtopics
How To Use This Book
Quick Reference Boxes
Highlighting

How To Use This Book

 This book is divided into three parts:

    Read "Part 1. Configuring INmail/INnet/INftp" for an overview of the
    INmail/INnet/INftp product and instructions on how to configure
    INmail/INnet/INftp on your computer system.

    Read "Part 2. Using the INmail/INnet/INftp Functions" for
    instructions on how to use INmail/INnet/INftp functions after the
    product is configured on your computer system.

    Read "Part 3. Technical Reference Information" for reference
    information on the commands and files that are a part of the
    INmail/INnet/INftp product. This information is listed alphabetically
    within the chapter.

 A Glossary is provided in the back of this book. Refer to the Glossary
 for any terms you are unfamiliar with that are used in the book.

Quick Reference Boxes
 The procedural sections of this book provide you with boxed instructions.
 The boxed instructions present only the basic information necessary to
 perform a particular task. The boxed instructions are similar to this:

```
+--- To Use A Quick Reference Box --------------------------------------+
¦                                                                       ¦
¦    Ship over the quick reference instructions the first time you read ¦
¦     a section.                                                        ¦
¦                                                                       ¦
¦    Use the quick reference instructions as a fast path through the    ¦
¦     book.                                                             ¦
¦                                                                       ¦
¦    Refer to the boxed instructions for a quick review.               ¦
¦                                                                       ¦
+-----------------------------------------------------------------------+
```

 In most cases, detailed information follows the boxed instructions. The
 detailed information supplements the boxed instructions and may include
 descriptions, examples, and illustrations.

Highlighting

This book uses certain type styles to identify different kinds of information in text, examples, and command format. The following type styles are used:

Bold   Names of keys, message lists, system files, system-named files, commands, and command flags are printed in this type style.

Italics   Titles of publications and variable information are printed in this type style.

Bold italics   New terms are printed in this type style.

Monospace   User-named files, user responses, and special characters are printed in this type style. Messages and examples that appear on the display screen are also printed in this type style. Anything you ask users to type in is in this type style.

Related Publications

For additional information, you may want to refer to the following IBM AIX
Operating System publications for the PS/2:

AIX PS/2 INed, SC23-2001, contains information for using the INed
editor and the other facilities of TEN/PLUS user interface to the AIX
PS/2 Operating System.

Installing and Customizing the AIX PS/2 Operating System, SC23-2027,
provides step-by-step instructions for installing and customizing the
AIX PS/2 Operating System, including instructions for adding devices
to and deleting them from the system and for defining device
characteristics. This book also explains how to create, delete, and
change AIX PS/2 and non-AIX PS/2 minidisks.

Managing the AIX PS/2 Operating System, SC23-2031, describes such
system-management tasks as adding and deleting user IDs, creating and
mounting file system, backing up the system, repairing file system
damage, and setting up an electronic mail system and other networking
facilities.

Command Reference, SC23-2025, lists and describes the AIX Operating
System Operating System commands.

Technical Reference, Volumes 1 and 2, SC23-2032 and SC23-2033,
describes the system calls and subroutines a programmer would use to
write application programs. This book also provides information about
the AIX PS/2 Operating System file system, special files,
miscellaneous files, and the writing of device drivers.

Using the AIX PS/2 Operating System, SC23-2024, contains information
on using AIX PS/2 Operating System commands, working with the file
system, using communication facilities, and developing shell
procedures.

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1.0 Part 1. Configuring INmail/INnet/INftp

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1.1.2 About This Chapter
1.1.3 Overview of INmail/INnet/INftp/Connect
1.1.4 INmail/INnet/INftp/Connect Features
1.1.5 How INmail/INnet/INftp/Connect Works

1.1.1 CONTENTS

1.1.2 About This Chapter

This chapter provides an overview of the INmail/INftp/Connect product, describes its features and what you need to use it, and briefly discusses its major components and how they work.

1.1.3 Overview of INmail/INnet/INftp/Connect

INmail/INnet/INftp/Connect is a product designed to operate with the AIX
Operating System for the PS/2. ( ) ( ) ( ) It uses communications
facilities to distribute mail among users on the same AIX PS/2 Operating
System or among different systems running INmail/INnet.

INmail/INnet extends the capability of the INed editor and provides for
the queued transfer of files and electronic messages. You can use
INmail/INnet to send, receive, update, print, delete, restore, move, copy,
search, and review messages.

INmail/INnet provides a reminder facility that can be inspected at system
start-up or during periodic intervals. This facility can also start
programs at specified time intervals.

The **INftp** program provides interactive file-transfer facilities. The
Connect program provides remote-terminal login facilities.

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Subtopics
1.1.3.1 Before You Begin

1.1.3.1 Before You Begin

Before you can use the information in this book, you must have the AIX
Operating System installed on your computer system. For information on
how to install the AIX Operating System, refer to the installation
instructions in *Installing and Customizing the AIX PS/2 Operating System*.

Some of the tasks you perform with INmail/INnet/INftp require the use of a
text editor. You must be familiar with an AIX Operating System text
editor, such as the INed editor, to perform these tasks. ( )

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1.1.4 INmail/INnet/INftp/Connect Features

With the INmail/INnet/INftp/Connect programs, you can:

Send mail to one or multiple users (using a mail distribution list with copies routed to other users

Answer mail with message headers automatically formatted to indicat which message is being answered

Forward mail with or without editin

Access your mailbox and create and send mail messages from the INe editor

Send messages interactivel

Store messages in named file

List or delete selected message

Restore deleted message

Add messages to a secondary mailbo

Review past correspondenc

Send or receive reminder

Move messages to a text file for printin

Exchange mail among multiple computer systems on a communication network

Forward mail automaticall

Copy files between remote and local system

Log in as a user on a remote system

Subtopics
1.1.4.1 What You Need

1.1.4.1 What You Need

To install and run INmail/INnet/INftp/Connect, you need the following
hardware and software.

Subtopics
1.1.4.1.1 Required Hardware
1.1.4.1.2 Optional Hardware
1.1.4.1.3 Required Software

1.1.4.1.1 Required Hardware

An IBM PS/2 capable of running AIX and communicating with other AI
PS/2 systems.

A displa

A 40MB fixed disk

1.1.4.1.1 Required Hardware

An IBM PS/2 capable of running AIX and communicating with other AI
PS/2 systems.

1.1.4.1.2 Optional Hardware

A compatible mode

PS/2 Dual Async Adapter

1.1.4.1.3 Required Software

AIX PS/2 Operating System licensed program

1.1.4.1.3 Required Software

AIX PS/2 Operating System licensed program

1.1.5 How INmail/INnet/INftp/Connect Works

The INmail/INnet/INftp/Connect programs provide:

Local mail facilities that enable a user to send mail to other user
on the same computer system.

Remote mail facilities that enable a user to send mail to users o
other computer systems.

File transfer facilities that enable a user to transfer files betwee
different computer systems and manipulate files on other computer
systems.

Remote login facilities that enable a user to use a work station as
remote terminal to log in to another computer system.

Subtopics
1.1.5.1 Local Mail
1.1.5.2 Remote Mail
1.1.5.3 File Transfer Facilities
1.1.5.4 Remote Login Facilities

1.1.5.1 Local Mail

The local mail facilities are a feature of INmail/INnet that enable
distribution of mail among users on the same computer system. Each user's
mailbox, a file in the user's home directory, is the focal point of mail
activity. This file is private and protected from access by other users.

Using the INed editor, you can receive, compose, send, and read mail
messages in this file. The editor provides a menu through which you can
perform the various INmail tasks. You can also use an editor other than
the INed editor or no editor at all to send and receive mail, since you
can compose, distribute and receive your messages by means of individual
INmail/INnet commands.

1.1.5.2 Remote Mail

The remote mail facilities are a feature of INmail/INnet that enable
distribution of mail among users on different computer systems. INnet
provides the communication facilities between two or more systems running
INmail/INnet. INnet is comprised of the following facilities:

      Remote mai
      Remote prin
      Remote copy

The remote mail facilities enable a user to send mail to users on other
computer systems. Messages created on any system in the remote mail
network are first delivered to a directory that has been set up on the
addressed system to receive all incoming and outgoing mail. The
INmail/INnet program running on that system then distributes the mail from
that directory to the addressed user's own mailbox.

The remote print facility of INnet allows users to print locally created
output on remote printers.

The remote copy facility allows queued file transfer among remote file
systems.

1.1.5.3 File Transfer Facilities

The file transfer facilities are a feature of the **INftp** program. **INftp**
allows the interactive transfer of files between your computer system and
a remote system that is running INmail/INnet/INftp/Connect.

Once a communications link with another system is established, you can
interactively send, retrieve, rename, or delete files on the remote
system. This is accomplished by means of a server process running on the
remote system. The server, **ftpsrvr**, interprets and runs the commands that
you send, returning an exit code and the output of the command.

1.1.5.4 Remote Login Facilities

The remote login facilities are a feature of the **Connect** program. **Connect** allows you to log in to a remote system. It makes the connection and then runs a program, **/usr/lib/INnet/atalk**, an interactive command interpreter. The **Connect** program does not require a server at the remote site.

1.2 Chapter 2.   Configuring a System for Local Mail

Subtopics
1.2.1 CONTENTS
1.2.2 About This Chapter
1.2.3 General Prerequisites
1.2.4 Setting Up Links to New Mail Utility Files
1.2.5 Enabling an INmail Notification Message
1.2.6 Defining a System for INmail
1.2.7 Setting Up Automatic Mail System Start-Up
1.2.8 Starting the Local Mail System
1.2.9 Testing the Local Mail Configuration
1.2.10 If Local Mail Works
1.2.11 If Local Mail Does Not Work

1.2.1 CONTENTS

1.2.2 About This Chapter

This chapter tells you how to configure a computer system for local mail
usage.

Throughout the chapter, you will see fast-path boxes showing steps you
must perform to configure local mail. Where necessary, more detailed
information on the steps follows a box.

The test scenario at the end of the chapter is to be run after you
complete the steps in the local mail configuration. Successful completion
of this test means that the local mail facilities are functioning
properly.

After you configure your computer system using the steps discussed in this
chapter, users installed on the system can use INmail to exchange mail
among themselves.

Note: Your system must be configured for local mail before it can be set
up for handling remote mail.

1.2.3 General Prerequisites

The AIX PS/2 Operating System INmail/INnet/INftp licensed program must be
installed on your computer system before local mail configuration begins.
For information on how to install INmail/INnet/INftp, see Appendix A,
"Installing INmail/INnet/INftp."

It is assumed that the user who configures the local mail functions:

    Is familiar with the AIX Operating System and its commands

    Has system administration experience

    Can log in to the computer system with superuser authority. Only
    user with superuser authority can perform the steps for configuring
    local mail discussed in this chapter.

    Is familiar with an AIX Operating System text editor, such as the INe
    editor, that is installed and running on the AIX Operating System.
    Some of the steps involve editing a text file.

1.2.4 Setting Up Links to New Mail Utility Files

Note: You must be logged in to the computer system with superuser
        authority to continue.

INmail provides enhanced versions of the AIX Operating System **mail** and
rmail commands. The INmail programs, **iscmail** and **iscrmail**, are designed
to run under the same names as the AIX Operating System commands.
Therefore you must link the INmail **iscmail** program with the AIX Operating
System **mail** program and the INmail **iscrmail** program with the AIX Operating
System **rmail** program.

The following steps show how to link the programs, and also how to rename
the existing AIX Operating System **mail** command if you installed
INmail/INnet/INftp for the first time or if you re-installed both the AIX
Operating System and INmail/INnet/INftp.


```
+--- Renaming and Linking Programs -------------------------------------+
¦                                                                      ¦
¦ Link the INmail/INnet/INftp iscmail program to the AIX Operating     ¦
¦ System mail program by entering:                                     ¦
¦                                                                      ¦
¦                                                                      ¦
¦                                                                      ¦
¦   ln /bin/iscmail /bin/mail                                          ¦
¦                                                                      ¦
¦                                                                      ¦
¦                                                                      ¦
¦ after the system prompt.                                            ¦
¦                                                                      ¦
¦ Note:  Another version of mail exists in /usr/bin/mail.  Define your ¦
¦        search paths to account for this or use absolute pathnames.   ¦
¦                                                                      ¦
+----------------------------------------------------------------------+
```


Subtopics
1.2.4.1 More Detailed Information

1.2.4.1 More Detailed Information

If you want to make the AIX Operating System **mail** and **rmail** commands
available to users, you must rename them before linking the
INmail/INnet/INftp programs to them.

Note: For precautionary reasons only, **iscmail** and **iscrmail** are linked
rather than renamed.

1.2.5 Enabling an INmail Notification Message

You can set up the system to send a mail notification message to a user whenever INmail mail is sent to that user. Uncommenting a line in the **/etc/profile** file enables the INmail notification.

The following steps show how to enable the INmail notification message.

```
+--- Enabling INmail Mail Notification --------------------------------+
¦                                                                      ¦
¦ 1.  Read the following file into a text editor:                      ¦
¦                                                                      ¦
¦                                                                      ¦
¦      /etc/profile                                                    ¦
¦                                                                      ¦
¦                                                                      ¦
¦ 2.  Find the following line in the profile file:                    ¦
¦                                                                      ¦
¦                                                                      ¦
¦      # MAIL=$HOME/.smail                                             ¦
¦                                                                      ¦
¦                                                                      ¦
¦ 3.  Delete the # and any spaces following it, if any, in the line.  ¦
¦                                                                      ¦
¦ 4.  Save the profile file with the changes you made.                ¦
¦                                                                      ¦
+----------------------------------------------------------------------+
```

1.2.6 Defining a System for INmail

Defining a system for INmail involves:

Giving your computer a system name that INmail can recognize

Creating a directory with the same name as the system name. Mail i
routed through this directory before it is delivered to a user on the
system.

Setting the permissions and ownership for the newly created director
so that users on the system can access the directory.

The following steps define your system so that INmail can recognize the
system and can route mail to users on the system.

```
+--- Defining a System for INmail ---------------------------------------+
¦                                                                        ¦
¦ 1.   If desired, change the system name defined for your computer with ¦
¦      the chparm command:                                               ¦
¦                                                                        ¦
¦                                                                        ¦
¦                                                                        ¦
¦        chparm nodename=LOCAL                                           ¦
¦                                                                        ¦
¦                                                                        ¦
¦      replacing LOCAL with the new system name.                         ¦
¦                                                                        ¦
¦ 2.   Read the following file into a text editor:                       ¦
¦                                                                        ¦
¦                                                                        ¦
¦        /etc/sites                                                       ¦
¦                                                                        ¦
¦                                                                        ¦
¦ 3.   Type the following line as the first line in the sites file:      ¦
¦                                                                        ¦
¦                                                                        ¦
¦        LOCAL::/usr/spool/qftp/LOCAL:                                    ¦
¦                                                                        ¦
¦                                                                        ¦
¦      replacing both occurrences of LOCAL with your computer's system   ¦
¦      name.                                                              ¦
¦                                                                        ¦
¦ 4.   Save the sites file with the changes you made.                    ¦
¦                                                                        ¦
¦ 5.   Create a queuing directory with the same name as the system name  ¦
¦      for your computer by typing:                                      ¦
¦                                                                        ¦
¦                                                                        ¦
¦        mkdir /usr/spool/qftp/LOCAL                                     ¦
¦                                                                        ¦
¦                                                                        ¦
¦      replacing LOCAL with your system name.                            ¦
¦                                                                        ¦
¦ 6.   Set permissions and ownership for the new directory by entering   ¦
¦      the following three commands:                                     ¦
¦                                                                        ¦
¦                                                                        ¦
¦        chmod 777 /usr/spool/qftp/LOCAL                                 ¦
¦        chown bin /usr/spool/qftp/LOCAL                                 ¦
¦        chgrp bin /usr/spool/qftp/LOCAL                                 ¦
```

```
¦                                                                              ¦
¦                                                                              ¦
¦     replacing LOCAL with your system name.                                   ¦
¦                                                                              ¦
+------------------------------------------------------------------------------+
```

Subtopics
1.2.6.1 More Detailed Information
1.2.6.2 Related Information

1.2.6.1 More Detailed Information

A computer system running INmail/INnet/INftp must have a system name that
can be recognized by the INmail/INnet/INftp programs. To see the current
system name for your computer, you can enter the following **uname** command:

    uname -n

System names that INmail/INnet/INftp can recognize contain:

    Eight characters or les

    A letter as the first character in the nam

    Any combination of uppercase or lowercase letters, numbers, -
    (dashes), or _ (underscore characters).

The following are examples of system names that the programs can
recognize:

    Site1
    AUSTIN
    La-33
    store_29

Note: If you plan to set up remote facilities to communicate with other
         computers in an INmail/INnet/INftp network, it is recommended that
         you contact the coordinator of the network for:

             Information on special system naming conventions, if any, used
             in the network. For instance, the network setup may require
             that each INmail system name end with a unique number.

             Verification that the system name you select is not already
             used by another system installed on the INmail/INnet/INftp
             network. Each system installed on a particular
             INmail/INnet/INftp network must have a unique system name.

The field entries in the line you type in **/etc/sites** define the following
information used by INmail:

+--+
¦ Table 2-1. Field Entries in /etc/sites   ¦
+--¦
¦ **This field entry:**   ¦ **Defines:**   ¦
+--------------------------------+---¦
¦ **LOCAL**   ¦ The INmail system name.   ¦
+--------------------------------+---¦
¦ **/usr/spool/qftp/LOCAL**   ¦ The path to the queuing directory that ¦
¦   ¦ will be set up for **LOCAL**.   ¦
+--+

A *queuing directory* is a directory through which mail sent to or from a
computer system is routed. A queuing directory must be created for proper
routing of mail on each computer system that uses INmail.

The line in **/etc/sites** that defines your system name and the path name for
your system's queuing directory must be the first line in the file.
INmail expects the first line in this file to define the INmail system

name for the local computer system.

Note that the name of the queuing directory set up for your computer
system must be the same as the system name for your computer system.
Also, the queuing directory must be set up as a subdirectory in the
existing **/usr/spool/qftp** directory for correct INmail functioning.

Setting the permissions and ownerships for the queuing directory as
indicated in the steps allows users on your computer system to access the
directories and thereby exchange mail with other users on the system.

The **777** set with the **chmod** command gives read, write, and execute access
permission for the specified directories to all system users.

The **bin** owner and group set with the **chmod** and **chgrp** commands gives system
users other necessary permissions required for correct INmail functioning.

1.2.6.2 Related Information

For more information on what you can enter into the **sites** file, see
"sites" in topic 3.8.7.

For more information on the **mkdir**, **chmod**, **chown**, and **chgrp** commands, refer
to each command explanation in the *AIX Operating System Command Reference*.

1.2.7 Setting Up Automatic Mail System Start-Up

To set up automatic mail system start-up, you must add lines to the
existing **/etc/rc** file. The lines you add:

> Run a program to create user and site information files for use by th
> mail programs

> Start up the **qftp** daemon with instructions to deliver mail every 60
> seconds.

Note: It is recommended that you make a temporary backup copy of the
/etc/rc file before you edit the file. The file contains
information vital to correct system functioning.

```
+--- Setting Up Automatic Mail Start-Up --------------------------------+
¦                                                                       ¦
¦ 1.  Read the following file into a text editor:                       ¦
¦                                                                       ¦
¦                                                                       ¦
¦      /etc/rc                                                          ¦
¦                                                                       ¦
¦                                                                       ¦
¦ 2.  Add the following lines to the rc file:                           ¦
¦                                                                       ¦
¦                                                                       ¦
¦      echo making the alias file                                       ¦
¦      /usr/lib/INmail/mkalias.sh < /                                   ¦
¦      echo starting the qftp daemon                                    ¦
¦      /etc/qftp -60&                                                   ¦
¦                                                                       ¦
¦                                                                       ¦
¦ 3.  Save the rc file with the changes you made.                       ¦
¦                                                                       ¦
+-----------------------------------------------------------------------+
```

Subtopics

1.2.7.1 More Detailed Information

The **rc** file is run whenever the computer system is restarted. The lines
in it contain one or more commands that set up things the system requires
to run properly, such as machine-readable binary files. The line:

   /usr/lib/INmail/mkalias.sh < /

in the **rc** file runs the **mkalias.sh** program. This program creates the
files the system reads to route mail to specified systems and users.
These files are created using information in the **/etc/sites** and
/etc/passwd files and information from other files.

The line:

   /etc/qftp -60&

in the **rc** file runs the **qftp** program. This program starts the **qftp** daemon
process that controls mail delivery.

The **-60&** in the line sets the process to deliver mail every 60 seconds as
a background process.

1.2.7.2 Related Information

For information on how to set a mail delivery time other than every 60
seconds for **qftp**, see "/etc/qftp" in topic 3.7.15.

If you would like to set up the **remind** command see "remind" in
topic 3.7.18.

For information on how to set a mail delivery time other than every 60
seconds for **qftp**, see "/etc/qftp" in topic 3.7.15.

1.2.8 Starting the Local Mail System

In previous sections, you entered information in files that your computer system needs to run the local mail facilities of INmail/INnet. You must now:

>   Run a program called **mkalias.sh** to set up other necessary user and system information files for use by the INmail program

>   Start the **qftp** daemon process that you defined, so it can deliver mail.

The following steps start the local mail system for use by installed users. The local mail system can also be started by a system reboot, since the **/etc/rc** file is run whenever the system is booted and sets up necessary information for INmail.

Note: If you changed the system name of your computer with the **chparm** command earlier in this chapter, you must reboot the computer to start the mail system. A new system name is not recognized by the computer until a reboot is performed.

```
+--- Starting the Local Mail System -----------------------------------+
¦                                                                      ¦
¦ 1.  Enter the following to run the mkalias.sh program:               ¦
¦                                                                      ¦
¦                                                                      ¦
¦      /usr/lib/INmail/mkalias.sh </                                   ¦
¦                                                                      ¦
¦                                                                      ¦
¦ 2.  After the system prompt reappears, enter the following to start  ¦
¦     the qftp daemon as a background process:                         ¦
¦                                                                      ¦
¦                                                                      ¦
¦      /etc/qftp -60&                                                  ¦
¦                                                                      ¦
¦                                                                      ¦
¦ 3.  To ensure that the qftp daemon is running, enter the following ps¦
¦     command:                                                         ¦
¦                                                                      ¦
¦                                                                      ¦
¦       ps  -e                                                         ¦
¦                                                                      ¦
¦                                                                      ¦
¦ 4.  A list similar to the following is displayed on your screen:     ¦
¦                                                                      ¦
¦                                                                      ¦
¦        PID            TTY    TIME    COMMAND                         ¦
¦         1              -     0:00    init                            ¦
¦        49          console   0:00    sh                             ¦
¦        51          console   0:00    ps                             ¦
¦        29              -     0:00    cron                           ¦
¦        39          console   0:00    qftp                          ¦
¦        46          console   0:00    qdaemon                        ¦
¦        48          console   0:00    shmyste                        ¦
¦                                                                      ¦
¦                                                                      ¦
¦ 5.  The appearance of qftp in the COMMAND column indicates that the  ¦
¦     qftp daemon is running.                                          ¦
¦                                                                      ¦
```

+--+

Subtopics
1.2.8.1 More Detailed Information

1.2.8.1 More Detailed Information

The execution of **mkalias.sh**:

Creates a file called **/etc/alias** that includes information for the
entries you made during the configuration process and other
information used by the operating system.

Creates a binary version of **/etc/alias** called **/etc/alias.delta** and
overwrites any existing version of **/etc/alias.delta** with this new
version.

Creates a binary version of **/etc/sites** called **/etc/sites.delta** that
includes information for the entries you made during the configuration
process and overwrites any existing version of **/etc/sites.delta** with
this new version.

When you start the **qftp** daemon, the operating system:

Starts the **qftp** daemon process to handle mail delivery

Sets the process to deliver mail every 60 seconds as a backgroun
process.

The **-60&** in the command sets the process to deliver mail every 60 seconds
as a background process.

After **mkalias.sh** is run and the **qftp** daemon is started, users installed on
your computer system can send and receive mail to other users installed on
the system, and can use other facilities of local mail.

1.2.9 Testing the Local Mail Configuration

If you can perform the following two tasks:

    Send mai
    Receive and read mai

the local mail configuration is functioning properly.

This section shows you how to send and receive a mail message using the
sendmail and **readmail** commands.

Note: The steps in the following sections assume that you are logged in
         as **root** and that you are sending mail to yourself. When testing
         the local mail function on your computer system, you can send and
         receive mail from any user that was installed prior to starting the
         local mail system.

Subtopics
1.2.9.1 Sending a Mail Message
1.2.9.2 Reading a Mail Message

1.2.9.1 Sending a Mail Message

The following steps show you what to type to send a mail message to
yourself when you are logged in as **root**. Mail sent to one's own user ID
is delivered in the same way as mail sent to another user ID.

Note: It is assumed that you are already logged in to the system. Also,
the **" "** (double quotation marks) around the message are not
considered part of the message. They indicate the beginning and
end of the message and are not sent as part of the message.

```
+--- Sending a Mail Message ---------------------------------------+
¦                                                                  ¦
¦ 1.  Type the following line to send a message to yourself as root on  ¦
¦     the computer system:                                         ¦
¦                                                                  ¦
¦                                                                  ¦
¦       sendmail -t"root"  -m"Local mail test"                     ¦
¦                                                                  ¦
¦                                                                  ¦
¦ 2.  Press the Enter key to run the sendmail command and send the ¦
¦     message to the user ID root.                                 ¦
¦                                                                  ¦
+------------------------------------------------------------------+
```

Subtopics
1.2.9.1.1 More Detailed Information

1.2.9.1.1 More Detailed Information

The parameters you type with the **sendmail** command set up the following
information:

```
+-------------------------------------------------------------------+
¦ Table  2-2. sendmail Command Parameters                           ¦
+-------------------------------------------------------------------¦
¦ This parameter:          ¦ Sets up:                               ¦
+--------------------------+----------------------------------------¦
¦ -t"root"                 ¦ root as the recipient of the message you ¦
¦                          ¦ are sending.                           ¦
+--------------------------+----------------------------------------¦
¦ -m"Local mail test"      ¦ The message Local mail test to be sent to ¦
¦                          ¦ root.                                  ¦
+-------------------------------------------------------------------+
```

1.2.9.2 Reading a Mail Message

The following steps show what to type to receive and read a mail message
sent to yourself as **root**.

Note: It is assumed that the message was sent over 60 seconds ago, to
         ensure that the **qftp** daemon has time to deliver the mail, and that
         you are already logged in to the system as **root**.

```
+--- Reading a Mail Message ---------------------------------------------+
|                                                                        |
| 1.  Enter the following readmail command to read messages delivered by |
|     INmail:                                                            |
|                                                                        |
|                                                                        |
|         readmail                                                       |
|                                                                        |
|                                                                        |
| 2.  The following lines appear on the display screen:                  |
|                                                                        |
|                                                                        |
|         Adding new messages to file "/mbx".                            |
|         Message 1 is new:                                              |
|                                                                        |
|                 1    15   Feb   1986   To:  root                       |
|                                                                        |
|         File "/mbx" has  1 mail messages.                              |
|         ->_                                                            |
|                                                                        |
|                                                                        |
| 3.  To display the message on the display screen, enter the following  |
|     t subcommand:                                                      |
|                                                                        |
|                                                                        |
|         t 1                                                            |
|                                                                        |
|                                                                        |
| 4.  The message and readmail prompt appear on the display screen:      |
|                                                                        |
|                                                                        |
|         Local mail test                                               |
|                                                                        |
|         ->_                                                            |
|                                                                        |
|                                                                        |
| 5.  Enter the q subcommand after the prompt to exit from the readmail  |
|     session and return to the operating system:                        |
|                                                                        |
|                                                                        |
|         q                                                              |
|                                                                        |
|                                                                        |
+------------------------------------------------------------------------+
```

Subtopics
1.2.9.2.1 More Detailed Information
1.2.9.2.2 Related Information

1.2.9.2.1 More Detailed Information

Entering the **readmail** command:

1. Automatically creates a default mailbox for the user ID, if none
    exists

2. Stores messages delivered by INmail in the mailbox for retrieval

3. Starts a *readmail session*.

The default mailbox file is a structured file called **mbx**.

A **readmail** session enables you to use subcommands of the **readmail** command
to do things such as read and answer mail messages stored in the mailbox
file set up for the user ID you logged in under. The line:

   Adding new messages to file "/mbx".

that appears on the screen after you enter the **readmail** command indicates
that the **readmail** command created a mailbox for **root**, if one did not
exist, and is adding messages sent to **root** to the mailbox.

The line:

   Message 1 is new:

indicates that the message numbered **1** was added to the newly created
mailbox by the running of the **readmail** command.

The line:

   1   15   Feb   1986   To: root

indicates that:

     1 is the number assigned to the newly received message.

     15   Feb   1986 is the date on which the message was sent.

     root is the user ID to which the message was sent.

The line:

   File "/mbx" has 1 mail messages.

indicates that the mailbox for **root** contains a total of one message.

The line:

   - _

is a prompt indicating that the **readmail** session is ready to run **readmail**
subcommands.

The display of the message that appears when you type:

   t 1

verifies that the local mail configuration is working correctly.

1.2.9.2.2 Related Information

For more information on the **sendmail** command, see "sendmail" in
topic 3.7.21.

Note: This version of **sendmail** exists in **/usr/bin/sendmail**.   Another
version of **sendmail** for other products exists in **/usr/lib/sendmail**.
Define your search paths to account for this or use absolute
pathnames.

For more information on the **readmail** command and its subcommands, see
"readmail" in topic 3.7.17.

For more information on mailboxes, see "Creating a Mailbox" in
topic 2.5.3.

1.2.10 If Local Mail Works

If you are able to successfully send and receive mail, the local mail
configuration is functioning properly. Users installed on the computer
system can now create and send mail to each other and use other features
of local mail.

After you confirm that local mail is functioning properly, you can go on
to configure your system for communicating with remote computer systems.
Directions for remote configuration are given in Chapter 3, "Configuring a
System for Remote Functions."

1.2.11 If Local Mail Does Not Work

If you cannot send and receive mail after configuring local mail and
following the steps in the test, it is recommended that you repeat the
steps in configuring local mail to ensure that the configuration is
properly set up.

As you repeat the configuration steps:

   Verify that the changes you made to files are typed correctl

   Ensure that your system name is a name that INmail/INnet/INftp ca
   recognize (For information on system names, see "Defining a System for
   INmail" in topic 1.2.6.)

   Ensure that the queuing directory you created for routing mail has th
   same name as the system name you defined, and that the queuing
   directory is in the correct parent directory

   Ensure that the permissions, owner, and group for the directory ar
   set up as described in the instructions.

After you repeat the configuration steps, repeat the test for local mail.

1.3 Chapter 3.   Configuring a System for Remote Functions

1.3.1 CONTENTS

1.3.2 About This Chapter

This chapter tells you how to configure a computer system for remote
function usage. The steps in this chapter set up the information
necessary for:

    Your computer system to initiate a connection with other compute
    systems installed on an INmail/INnet/INftp network

    Other computer systems on an INmail/INnet/INftp network to initiate
    connection with your computer system.

A connection must be initiated and successfully established between two
computer systems on an INmail/INnet/INftp network before the two systems
can exchange mail using INmail/INnet functions or exchange files with the
INftp functions. Also, a connection must be established before you can
use the **Connect** functions to use your computer work station as a terminal
attached to another computer system in an INmail/INnet/INftp network.

Throughout the chapter, you will see fast-path boxes showing steps you
must perform to set up the configuration for remote facilities. Where
necessary, more detailed information on the steps follows a box.

The test scenarios at the end of the chapter are to be run after you
complete the steps in the remote configuration process. Successful
completion of these tests means that the remote functions are working
correctly.

When you complete this chapter, a user on your computer system can use
INmail/INnet/INftp to:

    Exchange mail with users on another computer system installed as par
    of the INmail/INnet/INftp network (using INmail/INnet functions)

    Use a computer work station as a terminal attached to another compute
    system installed on the network (using **Connect** functions)

    Transfer files to and from and manipulate files on another compute
    system installed on the network (using **INftp** functions).

1.3.3 General Prerequisites

Your computer system must be configured for local mail before it can be
set up for handling remote functions. If your system is not configured
for handling local mail, see Chapter 2, "Configuring a System for Local
Mail" for configuration instructions.

Also, communications hardware must be installed on your computer system.
The appropriate hardware can include:

   A Serial/Parallel Adapter car

   A modem for communication over telephone lines, or a cable attache
   directly to your computer and a remote system with which you want to
   communicate

   A cable for connecting the modem to the Serial/Parallel Adapter car
   after the card is installed in your computer, if you are using an
   external modem.

The documentation that comes with the hardware explains how to install the
hardware.

It is assumed that the user who configures the remote functions:

   Has system administration experience

   Can log in to the computer system with superuser authority. Only
   user with superuser authority can perform the steps for configuring
   remote functions discussed in this chapter.

   Is familiar with the AIX Operating System and its commands

   Is familiar with an AIX Operating System text editor, such as the INe
   editor, that is installed and running on the AIX Operating System.
   Some of the steps involve editing a text file.

1.3.4 Information You Need Before You Begin

Using remote functions provided by INmail/INnet/INftp involves
communication between your computer system and another computer system.
The other computer system can be in the same room, another room, another
city, or another country. No matter where the other computer system is
located, both you and the system administrator for the other computer
system must set up specific information about both systems on each
computer before INmail/INnet/INftp communication can take place.

Two worksheets are provided in this chapter for you to use to gather and
organize information you need about your computer system and remote
systems with which you wish to communicate using INmail/INnet/INftp.

The worksheet "INmail Information About Your System" in topic 1.3.4.1 is
intended to help you gather and organize information about your computer
system that is used by INmail/INnet/INftp. The items on the worksheet
are explained in detail in the section following the worksheet. To see a
completed "INmail Information About Your System" worksheet, refer to
"Example - INmail Information About Your System" in topic 1.3.5.1.

The worksheet "INmail Information About Remote Systems" is intended to
help you gather information you need about remote systems you will
communicate with in an INmail/INnet/INftp network. The items on the
worksheet are explained in detail in the section following the worksheet.
To see a completed "INmail Information About Remote Systems" worksheet,
refer to "Example - INmail Information About Remote Systems" in
topic 1.3.5.2.

Note: Contact the system administrator for each remote computer system
         with which you plan to communicate for the information to complete
         a "INmail Information About Remote Systems" for the remote system.

It is recommended that you fill in the information on the worksheets
before starting the remote configuration process on your computer system.
Completing the worksheets ensures that you have the information you need
to:

     Enter system-specific information particular to your computer syste
     and the remote system during the remote configuration process

     Test the remote configuration after you complete the configuratio
     process.

Subtopics
1.3.4.1 INmail Information About Your System
1.3.4.2 Explanation of Worksheet Items
1.3.4.3 INmail Information About Remote Systems
1.3.4.4 Explanation of Worksheet Items

1.3.4.1 INmail Information About Your System

1.   INmail SYSTEM NAME: _____

2.   INmail LOGIN NAME: _____

3.   INmail PASSWORD: _____

4.   INmail ADDRESS: _____

5.   CHARACTERISTICS OF COMMUNICATIONS DEVICE:
     (Circle one in each category)

     (a) Type of Connection:
        permanent   hayes_1200   dec_df0 ventel   other:___
     (b) Line Speed: 110   300   1200   2400   9600   other:___
     (c) Parity: even   odd   any   none

1.3.4.2 Explanation of Worksheet Items

The following sections discuss the numbered items on the "INmail Information About Your System" worksheet. The numbers in this section match the numbers on the worksheet.

1. INmail SYSTEM NAME is the system name you set up during the local mail configuration process as the name by which INmail recognizes your computer system.

2. INmail LOGIN NAME is the login name set up on your system for remote systems to use to call in to your system. The instructions in "Changing the INmail Login Name and Server for the Local System" in topic 1.3.7 show how to set up a INmail login name on a computer system.

    The restrictions for setting up this login name are the same as the restrictions for setting up any other login name on the system. For information on login name, see *Managing the AIX PS/2 Operating System*.

    Note: The login name commonly set up for remote login on systems that are part of an INmail/INnet/INftp network is **netmail**. Setting up some other login name on your system is valid and can help restrict access to your computer to only those to whom you give the login name.

3. INmail PASSWORD is the password for the login name set up on your system for remote systems to use to call in to your system. The instructions in "Setting Up the INmail Password for the Local System" in topic 1.3.8 show how to set up a password for a INmail login name on a computer system.

    The restrictions for setting up this password are the same as the restrictions for setting up any other password on the system. For information on setting up a password, see *Managing the AIX PS/2 Operating System*.

    Note: The password commonly set up for remote login on systems that are part of an INmail/INnet/INftp network is **maILer**. Setting up some other password on your system is valid and can help restrict access to your computer to only those to whom you give the password.

4. INmail ADDRESS is the telephone number the remote system can call to connect with your system. If your computer is directly connected to a remote system by a cable, the communications line is considered a permanent one and no address is required here.

    This information is not entered into the INmail/INnet/INftp remote function configuration on your system. However, it must be set up on the remote system to enable that system to call your system.

    A telephone number used as an INmail address is basically a data sequence that a remote computer can call to initiate an INmail/INnet/INftp connection with your computer. The telephone number is the number for the telephone to which your modem is connected.

    If the telephones attached to the modems on both your computer and the remote computer are part of a telephone system that allows dialing

with a short telephone number or a series of numbers, you can use the regular telephone number, or the short telephone number, or the series of numbers as your address.

For instance, if a telephone in a company-wide telephone system can be dialed up with a short number, such as:

    5-3333

the five-digit telephone number can be used by INmail/INnet/INftp to call the telephone from any other telephone that is a part of the same telephone system.

If a telephone in a company-wide telephone system must be dialed up with a special series of numbers separated by dial tones, such as:

    111
    (wait for dial tone)
    555-3333

the series of numbers can be used by INmail/INnet/INftp to call the telephone from any other telephone that is a part of the same telephone system.

5. CHARACTERISTICS OF COMMUNICATIONS DEVICE is a list of the characteristics of the modem attached to your computer, if any, through which your system communicates with a remote system using INmail/INnet/INftp. If your system is directly connected with a cable to a remote system, the physical connection is considered permanent and this section can be left blank.

    Refer to the documentation that comes with the communications device for information on the characteristics of the device.

    Instructions in "Setting Up a Stanza to Define a Communications Device" in topic 1.3.9.4 show how to set up information on the characteristics of a communications device installed on your system for use by INmail/INnet/INftp.

    Some of the characteristics must be the same on your system and the remote system before data can be exchanged. Specifically:

    a. If the Type of Connection is defined as **permanent**, it is assumed that communication between your system and the remote system takes place over a cable that directly connects the two computers. Otherwise, the entries for the local and remote systems in Type of Connection need not match.

    b. The Line Speed should be set the same on both systems.

    c. The Parity should be set the same on both systems.

    The categories of device characteristics are discussed in detail in "connect.con" in topic 3.8.4.

Note: It is recommended that you give a copy of the information on this worksheet to the system administrator at each remote computer system with which you plan to communicate. Much of this information must also be set up in the remote configuration on the remote computer system before that system can initiate a connection

with your system.

1.3.4.3 INmail Information About Remote Systems

1.   INmail SYSTEM NAME: _____

2.   INmail LOGIN NAME: _____

3.   INmail PASSWORD: _____

4.   INmail ADDRESS: _____

5.   CHARACTERISTICS OF COMMUNICATIONS DEVICE:
     (Circle one in each category)

     (a) Type of Connection:
        permanent   hayes_1200   dec_df03 ventel   other:___
     (b) Line Speed: 110   300   1200   2400   9600   other:___
     (c) Parity: even   odd   any   none

1.3.4.4 Explanation of Worksheet Items

The following sections discuss the numbered items on the "INmail
Information About Remote Systems" worksheet. The numbers in this section
match the numbers on the worksheet.

1. INmail SYSTEM NAME for a remote system is the system name set up on
    the remote system for use by INmail/INnet/INftp.

    The instructions in "Defining a Remote System for INmail" in
    topic 1.3.6 show how to set up the INmail system name of a remote
    system for use by INmail/INnet/INftp on your computer system.

2. INmail LOGIN NAME for a remote system is the login name set up on the
    remote system for other systems to use to call in using
    INmail/INnet/INftp.

    The instructions in "Setting Up a Script File for Remote Mail Use" in
    topic 1.3.10 show how to set up the INmail login name of a remote
    system for use by INmail/INnet/INftp on your computer system.

3. INmail PASSWORD for a remote system is the password for the login name
    set up on the remote system for other systems to use to call in using
    INmail/INnet/INftp.

    The instructions in "Setting Up a Script File for Remote Mail Use" in
    topic 1.3.10 show how to set up the password for the INmail login name
    of a remote system for use by INmail/INnet/INftp on your computer
    system.

4. INmail ADDRESS is the telephone number that your system must call to
    initiate a connection with the remote system using INmail/INnet/INftp.
    If your computer is directly connected to a remote system by a cable,
    the communications line is considered a permanent one and no address
    is required here.

    Instructions in "Setting Up a Stanza for Remote Mail Functions" in
    topic 1.3.9.1, "Setting Up a Stanza for Connect Functions" in
    topic 1.3.9.2, and "Setting Up a Stanza for INftp Functions" in
    topic 1.3.9.3 show how to set up a telephone number for use by
    INmail/INnet/INftp as an INmail address.

5. CHARACTERISTICS OF COMMUNICATIONS DEVICE is a list of the
    characteristics of the modem or line that is attached to the remote
    system.

    The details about the remote system's communications device are not
    entered into your INmail/INnet/INftp remote function configuration.
    However, some of the details must be the same on the remote system and
    your system before data can be exchanged. Specifically:

    a. If the Type of Connection is defined as **permanent**, it is assumed
        that communication between the remote system and your system takes
        place over a cable that directly connects the two computers.
        Otherwise, the entries in Type of Connection need not match.

    b. The Line Speed should be set the same on both systems.

    c. The Parity should be set the same on both systems.

The categories of device characteristics are discussed in detail in
"connect.con" in topic 3.8.4.

1.3.5 Assumptions and Special Notation

The steps discussed in this chapter set up a basic INmail/INnet/INftp
remote function configuration. Two different hypothetical computer
systems are used:

>   **SYSTEMA**, which is assumed to be the local computer system (your
>   computer system)

>   **SYSTEMB**, which is assumed to be a remote system with which you want to
>   communicate.

A completed worksheet for each hypothetical system follows this section.
The information on these worksheets is used to fill in system-specific
information in fast-path boxes in this chapter.

After you complete your own versions of these worksheets, you can follow
the same steps to set up the basic remote functions of INmail/INnet/INftp
on your computer system. References in the boxes to information about
SYSTEMA can be replaced with the same information about your own system.
References to information about **SYSTEMB** can be replaced with similar
information about a remote system with which you want to communicate.

You can distinguish the system-specific information in the steps from
things that must be typed exactly as they appear by the **ITALIC** print.

For example, if the following line appears in a fast-path box as something
for you to type:

    mkdir /usr/spool/qftp/SYSTEMB

you should type **mkdir /usr/spool/qftp/** as it appears and type the name you
entered on your completed worksheet for the same type of system-specific
information in place of **SYSTEMB**.

Subtopics
1.3.5.1 Example - INmail Information About Your System
1.3.5.2 Example - INmail Information About Remote Systems

1.3.5.1 Example – INmail Information About Your System

1.   INmail SYSTEM NAME: ___**SYSTEMA**___

2.   INmail LOGIN NAME: ___**netmail**___

3.   INmail PASSWORD: ___**dept1001**___

4.   INmail ADDRESS: ___**555-9999**___

5.   CHARACTERISTICS OF COMMUNICATIONS DEVICE:
     (Circle one in each category)

     (a) Type of Connection:
          permanent   hayes_1200   dec_df03   ventel   other:___
     (b) Line Speed: 110   300   1200   2400   9600   other:___
     (c) Parity: even   odd   any   none

1.3.5.2 Example – INmail Information About Remote Systems

1.   INmail SYSTEM NAME: ___**SYSTEMB**___

2.   INmail LOGIN NAME: ___**netmail**___

3.   INmail PASSWORD: ___**dept7007**___ -

4.   INmail ADDRESS: ___**555-3333**___

5.   CHARACTERISTICS OF COMMUNICATIONS DEVICE:
     (Circle one in each category)

     (a)   Type of Connection:
           permanent   hayes_1200   dec_df03   ventel   other:___
     (b)   Line Speed: 110   300   1200   9600   other:___
     (c)   Parity: even   odd   any   none

1.3.6 Defining a Remote System for INmail

Defining a remote system for INmail involves:

   Setting up the remote system name in your INmail/INnet/INftp remot
   configuration.

   Creating a directory with the same name as the system name of th
   remote system. Mail is routed through this directory before it is
   delivered to the remote system.

   Setting the permissions and ownership for the newly created director
   so that users on your system can access the directory. This is
   necessary for mail to be routed through the directory.

The following steps define the hypothetical remote system **SYSTEMB** so that
INmail can route mail to users on that system. If you are performing the
steps to set up the INmail system name of a remote system on your computer
system, replace the system-specific information printed in **italics** with
the same information from your completed "INmail Information About Remote
Systems" worksheet.

Note: You must be logged in to your computer system with superuser
          authority to continue.

```
+--- Defining a Remote System for INmail ------------------------------+
¦                                                                      ¦
¦ 1.  Read the following file into a text editor:                      ¦
¦                                                                      ¦
¦                                                                      ¦
¦       /etc/sites                                                     ¦
¦                                                                      ¦
¦                                                                      ¦
¦ 2.  Type the following line as any line but the first in the sites   ¦
¦     file:                                                            ¦
¦                                                                      ¦
¦                                                                      ¦
¦       REMOTE:REMOTE:/usr/spool/qftp/REMOTE:                          ¦
¦                                                                      ¦
¦                                                                      ¦
¦     replacing the three occurrences of REMOTE in the line with the   ¦
¦     system name for the remote system, SYSTEMB.                      ¦
¦                                                                      ¦
¦ 3.  Verify that the line now appears as follows:                     ¦
¦                                                                      ¦
¦                                                                      ¦
¦       SYSTEMB:SYSTEMB:/usr/spool/qftp/SYSTEMB:                       ¦
¦                                                                      ¦
¦                                                                      ¦
¦ 4.  Save the sites file with the changes you made.                  ¦
¦                                                                      ¦
¦ 5.  Create a directory with the same name as the remote system name by ¦
¦     typing:                                                          ¦
¦                                                                      ¦
¦                                                                      ¦
¦       mkdir /usr/spool/qftp/SYSTEMB                                  ¦
¦                                                                      ¦
¦                                                                      ¦
¦ 6.  Set permissions and ownership for the new directory by entering  ¦
¦     the following three commands:                                   ¦
```

```
¦                                                                            ¦
¦                                                                            ¦
¦        chmod 777 /usr/spool/qftp/SYSTEMB                                    ¦
¦        chown bin /usr/spool/qftp/SYSTEMB                                    ¦
¦        chgrp bin /usr/spool/qftp/SYSTEMB                                    ¦
¦                                                                            ¦
¦                                                                            ¦
+----------------------------------------------------------------------------+
```

Subtopics
1.3.6.1 More Detailed Information
1.3.6.2 Related Information

1.3.6.1 More Detailed Information

The field entries in the line you type in **/etc/sites** define the following
information used by INmail/INnet/INftp:

```
+-------------------------------------------------------------------------+
¦ Table  3-1. Field Entries in /etc/sites                                 ¦
¦-------------------------------------------------------------------------¦
¦ This field entry:            ¦ Defines:                                 ¦
¦------------------------------+------------------------------------------¦
¦ SYSTEMB                      ¦ The system name for the remote           ¦
¦                              ¦ computer system.                         ¦
¦------------------------------+------------------------------------------¦
¦ SYSTEMB                      ¦ The routing path for sending data        ¦
¦                              ¦ from your computer system to the         ¦
¦                              ¦ remote computer system.                  ¦
¦------------------------------+------------------------------------------¦
¦ /usr/spool/qftp/SYSTEMB      ¦ The path to the queuing directory        ¦
¦                              ¦ that will be set up for SYSTEMB on        ¦
¦                              ¦ the local computer system.               ¦
+-------------------------------------------------------------------------+
```

This and all lines defining system names for remote systems must follow
the line in **/etc/sites** that defines the system name for your computer. A
routing path defines the remote computer systems through which mail sent
to a specific remote system is routed. The routing path of:

   SYSTEMB

in the example indicates that mail is sent directly from the local
computer system to **SYSTEMB**, with no routing through intermediate remote
systems. As another example, a routing path of **SYSTEMB/SYSTEMC** indicates
that mail sent from the local computer system to a remote system **SYSTEMC**
is:

1. Sent to **SYSTEMB**

2. Sent to **SYSTEMC** by the INmail/INnet/INftp facilities installed on
    SYSTEMB.

A queuing directory is a directory through which mail sent to or from a
computer system is routed. A queuing directory must be created on the
local computer system for each remote computer system with which you want
to communicate on an INmail/INnet network. Note that:

   The queuing directory must be given the same name as the system nam
   for the remote computer system just defined in the **sites** file.

   The queuing directory must be created as a subdirectory in th
   existing **/usr/spool/qftp** directory.

Setting the permissions and ownerships for the queuing directory for the
remote system as indicated in the steps allows users on your computer
system to access the directory and thereby exchange mail with users on the
remote system.

The **777** set with the **chmod** command gives read, write, and execute access
permission for the specified directory to all system users.

The **bin** owner and group set with the **chown** and **chgrp** commands give system

users other necessary permissions required for correct INmail/INnet/INftp
functioning.

1.3.6.2 Related Information

For more information on what you can enter into the **sites** file, see
"sites" in topic 3.8.7.

For more information on the **mkdir**, **chmod**, **chown**, and **chgrp** commands, refer
to each command explanation in *AIX Operating System Command Reference*.

1.3.7 Changing the INmail Login Name and Server for the Local System

Note: You can skip this section and continue with the next section,
         "Setting Up the INmail Password for the Local System" in
         topic 1.3.8, if you want to leave the defaults **netmail** as the
         INmail login name for your system and **waxsrvr** as the server defined
         for the INmail login name. This section discusses how to change
         the INmail login name and server for the INmail/INnet process on
         your system.

A INmail login name must be set up on your computer system before a remote
computer system can log in to your system. Also, a server must be defined
with the login name to handle interaction between your system and the
remote system. The login name commonly set up for use by
INmail/INnet/INftp on systems that are part of an INmail/INnet/INftp
network is **netmail**. However, setting up some other login name on your
system is valid and can help restrict access to your computer to only
those to whom you give the login name.

The following steps show how to change the INmail login name for your
computer system from the default **netmail** to some other name, and how to
change the default server defined for the login name.

```
+--- Changing the INmail Login Name and Server ------------------------+
¦                                                                      ¦
¦ Note:  netmail is set up as the default INmail/INnet login name for  ¦
¦ your computer system, and waxsrvr is the default server.  If you want ¦
¦ to leave the login name as netmail and the server as waxsrvr, skip   ¦
¦ this section.                                                         ¦
¦                                                                      ¦
¦ If you want to change the INmail login name and server for your      ¦
¦ system, perform the following steps:                                 ¦
¦                                                                      ¦
¦ 1.  Read the following file into a text editor:                      ¦
¦                                                                      ¦
¦                                                                      ¦
¦      /etc/passwd                                                     ¦
¦                                                                      ¦
¦                                                                      ¦
¦ 2.  Find the line in the passwd file that begins with netmail.       ¦
¦                                                                      ¦
¦ 3.  Replace netmail in the line with the INmail login name you       ¦
¦     selected for your system.                                        ¦
¦                                                                      ¦
¦ 4.  Replace /usr/lib/INnet/waxsrvr in the line with the full path name ¦
¦     of the server you selected for the INmail/INnet process.         ¦
¦                                                                      ¦
¦ 5.  Save the passwd file with the changes you made.                  ¦
¦                                                                      ¦
+----------------------------------------------------------------------+
```

Subtopics
1.3.7.1 More Detailed Information
1.3.7.2 Related Information

1.3.7.1 More Detailed Information

To change the INmail login name and server for your computer system, you edit the following line in the **/etc/passwd** file:

    netmail:NOLOGIN:1:1::/usr/spool/qftp:/usr/lib/INnet/waxsrvr

The field entries in the line define the following information used by INmail/INnet/INftp:

+---+
¦ Table 3-2. Field Entries in /etc/passwd   ¦
+---¦
¦ **This field entry:**   ¦ Defines: ¦
+-----------------------------+---¦
¦ **netmail**   ¦ The login name for the local computer   ¦
¦   ¦ system.   ¦
+-----------------------------+---¦
¦ **NOLOGIN**   ¦ A dummy password for the login name.   ¦
+-----------------------------+---¦
¦ **1**   ¦ The user ID for the login name.   ¦
+-----------------------------+---¦
¦ **1**   ¦ The group ID for the login name.   ¦
+-----------------------------+---¦
¦ **/usr/spool/qftp**   ¦ The home directory defined for the login ¦
¦   ¦ name.   ¦
+-----------------------------+---¦
¦ **/usr/lib/INnet/waxsrvr** ¦ The full path name for the program   ¦
¦   ¦ **waxsrvr**.   ¦
+---+

The dummy password must be changed to a valid password before a remote computer system can log in to the local system. The dummy password is changed to a valid password in "Setting Up the INmail Password for the Local System" in topic 1.3.8.

The **waxsrvr** program is the server defined for the INmail login name. The program monitors and controls data flow between a local computer system and a remote system for INmail/INnet/INftp.

1.3.7.2 Related Information

For more information on what you can enter into the **/etc/passwd** file, see
the discussion of the file in *AIX Operating System Technical Reference*.

For information on **waxsrvr** and other servers used with INmail/INnet/INftp,
see "/usr/lib/INnet/ftpsrvr" in topic 3.7.9.

1.3.8 Setting Up the INmail Password for the Local System

A valid password must be set up for the INmail login name set up on your
computer system before a remote computer system can log in to your
computer system.

The following steps set up a password for the INmail login name for the
hypothetical local computer system **SYSTEMA**. If you are performing the
steps to set up the INmail password on your computer system, replace the
system-specific information printed in **italics** with the same information
from your completed "INmail Information About Your System" worksheet.

Note: The password commonly set up for use by INmail/INnet/INftp on
systems that are part of an INmail/INnet/INftp network is **maILer**.
Setting up some other password on your system is valid and can help
restrict access to your computer to only those to whom you give the
password.

```
+--- Setting Up a Local INmail Password ------------------------------+
¦                                                                     ¦
¦ 1.   To specify a password for the INmail login name set up for     ¦
¦      SYSTEMA, enter:                                                 ¦
¦                                                                     ¦
¦                                                                     ¦
¦         passwd netmail                                              ¦
¦                                                                     ¦
¦                                                                     ¦
¦ 2.   The following text is displayed on your screen:                ¦
¦                                                                     ¦
¦                                                                     ¦
¦         Enter new password (minimum of 5 characters)               ¦
¦         Please use a combination of upper and                      ¦
¦         lowercase letters and numbers.                             ¦
¦         New password:                                              ¦
¦                                                                     ¦
¦                                                                     ¦
¦ 3.   Enter the password for the INmail login name after the New     ¦
¦      password: prompt appears.  Note that the password you type does¦
¦      not appear on the screen.                                      ¦
¦                                                                     ¦
¦ 4.   The following text is displayed on your screen:                ¦
¦                                                                     ¦
¦                                                                     ¦
¦         Re-enter new password:                                     ¦
¦                                                                     ¦
¦                                                                     ¦
¦ 5.   Re-enter the password to confirm the password change.  Again, the ¦
¦      password does not appear on the screen as you type it.         ¦
¦                                                                     ¦
¦ 6.   The reappearance of the system prompt indicates that the password ¦
¦      is changed.                                                    ¦
¦                                                                     ¦
+---------------------------------------------------------------------+
```

Subtopics
1.3.8.1 Related Information

1.3.8.1 Related Information

For more information on the **passwd** command, refer to the **passwd** command
explanation in *AIX Operating System Command Reference*.

1.3.9 Setting Up Information to Enable Calling Out

You must now provide information to enable your computer system to call
out, or initiate a connection with the remote computer system. Either
your system or the remote system must initiate and complete the connection
before data can be exchanged by the two systems.

Information that your computer system needs to initiate and complete a
connection with each remote system is entered into a file called
/usr/lib/INnet/connect.con. You create and edit **connect.con** to set up the
information that enables you to call out from your computer system to a
remote system.

An example of a **connect.con** file is included in Appendix D, "Default
Files."

The **connect.con** file is made up of sections called *stanzas*. A stanza in
connect.con is a block of information that can define:

    Characteristics of the remote connection that your computer syste
    must know to initiate and establish a certain type of connection with
    a remote site. These characteristics can include:

    -   The type of connection desired:

        -- A terminal emulation connection, or
        -- A mail exchange connection, or
        -- A file transfer connection.

    -   The name of the physical device through which your computer system
       is to channel the call to the remote system

    -   The address of a particular remote system

    -   The name of a file that controls the login process when your
       computer system calls a remote computer system.

    Characteristics of physical devices, such as modems or directl
    connected cables, through which your computer system calls a remote
    computer system.

The steps in the following sections show you how to set up entries in the
connect.con file that are necessary for your computer system to initiate
and establish a connection with a remote computer system.

Subtopics
1.3.9.1 Setting Up a Stanza for Remote Mail Functions
1.3.9.2 Setting Up a Stanza for Connect Functions
1.3.9.3 Setting Up a Stanza for INftp Functions
1.3.9.4 Setting Up a Stanza to Define a Communications Device

1.3.9.1 Setting Up a Stanza for Remote Mail Functions

For every remote system with which you want to exchange mail using
INmail/INnet/INftp, you must set up a remote mail stanza for that system
in **connect.con**.

The following steps set up the remote mail stanza that allows the local
system **SYSTEMA** to exchange mail with the remote system **SYSTEMB** using
INmail/INnet/INftp. If you are performing the steps to set up a remote
mail stanza on your computer system, replace the system-specific
information printed in **italics** with the same information from your
completed worksheets.

```
+--- Setting Up a Remote Mail Stanza ------------------------------------+
¦                                                                        ¦
¦ 1.  Create a connect.con file with the following full path name:       ¦
¦                                                                        ¦
¦                                                                        ¦
¦        /usr/lib/INnet/connect.con                                      ¦
¦                                                                        ¦
¦                                                                        ¦
¦ 2.  Type the following stanza into the file:                           ¦
¦                                                                        ¦
¦                                                                        ¦
¦        * remote mail stanza                                            ¦
¦        REMOTE:                                                         ¦
¦             type = INftp                                               ¦
¦             use = DIALER                                               ¦
¦             flags = "-pw -r4"                                          ¦
¦             script = ftpmlog.scr                                       ¦
¦             address = "T5551234"                                       ¦
¦        DIALER:                                                         ¦
¦             connect = hayes_1200                                       ¦
¦             speed = 1200                                               ¦
¦             device = /dev/tty04                                        ¦
¦                                                                        ¦
¦                                                                        ¦
¦     making the following changes as you type:                          ¦
¦                                                                        ¦
¦     a.  Replace REMOTE in the first line with SYSTEMB.  (Note that the ¦
¦         entry must exactly match the remote system name.)              ¦
¦     b.  Replace the numeric part of the address in the line, 5551234,  ¦
¦         with the phone number 5553333.                                 ¦
¦     c.  Replace the "hayes_1200" part of the connect stanza with the   ¦
¦         dialer you wish to use in /usr/lib/INnet/dialers.              ¦
¦     d.  Replace the "1200" part of the speed stanza to match your      ¦
¦         modem.                                                         ¦
¦                                                                        ¦
¦ 3.  Verify that the stanza now appears as follows:                     ¦
¦                                                                        ¦
¦                                                                        ¦
¦        SYSTEMB:                                                        ¦
¦             type = INftp                                               ¦
¦             use = DIALER                                               ¦
¦             flags = "-pw -r4"                                          ¦
¦             script = ftpmlog.scr                                       ¦
¦             address = "T5553333"                                       ¦
¦        DIALER:                                                         ¦
¦             connect = hayes_1200                                       ¦
¦             speed = 1200                                               ¦
```

```
¦           device = /dev/tty04                                              ¦
¦                                                                            ¦
¦                                                                            ¦
¦                                                                            ¦
¦  4.  Save the connect.con file.                                           ¦
¦                                                                            ¦
+----------------------------------------------------------------------------+
```

Subtopics
1.3.9.1.1 More Detailed Information
1.3.9.1.2 Related Information

1.3.9.1.1 More Detailed Information

The information you entered in the remote mail stanza is discussed below:

1. The remote mail stanza name in the first line, **REMOTE**, is replaced
    with the system name of the remote system. The system name is taken
    directly from the "Example - INmail Information About Remote Systems"
    worksheet for the hypothetical remote system **SYSTEMB**.

    The system name entered in a remote mail stanza must exactly match the
    system name for the remote system.

2. The numeric part of the address in the fourth line, **5551234**, is
    replaced with the address **5553333**. The address is taken directly from
    the "Example - INmail Information About Remote Systems" worksheet for
    the hypothetical remote system **SYSTEMB**. The **T** prefix of the address
    indicates that the address will be transmitted as a tone dialing
    sequence. Pulse (rotary) dialing is assumed if the **T** is deleted.

    Notice that the address must be enclosed in " " (double quotation
    marks).

    The **script** line in the remote mail stanza contains a reference to a
    script file named **ftpmlog.scr**. This script file controls the login
    process when your computer system calls a remote system to exchange
    mail. To see a copy of the default **ftpmlog.scr** file, refer to
    Appendix D, "Default Files."

1.3.9.1.2 Related Information

For detailed information on what you can define in a **connect.con** file, see
"connect.con" in topic 3.8.4.

1.3.9.2 Setting Up a Stanza for Connect Functions

You must set up a **Connect** stanza in **connect.con** to allow your work station
to operate as a remote terminal connected to a remote computer system with
the **Connect** functions of INmail/INnet/INftp.

The following steps set up the **Connect** stanza that allows a work station
on the local system **SYSTEMA** to be used as a remote terminal on the remote
system **SYSTEMB**. If you are performing the steps to set up a **Connect**
stanza on your computer system, replace the system-specific information
printed in **italics** with the same information from your completed
worksheets.

Note: Any user on your system who must use a remote system through
         Connect must be informed of the **Connect** stanza name used to call
         that remote system. The user must enter the **Connect** stanza name
         with the **connect** command to start a **Connect** session with the remote
         system.

```
+--- Setting Up a Connect Stanza ----------------------------------------+
¦                                                                        ¦
¦ 1.  Read the following file into a text editor:                        ¦
¦                                                                        ¦
¦                                                                        ¦
¦        /usr/lib/INnet/connect.con                                      ¦
¦                                                                        ¦
¦                                                                        ¦
¦ 2.  Type the following stanza at the end of the file:                  ¦
¦                                                                        ¦
¦                                                                        ¦
¦        * connect stanza                                                ¦
¦        REMOTE:                                                         ¦
¦             type = terminal                                            ¦
¦             use = DIALER                                               ¦
¦             address = "T5551234"                                       ¦
¦        DIALER:                                                         ¦
¦             connect = hayes_1200                                       ¦
¦             speed = 1200                                               ¦
¦             device = /dev/tty04                                        ¦
¦                                                                        ¦
¦                                                                        ¦
¦     making the following changes as you type:                          ¦
¦                                                                        ¦
¦     a.  Replace remote in the first line with systemb.  (Note that the ¦
¦         entry is the lowercase version of the remote INmail system     ¦
¦         name.)                                                         ¦
¦     b.  Replace the numeric part of the address in the line, 5551234,  ¦
¦         with the phone number 5553333.                                 ¦
¦     c.  Replace the "hayes_1200" part of the connect stanza with the   ¦
¦         dialer you wish to use in /usr/lib/INnet/dialers.              ¦
¦     d.  Replace the "1200" part of the speed stanza to match your      ¦
¦         modem.                                                         ¦
¦                                                                        ¦
¦ 3.  Verify that the stanza now appears as follows:                     ¦
¦                                                                        ¦
¦                                                                        ¦
¦        SYSTEMB:                                                        ¦
¦             type = terminal                                            ¦
¦             use = DIALER                                               ¦
¦             address = "T5553333"                                       ¦
```

```
¦       DIALER:                                                          ¦
¦           connect = hayes_1200                                         ¦
¦           speed = 1200                                                 ¦
¦           device = /dev/tty04                                          ¦
¦                                                                        ¦
¦                                                                        ¦
¦                                                                        ¦
¦  4.  Save the connect.con file.                                        ¦
¦                                                                        ¦
+------------------------------------------------------------------------+
```

Subtopics

1.3.9.2.1 More Detailed Information

The information you entered in the **Connect** stanza is discussed below:

1. The name of the **Connect** stanza in the first line, **remote**, is replaced
    with **systemb**. The stanza name **systemb** is the lowercase version of the
    system name defined for the hypothetical remote system **SYSTEMB**.

    The **Connect** stanza name can be anything. However, it is recommended
    that you develop a naming strategy for **Connect** stanzas, such as using
    the lowercase version of the system name of the remote system.

2. The numeric part of the address in the fourth line, **5551234**, is
    replaced with the address **5553333**. The address is taken directly from
    the "Example - INmail Information About Remote Systems" worksheet for
    the hypothetical remote system **SYSTEMB**.

    The **T** prefix of the address indicates that the address will be
    transmitted as a tone dialing sequence. Pulse (rotary) dialing is
    assumed if the **T** is deleted.

    Notice that the address must be enclosed in " " (double quotation
    marks).

Note: If you set up an **INftp** stanza for the remote system, you will
    notice that the name **systemb** is also used as the name of the **INftp**
    stanza. INmail/INnet/INftp reads the second line of **Connect** and
    INftp stanzas, the **type** line, to determine whether the stanza is a
    Connect or an **INftp** stanza. If the line is **type = terminal**,
    INmail/INnet/INftp interprets the stanza as a **Connect** stanza. If
    the line is **type = INftp**, INmail/INnet/INftp interprets the stanza
    as an **INftp** stanza.

1.3.9.2.2 Related Information

For detailed information on what you can define in a **connect.con** file, see
"connect.con" in topic 3.8.4.

1.3.9.3 Setting Up a Stanza for INftp Functions

You must set up an **INftp** stanza in **connect.con** for users on the local
computer system to establish an **INftp** session with a remote computer
system.

The following steps set up the **INftp** stanza that allows users on the local
system **SYSTEMA** to establish an **INftp** session on the remote system **SYSTEMB**.
If you are performing the steps to set up an **INftp** stanza on your computer
system, replace the system-specific information printed in **italics** with
the same information from your completed worksheets.

Note: Any user on your system who must manipulate files on a remote
computer system with **INftp** must be informed of the **INftp** stanza
name used to call that remote system. The user must enter the
INftp stanza name with the **INftp** command to start an **INftp** session
with the remote system.

```
+--- Setting Up an INftp Stanza -------------------------------------------+
¦                                                                          ¦
¦ 1.  Read the following file into a text editor:                          ¦
¦                                                                          ¦
¦                                                                          ¦
¦       /usr/lib/INnet/connect.con                                         ¦
¦                                                                          ¦
¦                                                                          ¦
¦ 2.  Type the following stanza at the end of the file:                    ¦
¦                                                                          ¦
¦                                                                          ¦
¦        * INftp stanza                                                    ¦
¦        REMOTE:                                                           ¦
¦             type = INftp                                                 ¦
¦             use = DIALER                                                 ¦
¦             flags = "-pw -r4"                                            ¦
¦             script = ftplog.scr                                          ¦
¦             address = "T5551234"                                         ¦
¦        DIALER:                                                           ¦
¦             connect = hayes_1200                                         ¦
¦             speed = 1200                                                 ¦
¦             device = /dev/tty04                                          ¦
¦                                                                          ¦
¦                                                                          ¦
¦      making the following changes as you type:                          ¦
¦                                                                          ¦
¦      a.  Replace remote in the first line with systemb.  (Note that the ¦
¦          entry is the lowercase version of the remote INmail system      ¦
¦          name.)                                                          ¦
¦      b.  Replace the numeric part of the address in the line, 5551234,   ¦
¦          with the phone number 5553333.                                  ¦
¦      c.  Replace the "hayes_1200" part of the connect stanza with the    ¦
¦          dialer you wish to use in /usr/lib/INnet/dialers.               ¦
¦      d.  Replace the "1200" part of the speed stanza to match your       ¦
¦          modem.                                                          ¦
¦                                                                          ¦
¦ 3.  Verify that the stanza now appears as follows:                       ¦
¦                                                                          ¦
¦                                                                          ¦
¦        SYSTEMB:                                                          ¦
¦             type = INftp                                                 ¦
¦             use = DIALER                                                 ¦
```

```
|            flags = "-pw -r4"                                           |
|            script = ftplog.scr                                        |
|            address = "T5553333"                                       |
|       DIALER:                                                         |
|            connect = hayes_1200                                       |
|            speed = 1200                                               |
|            device = /dev/tty04                                        |
|                                                                       |
|                                                                       |
|                                                                       |
| 4.  Save the connect.con file.                                        |
|                                                                       |
+-----------------------------------------------------------------------+
```

Subtopics
1.3.9.3.1 More Detailed Information
1.3.9.3.2 Related Information

1.3.9.3.1 More Detailed Information

The information you entered in the **INftp** stanza is discussed below:

1. The name of the **INftp** stanza in the first line, **remote**, is replaced
    with **systemb**. The stanza name **systemb** is the lowercase version of the
    system name defined for the hypothetical remote system **SYSTEMB**.

    The **INftp** stanza name can be anything. However, it is recommended
    that you develop a naming strategy for **INftp** stanzas, such as using
    the lowercase version of the system name of the remote system.

2. The numeric part of the address in the fourth line, **5551234**, is
    replaced with the address **5553333**. The address is taken directly from
    the "Example - INmail Information About Remote Systems" worksheet for
    the hypothetical remote system **SYSTEMB**.

    The **T** prefix of the address indicates that the address will be
    transmitted as a tone dialing sequence. Pulse (rotary) dialing is
    assumed if the **T** is deleted.

    Notice that the address must be enclosed in " " (double quotation
    marks).

The **script** line in the **INftp** stanza contains a reference to a script file
named **ftplog.scr**. The **ftplog.scr** file controls the login process when you
begin an **INftp** session. To see a copy of the default **ftplog.scr** file,
refer to Appendix D, "Default Files."

Note: If you set up a **Connect** stanza for the remote system, you will
         notice that the name **systemb** is also used as the name of the
         Connect stanza. INmail/INnet/INftp reads the second line of **INftp**
         and **Connect** stanzas, the **type** line, to determine whether the stanza
         is an **INftp** or a **Connect** stanza. If the line is **type = INftp**,
         INmail/INnet/INftp interprets the stanza as an **INftp** stanza. If
         the line is **type = terminal**, INmail/INnet/INftp interprets the
         stanza as a **Connect** stanza.

1.3.9.3.2 Related Information

For more information on what you can define in a **connect.con** file, see
"connect.con" in topic 3.8.4.

1.3.9.4 Setting Up a Stanza to Define a Communications Device

You must set up a stanza of information in the **connect.con** file on your
computer system for each communications device through which
INmail/INnet/INftp calls a remote system.

The remote mail, **Connect**, and **INftp** stanzas used to establish
communications with a remote system must contain the name of the stanza
defining the communications device through which INmail/INnet/INftp calls
the remote system. This stanza name is included as part of a **use** line in
the remote mail, **Connect**, or **INftp** stanza. For examples of the **use** line
in different types of stanzas, see the line **use = DIALERS** in:

1.   The remote mail stanza in "Setting Up a Stanza for Remote Mail
     Functions" in topic 1.3.9.1

2.   The **Connect** stanza in "Setting Up a Stanza for Connect Functions" in
     topic 1.3.9.2

3.   The **INftp** stanza in "Setting Up a Stanza for INftp Functions" in
     topic 1.3.9.3.

The following steps show how to edit the default communications device
stanza in the **connect.con** file to set up a stanza for your communications
device.

```
+--- Setting Up a Communications Device Stanza -----------------------+
¦                                                                     ¦
¦ 1.  Read the following file into a text editor:                     ¦
¦                                                                     ¦
¦                                                                     ¦
¦      /usr/lib/INnet/connect.con                                     ¦
¦                                                                     ¦
¦                                                                     ¦
¦ 2.  Type the following stanza at the end of the file:               ¦
¦                                                                     ¦
¦                                                                     ¦
¦      * stanza for information common to the above stanzas           ¦
¦      modem:                                                         ¦
¦           connect = hayes_1200                                      ¦
¦           device = /dev/tty00                                       ¦
¦           speed = 1200                                              ¦
¦                                                                     ¦
¦                                                                     ¦
¦ 3.  Modify the stanza lines to reflect:                             ¦
¦                                                                     ¦
¦          The dialer program your modem uses to call out            ¦
¦          The device file you set up for use by the modem           ¦
¦          The modem speed you set for data exchange.                 ¦
¦                                                                     ¦
¦                                                                     ¦
¦ 4.  Save the connect.con file.                                      ¦
¦                                                                     ¦
+---------------------------------------------------------------------+
```

Subtopics

1.3.9.4.1 More Detailed Information

The following list discusses the lines in the stanza:

1. The default stanza name assigned to the default communications device
    stanza is **modem**. The name for a communications device stanza can be
    anything. However, each stanza for a communications device must have
    a unique name.

    The stanza name for a particular communications device must be
    included in the **use** line of any remote mail, **Connect**, and **INftp** stanza
    that establishes a remote connection through the device.

2. The **connect** line:

        connect = hayes_1200

    defines the dialer program that runs the dialing process for the
    communications device. **hayes_1200** is a dialer program packaged with
    INmail/INnet/INftp that can run the dialing process for a Hayes
    Smartmodem 1200 modem.

    In addition, dialer programs are provided for the Digital DF03-AC
    autodialer and the Ven-Tel 212+ autodialer. You can also write a
    dialer program for another communications device and enter the name of
    the program in this line.

    For more information on dialer programs, see "connect.con" in
    topic 3.8.4.

    If your computer is connected by a cable directly to the remote
    computer you want to communicate with, enter **permanent** as the dialer
    program value.

3. The **device** line:

        device = /dev/tty00

    defines the name of the special device file you set up for use by the
    modem or other communications device when you set up the hardware.
    Usually either **/dev/tty00** or **/dev/tty01** is set up as the special
    device file for use by a modem.

    For more information, see "connect.con" in topic 3.8.4 and the section
    on using ports, cables, and modems in *Managing the AIX Operating
    System*.

4. The **speed** line:

        speed = 1200

    defines the speed setting of the communications device in bits per
    second. The speed is typically set when you set up the hardware for
    the communications device.

    For more information on defining the speed in **connect.con**, see
    "connect.con" in topic 3.8.4. For more information on setting the
    speed of a modem or other communications device, see *Managing the AIX
    Operating System*.

1.3.9.4.2 Related Information

For detailed information on what you can define in a **connect.con** file, see
"connect.con" in topic 3.8.4.

1.3.10 Setting Up a Script File for Remote Mail Use

Note: You can skip the steps in this section and use the default
         ftpmlog.scr file for remote mail login if:

             The INmail login name set up on the remote system is **netmail**,
             and
             The INmail password set up on the remote system is **maILer**.

             These two items are set up as defaults in the **ftpmlog.scr** file and
             are the only items edited in the following steps.

The remote mail stanza in the **connect.con** file contains the following
line:

    script = ftpmlog.scr

The **ftpmlog.scr** file is a *script file* that must reside on the local
computer system for INmail/INnet/INftp to log in to a remote computer
system to exchange mail with users on that system. A script file is a
file that can run and perform certain tasks, much like a program.

Note that, for every remote system with which you want to exchange mail
using INmail/INnet/INftp, there must exist on your computer system:

1. A remote mail stanza set up for the remote system in the
    /usr/lib/INnet/connect.con file

2. A script file in the **/usr/lib/INnet/scripts** directory similar to
    ftpmlog.scr in that it contains the INmail login name and INmail
    password set up on the remote system for INmail/INnet/INftp usage.

The name of the script file in the **script** line of the remote mail stanza
for a particular remote system must match the name of a script file in the
/usr/lib/INnet/scripts directory that contains that system's INmail login
name and password.

The following steps show how to set up lines in the **ftpmlog.scr** file to
enable your computer system to log in correctly to a remote system with
INmail/INnet/INftp.


```
+--- Setting Up a Script File for Call Out --------------------------+
¦                                                                    ¦
¦ 1.  Read the following file into a text editor:                    ¦
¦                                                                    ¦
¦                                                                    ¦
¦       /usr/lib/INnet/scripts/ftpmlog.scr                           ¦
¦                                                                    ¦
¦                                                                    ¦
¦ 2.  Find the following line in the file:                           ¦
¦                                                                    ¦
¦                                                                    ¦
¦       STATE 3 SEND     "netmail\n"                                 ¦
¦                                                                    ¦
¦                                                                    ¦
¦ 3.  If the INmail login name set up on the remote system is not    ¦
¦     netmail, replace the login name:                               ¦
¦                                                                    ¦
¦                                                                    ¦
¦       netmail                                                      ¦
```

```
in the line with the INmail login name set up on the remote
system.

4.  Find the following line in the file:


      STATE 4 SEND      "maILer\n"


5.  If the INmail password set up on the remote system is not  maILer,
    replace the password:


      maILer


    in the line with the INmail password set up on the remote system.

6.  Save the file with the changes you made.
```

Subtopics

1.3.10.1 More Detailed Information

The **ftpmlog.scr** file controls the login process initiated by the local
computer system when it is time to exchange mail with a particular remote
system. This timing is controlled by a file called **startup.zzz** set up in
the queuing directory for the remote system. The instructions in "Setting
Up Automatic Mail Exchange with a Remote System" in topic 1.3.11 show how
to set up a **startup.zzz** file for a particular remote system.

The login process controlled by **ftpmlog.scr** is non-interactive in the
sense that no login name or password prompts are sent to a user's display
screen for answers. Also, the process is handled by the local computer
system as a background process. Therefore the script file itself must
contain the INmail login name and INmail password for the particular
remote system it is used to call.

The same script file can be used for remote mail login to several
different systems if the INmail login name and password set up on those
systems are the same. If different script files are required for remote
mail login to different remote systems, it is recommended that you edit a
copy of the default file **/usr/lib/INnet/scripts/ftpmlog.scr** to create the
necessary additional script files.

1.3.10.2 Related Information

To see a copy of the default **ftpmlog.scr** file, refer to Appendix D,
"Default Files."

1.3.11 Setting Up Automatic Mail Exchange with a Remote System

You must create a file called **startup.zzz** in the queuing directory of each
remote system with which you want to exchange mail at regular time
intervals. The information you put in this file defines when mail is
actually exchanged with a particular remote system.

The following steps set up mail delivery to take place anytime mail is
routed into the queuing directory set up for the remote system **SYSTEMB** on
the local system **SYSTEMA**. If you are performing the steps to set up a
startup.zzz file in a queuing directory on your computer system, replace
the system-specific information printed in **italics** with the same
information from your completed worksheets.

```
+--- Setting Up Automatic Remote Mail Exchange ------------------------+
¦                                                                      ¦
¦ 1.   Start up a text editor.                                         ¦
¦                                                                      ¦
¦ 2.   Create the following new file:                                  ¦
¦                                                                      ¦
¦                                                                      ¦
¦         /usr/spool/qftp/SYSTEMB/startup.zzz                          ¦
¦                                                                      ¦
¦                                                                      ¦
¦ 3.   Type the following line into the startup.zzz file:              ¦
¦                                                                      ¦
¦                                                                      ¦
¦         0:Any:                                                       ¦
¦                                                                      ¦
¦                                                                      ¦
¦ 4.   Save the startup.zzz file.                                      ¦
¦                                                                      ¦
+----------------------------------------------------------------------+
```

Subtopics

1.3.11.1 More Detailed Information

The field entries in the line entered in the **startup.zzz** file in the
queuing directory for remote system **SYSTEMB** define the following
information used by INmail/INnet/INftp:

+--+
¦ Table 3-3. Field Entries in startup.zzz   ¦
+--¦
¦ **This field entry:**   ¦ **Defines:**   ¦
+--------------------------------+-------------------------------------¦
¦ **0**   ¦ The priority value (zero) assigned to mail ¦
¦   ¦ messages.   ¦
+--------------------------------+-------------------------------------¦
¦ **Any**   ¦ The day of the week that mail messages ¦
¦   ¦ will be exchanged with the remote system ¦
¦   ¦ (i.e., any day).   ¦
+--+

You must create a **startup.zzz** file for every remote system that you want
your system to automatically call to exchange mail. Each **startup.zzz** file
controls the timing of mail delivery to a single remote system, and must
reside in the queuing directory for that particular remote system.

1.3.11.2 Related Information

For detailed information on what you can enter into a **startup.zzz** file,
see "startup.zzz" in topic 3.8.9.

1.3.12 Starting Up the Remote Facilities

In several of the previous sections, you entered the text version of
information that your computer system needs to run the remote facilities
of INmail/INnet correctly. You must now:

1. Stop the running **qftp** daemon process

2. Run a program called **mkalias.sh** to set up the binary version of the
    information so the computer has access to the information in a form
    that it can understand and process

3. Restart the **qftp** daemon process to restart mail delivery.

The following steps set up the necessary binary version of what you
entered and start up the remote facilities for use by installed users.

```
+--- Starting Up the Remote Facilities --------------------------------+
¦                                                                      ¦
¦ 1.  Enter the following ps command to get the process ID for the qftp ¦
¦     daemon:                                                          ¦
¦                                                                      ¦
¦                                                                      ¦
¦        ps  -e                                                        ¦
¦                                                                      ¦
¦                                                                      ¦
¦ 2.  A list similar to the following is displayed on your screen:     ¦
¦                                                                      ¦
¦                                                                      ¦
¦           PID              TTY    TIME    COMMAND                    ¦
¦            1                -     0:00    init                       ¦
¦           49            console   0:00    sh                         ¦
¦           51            console   0:00    ps                         ¦
¦           29                -     0:00    cron                       ¦
¦           39            console   0:00    qftp                       ¦
¦           46            console   0:00    qdaemon                    ¦
¦           48            console   0:00    shmyste                    ¦
¦                                                                      ¦
¦                                                                      ¦
¦ 3.  Find the line on the display with:                               ¦
¦                                                                      ¦
¦                                                                      ¦
¦        qftp                                                          ¦
¦                                                                      ¦
¦                                                                      ¦
¦     in the COMMAND column.                                           ¦
¦                                                                      ¦
¦ 4.  Note the number in the PID (process ID) column of the same line. ¦
¦     The number in the example is 39.                                 ¦
¦                                                                      ¦
¦ 5.  Enter the kill command with the process ID to stop the qftp      ¦
¦     daemon:                                                          ¦
¦                                                                      ¦
¦                                                                      ¦
¦        kill 39                                                       ¦
¦                                                                      ¦
¦                                                                      ¦
¦ 6.  Enter the following to run the mkalias.sh program:               ¦
¦                                                                      ¦
¦                                                                      ¦
+----------------------------------------------------------------------+
```

```
¦       /usr/lib/INmail/mkalias.sh < /                                ¦
¦                                                                     ¦
¦                                                                     ¦
¦                                                                     ¦
¦  7.  Enter the following to restart the qftp daemon:                ¦
¦                                                                     ¦
¦                                                                     ¦
¦       /etc/qftp  -60&                                               ¦
¦                                                                     ¦
¦                                                                     ¦
¦                                                                     ¦
¦  8.  Enter the following:  qenable  (See "qenable" in topic 3.7.14 for ¦
¦      additional information.)                                       ¦
¦                                                                     ¦
+---------------------------------------------------------------------+
```

Note: To successfully call out after completing these steps:

1. Your port (either **/dev/tty00** or **/dev/tty01**) must be disabled.

2. The port on the remote system that you are calling through must
    be enabled.

Conversely, for a remote system to successfully call in to your
system, your port must be enabled.

For information on disabling and enabling ports, see the **disable**
and **enable** command explanations in *AIX Operating System Command
Reference*.

1.3.13 Testing the Remote Configuration

At this point, your computer system is set up to initiate a connection and communicate with a remote computer system.

The tests in this section verify that:

A work station on your computer system can be used to emulate terminal connected to a remote computer system using the **connect** functions

Users on your computer system and a remote computer system ca exchange mail using the remote mail functions

Users on your computer system can transfer files to and from a remot computer system and can manipulate files on a remote computer system using the **INftp** functions.

Note: To successfully call out after completing the configuration process for remote facilities:

1. Your port (either **/dev/tty00** or **/dev/tty01**) must be disabled.

2. The port on the remote system that you are calling through must be enabled.

Conversely, for a remote system to successfully call in to your system, your system must be running and your port must be enabled.

For information on disabling and enabling ports, see the **disable** and **enable** command explanations in *AIX Operating System Command Reference*.

Subtopics
1.3.13.1 Testing Terminal Emulation Using Connect
1.3.13.2 Testing Remote Mail
1.3.13.3 Sending a Mail Message to a Remote System
1.3.13.4 Testing Remote File Transfer and Manipulation Using INftp

1.3.13.1 Testing Terminal Emulation Using Connect

For information on how to establish a terminal emulation connection
between your computer system and a computer system defined as a remote
system in your INmail/INnet configuration, see Chapter 6, "Interacting
with Remote Systems."

1.3.13.2 Testing Remote Mail

This section shows you how to send a mail message using the **sendmail**
commands to a user on a remote system.

The following is a list of assumptions and instructions for an actual test
of the remote mail function:

1. The steps in the fast-path boxes assume that a user **root** on a local
    system **SYSTEMA** is sending a mail message to a user **root** on a remote
    system **SYSTEMB**. If you are following the steps to test your remote
    mail configuration, you can send mail from any installed user on your
    system and can send mail to any installed user on the remote system.

2. It is assumed that one user is installed on each system. For test
    purposes, both of these users can be **root**.

3. It is assumed that your port, **/dev/tty00**, is disabled. Your port must
    be disabled for you to call out to a remote computer system. For
    information on disabling a port, see the **disable** command in *AIX
    Operating System Command Reference*.

4. It is assumed that the port at the remote system that you call through
    is enabled. The port must be enabled to allow INmail/INnet/INftp to
    establish a connection with the remote computer and actually deliver
    the message that you send. Contact the system administrator for the
    remote system to confirm this.

5. In general, contact the system administrator for the remote computer
    system to set up the necessary arrangements and to confirm the receipt
    of mail from your system.

1.3.13.2 Testing Remote Mail

1.3.13.3 Sending a Mail Message to a Remote System

The following steps show what to type to send a mail message to **root** on a
remote system **SYSTEMB** when you are logged in as **root** on your computer
system.

It is assumed that you are already logged in to the system.

```
+--- Sending a Mail Message ---------------------------------------------+
¦                                                                        ¦
¦  1.   Type the following line to send a message to the user root on the ¦
¦       remote computer system SYSTEMB:                                   ¦
¦                                                                        ¦
¦                                                                        ¦
¦          sendmail -t"root at SYSTEMB" -m"Remote mail test"             ¦
¦                                                                        ¦
¦                                                                        ¦
¦  2.   Press the Enter key to run the sendmail command and send the      ¦
¦       message to user root on the remote system SYSTEMB.                ¦
¦                                                                        ¦
+------------------------------------------------------------------------+
```

Subtopics

1.3.13.3.1 More Detailed Information

The parameters you type with the **sendmail** command set up the following
information:

```
+-------------------------------------------------------------------------+
¦ Table  3-4. Sendmail Parameters                                         ¦
+-------------------------------------------------------------------------¦
¦ This parameter:            ¦ Sets up:                                   ¦
+----------------------------+--------------------------------------------¦
¦ -t"root at SYSTEMB"        ¦ root as the receiver of the message you    ¦
¦                            ¦ are sending, and SYSTEMB as the remote     ¦
¦                            ¦ system to which the message is sent.       ¦
+----------------------------+--------------------------------------------¦
¦ -m"Remote mail test"       ¦ The message Remote mail test to be sent to ¦
¦                            ¦ root at SYSTEMB.                           ¦
+-------------------------------------------------------------------------+
```

Notice that the **" "** (double quotation marks) around the message are not
considered part of the message. They indicate the beginning and end of
the message and are not sent as part of the message. After you send the
mail message, contact the system administrator or the user you sent mail
to at the remote computer system to confirm that the mail was delivered.
If the mail was delivered, the remote mail functions are working properly.

1.3.13.3.2 Related Information

For more information on how to send mail to a user on a computer system,
see "sendmail" in topic 3.7.21.

1.3.13.4 Testing Remote File Transfer and Manipulation Using INftp

For information on interactively accessing a file system on a remote
computer system and running **INftp** subcommands, see Chapter 6, "Interacting
with Remote Systems."

1.3.14 If the Remote Functions Work

If you are able to successfully perform the three remote function tests,
the remote functions of INmail/INnet/INftp are properly configured on your
computer system. Users installed on your computer system can now use the
following INmail/INnet/INftp features in their day-to-day activities, as
well as the local mail features of INmail:

    Remote mai

    Remote terminal emulation with **Connect**

    Remote file manipulation with **INftp**.

1.3.15 If the Remote Functions Do Not Work

If you cannot successfully perform the remote function tests, it is
recommended that you:

1. Repeat the steps in configuring your system for remote functions to
    ensure that the configuration is set up correctly.

    As you repeat the steps:

        Verify that the changes you made to files are typed correctly

        Ensure that the queuing directory you created for routing mail to
        the remote computer system is in the correct parent directory

        Ensure that the permissions, owner, and group for the queuing
        directory are set up as described in the instructions.

    After you repeat the configuration steps, repeat the tests for the
    remote functions.

2. Ensure that the port on your computer system over which
    INmail/INnet/INftp sends data (usually **/dev/tty00** or **/dev/tty01**) is
    disabled. The port must be disabled for INmail/INnet/INftp to work
    correctly.

3. Confirm that the remote computer system is working when your system
    attempts to establish a connection with it.

4. Confirm that the port over which the remote computer system receives
    INmail/INnet/INftp communications is enabled.

5. Confirm that necessary communications hardware on both your computer
    system and the remote system is installed correctly and set up to
    enable communication between the two systems.

1.4 Chapter 4. Configuring a System for Special Features

Subtopics

1.4.1 CONTENTS

1.4.2 About This Chapter

This chapter tells you how to configure a computer system to use special
features of INmail/INnet. These features allow you to:

    Set up distribution list

    Define alias entries to

    -   Forward mail automatically
    -   Print messages on a remote printer
    -   Copy files to a remote system.

    Send mail to AIX Operating System mailboxes

Before you can use the features described in this chapter, you must
configure your system for local and remote mail. If you have not already
done this, follow the instructions in Chapter 2, "Configuring a System for
Local Mail" to configure local mail and the instructions in Chapter 3,
"Configuring a System for Remote Functions" to configure remote mail
before you continue.

1.4.3 Defining Distribution Lists

This feature allows you to set up distribution lists and send mail to all
users on the lists, thus eliminating the need to address mail to each
individual user. To set up a distribution list, you enter a list of user
names in a distribution list file in the directory
/usr/lib/INmail/maillists. You then define the names of the distribution
list files to the system.

Note: If you are using the INed editor to create these files, create them
         as ASCII files without history. The files cannot be structured
         data files.


```
+--- Creating Distribution List Files -----------------------------------+
¦                                                                        ¦
¦ 1.  Log in as root.                                                    ¦
¦                                                                        ¦
¦ 2.  Change to the /usr/lib/INmail/maillists directory:                 ¦
¦                                                                        ¦
¦                                                                        ¦
¦        # cd /usr/lib/INmail/maillists                                  ¦
¦                                                                        ¦
¦                                                                        ¦
¦ 3.  Create one or more distribution files in the                      ¦
¦     /usr/lib/INmail/maillists directory.                               ¦
¦                                                                        ¦
¦ 4.  Add the full path names of the distribution list files you just   ¦
¦     created to the /usr/lib/INmail/listnames file.                     ¦
¦                                                                        ¦
¦ 5.  Edit and run the mkalias.sh file.                                  ¦
¦                                                                        ¦
+------------------------------------------------------------------------+
```


Subtopics
1.4.3.1 More Detailed Information

1.4.3.1 More Detailed Information

This section contains more detailed information about defining
distribution lists.

1. Log in as **root**.

2. Change to the **/usr/lib/INmail/maillists** directory. This directory is
    included with INmail. You can use this directory to store your
    distribution list files.

        # cd /usr/lib/INmail/maillists

3. Create one or more distribution list files in the
    /usr/lib/INmail/maillists directory. A distribution list is a file
    containing user or alias names. Enter the names in the file one per
    line. For example, the distribution list **dept** can list the names of
    the users in your department:

        betty
        jan at SYSTEMB
        george
        mark

    This allows you to send a message to all department members using the
    name **dept** instead of using individual names.

    Distribution lists can also reference other distribution lists. For
    example, the distribution list file named **managers** can include:

        bill
        dan at SYSTEMC
        dee
        jerry
        dept

    Now **managers** provides you with a mailing list for the managers in your
    area and the users in your department.

4. Add the full path names of the files that contain the distribution
    lists to the file **/usr/lib/INmail/listnames**. This file is supplied
    with INmail. Using the previous examples, you would add these two
    lines:

        /usr/lib/INmail/maillists/dept
        /usr/lib/INmail/maillists/managers

5. Before you can use the lists you create, you need to edit and run the
    mkalias.sh file. For information on editing and modifying **mkalias.sh**,
    see "Modifying Utility Files" in topic 1.4.7.

1.4.4 Using Nonstandard Aliases

The **qftp** daemon uses the **/etc/alias** file to identify users to whom
messages are addressed. Each entry in the **alias** file provides the **qftp**
daemon with two types of information:

1.   Information about each user who can receive mail:

          User ID
          Login name
          Group ID

2.   Information about the program that the **qftp** daemon should use to
     deliver messages sent to that user.

          The program type and program name

          The user under whose ID the program should run

          The arguments that should be sent to the program.

     You can include more than one program line in an alias entry. If you
     do, then the **qftp** daemon runs all specified programs whenever a
     message is sent to the user identified at the beginning of that entry.

Subtopics
1.4.4.1 The mkalias program
1.4.4.2 Program Sequences
1.4.4.3 Configuring Aliases for Automatic Forwarding

1.4.4.1 The mkalias program

The **/etc/mkalias** command builds an **alias** file from the following files:

/etc/passwd
> This file contains the information that **/etc/mkalias** uses to create a default alias entry for each system user defined in this file. By default, users receive mail in their home directory under their login name.

/usr/lib/INmail/listnames
> This file contains the names of all distribution list files. For more information about the **listnames** file, see "Defining Distribution Lists" in topic 1.4.3.

/usr/lib/INmail/specials.frg
> This file, known as the alias fragment file, contains additional alias entries that can add to or override the default entries in the password files. The alias fragment file does not have to be named **specials.frg**.

> **Note:** The **/etc/mkalias** command is normally run from the **/usr/lib/INmail/mkalias.sh** command file.

> If you are using the INed editor to create this file, create it as an ASCII file without history. An alias fragment file cannot be a structured data file.

1.4.4.2 Program Sequences

One or more disposition programs can handle mail delivery. The list of
disposition directives under each alias is known as a ***program sequence***.
This sequence is executed until the sequence ends or until a program
returns an error status.

The five disposition programs supplied are:

> **/etc/spost**
> **/usr/lib/INnet/bellpost**
> **redistrib**
> **printfile**
> **/usr/lib/INnet/rmtcpserver**.

The programs **/etc/spost**, **/usr/lib/INnet/bellpost**, and
/usr/lib/INnet/rmtcpserver are external programs run as subprocesses of
the **qftp** daemon. The other two programs, **printfile** and **redistrib**, are run
as part of the **qftp** daemon process.

A disposition directive can name any executable file. Because the daemon
waits for the subprocess to end, such programs should be short-lived.
Error-free completion is indicated by a 0 return status. You should be
very careful about installing alias entries that invoke external programs.
The protection environment must be properly established and the programs
must be self-protective. See "alias.delta" in topic 3.8.3 for a detailed
description of the format of an alias entry.

A directive in a sequence can refer indirectly to another alias entry.
The sequence under that referenced entry acts as a separate entity. If an
error causes a referenced entry to stop processing, the initial sequence
does not stop processing. This allows a distribution list (a sequence) to
refer to other alias entries without having an error in one of the
referenced alias sequences affect the entire distribution list.

Subtopics
1.4.4.2.1 /etc/spost
1.4.4.2.2 /usr/lib/INnet/bellpost
1.4.4.2.3 redistrib
1.4.4.2.4 printfile
1.4.4.2.5 /usr/lib/INnet/rmtcpserver

1.4.4.2.1 /etc/spost

The **spost** program is the standard disposition entry generated by
/etc/mkalias. This program adds mail to a user's incoming mailbox,
$HOME/.smail. For example, if the password file contains the following
line defining user **ctw**:

```
  ctw:j90fWM5RoYS5g:201:50::/usr/ctw:/bin/sh
```

then the **/etc/mkalias** program will produce the following alias entry in
the **/etc/alias** file:

```
  ctw#201#50
  #0#/etc/spost#201#50#/usr/ctw#y#/usr/ctw/.smail#
     /usr/ctw/.youhavemail
```

Notes:

1. The **#** acts as the field separator.

2. The last two lines in the example would appear in the **/etc/alias** file
    on a single line with no separating spaces.

The first line contains three fields that identify the login name, the
user ID, and the group ID of the alias. The second line contains at least
six fields. The first field (**0**) specifies that this is a program entry.
The second field names the program (**/etc/spost**). The third and fourth
fields specify the user and group IDs under which the program should run
and the fifth field names the home directory (**/usr/ctw**). The **y** in the
sixth field specifies that the **qftp** daemon is to build a parameter string
that tells the program about data extracted from the queue entry. The
seventh and eighth fields name additional arguments to pass to **spost**, in
this case, the name of file that receives the mail (**/usr/ctw/.smail**) and
the mail notification file (**/usr/ctw/.youhavemail**).

1.4.4.2.2 /usr/lib/INnet/bellpost

The **bellpost** program delivers INmail messages to AIX Operating System
mailboxes. It creates a mailbox, if necessary, and produces delivery
confirmations. The following disposition line directs the **qftp** daemon to
deliver messages to user **ctw** using **/usr/lib/INnet/bellpost**:

  #0#/usr/lib/INnet/bellpost#201#50#/usr/ctw#y#

In this case, **bellpost** delivers mail to the AIX Operating System default
mailbox, **/usr/spool/mail/ctw**. You can use the AIX Operating System **mail**
command to read the mail delivered by **bellpost**.

1.4.4.2.3 redistrib

The **redistrib** program redistributes files to one or more users at another
system on the network. No marks are placed on the file to indicate that
redistribution has occurred. You can use **redistrib** to establish locally
known alias names for users having mailboxes on remote systems. The
following disposition line redistributes mail to user **ctw** at a remote
system:

```
#0#redistrib#201#50#/tmp##ctw at SYSTEMB
```

Note that **SYSTEMB** must be defined in the **/etc/sites** file.

1.4.4.2.4 printfile

The **printfile** program uses the **print** command to place a copy of a file
into a queue for printing. See "Configuring Aliases for Printing Files"
in topic 1.4.5 for an explanation of how to construct an alias for this
facility.

Note: The AIX Operating System Queuing System functions must be
          installed, configured, and running on both the local and remote
          systems for the **printfile** program to work. For information on the
          Queuing System, see the chapter "Using the Queuing System" in
          Managing the AIX PS/2 Operating System.

1.4.4.2.5 /usr/lib/INnet/rmtcpserver

The **rmtcpserver** program is a part of the **rmtcp** (remote copy) facility.
rmtcp uses INnet to copy files to and from remote systems. See
"Configuring Aliases for Remote Copy" in topic 1.4.6 for an explanation of
how to construct aliases for this facility.

1.4.4.3 Configuring Aliases for Automatic Forwarding

You may need to organize your network so that all mail addresses stay the
same even though users may move from one system to another (either
permanently or temporarily). Or you may want to send a copy of each
message to another user in addition to delivering it as originally
addressed. Or perhaps a user changed login names, but is still receiving
mail addressed to the old name. By constructing alias entries in an alias
fragment file, you can redirect mail delivery as you choose. For example:

```
  ctw#201#50
  #0#redistrib#201#50#/tmp##ctw at SYSTEMB
  #0#/etc/spost#201#50#/usr/ctw#y#/usr/ctw/.smail#
     /usr/ctw/.youhavemail
```

Note: The last two lines in the example should appear in the alias
        fragment file on a single line with no separating spaces.

The alias entry in the example directs the **qftp** daemon to deliver mail to
a local user **ctw** and to send a copy to a remote user **ctw**. The **qftp** daemon
will do this for each message addressed to **ctw** at that site. You can also
send it to another user ID at another system by adding a third disposition
line:

```
  ctw#201#50
  #0#redistrib#201#50#/tmp##ctw at SYSTEMB
  #0#redistrib#201#50#/tmp##gpe at SYSTEMC
  #0#/etc/spost#201#50#/usr/ctw#y#/usr/ctw/.smail#
     /usr/ctw/.youhavemail
```

Note: The last two lines in the example should appear in the alias
        fragment file on a single line with no separating spaces.

For explanations of the contents of fields in alias fragment lines, see
"alias.delta" in topic 3.8.3.

Subtopics
1.4.4.3.1 Users without Accounts on the System
1.4.4.3.2 Users with Nicknames

1.4.4.3.1 Users without Accounts on the System

The user specified in an alias entry does not have to be in your password
file. In this case, the numbers that you specify as user and group IDs
are arbitrary. For example:

```
  ctw#1#1
  #0#redistrib#1#1#/tmp##ctw at SYSTEMB
```

In this example, there is no user **ctw** installed on the local system. The
entry uses the ID numbers assigned to user **cron**; however, the numbers are
arbitrary. You can use any you choose. As another instance, if several
systems are networked together and the user names are unique across all
systems, you can set up aliases on each system for all possible user
names. This eliminates the need for users to know the physical location
where other users on the network receive mail.

1.4.4.3.2 Users with Nicknames

You can also use alias entries to allow a single recipient to receive mail
addressed to several different user names. To do this, you use an
indirect entry rather than a program entry. The first field in an
indirect entry contains a **1** and has the following format:

   #1#**username**

The file is disposed of as defined under the alias whose name is in field
altname. That name can also be an alternate name. Be careful to avoid
circular references. For example, the following alias entry defines a
nickname for user **ctw**:

   mct#201#50
   #1#ctw#

User **ctw** will receive mail addressed to **ctw** and mail addressed to **mct**.

1.4.5 Configuring Aliases for Printing Files

The following sections discuss how to configure aliases to enable local
and remote printing using INmail/INnet/INftp.

Subtopics
1.4.5.1 Local Printing
1.4.5.2 Remote Printing

1.4.5.1 Local Printing

You can establish alias names for local output devices so that messages
can be forwarded to a device serviced by a print queue. Use the **printfile**
disposition program to do this.

The following alias entry causes mail addressed to the local line printer
to be printed on print queue **-a**.

```
  LINEPRINTER#1#1
  #0#printfile#1#1#/tmp##-a
```

1.4.5.2 Remote Printing

The operation of remote print requires a special backend attribute in the
local **/etc/qconfig** file.

For example, assume that **SYSTEMA** wants to print files on a printer
connected to the remote host **SYSTEMB**. The entry in the **/etc/qconfig** file
at **SYSTEMA** includes the following lines:

```
lp:
  argname = -a
  device = lpdev

lpdev:
  backend = /usr/lpd/rmtprint -alias=LINEPRINTER -netpath=SYSTEMB
```

In this example, files queued on **SYSTEMA** with the command **print -a** are
routed to the line printer alias on the remote host **SYSTEMB**. The system
name **SYSTEMB** must be defined in the **/etc/sites** file on host **SYSTEMA**. In
addition, there must be an entry in the **alias** file on **SYSTEMB** that defines
an alias for **LINEPRINTER**:

```
LINEPRINTER#1#1
#0#printfile#1#1#/tmp##-a
```

Note that in this example, print files routed to **LINEPRINTER** on **SYSTEMB**
are queued on queue **-a**.

1.4.6 Configuring Aliases for Remote Copy

Operation of **rmtcp** requires the addition of remote copy aliases in the
alias fragment file on both systems:

```
REMOTECOPY#1#1
#0#/usr/lib/INnet/rmtcpserver#0#0#/tmp#y#
```

The remote copy alias should be defined in the **/etc/alias** files on both
sides of the link, since **rmtcp** can be initiated from either the sending or
receiving side.

1.4.7 Modifying Utility Files

When you make changes to the alias fragment file, the mailing list files,
or the **/etc/passwd** file, the changes do not affect INmail operation until
the files **/etc/alias** and **/etc/alias.delta** are recreated. Although the
files can be recreated when the system is started by editing the
appropriate lines in **/etc/rc**, it is not always convenient to reboot the
system.

However, you can edit the utility shell file **/usr/lib/INmail/mkalias.sh**
and run the shell procedure to recreate the files without having to reboot
the system. Following is an example of the file:

```
   #        @(#)alias.t      3.5 - 85/02/21
   #  shell file to run mkalias program.
   #     To have mkalias specify default entries for all (and only)
   #     users defined in /etc/password:
   /etc/mkalias -install /dev/null
   #
   #     But if you want to define system wide mailing lists and/or
   #     override some default alias entries assumed by mkalias,
   #     then you should edit the specials.frg and listnames files
   #     in /usr/lib/INmail and uncomment the following two lines
   #     instead:
   #/etc/mkalias /usr/lib/INmail/specials.frg\
   # +/usr/lib/INmail/listnames
   #
   #     The following two lines are also needed:
   /etc/mksalias /etc/alias /etc/alias.delta
   /etc/mkssites /etc/sites /etc/sites.delta
```

To remake the aliases, you do the following:

1. Log in as **root**.

2. Comment out the following line by placing a **#** character at the
    beginning of the line:

        /etc/mkalias -install /dev/null

3. Remove the **#** comment character from the following two lines:

        #/etc/mkalias /usr/lib/INmail/specials.frg\
        # +/usr/lib/INmail/listnames

    Note that you do not delete the single blank space preceding the **+**
    sign in the second line.

4. Exit the editor and store the file.

5. Enter the following command to determine the process ID (PID) of the
    qftp daemon:

        ps -e

6. Enter the **kill** command with the process ID of the **qftp** daemon to stop
    the daemon. For example:

```
     kill 50
```

7. Run the **mkalias.sh** file:

```
    /usr/lib/INmail/mkalias.sh
```

8. Start the **qftp** daemon:

```
    /etc/qftp -60&
```

    The alias files are recreated and any changes you made to the files
    will now affect INmail operation.

2.0 Part 2. Using the INmail/INnet/INftp Functions

Subtopics

2.5 Chapter 5. Using INmail with the INed Editor

2.5.1 CONTENTS

2.5.2 About This Chapter

This chapter tells you how to create a mailbox. It also tells you how to
do these INmail tasks:

    Create and send mai

    Answer mai

    Forward mai

    Print messages and the mailbox for

    Delete mail from the mailbo

    Restore deleted mai

    File mail in a different mailbo

    Create and change your mailbox profile

To use this chapter, you must use the INed Program. For information on
INed functions and key usage in the INed program, see *AIX PS/2 INed*.

Note: Your computer system must be configured for handling mail functions
         before you can perform the tasks described in this chapter. Do one
         of the following before you begin:

             Confirm that the system is configured for mail functions by
             checking with your system administrator

             or

             Configure your computer system for local mail functions using
             the instructions in Chapter 2, "Configuring a System for Local
             Mail" and, optionally, configure the system for remote mail
             functions using instructions in Chapter 3, "Configuring a
             System for Remote Functions."

2.5.3 Creating a Mailbox

To send or receive mail, you must have a ***mailbox***. The mailbox is a file
in your home directory named **mbx**. INmail puts all your incoming mail in
your mailbox. You also use your mailbox, along with the INed editor, to
create and send mail to other people. You can change the name of your
mailbox by changing an entry in the **mbxprf** file (see "Changing the Mailbox
Profile" in topic 2.5.17). The examples in this book use the mailbox name
mbx.

Note: If you already used the INmail **readmail** command to check mail in
        your home directory, a mailbox was created automatically in the
        directory. If this is the case, you can skip this section and
        continue with "Accessing Your Mailbox" in topic 2.5.4.


```
+--- How to Create a Mailbox ---------------------------------------------+
¦                                                                         ¦
¦ 1.  Go to your home directory.                                          ¦
¦                                                                         ¦
¦ 2.  Create a structured file named mbx.                                 ¦
¦                                                                         ¦
+-------------------------------------------------------------------------+
```

Subtopics
2.5.3.1 More Detailed Information

2.5.3.1 More Detailed Information

Use the following steps to create a mailbox in your home directory:

1. At the system prompt (**$**), change to your home directory by entering:

        cd $HOME

2. Create the structured file **mbx** using the INed editor by entering:

        e mbx

    The following menu appears on the screen:

```
+----------------------------------------------------------------------+
¦                                                                      ¦
¦                                                                      ¦
¦    You are attempting to create file "/u/jan/mbx"                    ¦
¦                                                                      ¦
¦    Move the cursor to the type of file you want and touch EXECUTE.   ¦
¦    Touch CANCEL to do nothing.   HELP for Help.                      ¦
¦                                                                      ¦
¦    Create an ASCII file (without history)                           ¦
¦    Create a structured file (with history)                          ¦
¦    Create a directory                                               ¦
¦                                                                      ¦
¦                                                                      ¦
+----------------------------------------------------------------------+
```

    a. Move the cursor to the line:

            Create a structured file (with history)

    b. Press **EXECUTE**. You receive a message similar to:

```
+----------------------------------------------------------------------+
¦                                                                      ¦
¦                                                                      ¦
¦    Creating file /u/jan/mbx...                                       ¦
¦                                                                      ¦
¦                                                                      ¦
+----------------------------------------------------------------------+
```

The INed editor creates a file called **mbx** in your current directory and
displays a mailbox form similar to the following:

```
                  INTERACTIVE TEN/PLUS INmail

        Subject                           From/{To}      Date
      ─
      │
      │
      │
      │
      │
      │
      │
      │
      │
      │
      │
      │
      │
      │
      │
      │
   /u/jan/mbx                    INSERT    Line    1(    0)
```

Figure 5-1. The Mailbox Form

The form for the mailbox is blank until you send or receive mail
(messages). When you receive or send messages, INmail lists each of the
messages in the mailbox form so that you can review the messages at any
time. A message remains in the mailbox and appears listed in the mailbox
form until you delete the message from the mailbox.

To exit this form and return to the system prompt (**$**), press **EXIT**.

2.5.4 Accessing Your Mailbox

Once you create your mailbox, you can access it just as you access any
file with the INed editor. Using the editor, you access individual
messages through the mailbox form.

The following boxes show different ways to access your mailbox using the
INed editor. You can use any of these methods to get to the mailbox form,
which gives you access to the individual messages in your mailbox.

```
+--- From the System Prompt ($) ------------------------------------------+
¦                                                                         ¦
¦ 1.  Go to your home directory.                                          ¦
¦                                                                         ¦
¦ 2.  Enter e mbx.                                                        ¦
¦                                                                         ¦
¦     The mailbox form appears on the screen.                             ¦
¦                                                                         ¦
+-------------------------------------------------------------------------+
```

```
+--- From a File You Are Editing -----------------------------------------+
¦                                                                         ¦
¦ 1.  Press ENTER.  The ENTER box appears.                                ¦
¦                                                                         ¦
¦ 2.  Type the following in the ENTER box:                                ¦
¦                                                                         ¦
¦                                                                         ¦
¦        /usr/name/mbx                                                     ¦
¦                                                                         ¦
¦                                                                         ¦
¦     (where name is your login name).                                    ¦
¦                                                                         ¦
¦ 3.  Press ALT FILE                                                       ¦
¦                                                                         ¦
¦     The mailbox form appears on the screen.                             ¦
¦                                                                         ¦
+-------------------------------------------------------------------------+
```

```
+--- From the File Manager Screen ----------------------------------------+
¦                                                                         ¦
¦ 1.  Go to the File Manager screen of your home directory.               ¦
¦                                                                         ¦
¦ 2.  Move the cursor to the line that lists the mbx file.                ¦
¦                                                                         ¦
¦ 3.  Press ZOOM IN.                                                       ¦
¦                                                                         ¦
¦     The mailbox form appears on the screen.                             ¦
¦                                                                         ¦
+-------------------------------------------------------------------------+
```

Note: Before you can access the mailbox from the New Task Menu you must
        add the **Read or send mail** option to the New Task Menu. See
        "Changing Your New Task Menu" in *AIX PS/2 INed* for information on
        how to add options to the New Task Menu. (Enter **file** for the
        option type and **$HOME/mbx** for the name of the file or program.)

```
+--- From the New Task Menu ----------------------------------------------+
¦                                                                         ¦
¦ 1.  Press MENU.                                                         ¦
¦                                                                         ¦
```

```
¦ 2.  Move the cursor to the Read or send mail option, and press        ¦
¦       EXECUTE.                                                          ¦
¦                                                                         ¦
¦       The mailbox form appears on the screen.                          ¦
¦                                                                         ¦
+-------------------------------------------------------------------------+
```

Subtopics
2.5.4.1 Additional Information

2.5.4.1 Additional Information

The File Manager screen shows all files in the current directory. To go
to the File Manager screen in your home directory from the system prompt
($), enter:

  e $HOME

After you access your mailbox form, you can read, answer, forward, print,
delete, and file the mail in your mailbox. You can also create messages
and send them to other mailboxes. These functions are explained later in
this chapter.

2.5.5 Exiting Your Mailbox

When you are finished working in your mailbox, you can exit the mailbox to
return to various points in the INed editor or to return to the operating
system. You exit your mailbox by exiting from the mailbox form.

The following boxes show different ways you can exit from the mailbox.
You can use any of these methods to exit from the mailbox while you are in
the mailbox form in the editor.

```
+--- To Return to the System Prompt ($) -------------------------------+
¦                                                                      ¦
¦ 1.  Press EXIT.                                                      ¦
¦                                                                      ¦
¦ 2.  The system prompt appears on the display screen.                ¦
¦                                                                      ¦
+----------------------------------------------------------------------+


+--- To Return to a File You Were Editing -----------------------------+
¦                                                                      ¦
¦ 1.  Press ALT FILE.                                                  ¦
¦                                                                      ¦
¦ 2.  The INed file you were editing appears on the display screen.    ¦
¦                                                                      ¦
+----------------------------------------------------------------------+


+--- To Return to the File Manager Screen -----------------------------+
¦                                                                      ¦
¦ 1.  Press ZOOM OUT.                                                  ¦
¦                                                                      ¦
¦ 2.  The File Manager screen for the current directory appears on the ¦
¦     display screen.                                                  ¦
¦                                                                      ¦
+----------------------------------------------------------------------+
```

2.5.6 Creating Messages

Messages are the information files that you send or receive through the
mail system. The INed editor provides a **message form** to allow you to
easily create a message.

Messages contain two main parts, the **address** and the **body**. The address
contains information that identifies who sends and who receives the
message. It also contains the date of the message. The body of the
message contains the text.

To create a message, you must provide information for both the address and
the body. From the mailbox form, you can access a message form that gives
you the basic layout for a message. You fill in the address information
and the text body in the message form. Then you can send the message as
mail to other users.

The following information tells how to create a message by accessing a
message form through the mailbox form in the INed editor.

```
+--- How to Create a Message ---------------------------------------------+
¦                                                                         ¦
¦ 1.  Access your mailbox.  (See "Accessing Your Mailbox" in              ¦
¦     topic 2.5.4.)                                                       ¦
¦                                                                         ¦
¦ 2.  Move the cursor to a blank line in the mailbox form.                ¦
¦                                                                         ¦
¦ 3.  Press ZOOM IN.                                                      ¦
¦                                                                         ¦
¦ 4.  A blank message form appears on the screen.                        ¦
¦                                                                         ¦
¦ 5.  Complete the address at the top of the form.                        ¦
¦                                                                         ¦
¦ 6.  Type the text of the message in the boxed area.                     ¦
¦                                                                         ¦
+-------------------------------------------------------------------------+
```

Subtopics
2.5.6.1 More Detailed Information
2.5.6.2 Fields Filled in Automatically
2.5.6.3 Example Completed Message Form

2.5.6.1 More Detailed Information

1. You can access your mailbox from the system prompt ($), from an INed
    file, from the File Manager screen, or from the New Task Menu. See
    "Accessing Your Mailbox" in topic 2.5.4 for detailed information.

2. Move the cursor to a blank line in the mailbox form.

3. Press **ZOOM IN**.

4. INmail displays a message form similar to the following:

```
 Subject:
 To:       _
    Cc:

    Bcc:                                      Date:
 From:
 ┌──────────────────────────────────────────────────────────────┐
 │                                                                │
 │                                                                │
 │                                                                │
 │                                                                │
 │                                                                │
 │                                                                │
 │                                                                │
 │                                                                │
 │                                                                │
 │                                                                │
 │                                                                │
 └──────────────────────────────────────────────────────────────┘
    Size:        Sent by:                    Status:
 /u/jan/mbx/0                    INSERT    Line   1(    0)
```

Figure 5-2. A Message Form

5. Address the message by filling in the following fields on the blank
    message form. (Press the **TAB** key or **RETURN** key to change fields.)

        Subject: (optional)
        To:
        Cc: (optional)
        Bcc: (optional)
        From: (optional)

    Following is an explanation of what to enter in each field:

    Subject: Type in a phrase that describes the content of the message.
                When you send the message, this phrase appears in the
                Subject column of the mailbox form.

    To: Type in the user names of the people on your system whom you
                want to receive the message. Separate the user names with
                commas. For example, to send a message to **joe** and **betty**,

use the following address:

```
  To: joe,betty
```

If you have *distribution lists* defined for groups of people,
you can use the name of a distribution list as an address.
A distribution list is basically a list of users. When the
name of a distribution list is used as an address for a
message, a copy of the message is sent to every user defined
in the distribution list.

For more information on distribution lists, see "Defining
Distribution Lists" in topic 1.4.3.

If you have INnet installed on your system, you can address
a message to users on other systems in the network. To
address a user on another system, indicate on which system
the user name resides. For example, to send a message to
user name **mel** on the remote system **AUSTIN**, use the following
address:

```
  To: mel at AUSTIN
```

You can group many recipients on a system by enclosing the
user names in { } (braces). For example, to send a message
to users **mel**, **holly**, and **geo** on the system **AUSTIN**, use the
following address:

```
  To: {mel,holly,geo} at AUSTIN
```

If you have more recipients than there is room for on the
form, you can:

> Press **LINES DOWN** to scroll a new blank line into the
> field. (To go back and review previous lines, press
> **LINES UP**.)

> Or

> Press **ZOOM IN** to expand the field into the whole screen.
> (Press **ZOOM OUT** to return to the message form.)

If you want INmail to send you a message when it delivers
your message to one or more of the recipients, include the
optional parameter **(confirm)** after the address of each
recipient for whom you want a confirmation. For example, to
receive a message when your message is placed in the mailbox
for user **mel** on the system **AUSTIN**, use the following
address:

```
  To: mel at AUSTIN (confirm)
```

You can include the optional parameters:

> **urgent**
> **expedite**
> **overnight**
> **defer**
> **normal** (the default)

after the address of each recipient. For example, to
request faster handling of a message sent to user **geo** on the
system **AUSTIN**, use the following address:

   To: geo at AUSTIN (expedite)

For more information on these optional parameters, see "to"
in topic 3.7.23.

Cc: Type in the user names of the people you want to receive
copies of the message. Separate the user names with commas.
If you do not want to send copies, leave this field blank.
Use the same formats for specifying recipients of copies as
described in "**To:**" on page 2.5.6.1.

You can also expand the room for specifying copies by using
the **LINES DOWN**, **LINES UP**, and **ZOOM IN** keys as described in
"**To:**" on page 2.5.6.1.

Bcc: Type the user names of the people you want to receive *blind
copies* of the message. Blind copies are copies of a message
that are sent to people whose names do not appear as
recipients on other copies of the message. If you do not
want to send blind copies, leave this field blank. Use the
same formats for specifying recipients of blind copies as
described in "**To:**" on page 2.5.6.1.

You can also expand the room for specifying blind copies by
using the **LINES DOWN**, **LINES UP**, and **ZOOM IN** keys as
described in "**To:**" on page 2.5.6.1.

From: Type in your name or the name of the person for whom you are
sending the message. If you do not fill in this field,
INmail fills in the information specified in your mailbox
profile. (See "Changing the Mailbox Profile" in
topic 2.5.17.)

6. Move the cursor to the boxed area of the message form and enter text
    for your message. You can use the INed key commands to enter or edit
    the text in the message area.

    You are not limited to the space contained in the box. You can press
    RETURN on the last line of the screen to scroll down another line.
    You can also expand the text area to the whole screen with the **ZOOM IN**
    key, and scroll up and down in the text area with the **LINES UP** and
    LINES DOWN keys.

2.5.6.2 Fields Filled in Automatically

The INmail program fills in information for fields other than the address and text fields when you send the message. The following list describes the information that INmail inserts in these fields:

Date: The date and time that the message is sent.

From: Your name as defined in your mailbox profile. If you do not
            define this field in your mailbox profile, INmail leaves this
            field blank. See "Changing the Mailbox Profile" in topic 2.5.17
            for information on how to change this field.

Size: The number of lines in the message.

Sent by: The user name and system name of the person who sends the
            message. When you send a message, INmail enters **[you]** in the
            Sent by: field on your copy of the message, but enters your user
            name and system name in the recipient's copy of the message.
            See "Changing the Mailbox Profile" in topic 2.5.17 for
            information on how to change this field.

Status: The status of a message you write. INmail enters **Sent** in this
            field when you send the message.

2.5.6.3 Example Completed Message Form

The following example shows a correctly filled-in message form, without
the message text:

```
┌────────────────────────────────────────────────────────────────────┐
│  Subject: 3rd Quarter Budget                                         │
│  To:      bill at DALLAS, { jim,sara } at PUBS                       │
│     Cc:   {sharon, sam} at AUSTIN (confirm)__                        │
│                                                                      │
│     Bcc:                                          Date:              │
│  From:                                                               │
│     ┌──────────────────────────────────────────────────────────┐    │
│     │                                                          │    │
│     │                                                          │    │
│     │                                                          │    │
│     │                                                          │    │
│     │                                                          │    │
│     │                                                          │    │
│     │                                                          │    │
│     │                                                          │    │
│     │                                                          │    │
│     │                                                          │    │
│     │                                                          │    │
│     └──────────────────────────────────────────────────────────┘    │
│     Size:          Sent by:                    Status:               │
│  /u/jan/mbx/0                     INSERT    Line   1(    1)           │
└────────────────────────────────────────────────────────────────────┘
```

Figure 5-3. An Example Completed Message Form

The **Subject:** field shows that this message is about the 3rd Quarter
Budget. The **To:** field shows that the message is addressed to the user
bill on the system named **DALLAS** and the users **jim** and **sara** on the system
named **PUBS**. The **Cc:** field shows that copies of the message are sent to
the users **sharon** and **sam** at **AUSTIN**. The parameter **(confirm)** that follows
the line **{sharon, sam} at AUSTIN** instructs INmail to send you a message
when it places the message in the mailboxes for **sharon** and **sam**.

2.5.7 Sending Mail

After you access your mailbox and create a message, you can send the
message. For instructions on accessing your mailbox, see "Accessing Your
Mailbox" in topic 2.5.4. For instructions on creating messages, see
"Creating Messages" in topic 2.5.6.

```
+--- How to Send Mail --------------------------------------------------+
¦                                                                       ¦
¦ 1.  Create a message. (See "Creating Messages" in topic 2.5.6.)       ¦
¦                                                                       ¦
¦ 2.  Press LOCAL MENU.                                                 ¦
¦                                                                       ¦
¦ 3.  Move the cursor to (1) Mail this message and press EXECUTE.       ¦
¦                                                                       ¦
¦ 4.  Press EXECUTE again to confirm your request.                     ¦
¦                                                                       ¦
+-----------------------------------------------------------------------+
```

Subtopics
2.5.7.1 More Detailed Information

2.5.7.1 More Detailed Information

1. For instructions on how to create a message, see "Creating Messages"
    in topic 2.5.6.

    To send a completed message, you must have either the completed
    message form on the screen, or the cursor positioned on the line in
    the mailbox form that lists the message. Then you can continue with
    the following steps to send the message to the specified recipients.

2. Press **LOCAL MENU**. A menu similar to the following is displayed:

```
+-----------------------------------------------------------------------+
¦                                                                       ¦
¦                                                                       ¦
¦                           Electronic Mail                             ¦
¦                                                                       ¦
¦   Move the cursor to an item and touch EXECUTE.                       ¦
¦   Touch CANCEL to do nothing.  HELP for help.                         ¦
¦                                                                       ¦
¦   (1) Mail this message                                               ¦
¦   (2) Reply to this message                                           ¦
¦   (3) Forward this message                                            ¦
¦   (4) Delete this message                                             ¦
¦   (5) Restore deleted message                                         ¦
¦   (6) File this message in another mailbox                            ¦
¦   (7) Show in-box and add new mail                                    ¦
¦                                                                       ¦
¦                                                                       ¦
¦                                                                       ¦
+-----------------------------------------------------------------------+
```

3. Move the cursor to item **(1) Mail this message** and press **EXECUTE**.
    INmail displays the message:

```
+-----------------------------------------------------------------------+
¦                                                                       ¦
¦                                                                       ¦
¦   Sending message ...                                                 ¦
¦                                                                       ¦
¦                                                                       ¦
+-----------------------------------------------------------------------+
```

    and asks you to confirm that you want to send the message.

4. Press **EXECUTE** again to confirm your request.

    INmail sends your message, fills in the **Date:** and **Status:** fields on
    the message form, and fills in the **From/{To}** and **Date** fields on the
    mailbox form.

Note: You can bypass the Local Menu by pressing the Local Menu Option key
    (1). This key activates option 1, **(1) Mail this message**, from the
    current Local Menu. For information on Local Menus and key usage
    in the INed editor, see *AIX PS/2 INed*.

2.5.8 Receiving Mail

When you are not working in your mailbox and new mail arrives, INmail
automatically adds the new message to your mailbox. The next time you
access your mailbox, information about the new message appears in the list
of messages on the mailbox form.

New mail is sometimes sent to you while you are working in your mailbox.
In this case, INmail holds the new mail until you exit the mailbox. When
you exit the mailbox, the new mail is added. The next time you access the
mailbox, information about the new message appears on the mailbox form.

While working in your mailbox, you can check to see if INmail is holding
new messages for you. The steps in the following box show how to check
for and add new mail to your mailbox while you are working in the mailbox.

Note: The following steps assume that you have already accessed and are
        working in your mailbox.

```
+--- How to Add Mail to Your Mailbox ----------------------------------+
¦                                                                      ¦
¦ 1.  Press LOCAL MENU.                                                ¦
¦                                                                      ¦
¦     The Local Menu appears on the screen.                           ¦
¦                                                                      ¦
¦ 2.  Move the cursor to item (7) Show in-box and add new mail.       ¦
¦                                                                      ¦
¦ 3.  Press EXECUTE.                                                   ¦
¦                                                                      ¦
¦     INmail displays a message that indicates it is either adding the ¦
¦     mail to your mailbox or there is no new mail to add.  INmail then ¦
¦     displays the mailbox form with the cursor on the first new       ¦
¦     message, if new mail was added to the mailbox.                   ¦
¦                                                                      ¦
+----------------------------------------------------------------------+
```

Subtopics
2.5.8.1 Additional Information

2.5.8.1 Additional Information

You can also add mail to your mailbox by pressing the Local Menu Option
Key **(7)**. This key activates the **(7) Show in-box and add new mail** option
from the Local Menu.

2.5.9 Reading Mail

When you have the mailbox form displayed on the screen, you can access any
of the displayed messages.

The following steps show how to read messages in your mailbox.

```
+--- How to Read Your Mail ---------------------------------------------+
¦                                                                       ¦
¦ 1.  Access your mailbox.  (See "Accessing Your Mailbox" in            ¦
¦     topic 2.5.4.)                                                     ¦
¦                                                                       ¦
¦ 2.  Press ZOOM IN to read the message your cursor is currently        ¦
¦     pointing to on the mailbox form.                                  ¦
¦                                                                       ¦
¦ 3.  After you finish reading the message, you can:                    ¦
¦                                                                       ¦
¦          Press NEXT to display the next message listed on the mailbox ¦
¦          form                                                         ¦
¦                                                                       ¦
¦          Press PREVIOUS to display the previous message on the mailbox¦
¦          form                                                         ¦
¦                                                                       ¦
¦          Press ZOOM OUT to return to the mailbox form after you have  ¦
¦          read your messages.                                          ¦
¦                                                                       ¦
+-----------------------------------------------------------------------+
```

Subtopics
2.5.9.1 Additional Information

2.5.9.1 Additional Information

When you access your mailbox, INmail adds to the mailbox any new messages
that arrived since you last accessed the mailbox. For each new message, a
line of information is added to the end of the mailbox form.

INmail places the cursor in the mailbox form at the information line for
the first newly added message. The information line shows the subject,
sender or recipient (a recipient is in braces), and date of each message.
A list of messages on the mailbox form looks similar to the following:

```
┌─────────────────────────────────────────────────────────────────────────┐
│                   INTERACTIVE TEN/PLUS INmail                             │
│                                                                          │
│         Subject                              From/{To}        Date       │
│     ┌──────────────────────────────────────┬─────────────┬──────────┐    │
│     │ Department meeting                   │ richard at AUSTIN │ 06 May │  │
│     │ Management meeting                   │ {leslie at SALES} │ 06 May │  │
│     │ Forwarded: Baker account             │ bill at DALLAS    │ 15 May │  │
│     │ Anniversary dinner                   │  jim at ENGR }    │ 16 May │  │
│     │ Workshop announcement                │ karen at EDUC     │ 08 jun │  │
│     │ ‾                                    │                   │        │  │
│     │                                      │                   │        │  │
│     │                                      │                   │        │  │
│     │                                      │                   │        │  │
│     │                                      │                   │        │  │
│     │                                      │                   │        │  │
│     └──────────────────────────────────────┴─────────────┴──────────┘    │
│     /u/jan/mbx                    INSERT    Line   5(    5)               │
└─────────────────────────────────────────────────────────────────────────┘
```

Figure 5-4. Example Filled-In Mailbox Form

In this example, messages were received from **richard at AUSTIN**, **bill at
DALLAS**, and **karen at EDUC**. Messages were sent to **leslie at SALES** and **jim
at ENGR**. The cursor is at a new message, **Workshop announcement**.

To read a message, move the cursor to the line listing the message, and
press **ZOOM IN**. For example, if you press **ZOOM IN** on the line containing
Workshop announcement, a message similar to this is displayed:

```
 Subject: Workshop announcement
 To:      everyone
    Cc:

    Bcc:                                         Date: 08 Jun 1986 1010-EDT
 From:   Karen Wilson
 ┌──────────────────────────────────────────────────────────────────────┐
 │Please plan to attend the Negotiating Skills seminar next Monday from 9 a.m.
 │until 4 p.m. in Room 209D.  Bob Giles, the instructor, is a successful consul-
 │tant in the art of negotiation skills and has written several books on the
 │subject.  See you there!
 │--------
 │
 │
 │
 │
 │
 │
 │
 │
 │
 │
 └──────────────────────────────────────────────────────────────────────┘
    Size: 5 lines  Sent by: karen at EDUC           Status:
 /u/jan/mbx/4                          INSERT     Line   1(    5)
```

Figure 5-5. Example Filled-In Message Form

2.5.10 Answering Mail

When you receive a message, you can use INmail to send a reply in answer
to the message.

The following steps show how to answer a particular message listed on your
mailbox form.

```
+--- How to Answer Mail ---------------------------------------------+
¦                                                                    ¦
¦ 1.  Display the received message on your screen.  (See "Reading Mail" ¦
¦     in topic 2.5.9.)                                               ¦
¦                                                                    ¦
¦ 2.  Press LOCAL MENU.                                              ¦
¦                                                                    ¦
¦     The Local Menu appears on the screen.                          ¦
¦                                                                    ¦
¦ 3.  Move the cursor to (2) Reply to this message, and press EXECUTE. ¦
¦                                                                    ¦
¦     INmail creates a new message for a reply, asks if you want to send ¦
¦     copies to the other original recipients, and displays the new  ¦
¦     message form on your screen.                                   ¦
¦                                                                    ¦
¦ 4.  Type your reply in the boxed area.                             ¦
¦                                                                    ¦
¦ 5.  Send your reply:                                               ¦
¦                                                                    ¦
¦     a.  Press LOCAL MENU.                                          ¦
¦     b.  Move the cursor to (1) Mail this message, and press EXECUTE. ¦
¦     c.  Press EXECUTE again to confirm your request.               ¦
¦                                                                    ¦
+--------------------------------------------------------------------+
```

Subtopics
2.5.10.1 Additional Information

2.5.10.1 Additional Information
When you use the Local Menu option **(2) Reply to this message**, INmail
prepares an appropriately addressed message form for your reply. While
creating this message form, INmail asks if any user who received a copy of
the original message should also receive a copy of the reply. You can
either press **EXECUTE** to send a copy to other users, or press **CANCEL** to not
send copies. INmail fills in the **Subject:** with the contents of the
original **Subject:** field prefixed with **Re:**, and also fills in the **To:** and
Cc: fields. You can edit these fields (as well as the **Bcc:** and **From:**
fields), and type in your reply message. When you send the message,
INmail fills in the **Date:**, **Size:**, **Sent by:**, and **Status:** fields for you.

2.5.11 Forwarding Mail

When you receive a message, you can use INmail to forward a copy of the
message to another user. The following steps show how to forward a
particular message listed on your mailbox form.

```
+--- How to Forward Mail ---------------------------------------------+
¦                                                                     ¦
¦ 1.  Display the received message on your screen.  (See "Reading Mail" ¦
¦     in topic 2.5.9.)                                                ¦
¦                                                                     ¦
¦ 2.  Press LOCAL MENU.                                               ¦
¦                                                                     ¦
¦     The Local Menu appears on the screen.                          ¦
¦                                                                     ¦
¦ 3.  Move the cursor to (3) Forward this message, and press EXECUTE.  ¦
¦                                                                     ¦
¦     INmail creates a new message to be forwarded and displays the new ¦
¦     message form.                                                   ¦
¦                                                                     ¦
¦ 4.  Complete the address information of the new message.            ¦
¦                                                                     ¦
¦ 5.  Forward the new message:                                        ¦
¦                                                                     ¦
¦     a.  Press LOCAL MENU.  The Local Menu appears on the screen.    ¦
¦     b.  Move the cursor to (1) Mail this message.                   ¦
¦     c.  Press EXECUTE.                                              ¦
¦                                                                     ¦
+---------------------------------------------------------------------+
```

Subtopics
2.5.11.1 Additional Information

2.5.11.1 Additional Information

If you receive a message and want to forward it, press **LOCAL MENU** and
select **(3) Forward this message**. INmail creates a new message to be
forwarded and displays it on your screen.

INmail copies the text body and the following address information from the
original message into the new message to be forwarded:

> **Date:**
> **Subject:**
> **From:**
> **Sender:**
> **To:**
> **Cc:**

The **Subject:** field that INmail copies is the original **Subject:** field
prefixed with **Forward:**. To fill the **Sender:** field, INmail copies the
contents of the original **From:** field.

Before you forward a message, you must address it. You can also add a
note to the message text. INmail fills in the other fields when you mail
the message. For example, INmail enters your name and system name in the
Sent by: field, since you are the one forwarding the message. A message
ready to be forwarded looks similar to:

```
Subject: Forwarded: Baker account
To:      bill at DALLAS__
   Cc:

   Bcc:                                              Date:
From:
 ┌──────────────────────────────────────────────────────────────────┐
 │ Forwarded Mail Follows:                                            │
 │ Date: 08 Jun 1986 12:45                                            │
 │ Subject: Baker account                                            │
 │ From: Jim Reese                                                    │
 │ Sender: jim at ENGR                                               │
 │ --------                                                           │
 │ Let's get together around 9 a.m. tomorrow to go over scheduling for the new │
 │ project.  Is that time okay?                                      │
 │ --------                                                           │
 │                                                                    │
 │                                                                    │
 │                                                                    │
 │                                                                    │
 │                                                                    │
 └──────────────────────────────────────────────────────────────────┘
   Size:        Sent by:                        Status:
/u/lynn/mbx/3                    INSERT    Line   1(    1)
```

2.5.12 Printing Mail

From the INed editor, you can print your mail on a printer or you can
print (write) your mail into a file. You can print mail on your printer
in several formats. You can also print the list of messages on the
mailbox form.

The steps in the following boxes show different ways to print messages and
the message list on the mailbox form.

Note: The print queuing system functions included with the AIX Operating
        System must be properly configured for you to print mail. If the
        INed **PRINT** function does not work, see how to modify the queuing
        system in *Managing the AIX PS/2 Operating System*.

```
+--- Printing Mail with Header and Borders --------------------------------+
¦                                                                          ¦
¦ 1.  Access your mailbox.                                                 ¦
¦                                                                          ¦
¦ 2.  Display the message you want to print.  (See "Reading Mail" in       ¦
¦     topic 2.5.9.)                                                        ¦
¦                                                                          ¦
¦ 3.  Press PRINT.                                                         ¦
¦                                                                          ¦
¦ 4.  The Print Menu appears on the screen.                               ¦
¦                                                                          ¦
¦ 5.  Move the cursor to the type of output you want.                     ¦
¦                                                                          ¦
¦ 6.  Press EXECUTE.                                                       ¦
¦                                                                          ¦
+--------------------------------------------------------------------------+
```

```
+--- Printing Mail with the Text Body Only --------------------------------+
¦                                                                          ¦
¦ 1.  Access your mailbox.                                                 ¦
¦                                                                          ¦
¦ 2.  Display the message you want to print.  (See "Reading Mail" in       ¦
¦     topic 2.5.9.)                                                        ¦
¦                                                                          ¦
¦ 3.  Move the cursor to the text body of the message.                    ¦
¦                                                                          ¦
¦ 4.  Press ZOOM IN.                                                       ¦
¦                                                                          ¦
¦ 5.  The text body of the message fills the screen.                      ¦
¦                                                                          ¦
¦ 6.  Press PRINT.                                                         ¦
¦                                                                          ¦
¦ 7.  The Print Menu appears on the screen.                               ¦
¦                                                                          ¦
¦ 8.  Move the cursor to the type of output you want.                     ¦
¦                                                                          ¦
¦ 9.  Press EXECUTE.                                                       ¦
¦                                                                          ¦
+--------------------------------------------------------------------------+
```

```
+--- Printing the Mail List on the Mailbox Form ---------------------------+
¦                                                                          ¦
¦ 1.  Access your mailbox.                                                 ¦
¦                                                                          ¦
¦ 2.  Press PRINT.                                                         ¦
```

```
¦                                                                          ¦
¦ 3.  The Print Menu appears on the screen.                                ¦
¦                                                                          ¦
¦ 4.  Move the cursor to the type of output you want.                      ¦
¦                                                                          ¦
¦ 5.  Press EXECUTE.                                                       ¦
¦                                                                          ¦
+--------------------------------------------------------------------------+
```

Subtopics
2.5.12.1 Additional Information

2.5.12.1 Additional Information

To print a message with header information, you must have the message
displayed on the screen. Follow the steps described in "Reading Mail" in
topic 2.5.9 to display the message.

The Print Menu looks similar to this:

  Move the cursor to a print option and touch EXECUTE.
  Touch CANCEL to do nothing. HELP for help.

  *P*rint on default printer
  Print (ask for options)
  Print to file (overwrite)
  Print to file (append)

You can print a copy of the message to a printer by selecting either of
the first two options, or to another file by selecting either of the last
two options on the Print Menu. If you choose either of the last two
options, the editor prompts you for the name of the file for printing.

For more information on the INed **PRINT** options, see "Printing a File" in
AIX PS/2 INed.

2.5.13 Deleting Mail

You can remove a message from your mailbox form by deleting the message or moving the message to another mailbox. To move messages to another mailbox, see "Filing a Message" in topic 2.5.15.

The steps in the following boxes show different ways to delete messages from your mailbox.

```
+--- Deleting a Message from the Mailbox Form ------------------------+
¦                                                                    ¦
¦ 1.  Move the cursor to the line of the message you want deleted.   ¦
¦                                                                    ¦
¦ 2.  Press DELETE LINE.                                             ¦
¦                                                                    ¦
+--------------------------------------------------------------------+


+--- Deleting a Message From Within the Message ----------------------+
¦                                                                    ¦
¦ 1.  Press LOCAL MENU.                                              ¦
¦                                                                    ¦
¦ 2.  The Local Menu appears on the screen.                         ¦
¦                                                                    ¦
¦ 3.  Move the cursor to (4) Delete this message.                   ¦
¦                                                                    ¦
¦ 4.  Press ENTER.                                                  ¦
¦                                                                    ¦
¦ 5.  The current message disappears, and the next message in your  ¦
¦     mailbox appears on the screen.                                ¦
¦                                                                    ¦
+--------------------------------------------------------------------+
```

Subtopics
2.5.13.1 Additional Information

2.5.13.1 Additional Information

If you mistakenly delete a message, you can restore it using the **LOCAL MENU** or **RESTORE** commands. Also, if you want to restore several messages that you deleted while working in your mailbox, you can restore them one by one. The last deleted message is the first one restored.

For more information on restoring deleted messages, see "Restoring Deleted Mail" in topic 2.5.14. You can use the INed **PICK UP**, **ALT FILE**, and **PUT DOWN** commands to delete a message from your mailbox form and file it in a different mailbox. For more information, see "Moving a File into Another Directory" in *AIX PS/2 INed*.

Warning: Do not exit the INed editor if you want to restore deleted mail.

2.5.14 Restoring Deleted Mail

If you mistakenly delete a message, you can restore it using the **LOCAL MENU** or **RESTORE** commands.

The steps in the following boxes show ways to restore mail that was deleted with the LOCAL MENU and DELETE LINE commands.

```
+--- Restoring Mail Deleted with LOCAL MENU ---------------------------+
¦                                                                      ¦
¦ 1.   Press LOCAL MENU.                                               ¦
¦                                                                      ¦
¦ 2.   The Local Menu appears on the screen.                          ¦
¦                                                                      ¦
¦ 3.   Move the cursor to (5) Restore deleted message.                ¦
¦                                                                      ¦
¦ 4.   Press EXECUTE.                                                  ¦
¦                                                                      ¦
¦ 5.   The previously deleted message is restored in the mailbox, and the ¦
¦      information line for the message is restored on the mailbox form. ¦
¦                                                                      ¦
+----------------------------------------------------------------------+
```

```
+--- Restoring Mail Deleted with DELETE LINE --------------------------+
¦                                                                      ¦
¦ 1.   Press RESTORE.                                                  ¦
¦                                                                      ¦
¦ 2.   The previously deleted message is restored in the mailbox, and the ¦
¦      information line for the message is restored on the mailbox form. ¦
¦                                                                      ¦
+----------------------------------------------------------------------+
```

Subtopics
2.5.14.1 Additional Information

2.5.14.1 Additional Information

You can restore all of the messages you delete during an editing session.
The last message you delete is the first message you restore (last in,
first out). However, do not exit the INed editor if you need to restore a
deleted message. The editor restores only messages that are deleted
during the current working session.

Note: You can recreate earlier versions of your mailbox file if the
history for the earlier versions have not been discarded. See
"Saving a Version of a Structured File" in *AIX PS/2 INed* for more
information. See "Changing the Mailbox Profile" in topic 2.5.17
for information about discarding the history of your mailbox.

2.5.15 Filing a Message

You can file the messages that you want to remove from your mailbox, but
save for future reference.

When you file a message in another mailbox, you can optionally delete it
from the current mailbox. Filing and deleting messages helps you keep the
contents of your current mailbox smaller.

```
+--- How to File Messages ---------------------------------------------+
¦                                                                      ¦
¦ 1.  Access your mailbox.  (See "Accessing Your Mailbox" in           ¦
¦      topic 2.5.4.)                                                    ¦
¦                                                                      ¦
¦ 2.  Move the cursor to a message you want to file.                   ¦
¦                                                                      ¦
¦ 3.  Press LOCAL MENU.                                                ¦
¦                                                                      ¦
¦ 4.  The Local Menu appears on the screen.                            ¦
¦                                                                      ¦
¦ 5.  Move the cursor to (6) File this message in another mailbox.     ¦
¦                                                                      ¦
¦ 6.  Press EXECUTE.                                                   ¦
¦                                                                      ¦
¦ 7.  INmail displays the list of mailbox files.                      ¦
¦                                                                      ¦
¦ 8.  Move the cursor to the name of the file in which you want to place ¦
¦      the message, or move the cursor to OTHER.                       ¦
¦                                                                      ¦
¦ 9.  Press EXECUTE.                                                   ¦
¦                                                                      ¦
¦ 10. If you select a file name, the INed editor files the message in  ¦
¦      the selected mailbox.  If you select OTHER, INmail asks you to   ¦
¦      enter the name of the mailbox you want to use.                  ¦
¦                                                                      ¦
¦ 11. If the mailbox file in which you want to store the message does  ¦
¦      not exist, INmail asks if you want it created.                  ¦
¦                                                                      ¦
¦ 12. Press EXECUTE to create the mailbox and store the message.       ¦
¦                                                                      ¦
+----------------------------------------------------------------------+
```

Subtopics
2.5.15.1 More Detailed Information

2.5.15.1 More Detailed Information

1. Access your mailbox. For detailed instructions, see "Accessing Your
    Mailbox" in topic 2.5.4. (You can also file the message that you are
    viewing without returning to the mailbox form.)

2. Move the cursor to a message you want to file.

3. Press **LOCAL MENU**.

4. A Local Menu similar to the following is displayed:

```
+---------------------------------------------------------------------+
¦                                                                     ¦
¦                                                                     ¦
¦                                                                     ¦
¦                         Electronic Mail                             ¦
¦                                                                     ¦
¦    Move the cursor to an item and touch EXECUTE.                    ¦
¦    Touch CANCEL to do nothing.  HELP for help.                      ¦
¦                                                                     ¦
¦    (1) Mail this message                                            ¦
¦    (2) Reply to this message                                        ¦
¦    (3) Forward this message                                         ¦
¦    (4) Delete this message                                          ¦
¦    (5) Restore deleted message                                      ¦
¦    (6) File this message in another mailbox                         ¦
¦    (7) Show in-box and add new mail                                 ¦
¦                                                                     ¦
¦                                                                     ¦
¦                                                                     ¦
+---------------------------------------------------------------------+
```

5. Move the cursor to **(6) File this message in another mailbox**.

6. Press **EXECUTE**.

7. A menu listing the mailbox files you created in your profile appears.
    (See "Changing the Mailbox Profile" in topic 2.5.17 for information on
    how to create mailbox files.) This menu looks similar to the
    following menu:

```
+---------------------------------------------------------------------+
¦                                                                     ¦
¦                                                                     ¦
¦    Here is a list of your mailboxes.                                ¦
¦    Move the cursor to one and touch EXECUTE                         ¦
¦    to file the message there.                                       ¦
¦    Touch CANCEL to do nothing.  HELP for help.                      ¦
¦                                                                     ¦
¦    Other                                                            ¦
¦                                                                     ¦
¦                                                                     ¦
¦                                                                     ¦
+---------------------------------------------------------------------+
```

8. With the cursor under **OTHER**, press **EXECUTE**.

9. A prompt similar to the following is displayed:

```
+---------------------------------------------------------------------+
¦                                                                     ¦
¦                                                                     ¦
¦                                                                     ¦
```

```
¦    Mailbox to file the current message in ("new,mbx"): __                    ¦
¦                                                                             ¦
¦                                                                             ¦
¦                                                                             ¦
+-----------------------------------------------------------------------------+
```

10. Type the name of the mailbox file in which you want to store the
    message and press **EXECUTE**. INmail files the message in the mailbox
    you specify. (If you do not type the name of a mailbox file, INmail
    files the message in a default mailbox file named **new.mbx**.)

    Note: You can only file INmail messages in INmail files. An INmail
              file is a structured file ending with an **.mbx** extension.

11. If the mailbox file in which you want to store the message does not
    exist, the following prompt appears:

```
+-----------------------------------------------------------------------------+
¦                                                                             ¦
¦                                                                             ¦
¦    Mailbox name does not exist.                                            ¦
¦    Touch EXECUTE to create it and file the message there.                  ¦
¦    Touch QUIT to cancel.  HELP for help.                                   ¦
¦                                                                             ¦
¦                                                                             ¦
+-----------------------------------------------------------------------------+
```

    Note that the **name** is the name of the mailbox to be created.

12. Press **EXECUTE** to create the mailbox where you want to store the
    message.

2.5.16 Creating Your Mailbox Profile

The *mailbox profile* is a file, named **mbxprf**, containing default
information that controls how INmail reacts to many normal mail
situations. If you do not create a mailbox profile, INmail uses the
default mailbox profile contained in the **/usr/lib/INed/profiles** directory.

To change any or all of the INmail default conditions, you must:

1. Create a mailbox profile of your own, also named **mbxprf**, by copying
    the default mailbox profile from the **/usr/lib/INed/profiles** directory
    into a **profiles** directory in your home directory (**$HOME**).

2. Edit entries in your copy of the default profile to change default
    information.

The information in the mailbox profile set up in your **profiles** directory
overrides the information in the system default mailbox profile.

The following box shows how to get a copy of the default mailbox profile
mbxprf into your **profiles** directory. Information on editing your copy of
the mailbox profile is provided in "Changing the Mailbox Profile" in
topic 2.5.17.

Note: The steps in the box assume that a **profiles** directory exists in
          your home directory. If you do not have a **profiles** directory in
          your home directory, refer to *AIX INed* for information about
          creating an editor profile file.

```
+--- How to Copy the Default INmail Profile --------------------------+
¦                                                                      ¦
¦ 1.  At the system prompt ($), enter:                                 ¦
¦                                                                      ¦
¦                                                                      ¦
¦       e /usr/lib/INed/profiles                                       ¦
¦                                                                      ¦
¦                                                                      ¦
¦ 2.  The File Manager screen for the /usr/lib/INed/profiles directory ¦
¦     is displayed.                                                    ¦
¦                                                                      ¦
¦ 3.  Move the cursor to mbxprf.                                       ¦
¦                                                                      ¦
¦ 4.  Press PICK COPY.                                                 ¦
¦                                                                      ¦
¦ 5.  The INed editor picks up a copy of mbxprf, and moves the cursor  ¦
¦     down one line on the File Manager screen.                        ¦
¦                                                                      ¦
¦ 6.  Press ENTER and then type:                                       ¦
¦                                                                      ¦
¦                                                                      ¦
¦       $HOME/profiles                                                 ¦
¦                                                                      ¦
¦                                                                      ¦
¦     in the ENTER box.                                                ¦
¦                                                                      ¦
¦ 7.  Press ALT FILE.                                                  ¦
¦                                                                      ¦
¦ 8.  The File Manager screen for the profiles directory in your home  ¦
¦     directory is displayed.                                          ¦
¦                                                                      ¦
```

```
¦ 9.  Press PUT DOWN.                                              ¦
¦                                                                  ¦
¦ 10. A copy of the default mailbox profile is put into your profiles ¦
¦     directory.                                                   ¦
¦                                                                  ¦
+------------------------------------------------------------------+
```

2.5.17 Changing the Mailbox Profile

To customize INmail, you edit the copy of **mbxprf** in your **profiles**
directory. Changing fields in the file changes the way INmail handles
your mail.

The following box shows how to get the **mbxprf** file on the display screen
for editing with the INed editor. The "Additional Information" section
discusses the default fields that you can change in your mailbox profile.

For detailed information on INed editing functions and key usage, see *AIX
PS/2 INed*.

Note: This section assumes that you have a copy of the default mailbox
profile in your **profiles** directory. To make the copy, follow the
instructions in "Creating Your Mailbox Profile" in topic 2.5.16.

```
+--- Editing Your Mailbox Profile --------------------------------------+
¦                                                                       ¦
¦ 1.  At the system prompt ($), enter:                                  ¦
¦                                                                       ¦
¦                                                                       ¦
¦      e $HOME/profiles                                                  ¦
¦                                                                       ¦
¦                                                                       ¦
¦ 2.  The File Manager screen for the $HOME/profiles directory is       ¦
¦     displayed.                                                        ¦
¦                                                                       ¦
¦ 3.  Move the cursor to mbxprf.                                        ¦
¦                                                                       ¦
¦ 4.  Press ZOOM IN.                                                    ¦
¦                                                                       ¦
¦ 5.  Your mailbox profile file mbxprf appears on the screen.          ¦
¦                                                                       ¦
¦ 6.  Edit the fields you want to change.                              ¦
¦                                                                       ¦
¦ 7.  To save the edited file, do one of the following:               ¦
¦                                                                       ¦
¦         Press ALT FILE to return to a previous file                  ¦
¦                                                                       ¦
¦         Or                                                            ¦
¦                                                                       ¦
¦         Press EXIT to return to the system prompt ($)               ¦
¦                                                                       ¦
¦         Or                                                            ¦
¦                                                                       ¦
¦         Press ZOOM OUT to return to the File Manager of the profiles ¦
¦         directory.                                                    ¦
¦                                                                       ¦
+-----------------------------------------------------------------------+
```

Subtopics
2.5.17.1 Additional Information
2.5.17.2 Example Customized Mailbox Profile

2.5.17.1 Additional Information

Your mailbox profile **mbxprf** looks similar to this:

```
  From:
  Sender: Xyou`
  Mailbox for incoming messages (in-box): mbx
  Forward mail to:
  How many days of history do you want to keep in your in-box: 2
  How often do you want to discard history from your in-box (in days): 1
  Delete message from current mailbox when filing it (any char. means yes)  " "
  Ask for confirmation when sending a message (any char. means yes)       "x"
  Insert answers and forwards before original message (any char. means yes) " "
  Copy text of original message in answer (any char. means no)            "x"

         Description of mail box in filing menu              Name of mailbox
      ┌──────────────────────────────────────────────┬───────────────────────┐
      │                                              │                       │
      │                                              │                       │
      │                                              │                       │
      │                                              │                       │
      │                                              │                       │
      │                                              │                       │
      └──────────────────────────────────────────────┴───────────────────────┘

  /u/jan/profiles/mbxprf                    INSERT     Line   1(    0)
```

Figure 5-6. Example Mailbox Profile File

The following paragraphs explain the functions and values of the fields.
You can customize your mailbox profile by editing these fields:

From:

> Specifies what the editor puts in the **From:** field of the mail
> message. You can enter your name or other descriptive
> information, such as your address and phone number, in this
> field. If you leave this field blank, you must type in the
> information you want in the **From:** field each time you send a
> message.

Sender:

> Specifies what the editor puts into the **Sent by:** field of the
> mail messages you send. If you leave this field as **[you]**, the
> copy of each message you send contains your user name and your
> system name.

Mailbox for incoming messages (in-box):

> Identifies the name of your mailbox. If you do not change this,
> the name of your mailbox is **mbx**. You can change the name and
> the location of your mailbox by changing this field. However,
> the name of a mailbox must be **mbx** or must end with the extension
> **.mbx**.

Forward mail to:

> Directs INmail to forward your mail to another person or another
> location. For example, you can send your mail to someone else

to handle while you are on vacation.

How many days of history do you want to keep in your in-box:
Specifies how many days of your mailbox history the editor
keeps. The editor keeps a history of all of the changes that
happen to each mailbox file. This history can take up a large
amount of disk space. If you do not change this, the editor
keeps the history of deleted messages for two days.

How often do you want to discard history from your in-box (in days):
Specifies how often INmail removes your mailbox history. If you
do not change this field, INmail removes old history once a day
(at the time you access your mailbox). Give this field a small
number. A large number or a blank number can cause you to run
out of disk space.

Delete messages from current mailbox when filing it (any char. means yes):
Specifies if INmail deletes your messages from your mailbox
after the messages are filed in another mailbox. If you leave
this field blank, INmail keeps a copy of your message in your
original mailbox after you file it in another mailbox. Type any
non-space character in this field if you want to delete messages
automatically when you file them.

Ask for confirmation when sending a message (any char. means yes)
Specifies if INmail automatically confirms delivery of mail when
you send a message. Remove the **x** and leave the field blank if
you do not want to automatically receive confirmation of
delivery.

Insert answers and forwards before original message (any char. means yes)
Allows you to insert your reply to a message or a forwarded
message above the message to which you are replying or
forwarding. If you leave this field blank, INmail sends only
your reply to the message.

Copy text of original message in answer (any char. means no)
Determines if INmail includes the text of the original message
in the reply message. Remove the **x** and leave the field blank if
you do not want INmail to include the message text with your
answer.

Description of mailbox in filing menu
Contains the text in the Local Menu for your list of mailbox
files.

Name of mailbox
Contains the file name (the full path name, if the mailbox is
not in your home directory) for each mailbox described in the
previous field. The mailbox names must end with the extension
mbx.

2.5.17.2 Example Customized Mailbox Profile

The following is an example of a customized mailbox profile:

```
From:
Sender: Xyou`
Mailbox for incoming messages (in-box): mbx
Forward mail to:
How many days of history do you want to keep in your in-box: 2
How often do you want to discard history from your in-box (in days): 1
Delete message from current mailbox when filing it (any char. means yes)   " "
Ask for confirmation when sending a message (any char. means yes)        "x"
Insert answers and forwards before original message (any char. means yes) " "
Copy text of original message in answer (any char. means no)            "x"


        Description of mail box in filing menu              Name of mailbox

    Engineering specifications                          engr.mbx
    Personal mail                                       private.mbx
    Education opportunities                             educ.mbx
    Jokes                                               $HOME/tmp/fun.mbx




    /u/jan/profiles/mbxprf                INSERT    Line   4(    4)
```

The **Name of mailbox** box shows that four different mailboxes exist for the user of this mailbox profile, in addition to the **mbx** mailbox.

The file names for the first three mailboxes do not contain directory names. Therefore, by default, INmail considers the three mailboxes to be in the home directory of the user.

The mailbox described as **jokes**, **$HOME/tmp/fun.mbx**, is in the **tmp** subdirectory of the home directory of the user.

2.6 Chapter 6. Interacting with Remote Systems

Subtopics

2.6 Chapter 6. Interacting with Remote Systems

Subtopics

2.6.1 CONTENTS

2.6.2 About This Chapter

This chapter discusses the **Connect** and **INftp** programs and describes their most commonly used features.

To use the **Connect** features, information required by the **Connect** program must be configured on your system. To use the **INftp** features, information required by the **INftp** program must be configured on your system. If you have not configured your system for these features, see Chapter 3, "Configuring a System for Remote Functions."

2.6.3 Connecting to a Remote System (Connect)

The **Connect** program connects you to a remote system and then runs a
program that manages the two-way transfer of data between your work
station and the remote system.

The **Connect** program uses the configuration file
/usr/lib/INnet/connect.con. This file contains all the information that
Connect needs to know to make the connection.

When using the **Connect** program, the following restrictions apply:

   You must have a valid login name and password for the remote system

   You need to know the name of the **Connect** *stanza* in the **connect.con**
   file that contains **Connect** information for the remote system you want
   to connect with. A **Connect** stanza in **connect.con** is a set of lines of
   code set up to define characteristics of a **Connect** connection. This
   stanza is created by the person who set up remote functions using the
   instructions in Chapter 3, "Configuring a System for Remote
   Functions." See the system administrator for your computer system for
   the name of the stanza you must use to connect with a particular
   remote system using the **Connect** program.

   For more detailed information about **Connect**, see "connect" in
   topic 3.7.5 and "connect.con" in topic 3.8.4.

   You can manipulate files on the remote system only to the extent tha
   the permissions of your remote user ID allow. For example, if your
   remote user ID does not have superuser authority, you cannot delete
   files owned by other users.

The following sections describe how to start and stop a **Connect** session,
how to use **Connect** subcommands to transfer small files and to keep a
transcript of the session, and how to use the INed editor on a remote
system.

Subtopics
2.6.3.1 Starting a Connect Session
2.6.3.2 Escaping to the Local Prompt
2.6.3.3 Running a Local Command
2.6.3.4 Copying Text Files to the Remote System
2.6.3.5 Using the INed Editor on the Remote System
2.6.3.6 Keeping a Transcript File
2.6.3.7 Ending a Connect Session

2.6.3.1 Starting a Connect Session

You use the **connect** command to start a **Connect** session.

Before your computer system can successfully initiate a **Connect** session with a remote system:

1. Your port (either **/dev/tty00** or **/dev/tty01**) must be disabled.

2. The port that you are calling through on the remote system must be enabled.

For information on disabling a port, see the **disable** command in *AIX Operating System Command Reference*. Check with the system administrator at the remote system to ensure that the port on the remote system is enabled.

The following box shows the steps you perform to start a **Connect** session.

Note: To perform the steps in the box, you need to know the **Connect** stanza name for the remote system to which you want to connect.

```
+--- How to Start a Connect Session -----------------------------------+
¦                                                                      ¦
¦ 1.  Prepare your communications device to link to the remote system. ¦
¦                                                                      ¦
¦ 2.  Enter the connect command with the name of the Connect stanza in ¦
¦     connect.con used for connecting to the remote system.           ¦
¦                                                                      ¦
¦ 3.  The Connect program displays a message telling you the device   ¦
¦     Connect is using and the address of the remote terminal.        ¦
¦                                                                      ¦
¦ 4.  If Connect succeeds in making the connection, it adds Connected to ¦
¦     the message.                                                     ¦
¦                                                                      ¦
¦ 5.  Once a connection is established, you can log in to the remote   ¦
¦     system with a valid login name and password for that system.    ¦
¦                                                                      ¦
+----------------------------------------------------------------------+
```

Note: To end the **Connect** session before the connection with the remote system is complete, press the **Del** key to interrupt the program and return to the local system prompt.

Subtopics
2.6.3.1.1 More Detailed Information

2.6.3.1.1 More Detailed Information

1. If you are using a modem to link to the remote system, be sure the
    modem is switched on and connected to a phone line.

2. Enter the command name and the name of the **connect.con** stanza to
    initiate the connection and start the **Connect** session. For example,
    to start a **Connect** session with a remote system using a stanza in
    connect.con named **systemb**, you enter:

        $ connect systemb

    Since the AIX Operating System distinguishes between lowercase and
    uppercase characters, be sure to find out exactly how the stanza name
    is spelled in the **connect.con** file.

3. After you start **Connect**, it displays a message such as the following:

        Using /dev/tty00...trying T8885359...

    Here, **/dev/tty00** is the name of the device that **Connect** is using to
    make the connection and **T8885359** is the address of the remote device,
    in this case a telephone number. Both the device and address are
    specified in the **connect.con** file.

4. If **Connect** succeeds in making the connection, it displays the
    following:

        Using /dev/tty00...trying T8885359...Connected

    The **Connect** program then displays a message describing the escape
    sequence to the login prompt of the remote system to which you are
    connected. For more information on escape sequences, see "Escaping to
    the Local Prompt" in topic 2.6.3.2.

5. Once a connection is established, you can log in to the remote system
    with a valid login name and password for that system.

    If **Connect** is not successful, it displays a brief message explaining
    the reason why the connection was not made. See Appendix B,
    "INmail/INnet/INftp Messages" for a list of these messages.

Once you are logged in to the remote system, you can work on that system
just as if you were using a directly connected terminal. Any commands
that you issue are interpreted by the remote system. If you run into
problems on the remote system, as a last resort you can usually exit the
Connect program to return to the local system:

1. Escape to the local prompt (see "Escaping to the Local Prompt" in
    topic 2.6.3.2).

2. Quit the **Connect** program (see "Ending a Connect Session" in
    topic 2.6.3.7).

Quitting the **Connect** program logs you off of the remote system.

2.6.3.2 Escaping to the Local Prompt

If you want to give subcommands to the **Connect** program while you are
connected to the remote system, you must first escape to the local **Connect**
prompt by using the **Connect** escape sequence.

```
+--- How to Escape to the Local Prompt --------------------------------+
¦                                                                      ¦
¦ 1.  Press Ctrl-v  u  Ctrl-m.                                         ¦
¦                                                                      ¦
¦     The Connect program presents the LOCAL: prompt.                  ¦
¦                                                                      ¦
¦ 2.  Enter a single Connect subcommand.                              ¦
¦                                                                      ¦
¦     The Connect program performs the subcommand, presents the message ¦
¦     BACK TO REMOTE, and returns you to the remote system.            ¦
¦                                                                      ¦
¦ 3.  Either enter another command for the remote system, or press Enter ¦
¦     to get the remote system prompt ($).                             ¦
¦                                                                      ¦
+----------------------------------------------------------------------+
```

Subtopics
2.6.3.2.1 More Detailed Information

2.6.3.2.1 More Detailed Information

1. Enter the escape key sequence by typing the following keys in the
    specified order:

    a. Press the **Ctrl** and **v** keys simultaneously, and then release them.

    b. Press the **u** key, then release the key.

    c. Press the **Ctrl** and **m** keys simultaneously, and then release them.

    Note: Your system administrator can define a different escape key
           sequence. If the **Ctrl-v u Ctrl-m** key sequence does not work,
           ask your system administrator for the current escape sequence.

    Once you press the escape sequence, **Connect** presents the following
    prompt:

        LOCAL:

    Note: The system administrator can also change the **LOCAL:** prompt
           string, so the prompt on your display screen may differ.

2. You can now issue a single **Connect** subcommand. After **Connect** performs
    the subcommand, it gives the following message:

        BACK TO REMOTE

        ―

    and returns you to the remote system.

3. Notice that you do not get the remote system prompt (**$**). You can
    still enter a command for the remote system. To get the remote system
    prompt without entering a command, you press the **Enter** key.

2.6.3.3 Running a Local Command

To run a command on the local system while you are in a **Connect** session,
you use the **!** subcommand to enter the command at the **LOCAL:** prompt.


```
+--- How to Run a Local Command ----------------------------------------+
¦                                                                       ¦
¦ 1.  Type !.                                                           ¦
¦                                                                       ¦
¦ 2.  Type the command.                                                 ¦
¦                                                                       ¦
¦ 3.  Press Enter.                                                      ¦
¦                                                                       ¦
+-----------------------------------------------------------------------+
```


Subtopics
2.6.3.3.1 More Detailed Information

2.6.3.3.1 More Detailed Information

For example, the following command displays information about the files in
the local current directory:

```
  LOCAL: !ls -l
  total 2
  -rw-r--r-- 1 root root      80 Feb 123 14:54 testfile

  BACK TO REMOTE
```

Be sure to type **!** before the command that you want to run on the local
system. Without the **!** preceding the command, the **Connect** program
interprets and runs the command, not the local system.

If you do not enter **!** before the command, the **Connect** program usually
generates a message to indicate that it cannot interpret and run the
command. However, some AIX Operating System commands are also valid
commands to **Connect**, but with different meanings.

For a list of the valid **Connect** subcommands, see "connect" in topic 3.7.5.

2.6.3.4 Copying Text Files to the Remote System

You can use the AIX Operating System **cat** command in conjunction with the **i** (include) subcommand at the **LOCAL:** prompt to copy a text file from the local system to the remote system.

Note: Data transmission is not verified for accuracy by **Connect**. When it is necessary that data transmission be checked for accuracy, it is recommended that you use either the **INftp get** or **put** subcommand for the copy process between your system and a remote system. For information on the **get** subcommand, see "Copying a Remote File to the Local System" in topic 2.6.4.4.1. For information on the **put** subcommand, see "Copying a Local File to the Remote System" in topic 2.6.4.4.2.

```
+--- Copying a Text File to the Remote System -------------------------+
¦                                                                      ¦
¦ 1.  Enter the following form of the cat command at the remote system: ¦
¦                                                                      ¦
¦                                                                      ¦
¦       cat > newfile                                                  ¦
¦                                                                      ¦
¦                                                                      ¦
¦     (where newfile is the name of the file into which you want the   ¦
¦     file copied).                                                    ¦
¦                                                                      ¦
¦ 2.  Press Ctrl-v  u  Ctrl-m to escape to the LOCAL: prompt.          ¦
¦                                                                      ¦
¦ 3.  Enter the the following form of the i subcommand at the LOCAL:   ¦
¦     prompt:                                                          ¦
¦                                                                      ¦
¦                                                                      ¦
¦       ifilename                                                      ¦
¦                                                                      ¦
¦                                                                      ¦
¦     (where filename is the full path name of the text file you want to ¦
¦     copy to the remote system).                                      ¦
¦                                                                      ¦
¦ 4.  The following messages appear:                                   ¦
¦                                                                      ¦
¦                                                                      ¦
¦       Including file 'filename'                                      ¦
¦                                                                      ¦
¦                                                                      ¦
¦ 5.  The contents of filename appear on the display screen and are    ¦
¦     transferred into newfile on the remote system.                   ¦
¦                                                                      ¦
¦ 6.  Press Ctrl-D after transmission is complete to end the copy       ¦
¦     process.                                                         ¦
¦                                                                      ¦
+----------------------------------------------------------------------+
```

Subtopics
2.6.3.4.1 More Detailed Information

2.6.3.4.1 More Detailed Information
Note that with the **i** subcommand, you must end file transmission by
pressing **Ctrl-D**.

For example, assume that you have a local file, **testfile**, that contains
the following lines:

    Now is the time for all good men
    to come to the aid of their remote system.

The following sequence shows how you can copy this file to the remote
system with the **i** subcommand:

1. Enter the following command at the remote system:

        $ cat > newfile

        _

    The remote system appears to do nothing, but it is actually waiting
    for input. This command tells the remote system to copy its standard
    input into the file **newfile**. In this case, the standard input is what
    enters the remote system over the communications line.

2. Press **Ctrl-v u Ctrl-m** to escape to the **LOCAL:** prompt. (For more
    information on escaping to the **LOCAL:** prompt, see "Escaping to the
    Local Prompt" in topic 2.6.3.2.)

3. At the **LOCAL:** prompt, enter the following **i** subcommand:

        LOCAL: itestfile

    The subcommand causes **Connect** to send the text in the local file
    testfile over the communications line to the remote system.

4. The following message and file contents appear on the display screen:

        Including file 'testfile'

        Now is the time for all good men
        to come to the aid of their remote system.

    Notice that the text from the file appears on the display screen, but
    it is also copied to the file **newfile** because of the **cat** command.

    Note: Copying a large file with **Connect** can tie up your system for a
            long time, because the file contents are displayed as the copy
            task is performed. It is recommended that you use the **INftp**
            file copy facilities to copy large files, because the **INftp**
            copy facilities run as background tasks and allow you to issue
            other commands and subcommands as the copy task runs. For more
            information on the **INftp** copy facilities, see "Copying a Remote
            File to the Local System" in topic 2.6.4.4.1 and "Copying a
            Local File to the Remote System" in topic 2.6.4.4.2.

5. When the file is transferred, press **Ctrl-D** to end the **cat** command and
    the copy process.

Refer to "Exchanging Files with a Remote System (INftp)" in topic 2.6.4
for information on performing other file transfer functions, such as:

```
Copying binary files to and from the remote syste
```

```
Copying text files to and from the remote system
```

2.6.3.5 Using the INed Editor on the Remote System

If the INed editor is installed on the remote system, you can use the
editor on the remote system after establishing a connection with that
system using the **Connect** program.

When using the INed editor on a remote system, the editor functions are
assigned to different keys than when using the editor on the local system.
Therefore, before using the editor on the remote system, be sure you know
the keyboard mapping for the editor on the remote terminal.

To find out the keyboard mapping:

   Refer to the keyboard charts packaged with *INed*.

   Locate the keyboard information that is part of the INed editor

   1. Go to the INed Help Menu on the local system (either before
       connecting to the remote system, or from the **LOCAL:** prompt while
       connected to the remote system).

   2. Select the Keyboard Layout option.

   3. Select the option:

          Remote (cu or connect)

       to view the keyboard information.

   4. Optionally, print a copy of the file with the INed **PRINT** command.

For more information on viewing keyboard charts and printing files in the
INed editor, see *AIX PS/2 INed.*

2.6.3.6 Keeping a Transcript File

You can use the **t** (transcript) subcommand to keep a record of the remote **Connect** session. This transcript is written to a file on the local system that you specify.

The transcript file contains a record of the commands that you enter on the remote system and the remote system's response to those commands. It does not include the local commands that you issue at the **LOCAL:** prompt during the **Connect** session.

The transcript function is enabled with the **t** subcommand. After the function is enabled, you can turn it off and on during the remote **Connect** session. The transcript function for a remote **Connect** session ends when the session is ended.

The following boxes show how to:

    Enable the transcript function during a remote **Connect** session

    Turn the transcript function off and on during the remote sessio

    View the contents of the transcript file after the remote sessio ends.

```
+--- How to Enable the Transcript Function ---------------------------+
¦                                                                     ¦
¦ 1.  Enter the following form of the t subcommand at the LOCAL: prompt: ¦
¦                                                                     ¦
¦                                                                     ¦
¦        tfilename                                                    ¦
¦                                                                     ¦
¦                                                                     ¦
¦     (where filename is the name of the file in which the record of the ¦
¦     session is to be stored).                                       ¦
¦                                                                     ¦
¦ 2.  The system displays the following message:                     ¦
¦                                                                     ¦
¦                                                                     ¦
¦        Transcription into file 'filename' enabled                  ¦
¦                                                                     ¦
¦        BACK TO REMOTE                                               ¦
¦                                                                     ¦
¦                                                                     ¦
¦ 3.  The system begins keeping a record of the remote Connect session ¦
¦     in filename.                                                    ¦
¦                                                                     ¦
+---------------------------------------------------------------------+
```

```
+--- How to Disable the Transcript Function --------------------------+
¦                                                                     ¦
¦ Enter the following at the LOCAL: prompt:                           ¦
¦                                                                     ¦
¦                                                                     ¦
¦    t-                                                               ¦
¦                                                                     ¦
¦                                                                     ¦
+---------------------------------------------------------------------+
```

```
+--- How to Re-Enable the Transcript Function ------------------------+
```

```
¦                                                                          ¦
¦ Enter the following at the LOCAL: prompt:                                 ¦
¦                                                                          ¦
¦                                                                          ¦
¦    t+                                                                    ¦
¦                                                                          ¦
¦                                                                          ¦
+--------------------------------------------------------------------------+


+--- Viewing the Contents of the Transcript File ---------------------+
¦                                                                          ¦
¦ 1.  End the remote Connect session.                                      ¦
¦                                                                          ¦
¦ 2.  Enter the following at the local system prompt ($):                  ¦
¦                                                                          ¦
¦                                                                          ¦
¦        pg filename                                                       ¦
¦                                                                          ¦
¦                                                                          ¦
+--------------------------------------------------------------------------+
```

Subtopics
2.6.3.6.1 More Detailed Information

2.6.3.6.1 More Detailed Information

For example, to enable the transcript function and store the transcript in a file named **myrecord**, you issue the following **t** subcommand at the **LOCAL:** prompt:

```
LOCAL: tmyrecord
```

The system responds with the following messages:

```
Transcription into file 'myrecord' enabled

BACK TO REMOTE
```

Once you have started the transcript function, you can turn it off with the subcommand:

```
LOCAL: t-
```

You can turn it on again with the subcommand:

```
LOCAL: t+
```

To see what is in the transcript file after completing the **Connect** session, you can use the **pg** command on the local system:

```
$ pg myrecord
```

For information on ending a remote **Connect** session, see "Ending a Connect Session" in topic 2.6.3.7.

2.6.3.7 Ending a Connect Session

You use the **q** subcommand to end a **Connect** session. The **q** subcommand:

    Logs you off of the remote syste

    Stops processes associated with the **Connect** program

    Returns you to the command line in your working directory on the loca
    system.

The following box shows how to end a **Connect** session.

```
+--- How to End a Connect Session --------------------------------------+
¦                                                                       ¦
¦ 1.  Type q at the LOCAL: prompt.                                      ¦
¦                                                                       ¦
¦ 2.  Press Enter.                                                      ¦
¦                                                                       ¦
¦ 3.  The system displays the message:                                 ¦
¦                                                                       ¦
¦                                                                       ¦
¦        Connection terminated.                                        ¦
¦                                                                       ¦
¦                                                                       ¦
¦ 4.  The local system prompt ($) appears on your display screen.      ¦
¦                                                                       ¦
+-----------------------------------------------------------------------+
```

2.6.4 Exchanging Files with a Remote System (INftp)

The **INftp** program allows you to exchange files with a remote file system. After starting an **INftp** session with the **INftp** command, you use **INftp** subcommands to:

1. Find files on the remote system

2. Transfer files to and from the remote system

3. End the connection with the remote system.

When using the **INftp** program, the following restrictions apply:

You must have a valid login name and password for the remote system

You need to know the name of the **INftp** *stanza* in the **connect.con** file that contains information for your system to establish an **INftp** connection with the remote system. An **INftp** stanza in **connect.con** is a set of lines of code set up to define characteristics of a particular **INftp** connection. This stanza is created by the person who set up remote functions using the instructions in Chapter 3, "Configuring a System for Remote Functions." See the system administrator for your computer system for the name of the stanza you must use to transfer files with a particular remote system using **INftp**.

For more detailed information about **connect**, see "connect" in topic 3.7.5 and "connect.con" in topic 3.8.4.

There can be no intermediate systems on the network between your loca system and the remote system. If you do not know whether or not there are intermediate systems between your system and the remote system on the network, contact your system administrator.

You can manipulate files on the remote system only to the extent tha the permissions of your remote user ID allow.

The following sections describe the use of the **INftp** command to start an **INftp** session. and the use of **INftp** subcommands to get information about the remote file system, transfer files between the two systems, and end the connection with the remote system.

Subtopics
2.6.4.1 Starting an INftp Session
2.6.4.2 Finding Remote Files and Directories
2.6.4.3 Finding Local Files and Directories
2.6.4.4 Manipulating Remote Files
2.6.4.5 Copying Groups of Files
2.6.4.6 Printing on the Remote System
2.6.4.7 Ending an INftp Session

2.6.4.1 Starting an INftp Session

You start a file transfer session by entering the **INftp** command on the command line.

Before your computer system can successfully initiate an **INftp** session with a remote system:

1. Your port (either **/dev/tty00** or **/dev/tty01**) must be disabled.

2. The port that you are calling through on the remote system must be enabled.

For information on disabling a port, see the **disable** command in *AIX Operating System Command Reference*. Check with the system administrator at the remote system to ensure that the port on the remote system is enabled.

The following box shows the steps you perform to start an **INftp** session.

Note: To perform the steps in the box, you need to know the **INftp** stanza name for the remote system to which you want to connect using **INftp**.

```
+--- How to Start an INftp Session --------------------------------------+
¦                                                                        ¦
¦ 1.   Prepare your communications device to link to the remote system.  ¦
¦                                                                        ¦
¦ 2.   Enter the INftp command with the name of the connect.con stanza   ¦
¦      for connecting to the remote system with INftp.                   ¦
¦                                                                        ¦
¦ 3.   The INftp program displays progress messages until it completes   ¦
¦      the connection with the remote system.                            ¦
¦                                                                        ¦
¦ 4.   Enter the login name at the prompt user:.                         ¦
¦                                                                        ¦
¦ 5.   Enter the password at the prompt password:.                       ¦
¦                                                                        ¦
¦ 6.   The program that handles file transfer interaction is activated   ¦
¦      and displays the following message:                               ¦
¦                                                                        ¦
¦                                                                        ¦
¦         File Transfer Service (4.29)                                   ¦
¦                                                                        ¦
¦                                                                        ¦
¦ 7.   Press Enter at the prompt Remote Username:.                       ¦
¦                                                                        ¦
¦ 8.   Press Enter at the prompt Remote Password:.                       ¦
¦                                                                        ¦
¦ 9.   The asterisk prompt (*) appears, and the INftp session is active. ¦
¦                                                                        ¦
¦ 10.  Start performing remote file transfer operations with the INftp   ¦
¦      subcommands.                                                       ¦
¦                                                                        ¦
+------------------------------------------------------------------------+
```

Note: To end an **INftp** session before the connection with the remote system is complete, press the **Del** key to interrupt the program and return to the local system prompt.

Subtopics
2.6.4.1.1 More Detailed Information

2.6.4.1.1 More Detailed Information

For example, assume that the following command starts an **INftp** session:

   INftp systemb

This command starts a file transfer session using the **INftp** stanza named
systemb in **connect.con**. The **INftp** program establishes a connection with
the remote system and tries to log in to the remote system. The following
series of prompts and responses occur:

```
+----------------------------------------------------------------------+
¦                                                                      ¦
¦                                                                      ¦
¦                                                                      ¦
¦    Using /dev/tty00...trying T5552345...Connected                    ¦
¦    user: george                                                      ¦
¦    password:                                                         ¦
¦                                                                      ¦
¦    File Transfer Service (4.29)                                      ¦
¦    Remote Username:                                                  ¦
¦    Remote Password:                                                  ¦
¦                                                                      ¦
¦    *                                                                 ¦
¦                                                                      ¦
¦                                                                      ¦
+----------------------------------------------------------------------+
```
Figure 6-1. INftp Login Sequence

The prompts and responses shown in Figure 6-1 are explained in the
following list:

1.   The program displays progress messages until it completes the
     connection with the remote system.

2.   The program asks for a login name with the prompt **user:** .

3.   The user types in a valid login name for the remote system (**george** in
     the example) and presses the **Enter** key.

4.   The program asks for the password with the prompt **password:** .

5.   The user types in the password for the login name and presses the
     Enter key. Notice that the password does not appear on the screen.

6.   The program that handles actual file transfer activity, **ftpuser**, is
     activated and displays a message.

7.   The program then displays a prompt **Remote Username:**

8.   Press **Enter**.

9.   The program displays a prompt **Remote Password:**

10. Press **Enter**.

11. After a delay, the ***** (asterisk) prompt appears, indicating that the
     login is successful and an **INftp** session is now active.

After activating an **INftp** session, you can use **INftp** subcommands to

perform remote file transfer operations.

2.6.4.2 Finding Remote Files and Directories

After an **INftp** session is active on your work station, you can use certain
INftp subcommands to view information about directories and to move around
in the remote file system.   These subcommands include:

showdir   Display the name of the current directory.

dir   Display the contents of the specified directory.

dir -l   Display detailed information about the contents of the specified
              directory. The information is in the same format as that
              produced by the **ls -l** command on the local system.

filestat Display detailed information about a specified file. The
              information is in the same format as that produced by the **ls -l**
              command on the local system.

chdir   Change the current directory to the specified directory.

For more detailed information and the syntax of **INftp** subcommands, see
"INftp" in topic 3.7.6.

The following sections show the use of these subcommands. It is assumed
that a user started an **INftp** session under the login name **george** on the
remote system.

Subtopics
2.6.4.2.1 Determining the Current Directory
2.6.4.2.2 Getting Information About Remote Directory Contents
2.6.4.2.3 Getting Information About a Remote File
2.6.4.2.4 Moving About in the Remote File System

2.6.4.2.1 Determining the Current Directory

You can determine the current directory on the remote system with the
showdir subcommand.

For example, the following **showdir** subcommand:

```
  * showdir
  Remote working directory is /usr/george
```

shows that the current directory on the remote system is **/usr/george**.

2.6.4.2.2 Getting Information About Remote Directory Contents

You can view detailed information about the files in any remote directory
with the **dir -l** subcommand.

For example, the following **dir -l** subcommand:

```
  * dir -l .
 -rw-r--r-- 1 george group  370 Feb 12 14:52 Feb 12 14:46 letter
 -rw-r--r-- 1 george group  124 Feb 12 14:50 Feb 12 14:50 report
 -rw-r--r-- 1 george group  185 Feb 12 14:46 Feb 12 14:52 memo
```

displays information about the files in the current directory (**.**):

2.6.4.2.3 Getting Information About a Remote File

You can view detailed information about a file on the remote system with
the **filestat** subcommand.

For example, to view information about the remote file **report**, you can
enter the following **filestat** subcommand:

```
  * filestat report
  -rw-r--r-- 1 george group  124 Feb 12 14:50 Feb 12 14:50 report
```

The **INftp** program responds with a listing of the statistics for the
specified file in the current directory on the remote system.

2.6.4.2.4 Moving About in the Remote File System

You can change from one directory to another on the remote system with the
chdir subcommand.

For example, the sequence in the following example changes the current
directory twice, using the **showdir** subcommand after each change to verify
that the change occurred:

```
  * chdir /usr
  * showdir
 Remote working directory is /usr
  * chdir george
  * showdir
 Remote working directory is /usr/george
  *
```

2.6.4.3 Finding Local Files and Directories

You can use certain **INftp** subcommands to display information about
directories and to move around in the local file system while conducting
an **INftp** session. These subcommands include:

!pwd   Display the name of the current directory.

!ls   Display the contents of the current or specified directory.

chloc   Change the current directory to the specified directory.

For more detailed information and the syntax of **INftp** subcommands, see
"INftp" in topic 3.7.6.

The following sections show the use of these subcommands. It is assumed
that a user started an **INftp** session under the login name **george** on the
remote system.

Subtopics
2.6.4.3.1 Determining the Current Directory
2.6.4.3.2 Getting Information About Local Files
2.6.4.3.3 Moving About in the Local File System

2.6.4.3.1 Determining the Current Directory

You can determine the current directory on the local system with the **!pwd** subcommand.

For example, the following **!pwd** subcommand:

```
  * !pwd
  /usr/george
```

shows that the current directory on the local system is **/usr/george**.

2.6.4.3.2 Getting Information About Local Files

You can view information about files in any local directory with the **!ls**
subcommand.

For example, the following **!ls** subcommand displays information on the
files in the current directory on the local system:

```
  * !ls
  program
  program.doc
  program.o
```

2.6.4.3.3 Moving About in the Local File System

You can use the **chloc** subcommand to move to a different directory in the local file system.

For example, the following sequence changes the current directory twice, using the **!pwd** subcommand to verify that the change occurred:

```
  * chloc ..
  * !pwd
  /usr
  * chloc george
  * !pwd
  /usr/george
```

2.6.4.4 Manipulating Remote Files

The **INftp** program provides the following subcommands to manipulate remote files:

get   Copy a specified file from the remote system to the specified file on the local system.

put   Copy a specified file from the local system to the specified file on the remote system.

delete   Delete a specified file from the remote system.

rename   Change the name of a specified file on the remote system.

link   Create an additional name for a file on the remote system.

chmod   Change the protection mode of a specified file on the remote system.

chown   Change the owner of a specified file on the remote system.

chgrp   Change the group of a specified file on the remote system.

For more detailed information and the syntax of **INftp** subcommands, see "INftp" in topic 3.7.6.

The following sections show the use of these subcommands. It is assumed that a user started an **INftp** session under the login name **george** on the remote system.

Subtopics
2.6.4.4.1 Copying a Remote File to the Local System
2.6.4.4.2 Copying a Local File to the Remote System
2.6.4.4.3 Deleting Remote Files
2.6.4.4.4 Linking Remote Files
2.6.4.4.5 Changing Access Permissions of a Remote File

2.6.4.4.1 Copying a Remote File to the Local System

You can use the **get** subcommand to copy both text files and binary files
from the current directory of the remote system into a specified file in
the current directory of the local system.

For example, the following **get** subcommand:

  * get report february

copies the remote file **report** into a file named **february** on the current
directory of the local system.

The reappearance of the asterisk prompt indicates that the copy operation
is complete. An **!ls -C** subcommand performed after the **get** subcommand can
verify that the file was copied to the local system. For example, the
following **!ls -C** subcommand:

  * !ls -C
  february   program   program.doc   program.o

shows that the file **february** was copied into the current directory on the
local system.

2.6.4.4.2 Copying a Local File to the Remote System

You can copy both text files and binary files from the local system to the remote system with the **put** subcommand.

For example, the following **put** subcommand:

```
  * put program prog5
```

copies the local binary file **program** into a file named **prog5** in the current directory of the remote system.

The reappearance of the asterisk prompt indicates that the copy operation is complete.

A **dir** subcommand performed after the **put** subcommand can verify that the file was copied to the remote system. For example, the following **dir** subcommand:

```
  * dir .
  letter
  prog5
  report
  memo
```

shows that the file **prog5** was copied into the current directory on the remote system.

The following **put** subcommand:

```
  * put prog1 prog1
```

transfers the local text file **prog1** into a file also named **prog1** in the current directory of the remote system. When the asterisk prompt reappears, the following **dir** subcommand can be used to verify that the file was copied into the current directory (.) of the remote system:

```
  * dir -l .
  -rw-r--r-- 1 george group  370 Feb 12 14:52 Feb 12 14:46 letter
  -rwxr-xr-x 1 george group 9115 Feb 12 15:39 Feb 12 15:37 program
  -rw-r--r-- 1 george group  124 Feb 12 14:50 Feb 12 15:36 report
  -rw-r--r-- 1 george group  185 Feb 12 14:46 Feb 12 14:52 memo
  -rw-r--r-- 1 george group 6862 Feb 12 15:41 Feb 12 15:39 prog1
```

2.6.4.4.3 Deleting Remote Files

You can delete a file from the remote system with the **delete** subcommand.

For example, the following **delete** subcommand:

  * delete letter

deletes the remote file **letter** from the current directory of the remote
system.

2.6.4.4.4 Linking Remote Files

You can link remote files with the **link** subcommand. After files are
linked, the different file names become synonymous; that is, the names
refer to the same file.

For example, the following **link** subcommand:

  * link prog1 report

links the remote file **report** with the remote file **prog1**.

The following **dir -l** command can be used to verify that the linking was
successful:

  * dir -l .
  -rwxr-xr-x 1 george group 9115 Feb 12 15:39 Feb 12 15:37 program
  -rw-r--r-- 2 george group 6862 Feb 12 15:41 Feb 12 15:39 report
  -rw-r--r-- 1 george group 185 Feb 12 14:46 Feb 12 14:52 memo
  -rw-r--r-- 2 george group 6862 Feb 12 15:41 Feb 12 15:39 prog1

The directory listing of the current remote directory (.) shows that the
information for the linked remote files **report** and **prog1** is the same.
This similarity indicates that the two files are linked.

Note that a file on a local system cannot be linked with a file on a
remote system, and vice versa.

2.6.4.4.5 Changing Access Permissions of a Remote File

You can change the protection mode of a remote file with the **chmod**
subcommand. You can also change the group for a remote file with the
chgrp subcommand, and the owner for the remote file with the **chown**
subcommand.

For example, the following **chmod** subcommand:

    * chmod rw-rw-rw- memo

changes the protection mode of the file **memo** in the current directory on
the remote system so that all users can write into the file.

The following **chgrp** and **chown** subcommands:

    * chgrp root program
    * chown root program

change the group and owner for the remote file **program** in the current
remote directory to **root**.

After running these subcommands, you can use the **dir -l** subcommand to
verify that the changes were made:

    * dir -l .
    -rw-rw-rw- 1 george group 185 Feb 12 14:46 Feb 12 14:52 memo
    -rw-r--r-- 1 root   root 9115 Feb 12 15:39 Feb 12 15:37 program
    -rw-r--r-- 2 george group 6862 Feb 12 15:41 Feb 12 15:39 report
    -rw-r--r-- 2 george group 6862 Feb 12 15:41 Feb 12 15:39 prog1

Notice that the directory listing for the current remote directory shows
the changed protection mode of the file **memo** and the changed group and
owner of **program**.

2.6.4.5 Copying Groups of Files

To copy many files between the local and remote systems with minimal
operator attendance, you can use the **script** subcommand.

The following box shows how to copy groups of files between the local and
remote systems.

```
+--- How to Copy Groups of Files ----------------------------------------+
¦                                                                        ¦
¦ 1.  Create a file of INftp subcommands on the local system.            ¦
¦                                                                        ¦
¦ 2.  Start an INftp session.                                            ¦
¦                                                                        ¦
¦ 3.  At the * prompt, enter the script subcommand:                      ¦
¦                                                                        ¦
¦                                                                        ¦
¦        script                                                          ¦
¦                                                                        ¦
¦                                                                        ¦
¦ 4.  At the (script file) prompt, enter the name of the file containing ¦
¦     the INftp subcommands.                                             ¦
¦                                                                        ¦
+------------------------------------------------------------------------+
```

Subtopics
2.6.4.5.1 More Detailed Information

2.6.4.5.1 More Detailed Information

To use the **script** subcommand, you first create a file on the local system
that contains **INftp** subcommands before entering the **INftp** program.

For example, you can use an editor to create a file named **trans.scr** on the
local system that contains the following **INftp** subcommands:

```
  put february report3a
  put febsales sales3a
  get march march
  get marsales marsales
```

After exiting the editor, starting an **INftp** session, and getting the **INftp**
(*****) prompt, you enter:

```
  script
```

to start the **script** subcommand.

The **INftp** program prompts you to enter the name of the file that contains
the **INftp** subcommands you want to run:

```
  (script file) _
```

You type the name of the file alongside the prompt:

```
  (script file) trans.scr
```

and press the **Enter** key.

The **INftp** program then performs the subcommands in the file. The asterisk
prompt reappears when **INftp** is finished running the subcommands.

After the asterisk prompt reappears, you can run the **dir -l** subcommand to
list files on the remote system and the **!ls -l** to list files on the local
system, to ensure that the copy processes were successful.

You can include more **INftp** subcommands than are shown in the example file.
However, you do not regain control of **INftp** until all of the subcommands
are performed and the asterisk prompt reappears.

2.6.4.6 Printing on the Remote System

Using the **INftp** subcommand **spool**, you can print a copy of a local file on
a remote system without copying the file to the remote system.

For the **spool** subcommand to work:

    The file you want to print must exist in the current directory of th
    local system.

    The remote system must be running and must have a configured an
    functional print queuing system. Contact your system administrator or
    the system administrator for the remote system for confirmation.

The following box shows how to print a copy of a local file on a remote
system.

```
+--- Printing a Local File on a Remote System -------------------------+
¦                                                                      ¦
¦ 1.  Make sure the file is in the current directory of the local      ¦
¦     system.                                                          ¦
¦                                                                      ¦
¦ 2.  Start an INftp session.                                          ¦
¦                                                                      ¦
¦ 3.  At the * prompt, enter the spool subcommand:                     ¦
¦                                                                      ¦
¦                                                                      ¦
¦        spool                                                         ¦
¦                                                                      ¦
¦                                                                      ¦
¦ 4.  At the (local file) prompt, enter the name of the local file you ¦
¦     want to print.                                                   ¦
¦                                                                      ¦
¦ 5.  At the (to remote queuer) prompt, enter                         ¦
¦                                                                      ¦
¦                                                                      ¦
¦        print                                                         ¦
¦                                                                      ¦
¦                                                                      ¦
¦     to indicate that you want the file printed.                     ¦
¦                                                                      ¦
+----------------------------------------------------------------------+
```

Subtopics
2.6.4.6.1 More Detailed Information

2.6.4.6.1 More Detailed Information

To use the **spool** subcommand to print a local file on a remote system, you must first make certain that the file is in the current directory of the local system. After starting an **INftp** session and getting the **INftp** (*****) prompt, you enter:

```
  spool
```

to start the **spool** subcommand.

The **INftp** program prompts you to enter the name of the file you want to print:

```
  (local file) _
```

Assume that you want to print the local file named **february**. You type the name of the file alongside the prompt:

```
  (local file) february
```

and press the **Enter** key.

The **INftp** program then prompts you to indicate what you want done with the file:

```
  (to remote queuer) _
```

Since you want to print the file, you type **print** alongside the prompt:

```
  (to remote queuer) print
```

and press the **Enter** key.

The **INftp** program then sends a copy of the local file to the print queuing system on the remote system. The file will be printed on the default printer set up on the remote system.

When the asterisk prompt reappears, the **INftp** program is finished sending a copy of the local file to the print queuing system on the remote system. The file is printed shortly thereafter, depending on how many files are before it in the print queue.

2.6.4.7 Ending an INftp Session

You use the **q** subcommand to end an **INftp** session.

The steps in the following box show how to end an **INftp** session.

```
+--- Ending an INftp Session ----------------------------------------+
¦                                                                    ¦
¦ 1.  At the * prompt, enter:                                        ¦
¦                                                                    ¦
¦                                                                    ¦
¦       q                                                            ¦
¦                                                                    ¦
¦                                                                    ¦
¦ 2.  At the (confirm) prompt, enter:                               ¦
¦                                                                    ¦
¦                                                                    ¦
¦       y                                                            ¦
¦                                                                    ¦
¦                                                                    ¦
¦ 3.  The INftp session is ended, and the local system prompt appears. ¦
¦                                                                    ¦
+--------------------------------------------------------------------+
```

Subtopics
2.6.4.7.1 More Detailed Information

2.6.4.7.1 More Detailed Information

For example, to end a **INftp** session with a remote system, you enter:

   q

alongside the asterisk prompt.

The **INftp** program asks for confirmation that you want to end the session:

  (confirm)

You type:

  y

for yes and press the **Enter** key.

The **INftp** program then ends the session. You are returned to the command
line of the local system, and the local system prompt appears.

3.0 Part 3. Technical Reference Information

Subtopics

3.7 Chapter 7.   Communication Commands

3.7.1 CONTENTS

3.7.2 About This Chapter

This chapter provides an alphabetical list of commands you can use with
INmail/INnet/INftp. Each command explanation includes a general command
description, explanations of flags and parameters, and related files. In
the syntax diagrams, the default line is the top line.

3.7.3 /usr/lib/INnet/atalk

Purpose
Provides an interactive remote session interface.

Syntax

```
                    ¦
/usr/lib/INnet/atalk ---¦
```

```
----------------
¦ This talker program is called by connect.
  See connect for command line flags.
```

Description

The **/usr/lib/INnet/atalk** program is a command interface to the remote
login facility. Details of the interactive command interface provided by
/usr/lib/INnet/atalk are found in "connect" in topic 3.7.5.

Flags

Instructions are sent to **/usr/lib/INnet/atalk** in three ways:

   In a **connect.con** AIX Operating System for the PS/2 configuration file

   On the **Connect** command line

   At the **LOCAL:** prompt during a **Connect** session.

For information on command line flags and subcommands that use
/usr/lib/INnet/atalk, see "connect" in topic 3.7.5.

Related Information

In this book: "INftp" in topic 3.7.6, "ftpmail" in topic 3.7.7,
"/usr/lib/INnet/ftpsrvr" in topic 3.7.9, "/usr/lib/INnet/ftpuser" in
topic 3.7.10, and "/etc/qftp" in topic 3.7.15.

3.7.4 /usr/lib/INnet/bellpost

Purpose
Delivers INmail messages to AIX Operating System mailboxes.

Syntax

```
                          +----------+
/usr/lib/INnet/bellpost ---¦          +---¦
                          +- mailbox -+
```

Description
The **/usr/lib/INnet/bellpost** command delivers an INmail message to an AIX
Operating System mailbox. It converts the message and all return
addresses to the format accepted by the **mail**, **rmail**, and **uucp** commands.

The **/usr/lib/INnet/bellpost** command is designed to be used as a delivery
program by the **/etc/qftp** command. A typical entry in the **/etc/alias** file
might look as follows:

```
  username#123#1
  #0#/usr/lib/INnet/bellpost#0#1#/tmp#y#mailbox
```

The optional mailbox field contains the name of the AIX Operating System
mailbox to which **/usr/lib/INnet/bellpost** should deliver the message. If
there is no mailbox field, **/usr/lib/INnet/bellpost** delivers the message to
your own mailbox.

The **/usr/lib/INnet/bellpost** command supports AIX PS/2-style forwarding.
It interprets a **Forward to:** line at the beginning of the mailbox in the
same way as does the AIX Operating System **mail** command.

Note: Forwarding is handled in a way that sometimes adds a **From:** line at
        the beginning of the message.

Network forwarding requires INnet.

Files

/usr/spool/mail/*
                AIX Operating System mailboxes
/etc/uucpsites   Site name translation file.

Related Information
In this book: "alias.delta" in topic 3.8.3, "/etc/qftp" in topic 3.7.15,
"sendmail" in topic 3.7.21 and "to" in topic 3.7.23

3.7.5 connect

Purpose
Establishes a connection to a remote system.

Syntax

```
                  +---------+
connect --- -b ---|         |+--- rmthost ---|
                  +- file: -+


          +-------- -zO ---------+   +--------+
connect ---| +----------------+ +---| one of +---
           +-| -iname  -mprompt +-+  | +----+ |
             | -wsec   -parg    ||  +-| -f +-+
             || -targ   -xarg    ||  | -h |
             |+----------------+|    +----+
             +-----------------+


     +---------------+   +----------------+
  ---|    +-------+ +---|    +--------+ +---
     +- -e -||       +-+  +- -s -||       +-+
           +- esc -+          +- rate -+


    +--- rmthost ----+   +---------+
  ---|                 +---+- lcmd  -+---|
     +- file:rmthost -+   +- -rpgm -+
```

Description
The **connect** command lets you establish a connection to a remote host.
connect runs in two parts. The first part makes the connection with the
remote system specified by **rmthost**. The second part is a program called
the *talker*, which runs automatically and exchanges data with the remote
host. For information about the talker program, see "connect.con" in
topic 3.8.4. Any flags that you specify are passed directly to the talker
without interpretation. The default talker for asynchronous links is the
atalk program.

The **connect** command uses a system-wide control file, **connect.con**, located
in **/usr/lib/INnet**. You can specify an additional control file,
file:**rmthost**. If you do not specify an additional file, **connect** searches
$HOME/bin for a **connect.con** file. You can use the local control file to
supplement or override the system control file.

Attributes needed to complete the connection are taken from the control
file or from the command line assignment **var=val**. For a description of
the parameters, see "connect.con" in topic 3.8.4.

Note: The **connect** command lets you set up and maintain connections
        through a wide variety of communications devices. It interacts
        with you through the file **connect.con** which is free-format.
        Problems with the format of this file can cause unpredictable
        results.

Flags and Subcommands
There are no spaces between the flags and the associated parameters. On
the command line, a **-** (minus) is part of the flag. Once **connect** is
loaded, you can use the letters, without the minus, as subcommands. To

give a subcommand, use the escape sequence to return to local mode (see the **-e** flag). When **atalk** detects the escape sequence in the input, it places the work station in its original state and prompts you with the local prompt. You can then use the following subcommands. Once the subcommand has run, **atalk** returns to its former mode.

b　　　　Sends a break on the port. This is done by lowering the transmission speed to 75 bps and transmitting an ASCII NULL on the port. If the transmission speed is already 75 bps or less, this function may not work correctly.

d or **q**　　Closes the port (**d**isconnect or **q**uit). Note that this does not, in itself, end your job at the remote site; the only effect of this subcommand is to close the port. After closing the port, **connect** exits. Do not invoke the **d** or **q** flags from the command line because they will cause **connect** to exit right away. Once **connect** is loaded these are valid flags.

e[esc]　　Sets the escape sequence to the character string **esc**. If you do not specify **esc**, **connect** displays the current escape sequence. It takes the default escape sequence from the environment variable **CONESC**, if defined, or else sets it to:

　　　　　Ctrl-v　u　Ctrl-m

f　　　　Enables local echoing (full duplex).

h　　　　Disables local echoing (half duplex).

i_name_　　Writes file _name_ to the port.

　　　　　Warning: If you are connected to the remote host by RS-232 lines, data from the file can be lost if the remote host cannot keep up with the input.

　　　　　Normally, this flag is used to transfer a small file from the local site to the remote site. File transmission must be ended manually by pressing **Ctrl-D**. For example:

　　　　　　cat > newfile
　　　　　　[**escape sequence**]
　　　　　　LOCAL: ifred
　　　　　　.
　　　　　　.
　　　　　　.

　　　　　Ctrl-D

mprompt　　Sets the local prompt to the **prompt** character string. **connect** displays this prompt when it recognizes the escape sequence. By default, it sets the prompt to the value of the environment variable **CONPMT**. If this variable is not set, it uses the string **LOCAL:**.

p_arg_　　Sets parity as specified by _arg_, where _arg_ is one of the following characters: **o** (odd), **e** (even), **0** (both odd and even), or **8** (eight data bits).

r_pgm_　　Runs the network program **pgm**. Anything following **pgm** on the command line is passed to **pgm** as an argument, along with the

additional arguments **-i3 -o3** and with the port set up as file
descriptor 3. The program is run as a child process.

srate   Sets the transmission speed to **rate**, which is one of the
following: **0**, **50**, **75**, **110**, **134**, **150**, **200**, **300**, **600**, **1200**, **1800**,
2400, **4800**, **9600**, **exta**, or **extb**. The value **0** effectively turns
off the port. If you do not specify **rate**, the current
transmission speed is displayed.

targ   Enables or disables transcripts. If arg is any character string
other than a minus or plus sign, the transcript function is
enabled with the specified file arg as transcript. When you use
an existing file as a transcript file, new data is added to the
end of the file. Use **t-** to disable the transcript function and
t+ to enable the transcript to the previous transcript file (no
default).

wsec   Sets the inter-line delay of the include function to cause a
delay interval of the specified seconds between each line
written to the port. The default value is 0.

xarg   Enables or disables input or output flow control. If the input
flow control is enabled, **Ctrl-S** and **Ctrl-Q** are automatically
sent to the remote host to control the rate at which it
transmits data. If the output flow control is enabled, **Ctrl-S**
and **Ctrl-Q** are automatically honored if received from the host.
This is useful when using the **include** command. **xi+** enables
input flow control. **xi-** disables input flow control. **xi**
displays the current state. For control of output flow control,
replace **xi** with **xo**. See the discussion of IXON and IXOFF in the
termio file in *AIX Operating System Technical Reference*.

-zseconds Sets the timeout period for connection attempts to the specified
number of seconds. The default value is 0 (no explicit
timeout). Currently, the timeout flag only has an effect on
ports using an autodialer. The open on a permanent connect can
hang forever.

!cmd   Runs the system command **cmd**. **connect** passes anything that
follows **!** (including arguments to **cmd**), to the local shell to be
run by the **system** system call. In particular, you can use all
I/O redirection and piping.

Files

/usr/lib/INnet/connect.con   System-wide connection control file
$HOME/bin/connect.con   Private connection control file
/usr/lib/INnet/dialers/*   System-wide dialer programs
$HOME/bin/*   Private dialer programs
/usr/lib/INnet/atalk   Default talker program for asynchronous
                                   lines
/etc/sites   Known network site names
/usr/spool/uucp/LCK.*   Directory for locks on ports.

Related Information
The **system** and **exec** system calls, and the **termio** special facility in *AIX
Operating System Technical Reference*.

3.7.6 INftp

Purpose
Provides a file transfer command interface.

Syntax

```
                +--------------+   +------------------+
INftp --- -pw --¦ +----------+ +---¦ +-- -f device --+ +---
                +-¦ -b number +-+   +-¦ +----------+ +-+
                  ¦ -d    -t  ¦¦       +-¦ -i device +-+
                  ¦¦ -q    -v  ¦¦         ¦ -o device ¦¦
                  ¦¦ -r number ¦¦         ¦+----------+¦
                  ¦+----------+¦          +------------+
                  +------------+


     +---------+¦
  ---¦          +--- rmthost ---¦
     +- file: -+
```

```
---------------
¦ Do not put a space between these items.
```

Description
The **INftp** command permits you to access a file system on a remote host and to run file commands interactively. **INftp** runs in two parts. The first part makes contact with a specified remote system (**rmthost**). Then a second program (the **talker**) performs the data exchange with that system. The talker program for **INftp** is **/usr/lib/INnet/ftpuser**.

As with other communication commands, **INftp** uses the system's connection control file, **/usr/lib/INnet/connect.con**. You can specify an additional control file, *file*:**rmthost**. If you do not specify an additional file, **connect** searches **$HOME/bin** for a **connect.con** file. You can use the local control file to supplement or override the system control file.

In addition to using a control file to specify the attributes needed to complete the connection, you can define these attributes on the command line in the form **var=val**. See "connect.con" in topic 3.8.4 for a list of recognized options.

Warning: There is no lockout to prevent multiple links between the two sites. Should this occur, lost or duplicate files can result.

Flags

Note: The flags that you specify on the **INftp** command line are passed to **/usr/lib/INnet/ftpuser**, without being interpreted by **INftp**.

-bnumber Sets the maximum transmission block size (in bytes). This is used by some link protocols.

-d Displays a summary of all messages exchanged with the remote site (message level 3).

-fdevice Specifies an input and output file. **device** can be either a file name or a file descriptor. **/usr/lib/INnet/ftpuser** opens a named

file for input and output; it assumes that a file descriptor is already open for input and output.

-idevice   Specifies an input file. **device** can be either a file name or a file descriptor. **/usr/lib/INnet/ftpuser** opens a named file for input; it assumes that a file descriptor is already open for input.

-odevice   Specifies an output file. **device** can be either a file name or a file descriptor. **/usr/lib/INnet/ftpuser** opens a named file for output; it assumes that a file descriptor is already open for output.

-pletter   Uses the specified link protocol. The default protocol is **n** (none), implying that the underlying device provides an error-free, flow-controlled link. The letter **w** specifies the **waxnet** protocol for use on asynchronous communication links.

-q   Suppresses all output and prompts (message level 0).

-rnumber   Sets the retransmission time-out period (in seconds). This is used by some link protocols for error recovery procedures.

-t   Displays details on all messages exchanged with the remote site (message level 4).

-v   Displays detailed diagnostic messages (message level 2).

Subcommands

The ***** (asterisk) prompt indicates that **INftp** is ready to accept a subcommand. You can abbreviate these names, provided they remain unique.

Note: **INftp** prompts you for missing arguments.

quit confirmation   Exits if **confirmation** begins with **y**; otherwise, ignores the subcommand.

get remote local   Copies a remote file to a local file.

put local remote   Copies a local file to a remote file.

dir [-l] **rdirectory**   Lists a remote directory. The **-l** flag indicates a long format directory listing.

delete **remote**   Deletes a remote file.

rename **oname nname**   Changes the name of a remote file.

link **name new-name**   Links a new name to a remote file.

filestat **file**   Lists information about a remote file.

showdir   Indicates remote working directory.

chdir **directory**   Changes remote working directory.

chloc **directory**   Changes local working directory.

chmod **modes file**   Changes protection modes of a remote file. The modes are indicated by three groups of three

characters. The three groups correspond to owner
access, group access, and access by all others. The
three characters within each group are:

r   Read permission
w   Write permission
x   Execute file or search in directory permission.

A - (minus) indicates that permission for the
corresponding privilege is not allowed. In the
first and second groups, an **s** used instead of an **x**
indicates set-user-ID or set-group-ID on execution.

chown **owner file**   Changes owner of remote file.

chgrp **group file**   Changes group of remote file.

set **variable value**   Sets internal variable to new value. (**variable** may
be uniquely abbreviated.) There are currently two
internal variables of interest:

message   Controls the amount of diagnostic text
printed to the terminal (message levels
0 to 5). See the previous discussion of
the **-d**, **-q**, **-t**, and **-v** flags.
clustersize Controls the amount of data sent to the
remote host before an acknowledgement is
expected.

Sample Session

```
* set mes 2                 (sets message level to verbose)
* chdir /tmp                (changes current remote directory)
* !ls /usr/ralph            (local shell command:  list directory
                            /usr/ralph)
* chloc /usr/ralph          (changes current local directory)
* put localfile remotefile  (copies local file to remote file)
* ren oldname newname       (renames remote file)
* chmod rwxr--r-- file      (changes protection modes)
* del oldfile               (deletes remote file)
* quit y                    (exits INftp)
```

Diagnostic Messages

The following diagnostics can be displayed. For explanations of the
diagnostics, see the alphabetical listing in Appendix B,
"INmail/INnet/INftp Messages."

Return Code	Message
54	E_HOST Unknown host name
55	E_EXEC Exec failed
56	E_FAIL Unknown failure
57	E_NOSUP Not supported
58	E_GROUP Unknown group
59	E_USER Unknown host name
60	E_LOGIN Login denied
61	E_COMM Fatal communication error
62	E_INftp Communication protocol error
63	E_EOF End of file

Files

/usr/lib/INnet/connect.con	System-wide connection control file
$HOME/bin/connect.con	Private connection control file
/usr/lib/INnet/dialers/*	System-wide dialer programs
$HOME/bin/*	Private dialer programs
/etc/sites	Known network site names
/usr/spool/uucp/LCK.*	Directory for locks on ports
/usr/lib/errormsg	Error messages 54 through 63 are issued by INnet/INftp.

Related Information
In this book: "connect" in topic 3.7.5, "connect.con" in topic 3.8.4,
"/usr/lib/INnet/ftpsrvr" in topic 3.7.9, "/usr/lib/INnet/ftpuser" in
topic 3.7.10, and "/etc/qftp" in topic 3.7.15.

3.7.7 ftpmail

Purpose
Provides a file transfer command interface.

Syntax

```
                    +-----------------------+   +-----------------+
ftpmail --- -pw ---¦ +-------------------+ +---¦ +- -f device --+ +---
                +-¦ -bnumber  -t       +-+  +-¦ +---------+ +-+
                  ¦ -cnumber  -v       ¦¦     +-¦ -idevice +-+
                  ¦¦ -d       -xnumber ¦¦       ¦ -odevice ¦¦
                  ¦¦ -q       -xi      ¦¦       ¦+---------+¦
                  ¦¦ -rnumber -xo      ¦¦       +-----------+
                  ¦+-------------------+¦
                  +---------------------+


    +------------------+   +---------+¦
  ---¦        +---------+ +---¦         +-- rmthost --¦
     +- -z -¦            +-+   +- file: -+
           +- number -+
```

¦ Do not put a space between these items.

Description

Normally, the **ftpmail** command runs as a background process called by the
qftp daemon to exchange INmail/INnet mail and to perform queued file
transfers with a remote host. The command runs in two stages. First, it
makes the connection with a specified remote system (**rmthost**). Then it
calls **/usr/lib/INnet/ftpmail** (the talker program), to exchange data with
that system. **ftpmail** passes the flags specified on the command line to
/usr/lib/INnet/ftpmail for execution.

As with other communications commands, **ftpmail** uses connection information
found in the system-wide control file **/usr/lib/INnet/connect.con**. You can
specify an additional control file, **file:rmthost**. If you do not specify
an additional file, **connect** searches **$HOME/bin** for a **connect.con** file.
You can use the local control file to supplement or override the system
control file. In addition to using a control file to specify the
attributes needed to complete the connection, you can also define these
attributes on the command line in the form **var=val**. See "connect.con" in
topic 3.8.4 for a list of recognized options.

Warning: There is no lockout to prevent multiple links between the same
two sites. Should this occur, lost or duplicated files can result.

Flags

-bnumber   Sets the maximum transmission block size (in bytes). This
                  is used by some link protocols.

-cnumber   Sets the cluster size (in units of 512 bytes). This is the
                  number of blocks of data transmitted between
                  acknowledgements by the remote process.

-d   Displays a summary of messages exchanged with the remote
                site (message level 3).

-fdevice   Specifies an input and output device (special file). **device**
                can be either a file name or a file descriptor. If you
                specify a file name, **/usr/lib/INnet/ftpuser** opens the named
                file for input and output. If you specify a file
                descriptor, **/usr/lib/INnet/ftpuser** assumes that it is
                already open for input and output.

                Normally, the input and output files are obtained from the
                device system option in **connect.con** and there is no need to
                specify the **-o**, **-i**, or **-f** flags. These flags may be helpful
                for debugging.

-idevice   Specifies an input device (special file). **device** can be
                either a file name or a file descriptor. If you specify a
                file name, **/usr/lib/INnet/ftpuser** opens the named file for
                input. If you specify a file descriptor,
                /usr/lib/INnet/ftpuser assumes that it is already open for
                input.

                Normally, the input and output files are obtained from the
                device system option in **connect.con** and there is no need to
                specify the **-o**, **-i**, or **-f** flags. These flags can be helpful
                for debugging.

-odevice   Specifies an output device (special file). **device** can be
                either a file name or a file descriptor. If you specify a
                file name, **/usr/lib/INnet/ftpuser** opens the named file for
                output. If you specify a file descriptor,
                /usr/lib/INnet/ftpuser assumes that it is already open for
                output.

                Normally, the input and output files are obtained from the
                device system option in **connect.con** and there is no need to
                specify the **-o**, **-i**, or **-f** flags. These flags can be helpful
                for debugging.

-pletter   Uses the specified link protocol. The default protocol is **n**
                (none), implying that the underlying device provides an
                error-free, flow-controlled link. The letter **w** specifies
                the **waxnet** protocol for use on asynchronous communication
                links.

-q   Suppresses all output and prompts (message level 0).

-rnumber   Sets the retransmission time-out period (in seconds). This
                is used by some link protocols for error recovery
                procedures.

-t   Displays details on messages exchanged with the remote site
                (message level 4).

-v   Displays detailed diagnostic messages (message level 2).

-xi   Disables incoming mail processing.

-xo   Disables outgoing mail processing.

-xnumber   Specifies the minimum urgency of queued messages to be transferred. The **number** argument can be an integer from 0 to 7, inclusive. The default value is 0.

-z[number]   Specifies continuous operation. **number** specifies the sleep period in seconds. The default value is 60.

The local **ftpmail** server and the remote **/usr/lib/INnet/ftpsrvr** server negotiate so that the highest priority file on either side is the next file to be sent. When there are no more files to be transferred and the **-z** flag was specified, the **ftpmail** server sleeps for the specified period of time and then examines its queues again. Otherwise, the **ftpmail** server exits when all files have been exchanged.

Files

/usr/lib/INnet/connect.con	System-wide connection control file
$HOME/bin/connect.con	Private connection control file
/usr/lib/INnet/dialers/*	System-wide dialer programs
$HOME/bin/*	Private dialer programs
/etc/sites	Known network site names
/usr/spool/uucp/LCK.*	Files for locks on ports
/usr/lib/INnet/scripts/*	Login scripts.

Related Information
In this book: "connect.con" in topic 3.8.4, "/usr/lib/INnet/ftpmail" in topic 3.7.8, "/usr/lib/INnet/ftpsrvr" in topic 3.7.9, and "/etc/qftp" in topic 3.7.15.

3.7.8 /usr/lib/INnet/ftpmail

Purpose
Provides the INnet file transfer interface.

Syntax

```
                       ¦
/usr/lib/INnet/ftpmail ---¦
```

```
----------------
¦ This talker program is called by ftpmail.
   See ftpmail for command line flags.
```

Description
The **/usr/lib/INnet/ftpmail** program communicates with a file transfer
server process on the specified remote host (**rmthost**) to exchange queued
files, such as those produced by INmail.

Although this program is normally run by **/usr/lib/INnet/ftpmail**,
/usr/lib/INnet/ftpmail can be invoked directly. It assumes that all
effort needed to establish the connection to the remote site has been
done, or all that remains is to open a device.

The **/usr/lib/INnet/ftpmail** program attempts to log in to the remote
system, using a login name and password as specified in a script file.
You must specify the name of this script file, either in a **connect.con**
file or as an attribute on the command line (**script=file**). See
"connect.con" in topic 3.8.4 for more information about script files.

Warning: The password to be used for login to remote sites is not kept
encrypted on the local site. Normal file protection mechanisms can assure
that this file is unreadable by anyone but root and the mail daemon, but
this does represent a possible security problem.

Flags

You can send flags to **/usr/lib/INnet/ftpmail** in two ways:

    In the **connect.con** AIX Operating System for the PS/2 configuration
    file

    On the **/usr/lib/INnet/ftpmail** command line.

For a discussion of these flags, see "ftpmail" in topic 3.7.7.

Files

/etc/sites	Known network site names
/tmp	Directory where temporary files are built
/usr/spool/uucp/LCK.*	
	Lock files for ports
login.zzz	Remote login information file (in host queuing directory).

Related Information
In this book: "connect" in topic 3.7.5, "connect.con" in topic 3.8.4,

"ftpmail" in topic 3.7.7, "/usr/lib/INnet/ftpsrvr" in topic 3.7.9,
"login.zzz" in topic 3.8.5, and "sites" in topic 3.8.7.

3.7.9 /usr/lib/INnet/ftpsrvr

Purpose
Manages file transfers at the server end of a link.

Syntax

```
                one of
¦+------------------------+              +----------------------+
 ¦ /usr/lib/INnet/ftpsrvr  +--- -pw ---¦ +------------------+ +---
 ¦ /usr/lib/INnet/rftpsrvr ¦           +-¦ -bnumber  -v        +-+
  +----------------------+              ¦ -d        -xnumber ¦¦
                                        ¦¦ -q        -xi     ¦¦
                                        ¦¦ -rnumber  -xo     ¦¦
                                        ¦¦ -t               ¦¦
                                        ¦+------------------+¦
                                         +--------------------+


    +-----------------+
 ---¦ +- -f device --+ ¦
    +-¦ +---------+ +-+
      +-¦ -idevice +-+
        ¦ -odevice ¦¦
        ¦+---------+¦
         +----------+


          one of
   ²+-----------------------+
---¦ /usr/lib/INnet/waxsrvr  +---¦
   ¦ /usr/lib/INnet/rwaxsrvr ¦
    +-----------------------+
```

```
---------------
¦ These commands are run at the server end of the link from a script file.
² These commands are run at the server end of the link from the /etc/passwd
  file.
```

Description
The **/usr/lib/INnet/ftpsrvr** program is the INnet server process.

The name by which this command is called determines some aspects of its
behavior. If the leading character is a - (minus), the **login** command runs
/usr/lib/INnet/ftpsrvr and assumes that it is a terminal login. If the
first alphabetic character in the name is **r**, the server assumes that
restricted operation is required. In this mode, only mail exchange
commands are permitted. Further restrictions in **ftpmail** (see page 3.7.8)
permit the system manager to assign separate login names and passwords to
individual remote sites for mail exchange. If the name is **waxsrvr**,
/usr/lib/INnet/ftpsrvr uses the **waxnet** protocol (this is equivalent to
specifying **ftpsrvr -pw**). **waxsrvr** is commonly used in the program field of
the **passwd** file, since you cannot specify flags there.

Initially, **/usr/lib/INnet/ftpsrvr** responds by writing the string
"FTPSERVER\n" on the INnet output file descriptor to allow the distant
(local) end to synchronize.

Flags

Note: You can specify flags in the **connect.con** configuration file or on the command line run from a script file (see "connect.con" in topic 3.8.4).

-bnumber   Sets the maximum transmission block size (in bytes). This is used by some link protocols.

-d   Displays a summary of all messages exchanged with the remote site (message level 3).

-fdevice   Specifies an input and output device (special file). **device** can be either a file name or a file descriptor. If you specify a file name, **/usr/lib/INnet/ftpsrvr** opens the named file for input and output. If you specify a file descriptor, **/usr/lib/INnet/ftpsrvr** assumes that it is already open for input and output.

Normally, the input and output files are obtained from the **device** system option in **connect.con** and there is no need to specify the **-o**, **-i**, or **-f** flags. These flags can be helpful for debugging.

-idevice   Specifies an input device (special file). **device** can be either a file name or a file descriptor. If you specify a file name, **/usr/lib/INnet/ftpsrvr** opens the named file for input. If you specify a file descriptor, **/usr/lib/INnet/ftpsrvr** assumes that it is already open for input.

Normally, the input and output files are obtained from the **device** system option in **connect.con** and there is no need to specify the **-o**, **-i**, or **-f** flags. These flags can be helpful for debugging.

-odevice   Specifies an output device (special file). **device** can be either a file name or a file descriptor. If you specify a file name, **/usr/lib/INnet/ftpsrvr** opens the named file for output. If you specify a file descriptor, **/usr/lib/INnet/ftpsrvr** assumes that it is already open for output.

Normally, the input and output files are obtained from the **device** system option in **connect.con** and there is no need to specify the **-o**, **-i**, or **-f** flags. These flags can be helpful for debugging.

-pletter   Uses the specified link protocol. The default protocol is **n** (none), implying that the underlying device provides an error-free, flow-controlled link. The letter **w** specifies the **waxnet** protocol for use on asynchronous communication links.

-q   Suppresses all output and prompts (message level 0).

-rnumber   Sets the retransmission timeout period (in seconds). This is used by some link protocols for error recovery procedures.

-t   Displays detailed messages exchanged with the remote site

(message level 4).

-v   Displays detailed diagnostic messages (message level 2).

-xi   Disables incoming mail processing.

-xo   Disables outgoing mail processing.

-xnumber Specifies the minimum urgency of queued messages to be
              transferred. The **number** argument can be an integer from 0
              to 7, inclusive. The default value is 0.

Files

/etc/sites   Known network site names
/tmp   Directory where temporary files are built.

Related Information
In this book: "INftp" in topic 3.7.6, "ftpmail" in topic 3.7.7,
"/usr/lib/INnet/ftpmail" in topic 3.7.8, and "/usr/lib/INnet/ftpuser" in
topic 3.7.10.

The **login** command in *AIX Operating System Command Reference*.

3.7.10 /usr/lib/INnet/ftpuser

Purpose
Provides an interactive file transfer command interface.

Syntax

```
                          ¦
/usr/lib/INnet/ftpuser ---¦
```

```
----------------
¦ This talker program is called by INftp.
  See INftp for command line flags.
```

Description

The **/usr/lib/INnet/ftpuser** program is a command interface to the file
transfer system. Details of the interactive command interface provided by
/usr/lib/INnet/ftpuser are found in "INftp" in topic 3.7.6. If
/usr/lib/INnet/ftpuser is called with a leading - (minus), as it is when
INftp runs it, **/usr/lib/INnet/ftpuser** prompts you for a remote login name
and password, which it uses to log in to the remote system.

Flags

You can send flags to **/usr/lib/INnet/ftpuser** in two ways:

    In the **connect.con** AIX Operating System for the PS/2 configuration
    file

    On the **INftp** command line.

For a discussion of these flags, see "INftp" in topic 3.7.6.

Related Information

In this book: "connect" in topic 3.7.5, "INftp" in topic 3.7.6, "ftpmail"
in topic 3.7.7, "/usr/lib/INnet/ftpsrvr" in topic 3.7.9, and "/etc/qftp"
in topic 3.7.15.

3.7.11 mkalias

Purpose
Generates an alias file.

Syntax

```
                  +-------------+                    +---------------+
/etc/mkalias ---¦                 +--- override ---¦                    +---
                +- - install -+                    +--- maillist ---+
                                                                    ¦
                                                   +-----------+


    +-------------+   +-----------------+
 ---¦               +---¦                     +---¦
    +- + listlist -+   +--- - fragment ---+
                                         ¦
                        +-------------+
```


Description
The **/etc/mkalias** command uses a number of information sources to construct
an indexed **alias** file. The sources include the system password file,
mailing lists for the **to**, **remind**, and **sendmail** commands, supplemental
alias file fragments, and an override alias file fragment. Each entry in
the password file is converted into an alias entry defining mail delivery
to a standard mailbox in the login directory. Mailing lists are converted
into distribution lists. File fragments are incorporated without change.
Alias names defined in the **override** file take precedence over any other
definition of the same **alias** name. The override facility allows you to
provide alias definitions that differ from those derived from the password
file.

The **/etc/mkalias** command directs its output to a file named **alias.fil** in
the current directory. If standard input is not a terminal or if you
provide an affirmative response to a prompt or if you use the **-install**
flag, it moves the output into the system alias file, **/etc/alias**.

The mandatory parameter, **override**, is the path name of an **alias** file
fragment. An **override** file must be provided. However, an empty file (for
example, **/dev/null**) can be specified on the command line. The optional
arguments are:

-install   Copies the output to the system alias file, **/etc/alias**.

maillist   Specifies the path name of a distribution list.

+**listfile**   Specifies the path name of a file containing path names (one
              per line) of distribution lists.

-**fragment**   Specifies the path name of a supplemental alias file
              fragment.

Warning: Never write or copy directly into **/etc/alias** (for example, by
using the **cp** command). This can cause **/etc/qftp** to scramble mail
delivery. If necessary, you can instead write into **/etc/alias.new** and
then move (using the **mv** command) **/etc/alias.new** into **/etc/alias**.

Files

/tmp/pfa?	Temporary work file
/tmp/ofa?	Temporary work file
/tmp/soa?	Temporary work file
/tmp/uoa?	Temporary work file
alias.fil	Generated alias file
/etc/alias	System alias file
/etc/alias.new	Temporary file which is moved into **/etc/alias**
/etc/alias.old	Temporary file, moved out of **/etc/alias** before **/etc/alias.new** was moved in.

Related Information
In this book: "alias.delta" in topic 3.8.3, "/etc/qftp" in topic 3.7.15, "remind" in topic 3.7.18, and "sendmail" in topic 3.7.21.

3.7.12 mksalias

Purpose
Makes **/etc/alias.delta** from **/etc/alias**.

Syntax

/etc/mksalias --- **infile** --- **outfile** ---¦

Description
The **/etc/mksalias** command is invoked by the command:

  mksalias /etc/alias /etc/alias.delta

This makes the **/etc/alias.delta** file from the **/etc/alias** file.
/etc/alias.delta is a binary version of **/etc/alias** structured to enable
binary searching.

The **/etc/mksalias** program should be run any time **/etc/alias** is altered,
which is usually when you run the **/etc/mkalias** command (see page 3.7.11).

Files
/etc/alias.delta
/etc/alias

Related Information
In this book: "alias.delta" in topic 3.8.3, and "mkalias" in
topic 3.7.11.

3.7.13 /etc/mkssites

Purpose
Makes **/etc/sites.delta** from **/etc/sites**.

Syntax

/etc/mkssites --- **infile** --- **outfile** ---¦

Description
The **/etc/mkssites** command is invoked by the command:

  mkssites /etc/sites /etc/sites.delta

to make **/etc/sites.delta** from **/etc/sites**. **/etc/sites.delta** is a binary
version of **/etc/sites** structured to enable binary searching.

The **/etc/mkssites** command should be run any time **/etc/sites** is altered.

Files
/etc/sites.delta
/etc/sites

Related Information
In this book: "sites" in topic 3.8.7 and "sites.delta" in topic 3.8.8.

3.7.14 qenable

Purpose
Controls INnet queue activity.

Syntax

```
   one of
+---------+
¦ qenable  ¦    +-------+    +-----------+
¦ qdisable +---¦          +---¦             +---¦
¦ qhold    ¦    +- -pn -+     +--- name ---+
¦ qstart   ¦                             ¦
+---------+                    +--------+
```

Description
This set of commands provides the system manager with control over INnet
queue activity. An INnet queue is determined by an INnet host and a
transmission priority (between 0 and 7). These commands are intended for
use with INnet queues, for which some sort of communication link can be
activated locally.

Each INmail queue exists in one of the three following states:

enabled   The **qftp** daemon starts up a transfer to this site when indicated
            (see "startup.zzz" in topic 3.8.9).

disabled The **qftp** daemon does not start up a transfer to this site,
            regardless of the information in **startup.zzz**.

hold   The link will be disabled at the termination of the current
            session.

Each of these commands posts a request in the status file for the named
queues. The **qftp** daemon processes the status files once every cycle and
acts on the requests. **qenable** requests that each of the named queues be
enabled. **qdisable** requests that each of the named queues be disabled
immediately (any current link activity ends). **qhold** requests that each of
the named queues be disabled as soon as the link is idle. **qstart** requests
that the link for this queue (priority included) be started as soon as
possible. If the link is active when the **qftp** daemon examines the
request, no action is taken.

Flag

-pn   Sets the priority to the specified value (0 - 7).

Files
File names not fully qualified refer to files in specific queue
directories.

/etc/sites Known network site names
startup.zzz For link startup information
status.zzz For queue status information.

Related Information
In this book: "connect" in topic 3.7.5, "/usr/lib/INnet/ftpmail" in
topic 3.7.8, "/etc/qftp" in topic 3.7.15, "startup.zzz" in topic 3.8.9,

and "status.zzz" in topic 3.8.10.

3.7.15 /etc/qftp

Purpose
Starts the INmail queued file transfer daemon.

Syntax

```
          +----------------+
/etc/qftp ---¦                +---¦
          +- -cycle_period -+
```

Description
The **/etc/qftp** command controls a system daemon called **qftp**.

The parameter **cycle_period** indicates the period, in seconds, between
successive cycles of the daemon. If you do not specify a parameter, then
the daemon runs through one cycle and ends. If the parameter consists of
a minus, then the daemon runs every 60 seconds.

Files

/etc/sites Known network site names
/etc/alias File disposition table.

Related Information
In this book: "alias.delta" in topic 3.8.3, "/etc/qftp" in topic 3.8.6,
"mkalias" in topic 3.7.11, "remind" in topic 3.7.18, "rmtcp" in
topic 3.7.19, "sendmail" in topic 3.7.21, "sites" in topic 3.8.7, and "to"
in topic 3.7.23.

3.7.16 qstat

Purpose
Prints queue status reports.

Syntax

```
              +------------+    +-----------+
qstat ---¦ +--------+ +---¦             +---¦
         +-¦ -b  -e +-+    +--- site ---+
           ¦ -f  -pn ¦                 ¦
           ¦ -q  -r  ¦        +--------+
           ¦ -t      ¦
           +--------+
```

Description
The **qstat** command displays statistics for the named INnet hosts. These
statistics are based on information kept by **/etc/qftp** and the INnet
programs, which manipulate the queues and manage the connections. **qstat**
takes a sequence of argument groups which specifies a set of statistics,
by means of flags and a group of hosts. For each group of hosts, it prints
those statistics on the standard output.

Flags

-b   Displays queue statistics in terms of byte and message counts.

-e   Displays error/retry information.

-f   Displays connection failure information (default if no flags are
            specified).

-pn   Displays statistics for priorities **n** and greater, where **n** can be
            an integer from 0 to 7, inclusive.

-q   Displays queue activity in terms of number of messages.

-r   Resets (initializes) statistics files for specified hosts (must be
            a person with superuser authority).

-t   Displays queue activity and status (default if no flags are
            specified).

Unknown flags are ignored. Flags can be batched (**-bt**) or listed
separately (**-b -t**) for each group of hosts.

The groups are read in fully before determining and printing the desired
statistics. If no hosts are specified, or if the last group of arguments
contains no hosts, all hosts in the sites file are used (for that group).
If no flags are specified for a group of hosts, the default flags are **-t**
and **-f**. The **-p** flag differs somewhat from the others in that it does not
select statistics. Thus, if it appears by itself, it implies the default
flags.

Host names in the command line must match site names in the **/etc/sites**
file. These are capitalized prior to matching. **qstat** prints unrecognized
host names prior to displaying statistics for those hosts it recognizes.

The following chart shows possible statistics, with the flags that must be specified in order to display them:

Statistics	Flags	Meanings
Last Pickup	**qt**	Time of last successful connection
Last Attempt	**f**	Time of last attempted connection
Next Pickup	**qt**	Time of next scheduled connection attempt
Queue Age	**fq**	Time since creation of oldest queue entry
Queued	**bfq**	Number of messages (or bytes) queued
Last Termination Message	**ef**	Interpretation of return status from connect or talker
Transfers	**e**	Number of connection attempts to site
Retries	**e**	Number of connection attempts following failure
Max Retries	**e**	Maximum number of attempts before success at any one time
Failures	**e**	Number of failed attempts
Current Status	**t**	(Idle, Active, Disabled), based on last attempt
Received	**b**	Count of messages and bytes received from site
Transmitted	**b**	Count of messages and bytes transmitted to site

Examples

To see the default display (implies **-tf**):

    qstat

To display the error statistics for site **REMOTE**:

    qstat -e REMOTE

To display the queue activity statistics for both **SELF** and **REMOTE**:

    qstat -q SELF REMOTE

Note: The entry for **SELF** will not display a pickup time, since messages are moved out of the home site queue as soon as they are placed there, subject to the limitations of the **/etc/qftp** cycle time and system load.

Files

/etc/sites	Known network site names
/usr/spool/qftp/*/status.zzz	There is a queue status file for each known site
/usr/spool/qftp/*/startup.zzz	There can be a remote transfer file for each known site.

Related Information
In this book: "INftp" in topic 3.7.6, "/etc/qftp" in topic 3.7.15, and
"sites" in topic 3.8.7.

3.7.17 readmail

Purpose
Displays mail messages.

Syntax

readmail --- **file** ---¦

Description
The **readmail** command reads, files, forwards, answers, and searches
incoming mail sent by other system users.

Subtopics
3.7.17.1 New Mail
3.7.17.2 Current Message
3.7.17.3 Message List
3.7.17.4 Interrupting a Subcommand
3.7.17.5 Files and Mailboxes

3.7.17.1 New Mail

To read mail, you enter the command **readmail**. A display similar to the
following will appear:

  Adding new messages to file "/usr/name/mbx".

Assuming that there are three new messages, starting at number 5 they
might appear as follows:

  5 15 Oct 1983 To: mark   new operations manual
  6 17 Oct 1983 To: mark   Post Office
  7 17 Oct 1983 To: mark   Re: libc change
  File "/usr/name/mbx" has 7 mail messages.
  ->

This display means that there are three unread messages waiting in the
in-box, which is a file named **mbx** in the user's login directory. When
first invoked, **readmail** automatically displays the message number, date,
recipient's name, and subject of each message that has not yet been read.
The prompt -> indicates that **readmail** is ready to accept a subcommand.

The **readmail** subcommands are discussed later in this section. The
commonly used ones are **t** (to type messages), **d** (to delete messages), **m** (to
move messages to another file), and **q** (to quit or exit from **readmail**).

3.7.17.2 Current Message

At all times, there is a current message number, usually the number of the
last message read. For **readmail** subcommands that accept a message list
specification, omitting that specification entirely implies the current
message number. For example, the subcommand **h** by itself displays the
header of the current message. When a **readmail** session begins, the current
message number sets to one message before the first message marked
"unread", so that the **n** subcommand will type that message.

The current message number is changed by the subcommands **t**, **n** (or
new-line), **b**, and **l**.

3.7.17.3 Message List

A message list can be a single message number, a range of numbers like
5-9, or both single numbers and ranges of numbers like **4,5-9,20**. To see
the headers of all messages, type **h *** or **h a**. (Similarly, the letters **d**
and **u** stand for all messages that you have or have not deleted.) To see
the headers of all messages after and including message 10, type **h 10>**. To
see the headers of all messages after and including the current message,
type **h >**. Finally, a message list may include a string for which to
search the headers. For example, the subcommand **t "jim"** types all the
messages that contain the string **jim** in the header display.

3.7.17.4 Interrupting a Subcommand

When a subcommand is being executed, you can interrupt it by typing an
interrupt character (usually **DEL**). This is useful for stopping the
printing of a message on the display or the execution of a shell command.

3.7.17.5 Files and Mailboxes

The program **readmail** refers to all files relative to the directory
containing the mail file rather than the current directory. **readmail** will
remind the user by printing the name of this directory whenever prompting
for a file name. As usual, complete path names relative to **.**, **..**, or **/** may
be used whenever a file name is requested. Mailbox names other than the
mbx file should end with the extension **mbx**, such as in **save.mbx**.

Mail files (including files referred to as in-boxes and folders) are not
ASCII text files and should, therefore, be examined and manipulated only
by **readmail** subcommands or INed commands.

Subcommands
Subcommands to **readmail** consist of a single letter, sometimes followed by
an optional message list (**list**). Usually a message list consists of a
single message number or is omitted entirely to indicate the current
message. Message lists can, however, be more general and powerful (see
"Message List" in topic 3.7.17.3).

The following set of subcommands is recognized by **readmail**. The blank
space between the subcommand and the message list (if any) is optional.

a list   Answers a message. This subcommand runs the **to** command,
             automatically mailing a reply to the sender of the specified
             message. A prompt provides the option to automatically send a
             copy of the reply to those who received copies of the original
             message. The text of the reply can be typed directly, or any
             editor can be specified by name, including INed (**e**) or **ed**.
             The prompts generated by the **a** subcommand are largely
             self-explanatory, but if more information is needed, see "to"
             in topic 3.7.23.

             Note: The message being answered (or forwarded) is put into a
                    file named **.answer** in your login directory.

b   Displays the previous message (the one before current
             message).

c   Displays the current message number and current mailbox file
             name.

d list   Marks messages to be deleted. Deletion does not actually
             occur until you issue the quit, overwrite, or read
             subcommands. If a message has been inadvertently marked for
             deletion, this can be changed by use of the undelete
             subcommand (**u**) prior to execution of one of the above
             subcommands.

f list   Forwards messages to another user. This subcommand prompts
             for a list of users, and the indicated message(s) are
             forwarded to them. An opportunity is provided to edit the
             forwarded message. The prompts given by this subcommand are
             self-explanatory.

F   Toggles the output mode between fast scrolling and pausing at
             each full screen.

h list   Lists the one-line header for each message.

j   Jumps to a shell command (executes it). The **readmail** program displays the prompt **to program:** and accepts any AIX Operating System shell command. The command is executed by the shell command interpreter (see **sh** in *AIX Operating System Command Reference*), and then control returns to the **readmail** subcommand level. This permits you to get directory listings, examine files with an editor, originate a message using **to**, and so on, without exiting from **readmail**.

l list   Lists specified messages to a text file. The **readmail** program prompts for a file name and creates the file if it does not already exist. The specified messages are then appended to the file. This subcommand functions in the same way as the put subcommand, except that the **l** subcommand outputs the message as ASCII text and not in the format used in mailboxes. This means that the **l** subcommand is not suitable for creating or appending to mail files that are read using **readmail**.

m list   Moves messages to another mail file. **readmail** prompts for a file name and creates the file if it does not already exist. The designated messages are then appended to the specified file and marked for deletion from the current mail file. Messages in the new file can be examined by the subcommand **readmail filename**. Thus, the move subcommand can be used to file incoming messages into a number of different files, or folders, for later reference.

n or new-line
    Displays the next message (the one after current message).

o   Overwrites any messages marked for deletion in the current mail file (ordinarily they are not deleted until after execution of the quit or read subcommands).

p list   Puts messages in another mail file. This subcommand is similar to the move subcommand, except that the message is not marked for deletion from the current mail file.

q   Quits or exits from the **readmail** session; deletes messages that have been moved (**m**) or marked for deletion (**d**), and terminates the **readmail** session. An opportunity is provided to verify that any messages marked for deletion should indeed be deleted. If the reply to the prompt is **y** or new-line the messages are deleted. Any other reply leaves the mail file unchanged. (Note that any moved messages are already appended to the designated file or files; a negative response to this prompt only prevents their deletion from the current file.)

r   Reads in a mail file. The **readmail** program prompts for the name of an alternate mail file. Any messages you marked for deletion from the current mail file are deleted. Then the new mail file is read in and becomes the new current mail file.

t list   Displays (types) messages.

u list   Removes delete marking from messages.

?   Provides help by displaying a summary of **readmail** subcommands.

Files

$HOME/answer	File containing the message being answered
$HOME/mbx	Standard receiving mailbox (in-box)
$HOME/.youhavemail	New mail notification
$HOME/.smail	Mailbox queue.

Related Information
In this book: "remind" in topic 3.7.18 and "sendmail" in topic 3.7.21.

3.7.18 remind

Purpose
Sends reminders or arranges for delayed command execution.

Syntax

```
          one of
          +----+
remind ---| -C +---|
          | -D |
          +----+


          +----------+   +----------------+   +-----------+
remind ---|          |+---| +-------------+ +---|           +---|
          +- -u user -+   +-| -b list      +-+   +--- name ---+
                            | -c list      ||                |
                            || -d time     ||        +-------+
                            || -f name     ||
                            || -h header   ||
                            || -m text     ||
                            || -o file     ||
                            || -s subject  ||
                            || -t list     ||
                            || -x    -e    ||
                            |+-------------+|
                            +---------------+


          +----------+
delrem ---|          |+---|
          +- -u user -+
```

```
---------------
| Only the superuser can use this flag.
```

Description

The **remind** command schedules the delivery of short reminder messages at
specified times. You can also use it to schedule the running of commands
at a later time.

The **delrem** command cancels previously scheduled reminders.

Called with no arguments, **remind** prompts for various header fields (**To:**,
Cc:, **Subject:**, and so on) and, in addition, requests a delivery time.
After specifying the header fields, you can select an editor to use in
composing the text of the reminder. The default editor used is INed
unless another editor is specified in the **$EDIT** environment variable.
You can use flags, similar to those of **sendmail**, to specify the various
fields and suppress the corresponding prompts. To run **remind** from within
shell command files or programs, redirect standard input from any
nonterminal device (such as **/dev/null**), in addition to specifying any
necessary flagged arguments. All arguments following the first unflagged
argument are combined into a list of addresses for the **To:** field.

The **delrem** command scans the system reminder file for reminders that you
have sent and permits you to list headers or entire reminders and to

select those that you want to delete.

Subtopics
3.7.18.1 Delivery Time Specification
3.7.18.2 Tailoring Remind Prompts
3.7.18.3 Delivery
3.7.18.4 File Compression
3.7.18.5 Superuser Privileges

3.7.18.1 Delivery Time Specification

The basic time specification takes one of the following forms:

day at time

time on day

The following examples illustrate a number of possible delivery time specifications.

1. To specify immediate delivery:

    now

    This is the default delivery time.

2. To specify a specific day and time (the following are equivalent):

        September 26 at 5:35PM
        Sep 26 at 5:35p
        5:35PM on September 26
        17:35 PM on Sep 26
        9/26 at 17:35
        9/26 @ 5:35p

    Month names can be abbreviated to three-letter names. Note, however, that **Sept** or **Sep.** do not work. Months can also be specified numerically as **mm/dd**.

    Clock times are interpreted on a 24-hour clock, unless you specify **am** or **pm** (these can be abbreviated to a single letter). The **@** character is a synonym for the word **at**.

3. To use special words in specifying the day or time:

        today at midnight
        MIDNIGHT
        Tomorrow
        ToMoRrOw
        tomorrow at noon

    Midnight is 24:00. Next midnight is always today's. The default time is 00:00. There is no uppercase and lowercase distinction. Noon is a synonym for 12:00.

4. To specify only the time:

        9,5pm
        9 and 5pm

    Similar items in a specification (days or times) can be separated by a comma or by the word **and**. Since specifying a time without specifying a day means the next clock occurrence of each, the following are the equivalent full forms if you issue the specification **9,5pm**:

        at 8:00 a.m.:

            today @ 9a, 5p

```
   at noon:

      today @ 5p; tomorrow @ 9a

   at 6:00 p.m.:

      tomorrow @ 9a, 5p
```

Note, that multiple delivery specifications can appear on one line, separated by semicolons.

5. To specify multiple day/time combinations:

```
   June 4 and Sep 26 at 8 and 12
   6/4, 9/26 at eight, twelve
   6/4, 9/26 at eight, noon
   8 and 12 on Jun 4 and Sep 26
   June 4 at 8; Sep 26 at 9, noon
```

Each of these lines schedules four deliveries. Note that you can use words (**eight**) as well as numbers (**8** or **8:00**) to specify times.

6. To specify days of the week, rather than calendar dates:

```
   Thursday at Five
   five on thu
```

Note that, if you issue this on Thursday, it means **next** Thursday. Days of the week can be abbreviated to three letter names.

7. To specify a sequence of days:

```
   Monday Tuesday Wednesday at 5
   mon tue wed at 5AM
   Mon-Wed at five
   Monday thru Wednesday at five
   Monday through Wednesday at five
   mon, tue, and wed at 5
```

These each schedule three deliveries. You can indicate a sequence of days in the week with a dash or with the words **thru** or **through**. Note that extra **and**s or commas are allowed.

```
   Mon; Tue, Wed at five
   Mon at 00:00; Tue and Wed at 05:00
```

A semicolon begins a separate day/time combination.

```
   Every Sun Mon Tue at 3:00
   Every Sun-Tue at three
```

This repeats until canceled with **delrem**.

```
   every Sunday, Mon Tue at nine
   9AM on each Sunday, Mon Tue
```

Every Sunday, but only next Monday and Tuesday. **Every** does not extend beyond commas. **Each** is a synonym for **Every**.

```
   Every Sat and Every Sun
```

Not the same as **Every Sat and Sun**.

8. More special cases:

    Weekends

This is equivalent to **Every Sat-Sun**.

    Weekdays

This is equivalent to **Every Monday through Friday**.

    Every 1 15

The first and fifteenth of every month. Note that **Every 1, 15** is not
valid.

    Every 1 2 3 4 5 27 28 29 30 31
    Every 1-5 27-31

Ten days most months, fewer in September, April, June, November, and
February.

9. To specify the year:

    1/1/87 at 9
    Jan 1/87 at 9
    9am on 1/1/1987
    9am on Jan 1/1987

Always use a slash (/) as the separator, not a comma. The year may
include century.

3.7.18.2 Tailoring Remind Prompts
There are three files that can be edited to tailor **remind** prompts. These
files are your private remind profile **$HOME/bin/profile.rmd**, or your
private message profile **$HOME/bin/profile.msg**, and the system message
profile **/usr/lib/INmail/profile.msg**. The system message profile allows
the system manager to establish global standards and override built-in
program defaults. The user profiles allow you to selectively override
both the system manager and program defaults.

The format of the profile files is the same. Each consists of one or more
lines containing a keyword followed by a colon and then a string of
characters. The keyword may be either uppercase or lowercase. If the
keyword contains a blank, it must be a single blank. The colon
immediately follows the keyword with no intervening blanks.

Each profile file supplements profile information previously acquired.
Thus, there is no need to include control lines that restate either
system-wide or default settings. If you do not want to change the default
prompts, the file is not necessary.

The following lines are recognized:

  from: **text**

The **text** is used as the default contents of the **From:** line in your mail
messages. If **text** is the character string **<noprompt>**, you are not
prompted for a **From:** line, nor will a **From:** line be generated unless you
supply one through an editor.

  compose prompts: **prompt-list**

This line defines the default answers to the **send/abort/edit** prompt when
composing a new message. **prompt-list** is a sequence of characters. Only
the characters **e** and **s** should be used. The position of a character in the
list determines when it will be used. The first character is used the
first time the **send/abort/edit** portion of the **remind** program is entered.
The second character is used the second time, the third character is used
the third time, and so on. If there are insufficient characters, the last
character is reused as necessary. The **remind** program's default is **s**.

  cc prompt: <noprompt>

If the character string **<noprompt>** is given, **remind** does not prompt for
secondary (**Cc:**) addressees. You can provide a **Cc:** addressee list when
editing the message.

  bcc prompt: <noprompt>

If the character string **<noprompt>** is given, **to** will not prompt for blind
copy (**Bcc:**) addressees. You can provide a **Bcc:** addressee list when
editing the message.

The line:

  remind schedule: **number**

causes **remind** to display up to the specified number of delivery times for
each reminder issued as a check that the specification has been entered
correctly.

Flags

Note: Be sure to quote arguments containing spaces or other
non-alphanumeric characters. Each of the arguments may appear more
than once; each occurrence adds a separate line to the reminder.
Leading blanks are stripped from all header fields. Except as
indicated below, the default is to omit the field.

-b list   List of recipients to receive blind copies.

-C   Compresses the reminder and index files.

-c list   List of recipients to receive copies.

-D   Starts file delivery.

-d time   Specification of delivery times as described above, defaulting
to **now**.

-f name   The sender's name or other identification. This field is under
the issuer's control; a sender name appears in a separate
Sender: field supplied by **remind**.

-h header   A self-identifying header field. The field consists of the
name of the field followed by a colon, optional leading
spaces, and the contents of the field itself. The default
subject is **reminder.**

-m text   One line of text for the body of the message.

-o file   The name of the output file produced by an executable reminder
(instead of **remind.out**).

Additional special arguments of concern only to system
administrators are discussed under "System Maintenance."

-s subject Short, descriptive subject of message to appear in the header.

-t list   List of primary recipients, defaulting to the sender. Any
valid INmail addresses can appear, including INnet remote
sites, confirmation requests, and priorities (urgencies).

-x or **-e**   Specifies that the message text is to be run by the shell
command interpreter, **sh**, at the time of delivery. The shell
executes in the context of the user at the time the reminder
is issued, including the working directory, user ID and group
ID, shell environment variables, and so forth. The standard
and diagnostic outputs are directed to the file **remind.out** in
the current directory (but see **-o**). After execution has been
initiated, the text of the message is sent to all addresses.

delrem Usage

Pending reminders, those which have one or more deliveries remaining, can
be examined and canceled using **delrem**. The **delrem** command shows only
those reminders that you have sent (but see **-u** under "System
Maintenance").

It accepts the following subcommands, where **list** denotes an optional list
of reminders to be affected:

c   Displays the number of the current reminder.

h list Displays the reminder headers.

t list Displays the full text of reminders.

n   Displays the next reminder. If an empty line is typed when a
            subcommand is expected, **next** is assumed.

b   Displays the previous reminder.

l list Lists (appends) reminders to a specified file, creating the file
            if it does not already exist. **delrem** prompts for the file name.

d list Marks reminder for deletion. Deletion takes place only after
            confirmation following the **q**uit subcommand.

u list Unmarks reminders that might have been marked for deletion.

q   Quits. Indicates the number of reminders marked for deletion, if
            any, and requests final confirmation before deleting them.

At any time there is a current reminder, shown by the **c** subcommand and
changed by the **n**, **b**, and **t** subcommands to be the last reminder shown.
Initially, the current reminder is reminder **0**; that is, before the first
reminder, so the **n** subcommand (or just a new-line) displays the first
reminder.

A **list** consists of one of the following, or of multiple selections
separated by commas:

    A reminder numbe

    A range of reminder numbers, indicated by two numbers that ar
    separated by - (minus)

    A reminder number followed by > (greater than sign), selecting al
    reminders with numbers greater than or equal to the number specified

    A **String**, which selects all reminders whose headers include the given
    string

    The letter **a**, indicating all reminders

    The letter **d**, indicating all reminders marked for deletion

    The letter **u**, indicating all reminders not marked for deletion.

Examples
The first three examples below are equivalent, specifying a primary
recipient **josh** at site **IPP**:

    remind josh at IPP
    remind -t "josh at IPP"
    remind -h "To: josh at IPP"

The following example causes the command **crunch < file** to be executed at
4:00 a.m. every Saturday. The **To:** prompt is suppressed by supplying a

null value for it on the command line:

```
remind -x -t "" -d "every Sat at 4am" -m "crunch < file"
```

System Maintenance

This section deals with administrative details rather than ordinary usage
of **remind**. It covers the means by which reminders are delivered,
compression of the reminder file, and sending or deleting reminders as
another user. Only the superuser may specify the arguments described in
this section.

3.7.18.3 Delivery

When a reminder is issued, its text is usually entered into the reminder
file and an entry is made in the index file. The index file entry
contains the status of the reminder (active or deleted), the date and time
of next delivery, the sender, and offsets in the reminder file of the
beginning and end of the reminder. Delivery of reminders due more than
fifteen minutes after the time they are sent is performed by the reminder
delivery command:

```
  remind -D
```

which should be run every fifteen minutes by **cron** (see *AIX Operating
System Command Reference*) via a line of the form:

```
  0,15,30,45 * * * * exec remind -D > /dev/null 2>.*
```

in **/usr/spool/cron/crontab/root**. The process thus started inspects the
index to determine which reminders are due during its fifteen-minute reign
and arranges for their delivery at the appropriate time. When any such
reminders are delivered, that instance of **remind -D** terminates. Thus,
during intervals when no reminders are due, there is no long-lived daemon
process running.

In addition to the **cron**-initiated delivery process, **remind -D** should also
be started from **/etc/rc** when the system is brought up so that reminders
that came due while the system was down will be delivered immediately.

Reminders that are due within thirty seconds of the time that they are
sent are not entered into the reminder file. Instead, they are delivered
by the **remind** process that initiated them. These are the only reminders
that, once issued, are uncancelable.

3.7.18.4 File Compression

All reminders are added at the end of the reminder and index files. As
reminders expire or are deleted by **delrem**, they are left in both files
with a deleted status. Deleted reminders should be removed periodically
to prevent the files from growing without limit, using the compress
command, **remind -C**. Compression should be performed when there is no
other **remind** or **delrem** activity on the system. This is usually
accomplished most easily when the system is first brought up via an entry
in **/etc/rc**, although heavy usage of **remind** may dictate a more frequent
schedule initiated via **cron** during nightly accounting, or manually at some
other convenient time. It should be noted that compression reconstructs
the index file based entirely on information in the reminder file; the old
index file is ignored.

3.7.18.5 Superuser Privileges

The superuser can examine all reminders using **delrem**, and can also
masquerade as any particular user for sending or deleting reminders via
the commands:

    remind -u **user**

or

    delrem -u **user**

respectively.

Diagnostic Messages

During delivery, when **remind** is not associated with a user terminal,
diagnostics of the form:

    REMIND message...

are printed on **/dev/console**.

The message:

    -C: can't lock

indicates that the reminder file was not compressed because the file was
locked for update by some other process using the file. To prevent this
from happening, the command:

    remind -C

should be run on an idle system.

Files

/usr/remind/rem.file	File containing reminders
/usr/remind/rem.idx	Index for **rem.file**
/usr/remind/rem.tmp	Temporary file used during compression
/usr/remind/lock.app	Lock file to prevent simultaneous appending of reminders
/usr/remind/lock.upd	Lock file to prevent update during compression
/usr/remind/lock.??????	Per-process links to **lock.upd**
/usr/remind/latest.dq	File touched by each reminder deliverer upon startup
/usr/remind/rem.wrk??????	Temporary file used during addressee list verification
remind.out	Output from executable reminders
$HOME/bin/profile.rmd	User profile for **remind**.

Related Information
In this book: "sendmail" in topic 3.7.21 and "to" in topic 3.7.23.

3.7.19 rmtcp

Purpose

Provides remote file copy facilities using INnet.

Syntax

```
        +---------------+
rmtcp ---¦ +-----------+ +--- sourcefile --- destfile ---¦
        +-¦ -d        +-+
          ¦ -nname     ¦¦
          ¦¦ -ppassword ¦¦
          ¦¦ -q         ¦¦
          ¦¦ -uurgency  ¦¦
          ¦+-----------+¦
           +-----------+


        +---------------+
rmtcp ---¦ +-----------+ +--- sourcefile --- directory ---¦
        +-¦ -d        +-+                     ¦
          ¦ -nname     ¦¦   +-------------+
          ¦¦ -ppassword ¦¦
          ¦¦ -q         ¦¦
          ¦¦ -uurgency  ¦¦
          ¦+-----------+¦
           +-----------+
```

Description

The **rmtcp** command is a program designed to easily transport files between
different computers.

The following are typical uses of **rmtcp**:

```
  rmtcp  SITE1:file1  file2
  rmtcp  file3  SITE4:file4
  rmtcp  SITE5:file5  SITE6:file6
```

The first command line copies the remote **file1**, located on **SITE1**, to the
local **file2**. The next command line copies **file3** to the remote **file4** on
site **SITE4**. The third line provides an example of a remote file to remote
file copy.

The **rmtcp** command prompts you for a remote login name and password if
neither one is entered with an **-n** or **-p** flag. This information is used by
rmtcpserver to verify that you have legitimate access to files on the
remote site.

The **rmtcp** command is intended to resemble the **cp** command as closely as
possible. If you specify only one **sourcefile**, the **destfile** can be either
a file or a directory. If you specify more than one source file, the
destination must be directory.

Flags

-d   This flag indicates that any directories that do not exist
                  should be made for the destination file.

-n name   The **name** specified is to be used for access to the first remote site encountered. (Multiple **-n** flags can be given). Each unique remote site requires both a **name** and a **password**. However, the **name** defaults to the local user's name if more passwords are given than names.

-p password   The password specified is to be used for access to the first remote site encountered. Multiple **-p** flags can be given. Each unique remote site requires both a **name** and a **password**. If there are more passwords specified than names specified, the local user's name is used as the name.

-q   Do not send mail on completion of the command. When there are multiple files to be sent, the mail is only an approximate indication of when the **rmtcp** command completes.

-u urgency   The **urgency** specified is used to tell **qftp** the priority of the **rmtcp**.

Subtopics
3.7.19.1 Specifying Source and Destination Files
3.7.19.2 Specifying Site Names
3.7.19.3 Specifying File Names
3.7.19.4 Special Cases

3.7.19.1 Specifying Source and Destination Files

The specification of **sourcefile** and **destfile** is accomplished in one of the
following formats:

  file1
  SITENAME2:file2
  file3@SITENAME3

In the first case, the file specified is **file1** on the local system. In the
second case, the file specified is **file2** on the remote system **SITENAME2**.
In the third case, the file specified is **file3** on remote system **SITENAME3**.
Except for the order, there is no difference between the second and third
formats above.

3.7.19.2 Specifying Site Names

The specification of site names is done by one or more groups of site names separated by slash marks (/). For example:

    SITE1/SITE2/SITE3

This indicates that the file comes from (for the source files) or be put at (for the destination files) **SITE3**. The **SITE1/SITE2** tells the way to get to **SITE3**, and is needed if **SITE3** is not known to the local site (that is, it is not in **/etc/sites** file).

Note that for the above example, the local site must be able to send to **SITE1**, **SITE1** to **SITE2**, and **SITE2** to **SITE3**. It is also assumed that **SITE3** is able to send to **SITE2**, **SITE2** to **SITE1** to the local site. If the first condition does not hold, then **rmtcp** will be unable to deliver the file, and will send back an error message. If the second condition does not hold, then **rmtcp** may be unable to send back any messages.

Instead of using a **/** to separate the sites in a site name, the following formats may be convenient. If the file name format of **SITENAME:filename** is used, then you can change all of the slashes (**/**'s) to colons (**:**'s). If the file name format of **filename@SITENAME** is used, you can change some of the slashes (**/**'s) to **@**'s. The following file names are equivalent:

    imd/ism:/etc/motd
    /etc/motd@imd/ism
    imd:ism:/etc/motd
    /etc/motd@imd@ism

It is possible to specify file names with either a **:** (colon) or **@** in them. For more information, see "Special Cases" in topic 3.7.19.4.

3.7.19.3 Specifying File Names

The following rules apply to the specification of file names.

If the file name does not begin with site names, a relative file name (one that does not begin with a /) is taken relative to current directory. If the file name does begin with a site name, even if the site name is the local site name, then the file name is taken relative to the home directory of the user on that site name.

Due to the usage of **:** and **@** in the determination of site names and file names, if one wants to use a file name containing these characters, special care must be taken.

When specifying the source files (whether the source files be local or remote files), you can use the shell's pattern-matching characters. Note that in order for **rmtcp** to expand these pattern characters, they must be quoted from the shell. In order to specify a file name that contains one of these characters, it is necessary to place a \ in front of any of these pattern characters, or a \ itself.

3.7.19.4 Special Cases

If an **@** is needed in a file name, then there must be a site name followed
by a **:** preceding the file name. If the desired site is the local site,
then the site name can be null. Note that file names in this format are
now relative to the user's main directory, instead of the current
directory.

If a **:** is needed in a file name, then nothing need be done for a complete
path name (one beginning with a **/**). However, for a relative path name
(one beginning with a character other than **/**), the characters **./** should be
prepended to the file name.

If both an **@** and a **:** are needed, then both of the above rules need to be
followed.

Note: **/dev/tty** should not be the destination file. This is not checked.

Diagnostic Messages

Messages produced by **rmtcp** are intended to be self-explanatory. For most
error messages, **rmtcp** attempts to indicate the command that it was
processing at the time the error occurred. The site names, if any, that
appear with the message as the **sourcefile** and **destfile** files are relative
to the site that the message or error comes from.

If a file cannot be saved under the designated path name at the receiving
host due to an invalid parameter, the file is saved in the working
directory as defined in the alias entry for **rmtcp**. Files saved in this
directory are given names by **daemon**. An entry is then also logged in the
working directory in the **rmtcpsrv.log** file. The sender of the file is
notified of the location of the file, and the receiver can be notified
with a mail message.

Files

/usr/lib/INnet/rmtcpserver The remote copy server program
/etc/sites   Known network site names
/etc/alias   **/etc/qftp** file disposition definition.

Related Information
In this book: "alias.delta" in topic 3.8.3, "INftp" in topic 3.7.6,
"/etc/qftp" in topic 3.8.6, and "sites" in topic 3.8.7.

3.7.20 rmtprint

Purpose
Sends output to a remote host.

Syntax

```
                         +--------------------+
/usr/lpd/rmtprint ---¦ +----------------+ +--- file ---¦
                    +-¦  -alias=text      +-+            ¦
                     ¦  -netpath=text    ¦¦   +--------+
                     ¦¦  -urgency=value  ¦¦
                     ¦¦  -byteunit=value ¦¦
                     ¦+----------------+¦
                     +------------------+
```

Description
The **/usr/lpd/rmtprint** command sends a file to a remote computer for
printing by the **printfile** program found in the **/etc/qftp** daemon (see
"/etc/qftp" in topic 3.7.15).

Flags and file names may be interspersed in any order. You can pass flags
to **/usr/lpd/rmtprint** in two ways:

    You can specify flags in the **qconfig** file to be passed to the backend
    program each time it is called.

    You can specify flags on the **print** command line. The **print** command
    passes to the backend program any flags that it does not recognize as
    its own.

Note: The **qdaemon** program invokes **/usr/lpd/rmtprint**; you do not normally
        run it directly.

For a discussion of the print queuing system including the **qdaemon** and
print commands and the **qconfig** file, see *Managing the AIX PS/2 Operating
System*.

Flags

-alias=text   Name of the remote alias to which the output is to be
                      sent.

-byteunit=value   Bytes per charge unit. The default is **1024**. This
                      argument is not transmitted over the network, but rather
                      is used for accounting on the machine where the print
                      request is made.

-netpath=text   Network path to the remote host.

-urgency=value   Priority of transmission. A number from **1** to **127**. The
                      default is **64**.

Related Information
In this book: "/etc/qftp" in topic 3.7.15.

The **print** and **qdaemon** commands and **qconfig** file in *Managing the AIX PS/2
Operating System*.

3.7.21 sendmail

Purpose
Sends a message.

Syntax

```
           +----------------+
sendmail ---¦ +------------+ +---¦
           +-¦ -bstring    +-+
             ¦ -cstring    ¦¦
            ¦¦ -dstring    ¦¦
            ¦¦ -fstring    ¦¦
            ¦¦ -hstring    ¦¦
            ¦¦ -ifile_name ¦¦
            ¦¦ -mstring    ¦¦
            ¦¦ -rstring    ¦¦
            ¦¦ -sstring    ¦¦
            ¦¦ -tstring    ¦¦
            ¦¦ -ustring    ¦¦
            ¦¦ -zfile_name ¦¦
            ¦+------------+¦
             +--------------+
```

Description
The **sendmail** program combines a number of message components into an
INmail message and introduces that message into the **qftp** transport system.
The program is primarily intended to be used by other programs or command
files; thus it has no interactive error handling.

If there are no arguments, an entire message image is expected on the
standard input. A standard header-test separator is required.

If there are arguments, but no header arguments, the header is expected on
the standard input. The header need not be terminated with a standard
header/text separator.

If there are arguments, but no text arguments, the text is expected on the
standard input.

Any argument not beginning with a **-** (dash) is treated as if it were
prefixed with **-t**.

Arguments can be repeated.

Header arguments are concatenated in the order specified to generate a
composite header. Self-identifying header lines are lines starting with
the name of the header field suffixed with a colon. Header lines in
parameters can contain a trailing new-line character.

Flags

-bstring A **Bcc:** header field, for example: **-b"Gandalf the Grey"**.

-cstring A **Cc:** header field, for example: **-c"manny, moe, jack"**.

-dstring A **Date:** header field, for example: **-d"12 Nov 1980 2247-PST"**.
          Only a person with superuser authority can specify this flag.

-fstring   The **From:** header field, for example: **-f"Sherman Oakes, Arch Fiend, Master Criminal"**.

-hstring   A self-identifying header line, for example: **-h"To: {jack, jill} at HILL (defer)"**.

-ifile_name
          The file name of a file containing zero or more self-identifying header lines. If **file_name** is null, the standard input is used.

-mstring   A character string to be used as message text. A new-line character is appended.

-rstring   An **In reply to** header field, for example: **-r"Your note of July 14, 1789"**.

-sstring   A **Subject:** header field, for example: **-s"Collision backoff algorithm implementation"**.

-tstring   A **To:** header field, for example: **-t"{jack, jill} at HILL (defer)"**.

-ustring   A **Sender:** header field, for example: **-u"Fingolfin at HITHLUM"**.
          Only a person with superuser authority can specify another user's name or a remote host name.

-zfile_name
          The name of a file containing text to use. If **file_name** is null, the standard input is used.

Text from multiple **-m** and **-z** arguments is concatenated in argument order.

Exit Values

0	Everything worked (AIX Operating System library).
1-99	Error return (AIX Operating System library).
100	Unknown argument.
101	Unknown local addressee in either a **To:**, **Cc:**, or **Bcc:** list.
102	Unknown network host name in either a **To:**, **Cc:**, or **Bcc:** list.
103	Attempt to set date without having superuser authority.
104	Attempt to set **Sender:** field to someone other than the real user name and local site name without having superuser authority.
105	Mail queue overflow.
106	No addresses.
107	Total size of header parameters exceeds internal buffer space.

Files

/tmp/sa?	Temporary work file
/etc/passwd	System password file
/etc/alias	Valid local names
/etc/sites	Known network site names.

Related Information
In this book: "alias.delta" in topic 3.8.3, "mkalias" in topic 3.7.11, "sites" in topic 3.8.7, and "to" in topic 3.7.23.

3.7.22 /etc/spost

Purpose
Unspools delivered mail.

Description
The **spost** program is the *unspooler* used for normal mail delivery. It is
invoked by the **qftp** daemon when incoming mail arrives. If the message is
less than 10000 bytes long, **spost** deposits it in the structured file
$HOME/.smail. If the message is greater than 10000 bytes long, **spost**
deposits the message in the ASCII file **$HOME/.spostXXXX**, where **XXXX** is the
process ID, and then sends you a message saying you have a large message
in **$HOME/.spostXXXX**.

Files
/etc/alias
$HOME/.smail
$HOME/.spostXXXX

Related Information
In this book: "alias.delta" in topic 3.8.3 and "readmail" in
topic 3.7.17.

The INed Program in *AIX PS/2 INed*.

3.7.23 to

Purpose
Sends mail through INmail using a hardcopy terminal.

Syntax

```
        +---------------+    +-----------+
to ---¦ +-----------+ +---¦               +---¦
      +-¦ -a   -f     +-+    +--- name ---+
        ¦ -b list    ¦¦                  ¦
        ¦¦ -c list    ¦¦      +--------+
        ¦¦ -n name    ¦¦
        ¦¦ -s subject ¦¦
        ¦¦ -t text    ¦¦
        ¦+-----------+¦
         +-------------+
```

Description
The **to** command allows you to compose messages on a terminal and use INmail
to delivery the messages to local or remote recipients.   The command
prompts for all required information.

A set of profile files allows you or the system administrator to tailor
the functions of **to**.

The **to** program uses three lists of addressees. The primary list of
addressees can be specified when the **to** program is invoked. If not
specified, the program asks for the primary list with the prompt **To:**. You
can then enter a list of addressees. The program asks for a secondary
list of addressees with **Cc:**. You should enter either a secondary list of
addressees or, if there are none, press **Enter**. The prompt **Bcc:** asks for a
tertiary list of addressees. The tertiary list, unlike the primary and
secondary lists, is visible only in a file copy and is not visible in any
distributed copy.

An addressee list can contain one or more items separated by commas. This
list cannot be qualified with an option. An item is either the name of a
mailing list or the name of a recipient. A mailing list name is expressed
as **file:** (note the trailing colon), where **file** is the path name of a file
containing addressee lists. A recipient name can be composed of one or
more words.

Any recipient name can be qualified with a network name. A network name
has the form **name at site** or **name @ site**. In the latter case, blanks
around the **@** symbol are optional.

A recipient name can be qualified with a list of options. A name so
qualified has the form **name** (**option, option**, ...).

The confirmation options are **confirm** and **registered**. These synonyms
return a confirmation of delivery to the sender.

The priority options (**urgent**, **expedite**, **normal**, **defer**, and **overnight**)
specify the degree of precedence to be given to a message on
telecommunication links.

A recipient name can be qualified with both a network address and a list

of options.

Mailing list names cannot be qualified. To send mail using a hardcopy
terminal, use the command **to name**. For example, to send mail to user
mary, you can type:

  to mary

The program prompts you for the fields of the mail message, then asks you
which text editor you would like to use for editing with the prompt **Name
of editor?** Only the **ed** editor can be used with a hardcopy terminal. You
can also specify **n** for no editor. Specifying **n** allows you to type in a
message with very minimal editing capability. The **ed** editor provides you
with text editing capability appropriate for a hardcopy terminal.

The fields you are prompted to fill in are:

  To:
  Cc:
  Bcc:
  From:
  Subject:

The **Subject:** field is anything you are to type to identify what the
message is about. You normally fill in the **From:** field with your name.
The **To:**, **Cc:**, and **Bcc:** fields contain lists of recipients. The only
difference between them is that the **Bcc:** or blind carbon copy field is not
sent with the message itself, so people listed here receive a copy without
the others knowing it.

The following shows entries in the **To:**, **Cc:**, and **Bcc:** address fields:

  To: janet at JANET, bill at TULIP, {mary, ralph} at ROCK
  Cc: brian (expedite), {sam, joe} at BOULDER (expedite, confirm)
  Bcc: john, ken

The simple address is the name of a user of one computer in a network of
computers, **bill at TULIP**. Each computer in the network has a unique name.
Note that capital letters are used for the computer names. Each computer
has a number of regular users with an account and space for data; that is,
a home directory. INmail uses the **user name**; that is, the name each user
uses to log in to the computer. So if mail is addressed to **bill at TULIP**,
it is expected that there is a computer in the network named **TULIP** and
that **bill** has an account on that computer.

The notation **{mary, ralph} at ROCK** is an abbreviation for **mary at ROCK,
ralph at ROCK**. The notation **brian (expedite)** specifies the delivery
option **expedite** for user **brian**, implying that delivery will use faster
paths than normal -- for example, dialing a dial-up link now rather than
waiting until midnight. The option **confirm** instructs the system to send
you a confirmation message when it has placed the message in the
addressee's mailbox.

If you give only the name of a user, for example **john**, your system is
understood to be the destination. So if you are working on system **ASPEN**,
john is understood to mean **john at ASPEN.** Two data files in the computer
control the default: the **/etc/sites** file lists the sites in the network,
while the **/etc/alias** file contains the names of people who have accounts
on the system. It can also have aliases, so that you can address users of
other systems as though they were on yours, and distribution lists, which

allow you to address a whole list of people with a single name.

When entering a long list of recipients in response to a **To:**, **Cc:**, or **Bcc:** prompt, it is permissible to break the list with a trailing comma or hyphen. This initiates a prompt for further input. However, groups delimited by **{ }** (braces) cannot be split, and each qualifier must be on the same line as the items it qualifies.

Before the message is transmitted, the name of each local addressee and remote site is validated. You are prompted to correct errors. Corrections are incorporated into the message header before transmission.

Subtopics
3.7.23.1 INmail User Profile

3.7.23.1 INmail User Profile

If you use **to** frequently, you can save typing some things repeatedly by
using the profile file for **to**. When **to** begins execution, it attempts to
read two profile files. The first is the system-wide message profile,
/usr/lib/INmail/profile.msg. The second, named **profile.msg** in your
personal **bin** directory, is your message profile. The system-wide profile
allows the system administrator to establish global standards and override
built-in program defaults. The user profile allows you to selectively
override both the system administrator and program defaults.

The format of the two profile files is the same. Each consists of one or
more lines containing a keyword followed by a colon and then a string of
characters. The keyword can be either uppercase or lowercase. If the
keyword contains a blank, it must be a single blank. The colon immediately
follows the keyword with no intervening blanks.

Each profile file supplements profile information previously acquired.
Thus, there is no need to include control lines that restate either
system-wide or default settings. The following lines are recognized:

   from: **text**

The **text** is used as the default contents of the **From:** line in your mail
messages. If **text** is the character string **<noprompt>** (in either uppercase
or lowercase), you are not prompted for a **From:** line, nor will such a line
be generated unless you supply one through an editor.

   editor: **editor-name**

editor-name specifies the default editor to use if there is no **$EDIT**
environment variable.

   compose prompts: **prompt-list**

This line defines the default answers to the **send/abort/edit** prompt when
composing a new message. **prompt-list** is a sequence of characters. Only
the characters **e** and **s** should be used. The position of a character in the
list determines when it is used. The first character is used the first
time the **send/abort/edit** portion of the **to** program is entered. The second
character is used the second time, the third character is used the third
time, and so on. If there are insufficient characters, the last character
is reused as necessary. The **to** program's default is **s**.

   answer prompts: **prompt list**

This line defines the default answers to the **send/abort/edit** prompt when
answering a message. See the previous **compose prompts:** description. The
to program's default is **es**.

   forward prompts: **prompt list**

This line defines the default answers to the **send/abort/edit** prompt when
forwarding a message. See the previous **compose prompts:** description. The
to program's default is **es**.

   cc prompt: <noprompt>

If the character string **<noprompt>** (in either uppercase or lowercase) is
given, **to** does not prompt for secondary (**Cc:**) addressees. You can provide

a **Cc:** addressee list when editing the message.

   bcc prompt: <noprompt>

If the character string **<noprompt>** (in either uppercase or lowercase) is given, **to** does not prompt for blind copy (**Bcc:**) addressees. You can provide a **Bcc:** addressee list when editing the message.

   file copy: **file name**

file name specifies the name of a file in which to save a copy of the message.

   file prompt: **any alphabetic character**

If you specify **file prompt:** followed by any alphabetic character, **to** prompts you for the name of a file in which to save a copy of the message.

Flags

-a   Answers a message. This message must appear in the file **$HOME/.answer**. The subject field of the formulated message and the list of addressees are automatically generated. These fields can be changed by invoking an editor when **to** gives the appropriate prompt. **to** also asks whether to send a copy to all other recipients of the original message; pressing **Enter** gives a negative response. The **-a** flag is not generally used except by **readmail**.

-blist   Specifies the **Bcc:** header field.

-clist   Specifies the **Cc:** header field.

-f   Forwards a message. The message must appear in file **$HOME/.answer**. The subject field of the formulated message is automatically generated. This field can be changed by invoking an editor when **to** gives the appropriate prompt. The **-f** flag is not generally used except by **readmail**.

-nname   Specifies the **From:** header field.

-ssubject   Specifies the **Subject:** header field.

-ttext   Specifies the message text.

Note: The flags can be in either uppercase or lowercase.

      The **-t**, **-c**, **-s**, and **-n** flags are provided for compatibility with previous versions of **to**.

      sendmail should be used to send mail from programs and shell files.

Files

$HOME/bin/profile.msg	User's message profile
/usr/lib/INmail/profile.msg	System-wide message profile
/etc/alias	Valid local names.
/etc/sites	Known network site names
$HOME/.answer	Contains the message to be answered under **-a** or **-f**.

/tmp/mdft#.dft	Draft of message (**#** is process number in decimal)
/tmp/fnl#.fnl	Final draft of message (**#** is process number in decimal)
$HOME/file.cpy	Default mailbox for file copies
/tmp/$LOGNAME.alt	Alternate mailbox for file copies when primary mailbox cannot be created
/tmp/$LOGNAME.cpy	Copy of most recent message
/etc/passwd	System password file
/etc/group	System group file.

Related Information
In this book: "alias.delta" in topic 3.8.3, "mkalias" in topic 3.7.11,
"/etc/qftp" in topic 3.8.6, "/etc/qftp" in topic 3.7.15, "readmail" in
topic 3.7.17, "sendmail" in topic 3.7.21, and "sites" in topic 3.8.7.

3.8 Chapter 8. Communication Files

3.8.1 CONTENTS

3.8.2 About This Chapter

This chapter provides an alphabetical list of the files used by the
INmail/INnet/INftp programs. Each file explanation includes the purpose
of the file and a general description of the file. In some cases,
detailed discussions of the contents of the file are also included.

3.8.3 alias.delta

Purpose
Contains a binary list of mail recipients.

Description
The **alias.delta** file is a binary version of the **/etc/alias** file that is
structured for searching.

Related Information
In this book: "alias.delta" and "mksalias" in topic 3.7.12.

3.8.4 connect.con

Purpose
Contains connection configuration information.

Description
The connection configuration files, **/usr/lib/INnet/connect.con** and
$HOME/bin/connect.con, control the setup of connections for the **connect**,
INftp, and **ftpmail** commands. These files provide a general, flexible
mechanism for specifying how connections are to be made, and how data is
to be transferred once a connection is made.

Subtopics
3.8.4.1 Connection Entries
3.8.4.2 Line Options and Parameters
3.8.4.3 System Options
3.8.4.4 Login Script
3.8.4.5 Talker Program

3.8.4.1 Connection Entries

The **connect.con** AIX Operating System for the PS/2 files are attribute
files. The attributes discussed below can appear in the connection
control file:

use=name   Directs the **Connect** program to read the **named** stanza
                        and to follow the instructions therein.

address=number

prefix=string

suffix=string   The telephone number to dial or the network address to
                        contact. The actual number is constructed by
                        concatenating the prefix (if any), the address, and
                        the suffix (if any).

type=terminal

type=INftp   Determines the kind of connection that will be
                        attempted. Only those stanzas with the proper type
                        will be processed. Currently, **Connect** itself uses
                        only **terminal** type stanzas; **INftp** and **ftpmail** use the
                        INftp type. The default type is **terminal**.

linetype=synchronous

linetype=asynchronous Type of communication interface. Different protocols
                        are used on different line types, so the talker
                        programs may differ. The default linetype (if none is
                        specified) is **asynchronous**.

connect=type   Type of connection to make. Permissible values for
                        type are:


```
+-------------------------------------------------------------------------+
¦ Type        ¦ Description                                               ¦
+-------------+-----------------------------------------------------------¦
¦ permanent   ¦ Specifies a hard-wired connection that needs no dialing   ¦
¦             ¦ or other special attention.                               ¦
+-------------+-----------------------------------------------------------¦
¦ dec_df03    ¦ Specifies a Digital DF03-AC autodialer.                   ¦
+-------------+-----------------------------------------------------------¦
¦ hayes_1200  ¦ Specifies a Hayes Stack Smartmodem 1200.                  ¦
+-------------+-----------------------------------------------------------¦
¦ ventel      ¦ Specifies a Ven-Tel 212+ autodialer.                      ¦
+-------------+-----------------------------------------------------------¦
¦ name        ¦ The hardware line with a dialer associated with it which  ¦
¦             ¦ is not built into Connect.  This option is provided so    ¦
¦             ¦ that users can augment the capabilities of Connect and    ¦
¦             ¦ other communications programs to deal with new types of   ¦
¦             ¦ communications lines and dialers.  The programs search    ¦
¦             ¦ for the named dialer program in /usr/lib/INnet/dialers or ¦
¦             ¦ $HOME/bin.                                                ¦
+-------------------------------------------------------------------------+
```

The assumption made for user-supplied dialer programs is that the port to
be used will be opened prior to dialing.

Two arguments are passed: the number to dial, **arg 1**, and the dialer
hardware to use (value of the **dialer** option), **arg 2**, if any. To indicate
success, the dialer code must exit with status zero; any other value is
taken to mean failure. The failure code returned by the dialer determines
the message printed by the programs. See "Diagnostic Messages" in
topic 3.8.4.5 for further information.

3.8.4.2 *Line Options and Parameters*

speed=speed   Specifies the line speed, generally **110**, **300**, **1200**, **2400**, **9600**, and so on.

parity=even

parity=odd

parity=any

parity=none   Sets the line to the indicated parity.

timeout=secs   Sets the time limit, in seconds, after which the attempt to complete the connection is cancelled. This attribute may not be needed for devices which have a built-in timeout.

speed=speed   Specifies the line speed, generally **110**, **300**, **1200**, **2400**, **9600**, and so on.

3.8.4.3 System Options

These options are normally utilized only by the system administrator.
Specific limitations on their use are given in the individual
descriptions.

device=name   Specifies the name of the special file to use to make
                       the connection. The device must appear in the **/etc/ttys**
                       file and the information in the ports file entry is made
                       available to **Connect**.

                       Note: This attribute can appear only in the last of the
                                  list of stanzas associated with making the
                                  connection on this device, and the **use** option
                                  must not appear.

dialer=devname   Specifies the dialer hardware to be used in dialing the
                       number.

3.8.4.4 Login Script

script=name   Specifies a ***script file*** to be interpreted prior to notifying
                  the user that the connection is complete. Scripts are
                  located by checking first in **$HOME/bin** and then, if not
                  present, in **/usr/lib/INnet/scripts**.

A script file is organized into a group of states. In each state, the
script optionally sends a string to the remote system and then waits for a
response. Several possible responses can be listed for each state, as
well as an action to be performed if each response is received. A time
limit can also be set in each state, together with an action to be
performed if the time expires without an expected string arriving. The
actions are to terminate script interpretation, with either a success or
failure indication, or a move to another state.

STATE n   Declares the beginning of state **n**.

SEND string   Sends the given string to the remote system. In the
                       string, any name in curly braces is taken to be an
                       option reference and is replaced by the value of that
                       option. If that option is not present in the list of
                       stanzas, the user is prompted for its value using the
                       option name as the prompt. If the name inside the
                       braces is preceded by a - (dash), the characters are
                       not echoed when typed. This can be used for including
                       passwords as parameters in the script, without having
                       them stored on the system. Thus, scripts can be
                       parameterized so that they can be used in different
                       connection stanzas and by different users.

RECV string action If the given string is received, performs the action.

TIMER n action   If no expected string is received in **n** seconds,
                       performs the action.

DONE   Terminates script interpretation successfully.

ERROR string   Terminates script interpretation unsuccessfully. The
                       last message from the remote site is reported to the
                       user.

GOTO n   Continues processing in state **n**.

A typical script might be:

```
  STATE 0   RECV User:          GOTO 1
            TIMER 10            ERROR "No login"

  STATE 1   SEND "{myname}\n"
            RECV Password:      GOTO 2
            RECV "Unknown"      ERROR "Name unknown"
            TIMER 10            ERROR "No password msg"


  STATE 2   SEND "{-mypass}\n"
            RECV "$"            DONE
            RECV Invalid        ERROR "Wrong password"
            TIMER 20            ERROR "No prompt"
```

In this script, which might be used for login to a remote system, **Connect** first waits up to 10 seconds for a **User:** prompt. When received, it sends the value of the **myname** option (from the control file or by prompting the user) as the user name. It then waits up to 10 seconds for the **Password:** prompt, sends that value of the **mypass** option as the password, and then waits up to 20 seconds for another prompt. The password is not echoed. At each stage, it looks for messages that might occur if the given user name or password is invalid. With more states, one can easily write a script that tries several different user names or that types the necessary things to dial through a port selector.

3.8.4.5 Talker Program

As indicated in **Connect**, the work of moving data across a connection is
handled by a talker program which is run after a connection has been
established. The default talker for **Connect** is **atalk**. The user can
override this and specify another talker.

talker=name   Specifies the name of the program to run when the
                         connection is made. The conventions observed between
                         Connect and the talker are simple: the connection is
                         opened by the program as file descriptor 3.

flags=-a -b -c...   Specifies flags (other than the above) to be passed to
                         the talker program. This option is valid with both
                         default or user-specified talkers.

Diagnostic Messages
The following diagnostics can be displayed, based on the return value from
system-supplied or user-supplied dialer programs. The values 8 and above
are treated as FATAL errors.

Return Code   **Message**

0   Connected
1   Can't open dialer
2   Busy or no answer
3   Unable to fork
4   Aborted
5   Communication failure
6   Busy
7   No Answer
8   Dead phone
9   Bad phone number
10   Can't open device
11   Address not specified
12   Bad **connect.con** format
13   Can't execute dialer
14   No autodialer specified

For explanations of the messages, see the alphabetical listing in
Appendix B, "INmail/INnet/INftp Messages."

Files

/usr/lib/INnet/connect.con
                         System-wide connection control file
$HOME/bin/connect.con   Private connection control file.

Related Information
In this book: "connect" in topic 3.7.5, "INftp" in topic 3.7.6, and
"ftpmail" in topic 3.7.7.

The **termio** file in *AIX Operating System Technical Reference*.

3.8.5 login.zzz

Purpose
Provides the login name and password for mail transfer.

Description
The login file, **login.zzz**, located in the **/usr/spool/qftp** queuing
directory for a remote site, allows the specification of a login name and
password for INnet access of a remote host. It is used when you do not
specify a script file in the relevant stanza in the **connect.con** file.

Note: **login.zzz** can be used in place of a login script when communicating
with a remote system running the program **ftplogger**. Contact the
system administrator for the remote system to find out if **ftplogger**
is running on the system.

The login file consists of a single line with the following format:

name,+ password

where **name** is a login name on the remote host and **password** is the password
associated with the name. If **login.zzz** is not present, INnet uses a
default login name of **netmail** and a default password of **maILer**, which may
not be valid at that remote host. If the login attempt fails, **qstat**
displays an appropriate error message for the remote host.

Warning: Since the password entry is kept in the clear, it is very
important to keep the protection on the file appropriate to the level of
security needed.

Files

/usr/spool/qftp/*/login.zzz

Related Information
In this book: "connect" in topic 3.7.5, "connect.con" in topic 3.8.4,
"INftp" in topic 3.7.6, "ftpmail" in topic 3.7.7, "/usr/lib/INnet/ftpmail"
in topic 3.7.8, "/usr/lib/INnet/ftpsrvr" in topic 3.7.9, and "qstat" in
topic 3.7.16.

3.8.6 /etc/qftp

Purpose
Provides a transmission queue entry for the mail transfer program.

Description
The **/etc/qftp** command uses files to store queue elements representing
pending work. Each accessible remote site as well as the local site has a
queue in the queuing directory **/usr/spool/qftp**. Each queuing directory is
a directory named the same as the site. Each item of work (such as a file
to be transferred or a mail message) exists as a file in the relevant
queue.

Subtopics
3.8.6.1 Naming Conventions
3.8.6.2 Format of a Transmission Queue File

3.8.6.1 Naming Conventions

File name: SSSSSSSSS.xxT

SSSSSSSSS   One to nine characters, any printable character except a .
                       (period). By informal convention, the **INftp** servers and
                       talkers use the name of the host from which the file came,
                       the **qftp** daemon uses the local site name, and verification
                       programs such as **to** and **sendmail** use the user's login name.
                       This information is not used.

xx   Two characters that make this file name unique.

T   An attribute character. There are four types; however, the
                       qftp daemon presently considers all types to be equivalent.
                       Within each type, the attribute character defines whether
                       the file is temporary, that is, in use by some other
                       process. For nontemporary files, the attribute also
                       defines an urgency level. The **qftp** daemon ignores the
                       urgency of those files it removes from the transmission
                       queue. The **qftp** daemon generates urgency attributes of
                       type 0 (0 – 7) where 0 is assumed to be low priority and 7
                       to be high priority.

The following table gives the entire set of possible attributes:

0-7	urgency 0-7, files of type 0
8-9,a-f	urgency 0-7, files of type 1
g-n	urgency 0-7, files of type 2
o-v	urgency 0-7, files of type 3
w	temporary of type 0
x	temporary of type 1
y	temporary of type 2
z	temporary of type 3

3.8.6.2 Format of a Transmission Queue File
The file is primarily ordered by lines and then by fields within lines.
The # character is the usual field separator. Most fields may be of any
width, including null. Trailing # characters are allowed.

Line 1:	SSSSS#AAAA/BBBB/CCCC.../ZZZZ
SSSSS	The user name of the user who initiated this file transfer.
AAAA/BBBB...ZZ	The network path name from **here** back to the user. The slash characters separate the various host names. As each **qftp** daemon builds queue entries for transmission, the **qftp** daemon adds its own host name to the beginning of this list. Thus, when the first **qftp** daemon picks up the queue entry, the list is null. If there is a path, then the last component is the originating host.
Lines 2-N:	AAAA#UUUU#HHHH#DDDD
	There is one instance of this line for each addressee.
AAAA	The name of the alias you use when the file reaches the destination.
UUUU	The urgency of the message. This is a string of ASCII digits. The higher the value, the greater the urgency. A minimum is 1; a maximum is 127. A null string defaults to 64.
HHHH	The network path from **here** to the destination. The structure of this field is the same as in line 1 except that the last component represents the target host. The first component may represent either the current host or the next host. The **qftp** daemon strips off any leading components which match the current site address. If, after such stripping, the remaining path is null, then the file is considered to have reached its destination.
DDDD	A character string to be passed to the **alias** file programs. This string is terminated by the new-line character and may thus contain blanks or other special characters.
Line N+1:	New line This line is null, simply a new-line character. Its purpose is to delimit the addressee lines.
Line N+2:	FFFF A string defining what the **qftp** daemon is to do when a failure occurs in forwarding or delivering. This string has the following format: **mode#option_1#option_2#...#option_n** where **mode** is an unsigned number (in ASCII form) indicating what action to take. ASCII values are: **0** (or null) Throw everything without a trace. All options

are ignored.

1   Generate a short notice of failure to be mailed
back.

2   Generate a new leader for the file and mail it
back.

option_1 is the alias name to be used on the return
message. If null, the sender&pos.s name is used.
option_2 is the network path to be used on the return
message. If null, the sender's return path is used.
option_3 is the urgency of the return message. If null,
normal urgency is used. **option_4** is a subject string
for the return message. If null, **Non-delivery Notice** is
used for mode **1** failure handling and **"Returned to
Sender"** is used for mode **2**. **option_5** is a text string
(one line only) for the body of the return message. It
can be null.

To prevent looping of messages should a returned message
be undeliverable, the failure mode of the returned
messages is zero.

Line N+3   SSSS
The sender's stamp, an arbitrary string (possibly
containing blanks) placed by the verification program
and to be passed to the alias programs.

Line N+4   PPPP or new-line
This line indicates whether the data part of the file
follows immediately in this queue entry or is contained
within another file. If this line is null (simply a
new-line character), then the data follows, beginning
with the first byte after the new-line. Otherwise, the
string **PPPP** represents a file name in which the data can
be found.

Presently only the new-line form is allowed--the data
must be found within the queue entry immediately after
this line.

Related Information
In this book: "INftp" in topic 3.7.6, "/etc/qftp" in topic 3.7.15,
"remind" in topic 3.7.18, "rmtcp" in topic 3.7.19, "sendmail" in
topic 3.7.21, and "to" in topic 3.7.23.

3.8.7 sites

Purpose
Provides information about remote sites to network programs.

Description

Note: There should be coordination between the various INnet sites as to
the official name of each site. Otherwise, mail transfer cannot
occur.

Currently, all network queuing directories must have a common
parent directory.

The **sites** file, **/etc/sites**, is an ASCII file containing one line
describing each known network site name. Each site name entry has three
fields, each terminated by a colon:

site-name-list:network-path:queue-directory:

The **site-name-list** is a comma-separated list of site names. Site names
can contain uppercase letters and numbers. The first name in a
site-name-list is the actual site name associated by the network programs
(**connect**, **INftp**, **/etc/qftp**, **rmtcp**, **sendmail**, and **to**) with the line. The
network programs also assume that the first entry in the file is the local
site. It must have an empty **network-path** field.

The **network-path** is a slash-separated list of site names. This path
describes the route to follow from the local site to the site identified
in the site name field. Note that the entire route need not be known to
the local site. One component of this path can be a site which knows the
next stage in the path (or the rest of the path). The last component of
the path must be the name of the destination site.

The **queue-directory** field specifies the directory used by **/etc/qftp** and
other network programs as the site queue. Following is a sample **sites**
file:

```
  SM,SM-70::/usr/spool/qftp/SM:
  MD,MD-60:MD:/usr/spool/qftp/MD:
  SM34,SM-34:SM34:/usr/spool/qftp/SM34:
  VAX:SM34/VAX:/usr/spool/qftp/SM34:
```

Files

/etc/sites

Related Information
In this book: "connect" in topic 3.7.5, "INftp" in topic 3.7.6, "rmtcp"
in topic 3.7.19, "sendmail" in topic 3.7.21, "to" in topic 3.7.23, and
"/etc/qftp" in topic 3.7.15.

3.8.8 sites.delta

Purpose
Provides a binary version of the **/etc/sites** file.

Description
The **sites.delta** file is a binary version of **/etc/sites** that has been
structured for searching.

Files
/etc/sites.delta

Related Information
In this book: "/etc/mkssites" in topic 3.7.13 and "sites" in topic 3.8.7.

3.8.9 startup.zzz

Purpose
Controls queued access to remote hosts.

Description
The **startup.zzz** file controls queued access to remote hosts, for
exchanging mail and running **rmtcp** commands. When this file exists in the
queue directory of a remote host, the **qftp** daemon (see "/etc/qftp" in
topic 3.7.15) automatically initiates a connection at the time specified
in this file and starts the program necessary to transfer queued files at
the indicated priorities.

In order for the **/etc/qftp** to maintain a link, an entry in the
/usr/lib/INnet/connect.con file must provide all information necessary to
make a connection with that remote site. The **/etc/sites** file contains the
names of the queue directory for each known site. Startup information for
/etc/qftp is specified in the **startup.zzz** file, located in the queue
directory for the remote host. If the **startupzzz** does not exist, no
automatic transfers to the **remotehost** can take place.

The **startup.zzz** file consists of any number of lines of the following
form:

[**priority[*]]:[timespec[,timespec...]]:[mailer**]

Subtopics
3.8.9.1 Priority Field
3.8.9.2 Timespec Field
3.8.9.3 Examples of Time Specifications:
3.8.9.4 Mailer Field

3.8.9.1 Priority Field

The **priority** field specifies the message priority. Its value can range
from 0 through 7, with 0 being lowest. The default **priority** is 0. The
optional * (asterisk) tells the local host to poll the remote host at the
specified times, even if no mail is queued at the local site. Otherwise,
mail transfer occurs at the specified times only if messages are queued at
the local site. Transfers in both directions are automatically restricted
to messages of **priority** or greater.

3.8.9.2 Timespec Field

The **timespec** field consists of a sequence of day and time specifications separated by commas. It is used to restrict mail transfers to the time ranges indicated. If you provide no **timespec**, mail transfers occur whenever the other requirements are satisfied.

The **timespec** entry has one of the following forms:

day time
day time(interval,retry)

The **day** entry can be any of the following:

Mo Monday
Tu Tuesday
We Wednesday
Th Thursday
Fr Friday
Sa Saturday
Su Sunday
Wk Monday through Friday (**MoTuWeThFr**).
Any Monday through Sunday (**MoTuWeThFrSaSu**). This is the default value.

Note: When specifying more than one day, join the specifications without delimiters.

The **time** specification can be either a specific time or a time range. This range includes the beginning time but not the ending time. The time of midnight implies the beginning of the next day. The default time is the range of 12:00 a.m. to 11:59 p.m.

Note: A specific time means any time within two **qftp** cycles around the specified time.

The following are sample **time** entries:

0200-1000   From 02:00 a.m. to 09:59 a.m. on the given day.

2300-0800   From 11:00 p.m. on the given day to 07:59 a.m. on the next day.

0800   At 08:00 a.m. on the given day.

The **interval** entry specifies the amount of time that must pass before the other requirements are examined. Thus, even if the priority and time requirements are satisfied, the transfer does not start until the specified **interval** has elapsed since the last startup requirement was satisfied.

An **interval** entry has the following format:

[hh]mm

where **hh** specifies hours and **mm** specifies minutes. The default **interval** is 0000. For example, the previous startup requirement was satisfied before 11:30, the following **time interval** specification:

  1200-1400(30)

allows transfers to occur at the following times: 12:00, 12:30, 13:00,
13:30.

The following are sample **interval** entries:

_30_   30 minutes

_130_   1 hour and 30 minutes (not 130 minutes).

The **retry** entry specifies the number of times the system can try to
establish a connection if for some reason it cannot be made, for example,
if the phone is busy. (The **retry** interval is the cycle time of
/etc/qftp.) The default value is 0 (do not retry). The following are
sample **interval/retry** entries:

_(30,4)_ Retry up to 4 times, with an interval of 30 minutes between
          successful attempts.

_(0,4)_   Retry up to 4 times, with zero interval specified (only 1 transfer
          in the given range).

_(,4)_   Retry up to 4 times at the time specified (by default, no
          interval; only 1 transfer in the given range).

3.8.9.3 Examples of Time Specifications:

```
:Mo0800-1200(15,3),Th1200-1600(30),Su(,4):
:0800-1200:
:Mo,Tu,We(0,5):
:Any:
::
```

3.8.9.4 Mailer Field

The **mailer** field allows the system manager to specify the mail-delivery
program, with arguments. The default program specification is:

  ftpmail -x**priority remotehost**

where **priority** is the value specified in the **priority** field or its default
value and **remotehost** is the host to be communicated with.

The following is sample **mailer** specification:

  ftpmail -x3 AUSTIN

This makes **ftpmail** the mailer program and restricts that transfer to
messages queued in the **/usr/spool/qftp/AUSTIN** directory and having a
priority of three or higher.

Note: The preceding example assumes that the **/usr/lib/INnet/connect.con**
        file contains an entry for **AUSTIN**.

Examples
The following are sample **startup.zzz** files:

  0:Any:
  *:Any(30):

This **startup.zzz** file causes a mail link to start up anytime there is mail
queued for the remote host at priority 0 or greater or if there is no
mail, the remote host is polled every 30 minutes. Both of these actions
occur any time of the day, any day of the week. The polling occurs on the
hour and half hour (12:00, 12:30, 13:00, and so on) regardless of whether
a transfer was initiated because of mail queued locally for the remote
host. There are no restrictions on the transfer of messages; messages of
any priority both local and remote are delivered once the link becomes
active.

  4:Any:
  5:Wk0745-1800(445):
  *:Any0000:

This **startup.zzz** file causes the link to become active any time there are
messages of priority 4 or greater queued for the remote host. This
transfer is restricted to messages of priority 4 or greater in either
direction. Start up a link (regardless if there is mail queued or not)
Monday through Friday, at 0745, 1230, and 1715. This transfer is
restricted to messages of priority 5 or greater in either direction.
Start up a link (regardless if there is mail queued or not) any day at 12
midnight. Transfers are not restricted, so that messages queued locally
or at the remote host are delivered.

Related Information
In this book: "rmtcp" in topic 3.7.19, "status.zzz" in topic 3.8.10, and
"/etc/qftp" in topic 3.7.15.

3.8.10 status.zzz

Purpose
Contains mail queue status information.

Description
The **status.zzz** file, **/usr/spool/qftp/remotehost/status.zzz,** contains all
information needed by the **qftp** daemon (see 3.7.15) to determine the status
of a mail queue for the remote host. It consists of entries describing
the status of the link to the remote host, if any, and a sequence of
entries for each priority level within the queue.

The following C Language structure defines the link status entry:

```
  struct lstat
  { char status;
    char request;
    char curpri;
    char rqstpri;
    char exitcode;
    char minpri;
    unsigned transfers;
    unsigned totretrys;
    unsigned maxretrys;
    unsigned failures;
  };
```

These structure members have the following meanings:

status Gives the current status of the link. The value is one of the
        following:

        0 IDLE
        1 RUNNING
        2 DISABLED

request
        Requests **qftp** to change the status of this link. The possible
        values are as follows:

        0 NONE
        1 ENABLE
        2 DISABLE
        3 HOLD
        4 START

        The **qenable** command uses this value.

curpri Gives the current (minimum) priority being processed.

rqstpri
        Gives the priority specified for the posted request.

exitcode
        Contains the exit code returned by the queue processing program
        invoked by **qftp** on exit.

minpri Specifies the minimum priority to be processed when the queue
        becomes active.

transfers
>   Provides the number of successfully transferred messages. The
>   queue processing programs maintain this value.

totretrys
>   Identifies the number of attempts that were needed to connect to
>   the remote site.

maxretrys
>   Specifies the largest number of attempts that can be made to
>   connect to the remote site.

failures
>   Identifies the number of times the link to the remote site failed
>   while processing the queue. The queue processing programs maintain
>   this value.

For each priority level, the following structure is maintained in the
status.zzz file. These follow the link status entry, indexed by priority.

```
  struct qstat
  { long last_start;
    long last_success;
    long r_bytes;
    long x_bytes;
    unsigned r_msgs;
    unsigned x_msgs;
  };
```

These structure members have the following meanings:

last_start   Identifies the last time (as kept by **time** system call), that
               the link was started up (that is, the startup time of the
               queue processing program).

last_success
               Identifies the time of the last successful startup of the
               link.

r_bytes   Records the number of bytes received in the queue. The queue
               processing programs maintain this value.

x_bytes   Records the number of bytes transmitted from the queue. The
               queue processing programs maintain this value.

r_msgs   Records the number of messages received in the queue. The
               queue processing programs maintain this value.

x_msgs   Records the number of messages transmitted from the queue.
               The queue processing programs maintain this value.

Note that the **qftp** daemon creates this file if it is not present in a
given queuing directory.

Related Information
In this book: "/etc/qftp" in topic 3.7.15.

A.0 Appendix A. Installing INmail/INnet/INftp
This appendix directs you through the procedure to install the
INmail/INnet/INftp licensed program.

The INmail/INnet/INftp licensed program is made up of two 1.2 MB diskettes
that contain the programs and files you need for the mail system to run
with AIX Operating System. To install INmail/INnet/INftp, you transfer
the data on the diskettes to the fixed disk.

The AIX Operating System must be installed on your computer system before
you can install INmail/INnet/INftp.

Ensure that you are the only user on the system while you are installing
INmail/INnet/INftp. If other users are working on the system,
installation may fail.

Subtopics
A.1 Installation Procedure

A.1 Installation Procedure

To install INmail/INnet/INftp, follow the steps below. If an error
message appears during the procedure, see *Messages Reference* for details
and recommended corrective action.

1. Ensure that no one else is using the system and that no programs are
    running.

2. Log in with superuser authority or as a member of the system group.

3. Enter the following command to begin the installation:

        installp

4. When requested to do so, insert the appropriate diskette into the top
    diskette drive (drive 0 in position A).

5. Follow the prompts to install INmail/INnet/INftp.

    Since the INmail/INnet/INftp programs come on two diskettes, follow
    the prompts from the system telling you when and in what sequence to
    load each one. As the program files are copied from a diskette onto
    the fixed disk, the file names may appear on the screen.

6. When installation is complete, return the diskettes to the protective
    diskette holders in the binder.

7. Either log off or configure INmail/INnet/INftp for use on your
    computer. You begin the configuration of INmail/INnet/INftp with
    Chapter 2, "Configuring a System for Local Mail."

B.0 Appendix B.   INmail/INnet/INftp Messages
This appendix contains an alphabetical listing of messages you may see
when working with INmail/INnet/INftp. A cause and recommended recovery
action are given for each listed message.

Numerical return codes and their message counterparts are listed in the
"Diagnostic Messages" section accompanying some command explanations. The
message counterparts are alphabetically listed and explained in this
appendix.

Aborted

Cause: The **connect** command stopped because it received an interrupt from
the keyboard.

Action: No action is needed. This message is for your information only.

Address not specified

Cause: The **connect** command could not continue because an address was not
specified in the **connect.con** file.

Action: Edit the file to add an address.

All devices are busy

Cause: The **connect** command cannot complete because the **Connect** program
tried to use a device that does not exist on the system, or you tried to
send mail to a port that is in use.

Action: Make sure a correct device was specified, and that the desired
port is not being used.

Bad connect.con format

Cause: The **connect** command cannot continue because of an error in the
connect.con file.

Action: Edit the **connect.con** file and make sure it has the correct
information and syntax.

Bad phone number

Cause: The **connect** command could not complete because it could not use
the given phone number, or the modem was not connected properly.

Action: Make sure the phone number is in the proper format, and that the
modem is connected.

Busy

Cause: The **connect** command found that the remote system's telephone is
busy.

Action: Try the **connect** command again later.

Busy or no answer

Cause: The **connect** command found that the remote system's telephone is

busy or does not answer.

Action: Dial the number by hand to determine whether the telephone at the remote system is busy or does not answer. Try the **connect** command again later.

Cannot exec dialer

Cause: The **connect** command cannot complete because it cannot get to the dialer program. Specifically, the **Connect** program opened the dialer, but did not have permission to execute it.

Action: Check the permissions specified for the dialer in the **connect.con** file.

Cannot open device

Cause: You requested a command that needs to use a device. However, the command could not open that device. The device may be misspelled, or may have incorrect access permissions.

Action: Make sure the device name was specified correctly. (The device name can be given in a configuration file for the command.) Also make sure you have access permission to the device.

Cannot open dialer

Cause: The **connect** command could not use the program that dials a remote location.

Action: If you wrote your own dialer program, your program may have an error. For example, you may not have given the dialer correct access permissions. Also, check the dialer stanza in the **connect.con** file.

Can't open alias file

Cause: The **qftp** command gives this message when the **/etc/alias** file is missing. The **qftp** command needs this file to distribute mail properly.

Action: First retry the command. The problem may be temporary. If you keep getting this message, do one of the following:

   If you have installed the **mkalias.sh** command into the **/etc/rc** file, restart your system. When the system restarts, the **/etc/rc** file automatically runs **mkalias.sh**, which automatically creates **/etc/alias**.

   If **mkalias.sh** is not in the **/etc/rc** file, you should insert a line running it into **/etc/rc** and restart the system. Refer to the chapters on configuring INmail/INnet/INftp functions for more information on inserting this line.

Communication failure

Cause: The **connect** command could not communicate with a remote system. The communications line may be bad, or the remote host may not be operating properly.

Action: Make sure that the communications line and the remote host are operating properly.

Communication protocol error

Cause: You requested a task that involved communication with another machine. However, your task could not complete because of an error in communications.

Action: A request made by a local machine to a remote machine (or vice versa) was not in the expected syntax. The error may be temporary. Try the task again. If you still get this message, the sending and receiving systems may not be using the same communications protocol, or there may be a problem with the remote or local hardware. Check the local and remote hardware, and follow your local procedures for reporting software or hardware problems.

Connected

Cause: The **connect** command gives this message when a successful connection was made.

Action: No action is needed. This message is for your information only.

command-name: console has been disabled -- check it for noise

Cause: A communications task could not complete because of a problem in the communications line between the console and the modem.

Action: Check the modem and line hardware. Follow your local procedures for reporting software or hardware problems.

Dead phone

Cause: The **connect** command cannot complete because your telephone or the remote system's telephone is not working.

Action: Check both telephones and try again.

E_COMM

See the Fatal communication error message.

E_EOF

See the End of file message.

E_EXEC

See the Exec failed message.

E_FAIL

See the Unknown failure message.

E_INftp

See the Communication protocol error message.

E_GROUP

See the Unknown group message.

E_HOST

See the Unknown host name message.

E_LOGIN

See the Login denied message.

End of file

Cause: One of the **INftp** commands encountered an ASCII end-of-file
character. This is not necessarily an error. For example, a remote
machine might use the end-of-file character to tell the local machine that
the contents of a directory have been read.

Action: Your action depends on the significance of the end-of-file
character.

E_NOSUP

See the Not supported message.

E_USER

See the Unknown user message.

Exec failed

Cause: The **INftp** command could not complete because it could not run the
exec command. The **ftpmail** or **ftpuser** programs may not be properly
installed.

Action: Make sure that the **ftpmail** or **ftpuser** programs are properly
installed with the correct access permissions.

Fatal communication error

Cause: The command you requested could not complete because it received
stray or unexpected data and could not communicate with a remote system.
The error is usually a failed read or write across the line. The problem
could be with the hardware, the line, or the networking software.

Action: Try the command again. If you still get this message, confirm
that the remote system is working, and that the modem and other hardware
are working properly. Follow your local procedures for reporting
software or hardware problems.

Login denied

Cause: You requested a task that needs to communicate with a remote
system. However, you cannot log in to the remote system because of one of
the following:

    The remote system does not have a password entry for the user wh
    tried to log in.
    You requested the **INftp** command and entered an incorrect password.
    You requested the mail program. However, the mail progra
    automatically entered an incorrect password, or did not have any

password.

Action: Take the action appropriate to the cause:

At the remote system, request that the system administrator add
password entry to the **/etc/passwd** file.
Try **INftp** again and give a correct password.
Request that the local system administrator edit the **login.zzz** file in
the **/usr/spool/qftp** directory to add a correct password entry to the
file.

No answer

Cause: The **connect** command did not receive an answer at the remote
system.

Action: Try the **connect** command again later.

No autodialer specified

Cause: The **connect** command cannot continue because it cannot determine
which dialer to use.

Action: Edit the **connect.con** file to add a correct dialer attribute.

Not supported

Cause: You tried to use **ftpmail** to do something that cannot be done at
the chosen remote system. You may have tried to use a subcommand that
INftp does not recognize. Also, the chosen remote system may not be set
up to send or receive mail.

Action: Request that the local system administrator check the **startup.zzz**
file in the **/usr/spool/qftp** directory. Make sure the file format is
correct.

QFTP: SIGTERM received; will die after finishing this cycle

Cause: The **qftp** command gives this message when the system is shut down.
This means that **qftp** is stopping.

Action: No action is needed. This message is for your information only.

Unable to fork

Cause: Several commands (for example, **connect**) can give this message.
The **fork** system call failed.

Action: Try the command again. If you keep getting this message,
decrease the system load, or increase the number of concurrent processes
your system is set to handle. See *Using and Managing the AIX Operating
System* for details.

Unknown command name

Cause: Someone linked the **qenable** command to a command name other than
qenable, qdisable, qhold, or **qstart** commands. A user then tried to run
that invalid command name.

Action: Enter **qenable, qdisable, qhold**, or **qstart** instead of the invalid

command name.

Unknown failure

Cause: Your communication task cannot complete. The system tried to do
the **rename** subcommand with the **INftp** command, but could not unlink the
original file.

Action: Check the permissions of the file you tried to rename.

Unknown flag

Cause: Several commands can give this message. You or a command
requested a flag, but the system does not recognize the flag you entered.

Action: If you requested the flag, make sure that you typed the flag
correctly and that it is a valid flag for the command. If you did not
request any flags, there may be an error in the code for the task you
requested. Follow your local procedures for reporting software or
hardware procedures.

Unknown group

Cause: Your task could not complete because the group name or ID is not
valid on the system you tried to access. This means the group name is
missing from the **/etc/group** file on the system.

Action: Request that the system administrator add the group name to the
/etc/group file on the system you want to access.

Unknown host name

Cause: Your communication task could not complete. You or a command
tried to access a host system, but the local system did not recognize the
host name you used. This means the host name is not present in the
/etc/sites file on the local system.

Action: Request that the system administrator add the host name to the
/etc/sites file.

Unknown host(s): "name..."

Cause: Your **qstat** program could not recognize this list of host names.

Action: Either specify existing host names, or request that the system
administrator add the host names to the **/etc/sites** file.

Unknown user

Cause: Your task could not complete because the user name or ID is not
valid on the system the user tried to access. This means the user name is
missing from the **/etc/passwd** file on the system.

Action: Request that the system administrator add the user name to the
/etc/passwd file. (You can use the **adduser** command to do this.)

C.0 Appendix C. INmail/INnet/INftp Files

The files in the following alphabetized list are distributed with
INmail/INnet/INftp, created during installation, created during
configuration, or are programs you have already received with the AIX
Operating System. The codes that appear in the **Type** column and to the
right of each file name are explained after the table.

Type	File Name	Mode	Owner
x,l	/bin/iscmail	0555	bin
x,l	/bin/iscrmail	4555	root
x,l	/bin/to	4555	root
a,l,rm	/etc/alias *	0644	root
s,l	/etc/alias.delta *	0644	root
x,rm, rf	/etc/ftplogger	0555	bin
x,l,rm	/etc/mailtrans	0555	bin
x,l,rm	/etc/mkalias	0555	bin
x,l	/etc/mksalias	0555	bin
x,l	/etc/mkssites	0555	bin
x,l,rm	/etc/qftp	0544	bin
a,l,rm	/etc/sites	0644	bin
s,l	/etc/sites.delta *	0644	root
x,l	/etc/spost	0555	bin
x	/usr/bin/connect	0555	bin
x,l	/usr/bin/delrem	6555	root
x,rm	/usr/bin/INftp	0555	bin
x,rm	/usr/bin/ftpmail	0555	bin
x,rm	/usr/bin/qdisable	0555	bin
x,rm	/usr/bin/qenable	0555	bin
x,rm	/usr/bin/qhold	0555	bin
x,rm	/usr/bin/qstart	0555	bin
x,rm	/usr/bin/qstat	0555	bin
x,l	/usr/bin/readmail	0555	bin

x,l	/usr/bin/remind	6555	root
x,rm	/usr/bin/rmtcp	4555	root
x,l	/usr/bin/sendmail	4555	root
a	/usr/lib/errormsg	0444	bin
s,l	/usr/lib/INed/forms/mailmsg.ofm	0444	bin
s,l	/usr/lib/INed/forms/mbx.ofm	0444	bin
s,l	/usr/lib/INed/forms/mbxprf.ofm	0444	bin
x,l	/usr/lib/INed/helpers/mbx.help	0555	bin
s,l	/usr/lib/INed/hmgs/mbx.hmg	0444	bin
s,l	/usr/lib/INed/profiles/mbxprf	0644	bin
d,l	/usr/lib/INmail	0755	bin
a,l	/usr/lib/INmail/listnames +	0444	bin
a,l	/usr/lib/INmail/mkalias.sh *+	0555	bin
a,l	/usr/lib/INmail/profile.msg +	0644	bin
a,l,rm	/usr/lib/INmail/specials.frg.t +	0644	bin
a,l	/usr/lib/INnet/bellpost	2555	bin
a,rm,r	/usr/lib/INnet/connect.con @	0644	bin
x,rm	/usr/lib/INnet/ftpmail	0555	bin
x,rm,r	/usr/lib/INnet/ftpsrvr	0555	bin
x,rf	/usr/lib/INnet/ftpuser	0555	bin
x,rm	/usr/lib/INnet/rftpsrvr &	0555	bin
x,rm	/usr/lib/INnet/rmtcpserver	0555	bin
x,rm	/usr/lib/INnet/rwaxsrvr &	0555	bin
a,rf	/usr/lib/INnet/scripts/ftplog.scr	0644	bin
a,rm	/usr/lib/INnet/scripts/ftpmlog.scr	0644	bin
x,rm	/usr/lib/INnet/waxsrvr &	0555	bin
x,rm	/usr/lpd/rmtprint	4555	root
d,l	/usr/remind	0755	root
d	/usr/spool/qftp	0777	bin
d,rm	/usr/spool/qftp/RMTSITE *#	0777	daemon

```
¦ d,rm   ¦ /usr/spool/qftp/RMTSITE/login.zzz ¦ 0400 ¦ daemon             ¦
¦        ¦ *#                                 ¦      ¦                    ¦
+-------+-----------------------------------+------+--------------------¦
¦ d,rm   ¦ /usr/spool/qftp/RMTSITE/startup.zz¦ 0400 ¦ root               ¦
¦        ¦ *#                                 ¦      ¦                    ¦
+-------+-----------------------------------+------+--------------------¦
¦ d,l    ¦ /usr/spool/qftp/SELF              ¦ 0777 ¦ cron               ¦
+-------+-----------------------------------+------+--------------------¦
¦ d,l    ¦ /usr/spool/structmail            ¦ 0777 ¦ bin                ¦
+-------------------------------------------------------------------------+
```

The codes in the **Type** column specify the following:

1. The file type:

```
    +-------------------------------+
    ¦ Code ¦ Meaning                ¦
    +------+-------------------------¦
    ¦ a    ¦ An ASCII text file.    ¦
    +------+-------------------------¦
    ¦ d    ¦ A directory.           ¦
    +------+-------------------------¦
    ¦ s    ¦ A structured data file.¦
    +------+-------------------------¦
    ¦ x    ¦ An executable file.    ¦
    +-------------------------------+
```

2. The file usage:

```
    +-------------------------------+
    ¦ Code ¦ Meaning                ¦
    +------+-------------------------¦
    ¦ l    ¦ Local mail transfer.   ¦
    +------+-------------------------¦
    ¦ rm   ¦ Remote mail transfer.  ¦
    +------+-------------------------¦
    ¦ rf   ¦ Remote file transfer.  ¦
    +-------------------------------+
```

Some of the files are used in more than one type of transfer.

The codes to the right of the file names specify the following:

```
+--------------------------------------------------------------------------+
¦ Code ¦ Meaning                                                            ¦
+------+-------------------------------------------------------------------¦
¦ *    ¦ The file is not distributed with INmail/INnet/INftp but created    ¦
¦      ¦ during the installation procedures.                                ¦
+------+-------------------------------------------------------------------¦
¦ #    ¦ The system name used in the file name (RMTSITE) is actually set    ¦
¦      ¦ up as a local or remote system name chosen during the              ¦
¦      ¦ installation procedure.                                            ¦
+------+-------------------------------------------------------------------¦
¦ +    ¦ The file is optional.                                              ¦
+------+-------------------------------------------------------------------¦
¦ &    ¦ The file is linked to the **ftpsrvr** file.                        ¦
+------+-------------------------------------------------------------------¦
¦ @    ¦ The file already exists if **Connect** is being used; also, the    ¦
¦      ¦ file is used by **INftp** and **ftpmail**.                         ¦
+--------------------------------------------------------------------------+
```

D.0 Appendix D. Default Files
This appendix shows the contents of the following default files that you
either edit or copy and edit for use by programs that are part of the
INmail/INnet/INftp product:

1. **/usr/lib/INnet/connect.con**

2. **/usr/lib/INnet/scripts/ftpmlog.scr**

3. **/usr/lib/INnet/scripts/ftplog.scr**

For information on **connect.con**, refer to:

"connect.con" in topic 3.8.4

"Setting Up Information to Enable Calling Out" in topic 1.3.9.

For information on the use of the **ftpmlog.scr** file with
INmail/INnet/INftp, refer to "Setting Up a Script File for Remote Mail
Use" in topic 1.3.10 and "Setting Up a Stanza for Remote Mail Functions"
in topic 1.3.9.1.

For information on the use of the **ftplog.scr** file with INmail/INnet/INftp,
refer to "Setting Up a Stanza for INftp Functions" in topic 1.3.9.3.

Subtopics
D.1 /usr/lib/INnet/connect.con
D.2 /usr/lib/INnet/scripts/ftpmlog.scr
D.3 /usr/lib/INnet/scripts/ftplog.scr

D.1 /usr/lib/INnet/connect.con

```
* connect.con
* Customize stanza names, phone numbers, and other information
* for your configuration.
* Lines beginning with "*" are comments.

* remote mail stanza
REMOTE:
        type = INftp
        use = modem
        address = "T5551234"
        flags = "-pw -r4"
        script = ftpmlog.scr

* connect stanza
remote:
        type = terminal
        use = modem
        address = "T5551234"

* INftp stanza
remote:
        type = INftp
        use = modem
        address = "T5551234"
        flags = "-pw -r4"
        script = ftplog.scr

* stanza for information common to the above stanzas
modem:
        connect = hayes_1200
        device = /dev/tty00
        speed = 1200
```

D.2 /usr/lib/INnet/scripts/ftpmlog.scr

```
STATE 1 RECV      "ogin:"             GOTO
        RECV      "$"                 GOTO 5
        TIMER     20                  GOTO 2
STATE 2 SEND      "\r"
        RECV      "ogin:"             GOTO
        RECV      "word:"             GOTO 2
        TIMER     20                  ERROR "No login prompt."
STATE 3 SEND      "netmail\n"
        RECV      "word:"             GOTO 4
        TIMER     20                  ERROR "No password prompt."
STATE 4 SEND      "maILer\n"
        RECV      "$"                 GOTO 5
        RECV      "FTPSERVER"    DONE
        TIMER     30                  ERROR "No shell prompt."
STATE 5 SEND      "exec /usr/lib/INnet/ftpsrvr -pw -r4\n"
        RECV      "FTPSERVER"    DONE
        TIMER     30                  ERROR "No prompt from ftpsrvr."
```

D.2 /usr/lib/INnet/scripts/ftpmlog.scr

```
STATE 1 RECV      "ogin:"             GOTO
        RECV      "$"                 GOTO 5
        TIMER     20                  GOTO 2
```

D.3 /usr/lib/INnet/scripts/ftplog.scr

```
  STATE 1 RECV       "ogin:"            GOTO
          RECV       "$"               GOTO 5
          TIMER      20                GOTO 2
  STATE 2 SEND       "\r"
          RECV       "ogin:"            GOTO
          RECV       "word:"            GOTO 2
          TIMER      20                ERROR "No login prompt."
  STATE 3 SEND       "{user}\n"
          RECV       "word:"            GOTO 4
          TIMER      20                ERROR "No password prompt."
  STATE 4 SEND       "{-password}\n"
          RECV       "$"               GOTO 5
          RECV       "FTPSERVER"        DONE
          TIMER      30                ERROR "No shell prompt."
  STATE 5 SEND       "exec /usr/lib/INnet/ftpsrvr -pw -r4\n"
          RECV       "FTPSERVER"        DONE
          TIMER      30                ERROR "No prompt from ftpsrvr."
```

D.3 /usr/lib/INnet/scripts/ftplog.scr

```
  STATE 1 RECV       "ogin:"            GOTO
```

GLOSSARY Glossary

adapter. See **communications adapter**.

address. (1) A name, label, or number identifying a location in storage, a device in a network, or any other data source. (2) A number that identifies the location of data in memory.

addressing. (1) In data communications, the way that the sending or control station selects the station to which it is sending data. (2) A means of identifying storage locations.

alphanumeric. Consisting of letters, numbers and often other symbols, such as punctuation marks and mathematical symbols.

application. (1) A particular task, such as inventory control or accounts receivable. (2) A program or group of programs that apply to a particular business area, such as the Inventory Control or the Accounts Receivable application.

application program. A program used to perform an application or part of an application.

argument. An expression that is passed to a function, subroutine, or procedure for evaluation.

asynchronous transmission. In data communications, a method of transmission in which the bits included in a character or block of characters occur during a specific time interval. However, the start of each character or block of characters can occur at any time during this interval. Contrast with **synchronous transmission**.

attribute. A characteristic. For example, the attribute for a displayed field could be blinking.

background process. (1) An activity that does not require operator intervention that can be run by the computer while the work station is used to do other work. (2) A mode of program execution in which the shell does not wait for program completion before prompting the user for another command.

base name. The last element to the right of a full path name. A file name specified without its parent directories.

batch processing. The execution of computer programs serially, usually without operator intervention. Contrast with **interactive processing**.

binary. (1) Pertaining to a system of numbers to the base two; the binary

digits are 0 and 1. (2) Involving a choice of two conditions, such as
on-off or yes-no.

bps. Bits per second.

branch. In a computer program an instruction that selects one of two or
more alternative sets of instructions. A conditional branch occurs only
when a specified condition is met.

buffer. (1) A temporary storage unit, especially one that accepts
information at one rate and delivers it at another rate. (2) An area of
storage, temporarily reserved for performing input or output, into which
data is read, or from which data is written.

call. (1) To activate a program or procedure at its entry point. Compare
with **load**. (2) In data communications, the action necessary in making a
connection between two stations on a switched line.

cancel. To end a task before it is completed.

carrier. A continuous frequency that can be modulated with a second
(information-carrying) signal.

channel. A path along which data passes. Also a device connecting the
processor to I/O.

code. (1) Instructions for the computer. (2) To write instructions for
the computer; to **program**. (3) A representation of a condition, such as an
error code.

command. A request to perform an operation or execute a program. When
parameters, arguments, flags, or other operands are associated with a
command, the resulting character string is a single command.

command name. (1) The first or principal term in a command. A command
name does not include parameters, arguments, flags, or other operands.
(2) The full name of a command when an abbreviated form is recognized by
the computer (for example, **print working directory** for **pwd**).

command synonym. A user-assigned alias for a command name.

communications adapter. A hardware feature enabling a computer or device
to become a part of a data communications network.

communications link. See **data link**.

configuration. The group of machines, devices, and programs that make up a data processing system. See also **system customization**.

cursor. A movable symbol (such as an underline) on a display, usually used to indicate to the operator where the next character will be displayed.

cursor movement keys. The directional keys used to move the cursor without altering text.

customize. To describe (to the system) the devices, programs, and users for a particular data processing system.

daemon. See **daemon process**.

daemon process. A process begun by the root or the root shell that can be stopped only by the root. Daemon processes generally provide services that must be available at all times such as sending data to a printer.

data communications. The transmission of data between computers, or remote devices or both (usually over long distance).

data link. The equipment and rules (protocols) used for sending and receiving data.

data stream. All information (data and control information) transmitted over a data link.

data type. A category that identifies the mathematical qualities and internal representation of data.

default. A value, attribute, or option that is used when no alternative is specified by the operator.

default value. A value stored in the system that is used when no other value is specified.

delete. To remove. For example, to delete a file.

dependent work station. A work station having little or no stand-alone capability, that must be connected to a host or server in order to provide any meaningful capability to the user.

device driver. A program that operates a specific device, such as a printer, disk drive, or display.

diagnostic. Pertaining to the detection and isolation of an error.

diagnostic aid. A tool (procedure, program, reference manual) used to detect and isolate a device or program malfunction or error.

diagnostic program. A computer program that recognizes, locates, and explains either a fault in equipment or a mistake in a computer program.

dial-up connection. The use of a dial or pushbutton telephone to establish a connection.

directory. A type of file containing the names and controlling information for other files or other directories.

disable. A processing unit is disabled when it prevents the occurrence of certain types of interrupts.

display station. A device that includes a keyboard from which an operator can send information to the system and a display screen on which an operator can see the information sent to or received from the computer.

duplex. Pertains to communications data that can be sent and received at the same time. Same as **full duplex**. Contrast with **half duplex**.

editor. A utility used to enter and modify source code, text, and other types of documents.

enable. A processing unit is enabled when it allows certain types of interrupts.

erase. To remove text from a diskette, leaving the diskette available for recording new text.

evoke. To start a program or procedure so that it can communicate with your program.

exit value. A code sent to either standard output or standard error on completion of the command.

feature. A programming or hardware option, usually available at an extra cost.

field. An area in a record or panel used to contain a particular category of data. The smallest component of a record that can be referred to by a name.

file. A set of related records treated as a unit.

file name. The name used by a program to identify a file. See also **label**.

flag. A modifier that appears on a command line with the command name that modifies the action of the command. Flags in AIX Operating System almost always are preceded by a dash. Most commands permit the user to omit all flags.

foreground. A mode of program execution in which the shell waits for the program specified on the command line to complete before returning your prompt.

full duplex. Same as **duplex**.

full path name. The name of any directory, sub-directory, or file expressed in tree-structure notation. The full path name begins with the root directory.

group ID number. A unique number assigned to a group of related users. The group number can often be substituted in commands that take a group name as an argument.

half duplex. Pertains to communications in which data can be sent in only one direction at a time. Contrast with **duplex**.

hard copy. A printed copy of machine output in a visually readable form; for example, printed reports, listings, documents, and summaries.

hardware. The equipment, as opposed to the programming, of a system.

help. A command or key, which when typed or pressed, initiates the Help facility. From this facility, the user can read instructive information.

history file. A file containing a log of system actions and operator responses.

home directory. (1) A directory associated with an individual user. (2) The user's current directory on login or after issuing the **cd** command with no argument.

host. The primary or controlling computer in the communications network.

ID. Identification.

index. (1) A table containing the key value and location of each record in an indexed file. (2) A computer storage position or register, whose contents identify a particular element in a set of elements.

indexed file. A file in which the key and the position of each record are recorded in a separate portion of the file called an index.

initial program load (IPL). The process of loading the system programs and preparing the system to run jobs.

input. Data to be processed.

input device. Physical devices used to provide data to a computer.

input file. A file opened in the input mode.

input list. A list of variables to which values are assigned from input data.

input mode. An open mode in which records can be read from the file.

input/output (I/O). Pertaining to either input, output, or both.

inquiry. (1) A request for information in storage. (2) A request that puts a display station into inquiry mode. (3) In data communications, a request for information from another system.

insert. The action which causes user string input to be inserted into an existing string at a point specified by a data cursor.

instruction. A statement that specifies an operation to be performed by the computer, along with the values or locations of operands, if any exist. This statement represents the programmer's request to the processor to perform a specific operation.

interactive. Pertains to activity involving requests and replies as, for example, between an operator and a program or between two programs.

interactive processing. A processing method in which each operator action causes response from the program or the system. Contrast with **batch processing**.

interface (n). A shared boundary between two or more entities. An

interface might be a hardware component to link two devices together or it might be a portion of storage or registers accessed by two or more computer programs.

interrupt. (1) To temporarily stop a process. (2) In data communications, to take an action at a receiving station that causes the sending station to end a transmission. (3) A signal sent by an I/O device to the processor when an error has occurred or when assistance is needed to complete I/O. An interrupt usually suspends execution of the currently executing program.

IPL. See **initial program load**.

job. (1) A unit of work to be done by a system. (2) One or more related procedures or programs grouped into a procedure.

job queue.   A list, on disk, of jobs waiting to be processed by the system.

keyboard. An input device consisting of various keys allowing the user to input data, control cursor and pointer locations, and to control the user/work station dialogue.

licensed programs. Software programs that remain the property of the manufacturer, for which customers pay a license fee.

link. A link connection is the physical medium of transmission, for example, a telephone wire or a microwave beam. A link includes the physical medium of transmission, the protocol, and associated devices and programming; it is both logical and physical.

load. (1) To move data or programs into storage. (2) To place a diskette into a diskette drive, or a magazine into a diskette magazine drive. (3) To insert paper into a printer.

local. Pertaining to a device directly connected to your system without the use of a communications line. Contrast with **remote**.

log. To record; for example, to log all messages on the system printer.

login (v). To sign on at a work station.

logout (v). To sign off at a work station.

mail. Messages sent to a user or copies of messages sent by a user that are stored in a mailbox.

mailbox. A structured file that the system uses to store mail. This file must have a valid file name that ends with the extension of **.mbx**.

main program. The first program unit to receive control when a program is run.

megabyte. One million bytes.

menu. A displayed list of items from which an operator can make a selection.

modem. See **modulator-demodulator**.

modulator-demodulator (modem). A device that converts data from the computer to a signal that can be transmitted on a communications line, and converts the signal received to data for the computer.

multipoint. In data communications, pertains to a network that allows two or more stations to communicate with a single system on one line.

negative response. In data communications, a reply indicating that data was not received correctly or that a command was incorrect or unacceptable.

network. A collection of products connected by communication lines for information exchange between locations.

node. An individual element of a full path name. Nodes are separated by slashes (/).

non-interactive. A program or device that provides no interaction with the operator at execution time is non-interactive.

nonswitched line. A connection between computers or devices that does not have to be established by dialing. Contrast with **switched line**.

null. Having no value, containing nothing.

null character. The character hex 00, used to represent the absence of a printed or displayed character.

null character string. Two consecutive single quotation marks that specify a character constant of no characters.

operator. (1) A person who operates a device. (2) A symbol representing an operation to be done.

option. See **optional parameter**.

optional parameter. An unrequired value supplied to a program or file that either is used as input or that controls the action to be taken.

override. (1) A parameter or value that replaces a previous parameter or value. (2) To replace a parameter or value.

owner. A user or group of users having the highest level of access authority to a data object or action, as defined by the object or action.

parameter. A value supplied to a program or file that either is used as input or that controls the action to be taken.

parent directory. The directory one level above the current directory.

password. A string of characters that, when entered along with a user identification, allows an operator to sign on to the system.

password security. A program product option that helps prevent the unauthorized use of a display station, by checking the password entered by each operator at sign-on.

path name. A complete file name specifying all directories leading to that file.

pending. Waiting, as in an operation is pending.

pipe. To direct the data from one process to another process.

port. (1) A part of the system unit or remote controller to which cables for display stations and printers are attached. (2) To transfer programs from one computer to another.

preprocessing. Processing for a display that occurs before the display is shown.

process. (1) A sequence of discrete actions required to produce a desired result. (2) An entity receiving a portion of the processor's time for executing a program. (3) An activity within the system begun by entering a command, running a shell program, or being started by another process.

profile. Data describing the significant features of a user, program, or device.

program. A document containing a set of instructions, conforming to a particular programming language syntax. Programs perform processes and are represented by process objects when active (i.e., when they are executed).

program product. A licensed program for which a fee is charged.

protocol. In data communications, the rules for transferring data.

protocol procedure. A process that implements a function for a device manager. For example, a virtual terminal manager may use a protocol procedure to interpret the meaning of keystrokes.

query. The action of searching data for desired information.

queued message. A message presented to the user via a message folder as opposed to an immediate message display.

queuing directory. A directory through which INmail/INnet/INftp mail is routed.

redirect. To divert data from a process to a file or device that it would not normally go to.

relative address. An address specified in relation to the contents of a symbol. When a program is relocated, the addresses themselves will change, but the specification of relative addresses remains the same.

relative path name. The path name of a directory, subdirectory, or file expressed in tree-structure notation relative to the current directory or the parent directory of the current directory.

remote. Pertaining to a system or device that is connected to your system through a communications line. Contrast with **local**.

requester. A display station or interactive communications session that requests a program to be run.

required parameter. A parameter having no value automatically supplied. The user must provide a value.

reset. To return a device or circuit to a clear state.

restore. Return to an original value or image. For example, to restore a library from diskette.

return code. In data communications, a value generated by the system or subsystem that is returned to a program to indicate the results of an operation issued by that program.

routing path. A path containing the INmail system names of all computer systems through which mail is routed to reach a specific computer system.

run. To cause a program, utility, or other machine function to be performed.

scroll. To move the display image vertically or horizontally to bring into view information that is outside the display's boundaries.

security. The protection of data, system operations, and devices from accidental or intentional ruin, damage, or exposure.

server. A program that handles protocol, queuing, routing, and other tasks necessary for data transfer between devices in a computer system.

shell. See **shell program**.

shell program. The command interpreter providing the user with an interface to the kernel.

shell procedure. A series of commands combined in a file that carry out a particular function when the file is run or when the file is specified as an argument to the sh command. Shell procedures are frequently called shell scripts.

sign off (v.). To end a session at a display station.

sign on (v.). To begin a session at a display station.

sign-off (n. adj.). The action an operator uses at a display station to end working at the display station.

sign-on (n. adj.). The action an operator uses at a display station to begin working at the display station.

site. The computer and its associated devices and programs. In this book, used synonymously with **system**.

site name. The name by which INmail/INnet recognizes a computer system. In this book, used synonymously with **system name**.

statement. An instruction in a program or procedure.

station. A computer or device that can send or receive data.

status. (1) The current condition or state of a program or device. For example, the status of a printer. (2) The condition of the hardware or software, usually represented in a status code.

store. To place information onto a diskette where it is available for retrieval and updating.

string. A linear sequence of entities such as characters or physical elements. Examples of strings are alphabetic string, binary element string, bit string, character string, search string, and symbol string.

subprogram. A called program. Contrast with **main program**.

subroutine. (1) A sequenced set of statements that can be used in one or more computer programs and at one or more points in a computer program. (2) A routine that can be part of another routine.

synchronous transmission. In data communications, a method of transmission in which the sending and receiving of characters is controlled by timing signals. Contrast with **asynchronous transmission**.

system. The computer and its associated devices and programs. In this book, used synonymously with **site**.

system customization. A process of specifying the devices, programs, and users for a particular data processing system.

system name. The name by which INmail/INnet recognizes a computer system. In this book, used synonymously with **site name**.

system unit. The part of the system that contains the processing unit, the disk drive and the disk, and the diskette drive and diskettes.

task. A basic unit of work to be performed. Examples are a user task, a server task, and a processor task.

terminal. In data communications, a device, usually equipped with a keyboard and a display, capable of sending and receiving information over

communications lines. See **work station**.

text. A type of data consisting of a set of linguistic characters (such as alphabet, numbers, symbols, and so on) and formatting controls.

transmission control characters. In data communications, special characters that are included in a message to control communication over a data link. For example, the sending station and the receiving station use transmission control characters to exchange information; the receiving station uses transmission control characters to indicate errors in data it receives.

turnaround. Changing a communications line from transmit mode to receive mode or from receive mode to transmit mode.

turnaround time. The time interval required to reverse the direction of transmission over a communication line.

uucp (UNIX-to-UNIX copy). A program which is part of the operating system. It runs in the background process and can be used for sending, receiving, and copying files remotely. Particular commands can also be issued remotely.

update file. A disk file from which a program reads a record, updates fields in the record, and writes the record back into the location it came from.

user area. The parts of main storage and disk available to the user.

user ID. See **user identification**.

user identification (user ID). A unique string of characters identifying an operator to the system. This string of characters limits the functions and information the operator is allowed to use. The user ID can often be substituted in commands that take a user's login name as an argument.

user list. A list, containing the user identification and access levels, of all operators who are allowed to use a specified file or library.

user profile. A file containing a description of user characteristics and defaults (for example, printer assignment, formats, group ID) to be conveyed to the system while the user is signed on.

working directory. The current directory.

work station. A device at which an individual can transmit information to, or receive information from, a computer for the purpose of performing

a task, for example, a display station or printer.