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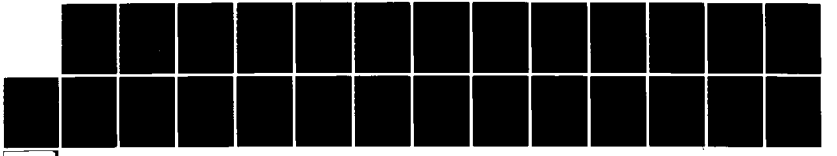

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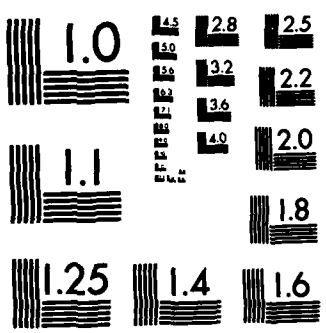

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ISI/RR-84-141
August 1984

University of Southern California

Annette L. DeSchon

MCI Mail/ARPA Mail Forwarding

AD-A145 777

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This document provides a description of the programs that are used to forward mail between the ARPA mail system and the MCI mail system (MCI Mail). It assumes that the reader is familiar with the ARPA mail system.

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Annette L. DeSchon

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MCI Mail / ARPA Mail Forwarding

Annette L. DeSchon

1. Introduction

This document provides a description of the programs that are used to forward mail between the ARPA mail system and the MCI mail system (MCI Mail). It is assumes that the reader is familiar with the ARPA mail system programs and procedures. Section 2 describes the use of the Intermail automatic mail forwarding system [1]. Instructions are also included on how to set up the source routing information needed to forward mail between the ARPA mail system and MCI Mail. Section 3 contains a detailed description of the message files that may be input to the MCIMAILER program. MCIMAILER is the program in the Intermail system that actually interfaces to the MCI mail system, using a dial-out modem. The path file and the account files which are used by the MCIMAILER program are also discussed. Section 4 is a brief summary of the guidelines that should be followed when composing a message which is to be forwarded to MCI Mail. Lastly, section 5 contains examples which illustrate the various types of messages that might be sent.

In the examples which appear in this document, some fields in a message (or in a file) consist of a generic description (i.e., "sender's-Internet-mailing-address"), while others are more literal (i.e., "Smith@USC-ISIF"). This is intended to document both the format of the message, and the format of each field in the message. It should be assumed that each line of text in an example ends with a "carriage return" and a "line feed".

For historical reasons, an ARPA mail system mailbox will be referred to as an "ARPANET mailbox". It should be noted these mailboxes may be located on any host which is a part of the Internet. The Internet mailing addesses mentioned in this document appear in the form of ARPANET mailing addresses (i.e. "Smith@USC-ISIF" is assumed to be the short form of "Smith@USC-ISIF.ARPA"). A full Internet mailing address in the form "USER@HOST.DOMAIN" may be used anywhere that the short form is used.

The background information on MCI Mail is from two MCI Mail Customer Service publications: the *MCI Mail Service Guide* [4] and the *Basic User's Guide* [3]. Additional information is available through the on-line MCI Mail "HELP" commands. *Gateways, Bridges, and Tunnels in Computer Mail* by Danny Cohen and Jon Postel [2] is recommended for more information on the theory behind the interconnection of computer mail systems.

2. Mail Forwarding

The Intermail system currently consists of five programs which run on USC-ISIF, a DEC-SYSTEM TOPS-20 system. The IM program examines the source routing section of each message that enters the system, and formats it for processing by the appropriate mail interface program. The four mail interface programs are MM, MAILER, TELEMAILER, and MCIMAILER. The MM program is used to move mail out of the Intermail mailbox into separate files. The MAILER program picks up the mail which is destined for an ARPANET mailbox. The TELEMAILER program exchanges messages with the TeleNet mail system (Telemail) using a permanent leased line. The MCIMAILER program exchanges messages with MCI Mail using a dial-out modem.

Figure 2-1 illustrates the interaction of the various programs that comprise the Intermail system. A batch job which logs into the <INTERMAIL> directory is used to run these programs in the following order:

- MM reads messages from Intermail's ARPANET mailbox into "IN1.IM" files.
- IM converts "IN1.IM" files to "(--UNSENT-TELEMAIL--).IM", "(--UNSENT-MCIMAIL--).IM", or "[--UNSENT-MAIL--].USER@HOST" files.
- TELEMAILER sends messages from "(--UNSENT-TELEMAIL--).IM" files to Telemail and reads messages from the Telemail "Intermail" account into "IN1.IM" files.
- MCIMAILER sends messages from "(--UNSENT-MCIMAIL--).IM" files to MCI Mail and reads messages from the MCI Mail "Intermail" account into "IN1.IM" files.
- IM converts "IN1.IM" files to "(--UNSENT-TELEMAIL--).IM", "(--UNSENT-MCIMAIL--).IM", or "[--UNSENT-MAIL--].USER@HOST" files.
- MAILER picks up "[--UNSENT-MAIL--].USER@HOST" files to be delivered to ARPANET mailboxes.

The login information for MCI Mail and Telemail comes from the ".PTH" files. The "MAIL.TXT" files are normal TOPS-20 mailboxes which may have messages appended to them, or messages read from them. The other files shown contain messages (one per file) at various stages in the forwarding process.

2.1. Forwarding Mail from ARPA Mail to MCI Mail

Automatic mail forwarding may be used by anyone with an ARPANET mailbox. The message to be forwarded is created using one of the standard mail programs (e.g., MSG, MM, HERMES). The user then sends the message as ARPA mail, to "Intermail@USC-ISIF". It is then read from the Intermail

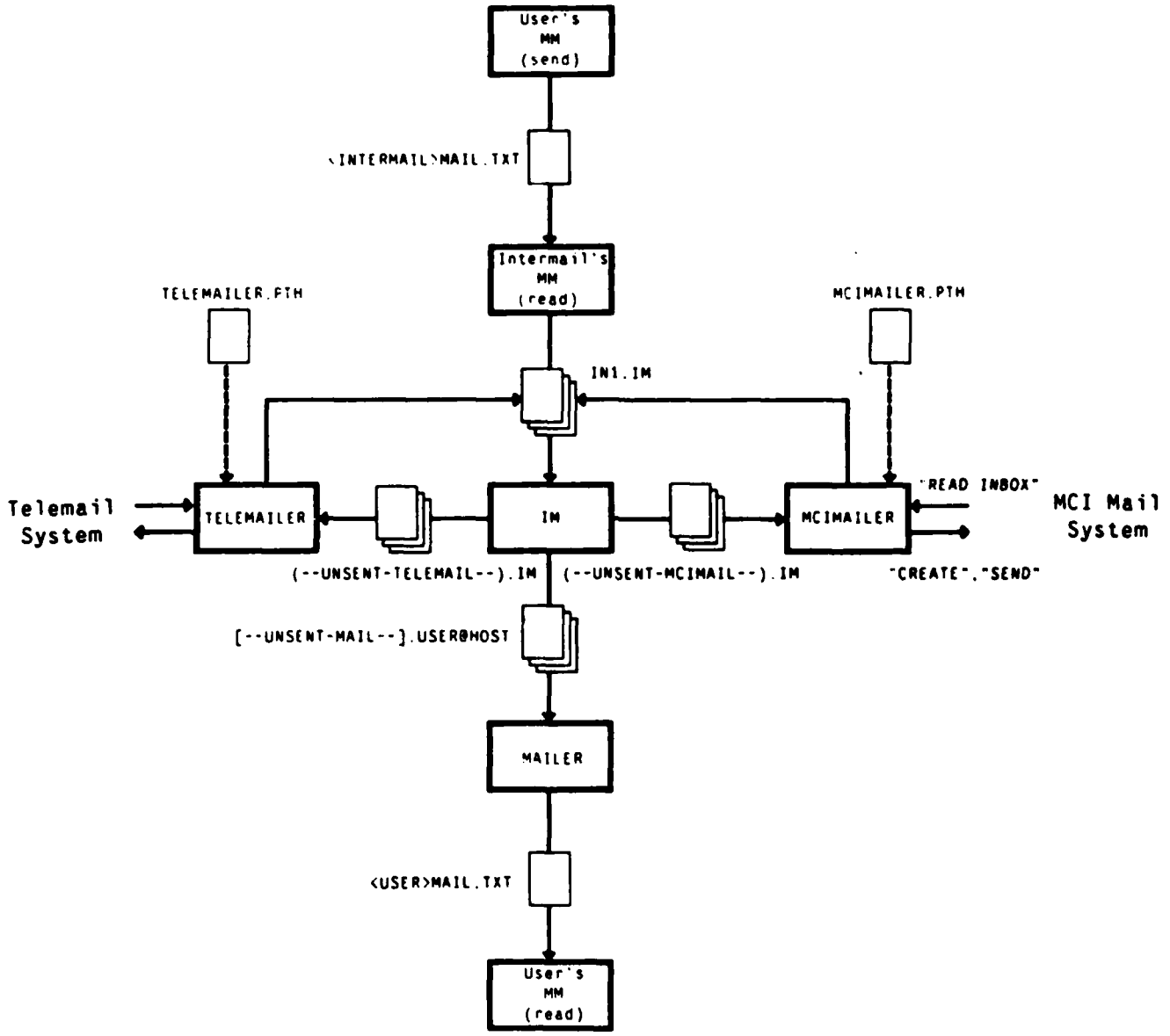

Figure 2-1: Intermail Programs

mailbox and processed by the IM mail forwarding program. The MCIMAILER program then dials out to the MCI mail system and sends any messages which are waiting in the <INTERMAIL> directory to be forwarded to MCI Mail. Next, it reads any MCI mail which is waiting in the Intermail MCI Mail "INBOX" into TOPS-20 files in the <INTERMAIL> directory. The IM mail forwarding program then reformats these files as ARPA mail and sends each message to the appropriate Internet mailing address. Using this method, any authorized user can send MCI Mail from a host which supports ARPA mail, using his usual mail program, and receive MCI mail in his ARPANET mailbox.

When mail forwarding is being used, the necessary addressing information is included by the user creating the message, at the beginning of the ARPA mail text field. This "source routing section" is separated from the rest of the text by a blank line. The form of the message as seen by the IM program is as follows:

```
ARPA Mail Header Section
<blankline>
ARPA Mail Text Section:
  Source Routing  Section
  <blank line>
  Message Text
```

The source routing section will contain several FSR (Forward Source Route) lines, which specify the path that the message will take as it is being forwarded. The first FSR is the Internet mailing address of the mail forwarding program. The second FSR is used by the IM program to create the address section of the message for the next hop that the message will take. For the purposes of forwarding ARPA mail to MCI Mail, this second FSR will be used to create the header fields of the MCIMAILER message file. In addition, the source routing section must contain at least one RSR (Return Source Route) line which may ultimately be used by the end recipient to make up the source routing section of a reply. Each FSR or RSR consists of a network or mail system name and the name of a user as he is known in the destination network. The network of the first FSR must match the network of the first RSR. This is an example of the source routing section in the simplest case:

```
FSR: [ARPANET]Intermail@USC-ISIF
FSR: [MCIMAIL]recipient's-MCI-address
RSR: [ARPANET]sender's-Internet-mailing-address
```

In forwarding mail to MCI Mail, an account number may be required. Account numbers are assigned by the person responsible for the MCI Mail account that is being used; for a USC-ISIF Intermail account number, see Jon Postel. The account number should appear on a separate line, following the appropriate FSR. When an account number is to be used, the source routing section consists of:

```
FSR: [ARPANET]Intermail@USC-ISIF
FSR: [MCIMAIL]recipient's-MCI-address
Account: account-number
RSR: [ARPANET]sender's-Internet-mailing-address
```

A multi-line format FSR or RSR may be used when the MCIMAILER header field information does not fit onto a single line. This format must be used when a postal address is needed, or when the list of recipients is too long for one line. The multi-line format also allows the creator of the message to specify optional MCIMAILER fields such as the "Cc" field, the "Subject" field, and the "Handling" options. In a multi-line format FSR or RSR, the first line contains only the label and the network or mail system name. The lines following, up to the next FSR or RSR, will be copied into the MCIMAILER message file (e.g., "(--unsent-MCIMAIL--).IM"). Therefore, the guidelines in section 3.4 define the format of the address section of a multi-line FSR or RSR, as well as the format of an MCIMAILER message file. A source routing section containing a multi-line format FSR with an account number might look like:

```
FSR: [ARPANET]Intermail@USC-ISIF
FSR: [MCIMAIL]
To: recipient's-MCI-ID
Cc: someone-else's-MCI-ID
Account: account-number
RSR: [ARPANET]sender's-Internet-mailing-address
```

As a message is forwarded, the source routing section is modified by the IM program to reflect each hop that the message has taken. Therefore, the source routing section of the message as it is received by an MCI Mail user is not the same as it was when it was originally sent. In addition, the header section (or "envelope") that the MCI Mail recipient sees is the header section that was created when the message was sent to the MCI Mail system by the MCIMAILER program. For example, the following ARPA mail:

```
Date: 18-May-84 11:52:21-PST
To: Intermail@USC-ISIF
From: DeSchon@USC-ISIF
Subject: Sample Message

FSR: [ARPANET]Intermail@USC-ISIF
FSR: [MCIMAIL]123-4567
Account: 1234
RSR: [ARPANET]DeSchon@USC-ISIF

This the text of the message.
```

might be delivered to the MCI Mail recipient as:

```
Date:      Fri May 18, 1984 11:58 am  PST
From:      Intermail / MCI ID: 107-8239

TO:      * John Smith / MCI ID: 123-4567
Subject:   Sample Message

FSR: [MCIMAIL]123-4567
RSR: [MCIMAIL]Intermail
RSR: [ARPANET]DeSchon@USC-ISIF

This the text of the message.
```

2.2. Forwarding Mail from MCI Mail to ARPA Mail

Users of MCI Mail may also send mail to users having an ARPANET mailbox. To accomplish this, the MCI Mail user uses the MCI Mail "CREATE" and "SEND" commands to send mail to the MCI Mail "Intermail" (MCI–ID 107–8239) account. Later the MCIMAILER program, which is being run on a TOPS–20 system, dials MCI Mail and reads the messages from the Intermail "INBOX" into TOPS–20 files. The IM mail forwarding program then picks up these files, converts them to the proper format, and sends them as ARPA mail to the user(s) named in the source routing section of the message. As in messages being forwarded from the ARPA mail system to MCI Mail, the text of the message should include a source routing section, separated from the rest of the text by a blank line. The "Subject" field in the ARPA mail will be copied from the "Subject" field of the MCI Mail message. Any other MCI Mail header fields will be ignored. The following example illustrates the format of such a message:

```
To:      Intermail
Subject: Sample Message
Text:

FSR: [MCIMAIL]Intermail
FSR: [ARPANET]recipient's-Internet-mailing-address
RSR: [MCIMAIL]sender's-MCI-ID

This is the text of the message.
```

Or more specifically:

```
To:      Intermail
Subject: Sample Message
Text:

FSR: [MCIMAIL]Intermail
FSR: [ARPANET]Cohen@USC-ISIB
RSR: [MCIMAIL]105-0002

This is the text of the message.
```

The following procedure may be used to construct the source routing section of a reply to a message that has been forwarded through Intermail. Starting with the message as it is received, exchange the FSRs for RSRs, and the RSRs for FSRs. Then place the FSRs in front of the RSRs, at the beginning of the source routing section. For example, if a message from Intermail contains the following source routing section:

```
FSR: [MCIMAIL]123-4567
RSR: [MCIMAIL]Intermail
RSR: [ARPANET]DeSchon@USC-ISIF
```

the reply would contain the following:

```
FSR: [MCIMAIL]Intermail
FSR: [ARPANET]DeSchon@USC-ISIF
RSR: [MCIMAIL]123-4567
```

3. The MCIMAILER Program

The MCIMAILER program may be used directly by any TOPS-20 user who has his own MCI account. It runs on TOPS-20 and may be started at the EXEC level or from a batch job. Using account information read from a file ("MCIMAILER.PTH") in the connected directory, MCIMAILER automatically logs onto MCI Mail, reads mail, sends mail, and logs off. Messages read from MCI Mail are stored as ASCII files, which can be automatically delivered to the user's ARPANET mailbox by a TOPS-20 mail program, MAILER. Messages to be sent to an MCI Mail user can be created using either a mail program or a text editor. When the MCIMAILER program has completed the processing on a message destined for MCI Mail, files containing messages that have been sent will be renamed "MCI.SENT". Files containing messages that were not sent due to syntax errors in the message, or possibly line noise, will be renamed "MCI.NOT-SENT". Figure 3-1 illustrates the use of the MCIMAILER program by an ARPA mail user who has his own MCI Mail account.

3.1. Batch Control File

In order to receive mail in a timely manner, the user may want to submit a batch job which runs the MCIMAILER program and reschedules itself to run again at a later time. For example, the following commands might be placed in a file named "MCI.CTL":

```
@submit mci/batch-log:supersede/after:+04:00:00/output:nolog
@
@<INTERMAIL>MCIMAILER
@
```

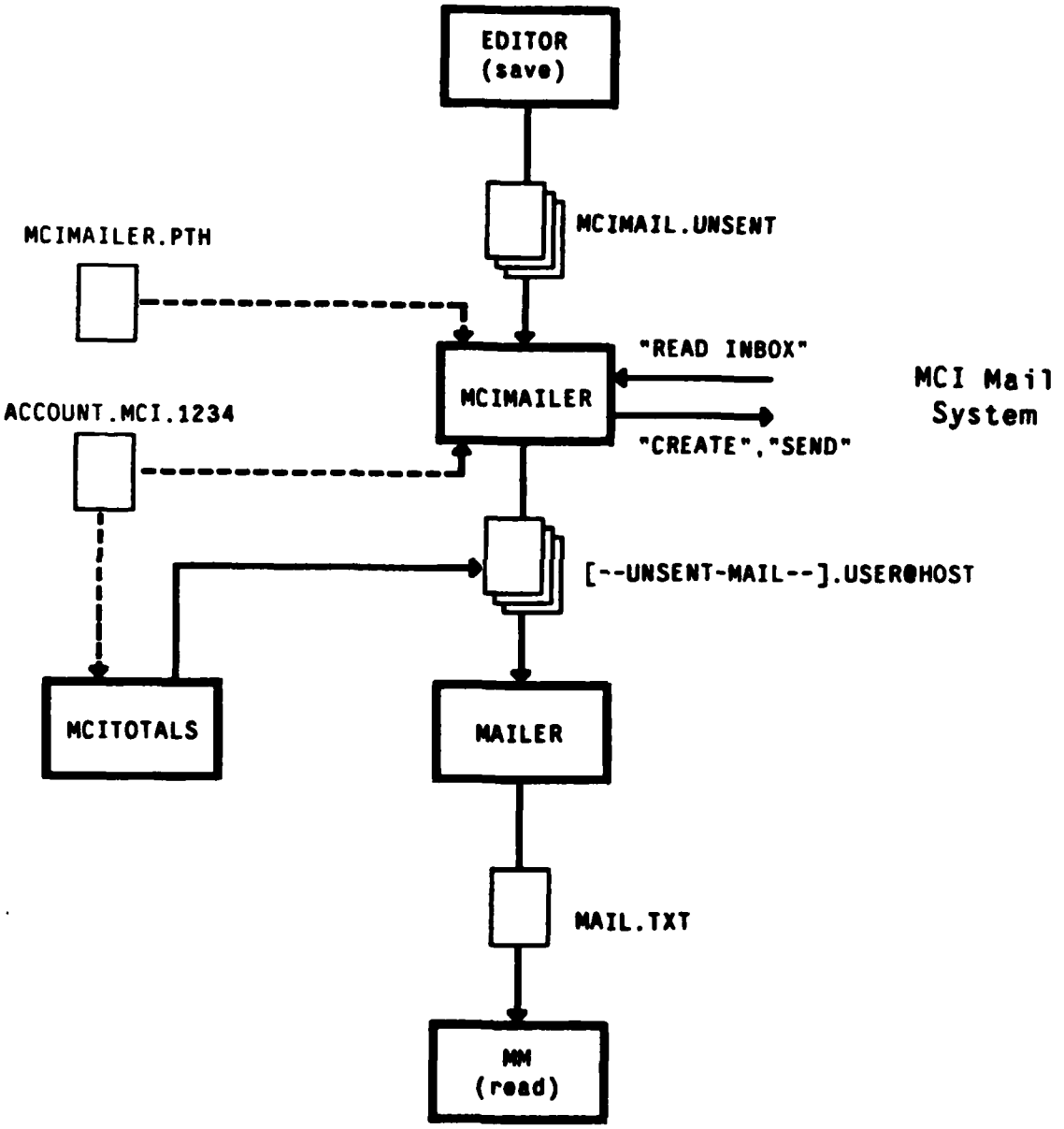

Figure 3-1: MCIMailer Program

This batch job may be submitted using the TOPS-20 command "SUBMIT MCI.CTL". Each time that the job runs it will resubmit itself to run again in four hours (creating a new log file each time), and then run the MCIMAILER program. When this method of running MCIMAILER is used, the "generation retention count" for the files "MCI.SENT" and "MCI.LOG" should be set using the TOPS-20 "SET FILE GENERATION-RETENTION-COUNT" command, to avoid a buildup of log files.

3.2. Path File

MCI account information is read from a file called "MCIMAILER.PTH" in the connected directory. Since this file contains a password, it should be given the "770000" file protection. The format is as follows:

```
number of the TTY line for the dial-out modem
phone number of MCI Mail
MCI Mail login name
MCI Mail password
mail-read-in file name (MCI Mail -> TOPS-20 direction)
mail-to-be-sent file name (TOPS-20 -> MCI Mail direction)
ACCOUNT REQUIRED (optional)
```

In addition to the information required to log on to an MCI Mail account, the input and output file names are specified. To have the mail that is read from MCI Mail automatically picked up by a mail program and delivered to an ARPANET mailbox, the "mail-read-in file name" should be:

```
<CTRL-V>[--UNSENT-MAIL--<CTRL-V>].username<CTRL-V>@hostname
```

NOTE: On TOPS-20, "control V" is used to quote the special characters in a file name. The files which contain messages to be sent via MCI Mail may be created using a text editor or a mail program. The "mail-to-be-sent file name" can be anything that is convenient to the user; Intermail itself uses "(--UNSENT-MCIMAIL--).IM".

The "ACCOUNT REQUIRED" line is optional. When it is included in an MCIMAILER path file, it specifies that the MCIMAILER program using the path file is to check each message that is being sent for a valid account number. If the "ACCOUNT REQUIRED" line does not appear, messages containing no account field will be accepted. If, however, an account field is included in a message, it must be a valid one.

An example of a possible MCIMAILER.PTH file is as follows:

```
64
6201449
JSmith
password
↑V[--UNSENT-MAIL--↑V].Smith↑V@ISIF
UNSENT-MCIMAIL.TXT
ACCOUNT REQUIRED
```

3.3. Account File

When the MCIMAILER program processes the account field of a message, it looks for a file named "ACCOUNT.MCI" with a version number corresponding to the account number in the message. This file must exist either in the connected directory, or in the login directory for the job running MCIMAILER. For example, when the message contains the MCIMAILER field "Account: 1234", the file "ACCOUNT.MCI.1234" must exist in order for the message to be sent. Each account file contains the following:

```
comment line
results file name
4HOUR count
ONITE count
PAPER count
REGULAR count
```

The account file is made up of ASCII characters and may be created using a text editor. Initially, it might look like:

```
Smith MCI Mail Account
↑V[--unsent-mail--↑V].Smith↑V@ISIF
0
0
0
0
```

In this example, as messages which use account "1234" are sent, the MCIMAILER program updates the counts in "ACCOUNT.MCI.1234" (See figure 3-1). When the MCITOTALS program is run, the totals will be listed in the results file, which in this example will be delivered to the ARPANET mailbox, "Smith@USC-ISIF". Each time that the MCITOTALS program is run, and a results file is produced, the counts in the account file will be reinitialized to zero, and the creation date of the file will be updated to reflect the current date. The MCIMONTHLY program performs the same functions as the MCITOTALS program except that it operates only on account files with a creation date in a different month from the current month.

3.4. MCIMAILER Fields

The fields that are recognized by the MCIMAILER program are:

- To,
- Cc,
- MCIMail-To,
- MCIMail-Cc,
- Subject,
- Account, and
- Handling.

All other fields will be ignored.

The "Account" field is used by the MCIMAILER program to keep track of the number of messages sent. This will enable the person responsible for an MCI Mail account to verify that the billing is correct. The account field may appear in any position relative to the other fields.

The "To", the "MCIMail-To", the "Cc", and the "MCIMail-Cc" fields will be referred to as "name" fields. A name field can take several forms. For purposes of this discussion, an MCI-ID is defined as a unique MCI login name, the name of a mailing list that has been previously created, or a unique seven digit MCI Mail identification code. A "name" is defined as an MCI-ID followed by an option list. Using these definitions, a name field can take the following forms:

- A prompt followed by a name.

```
To: Postel (PAPER)
```

- A prompt followed by a list of names.

```
To: Postel, 123-4567 (ONITE)
```

- A prompt followed by a name (including an option list containing the "ADDRESS" option), followed by up to four lines of indented postal address.

```
To: Jon Postel (ADDRESS, ONITE)
    USC Information Sciences Institute
    4676 Admiralty Way
    Marina del Rey, CA  90292-6695
```

- A prompt followed by text (which is ignored), followed by "(Attn:" name ")". In this example, "Smith@USC-ISIF" is treated as a comment, and the message is sent to "Postel".

```
To: Smith@USC-ISIF (Attn: Postel (ONITE,PAPER))
```

The "MCIMail-" prefix (on the "MCIMail-To" prompt or the "MCIMail-Cc" prompt) causes the program to ignore any names appearing previously in the "To" field or the "Cc" field, respectively. Thus, a message consisting of:

```
To: Smith@USC-ISIF
Cc: Jones@USC-ISIF
Sender: Ross@USC-ISIF
MCIMail-To: Postel (PAPER)
MCIMail-Cc: 123-4567
Subject: Sample Message

This is the text of a sample message.
```

would be be input to MCI Mail by the MCIMailer program as:

```
To: Postel (PAPER)
Cc: 123-4567
Subject: Sample Message

This is the text of a sample message.
```

If multiple "To" (or "Cc") fields appear, they will all be used. Multiple "Subject" fields are unlikely, but if they should appear, only the last will be used. Some messages that constitute legal and reasonable input to the MCIMAILER program may not be acceptable as input to some of the standard ARPA mail programs. If this is the case, a text editor may be used to create or add to a message. Multiple fields and postal addresses probably fall into this class. For example, a message consisting of

```
To: Postel (PAPER)
Cc: 123-4567, Smith, Jones
Cc: Annette DeSchon (ADDRESS)
    USC Information Sciences Institute
    4676 Admiralty Way
    Marina del Rey, CA  90292-6695
Subject: Sample Message

This is the text of a sample message.
```

would be be input to MCI Mail as:

```
To: Postel (PAPER)
Cc: 123-4567
Cc: Smith
Cc: Jones
Cc: Annette DeSchon (ADDRESS)
    USC Information Sciences Institute
    4676 Admiralty Way
    Marina del Rey, CA  90292-6695
Subject: Sample Message

This is the text of a sample message.
```

The "Handling" field is used to specify that a particular letterhead or a particular signature be used on a printed letter. To use these features, the MCI Mail account which is being used must subscribe to the "advanced user" service. In addition, the letterhead and the signature must registered with MCI Mail in advance. All the regular handling options described in the next section can be specified in the option list which follows the name of each addressee in the MCIMAILER name field.

3.5. MCI Mail Handling options

The MCI Mail handling options as described in the MCI Mail documentation [4] are as follows:

- Electronic delivery, the "instant letter", is the default. ($1)
- The "PAPER" option is used to specify that a paper copy of the message, or "MCI letter", be mailed to an MCI Mail subscriber at the postal address on record in his account. ($2)
- The "ADDRESS" option is the same as the "PAPER" option except that the postal address is entered explicitly. This means that the recipient does not have to be an MCI Mail suscriber. ($2)
- The "ONITE" option specifies that the message be delivered overnight by a courier if a paper copy has been specified. A message posted by 8 pm Eastern time Monday through Friday will be printed and hand delivered by noon the next business day. If it is posted from 8 pm Friday night through Sunday midnight, it will be delivered on Monday morning. Electronic copies will be marked "**PRIORITY". ($6)
- The "4HOUR" option specifies that a message posted between the hours of 6 AM and 6 PM, in the addressee's time zone, Monday through Friday, be printed and hand delivered within 4 hours. Letters posted after 6 PM will be delivered by 10 AM the next business day. Electronic copies will be marked "**PRIORITY". ($25)
- The "RECEIPT" option causes a delivery acknowlegement to be sent back to the sender. The time that the acknowlegement occurs depends on the send option. For electronic delivery the acknowlegement occurs when the recipient reads the message. For regular paper delivery it occurs when the letter is placed in the mail. For overnight delivery it occurs when the letter has been given to a courier. For 4 hour delivery it occurs when the courier has delivered the letter. (No Charge)

Laser-printed page dimensions are 80 characters wide and 54 lines long. There may be fewer lines on the first page to accomodate the letterhead. For 4-hour service and overnight service, it is advisable to confirm that MCI Mail delivers to the addressee's zip code area. This information may be found in the *MCI Mail Service Guide* [4] or online on the MCI mail system through use of the "HELP" command, specifying the state in which the letter is to be delivered.

For delivery by a courier, the 4HOUR or ONITE letter must have:

- A street address, not a post office box.
- The correct zip code at the end of the last address line.
- Someone at the destination to receive the letter.

Mistakes are the sender's responsibility! The sender will be charged for the message even when the address or the zip code is entered incorrectly, making the message impossible to deliver. MCI Mail suggests including the phone number of a person who can be contacted in the event of a delivery problem. This phone number should appear between the name of the recipient and the rest of the address.

4. Summary of MCI Mail Guidelines

The following guidelines apply to mail being sent to Intermail for forwarding to MCI Mail:

1. The text must begin with a source routing section, followed by a blank line. The network of the first FSR and the first RSR must match.
2. A multi-line format FSR should be used in the following cases:
   - The recipients' addresses will not fit on one line.
   - A postal address is used.
   - A "Cc" field or a "Handling" field is used.
3. The subject of the message (if any) may be in the "Subject" field of the ARPA mail header section of the message, or in a "Subject" field as part of a multi-line format FSR.
4. An account number may be required.
5. The "RECEIPT" option will not work when the message is forwarded through "Intermail". This is because the acknowlegement that is generated by MCI Mail will not contain the source routing section needed by the IM program to send the acknowlegement back to the sender's ARPANET mailbox.

The following guidelines apply to both messages that are being forwarded and messages that are used as direct input to the MCIMAILER program:

6. MCIMAILER field names (or the field names in a multi-line format FSR/RSR), must start at the beginning of a line. Postal addresses must be indented. If a postal address is to be used, the list of MCI Mail handling options following the recipient's name must include the "ADDRESS" option. Unless a postal address is being used, a field may not consist of more than one line.

7. No parentheses may appear in the first line of a name field unless they are part of the handling options list.

8. The maximum length for a line which will be used in the MCI Mail header (not including the prompt or the leading blanks) is 40 characters. The maximum number of lines allowed for a name and postal address is five. Any additional lines will be ignored.

9. At least one name in the "To" field is required. All other fields are optional.

10. The last line of text must be followed by a carriage return.

11. Text may not contain a "/" on a line by itself.

12. When a message is being read from MCI Mail to TOPS-20 by the MCIMAILER program, any line of text that matches an anticipated prompt will be treated as a real prompt.

5. Examples

5.1. Forwarding Mail from ARPA Mail to MCI Mail

This section contains examples of messages which could be forwarded from the ARPA mail system to MCI Mail. They can be created using either a mail program or a text editor. Note that because they are being forwarded, they are all addressed to "Intermail@USC-ISIF". The address of the MCI Mail user who is to receive the message is included in a source routing section at the beginning of the text. It is important to include the name of the person whom the message is from in the "RSR" (and perhaps elsewhere in the text) since the message will be from the MCI user "Intermail" when it is delivered on the MCI Mail system.

In this simple example, DeSchon (an ARPA mail user) is sending a message to MCI Mail user John Smith (MCI-ID 123-4567) through the Intermail system.

```
To: Intermail@USC-ISIF
Subject: Sample Message

FSR: [ARPANET]Intermail@USC-ISIF
FSR: [MCIMAIL]123-4567
RSR: [ARPANET]DeSchon@USC-ISIF

This is the text of the sample message.

-- Annette
```

Assuming that John Smith's MCI Mail user name (JSmith) is known to be unique, the following message is equivalent:

```
To: Intermail@USC-ISIF
Subject: Sample Message

FSR: [ARPANET]Intermail@USC-ISIF
FSR: [MCIMAIL]JSmith
RSR: [ARPANET]DeSchon@USC-ISIF

This is the text of the sample message.

-- Annette
```

Using a postal address:

```
To: Intermail@USC-ISIF
Subject: Sample Message

FSR: [ARPANET]Intermail@USC-ISIF
FSR: [MCIMAIL]
To: John Smith (ADDRESS)
    1234 Maple Street
    Los Angeles, CA  90049
RSR: [ARPANET]DeSchon@USC-ISIF

This is the text of the sample message.

-- Annette
```

Along with an additional (electronic mail) addressee, a paper copy, and an "Account" field:

```
To: Intermail@USC-ISIF
Subject: Sample Message

FSR: [ARPANET]Intermail@USC-ISIF
FSR: [MCIMAIL]
To: Postel
To: John Smith (ADDRESS)
    1234 Maple Street
    Los Angeles, CA  90049
Cc: ADeSchon (PAPER)
Account: 1234
RSR: [ARPANET]DeSchon@USC-ISIF

This is the text of the sample message.

-- Annette
```

In following example of an urgent message, the phone number of the person who should be contacted if there are delivery problems is included between the name of the addressee and the first line of the address. Note that only John Smith's copy of the message need cost $25. The assumption is that the regular "instant letter" will reach Postel quickly enough, and that a regular "MCI letter" sent through the U.S. mail will be adequate for ADeSchon's copy.

```
To: Intermail@USC-ISIF
Subject: Sample Message

FSR: [ARPANET]Intermail@USC-ISIF
FSR: [MCIMAIL]
To: Postel
To: John Smith (ADDRESS,4HOUR)
    (213)822-1511 x159
    1234 Maple Street
    Los Angeles, CA  90049
Cc: ADeSchon (PAPER)
Account: 1234
RSR: [ARPANET]DeSchon@USC-ISIF

This is the text of the sample message.

-- Annette
```

5.2. Forwarding Mail from MCI Mail to ARPA Mail

This section contains examples of messages which could be forwarded from MCI Mail to the ARPA mail system. Note that because they are being forwarded, they are all addressed to the MCI user "Intermail". The Internet mailing address of the recipient of the message is included in a source routing section at the beginning of the text. It is important to include the name of the person whom

the message is from in the "RSR" (and perhaps elsewhere in the text) since the message will be from "Intermail@USC-ISIF" when it is delivered to the recipient's ARPANET mailbox.

In this example, MCI Mail user JSmith (MCI-ID 123-4567) is sending a message to DeSchon (an ARPA mail user) through the Intermail system.

```
To: Intermail
Subject: Sample Message

FSR: [MCIMAIL]Intermail
FSR: [ARPANET]DeSchon@USC-ISIF
RSR: [MCIMAIL]123-4567

This is the text of the sample message.

-- John
```

5.3. Input to the MCIMAILER Program

This section contains examples of messages which could be used as direct input to the MCIMAILER program. Note that when the message is delivered on the MCI Mail system, it will be "From" the MCI Mail login name specified in the MCIMAILER.PTH file that the MCIMAILER program is using.

This is an example of a message addressed to John Smith, which could be created using a text editor.

```
To: 123-4567
Subject: Sample Message

This is the text of the sample message.
```

When a mail program is used to create a such a message, it may be necessary to use an "Attn" or an "MCIMail-To" field to avoid having the adressee's MCI Mail user name disallowed by the mail program. Since the mail program will not accept "123-4567" as a valid Internet mailing address, DeSchon used herself for the part of the address that is checked by the mail program, and included MCI-ID 123-4567 in an "Attn" field, which is not checked by the mail program.

```
To: DeSchon@USC-ISIF (Attn: 123-4567)
Subject: Sample Message

This is the text of the sample message.
```

Another way to accomplish the same thing is:

```
To: DeSchon@USC-ISIF
MCIMail-To: 123-4567
Subject: Sample Message

This is the text of the sample message.
```

In this example, a postal address is used. (There is probably no way to create this message using a mail program.)

```
To: John Smith (ADDRESS)
    1234 Maple Street
    Los Angeles, CA  90049
Subject: Sample Message

This is the text of the sample message.
```

Along with an additional (electronic mail) addressee, a paper copy, and an "Account" field:

```
Account: 1234
To: Postel
To: John Smith (ADDRESS)
    1234 Maple Street
    Los Angeles, CA  90049
Cc: ADeSchon (PAPER)
Subject: Sample Message

This is the text of the sample message.

-- Annette
```

The following is an example of the use of the 4HOUR handling option:

```
Account: 1234
To: Postel
To: John Smith (ADDRESS,4HOUR)
    (213)822-1511 x159
    1234 Maple Street
    Los Angeles, CA  90049
Cc: ADeSchon (PAPER)
Subject: Sample Message

This is the text of the sample message.

-- Annette
```

5.4. Sending MCI Mail to an ARPA Mail User with an MCI Mailbox

There are no special guidelines for a message which is sent by one MCI Mail user to another MCI Mail user and read using the MCIMAILER program. Since all of the messages in the recipient's MCI Mail "INBOX" are for the recipient himself, no additional addressing information is required. For example,

```
To: ADeSchon
Subject: Sample Message

This is the text of the sample message.

-- John
```

.....

References

[1] D. Cohen.
A Suggestion for Internet Message Forwarding for MOSIS.
IEN 180, USC Information Sciences Institute, March, 1981.

[2] D. Cohen and J. Postel.
Gateways, Bridges, and Tunnels in Computer Mail.
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[3] Basic User's Guide
MCI Mail, 2000 M Street, N.W., Washington D.C. 20036, .

[4] MCI Mail Service Guide
MCI Mail Customer Service, Box 1001, 1900 M Street, N.W., Washington D.C. 20036, .

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