Two surveys of Arpanet Server hosts were run between September 20, 1978 and December 11, 1978. The intent was to determine the response of the host’s Server FTP program to:

(a) An attempt to mail to an unknown recipient at that host. The purpose of this survey was two-fold. First, to determine whether the host accepts mail for unknown recipients at all, and second, what response the host gives if it does not accept such mail.

(b) An attempt to mail to a known recipient using the MLFL command rather than the usual MAIL command. This survey was undertaken to determine the extent of support for the MLFL command among Server hosts, and the sort of reply received if the Server does not support MLFL. MLFL is potentially a ‘better’ form of communication than mail as the message is sent over a data connection rather than the command connection. Using the data connection eliminates the ‘end-of-mail’ marker and ‘command reader’ problems sometimes encountered over the command connection.

The ground rules of the survey were that all sites listed as Servers in the MIT/SAIL Host table were surveyed. In many cases, a host listed as a Server would not respond to an ICP at any time during the period of the survey. Once a host responded with what seemed to me to be a ‘definitive’ answer, I marked it as such and stopped surveying it.

MLFL Survey

The algorithm used was to ICP to socket 3 of the server (the standard old-FTP socket). Once a 300 response was received, I sent the MLFL command. Where I had the name of a real mailbox at a site (a Header-person, for example) I used that, otherwise the name "**". If a site asked for a password (response 504) after the MLFL command I gave "USER NETML" "PASS NETML" and retried the MLFL. If the server replied with a 255 SOCK command, I listened for the data-connection to be established. When it was, I transferred the mail file. Interestingly enough, most sites implement an RFC queueing algorithm that will allow the user site to attempt to establish the data-connection from its end.
Complete FTP scripts may be found, if you are interested, on MIT-DM, file NETDOC; MLFL SURVEY.

Sites are grouped by the general result they gave.

<table>
<thead>
<tr>
<th>Site</th>
<th>Last FTP Reply if Lost</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>BNL</td>
<td>530 NOT LOGGED IN.</td>
<td>after MLFL</td>
</tr>
<tr>
<td>HARV-10</td>
<td>431 INVALID ENTRY - Try again</td>
<td>after USER</td>
</tr>
<tr>
<td>LLL-MFE</td>
<td>454 Login please</td>
<td>after SOCK</td>
</tr>
<tr>
<td>LONDON</td>
<td>000 INDRA FTP Version 2.00 ...</td>
<td>after ICP</td>
</tr>
<tr>
<td>NBS-10</td>
<td>454 Login please</td>
<td>after SOCK</td>
</tr>
<tr>
<td>WHARTON</td>
<td>454 DATA Connection error ...</td>
<td>after SOCK</td>
</tr>
<tr>
<td>WPAFB-AFAL</td>
<td>454 Login please</td>
<td>after SOCK</td>
</tr>
</tbody>
</table>

Note: "When" describes the last action performed by the surveyer before the indicated anomalous response.

- after ICP -- surveyer had done ICP to socket 3
- after MLFL -- surveyer had sent MLFL command
- after USER -- surveyer had sent USER NETML in response to "504 Login please"
- after SOCK -- surveyer had attempted to connect to specified data socket

2) Sites that don’t support MLFL and say so:

<table>
<thead>
<tr>
<th>Site</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFWL</td>
<td>501 ML&lt;#echo&gt;FL **</td>
</tr>
<tr>
<td>CCA-SPEECH</td>
<td>501 ML&lt;#echo&gt;FL **</td>
</tr>
<tr>
<td>EGLIN</td>
<td>501 ML&lt;#echo&gt;FL **</td>
</tr>
<tr>
<td>LBL</td>
<td>506 Command not implemented.</td>
</tr>
<tr>
<td>LONDON-VDH</td>
<td>500 Command unrecognized</td>
</tr>
<tr>
<td>UCLA-CCN</td>
<td>500 COMMAND UNRECOGNIZED</td>
</tr>
<tr>
<td>WPAFB</td>
<td>501 ML&lt;#echo&gt;FL **</td>
</tr>
</tbody>
</table>

3) Sites that support MLFL (or at least go through all the right motions):

<table>
<thead>
<tr>
<th>Site</th>
<th>Institution</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMES-67</td>
<td>MIT-AI</td>
<td>SRI-KL</td>
</tr>
<tr>
<td>BBN-TELEX</td>
<td>MIT-DMS</td>
<td>SU-AI</td>
</tr>
<tr>
<td>BBN-TELEXA</td>
<td>MIT-MC</td>
<td>SUMEX-AIM</td>
</tr>
<tr>
<td>BBN-TELEXD</td>
<td>MIT-ML</td>
<td>UCLA-ATS</td>
</tr>
<tr>
<td>BBN-TELEXE</td>
<td>MIT-XX</td>
<td>UCLA-SECURITY</td>
</tr>
<tr>
<td>BBN-UNIX</td>
<td>NBS-UNIX</td>
<td>USC-ECL</td>
</tr>
<tr>
<td>CCA-TELEX</td>
<td>OFFICE-1</td>
<td>USC-ISI</td>
</tr>
<tr>
<td>CMU-10A</td>
<td>PARC-MAXC</td>
<td>USC-ISIB</td>
</tr>
<tr>
<td>CMU-10B</td>
<td>PARC-MAXC2</td>
<td>USC-ISIC</td>
</tr>
</tbody>
</table>
4) Sites that support MLFL but require "USER NETML" "PASS NETML" (Multics):

MIT-MULTICS
RADC-MULTICS

5) Others:

a) Sites that might support it if I could mail to a real user (some of these run operating systems that are "known to work", e.g. TENEX):

BBN-TENEXB  450 No such mailbox at this site.
CCA-SDMS     450 User Unknown
CCTC         451 User Not Recognized
CMU-10D      507 USER NOT FOUND: **
DTI          451 User Not Recognized
LL-11        450 User Unknown
LL-XN        450 User Unknown
NCSC         451 User Not Recognized
NOSC-CC      451 User Not Recognized
NOSC-SDL     451 User Not Recognized
NTIA-ITS     451 User Not Recognized
OFFICE-2     450 No such mailbox at this site.
RADC-XPER    451 User Not Recognized
SDAC-44      431 User name invalid
SDAC-UNIX    451 User Not Recognized
SRI-UNIX     451 User Not Recognized

b) Sites that either never responded to an ICP to socket 3, or were not accepting FTP users:

ANL          I4B-TENEX     NOSC-SECURE1
ARPA-DMS     ISI-SPEECH11  NSWC-WO
CMU-CMMP     LBL-UNIX      NUSC
CTO-DDS      LLL-COMP      NUSC-NPT
DTNSRDC      MOFFET-ARC    NWC
FNWC         NADC          NYU
GUNTER-UNIX  NDRE          PENT-UNIX
MAIL Survey

The mechanics of the MAIL survey were similar to those of the MLFL survey. The command was "MAIL Fzorkness" (an account unlikely to exist on any host). The responses are grouped into a few general categories.

Complete FTP results may be found on MIT-DM, file NETDOC;MAIL SURVEY.

- -site- -last response-

1) Sites that lost completely.

LONDON 000 INDRA FTP Version <> .00 ...

2) Sites that accept mail to an unknown recipient.

BNL MIT-ML USC- ISI
MIT-AI RAND-RCC USC-ISIB
MIT-DMS UCLA-CCN USC-ISIC
MIT-MC USC-ECL USC-ISIE

3) Sites that refuse mail to an unknown recipient (grouped by response).

SDAC-44 431 User name invalid
BBN-TENEX 450 No such mailbox at this site.
BBN-TENEXA 450 No such mailbox at this site.
BBN-TENEXB 450 No such mailbox at this site.
BBN-TENEXD 450 No such mailbox at this site.
BBN-TENEXE 450 No such mailbox at this site.
BBN-UNIX 450 User Unknown
CCA-SDMS 450 User Unknown
CCTC 451 User Unknown
EDN-UNIX 450 User Unknown
I4-TENEX 450 No such mailbox at this site.
ILL-UNIX 450 User unknown
LL 450 No such mailbox at LL
LL-ASG 450 User unknown
LL-XN 450 User unknown
MIT-MULTICS 450 Cannot locate mailbox for \Fzorkness\ 
MIT-XX 450 No such mailbox at this site.
NBS-UNIX 450 User Unknown
NCSC 450 User Unknown
NOSC-CC 450 User Unknown
NOSC-SDL 450 User Unknown
NTIA-ITS 450 User Unknown
OFFICE-1 450 No such mailbox at this site.
OFFICE-2 450 No such mailbox at this site.
PARC-MAXC 450 No such mailbox at this site.
Survey of FTP MAIL and MLFL

4) Sites to which I was never able to connect, or which were not accepting users.

ANL   I4B-TENEX   NOSC-SECURE1
ARPA-DMS   ISI-SPEECH11   NSWC-WO
CMU-CMMP   LBL-UNIX   NUSC
CTO-DOS   LL-11   NUSC-NPT
DEC-MARLBORO   LLL-COMP   NWC
DTI   LONDON-VDH   NYU
DTNSRDC   MOFFETT-ARC   SRI-UNIX
FNWC   NADC   SU-ISL
GUNTER-UNIX   NDRE