SURVEY OF FTP MAIL AND MLFL

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.

- -site- -last ftp reply if lost- -when-

1) Sites that lost for various reasons:

<table>
<thead>
<tr>
<th>Site</th>
<th>FTP Reply</th>
<th>Action Before Response</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>FTP Reply</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFWL</td>
<td>501 ML&lt;-&gt;FL **</td>
</tr>
<tr>
<td>CCA-SPEECH</td>
<td>501 ML&lt;-&gt;FL **</td>
</tr>
<tr>
<td>EGLIN</td>
<td>501 ML&lt;-&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;-&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>
</tr>
</thead>
<tbody>
<tr>
<td>AMES-67</td>
<td>MIT-AI</td>
</tr>
<tr>
<td>BBN-TENEX</td>
<td>MIT-DMS</td>
</tr>
<tr>
<td>BBN-TENEXA</td>
<td>MIT-MC</td>
</tr>
<tr>
<td>BBN-TENEXD</td>
<td>MIT-ML</td>
</tr>
<tr>
<td>BBN-TENEXE</td>
<td>MIT-XX</td>
</tr>
<tr>
<td>BBN-UNIX</td>
<td>NBS-UNIX</td>
</tr>
<tr>
<td>CCA-TENEX</td>
<td>OFFICE-1</td>
</tr>
<tr>
<td>CMU-10A</td>
<td>PARC-MAXC</td>
</tr>
<tr>
<td>CMU-10B</td>
<td>PARC-MAXC2</td>
</tr>
<tr>
<td></td>
<td>SRI-KL</td>
</tr>
<tr>
<td></td>
<td>SU-AI</td>
</tr>
<tr>
<td></td>
<td>SUMEX-AIM</td>
</tr>
<tr>
<td></td>
<td>UCLA-ATS</td>
</tr>
<tr>
<td></td>
<td>UCLA-SECURITY</td>
</tr>
<tr>
<td></td>
<td>USC-ECL</td>
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<tr>
<td></td>
<td>USC-ISI</td>
</tr>
<tr>
<td></td>
<td>USC-ISIB</td>
</tr>
<tr>
<td></td>
<td>USC-ISIC</td>
</tr>
</tbody>
</table>

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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
NOSCC-CC 451 User Not Recognized
NOSCC-SDL 451 User Not Recognized
NTI-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     450 No such mailbox at this site.
    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\n    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.
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PARC-MAXC2  450 No such mailbox at this site.
RADC-XPER   450 User Unknown
RADC-MULTICS 450 Cannot locate mailbox for \Fzorkness\.
RADC-TOPS20  450 No such mailbox at this site.
RAND-UNIX   450 User Unknown
RUTGERS     450 No such mailbox at this site.
SDAC-UNIX   450 User Unknown
SRI-KA      450 No such mailbox at this site.
SRI-KL      450 No such mailbox at this site.
SU-AI       450 I don’t know anybody named Fzorkness
SUMEX-AIM   450 No such mailbox at this site.
UCLA-ATS    450 User Unknown
UCLA-SECURITY 450 User Unknown
UTEXAS      450 User Unknown

CCA-TENEX  451 No such mailbox at this site.

AFWL        501 MA<->IL Fzorkness
CCA-SPEECH  501 MA<->IL Fzorkness
EGLIN       501 MA<->IL Fzorkness
WPAFB       501 MA<->IL Fzorkness

AMES-67     503 COMMAND \MAIL FZORKNESS\ IGNORED: UNKNOWN USER
LBL         506 Command not implemented.

CMU-10A      507 % USER NOT FOUND: FZORKNESS
CMU-10B      507 % USER NOT FOUND: FZORKNESS
CMU-10D      507 % USER NOT FOUND: FZORKNESS
HARV-10      507 No such user as FZORKNESS
LLL-MFE      507 No such user as FZORKNESS
NBS-10       507 No such user as FZORKNESS
WHARTON      507 No such user as FZORKNESS
WPAFB-AFAL   507 No such user as FZORKNESS

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
CTC-DDS     LL-11        NUSC-NPT
DEC-MARLBORO LLL-COMP    NWC
DTI         LONDON-VDH   NYU
DTNSRDC     MOFFETT-ARC  SRI-UNIX
FWWC        NADC         SU-ISL
GUNTER-UNIX NDRE