Network Working Group   P. David Lebling
Request for Comments: 751   (PDL@MIT-DMS)
NIC: nnnnn   10 December 1978

                     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.

                                                           [Page 1]

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:

BNL              530 NOT LOGGED IN.                      after MLFL
HARV-10          431 INVALID ENTRY - Try again          after USER
LLL-MFE          454 Login please                       after SOCK
LONDON           000 INDRA FTP Version 2.00  ...         after ICP
NBS-10           454 Login please                       after SOCK
WHARTON          454  DATA Connection error ...         after SOCK
WPAFB-AFAL       454 Login please                       after SOCK
```

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:

```
AFWL             501 ML<?>FL **
CCA-SPEECH       501 ML<?>FL **
EGLIN            501 ML<?>FL **
LBL              506 Command not implemented.
LONDON-VDH       500 Command unrecognized
UCLA-CCN         500 COMMAND UNRECOGNIZED
WPAFB            501 ML<?>FL **
```

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

```
AMES-67          MIT-AI           SRI-KL
BBN-TENEX        MIT-DMS          SU-AI
BBN-TENEXA       MIT-MC           SUMEX-AIM
BBN-TENEXD       MIT-ML           UCLA-ATS
BBN-TENEXE       MIT-XX           UCLA-SECURITY
BBN-UNIX         NBS-UNIX         USC-ECL
CCA-TENEX        OFFICE-1         USC-ISI
CMU-10A          PARC-MAXC        USC-ISIB
CMU-10B          PARC-MAXC2       USC-ISIC
```

DEC-MARLBORO   RADC-TOPS20   USC-ISIE
I4-TENEX   RAND-RCC   UTEXAS
ILL-UNIX   RAND-UNIX
LL   RUTGERS
LL-ASG   SRI-KA

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.

```
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 FZORKN
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
CTO-DDS          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
```