

Network Working Group
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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:

| | | |
|------------|--------------------------------|------------|
| 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 | |