

## Survey of SMTP Implementations

-----

This memo is a survey of implementation status. It does not specify an official protocol, but rather notes the status of implementation of aspects of a protocol. It is expected that the status of the hosts reported on will change. This information must be treated as a snapshot of the state of these implementations.

-----

From May to August 1983, I tested SMTP servers on the Internet to see whether they accepted connections from the Arpanet (a Class A network) and ISI-Net (a Class B network), whether they accepted the user "postmaster" as a mail recipient, and whether a nonexistent user was immediately rejected as a mail recipient.

The hosts from which the tests were conducted were ISI-VAXA on the Arpanet (running 4.1bsd UNIX), and ISI-MOE on ISI-Net (running 4.1a). Internet hosts were tested at various times throughout the last four months. During the survey, I noted anomalies in a few dozen hosts' SMTP servers; examples included a RSET command causing the server to close the connection, a VRFY POSTMASTER evoking a reply containing an illegal mailbox, and some cases of improper reply codes. These bugs were reported and in most cases promptly fixed.

I would class three problems as significant because about 40 hosts exhibit at least one of them:

- 1) In reply to a RSET and/or a NOOP command, some servers reply "200", which is never a legal reply code, instead of "250". (See sections 4.2 and 4.3 of RFC 821.)
- 2) If a VRFY command occurs before a MAIL command, some hosts reply "554 Nested MAIL command". The end of section 4.1.1 of RFC 821 states that a VRFY may occur anywhere in the session.
- 3) If a mail transaction is started, with a sender and receiver specified, and a RSET is issued before the text of the message itself is collected, some servers send a message to the sender about being unable to deliver mail because no message was collected. While RFC 821 doesn't rule this out, it certainly is not consistent with the notion of resetting the transaction.

In the table in the appendix, the names and addresses of the hosts tested were taken from the NIC host table of 17 August 1983. TACs and echo hosts were not included in the survey.

Here are the summarized results of the survey:

483 hosts were tested

283 are claimed by the host table to support SMTP

49 of those 283 (17%) failed to permit a connection to be opened from either ISI-VAXA or ISI-MOE.

51 hosts did not claim to support SMTP, but did allow a connection to be opened from at least one of the two ISI test hosts.

285 hosts were connected to from ISI-VAXA

170 hosts were connected to from ISI-MOE; all 170 were connected to from ISI-VAXA as well.

115 hosts out of the 285 (40%), therefore, could be connected to from ISI-VAXA only.

69 of the 285 connectable hosts (24%) returned a positive reply to the command "VRFY postmaster"

162 hosts out of the 285 connectable hosts (57%) immediately rejected mail addressed to a nonexistent user; that is, they gave an "unknown user" reply to the command "RCPT TO:<jqkxwzvb@host>", where "host" was the foreign host.

115 hosts out of the 285 (40%) gave a positive acknowledgement to a RCPT command with a nonexistent user.

8 hosts (3%) were never up during this part of the test.

121 hosts out of the 162 which immediately reject mail to nonexistent users (75%) accepted mail for the recipient "postmaster". Thus, 42% (121 out of 285) of the connectable hosts do not immediately reject mail for "postmaster".

#### References:

RFC 821 Postel, J., "Simple Mail Transfer Protocol", RFC 821, Network Information Center, SRI International, Menlo Park, August 1982.

## APPENDIX

The hosts in this table are taken from the NIC host table of 17 August 1983, with TACs and echo hosts omitted, and are grouped by network. There are six result entries for each host:

Claim SMTP    + = the host table lists this host as supporting SMTP;  
                  - = such support is not listed

Arpanet        + = a connection could be opened from ISI-VAXA  
                  - = no such connection could be opened

ISI-Net        + = a connection could be opened from ISI-MOE  
                  - = no such connection could be opened

VERFY Post    + = the command "VERFY postmaster" evoked a positive reply  
                  - = it did not

RCPT Post      + = the command "RCPT TO:<postmaster@host>" elicited a  
                                          positive reply  
                  - = it did not

Bad jqkx       + = the command "RCPT TO:<jqkxwzvb@host>" elicited a  
                                          negative reply (i.e. unknown user)  
                  - = it received a positive reply (i.e. recipient accepted)

| Claim<br>SMTP | Arpa<br>net | ISI-<br>Net | VERFY<br>Post | RCPT<br>Post | Bad<br>jqkx | Host name         | Address  | Notes |
|---------------|-------------|-------------|---------------|--------------|-------------|-------------------|----------|-------|
| -----         | -----       | -----       | -----         | -----        | -----       | -----             | -----    | ----- |
| -             | -           | -           | -             | -            | -           | alta-coma         | 3.1.0.50 |       |
| -             | -           | -           | -             | -            | -           | satnet            | 4.0.0.0  |       |
| -             | -           | -           | -             | -            | -           | etam-expak        | 4.0.0.1  |       |
| -             | -           | -           | -             | -            | -           | goonhilly-expak   | 4.0.0.2  |       |
| -             | -           | -           | -             | -            | -           | tanum-expak       | 4.0.0.3  |       |
| -             | -           | -           | -             | -            | -           | satnet-sink       | 4.0.0.37 |       |
| -             | -           | -           | -             | -            | -           | etam-monitor      | 4.0.0.41 |       |
| -             | -           | -           | -             | -            | -           | goonhilly-monitor | 4.0.0.42 |       |
| -             | -           | -           | -             | -            | -           | tanum-monitor     | 4.0.0.43 |       |
| -             | -           | -           | -             | -            | -           | raisting          | 4.0.0.72 |       |
| -             | -           | -           | -             | -            | -           | raisting-monitor  | 4.0.0.78 |       |
| -             | -           | -           | -             | -            | -           | raisting-expak    | 4.0.0.79 |       |
| -             | -           | -           | -             | -            | -           | fucino            | 4.0.0.88 |       |
| -             | -           | -           | -             | -            | -           | fucino-monitor    | 4.0.0.94 |       |
| -             | -           | -           | -             | -            | -           | fucino-expak      | 4.0.0.95 |       |
| +             | +           | +           | -             | +            | +           | bbncca            | 8.0.0.2  |       |
| +             | +           | +           | -             | +            | +           | bbnccb            | 8.1.0.2  |       |
| +             | +           | +           | -             | +            | +           | bbnccc            | 8.2.0.2  |       |
| +             | +           | +           | -             | +            | +           | bbnccd            | 8.3.0.2  |       |
| +             | +           | -           | -             | +            | -           | bbnccg            | 8.0.0.3  | b     |
| +             | +           | +           | -             | +            | +           | bbnccf            | 8.0.0.4  |       |

| Claim<br>SMTP | Arpa<br>net | ISI-<br>Net | VRFY<br>Post | RCPT<br>Post | Bad<br>jqkx | Host name       | Address   | Notes |
|---------------|-------------|-------------|--------------|--------------|-------------|-----------------|-----------|-------|
| +             | +           | +           | -            | +            | +           | bbnccp          | 8.2.0.4   |       |
| +             | +           | +           | -            | +            | +           | bbncci          | 8.3.0.4   |       |
| +             | +           | +           | -            | +            | +           | bbnh            | 8.4.0.4   |       |
| +             | -           | -           | -            | -            | -           | bbn-cdnoc       | 8.0.0.5   |       |
| +             | +           | +           | -            | +            | +           | bbn-cd          | 8.1.0.5   |       |
| +             | +           | +           | -            | +            | +           | bbn-admin       | 8.1.0.6   |       |
| +             | +           | +           | -            | +            | +           | bbn-inoc        | 8.2.0.6   |       |
| +             | +           | +           | -            | +            | +           | bbnccw          | 8.3.0.6   |       |
| +             | +           | +           | -            | +            | +           | bbnccs          | 8.0.0.7   |       |
| +             | +           | +           | -            | +            | +           | bbnz            | 8.1.0.7   |       |
| +             | +           | +           | -            | +            | +           | bbnccq          | 8.2.0.7   |       |
| +             | +           | +           | -            | +            | +           | bbnccx          | 8.0.0.8   |       |
| +             | +           | +           | -            | +            | +           | bbnccy          | 8.2.0.8   |       |
| +             | +           | +           | -            | +            | +           | csnet-cic       | 8.0.0.14  |       |
| +             | +           | +           | -            | +            | +           | bbn-noc         | 8.1.0.14  |       |
| +             | +           | +           | -            | +            | -           | ucla-cs         | 10.0.0.1  |       |
| -             | -           | -           | -            | -            | -           | ucla-ccn        | 10.1.0.1  |       |
| +             | +           | +           | -            | +            | -           | ucla-locus      | 10.2.0.1  |       |
| +             | +           | +           | -            | +            | -           | ucla-ats        | 10.3.0.1  |       |
| -             | -           | -           | -            | -            | -           | sri-nsc11       | 10.0.0.2  |       |
| +             | +           | +           | +            | +            | +           | sri-kl          | 10.1.0.2  |       |
| +             | +           | +           | -            | +            | -           | sri-csl         | 10.2.0.2  |       |
| +             | +           | -           | -            | +            | +           | sri-tsc         | 10.3.0.2  |       |
| +             | +           | +           | -            | +            | -           | nosc-cc         | 10.0.0.3  |       |
| -             | -           | -           | -            | -            | -           | logicon         | 10.2.0.3  |       |
| +             | +           | +           | -            | +            | -           | nprdc           | 10.3.0.3  |       |
| +             | +           | +           | +            | +            | +           | utah-cs         | 10.0.0.4  |       |
| +             | +           | +           | -            | +            | -           | utah-20         | 10.3.0.4  |       |
| +             | +           | +           | -            | +            | -           | bbnf            | 10.0.0.5  |       |
| +             | +           | +           | -            | +            | -           | bbng            | 10.1.0.5  |       |
| +             | +           | +           | -            | +            | -           | bbna            | 10.3.0.5  |       |
| +             | +           | +           | +            | +            | +           | mit-multics     | 10.0.0.6  |       |
| +             | +           | +           | -            | +            | -           | mit-dms         | 10.1.0.6  |       |
| -             | -           | -           | -            | -            | -           | mit-ai-reserved | 10.2.0.6  |       |
| +             | +           | +           | -            | +            | -           | mit-ml          | 10.3.0.6  |       |
| +             | +           | +           | +            | +            | -           | rand-relay      | 10.1.0.7  |       |
| +             | +           | +           | -            | +            | +           | rand-unix       | 10.3.0.7  |       |
| +             | +           | +           | -            | +            | +           | nrl             | 10.0.0.8  |       |
| +             | +           | +           | -            | +            | -           | nrl-aic         | 10.1.0.8  |       |
| +             | +           | +           | -            | +            | +           | nswc-wo         | 10.2.0.8  |       |
| -             | -           | -           | -            | -            | -           | nrl-tops10      | 10.3.0.8  |       |
| -             | -           | -           | -            | -            | -           | nrl-arctan      | 10.6.0.8  |       |
| +             | +           | +           | -            | +            | -           | nrl-css         | 10.7.0.8  |       |
| -             | -           | -           | -            | -            | -           | harv-10         | 10.0.0.9  |       |
| +             | +           | +           | -            | +            | -           | yale            | 10.2.0.9  |       |
| +             | +           | +           | -            | +            | +           | ll              | 10.0.0.10 |       |
| +             | +           | +           | -            | +            | -           | ll-vlsi         | 10.1.0.10 |       |
| +             | +           | -           | -            | -            | +           | ll-xn           | 10.2.0.10 |       |
| +             | +           | -           | -            | -            | +           | ll-en           | 10.4.0.10 |       |
| +             | -           | -           | -            | -            | -           | ll-sst          | 10.6.0.10 |       |

| Claim<br>SMTP | Arpa<br>net | ISI-<br>Net | VRFY<br>Post | RCPT<br>Post | Bad<br>jqkx | Host name         | Address    | Notes |
|---------------|-------------|-------------|--------------|--------------|-------------|-------------------|------------|-------|
| +             | +           | +           | -            | +            | +           | su-ai             | 10.0.0.11  |       |
| +             | +           | +           | +            | +            | +           | su-score          | 10.3.0.11  |       |
| +             | +           | +           | -            | +            | +           | compion-vms       | 10.0.0.12  |       |
| +             | +           | +           | +            | +            | +           | gunter-adam       | 10.1.0.13  |       |
| -             | +           | +           | -            | +            | -           | cmu-cs-b          | 10.0.0.14  |       |
| +             | +           | +           | -            | +            | -           | cmu-cs-a          | 10.1.0.14  |       |
| +             | +           | +           | -            | +            | -           | cmu-cs-c          | 10.3.0.14  |       |
| +             | +           | +           | +            | +            | -           | rochester         | 10.0.0.15  |       |
| +             | +           | +           | -            | +            | +           | ames-tss          | 10.0.0.16  |       |
| +             | +           | +           | -            | -            | +           | ames-vmsa         | 10.2.0.16  |       |
| -             | +           | +           | -            | -            | +           | ames-vmsb         | 10.3.0.16  |       |
| +             | +           | +           | -            | +            | +           | mitre             | 10.0.0.17  |       |
| -             | +           | +           | -            | -            | +           | mitre-gateway     | 10.1.0.17  |       |
| -             | -           | -           | -            | -            | -           | mitre-lan         | 10.4.0.17  |       |
| +             | +           | +           | +            | +            | +           | radc-multics      | 10.0.0.18  |       |
| +             | +           | +           | +            | +            | +           | radc-tops20       | 10.3.0.18  |       |
| -             | -           | -           | -            | -            | -           | radc-unix         | 10.5.0.18  |       |
| +             | -           | -           | -            | -            | -           | ge-crd            | 10.6.0.18  |       |
| +             | +           | +           | -            | -            | +           | nbs-vms           | 10.0.0.19  |       |
| +             | +           | -           | -            | -            | +           | nbs-sdc           | 10.1.0.19  |       |
| -             | -           | -           | -            | -            | -           | nbs-unix          | 10.2.0.19  |       |
| -             | -           | -           | -            | -            | -           | nbs-pl            | 10.3.0.19  |       |
| -             | -           | -           | -            | -            | -           | cctc              | 10.0.0.20  |       |
| +             | +           | +           | -            | +            | +           | edn-unix          | 10.3.0.20  |       |
| -             | +           | +           | -            | -            | +           | dca-ems           | 10.4.0.20  |       |
| -             | -           | -           | -            | -            | -           | dcec-psat         | 10.5.0.20  |       |
| -             | -           | -           | -            | -            | -           | dcec-itel         | 10.6.0.20  |       |
| -             | -           | -           | -            | -            | -           | dcec-bridge       | 10.7.0.20  |       |
| +             | -           | -           | -            | -            | -           | lll-tis           | 10.0.0.21  |       |
| +             | +           | +           | -            | +            | -           | lll-mfe           | 10.1.0.21  |       |
| -             | -           | -           | -            | -            | -           | lll-zdivision     | 10.2.0.21  |       |
| -             | -           | -           | -            | -            | -           | isi-speech11      | 10.0.0.22  |       |
| +             | +           | +           | +            | +            | +           | usc-isi           | 10.1.0.22  |       |
| +             | +           | +           | +            | +            | +           | usc-isic          | 10.2.0.22  |       |
| +             | +           | +           | -            | +            | -           | usc-eclb          | 10.0.0.23  |       |
| +             | +           | +           | -            | +            | -           | usc-eclc          | 10.1.0.23  |       |
| +             | +           | +           | -            | +            | -           | usc-ecl           | 10.3.0.23  |       |
| +             | +           | +           | -            | +            | +           | nadc              | 10.0.0.24  |       |
| -             | -           | -           | -            | -            | -           | wharton-10        | 10.3.0.24  |       |
| +             | +           | +           | +            | +            | +           | seismo            | 10.0.0.25  |       |
| +             | +           | +           | +            | +            | +           | usc-isid          | 10.0.0.27  |       |
| -             | -           | -           | -            | -            | -           | isi-png11         | 10.1.0.27  |       |
| +             | +           | +           | -            | +            | -           | isi-vaxa          | 10.2.0.27  |       |
| -             | -           | -           | -            | -            | -           | isi-mcon          | 10.1.21.27 |       |
| -             | -           | -           | -            | -            | -           | isi-wbc11         | 10.1.23.27 |       |
| -             | -           | -           | -            | -            | -           | isi-maint11       | 10.1.25.27 |       |
| -             | -           | -           | -            | -            | -           | isi-setting       | 10.1.89.27 |       |
| -             | -           | -           | -            | -            | -           | isi-loretta       | 10.1.90.27 |       |
| -             | -           | -           | -            | -            | -           | isi-pallas-athene | 10.1.91.27 |       |
| -             | -           | -           | -            | -            | -           | isi-aikane        | 10.1.97.27 |       |

| Claim<br>SMTP | Arpa<br>net | ISI-<br>Net | VRFY<br>Post | RCPT<br>Post | Bad<br>jqkx | Host name      | Address     | Notes |
|---------------|-------------|-------------|--------------|--------------|-------------|----------------|-------------|-------|
| -             | -           | -           | -            | -            | -           | isi-czar       | 10.1.98.27  |       |
| -             | -           | -           | -            | -            | -           | isi-mycroftxxx | 10.1.99.27  |       |
| -             | -           | -           | -            | -            | -           | isi-cmr        | 10.1.124.27 |       |
| -             | -           | -           | -            | -            | -           | isi-ihm        | 10.1.125.27 |       |
| -             | +           | -           | -            | -            | +           | arpa-dms       | 10.0.0.28   |       |
| +             | -           | -           | -            | -            | -           | arpa-png11     | 10.3.0.28   |       |
| +             | +           | +           | -            | +            | +           | brl            | 10.0.0.29   |       |
| +             | +           | +           | -            | -            | +           | apg-1          | 10.1.0.29   |       |
| +             | +           | -           | -            | +            | -           | cca-unix       | 10.0.0.31   |       |
| +             | +           | +           | -            | -            | +           | cca-vms        | 10.1.0.31   |       |
| +             | +           | +           | -            | +            | -           | parc-maxc      | 10.0.0.32   |       |
| +             | +           | -           | -            | +            | -           | kestrel        | 10.3.0.32   |       |
| -             | -           | -           | -            | -            | -           | nps            | 10.0.0.33   |       |
| -             | -           | -           | -            | -            | -           | fnoc-secure    | 10.3.0.33   |       |
| +             | +           | +           | -            | -            | +           | lbl-nmm        | 10.0.0.34   |       |
| +             | +           | -           | +            | +            | +           | lbl-csam       | 10.1.0.34   |       |
| -             | -           | -           | -            | -            | -           | nosc-secure2   | 10.0.0.35   |       |
| +             | +           | -           | -            | -            | +           | nosc-tecr      | 10.1.0.35   |       |
| -             | -           | -           | -            | -            | -           | nosc-secure3   | 10.3.0.35   |       |
| -             | -           | -           | -            | -            | -           | nosc-f4        | 10.4.0.35   |       |
| -             | -           | -           | -            | -            | -           | coins-tas      | 10.0.0.36   |       |
| -             | -           | -           | -            | -            | -           | cincpacflt-wm  | 10.1.0.36   |       |
| +             | +           | +           | -            | +            | -           | purdue         | 10.0.0.37   |       |
| +             | -           | -           | -            | -            | -           | bragg-sta1     | 10.1.0.38   |       |
| -             | -           | -           | -            | -            | -           | bbn-psat-ig    | 10.2.0.40   |       |
| +             | +           | +           | -            | +            | +           | office-1       | 10.0.0.43   |       |
| +             | +           | +           | -            | +            | +           | office-2       | 10.1.0.43   |       |
| +             | +           | -           | -            | +            | +           | office-3       | 10.2.0.43   |       |
| +             | +           | -           | -            | +            | +           | office-7       | 10.3.0.43   |       |
| +             | +           | +           | -            | +            | -           | mit-xx         | 10.0.0.44   |       |
| -             | -           | -           | -            | -            | -           | mit-tstgw      | 10.2.0.44   |       |
| +             | +           | +           | -            | +            | -           | mit-mc         | 10.3.0.44   |       |
| +             | +           | -           | -            | +            | +           | ardc           | 10.1.0.45   |       |
| -             | -           | -           | -            | -            | -           | collins-pr     | 10.0.0.46   |       |
| -             | -           | -           | -            | -            | -           | collins-gw     | 10.1.0.46   |       |
| -             | -           | -           | -            | -            | -           | okc-unix       | 10.3.0.46   |       |
| -             | -           | -           | -            | -            | -           | wpafb          | 10.0.0.47   |       |
| +             | -           | -           | -            | -            | -           | wpafb-afwal    | 10.1.0.47   |       |
| -             | -           | -           | -            | -            | -           | afwl           | 10.1.0.48   |       |
| +             | +           | +           | -            | +            | -           | bbnb           | 10.0.0.49   |       |
| +             | +           | +           | -            | +            | -           | bbnc           | 10.3.0.49   |       |
| +             | +           | +           | -            | +            | +           | bbn-clxx       | 10.4.0.49   |       |
| +             | +           | +           | +            | +            | +           | st-nic         | 10.0.0.51   |       |
| -             | -           | -           | -            | -            | -           | sri-sta6       | 10.1.1.51   |       |
| +             | +           | -           | +            | +            | +           | srijoyce       | 10.1.4.51   |       |
| +             | +           | -           | -            | +            | +           | sri-unix       | 10.2.0.51   |       |
| -             | -           | -           | -            | -            | -           | sri-sta2       | 10.3.1.51   |       |
| -             | -           | -           | -            | -            | -           | sri-prmh       | 10.3.2.51   |       |
| +             | +           | +           | -            | +            | +           | ada-vax        | 10.0.0.52   |       |
| +             | +           | +           | +            | +            | +           | usc-isie       | 10.1.0.52   |       |

| Claim<br>SMTP | Arpa<br>net | ISI-<br>Net | VRFY<br>Post | RCPT<br>Post | Bad<br>jqkx | Host name     | Address   | Notes |
|---------------|-------------|-------------|--------------|--------------|-------------|---------------|-----------|-------|
| -----         | -----       | -----       | -----        | -----        | -----       | -----         | -----     | ----- |
| +             | +           | +           | +            | +            | +           | usc-isif      | 10.2.0.52 |       |
| +             | +           | +           | +            | +            | +           | usc-isib      | 10.3.0.52 |       |
| -             | -           | -           | -            | -            | -           | afsc-ad       | 10.0.0.53 |       |
| -             | -           | -           | -            | -            | -           | afsc-dev      | 10.2.0.53 |       |
| -             | -           | -           | -            | -            | -           | ncsc          | 10.4.0.53 |       |
| -             | -           | -           | -            | -            | -           | martin        | 10.5.0.53 |       |
| +             | +           | +           | +            | +            | +           | cit-20        | 10.0.0.54 |       |
| +             | +           | +           | -            | +            | -           | cit-vax       | 10.1.0.54 |       |
| -             | +           | -           | -            | -            | +           | acc           | 10.2.0.54 |       |
| +             | +           | +           | -            | -            | +           | jpl-vax       | 10.3.0.54 |       |
| +             | +           | -           | -            | -            | +           | anl-mcs       | 10.1.0.55 | a     |
| +             | +           | +           | +            | +            | +           | sumex-aim     | 10.0.0.56 |       |
| +             | +           | +           | -            | +            | +           | su-dsn        | 10.1.0.56 |       |
| +             | +           | +           | -            | +            | +           | aids-unix     | 10.2.0.56 |       |
| -             | -           | -           | -            | -            | -           | tycho         | 10.0.0.57 |       |
| -             | -           | -           | -            | -            | -           | coins-gateway | 10.1.0.57 |       |
| +             | +           | +           | -            | +            | -           | nyu           | 10.0.0.58 |       |
| +             | +           | +           | -            | +            | +           | bnl           | 10.1.0.58 |       |
| +             | +           | +           | +            | +            | +           | rutgers       | 10.2.0.58 |       |
| +             | +           | +           | +            | +            | -           | ru-green      | 10.2.1.58 |       |
| +             | +           | +           | +            | +            | -           | ru-blue       | 10.2.2.58 |       |
| +             | +           | +           | +            | +            | +           | stl-host1     | 10.0.0.61 |       |
| +             | -           | -           | -            | -            | -           | almsa-1       | 10.1.0.61 |       |
| +             | +           | -           | +            | +            | +           | utexas-11     | 10.0.0.62 |       |
| +             | +           | +           | +            | +            | +           | utexas-20     | 10.1.0.62 |       |
| -             | +           | -           | +            | +            | +           | utexas-780    | 10.2.0.62 |       |
| +             | +           | -           | -            | -            | +           | martin-b      | 10.1.0.64 |       |
| -             | -           | -           | -            | -            | -           | robins-unix   | 10.3.0.64 |       |
| -             | -           | -           | -            | -            | -           | afsc-sd       | 10.0.0.65 |       |
| +             | +           | +           | -            | +            | -           | aerospace     | 10.2.0.65 |       |
| -             | -           | -           | -            | -            | -           | afgl          | 10.1.0.66 |       |
| +             | +           | +           | -            | +            | -           | mitre-bedford | 10.3.0.66 |       |
| -             | +           | +           | +            | +            | +           | afsc-hq       | 10.0.0.67 |       |
| +             | +           | +           | +            | +            | +           | usgs1-multics | 10.0.0.68 |       |
| -             | -           | -           | -            | -            | -           | usgs1-amdahl  | 10.2.0.68 |       |
| +             | +           | +           | +            | +            | +           | usgs2-multics | 10.0.0.69 |       |
| +             | +           | -           | +            | +            | -           | usgs3-multics | 10.0.0.70 | b     |
| +             | -           | -           | -            | -            | -           | usgs3-vms     | 10.2.0.70 |       |
| -             | -           | -           | -            | -            | -           | bbn-tmp2      | 10.2.0.71 |       |
| +             | +           | +           | -            | +            | +           | bbn-unix      | 10.1.0.72 |       |
| +             | +           | +           | -            | +            | -           | sri-nic       | 10.0.0.73 |       |
| -             | -           | -           | -            | -            | -           | sri-warf      | 10.1.0.73 |       |
| +             | +           | +           | +            | +            | +           | sri-ai        | 10.2.0.73 |       |
| +             | +           | -           | -            | -            | +           | sri-iu        | 10.3.0.73 |       |
| -             | +           | -           | -            | -            | +           | sri-vax       | 10.3.2.73 |       |
| +             | -           | -           | -            | -            | -           | sri-spam-test | 10.4.0.73 |       |
| +             | -           | -           | -            | -            | -           | simtel20      | 10.0.0.74 |       |
| +             | +           | +           | -            | -            | +           | wsmr70a       | 10.1.0.74 |       |
| +             | +           | +           | -            | -            | +           | wsmr70b       | 10.3.0.74 |       |
| -             | +           | +           | -            | -            | +           | yuma          | 10.3.0.75 |       |

| Claim<br>SMTP | Arpa<br>net | ISI-<br>Net | VRFY<br>Post | RCPT<br>Post | Bad<br>jqkx | Host name            | Address   | Notes |
|---------------|-------------|-------------|--------------|--------------|-------------|----------------------|-----------|-------|
| +             | -           | -           | -            | -            | -           | obl-em               | 10.0.0.76 |       |
| +             | +           | +           | +            | +            | +           | cisl-service-multics | 10.1.0.77 |       |
| +             | -           | -           | -            | -            | -           | mit-oz               | 10.3.0.77 |       |
| +             | +           | +           | +            | +            | +           | ucb-arpa             | 10.0.0.78 |       |
| +             | +           | +           | +            | +            | +           | ucb-vax              | 10.2.0.78 |       |
| -             | -           | -           | -            | -            | -           | mcclellan            | 10.3.0.78 |       |
| +             | +           | +           | +            | +            | +           | dec-tops20           | 10.0.0.79 |       |
| +             | +           | +           | +            | +            | +           | dec-marlboro         | 10.1.0.79 |       |
| +             | +           | +           | +            | +            | +           | hi-multics           | 10.0.0.80 |       |
| +             | +           | +           | -            | +            | +           | nems                 | 10.0.0.81 |       |
| +             | +           | +           | -            | +            | +           | nalcon               | 10.1.0.81 |       |
| +             | +           | +           | -            | +            | +           | nsrdcoa              | 10.3.0.81 |       |
| +             | +           | +           | -            | +            | +           | bbncct               | 10.0.0.82 |       |
| +             | +           | +           | +            | +            | +           | bbn-vax              | 10.1.0.82 |       |
| +             | +           | +           | -            | +            | +           | ddn1                 | 10.3.0.82 |       |
| -             | -           | -           | -            | -            | -           | bbn-rsm              | 10.4.0.82 |       |
| +             | +           | +           | -            | +            | +           | bbn-noc2             | 10.6.0.82 |       |
| -             | -           | -           | -            | -            | -           | test-mailbr          | 10.7.0.82 |       |
| -             | +           | +           | -            | +            | +           | minet-lon            | 10.0.0.83 |       |
| -             | +           | +           | -            | +            | -           | minet-noc            | 10.1.0.83 | b     |
| +             | +           | -           | -            | +            | -           | tac-news             | 10.2.0.83 | b     |
| -             | -           | -           | -            | -            | -           | test-bridge          | 10.3.0.83 |       |
| -             | -           | -           | -            | -            | -           | nswc-dl              | 10.0.0.84 |       |
| -             | +           | -           | -            | +            | -           | nswc-g               | 10.1.0.84 |       |
| +             | +           | -           | -            | -            | +           | nwc-387a             | 10.0.0.85 |       |
| +             | +           | +           | -            | +            | +           | nwc-387b             | 10.3.0.85 |       |
| +             | +           | +           | -            | +            | +           | stt-noc              | 10.0.0.86 |       |
| +             | +           | +           | +            | +            | +           | sandia               | 10.0.0.87 |       |
| +             | +           | +           | +            | +            | +           | nlm-mcs              | 10.0.0.88 |       |
| +             | +           | +           | +            | +            | +           | columbia-20          | 10.0.0.89 |       |
| +             | +           | +           | -            | +            | -           | lanl                 | 10.0.0.90 |       |
| +             | +           | +           | +            | +            | +           | washington           | 10.0.0.91 |       |
| +             | +           | +           | -            | +            | -           | uw-vlsi              | 10.3.0.91 |       |
| -             | -           | -           | -            | -            | -           | nusc-npt             | 10.2.0.92 |       |
| -             | +           | -           | -            | -            | +           | nusc                 | 10.3.0.92 |       |
| +             | +           | -           | -            | +            | +           | office-8             | 10.0.0.93 |       |
| +             | +           | +           | -            | +            | +           | office-10            | 10.1.0.93 |       |
| +             | +           | +           | -            | +            | +           | office-15            | 10.2.0.93 |       |
| +             | +           | +           | -            | +            | -           | uwisc                | 10.1.0.94 |       |
| -             | -           | -           | -            | -            | -           | s1-gateway           | 10.0.0.95 |       |
| +             | +           | +           | -            | -            | +           | s1-a                 | 10.1.0.95 |       |
| +             | -           | -           | -            | -            | -           | s1-b                 | 10.2.0.95 |       |
| +             | +           | +           | -            | +            | -           | s1-c                 | 10.3.0.95 |       |
| +             | +           | +           | +            | +            | -           | udel-relay           | 10.0.0.96 |       |
| -             | -           | -           | -            | -            | -           | udel-tcp             | 10.1.0.96 |       |
| +             | +           | -           | -            | +            | +           | udel-ee              | 10.2.0.96 |       |
| +             | +           | -           | +            | +            | +           | cornell              | 10.3.0.96 |       |
| +             | +           | +           | -            | -            | +           | paxrv-nes            | 10.2.0.97 |       |
| -             | -           | -           | -            | -            | -           | uwisc-x25            | 10.3.0.99 |       |
| +             | -           | -           | -            | -            | -           | purdue-tn            | 14.0.0.1  |       |

| Claim<br>SMTP | Arpa<br>net | ISI-<br>Net | VRFY<br>Post | RCPT<br>Post | Bad<br>jqkx | Host name       | Address    | Notes |
|---------------|-------------|-------------|--------------|--------------|-------------|-----------------|------------|-------|
| -----         | -----       | -----       | -----        | -----        | -----       | -----           | -----      | ----- |
| +             | -           | -           | -            | -            | -           | uwisc-tn        | 14.0.0.2   |       |
| +             | -           | -           | -            | -            | -           | udel-tn         | 14.0.0.3   |       |
| -             | -           | -           | -            | -            | -           | ucl-vtest       | 14.0.0.4   |       |
| -             | -           | -           | -            | -            | -           | uk-satnet       | 14.0.0.6   |       |
| -             | -           | -           | -            | -            | -           | wisc-ibm        | 14.0.0.7   |       |
| +             | -           | -           | -            | -            | -           | rand-tn         | 14.0.0.8   |       |
| -             | -           | -           | -            | -            | -           | mit-br-ethernet | 18.2.0.7   |       |
| -             | -           | -           | -            | -            | -           | mit-tiu         | 18.2.0.15  |       |
| -             | -           | -           | -            | -            | -           | mit-alto-509    | 18.2.0.18  |       |
| -             | -           | -           | -            | -            | -           | mit-alto-510    | 18.2.0.20  |       |
| -             | -           | -           | -            | -            | -           | mit-alto-524    | 18.2.0.32  |       |
| -             | -           | -           | -            | -            | -           | mit-alto-214b   | 18.2.0.56  |       |
| -             | -           | -           | -            | -            | -           | mit-alto-511    | 18.2.0.72  |       |
| -             | -           | -           | -            | -            | -           | mit-muriel      | 18.2.0.80  |       |
| -             | -           | -           | -            | -            | -           | mit-alto-508    | 18.2.0.96  |       |
| -             | -           | -           | -            | -            | -           | mit-alto-503    | 18.2.0.100 |       |
| -             | -           | -           | -            | -            | -           | mit-spooler     | 18.2.0.128 |       |
| -             | -           | -           | -            | -            | -           | mit-np-alto     | 18.2.0.129 |       |
| -             | -           | -           | -            | -            | -           | mit-alto-502    | 18.2.0.130 |       |
| -             | -           | -           | -            | -            | -           | mit-alto-828    | 18.2.0.134 |       |
| -             | -           | -           | -            | -            | -           | mit-alto-520    | 18.2.0.170 |       |
| -             | -           | -           | -            | -            | -           | mit-gw-lcs      | 18.8.0.4   |       |
| -             | -           | -           | -            | -            | -           | mit-bridge      | 18.8.0.5   |       |
| -             | -           | -           | -            | -            | -           | mit-rts         | 18.8.0.9   |       |
| -             | -           | -           | -            | -            | -           | mit-rts40       | 18.8.0.10  |       |
| -             | -           | -           | -            | -            | -           | mit-vax         | 18.8.0.16  |       |
| -             | -           | -           | -            | -            | -           | mit-xx-11       | 18.8.0.32  |       |
| +             | +           | +           | -            | +            | -           | mit-csr         | 18.10.0.8  |       |
| -             | -           | -           | -            | -            | -           | mit-rts40-v2    | 18.10.0.10 |       |
| -             | +           | +           | -            | +            | -           | mit-ajax        | 18.10.0.64 |       |
| -             | +           | +           | -            | +            | -           | mit-borax       | 18.10.0.65 |       |
| -             | +           | +           | -            | +            | -           | mit-comet       | 18.10.0.66 |       |
| -             | -           | -           | -            | -            | -           | mit-dutch       | 18.10.0.67 |       |
| -             | +           | +           | -            | +            | -           | mit-mrclean     | 18.10.0.68 |       |
| -             | +           | +           | -            | +            | -           | mit-bold        | 18.10.0.69 |       |
| -             | +           | +           | -            | +            | -           | mit-fab         | 18.10.0.70 |       |
| -             | +           | +           | -            | +            | -           | mit-prj         | 18.10.0.71 |       |
| -             | +           | +           | -            | +            | -           | mit-duz         | 18.10.0.72 |       |
| -             | +           | +           | -            | +            | -           | mit-dash        | 18.10.0.73 |       |
| -             | +           | +           | -            | +            | -           | mit-tide        | 18.10.0.74 |       |
| -             | +           | -           | -            | +            | -           | mit-fla         | 18.10.0.75 |       |
| +             | +           | +           | -            | +            | -           | mit-cls         | 18.10.0.76 |       |
| -             | +           | +           | -            | +            | -           | mit-grape-nehi  | 18.10.0.77 |       |
| -             | +           | +           | -            | +            | -           | mit-heineken    | 18.10.0.78 |       |
| -             | +           | +           | -            | +            | -           | mit-oa          | 18.10.0.79 |       |
| -             | -           | -           | -            | -            | -           | mit-macewan     | 18.10.0.80 |       |
| -             | -           | -           | -            | -            | -           | mit-kirin       | 18.10.0.81 |       |
| -             | +           | +           | -            | +            | -           | mit-molson      | 18.10.0.82 |       |
| -             | +           | +           | -            | +            | -           | mit-milo        | 18.10.0.86 |       |
| -             | +           | +           | +            | +            | +           | mit-opus        | 18.10.0.87 |       |

| Claim<br>SMTP | Arpa<br>net | ISI-<br>Net | VRFY<br>Post | RCPT<br>Post | Bad<br>jqkx | Host name      | Address       | Notes |
|---------------|-------------|-------------|--------------|--------------|-------------|----------------|---------------|-------|
| -             | +           | +           | -            | +            | -           | mit-rinso      | 18.10.0.88    |       |
| -             | -           | -           | -            | -            | -           | rsre           | 25.8.0.0      |       |
| +             | +           | +           | -            | +            | -           | su-shasta      | 36.40.0.192   |       |
| +             | +           | +           | +            | +            | +           | su-hnv         | 36.40.0.193   |       |
| +             | +           | +           | +            | +            | +           | su-navajo      | 36.40.0.203   |       |
| +             | +           | +           | +            | +            | +           | su-whitney     | 36.40.0.204   |       |
| +             | +           | +           | -            | +            | +           | su-glacier     | 36.40.0.205   |       |
| +             | +           | -           | -            | -            | +           | su-star        | 36.40.0.207   |       |
| +             | +           | +           | +            | +            | -           | su-carmel      | 36.40.0.212   |       |
| +             | +           | +           | +            | +            | +           | su-sierra      | 36.40.0.213   |       |
| +             | -           | -           | -            | -            | -           | su-ardvax      | 36.45.0.85    |       |
| +             | -           | -           | -            | -            | -           | su-safe        | 36.45.0.86    |       |
| +             | +           | -           | -            | +            | +           | sri-tsca       | 39.128.3.59   |       |
| -             | -           | -           | -            | -            | -           | sri-rolm       | 45.0.32.4     |       |
| -             | +           | -           | +            | +            | +           | ucbarpa        | 46.0.0.4      |       |
| -             | +           | -           | +            | +            | +           | ucbcad         | 46.0.0.5      |       |
| -             | +           | -           | +            | -            | +           | ucbernie       | 46.0.0.6      |       |
| -             | +           | -           | +            | +            | +           | ucbmonet       | 46.0.0.7      |       |
| -             | +           | -           | +            | -            | +           | ucbesvax       | 46.0.0.9      |       |
| +             | +           | -           | +            | +            | +           | ucbvax         | 46.0.0.10     |       |
| -             | +           | -           | +            | +            | +           | ucbkim         | 46.0.0.11     |       |
| -             | +           | -           | +            | +            | +           | ucbcaldar      | 46.0.0.12     |       |
| -             | +           | -           | +            | -            | +           | ucbdali        | 46.0.0.13     |       |
| -             | +           | -           | +            | -            | +           | ucbmatisse     | 46.0.0.14     |       |
| -             | +           | -           | +            | -            | +           | ucbmedea       | 46.0.0.15     |       |
| -             | +           | -           | +            | +            | +           | ucbingres      | 46.0.0.19     |       |
| +             | +           | -           | +            | +            | +           | sac-vax        | 47.0.32.3     |       |
| +             | +           | -           | -            | +            | -           | ndre1          | 48.3.1.41     |       |
| -             | +           | -           | +            | -            | +           | nta-vax        | 50.0.0.8      |       |
| +             | +           | -           | -            | +            | -           | cmu-cs-ius     | 128.2.254.128 |       |
| +             | +           | -           | -            | +            | -           | cmu-cs-vlsi    | 128.2.254.129 |       |
| -             | -           | -           | -            | -            | -           | cmu-cs-ps1     | 128.2.254.130 |       |
| +             | +           | -           | -            | +            | -           | cmu-cs-zog     | 128.2.254.131 |       |
| +             | +           | -           | -            | +            | -           | cmu-cs-g       | 128.2.254.132 |       |
| +             | +           | -           | -            | +            | -           | cmu-cs-cad     | 128.2.254.133 |       |
| +             | -           | -           | -            | -            | -           | cmu-cs-k       | 128.2.254.136 |       |
| +             | +           | -           | -            | +            | -           | cmu-ri-fas     | 128.2.254.138 |       |
| +             | +           | -           | -            | +            | -           | cmu-cs-spice   | 128.2.254.139 |       |
| +             | +           | -           | -            | +            | -           | cmu-cs-gandalf | 128.2.254.140 |       |
| +             | -           | -           | -            | -            | -           | cmu-ri-leg     | 128.2.254.141 |       |
| +             | +           | -           | -            | +            | -           | cmu-ri-is11    | 128.2.254.143 |       |
| -             | -           | -           | -            | -            | -           | cmu-cs-j       | 128.2.254.144 |       |
| +             | +           | -           | -            | +            | -           | cmu-cs-speech  | 128.2.254.145 |       |
| -             | -           | -           | -            | -            | -           | cmu-cs-ps2     | 128.2.254.146 |       |
| +             | +           | -           | -            | +            | -           | cmu-cs-unh     | 128.2.254.150 |       |
| +             | +           | -           | -            | +            | -           | cmu-ri-arm     | 128.2.254.151 |       |
| +             | +           | -           | -            | +            | -           | cmu-ri-is12    | 128.2.254.152 |       |
| +             | +           | -           | -            | +            | -           | cmu-cs-cfs     | 128.2.254.153 |       |
| +             | +           | -           | -            | +            | -           | cmu-cs-jk      | 128.2.254.154 |       |
| +             | +           | -           | -            | +            | -           | cmu-cs-pt      | 128.2.254.155 |       |

| Claim<br>SMTP | Arpa<br>net | ISI-<br>Net | VRFY<br>Post | RCPT<br>Post | Bad<br>jqkx | Host name    | Address       | Notes |
|---------------|-------------|-------------|--------------|--------------|-------------|--------------|---------------|-------|
| +             | +           | -           | -            | +            | -           | cmu-cs-h     | 128.2.254.156 |       |
| +             | +           | -           | -            | +            | -           | cmu-ri-rover | 128.2.254.157 |       |
| +             | +           | -           | -            | +            | -           | dcn1         | 128.4.0.1     |       |
| +             | -           | -           | -            | -            | -           | dcn2         | 128.4.0.2     |       |
| +             | +           | -           | -            | +            | -           | dcn3         | 128.4.0.3     |       |
| +             | -           | -           | -            | -            | -           | dcn4         | 128.4.0.4     |       |
| +             | +           | -           | -            | +            | -           | dcn5         | 128.4.0.5     |       |
| +             | +           | -           | -            | +            | -           | dcn6         | 128.4.0.6     |       |
| +             | +           | -           | -            | +            | -           | dcn7         | 128.4.0.7     |       |
| +             | +           | -           | -            | +            | -           | dcn8         | 128.4.0.8     | b     |
| +             | -           | -           | -            | -            | -           | dcn9         | 128.4.0.9     |       |
| +             | +           | -           | -            | +            | -           | ford1        | 128.5.0.1     |       |
| +             | +           | -           | -            | +            | -           | ford2        | 128.5.0.2     |       |
| +             | +           | -           | -            | +            | -           | ford3        | 128.5.0.3     |       |
| +             | +           | -           | -            | +            | -           | ford4        | 128.5.0.4     |       |
| +             | +           | -           | -            | +            | -           | ford-lab     | 128.5.0.8     |       |
| +             | -           | -           | -            | -            | -           | ford-vax     | 128.5.0.9     |       |
| +             | -           | -           | -            | -            | -           | ford-res     | 128.5.0.10    |       |
| +             | +           | -           | -            | +            | -           | ford-ecc     | 128.5.0.11    |       |
| +             | +           | -           | -            | +            | -           | ford-srl     | 128.5.0.12    |       |
| +             | +           | -           | -            | +            | -           | ford-ers     | 128.5.0.13    |       |
| +             | +           | -           | -            | +            | -           | ford-eed     | 128.5.0.14    | b     |
| +             | +           | -           | -            | +            | -           | ford-foe     | 128.5.0.15    | b     |
| +             | +           | -           | -            | -            | +           | ford-wdl1    | 128.5.32.1    |       |
| +             | -           | -           | -            | -            | -           | ford-wdl2    | 128.5.32.2    |       |
| +             | +           | -           | -            | +            | -           | ford-wdl3    | 128.5.32.3    |       |
| +             | -           | -           | -            | -            | -           | ford-wdl4    | 128.5.32.4    |       |
| +             | +           | -           | -            | -            | +           | ford-wdl5    | 128.5.32.5    |       |
| -             | +           | -           | -            | -            | +           | ford-wdl6    | 128.5.32.6    |       |
| +             | -           | -           | -            | -            | -           | dfv1r1       | 128.7.0.1     |       |
| +             | -           | -           | -            | -            | -           | dfv1r2       | 128.7.0.2     |       |
| +             | -           | -           | -            | -            | -           | dfv1r3       | 128.7.0.3     |       |
| +             | -           | -           | -            | -            | -           | dfv1r7       | 128.7.0.7     |       |
| +             | +           | -           | -            | +            | -           | umd1         | 128.8.0.1     |       |
| +             | +           | -           | -            | +            | -           | umd2         | 128.8.0.2     |       |
| +             | +           | -           | -            | +            | -           | umd3         | 128.8.0.3     |       |
| +             | +           | -           | -            | +            | -           | cv1          | 128.8.0.4     |       |
| +             | +           | -           | -            | +            | -           | umd5         | 128.8.0.5     |       |
| +             | -           | -           | -            | -            | -           | umd6         | 128.8.0.6     |       |
| +             | -           | -           | -            | -            | -           | umd7         | 128.8.0.7     |       |
| +             | +           | -           | -            | +            | -           | umd-csd      | 128.8.0.8     |       |
| +             | -           | -           | -            | -            | -           | umd9         | 128.8.0.9     |       |
| +             | -           | -           | -            | -            | -           | umda         | 128.8.0.10    |       |
| +             | -           | -           | -            | -            | -           | umdb         | 128.8.0.11    |       |
| +             | -           | -           | -            | -            | -           | umdc         | 128.8.0.12    |       |
| +             | -           | -           | -            | -            | -           | umdd         | 128.8.0.13    |       |
| +             | -           | -           | -            | -            | -           | umde         | 128.8.0.14    |       |
| +             | -           | -           | -            | -            | -           | umdf         | 128.8.0.15    |       |
| -             | -           | -           | -            | -            | -           | isi-accutest | 128.9.0.24    |       |
| -             | -           | -           | -            | -            | -           | isi-elvira   | 128.9.0.41    |       |

| Claim<br>SMTP | Arpa<br>net | ISI-<br>Net | VRFY<br>Post | RCPT<br>Post | Bad<br>jqkx | Host name            | Address      | Notes |
|---------------|-------------|-------------|--------------|--------------|-------------|----------------------|--------------|-------|
| -             | -           | -           | -            | -            | -           | isi-hobgoblin        | 128.9.0.42   |       |
| -             | -           | -           | -            | -            | -           | isi-moe              | 128.9.0.43   |       |
| -             | -           | -           | -            | -            | -           | isi-troll            | 128.9.0.44   |       |
| -             | -           | -           | -            | -            | -           | isi-curly            | 128.9.0.45   |       |
| -             | -           | -           | -            | -            | -           | isi-shemp            | 128.9.0.46   |       |
| -             | -           | -           | -            | -            | -           | isi-zombie           | 128.9.0.47   |       |
| -             | -           | -           | -            | -            | -           | isi-xorn             | 128.9.0.48   |       |
| -             | +           | -           | -            | -            | +           | isi-vlsia            | 128.9.0.49   |       |
| -             | +           | +           | -            | -            | +           | isi-vlsib            | 128.9.0.50   |       |
| -             | -           | -           | -            | -            | -           | isi-dawn             | 128.9.0.92   |       |
| -             | -           | -           | -            | -            | -           | isi-rising           | 128.9.0.93   |       |
| -             | -           | -           | -            | -            | -           | isi-spanky           | 128.9.0.112  |       |
| -             | -           | -           | -            | -            | -           | isi-alfalfa          | 128.9.0.113  |       |
| -             | -           | -           | -            | -            | -           | isi-darla            | 128.9.0.114  |       |
| -             | -           | -           | -            | -            | -           | isi-buckwheat        | 128.9.0.115  |       |
| -             | -           | -           | -            | -            | -           | isi-stymie           | 128.9.0.116  |       |
| -             | -           | -           | -            | -            | -           | isi-farina           | 128.9.0.117  |       |
| -             | -           | -           | -            | -            | -           | isi-pete             | 128.9.0.118  |       |
| -             | -           | -           | -            | -            | -           | isi-froggie          | 128.9.0.119  |       |
| -             | -           | -           | -            | -            | -           | isi-wab2             | 128.9.0.121  |       |
| -             | -           | -           | -            | -            | -           | isi-randy            | 128.9.0.122  |       |
| -             | -           | -           | -            | -            | -           | isi-rag2             | 128.9.0.123  |       |
| +             | +           | -           | -            | +            | -           | csnet-purdue         | 128.10.0.2   |       |
| +             | +           | -           | -            | -            | +           | bbn-cvax             | 128.11.0.2   |       |
| +             | +           | -           | -            | -            | +           | bbnv1                | 128.11.64.1  |       |
| -             | -           | -           | -            | -            | -           | ucl-lsih             | 128.16.1.67  |       |
| -             | -           | -           | -            | -            | -           | ucl-lsil             | 128.16.1.106 |       |
| -             | -           | -           | -            | -            | -           | ucl-lsim             | 128.16.1.110 |       |
| -             | -           | -           | -            | -            | -           | ucl-lsii             | 128.16.1.112 |       |
| -             | -           | -           | -            | -            | -           | ucl-lsij             | 128.16.1.113 |       |
| -             | -           | -           | -            | -            | -           | ucl-lsik             | 128.16.1.115 |       |
| -             | -           | -           | -            | -            | -           | ucl-terminal-gateway | 128.16.3.2   |       |
| -             | -           | -           | -            | -            | -           | ucl-sam              | 128.16.9.0   |       |
| -             | -           | -           | -            | -            | -           | ucl-probe            | 128.16.9.1   |       |
| -             | +           | -           | -            | +            | +           | ucl-tg               | 128.16.9.2   |       |
| +             | -           | -           | -            | -            | -           | ucl-cs               | 128.16.9.3   |       |
| -             | -           | -           | -            | -            | -           | ucl-niftp            | 128.16.9.4   |       |
| +             | -           | -           | -            | -            | -           | edn-host1            | 128.19.1.1   |       |
| +             | -           | -           | -            | -            | -           | brl-hep              | 128.20.1.2   |       |
| +             | +           | -           | -            | +            | +           | amsaa                | 128.20.3.1   |       |
| +             | +           | -           | -            | +            | +           | brl-voc              | 128.20.3.2   |       |
| +             | +           | -           | -            | +            | +           | hel-ace              | 128.20.3.4   |       |
| +             | +           | -           | +            | +            | +           | sri-spam             | 128.21.32.2  |       |
| -             | +           | -           | -            | +            | -           | wisc-rsch            | 192.5.2.1    |       |
| -             | +           | -           | -            | +            | -           | wisc-db              | 192.5.2.2    |       |
| -             | +           | -           | -            | +            | -           | wisc-crys            | 192.5.2.7    |       |
| +             | +           | -           | -            | -            | +           | cit-750              | 192.5.7.3    |       |
| +             | +           | -           | -            | +            | -           | uw-beaver            | 192.5.8.1    |       |
| +             | +           | -           | -            | +            | -           | uw-lumpy             | 192.5.8.2    | b     |
| +             | +           | -           | -            | +            | -           | uw-wally             | 192.5.8.3    |       |

| Claim<br>SMTP | Arpa<br>net | ISI-<br>Net | VRFY<br>Post | RCPT<br>Post | Bad<br>jqkx | Host name    | Address     | Notes |
|---------------|-------------|-------------|--------------|--------------|-------------|--------------|-------------|-------|
| -----         | -----       | -----       | -----        | -----        | -----       | -----        | -----       | ----- |
| +             | +           | -           | -            | +            | -           | uw-june      | 192.5.8.4   |       |
| +             | +           | -           | -            | +            | -           | uw-eddie     | 192.5.8.6   |       |
| +             | +           | -           | +            | +            | +           | utah-gr      | 192.5.12.22 |       |
| +             | +           | -           | +            | +            | +           | utah-sp      | 192.5.12.23 |       |
| +             | -           | -           | -            | -            | -           | nyu-cmcl1    | 192.5.15.5  |       |
| +             | -           | -           | -            | -            | -           | nyu-acf2     | 192.5.15.9  |       |
| +             | +           | -           | -            | +            | +           | brl-bmd      | 192.5.21.1  |       |
| +             | +           | -           | -            | +            | +           | brl-vld      | 192.5.21.2  |       |
| -             | -           | -           | -            | -            | -           | brl-svg      | 192.5.21.3  |       |
| +             | -           | -           | -            | -            | -           | brl-tgr      | 192.5.21.4  |       |
| +             | +           | -           | -            | +            | +           | brl-vgr      | 192.5.21.6  |       |
| +             | -           | -           | -            | -            | -           | cornell-pvax | 192.5.36.4  |       |

## Notes

-----

- a) "VRFY postmaster" gave an unknown user reply; all other negative replies were because VRFY was not implemented.
- b) No connection could be opened to this host during the test of mailing to nonexistent users

