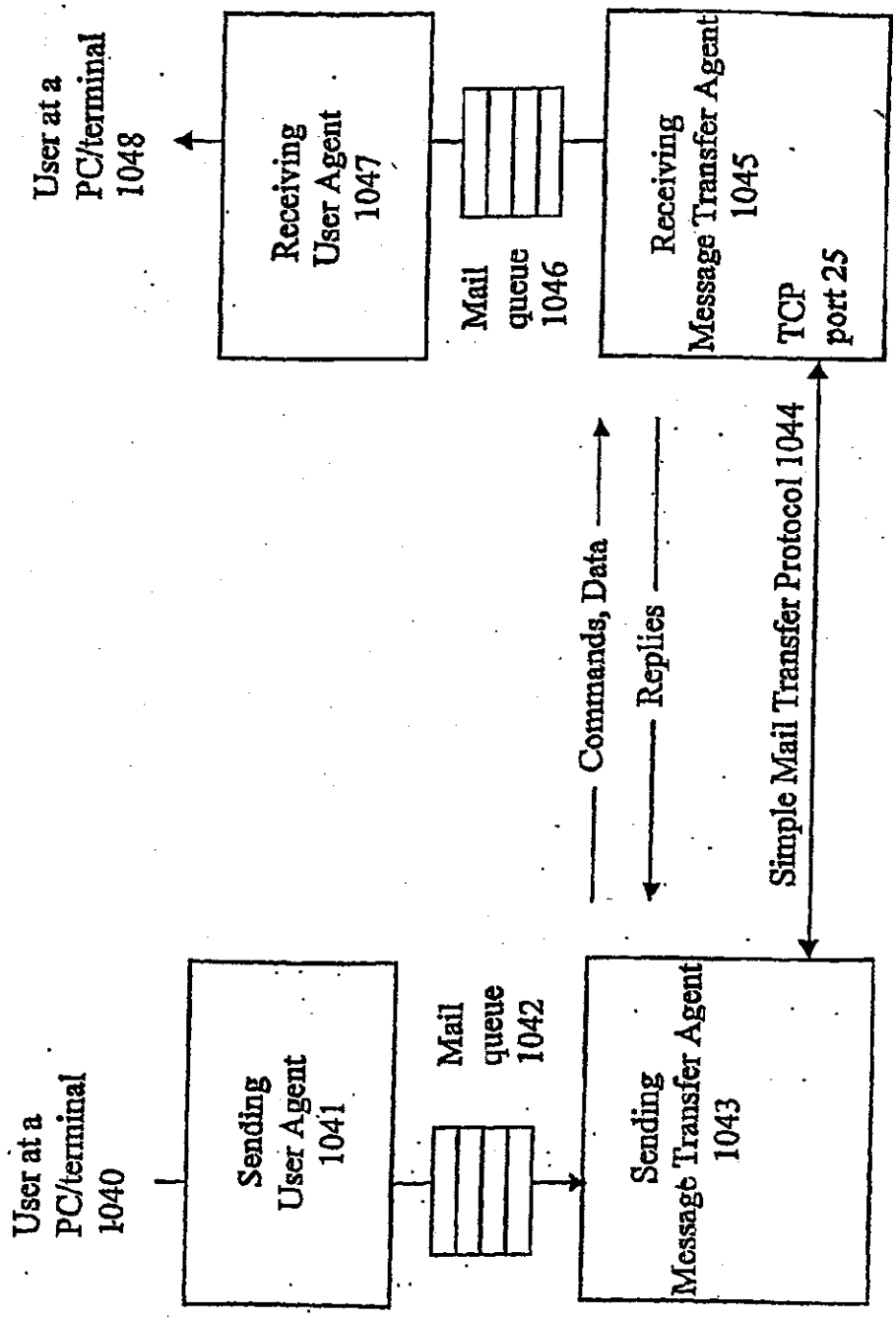
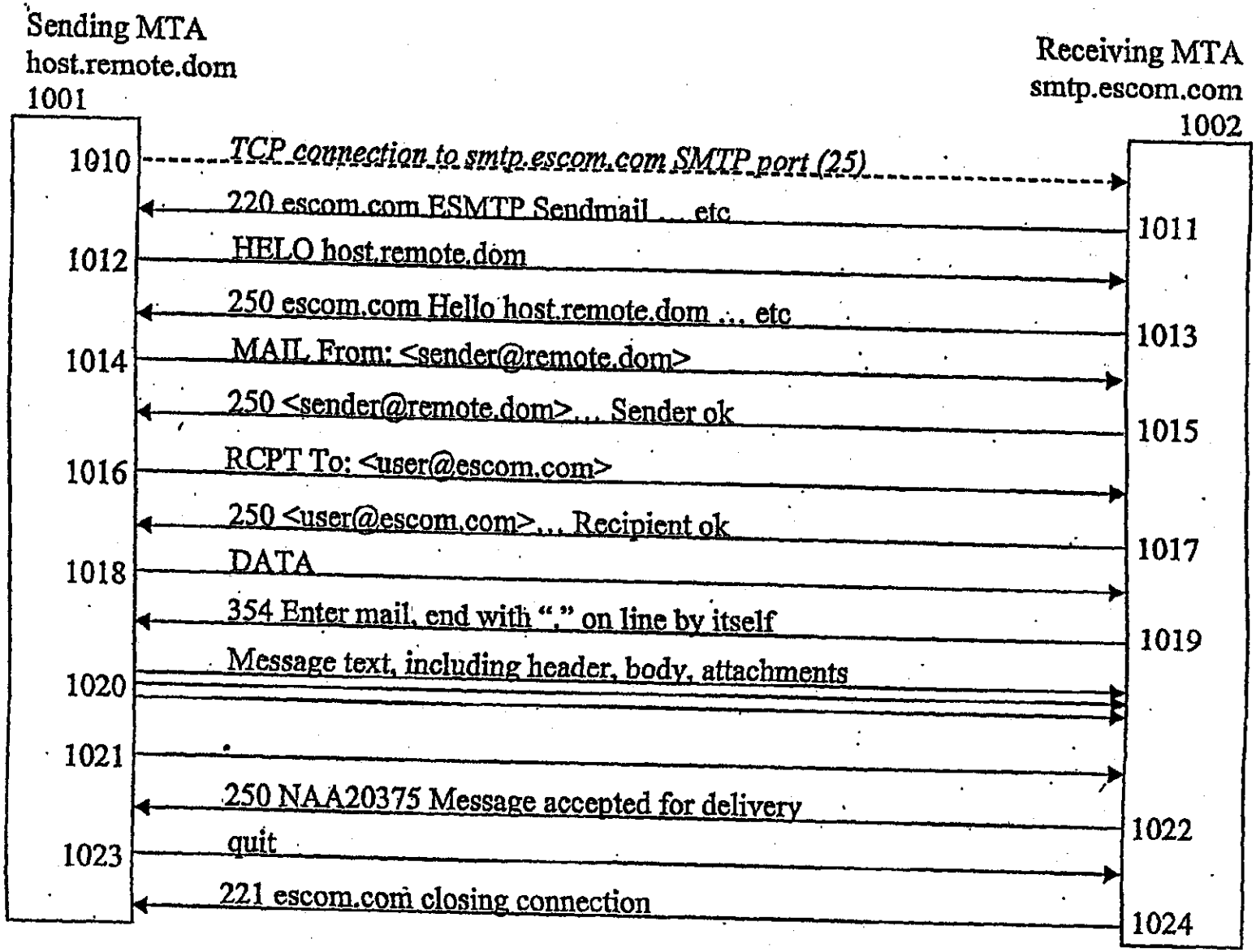



Prior Art

Figure 1. SMTP Architecture

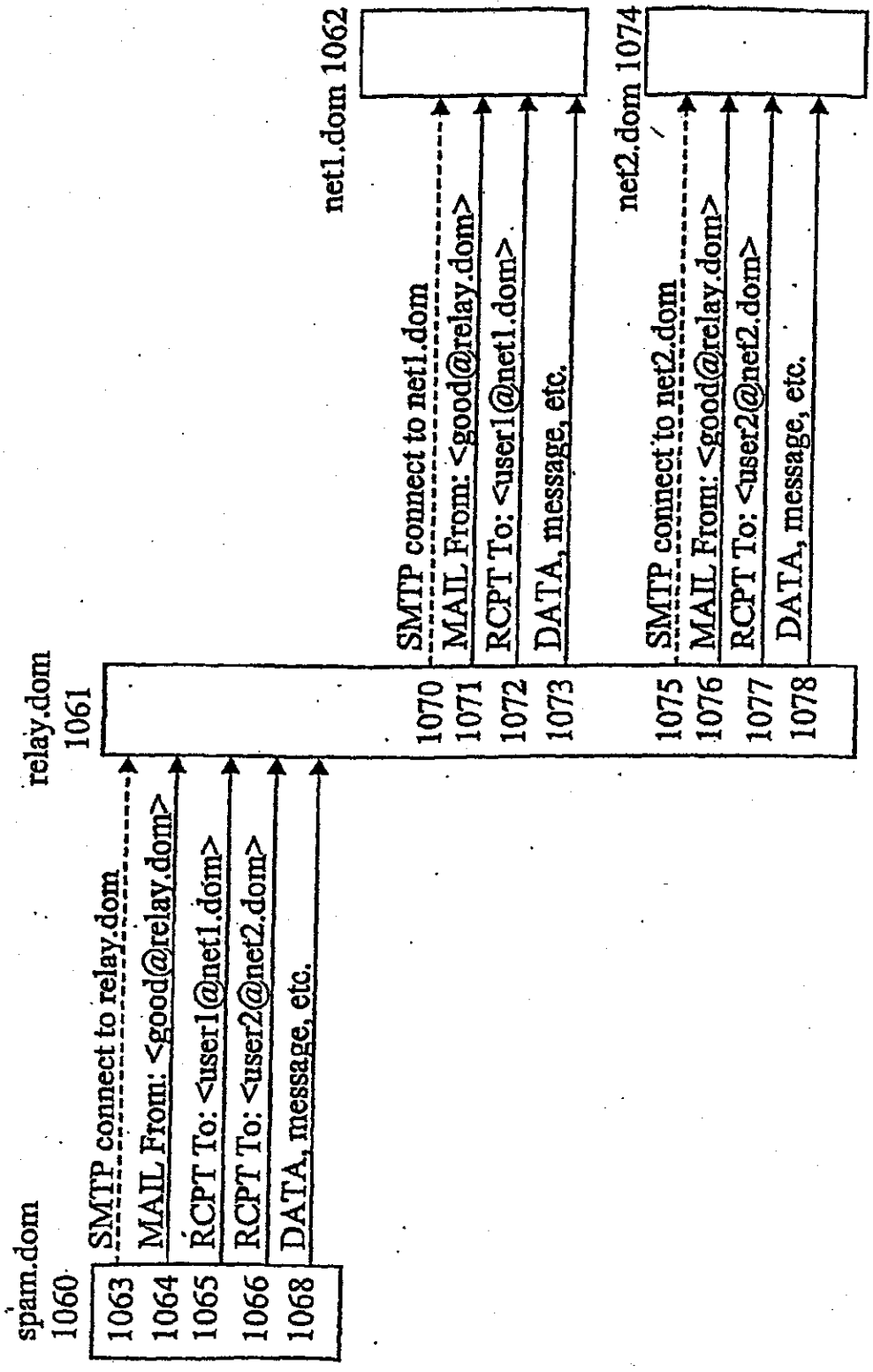



Prior Art

Figure 2. Example of SMTP Message Transfer

Prior Art

Figure 3. Detailed Example of SMTP Message Transfer



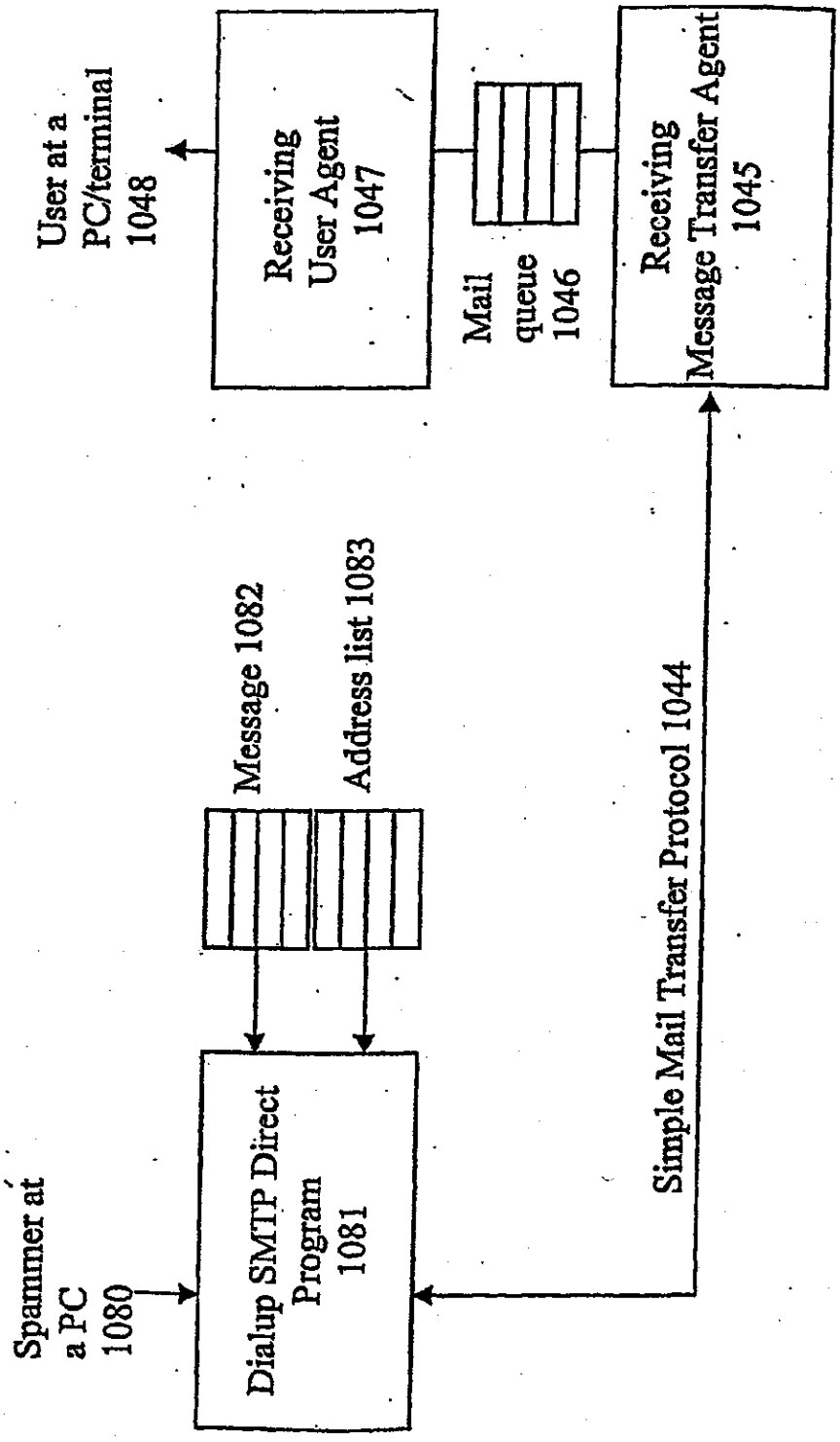

Prior Art

Figure 4. Example of Relay Abuse. (SMTP Responses not Shown)

```
< 220 anubis.itesm.dom Sendmail SMI-8.6/SMI-SVR4 ready [...]
> HELO local.dom
< 250 anubis.itesm.dom Hello local.dom [...]
> MAIL From: <relay_test@local.dom>
< 250 <relay_test@local.dom>... Address ok
> RCPT To: <nobody@local.dom>
< 250 <nobody@local.dom>... Recipient ok
```

Prior Art

Figure 5. SMTP Transactions for Relay Test




Prior Art
Figure 6. Dialup SMTP Architecture

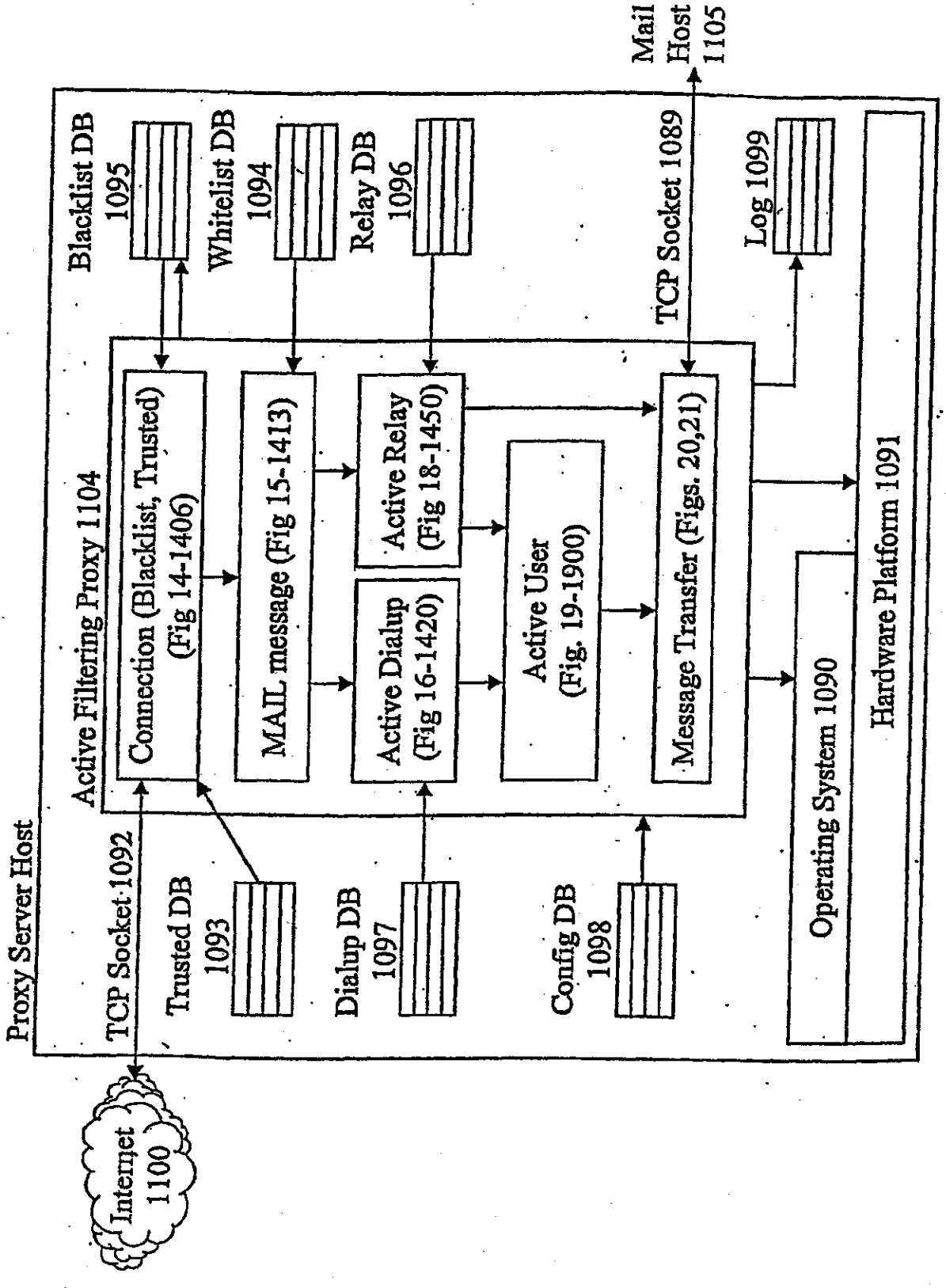



Figure 7. Block Diagram of Active Filtering System

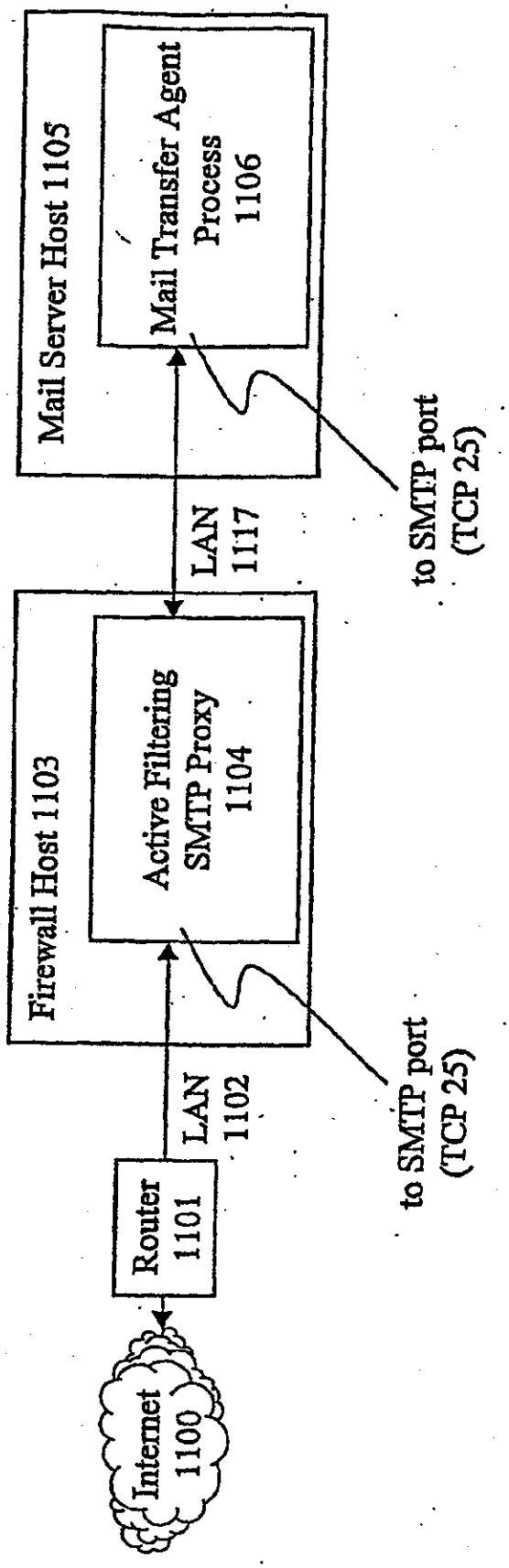



Figure 8. Active Filtering Proxy in Conventional Firewall Configuration.

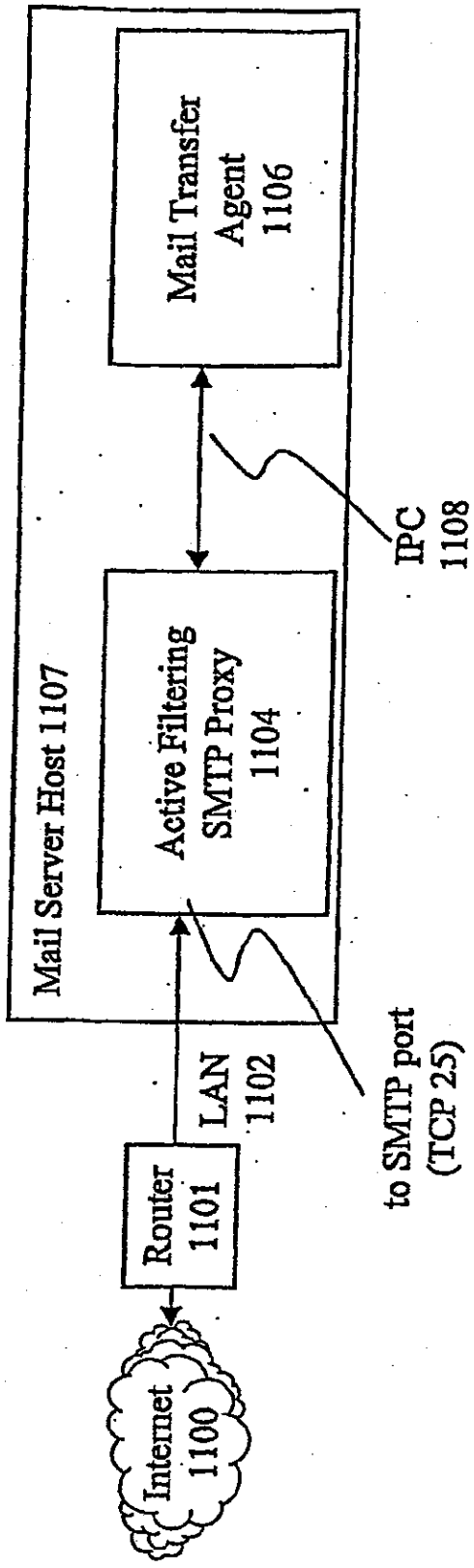



Figure 9. Single-Host Architecture

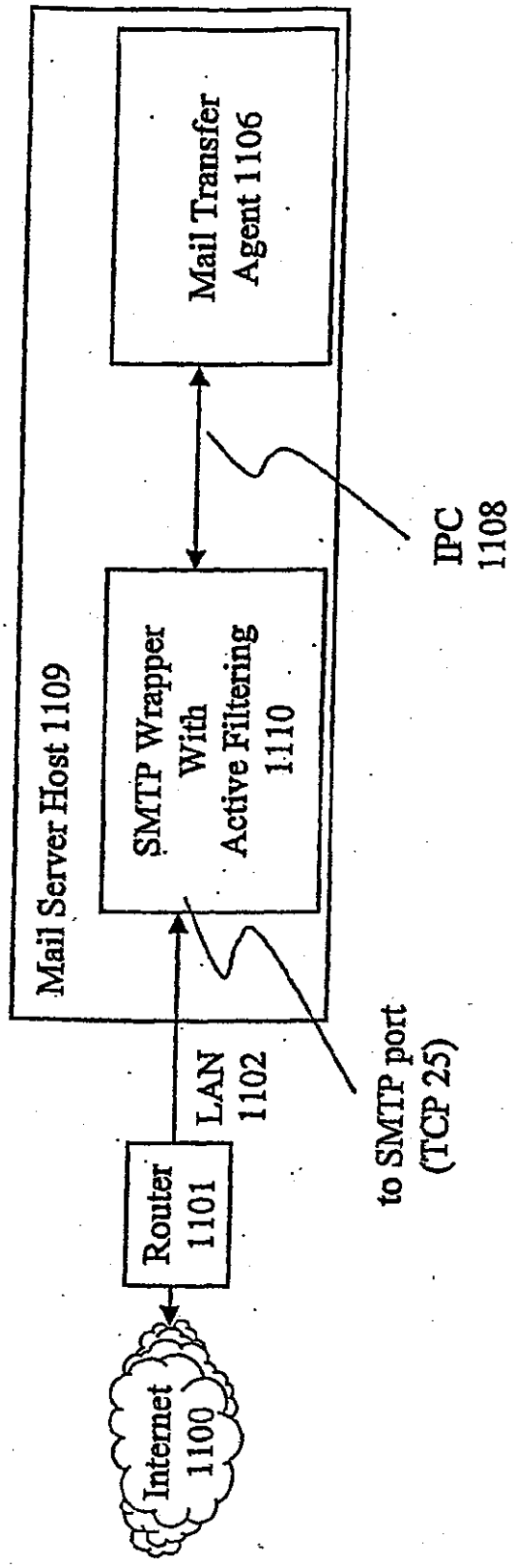



Figure 10. Active Filtering implemented as part of SMTP Wrapper

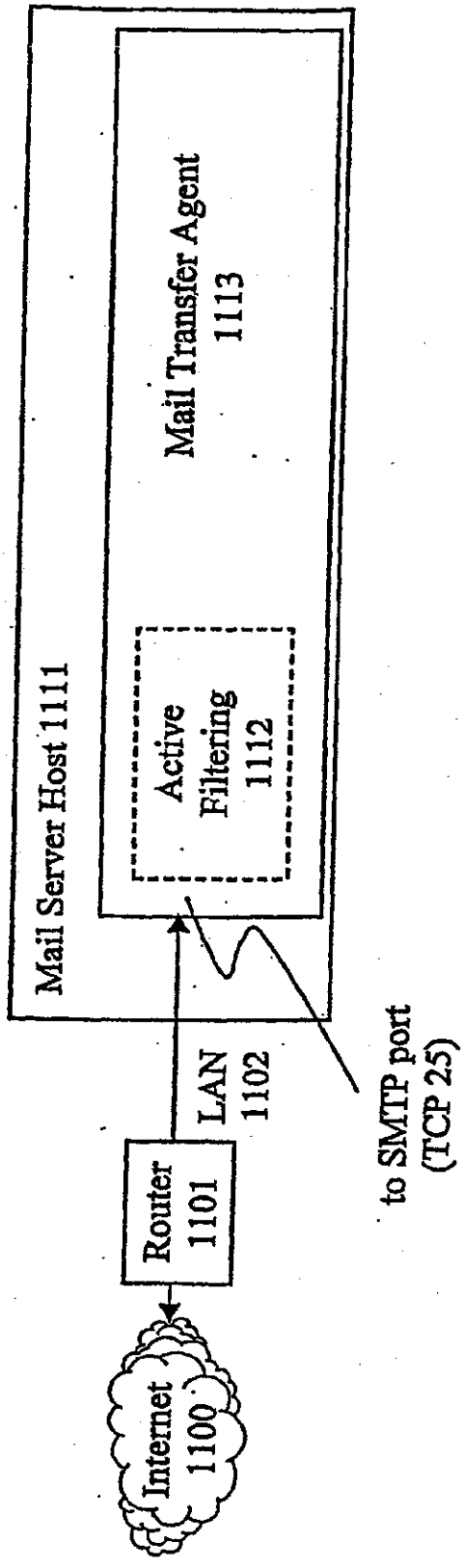



Figure 11. Active Filtering implemented as part of Mail Transfer Agent Process

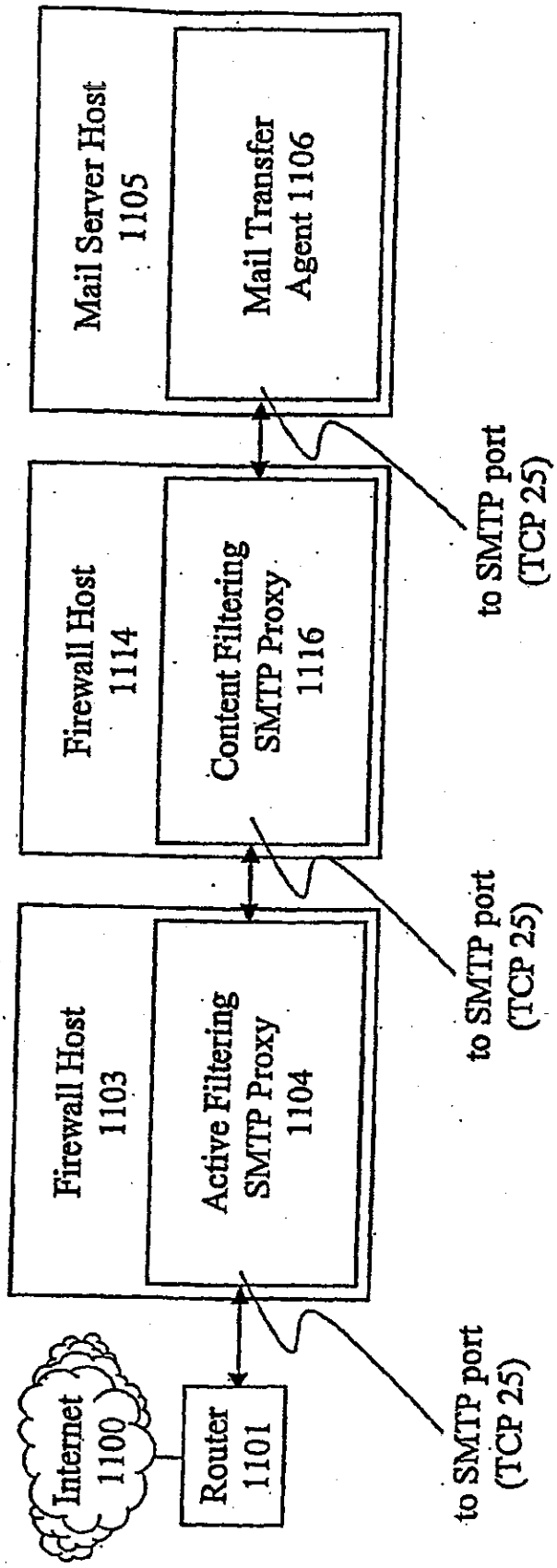



Figure 12. Active Filtering Proxy chained with Content Filtering Proxy

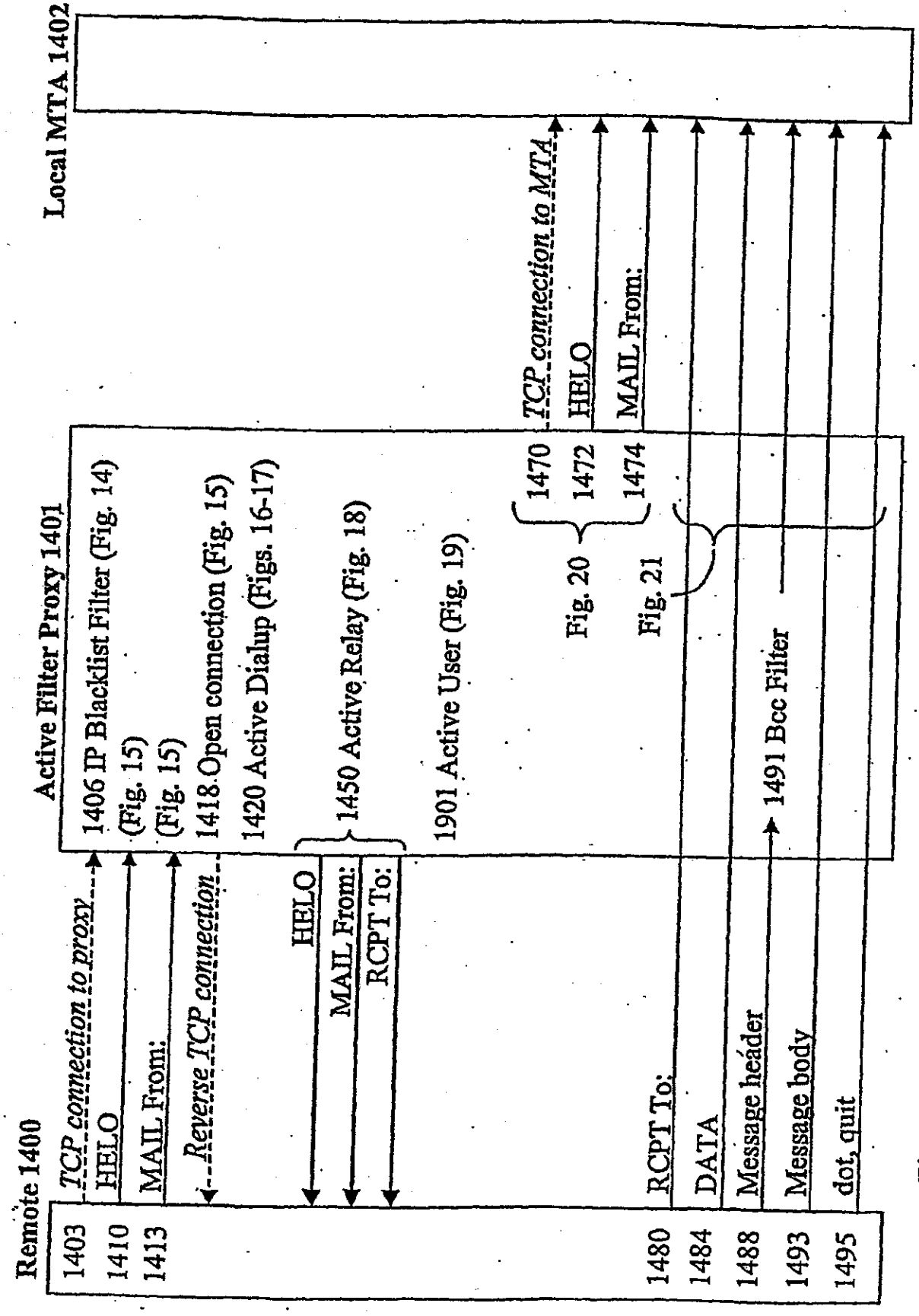



Figure 13. Active Filtering Overview (not showing status responses or error conditions)

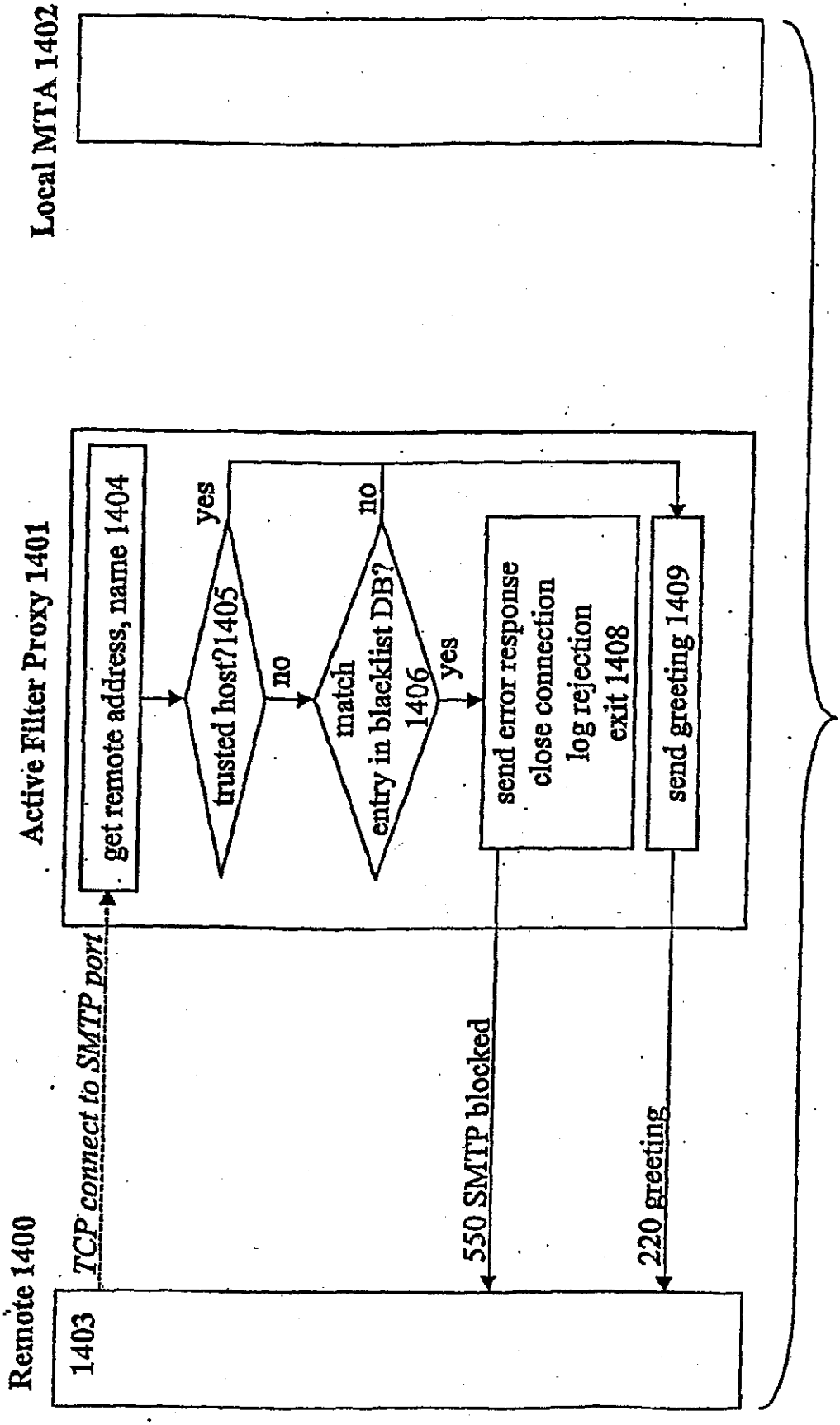



Figure 14. IP Blacklist Filtering

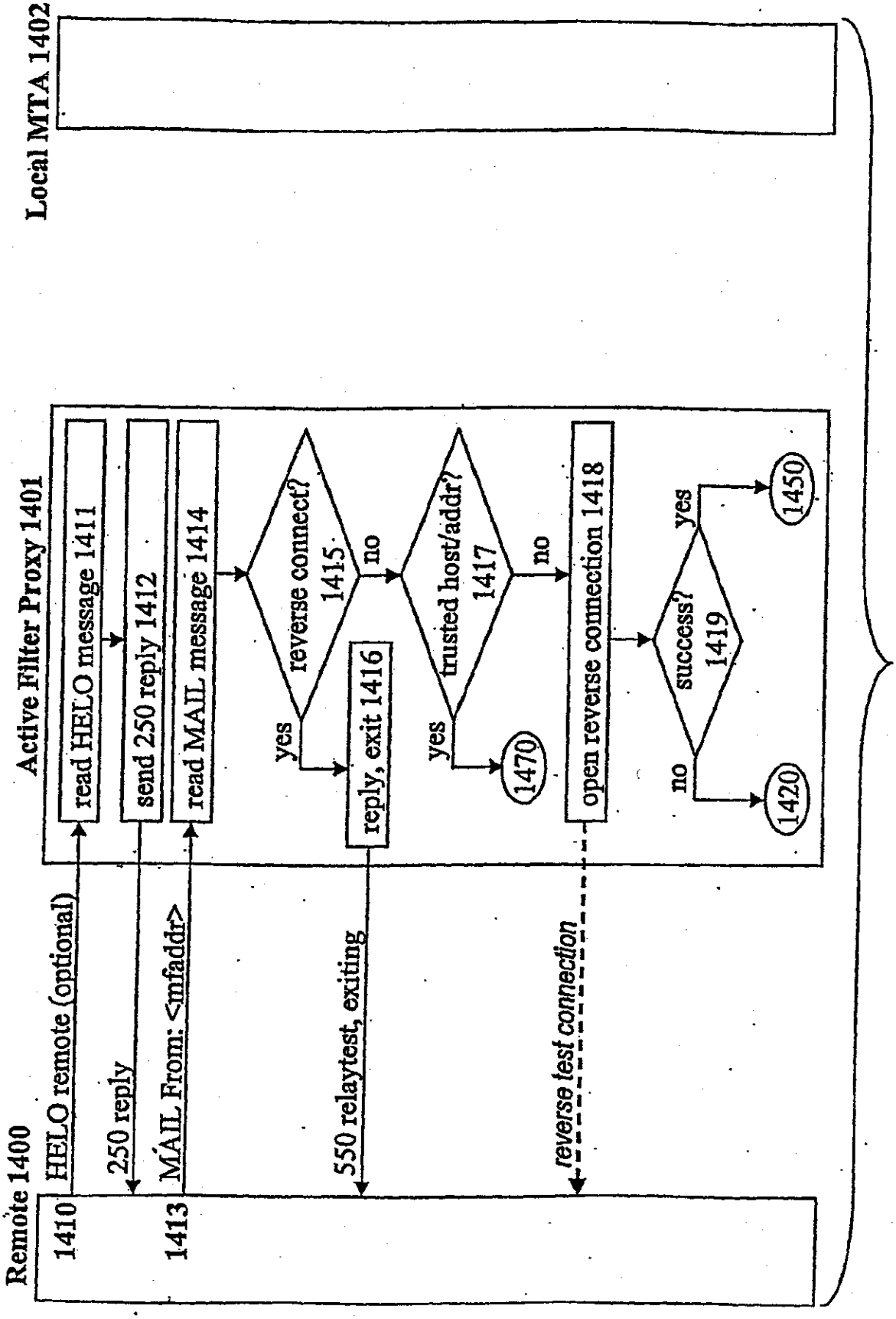



Figure 15. Remote HELO and MAIL Message Processing

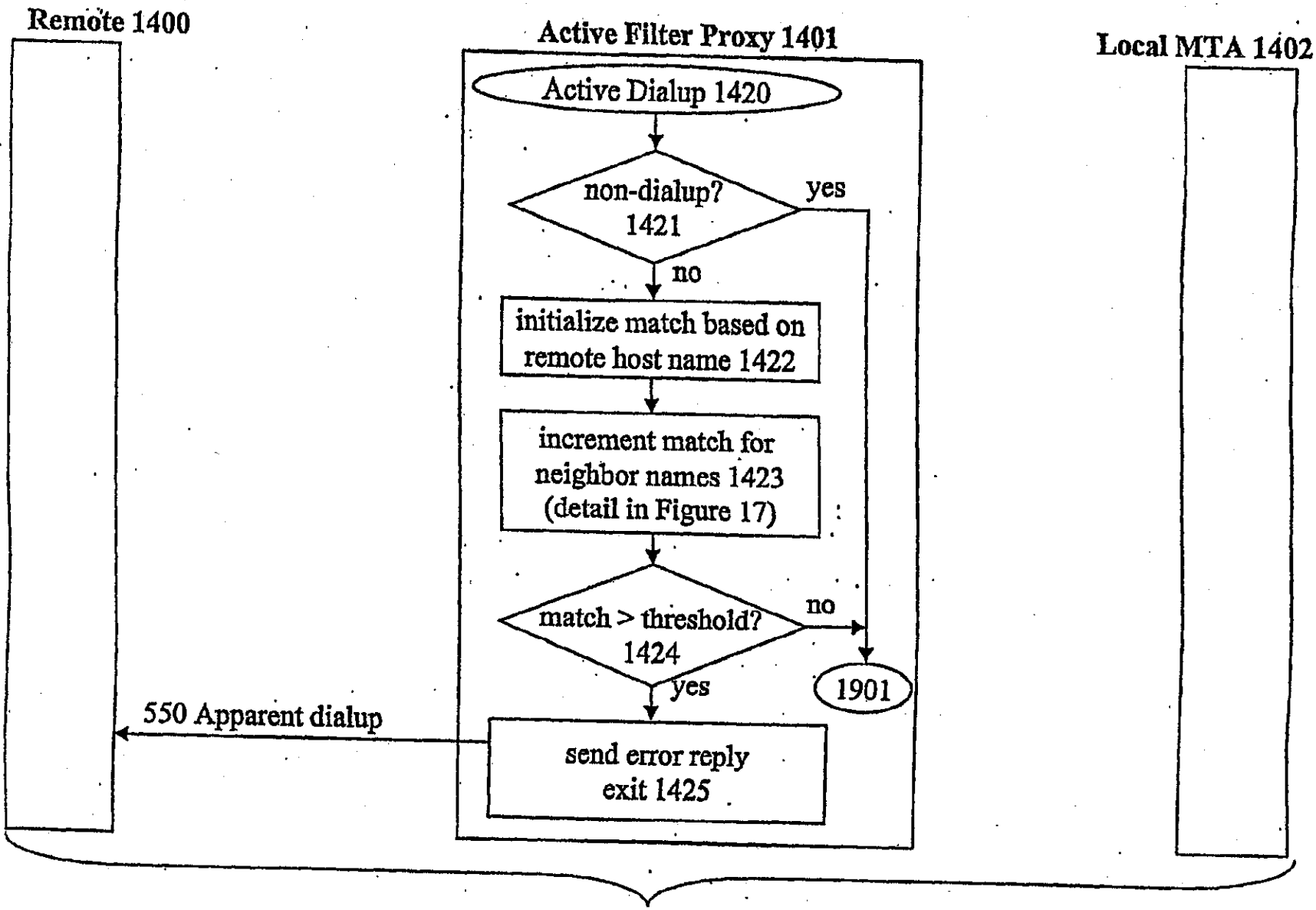



Figure 16. Active Dialup Test

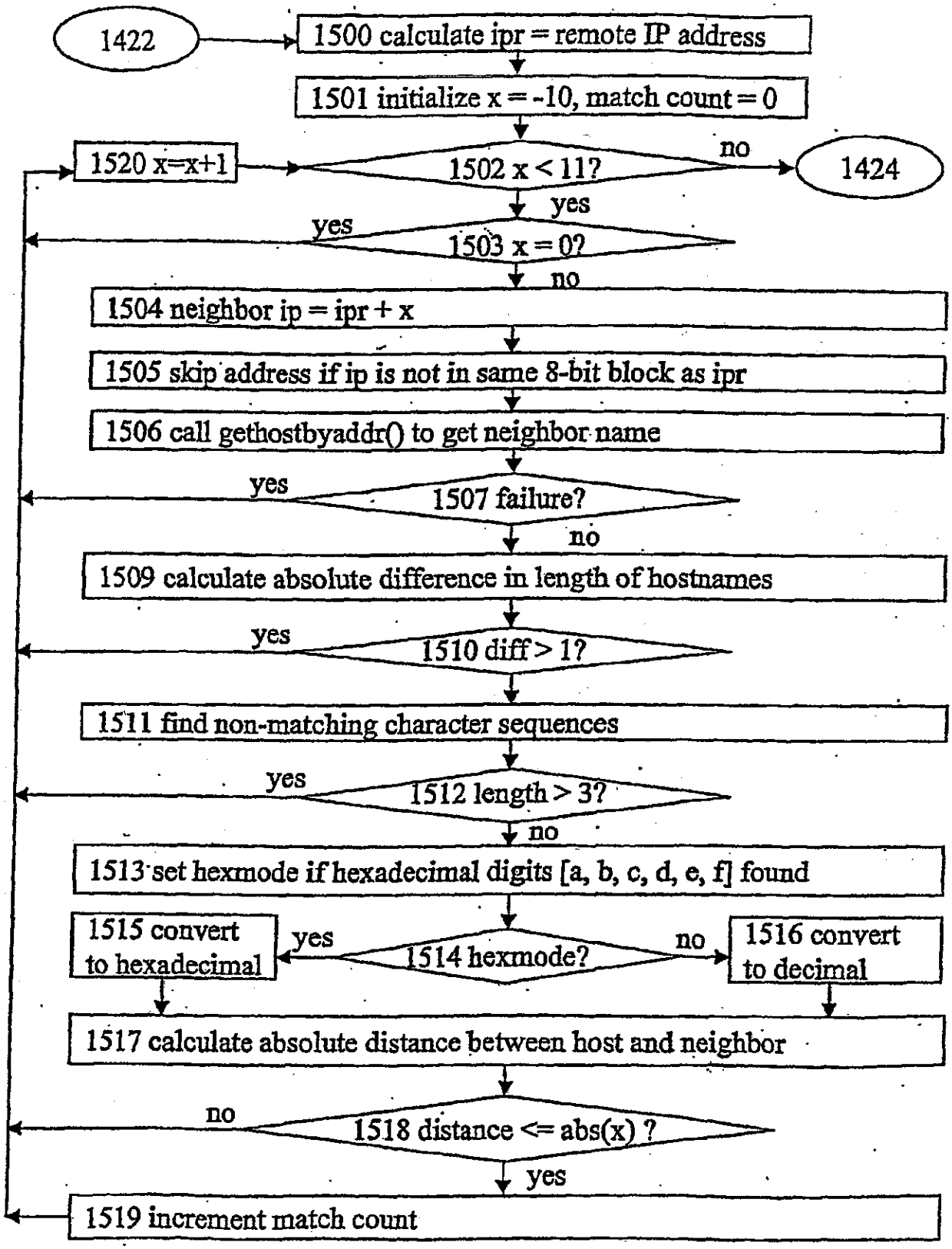



Figure 17. Details of Figure 16 Step 1423

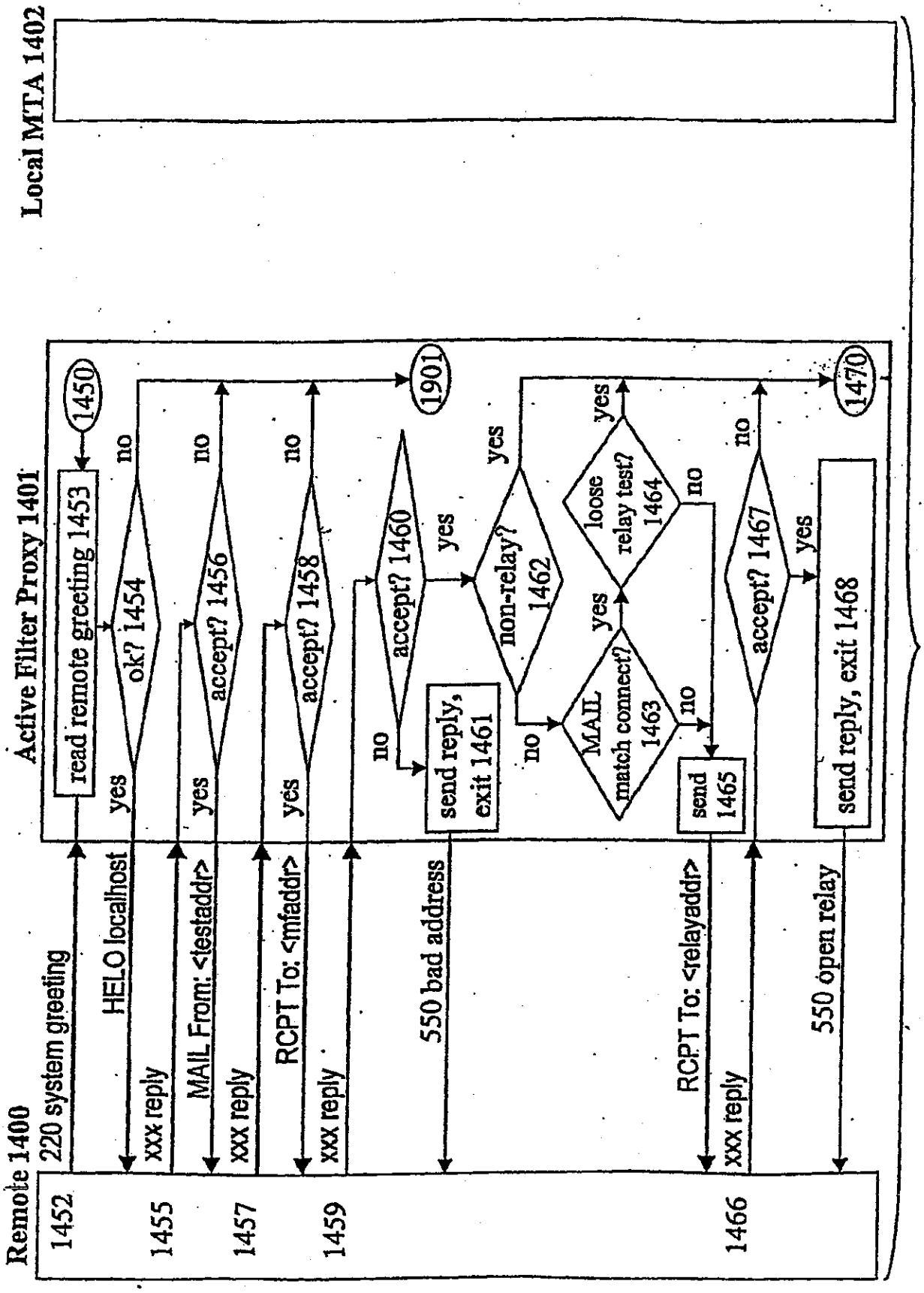



Figure 18. Active Relay Test

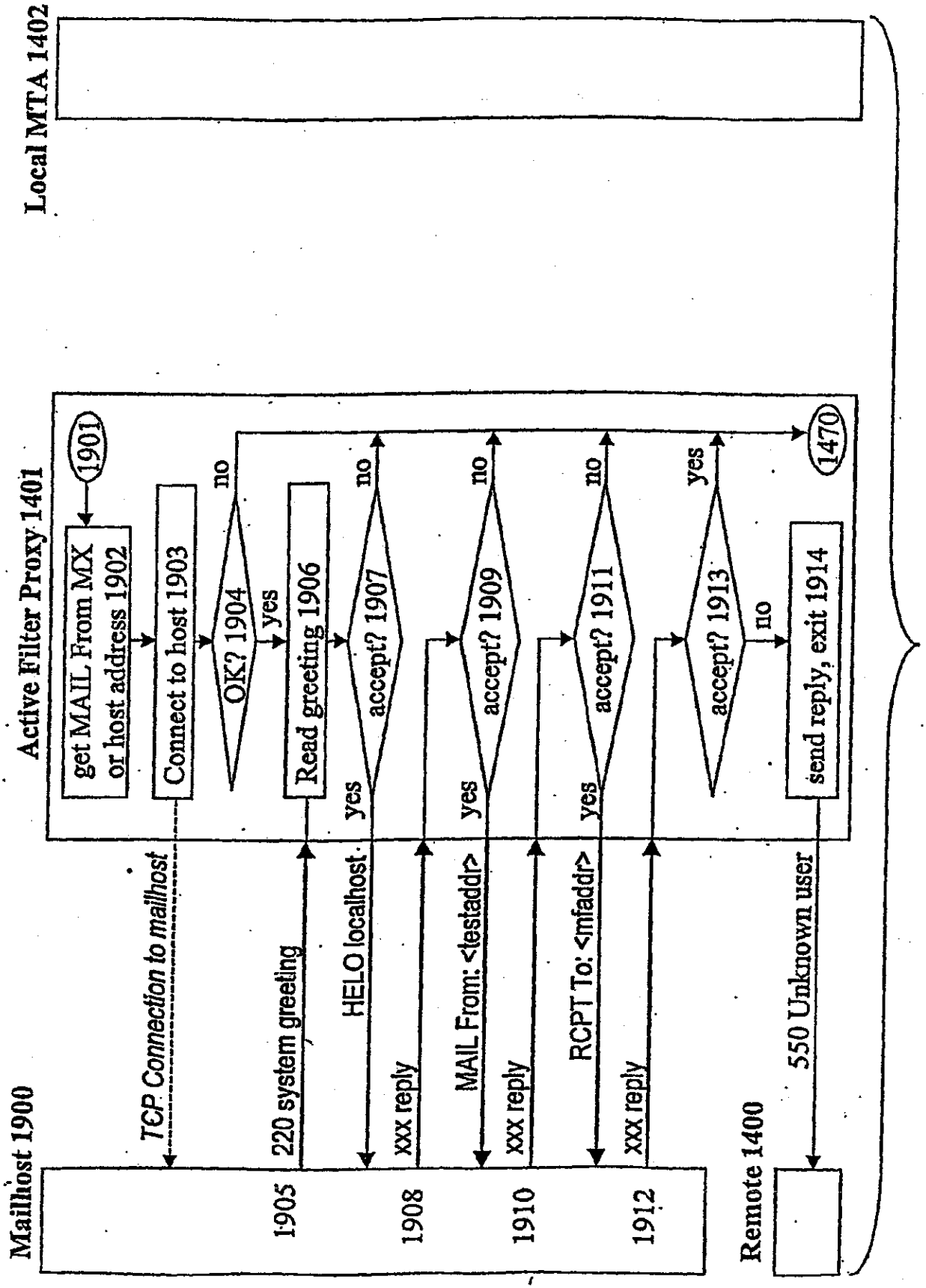



Figure 19. Active User Test

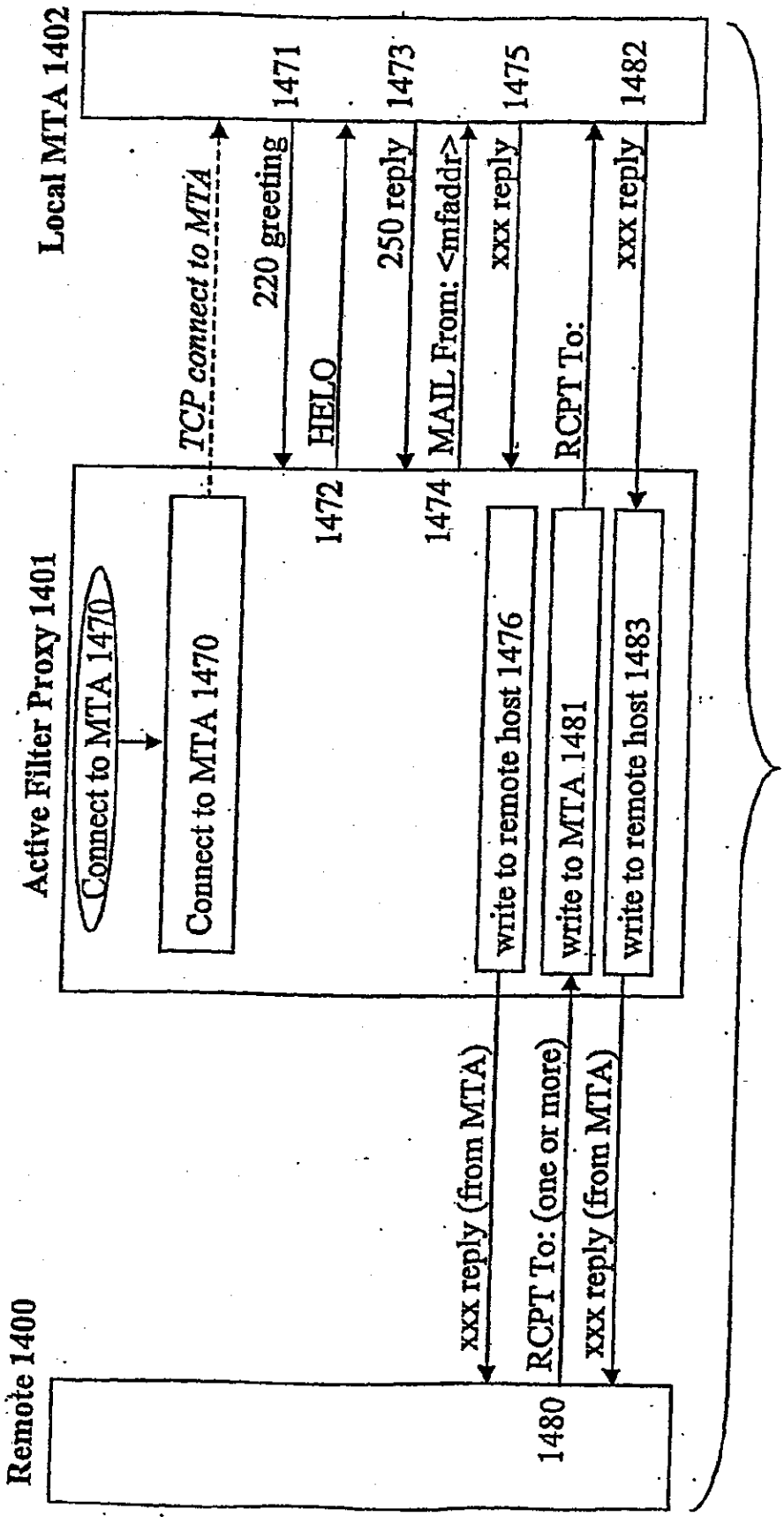



Figure 20. Connect to MTA and Early Protocol Messages

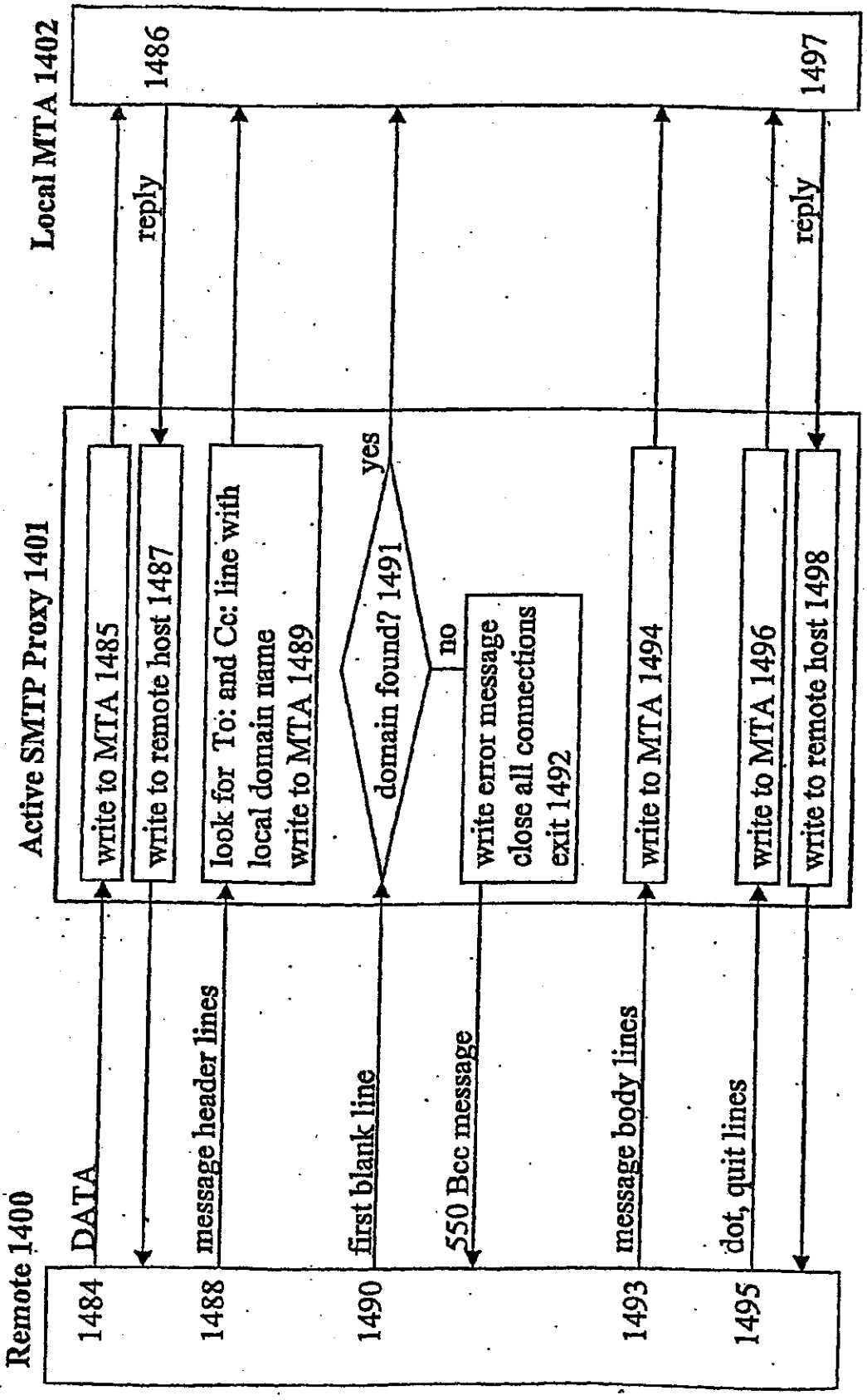



Figure 21. Data Transfer Phase

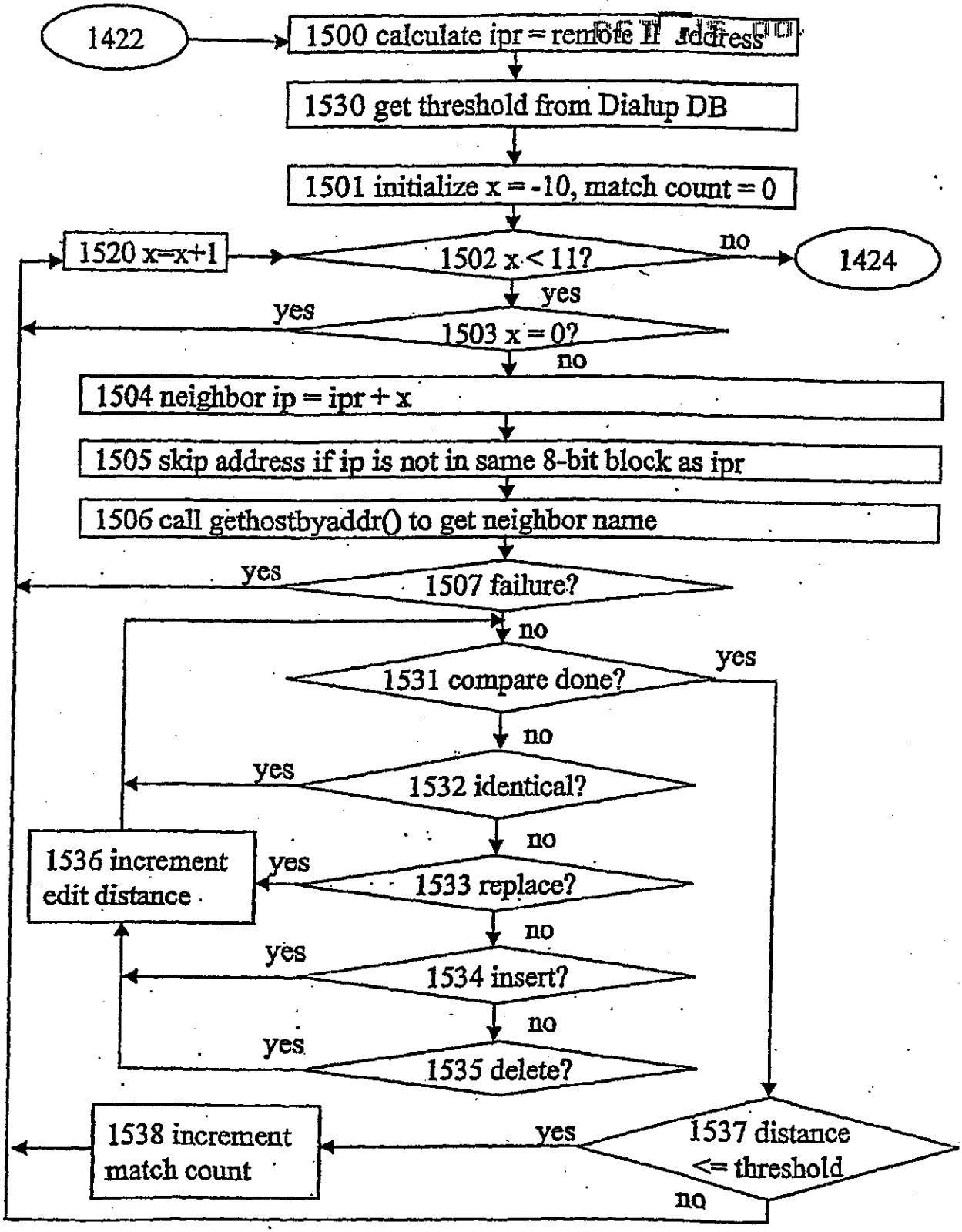



Figure 22. Details of Edit Distance Method
(Alternative Figure 16 Step 1423)

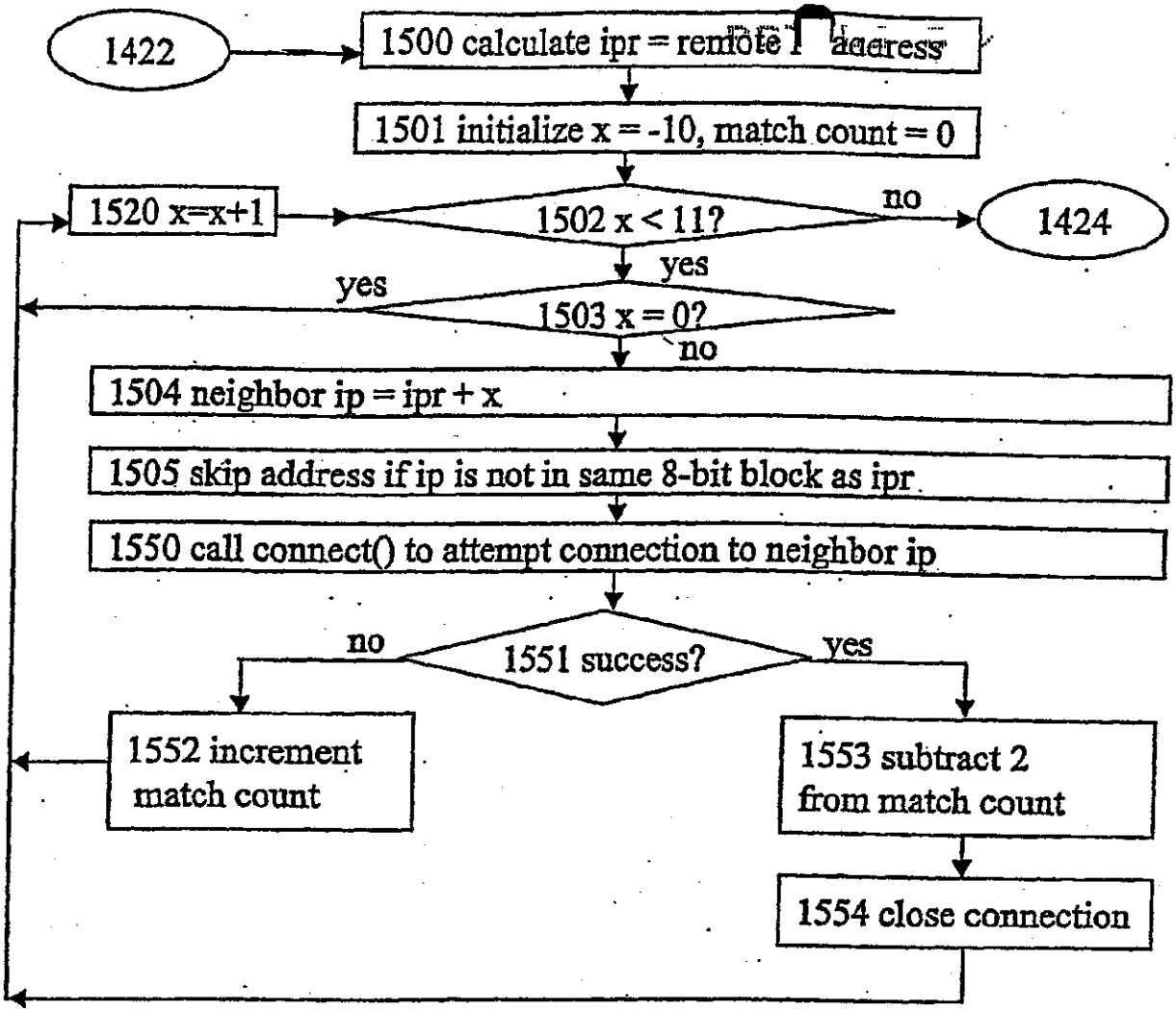



Figure 23. Details of Neighbor Connection Method
(Alternative Figure 16 Step 1423)

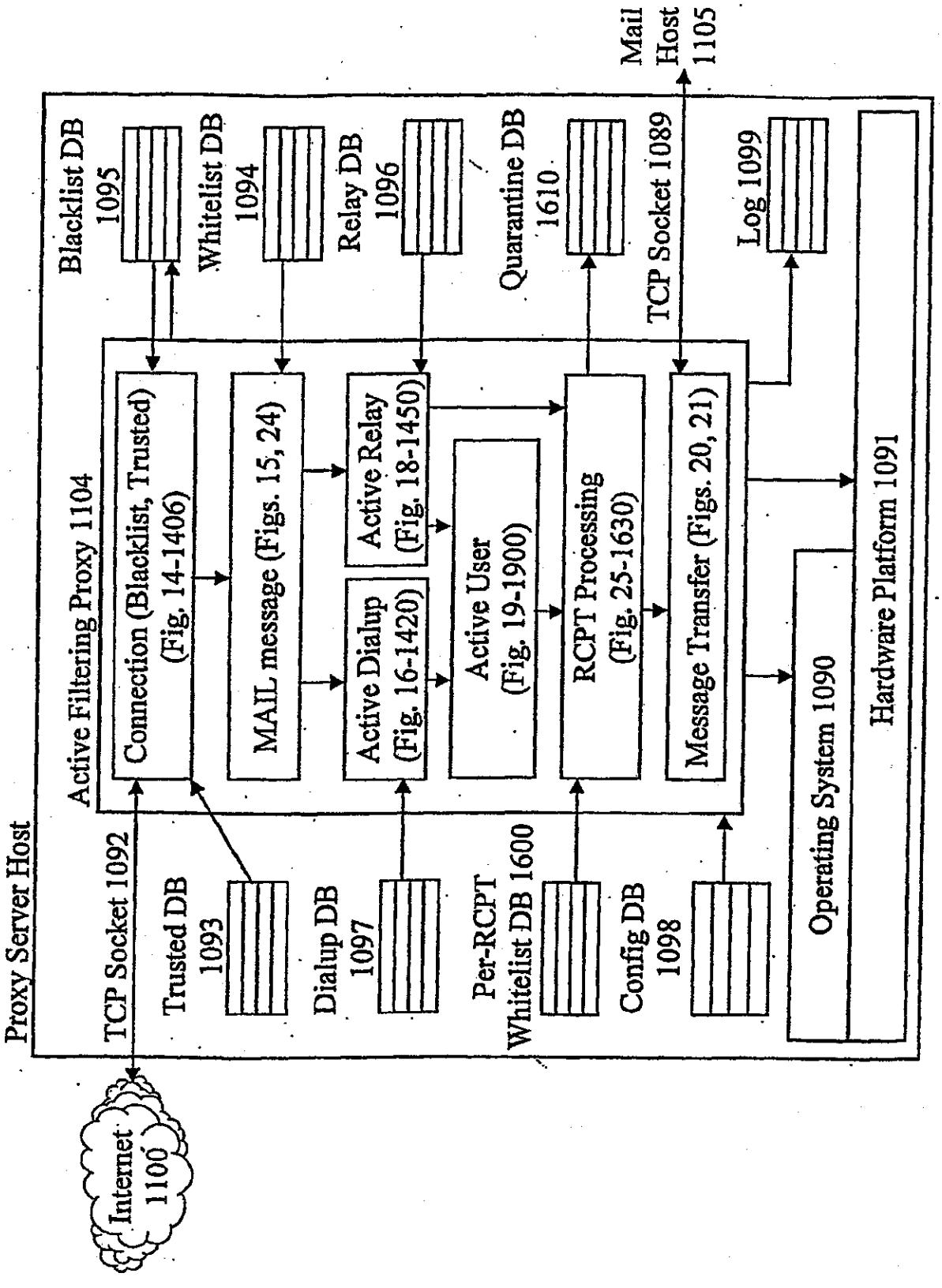



Figure 24. Active Filtering with Per-Recipient Whitelists and Quarantining.

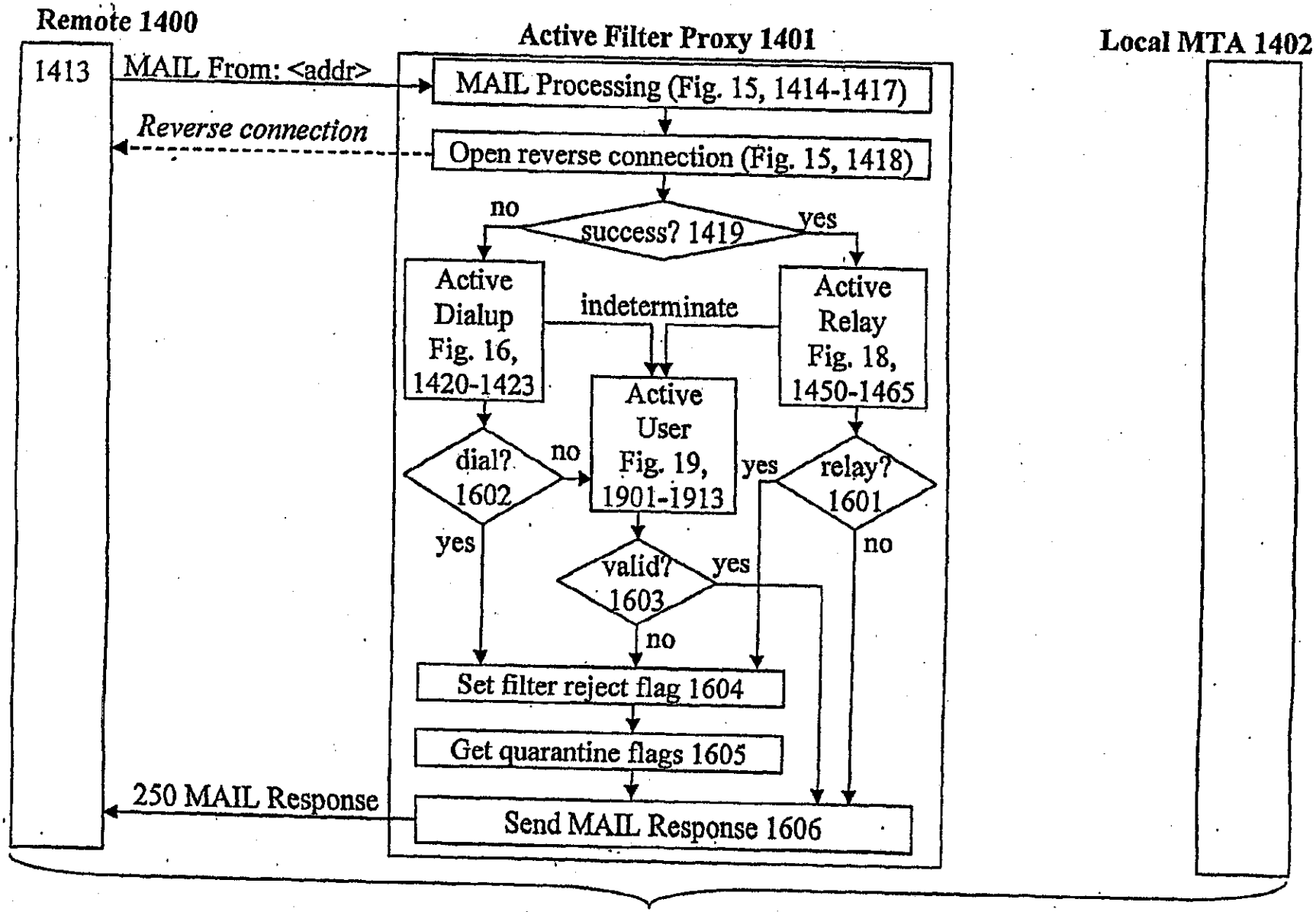



Figure 25. MAIL Processing.

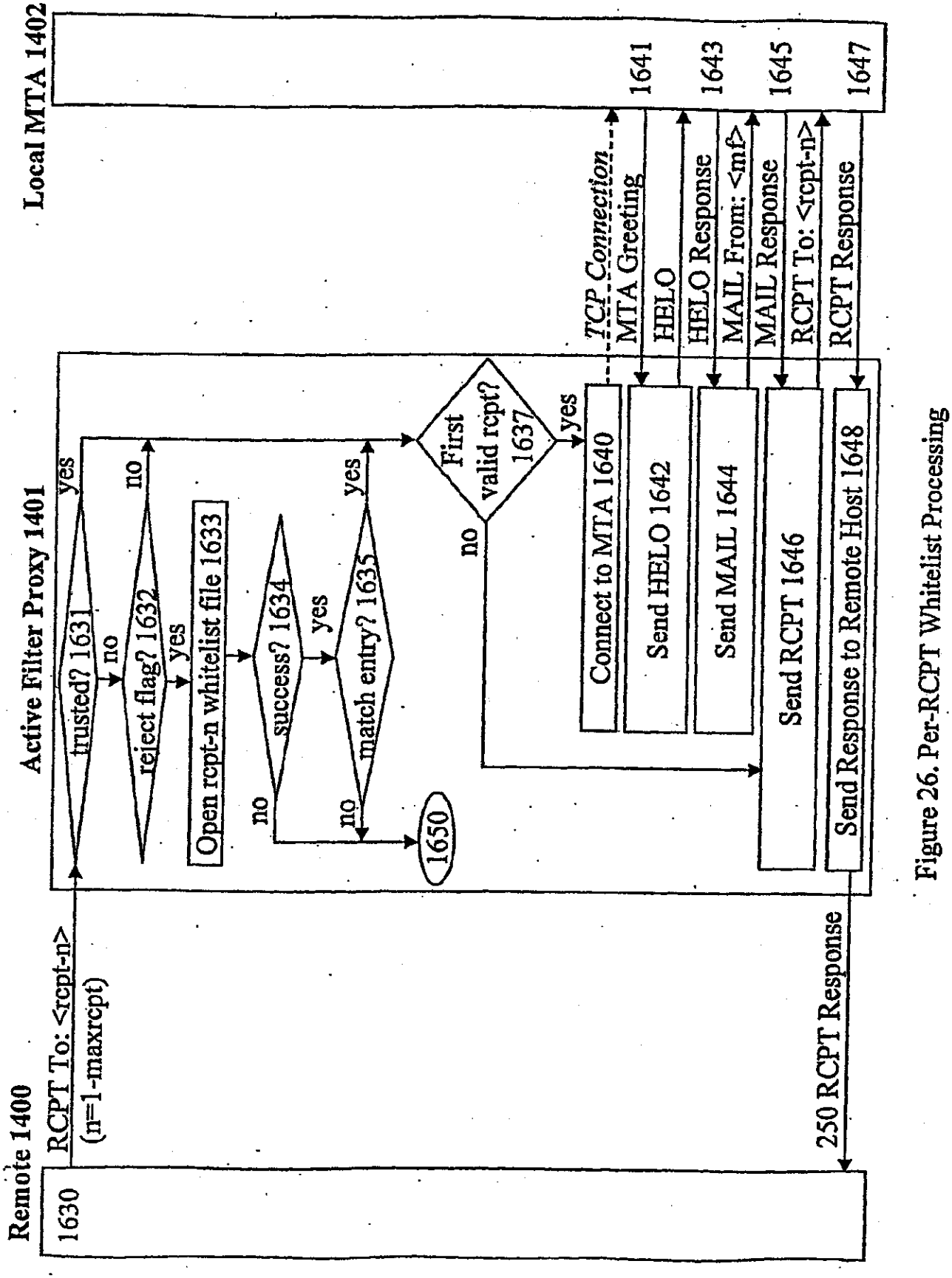



Figure 26. Per-RCPT Whitelist Processing

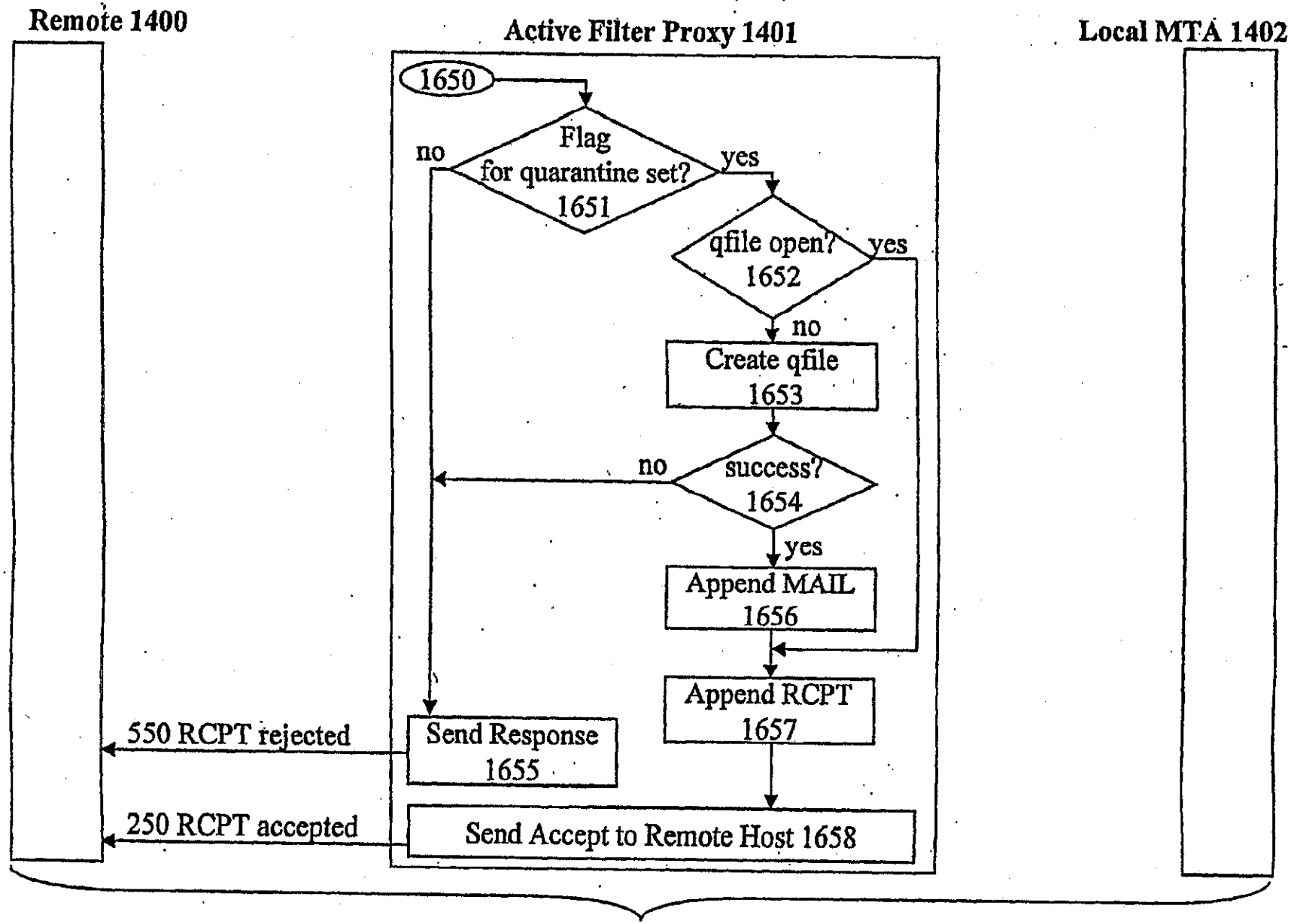



Figure 27. RCPT Quarantine Processing.

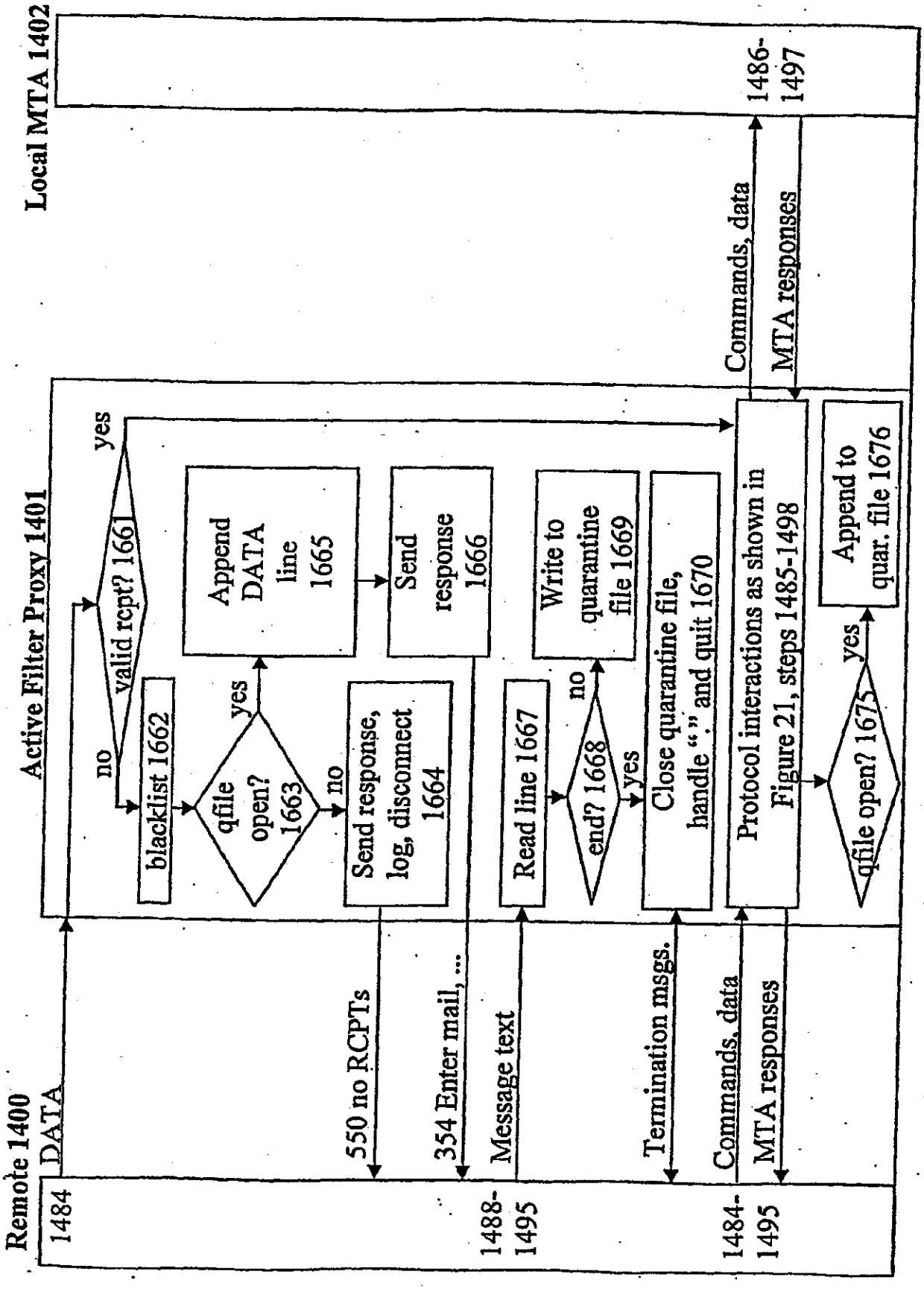



Figure 28. DATA and Message Text Processing.

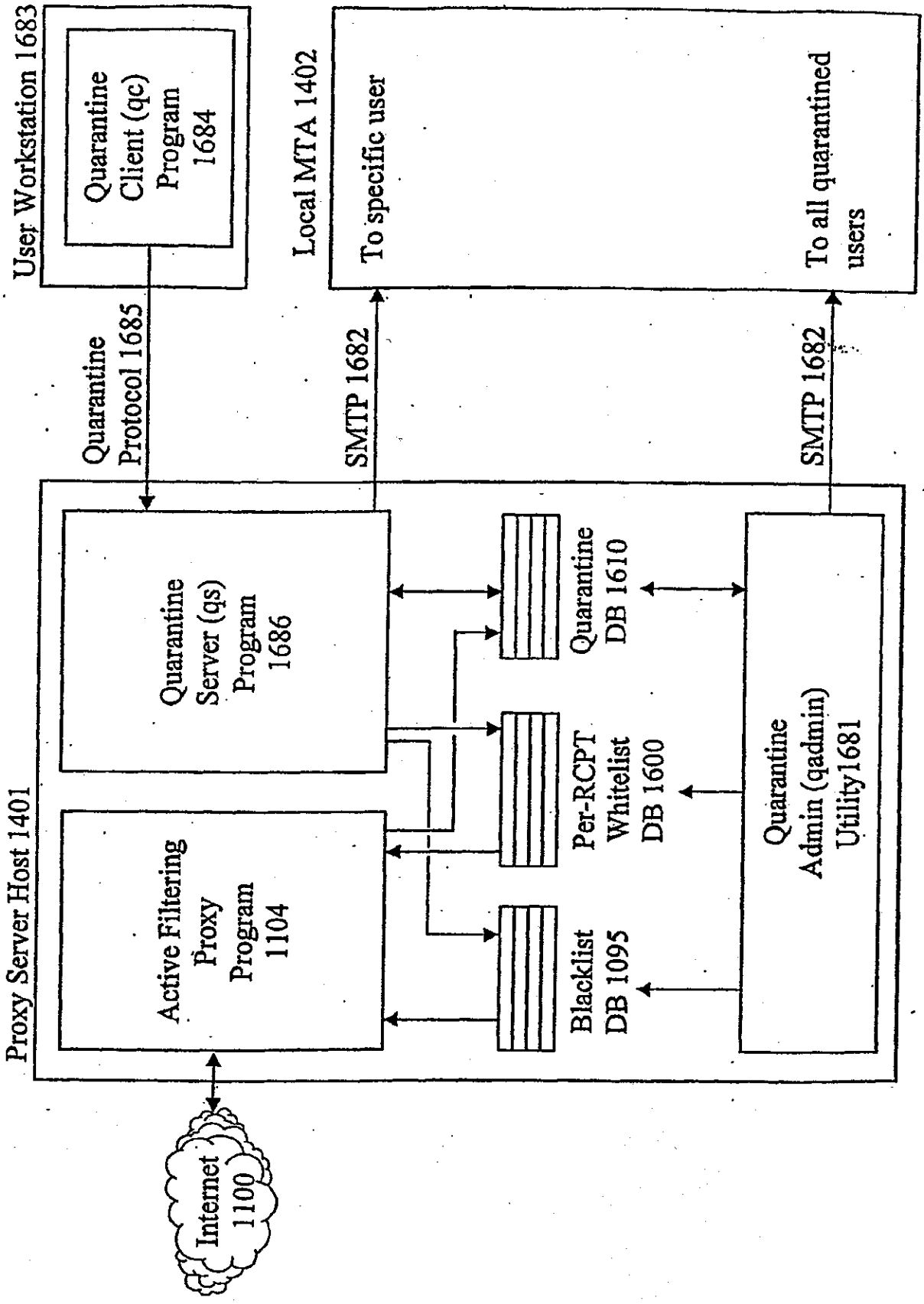



Figure 29. Quarantined Message Retrieval