

Troubleshooting SMTP Problems

Problem:

When trying to configure the MFP / LDSS / Document Distributor to send email, I get errors. How can I determine if the SMTP server is functioning properly?

Background:

SMTP (Simple Mail Transfer Protocol) is used to:

- transfer mail between machines that are continually on the internet, and
- send mail from a dialup system to another host on the internet.

Who can use this test:

Any email server that is not using SMTP server authentication.

Why?

In this environment, SMTP will not attempt to authenticate users or systems.

Normal SMTP Configuration:

SMTP transactions occur on port 25. Unlike POP3, commands in SMTP need to be in a particular order. Before any other commands are accepted, the computers need to perform something called handshaking.

Summary of the SMTP Handshake:

- A user telnets to the SMTP server.
- Second, the originating system (i.e. your workstation) says HELO my.fullyresolved.hostname (replacing 'my.fully-resolved.hostname' with the hostname of your workstation such as 'computer1.dhcp.muffins.com'). The host to which you are connected should give a similar response. (The response given by Muffin's mail.muffins.com server is '250 mail.muffins.com'.)
- After saying HELO, the user states the origin of the message using MAIL FROM:sender@host.
- Next, the user states a list of recipients of the message, using RCPT TO:recipient@host. (This command is issued once for each recipient.)
- Next, the DATA command is issued on a line by itself. After the DATA command is issued, all following text is considered to be the body of the message.
- To terminate a message, a line with just a period (.) is entered. The QUIT command closes the telnet connection. (SMTP is described in RFC788.)

To recap, here's a condensed outline of an SMTP transaction:

- Step 1: Telnet to port 25 of the SMTP server. (i.e. telnet mail.muffins.com 25).
- Step 2: Identify yourself to the server (i.e. HELO me.dhcp.muffins.com).
- Step 3: Identify your mail address (i.e. MAIL FROM:support@muffins.com).
- Step 4: Identify the recipient(s) (i.e. RCPT TO:recipient@muffins.com).
- Step 5: Begin the body of the message (i.e. DATA followed by the actual email message).
- Step 6: End the body of the message (i.e. enter a period (.) on a line by itself).
- Step 7: Exit the telnet session (i.e. type QUIT and hit <enter>).
- Step 8: Confirm receipt of the sent message (i.e. recipient receives email).

Example:

An example of using SMTP to send a message is listed below the dotted line:

Legend

Black = SMTP server responses.

Blue = Text typed by the user.

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-----  
C : \ Windows>telnet mail.muffins.com 25  
  
220 mail.muffins.com Lotus SMTP MTA Service Ready  
  
HELO client01.dhcp.muffins.com  
  
250 mail.muffins.com  
  
MAIL FROM:sender@muffins.com  
  
250 OK  
  
RCPT TO:recipient@muffins.com  
  
250 OK  
  
DATA  
  
354 Enter Mail, end by a line with only '.'  
  
TO: recipient@muffins.com  
  
FROM: sender@muffins.com  
  
SUBJECT: How to send mail via SMTP
```

Mr/Mrs. Recipient,

The enclosed article identifies a method to troubleshoot SMTP connections. Please follow step-by-step. If you need help, please contact your next level of support.

Sincerely,

Sender

.

250 Message received OK.

Quit

221 GoodBye

In this actual example, an email message was sent to recipient@muffins.com (a fictitious email address) listing a reply email address of sender@muffins.com (another fictitious address). All of the blue text listed between the DATA line and the PERIOD line was sent to the recipient. By using a similar example at a customer location, the SMTP connection could easily be tested. If the above actions are performed and the recipient receives the email message, the SMTP server is functioning as expected.

NOTE: Port 25 is the default port for SMTP. However, some network administrators choose to alter the port for SMTP transactions. It is advisable to check with the local network administrator before performing this test.

Additionally, it is important for troubleshooters to **screen scrape** the text from a Telnet session to be able to communicate effectively with the next level of support. Having the text from the Telnet session will greatly speed problem isolation and resolution. Your next level of support will expect a Telnet session text file when attempting to help in problem determination with a SMTP issue. The numeric return codes from the SMTP server are golden.