## NAME

smtp – zmailer SMTP client transport agent

## SYNOPSIS

**smtp**

[−**1678deEHMrPsVxXW** ] [−**A** */path/to/smtp-auth-secrets.txt*] [−**c** *channel*] [−**h** *helon-ame*] [−**l** *logfile*] [−**O** *options*] [−**p** *remote-port*] [−**T** *timeouts*] [−**w** *sockwbufsize*] [−**S** */path/to/smtp-tls.conf*] [−**F** *forcedest*] [−**L** *localidentity*] *host*

## DESCRIPTION

The *smtp*(8zm) is a ZMailer transport agent which is usually only run by the *scheduler*(8zm) to transfer messages to a remote Internet host using the SMTP protocol. The *smtp*(8zm) program must be run with the same current directory as the *scheduler*(8zm), namely *POSTOF-FICE*/**transport**.

The program scans the message control files named on stdin for addresses destined for its channel and the host given on the command line. If any are found, all matching addresses and messages are transferred in a single SMTP conversation. The destination host might in fact be served by any available mail exchanger for that host.

## OPTIONS

−1  Worsen system performance, send only one message per connection to given target system. (That is, reopen the connection for each messge.)

−6  Prefer IPv6 type socket and addresses, if available.

−7  forces SMTP channel to be 7-bit, and thus forcing all 8-bit texts to be MIME-QP-encoded for the transport.

−77

  This does same as `-7` but also blocks of all ESMTP extensions from use.

  This "double-7" option can be followed by " −8" option to force the channel to be 8-bit transparent, and even to decode MIME-QP TEXT/PLAIN, but to do it without any ESMTP.

−8  forces SMTP channel to be 8-bit-clean, and as such, to decode the message while transporting it (is it is MIME QP encoded).

−A */path/to/smtp-auth-secrets.txt*

  Defined file with application specific authentication secrets for use against some LMTP target systems.

−c *channel*

  specifies which channel name should be keyed on. The default is **smtp**.

−d  turns on debugging output.

−e  asks that for every destination address specification with a matching channel name, an MX lookup is done on the hostname to see whether the currently connected host can provide service for that destination. The default is to just do a textual name comparison with the destination hostname as given on the command line.

−E  use the "EHLO"-greeting **only** if the remote server initial banner reports "ESMTP" on it.

−h *host*

  specifies the hostname for the SMTP **HELO** greeting. The default is the hostname of the local system, as returned by *gethostname*(2) or *uname*(2).

−F *forcedest*

  overrides delivery destination by forceing **all** email to be sent to given *forcedest*.

  Understood formats for the *forcedest* are:

UNIX:/path/to/socket
>Connects to named UNIX-domain socket in local system.

[ipv6.1111:2222:3333:...]
>Literal IPv6 address for IPv6 system

[1.2.3.4]
>Literal IPv4 address for non-IPv6 system

some.host.name
>DNS/hosts data registered name

−H      Disable the per default active forced 8-bit headers conversion into   *MIME-2*-format.

−L *localident*
>specifies (for multi-homed machines) that they should use specified identity when connecting to the destination.  Think of server with multiple IP numbers due to virtual hosting, for example.  At such systems there may be situation when virtual identity needs to be used for reaching the destination system.
>
>Understood formats for local identity are:
>
>>iface:eth0
>>>(eth0 device in the system)
>>
>>[ipv6.1111:2222:3333:...]
>>>Literal IPv6 address for IPv6 system
>>
>>[1.2.3.4]
>>>Literal IPv4 address for non-IPv6 system
>>
>>some.host.name
>>>DNS/hosts data registered name

−l *logfile*
>specifies a log file where the complete SMTP command transaction will be copied.  Each line in the log will be prefixed with the process id of the transport agent process, so the same log file can be used by all SMTP clients.

−M
>specifies that system shall run in RFC 2033 specified   *LMTP*   mode when contacting remote systems.
>
>Usage of this option requires also that destination port is defined, and is not the SMTP default of 25.  Preferrably even running in  "punt" mode (−F option).
>
>Alternate is to use "punt" mode (−F option) to a UNIX-socket.

−r      Asks to set up SMTP connections using a source TCP port number under 1024.  This is in the range of port numbers only available to a privileged process on some UNIX systems, which has led to some misguided attempts at mail security based on this mechanism.

−s      asks to report the progress of the SMTP conversation and data transfer on the command line in a way that will be visible to   *ps*(1).

−x      Turns off MX lookups on delivery connections.  This may be used ignore public MX knowledge and do exactly what the router says in cases where delivering to an explicit IP address is inappropriate.

−X      Allow connection to local address.  This may be used in conjunction with -x option only, if no -x option present, -X is silently ignored.

−O
>Generic text-keyword option interface.

ignore−ezmlm
> Even when distributing lists in EZMLM-mode, ignore any such. Useful in cases where EZMLM-mode results message count multiplication to leading to delivery slowdown...

−P      disable SMTP-PIPELINING usage (ESMTP keyword: PIPELINING)

−S * /path/to/smtp-tls.conf*
> Transport-Layer-Security (a.k.a. Secure-Socket-Layer) feature configuration file. When this is supplied, and system is compiled to possibly use it, and the remote system reports EHLO capability of **STARTTLS**, this client attempts to turn on the encryption on the socket. There exists also a posssibility of *demanding* TLS mode of the connection - if so has been demand, but it is not available, email is not sent over the connection.

-T *timeouts*
> specifies the timeouts when waiting for various things. Possible submodes are:

conn=*3m*
> Timeout to wait for the TCP connection establishment. The default is 3 minutes.

tcpw=*3m*
> Timeout to wait at lowlevel TCP socket write() routines for the socket to accept some more input. The default is 5 minutes.

cmd=*5m* (or plain value)
> Waiting for command replies (e.g. MAIL FROM, et.al.) The default is 5 minutes.

data=*2m*
> From "DATA" verb issuance until "354" responce. The default is 2 minutes.

dot=*10m*
> From "DATA" phase ending "." issuance until "250 OK" report reception (this is **after** the TCP write pipeline has completed). The default is 20 minutes. (RFC 1123 gives 10 minutes.)

−V      prints a version message and exits.

−w *sockwbufsize*
> Sets the local socket write buffer size to non-default value. Some Win-NT systems seem to want to have unbelievably low values, like 2000 bytes which appears as acceptance of two first TCP frames, and discard of all the rest which high-performance systems usually send. Some Solaris versions then go to "lost packet retry backoff" from which they never really recover.

−W      turns on the DNS WKS checking, and if the remote system does not have SMTP in its WKS-bits, email delivery to such address is aborted with an error message.

## INTERFACE

This program reads in processable file names relative to the current working directory of the scheduler (namely: *£POSTIOFFICE/transport/*). Optionally on the same line the scheduler may tell which host is to be looked for from the recipients of the message.

> *relative-spool-path* [ <TAB> *hostname* ]

This program produces diagnostic output on the standard output. Normal diagnostic output is of the form:

> *id/offset*<TAB>*notify-data*<TAB>*status message*

where *id* is the inode number of the message file, *offset* is a byte offset within its control file where the address being reported on is kept, *status* is one of **ok**, **error**, or **deferred**, and the *message* is descriptive text associated with the report. The text is terminated by a linefeed. Any other format (as might be produced by subprocesses) is passed to standard output for logging in the **scheduler** log.

The exit status is a code from **<sysexits.h>**.

## EXTENDED SMTP

When user sends out 8-bit mail with proper headers, this module can send it out to conforming servers either in 8-bit transparent manner, or down-converting *Content-Transfer-Encoding: 8BIT* to *Content-Transfer-Encoding: 7BIT* or *Content-Transfer-Encoding: QUOTED-PRINTABLE* depending on what is the mail contents.

> **This works only with** *Content-Type: text/plain* **thus no fancy multipart/alternate et.al. schemes..**

When "*Content-Transfer-Encoding:*"−header is not present in the headers, and recipient has not declared 8-bit SMTP capability, mail contents are treated with old 7-bit stripping method.

## SECURE SOCKET LAYER SUPPORT

If you are using a version which has been made to use OpenSSL 0.9.4, or later version, you are able to encrypt the SMTP protocol session in case the remote end supports RFC 2487 defined *STARTTLS* facility.

Possible example of the smtp −tls.conf file is given below:

```
#|
#| This is example configuration file for TLS support at the SMTP TA
#| programs, e.g. SMTP Client.
#|
#| NO "$ZENV" SUBSTITUTIONS ARE SUPPORTED IN THIS FILE!


tls-cert-file   /opt/mail/db/smtpserver-cert.pem
tls-key-file    /opt/mail/db/smtpserver-key.pem
tls-CAfile      /opt/mail/db/smtpserver-CAcert.pem
#tls-CApath /path/to/CAdir/
#tls-loglevel  0  # Value from 0 thru 4


#tls-random-source  dev:/dev/urandom
#tls-random-source  egd:/var/run/egd-pool


#|
#| If the TLS mode is MANDATED for a session, copy this file to
#| e.g. "smtp-tls-mandatory.conf", uncomment following line, and
#| point those channels to use that new file.
#|
#demand-tls-mode
```

## SMTP-AUTH AND SMTP-AUTH-SECRETS.TXT FILE

The code is doing this in application specific, and in a very sloppy manner! Following interaction is presumed to happen and be valid for this use:

```
C: AUTH LOGIN
S: 334 VXNlcm5hbWU6              base64 "Username:"
C: bXluYW1l                      base64 "myname"
S: 334 Uc2VjcmV0                 base64 "Password:"
C: GFzc3dvcmQ6                   base64 "secret"
S: 235 Authentication successful
```

Where 'myname' and 'secret' are those of CYRUS IMAP server system... (or whatever is applicable to your case) Possibly this shall happen under TLS encryption.


The *SMTP-AUTH-SECRETS.TXT* file has authentication secrets for remote hosts, **keep the file well protected!**

Any empty line, or mere whitespace line, is ignored.  Lines with first non-whitespace char being '#' are comments.

Other lines are presumed to be whitespace separated quads:
    channel   remotehost   remoteuser   remotesecret

- The 'channel' can be either "*" matching any runtime channel parameter, or literal something, like: "smtp-lmtp".  (Without quotes in the file, though.)  Matching is done case sensitive.

- The 'remotehost' is remote host name on which the connection has gone to (e.g. by MXes, or whatever means).  Matching is done case insensitive.

- The 'remoteuser' is BASE64 encoded string to be sent to the remote system in SMTP-auth transaction.

- The 'remotesecret' is BASE64 encoded string to be sent to the remote system in SMTP-auth transaction.

## ENVIRONMENT VARIABLES
ZCONFIG

This environment variable is expected to be inherited from the *scheduler*(8zm), and it tells where scheduler's idea of *ZENV*-variables are located at.

## Z−ENVIRONMENT VARIABLES
TBW: many variables!

## FILES

| | |
|---|---|
| */opt/mail/zmailer.conf* | (ZCONFIG) |
| */var/spool/postoffice* | (POSTOFFICE) |

## SEE ALSO
*router*(8zm), *scheduler*(8zm), *zmailer.conf*(5zm).

| | |
|---|---|
| RFC 821 | The basic SMTP specification |
| RFC 822 | Mail header format |
| RFC 974 | MX routing |
| RFC 1123 | Various 821 parameter clarifications |

Several extended SMTP facilities are implemented:

| | |
|---|---|
| RFC 1341/1521/2045 | MIME specification (body, formats) |
| RFC 1342/1522/2047 | MIME specification (headers) |
| RFC 1425/1651/1869 | ESMTP EHLO framework |
| RFC 1426/1652 | ESMTP 8BITMIME |
| RFC 1427/1653/1870 | ESMTP SIZE |
| RFC 1428 | Basic MIME conversion rules |
| RFC 1830/3030 | ESMTP CHUNKING |
| RFC 1854/2197/2920 | ESMTP PIPELINING |
| RFC 1891/3461 | ESMTP DSN |
| RFC 1893/2034 | ESMTP ENHANCEDSTATUSCODES |
| RFC 1893/3463 | Enhanced Mail System Status Codes |
| RFC 1985 | ESMTP ETRN |
| RFC 2033 | LMTP client mode |
| RFC 2487 | ESMTP STARTTLS |
| RFC 2554+M$ Exchange | ESMTP AUTH LOGIN |
| RFC 2554+NetScape | ESMTP AUTH=LOGIN |
| RFC 2852 | ESMTP DELIVERBY |

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