NAME

tftpd - Internet Trivial File Transfer Protocol server

SYNOPSIS

tftpd [**-cdClnow**] [**-F** *strftime-format*] [**-s** *directory*] [**-u** *user*] [**-U** *umask*] [*directory* ...]

DESCRIPTION

The **tftpd** utility is a server which supports the Internet Trivial File Transfer Protocol (RFC 1350). The TFTP server operates at the port indicated in the ‘tftp’ service description; see services(5). The server is normally started by inetd(8).

The use of tftp(1) does not require an account or password on the remote system. Due to the lack of authentication information, **tftpd** will allow only publicly readable files to be accessed. Files containing the string "/../" or starting with "../" are not allowed. Files may be written only if they already exist (unless the **-w** option is used) and are publicly writable (unless chrooted and the **-S** option is used). Note that this extends the concept of "public" to include all users on all hosts that can be reached through the network; this may not be appropriate on all systems, and its implications should be considered before enabling tftp service. The server should have the user ID with the lowest possible privilege.

Access to files may be restricted by invoking **tftpd** with a list of directories by including up to 20 pathnames as server program arguments in inetd.conf(5). In this case access is restricted to files whose names are prefixed by the one of the given directories. The given directories are also treated as a search path for relative filename requests.

The **-s** option provides additional security by changing the root directory of **tftpd**, thereby prohibiting accesses to outside of the specified *directory*. Because chroot(2) requires super-user privileges, **tftpd** must be run as root. However, after performing the chroot(2) call, **tftpd** will set its user ID to that of the specified *user*, or "nobody" if no **-u** option is specified.

The options are:

-c Changes the default root directory of a connecting host via chroot(2) based on the connecting IP address. This prevents multiple clients from writing to the same file at the same time. If the directory does not exist, the client connection is refused. The **-s** option is required for **-c** and the specified *directory* is used as a base.

-C Operates the same as **-c** except it falls back to *directory* specified via **-s** if a directory does not exist for the client’s IP.

-F Use this strftime(3) compatible format string for the creation of the suffix if **-W** is specified. By default the string "%Y%m%d" is used.

-d, -d *[value]*
Enables debug output. If *value* is not specified, then the debug level is increased by one for each instance of **-d** which is specified.

If *value* is specified, then the debug level is set to *value*. The debug level is a bitmask implemented in *src/libexec/tftpd/tftp-utils.h*. Valid values are 0 (DEBUG_NONE), 1 (DEBUG_PACKETS), 2, (DEBUG_SIMPLE), 4 (DEBUG_OPTIONS), and 8 (DEBUG_ACCESS). Multiple debug values can be combined in the bitmask by logically OR’ing the values. For example, specifying **-d** *15* will enable all the debug values.

-l Log all requests using syslog(3) with the facility of LOG_FTP. **Note**: Logging of LOG_FTP messages must also be enabled in the syslog configuration file, syslog.conf(5).

-n Suppress negative acknowledgement of requests for nonexistent relative filenames.

-o Disable support for RFC2347 style TFTP Options.

-s *directory*
Cause **tftpd** to change its root directory to *directory*. After doing that but before accepting commands, **tftpd** will switch credentials to an unprivileged user.

-S If **tftpd** runs chrooted, the option allows write requests according to generic file permissions, skipping requirement for files to be publicly writable. The option is ignored for non-chrooted run.

-u *user* Switch credentials to *user* (default "nobody") when the **-s** option is used. The user must be specified by name, not a numeric UID.

-U *umask*
Set the *umask* for newly created files. The default is 022 (S_IWGRP | S_IWOTH).

-w Allow write requests to create new files. By default **tftpd** requires that the file specified in a write request exist. Note that this only works in directories writable by the user specified with **-u** option

-W As **-w** but append a YYYYMMDD.nn sequence number to the end of the filename. Note that the string YYYYMMDD can be changed with the **-F** option.

SEE ALSO

tftp(1), chroot(2), syslog(3), inetd.conf(5), services(5), syslog.conf(5), inetd(8)

The following RFC’s are supported:

RFC 1350: The TFTP Protocol (Revision 2).

RFC 2347: TFTP Option Extension.

RFC 2348: TFTP Blocksize Option.

RFC 2349: TFTP Timeout Interval and Transfer Size Options.

RFC 7440: TFTP Windowsize Option.

The non-standard **rollover** and **blksize2** TFTP options are mentioned here:

Extending TFTP, http://www.compuphase.com/tftp.htm.

HISTORY

The **tftpd** utility appeared in 4.2BSD; the **-s** option was introduced in FreeBSD 2.2, the **-u** option was introduced in FreeBSD 4.2, the **-c** option was introduced in FreeBSD 4.3, the **-F** and **-W** options were introduced in FreeBSD 7.4, and the **-S** option was introduced in FreeBSD 13.3.

Support for Timeout Interval and Transfer Size Options (RFC2349) was introduced in FreeBSD 5.0, support for the TFTP Blocksize Option (RFC2348) and the blksize2 option was introduced in FreeBSD 7.4.

Edwin Groothuis <edwin@FreeBSD.org> performed a major rewrite of the **tftpd** and tftp(1) code to support RFC2348.

Support for the windowsize option (RFC7440) was introduced in FreeBSD 13.0.

NOTES

Files larger than 33,553,919 octets (65535 blocks, last one <512 octets) cannot be correctly transferred without client and server supporting blocksize negotiation (RFCs 2347 and 2348), or the non-standard TFTP rollover option. As a kludge, **tftpd** accepts a sequence of block number which wrap to zero after 65535, even if the rollover option is not specified.

Many tftp clients will not transfer files over 16,776,703 octets (32767 blocks), as they incorrectly count the block number using a signed rather than unsigned 16-bit integer.