```
ftam> set qualifier ftpstore
ftam> open gateway
user (gateway:user): user@tcphost
password (gateway:user@tcphost):
```

Limitations

File information is limited to file names. All file access rights are assumed until access is attempted; the FTP server of the utlimate destination grants or denies action permission at the time of file access.

Empty directories may not be recognized depending on the FTP server of the destination machine. This bug manifests itself when trying to remove an empty directory.

5.1.2 The FTP/FTAM side

The FTP/FTAM side of the gateways appears to be an FTP server, but actually acts as an FTAM initiator in order to provide this service.

The true destination is encoded in the user name (i.e., `user@osihost`), or by using the FTP SITE command. If further accounting information is required by the true destnation, the FTP ACCT command is used seperately and the SITE command must be used to specify the destination.

Note that the FTP/FTAM side is available on a different port than the FTP server on the gateway host. To select the FTP/FTAM side, tell your FTP client to connect to port 531 on the gateway host. For example, using *ftp*(1c):

```
% ftp
ftp> open gateway 531
ftp> open gateway
Name (gateway:user): user@osihost
Password:
```

Limitations

The FTP CD and PWD commands are not supported by the gateway (there is no equivalent in the FTAM service and it is too difficult to emulate at the gateway).

Part III

Virtual Terminal

Chapter 6

UNIX Implementation

The Virtual Terminal (VT) standard is the OSI terminal service. Included in the release is an implementation of VT that is roughly comparable to an average *telnet* implementation.

The implementation included runs only on Berkeley UNIX.

6.1 Implementation

If you have access to the source tree for this release, the directory *vt/* contains the code for the responder and initiator.

6.1.1 The Initiator

There is currently one initiator which uses VT: *vt*(1c). Supported is the VT TELNET profile from the NIST OSI Implementors Workshop Agreements.

The *vt* program is an interactive VT initiator which prompts the user for commands. Command mode is entered by typing an escape character ("^]" by default).

Commands

Here are the commands to *vt*:

ayt Sends an "are you there" message to the remote login server.

break Flushes data queued in both directions and interrupts the remote process.

close Terminates the association with the terminal service.

escape Set the "escape character" used to enter command mode. Control characters may be specified as "^" followed by a single letter (e.g., "control-X" is "^X").

help `[command]` Prints help information. For detailed information, try "`help␣?`".

open `host user [account]` Associates with the temrinal service.

quit Terminates the association with the terminal service and exits.

set `variable value` Displays or changes variables. For detailed information, try "`set␣?`".

status Shows the current status.

suspend Suspends *vt*. This works only if the program was invoked under a shell with job control (e.g., *csh*).

Variables

Here are the variables which effect *vt*'s behavior.

crmod This enables the mapping of CR characters received from the remote host into CR-LF pairs. This does not affect those characters typed by the user, only those received. Boolean (values: **on** or **off**).

debug This enables voluminous output during file transfers, among other things. Boolean.

echo Determines whether echoing is done locally or remotely. Values: `local`, `remote`.

escape Sets the escape character. Value: any single character or "^" followed by a character.

options Determines if option processing is shown. Boolean.

repetoire Determines which character set (repetoire) shall be used. Values: `ascii`, `transparent` (binary).

tracelevel This enables the tracing of VT. Values: `none`, `exceptions`, `notice`, `pdus`, `trace`, and `debug`.

tracefile This defines the file where tracing information is appended. Values: any filename, or **-** for the diagnostic output.

verbose This enables printing of informative diagnostics during operation. Boolean.

*xyz***sapfile** This defines the file where *xyz*PDU tracing information is appended. Values: any filename, or **-** for the diagnostic output.

*xyz***saplevel** This enables tracing of the *xyz* module.
Values: `none`, `exceptions`, `notice`, `pdus`, `trace`, and `debug`.

Options

Here are the command line options:

-B Do not negotiate use of the VT BREAK functional unit.

-D Use the VT asynchronous DEFAULT profile rather than the TELNET profile.

-F *logfile* Sets the logging file to be used.

-g Use only the G0 character set for the *ascii* repetoire (graphics only).

-f Inhibits reading of the user's *$HOME/.vtrc* file on startup.

6.1.2 The Responder

The *vtd*(8c) program implements the terminal service. Supported is the VT TELNET profile from the NIST OSI Implementors Workshop Agreements.

Options

Here are the command line options:

-F *logfile* Sets the logging file to be used.

-d *level* Sets the debug level from `0` (none) to `7` (verbose).

Part IV

Miscellaneous Applications