FTP

File Transfer Protocol

Features

- Fast Ethernet file transfers
- Reliable TCP/IP protocol
- Compatible with IPC and IPS-2
- Client and Server programs with concurrent sessions
- Interactive, batch, and programmed access to Client FTP
- ASCII and binary transfers
- BIOS and File Manager support
- Transfers between:
  - BIOS or FM partitions
  - Logical files
  - USL files
  - Directoried LIB files
  - File Manager files
- Read and Write USL and directoried LIB files
- FTP Server password security
- Variable system access levels from home directory to system-wide capability
- Compatible with many graphical FTP clients

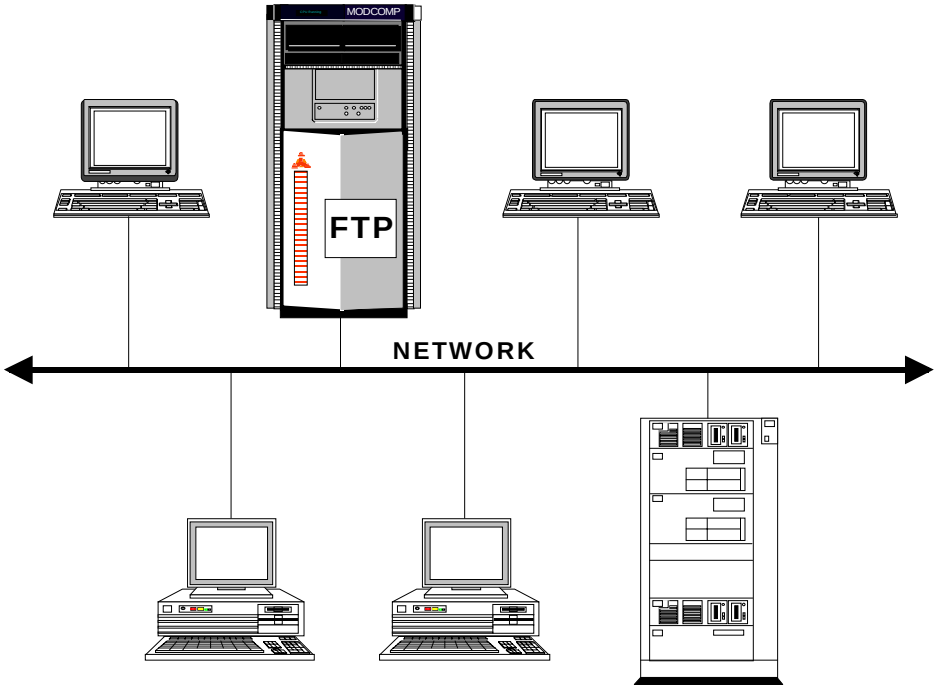

Figure 1: Multiple Concurrent Client/Server Tasks

Logical Data Corporation's File Transfer Protocol (FTP) provides both client and server software to support exchange of files between MODCOMP and other systems over network connections. FTP utilizes TCP/IP to provide reliable, efficient data transfers. Both client and server components interface through a standard BSD socket interface that is compatible with LDC's Intelligent Peripheral Controller (IPC) or MODCOMP's IPS-2.

The FTP Server allows remote systems to direct the exchange of files with a MODCOMP system. The FTP Client allows a MODCOMP user or application program to initiate data transfers with remote systems. Multiple servers and clients may be operated concurrently.

Different client software modules support the traditional conversation command interface, which can be used interactively or through batch procedures, plus an application program interface. Custom applications can interact with a client FTP program through a shared memory interface to direct FTP operations, or they can call the FTP client code directly as a "C" function. The shared memory

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interface may be used by either 16 or 32-bit programs written in any language. FORTRAN compatible library functions are included to simplify the use of the shared memory interface. Existing applications can now exchange files with other systems with only a few subroutine calls.

Hierarchic File System View

FTP renders MODCOMP disk systems as hierarchic file systems for better compatibility with conventional UNIX or PC type file systems. Whether or not your system uses File Manager or even a mixture of File Manager and BIOS disks, FTP understands and traverses logical transports, partitions, File Manager directories and even USL and directoried LIB files uniformly. FTP adapts to and updates the various directory formats. Specific FTP site commands allow entry of additional File Manager parameters when manipulating File Manager files.

Compatibility of file names follows the FTP convention in that the name is transmitted as specified, and characters in the name that are invalid for the target file system are simply deleted from the name by the target system. The FTP server sends lists of file names to remote systems in a UNIX-like format for maximum compatibility in the FTP world. Users of many PC-based graphical FTP programs will be able to view and manipulate MODCOMP file exchanges in windows with a click of the mouse.

File Formats

FTP supports both ASCII and binary file transfers. ASCII formats are compatible with SED and general compressed and uncompressed formats. The desired format can be specified, or FTP can be allowed to determine and use the format most compatible with the target file location. Binary format transfers files without concern for the type of data and without any modification. No distinction is made between MODCOMP standard and nonstandard binary formats.

FTP Client Configurations

Client configurations allow client FTP access from an interactive terminal, batch session, or from application programs.

The Client FTP with conversational interface can be executed under Job Control and used to initiate interactive or batch FTP transfers.

FORTRAN-based applications may call a subroutine library that communicates with a separate client FTP task to implement file transfers using FTP. Both 16 and 32-bit libraries are provided. A single-page private shared region is used to connect the application with the client FTP task. Any number of client FTP tasks may be in operation concurrently.

"C" language programs may also call a "C" language function to include FTP capability within their application.

FTP Server

Logical Data Corporation's FTP Server supports reading and writing ASCII or binary files using MODCOMP partitions, File Manger files, and USL files. It supports traditional conversational FTP clients plus some of the PC-based FTP clients. It has been tested with Microsoft, NetManage, WsFTP, MODCOMP (REALIX), and LINUX FTP clients. WsFTP and NetManage's Chameleon provide graphical interfaces.

Server Security

The FTP password file may be used to keep unauthorized users from accessing the server as well as to limit access levels granted to authorized users.

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