

Lecture 14

FTP / Wired LAN

File Transfer Protocol (FTP)

- A client begins a session by opening a tcp connection with a server on port 21 (default port).
- Commands are sent as strings of ASCII text.
- The server responds to every command by sending a reply message on the control connection

FTP

- Some commands, like PWD, can be handled using only the control connection. If a data transfer is required (e.g., RETR, STOR), a second tcp connection called the data connection is made. The data transfer is carried out using the data connection.

Active Mode

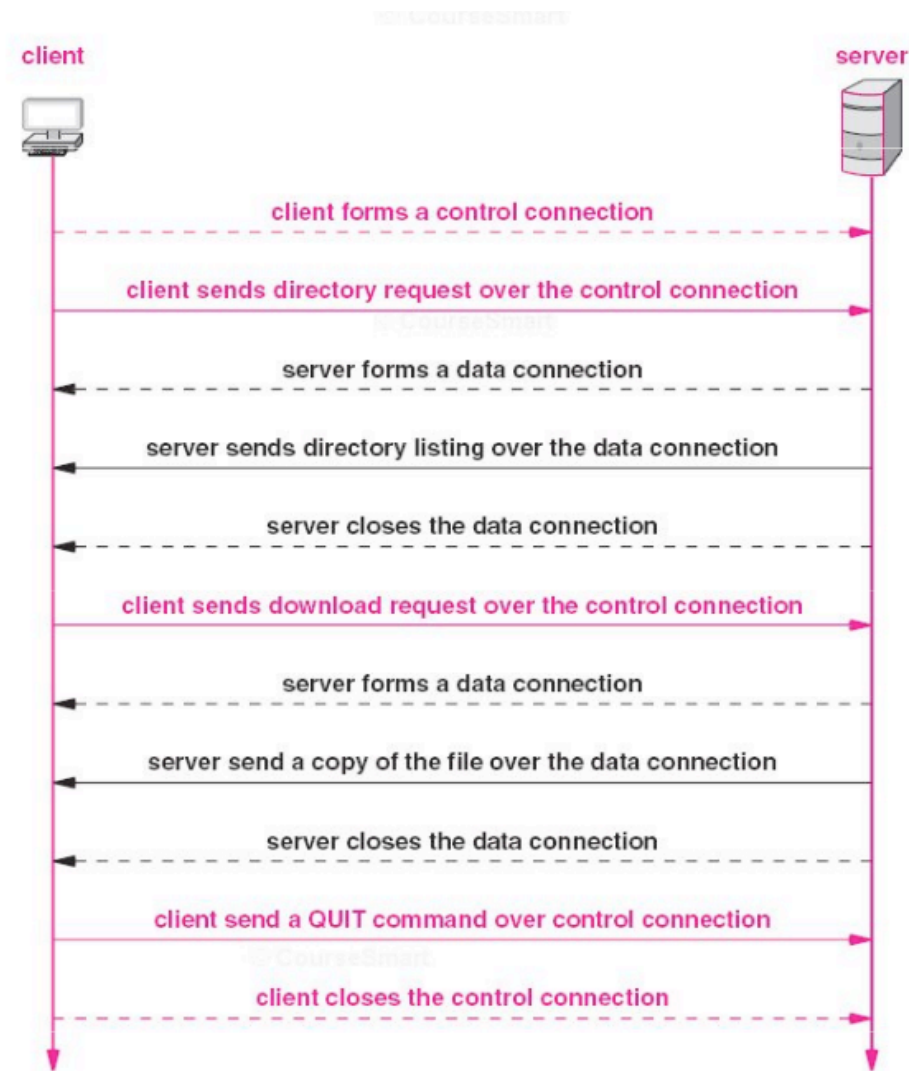
- In active mode, the client sends a PORT command to the server, indicating that it will accept an incoming tcp connection from the server. (The port number on which the client is listening is given as an argument to the PORT command.) The server makes the connection and then transfers the data through the data connection.

Negative Mode

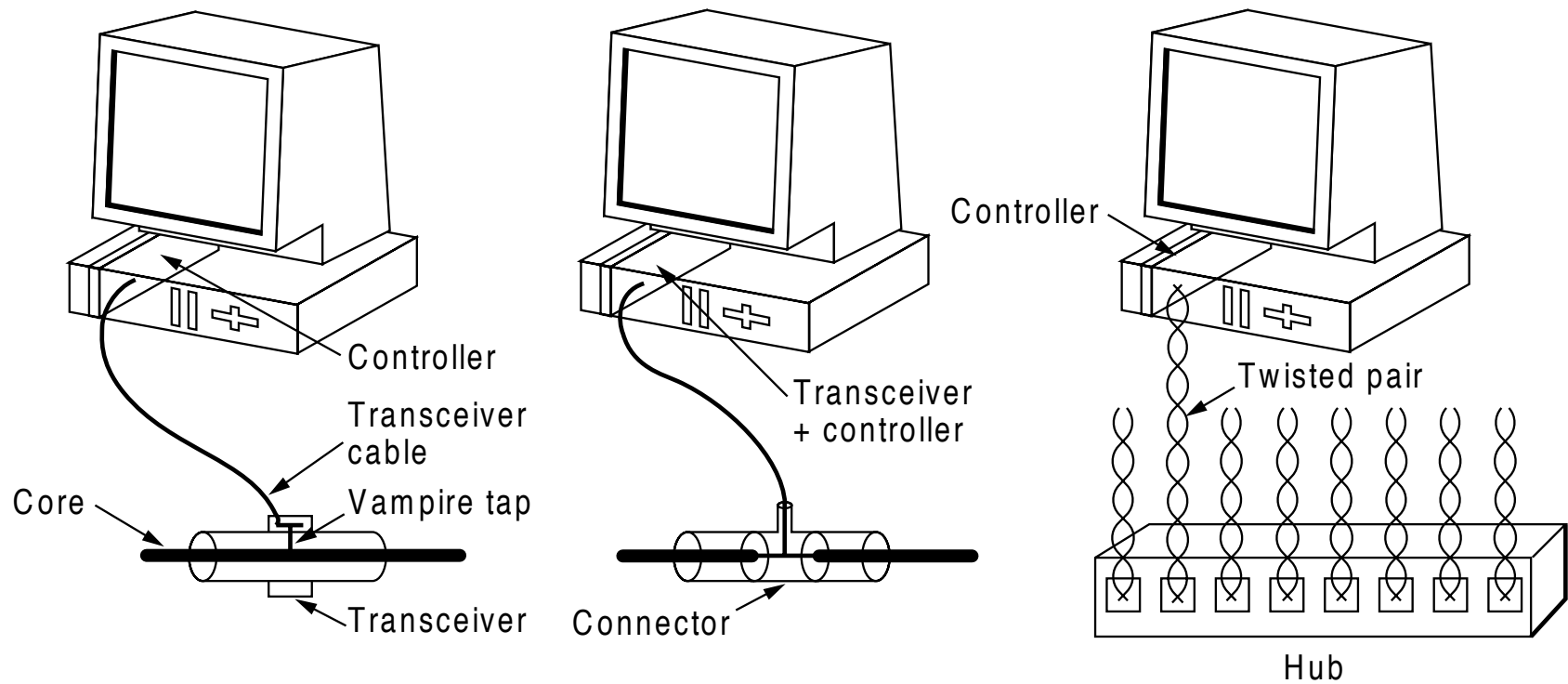
- In passive mode, the client sends a PASV command to the server. This command instructs the server to create a listening socket. The server sends a reply to the client. The client then makes a tcp connection to the server's listening socket. The data transfer is performed on this connection.

Note: In both active and passive modes, a new data connection is set up for each data transfer command.

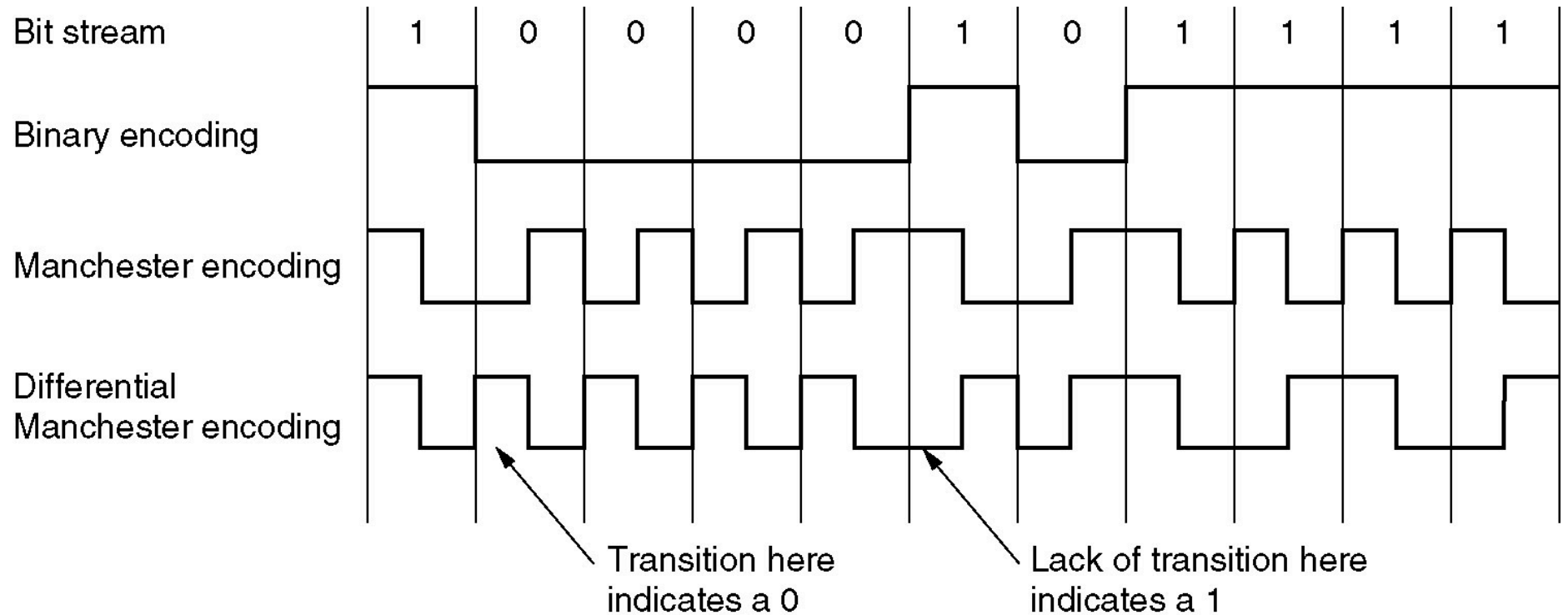
FTP Example



Ethernet Cabling



Encoding



Ethernet Frame

