Assignment 1 notes

* IPv4/6 compliant
* Original FTP protocol
* RFC compliance
  + RFC 959 (IPv4)
  + 2428 (IPv6)
* Data connexn created at port 20
* Two parallel TCP connexns”
  + Control: Send FTP commands and replies
  + Data: Sending actual file (opens then immediately closes after transfer)
    - (non-persistent)

Process (Active Mode)

1. Server already on and running
2. Server using TCP socket (listening) w P21
3. Client creates own TCP socket to connect to server listening socket
   1. Client needs to know servers host name or IP AND listening port #
4. Initiates request at P21 using TCP and authenticates over control connexn
5. If request accepted, server creates new TCP control socket for controlled connexn
6. Client browsers directory by sending data transfer command via control command (ex. dir)
7. In turn, client creates new data connexn socket and informs server of IP address and port # w port command (ex. PORT 130,123,200,1,*195,149*)
   1. First four numbers are IP, last two are port numbers
8. FTP client also sends list command to server that it wants its directory listing (from dir)
9. Server transmits this info via data connexn
10. Data transfer command opens other TCP port for data connexn
11. Once complete, server tells client via controlled connexn
12. After the data transfer (one per transfer), server closes the data connexn (non-persistent)
13. Server stays on and keeps listening for other requests from clients

FTP interaction with IPv6

1. Essentially the same …
2. When creating data connexn socket, client informs server of IP address and port # w command as well (ex. EPRT |2| \_netadd\_|38117|
   1. EPRT is command
   2. 2 is saying the IP version (IPv6) (1 for IPv4)
   3. Hexadecimal number is the IP itself
   4. The last number is port number
3. Then LIST command is used for directory instead of dir
4. Same after…

A screenshot of a computer program

AI-generated content may be incorrect.A close-up of a table

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