

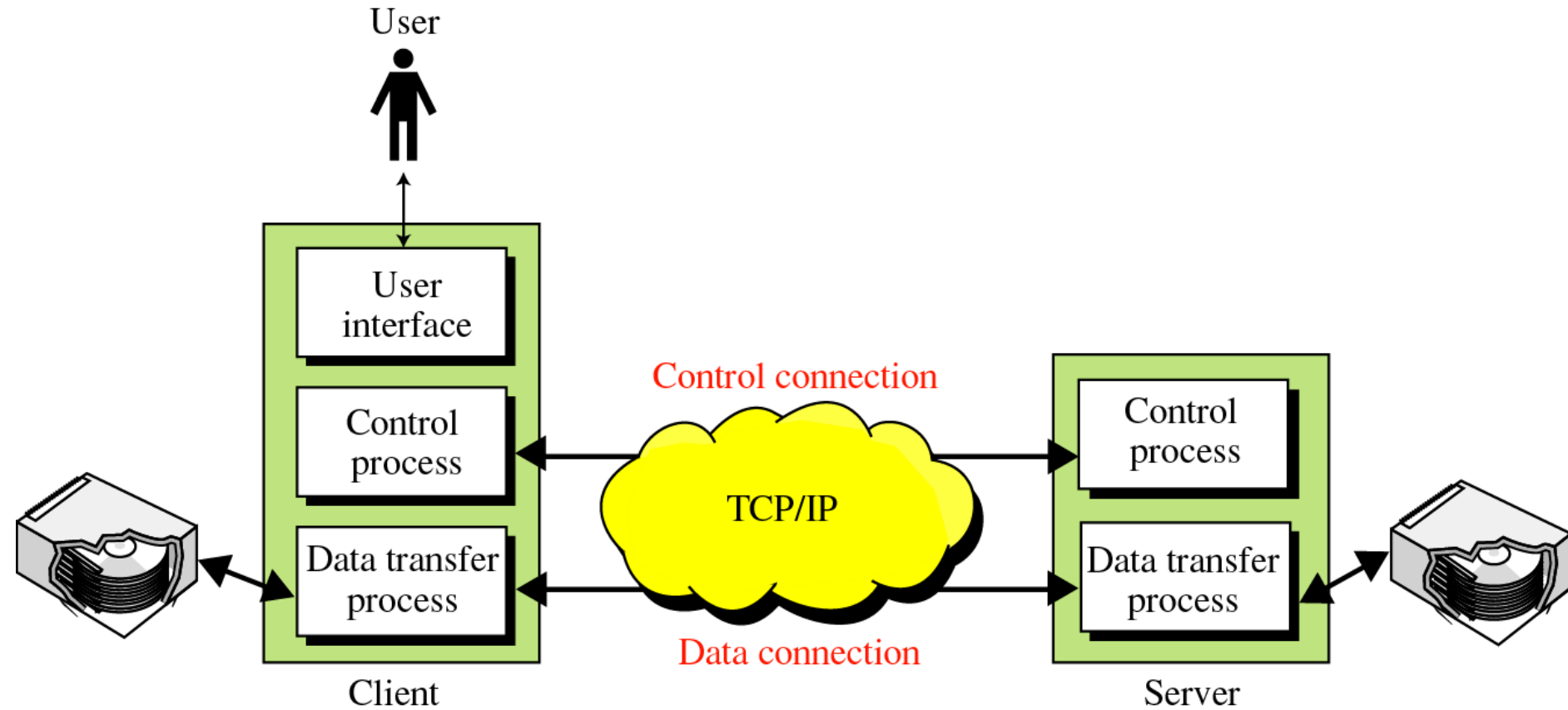
File Transfer Protocol (FTP)

CONTENTS

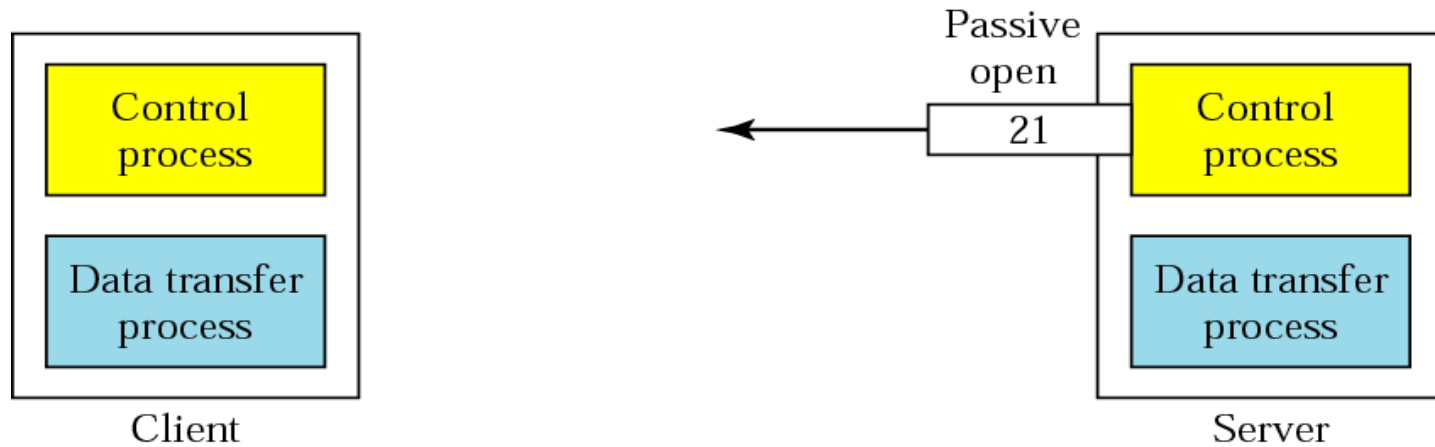
- **CONNECTIONS**
- **COMMUNICATION**
- **COMMAND PROCESSING**
- **FILE TRANSFER**

***FTP uses the services of TCP.
It needs two TCP connections.
The well-known port 21 is used
for the control connection
and the well-known
port 20 for the data connection.***

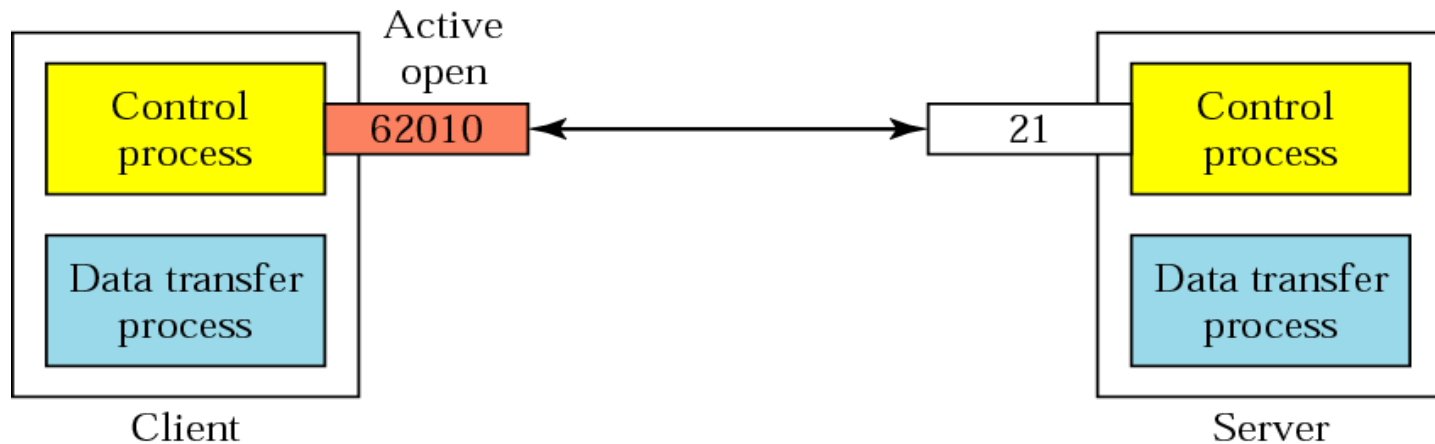
FTP



Connections: The control connection



a. Passive open by server

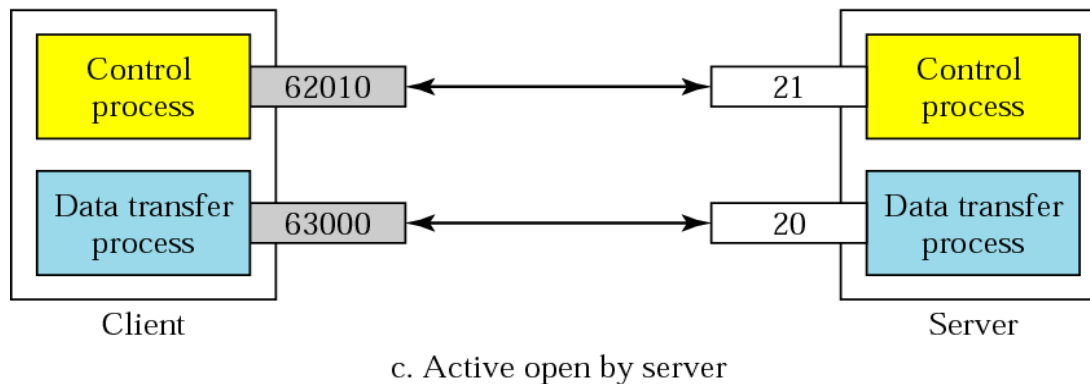
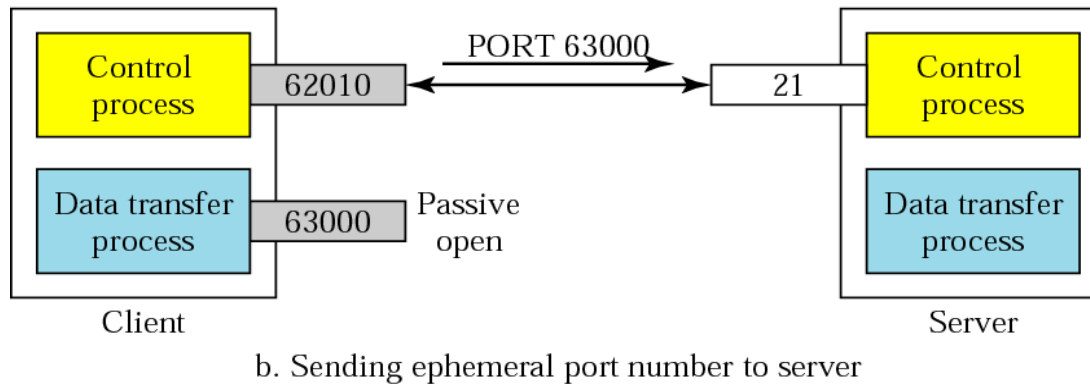
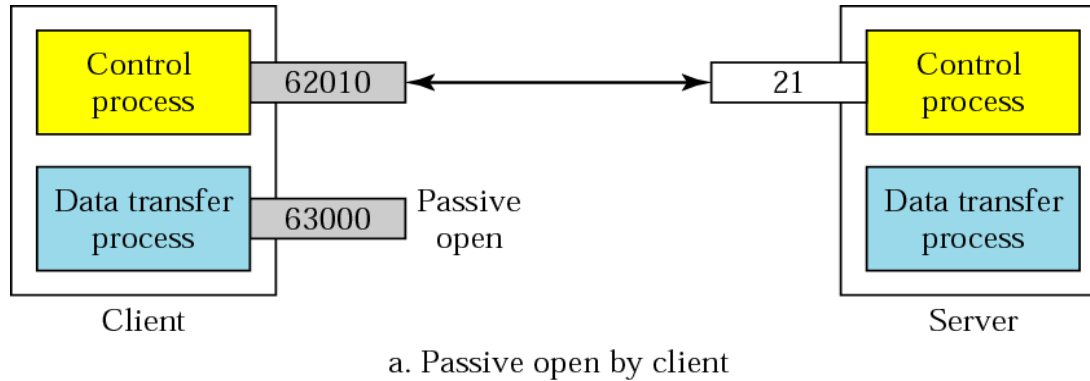


b. Active open by client

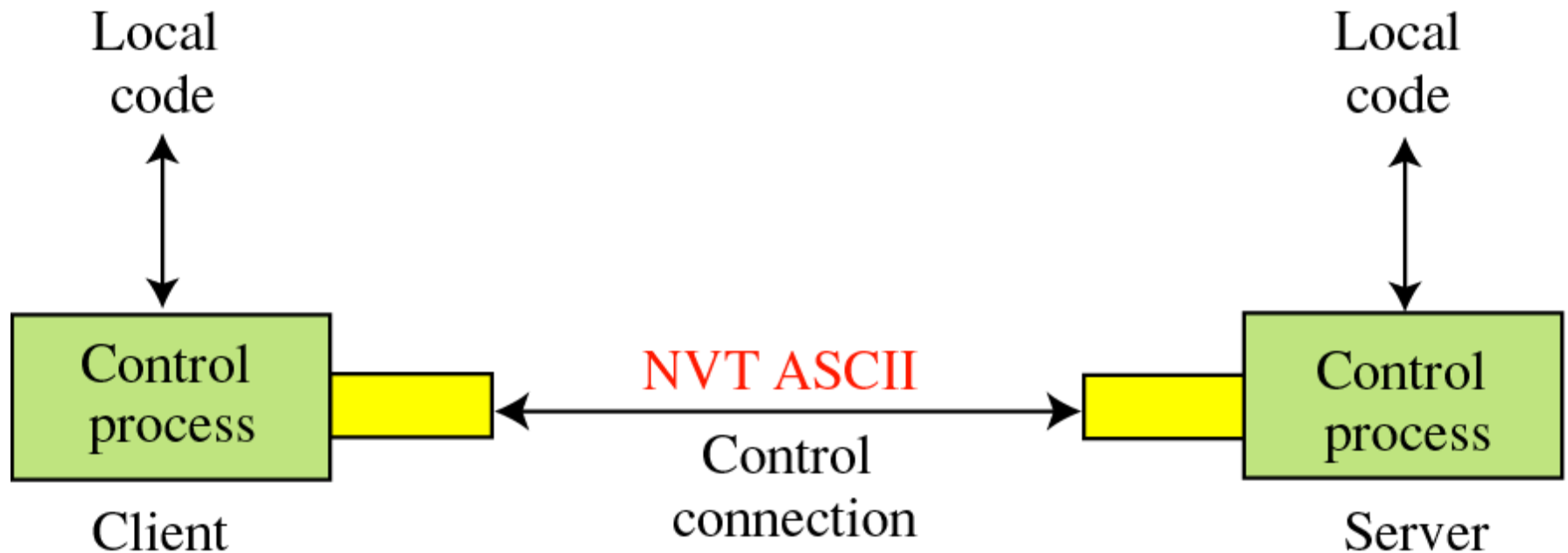
The Data Connection

- Uses Server's well-known port 20
 1. Client issues a passive open on an ephemeral port, say x .
 2. Client uses PORT command to tell the server about the port number x .
 3. Server issues an active open from port 20 to port x .
 4. Server creates a child server/ephemeral port number to serve the client

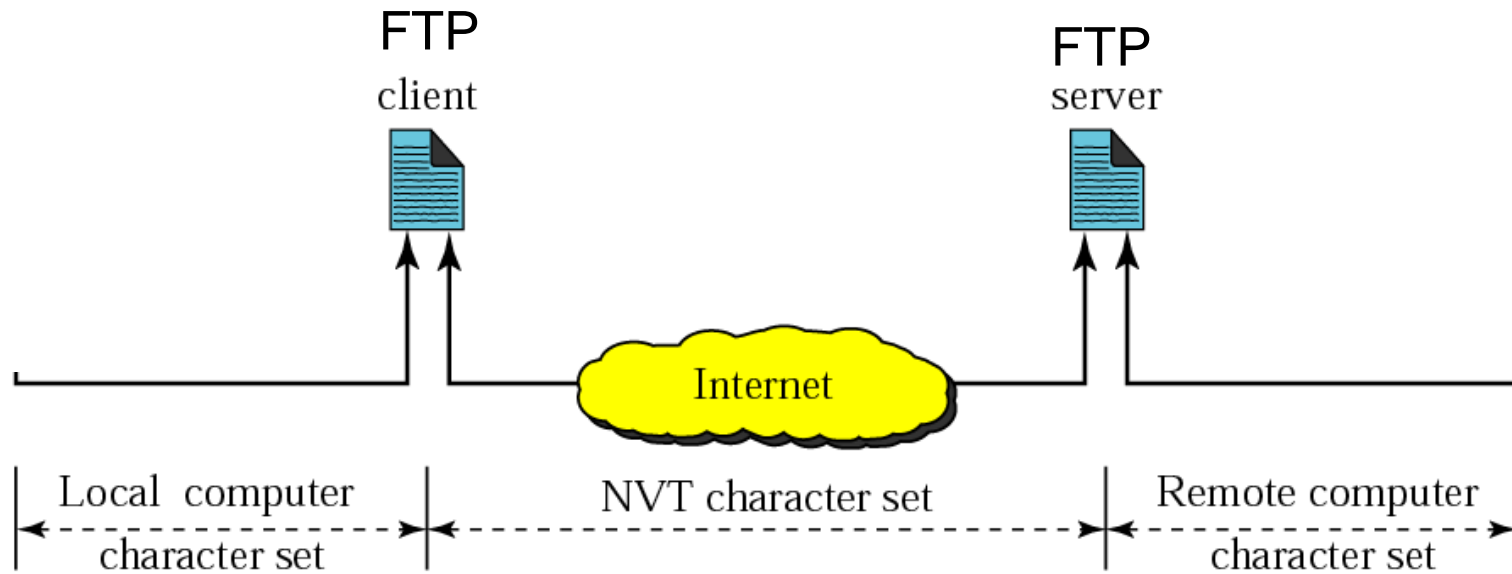
Creating the data connection



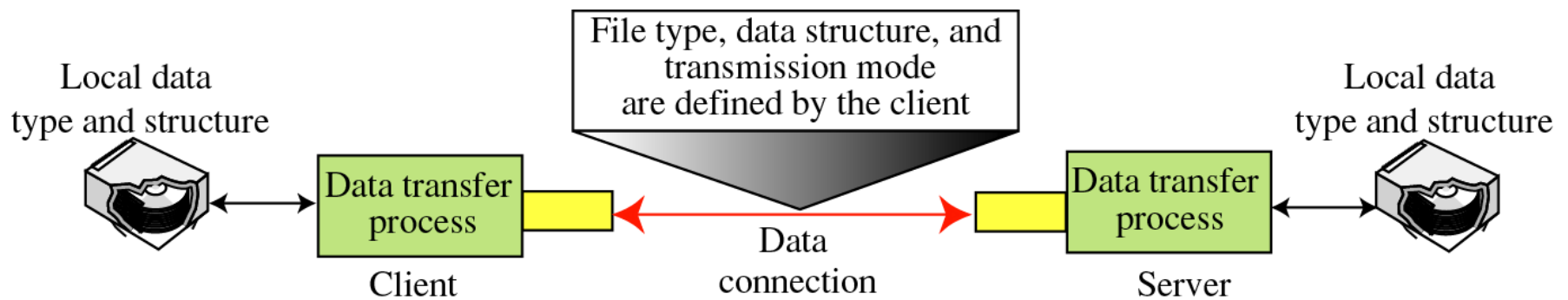
Communication Using the control connection



NVT



Using the data connection



File Type

- ASCII or EBCDIC
 - Nonprint
 - TELNET
- Image

Data Structure

- File Structure
- Record Structure
- Page Structure



Transmission Mode

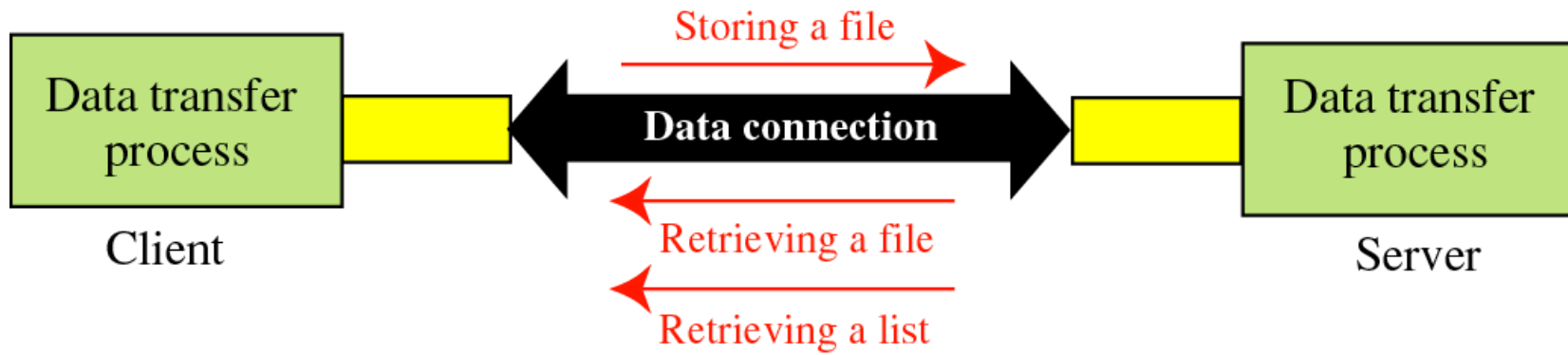
- Stream mode
- Block mode
- Compressed mode

Command processing

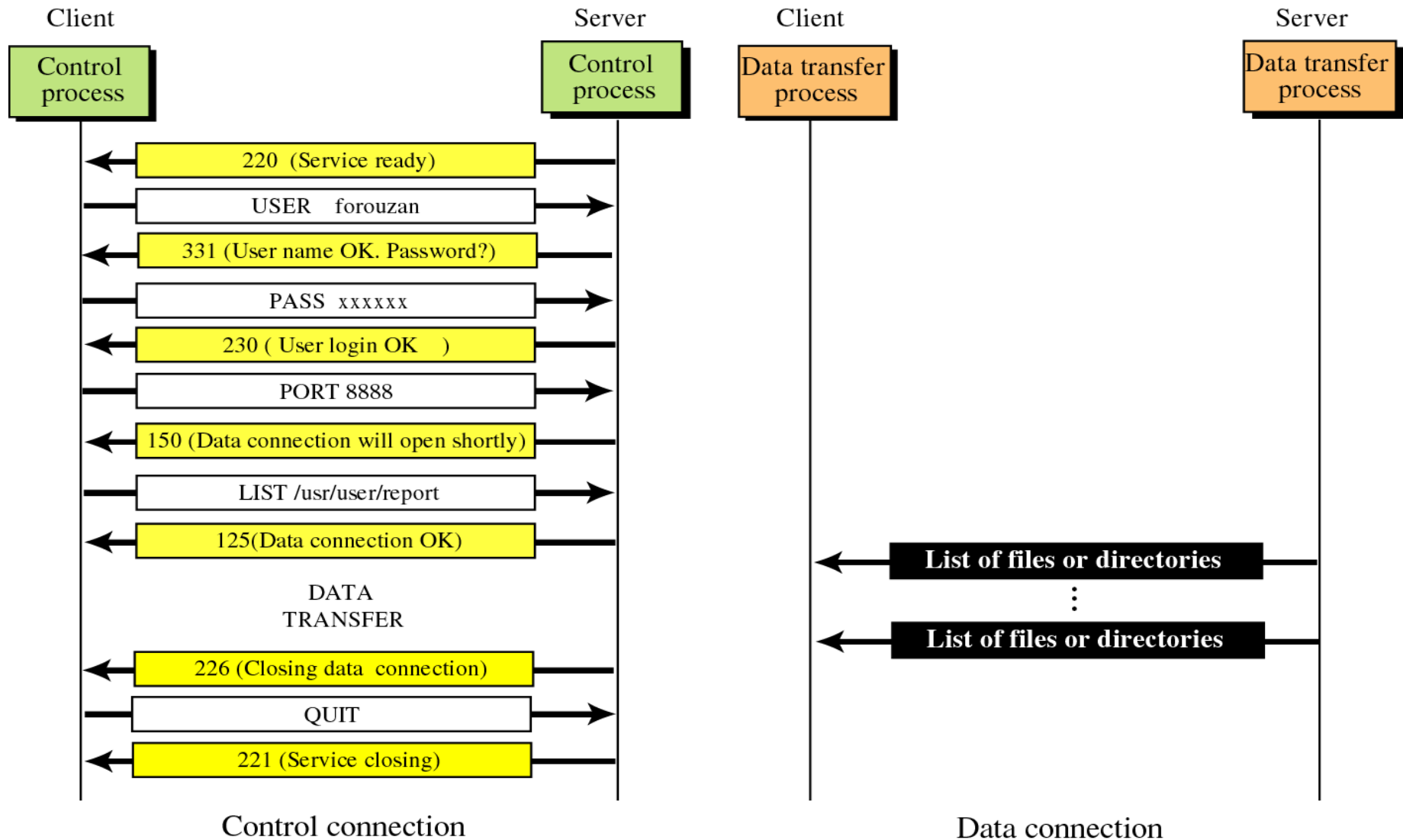


- Access Commands
- File Management
- Data Formatting
- Port defining
- File transfer
- Miscellaneous

File transfer



Example 1



Example 2

