

# Hypertext Transport Protocol

# HTTP:-

- Hypertext Transport Protocol
- HTTP is the protocol that supports communication between web browsers and web servers.
- A “Web Server” is a HTTP server

# Request - Response

- HTTP has a simple structure:
  - client sends a request
  - server returns a reply.

# HTTP – URLs:-

- URL
  - Uniform Resource Locator
    - protocol (http, ftp)
    - host name (name.domain name)
    - resource name

# HTTP Request Packets

- Sent from client to server
- Consists of HTTP header
  - header is hidden in browser environment
  - contains:
    - content type
    - content length
    - user agent - browser issuing request
    - content types user agent can handle
- and a URL

# HTTP Response Headers

- Sent by server to client browser
  - Content-Length:
  - Content-Type:
  - Expires:
  - Last-Modified:
  - extension-header

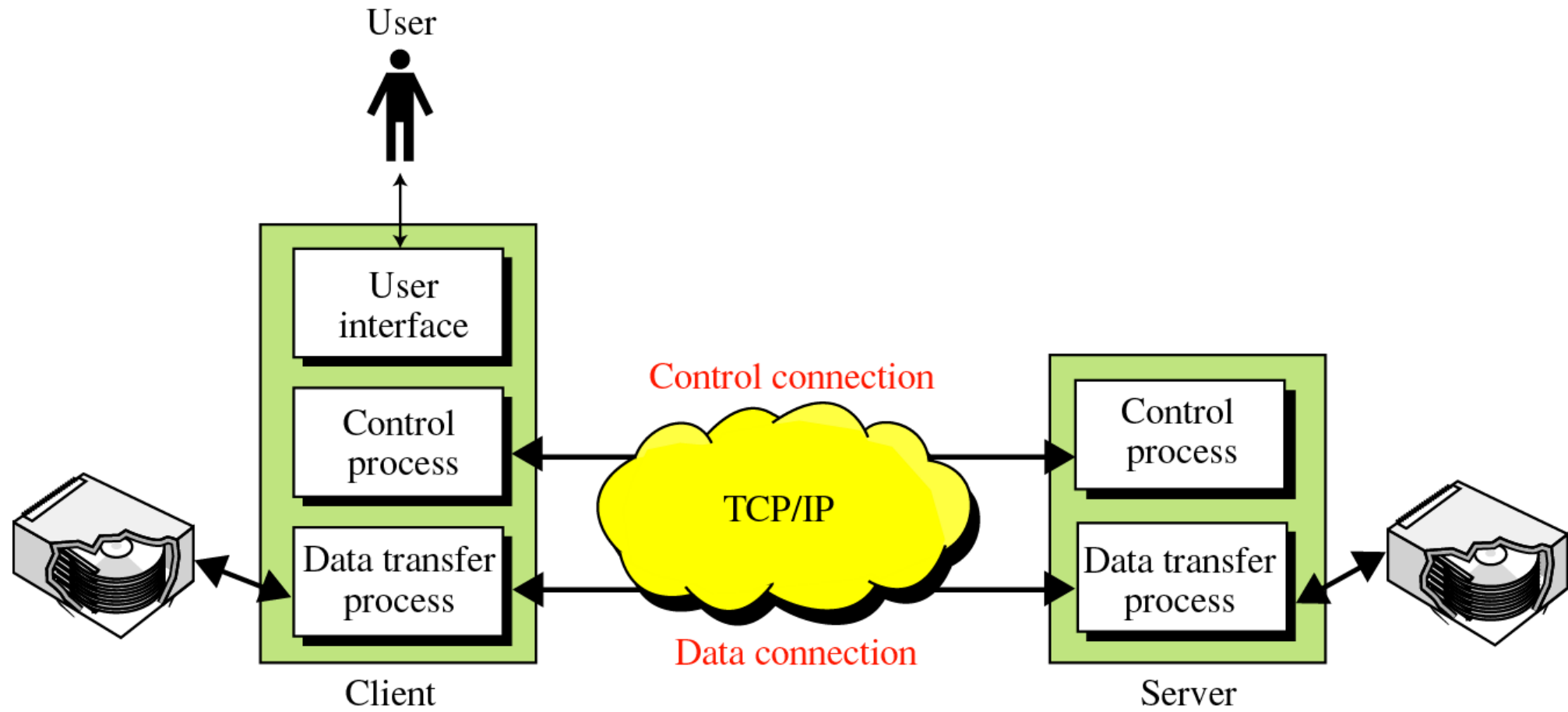
FTP:-

- ftp is a simplest and most secure way to exchange file over the internet.
- Transferring file from a client computer to server computer is called “uploading” and transferring file from server to a client is “downloading”.
- To access an ftp server user must be able to connect to the internet(via a modem or any LAN).
- A file may contain any type of digital Information – text, image artwork, movies, sound , software, etc.



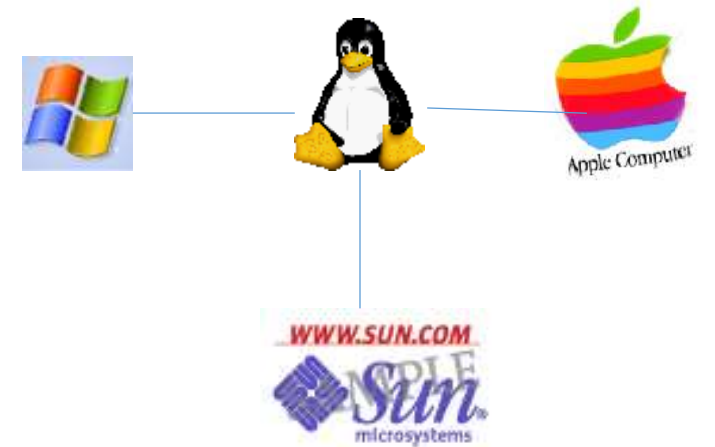
- **Purpose: To Transfer files between two computers**
- **Goals of FTP Service**
  - sharing of files (programs and/or data)
  - Transfer data reliably and efficiently
  - User can also *upload* a file to the FTP Server

- The File Transfer Protocol (FTP) standard network protocol used for the transfer of computer files between a client and server on a computer network.
- FTP is built on a client-server **model** architecture and **uses** separate control and data connections between the client and the server.
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# Problems of File Transfer :-

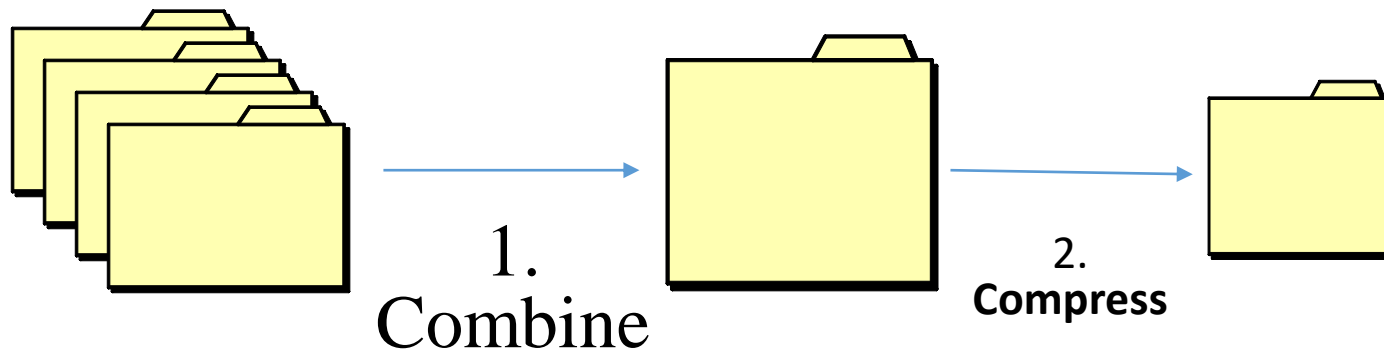
- At first, file transfer may seem simple
- Heterogeneous (distinct/different) systems use different:
  - Operating Systems
  - File Structures and Formats
- FTP need to address and resolve these problems



- **FTP provides security through login procedure**
- **FTP Provides a reliable service through its use of TCP**
- **FTP uses two connections**

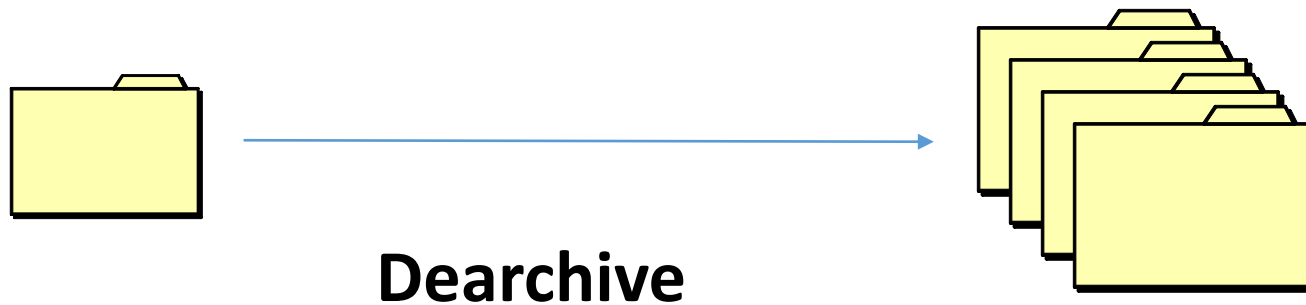
# FTP Archiving:-

- Many FTP files are *archived*
  - Two-step process
  - First, several files are combined into one archive
  - Second, the combined files are compressed to reduce download times



# FTP Archiving:-

- Receiver must dearchive the files to read them
- Unfortunately, many archiving standards
  - *Zip* is the most common



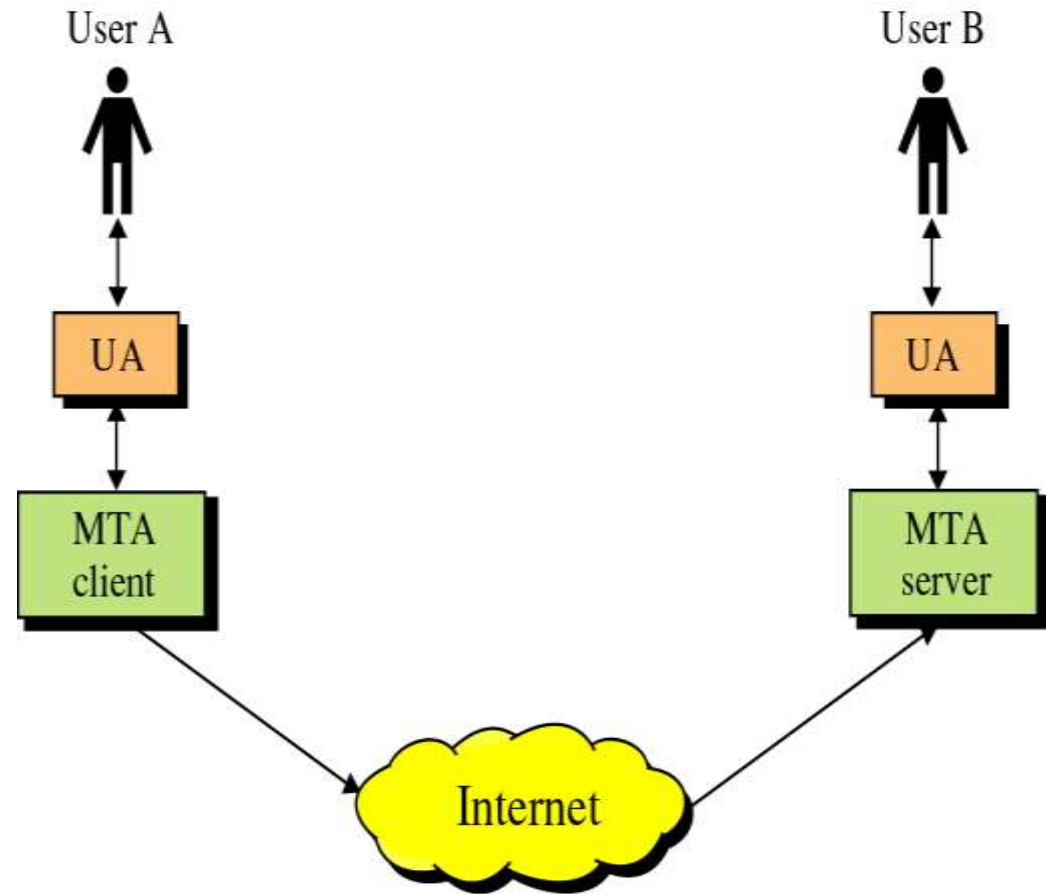
# Simple Mail Transfer Protocol (SMTP)

- Simple Mail Transfer Protocol (SMTP) is a standard set of rules and procedures by which messages can be transferred over the Internet.
- It provides service to the user to make the process of sending and receiving a message easier.
- Goal: To transfer mail reliably and efficiently



- SMTP clients and servers have two main components

- User Agents – Prepares the message, encloses it in an envelope.
- Mail Transfer Agent – Transfers the mail across the internet (ex. Sendmail )



- The MTA delivers email to the user's mailbox
  - Can be complex with numerous (many) delivery methods, routers.
  - Sendmail
- 
- The Mail Access Protocols are used by the users to retrieve (save /protect)the email from the mailbox

- Simple
- Allows the user to obtain a list of their Emails
- Users can retrieve their emails
- Users can either delete or keep the email on their system
- Emails can be accessed from any location
- Can search the email for a specific string of characters

