

The Internet: A global network of computers that use protocols and data packets to exchange information. There are range of different protocols to do different jobs on Internet.

Protocols: The Internet is similar to a road networks in that it has rules (protocols) that you need to follow and only a certain number of vehicles (data) can get through at a time (bandwidth).

When two devices communicate, the first thing that happens is "handshaking".

Handshaking: The client requests access and the server grants it, and then the protocols are agreed upon to be used for further comms.

Once the handshaking process is complete, the data transfer can begin.

Protocols establish how two computers send and receive messages. Data packets travel from source and destination from one router to the next. The process of exchanging data packets is known as packet switching.

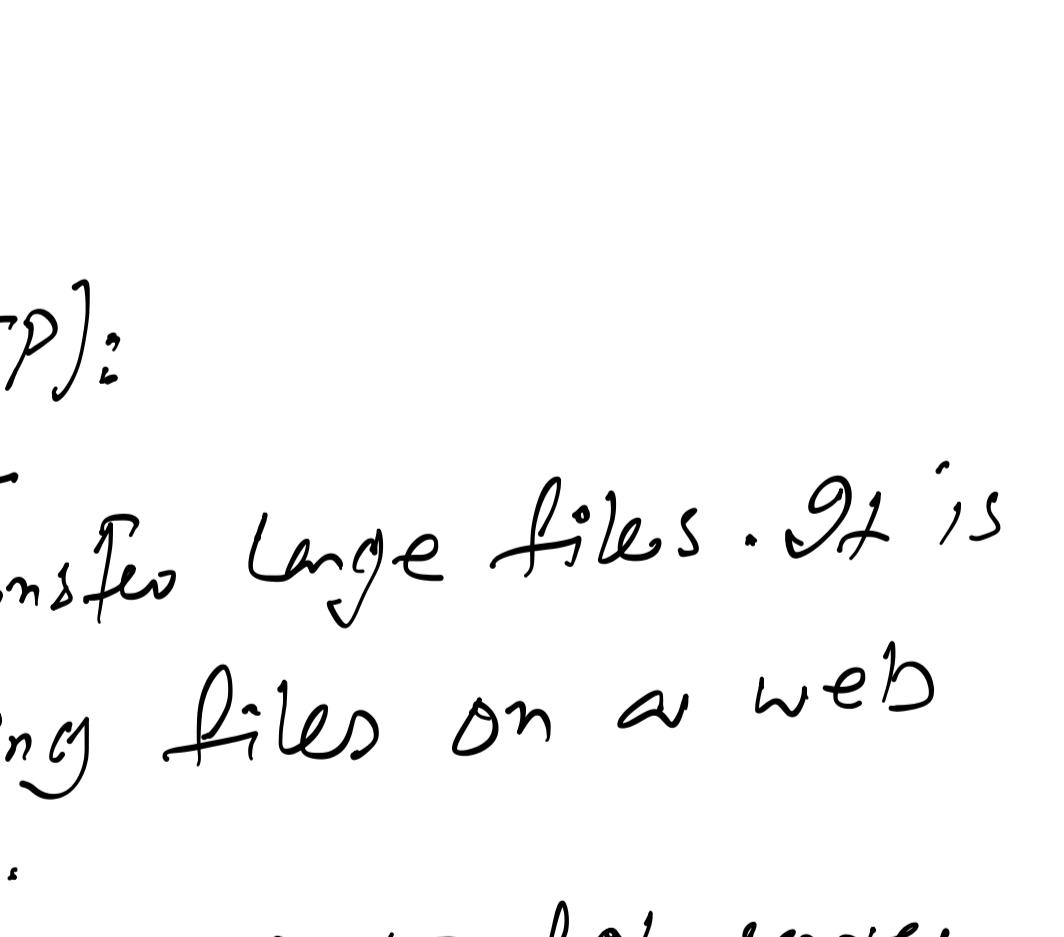
When a msg transfers, protocol manages:

- Speed of transmission
- Size of the message
- error checking
- Deciding whether to use synchronous or asynchronous transmission.

TCP/IP: (Transmission control protocol/ Internet Protocol)

Also known as "internet protocol suit". It is a set of protocols used over the internet. It organises how data packets are moved/communicated and makes sure that every packet has atleast following information attached to it.

- Source (origination) IP
- Destination IP
- Packet Sequence
- Data
- error check



Internet Protocols:

Within TCP/IP there are several key protocols.

- IP address
- FTP
- HTTP
- SMTP
- POP3

File Transfer Protocol (FTP):

FTP is used to transfer large files. It is often used for organising files on a web server for a website.

FTP allows to maintain private file servers, where files can be shared with others.

Hypertext Transfer Protocol (HTTP):

HTTP transfers web pages from webserver to the browser (client). All website addresses start with `http://`. HTTPS indicates that the transfer with this website is encrypted and secured.

Simple mail transfer protocol (SMTP) & Post office protocol (POP3):

Email uses these protocols to communicate with email servers. SMTP is used to send emails;

POP is used to receive emails.