

Learning basics of networking:

Networking For Hackers! (Common Network Protocols)
(<https://www.youtube.com/watch?v=p3vaaD9pn9I&list=LL&index=1>)

IP address:

Public and private IP addresses

Ipv4 : can have a max of 4.3billion IP addresses

To solve this problem, a system for using reusable IP addresses within a LAN was made, which are not accessible by LAN

Usually ip addresses for LAN are used starts with, (these are all the private IP addresses)

*192.168.

*10.0.0

*172.16.

To actually talk to the internet , we need to convert from private to public ip addresses and that is done using NAT (network address translation)

Router does the network translation part, private IP addresses to public address ,
Basically a public address is the address of the router and the NAT table maintains the call

DHCP (dynamic host control protocol)

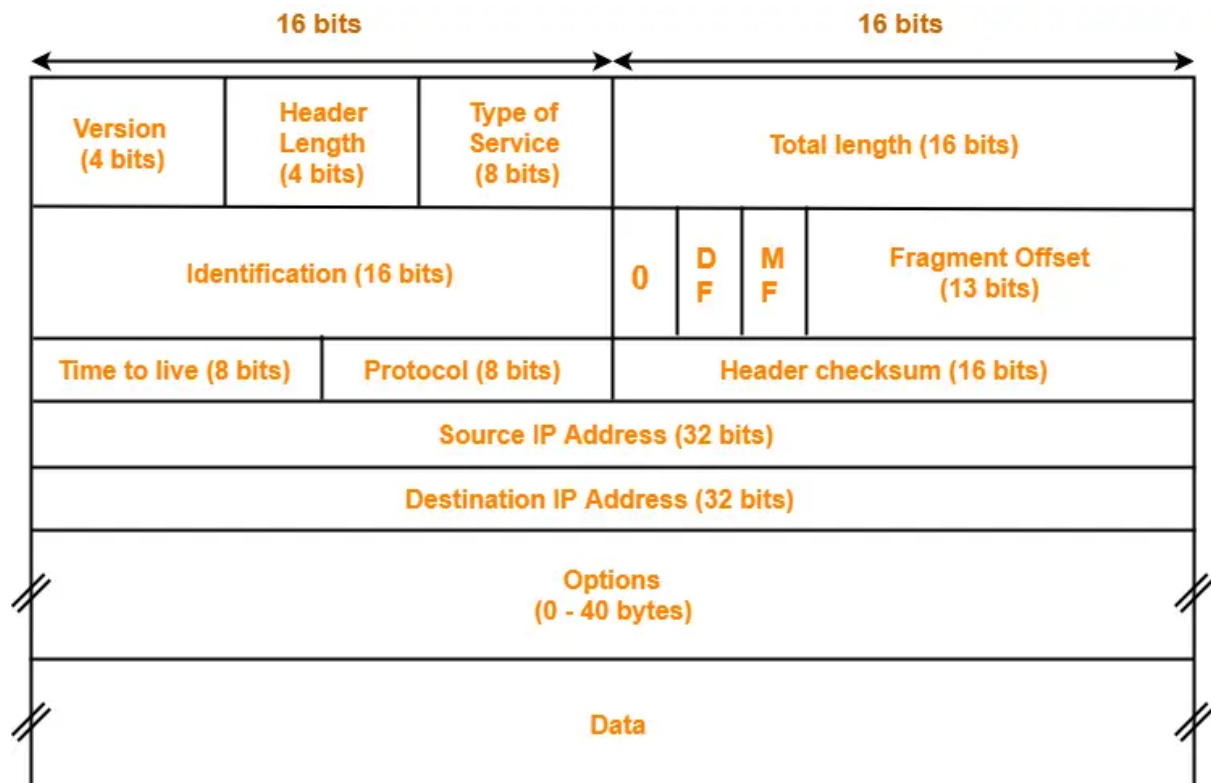
Protocol that dynamically assigns IP address, new ip address for a lease time and then make changes ... this is all done in LAN and is private , router is the one that does the talking part to the internet

Internet Protocol

Its a travel guide to help packets know where to go to the destination and where they are coming from the source

Its often packed up with other protocols such as TCP to make TCP / IP

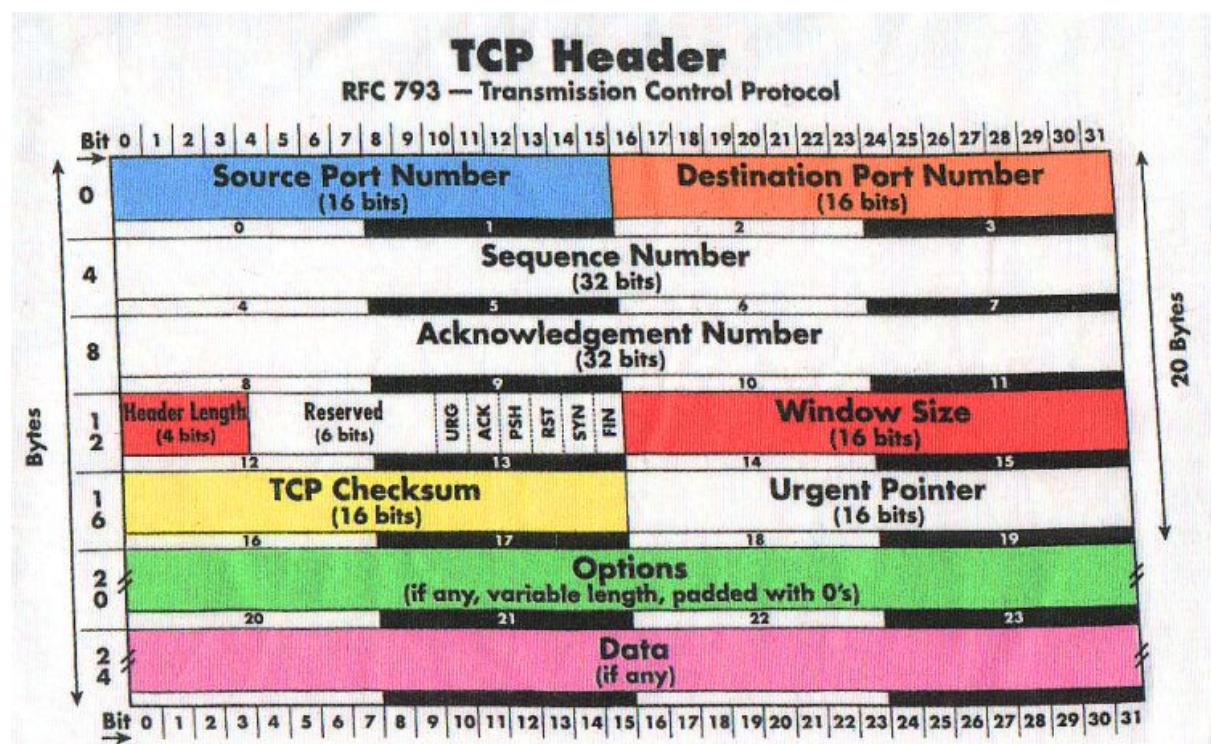
TCP is a protocol to break the data and ensure its order and reliability of data



IPv4 Header

Header is placed at the start of each internet packet, so it reaches the destination safely without getting lost (acts as a postcard)

The IPv4 Header this is a combination of both IP header + TCP card (connection card)



This tells the connection ports of source and destination,

Row 4: tells which is this either a syn (initiate a connection), fin (signals the normal closing of a connection) , ack (acknowledges receipt of a packet, useful for 3 way handshake)
rst (hard close of a connection) , urg (urgent data) , psh (directs data past buffer to application)

Window-Size differs in OS to OS and is useful for os detection with 80% accuracy
Its tells how much data its willing to accept without acknowledgement