Application Layer Protocols

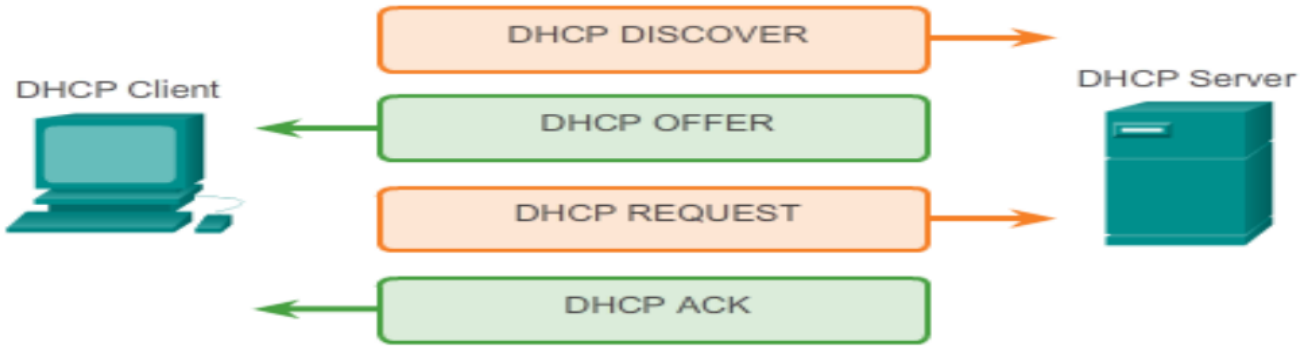
DHCP and FTP

DHCP

- Dynamic Host Configuration Protocol
- Allow a host to obtain dynamically its IP address when it joins a network
  - Can renew it’s "lease" on address in use
  - Allows reuse of IP addresses
  - Supports mobile devices

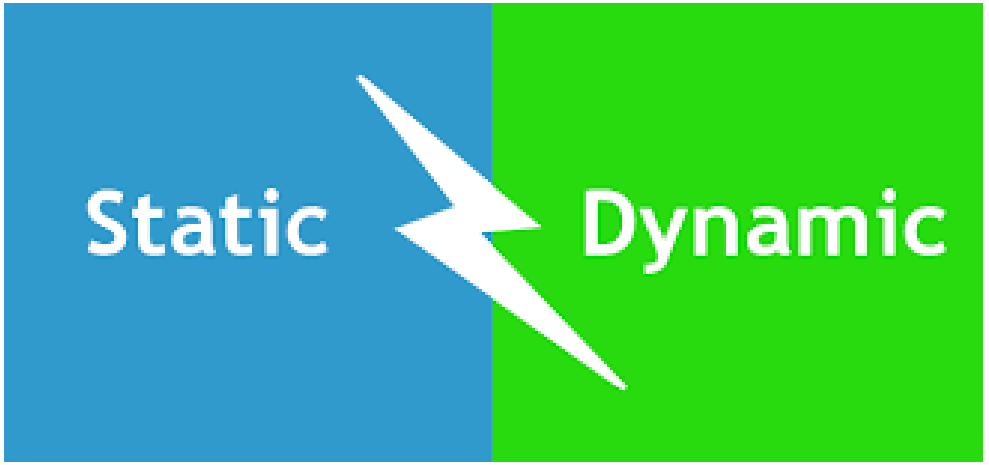
DHCP process overview

- Host broadcasts "DHCP Discover" msg
- DHCP server responds with "DHCP offer" msg
- Host requests IP address with "DHCP request" msg
- DHCP server sends address with "DHCP ack" message



DHCP Use

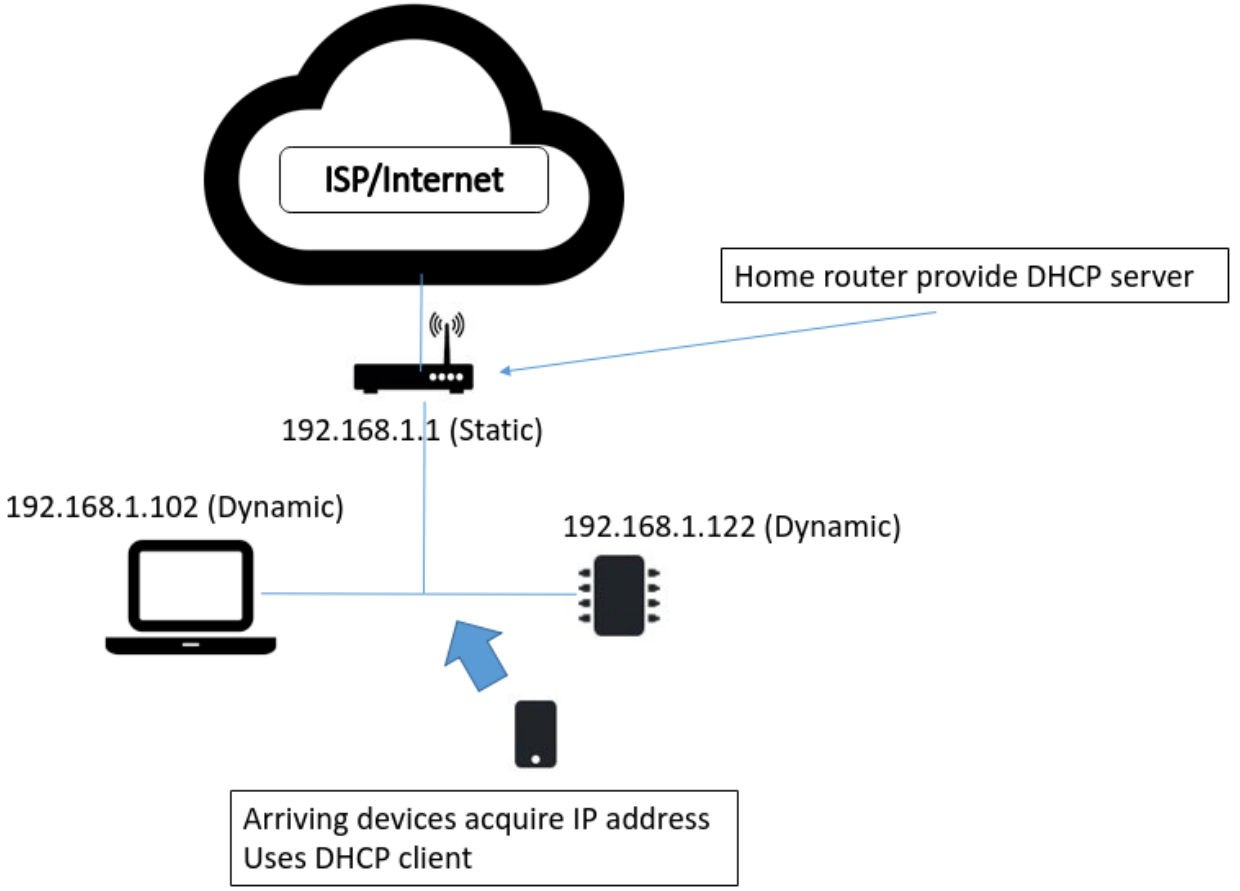
- Used for general hosts such as end user devices
- "Static" addressing used for infrastructural and gateway devices, servers...
- Why?



DHCP Client and server

- DHCP conversations over UDP ports:
  - Client uses port 68
  - Server uses port 67
- DHCP client can request an offered IP address
- DHCP Server keeps track of all IP addresses and "lease time"
  - Lease time is period where host/client will need to renew or else IP address returns to pool of available addresses
- DHCPACK includes subnet mask, default gateway and DNS server.

DHCP: Typical Home Network



DHCP: Home Network