

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

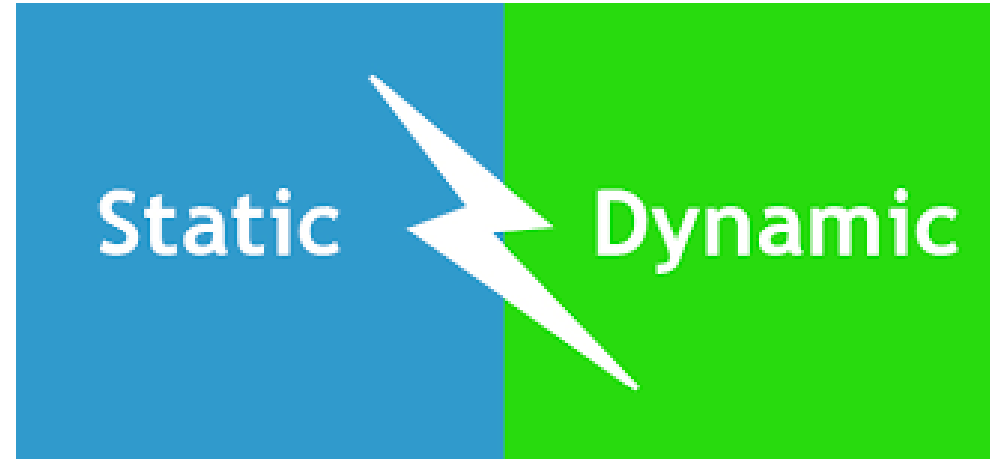
DHCP process overview

- 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

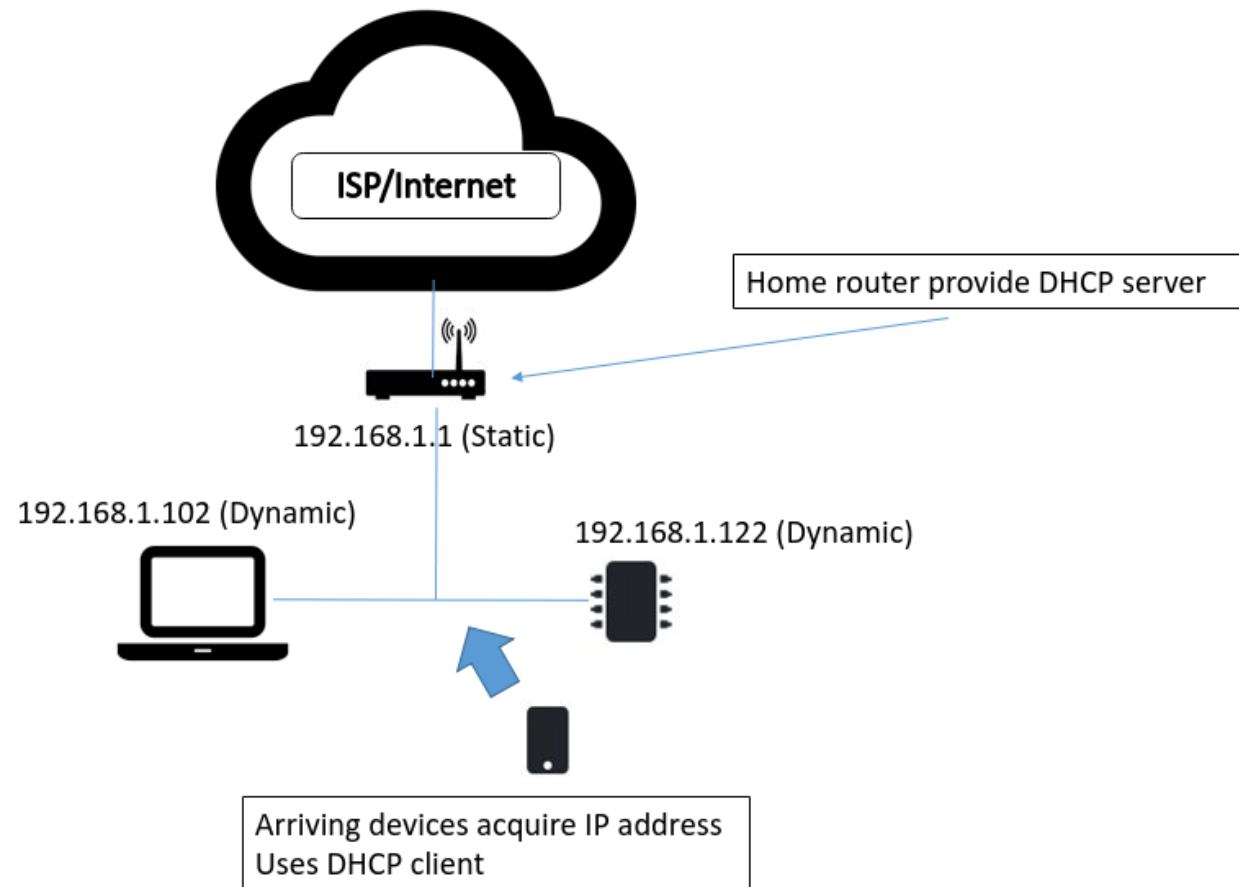
- Used for general hosts such as end user devices
- "Static" addressing used for infrastructural and gateway devices, servers...
- Why?



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

IPv4 Addresses



Enter the IPv4 address at which the FRITZ!Box can be reached in the local network.

Attention!

Changes on this page may have the result that the FRITZ!Box can no longer be reached. Be sure to consult the Help before making any changes here.

Home Network

IPv4 address . . .

Subnet mask . . .

Enable DHCP server

DHCP server assigns IPv4 addresses

from . . .

to . . .

Valid for days

The assigned IP addresses will be released after the period of validity has lapsed.

If you would like to use a different DNS server in your home network, enter its IP address here so that the FRITZ!Box can announce it to the devices in the home network.

Local DNS server: . . .

OK

Cancel