What does “dynamic host configuration” mean?

- **dynamic**: automatic
- **host**: a network-attached computer
- **configuration**: the non-physical (software) settings required for network participation, mainly an address
DHCP is client-server

- client - requests an address and network info, via broadcast
- server - dispenses addresses in response from a pool, reclaims and recycles them after an expiry period

DHCP client software

- dhcppd, or
- pump (installed with RedHat 6.x), or
- dhclient, or
Client: address acquisition on interface eth0

- manual
  - pump -i eth0 (or dhclient, or other client…)
- automatic - /etc/sysconfig/network-scripts/ifcfg-eth0
  - ONBOOT=yes
  - BOOTPROTO=dhcp
- confirmation
  - ifconfig eth0

DHCP server software

- dhcpd
- /etc/dhcpd.conf - configuration file
- to turn it on:
  - /etc/rc.d/init.d/dhcpd start, or equivalently
  - service dhcpd start
- to turn it off:
  - /etc/rc.d/init.d/dhcpd stop, or equivalently
  - service dhcpd start

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dhcpd.conf - set address pool

Subnet 192.168.3.0 netmask 255.255.255.0 {
  range 192.168.3.10 192.168.3.100;
  range 192.168.3.110 192.168.3.200;
}

dhcpd.conf - fixed address

host micron {
  hardware ethernet 08:00:2b:4c:59:23;
  fixed-address 192.168.3.101
}

dhcpd.conf - other hosts

option routers 192.168.3.254;
option domain-name-servers 192.168.3.1 192.168.3.2;
option netbios-name-servers 192.168.3.3;

dhcpd.conf - other info

option domain-name "mydomain.org";
default-lease-time 600;
max-lease-time 7200;
Rental agreement -
/var/lib/dhcp/dhcpd.leases

lease 207.168.7.50 {
    starts 5 2000/08/18 04:49:52;
    ends 5 2000/08/18 16:49:52;
    hardware ethernet 00:80:c8:e2:af:61;
    uid 01:00:80:c8:e2:af:61;
    client-hostname "MICRON";
}