Preboot eXecution Environment
PXE boot
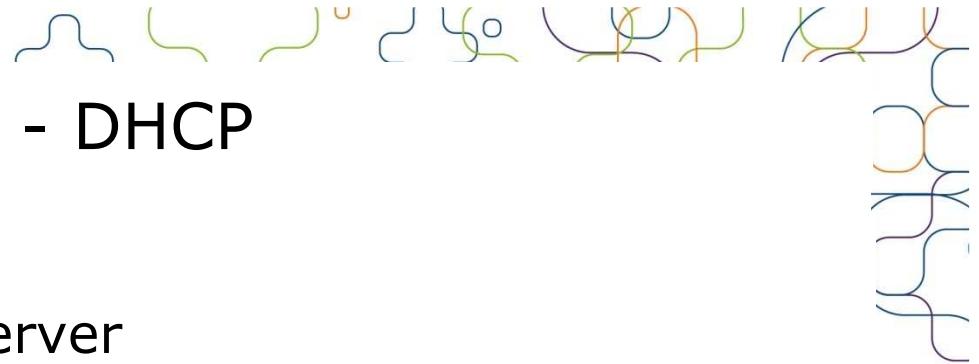
14/11-11

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Boot Server

- Computeren starter fra netkortet
- Netkortet modtager Server og startfil fra DHCP
- Henter Network Bootstrap Program (NBP) via TFTP
  - For linux kalder pxelinux.0
- NBP starter resten af processen

ftp://download.intel.com/design/archives/wfm/downloads/pxespec.pdf

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Ubuntu - DHCP
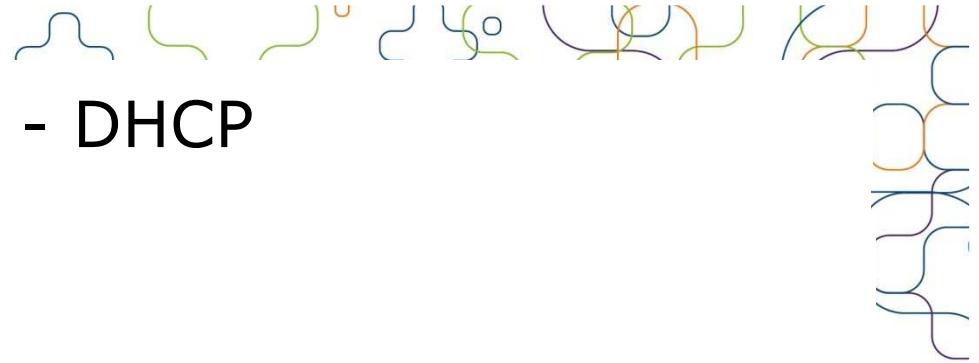
- Installer DHCP Server
  - Aptitude install dhcp3-server
- Opsæt scope i /etc/dhcp3/dhcpd.conf

```
#Definer et subnet der uddeler adresser
subnet 192.168.140.0 netmask 255.255.255.0 {
        range 192.168.140.50 192.168.140.254;

#Angiver lease time
default-lease-time 600;
max-lease-time 7200;

#DHCP options
option subnet-mask 255.255.255.0;
option broadcast-address 192.168.140.255;
option routers 192.168.140.1;
option domain-name-servers 172.16.4.66;

#PXE Options
filename "pxelinux.0";
next-server 192.168.140.10;
}
```
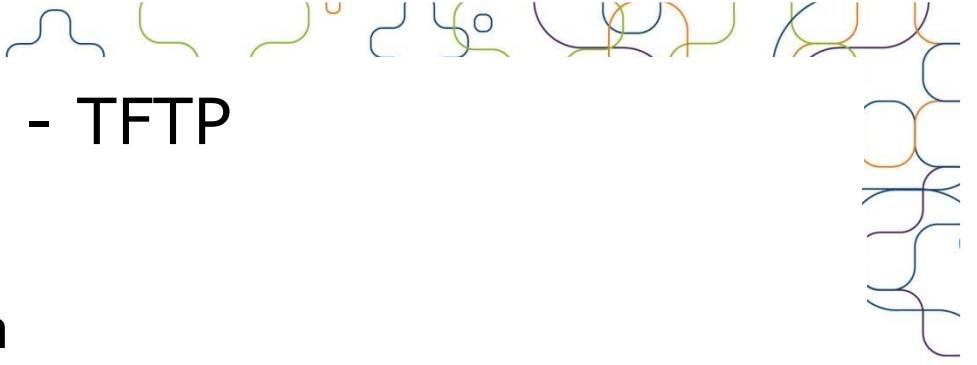
Ubuntu - DHCP

- Fast IP på worker Nodes
  - /etc/dhcp3/dhcpd.conf
- /etc/init.d/dhcp3-server restart
- Fejlfinding: tail –f /var/log/messages

```
host node01 {
hardware ethernet 20:cf:30:f1:0b:4d;
fixed-address 192.168.140.60;
}

host node02 {
hardware ethernet 20:cf:30:f0:c6:55;
fixed-address 192.168.140.61;
}
```

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Ubuntu - TFTP

- Installer TFTP Server
    - Aptitude install tftpd-hpa
- Download Ubuntu NetInstaller

```
cd /var/lib/tftpboot/
wget http://archive.ubuntu.com/ubuntu/dists/maverick/main/installer-
amd64/current/images/netboot/netboot.tar.gz
tar -xvzf netboot.tar.gz
```

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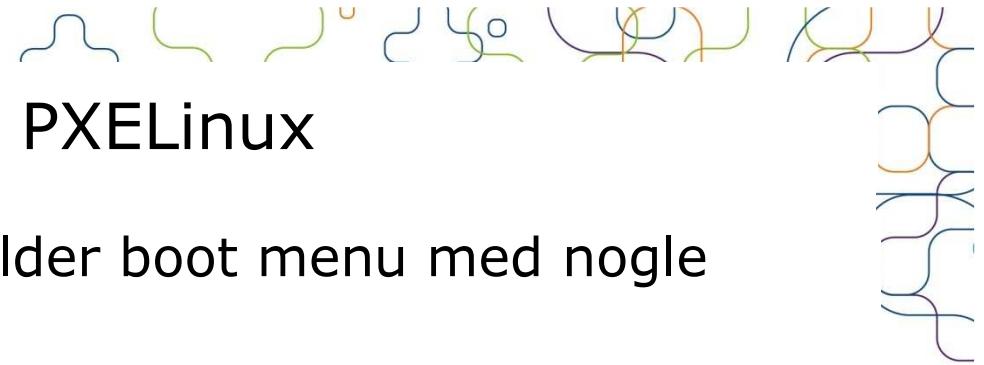
Ubuntu - PXELinux

- PXELinux søger efter config fil i prioriteret rækkefølge

Ubuntu - PXELinux

- Pxelinux.cfg/default indeholder boot menu med nogle default muligheder

```
MENU TITLE RaEl Boot Menu
menu color title          1;36;44     #ffffffff #00000000 std

LABEL ubuntu.10.10.amd64.install.unattended
        kernel ubuntu/10.10/amd64/linux
        append vga=normal initrd=ubuntu/10.10/amd64/initrd.gz --quiet
        MENU LABEL Install Ubuntu 10.10 64bit Unattended
        MENU DEFAULT
        TEXT HELP
        This will install Ubuntu 10.10 Maverick(64bit)
ENDTEXT

PROMPT 0
TIMEOUT 30
```

http://archive.ubuntu.com/ubuntu/dists/maverick/main/installer-amd64/current/images/netboot/ubuntu-installer/amd64/

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Ubuntu - Seedfile

- Hvis man ikke vil installere alle maskiner i hånden kan man bruge en KickStart fil.

http://fog.tekkom.dk/kickstart/Ubuntu.10.10.mirror.dotsrc.org.ks

```
%post

perl -pi -e "s/kickseed/myserver/g" /etc/hosts /etc/motd
perl -pi -e "s/ubuntu/myserver/g" /etc/hosts /etc/motd

cat > /etc/hostname << EOF
myserver
EOF

cat >> /etc/hosts << EOF
192.168.1.10 myserver.example.com myserver
192.168.1.11 yourserver.example.com yourserver
192.168.1.12 herserver.example.com herserver
EOF
```

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Ubuntu - Seedfile

- Parameterne i en Kickstart fil kan findes på nettet eller via værktøjer

  – system-config-kickstart

  – http://fedoraproject.org/wiki/Anaconda/Kickstart