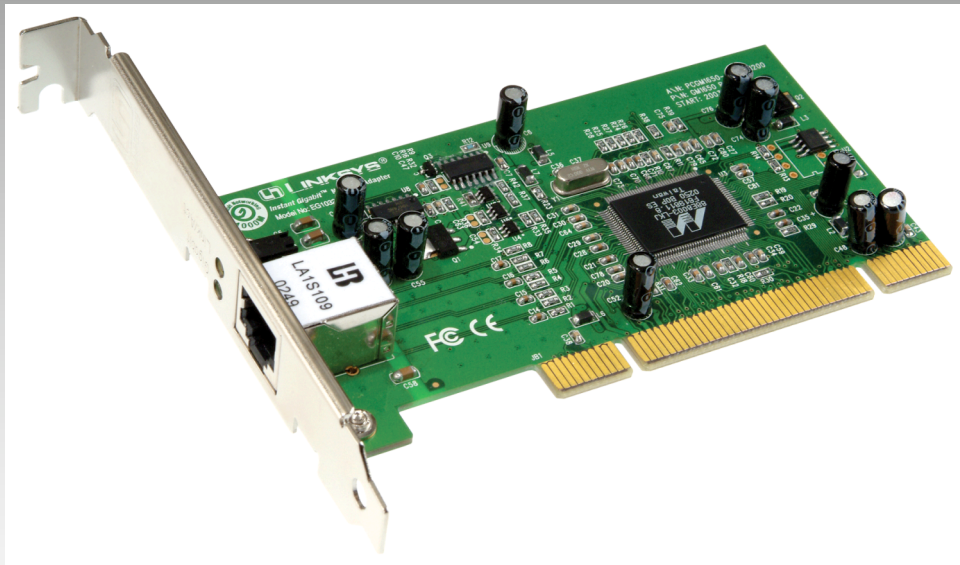


# PXE Boot



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# Programm

- PXE - Was ist das?
- Beispielsetup
- Links
- Livedemo / Diskussion

# PXE - Was ist das?

- Bootrom zum diskless booten
- ROM auf vielen Karten, Mainboards, VMware, OSS Images (Floppy und EPROM)
- Integriert in EFI
- Komplexer Standard
- Generischer NDIS Treiber von 3COM

# Beispielsetup

- SYSLINUX aka PXELINUX
- ISC DHCPd
- hpa-tftpd (optional atftpd)
- DOS Floppy Image
- Linux Kernel + Initrd

# Beispielsetup

## dhcpcd.conf

```
subnet 192.168.1.0 netmask 255.255.255.0 {  
    range 192.168.1.128 192.168.1.254;  
    option broadcast-address 192.168.1.255;  
    option domain-name-servers 192.168.1.1;  
    option domain-name "localdomain";  
  
    next-server 192.168.1.1;  
    filename "pxelinux.0";  
}
```

# Beispielsetup

## inetd.conf

```
tftp dgram udp wait root /usr/sbin/in.tftpd \  
    in.tftpd -m /etc/tftp-remap -v /tftpboot
```

## tftp-remap

```
#  
# remap relative path  
r      ^[^/]+ /tftpboot/\0
```

# Beispielsetup

## /tftboot

tftpboot

- | - pxelinux.0
- | - pxelinux.cfg/
  - | - default
- | - memdisk
- | - dosdisk.img
- | - vmlinuz
- | - root.img.gz

# Beispielsetup

## default

```
default local
```

```
prompt 1
```

```
timeout 60
```

```
label local
```

```
    localboot 0
```

```
label dos
```

```
    kernel memdisk
```

```
    append initrd=dosdisk.img
```

```
label linux
```

```
    kernel vmlinuz
```

```
    append initrd=root.img.gz
```



# Beispielsetup

```
Copyright (C) 1997-2000 Intel Corporation
```

```
CLIENT MAC ADDR: 00 0C 29 C6 68 F3 GUID: 564D94C1-5CC3-FEF9-C1FC-27913FC668F3  
CLIENT IP: 192.168.1.129 MASK: 255.255.255.0 DHCP IP: 192.168.1.254
```

```
PXELINUX 3.11 2005-09-02 Copyright (C) 1994-2005 H. Peter Anvin
```

```
UNDI data segment at: 0009C730
```

```
UNDI data segment size: 24D0
```

```
UNDI code segment at: 0009EC00
```

```
UNDI code segment size: 0A04
```

```
PXE entry point found (we hope) at 9EC0:0106
```

```
My IP address seems to be C0A80181 192.168.1.129
```

```
ip=192.168.1.129:192.168.1.1:0.0.0.0:255.255.255.0
```

```
TFTP prefix:
```

```
Trying to load: pxelinux.cfg/01-00-0c-29-c6-68-f3
```

```
Trying to load: pxelinux.cfg/C0A80181
```

```
Trying to load: pxelinux.cfg/C0A8018
```

```
Trying to load: pxelinux.cfg/C0A801
```

```
Trying to load: pxelinux.cfg/C0A80
```

```
Trying to load: pxelinux.cfg/C0A8
```

```
Trying to load: pxelinux.cfg/C0A
```

```
Trying to load: pxelinux.cfg/C0
```

```
Trying to load: pxelinux.cfg/C
```

```
Trying to load: pxelinux.cfg/default
```

```
boot: _
```

# Beispielsetup

## default

```
default menu/pxemenu.com
```

```
prompt 0
```

```
label local
```

```
    localboot 0
```

```
# MAIN:Linux:Boot Linux:RUN:linux
```

```
label linux
```

```
    kernel vmlinuz
```

```
    append initrd=root.img.gz
```

# Links

- <http://www.phys.ethz.ch/~rubi/PXE/>
- <http://nic.phys.ethz.ch/readme/88>
- [http://de.wikipedia.org/wiki/Preboot\\_Execution\\_Environment](http://de.wikipedia.org/wiki/Preboot_Execution_Environment)
- [http://en.wikipedia.org/wiki/Preboot\\_Execution\\_Environment](http://en.wikipedia.org/wiki/Preboot_Execution_Environment)
- <http://www.etherboot.org/>
- <http://rom-o-matic.net/>
- <http://netboot.sourceforge.net/>
- <http://syslinux.zytor.com/>
- <http://www.isc.org/sw/dhcp/>
- <http://packages.debian.org/tftp-hpa>
- <http://support.3com.com/infodeli/tools/nic/mba.htm>

# Livedemo / Diskussion

