PXE boot server

From Syslinux Wiki

This page is "work in progress"...

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What is a PXE boot server?

A PXE boot server, as defined in the PXE Specifications [1] (http://download.intel.com/design/archives/wfm/downloads/pxespec.pdf), is a server that provides network booting services.

If you are familiar with PXELinux, you already know how to setup your DHCP and TFTP servers to provide network boot.

A PXE boot server does act as a TFTP server, it also has a few nice features:

- Listen and reply on DHCP port, to provide netboot information only.
- Support Multicast TFTP.
- PXE-server

Requirement

- A DHCP Server providing IP address to clients (this can be a DSL router) [optional].
- A PXE capable network card (or use etherboot).

dnsmasq as a boot server

dnsmasq (http://www.thekelleys.org.uk/dnsmasq/doc.html) includes nameserver (instead of ISC-bind), DHCP server (instead of ISC-dhcpd) and TFTP server (instead of HPA tftpd).

- Perhaps a tftp entry in "/etc/inetd.conf" or in "/etc/xinetd" has to be disabled.

short solution

Example for a server 192.168.0.1 with a DHCP range from 192.168.0.50 to 192.168.0.250 and a special client Think40w:

- activating (in /etc/dnsmasq.conf or included file)

```
dhcp-range=192.168.0.50,192.168.0.250,12h
dhcp-host=192.168.0.60,Think40w,11:22:33:44:55:66,90d
```

```
dhcp-boot=pxelinux.0,boothost,192.168.0.1

enable-tftp
tftp-root=/tftpboot
```

special example

In this example, we consider that you already have a DHCP on the network, that provides IP networking information (IP, netmask, router and DNS). However, that DHCP doesn't or can't provide network booting information (i.e tftp server and netboot image).

This example is broken :(

```
dhcp-range=192.168.0.0,proxy
pxe-service=x86PC, "PXE-Linux", "pxelinux"
```

many PXE servers

```
# Tipp von Clemens Fischer, dnsmasq-Mailingliste 12.6.2010
dhcp-mac = set:fog, 11:22:33:44:55:66
# Think40w. 0.60
# beliebig oft zu wiederholen/may be repeated for many clients

pxe-service = tag:fog,x86PC,"fog",gpxelinux,192.168.0.5
pxe-service = tag:!fog,x86PC,"Arktur",gpxelinux,192.168.0.1
```

WDS as a boot server

Well, Windows Deployment service does provides PXE boot service out of the box.

See WDSLINUX and WDS documentation [2] (http://technet.microsoft.com/en-us/library/cc771670(WS.10).aspx), [3] (http://technet.microsoft.com/en-us/library/bb680753.aspx)...

see also

- PXE native boot menu

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