

PXE Booting VMware ESXi

ESXi 4.0

ESXi 4.0 Installable is distributed in an ISO format that is designed to install into flash memory or a local hard drive. This technical note describes how to extract the image files and boot the image using PXE.

The environment, tools, and methods described in this technical note serve as examples only. You should be familiar with image files and their formats.

A PXE boot installation of ESXi is completely stateless (it does not rely on the presence of a local disk). Therefore, the installation and post-install configuration are not persistent across reboot. If you want to automate the server configuration at boot time, use the VMware Infrastructure Toolkit (VMware Infrastructure SDK). PXE booting ESXi 4.0 allows you to run ESXi on systems with no disk or other local persistent storage. PXE booting simplifies both the booting and upgrading processes, so scaling to many machines is greatly facilitated. No manual installation steps are necessary when the system is fully realized.

NOTE PXE booting ESXi 4.0 Installable is an experimental feature and is supported as such. For more information about VMware's support for experimental features, see <http://www.vmware.com/support/policies/experimental.html>.

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Prerequisites

PXE booting has the following requirements:

- DHCP environment configured with PXE
- PXE Server (with TFTP)
- Server with a hardware configuration that is supported with ESXi 4.0 (For supported hardware configurations, see the *Hardware Compatibility Guide* at <http://www.vmware.com/resources/compatibility/search.php>.)
- Network security policies to allow TFTP traffic (UDP port 69).

A description of the configuration of the network policies and of DHCP with PXE servers is outside the scope of this technical note.

Extract ESXi 4.0 Installable Image Files for PXE Booting

To enable network PXE booting, you must first extract the files that contain the ESXi 4.0 Installable image files.

Many extraction tools are available, but these example instructions use the following tools:

- Free version of Gilles Vollant Software's WinImage
- Free version of Access Data's Forensics ToolKit (FTK)
- Trial version of RARLAB's WinRAR

To extract the image files

1 Download the ESXi 4.0 Installable ISO image from <http://www.vmware.com/download/esxi>.

2 Extract the `install.tgz` file from the ISO image.

If you are installing on a Windows system, you can use WinImage or WinRAR to extract the contents from the ISO. If you are installing on a UNIX or Linux system, you can use the `mount` command and `loop-mount` the ISO to extract the contents.

3 Extract the `VMware-VMvisor-big-4.0_Update...dd.bz2` file from the `image.tgz` file.

If you are installing on a Windows system, you can use WinRAR to extract the contents from the TGZ file. If you are installing on a UNIX or Linux system, you can use the `tar` command to extract the contents.

4 Extract the `.dd` image from the `.bz2` file.

If you are installing on a Windows system, you can use WinRAR to extract the contents from the bz2 file. If you are installing on a UNIX or Linux system, you can use the `tar` command to extract the contents.

5 Extract the required files listed in [Table 1](#) from Partition 4 on the `.dd` image.

If you are installing on a Windows system, you can use Winimage or FTK to open the `.dd` image and extract the required files. If you are installing on a UNIX or Linux system, you can use the `mount` command and the `offset` option to `loop-mount` the `.dd` image to extract the contents from different partitions.

Table 1. Partitions

Partition 4	Partition 5	Partition 8
ESXi 4.0 boot and configuration files (required)	ESXi 4.0 SYSLINUX files (optional)	VMware vSphere Client and VMware Tools files (optional)

PXE Boot ESXi

To configure PXE booting

1 Download the ESXi 4.0 Installable image into your PXE boot environment.

2 From the image, extract the files to a directory of your choice.

3 Download and extract the latest version of the SYSLINUX files to the same directory as the ESXi 4.0 image files.

This step enables the remote ESXi 4.0 host to boot from these image files. Refer to the SYSLINUX/PXE Documentation for installation and configuration options.

- 4 Modify the default file in the `syslinux.cfg` folder to create a boot menu for the remote ESXi 4.0 host that appears.

```
default menu.c32
menu title PXE Boot VMware ESXi
timeout 100

label ESXi
menu label Boot VMware ESXi
kernel mboot.c32
"append vmkboot.gz --- vmk.gz --- sys.vgz --- cim.vgz --- oem.tgz --- license.tgz ipappend 2"

label Hard
menu label Boot from local drive
localboot 0
```

- 5 Boot ESXi 4.0 using DHCP with PXE, passing it the address for the configuration server.

If everything proceeds properly, the ESXi starting screen appears on the new ESXi 4.0.

If you have comments about this documentation, submit your feedback to: docfeedback@vmware.com

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