

# Trivial File Transfer Daemon

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In some cases, a Trivial File Transfer Protocol Daemon (tftpd) comes in handy. One case where it is almost mandatory is when booting systems using the Intel Pre-boot Execution Environment (PXE). But also for some very simple devices like embedded systems or Systems On Chip (SOC) like Board Management Controller (BMC), the TFTP daemon is sometimes the only method to copy a file to the device. This guide focuses on CentOS.

## 1 TFTP Server On CentOS

Check if the server is already installed

```
rpm -q tftp-server  
tftp-server-0.49-2.el5.centos
```

Activate the daemon for some run-levels via xinetd

```
/sbin/chkconfig --level 245 xinetd on  
/sbin/chkconfig --level 345 tftp on
```

Setting the verbose level

```
vim /etc/xinet.d/tftp
```

Add `-vvv` to `'server_args'` that will help the initial debugging.

## 2 HPA TFTP Server On Debian

Install the HPA TFTP Server. HPA stands for Hans Peter Anvin, who maintains this version. Back in 1995 this was the best alternative of TFTP servers, as others were quite buggy. There is also a `tftpd` package in Debian. Configuration and supported protocols may differ between flavors of TFTP servers.

```
aptitude install tftpd-hpa
```

### 2.1 Install DHCPD

```
aptitude install dhcp3-server
```

### 2.2 Configure DHCPD

```
cd /etc/dhcp3
cp dhcpd.conf dhcpd.conf-original
vim dhcpd.conf
```

```
1 option domain-name-servers 208.67.222.222, 208.67.220.220;
2
3     subnet 10.0.10.0 netmask 255.255.255.0 {
4         range 10.0.10.10 10.0.10.15;
5         filename "pxelinux.0";
6         next-server 10.0.10.150;
7         option routers 10.0.10.150;
8     }
```

### 2.3 Configure TFTP For CentOS

The boot directory is at `/var/lib/tftpboot`

```
mkdir -v /var/lib/tftpboot/pxelinux.cfg
mkdir -vp /var/lib/tftpboot/centos6/i386 /var/lib/tftpboot/centos6/x86_64
rsync -av
```

↪ [rsync.hrz.tu-chemnitz.de::ftp/pub/linux/centos/6/os/i386/images/](https://rsync.hrz.tu-chemnitz.de::ftp/pub/linux/centos/6/os/i386/images/)

```
pxeboot/ /var/lib/tftpboot/centos6/i386
rsync -av rsync.hrz.tu-chemnitz.de::ftp/pub/linux/centos/6/os/x86_64/\
images/pxeboot/ /var/lib/tftpboot/centos6/x86_64/
touch /var/lib/tftpboot/pxelinux.cfg/default
vim /var/lib/tftpboot/pxelinux.cfg/default
```

Add this content:

```
1 DISPLAY boot.txt
2
3 DEFAULT centos6_x86_64_install
4
5 MENU TITLE PXE Menu
6
7 LABEL centos6_x86_64_install
8 kernel centos6/x86_64/vmlinuz
9 append vga=normal initrd=/centos6/x86_64/initrd.img devfs=nomount
10 #append vga=normal initrd=/centos6/x86_64/initrd.img devfs=nomount\
11 ramdisk_size=9216
12
13 LABEL centos6_i386
14 kernel /centos6/i386/vmlinuz
15 append initrd=/centos6/i386/initrd.img devfs=nomount
16 #append initrd=/centos6/i386/initrd.img devfs=nomount ramdisk_size=9216
17
18 PROMPT 1
19 TIMEOUT 10
```

### 3 History

Version	Date	Notes
0.1.2	2023-05-17	Improve writing
0.1.1	2022-06-18	History, shell->bash
0.1.0	2016-06-22	Initial release