Zeroshell as TFTP server

On June 22 a new update has been released by Fulvio BF22 (June 30, 2013)

##

Code (date)	BF22 (June 30, 2013)
Description	This update installs a TFTP server. The root directory is /tftpboot.
Release	v1.0
Download	http://www.zeroshell.net/listing/BF22-tftp.tar.bz2
Installation	cd /Database wget http://www.zeroshell.net/listing/BF22-tftp.tar.bz2 tar xvfj BF22-tftp.tar.bz2 cd BF22 ./install.sh

So now you can install an thin client or a server on network.

I was playing with booting SmartOS [www.smartos.org] and step by step with a wonderful post of the Alan O'Dea [http://blog.alainodea.com/en/ipxe-smartos] and Ben Rockwood [http://cuddletech.com/blog/?p=779] and on wiki of the SmartOS [http://wiki.smartos.org/display/DOC/PXE+Booting+SmartOS]

But why don't try with Zeroshell ?

1) install the new update

Now you have in */Database* a new directory *opt* and if you change something inside this directory all the change will be persistent after reboot.

Now just after a little theory how the pkg is added I try to improve the update with two little patch.

a) add - -verbose option to in.tftpd, so you can see more messages in logviewer
b) add also MANPATH of the pkg, so you can read the man of the tftp and in.tftp

In the first case you have to change the file *etc/rc.d/init.d/tftp* inside the tar file */Database/opt/x.x/tars/BF22-files.tar.gz*

```
root@labtest opt> pwd
/Database/opt
root@labtest opt> tar tzvf ./x.x/tars/BF22-files.tar.gz
drwxr-xr-x root/root         0 2013-06-30 21:12 etc/
drwxr-xr-x root/root         0 2013-06-30 21:12 etc/rc.d/
drwxr-xr-x root/root         0 2013-08-08 16:53 etc/rc.d/init.d/
-rwxr-xr-x root/root       592 2013-08-08 16:53 etc/rc.d/init.d/tftp
root@labtest opt>
```

root@labtest >cd /Database/opt/x.x/tars
root@labtest tars> tar xzvf BF22-files.tar.gz
etc/
etc/rc.d/
etc/rc.d/init.d/
etc/rc.d/init.d/tftp

root@labtest tars>

Now you can change the file *etc/rc.d/init.d/tftp* with a new option

root@labtest tars>vi etc/rc.d/init.d/tftp
loadproc /Database/opt/x.x/packages/sbin/in.tftpd --listen --user apache --secure /Database/tftpboot ***--verbose*** *>/dev/null*

Then you have to recreate the tar file with

root@labtest tars> tar -czvf BF22-files.tar.gz etc/

Now I need to add a *MANPATH* to /etc/man.conf and can be done with script /Database/opt/updater

so before the last line add a new one:

echo 'MANPATH /Database/opt/x.x/packages/share/man' >>/etc/man.conf

Now tftp is ready but if you need to boot a operating system with iPXE http://ipxe.org then you need to add some option to DHCP confguration. The is a wonderful post on forum of zeroshell **DHCP Global Options HowTo** (http://www.zeroshell.org/forum/viewtopic.php?t=2989&highlight=dhcp+howto)

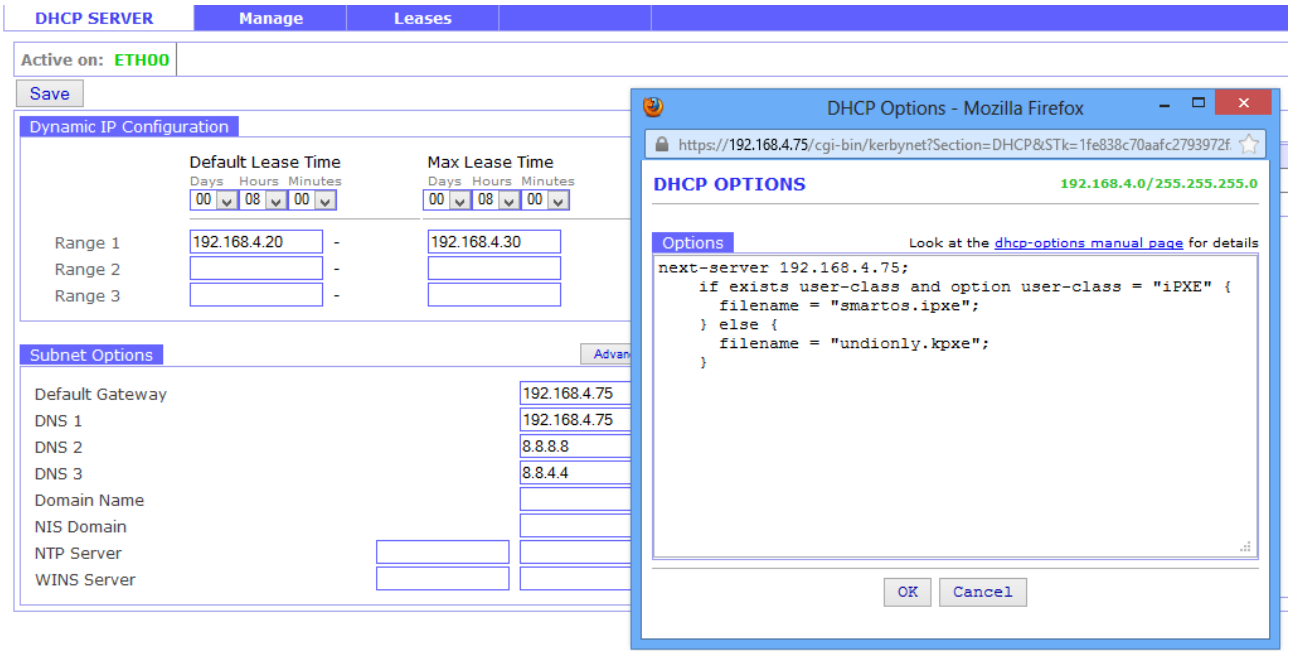
For SmarOS I found that the Global Option that works for me are:

```
option space ipxe;
option ipxe-encap-opts code 175 = encapsulate ipxe;
option ipxe.priority code 1 = signed integer 8;
option ipxe.keep-san code 8 = unsigned integer 8;
option ipxe.skip-san-boot code 9 = unsigned integer 8;
option ipxe.syslogs code 85 = string;
option ipxe.cert code 91 = string;
option ipxe.privkey code 92 = string;
option ipxe.crosscert code 93 = string;
option ipxe.no-pxedhcp code 176 = unsigned integer 8;
option ipxe.bus-id code 177 = string;
option ipxe.bios-drive code 189 = unsigned integer 8;
option ipxe.username code 190 = string;
option ipxe.password code 191 = string;
option ipxe.reverse-username code 192 = string;
option ipxe.reverse-password code 193 = string;
option ipxe.version code 235 = string;
option iscsi-initiator-iqn code 203 = string;
# Feature indicators
option ipxe.pxeext code 16 = unsigned integer 8;
option ipxe.iscsi code 17 = unsigned integer 8;
option ipxe.aoe code 18 = unsigned integer 8;
option ipxe.http code 19 = unsigned integer 8;
option ipxe.https code 20 = unsigned integer 8;
option ipxe.tftp code 21 = unsigned integer 8;
option ipxe.ftp code 22 = unsigned integer 8;
option ipxe.dns code 23 = unsigned integer 8;
option ipxe.bzimage code 24 = unsigned integer 8;
option ipxe.multiboot code 25 = unsigned integer 8;
option ipxe.slam code 26 = unsigned integer 8;
```

```
option ipxe.srp code 27 = unsigned integer 8;
option ipxe.nbi code 32 = unsigned integer 8;
option ipxe.pxe code 33 = unsigned integer 8;
option ipxe.elf code 34 = unsigned integer 8;
option ipxe.comboot code 35 = unsigned integer 8;
option ipxe.efi code 36 = unsigned integer 8;
option ipxe.fcoe code 37 = unsigned integer 8;
```

and the into DHCP SERVER ---->Advance Option

put how to feed the request from thin client



Now you have to setup the file like suggested by Aln and Ben