Debian PXE Installer Images

Debian, as usual, has their own way of doing things. But, as usual, they are pretty logical when you figure it out.

When you download a Debian *netboot* image, it will be a tar.gzip file. Unpacking it into tftp_root on your PXE server sets it up for boot. However, since our goal was to actually have multiple images, we need to do things a little different. I'm assuming you have read PXE Booting and done all the work there to get things up and running.

We have want to build the tree described in PXE Booting, then download the *netboot* images decompress them, and move the appropriate items into the correct directories. I am lazy so I built this script to do just that, and create some basic menu entries (in default) and add some text to boot.txt.

getDebian

```
#! /usr/bin/env bash

TFTPDIR=/srv/tftp
MENU=$TFTPDIR/boot.txt
DEFAULTCONFIG=$TFTPDIR/pxelinux.cfg
DEFAULTFILE=$DEFAULTCONFIG/default
MIRROR=ftp://ftp.us.debian.org
DOWNLOADDIR=/tmp
TEMPDIR=$DOWNLOADDIR/working

mkdir -p $DEFAULTCONFIG

if [ ! -e $DEFAULTFILE ]
then
   echo 'DISPLAY boot.txt' > $DEFAULTFILE
   echo '' >> $DEFAULTFILE
   echo 'prompt 1'  >> $DEFAULTFILE
   echo 'timeout 0' >> $DEFAULTFILE
   echo '' >> $DEFAULTFILE
fi

if [ ! -e $MENU ]
then
   echo 'Available Boot Options:' > $MENU
   echo '======================' >> $MENU
   echo '' >> $MENU
fi


for arch in i386 amd64
do
   for dist in jessie wheezy
   do
```

```
      echo Setting up $dist, $arch
      THISDOWNLOAD=$DOWNLOADDIR/$dist/$arch
      if [ ! -e $THISDOWNLOAD/netboot.tar.gz ]
      then
         mkdir -p $THISDOWNLOAD
         cd $THISDOWNLOAD
         wget -q $MIRROR/debian/dists/$dist/main/installer-
$arch/current/images/netboot/netboot.tar.gz
      fi
      if [ -e $TEMPDIR ]
      then
         rm -fR $TEMPDIR
      fi
      mkdir -p $TEMPDIR
      cd $TEMPDIR
      tar -xzf $THISDOWNLOAD/netboot.tar.gz
      THISINSTALL=$TFTPDIR/debian/$dist
      if [ -e $THISINSTALL ]
      then
         rm -fR $THISINSTALL
      fi
      mkdir -p $THISINSTALL
      mv $TEMPDIR/debian-installer/* $THISINSTALL/
      # create an entry in default and menu
      echo label $dist\_$arch\_install >> $DEFAULTFILE
      echo "menu label ^Install $dist $arch" >> $DEFAULTFILE
      echo "kernel debian/$dist/$arch/linux" >> $DEFAULTFILE
      echo "append vga=normal initrd=debian/$dist/$arch/initrd.gz --
quiet" >> $DEFAULTFILE
      echo '' >> $DEFAULTFILE
      echo $dist\_$arch\_install  \-\- Install Debian $dist $arch >>
$MENU
   done
done
```

The problem with this code is the menu creation. Debian generally has several levels of menu options depending on what you want to do. This will only do the basic *install* option, so if you want more (ie, rescue, install with a gui, etc...), you'll need to create those manually.

Debian appears to use the information found at http://www.syslinux.org/wiki/index.php?title=PXELINUX, which discusses pxelinux in detail. This allows for a curses type menuing system, with submenus. However, it results in the menus being stored in numerous files under the boot-screens directory in the installation.

If you only want a few options, without a lot of work, you can enter that directory, find the option you want, then copy/paste the label block into pxelinux.cfg/default (changing the paths, obviously). Otherwise, read the referenced article to build your own menuing system.

NOTE: pxelinux.cfg/ can have many different files in it, and the actions can take place based on

criteria of the machine making the connetion, such as MAC address, UUID or IP address (or a portion of it). Again, the documentation at the syslinux web site explains in minute detail. It should be possible, from what I've seen, to modify Debian's menuing tree to be reflected in the PXE boot for multiple images, however.

References

- http://www.syslinux.org/wiki/index.php?title=PXELINUX

From:
https://kb.unixservertech.com/ - **Unix Server Tech Knowledge Base**

Permanent link:
https://kb.unixservertech.com/other/networking/pxebooting/debian_installers

Last update: **2017/05/02 02:24**