

Re: A bright idea...

Source: <http://linux.derkeiler.com/Mailing-Lists/Fedora/2007-06/msg05435.html>

- *From:* Phil Meyer <pmeyer@xxxxxxxxxxxxxxxxxxx>
 - *Date:* Mon, 25 Jun 2007 11:21:30 -0600
-

Les Mikesell wrote:

Phil Meyer wrote:

Why not buy a 4 GB Flash USB device for around \$50.00 and load F7 on that and then plug it into the USB port of the computer to upgrade and away you go. Cheaper than a DVD drive with a USB port :-)

Yup. My normal mode of operations. I carry around a 4GB USB thumb drive with two partitions: 1 = boot ; 2 = FAT32 with a custom (pungi rocks!) DVD image on it.

Is there a howto somewhere about the partitioning needed for this? Or is it just a matter of making the first partition large enough for a raw copy of the boot.img file, then reformatting what's left? Can you specify a kickstart file on the 2nd partition? How do you know where it will be mounted?

Two major issues there.

First one was a trial and error on my part getting the first partition just the right size. It ends up being 13MB, even though the actual image is 7MB. This partion needs to be bootable.

The second issue is kickstart files. My original requirements were to allow a level one tech to install our custom distro on a truck (small embedded computer) in the field. I could not depend upon any resources other than the thumb drive. Here is what I learned:

1. The USB driver NEVER loads in time to utilize a kickstart file on the second partiton, including the DVD iso image. In fact, the iso gets mounted AFTER the kickstart request.
2. The USB driver SELDOM (varies widely based upon hardware) loads in time to totally prevent operator intervention --- the operator has to answer the askmethod dialog, and has to wait 5-10 seconds before doing so.
3. The only reliable method for using kickstart files from a USB thumb drive, is to put them inside the initrd

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image on the boot partition.

This is not such a simple task.

4. If you boot from a USB thumb drive, grub will ASSUME that you want this drive as the bootable drive and will stomp on the MBR of the thumb drive. To prevent this, you must have a driveorder argument on your bootloader line. ie:

```
#System bootloader configuration  
bootloader --driveorder=sda,sdb --location=mbr
```

None of these issues matter with an internal or external DVD, simply because the ISO is mounted at boot time.

So last week-end my son asks me to build him a media server. I travel to his place because I want to see my grand babies. No sweat. I pop out my thumb drive -- hmmm... won't boot usb. OK -- hmmm... can't burn a DVD for him, he doesn't have a DVD in that system. OK, mount the DVD image on my laptop and burn the diskboot.iso to a CDR. Plug in the USB to his system, boot the bootable CD and proceed to load from the USB stick via my custom kickstart scripts.

Whew!

The moral of the story?

Not all systems will boot from USB, and not all systems have DVD players.
:) Keep a CDR in your laptop bag.

You could also export the dvd image via NFS from the laptop and install over the network.

Yes, and I could access my kickstart file over the net as well (which I did) but I wanted to install it stand-alone in this instance because we were doing some other network oriented maintenance.

As for a How To: Another son of mine and I are currently working one up.

He is smarter than I am, so if I can get him 'into' following up on a project of mine, he always finds my 'holes'. The trick is to get him on board with one of my interests. He asked me over this last weekend how to do this very thing, so we have his attention now. A How To should result, soonish.

I will post a link to it when its up.

If the kiskstart file in in the initrd image:

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```
ks=file:/dir/kickstart.cfg
```

If the kickstart file is in the DVD iso:

```
ks=CDROM:/dir/kickstart.cfg
```

If the kickstart file is on the second partition of the thumb drive (not in the iso):

```
ks=hd:sdb2:/dir/kickstart.cfg
```

To add kickstart files to the initrd of the boot partition:

This is based upon a pungi build, and the names will vary depending upon how you do things, but it may be useful. Don't do these commands unless you know for sure ...

ASSUMPTIONS:

Thumb drive is /dev/sdc

```
---cut---
```

```
#!/bin/sh
```

```
KS="/var/www/html/ks"
```

```
dd if=/srv/pungi/F7Developer/7/Custom/i386/os/images/diskboot.img of=/dev/sdc1
```

```
mount /dev/sdc1 /mnt
```

```
rm -fr /tmp/img
```

```
mkdir /tmp/img
```

```
cd /tmp/img
```

```
gunzip -dc /mnt/initrd.img | cpio -icvdmu
```

```
# Copy kickstart files
```

```
# adjust below as needed (not everyone uses .ks extention)
```

```
mkdir ks
```

```
cp ${KS}/*.* ks
```

```
cp ${KS}/home* ks
```

```
# Now put the initrd.img back
```

```
find . |cpio --quiet -c -o |gzip -9 > ../initrd.img
```

```
cp ../initrd.img /mnt
```

```
cd
```

```
# rm -fr /tmp/img
```

```
umount /mnt
```

```
# Copy the DVD image to partition 2
```

```
mount /dev/sdc2 /mnt
```

```
cp /srv/pungi/F7Developer/7/Custom/i386/iso/F-7-i386-DVD.iso /mnt
```

```
umount /mnt
```

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```
sync
sleep 2
---cut---
```

Here is my home.usb kickstart file -- you will need your own root password:

```
---cut ---
#Debug
# autostep
#System language
lang en_US.UTF-8
#System keyboard
keyboard us
#System timezone
timezone America/Denver
#Root password
rootpw --iscrypted $1$VKHcK4TU$Z12345BuA4/0q2b6xH7br/
#Reboot after installation
# reboot
#Install OS instead of upgrade
install
#Network
network --bootproto=dhcp --hostname=developer
#Use USB disk
harddrive --dir=/ --partition=sdb2
#System bootloader configuration
bootloader --driveorder=sda,sdb --location=mbr
#Clear the Master Boot Record
zerombr
#Partition clearing information
clearpart --drives=sda --all --initlabel
#Disk partitioning information
part /boot --fstype ext3 --size 100 --ondisk=sda
part swap --size 2000 --ondisk=sda
part / --fstype ext3 --size 1000 --grow --ondisk=sda

#System authorization information
auth --useshadow --enablemd5
#Firewall configuration
firewall --enabled --ssh
selinux --permissive
#
#Package install information
%packages

@ base
@ gnome-desktop
@ kde-desktop
@ base-x
@ editors
@ engineering-and-scientific
```

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```
@ graphical–internet
@ text–internet
@ office
@ sound–and–video
@ graphics
@ games
@ authoring–and–publishing
@ development–tools
@ development–libs
@ x–software–development
@ gnome–software–development
@ kde–software–development
@ admin–tools
@ system–tools
@ printing
@ eclipse
@ java
@ java–development
@ mysql
@ ruby
@ legacy–software–development
@ other
tomcat5–admin–webapps
imlib
–julie
```

```
%post
```

```
cd /
```

```
# Set Up Applications for install from custom fjks package
mkdir /tmp/local
mv /ks/jdk*.rpm /tmp/local
mv /ks/livna*.rpm /tmp/local
mv /ks/phil*.rpm /tmp/local
mv /ks/codecs.tgz /tmp
mv /ks/fix_host /tmp
```

```
rpm --import /etc/pki/rpm-gpg/RPM-GPG-KEY-fedora
rpm --import /ks/freshrpms-RPM-GPG-KEY.txt
```

```
ln -s /usr/java/jdk1.5.0_09/jre/plugin/i386/ns7/libjavaplugin_oji.so /usr/lib/mozilla/plugins/
tar xzPf /tmp/codecs.tgz
```

```
cat << _LOCAL > /tmp/S99Local_install
#!/bin/sh
# install local apps
echo "Installing Local Applications"
rpm -ihv /tmp/local/*.rpm
echo "Running depmod"
/sbin/depmod
```

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```
exit 0
_LOCALAL

chmod 755 /tmp/S99Local_install

cat << _EOF >> /etc/rc.local
# install Local Applications on first boot and run modem_check
if [ -f /tmp/S99Local_install ]
then
/tmp/S99Local_install
mv /tmp/S99Local_install /tmp/S99Local-installed
fi
_EOF
#

# fix sshd_config
ed /etc/ssh/sshd_config << _EOF
/#Protocol 2,1
a
Protocol 2
..
/#PermitRootLogin
a
PermitRootLogin no
..
w
q
_EOF

# set run level to 5
ed << _EOF /etc/inittab
/:initdefault:/
s/id:.:initdefault:/id:5:initdefault:/
w
q
_EOF

# set java alternatives
rm /var/lib/alternatives/java
/usr/sbin/alternatives --install /usr/bin/java java /usr/lib/jvm/jre-1.4.2-gcj/bin/java 1
/usr/sbin/alternatives --install /usr/bin/java java /usr/java/jdk1.5.0_09/bin/java 2
/usr/sbin/alternatives --install /usr/bin/javac javac /usr/lib/jvm/jre-1.4.2-gcj/bin/javac 1
/usr/sbin/alternatives --install /usr/bin/javac javac /usr/java/jdk1.5.0_09/bin/javac 2

# turn services on/off
chkconfig autofs off
chkconfig bluetooth off
chkconfig sendmail off
```

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chkconfig isdn off
---cut---

Good luck!

--
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