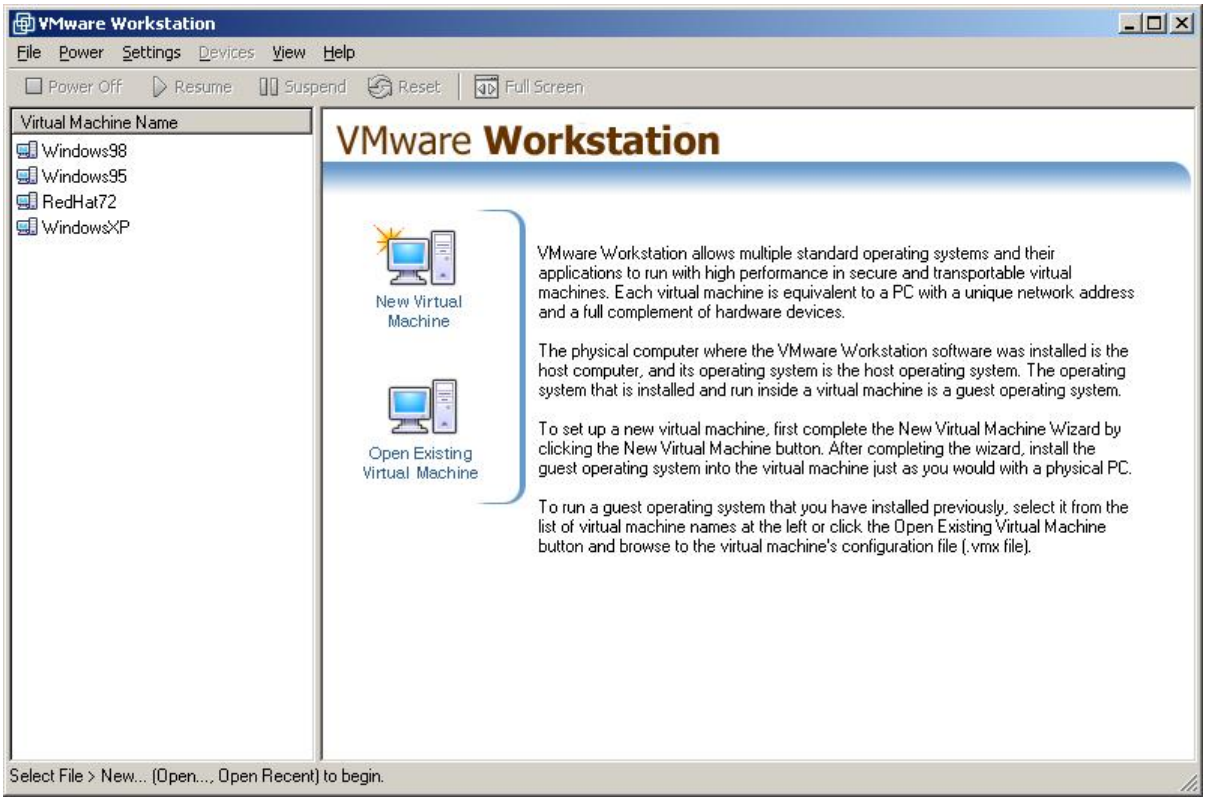
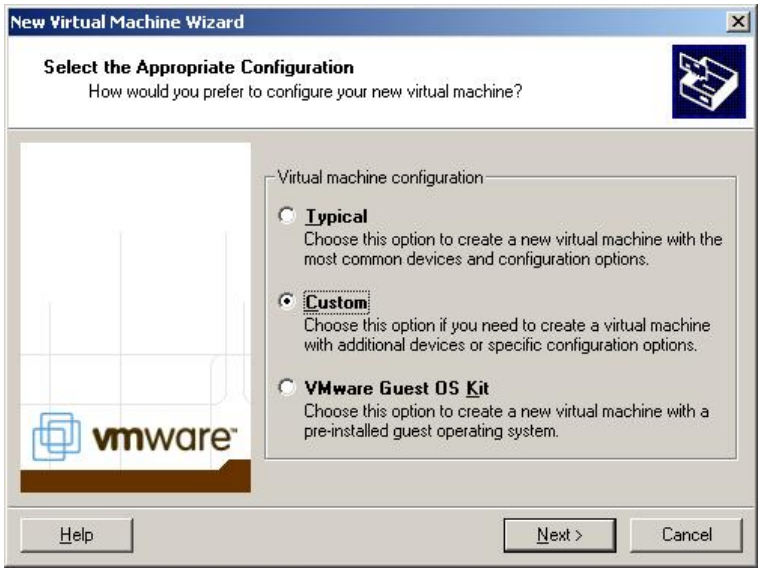
1. Create Red Hat 8.0 Virtual Machine

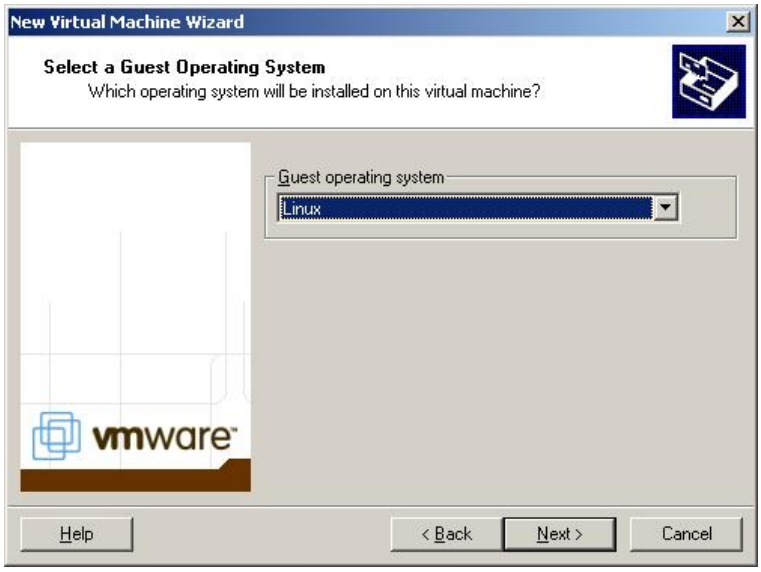
Start | Programs | VMware | VMware Workstation



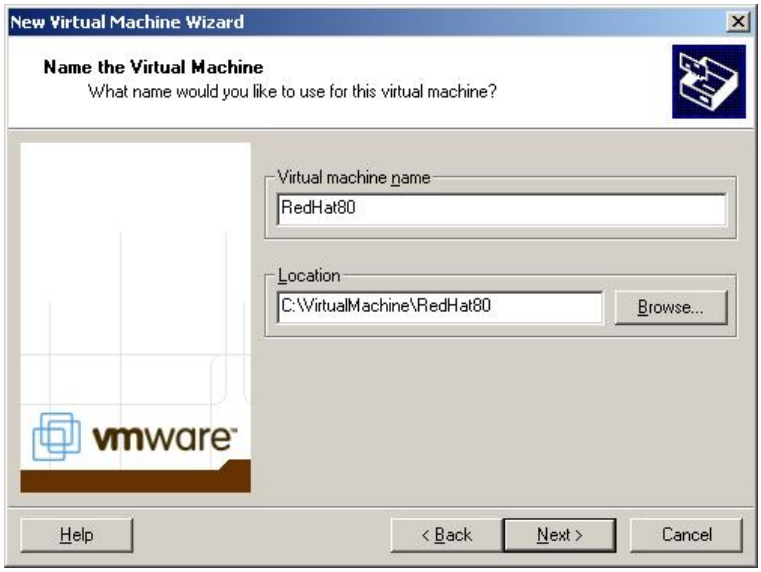
Click on New Virtual Machine, or Select: File | New | New Virtual Machine


New Virtual Machine Wizard
Select the Appropriate Configuration
How would you prefer to configure your new virtual machine?
Virtual machine configuration
Typical
Choose this option to create a new virtual machine with the most common devices and configuration options.
Custom
Choose this option if you need to create a virtual machine with additional devices or specific configuration options.
VMware Guest OS Kit
Choose this option to create a new virtual machine with a pre-installed guest operating system.
vmware
Help
Next >
Cancel

Next

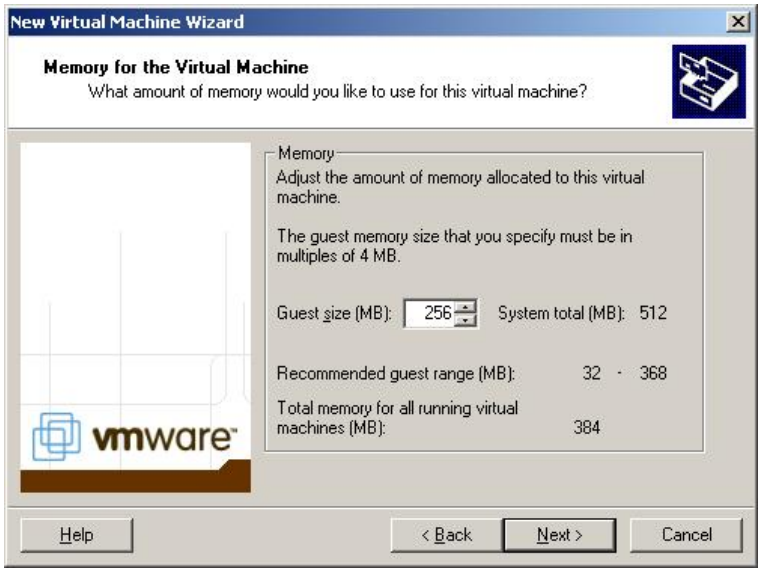

New Virtual Machine Wizard
Select a Guest Operating System
Which operating system will be installed on this virtual machine?
Guest operating system
Linux
vmware
Help
< Back
Next >
Cancel

Next



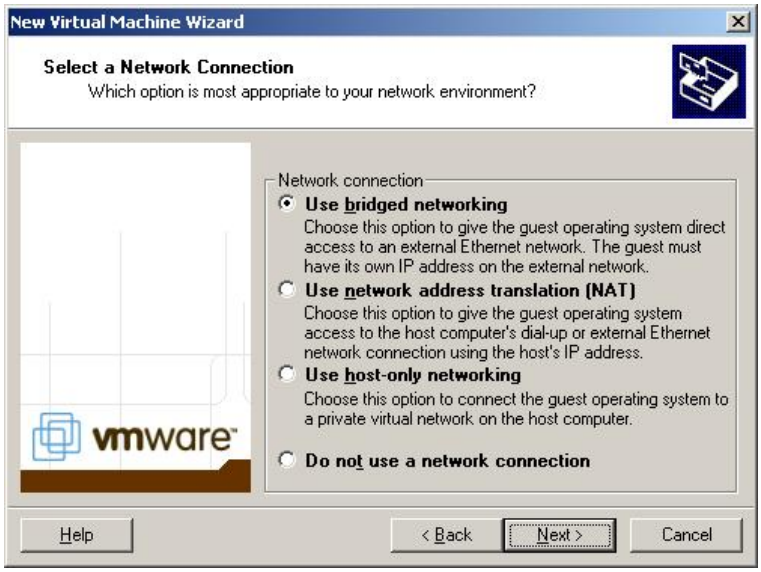
I use the virtual machine name and location as specified above instead of the VMware defaults.

Next



You may want to adjust the guest size depending on the amount of physical memory.

Next

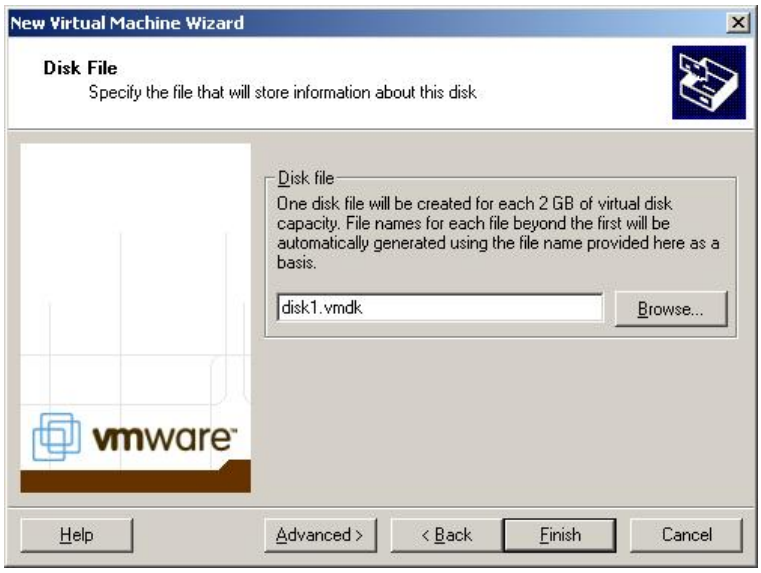


If you are on a network with a DHCP server, bridged networking works nicely. I need to experiment how to switch between bridged networking and "Use host-only networking".

Next

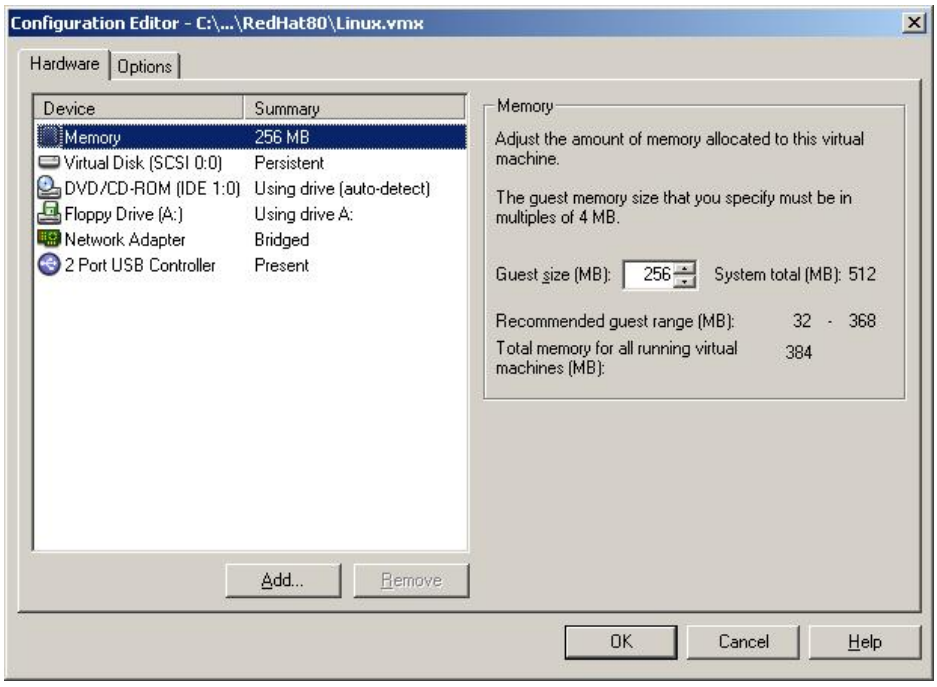

New Virtual Machine Wizard
Specify Disk Capacity
How large do you want this disk to be?
Disk capacity
Virtual disk files are quite small at first, then grow as you add files to them. This virtual disk can never be larger than the maximum capacity that you set here.
Disk size (GB):
8.0
vmware
Help
< Back
Next >
Cancel

Next

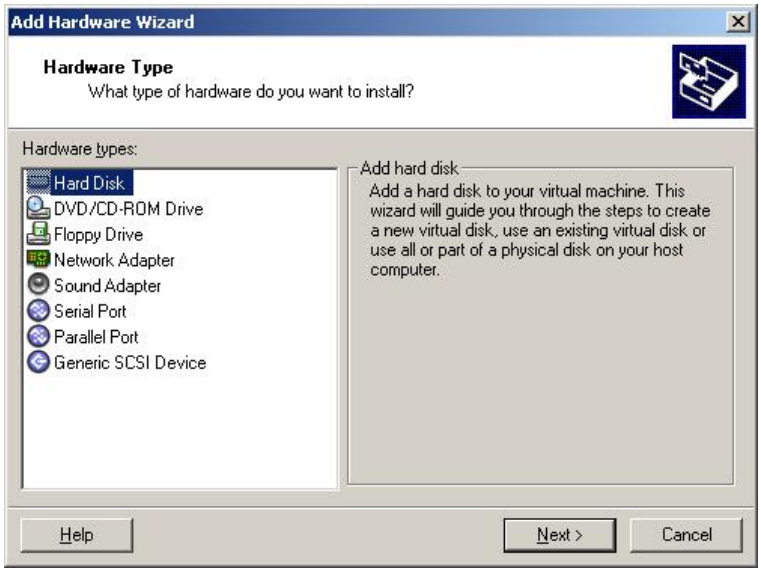

New Virtual Machine Wizard
Disk File
Specify the file that will store information about this disk
Disk file
One disk file will be created for each 2 GB of virtual disk capacity. File names for each file beyond the first will be automatically generated using the file name provided here as a basis.
disk1.vmdk
Browse...
vmware
Help
Advanced >
< Back
Finish
Cancel

Finish

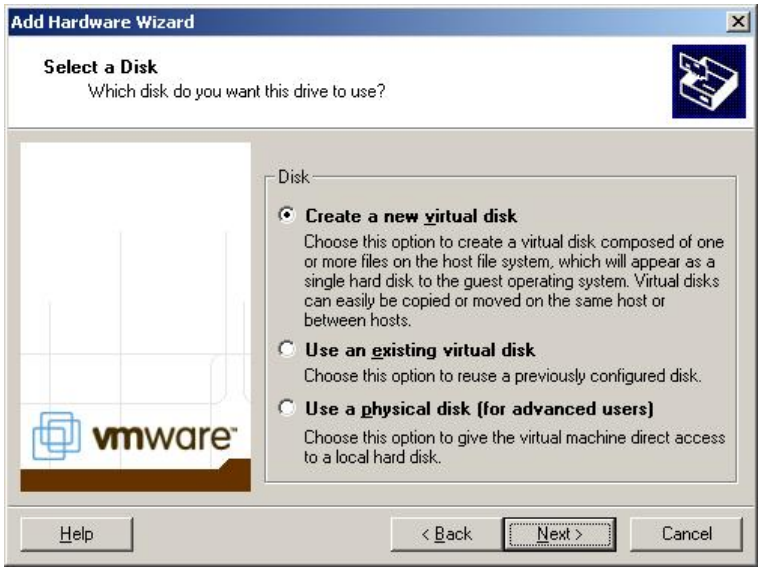
Let's create an additional virtual disk drive:
Settings | Configuration Editor



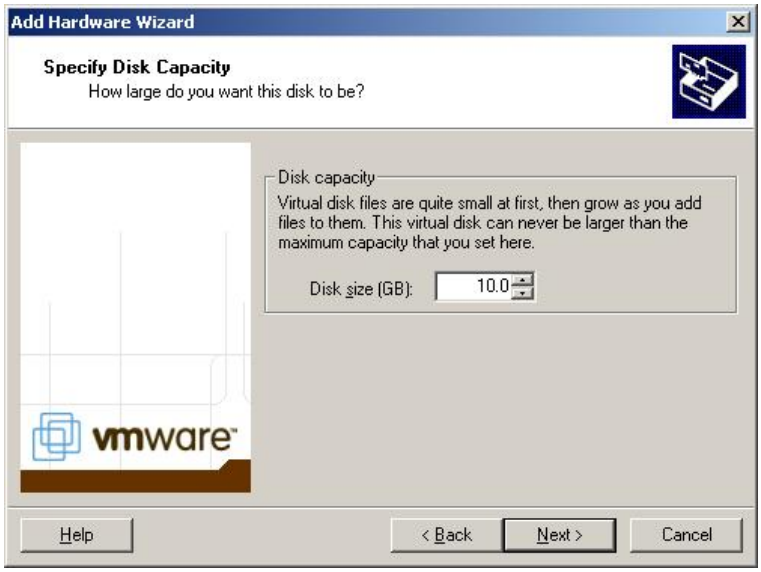
Add


Add Hardware Wizard
Hardware Type
What type of hardware do you want to install?
Hardware types:
Hard Disk
DVD/CD-ROM Drive
Floppy Drive
Network Adapter
Sound Adapter
Serial Port
Parallel Port
Generic SCSI Device
Add hard disk
Add a hard disk to your virtual machine. This wizard will guide you through the steps to create a new virtual disk, use an existing virtual disk or use all or part of a physical disk on your host computer.
Help
Next >
Cancel

Next

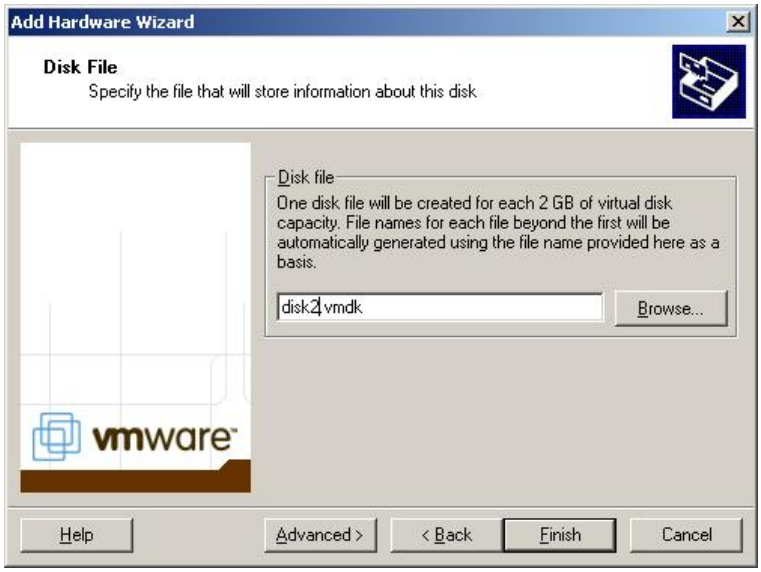

Add Hardware Wizard
Select a Disk
Which disk do you want this drive to use?
vmware
Disk
Create a new virtual disk
Choose this option to create a virtual disk composed of one or more files on the host file system, which will appear as a single hard disk to the guest operating system. Virtual disks can easily be copied or moved on the same host or between hosts.
Use an existing virtual disk
Choose this option to reuse a previously configured disk.
Use a physical disk (for advanced users)
Choose this option to give the virtual machine direct access to a local hard disk.
Help
< Back
Next >
Cancel

Next

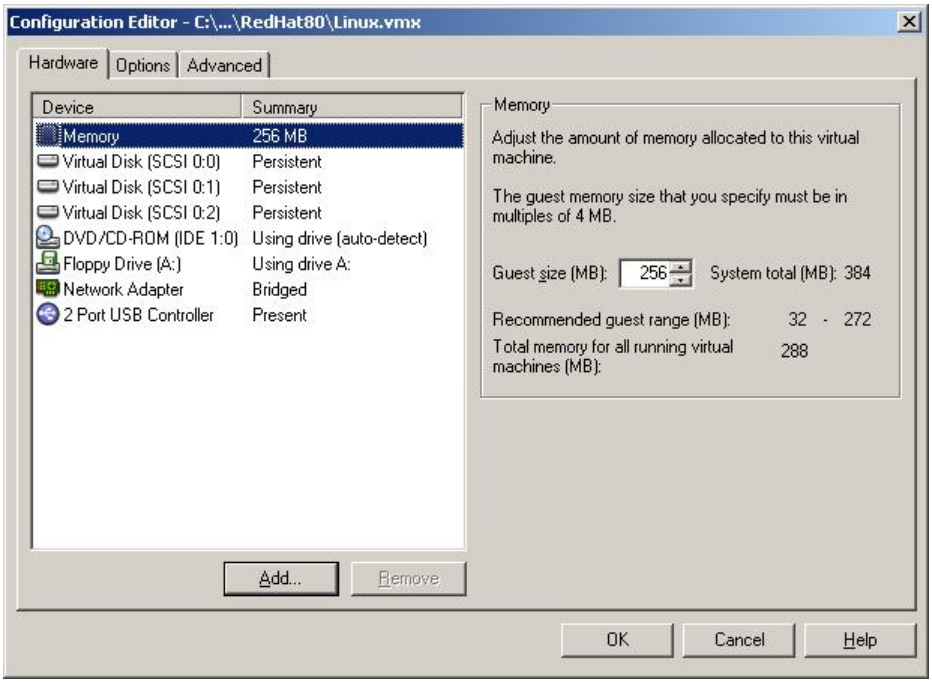


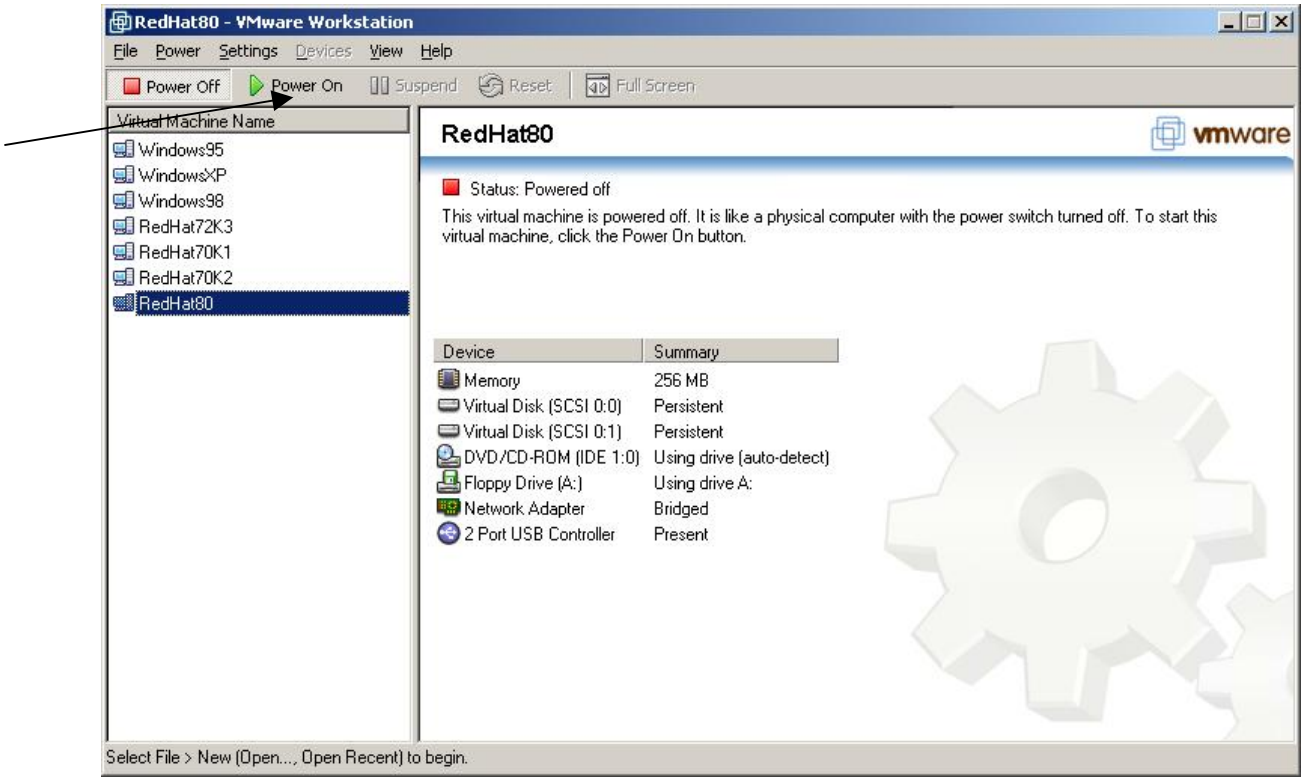
Specify 10 GB for second disk.

Next



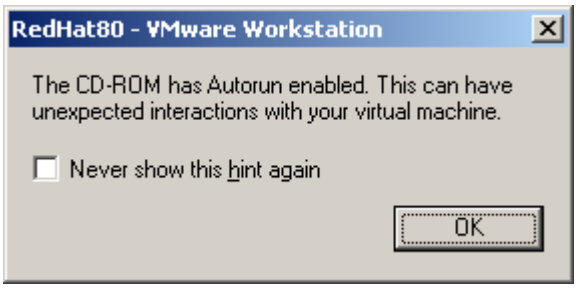
Finish. Repeat the same steps to add a 10 GB “disk3”.





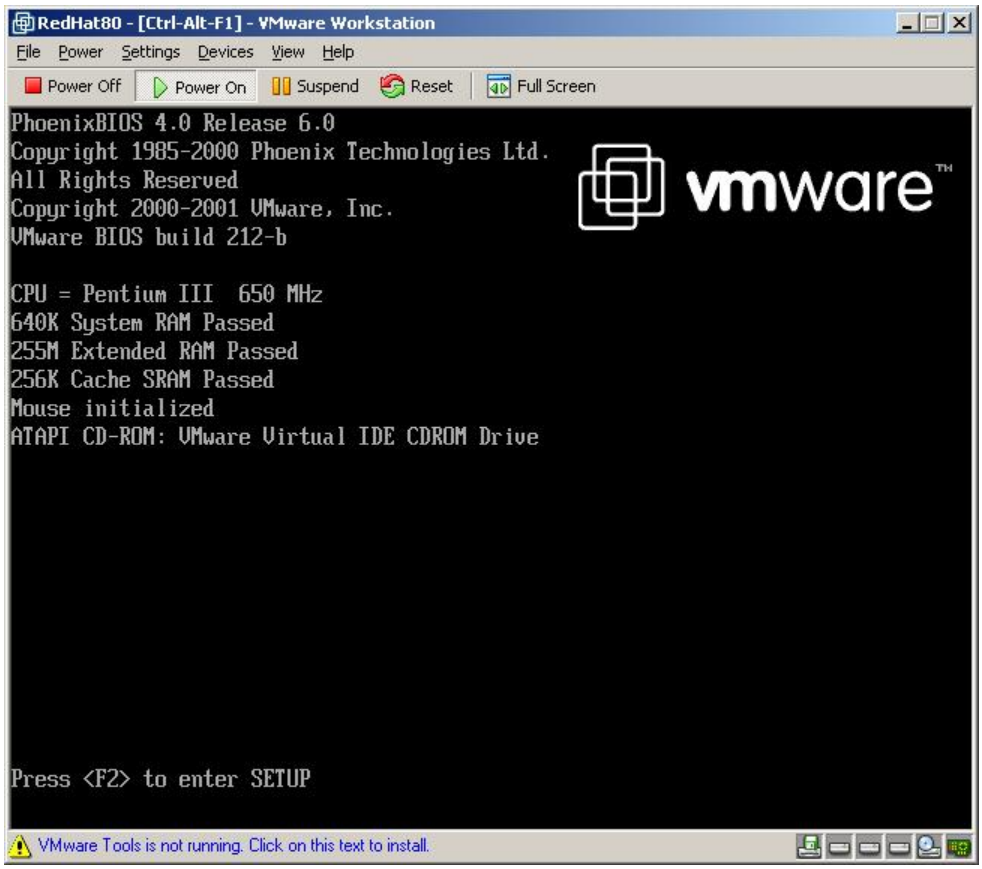
2. Install Red Hat 8.0 from CDs

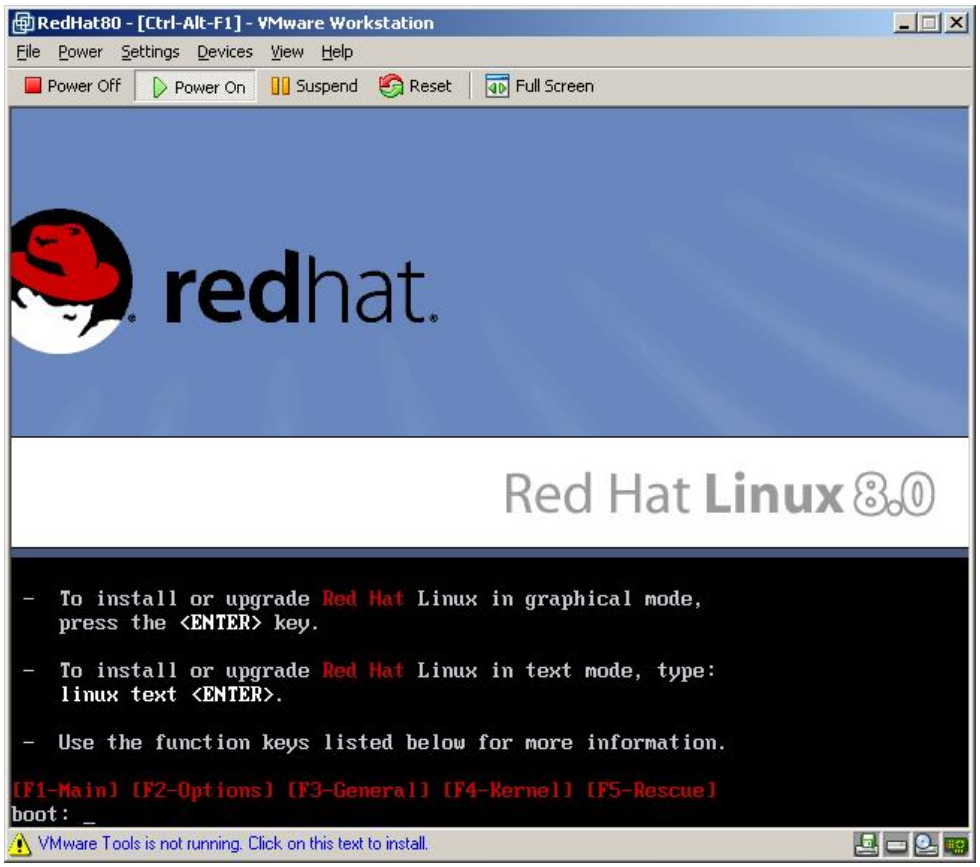
Insert Red Hat 8.0 CD 1
Select Power On



OK

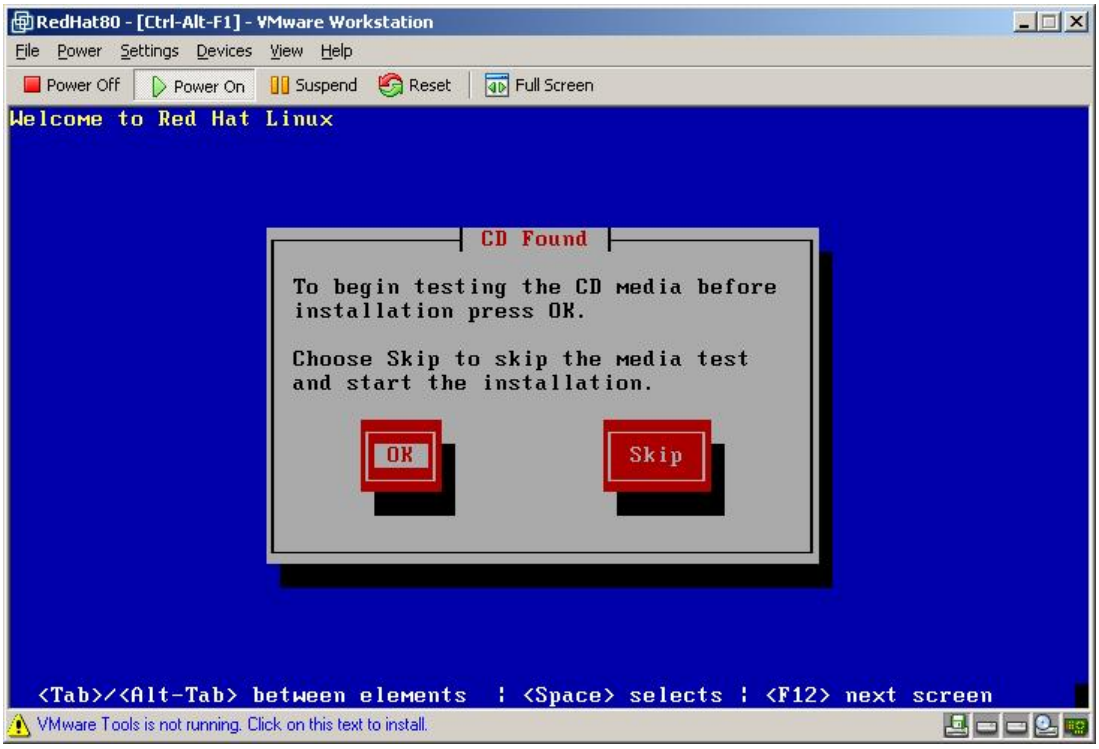
I ignore these messages when the CD is inserted.



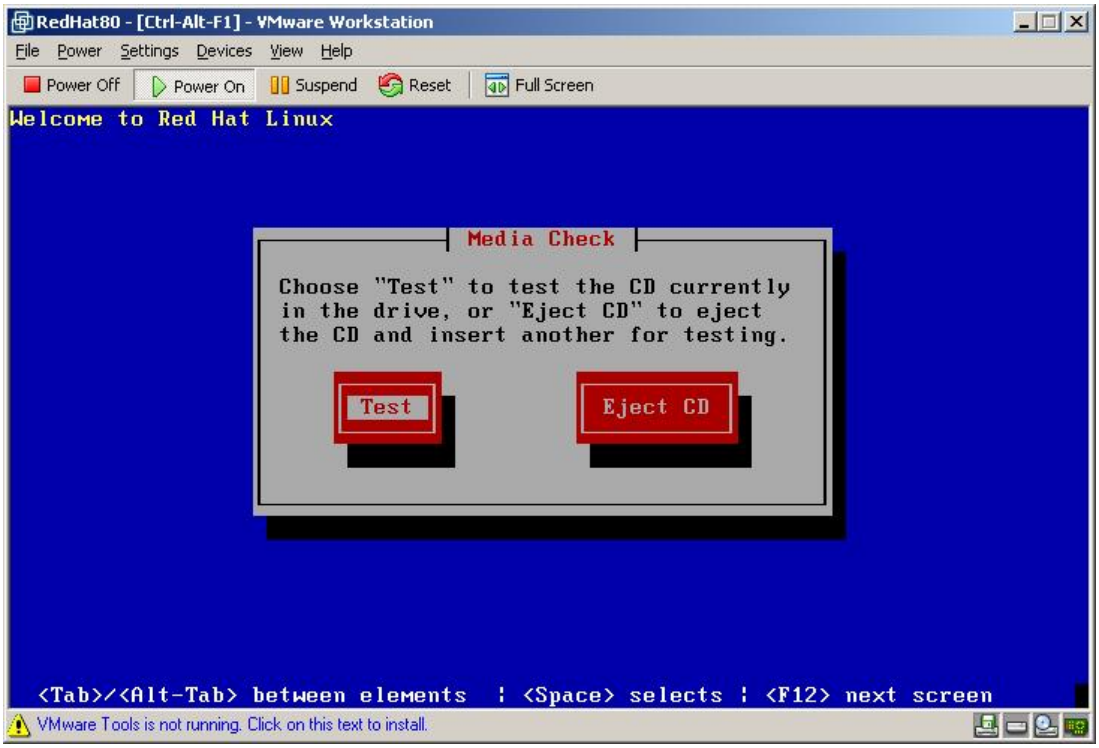


Enter

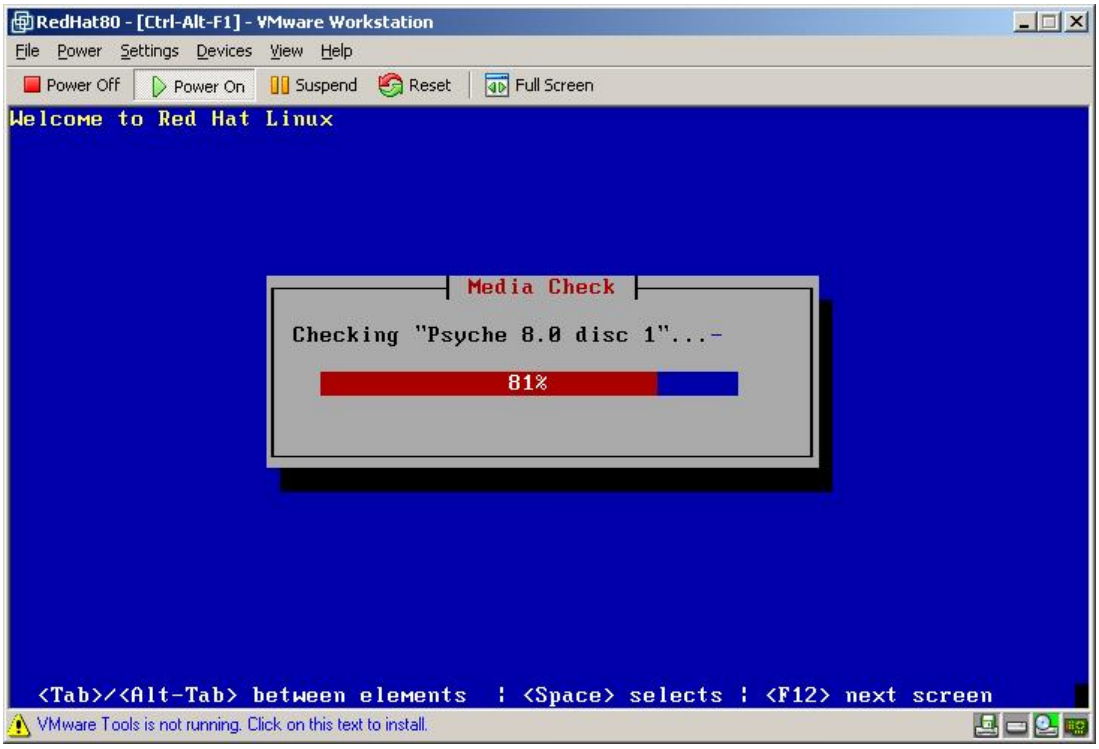
About 5:00 to get to this point (on Dell Inspiron 7500)

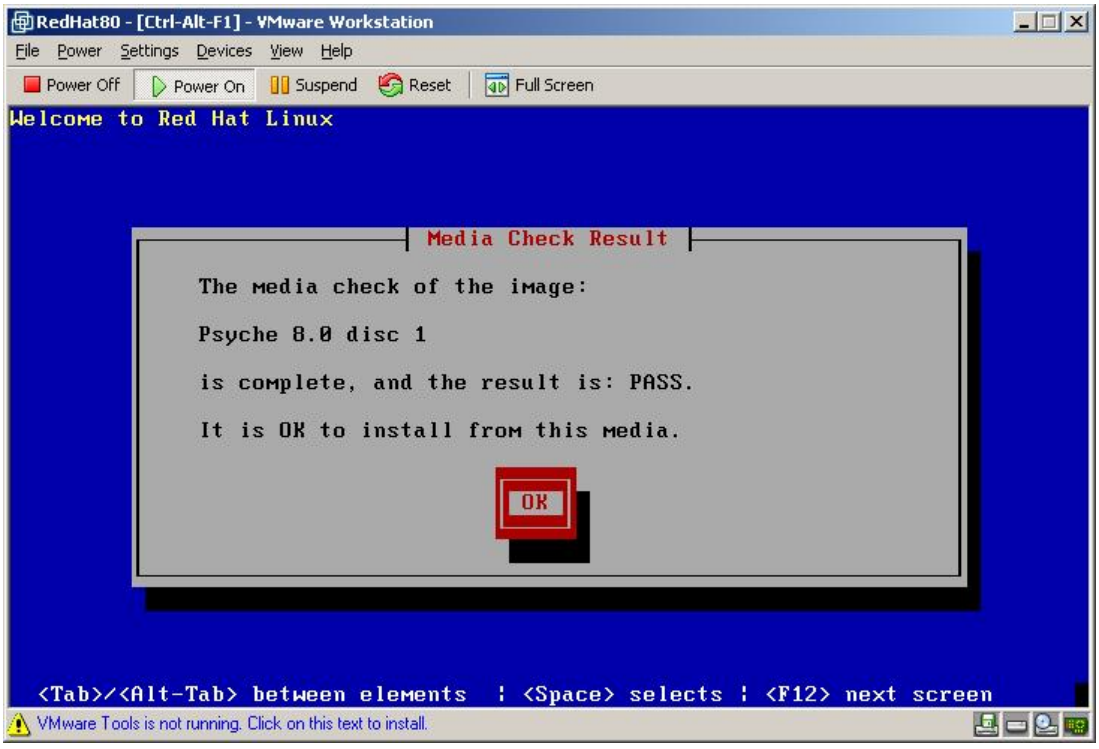

RedHat80 - [Ctrl-Alt-F1] - VMware Workstation
File Power Settings Devices View Help
Power Off Power On Suspend Reset Full Screen
Welcome to Red Hat Linux
CD Found
To begin testing the CD media before installation press OK.
Choose Skip to skip the media test and start the installation.
OK
Skip
<Tab>/<Alt-Tab> between elements ; <Space> selects ; <F12> next screen
VMware Tools is not running. Click on this text to install.

OK

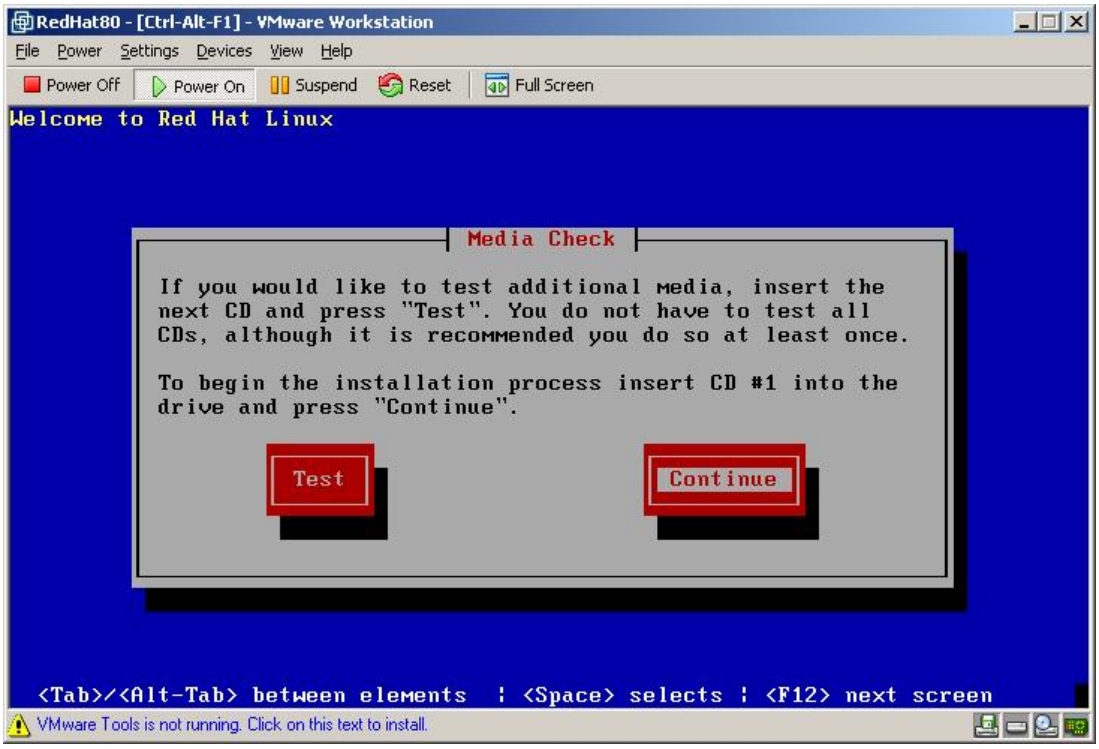

RedHat80 - [Ctrl-Alt-F1] - VMware Workstation
File Power Settings Devices View Help
Power Off Power On Suspend Reset Full Screen
Welcome to Red Hat Linux
Media Check
Choose "Test" to test the CD currently in the drive, or "Eject CD" to eject the CD and insert another for testing.
Test
Eject CD
<Tab>/<Alt-Tab> between elements ; <Space> selects ; <F12> next screen
VMware Tools is not running. Click on this text to install.

Test

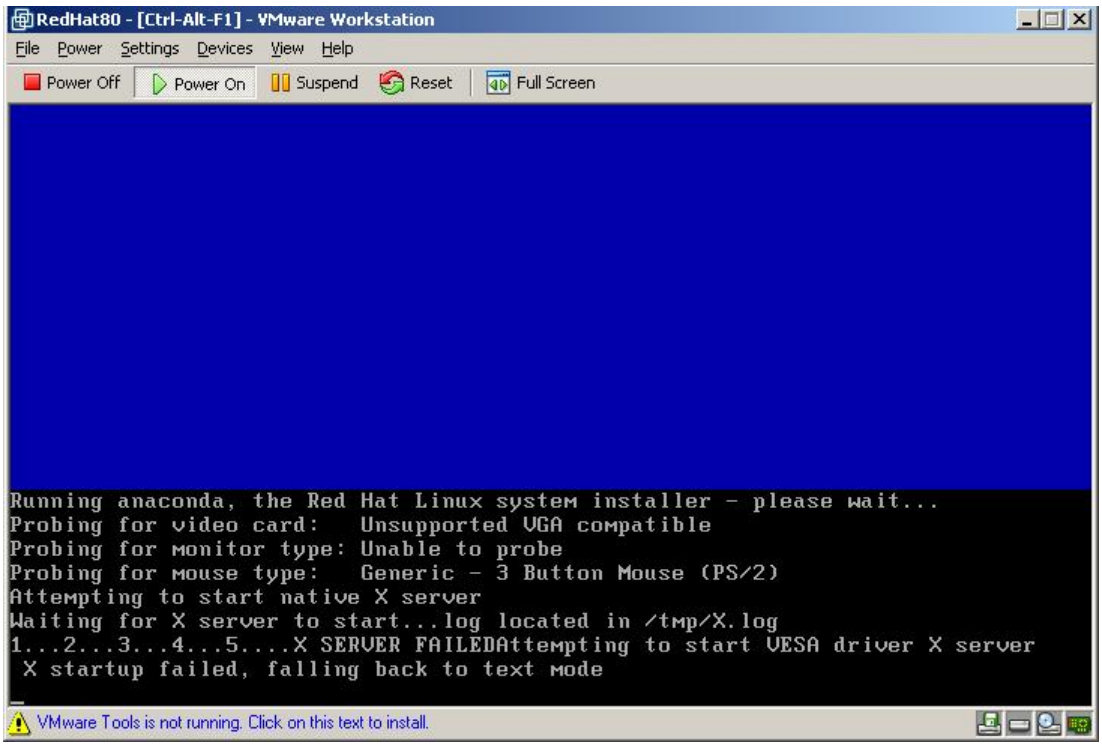




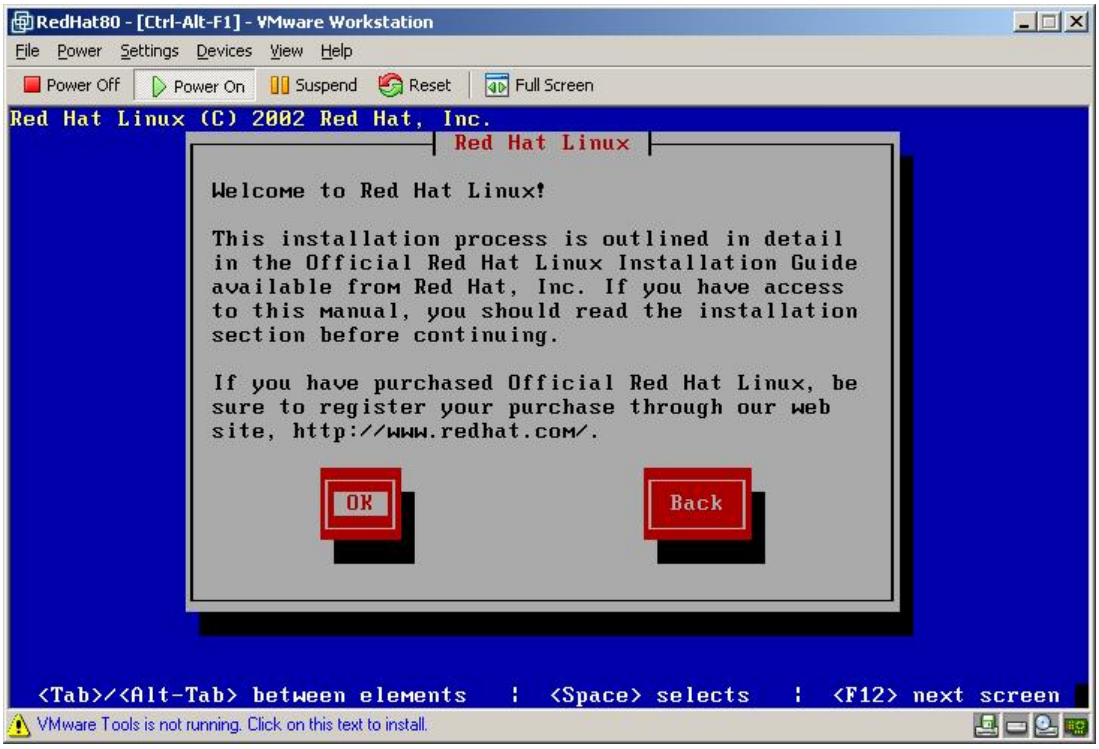
Perform a media check on CD 1 and CD 2, and then returned to CD 1 to start the installation process. The check for each CD takes about 5 minutes.



Continue

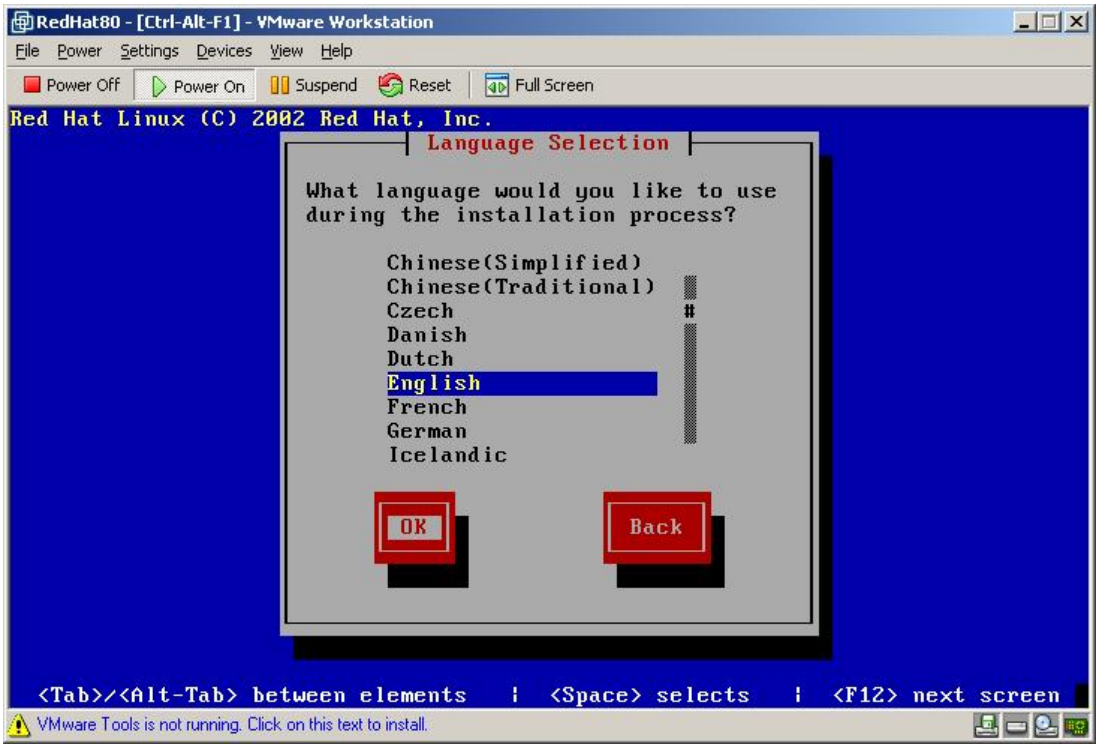


[Mandrake seems to handle the VMware VESA drivers better than Red Hat.]



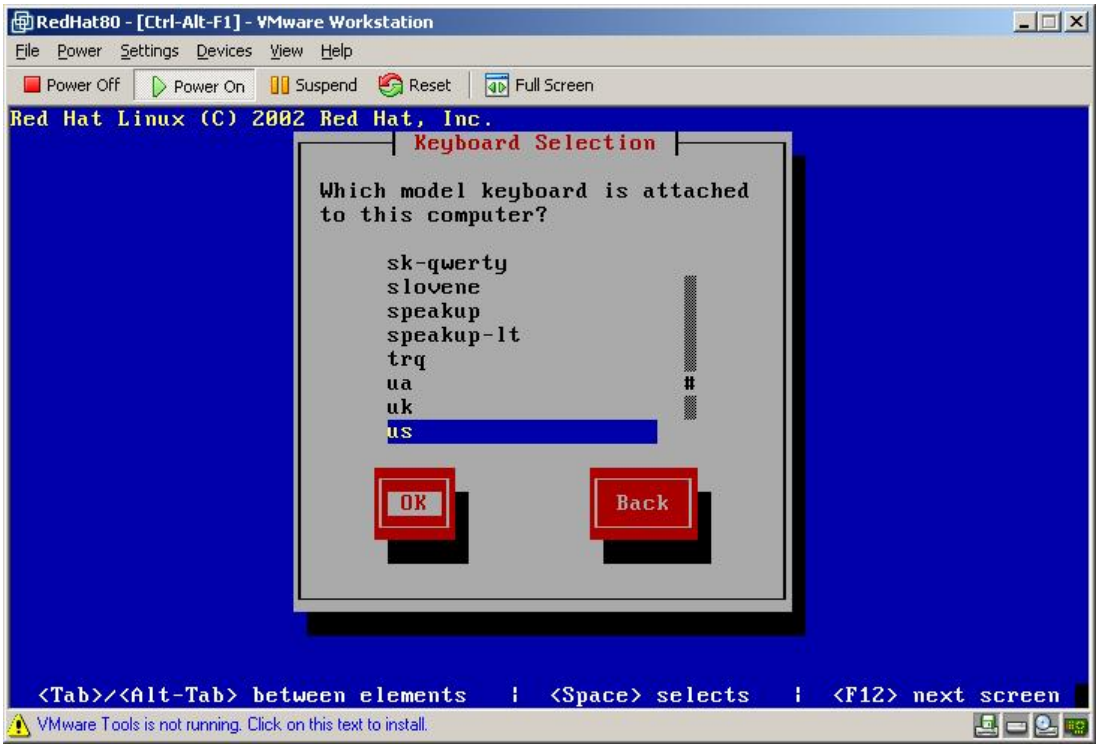
OK

About 11:00 to this point (assuming only one CD is checked above).

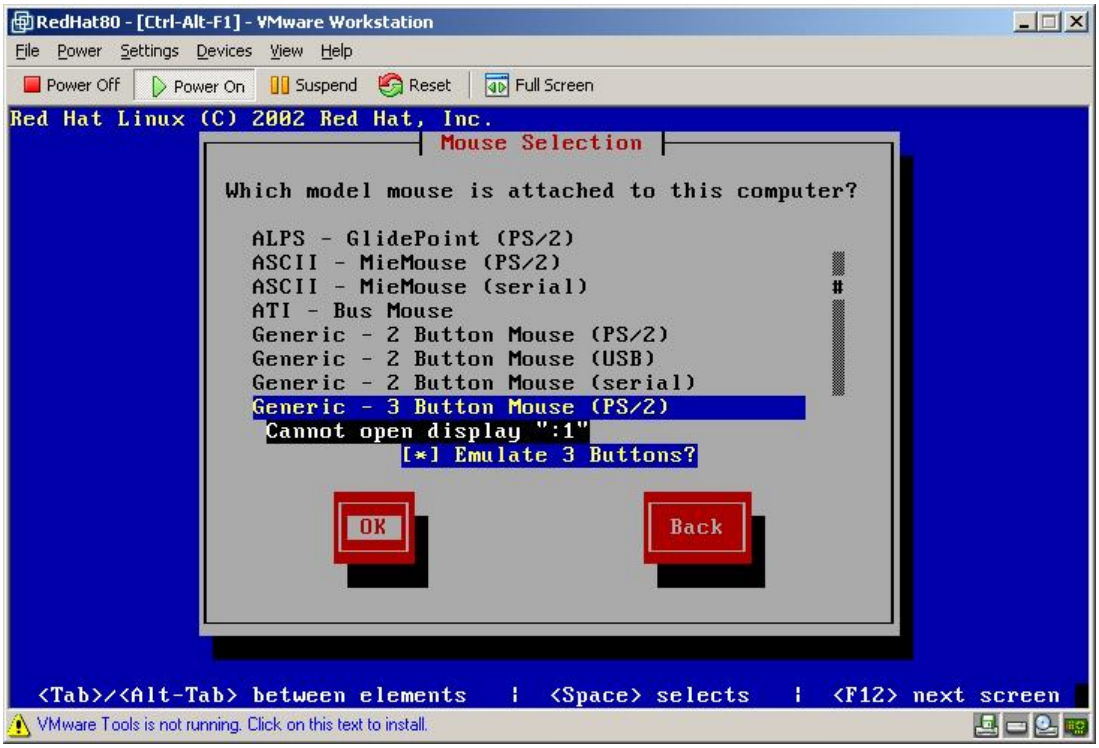


Select language of choice

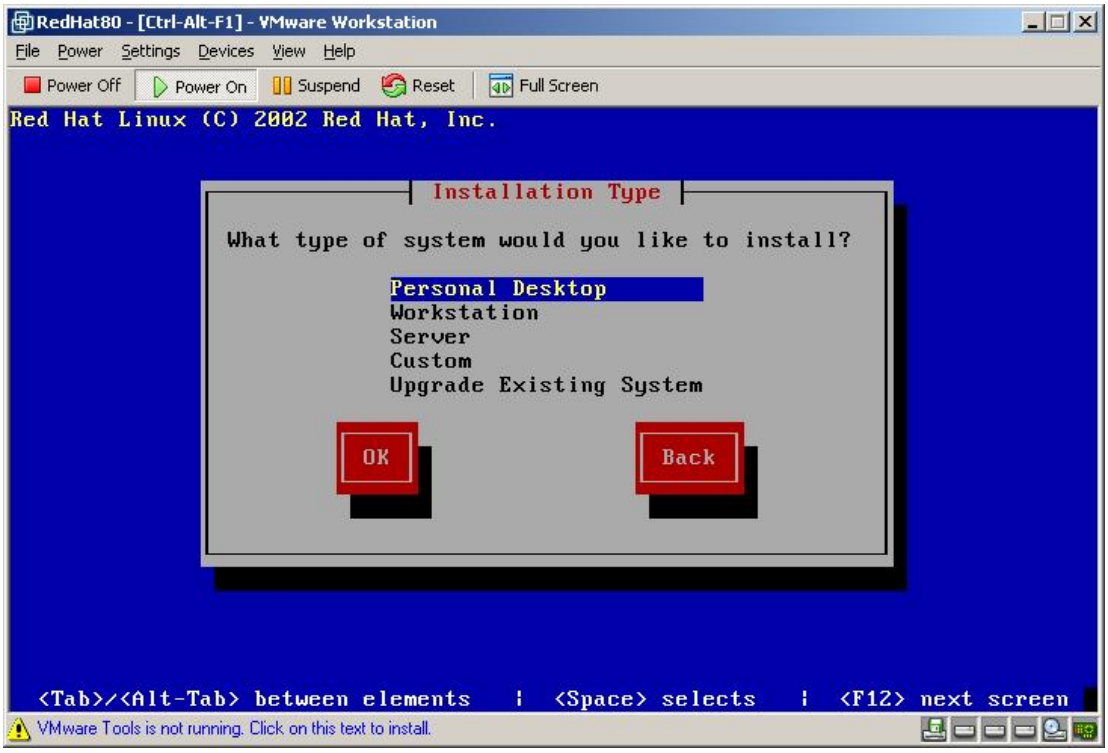
OK



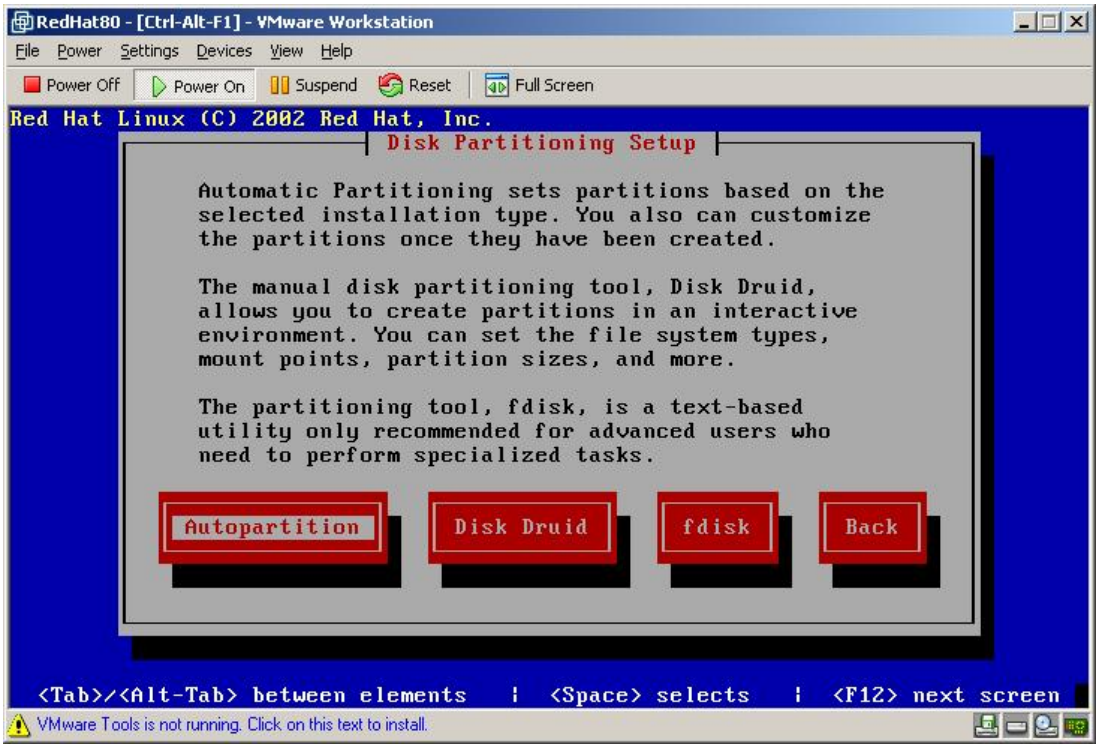
Select keyboard of choice.
OK



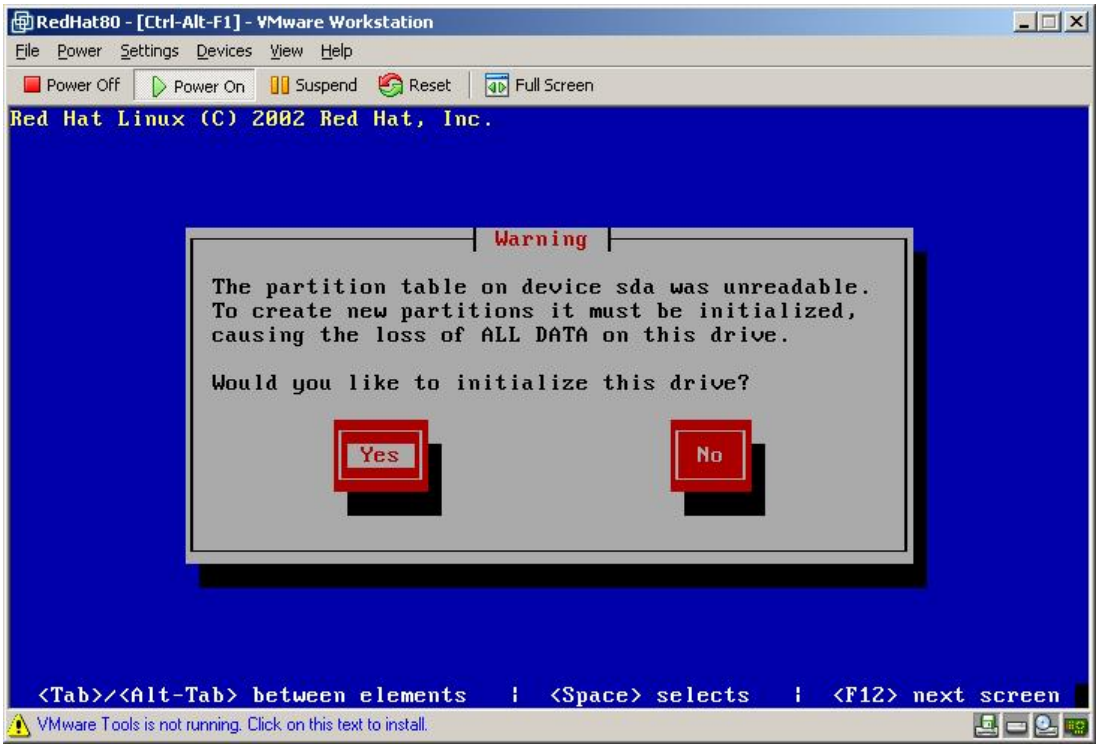
The cause of the “Cannot open display” message is unclear.
OK



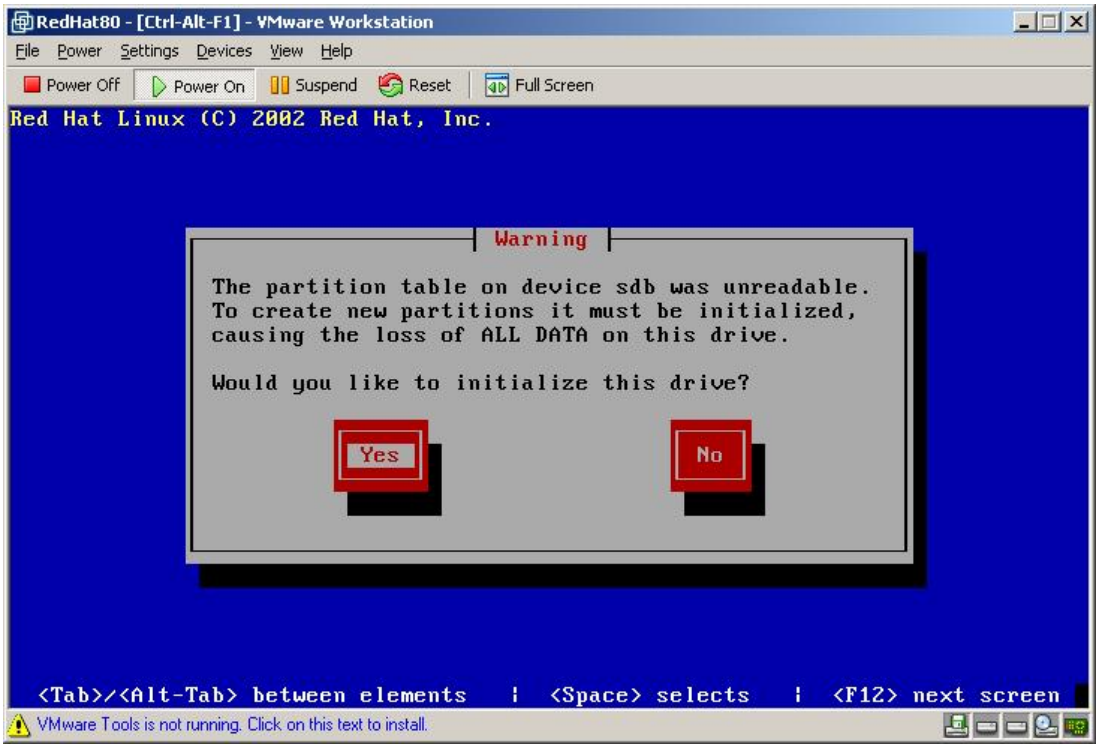
"Server" is probably a better selection here than "Personal Desktop"
OK



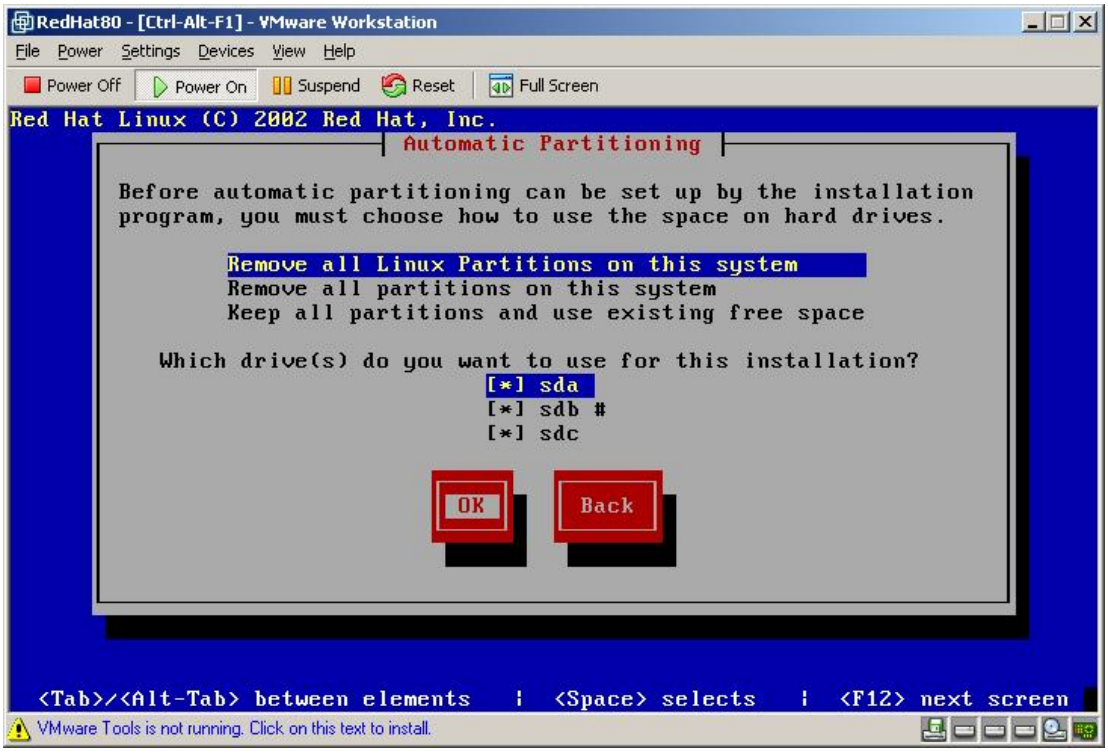
Autopartition



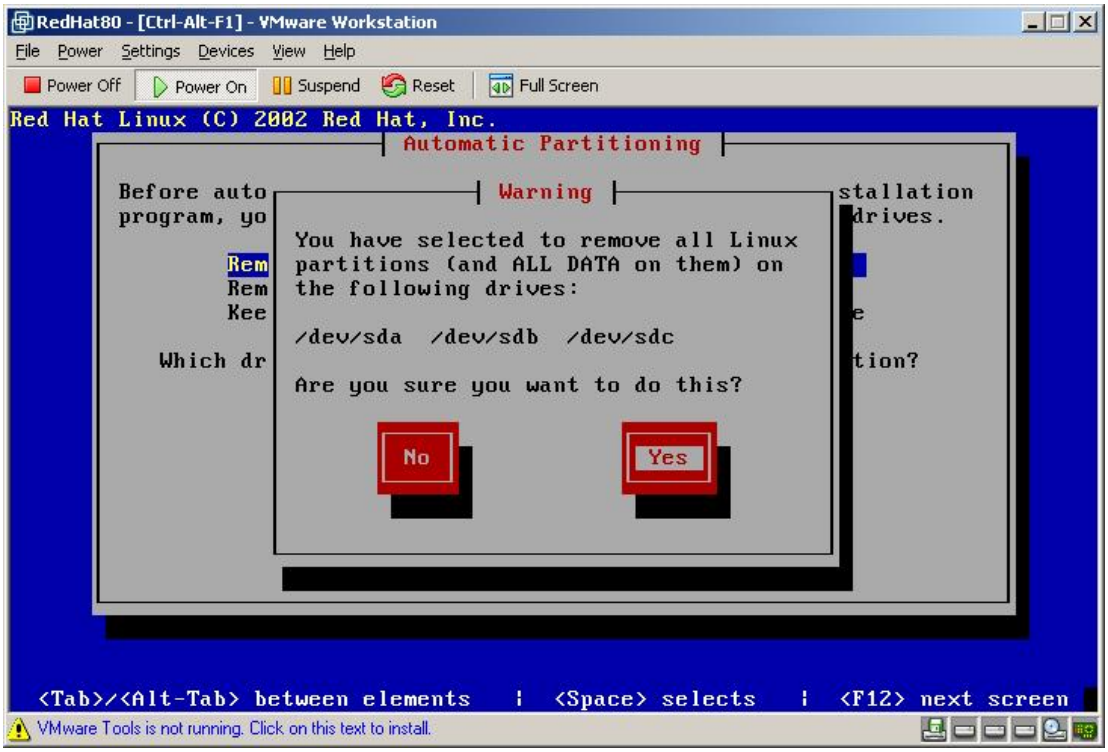
"sda" is Virtual Disk 1
Yes



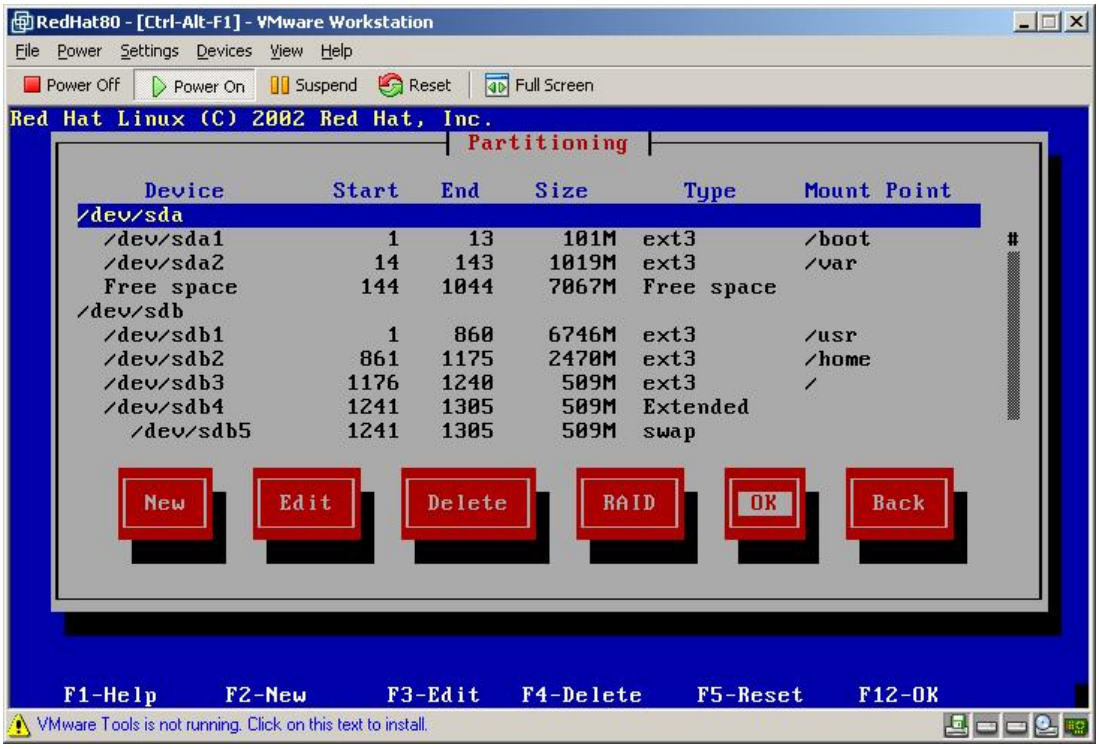
"sdb" is Virtual Disk 2. A similar screen appears for disk 3.
Yes



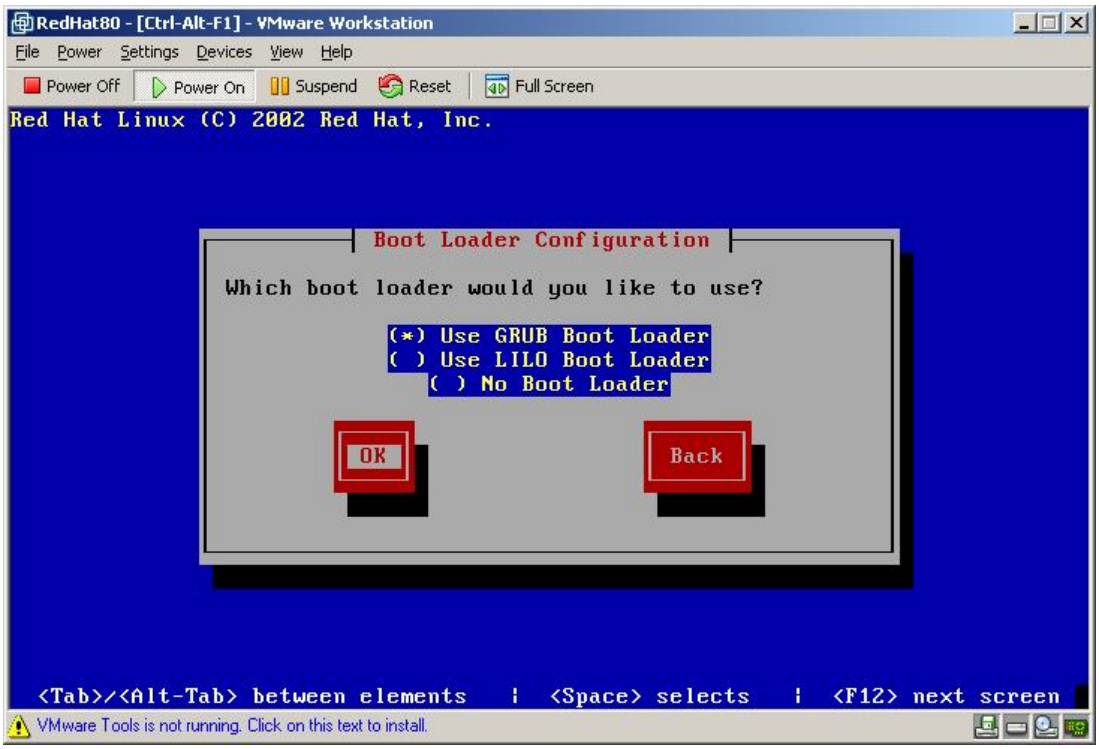
OK



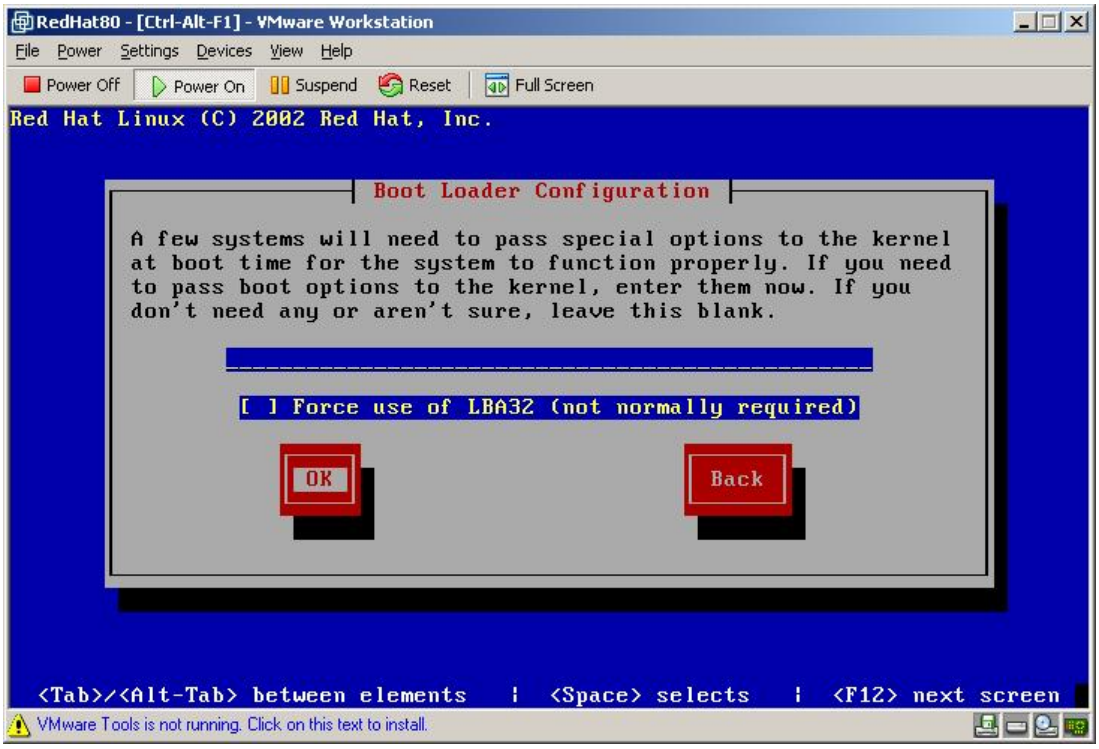
About 12:20 to this point
Yes



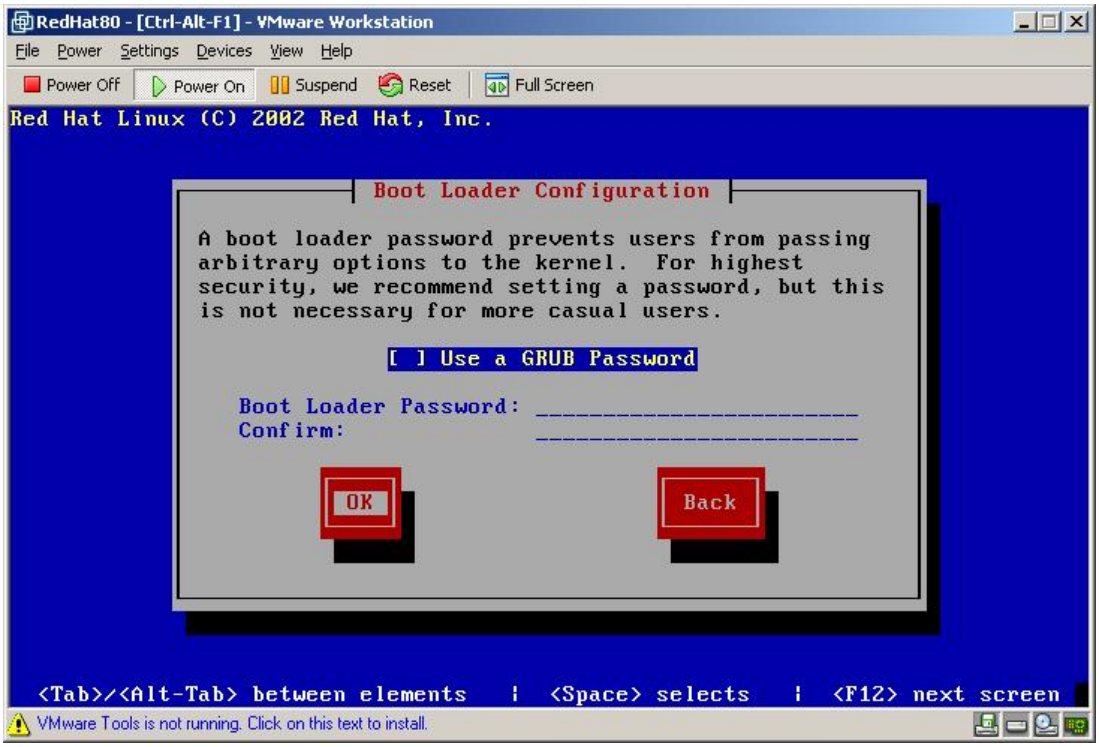
Note that /usr and /home are on virtual drive 2 (sdb). I hope this allows easier migration of /usr and /home in the future to new virtual systems.
OK



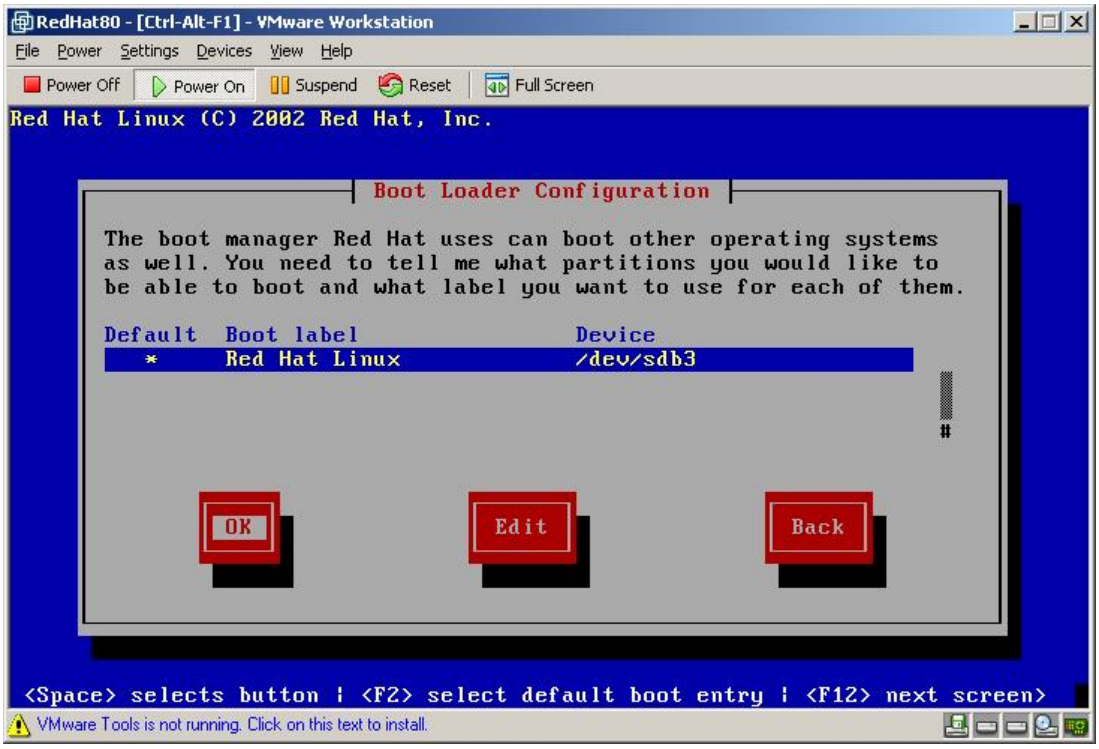
I've used LILO in the past but I'll go with the default GRUB here.
OK



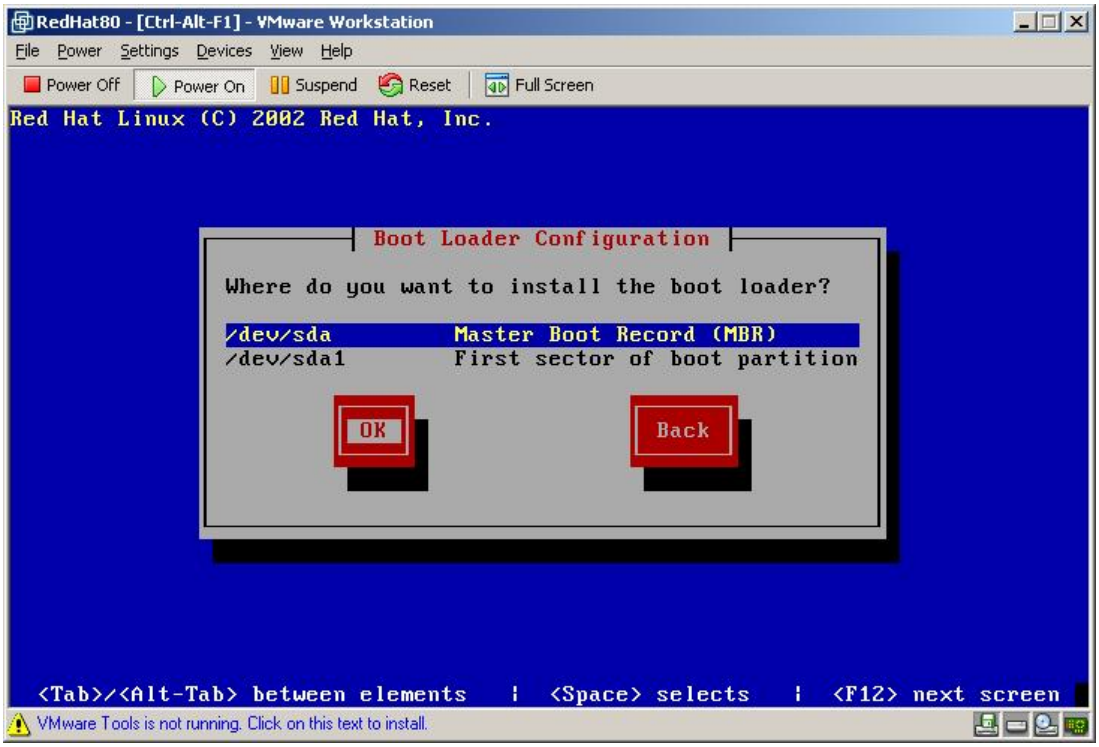
OK



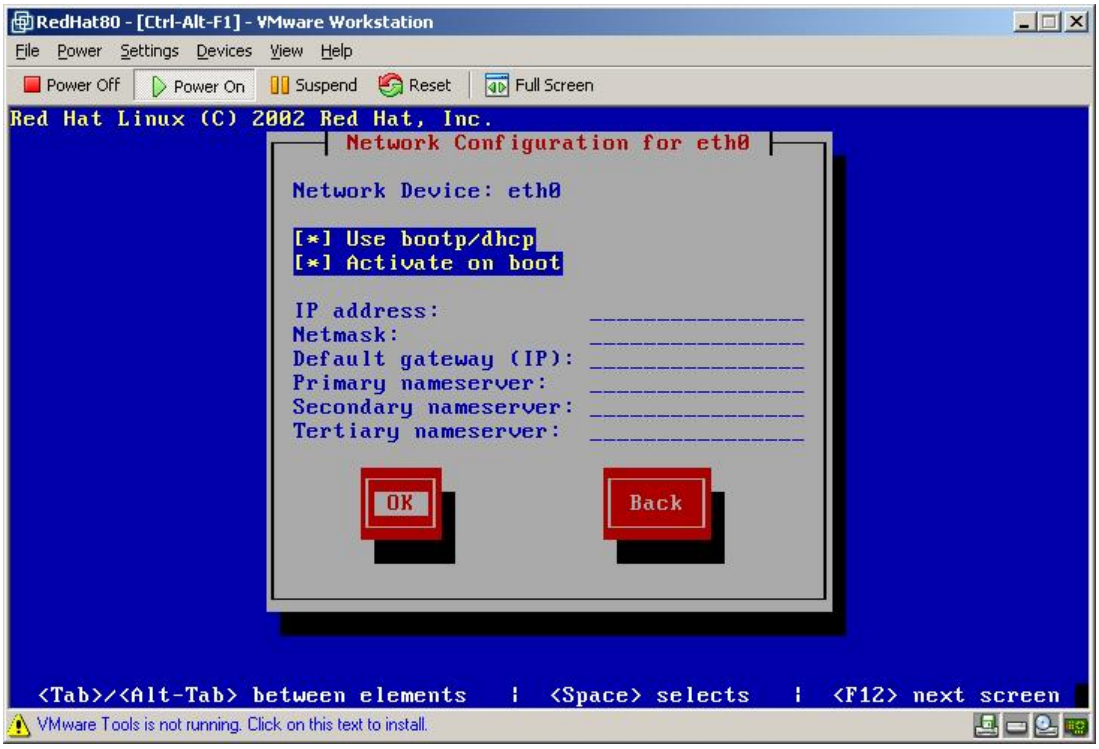
I don't bother with a GRUB Password.
OK


RedHat80 - [Ctrl-Alt-F1] - VMware Workstation
File Power Settings Devices View Help
Power Off Power On Suspend Reset Full Screen
Red Hat Linux (C) 2002 Red Hat, Inc.
Boot Loader Configuration
The boot manager Red Hat uses can boot other operating systems as well. You need to tell me what partitions you would like to be able to boot and what label you want to use for each of them.
Default Boot label Device
* Red Hat Linux /dev/sdb3
OK
Edit
Back
<Space> selects button ¦ <F2> select default boot entry ¦ <F12> next screen>
VMware Tools is not running. Click on this text to install.

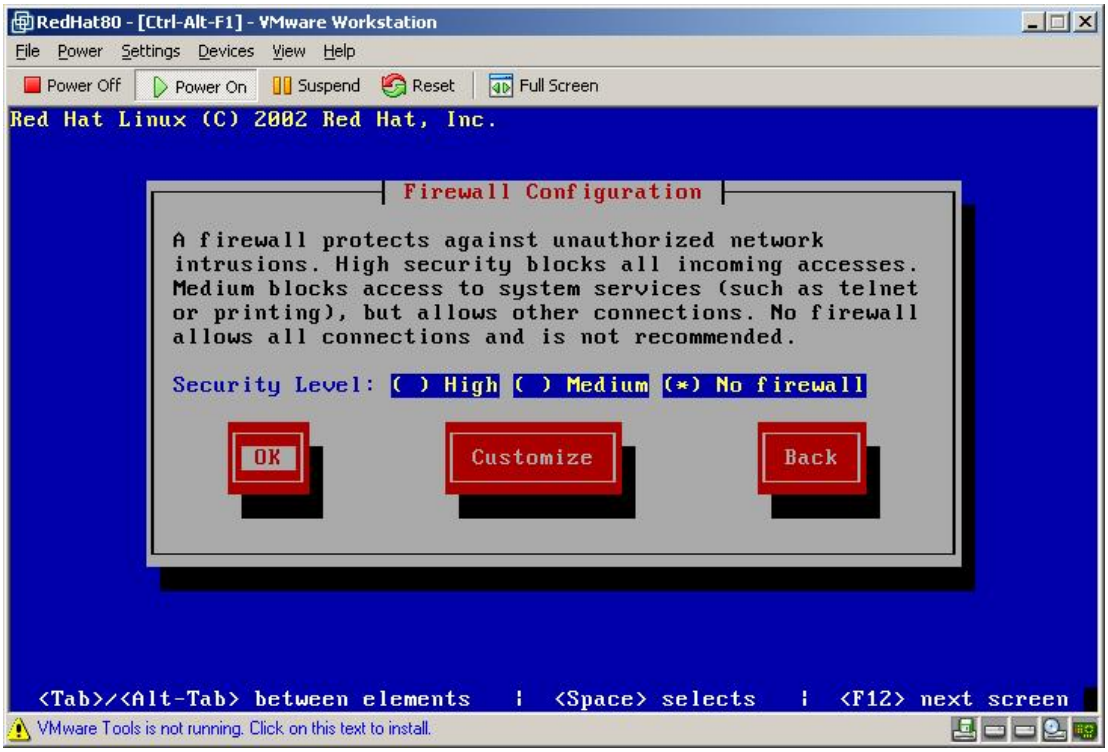
OK


RedHat80 - [Ctrl-Alt-F1] - VMware Workstation
File Power Settings Devices View Help
Power Off Power On Suspend Reset Full Screen
Red Hat Linux (C) 2002 Red Hat, Inc.
Boot Loader Configuration
Where do you want to install the boot loader?
/dev/sda Master Boot Record (MBR)
/dev/sda1 First sector of boot partition
OK
Back
<Tab>/<Alt-Tab> between elements ¦ <Space> selects ¦ <F12> next screen
VMware Tools is not running. Click on this text to install.

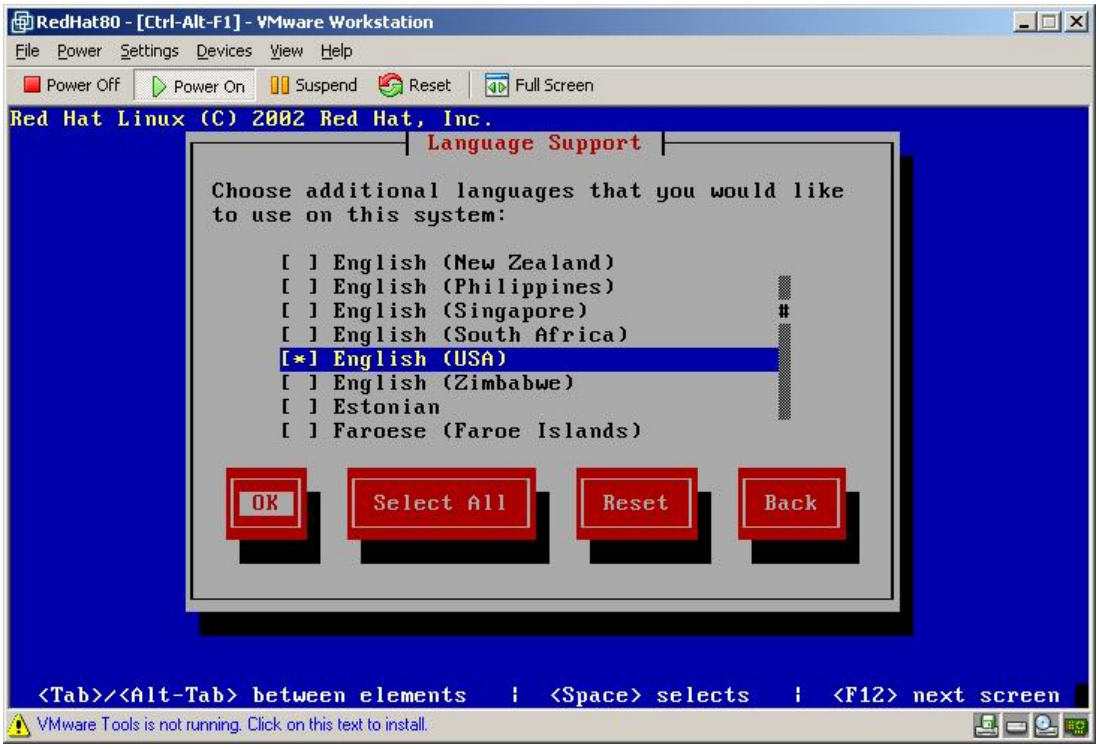
OK



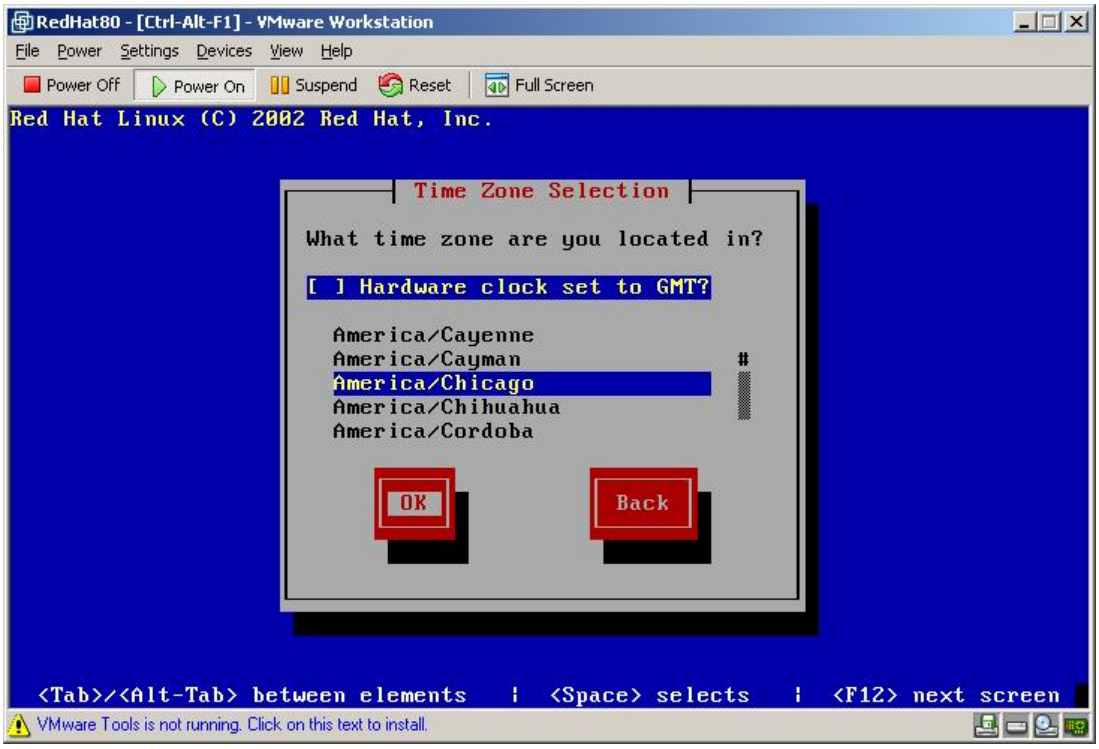
I use DHCP at home provided by a LinkSys Etherfast Cable / DSL Router.
OK



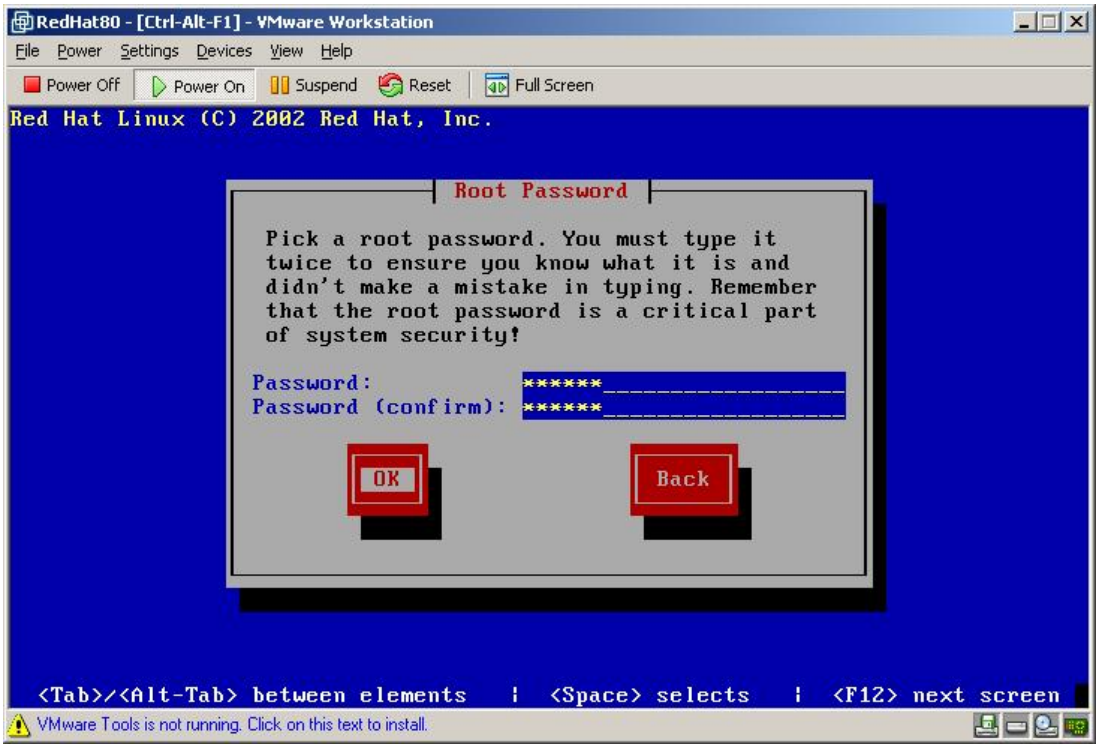
No security for faster VMware virtual machine? What does this selection do? Linux still reports "High " for Red Hat Start Icon | System Settings | Security Level



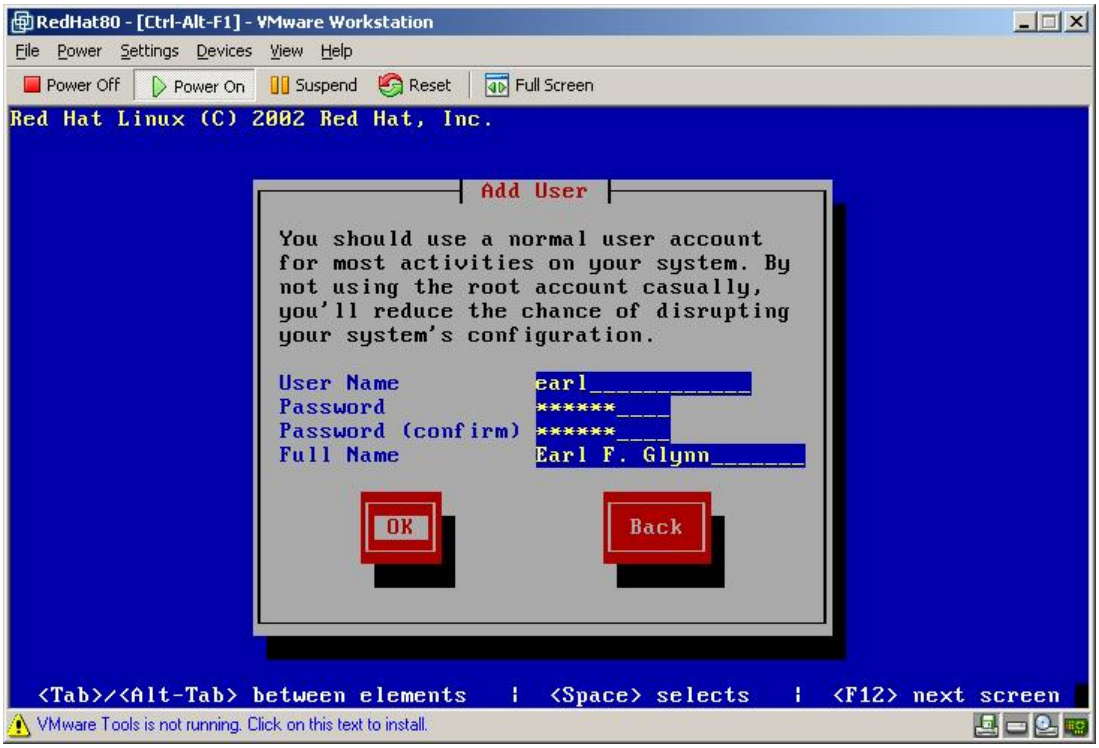
Select a language
OK



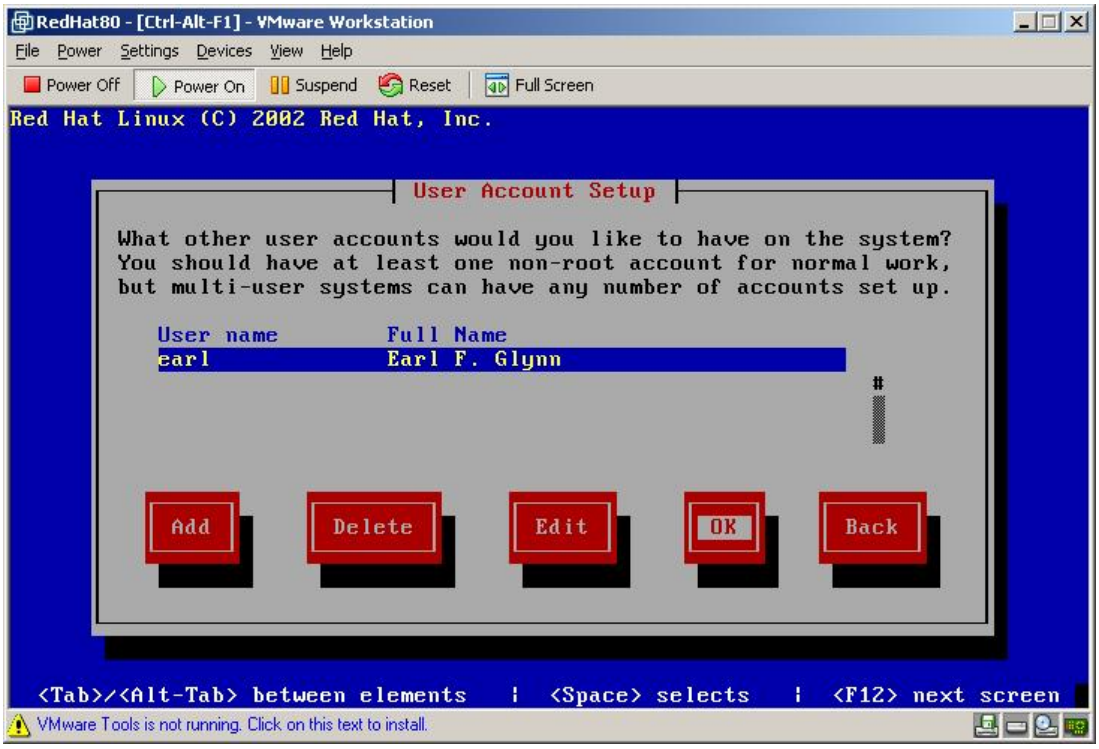
Pick your time zone.
OK



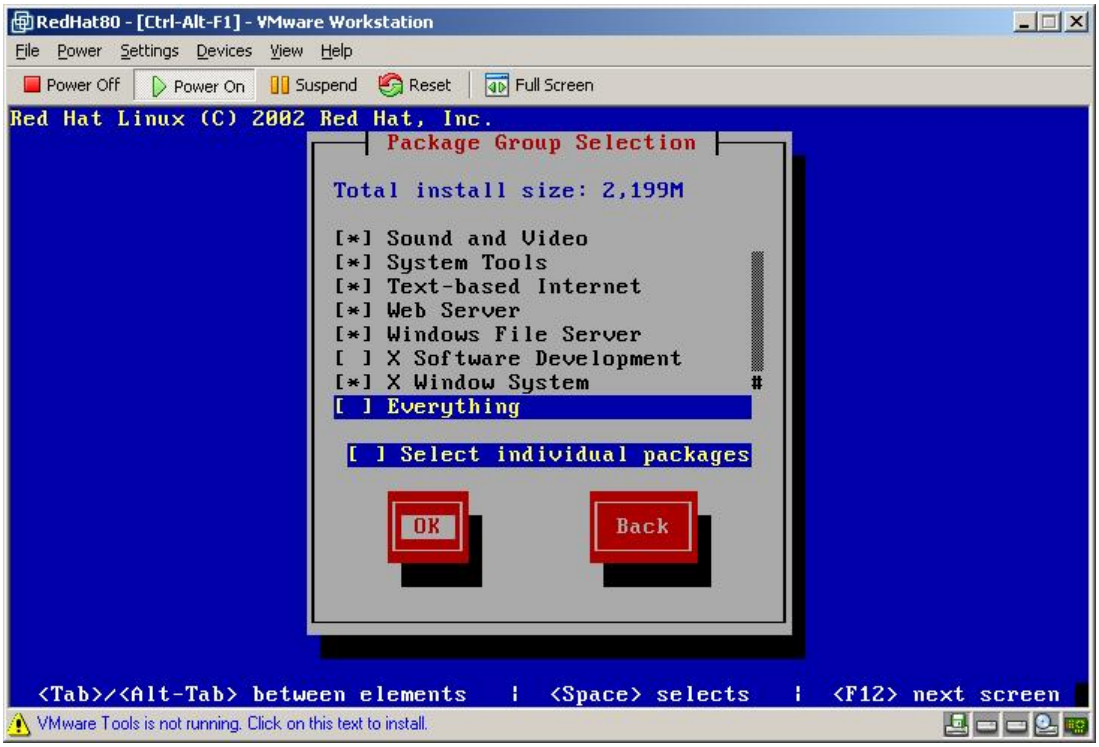
"root" Linux superuser password
OK



"normal" Linux user and password
OK



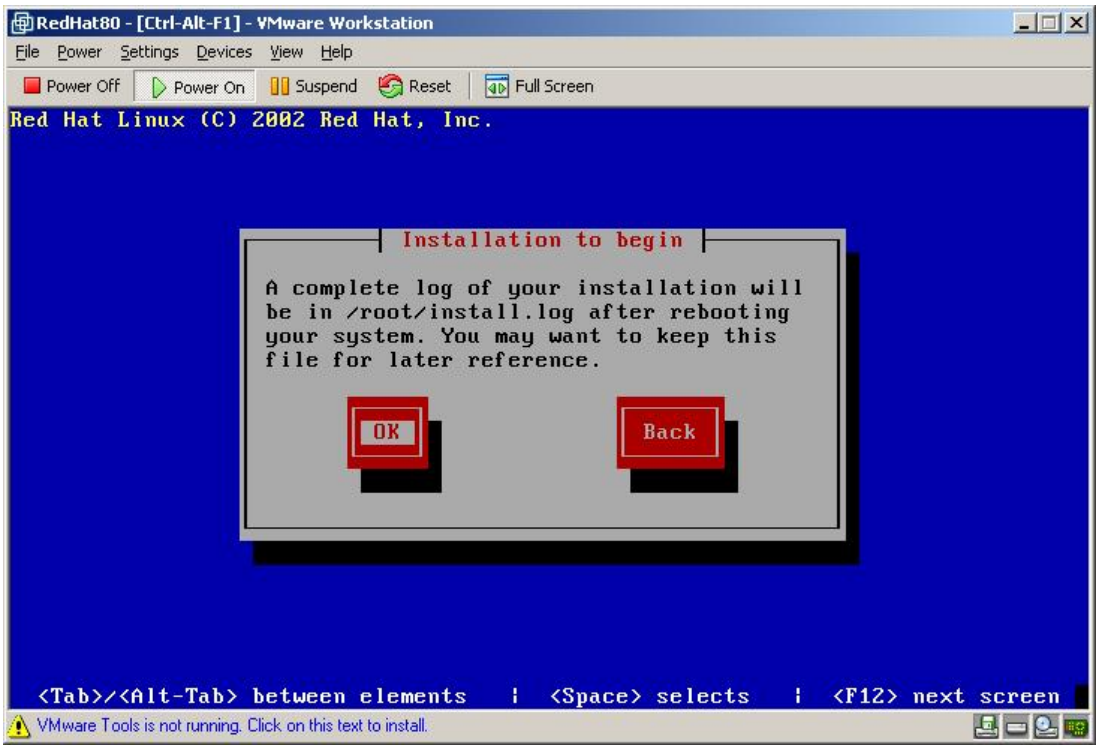
OK



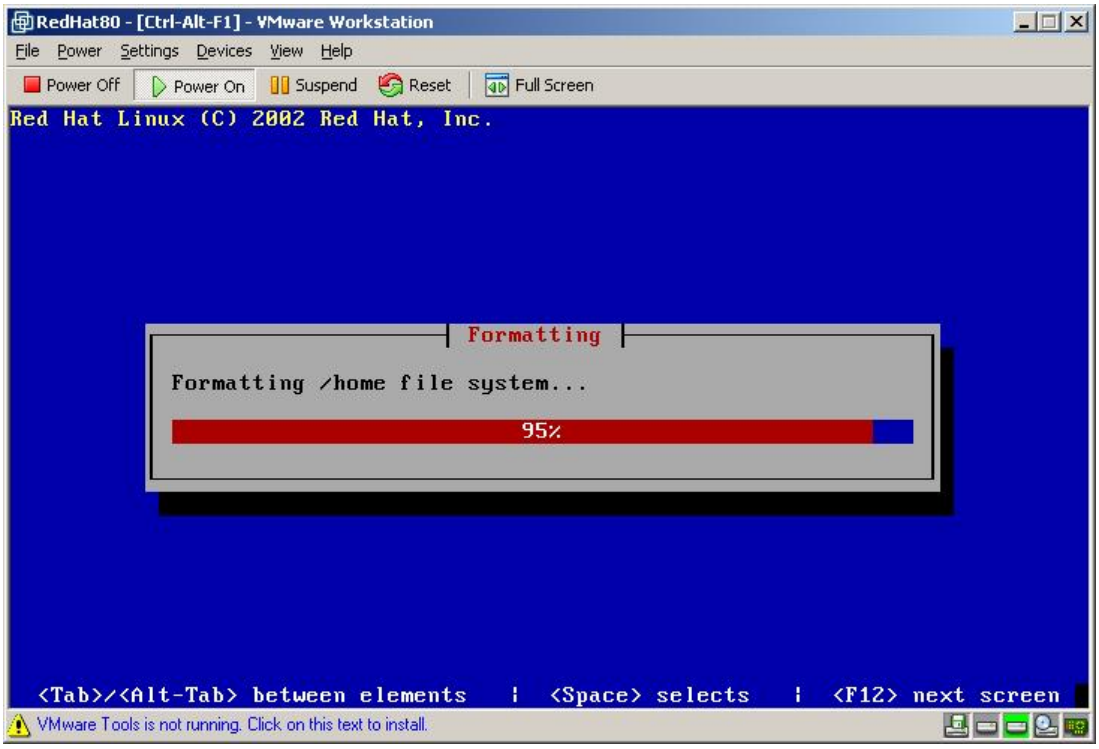
I don't select everything, but almost:
Administrative Tools
Authoring and Publishing

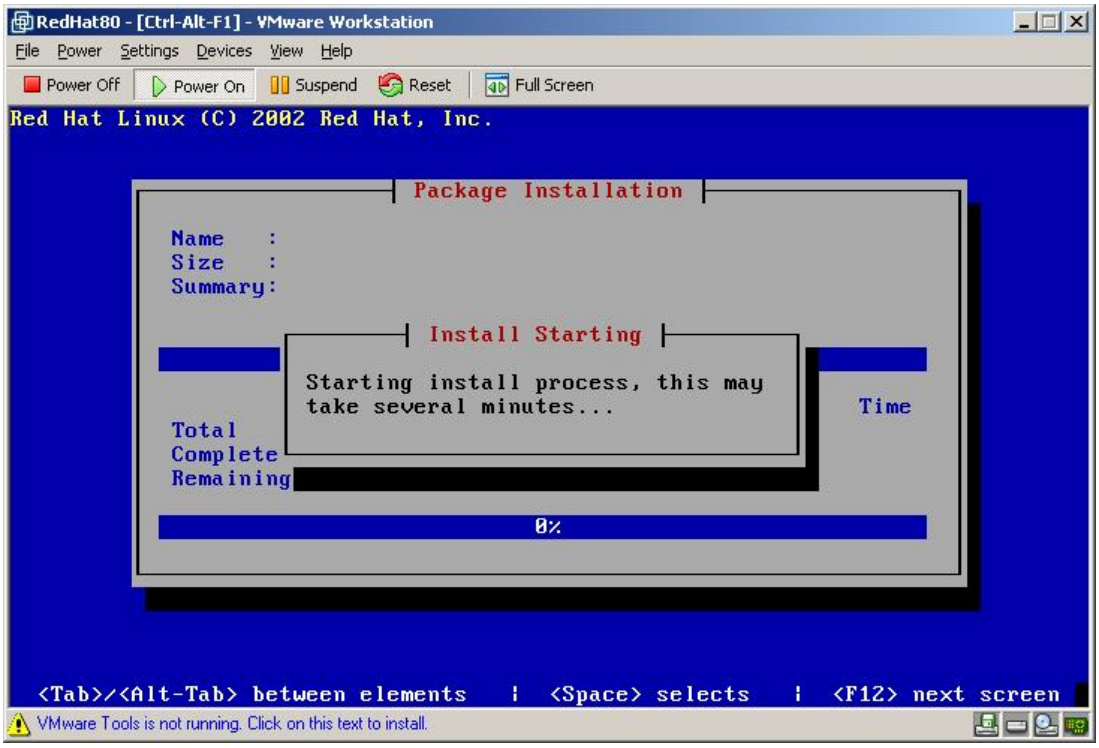
Development Tools
Editors
Engineering and Scientific
FTP Server
GNOME Desktop Environment
Graphical Internet
Graphics
KDE Desktop Environment
KDE Software Development
Network Servers
Office/Productivity
Printing Support
SQL Database Server
Server Configuration Tools
Sound and Video
System Tools
Web Server
Windows File Server
X Window System

About 16:20 to this point.

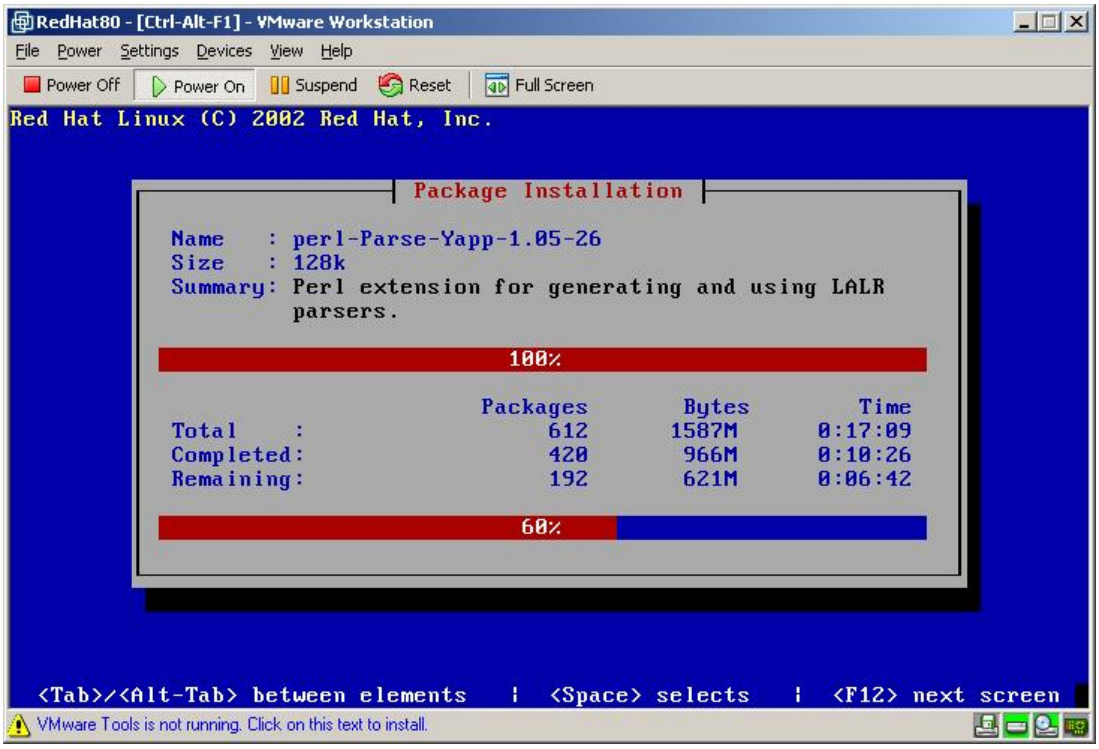


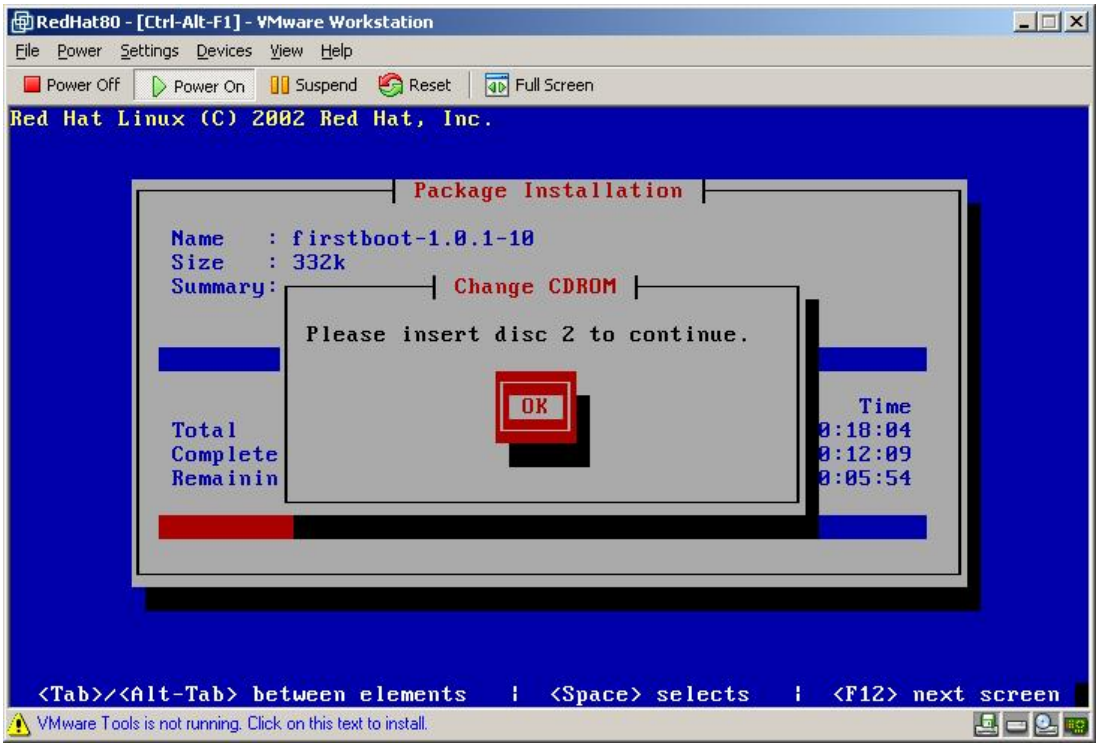
OK



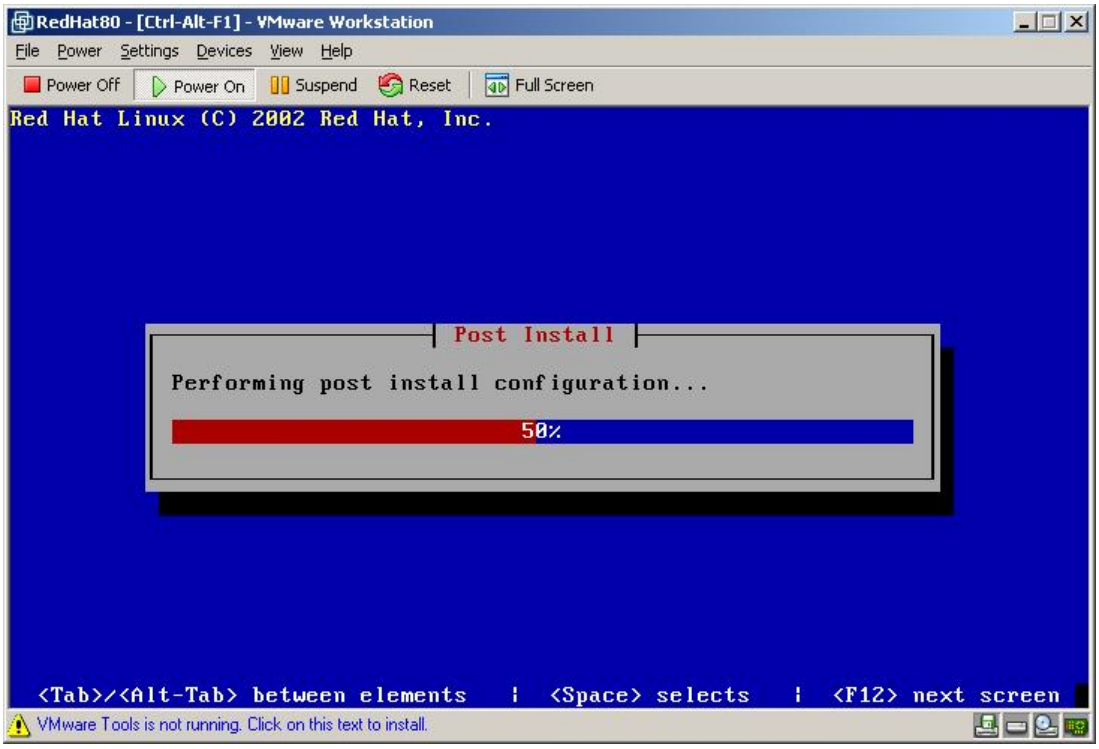


18:10 to this point

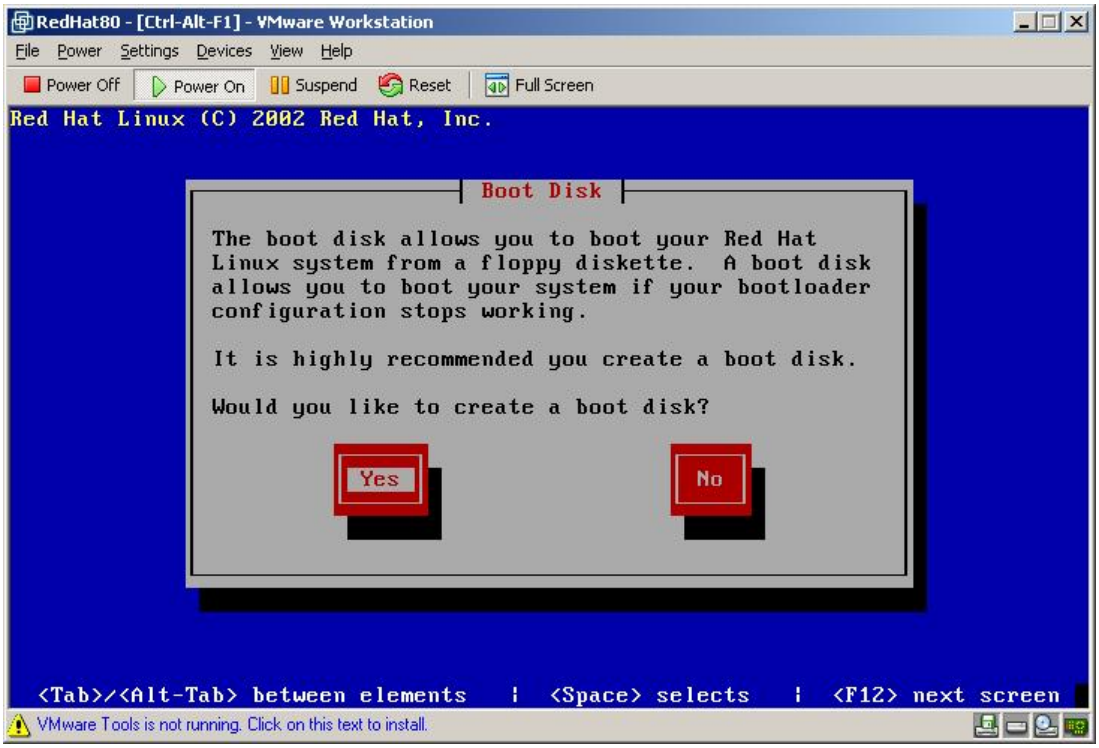




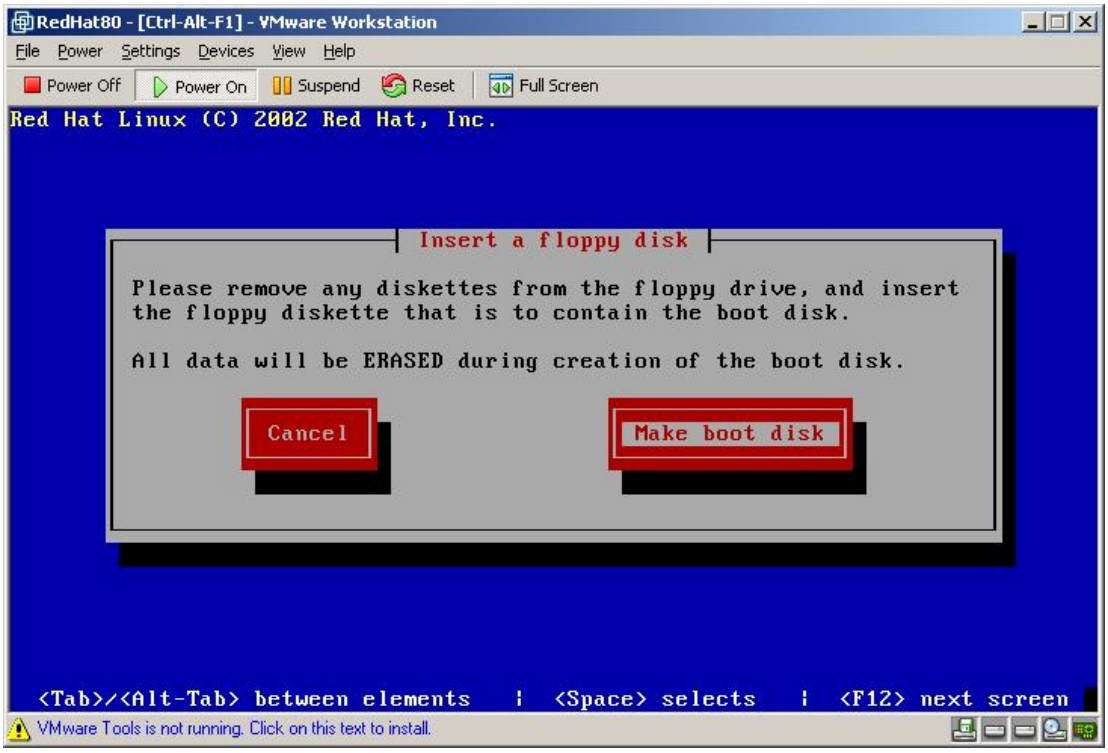
Prompt for second disk about 49:00 after starting. The estimated times on the screen are not all that accurate and keep growing during the installation process.



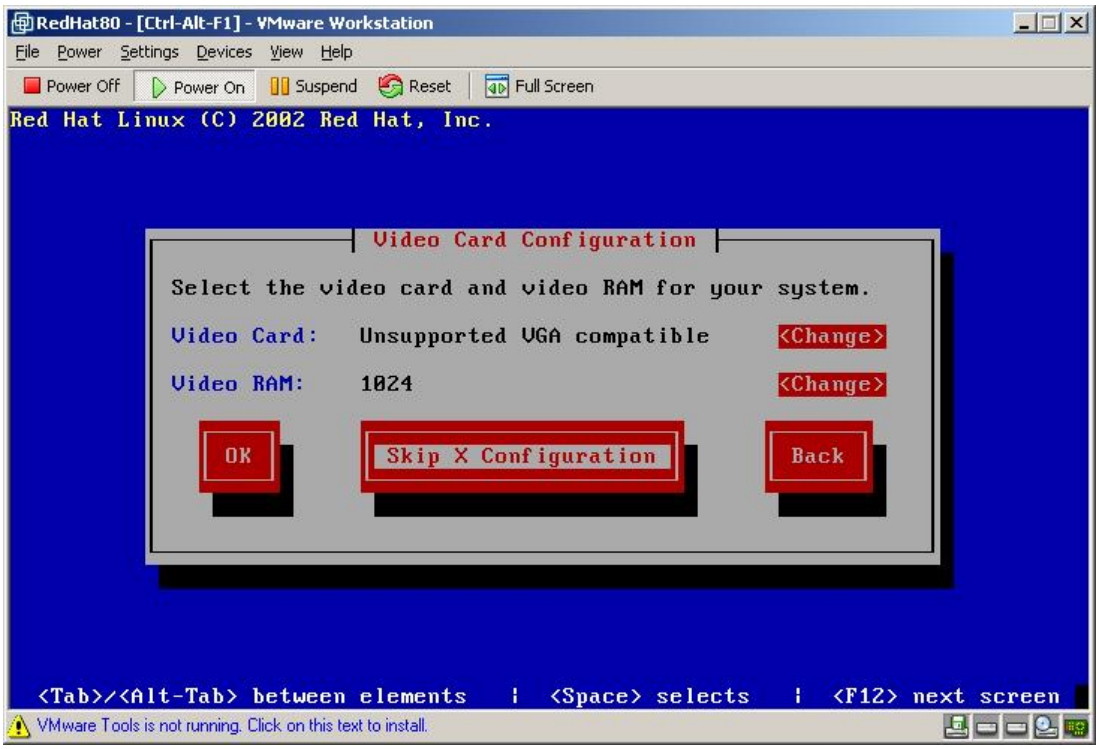
1:12:25 to this point



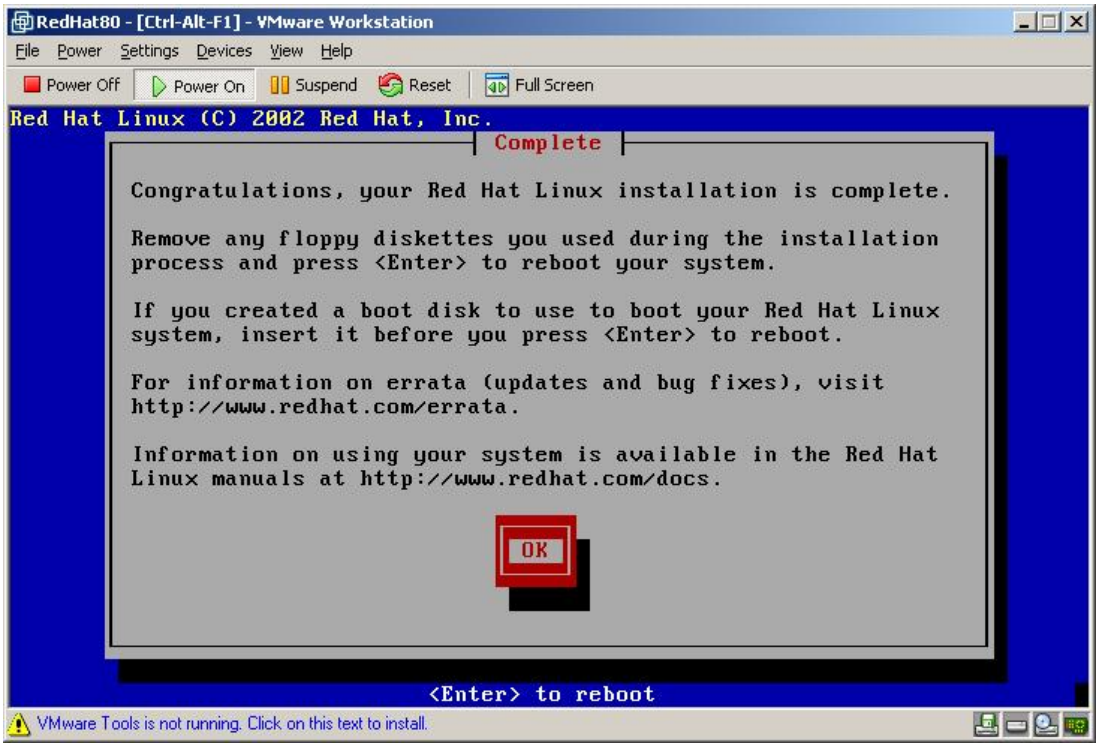
Yes (But often I don't bother with a boot disk for a VMware machine)



Make Boot Disk

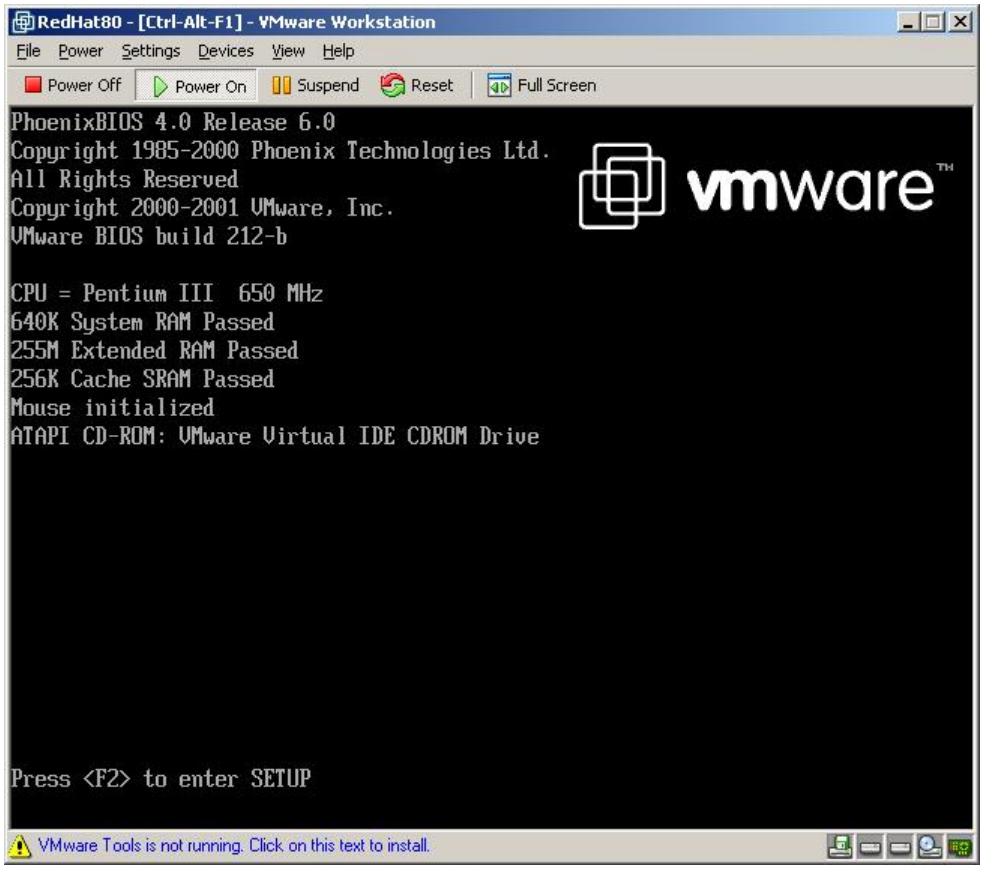


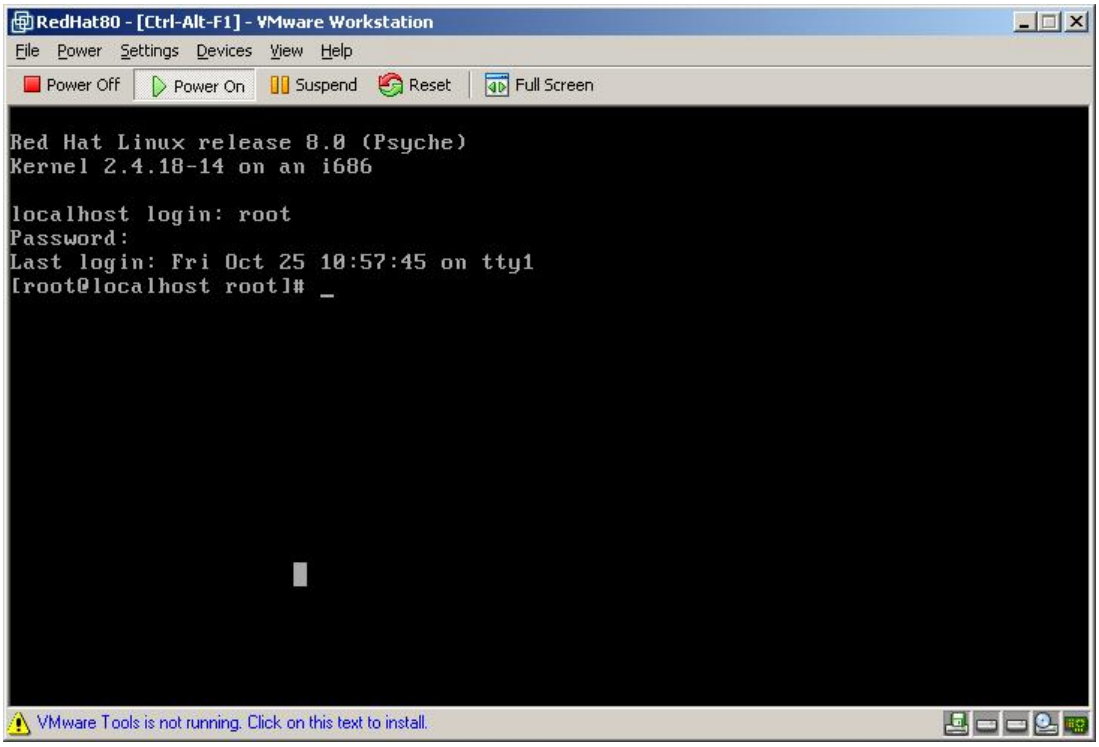
Skip X Configuration until after VMware tools are installed with VMware video drivers.



OK

3. Boot New Red Hat 8.0 Virtual Machine

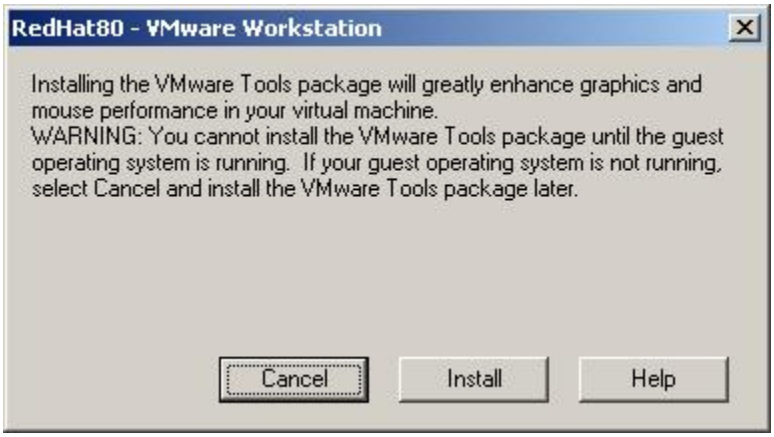




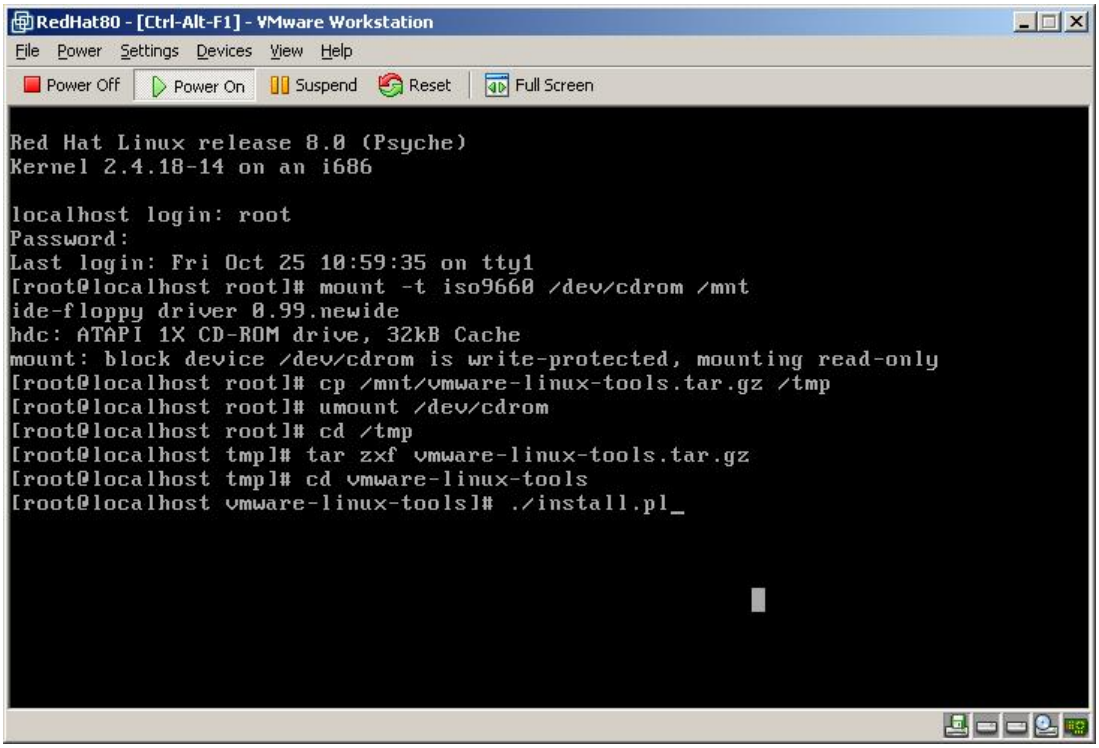
Login as “root”

4. Install VMware Tools Package in Virtual machine

Ctrl-Alt to exit virtual machine so Windows controls the mouse cursor.
Click on "Click on this text to install" at the bottom of the VMware Window.

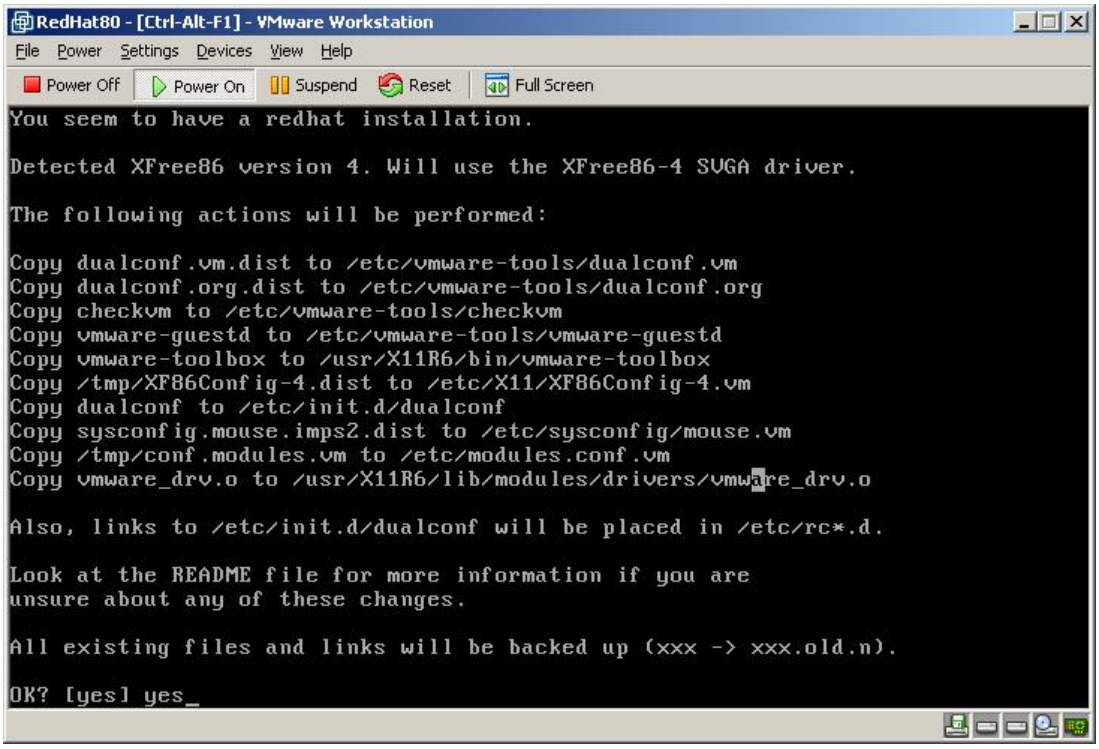


Install

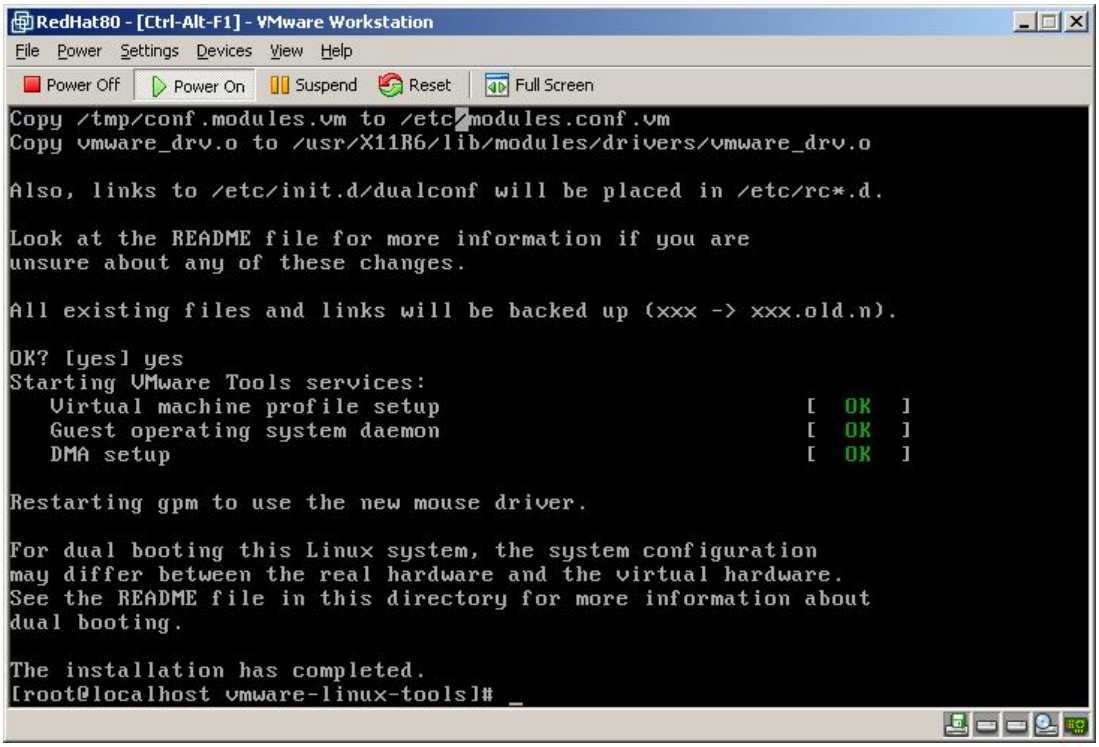


Install VMware Tools:

```
mount -t iso9660 /dev/cdrom  /mnt
cp /mnt/vmware-linux-tools.tar.gz /tmp
umount /dev/cdrom
cd /tmp
tar zxf vmware-linux-tools.tar.gz
cd vmware-linux-tools
./install.pl
```


RedHat80 - [Ctrl-Alt-F1] - VMware Workstation
File Power Settings Devices View Help
Power Off Power On Suspend Reset Full Screen
You seem to have a redhat installation.
Detected XFree86 version 4. Will use the XFree86-4 SVGA driver.
The following actions will be performed:
Copy dualconf.vm.dist to /etc/vmware-tools/dualconf.vm
Copy dualconf.org.dist to /etc/vmware-tools/dualconf.org
Copy checkvm to /etc/vmware-tools/checkvm
Copy vmware-guestd to /etc/vmware-tools/vmware-guestd
Copy vmware-toolbox to /usr/X11R6/bin/vmware-toolbox
Copy /tmp/XF86Config-4.dist to /etc/X11/XF86Config-4.vm
Copy dualconf to /etc/init.d/dualconf
Copy sysconfig.mouse.imps2.dist to /etc/sysconfig/mouse.vm
Copy /tmp/conf.modules.vm to /etc/modules.conf.vm
Copy vmware_drv.o to /usr/X11R6/lib/modules/drivers/vmware_drv.o
Also, links to /etc/init.d/dualconf will be placed in /etc/rc*.d.
Look at the README file for more information if you are
unsure about any of these changes.
All existing files and links will be backed up (xxx -> xxx.old.n).
OK? [yes] yes_

yes


RedHat80 - [Ctrl-Alt-F1] - VMware Workstation
File Power Settings Devices View Help
Power Off Power On Suspend Reset Full Screen
Copy /tmp/conf.modules.vm to /etc/modules.conf.vm
Copy vmware_drv.o to /usr/X11R6/lib/modules/drivers/vmware_drv.o
Also, links to /etc/init.d/dualconf will be placed in /etc/rc*.d.
Look at the README file for more information if you are
unsure about any of these changes.
All existing files and links will be backed up (xxx -> xxx.old.n).
OK? [yes] yes
Starting VMware Tools services:
Virtual machine profile setup [OK]
Guest operating system daemon [OK]
DMA setup [OK]
Restarting gpm to use the new mouse driver.
For dual booting this Linux system, the system configuration
may differ between the real hardware and the virtual hardware.
See the README file in this directory for more information about
dual booting.
The installation has completed.
[root@localhost vmware-linux-tools]# _

5. Modify XF86Config-4 To Control Max Windows Size of Virtual Machine

If you want to use the X-server full screen, the following changes are not needed. I like to control the maximum size of the VMware window so I can go back and forth between Windows and Linux a little easier.

In `/etc/X11` VMware sets up this link:

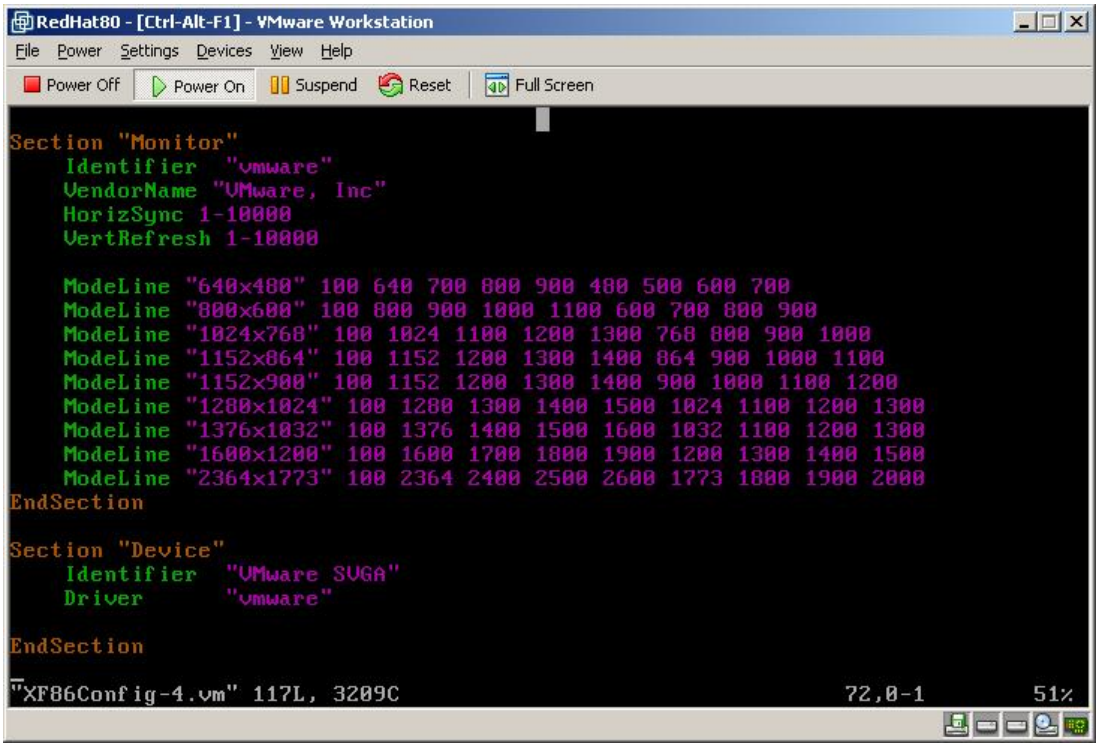
```
XF86Config-4 -> /etc/X11/XF86Config-4.vm
```

First make a backup copy of `/etc/X11/XF86Config-4.vm`:

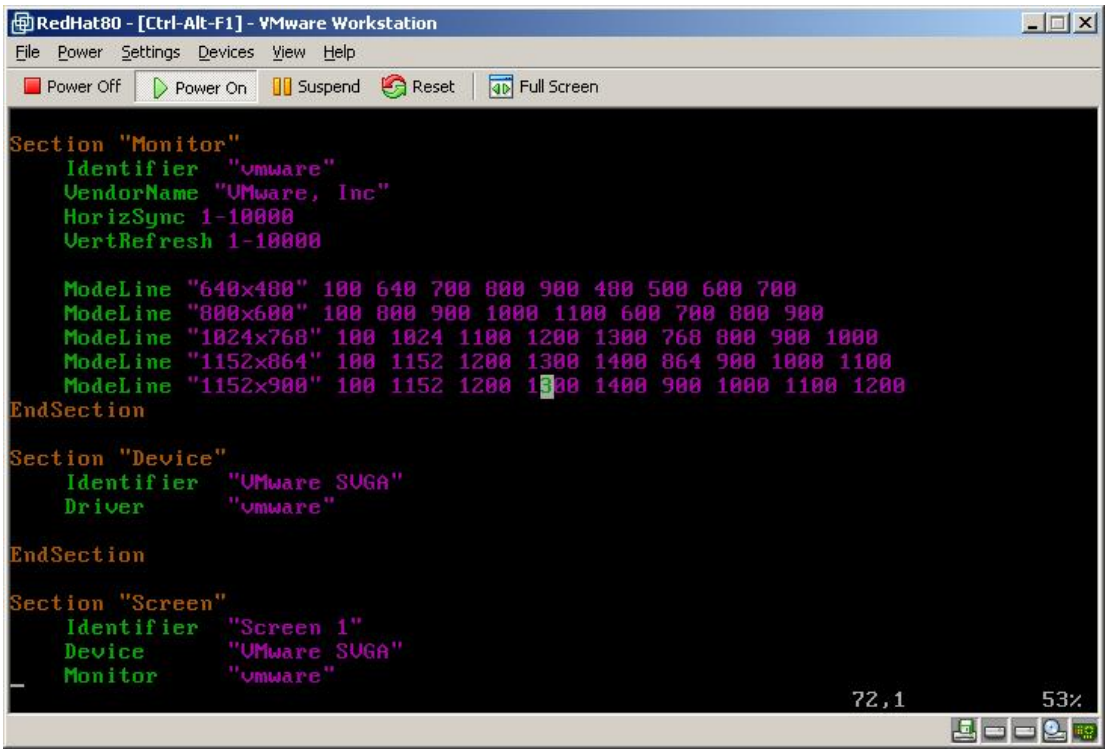
```
cd /etc/X11
cp XF86Config-4.vm XF86Config-4.vm.original
```

I don't understand the default contents of the file XF86Config-4.vm set by VMware. The default settings take over my entire screen when I prefer to have Linux work just like another "Window" under Windows.

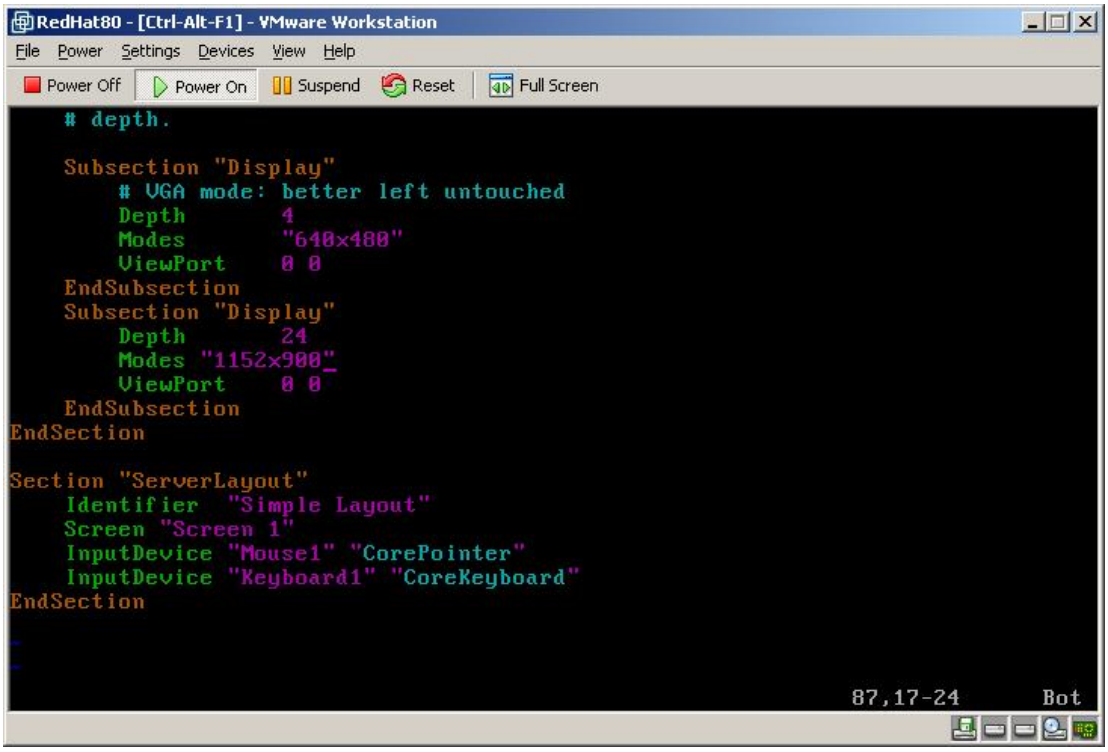
Edit /etc/X11/XF86Config-4.vm



Chop out all the "ModeLine" statements above for resolutions that are larger than your physical monitor. I usually keep the largest as 1152x900 when my physical screen is 1280x1024 or 1400x1050.

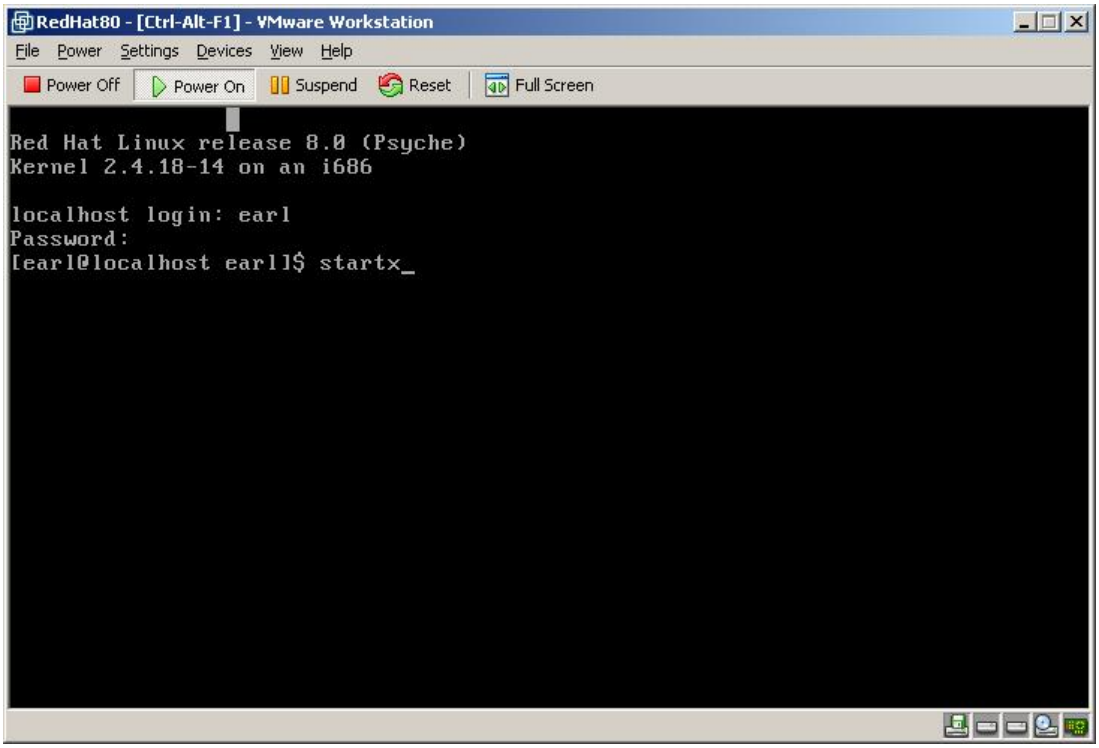


A few lines farther down, there are multiple "Display" sections. I delete all the high resolution ones, and modify the last one to be the resolution I'd like to use when running Linux under VMware: 1152x900 with Depth 24.



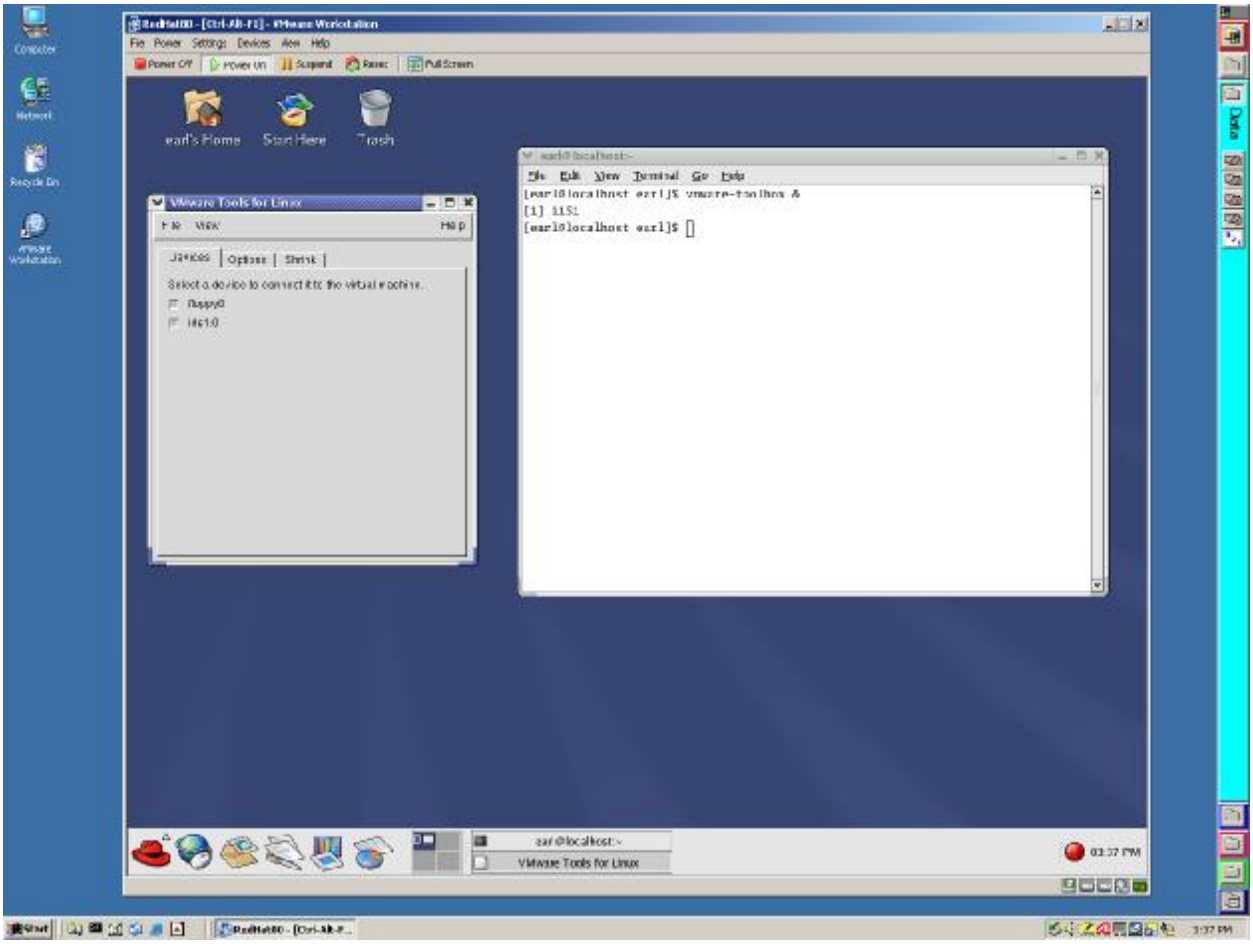
Save the modified XF86Config-4.vm file.

logout from root and login as "normal" user



Start the X-Server: `startx`

When X is started, in a terminal session: `vmware-toolbox &`



Note above the 1152-by-900 Linux "Window" on 1400-by-1050 Windows Screen on Dell Inspiron 7500. My Windows toolbars can still be easily accessed at the right and bottom.

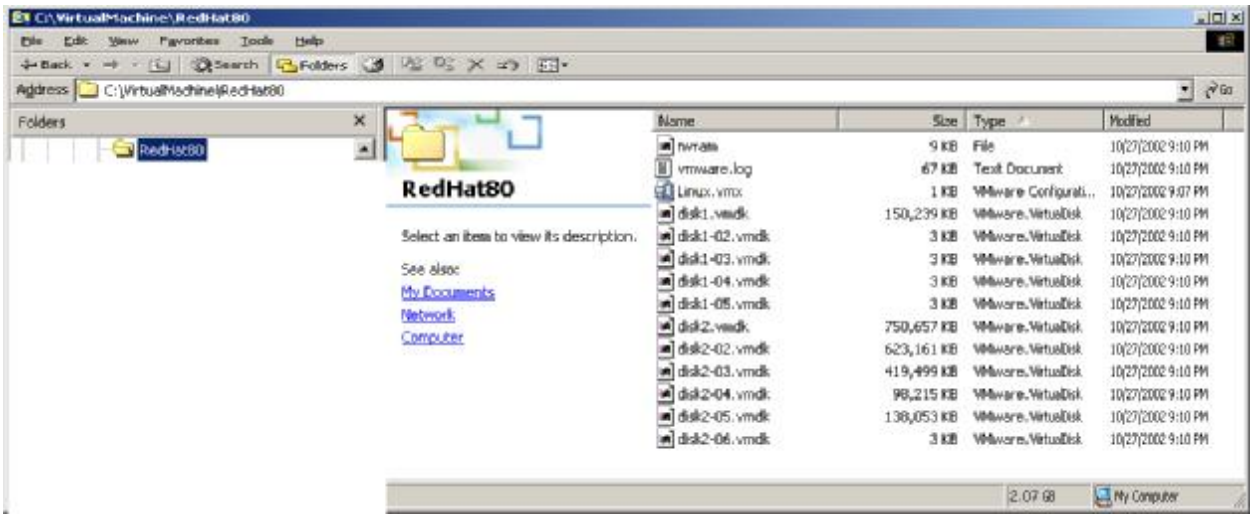
Logout as "normal" user. [Click on the Red Hat, and select Logout. In the command window, enter logout.]

Login as "root"

Another change I make as "root" is to remove the passwords on both root and my "normal" user. Since I don't need much security on these machines on private networks.

Do this as root to shutdown Linux cleanly: `shutdown -h now`

6. VMware Files



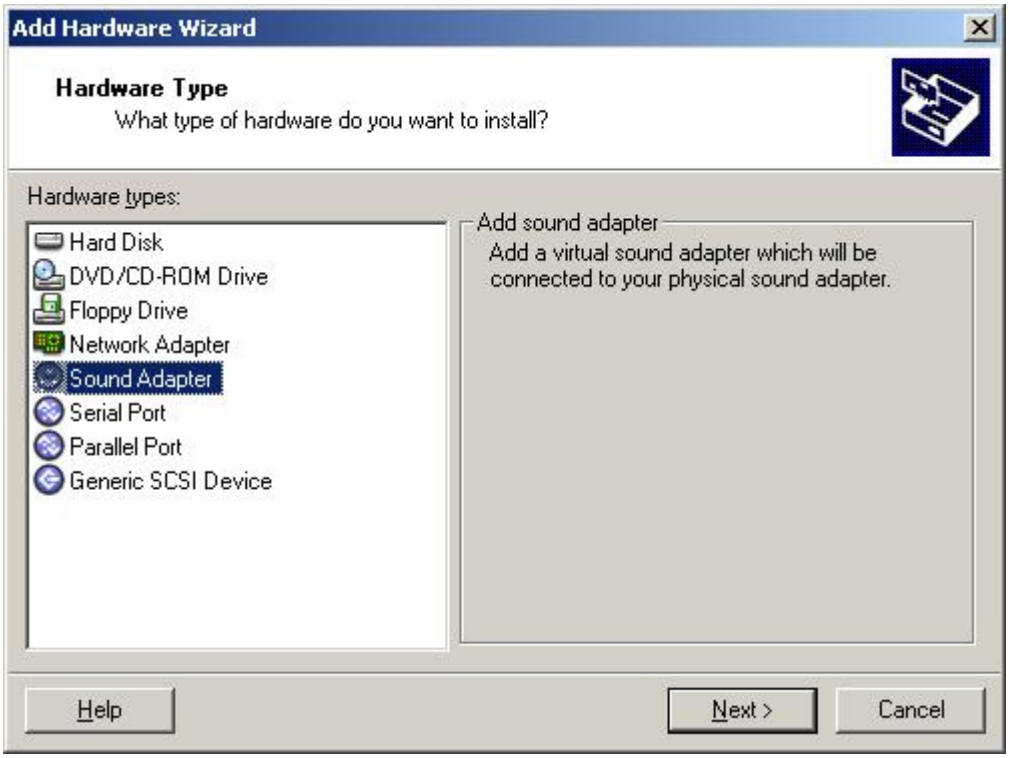
The above is a list of the files that were created in Windows for the RedHat 8.0 virtual machine. These files can be stored in two ZIPs since a single ZIP would be too large to fit on a single CD. The largest file, disk2.vmdk, was stored inRedHat80B, while the other files were stored in RedHat80A.ZIP.

RedHat80A.zip	481,602 KB	PKZIP File	10/27/2002 9:19 PM
RedHat80B.zip	299,382 KB	PKZIP File	10/27/2002 11:16 PM

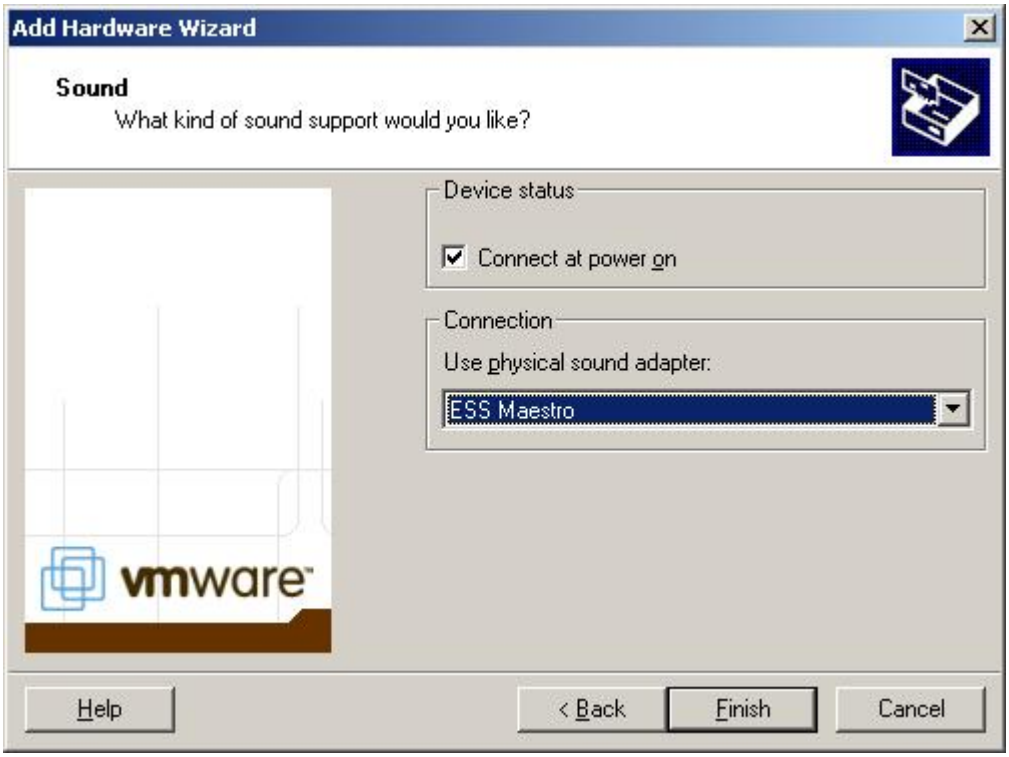
Each of these ZIP files will fit on a CD. These files can then be used to re-create a new RedHat 8.0 box as it exists after installation.

7. Adding Sound to Virtual Machine

A VMware quirk is that the audio driver is not automatically installed. In VMware, select the RedHat 8 virtual machine, then Settings and Configuration Editor. Select the Add button.



Select a sound adapter
Next

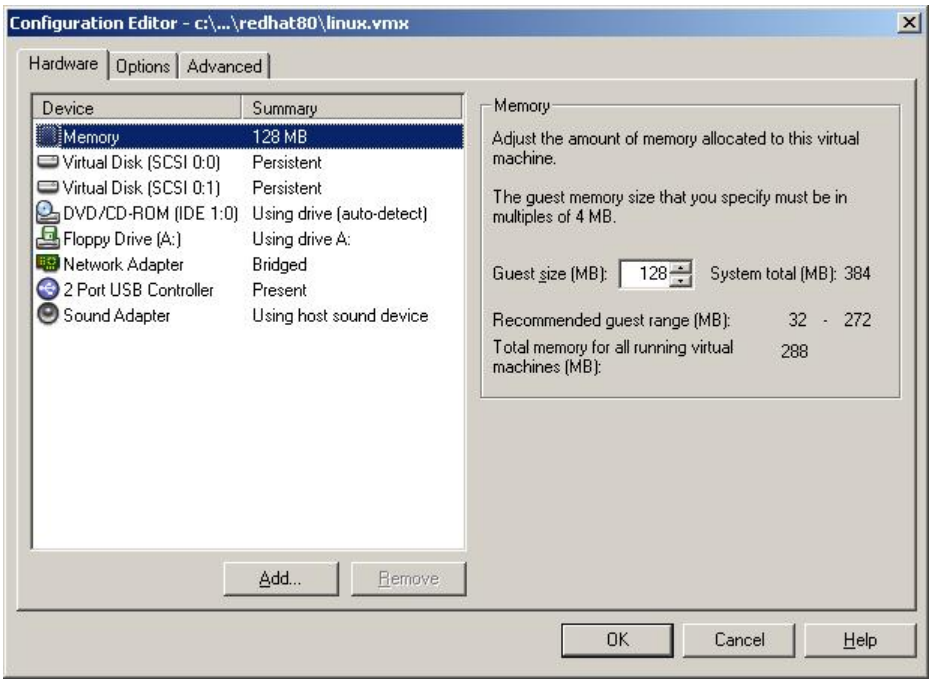


On my Dell Inspiron 7500 the “ESS Maestro” sound adapter is the correct one.
Finish

8. Using FTP to Transfer Files from Old Virtual Linux Box Via "Network"

Multiple virtual Red Hat Linux machines can be run on the same host PC. These machines can communicate via the network and files files can be transferred between these machines. Before doing this, the virtual machines may need to be reconfigured to fit within available memory. In VMware, select

Settings | Configuration Editor

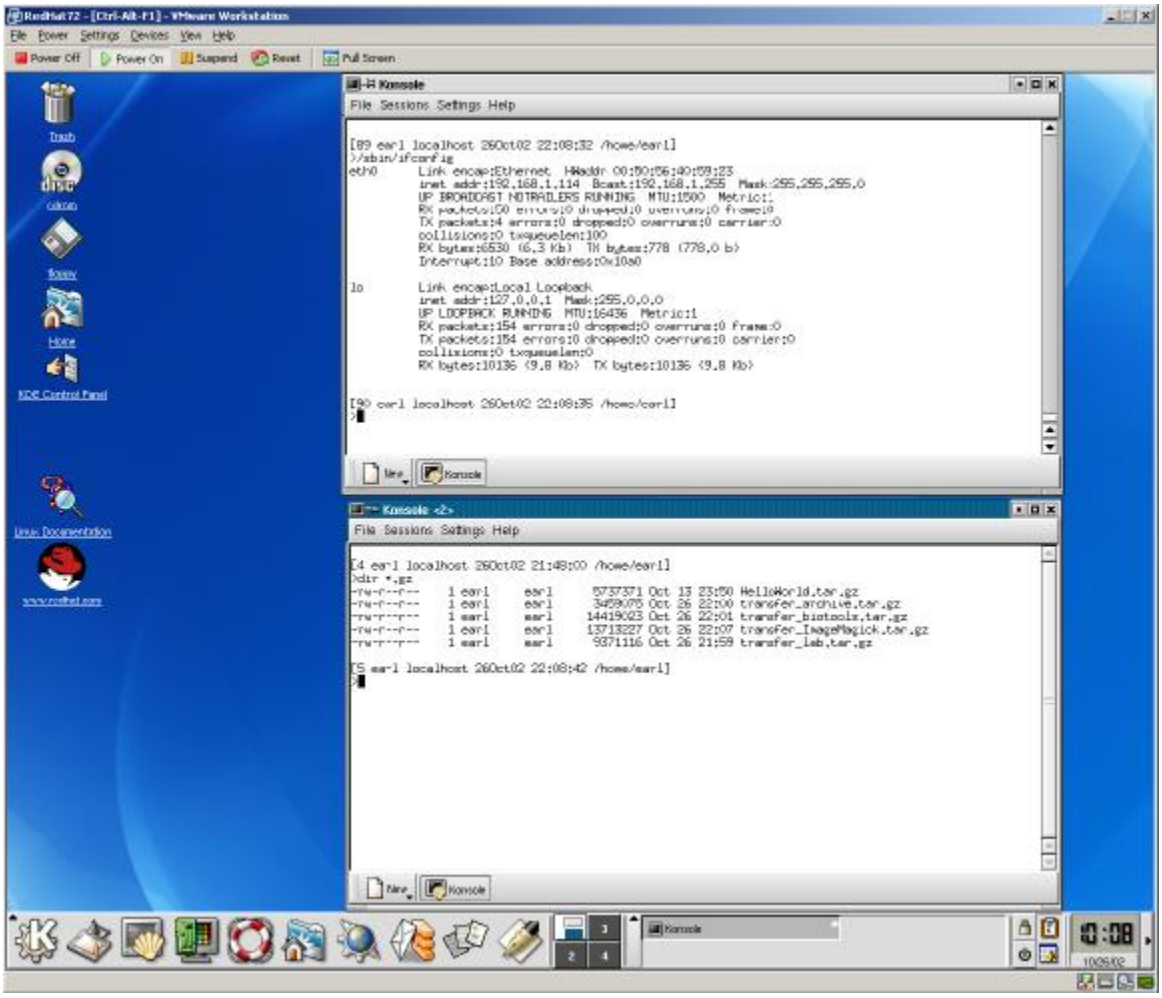


The Red Hat 8.0 machine and Red Hat 7.2 machines were temporarily reduced to 128 MB so they both could run. (Note the limit of all virtual machines is 288 MB with only 384 MB of physical memory on my machine.)

On the "old" Red Hat 7.2 virtual machine I create .tar.gz files to prepare them for the transfer to the new virtrual machine:

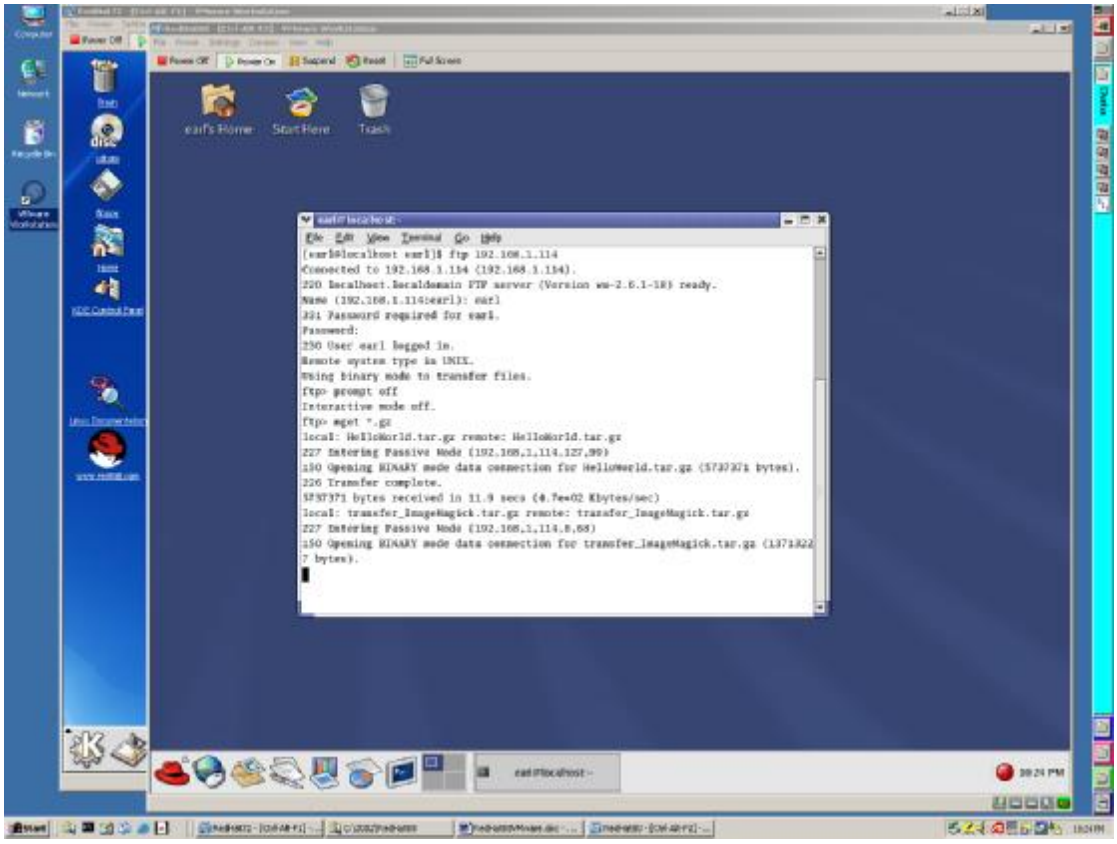
```
cd ~
tar cpvf - lab/*  |  gzip > transfer_lab.tar.gz
```

The files could be transferred directly between machines but I like creating these .gz files since I also back them up at the time of transfer.



The above screen shows the Red Hat 7.2 machine. Run `/sbin/ifconfig` to get the IP address of this Red Hat 7.2 machine, which is 192.168.1.14 in the example above.

Now start the Red Hat 8.0 machine.



Windows 2000 host with Red Hat 7.2 and Red Hat 8.0 virtual machines running

Use command line FTP to copy files to the Red Hat 8.0 box from the Red Hat 7.2 box:

```
ftp 192.168.1.114
<userid>
<password>
prompt off
mget *.gz
quit
```

To extract the files from the tar files:

```
gunzip < transfer_archive.tar.gz | tar xvf -
```

After extracting these transferred files, remember to reconfigure the Red Hat 8.0 machine back to having 256 MB of virtual memory.

9. Installing Kylix

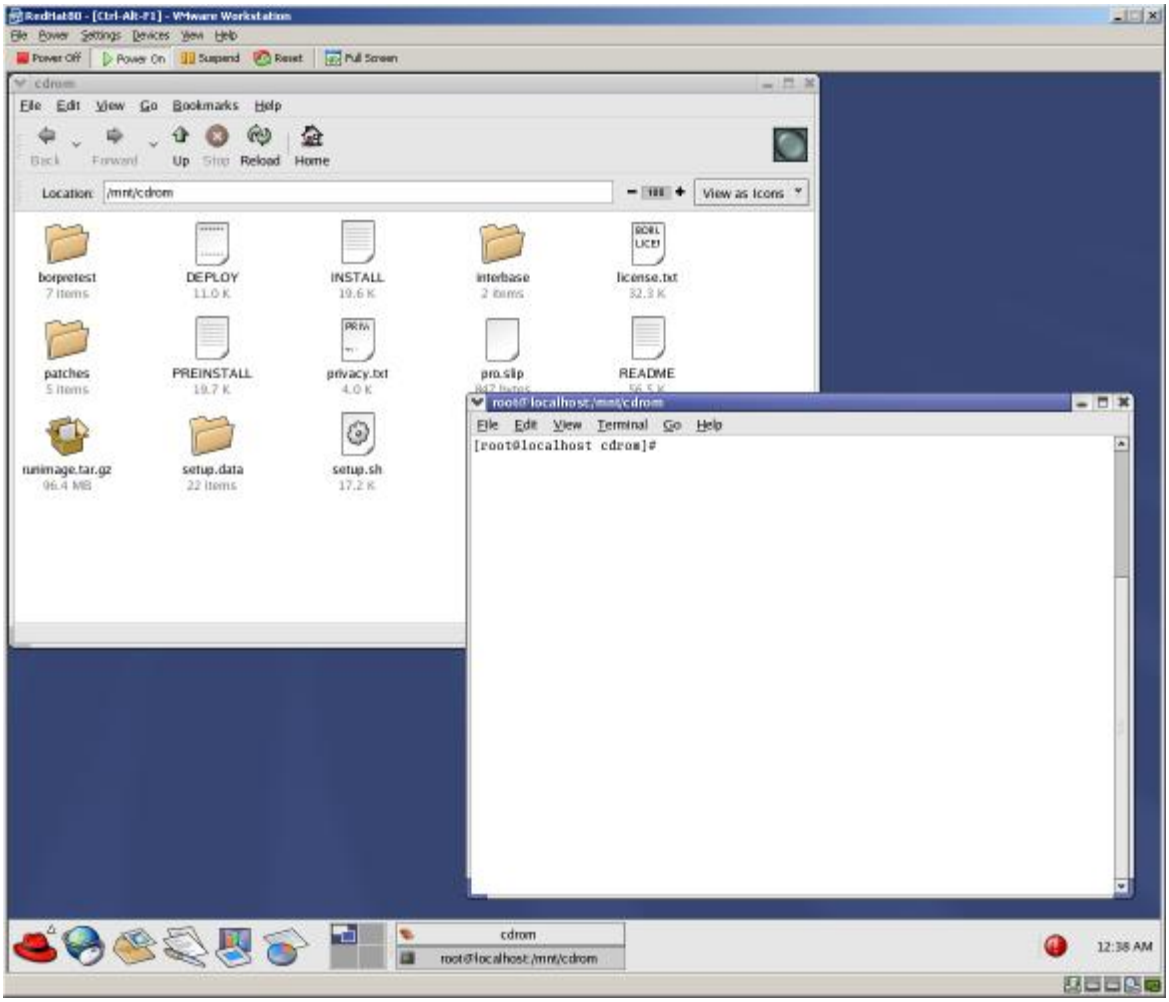
Login as a "normal" user and start the X-server ("startx") if necessary.

Open a terminal window. In Red Hat 8: Red Hat Icon | System Tools | Terminal

Start VMtools: `vmware-toolbox &`

"su" to root in this terminal window

Insert Kylix 3 CD



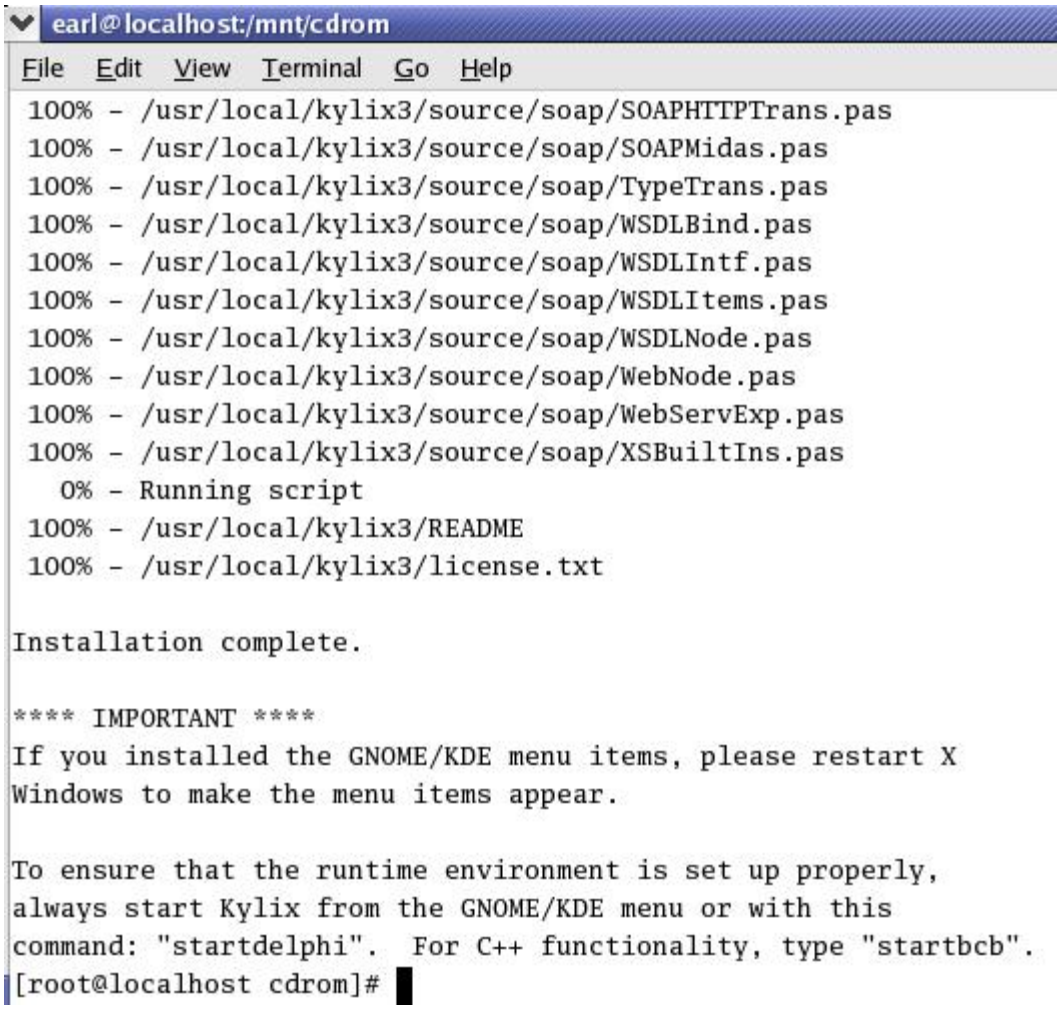
If contents of the CD are not automatically displayed: `mount /mnt/cdrom`

```
cd /mnt/cdrom
sh setup.sh -m   (for Kylix 3)
sh.setup.sh      (other versions of Kylix)
```

```
[root@localhost cdrom]# cd /mnt/cdrom
[root@localhost cdrom]# sh setup.sh -m



                                        BORLAND KYLIX 3

Checking dependencies...
WARNING: could not locate libX11.so
Kernel version >= 2.2.0....OK
Glibc version >= 2.1.2....OK
X11 Server....OK
Libjpeg version >= 6.2.0....OK
Libgtk version >= 1.2.0....OK


---------- Borland Kylix 3 installation program ----------

You are running a x86 machine with glibc-2.1 or later.
Hit Control-C anytime to cancel this installation program.
```

Press enter many times to view the Kylix license. [Unlike the Mandrake installation, Red Hat does not seem to recognize the correct graphics environment and uses a text-only installation scheme.]

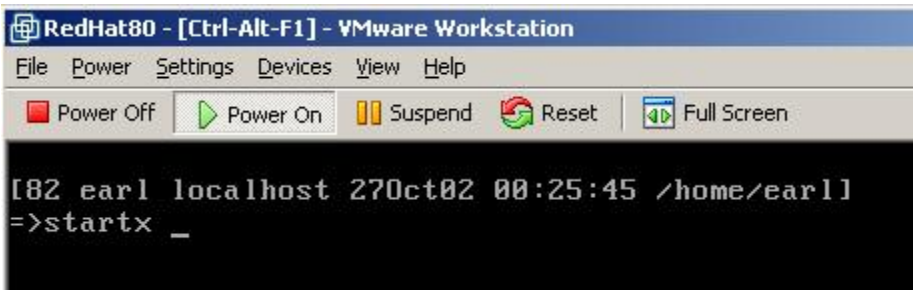
```
Do you agree with the license? [Y/n] Y
Would you like to read the README file ? [Y/n] Y
Do you agree with the license? [Y/n] Y
Would you like to read the README file ? [Y/n] n
Please enter the installation path [/usr/local/kylix3]
Please enter the path in which to create the symbolic links [/usr/local/bin]
Install Main Program Files? [Y/n/?] Y
Install dbExpress (includes InterBase and MySQL drivers)? [Y/n/?] Y
Install dbExpress PostgreSQL Driver? [Y/n/?] Y
Install Help Files? [Y/n/?] Y
Install Internet Components? [Y/n/?] Y
Install Client-Side Web Services? [Y/n/?] Y
Do you want to install GNOME/KDE menu items? [Y/n] Y
Installing to /usr/local/kylix3
4539 MB available, 372 MB will be installed.

Continue install? [Y/n] Y
```



Red Hat | Logout

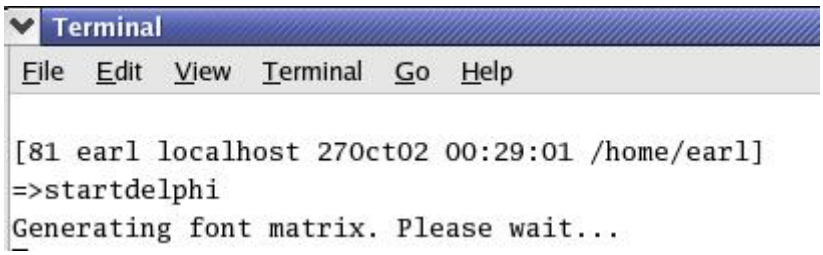
Log Out

OK

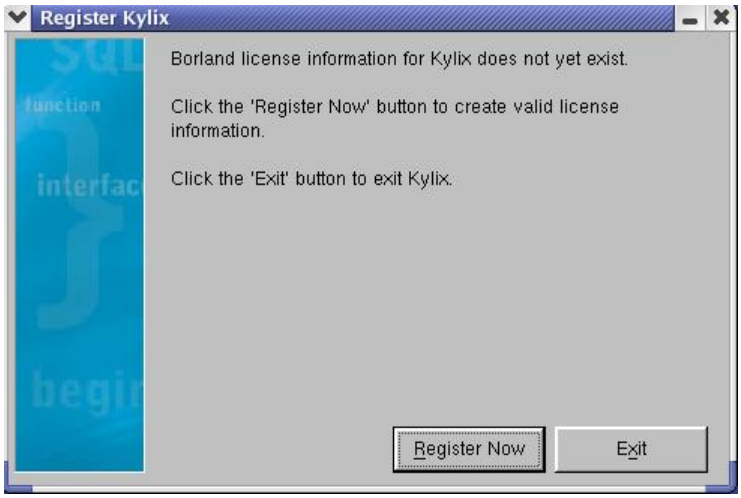


Use `startx` tore- restart X Windows.

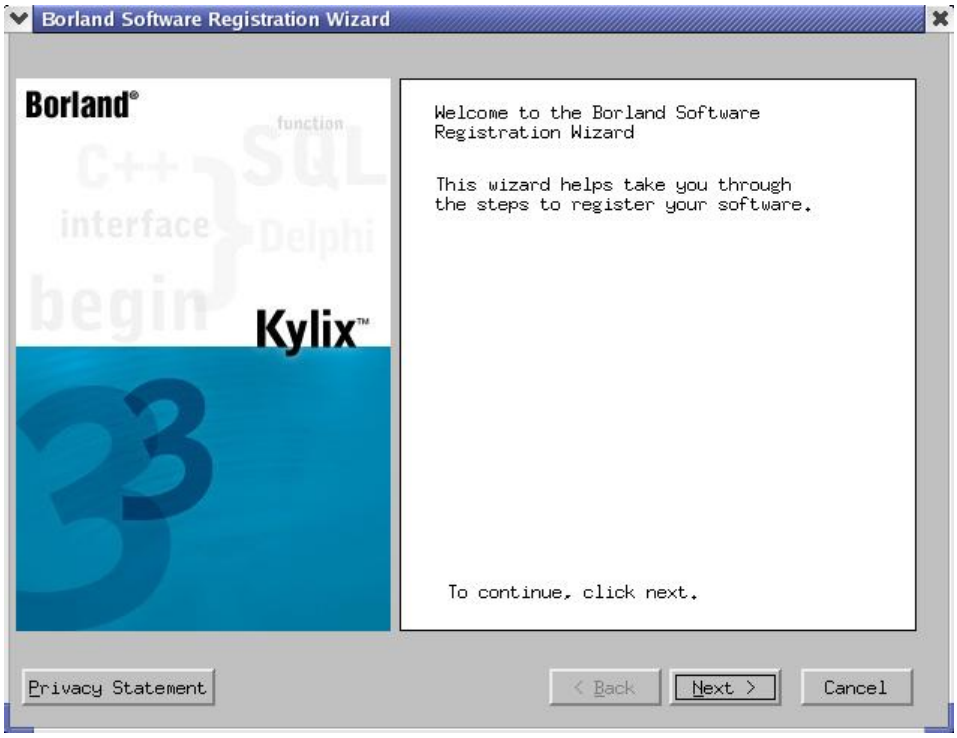
Create a terminal window and run Kylix (I'm not sure why Kylix is not added to the Red Hat start menu, like it was with Mandrake 9.0).



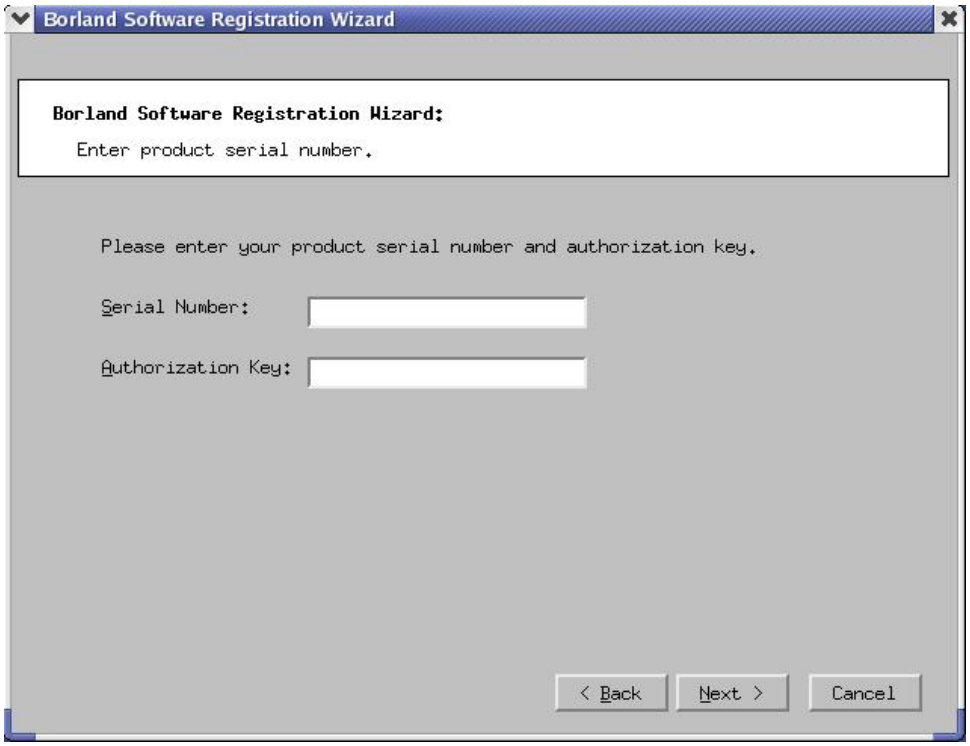
Use `startdelphi` to start the Delphi version of Kylix.
Registration must take place the first time kylix is started with startdephi:



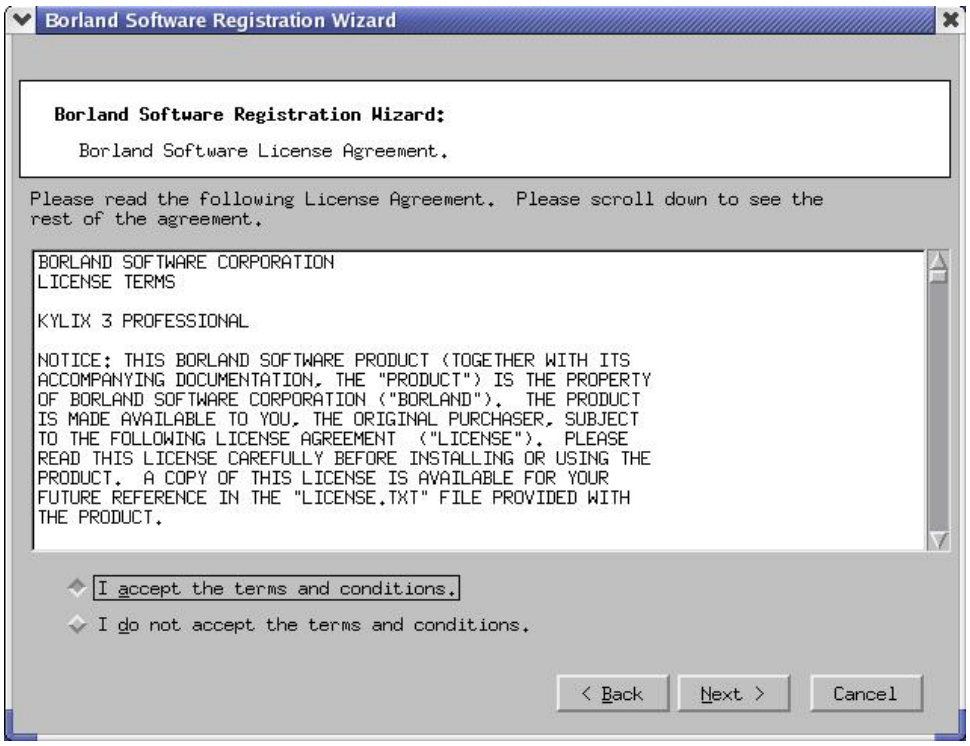
Register Now



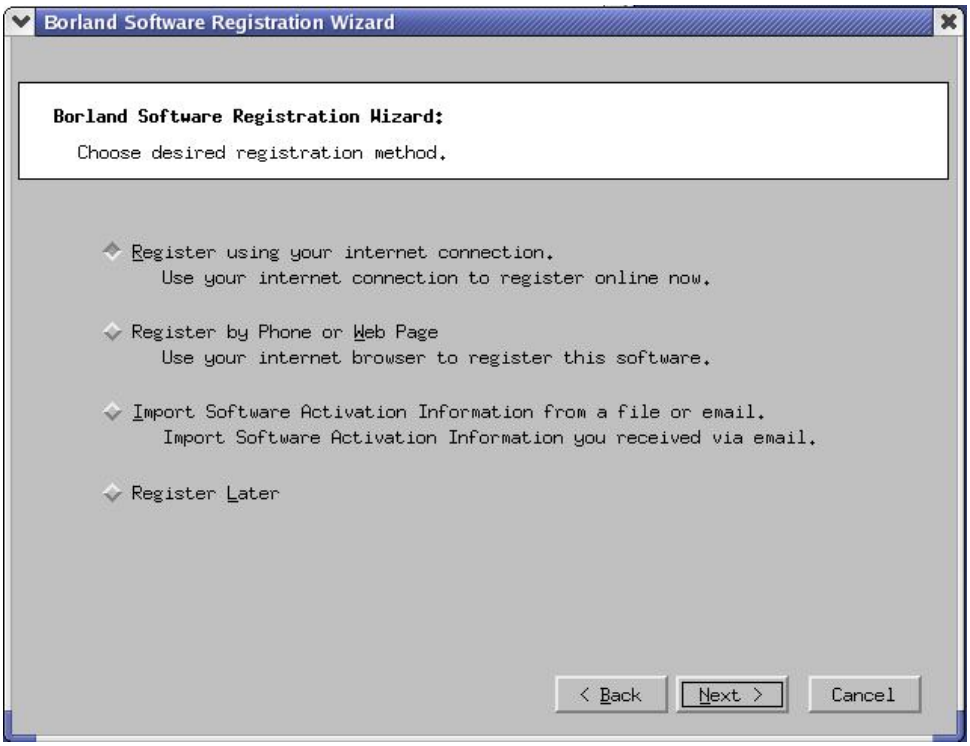
Next



Enter the Serial Number and Authorization Key from the CD Case.
Next

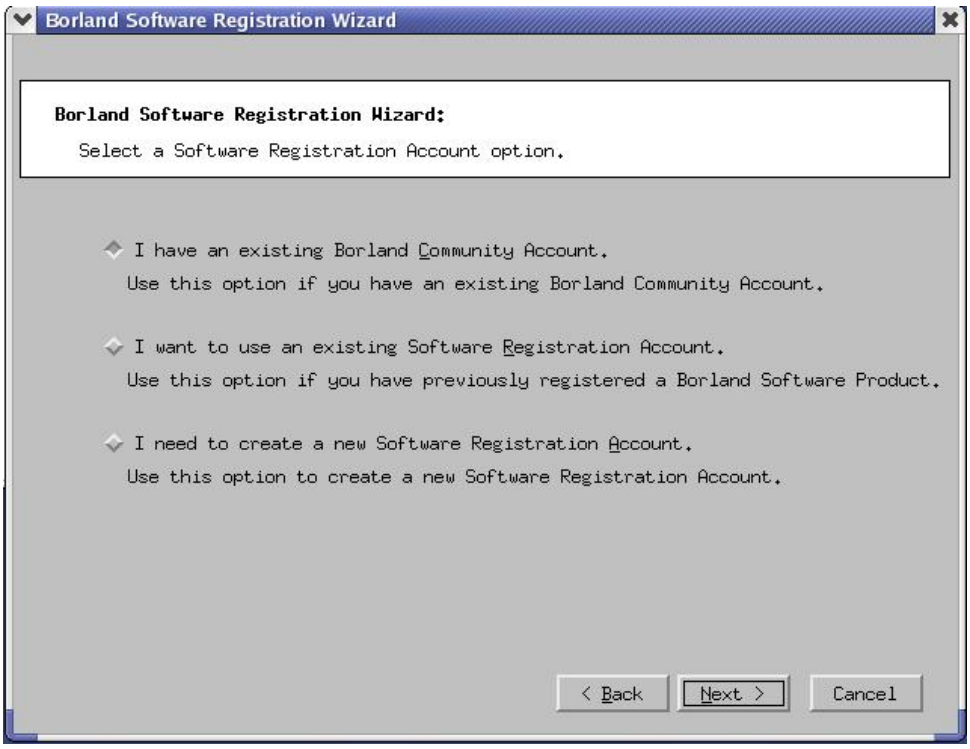


Next

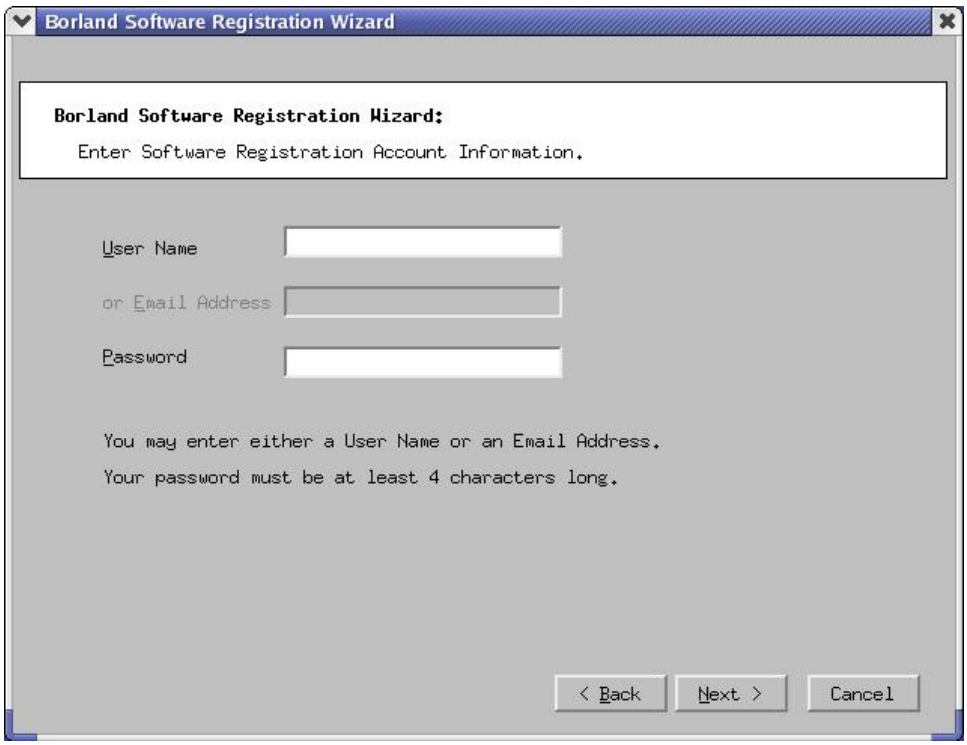


If you've already registered your copy of Kylix, you can avoid the following by selecting "Register Later" and never registering this copy. Other, enter:

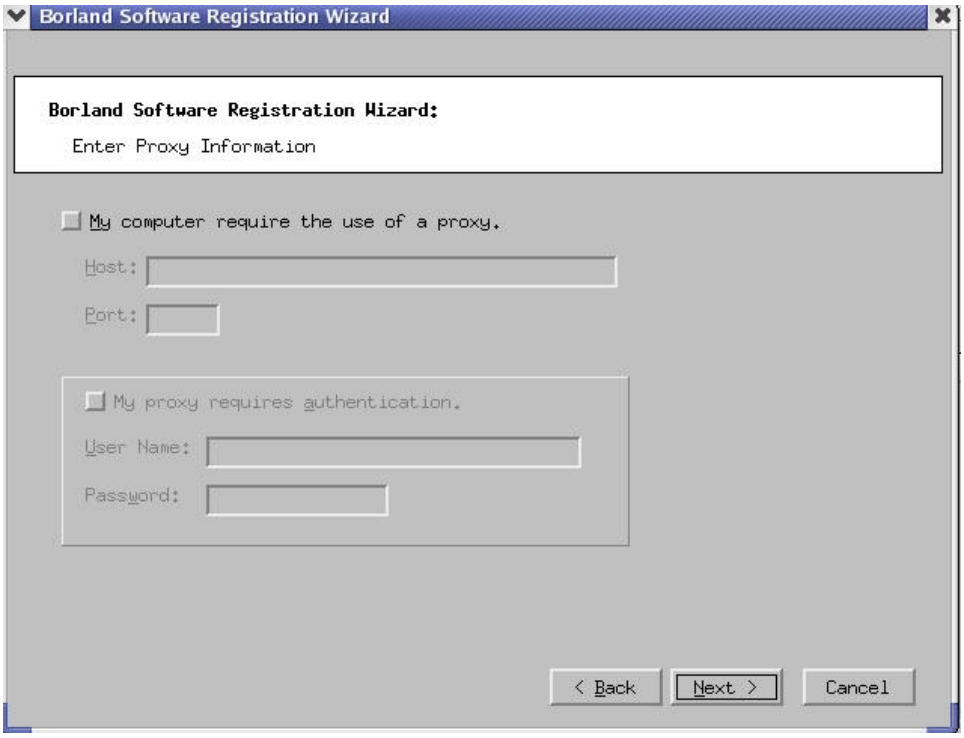
Next



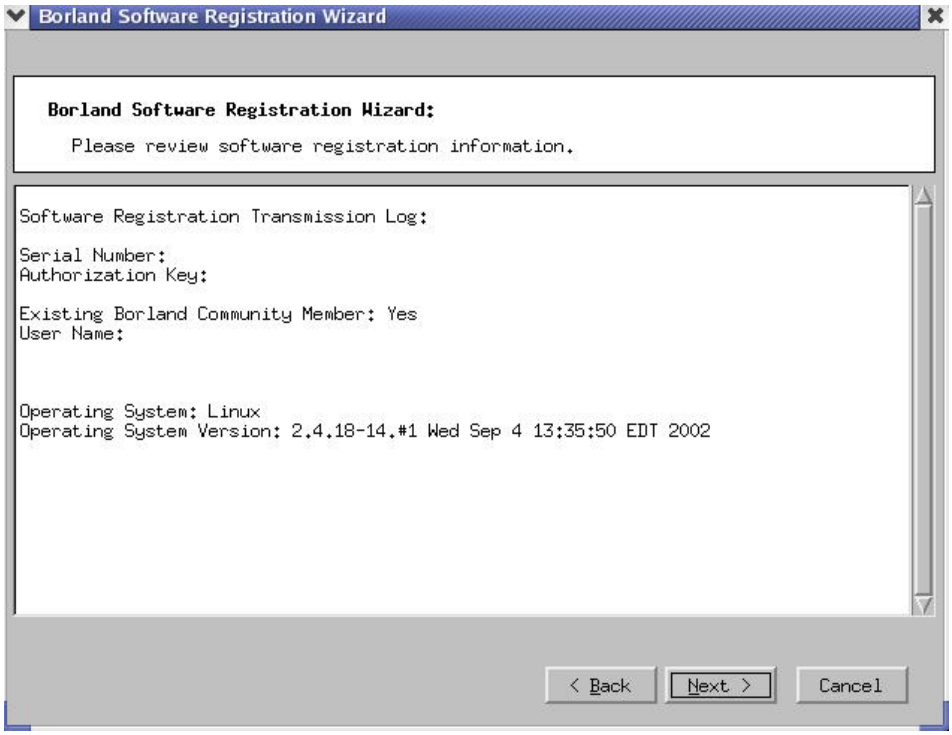
Next



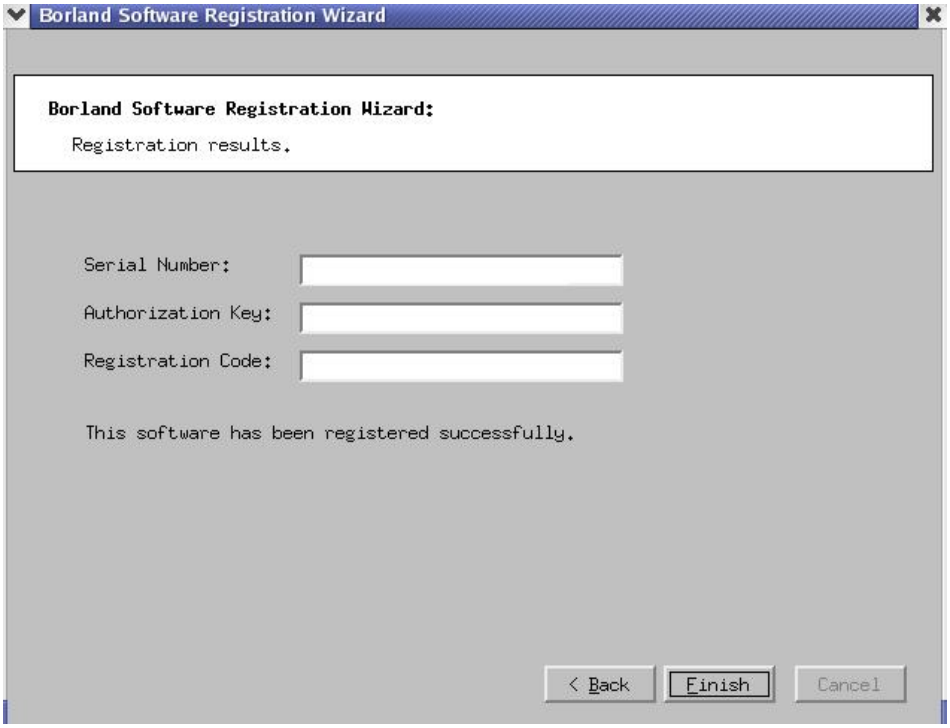
Enter your Borland Community info.
Next



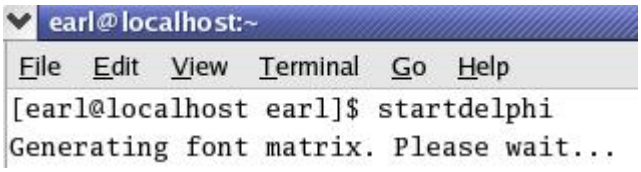
Next (at work I need a proxy, but not at home)



Private information blanked out above.
Next

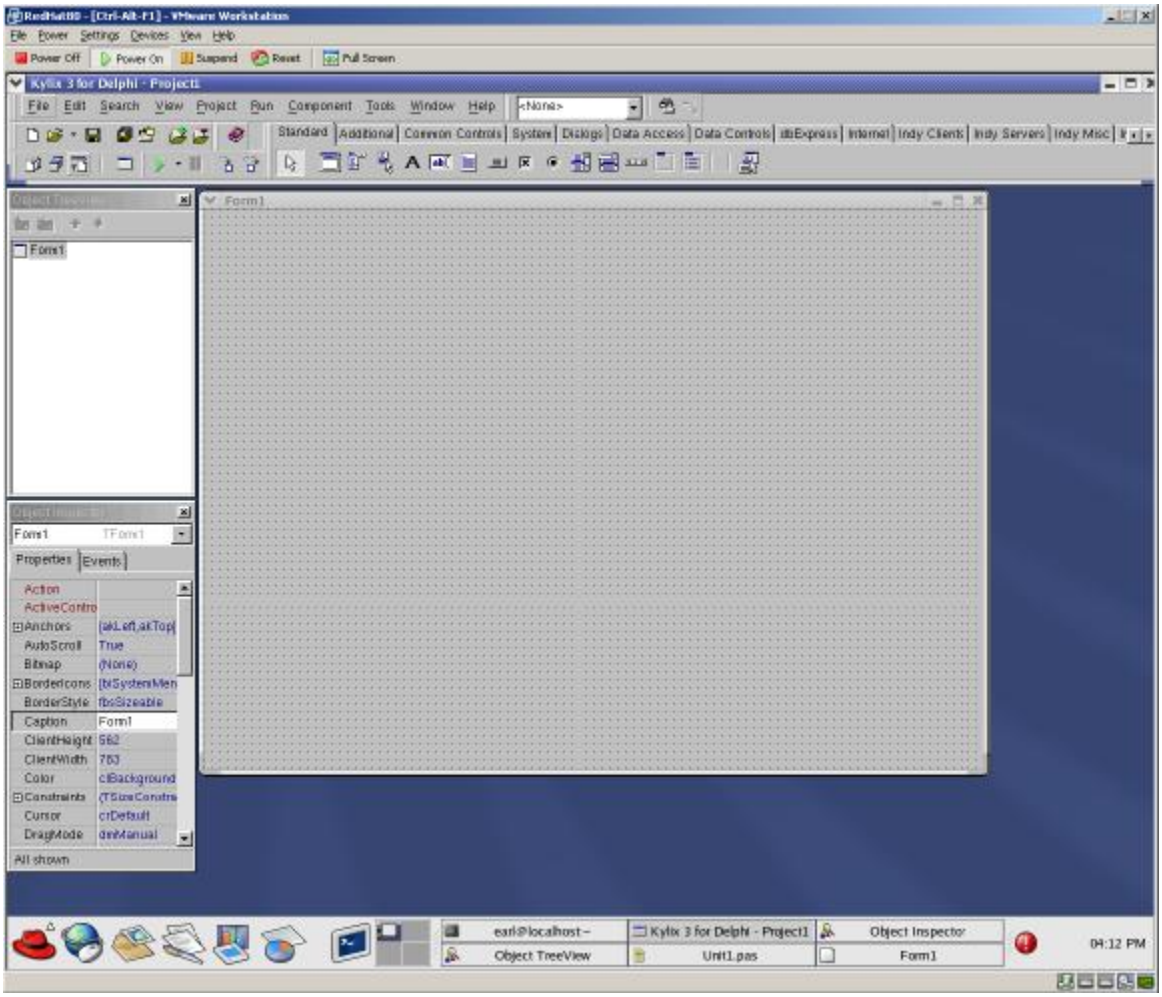


Private information blanked out above
Finish



Wait while fonts are generated. This can take several minutes.

The first time Kylix is launched it still shows as “Unregistered”. In subsequent launches, the splash screen will show the product is registered.



A blank Kylix form.

10. Simple Samba

Samba can make the transfer of files between the VMware virtual machine and the Windows host machine quite easy. Samba is usually installed as part of the RedHat installation. The following assumes that Samba is installed.

I want to share `/home/earl` and `/home/data` from my Red Hat 8.0 virtual machine with the machines in my GLYNN workgroup. Anyone can read or write to the "data" directory, while read-only access is granted to the "earl" directory by setting permissions (using the Linux chmod command):

```
drwxrwxrwx    2 earl     earl         4096 Dec  8 20:42 data/
drwxr-xr-x   12 earl     earl         4096 Dec  8 20:36 earl/
```

As "root" create a separate password file for Samba:

```
cat /etc/passwd |mksmbpasswd.sh > /etc/samba/smbpasswd
```

```
chmod 600 /etc/samba/smbpasswd
```

In my personal Windows network I often connect PCs using a "GLYNN" workgroup with minimal security considerations (since the network is private). The VMware virtual machine can share files with this workgroup by configuring the file `/etc/samba/smb.conf`. First make a copy the original smb.conf file:

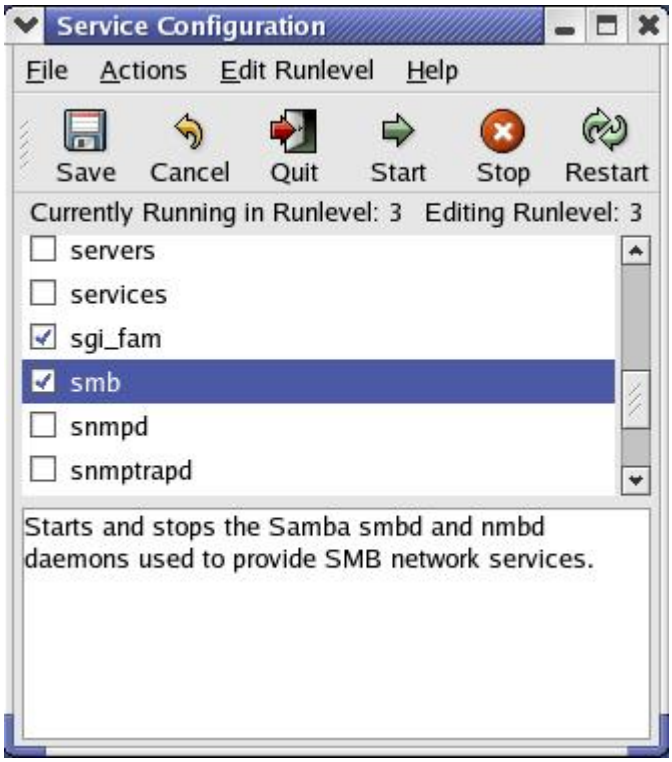
```
cd /etc/samba
cp smb.conf  smb.conf.original
```

Then edit the `/etc/samba/smb.conf` file to be like this:

```
=>cat smb.conf
[global]
  netbios name = RH80
  workgroup = GLYNN
  log level = 2
  log file = /etc/samba/samba.log
  security = share

[data]
  path = /home/data
  browseable = yes
  guest ok = yes
  read only = no

[earl]
  path = /home/earl
  browseable = yes
  guest ok = yes
  read only = no
```

At this point the Samba server needs to be stated. Select

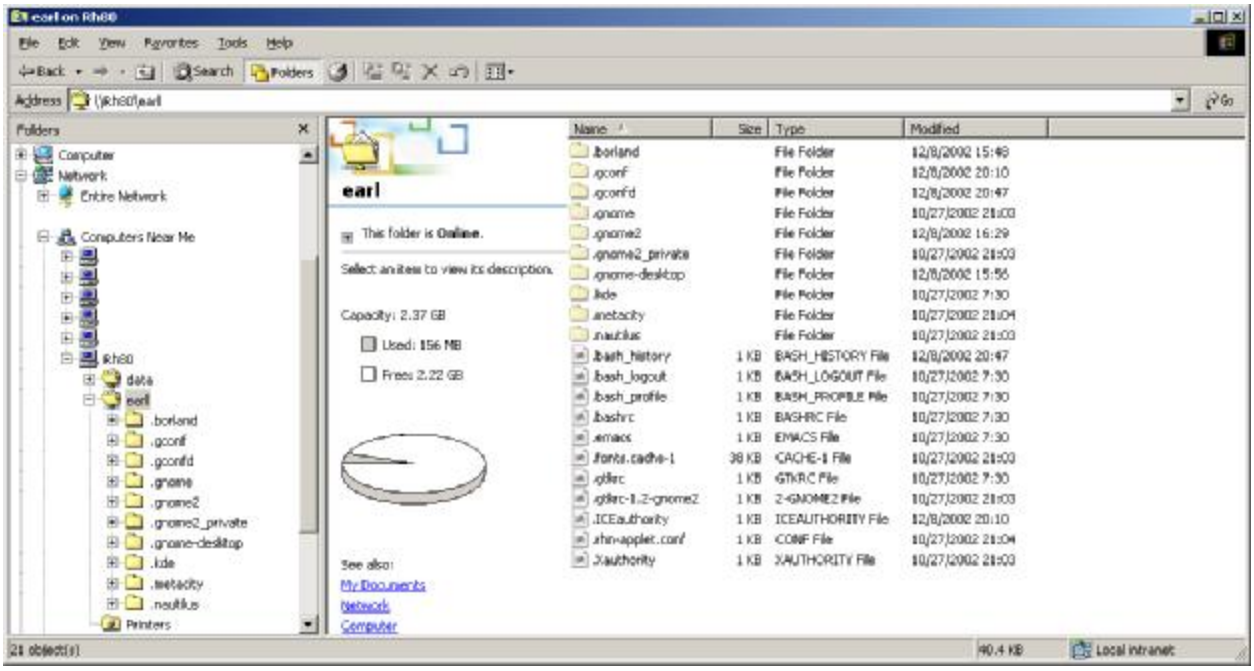
Red Hat button | Server Settings | Services



Check smb box
Save
Start

OK

On the Windows 2000 host machine using Windows Explorer, look for "Computers Near Me"



The contents of the RH8 (Red Hat 8) directories are visible from Windows. Files can be transferred between Windows and Linux quite easily using the Windows Explorer. Some useful Samba links include:

Configuring Samba
http://www.redhat.com/docs/manuals/linux/RHL-7.3-Manual/custom-guide/s1-samba-configuring.html

Samba Installation With a Windows 2000 PDC Server
http://www.data-based-systems.com/downloadables/LinuxSambaWithWindows2000.htm

The Unofficial Samba HOWTO
http://hr.uoregon.edu/davidrl/samba.html

Using Samba to Mount Windows 95
http://www.linuxgazette.com/issue19/micro.html