



## Freeware Diagnostics Floppy Disk (123)

Learn how to use a DOS based diagnostics boot floppy to do a hardware inventory of an unknown system. The freeware tool called DIAG is downloaded, placed on a floppy and then used to examine VMware VM hardware and a physical system.

Supplies:

- DIAG, the diagnostic program  
<http://www.diagnoseprogramm.de/indexe.htm>
- Any Linux VM  
The Fedora-8 duke VM will be used in this Howto
- VMware Server host with physical floppy drive
- VMware Server 1.05  
<http://www.vmware.com/products/server/>

## Download the DIAG boot disk

The screenshot shows a Mozilla Firefox browser window displaying the website <http://www.diagnoseprogramm.de/indexe.htm>. The page content is as follows:

**DIAG, the diagnostic program**

Diag freeware/shareware | Diag boot disk | Diag bootable CD

*Freeware/shareware version of DIAG, language: englisch, documentation in german and english*

Server	Version	Size	Download count	Est. download time
<a href="http://www.diagnoseprogramm.de">www.diagnoseprogramm.de</a> (Germany)	V4.61 Freeware (2005-09-06)	800 kB		56k: 3 min ISDN: 2 min DSL: <1 min
<a href="http://www.diagnoseprogramm.de">www.diagnoseprogramm.de</a> (Germany)	V4.60 Shareware (2003-08-07)	700 kB		56k: 3 min ISDN: 2 min DSL: <1 min

**Diag boot disk**

*DIAG boot disk, based on FreeDOS. Documentation is missing*

Server	Version	Size	Download count	Est. download time
<a href="http://free.pages.at">free.pages.at</a> (Austria)	V4.61 (Beta 2) (04.02.2005)	1,0 MB		56k: 3 min ISDN: 2 min DSL: <1 min

**Diag bootable CD**

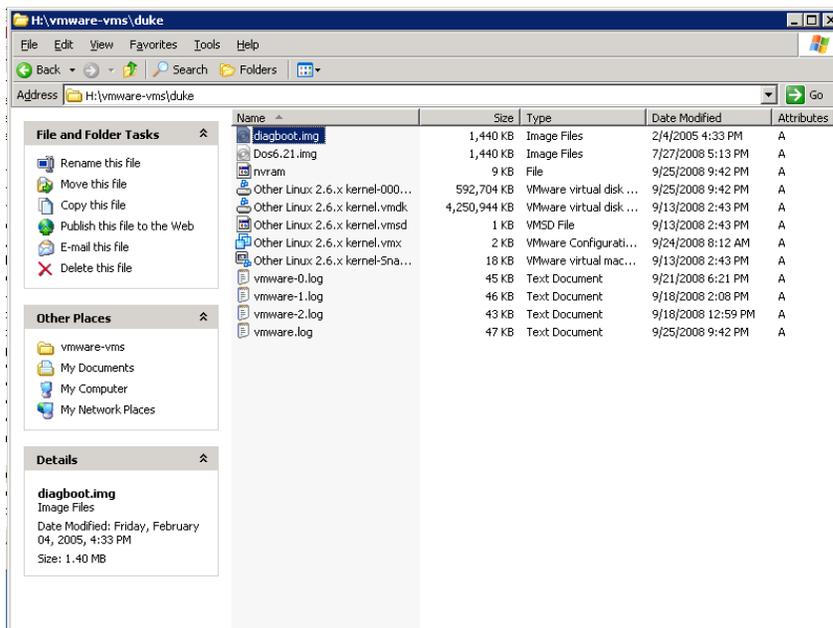
*Bootable CD containing DIAG, based on FreeDOS. Documentation is missing*

Server	Version	Size	Download count	Est. download time
<a href="http://free.pages.at">free.pages.at</a> (Austria)	V4.61 (Beta 2) (04.02.2005)	1,0 MB		56k: 3 min ISDN: 2 min DSL: <1 min

Imprint & legal references

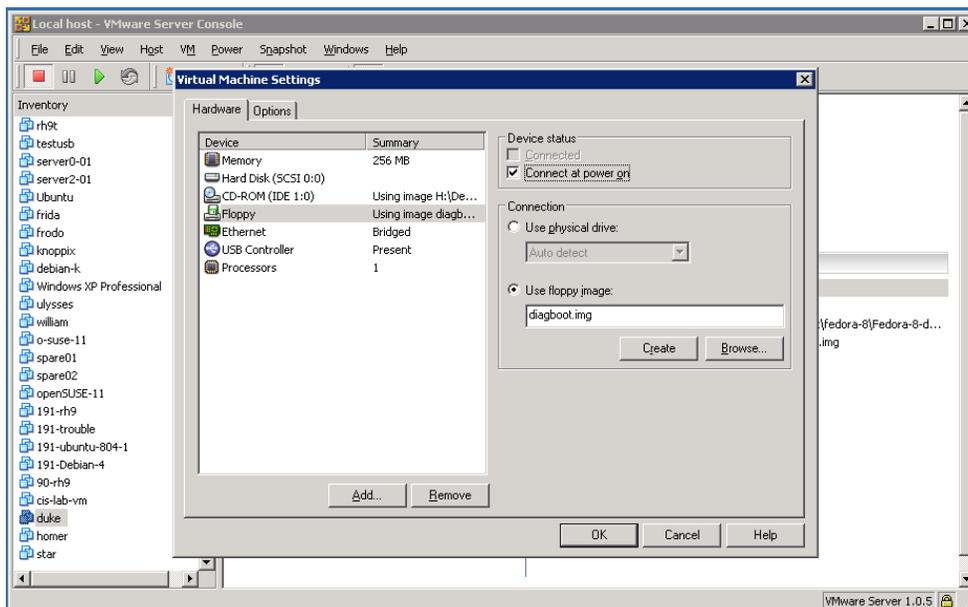
Done

- <http://www.diagnoseprogramm.de/indexe.htm>
- Download the zipped DIAG boot disk
- Extract the diagboot.ima (floppy image) file and put it in your VM's folder.
- Rename it to be diagboot.img

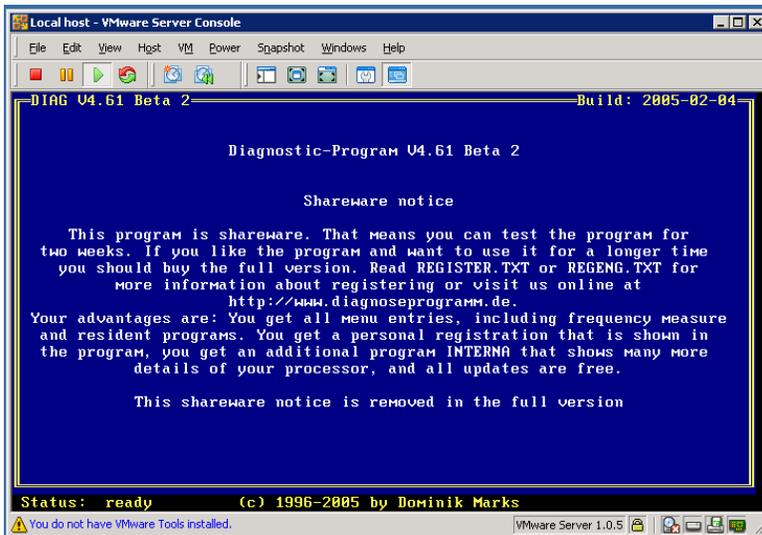


## Boot VM off downloaded floppy

- Edit the VM settings to “load” the diagboot floppy in the floppy drive by browsing to the diagboot.img file.
- Check Connect at power on so we can boot off this floppy

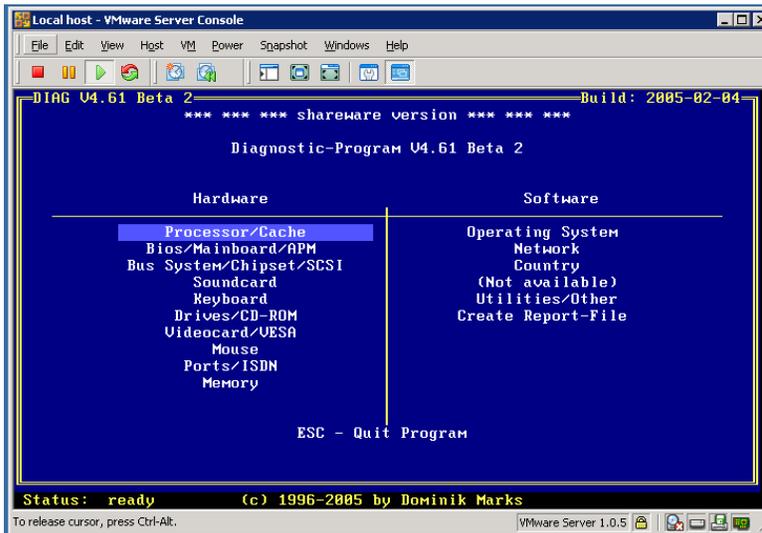


- Run the VM, which boots off the floppy, and starts the diagnostics program.

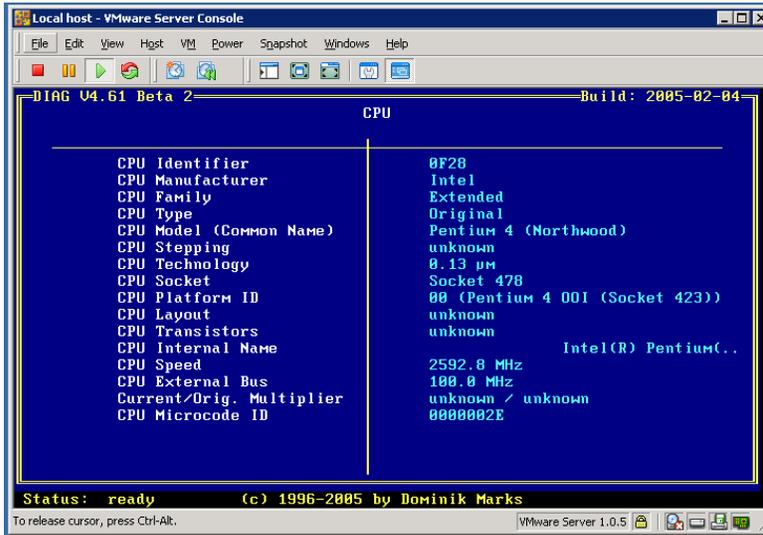


## Browse the various hardware reports

- Use the Up and Down arrows, Enter key, and Esc to navigate

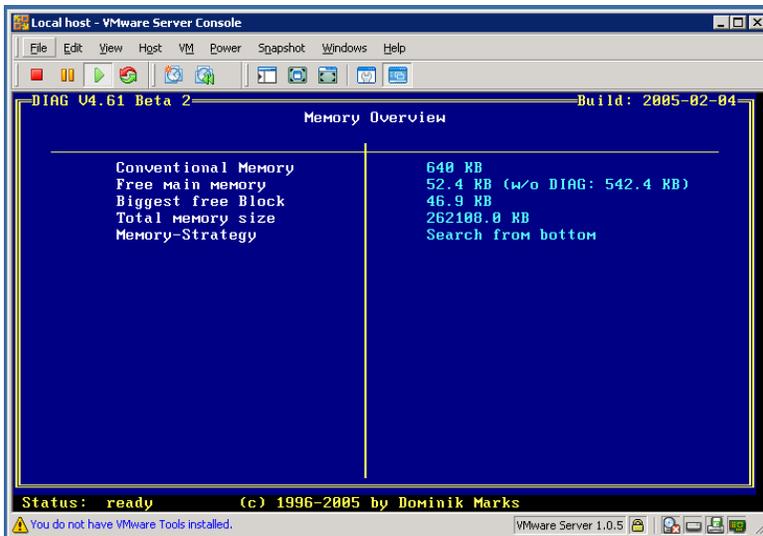


- The following is the CPU report



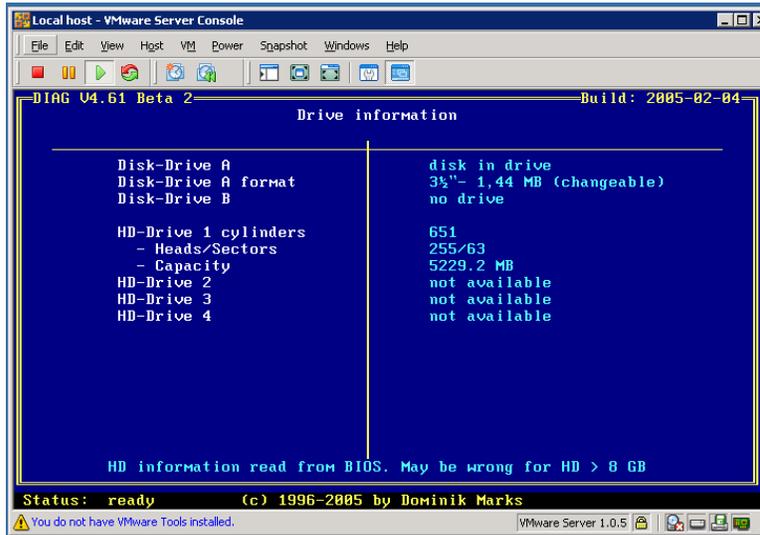
```
Local host - VMware Server Console
File Edit View Host VM Power Snapshot Windows Help
DIAG U4.61 Beta 2 Build: 2005-02-04
CPU
-----
CPU Identifier          0F20
CPU Manufacturer       Intel
CPU Family             Extended
CPU Type               Original
CPU Model (Common Name) Pentium 4 (Northwood)
CPU Stepping           unknown
CPU Technology         0.13 µm
CPU Socket             Socket 478
CPU Platform ID       00 (Pentium 4 00I (Socket 423))
CPU Layout             unknown
CPU Transistors        unknown
CPU Internal Name      Intel(R) Pentium(
CPU Speed              2592.8 MHz
CPU External Bus       100.0 MHz
Current/Orig. Multiplier unknown / unknown
CPU Microcode ID      0000002E
Status: ready (c) 1996-2005 by Dominik Marks
To release cursor, press Ctrl-Alt. VMware Server 1.0.5
```

- The following is the Memory Overview report

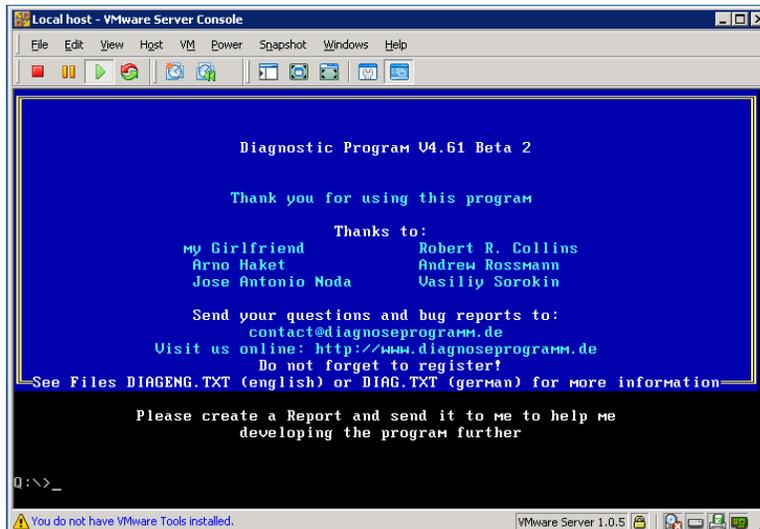


```
Local host - VMware Server Console
File Edit View Host VM Power Snapshot Windows Help
DIAG U4.61 Beta 2 Build: 2005-02-04
Memory Overview
-----
Conventional Memory    640 KB
Free main memory       52.4 KB (w/o DIAG: 542.4 KB)
Biggest free block     46.9 KB
Total memory size     262100.0 KB
Memory-Strategy        Search from bottom
Status: ready (c) 1996-2005 by Dominik Marks
You do not have VMware Tools installed. VMware Server 1.0.5
```

- The following is the Drive Overview report



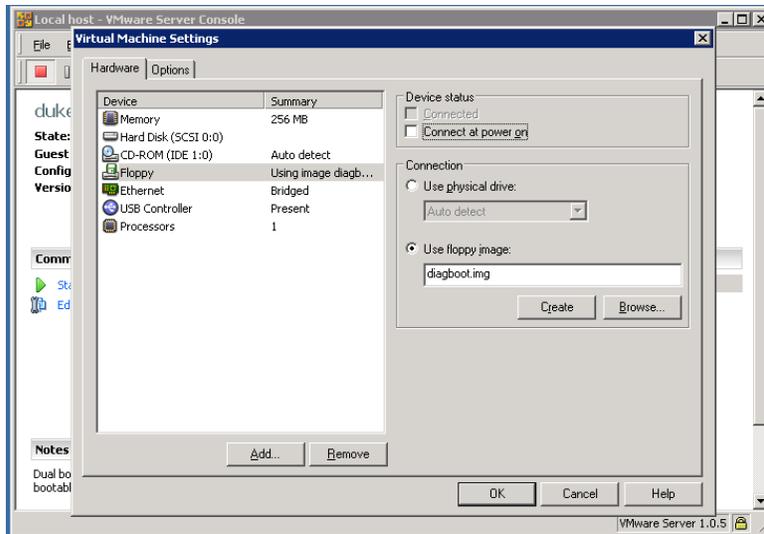
- To exit, keep hitting Esc till you see the DOS prompt



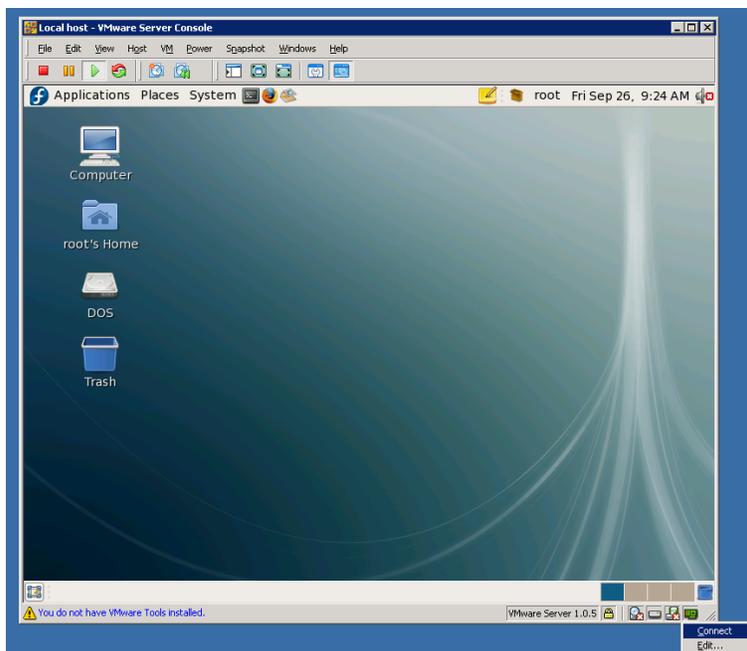
- Power off the VM.

## Make a real floppy diagnostics diskette

- Edit the VM Settings for the floppy
- Don't connect at power on (we want to boot Linux off the hard drive)

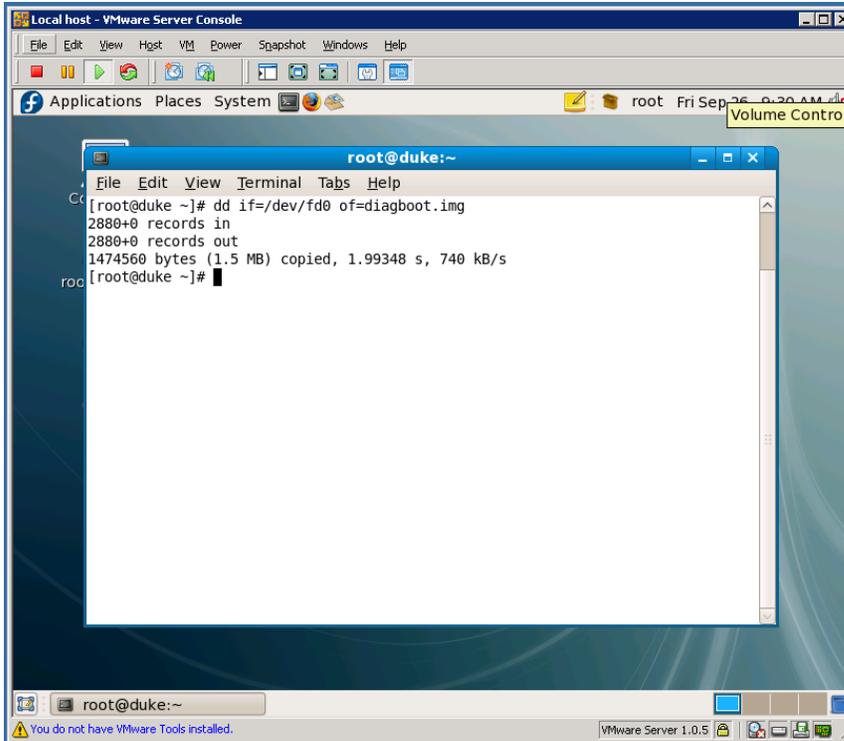


- Normal boot of Linux off the hard drive
- Connect the floppy again now that Linux has booted up. You should still be using the diagboot.img floppy image file.

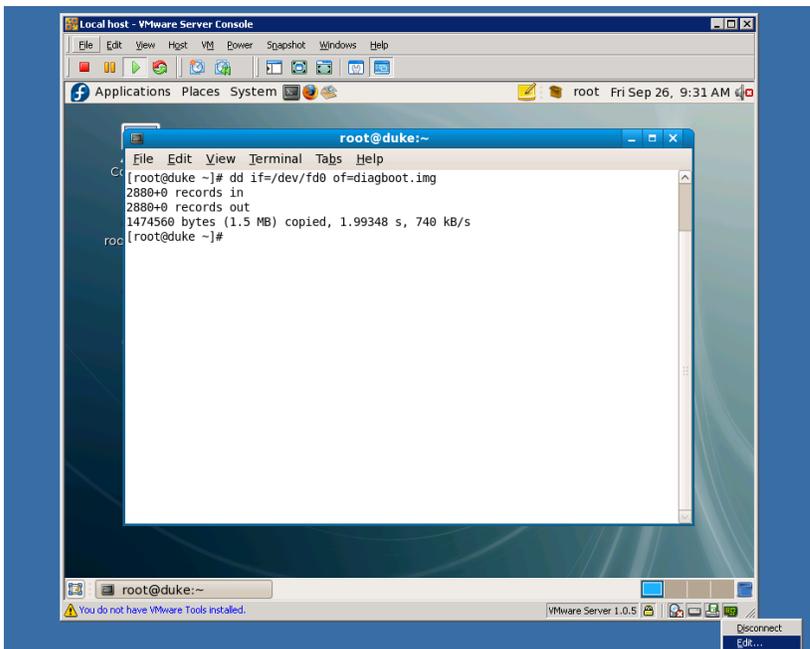


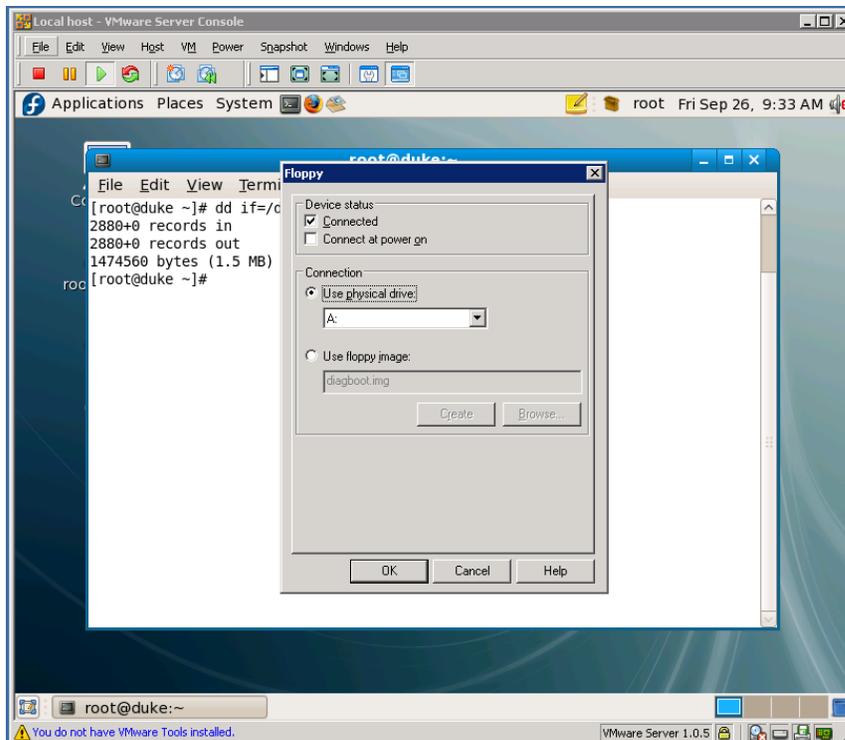
- Backup the floppy to a file on your home directory with:

```
dd if=/dev/fd0 of=diagboot.img
```



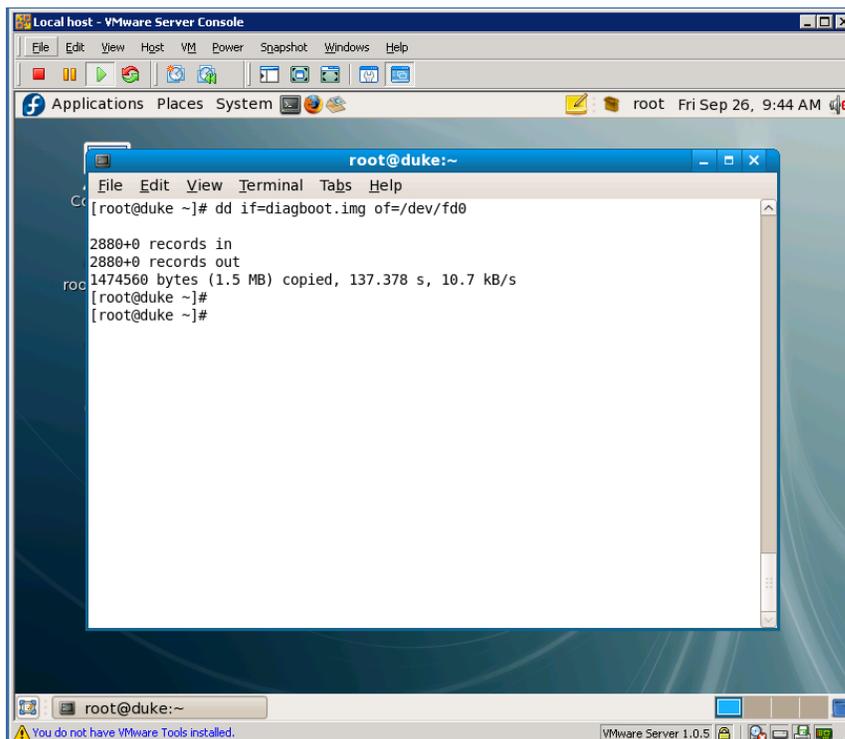
- Change the floppy to connect to the physical drive





- Insert a real floppy diskette into the real floppy drive
- Copy the DIAG floppy image to the floppy diskette using:

dd if=diagboot.img of=/dev/fd0



## Make a real floppy diagnostics diskette

- Now test your new DIAG boot floppy diskette on a real computer. Be sure the BIOS boot order is configured to boot off a floppy.

