

Re: Boot process of i386

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pal.hulden@tjohoo.se (P?l Huld?n) wrote:

>I have trouble to convince Fujitsu-Siemens helpdesk that I have a
>hardware problem. Unfortunately due to installing Suse 9.1 dual
>booting with Win XP my MBR was messed up.

>

>When trying restore MBR using XP repair tool it was evident that my
>DVD-player didn't boot properly and wouldn't start the XP
>installation. Hardware error in my opinion. Suse installation CD
>complained of read errors on the DVD, so did Gentoo 2004.1.

>

>I called helpdesk. They tell me that since I installed Linux on my
>computer this may either have damaged hardware (rediculus) or that the
>messed up MBR prohibits CD boot (what can I say).

Nobody pays enough to have folks who really understand much
answering phones at a helpdesk, so **never** expect to get help
that requires significant understanding beyond reading from a
script...

>They insist on sending me floppies or even CDs (remember DVD don't
>work properly) that wipe out the entire hard disk. I refuse to do that
>since I know that it would hardly solve the problem, it would only
>delete my already configured OS:es. I just want to repair MBR.

You've got the right idea.

>It is obvious that the support guys know less than I do about the boot
>process. However I'm no guru, I sort of understand the process:

>

>* BIOS does basic booting
>* BIOS tries to load boot code from peripherals in BIOS setting order
>1) USB-connected device (this is a laptop so the floppy is USB
>connected) 2) DVD 3) Harddisk 4) Network boot

Close enough.

>Just to make sure that I am 100% correct: is there any chance in the
>world that the harddisk is involved in the boot process when booting

*>from the CD. Or more generally: processor never involves anything from
>peripherals later on in the boot chain.*

That should be true.

*>Moreover: anyone know if there is any chance that OS installations
>affect BIOS settings? The support guy told me the actually Windows XP
>SP2 does this. Sounds incredible in my ears. But OK, it's technically
>possible to write to BIOS flash (however BIOSes are motherboard
>dependent aren't they), but would even Microsoft be so stupid that
>they implemented a patch like that?*

Nothing from Redmond would amaze me, but I doubt they are able to pull that one off simply because there are too many different possibilities.

*>Please give me confirmation that my knowledge and assumptions are
>correct, I'm starting to get terrible frustrated regarding this matter
>now.*

Here's a method... but you'll have to fill in a few blanks because I don't know what type of resources you have available, and don't know what your personal capabilities are.

1) You don't know if it is the disk or the dvd player that is not working. Could be you've got a bad disk. Hence trying to boot with another disk (or CD) is not a bad idea, as such. You certainly do **not** want to run anything that actually wipes the hard disk clean!

A) Try booting from a borrowed CD or DVD dis, or buy another one.

B) Find an old (or cheap for whatever reason) CDROM or DVD and temporarily replace your hardware to see if that really is the problem.

2) Once you do get a combination a device and a disk that

work, you need to fix the MBR on the hard disk. I don't know how to do that with XP, and have never used dual boot; hence, I'm not really aware of exactly what all you need to do. But obviously booting from a CD/floppy/DVD into a system (any Linux will do fine) that has functional tools is the big requirement. Both lilo and grub are such tools for Linux. Specifically, to use lilo you would mount your root partition (for example on the /mnt directory, and if you have a /boot partition, that would then be mounted on /mnt/boot). Then you edit /mnt/etc/lilo.conf to have the correct instructions for lilo, and of course you need all of the correct files (such as a kernel and a

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boot loader) in /mnt/boot. Then cd to /mnt, and either use the `-r` option to lilo, or just "chroot /mnt" and then run lilo. That would be

```
lilo -r /mnt
```

or

```
cd /mnt
chroot /mnt
lilo
exit
```

At that point you should be able to tell the BIOS to boot from the hard disk first, or just not have a disk in the DVD or other devices that can be booted from first, and have it boot correctly via lilo on the hard disk.

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