

Re: BIOS and basic hardware drivers

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Haines Brown wrote:

I have a situation in which a debian cd installation disk won't boot, but a Knoppix livedcd disk will boot, and so I need to understand better how the initial drivers get loaded. If I try to boot the debian cd installation disk without offering any alternative boot method in BIOS, I get a boot failure, system halted error.

It is my understanding that the CPU calls a set of programs on the ROM chip, one of which is BIOS. I gather that BIOS holds a series of device drivers that enables the system to function prior to boot. BIOS setup seems to control which drivers get loaded so that a boot can begin. Is this accurate?

In the case of my problem, there are certain drivers that will be needed for the system to access my IDE cdrom drive. How can I find out what they are and verify that the BIOS has indeed loaded them?

If the system accesses the cdrom in some cases (Knoppix), but not others (debian install disk), should I infer that the debian install disk needs a driver that the Knoppix disk does not? What could distinguish the two disks in terms of their initial requirements?

If a needed driver, such as the one to access a cdrom drive, is not being loaded, can I get it to behave?

What is the correct term to refer to the drivers built into BIOS, as distinguished from the drivers in initrd?

The CD boot is a kludge: In principle, there is a copy of a boot diskette image on the CD, and it is shown to the boot code as the first diskette (BIOS call 0x13, device 0x00).

The diskette image stays there until the booted code either sends an acknowledgement message to the BIOS or simply by-passes the BIOS drivers

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with own drivers (like those in the Linux kernel).

For details, Google for 'El Torito specification'.

I guess that the boot actually succeeds, but the installation CD boot image does not understand your drive, but Knoppix does.

HTH

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