

## Re: linux bootup

**Source:** <http://linux.derkeiler.com/Newsgroups/comp.os.linux.development.system/2004-12/0108.html>

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Uday Mullangi wrote:

- >
- > *Hi,*
- > *Could anyone answer few questions on bootup sequence of linux that i have.*
- >
- > *1.What is the typical size of a bootloader?*

There is no such thing as a typical size, it vary a lot.  
AFAIR syslinux is about 5KB. Grub is a little more than 100KB.

- > *Since the bootloader code starts*
- > *from 0x7c00 and can touch till 0x9A000,*

I'm not sure what you think about here. The boot record on a PC is loaded on 0x7c00 and is 512 bytes long. (At least as long as you are booting from floppy or harddisk).

- > *Can i assume that the max size of*
- > *the bootloader could be 0x9a000-0x7c00=0x92400[ 585kb ].*

Who knows? Because of crappy hardware design, it is nice to keep the loader within that limit. How much would you want to put in a loader? When the Linux development was started you would have been considered insane if you wanted to use 100KB for your loader. Today people really like grub in spite of that size, and personally I think it have almost every feature I could ever want in a loader.

- > *What if the*
- > *bootloader exceeds this size?*

If you want a loader larger than that, you will have to do something else. And if the loader try to use some memory that just isn't there, it will not work.

- >
- > *2.Will the bootloader use the magic number of the(0xAA55) of the kernel*

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> *header? If so, when?*

Dunno. I believe that magic number originally existed because the first sector of a kernel image was in fact a loader (a primitive one).

>

> *3. Is the BIOS setting the IVT for loading linux standardised? (I asked the*  
> *because some vector numbers are used by the bootloader BIOS calls). If so,*  
> *where can i get the details?*

The loader will need to use some of these to access disk, keyboard, serial port, and screen. (Not all loaders need all of them). But Linux itself does not need them (except from stuff like VESA and ACPI).

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