

Re: THE LINUX/I386 BOOT PROTOCOL – Breaking the 256 limit

Source: <http://linux.derkeiler.com/Mailing-Lists/Kernel/2005-08/8046.html>

From: H. Peter Anvin (hpa_at_zytor.com)

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Date: Wed, 31 Aug 2005 14:29:44 -0700
To: Alon Bar-Lev <alon.barlev@gmail.com>

Alon Bar-Lev wrote:

>
> *Hello Peter,*
>
> *I am sorry that I am contacting you directly... Please refer me to*
> *correct contact if you are not the one.*
>
> *Lately, I've found that 256 bytes long kernel parameters are not enough*
> *for my configuration.*
>
> *I've found the place where the kernel defines the length, I've actually*
> *found it in two places... I cannot understand why...*
>
> *include/asm-i386/param.h: #define COMMAND_LINE_SIZE 256*
> *include/asm-i386/setup.h: #define COMMAND_LINE_SIZE 256*
>
> *Now... I've added an entry in the kernel configuration menu so that I*
> *can define these constants using menuconfig.*
>
> *I was quite happy...*
>
> *But then I've got into a discussion with grub's development team...*
>
> *From what I've read in the Documentation/i386/boot.txt I understood*
> *that if I use boot protocol 2.02+ there should be no reason for 256 byte*
> *limitation on the string pointed by the cmd_line_ptr, so I guessed they*
> *will deliver the command-line twice once for the old protocol truncated,*
> *and once for the new protocol not truncated.*
>
> *Grub and Lilo approach is to point the cmd_line_ptr to the old*
> *protocol's command line, thus truncating it to 256.*
>
> *I'm just wondering... Can the 256 limit be broken, without modifying the*
> *boot protocol?*
>

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> *I think it can... But I need a formal answer so I can push it forward.*

>

Yes, it can. Several people on the SYSLINUX mailing list have tried this, and it works just fine. The current version of SYSLINUX has a limit of 511 characters (because of memory management reasons inside SYSLINUX) instead of 255 (plus null).

I think someone on the SYSLINUX mailing list already sent a patch to akpm to make 512 the default; making it configurable would be a better idea. Feel free to send your patch through me.

–hpa

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