

Re: OSR504 boot STOPS after "Loading kerneltext"

Source: <http://unix.derkeiler.com/Newsgroups/comp.unix.sco.misc/2003-07/0309.html>

From: Bela Lubkin (*belal_at_sco.com*)

Date: 07/16/03

Date: Wed, 16 Jul 2003 19:26:35 GMT

To: "post article to comp.unix.sco.misc" <scomsc@xenitec.ca>

Carol Saah wrote:

> *I replaced an Intel P4 D845PESV motherboard*
> *with an Intel P4 D865PERL motherboard -- as a*
> *result of lightning that ended up going through*
> *a working APC Smart-UPS 700 and knocking out the*
> *motherboard/memory.*
>
> *I had SCO OSR504 installed in that machine on an*
> *Adaptec 29160 with 2 Seagate LVDs, which were*
> *NOT affected by the hit.*
>
> */dev/boot is on hd0a and*
> */dev/root is on /dev/hd24. (Another HD off the 50-pin*
> *port on the 29160 had been installed BEFORE the 2nd*
> *LVD drive - so that's why OSR504 root is on /dev/hd24.)*
>
> *I am using the ad160 driver that is for*
> *OSR505 since there was none for OSR504 and it worked on OSR504. The system*
> *was bootable both*
> *from floppies and the hard disk with the Intel P4*
> *D845PESV motherboard before the hit.*
>
> *Solaris 9 is installed on the same hd as OSR504 root*
> *and boots just fine with the new motherboard.*
> *Microsoft Small Business Server is also on the 1st hd and*
> *it also boots just fine.*
>
> *Now, I cannot boot OSR504 from hd(40)unix nor from*
> *fd(60)unix. I have tried 2 SCO OSR504 boot/root*
> *floppies and here are the results:*
>
> *When booting with fd(60)unix, boot consistently STOPS*
> *at the 1st dot after the line:*
>

- > *Loading kernel fd(60)unix.Z .text*
- > *. [stops here]*
- >
- > *If I boot from the floppy but use the following bootstring*
- > *hd(40)unix swap=hd(161) dump=hd(161) root=hd(162),*
- > *then boot stops with 1 complete line of dots and about*
- > *half-way through the next line of dots after the following*
- > *line:*
- >
- > *Loading kernel hd(40)unix.Z .text*
- >
- > *If I boot from the hard disk, boot consistently stops after*
- > *4 complete lines of dots plus half of the 5th line.*
- >
- > *If I try to BOOT ONLY from an SCO OSR505 boot*
- > *floppy withOUT the ad160 driver and with an OSR505*
- > *kernel from a Pentium 100 PC, the boot completes to*
- > *the root filesystem diskette request. I do NOT go any*
- > *further since the controller driver is NOT ad160 on the*
- > *OSR505 system and it isn't the same OS version.*
- >
- > *If I disable cache in the bootstring, boot still stops*
- > *after the "Loading... .text" msg.*
- >
- > *When I remove the Adaptec 29160 and the 2 LVD*
- > *drives and hook to a new Dell P4 Dimension 8250,*
- > *I have no problem booting/rooting from the hard drives.*
- >
- > *The D865PERL motherboard is running with:*
- >
- > *DDR333 -> single channel dynamic paging mode*
- >
- > *Memory is 512 Mb (DDR400) single channel (setup)*
- >
- > *Two serial-ATA ports are also available on this*
- > *motherboard, but not being used.*
- >
- > *If I try to change the ATA/IDE config to legacy mode --*
- > *up to 2 IDE devices max, booting from the hd stops*
- > *sooner after the "Loading... .text" line.*
- >
- > *Under chipset configuration, the following is set on the*
- > *Intel motherboard:*
- >
- > *ISA Enable Bit - Enable*
- > *PCI Latency Timer 32*
- > *Extended config:*
- > *SDRAM Frequency Auto*
- > *CPC Override Auto*
- > *SDRAM Timing Control AUTO*
- > *SDRAM RAS Act. to Pre. 7*

- > *SDRAM CAS# LATENCY 2.5*
- > *SDRAM RAS# to CAS# delay 3*
- > *SDRAM RAS# Precharge 3*
- >
- > *On the OSR504 system, I have many patches and*
- > *rs504c: oss470a,oss485a,oss471f and*
- > *oss469d,oss496a,oss621b,oss644b,oss642a,*
- > *oss480a,oss601a,oss472a,oss475a,oss459b,oss473a,*
- > *oss481a,oss605a,oss644b*
- >
- > *If there is anything I can do to change the kernel (while*
- > *the disks are hooked to the Dell machine) or a bootstring*
- > *option to boot the SCO OSR504 on the new motherboard, please let me know.*
- >
- > *I would prefer to work on the P4 rather than the Pentium*
- > *100.*
- >
- > *I understand that I need to upgrade to OSR507 and*
- > *maybe that would solve my problem, but I need an*
- > *interim solution if possible.*

Thanks for the complete report.

The boot stage at which your system is hanging happens long before the differences between OSR504 and OSR507 (or between straight OSR504 and OSR504 + 17 patches) would make any difference. It's also before the use of a BTLD should make any real difference; and and before the location of the root filesystem would make any difference. The only thing you're accessing is the /stand (boot) filesystem, or the boot floppy.

/boot reads a hard disk boot filesystem using BIOS hard disk read functions; it reads floppy and CD-ROM filesystems using BIOS floppy disk read functions (i.e. the same function, different "drive number"). The action is very simple. BIOS is called to read a sector, then a different BIOS call is done to copy the resulting data up into high memory; repeat. If it hangs, one of those function calls must be failing in an odd manner.

>*From what you've already tried, the next thing I would want to try is do exactly the same things on a different D865PERL motherboard (with different CPU & RAM --- all components different) --- to see if it's a generic problem with OSR5 vs. that motherboard. Of course you probably only have one unit, so you can't do that. I guess my next attempt would be: try booting removing all hardware not needed to boot the floppy, then try booting one of the floppies that hangs. That is, primarily, remove the ad160 hardware. If the kernel loads then you can tell there's something going on between /boot and the ad160 BIOS or hardware. Of course the kernel won't do anything useful if it can't access the disks; this is just a probe.*

comp.unix.sco.misc: Re: OSR504 boot STOPS after "Loading kerneltext"

Regarding the detailed BIOS settings (SDRAM timing etc.) — are those default values assigned by the BIOS? Most BIOSes successfully initialize themselves to conservative values that work consistently. If those are tuned values, reset to BIOS defaults and see if things are any better — then if you need to tune, change one thing at a time until you find the culprit, and don't change that!

I haven't seen a D865PERL yet. I'm using an i875P-based motherboard (not Intel brand) without problems, and the 865 and 875 chipsets are very closely related. That doesn't prove anything about your situation, just that OSR5 isn't inherently allergic to that chipset family.

>Bela<