

Linux Kernel 2.6.13-rc7 (WORKS) (2.6.13, DRQ/System CRASH)

Source: <http://linux.derkeiler.com/Mailing-Lists/Kernel/2005-08/7991.html>

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To: linux-kernel@vger.kernel.org, akpm@osdl.org, support@promise.com

All,

I am trying to get everyone together on this to hopefully solve a serious bug that I have seen on multiple machines with:

- a) A Promise ATA/133 controller (ATA/100 works OK)
- b) Kernel 2.6.12 or 2.6.13 (2.6.13-rc7 appears to be OK)

The drive is a Seagate 7200.8 400GB 7200RPM 8MB cache disk.
hde: ST3400832A, ATA DISK drive

With older kernels, if I **DO NOT ENABLE DMA** it does not crash.
If I **ENABLE DMA** then proceed to do anything with the disk, it will FREEZE the box, no oops, etc, **FREEZE**.

```
hdparm -t /dev/hde  
mkfs.xfs -f /dev/hde1
```

Will freeze the box.

Linux Kernel 2.6.13 final experiences the same problems as 2.6.12.5.

I have e-mailed the list quite a few times with this issue, I am surprised very few people run into it.

Here is the error in the logs:

```
Aug 31 11:30:25 p34 kernel: hde: dma_timer_expiry: dma status == 0x20  
Aug 31 11:30:25 p34 kernel: hde: DMA timeout retry  
Aug 31 11:30:25 p34 kernel: PDC202XX: Primary channel reset.  
Aug 31 11:30:25 p34 kernel: hde: timeout waiting for DMA  
Aug 31 11:30:25 p34 kernel: hde: status error: status=0x58 { DriveReady  
SeekComplete DataRequest }
```

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```
Aug 31 11:30:25 p34 kernel: hde: drive not ready for command
Aug 31 11:30:25 p34 kernel: hde: status timeout: status=0xd0 { Busy }
Aug 31 11:30:25 p34 kernel: PDC202XX: Primary channel reset.
Aug 31 11:30:25 p34 kernel: hde: no DRQ after issuing MULTWRITE_EXT
Aug 31 11:30:25 p34 kernel: ide2: reset: success
```

After this, the machine locks up with 2.6.13.

With 2.6.13-rc7, I have not seen this once.

Can anyone offer any insight to why this is happening? I have a few machines with the ATA/133 controller and 400GB drives; therefore, I'd prefer to fix the problem rather than hooking up older, ATA/100 drives, just so I can run newer kernels...

Thanks.

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