
Subject: Intel ahci errors on RHEL kernel
Posted by [lazy](#) on Tue, 29 Jan 2008 10:11:58 GMT
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Hi all,

After upgrading our system to ICH9 running in ahci mode.

Kernel starts to report sata exceptions. The disc is brand new (tested for 5 days didn't show any of these) after going to production it started to report these errors:

```
ata5.00: exception Emask 0x2 SAct 0x9 SErr 0x0 action 0x2 frozen
ata5.00: (spurious completions during NCQ issue=0x0 SAct=0x9 FIS=004040a1:00000004)
ata5.00: cmd 61/08:00:17:58:48/00:00:0d:00:00/40 tag 0 cdb 0x0 data 4096 out
        res 40/00:10:87:e5:25/00:00:0d:00:00/40 Emask 0x2 (HSM violation)
ata5.00: cmd 61/08:18:ef:e7:37/00:00:0d:00:00/40 tag 3 cdb 0x0 data 4096 out
        res 40/00:10:87:e5:25/00:00:0d:00:00/40 Emask 0x2 (HSM violation)
ata5: soft resetting port
ata5: SATA link up 3.0 Gbps (SStatus 123 SControl 300)
ata5.00: configured for UDMA/133
ata5: EH complete
SCSI device sda: 488397168 512-byte hdwr sectors (250059 MB)
sda: Write Protect is off
sda: Mode Sense: 00 3a 00 00
SCSI device sda: drive cache: write back
```

```
ata5.00: exception Emask 0x2 SAct 0x8 SErr 0x0 action 0x2 frozen
ata5.00: (spurious completions during NCQ issue=0x0 SAct=0x8 FIS=004040a1:00000004)
ata5.00: cmd 61/08:18:e7:b0:fb/00:00:17:00:00/40 tag 3 cdb 0x0 data 4096 out
        res 40/00:18:e7:b0:fb/00:00:17:00:00/40 Emask 0x2 (HSM violation)
ata5: soft resetting port
ata5: SATA link up 3.0 Gbps (SStatus 123 SControl 300)
ata5.00: configured for UDMA/133
ata5: EH complete
SCSI device sda: 488397168 512-byte hdwr sectors (250059 MB)
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```

here are the dmesg logs

```
ahci 0000:00:1f.2: AHCI 0001.0200 32 slots 6 ports 3 Gbps 0x3f impl SATA mode
ahci 0000:00:1f.2: flags: 64bit ncq led clo pmp pio slum part
PCI: Setting latency timer of device 0000:00:1f.2 to 64
scsi0 : ahci
scsi1 : ahci
scsi2 : ahci
scsi3 : ahci
scsi4 : ahci
scsi5 : ahci
```

ata1: SATA max UDMA/133 cmd 0xf8a7c100 ctl 0x00000000 bmdma 0x00000000 irq 74
ata2: SATA max UDMA/133 cmd 0xf8a7c180 ctl 0x00000000 bmdma 0x00000000 irq 74
ata3: SATA max UDMA/133 cmd 0xf8a7c200 ctl 0x00000000 bmdma 0x00000000 irq 74
ata4: SATA max UDMA/133 cmd 0xf8a7c280 ctl 0x00000000 bmdma 0x00000000 irq 74
ata5: SATA max UDMA/133 cmd 0xf8a7c300 ctl 0x00000000 bmdma 0x00000000 irq 74
ata6: SATA max UDMA/133 cmd 0xf8a7c380 ctl 0x00000000 bmdma 0x00000000 irq 74
ata1: SATA link down (SStatus 0 SControl 300)
ata2: SATA link down (SStatus 0 SControl 300)
ata3: SATA link down (SStatus 0 SControl 300)
ata4: SATA link down (SStatus 0 SControl 300)
ata5: SATA link up 3.0 Gbps (SStatus 123 SControl 300)
ata5.00: ATA-7: ST3250820NS, 3.AEG, max UDMA/133
ata5.00: 488397168 sectors, multi 0: LBA48 NCQ (depth 31/32)
ata5.00: configured for UDMA/133
ata6: SATA link down (SStatus 0 SControl 300)
Vendor: ATA Model: ST3250820NS Rev: 3.AE
Type: Direct-Access ANSI SCSI revision: 05
ACPI: PCI Interrupt 0000:02:00.0[A] -> GSI 17 (level, low) -> IRQ 169
PCI: Setting latency timer of device 0000:02:00.0 to 64
scsi6 : pata_marvell
scsi7 : pata_marvell
ata7: PATA max UDMA/100 cmd 0x00011018 ctl 0x00011026 bmdma 0x00011000 irq 169
ata8: DUMMY
BAR5:00:00 01:7F 02:22 03:CA 04:00 05:00 06:00 07:00 08:00 09:00 0A:00 0B:00 0C:01 0D:00
0E:00 0F:00
SCSI device sda: 488397168 512-byte hdwr sectors (250059 MB)
sda: Write Protect is off
sda: Mode Sense: 00 3a 00 00
SCSI device sda: drive cache: write back
SCSI device sda: 488397168 512-byte hdwr sectors (250059 MB)
sda: Write Protect is off
sda: Mode Sense: 00 3a 00 00
SCSI device sda: drive cache: write back
sda: sda1 sda2 sda3
sd 4:0:0:0: Attached scsi disk sda

the kernel is 2.6.18-53.el5.028stab051.1, with pae config the motherboard is an Intel with G33 express chipset

while googling i found this thread on lkm (
<http://www.mail-archive.com/linux-ide@vger.kernel.org/msg13658.html>)
so maybe it's just ahci driver fault but I'm not so fast to testing it on a production system

I'm thinking about disabling sata2 on that disc and hopefully disabling NCQ and mitigating this problem. Anyone has come against something similar ?

Any pointers will be appreciated.
