
Subject: VIA VT6420: SATA disconnects

Posted by [vaverin](#) on Fri, 25 May 2007 07:41:53 GMT

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Jeff, Tejun,

Our RHEL5-based OpenVZ linux kernel reports about SATA-related issues:

VIA VT6420 SATA RAID Controller on MSI motherboard, x86_64 kernel based on latest RHEL5 kernel,

On booting hardware initialized properly and all works fine some time, but then it detects timeout and disables devices. We have replaced SATA cables, but issue didn't go away and still present.

I've googled and found similar bugreport in linux-ide@

<http://www.mail-archive.com/linux-ide@vger.kernel.org/msg06011.html>

Are you know something about this issue? I've seen that you have fixed SATA reset procedure recently, probably this issue was fixed already?

thank you,

Vasily Averin

OpenVZ/Virtuozzo Linux kernel Team

May 24 09:39:39 ts28 SCSI subsystem initialized

May 24 09:39:39 ts28 libata version 2.00 loaded.

May 24 09:39:39 ts28 sata_via 0000:00:0f.0: version 2.0

May 24 09:39:39 ts28 ACPI: PCI Interrupt 0000:00:0f.0[B] -> Link [ALKA] -> GSI 20 (level, low) -> IRQ 169

May 24 09:39:39 ts28 sata_via 0000:00:0f.0: routed to hard irq line 11

May 24 09:39:39 ts28 ata1: SATA max UDMA/133 cmd 0xC000 ctl 0xC402 bmdma 0xD000 irq 169

May 24 09:39:39 ts28 ata2: SATA max UDMA/133 cmd 0xC800 ctl 0xCC02 bmdma 0xD008 irq 169

May 24 09:39:39 ts28 scsi0 : sata_via

May 24 09:39:39 ts28 ata1: SATA link up 1.5 Gbps (SStatus 113 SControl 300)

May 24 09:39:40 ts28 ata1.00: ATA-7, max UDMA/133, 156301488 sectors: LBA48 NCQ (depth 0/32)

May 24 09:39:40 ts28

May 24 09:39:40 ts28 ata1.00: ata1: dev 0 multi count 16

May 24 09:39:40 ts28 ata1.00: configured for UDMA/133

May 24 09:39:40 ts28 scsi1 : sata_via

May 24 09:39:40 ts28 ata2: SATA link down 1.5 Gbps (SStatus 0 SControl 300)

May 24 09:39:40 ts28 ATA: abnormal status 0x7F on port 0xC807

May 24 09:39:40 ts28 Vendor: ATA Model: ST380811AS Rev: 3.AA

May 24 09:39:40 ts28 Type: Direct-Access ANSI SCSI revision: 05

May 24 09:39:40 ts28 SCSI device sda: 156301488 512-byte hdwr sectors (80026 MB)

May 24 09:39:40 ts28 sda: Write Protect is off

May 24 09:39:40 ts28 sda: Mode Sense: 00 3a 00 00

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May 24 09:39:40 ts28 SCSI device sda: drive cache: write back
May 24 09:39:40 ts28 SCSI device sda: 156301488 512-byte hdwr sectors (80026 MB)
May 24 09:39:40 ts28 sda: Write Protect is off
May 24 09:39:40 ts28 sda: Mode Sense: 00 3a 00 00
May 24 09:39:40 ts28
May 24 09:39:40 ts28 SCSI device sda: drive cache: write back
May 24 09:39:40 ts28 sda: sda1 sda2 sda3 sda4 < sda5 >
May 24 09:39:40 ts28 sd 0:0:0:0: Attached scsi disk sda
May 24 09:39:43 ts28 kjournald starting. Commit interval 5 seconds
May 24 09:39:43 ts28 EXT3-fs: mounted filesystem with ordered data mode.
May 24 09:53:15 ts28 ata1.00: exception Emask 0x0 SAct 0x0 SErr 0x0 action 0x2 frozen
May 24 09:53:15 ts28 ata1.00: (BMDMA stat 0x4)
May 24 09:53:15 ts28 ata1.00: tag 0 cmd 0xca Emask 0x4 stat 0x40 err 0x0 (timeout)
May 24 09:53:46 ts28 ata1.00: qc timeout (cmd 0xec)
May 24 09:53:46 ts28 ata1.00: failed to IDENTIFY (I/O error, err_mask=0x4)
May 24 09:53:46 ts28 ata1.00: revalidation failed (errno=-5)
May 24 09:53:46 ts28 ata1: failed to recover some devices, retrying in 5 secs
May 24 09:54:23 ts28 ata1.00: qc timeout (cmd 0xec)
May 24 09:54:23 ts28 ata1.00: failed to IDENTIFY (I/O error, err_mask=0x4)
May 24 09:54:23 ts28 ata1.00: revalidation failed (errno=-5)
May 24 09:54:23 ts28 ata1: failed to recover some devices, retrying in 5 secs
May 24 09:54:59 ts28 ata1.00: qc timeout (cmd 0xec)
May 24 09:54:59 ts28 ata1.00: failed to IDENTIFY (I/O error, err_mask=0x4)
May 24 09:54:59 ts28 ata1.00: revalidation failed (errno=-5)
May 24 09:54:59 ts28 ata1.00: disabled

```

```

Linux ts28 2.6.18-028stab031.1 #1 SMP Fri Apr 27 18:39:46 MSD 2007 x86_64 x86_64 x86_64
GNU/Linux

```

```

00:0f.0 RAID bus controller: VIA Technologies, Inc. VIA VT6420 SATA RAID Controller (rev 80)
Subsystem: Micro-Star International Co., Ltd. Unknown device 1300
Control: I/O+ Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr- Stepping-
SERR- FastB2B-
Status: Cap+ 66MHz- UDF- FastB2B+ ParErr- DEVSEL=medium >TAbort- <TAbort-
<MAbort- >SERR- <PERR-
Latency: 32
Interrupt: pin B routed to IRQ 169
Region 0: I/O ports at c000 [size=8]
Region 1: I/O ports at c400 [size=4]
Region 2: I/O ports at c800 [size=8]
Region 3: I/O ports at cc00 [size=4]
Region 4: I/O ports at d000 [size=16]
Region 5: I/O ports at d400 [size=256]
Capabilities: [c0] Power Management version 2
Flags: PMEClk- DSI- D1- D2- AuxCurrent=0mA PME(D0-,D1-,D2-,D3hot-,D3cold-)
Status: D0 PME-Enable- DSel=0 DScale=0 PME-
00: 06 11 49 31 07 00 90 02 80 00 04 01 00 20 80 00

```

10: 01 c0 00 00 01 c4 00 00 01 c8 00 00 01 cc 00 00
20: 01 d0 00 00 01 d4 00 00 00 00 00 00 62 14 00 13
30: 00 00 00 00 c0 00 00 00 00 00 00 0b 02 00 00
40: 33 03 f1 44 06 af 00 00 10 82 65 03 00 00 00 00
50: 00 00 00 00 00 00 04 04 00 10 10 00 05 00 20 00
60: 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
70: 00 00 00 00 00 00 00 00 01 00 01 10 10 00 00 00
80: 00 00 00 00 00 00 00 00 00 30 c6 de 00 00 00 00
90: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
a0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
b0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
c0: 01 00 02 00 00 00 00 00 00 00 00 00 00 00 00 00
d0: 80 02 49 31 62 14 00 13 00 00 00 00 00 00 00 00
e0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
f0: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

Subject: Re: VIA VT6420: SATA disconnects
Posted by [Jeff Garzik](#) on Fri, 25 May 2007 07:48:52 GMT
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Vasily Averin wrote:

> Jeff, Tejun,
>
> Our RHEL5-based OpenVZ linux kernel reports about SATA-related issues:
> VIA VT6420 SATA RAID Controller on MSI motherboard, x86_64 kernel based on latest RHEL5
kernel,
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and disables devices. We have replaced SATA cables, but issue didn't go away and still present.
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> I've googled and found similair bugreport in linux-ide@
> <http://www.mail-archive.com/linux-ide@vger.kernel.org/msg06011.html>
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> Are you know something about this issue? I've seen that you have fixed SATA reset procedure
recently, probably this issue was fixed already?

RHEL5 SATA is unfortunately way out of date :(The next RHEL5 update
should include a boatload of fixes.

Try running the latest upstream kernel (2.6.21.3 or 2.6.22-rc2-git7),
and see if the problem is reproducible.

Jeff

Subject: Re: VIA VT6420: SATA disconnects
Posted by [vaverin](#) on Fri, 25 May 2007 10:14:15 GMT

Jeff Garzik wrote:

> RHEL5 SATA is unfortunately way out of date :(The next RHEL5 update
> should include a boatload of fixes.

Is SATA update included into RHEL5 testkernels? And do you probably know if they are accessible somewhere (like in <http://people.redhat.com/~jbaron/rhel4/> for RHEL4 testkernels)?

thank you,
Vasily Averin

Subject: Re: VIA VT6420: SATA disconnects

Posted by [Jan Evert van Groothe](#) on Fri, 25 May 2007 14:36:00 GMT

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Jeff Garzik wrote:

> Vasily Averin wrote:

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>>

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> and see if the problem is reproducible.

>

Jeff,

In the meantime I've taken that disk out of use (although it is still in that same machine and connected). So I can easily run tests on it.

I'm not sure I want to build my own (somewhat recent) kernel, because that machine serves as our home server. It takes some engineering to find time where the family is gone and nobody needs it.

Also it uses xen and I don't know whether I can find the proper patches to get it to compile (I find it difficult in debian to find the patches that were used to produce a kernel). But if nobody uses it, I could do with a xen-less kernel. Hopefully bonnie or somesuch will make the problem appear.

Like Vasily I also had it connected to the VIA controller. But the problems also appeared when the disk was connected to the Promise controller on the same board. So I would, at first sight, not consider this a controller issue.

-- Jan Evert

Subject: Re: VIA VT6420: SATA disconnects
Posted by [vaverin](#) on Tue, 19 Jun 2007 11:14:04 GMT
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Jeff Garzik wrote:

> Vasily Averin wrote:

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>

> Try running the latest upstream kernel (2.6.21.3 or 2.6.22-rc2-git7),
> and see if the problem is reproducible.

I've reproduced this issue. But on this kernel EH works well and node is still alive:

Linux version 2.6.22-rc4 (vvs@vvs.work.ve) (gcc version 3.4.6 20060404 (Red Hat 3.4.6-3)) #1
SMP Fri Jun 8 14:32:01 MSD 2007

...

hda: lost interrupt

ata1.00: exception Emask 0x0 SAct 0x0 SErr 0x0 action 0x2 frozen
ata1.00: cmd ca/00:78:30:1a:24/00:00:00:00:00/e2 tag 0 cdb 0x0 data 61440 out
res 40/00:01:00:4f:c2/00:00:00:00:00/00 Emask 0x4 (timeout)
ata1: soft resetting port
ATA: abnormal status 0x7F on port 0x0000000000001c007
ATA: abnormal status 0x7F on port 0x0000000000001c007
ata1.00: qc timeout (cmd 0x27)
ata1.00: ata_hpa_resize 1: sectors = 156301488, hpa_sectors = 0
ata1.00: failed to set xfermode (err_mask=0x40)
ata1: failed to recover some devices, retrying in 5 secs
ata1: soft resetting port
ATA: abnormal status 0x7F on port 0x0000000000001c007
ATA: abnormal status 0x7F on port 0x0000000000001c007
ata1.00: qc timeout (cmd 0x27)
ata1.00: ata_hpa_resize 1: sectors = 156301488, hpa_sectors = 0
ata1.00: failed to set xfermode (err_mask=0x40)
ata1.00: limiting speed to UDMA/133:PIO3
ata1: failed to recover some devices, retrying in 5 secs
ata1: soft resetting port
ATA: abnormal status 0x7F on port 0x0000000000001c007
ATA: abnormal status 0x7F on port 0x0000000000001c007
ata1.00: qc timeout (cmd 0x27)
ata1.00: ata_hpa_resize 1: sectors = 156301488, hpa_sectors = 0
ata1.00: failed to set xfermode (err_mask=0x40)
ata1.00: disabled
ata1: EH complete
sd 0:0:0:0: [sda] Result: hostbyte=DID_BAD_TARGET driverbyte=DRIVER_OK,SUGGEST_OK

You can find some additional details in bug #8650
http://bugzilla.kernel.org/show_bug.cgi?id=8650

thank you,
Vasily Averin
