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Subject: unexpected scsi timeout  
Posted by [vaverin](#) on Fri, 20 Jul 2007 12:02:42 GMT  
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Tejun, Jeff

I've noticed that some scsi commands for DVD-drive attached to pata\_via successfully finishes without any delays but reports about TIMEOUT condition. It happens because of ATA\_ERR bit is set in status register. As result for each command Error Handler thread awakened, requests sense buffer and go to sleep again.

Could you please confirm that it is expected behavior? It's a bit strange for me, IMHO other scsi drivers requests sense buffer without EH thread.

Thank you,  
Vasily Averin

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Subject: Re: unexpected scsi timeout  
Posted by [Tejun Heo](#) on Tue, 24 Jul 2007 08:20:02 GMT  
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[cc'ing Albert]

Vasily Averin wrote:

> Tejun, Jeff  
>  
> I've noticed that some scsi commands for DVD-drive attached to pata\_via  
> successfully finishes without any delays but reports about TIMEOUT condition. It  
> happens because of ATA\_ERR bit is set in status register. As result for each  
> command Error Handler thread awakened, requests sense buffer and go to sleep again.

Need more info. Please post boot dmesg and the result of 'lspci -nn' and 'hdparm -I /dev/srX' and when such errors occur.

Thanks.

--  
tejun

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Subject: Re: unexpected scsi timeout  
Posted by [vaverin](#) on Tue, 24 Jul 2007 10:07:55 GMT  
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Tejun Heo wrote:  
> [cc'ing Albert]

```
>
> Vasily Averin wrote:
>> Tejun, Jeff
>>
>> I've noticed that some scsi commands for DVD-drive attached to pata_via
>> successfully finishes without any delays but reports about TIMEOUT condition. It
>> happens because of ATA_ERR bit is set in status register. As result for each
>> command Error Handler thread awakened, requests sense buffer and go to sleep again.
>
> Need more info. Please post boot dmesg and the result of 'lspci -nn'
> and 'hdparm -I /dev/srX' and when such errors occur.
```

It was 2.6.22 kernel with pata\_via and sata\_via drivers, scsi and cdrom debug was temporally enabled via sysctl (please see logs near Jul 24 13:42:46 timestamp)

Btw. I'm not sure that it was an error, I've looked on the sources and IMHO it's normal command processing cdrom without disk inserted into drive. I've checked 2.6.19, 2.6.20 and 2.6.22 kernels and got the same behavior.

```
# lspci -nn
00:00.0 0600: 1106:3188 (rev 01)
00:01.0 0604: 1106:b188
00:0b.0 0200: 14e4:1653 (rev 03)
00:0f.0 0104: 1106:3149 (rev 80)
00:0f.1 0101: 1106:0571 (rev 06)
00:10.0 0c03: 1106:3038 (rev 81)
00:10.1 0c03: 1106:3038 (rev 81)
00:10.2 0c03: 1106:3038 (rev 81)
00:10.4 0c03: 1106:3104 (rev 86)
00:11.0 0601: 1106:3227
00:18.0 0600: 1022:1100
00:18.1 0600: 1022:1101
00:18.2 0600: 1022:1102
00:18.3 0600: 1022:1103
00:19.0 0600: 1022:1100
00:19.1 0600: 1022:1101
00:19.2 0600: 1022:1102
00:19.3 0600: 1022:1103
```

```
# hdparm -I /dev/cdrom
```

```
/dev/cdrom:
HDIO_DRIVE_CMD(identify) failed: Input/output error
```

(Hmm, strange. please see logs near Jul 24 13:44:30 timestamp)

You can find more details about this node in  
[http://bugzilla.kernel.org/show\\_bug.cgi?id=8650](http://bugzilla.kernel.org/show_bug.cgi?id=8650)

I have full logs from kernel compiled with extra ata debug -- but it is very big. Please tell me if you want to look it too.

thank you,  
Vasily Averin

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Subject: Re: unexpected scsi timeout  
Posted by [Albert Lee](#) on Wed, 25 Jul 2007 05:50:28 GMT  
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Vasily Averin wrote:

> Tejun Heo wrote:

>

>>[cc'ing Albert]

>>

>>Vasily Averin wrote:

>>

>>>Tejun, Jeff

>>>

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>>>successfully finishes without any delays but reports about TIMEOUT condition. It  
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>>>command Error Handler thread awakened, requests sense buffer and go to sleep again.  
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>

>

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>

> Btw. I'm not sure that it was an error, I've looked on the sources and IMHO it's  
> normal command processing cdrom without disk inserted into drive. I've checked  
> 2.6.19, 2.6.20 and 2.6.22 kernels and got the same behavior.

>

Hi Vasily,

Your log looks ok. It's normal for TEST\_UNIT\_READY to return ATA\_ERR when no disc  
inside and libata EH triggered to request sense.

--

albert

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Subject: Re: unexpected scsi timeout

Posted by [vaverin](#) on Wed, 25 Jul 2007 07:36:46 GMT

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Albert Lee wrote:

>>> Vasily Averin wrote:

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>>>> successfully finishes without any delays but reports about TIMEOUT condition. It  
>>>> happens because of ATA\_ERR bit is set in status register. As result for each  
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It's a bit strange for me, IMHO other scsi drivers requests sense buffer without  
EH thread assistance.

Currently we know that ATA\_ERR can be returned; it is not error, but one of  
expected responses. Why we cannot request sense without EH? I would like to  
understand is it implementation drawback or I missed something probably?

Thank you,  
Vasily Averin

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Subject: Re: unexpected scsi timeout

Posted by [Tejun Heo](#) on Wed, 25 Jul 2007 07:42:37 GMT

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Vasily Averin wrote:

> Albert Lee wrote:

>>>> Vasily Averin wrote:

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> understand is it implementation drawback or I missed something probably?

That was a design choice. It's easier to implement that way.

--  
tejun

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Subject: Re: unexpected scsi timeout

Posted by [James Bottomley](#) on Wed, 25 Jul 2007 13:06:41 GMT

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On Wed, 2007-07-25 at 16:42 +0900, Tejun Heo wrote:

> Vasily Averin wrote:

> > Albert Lee wrote:

> >>> Vasily Averin wrote:

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> >>>> successfully finishes without any delays but reports about TIMEOUT condition. It

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> > Currently we know that ATA\_ERR can be returned; it is not error, but one of

> > expected responses. Why we cannot request sense without EH? I would like to

> > understand is it implementation drawback or I missed something probably?

>

> That was a design choice. It's easier to implement that way.

And just so we're clear what SCSI allows:

On ordinary SCSI devices, when the device goes into a check condition state, it won't accept any more commands until it sees a request sense.

For SCSI devices this can be a problem (because there are several thousand sense conditions, some of which correspond to everything's alright), so a large number of SCSI drivers implement auto request sense emulation, which means that in the driver, as soon as they see the check condition, they immediately send a REQUEST SENSE command to pick up the sense code (minimising the time the device is blocked).

For drivers that don't want to implement this (and we have a few in SCSI) the alternative mechanism is to have the eh thread collect the sense data. This is the route libata has chosen.

James

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