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Subject: Re: [Q] ide cdrom in native mode leads to irq storm?

Posted by [vaverin](#) on Tue, 24 Oct 2006 07:53:00 GMT

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Vasily Averin wrote:

> there is node with Intel 7520-based motherboard (MSI-9136), IDE cdrom (hda) and  
> SATA disc and 2.6.19-rc3 linux kernel.

>

> When I set IDE controller into the native mode, I get irq storm on the node and  
> this interrupt is disabled. If this interrupt is shared, the other subsystems  
> are stop working too.

>

> When I switch the IDE controller into legacy mode, all works correctly.

>

> I've tried to use noapic, acpi=off, pci=routeirq, irqpoll options but it does  
> not help.

When I use irqpoll option I get the following oops in create\_empty\_buffers():  
it is not expected that alloc\_page\_buffers(page, blocksize, 1) can return NULL,  
but it does it because of requested blocksize is more than PAGE\_SIZE.

Unfortunately I have not any ideas how to fix this issue correctly.

thank you,  
Vasily Averin

BUG: unable to handle kernel NULL pointer dereference at virtual address 00000000  
printing eip:

c0191790

\*pde = 37b31001

Oops: 0002 [#1]

SMP

Modules linked in: thermal processor fan button battery asus\_acpi ac lp  
parport\_pc parport floppy ehci\_hcd uhci\_hcd sg e1000 i2c\_i801 i2c\_core ide\_cd  
cdrom shpchp usbcore

CPU: 0

EIP: 0060:[<c0191790>] Not tainted VLI

EFLAGS: 00010296 (2.6.19-rc3 #1)

EIP is at create\_empty\_buffers+0x30/0xb0

eax: 00000000 ebx: c16e1360 ecx: c16e1360 edx: 00000000

esi: 00000000 edi: 00000000 ebp: f7a720ac esp: f7f3bc5c

ds: 007b es: 007b ss: 0068

Process lvm.static (pid: 2249, ti=f7f3a000 task=f7bce550 task.ti=f7f3a000)

Stack: c16e1360 00010000 00000001 00010000 00000000 f7a72150 c0192491 c16e1360  
00010000 00000000 00000011 f7f3bcb8 c01059fe 00000000 00000000 00000001  
00000440 00010000 00000003 c16e0740 f7a72150 00000004 c0103ace 00000000

Call Trace:

[<c0192491>] block\_read\_full\_page+0x251/0x3a0

```

[<c01059fe>] do_IRQ+0x6e/0xd0
[<c0103ace>] common_interrupt+0x1a/0x20
[<c0147cac>] add_to_page_cache+0x9c/0xc0
[<c014f515>] read_pages+0x45/0x100
[<c0195a10>] blkdev_get_block+0x0/0x80
[<c014d035>] __alloc_pages+0x55/0x320
[<c014f73d>] __do_page_cache_readahead+0x16d/0x180
[<c014f8b9>] blockable_page_cache_readahead+0x59/0xd0
[<c014fb3e>] page_cache_readahead+0x13e/0x1f0
[<c0148980>] do_generic_mapping_read+0x4c0/0x600
[<c0148de4>] generic_file_aio_read+0x214/0x250
[<c0148ac0>] file_read_actor+0x0/0x110
[<c016bbec>] do_sync_read+0xde/0x130
[<c0136e60>] autoremove_wake_function+0x0/0x60
[<f8846d08>] usb_hcd_irq+0x28/0x70 [usbcore]
[<c0145e48>] misrouted_irq+0xd8/0x150
[<c0146016>] note_interrupt+0x96/0xe0
[<c016bcfe>] vfs_read+0xbe/0x1a0
[<c016c101>] sys_read+0x51/0x80
[<c0103147>] syscall_call+0x7/0xb

```

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```

Code: 00 00 53 83 ec 0c 8b 5c 24 1c 89 74 24 08 8b 44 24 20 8b 7c 24 24 89 1c 24
89 44 24 04 e8 69 f4 ff ff 89 c6 89 c2 90 8d 74 26 00 <09> 3a 89 d0 8b 52 04 85
d2 75 f5 89 70 04 8b 43 10 83 c0 44 e8

```

```

EIP: [<c0191790>] create_empty_buffers+0x30/0xb0 SS:ESP 0068:f7f3bc5c
<3>irq 17: nobody cared (try booting with the "irqpoll" option)

```

```

[<c0145eea>] __report_bad_irq+0x2a/0xa0
[<c014602f>] note_interrupt+0xaf/0xe0
[<c0146888>] handle_fasteoi_irq+0xc8/0xe0
[<c01059f9>] do_IRQ+0x69/0xd0
[<c0103ace>] common_interrupt+0x1a/0x20
[<c0101082>] mwait_idle_with_hints+0x32/0x40
[<c01010a8>] mwait_idle+0x18/0x30
[<c0100ef3>] cpu_idle+0x73/0x90
[<c0552a5a>] start_kernel+0x1ca/0x220
[<c0552370>] unknown_bootoption+0x0/0x1e0

```

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handlers:

```

[<c02b30c0>] (ide_intr+0x0/0x170)
Disabling IRQ #17

```