

[PATCH] libata: skip reset on bus not a device

Source: <http://linux.derkeiler.com/Mailing-Lists/Kernel/2006-09/msg08993.html>

- *From:* "Joe Jin" <lkmaillist@xxxxxxxxxx>
 - *Date:* Sat, 30 Sep 2006 13:06:47 +0800
-

Hi,

On my pc(Dell OptiPlex GX620), while boot up it by 2.6.18, the next info always report:

```
=====
ata2: port is slow to respond, please be patient
ata2: port failed to respond (30 secs)
ata2: SRST failed (status 0xFF)
ata2: SRST failed (err_mask=0x100)
ata2: softreset failed, retrying in 5 secs
ata2: SRST failed (status 0xFF)
ata2: SRST failed (err_mask=0x100)
ata2: softreset failed, retrying in 5 secs
ata2: SRST failed (status 0xFF)
ata2: SRST failed (err_mask=0x100)
ata2: reset failed, giving up
=====
```

and follow is lspci output:

```
=====
00:00.0 Host bridge: Intel Corporation 945G/GZ/P/PL Express Memory
Controller Hub (rev 02)
Subsystem: Dell: Unknown device 01ad
Flags: bus master, fast devsel, latency 0
Capabilities: <available only to root>
00: 86 80 70 27 06 01 90 20 02 00 00 06 00 00 00 00
10: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
20: 00 00 00 00 00 00 00 00 00 00 00 00 28 10 ad 01
30: 00 00 00 00 e0 00 00 00 00 00 00 00 00 00 00 00

00:01.0 PCI bridge: Intel Corporation 945G/GZ/P/PL Express PCI Express
Root Port (rev 02) (prog-if 00 [Normal decode])
Flags: bus master, fast devsel, latency 0
Bus: primary=00, secondary=01, subordinate=01, sec-latency=0
Memory behind bridge: fe900000-fe9fffff
Capabilities: <available only to root>
00: 86 80 71 27 07 05 10 00 02 00 04 06 10 00 01 00
10: 00 00 00 00 00 00 00 00 00 00 01 01 00 f0 00 00 00
20: 90 fe 90 fe f1 ff 01 00 00 00 00 00 00 00 00 00
```

[PATCH] libata: skip reset on bus not a device

30: 00 00 00 00 88 00 00 00 00 00 00 0b 01 02 00

00:02.0 VGA compatible controller: Intel Corporation 945G/GZ Express
Integrated Graphics Controller (rev 02) (prog-if 00 [VGA])

Subsystem: Dell: Unknown device 01ad

Flags: bus master, fast devsel, latency 0, IRQ 169

Memory at feb00000 (32-bit, non-prefetchable) [size=512K]

I/O ports at e898 [size=8]

Memory at e0000000 (32-bit, prefetchable) [size=256M]

Memory at feac0000 (32-bit, non-prefetchable) [size=256K]

Capabilities: <available only to root>

00: 86 80 72 27 07 00 90 00 02 00 00 03 00 00 80 00

10: 00 00 b0 fe 99 e8 00 00 08 00 00 e0 00 00 ac fe

20: 00 00 00 00 00 00 00 00 00 00 00 28 10 ad 01

30: 00 00 00 00 90 00 00 00 00 00 00 0b 01 00 00

00:02.1 Display controller: Intel Corporation 945G/GZ Express
Integrated Graphics Controller (rev 02)

Subsystem: Dell: Unknown device 01ad

Flags: bus master, fast devsel, latency 0

Memory at feb80000 (32-bit, non-prefetchable) [size=512K]

Capabilities: <available only to root>

00: 86 80 76 27 07 00 90 00 02 00 80 03 00 00 80 00

10: 00 00 b8 fe 00 00 00 00 00 00 00 00 00 00 00

20: 00 00 00 00 00 00 00 00 00 00 00 28 10 ad 01

30: 00 00 00 00 d0 00 00 00 00 00 00 00 00 00 00

00:1c.0 PCI bridge: Intel Corporation 82801G (ICH7 Family) PCI Express
Port 1 (rev 01) (prog-if 00 [Normal decode])

Flags: bus master, fast devsel, latency 0

Bus: primary=00, secondary=02, subordinate=02, sec-latency=0

Memory behind bridge: fe800000-fe8ffff

Capabilities: <available only to root>

00: 86 80 d0 27 07 05 10 00 01 00 04 06 10 00 81 00

10: 00 00 00 00 00 00 00 00 00 02 02 00 f0 00 00 20

20: 80 fe 80 fe f1 ff 01 00 00 00 00 00 00 00 00 00

30: 00 00 00 00 40 00 00 00 00 00 00 0b 01 02 00

00:1c.1 PCI bridge: Intel Corporation 82801G (ICH7 Family) PCI Express
Port 2 (rev 01) (prog-if 00 [Normal decode])

Flags: bus master, fast devsel, latency 0

Bus: primary=00, secondary=03, subordinate=03, sec-latency=0

Memory behind bridge: fe700000-fe7ffff

Capabilities: <available only to root>

00: 86 80 d2 27 07 05 10 00 01 00 04 06 10 00 81 00

10: 00 00 00 00 00 00 00 00 00 03 03 00 f0 00 00 20

20: 70 fe 70 fe f1 ff 01 00 00 00 00 00 00 00 00 00

30: 00 00 00 00 40 00 00 00 00 00 00 0a 02 02 00

00:1d.0 USB Controller: Intel Corporation 82801G (ICH7 Family) USB
UHCI #1 (rev 01) (prog-if 00 [UHCI])

[PATCH] libata: skip reset on bus not a device

[PATCH] libata: skip reset on bus not a device

Subsystem: Dell: Unknown device 01ad
Flags: bus master, medium devsel, latency 0, IRQ 233
I/O ports at ff80 [size=32]
00: 86 80 c8 27 05 00 80 02 01 00 03 0c 00 00 80 00
10: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
20: 81 ff 00 00 00 00 00 00 00 00 00 28 10 ad 01
30: 00 00 00 00 00 00 00 00 00 00 00 09 01 00 00

00:1d.1 USB Controller: Intel Corporation 82801G (ICH7 Family) USB
UHCI #2 (rev 01) (prog-if 00 [UHCI])
Subsystem: Dell: Unknown device 01ad
Flags: bus master, medium devsel, latency 0, IRQ 50
I/O ports at ff60 [size=32]
00: 86 80 c9 27 05 00 80 02 01 00 03 0c 00 00 00 00
10: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
20: 61 ff 00 00 00 00 00 00 00 00 00 28 10 ad 01
30: 00 00 00 00 00 00 00 00 00 00 00 05 02 00 00

00:1d.2 USB Controller: Intel Corporation 82801G (ICH7 Family) USB
UHCI #3 (rev 01) (prog-if 00 [UHCI])
Subsystem: Dell: Unknown device 01ad
Flags: bus master, medium devsel, latency 0, IRQ 58
I/O ports at ff40 [size=32]
00: 86 80 ca 27 05 00 80 02 01 00 03 0c 00 00 00 00
10: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
20: 41 ff 00 00 00 00 00 00 00 00 00 28 10 ad 01
30: 00 00 00 00 00 00 00 00 00 00 00 03 03 00 00

00:1d.3 USB Controller: Intel Corporation 82801G (ICH7 Family) USB
UHCI #4 (rev 01) (prog-if 00 [UHCI])
Subsystem: Dell: Unknown device 01ad
Flags: bus master, medium devsel, latency 0, IRQ 225
I/O ports at ff20 [size=32]
00: 86 80 cb 27 05 00 80 02 01 00 03 0c 00 00 00 00
10: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
20: 21 ff 00 00 00 00 00 00 00 00 00 28 10 ad 01
30: 00 00 00 00 00 00 00 00 00 00 00 0a 04 00 00

00:1d.7 USB Controller: Intel Corporation 82801G (ICH7 Family) USB2
EHCI Controller (rev 01) (prog-if 20 [EHCI])
Subsystem: Dell: Unknown device 01ad
Flags: bus master, medium devsel, latency 0, IRQ 233
Memory at ffa80800 (32-bit, non-prefetchable) [size=1K]
Capabilities: <available only to root>
00: 86 80 cc 27 06 01 90 02 01 20 03 0c 00 00 00 00
10: 00 08 a8 ff 00 00 00 00 00 00 00 00 00 00 00
20: 00 00 00 00 00 00 00 00 00 00 00 28 10 ad 01
30: 00 00 00 00 50 00 00 00 00 00 00 09 01 00 00

00:1e.0 PCI bridge: Intel Corporation 82801 PCI Bridge (rev e1)
(prog-if 01 [Subtractive decode])

[PATCH] libata: skip reset on bus not a device

[PATCH] libata: skip reset on bus not a device

Flags: bus master, fast devsel, latency 0
Bus: primary=00, secondary=04, subordinate=04, sec-latency=32
Capabilities: <available only to root>
00: 86 80 4e 24 07 01 10 00 e1 01 04 06 00 00 81 00
10: 00 00 00 00 00 00 00 00 04 04 20 f0 00 80 22
20: f0 ff 00 00 f1 ff 01 00 00 00 00 00 00 00 00
30: 00 00 00 00 50 00 00 00 00 00 00 00 00 02 00

00:1e.2 Multimedia audio controller: Intel Corporation 82801G (ICH7 Family) AC'97 Audio Controller (rev 01)
Subsystem: Dell: Unknown device 01ad
Flags: bus master, medium devsel, latency 0, IRQ 225
I/O ports at ec00 [size=256]
I/O ports at e8c0 [size=64]
Memory at feabfa00 (32-bit, non-prefetchable) [size=512]
Memory at feabf900 (32-bit, non-prefetchable) [size=256]
Capabilities: <available only to root>
00: 86 80 de 27 07 00 90 02 01 00 01 04 00 00 00
10: 01 ec 00 00 c1 e8 00 00 00 fa ab fe 00 f9 ab fe
20: 00 00 00 00 00 00 00 00 00 00 00 00 28 10 ad 01
30: 00 00 00 00 50 00 00 00 00 00 00 00 0a 01 00 00

00:1f.0 ISA bridge: Intel Corporation 82801GB/GR (ICH7 Family) LPC Interface Bridge (rev 01)
Flags: bus master, medium devsel, latency 0
Capabilities: <available only to root>
00: 86 80 b8 27 07 01 10 02 01 00 01 06 00 00 80 00
10: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
20: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
30: 00 00 00 00 e0 00 00 00 00 00 00 00 00 00 00

00:1f.1 IDE interface: Intel Corporation 82801G (ICH7 Family) IDE Controller (rev 01) (prog-if 8a [Master SecP PriP])
Subsystem: Dell: Unknown device 01ad
Flags: bus master, medium devsel, latency 0, IRQ 169
I/O ports at <ignored>
I/O ports at <ignored>
I/O ports at <ignored>
I/O ports at <ignored>
I/O ports at ffa0 [size=16]
00: 86 80 df 27 05 00 88 02 01 8a 01 01 00 00 00
10: f1 01 00 00 f5 03 00 00 71 01 00 00 75 03 00
20: a1 ff 00 00 00 00 00 00 00 00 00 00 28 10 ad 01
30: 00 00 00 00 00 00 00 00 00 00 00 00 0b 01 00 00

00:1f.2 IDE interface: Intel Corporation 82801GB/GR/GH (ICH7 Family) Serial ATA Storage Controller IDE (rev 01) (prog-if 8f [Master SecP SecO PriP PriO])
Subsystem: Dell: Unknown device 01ad
Flags: bus master, 66Mhz, medium devsel, latency 0, IRQ 217
I/O ports at fe00 [size=8]

[PATCH] libata: skip reset on bus not a device

[PATCH] libata: skip reset on bus not a device

I/O ports at fe10 [size=4]
I/O ports at fe20 [size=8]
I/O ports at fe30 [size=4]
I/O ports at fea0 [size=16]
Capabilities: <available only to root>
00: 86 80 c0 27 07 00 b0 02 01 8f 01 01 00 00 00 00
10: 01 fe 00 00 11 fe 00 00 21 fe 00 00 31 fe 00 00
20: a1 fe 00 00 00 00 00 00 00 00 00 28 10 ad 01
30: 00 00 00 00 70 00 00 00 00 00 00 00 05 03 00 00

00:1f.3 SMBus: Intel Corporation 82801G (ICH7 Family) SMBus Controller (rev 01)
Subsystem: Dell: Unknown device 01ad
Flags: medium devsel, IRQ 177
I/O ports at e8a0 [size=32]
00: 86 80 da 27 01 01 80 02 01 00 05 0c 00 00 00 00
10: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
20: a1 e8 00 00 00 00 00 00 00 00 00 28 10 ad 01
30: 00 00 00 00 00 00 00 00 00 00 00 00 0a 02 00 00

02:00.0 Ethernet controller: Broadcom Corporation NetXtreme BCM5751
Gigabit Ethernet PCI Express (rev 01)
Subsystem: Dell Optiplex GX620
Flags: bus master, fast devsel, latency 0, IRQ 169
Memory at fe8f0000 (64-bit, non-prefetchable) [size=64K]
Capabilities: <available only to root>
00: e4 14 77 16 06 00 10 00 01 00 00 02 10 00 00 00
10: 04 00 8f fe 00 00 00 00 00 00 00 00 00 00 00 00
20: 00 00 00 00 00 00 00 00 07 00 00 00 28 10 ad 01
30: 00 00 00 00 48 00 00 00 00 00 00 00 0b 01 00 00
=====

through traced the code, and found which caused it:
at scsi_eh_[port_no] kernel thread, it should reset the bus, before reset it,
it never check it if have a device. if it should skip it?
thanks

attachment is the patch

--

Regards,
Joe Jin

--- linux-2.6.18.orig/drivers/scsi/libata-core.c 2006-09-29 16:58:38.000000000 +0800

+++ linux-2.6.18/drivers/scsi/libata-core.c 2006-09-30 12:44:32.000000000 +0800

```
@@ -2631,8 +2631,19 @@ int ata_std_prereset(struct ata_port *ap
{
struct ata_eh_context *ehc = &ap->eh_context;
const unsigned long *timing = sata_ehc_deb_timing(ehc);
+ unsigned int slave_possible = ap->flags & ATA_FLAG_SLAVE_POSS;
+ unsigned int devmask = 0;
int rc;
```

[PATCH] libata: skip reset on bus not a device

```
+ if (ata_port_offline(ap))
+ return 0;
+
+ /* determine if device 0/1 are present */
+ if (ata_devchk(ap, 0))
+ devmask |= (1 << 0);
+ if (slave_possible && ata_devchk(ap, 1))
+ devmask |= (1 << 1);
+
+ /* handle link resume & hotplug spinup */
+ if ((ehc->i.flags & ATA_EHI_RESUME_LINK) &&
+ (ap->flags & ATA_FLAG_HRST_TO_RESUME))
+ @ -2660,7 +2671,8 @@ int ata_std_prereset(struct ata_port *ap
+ /* Wait for !BSY if the controller can wait for the first D2H
+ * Reg FIS and we don't know that no device is attached.
+ */
+ - if (!(ap->flags & ATA_FLAG_SKIP_D2H_BSY) && !ata_port_offline(ap))
+ + if (!(ap->flags & ATA_FLAG_SKIP_D2H_BSY) &&
+ + !ata_port_offline(ap) && devmask)
+ ata_busy_sleep(ap, ATA_TMOUT_BOOT_QUICK, ATA_TMOUT_BOOT);

return 0;
+ @ -2697,6 +2709,10 @@ int ata_std_softreset(struct ata_port *a
+ devmask |= (1 << 0);
+ if (slave_possible && ata_devchk(ap, 1))
+ devmask |= (1 << 1);
+
+ /* have not a invalid device been found */
+ if (!devmask)
+ return 0;

+ /* select device 0 again */
+ ap->ops->dev_select(ap, 0);
```