
Subject: Adaptec/USB IRQ conflict hangs PCI bus
Posted by [gkovacs](#) on Fri, 23 Nov 2012 17:34:11 GMT
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The problem

We have an Adaptec 6805E card in an Intel Q67 / Core i7 server running Proxmox 1.9. Whenever a USB device is plugged in or removed (in our case the data center's KVM-over-IP console), there is a kernel error and the PCI bus hangs after that (extremely slows it down). It seems the Adaptec controller and the USB controller share the same IRQ.

Problem appears on all of our kernels, and only a hard reset solves the problem. Has anyone experienced this?

Others reported similar issues (not necessarily with OpenVZ kernel):

serverfault.com/questions/165717/apparent-irq-conflict-driving-me-nuts-under-centos
forums.opensuse.org/english/get-technical-help-here/hardware/462213-irq-16-nobody-cared-try-booting-irqpoll-option-but-irqpoll-causes-boot-failure.html
(remove spaces)

There are a lot of boot options regarding ACPI and IRQs.
help.ubuntu.com/community/BootOptions

We can't really test these on a production system. Anyone know what to do?

The error

```
Nov 23 09:16:31 proxmox2 kernel: irq 16: nobody cared (try booting with the "irqpoll" option)
Nov 23 09:16:31 proxmox2 kernel: Pid: 17958, comm: apache2 Not tainted 2.6.32-4-pve #1
Nov 23 09:16:31 proxmox2 kernel: Call Trace:
Nov 23 09:16:31 proxmox2 kernel: [<ffffffff81097bfd>] ? __report_bad_irq+0x30/0x7d
Nov 23 09:16:31 proxmox2 kernel: [<ffffffff81097d4f>] ? note_interrupt+0x105/0x16e
Nov 23 09:16:31 proxmox2 kernel: [<ffffffff810983b4>] ? handle_fasteoi_irq+0x93/0xb5
Nov 23 09:16:31 proxmox2 kernel: [<ffffffff8101333f>] ? handle_irq+0x17/0x1d
Nov 23 09:16:31 proxmox2 kernel: [<ffffffff81012999>] ? do_IRQ+0x57/0xb6
Nov 23 09:16:31 proxmox2 kernel: [<ffffffff81011593>] ? ret_from_intr+0x0/0x11
Nov 23 09:16:31 proxmox2 kernel: <EOI>
Nov 23 09:16:31 proxmox2 kernel: handlers:
Nov 23 09:16:31 proxmox2 kernel: [<ffffffffffa00c63a8>] (aac_src_intr_message+0x0/0x108 [aacraid])
Nov 23 09:16:31 proxmox2 kernel: [<ffffffffffa0024848>] (usb_hcd_irq+0x0/0x7e [usbcore])
Nov 23 09:16:31 proxmox2 kernel: Disabling IRQ #16
Nov 23 09:16:37 proxmox2 kernel: usb 1-1.6: USB disconnect, address 3
```

The system

```
proxmox2:~# pveversion -v
pve-manager: 1.9-26 (pve-manager/1.9/6567)
running kernel: 2.6.32-4-pve
proxmox-ve-2.6.32: 1.9-55+ovzfix-2
```

pve-kernel-2.6.32-4-pve: 2.6.32-33
pve-kernel-2.6.32-6-pve: 2.6.32-55+ovzfix-1
pve-kernel-2.6.32-7-pve: 2.6.32-55+ovzfix-2
qemu-server: 1.1-32
pve-firmware: 1.0-15
libpve-storage-perl: 1.0-19
vncterm: 0.9-2
vzctl: 3.0.29-3pve1
vzdump: 1.2-16
vzprocps: 2.0.11-2
vzquota: 3.0.11-1
pve-qemu-kvm: 0.15.0-2
kvm-control-daemon: 1.0-6

PCI device list:

proxmox2:~# lspci

00:00.0 Host bridge: Intel Corporation 2nd Generation Core Processor Family DRAM Controller (rev 09)
00:01.0 PCI bridge: Intel Corporation 2nd Generation Core Processor Family PCI Express Root Port (rev 09)
00:02.0 VGA compatible controller: Intel Corporation 2nd Generation Core Processor Family Integrated Graphics Controller (rev 09)
00:16.0 Communication controller: Intel Corporation 6 Series Chipset Family MEI Controller #1 (rev 04)
00:16.2 IDE interface: Intel Corporation 6 Series Chipset Family IDE-r Controller (rev 04)
00:16.3 Serial controller: Intel Corporation 6 Series Chipset Family KT Controller (rev 04)
00:19.0 Ethernet controller: Intel Corporation 82579LM Gigabit Network Connection (rev 04)
00:1a.0 USB Controller: Intel Corporation 6 Series Chipset Family USB Enhanced Host Controller #2 (rev 04)
00:1c.0 PCI bridge: Intel Corporation 6 Series Chipset Family PCI Express Root Port 1 (rev b4)
00:1c.4 PCI bridge: Intel Corporation 6 Series Chipset Family PCI Express Root Port 5 (rev b4)
00:1d.0 USB Controller: Intel Corporation 6 Series Chipset Family USB Enhanced Host Controller #1 (rev 04)
00:1e.0 PCI bridge: Intel Corporation 82801 PCI Bridge (rev a4)
00:1f.0 ISA bridge: Intel Corporation 6 Series Chipset Family LPC Controller (rev 04)
00:1f.2 SATA controller: Intel Corporation 6 Series Chipset Family 6 port SATA AHCI Controller (rev 04)
00:1f.3 SMBus: Intel Corporation 6 Series Chipset Family SMBus Controller (rev 04)
02:00.0 RAID bus controller: Adaptec Device 028b (rev 01)
03:00.0 Ethernet controller: Realtek Semiconductor Co., Ltd. RTL8111/8168B PCI Express Gigabit Ethernet controller (rev 01)

The two conflicting devices from lspci -vv:

00:1a.0 USB Controller: Intel Corporation 6 Series Chipset Family USB Enhanced Host Controller #2 (rev 04) (prog-if 20 [EHCI])
 Subsystem: Intel Corporation Device 200a
 Control: I/O- Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr- Stepping-

SERR- FastB2B- DisINTx-

Status: Cap+ 66MHz- UDF- FastB2B+ ParErr- DEVSEL=medium >TAbort- <TAbort-
<MAbort- >SERR- <PERR- INTx-

Latency: 0

Interrupt: pin A routed to IRQ 16

Region 0: Memory at fbe23000 (32-bit, non-prefetchable) [size=1K]

Capabilities: [50] Power Management version 2

Flags: PMEClk- DSI- D1- D2- AuxCurrent=375mA PME(D0+,D1-,D2-,D3hot+,D3cold+)

Status: D0 PME-Enable- DSel=0 DScale=0 PME-

Capabilities: [58] Debug port: BAR=1 offset=00a0

Capabilities: [98] PCIe advanced features <?>

Kernel driver in use: ehci_hcd

Kernel modules: ehci-hcd

02:00.0 RAID bus controller: Adaptec Device 028b (rev 01)

Subsystem: Adaptec Device 0201

Control: I/O+ Mem+ BusMaster+ SpecCycle- MemWINV- VGASnoop- ParErr- Stepping-
SERR- FastB2B- DisINTx-

Status: Cap+ 66MHz- UDF- FastB2B- ParErr- DEVSEL=fast >TAbort- <TAbort- <MAbort-
>SERR- <PERR- INTx-

Latency: 0, Cache Line Size: 64 bytes

Interrupt: pin A routed to IRQ 16

Region 0: Memory at fb800000 (64-bit, non-prefetchable) [size=4M]

Region 2: Memory at fbc41000 (64-bit, non-prefetchable) [size=2K]

Region 4: Memory at fbc40000 (32-bit, non-prefetchable) [size=256]

Expansion ROM at fbc00000 [disabled] [size=256K]

Capabilities: [40] Power Management version 3

Flags: PMEClk- DSI- D1+ D2- AuxCurrent=375mA PME(D0+,D1-,D2-,D3hot-,D3cold-)

Status: D0 PME-Enable- DSel=0 DScale=0 PME-

Capabilities: [50] Message Signalled Interrupts: Mask- 64bit+ Queue=0/0 Enable-

Address: 0000000000000000 Data: 0000

Capabilities: [70] Express (v2) Endpoint, MSI 00

DevCap: MaxPayload 256 bytes, PhantFunc 0, Latency L0s <1us, L1 <8us

ExtTag- AttnBtn- AttnInd- PwrInd- RBE+ FLReset-

DevCtl: Report errors: Correctable- Non-Fatal- Fatal- Unsupported-

RlxdOrd- ExtTag- PhantFunc- AuxPwr- NoSnoop+

MaxPayload 128 bytes, MaxReadReq 128 bytes

DevSta: CorrErr+ UncorrErr- FatalErr- UnsuppReq+ AuxPwr- TransPend-

LnkCap: Port #0, Speed 5GT/s, Width x8, ASPM L0s L1, Latency L0 <512ns, L1 <64us

ClockPM- Surprise- LLActRep- BwNot-

LnkCtl: ASPM Disabled; RCB 64 bytes Disabled- Retrain- CommClk+

ExtSynch- ClockPM- AutWidDis- BWInt- AutBWInt-

LnkSta: Speed 5GT/s, Width x4, TrErr- Train- SlotClk+ DLActive- BWMgmt- ABWMgmt-

Capabilities: [ac] MSI-X: Enable- Mask- TabSize=16

Vector table: BAR=0 offset=001c2000

PBA: BAR=0 offset=001c4000

Capabilities: [100] Advanced Error Reporting <?>

Kernel driver in use: aacraid

Kernel modules: aacraid

Active interrupt list

proxmox2:~# cat /proc/interrupts

	CPU0	CPU1	CPU2	CPU3	CPU4	CPU5	CPU6	CPU7	
0:	99	0	0	0	0	0	0	0	IR-IO-APIC-edge timer
1:	2	0	0	0	0	0	0	0	IR-IO-APIC-edge i8042
8:	1	0	0	0	0	0	0	0	IR-IO-APIC-edge rtc0
9:	0	0	0	0	0	0	0	0	IR-IO-APIC-fasteoi acpi
12:	4	0	0	0	0	0	0	0	IR-IO-APIC-edge i8042
16:	6782762	0	0	0	0	0	0	0	IR-IO-APIC-fasteoi aacraid,
ehci_hcd:usb1									
23:	88	0	0	0	0	0	0	0	IR-IO-APIC-fasteoi
ehci_hcd:usb2									
24:	0	0	0	0	0	0	0	0	DMAR_MSI-edge dmar0
25:	0	0	0	0	0	0	0	0	DMAR_MSI-edge dmar1
30:	40696839	0	0	0	0	0	0	0	IR-PCI-MSI-edge eth1
31:	0	0	0	0	0	0	0	0	IR-PCI-MSI-edge ahci
NMI:	0	0	0	0	0	0	0	0	Non-maskable interrupts
LOC:	4238841	3442513	3262886	3097275	3822337	3062084	3039864	3062109	
Local timer interrupts									
SPU:	0	0	0	0	0	0	0	0	Spurious interrupts
PMI:	0	0	0	0	0	0	0	0	Performance monitoring
interrupts									
PND:	0	0	0	0	0	0	0	0	Performance pending work
RES:	2091023	2526976	2132682	1876928	2226523	1816845	1427789	1141970	
Rescheduling interrupts									
CAL:	24	59	65	63	62	61	62	64	Function call interrupts
TLB:	156336	170392	138152	140369	129553	127167	102825	85377	TLB
shootdowns									
TRM:	0	0	0	0	0	0	0	0	Thermal event interrupts
THR:	0	0	0	0	0	0	0	0	Threshold APIC interrupts
MCE:	0	0	0	0	0	0	0	0	Machine check exceptions
MCP:	57	57	57	57	57	57	57	57	Machine check polls
ERR:	7								
MIS:	0								