

Re: 2.6.8-rc4-mm1 doesn't boot

Source: <http://linux.derkeiler.com/Mailing-Lists/Kernel/2004-08/3658.html>

From: Len Brown (len.brown_at_intel.com)

Date: 08/13/04

To: Bjorn Helgaas <bjorn.helgaas@hp.com>

Date: 12 Aug 2004 18:43:00 -0400

On Thu, 2004-08-12 at 17:50, Bjorn Helgaas wrote:

> *On Wednesday 11 August 2004 3:32 pm, Len Brown wrote:*
> > *I've never understood this floppy IRQ6 business.*
> > *Apparently it requests IRQ6, but doesn't show up in /proc/interrupts*
>
> *floppy_init() requests IRQ6, but then frees it before returning. It*
> *looks like the driver only holds onto it while the device is actually*
> *open, which explains why it doesn't usually show up in*
> */proc/interrupts.*

ah, the mysterious floppy.c -- explained;-)

> *Len later wrote:*
> > *I assert it is a BIOS bug for the BIOS to set LNKD to*
> > *IRQ6 if there is a floppy present and enabled; but fair*
> > *game if there is no floppy. Though perhaps floppy.c*
> > *doesn't understand that.*
>
> *Adrian has the floppies disabled in the BIOS, so maybe it's*
> *legit to use IRQ6 for the NIC PCI interrupt. But floppy.c*
> *doesn't check for anything like that as far as I can see.*
>
> *The fact that floppy.c seems to be able to poke the controller*
> *and get an interrupt back (with "pci=routeirq") suggests to me*
> *that the floppy controller responds even when disabled in the*
> *BIOS, and that it actually expects IRQ6 to be level-triggered,*
> *but the BIOS is leaving it configured as edge-triggered.*

I expect that the the bug is that floppy.c, like other motherboard devices, should take advantage of ACPI for device resource enumeration. This is one of the gaps I described at OLS, and it is embodied in this bug report:

http://bugzilla.kernel.org/show_bug.cgi?id=2733

My expectation is that if the SETUP option is changed to enable the floppy (the controller is probably burried inside an LPC super-io or south bridge, even if there is no physical

Linux-Kernel: Re: 2.6.8-rc4-mm1 doesn't boot

drive in the box) Then we should see

ACPI: PCI Interrupt Link [LNKD] (IRQs 3 4 5 *6 7 10 11 12 14 15)
turn into

ACPI: PCI Interrupt Link [LNKD] (IRQs 3 4 5 6 7 10 *11 12 14 15)

with the * moving off of 6 (11 in this example) showing that
the BIOS selected a different active IRQ for this link.

Or even

ACPI: PCI Interrupt Link [LNKD] (IRQs 3 4 5 7 10 *11 12 14 15)

Where IRQ6 is not in the possible-list, which would prevent
Linux from setting the device to that IRQ even if we wanted to.
(and again, the '*' on some other IRQ, 11 in this example)

Adrian, if you enable your not-present floppy in the BIOS,
what does Linux do?

thanks,
-Len

-

To unsubscribe from this list: send the line "unsubscribe linux-kernel" in
the body of a message to majordomo@vger.kernel.org

More majordomo info at <http://vger.kernel.org/majordomo-info.html>

Please read the FAQ at <http://www.tux.org/lkml/>