
Subject: RE: i2o hardware hangs (ASR-2010S)
Posted by [mark_salyzyn](#) on Fri, 04 Aug 2006 12:06:52 GMT
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Markus, when the commands time out, do you perform a reset iop sequence?
I thought you added the BlinkLED code detection that is in the dpt_i2o driver, if not, we should make sure it is there so that we get a report in the console and an accompanying reset. Vasily, you console log did not report anything at the time of failure, I would have expected some timeout reports.

If it will help, Vasily, contact me for the latest dpt_i2o driver as that is the driver I am most familiar with; it may be of interest to determine if the problem duplicates with the dpt_i2o driver. Keep in mind that the i2o driver is a block driver, dpt_i2o is a scsi driver.

Sincerely -- Mark Salyzyn

> -----Original Message-----
> From: linux-scsi-owner@vger.kernel.org
> [mailto:linux-scsi-owner@vger.kernel.org] On Behalf Of Vasily Averin
> Sent: Friday, August 04, 2006 7:50 AM
> To: linux-scsi@vger.kernel.org; Markus Lidel
> Cc: devel@openvz.org
> Subject: i2o hardware hangs (ASR-2010S)
>
>
> Hello Markus,
>
> We experience problems with I2O hardware on 2.6 kernels,
> probably this can help
> you or maybe you even know the answer. Can you please, take a look?
>
> After migration to 2.6 kernels our customers began to claim
> that i2o-based
> nodes hang. We have investigated these claims and discovered
> that i2o disks on
> theses nodes stopped the processing of any IO requests.
> Please, note, it is not
> a single issue, it happens from time to time.
>
> Our kernel-space watchdog module has produced the following
> output to serial console
>
> Jul 31 07:38:37
> (80,0) i2o/hda r(77135616 1632632476 15538880) w(69903626
> 1034743472 407332291)
> Jul 31 07:39:38

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> (80,0) i2o/hda r(77148190 1633252850 15543968) w(69906364
> 1034764548 407338084)
> (80,0) i2o/hda r(77157038 1633672916 15546672) w(69912375
> 1034808048 407351490)
> (80,0) i2o/hda r(77169933 1634285356 15550897) w(69916317
> 1034845588 407364374)
> (80,0) i2o/hda r(77178290 1634941276 15555039) w(69919031
> 1034865212 407369386)
> (80,0) i2o/hda r(77192170 1635427776 15559925) w(69922676
> 1034892406 407377617)
> (80,0) i2o/hda r(77216478 1635774384 15570783) w(69927294
> 1034921708 407385382)
> (80,0) i2o/hda r(77221642 1635925752 15572389) w(69927966
> 1034928376 407387163)
> (80,0) i2o/hda r(77221642 1635925752 15572389) w(69927966
> 1034928378 407387163)
> (80,0) i2o/hda r(77221642 1635925752 15572389) w(69927966
> 1034928384 407387164)
> (80,0) i2o/hda r(77221642 1635925752 15572389) w(69927966
> 1034928384 407387164)
> (80,0) i2o/hda r(77221642 1635925752 15572389) w(69927966
> 1034928384 407387164)
> (80,0) i2o/hda r(77221642 1635925752 15572389) w(69927966
> 1034928386 407387164)
> (80,0) i2o/hda r(77221642 1635925752 15572389) w(69927966
> 1034928390 407387164)
> (80,0) i2o/hda r(77221642 1635925752 15572389) w(69927966
> 1034928390 407387164)
> (80,0) i2o/hda r(77221642 1635925752 15572389) w(69927966
> 1034928390 407387164)
>
> where r(reads, read_sectors, read_merges) w(writes,
> write_sectors, write_merges)
>
> Magic keys works, according to showProcess processors are in
> idle, ShowTraces
> shows a few thousand processes in D-state, but we can not
> find any deadlocks, it
> looks like the processes waits until I/O finished.
> Unfortunately i2o layer has
> no any error handlers and there is no any chance that the
> node will return
> from this coma.
>
> Described incident has occurred after ~2 weeks uptime. It was
> Supermicro X5DP8

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> motherboard /8Gb memory /Adaptec ASR-2010S I2O Zero Channel. Kernel
> 2.6.8-022stab078.9-enterprise, sources/configs are accessible
> on openvz.org.
>
> In the bootlogs I've found mtrr message. As far as I know you
> have fixed this
> issue, however I'm not sure that it can leads to described hang.
>
> I2O Core - (C) Copyright 1999 Red Hat Software
> i2o: max_drivers=4
> i2o: Checking for PCI I2O controllers...
> ACPI: PCI interrupt 0000:06:01.0[A] -> GSI 72 (level, low) -> IRQ 72
> i2o: I2O controller found on bus 6 at 8.
> i2o: PCI I2O controller
>   BAR0 at 0xF8400000 size=1048576
>   BAR1 at 0xFB000000 size=16777216
> mtrr: type mismatch for fb000000,1000000 old: uncachable new:
> write-combining
> i2o: could not enable write combining MTRR
> iop0: Installed at IRQ 72
> iop0: Activating I2O controller...
> iop0: This may take a few minutes if there are many devices
> iop0: HRT has 1 entries of 16 bytes each.
> Adapter 00000012: TID 0000:[HPC*]:PCI 1: Bus 1 Device 22 Function 0
> iop0: Controller added
> I2O Block Storage OSM v0.9
>   (c) Copyright 1999-2001 Red Hat Software.
> block-osm: registered device at major 80
> block-osm: New device detected (TID: 211)
> Using anticipatory io scheduler
> i2o/hda: i2o/hda1 i2o/hda2 < i2o/hda5 i2o/hda6 >
>
> # cat /proc/mtrr
> reg00: base=0xf8000000 (3968MB), size= 128MB: uncachable, count=1
> reg01: base=0x00000000 ( 0MB), size=8192MB: write-back, count=1
> reg02: base=0x200000000 (8192MB), size= 128MB: write-back, count=1
> reg03: base=0xf7f80000 (3967MB), size= 512KB: uncachable, count=1
>
> I would repeat, it is not a single fault, we have received
> similar claims once
> and again. For some time we believed that it was due some
> hardware faults,
> however some doubts are cast upon it. The same nodes worked
> well long time ago
> without any troubles under 2.4-based kernels with dpt_i2o
> driver and we have not
> observed any of i2o hardware troubles so frequently.
>

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> Is it possible that our kernel (based on 2.6.8.1 mainstream)
> have some bugs in
> i2o drivers? However we're using driver sources taken from
> RHEL4U2 kernel, and I
> cannot find any similar claims from RHEL4 customers.
>
> Is it possible than we have some other related kernels bugs?
> In this case why we
> have such kind of issues only on i2o-based nodes?
>
> Could you please give me some hints which allow me to
> continue investigation of
> this issue. If you have any suggestions I'll check them next time.
>
> Thank you,
> Vasily Averin
>
> SWsoft Virtuozzo/OpenVZ Linux kernel team
>
> -
> To unsubscribe from this list: send the line "unsubscribe
> linux-scsi" in
> the body of a message to majordomo@vger.kernel.org
> More majordomo info at <http://vger.kernel.org/majordomo-info.html>
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