

FreeNAS - Bug #16028

IPMI module bug with ASRock boards

06/21/2016 12:13 PM - jared wechsler

Status: Closed: Third party to resolve	
Priority: Critical	
Assignee: Kris Moore	
Category: OS	
Target version: N/A	
Seen in: 9.10-STABLE-201606072003	Needs Merging: Yes
Severity: New	Needs Automation: No
Reason for Closing:	Support Suite Ticket: n/a
Reason for Blocked:	Hardware Configuration: CPU: E3-1231v3 MB: ASRock E3C224D4I-14S Ram: 32GB ECC UDIMM (2x Crucial CT2KIT102472BD160B) HDD: 10x 4TB WD SE WD4000F9YZ (single vdev raid-z2) Boot: 2x 16GB Innodisk SATA DOM DESM-16GD06RC1DC (mirrored) Network: Intel X710-DA2 Case: Lian-Li PC-Q26B Fans: 5x 120mm COUGAR CF-V12HPB & 1x 80mm Noctua NF-R8 PSU: SeaSonic SSR-550RM UPS: CyberPower CP1000PFCLCD
Needs QA: Yes	ChangeLog Required: No
Needs Doc: Yes	
Description The IPMI module is confirmed to cause overheating on 3 different ASRock boards. Basically what happens is some time in the late evening the fan speeds drop to the slowest speed. It doesn't matter what speed they are set to in the BIOS. I woke up several times to getting blasted with emails on drives with extremely high temps, possibly voiding my warranty. I searched the forums and found this thread https://forums.freenas.org/index.php?threads/disable-ipmi-kernel-module-in-9-3-resolved.25827/ . Unloading the IPMI module does prevent this from occurring, but it isn't exactly a fix. E3C224D2I, E3C224D4I-14S C2750D4I (MiniXL) are the 3 boards that are confirmed to be affected, but there may be other ASRock boards. Freenas Version: FreeNAS-9.10-STABLE-201606072003 Bios Version: 3.20 Firmware Revision: 0.16.0 Firmware Build Time: Dec 3 2015 21:34:14 CST	
Related issues: Related to FreeNAS - Bug #20968: Add alert for end-user to update BMC firmwar... Resolved 02/08/2017	

History

#1 - 06/21/2016 12:15 PM - Kris Moore

- Category changed from 32 to 76

- Assignee changed from Jordan Hubbard to Josh Paetzel

#2 - 06/21/2016 12:46 PM - Josh Paetzel

- Status changed from Unscreened to Screened

For it's worth I have a mini and it doesn't overheat.

#3 - 06/21/2016 06:25 PM - Sean Fagan

Right now, interestingly enough, my Mini has a CPU temperature of 96°C, while the MiniXL right next to it has a CPU temperature of 37°C.

#4 - 06/27/2016 10:19 AM - Josh Paetzel

- Status changed from Screened to Fix In Progress

Ok, the latest BMC firmware for this board resolves this. I'll be attaching instructions to this ticket soon.

#5 - 06/27/2016 04:50 PM - Josh Paetzel

- File Mini_Bios_IPMI.zip added

- Status changed from Fix In Progress to Closed: Third party to resolve

Attached is a PDF and firmware update for the C2750 board in the mini which resolves this issue. I'm guessing similar updates are available for other ASRock boards, they were pretty up front about the fact that this is a firmware bug.

#6 - 06/28/2016 07:40 AM - jared wechsler

Josh Paetzel wrote:

Attached is a PDF and firmware update for the C2750 board in the mini which resolves this issue. I'm guessing similar updates are available for other ASRock boards, they were pretty up front about the fact that this is a firmware bug.

Did they confirm it was fixed in the BMC firmware version 00.27.00? If so I will reach out to them for an update for my board specifically.

#7 - 06/28/2016 07:50 AM - Josh Paetzel

The BMC firmware version is 0.27.0, but they didn't disambiguate between BMC and BIOS updates. They made it seem like you needed both updates.

#8 - 06/28/2016 07:55 AM - jared wechsler

Josh Paetzel wrote:

The BMC firmware version is 0.27.0, but they didn't disambiguate between BMC and BIOS updates. They made it seem like you needed both updates.

They usually release together. I will reach out to my contact there. Thanks for the update on this.

#9 - 07/01/2016 08:27 AM - Grzegorz Krzystek

Josh Paetzel wrote:

Ok, the latest BMC firmware for this board resolves this. I'll be attaching instructions to this ticket soon.

I can herby confirm that combination of bios + BMC firmware does not solve problem.

ipmi from my mini become unstable after couple days of uptime (sometimes it is couple weeks, sometimes couple days)

kernel complains

```
Jun 30 08:22:52 ATUIN ipmi0: KCS: Failed to read address
Jun 30 08:22:52 ATUIN ipmi0: KCS error: 5f
Jun 30 08:22:53 ATUIN ipmi0: KCS: Failed to read command
Jun 30 08:22:53 ATUIN ipmi0: KCS error: 5f
Jun 30 08:24:33 ATUIN ipmi0: KCS: Failed to read address
Jun 30 08:24:33 ATUIN ipmi0: KCS error: 5f
Jun 30 08:24:39 ATUIN ipmi0: KCS: Failed to read address
Jun 30 08:24:39 ATUIN ipmi0: KCS error: 5f
Jun 30 08:24:45 ATUIN ipmi0: KCS: Failed to read address
Jun 30 08:24:45 ATUIN ipmi0: KCS error: 5f
Jun 30 08:24:45 ATUIN ipmi0: Failed to reset watchdog
```

over and over again

fans are at lower speed , board is overheating.

unable to telnet/ssh/www to BMC , unable to do ipmitool not responding , bmc activity led not blinking.

only full power reset solves that problem.

i have open ticket in asrockrack support but for now no response.

#10 - 07/01/2016 08:30 AM - Grzegorz Krzystek

My board is AsrockRack C2750D4I - so you will have simlar reports from all Mini and Mini XL Users.

#11 - 07/01/2016 08:47 AM - Josh Paetzel

It might be something specific to your system. That BIOS/BMC firmware has been available for months and hasn't posed a problem in general.

#12 - 08/07/2016 01:32 AM - Rosa Box

Josh Paetzel wrote:

It might be something specific to your system. That BIOS/BMC firmware has been available for months and hasn't posed a problem in general.

I'm experiencing the same problem on my Asrock C2550D4I, BIOS 2.30, BMC 00.27.00.

I have my fans set to 800 rpm to keep my HDDs cool but they randomly reset to 400 rpm and I have this in the FreeNAS log:

```
ipmi: KCS: Failed to read address
```

```
ipmi: KCS error: 5f
```

#13 - 08/16/2016 08:50 AM - Frank Riley

I also experience this problem regularly with the latest firmwares installed. I have the 2750 board. I have a cron job running once per hour that sets the fans to max speed to get around the issue.

#14 - 08/17/2016 12:51 AM - Grzegorz Krzystek

Frank Riley wrote:

I also experience this problem regularly with the latest firmwares installed. I have the 2750 board. I have a cron job running once per hour that sets the fans to max speed to get around the issue.

Workaround for that problem is:

disable Watchdog in BIOS ,ad add tunable:
watchdogd_enable , value = NO , type: rc.conf

the problem is in BMC it self, each time watchdog timer being reset by watchdogd IPMIMain process in BMC writes configuration to flash, this causes wearout of flash, when flash write fails BMC linux kernel panics and stop working.
i am running 3 months now with watchdog disabled and no more problems with asrockrack boards (i ahve 3 of them)
i reported BMC bug to AsrockRack support but i got only information that they are working on that problem.

#15 - 08/18/2016 07:39 AM - Grzegorz Krzystek

AsrockRack support confirmed that they are working on this issue

#16 - 08/21/2016 05:18 PM - Josh Paetzel

- Status changed from Closed: Third party to resolve to Investigation
- Priority changed from No priority to Critical

Do you have a ticket or anything that I can reference with asrock?

#17 - 08/21/2016 10:43 PM - Grzegorz Krzystek

Josh Paetzel wrote:

Do you have a ticket or anything that I can reference with asrock?

they don't have "normal" ticket tracking system
they support bases on mail threads
my thread is called: \$C2750D4I\$ BMC Unstable - many issues (Poland)
I can forward to you all messages from thread, i reported couple issues with BMC firmware in this thread...

#18 - 08/28/2016 09:42 AM - Kris Moore

- Target version set to 9.10.1-U1

Setting target version. I realize this depends on upstream, but just for making sure this doesn't get lost in the shuffle when 9.10.1-U1 is rolled.

#19 - 09/08/2016 10:10 AM - Kris Moore

- Due date set to 09/19/2016

#20 - 09/08/2016 01:27 PM - Vaibhav Chauhan

BRB: QA to confirm ASROCK fix is in for this problem.

#21 - 09/15/2016 01:07 PM - Vaibhav Chauhan

- Target version changed from 9.10.1-U1 to 9.10.1-U2

#22 - 09/29/2016 07:05 AM - Kris Moore

- Target version changed from 9.10.1-U2 to 9.10.1-U3

#23 - 10/22/2016 10:15 AM - Josh Paetzel

For what it's worth, I am running watchdogd on my FreeNAS Mini with the fix from ticket 16190

The fan in my mini is at 1400RPM, CPU temp and motherboard temp are both at 65C (which is a tad high, but in spec)

Drives are at 35-40C.

I'll continue to monitor.

#24 - 10/31/2016 11:28 AM - Dru Lavigne

For changelog purposes, should this be punted to .2 or to future?

#25 - 10/31/2016 12:04 PM - Kris Moore

- Target version changed from 9.10.1-U3 to 9.10.2

#26 - 11/14/2016 09:32 AM - Kris Moore

Josh - Anything else we can do with this prior to 9.10.2? Do we want to keep this ticket open just for tracking?

#27 - 11/18/2016 10:23 AM - Josh Paetzel

- Target version changed from 9.10.2 to 9.10.2-U1

#28 - 12/23/2016 05:30 AM - Kris Moore

- Target version changed from 9.10.2-U1 to 9.10.2-U2

#29 - 12/31/2016 07:24 PM - Josh Paetzel

- Status changed from Investigation to Unscreened

- Assignee changed from Josh Paetzel to Kris Moore

#30 - 01/05/2017 11:05 AM - Kris Moore

- Status changed from Unscreened to 15

Grzegorz / Jared, just asking for an update on this. Has asrock provided any more information to you since the last updates her?

#31 - 01/06/2017 12:09 AM - Grzegorz Krzystek

Kris Moore wrote:

Grzegorz / Jared, just asking for an update on this. Has asrock provided any more information to you since the last updates her?

Nope, i pinged them, reply was:

Sorry nothing yet. Seeing the forum the best solution for now is to unload the ipmi kernel in freenas. (strange thing is seems that this issue is only happening with freenas and not with other OS)

<https://forums.freenas.org/index.php?threads/disable-ipmi-kernel-module-in-9-3-resolved.25827/>

so looks like they will ignore the problem :S

#32 - 01/06/2017 06:38 AM - Marcus Paul

I can confirm the problem and the workaround (unloading the IPMI module) for the ASROCK E3C226D2I. Got the same reaction from ASROCK btw.

#33 - 01/06/2017 06:48 AM - Josh Paetzel

The CEO of Asrock was at our office this week. The feedback we received is there should be a firmware release that fixes this in a couple weeks.

#34 - 01/07/2017 02:14 AM - Grzegorz Krzystek

Marcus Paul wrote:

I can confirm the problem and the workaround (unloading the IPMI module) for the ASROCK E3C226D2I. Got the same reaction from ASROCK btw

better sollution is disable watchdogd on system... mentioned by me above.

you have all ipmi managment available from system. and no problem, silence it was watchdog triggered problem in ipmi.

Josh Paetzel wrote:

The CEO of Asrock was at our office this week. The feedback we received is there should be a firmware release that fixes this in a couple weeks.

That's actually great news. thanks for the update :D

#35 - 02/11/2017 05:54 PM - Kris Moore

- Related to Bug #20968: Add alert for end-user to update BMC firmware on FreeNAS mini added

#36 - 02/11/2017 05:56 PM - Kris Moore

- Status changed from 15 to Closed: Third party to resolve

Looks like the firmware is about to drop. Marking this as third-party and also as related to the bug for adding an alert to update.

#37 - 02/13/2017 09:25 AM - Kris Moore

- Target version changed from 9.10.2-U2 to N/A

#38 - 05/04/2017 02:11 PM - Chris Casanova

This is still an issue. I have an E3C226D4I board myself and have been having issues for almost a year. Stumbled across this post and [<https://forums.freenas.org/index.php?threads/disable-ipmi-kernel-module-in-9-3-resolved.25827/>]

Disabling the ipmi and watchdogd seems to fix it. My symptoms involved ipmi claiming the CPU temp was 300C. Yes... celsius. Ran a command within FreeNAS to get hardware temperatures, and CPU was stable around a normal temp of 30C. This would happen every couple of days, requiring me to completely pull power from the server and letting BMC reinitialize. I have not seen this reoccur since disabling IPMI and watchdogd within FreeNAS; it's been about 8 days now which I am ready to deem it "fixed" via workaround. ASRock was not much help here other than blaming me for hardware misconfiguration or bending my CPU pins. I sent this bug report and the link above to ASRock for their reference for future occurrences. FreeNAS folks: I would recommend a toggle switch for IPMI/watchdogd within the webgui with a small note to make this easier in the future. I had no clue the OS had hooked back into the IPMI by default.

#39 - 05/04/2017 03:08 PM - Grzegorz Krzystek

Chris Casanova wrote:

This is still an issue. I have an E3C226D4I board myself and have been having issues for almost a year. Stumbled across this post and [<https://forums.freenas.org/index.php?threads/disable-ipmi-kernel-module-in-9-3-resolved.25827/>]

Disabling the ipmi and watchdogd seems to fix it. My symptoms involved ipmi claiming the CPU temp was 300C. Yes... celsius. Ran a command within FreeNAS to get hardware temperatures, and CPU was stable around a normal temp of 30C. This would happen every couple of days, requiring me to completely pull power from the server and letting BMC reinitialize. I have not seen this reoccur since disabling IPMI and watchdogd within FreeNAS; it's been about 8 days now which I am ready to deem it "fixed" via workaround. ASRock was not much help here other than blaming me for hardware misconfiguration or bending my CPU pins. I sent this bug report and the link above to ASRock for their reference for future occurrences. FreeNAS folks: I would recommend a toggle switch for IPMI/watchdogd within the webgui with a small note to make this easier in the future. I had no clue the OS had hooked back into the IPMI by default.

Attack AsrockRack support for BMC firmware update. As it isn't FreeNAS/FreeBSD bug, but implementation of watchdog in IPMIMain process running in BMC destroying internal flash and become unstable.

AsrockRack C2750D4I and C2250D4I are no longer a problem as we got BMC Firmware fixed in 0.30.0 BMC Firmware version.

#40 - 12/09/2017 09:54 AM - Dru Lavigne

- File deleted (Mini_Bios_IPMI.zip)