

Re: AlphaServer 1200 powering off by itself.

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- *From:* "Chuck Whealton" <chuck_whealton@xxxxxxxxxx>
 - *Date:* 15 Aug 2006 18:23:39 -0700
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james <at> hal-pc.org wrote:

Jack Estes wrote:

dissipates. Do you ever get any messages on the OCP besides the "powerup failure"?

no. well... when it works i get "FreeBSD owns Tux" :) (i set the variable for it)

to fix this one. The obvious questions like "did you check to see if the fans work" or "is hot air coming out of the back of the machine" or "do you smell burning insulation" I'm going to assume you've already asked and answered. Did you do a "cat el" from the SRM console to see if any errors are trapped there?

yes, yes, cute, and no
that's a good idea. i didn't know if there was any data that was available via the SRM about failures and such. i'll certainly check that tonight.

find hardware faults. By any chance, do you see anything funky in /var/adm/messages or your syslog from around the times the box conks

nothing unusual.

Given the machine you have with a couple of EV6 cpus and not a ton of memory, there aren't a lot of parts you're going to have to pull and check but you mention you have seven 18GB drives in the machine. What specific make and model controller do you have the cage hooked up to?

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from dmesg:

```
isp0: <Qlogic ISP 1020/1040 PCI SCSI Adapter> port 0x1ffff00-0x1ffff  
mem 0x7def000-0x7deffff at device 0.0 on pci2  
isp0: interrupting at IRQ 0x4 (vec 0xbc0)
```

from pciconf:

```
isp0@pci2:0:0: class=0x010000 card=0x00000000 chip=0x10201077 rev=0x02  
hdr=0x00  
vendor = 'QLogic Corporation'  
device = 'QLA1020/104x Fast-Wide-SCSI "Fast!SCSI IQ" Host Adapter'  
class = mass storage  
subclass = SCSI
```

fairly "stock" AFAIK

load isn't too bad. Is this a recently configured machine or has it been running a while and you're just now having problems with it? If the former, we need to look at software too, if the latter, probably it's some hardware thing. But you knew that too.

it's had the issue since i got it. i don't know when the problem could have started (may be why they were tossing 20 machines). this OS is a direct image of my "working" system. i didn't feel like wasting time re-installing/compiling everything that I already put on my other box so i booted to single user and "dd if=/dev/da0 of=/dev/da6" then (2 days later) moved it over to the other and it booted. issues still remaining, i swapped drives and the "working" machine still works and the "non-working" still doesn't.

Next, what SRM firmware revision are you running? AND...if you've updated it yourself since you acquired the box, do you recall if ARC and any options were updated too? Was this machine EVER setup to run NT (unlikely)? I know this sounds like I'm fishing and just like to read my own Usenet posts but I'm going somewhere with this.

i'll check the version tonight. i did update it on all the machines after a few go-arounds with odd issues like this and them being so picky about ram. didn't make any difference with the issues i was hoping to resolve.

My gut tells me that you have a power supply with a faulty rectifier circuit so when power requirements for I/O and the CPUs increase, the voltage regulator overloads. Next on my list, you maybe have a firmware/driver/OS combination that's allowing misinterpretation of sensor data and triggering a hardware-initiated shutdown (we used to call that a "scram" when referring to the shiny-blinky things that

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broke regularly in the jet I flew in the Navy). OR, you have a failing

certainly possible! i've learned that it's not so easy to rule things out. in another post i mentioned plans to swap power supplies. thanks.

CPU or slot.

swapped CPUs and pulled one, with the same results

you had hwmgr, I could ask you to see if any components were being indicted but my FreeBSD is so rusty I don't know if there's an equivalent utility.

nothing i know of. there's some simple tools like pciconf that show the attached devices on the bus and tools for scsi and ata controllers, but not much in the way of system monitoring outside SMART or ACPI.

Have you tried pulling the CPUs and testing each CPU by itself by locating it in slot 0 and running the machine? The last recommendation

i haven't tried a /different/ CPU (ie. from another machine), but as mentioned earlier, neither of the 2 by itself make any difference.

I have comes from something I saw once on an ES40 that I just simply couldn't believe. Do a nice clean shutdown of the machine if it's running, disconnect the power cable(s) and pull the power supply. Blow it out with compressed something (preferably not freon or hairspray, etc) , blow out the chassis cage, then clean the contacts of both the supply and the chassis connector slot with contact cleaner spray or isopropyl alcohol, dry, and reseal the supply then powerup. It's kind of one of those "can't see the forest for the trees" solutions but after seeing our HP field service guy replace the motherboard, the PCI backplane, two CPUs, the memory daughtercard, and a couple of DIMMs before investing 30 seconds and two cents worth of air to fix the hardware, I can't dismiss the solution.

good point. i did a pretty good cleaning job when i got them, but i didn't clean the powersupply connectors with any solution. they were fairly clean when i got them, just hit it through the drives, mobo, grill, and powersupplies with an aircompressor.

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Check, clean, and reseal the Molex connectors to the fans and the power connector to the drive cage.

Molex? on the fans? they're attached to the mobo (3 wires). out of curiosity i did try to power it on one time w/o the fan connected and it certainly let me know what the problem was :). trying to see if it may be sticking or something...
tried it with only one drive in there as well, but i'll reseal the Molex connectors to the drives.

Good luck and if you get it resolved, please post your fix here or to

i'll update with my results. thanks for the very insightful, and thorough ;), response.

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-- james <at> hal-pc.org --

"To insist on strength is not war-mongering.

It is peace-mongering."

- Barry Goldwater

Jack certainly has some excellent ideas and he's more current on the Alphas than I (unfortunately) am (stuck with HP-UX nowadays). But with three of these things conking out in almost the same way, I'm having a bad time believeing they could all have bad power supplies.

What's the environment like (temperature, humidity) where you have 'em running?

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