

Re: Time to fix my PC

Source: <http://linux.derkeiler.com/Newsgroups/comp.os.linux.hardware/2006-08/msg00519.html>

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 - *Date:* 27 Aug 2006 09:41:10 -0700
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Most of the information posted only says it powers up OK and it crashes. Does not even tell us the crash codes, does it lock up or simply shutdown, reasons to even suspect memory, etc.

Solution begins by breaking the problem down into parts. The foundation of any computer (what causes everything else to appear intermittently bad) is the power supply 'system'. Notice I did not just say power supply. Procedure to confirm that 'system' takes but two minutes and has been posted previously such as in microsoft.public.windowsxp.general on 7 Jun 2006 entitled "Dead computer" or at <http://tinyurl.com/qcvuq>

Voltages on the red, orange, and yellow wires should exceed 4.87, 3.23, and 11.7. These voltage measurements should then be confirmed with multiple peripherals (CD burner, hard drive, NIC, etc) accessed simultaneously. Once a power system is confirmed, then move on to other suspects.

Intermittent memory often passes all tests at room temperature. Heat is a diagnostic tool. Running tests are room temperature all day reports little. But selectively heating memory with a hair dryer on high or within a 100 degree F room (those are quick normal and pleasant temperatures to semiconductors) while executing memory tests will often locate intermittent memory.

A visual inspection of electrolytic capacitors on motherboard will also identify a marginal condition that could otherwise only be detected using an oscilloscope.

Responsible computer manufacturers provide comprehensive hardware diagnostics for free. If not, then download and execute free diagnostics from each component manufacturer. For example, download the disk drive manufacturer's hard drive diagnostic. Other information such as the crash code or data from system (event) logs in the OS (which would be deleted if you were reloading an OS) would provide useful information.

Generally, only certain hardware can crash a properly designed

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pre-emptive multitasking OS including video controller, sound card, CPU, or memory (or part used by OS). Other peripherals (ie mouse, NIC, etc) should instead be reported as a hardware failure by the OS; not crash a system. Even less hardware should crash an OS setup.

Ignore recommendations for a UPS or other AC electric solution. It does not solve anything, may only cure a symptom, and is often recommended where basic electrical knowledge is missing.

Jim Anderson wrote:

I've had a PC for about 3 years that has never been stable.
Here is the description:

CPU: (754-pin) AMD ATHLON64 2800+ Processor [+0]
MOTHERBOARD: (754-pin Socket) GigaByte GA-K8NS Pro
nForce3 250 Chipset AGP8X w/LAN,USB2,IEEE,&Audio
VIDEO: nVidia GeForce FX 5700 256MB 8x AGP w/ TVO, & DVI
MEMORY: 1024 MB PC3200 400MHz DDR MEMORY
2ND_USB: STANDARD 2 USB PORT CONNECTORS
CAS: ALUMINUM Z-ALIEN CASE W/ WINDOW & LCD Temperature Display
450WATT
CD: 56X CD-ROM
CDRW: SONY DWD-22A DUAL FORMAT 16X DVDR/RW + CD-R/RW DRIVE DUAL
LAYER
FLASHMEDIA: INTERNAL 6in1 Flash Media Reader/Writer
FAN: AMD ATHLON64 CERTIFIED CPU FAN & HEATSINK + 3 EXTRA CASE FANS
FLOPPY: 1.44 MB FLOPPY DRIVE
HDD: IDE 40 Gigabyte
HDD2: IDE 40 Gigabyte
KEYBOARD: PS2 MULTIMEDIA INTERNET CONTROL KEYBOARD
MOUSE: PS2 INTERNET MOUSE W/ WHEEL
NETWORK: ONBOARD 10/100 NETWORK CARD
OS: NONE - FORMAT HARD DRIVE ONLY - Linux installed by user
SOUND: Creative Labs SB LIVE 24.bit 7.1
PCI card: USB 1 and IEEE1394
PCI card: ethernet

It crashed during the installation of multiple versions of Linux. I ran a CDROM version of Knoppix for about 2 years and it ran ok, but usually hung up every week or so. In the spring, I managed to get a version of Kubuntu (Debian) to install. I ran it for several months and the PC would hang up every day or two. When I tried to upgrade the release, the installation hung up about 30 times and I finally gave up.

I'd like to either fix the PC or scrap this one and move on.

I tried booting the PC to see if there are any hardware tests. I found a set of memory tests. I ran them for 72 hours and got

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no errors, so it looks like memory is probably ok.

I checked my copy of 'Upgrading and Repairing PCs' by Scott Mueller and did find any pertinent information for debugging this type of problem. It seems to me the general strategy would be:

- 1) test as much hardware with software as possible
- 2) swap out parts starting with the cheapest parts to the most expensive
- 3) give up :(

I have several questions.

First, is there any place I can get cheap or free software to test hardware on the PC?

Second, I'm planning to swap out parts in the following order to see if it helps out:

- hard disk
- CDROM drive
- video board
- mother board

I'll pull out the audio and DVD drives while testing to simplify the system. Is this a sane order for testing?

Third, what are the chances that the problem is an interface problem between systems or a power supply problem and not one of the components?

My belief is that by swapping out components, I will at least isolate the problem to one subsystem. If someone with a lot of hardware knowledge can comment on my assumption, I would appreciate the input. I would hate to buy a new mother board only to find out there is a timing problem between the subsystems.