Re: asrock, problem with nic after windows−boot − Exact Opposite issue the OP is having

Source: http://linux.derkeiler.com/Newsgroups/comp.os.linux.networking/2006−06/msg00268.html

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- *Date*: Mon, 12 Jun 2006 19:15:47 −0500

On 11 Jun 2006, in the Usenet newsgroup comp.os.linux.networking, in article <1150056368.307407.114330@xxxxxxxxxxxxxxxxxxxxxxxxxxxx>, iforone wrote:

> I like to think of myself as more of a 'hardware' guy than 'software' guy, and you seem to have quite a good understanding of hardware (especially older systems)

I was building computers long before IBM introduced the PC in 1981. One of the nice things they did was to make available full schematics of the PC − in those days, build with SSI (74 series logic), so everything was quite understandable. Before that, chip manufacturers like Fairchild, Intel, Motorola, National, Signetics, and TI were supplying "data books" which often contained example schematics of how to use this/that product. Heck, for that matter, the old black RCA Vacuum Tube manuals in the 1950s also included schematics − well before "Application Notes" were common.

> Basically, my understanding is: The AT systems had/have Full power(120v AC) running to the actual On/Off switch

Yup − just like the switch on the power strip that you used instead (so you had one switch to throw to turn on/off the computer, monitor, printer, modem, prom−zapper, and $DEITY knows what else you had hanging off the PC).

> (which caused many a zapper for some − and allows for a RESET front panel button [and "turbo" mode :−]), and the Mobo could (potentially and literally) blowup in your face, if one forgot to discharge the capacitors, and/or unplug the power

Heard some different legends before − this one is interesting. Capacitors storing energy − there are three types. The AC power at lines voltage is converted to DC (with big capacitors to smooth things out − maybe 50−200 uf at 150 − 300 Volts), which is used by a DC−DC converter (switcher)

which is typically a supersonic (10−50 KHz) power oscillator feeding a small transformer − the output rectified and filtered by "big" capacitors (200−2000 uf at 7 − 10 Volts) and fed to the motherboard as +5 V. Separate windings on the transformer provide +/− 12 and a small amount of −5 Volts with separate regulators. The +5 is regulated by controlling the power oscillator, as the current is to much for _efficient_ series regulation. The third set of capacitors are on the motherboard to control the switching spikes (when a logic device changes state from 1 to 0 or vice−versa, there is a tiny fraction of time (picoseconds to nanoseconds depending on the speed of the logic family) when the output stage of the logic device is drawing _lots_ of current − perhaps a significant fraction of an ampere, so good engineering places ceramic caps right at the chip, so that the power surge doesn't have to travel over a "long" path back to the energy source. The same good practice puts a handful of tantalum caps close by to "refill" the ceramics. OK, kill the line power, and "soon" the high voltage caps run out of poop − not completely, but enough to stop the DC/DC converter. That's dangerous (may be fatal) which is why they are locked away inside the metal case of the power supply. With the DC/DC converter dead, the system drains the filter caps at the output of the power supply, and the tantalums on the board. Again, not all the way, but this is low voltage, and isn't fatal to humans − it MAY be deadly to components if accidentally shorted. The ceramics are no factor.

> which is why ATX was introduced. (I'm sure there are other reasons too, that I can't recall ATM).

Size mainly, but the real reason was the need for lots of 3.3 Volts instead of +5 for the second generation of Pentium chips (and later).

> I have always understood this to mean a *soft* or *warm* boot (as opposed to a *cold* boot, − since also the RAM doesn't necessarily get discharged (or checked) upon a restart ('shutdown −r now' , or through the GUI).

RAM getting discharged? The /RESET line going low for a long enough period restarts the processor − for the x86 family, that means it starts executing code at −0x10 (0xFFFFFFF0 for a 32 bit address bus), which is the power on section of the BIOS. RAM will be tested. (The concept goes back to the IBM PC, where you had to write _something_ to every address in RAM space to set parity, lest you read something uninitialized and get a parity error − which forced a Non Maskable Interrupt that halted the computer.) The thing is, the /RESET signal is generated only by the power supply (the /PowerGood signal that the +5 is above a threshold), or by that reset switch. There is no other way to generate that signal. Thus, your warm boot _could_ be configured to start the CPU at the same 0xFFFFFFF0 address, but the /RESET line isn't asserted, so the hardware doesn't get the reset to a known state. Oh, the there is no /RESET pin

on the RAM sockets.

> I get _no_ errors when chainloading Winblows (win98) through GRUB − but
> it 'does' take a little time after my autoexec.bat file loads − it sits
> at the text/boot screen showing C:\DOSKey /insert (I can see all
> onscreen bootup messages for any OS, even though I may have a "buggy"
> BIOS)...and all my silly BIOS's 'quick/fast/silent boot' options are
> set to off.

See the "From−PowerUp−To−Bash−Prompt−HOWTO". Briefly, when the CPU
starts executing code at 0xFFFFFFF0, it runs through a memory check,
a basic hardware check (can I talk to that hardware), and then looks
for a bootloader on the disks. When it finds one, it runs that code
(in this case, this would be GRUB) and make some kind of decision of
which O/S to load. The boot loader then loads the initial parts of the
O/S, and then points the CPU at that code "you take it from here".

Now what happens when windoze boots − I can't tell you. The last
version of windoze I used was 3.1 running over DOS 5.0

> Another piece of possible relevant info;
> I've totally disabled NetBIOS in win98 (those nasty 135−139 ports),
> something akin to this <http://www.grc.com/su−rebinding9x.htm>

"I am told" that should be no problem − but have no knowledge one way
or the other. Perhaps it wants to talk to itself over the loopback to
those ports − I have no way of knowing.

> IOW − there's nothing in /usr/src/linux − there's not even a /linux
> subDIR in there.

That's OK − that's the _source_files_ for the kernel, not the executable
which is almost certainly in /boot/ (though it _could_ be in /).

> My newness to *nix systems has me a bit all over the place − and
> uncertain about certain commands, their options, (and mild scripting)
> to help find (only the relevant) info buried deep within log files and
> for debugging − heck, I haven't even yet figured out how to use the
> 'Find' command properly yet :−/ ...and 'mount' and 'umount' have me
> pulling hair on occasion.

Rome was not built in a day. Generally, you learn best by doing, and
that tends to mean start small. For *nix, the man and info pages are

the primary sources, though some commands may offer a "usage" hint if you do something they don't understand (or cheat by simply typing "name_of_command −−help"). Start with 'man man' and 'info info' to get the man and info pages respectively for man and info. 'whatis' and 'apropos' are nice to have

```
[compton ~]$ whatis whatis
whatis (1) − search the whatis database for complete words
[compton ~]$ apropos whatis
apropos (1) − search the whatis database for strings
whatis (1) − search the whatis database for complete words
[compton ~]$
```

and another command to learn is 'grep' and 'zgrep' (which handles compressed files as well). You can then use

```
[compton ~]$ zgrep −lw whatis /usr/shareman/man1/*
/usr/share/man/man1/apropos.1.gz
/usr/share/man/man1/man.1.gz
/usr/share/man/man1/manpath.1.gz
/usr/share/man/man1/whatis.1.gz
[compton ~]$
```

to search the actual man pages, rather than the descriptions of those pages. The same trick works for info pages in /usr/share/info/.

> But it's posts from people, such as yourself and others, that when they post a 'command' − I try to follow along and learn (and go as far as looking up the 'man' pages , and issuing the command myself, depending upon what the thread's subject is about) − and that's why I always post the 'command' + the 'output' − so that others (newbs perhaps) can gain from it hopefully.

Would that others followed that philosophy. Yes, that's why I post the commands and output. This ALSO helps when someone is having a problem, and posts the command they ran. Showing what you did and what you got (hopefully editing out irrelevant stuff when posting) is going to get you a LOT more accurate help than trying to give a verbal description.

> I'm not the young man I once was, and while I'm not elderly either − memory retention (or more correctly, the lack thereof) is just one of those things that creeps up on you with age.

It's the second thing that goes.

> I guess it's mostly Groups, and User permissions and such I need to really learn more about − and not so much the 9−10 digit attributes POSIX stuff, but the Group 'number' assignments and such

groups as in /etc/groups? Is the 'install−guide' and 'sag' installed on your system?

* Installation and Getting Started Guide
version: 3.2
authors: Matt Welsh and others
last update: March 1998
available formats:
1. HTML (read online)
2. HTML (tarred and gzipped package, 836k)
3. other : HTML (zipped), DVI, PDF (gzipped / zipped), PostScript (gzipped / zipped), and LaTeX source.
4. various (non−English) translations

* The Linux System Administrators' Guide
version: 0.9
authors: Lars Wirzenius, Joanna Oja, Stephen Stafford, and Alex Weeks
last update: July 2005
available formats:
1. HTML (read online)
2. HTML (read online, single file, 436K)
3. HTML (tarred and gzipped package, 178K)
4. PDF (849K)
5. PostScript (657K)
6. text (375K)
7. PluckerDB (170K)
8. various (non−English) translations

That's at http://tldp.org/guides.html if you don't have it.

> Exactly − ...BTW is that an AT system or ATX ?

Genoa TurboExpress 486VL that's actually in a Everex boat anchor (real AT size) case − a 486DX−33 with 32 Megs of RAM and a 540 Meg disk ;−)

> > Not a problem. You changed the subject line, so if the O/P responds to my original response or your response over in c.o.l.h, the subject line will tell things apart − not that it really matters, as the problems are related.
>
> Got it

And I can see the reply by the O/P to my original reply − things are fine.

Old guy
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