

# Re: Data corruption when transferring across network?

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*Source:*

<http://www.tech-archive.net/Archive/WinXP/microsoft.public.windowsxp.general/2005-08/msg12424.html>

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- *From:* "cquirke (MVP Windows shell/user)" <cquirkenews@xxxxxxxxxxxxxxxxxx>
  - *Date:* Mon, 22 Aug 2005 00:58:51 +0200
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On Sat, 20 Aug 2005 17:20:08 -0400, ByTor <ByTor@xxxxxxxxxxxx> wrote:

>In article <gn4fg1lftiejfh7l965ndvdfiosjfdhdvg@xxxxxxx>,  
>cquirkenews@xxxxxxxxxxxxxxxx, cquirke (MVP Windows shell/user) says...  
>> On Sat, 20 Aug 2005 09:48:05 -0400, ByTor <ByTor@xxxxxxxxxxxx> wrote:  
>> >cquirkenews@xxxxxxxxxxxxxxxx, cquirke (MVP Windows shell/user) says...  
>>> On Thu, 18 Aug 2005 10:10:15 -0400, ByTor wrote:

>>>> Bottom line, no matter if they are connected to either devices one  
>>>> particular machine receives transferred data corrupted....

Ah, I missed that – you say it's always the same PC that receives data that is corrupted? That suggests something on that PC... the data may have been OK as it entered the LAN card, but longer be OK by the time it hits the disk surface.

>>>> only happen with larger files.....I've yet to actually isolate at what  
>>>> size the file is when it corrupts but I can say this, I transfer 350mb  
>>>> ea. avi files and all are corrupted on the receiving end, maybe a few  
>>>> blocks short to repair. Smaller files appear to be no problem.....A  
>>>> few smaller exe installs though were corrupted a few times

>>>> I'd be thinking in terms of Ethernet rules, such as maximum cable  
>>>> lengths or number of connections between systems, etc. A too-long  
>>>> (either length, or hops) linkage might cause propagation delays to the  
>>>> point that Ethernet collision detection may fail – meantime something  
>>>> else "too far away" has also started transmission.

>>> Strange how other 3 OS's on same machine receive data perfectly...

>> If the same hardware gives different results with different OSs, then  
>> one of a few issues suggest themselves...  
>> – flaky drivers for that particular OS  
>> – hardware is "driven harder" within that particular OS  
>> – that particular OS is infected  
>> – the loading differs with the test (e.g. testing with fewer PCs)

>As far as this particular Win2K install, yes, it is definitely driven

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>harder than the remaining 3 OS's.....More installs, etc.

That wasn't what I was thinking of – I was thinking at a lower level of abstraction, i.e. wires, volts and microseconds.

For example, one OS may run HDs in PIO mode, while another may run in a faster UDMA mode. Flaky chipsets may mediate poorly between multiple busmastering DMS devices, such as HD vs. LAN card, and that may be driver dependent too. One OS may have a genuine CPU idle loop that lets the processor cool down and draw less current, where another may not – and draw enough current to cause marginally-failing motherboard capacitors to smudge a few rise times.

Digital systems are made of analog parts, and at the analog level, all it takes is the front edge of a square wave signal transition to take slightly too long, and you have a bit error right there.

>I have 4 OS's on one drive.....Win2K–WinXP–WinXP–Win2K....All in that  
>order on all hidden primary partitions using a boot manager.....The  
>first Win2K is the problematic one.....The remaining three accept  
>transfers perfectly.....Maybe a particular software I'm using? That  
>would be hard to isolate.

The first and last Win2000; are they precisely the same version, with same drivers? Drill down to the difference between them. Can each installation see the others' HDs? Were any installations "cloned" from another, so that non-unique SIDs might be a problem?

Are you on the Internet while all this is going on?

Does the afflicted Win2000 have different av? Are there any ambiguities between how other systems see these installations, i.e. where a remote PC may think it's dealing with installation 4 when it's really dealing with installation 1?

Has the HD ever had any bad clusters, in any installation? Does the AutoChk / ChkDsk history show any code files that were "fixed"? Did the av ever have to "clean" any code files?

>All drivers are the same in the case of the 2K's.....The XP's were a  
>little stupid with a few but not a major issue.

Uhh... cummer gain?

>> The problem may also not be within the networking kit, e.g. if a  
>> motherboard's hardware is corrupting IDE traffic, etc. I recall there  
>> was an issue with some VIA chipsets corrupting the tail end of bulk  
>> IDE transfers, and there can also be load-sensitive issues related to  
>> things like failing mobo caps.

>This particular board is a ASUS A7V8X–LA with VIA KM400A Chipset....

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Bingo! Well, Google(KM499A corruption) seems to think so...

Obscure and unrelated smoke on the horizon:

<http://www.mail-archive.com/debian-x@xxxxxxxxxxxxxxxxxxx/msg36965.html>

Closer to home...

<http://battleangel.org/blog/item/1200>

VIA blames AMD for this one...

<http://www.viaarena.com/default.aspx?PageID=3&FCat=5>

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>From AMD: "An issue has been identified that could result in the corruption of video data shared between AGP The Accelerated Graphics Port is a dedicated bus for graphics cards that enables high performance 3D graphics capabilities on PCs. AGP bypasses the PCI bus and directly pipelines between the main memory and graphics controller. graphics adapters and AMD Athlon? or AMD Duron? family processors, including the AMD Athlon? MP, mobile Athlon? 4, and AMD Athlon? XP processors, when running Microsoft Windows®2000 Professional, Windows®2000 Server, or Windows®2000 Advanced Server. This issue is independent of system chipset..."

</paste>

These folks don't sound happy either...

<http://www.geek.com/news/geeknews/2003Apr/bch20030411019560.htm>

Is the grass greener on the other side?

<http://lists.debian.org/debian-x/2005/07/mail2.html>

Gah, I'm tired of looking at this stuff :-/

>> Are all the PCs the same hardware?

>> Are they stable otherwise, e.g. on local HD-to-HD or CD-to-HD copies?

>No to first.....Some vary drastically but all NIC cards are 10/100's.

>Way yes to second.....I don't fool around... He, He... ;0)

>> What motherboard chipsets?

>> Is it a hub, switch or router?

>> Does it help to take some PCs off the LAN at the hub/switch/router?

>> ( I see you say "4-port router", but what is "8-port workstation"?)

>>

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>> Switches isolate packet traffic to just the lines that are relevant,  
>> e.g. if PC1 talks to PC6, the traffic is only on lines 1 and 6. I  
>> presume routers do the same thing for internal traffic.  
>>  
>> In contrast, hubs just tie everything together, so that if PC1 talks  
>> to PC6, the packet traffic is on all lines 1 – 8.  
>  
>I have a Linksys BEFSR41 Router(brand new) and a Linksys EZXS88W 10/100  
>8-port Workgroup Switch...

Cool, those sound OK. How long is the longest cable run? Any cable interconnects or damage, e.g. dog-chews, roof-rats, door-kinks?

>...My main machine here & the HP are  
>connected to the router ports 1 & 2.....port 4 is the uplink port to my  
>workstation to feed the remaining 4 machines.....

You could try swapping cables around, or trying PC 1 where PC 3 usually goes, etc. as brute-force way of checking cable issues.

>I've tried switching/removing/replacing wires in various different  
>configurations to no avail(and removing some puters to answer above  
>question).....Still boils down to the same issue....I even connected all  
>machines to the 8-port and still same corruption on said OS.....

OK, pointing away from cables then. A thought: Do all these have the LAN card in the same PCI socket? Same IRQ sharing on all systems and all OSs? Could be a tie-breaker there.

>My main machine is an ASUS A7M266 AMD761 chipset and had  
>quadruple the amount of software & hardware on it and it never gave me  
>this kind of issue...

If I had to go AMD, I'd want AMD or nForce chipset. Trouble is, most recent "AMD" chipsets have AMD shirt, VIA pants.

>Amazing that I've tackled much heavier issues than this and  
>can't yet figure this one.....

When that happens, it's usually because the fault is at an abstraction layer or few lower than the one your logic is walking around on.

This smells like a 1-in-a-billion bit-flip flakiness to me :-(

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>Forget <http://cquirke.blogspot.com> and check out a  
>better one at <http://topicdrift.blogspot.com> instead!  
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- *Follow-Ups:*
  - ◆ ***Re: Data corruption when transferring across network?***
    - ◇ *From:* ByTor
  
- *References:*
  - ◆ ***Data corruption when transferring across network?***
    - ◇ *From:* ByTor
  - ◆ ***Re: Data corruption when transferring across network?***
    - ◇ *From:* cquirke (MVP Windows shell/user)
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