

RE: suffering from an apparently broken tcp

Source: <http://linux.derkeiler.com/Mailing-Lists/Debian/2004-06/0586.html>

From: Kim Sparrow (ksparrow_at_lightpointe.com)

Date: 06/04/04

Date: Fri, 4 Jun 2004 11:50:16 -0700

To: "Kim Sparrow" <ksparrow@lightpointe.com>, "Paul Galbraith" <paul@paulgalbraith.net>

So the problem was apparently in that particular computer. I swapped the hard drive into a "new" computer, problem solved. What a PITA!

-- Kim

-----Original Message-----

From: Kim Sparrow

Sent: Thursday, June 03, 2004 20:06

To: Paul Galbraith

Cc: debian-user@lists.debian.org

Subject: RE: suffering from an apparently broken tcp

Well, I'm really starting to convince myself that this is a hardware problem.

1) I think this may be the computer that was experiencing similar problems when running Win2k. It's a 50/50 chance that it was this box.

2) I ran ethereal on it, and it frequently (but not always) reported that outgoing packets had a checksum error at the TCP layer. This can be fixed by setting the `hw_checksums=0` option for the 3c59x module, which forces software calculation of the FCS (I seem to recall that much of the 3c59x can calculate TCP checksums in hardware). Strangely enough, as far as I can tell the Windows boxes didn't seem to mind these errors. It doesn't seem to affect throughput.

3) `ifconfig` reports a really large number of receive errors. Running `ifconfig` before and after a large file transfer, there were 419 frames received, and 129 frame errors!

4) I've seen a few reports of somewhat similar problems on the 3c920, apparently a pretty common NIC chipset in Dells. Inexplicable slow transfers in one direction.

One thing I figured out is that the baby switch in my office is crappy. Cutting that out at least makes the link usable (transfers no longer break after 64k) though it's still marginally unusably slow, at ~50kB/s.

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Considering that this will be a revision control server, it needs to be a bit snappier than that!

One of the curious things I'm seeing is that data transfer occurs in bursts with a period of .32 seconds, which would explain the 50kB/s. Most of the time three TCP continuation frames come in back-to-back, then there's that .32 second gap... and then three more frames. I'm no TCP or SMB expert, but it looks to me like one of the ACK frames is getting lost in there. That might be corroborated by the unusually high frame error count in ifconfig. (I can make a libpcap dump if anybody's really that interested.)

The thing that still gets me is that downloading from the Internet is blazingly fast, it's only on the local network that's dreadfully slow. I don't know. I've already tried sw