

Computer Tech Support:

Surviving With (Or Without) It.

Given the complexity of today's computers and software, most users have had some sort of support problem. Contrary to ad hype, bringing a raw new machine to a workable state can be a nightmare. A case in point is my experience bringing up a new Pentium. I'd like to share a major lesson in support work-arounds.

Some time back, the computer fairy dropped a new Pentium computer on me, supposedly ready to "plug in and play." Was it ready to go? "Yes, but..." It came with DOS and Windows 3.1 (before Win95), but no applications. After resolving some initial conflicts, the new machine was finally up and running! The hard drives were the fastest I'd ever used, and PSpice simulations ran faster than I had ever seen; literally a screen blur for small circuits. A warm, fuzzy feeling... but little did I know what was coming!

The first "gotcha" came about when I tried to run standard Internet software, specifically an early Netscape series beta version. It would come up and seem OK, but if news or mail was called, BOOM! A big ugly GPF (general protection fault), pointing a finger to the video driver. Of course, this made that Netscape unusable, and thus began my support story.

Some folks suggested disabling the vendor's 1024x768x256 color driver for the machine's S3 video system. Sure enough, going back to the standard Windows VGA driver cleared the GPF problem, seemingly confirming the S3 driver as the culprit. Others offered that it might be the "buggy" Netscape program. My gut feeling was that this was hokum, but hey, I couldn't argue. Another Netscape version ran just fine with the high-resolution S3 video driver. So the problem became one of confirming for sure if it was the vendor's video driver.

This led me to the vendor's 800 # support service, a varied, but uniformly not helpful exercise. A robot-generated e-mail from the vendor's Web site suggested their Compuserve forum, where I found others complaining about similar video problems. It

then seemed the real solution might lie elsewhere, with an updated video driver. But then, the S3 BBS (408 654-5676) showed the vendor's S3 864 chip set driver the same as the one on the BBS. Time to punt?

I had read about mysterious communications problems associated with S3-based video systems, specifically that some drivers turn off COM port interrupts for highest video speed. Aha! Then a test with the "problem" Netscape on a 486 machine with a different video system ran just fine, with no hint of crashes. Progress?

Firing up the Internet browser, and doing an Alta Vista search at <http://www.altavista.digital.com/> got more potential S3 information paths than I'd ever dreamed of. Most importantly, a more recent 864 driver! Installing it fixed the Netscape high-resolution driver GPF problems (or so I thought).

Elation over the GPF fix quickly ground to a halt. Using the trace function of the system's TCP/IP software (Peter Tattam's Trumpet Winsock), I found I was getting COM port overrun errors during file transfers. What saved things was the built in buffering of the PPP protocol—robust enough to correct the errors, but with a throughput reduction.

Internet USENET group discussions on this topic ultimately proved invaluable, in particular those by John Navas and Albert P. Belle Isle, <http://users.aimnet.com/~jnavas/modem/faq.html>, and: http://www.cerberus-sys.com/~belleisl/mtu_mss_rwin.html

As it turns out, the latest S3 drivers have an optional "bus-throttle" switch, which can defeat the S3 video system's COM port control. It is installed within the video driver's [DISPLAY] section of SYSTEM.INI, as:

bus-throttle=on

With this final detail in place, I was able to transfer megabyte files at speeds of 57.6 kbits/s or more, without

overrun errors, and with a video mode of 1024x768x64k display colors!

In spite of the fact that this troubleshooting chronology consumed calendar months, I still find the entire experience a positive one. Why? Because real answers can exist beyond the canned and often limited world of vendor support.

While my video driver solutions were totally bankrupt from the vendor support point-of-view, that just wasn't the final answer. The computer related (and other) information available via the Internet is simply immense, as is the speed of access.

Since that first experience, I've also made some more recent and just-as-effective use of the Internet newsgroups. For example, during an upgrade to Win95, when Microsoft's dial-up networking didn't function properly for me, I found lots of generally helpful answers on the USENET

news group *alt.windows95*. If you are having trouble getting the dialer to automatically dial on demand without the default prompt pause (as I was), you may want to do this: Download and install the Microsoft ISDN upgrade package from:

<http://www.microsoft.com/kb/articles/q145/9/87.htm> This will bring you directly to article ID Q145987, which specifically addresses this ISDN-re-

lated upgrade for Win95. It also happens to fix the dialer prompt problem. And no, you do not need to be using ISDN to take advantage of this particular upgrade.

TIP: The next time you encounter a vacuous tech support response, be resourceful. Check out the Internet news groups. You often won't even need to post a query on a common problem, as others will already be describing how to fix it. Thanks to Peter Tattam, John Navas, Albert P. Belle Isle, Hampton Childress, and the many other knowledgeable users who frequent these groups and share some otherwise obscure technical information.

Walt Jung is a corporate staff applications engineer for Analog Devices, Norwood, Mass. A longtime contributor to Electronic Design, he can be reached via e-mail at Walter.Jung@Analog.com.



WALT JUNG