



## Network Nightmares

**Stephen Rodda's been up to his neck in it — from servers that arrive with a password pre-installed but not disclosed, to machines that won't work on a network. It's a hard life.**

This month, I've been setting up a network for a client. A simple network for a publishing company, with five Macintosh machines and about 20 Windows for Workgroups 3.11 machines.

Plain sailing, you might think. Except it wasn't. The first problem I encountered was that the NT server had been configured (pre-loaded by the manufacturer/assembler) with a password for the Administrator account. Not that whoever had pre-loaded the networking software had thought to include a slip with the machine, stating what the password actually was. That would have been too helpful.

I telephoned the firm and asked what it was: "You installed NT on a machine and my client hasn't got a note of the password," said I. "I didn't do it," said the techie on the other end of the telephone. "Not you personally, dimbo, *you* in the plural. Listen," said I, telling him exactly who I am (it's good to be able to strike terror into the hearts of these people from time to time), "I'm installing this wretched network" (I may not have been as polite as this) "and you, plural, haven't been as good at installing Windows NT as my client thought you might have been. I'll expect a call back with the password within ten minutes."

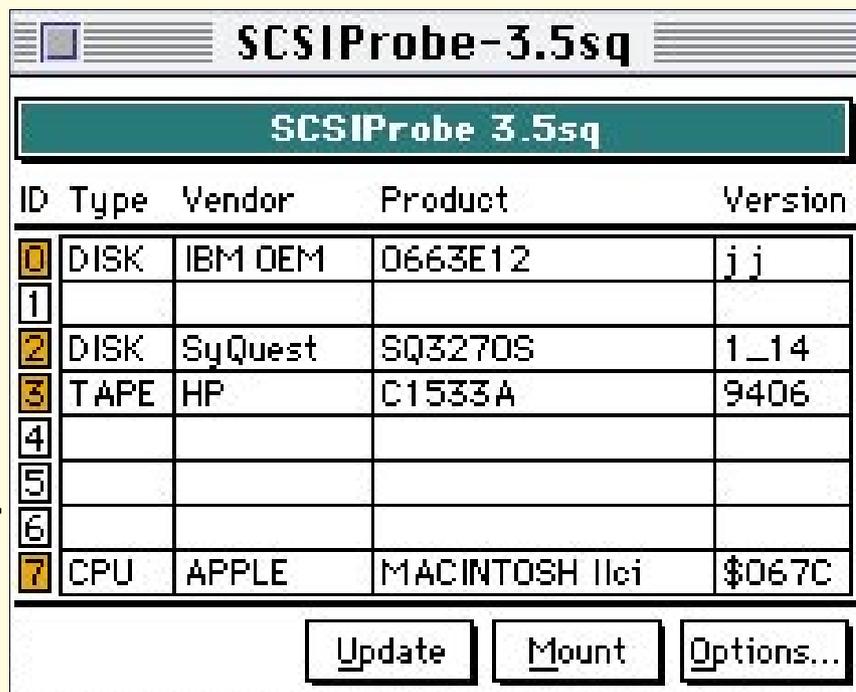
Now, it's not often I invoke the power of

the press but I felt that whoever had installed the blasted system and not left a password for the purchaser should have had his neural synapses reconfigured — with a sledgehammer.

Eight minutes later, the company called me back with the password. Full marks for pulling the stops out. By this time, I'd tried "VALE", "vale" and Vale" with no success. I'll leave you to draw your own conclusions about the name of the manufacturer. They told me that the Administrator password had been preset as "supervisor". Once there with the password, the system worked very well, and I'd have no compunction in recommending a system

put together by the same manufacturer. The machine was a PCI Pentium 90 with an Adaptec 2940, a 2Gb SCSI drive and a Toshiba SCSI CD drive, and it performed well and in a stable manner. If you're looking for an NT server, then Vale do good ones. Just make sure they tell you the password first.

The network cabling had been put together by the client's electrician. It was 10baseT, they had tested the network cabling and it all worked. The backbone was 10base2, coaxial (or cheapernet) Ethernet between four Asanté hubs, and this didn't work. A swift examination showed that each hub had a single



*SCSI Probe (an invaluable application) showing an HP Backup unit on the SCSI bus. (This screenshot was taken on our own machine, not the client's)*

Ethernet cable going to it. The thing about Ethernet is that it's a bus system, and since it runs using wireless frequencies, you've got to be careful. The electrician had left the T-pieces in the (large) cable trunking in the wall and had added a small (about 30cm long) single extension from the T-piece to the 10base2 port on each hub. Normally, one can get away with this, but in this case it wouldn't work. I opened the trunking and removed the extensions, and managed to get three hubs to talk to one another, and to the server.

### Making a trunk call

The final hub refused to acknowledge the server's presence. Not one to pussyfoot around, I dropped a 10baseT cable from the final hub down the trunking and popped it into the backbone socket of the last hub to see the server. Now everything could see the server. Since the backbone was all working, I can only suspect the 10base2 connection to the hub, or the hub's own 10base2 circuitry.

Now, all could communicate except the HP LaserJets — I did mention the LaserJets, didn't I? These were connected into the Ethernet network using 10baseT via JetDirect cards, which enabled the Macs to see them without any problems at all. I thought I'd just read the AppleTalk printers on the NT server and then share them over the network. All seemed to work.

The MD of the firm thought he'd try to print over the network to the HP printers (one was a LaserJet 4M Plus, the other a LaserJet 4MV). Well, the printer threw a page with something like the text he'd sent. The output looked as though someone had wiggled the paper from side to side while the printer was laying down the toner — I've never seen anything like it. The whole printout was blurred.

Although not really panicking, I was somewhat nonplussed. I thought I'd try using one of the other protocols installed on the JetDirect card. I thought that for starters, I'd have a go at the DLC protocol. I loaded it into the NT server, restarted the machine in order to initialise it, and used Print Manager to create a printer. It recognised both printers quite happily and I managed to share them over the network. Once again, the MD tried to print. This time, the printer produced the page without a trace of delirium tremens.

I have no idea what had happened to give this effect, but you can rest assured I'll let you know when I find out. I hasten to add that whenever the Macs printed to the printer direct (or even to the queue I had created using the AppleTalk sharing) this

problem didn't occur. There's only one thing I can say about this, and that's "weird".

### Mutinous machines

The Windows for Workgroups machines — which had hitherto worked only outside a network — joined the network with few problems. There were, however, one or two recalcitrant machines. These were divided into three types of problems.

I encountered the first when two machines complained that they didn't have enough memory when Windows for Workgroups was first loaded. These machines had only 4Mb of RAM. I realised that I had set them to load both IPX/SPX and Netbeui protocols. I removed the IPX/SPX protocol and they worked perfectly.

The second group of problematic machines did not even ask for a login name or a password. I tried removing networking and adding it — again to no avail. I wondered whether these, too, had a memory shortage and removed the codepage drivers from CONFIG.SYS and AUTOEXEC.BAT. This produced no improvement at all. I re-examined the CONFIG.SYS and found nothing. I looked through the AUTOEXEC.BAT — this time thoroughly — and discovered the statement "WIN/N".

The blasted machines were loading Windows for Workgroups explicitly with no network support. Removing this switch enabled the machines to join the network just like the others, and to function normally. These machines had apparently been supplied like this, as their network cards had been installed by the manufacturer, but since there was no network available the switch had been added to make them boot Windows without asking for usernames or passwords.

The third problem was with a single machine which wouldn't browse the network. It would log in to anything you mentioned, as long as the network path was already specified — but you don't want to do that. It's far easier to browse the network and attach whatever you want (or have access to).

I finally worked out that Windows' resources had been taken up by a whole raft of odds and ends which had insinuated themselves into the "load=" line of the WIN.INI, and the machine had only 60 percent or so of available resources. Once these had been commented out, the machine was able to browse the network just like any other.

Unfortunately, these weren't the only



## Eight on a plate

Dear Stephen,

I was very interested in your article on Microsoft Office and the new Windows NT shell in *PCW* December '95. I am thinking of upgrading my WfWG to something else, but the newness of Win95 worries me and I find myself looking towards NT. This also worries me!

Can you answer a few questions, taking into consideration the fact that I will only be using MS Works, Cakewalk Home Studio, Musicware Piano, MS Visual Basic and a fair amount of comms (i.e. not much multitasking)?

1. Will NT 3.51 with the new shell run on a P75 with a Triton chipset, 16Mb EDO DRAM, 256Kb pipeline burst cache, Stealth 64 2Mb VRAM and 850Mb HD?
2. How well does it run 16-bit and MSDOS programs?
3. Does NT have a 640Kb memory limit and all those things like XMS and EMS like in WfWG?
4. Should I wait for NT 4.0 or Cairo or whatever comes next? Will it run better on my machine? When will it be out? What is it like and so on?
5. If Beta copies of Cairo are, or will be, available, how do I get one?
6. Is there a demo/Beta version of NT I can use to evaluate whether or not to upgrade?
7. Is there an upgrade option from Windows for Workgroups to NT, which will therefore be cheaper?
8. Is NT an Operating System in its own right?

Phew! I would really appreciate it if you could answer these questions, or otherwise point me in the direction of more information.

**Garan Jenkin**

*Garan, you do ask a lot of questions! The answer to your first question is a definite "Yes". As far as the second goes, I'd respond that although NT will run DOS and Windows 16-bit programs, you should be looking towards the future rather than the past.*

*Most applications still in use will be upgraded to 32-bit-clean versions within the next couple of years so they can take advantage of their full speed under Windows 95. This should also make them Windows NT-compatible. There are some programs which will run under Windows 95 and 3.11 which most definitely won't run under NT. Most of these, however, involve accessing either the hardware*

*(like Norton's Disk Doctor) or the operating system (like the Adobe Type Manager) directly. Remember, too, that NT's security certification makes both of these actions undesirable.*

*The reply to number three, is: "Most definitely not!". NT is a real 32-bit operating system, and therefore the concepts of the 640K DOS area, EMS and XMS have been totally removed. It will, however, emulate EMS and XMS and the 640K limit for 16-bit programs which require them to be run in a separate virtual machine.*

*Your fourth is a question to which Bill Gates may know the answer. I certainly don't. As far as whether you should wait or not, remember the old computer adage that the moment you've got something home, it's out of date.*

*I'm afraid I'll have to pass on the next question as well. But in reply to question six: demo versions of NT abound on many magazine cover disks. Go along to your newsagent and have a look on the covers of the various computer magazines on the shelves. These are time-limited. As far as an upgrade from Windows for Workgroups is concerned, I think you won't be lucky. However, check with the Microsoft Upgrade Centre.*

*As far as the eighth question is concerned: you really drop a good bombshell, don't you? The answer is a resounding "most definitely, positively and absolutely". As opposed to Windows and, to a certain extent, Windows 95, NT doesn't run on top of another operating system. If it were that simple, the security aspect of the operating system would be compromised.*

*Finally, dealing with the applications you have mentioned (MS Works, Cakewalk Home Studio, Musicware Piano, MS Visual Basic and comms), I can guarantee that MS Works and MS Visual Basic will run. Some comms programs don't like NT because they try to gain direct access to the hardware of the port (which NT will not allow), so it may be better to turn off any hardware accessing you can and try to get the comms program to access NT's emulation of the port.*

*Not being a musician, I'm afraid I know nothing of the other programs and I would suggest you contact the manufacturers in order to find the answer.*

problems. My clients (who also read this column) had bought a DAT drive to back up the network. I suggested they use it occasionally (whenever they had cause to change the NT system) from the server, but that they use it routinely from one of the Macs machines with a copy of Arcserve Macintosh to back up the five Macs and the NT server. So far, so good. Unfortunately, the DAT wasn't working on either the NT server or on any Mac. I thought this was a little odd, and used a copy of SCSI Probe on the Mac to see if I could contact it on the bus. It showed up. I then plugged it into the Adaptec 2940 and rebooted the server. It showed itself there, too. "Curiouser and curiouser," I thought. I opened the drive and noticed that the ribbon cable wasn't properly attached, and that there were two loose wires hanging around in the casing. Please note that this

drive hadn't been supplied by Vale — having reviewed one of their machines (in an article for our sister magazine, *PCM*) a while ago, I can't disparage their build quality. I decided that this drive had to go back to the manufacturer. It just wasn't properly put together.

While I was configuring network support for the cards I installed in the machines without cards, I noticed that Windows recognised them as NE2000s. These cards stated that they were NE2000 compatible, but for some reason they weren't. Once the correct driver for the cards had been installed from the driver disk which came with them, they worked perfectly.

The moral of this little tale is always to use the drivers which are supplied, even if the cards pretend to be NE2000 compatible.

### It's a true story

Just by way of a little levity, I have subscribed to *This Is True*, a sideways look at some of the news stories published throughout the world. It is the work of Randy Cassingham and is distributed through the Internet by email. It's just the thing to brighten up these dull winter days, containing things like new ways people have found to commit crimes stupidly. Well, it makes me laugh, anyway. To receive *This Is True* every week, free by email, contact [listserv@netcom.com](mailto:listserv@netcom.com) with the message "subscribe this-is-true".

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