



# Rules of the road

Stephen Rodda customises a highway code for networks. And, slave to his readers' requests, turns from Windows to OS/2 to install IBM's new Warp Server 4.0.

I have been criticised for not mentioning IBM's products in my networking column. So when IBM issued a new version of its Warp Server (hitherto called LAN Manager), I decided that I should get a taste of it.

When I attempted to install the package, this is what I got: *"WARNING: The OS/2 Installation program has found some hidden Microsoft\*\* Windows\*\* files on drive C. If you continue to install OS/2 on drive C, you will not be able to start Windows NT after installation. If you continue, you must use OS/2 to format drive C. You can choose to exit, and then install OS/2 on any drive other than drive C."* Since this was on a system bootable into either Windows 95 or NT, all the stupid installation program had to do was take a copy of the boot sector and then pretend that it was a DOS disk, using the boot program as usual.

Not one to be dissuaded from my intentions, I copied the boot sector using an old version of Peter Norton's Utilities 4.5. I'm afraid I am a bit of a Luddite about these things — and that's some confession, coming from a technology journalist. But when all I want to do is read a bit of disk and save it as a file until the MS-DOS format changes, I'll carry on using Norton 4.5.

I rebooted but OS/2 still didn't like the hidden NT files. I took a directory listing, using DIR/B and wrote it to a file, then used ATTRIB to flag all files -R -S -H and had another try. I thought "thank goodness I'm writing about it while I'm doing it". At least I got something productive done while "fiddling" around (*I had considered using another word instead, but you can fill it in for me according to your sensitivities*). It still stated that I had some hidden files in the

directory, which was patently not true. So I telephoned IBM support and within a few minutes they'd confirmed my suspicions that it wasn't just the NT files but the whole VFAT (Windows 95's method of putting long file names on a FAT partition) structure which OS/2 didn't like. My first reaction to being told that I should repartition or reformat the disk was "I don't believe it!" I know MS and IBM have been having an extended war where each has worked hard to prevent its own product running under the other's operating system (Windows 3.11 upgrade being a case in point) but IBM not supporting VFAT, which has been out since NT 3.1, seems a bit thick to me.

Since I was using a review machine (the AMD K5-100) and there was nothing important on the hard disk I decided to overwrite the hard disk contents. Once I'd decided not to keep any of the old data, installation went like clockwork, although I was surprised that there was no Novell/Eagle NE2000 adaptor. The NE2000 Plus was supported, so I tried using that instead despite the thought that I'd probably have to do something about it later. Something which surprised me was the fact that nowhere in the documentation did I find a mention of Apple Macintosh file sharing — and this from a server package.

As far as the Novell NE2000 driver is concerned, I had forgotten that OS/2 automatically takes note of the fact that the adaptor card isn't an NE2000 Plus and configures itself from there.

## The AMD K5-100

Do you want an 80586-100 for the price of an 80586-75? ...doesn't everyone? I had a loan machine from AMD, complete with one

of their 80586 clones. I use the term 80586 rather than Pentium, because the Pentium is a trademarked name and a series of numbers isn't.

The clone makers have had to resort to all sorts of tactics to make their chips seem different (branding, I think it's called). AMD has an 80586 chip which performs (from my usage tests) every bit as well as an Intel Pentium P-100. The AMD K5-100 sells for within a pound or two of the Intel P75, so you really do get more bangs per buck!

I've also been trying to get hold of the new Cyrix 686-in-a-586-package chip as I've heard good things about it, but as yet I seem to be getting nowhere, fast.

## Letters

This month I'm devoting the letters section to Windows 95, and you'll find that some of the enquiries come from someone you already know!

**Q.** *"My installation of Windows 95 seems to be running slower (especially when browsing the machine). Can you suggest anything to improve the speed of the program?"*

**Stephen Rodda**

**A.** If you've got the hard disk space, I'd suggest that you reinstall Windows 95 into a different directory (or folder) to see whether slow-down occurs then. It is possible, if you install and test many different programs, for the registry to become corrupted or overloaded.

A fresh installation of Windows 95 should sort out the slow-down. Make sure the slow-down isn't due to trying to access a CD. Your search path could possibly be pointing there.

## Networking Rules

I was flying back from the UK to the Netherlands the other day and as the aeroplane was preparing for landing the thought struck me, seeing all the little drainage channels and noting how orderly everything was, that networks also need order imposed on them to operate properly. "Why not set out the bones of a networking rule book?" I thought. So here is my own version of a set of guidelines to which you can add or delete from, as you see fit, to create your own networking rules.

**1. Use easily-remembered passwords which are changed monthly.** Depending on the sensitivity of your data, you may be prone to a dictionary-type password attack. There are two ways to defeat this: firstly, make sure that a type of "three strikes and you're out" password checking is enabled and secondly, make sure that all passwords are made up of two common words, concatenated. The first method will disable an account for a set period if an attacker (or even the user) types the wrong password for the account a number of times in a preset period. See the screen shot from NetWare (Fig 1) showing this form of lockout. The second ensures that the password is easily remembered but unguessable. A password in this vein could be sausageprinter. Certainly it's easily-remembered but it's also a totally illogical series of characters.

**2. Back up your data at least once a day.** Even if it's only an incremental or differential backup, please do it! Remember to make a full backup every week and to keep it and your end-of-the-month backup tape in a safe place (preferably off the premises). The reason that I recommend a full backup once a week is so that you don't end up having to fish out a hundred different tapes containing the past four months' incremental backups.

**3. Don't allow unauthorised or unknown programs to be run on your network.** You don't want to risk getting attacked by "Trojan horse" type programs (i.e. those which pretend to be



Fig 1 NetWare's intruder detection lockout enabling screen

one sort of program and end up formatting your hard disk accidentally-on-purpose). Believe it or not, there is one which masquerades as a version of PKZIP. Make sure that you only use programs from recognised and responsible sources (cover disks are usually fine, as is Cix and such

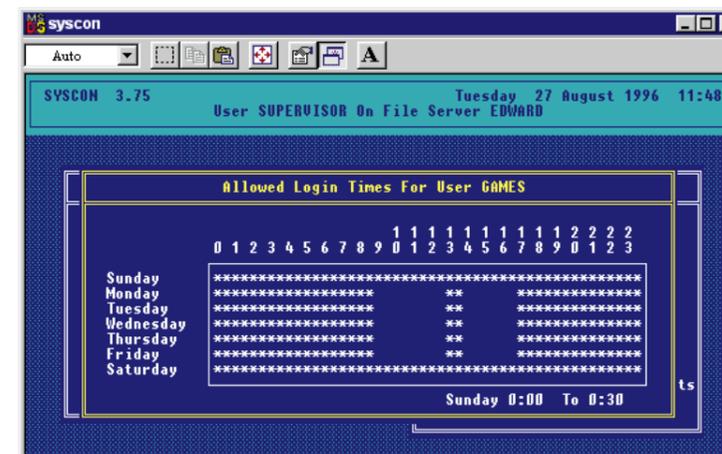


Fig 2 How a login can be configured so it's available throughout what isn't the working day

places where all programs are scanned before being made available).

**4. Scan all disks from outside, for viruses.** Although this is obvious, it's surprising how many times people get caught out by viruses.

Don't just assume that a large company site is free of viruses. We've been caught napping by a virus which was widespread throughout the reprographics industry at that time. Remember that bureaux and the like can be hotbeds of infection and always make sure that you scan your floppies and removables before using them if they've been off your premises.

**5. If you must connect to the internet, make sure that you do so safely.** Remember that a firewall is the safest method of connecting to the internet but if your connection is only temporary in nature (like a dial-up connection), then it'll take someone with real determination to stay on a leased line, keeping a look-out for you, and then to attack your system while you're there on the dial-up link. Not a common problem I should have thought, but one worth bearing in mind.

**6. Don't allow people to let a third party log in under their names and passwords.** Apart from the fact that this is sloppy practice, it also defeats the advantages of email and so forth and exposes a password to (possibly) an outsider.

**7. Enforce logging out when the workstation is unattended for a significant period of time.** This can stop people leaving their machines logged on all night, allowing passers-by access to sensitive data. It can also get people into the habit of switching their machines off at night, which is good for the ecology.

**8. Stress to everyone that data which they wish to be backed up is stored on the network.** Some server-based backup programs will back up workstations, provided they are switched on. Save lots of electricity by backing up the server only.

**9. Impress upon everyone that despite their data being stored on the same machine(s) as everybody else's, as long as their data is stored in their own home directory it is secure.** People don't seem to realise (notwithstanding rule 12) that if a networking system allowed people, apart from the administrator, to wander through others' data then the company selling the networking system would very quickly go out of business.

**10. Negotiate and enforce a company-wide policy on playing (network) games.** People will probably

want to play Doom and Quake. If you can arrange that these are available perhaps through special games logons but also outside working hours, this will probably remove the temptation to bring in their own games from outside (Fig 2).

**11. Since they're bound to do it anyway, impress upon people the correct method of moving their machines.** This is useful if you're using 10base2 (coaxial Ethernet) because if the cable is broken for a significant length of time the whole segment of the network is disabled. This is not such a necessity with 10baseT and token ring and their variants but as long as users understand how the network is cabled, callouts will probably be minimal.

**12. Keep the file server in a locked room.** There is no good method of preventing someone with physical access to the machine from reading the data on the storage system. Remember that the security inherent in NetWare or NT does not prevent someone with a suitable boot disk from accessing the system as an administrator. The safest place for data is on a disk which is attached neither to a computer nor a network and which is stored in a strongroom. Disk encryption hardware does exist but it is far from commonplace. We must therefore compromise.

Q. "I've been trying to share my fax or connect to another, shared fax. I don't seem to be getting anywhere. Windows 95 won't recognise the shared fax on another machine. Can you help, please?"

Jeff Sanders

A. This is a problem which Jeff, my business partner, has been having. It's always a bad sign when he starts cursing, because I know he's starting up a PC. Actually, I think he likes to have something to complain about.

He's been asked to design a book for a charity and, of course, he decided to use Ventura Publisher. In our experience, it's the only reasonably ordinary program specifically designed for book publishing. So in order to send proofs to the client he needed to use a fax. His machine has only one communications port (for a

variety of reasons, mainly to do with the fact that it uses an old NE2000) and that is taken up by the mouse. We decided to use Windows 95's built-in fax sharing, so I could get on with my work while he faxed the document through my machine.

Firstly, we had to make sure that the machine (where the fax is installed) had got file sharing enabled and accessible via the Network control applet in the Control Panel (see Fig 3). Of course, on my machine, I was sure that this was the case.

Secondly, Microsoft Exchange does get its knickers in a twist occasionally and you can do far worse than removing all the exchange components, rebooting and reinstalling from the CD once again. Another thing you could check is whether the machine is actually visible on the network. If not, a simple network diagnosis should sort out any problems you may be having.

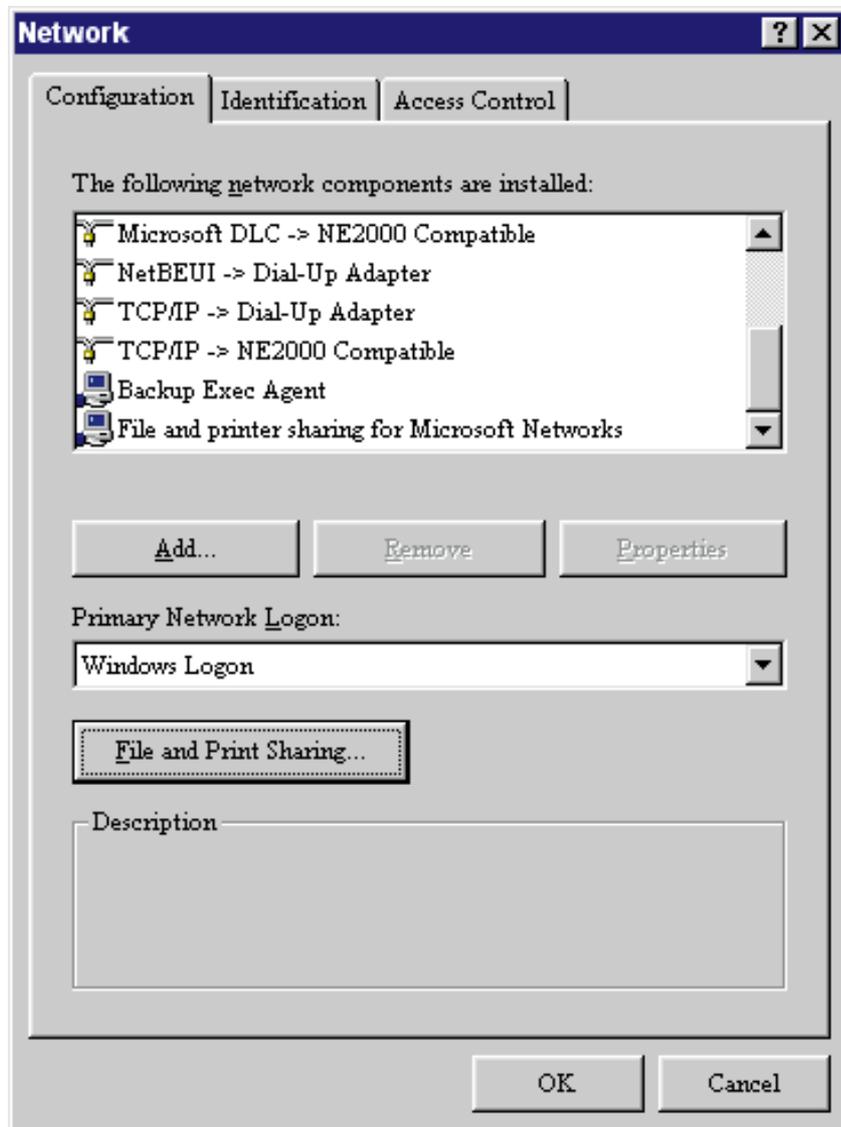


Fig 3 The Network control applet, showing the file sharing button

I removed Exchange, rebooted my machine and reinstalled it. What a total pain in the fundament that was! I remembered that removing Exchange would remove Microsoft Fax but I'd forgotten how heavily-intertwined the comms part of Windows 95 actually was — until I discovered I'd removed the Microsoft Network as well.

#### Coming soon

I was chatting in the pub to a mate who is an avid reader of my column the other day and he mentioned that he hasn't yet come across a very simple explanation of how to put together a small network. So next month, I shall be concentrating on this, if only to shut him up.

#### Quick tip

I gather from my sources that many Macintosh LC475s are starting to show errors on booting, giving the same signs as would a dead motherboard. Apparently it's the PRAM battery which, once changed, restores the machine to its original working state. I also hear that some less-reputable or knowledgeable repairers are replacing the motherboard (and charging for this repair) when all that's needed is the battery replacement. You have been warned!

#### PCW Contacts

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