



## Internet in an instant

**Instant Internet simply plugs in to a Netware or PowerLAN network — configure your software and, as Stephen Rodda discovered, you're ready to go in no time at all. And, there's something interesting you can do with a Scotchbrite pad, too.**

I have downloaded Windows 95 (build 490) from the Microsoft Network (MSN). Although MSN seemed to think that it would take 18 minutes per file (there were 19 of them), in actual fact the files took around 25 minutes each to download. Averaging it out, I took around ten and a half hours (file 19 is a fairly big one) to download the whole shebang. Having finished, I was impressed: it was very stable.

The Microsoft Network, on the other hand, is about as unstable as a pyramid on its tip. Due to this lack of stability it took me two late nights to download the software update. Now, I presume that because of this release being downloaded, the MSN is almost impossible to use. Its response times are a joke: it can take around three minutes just to open a few windows. Once you get there you find that very little has changed — sometimes it just hangs while trying to log in. If Microsoft is going to try to compete with the likes of CIX and Compuserve, then it is going to have to pull its socks up.

### Instant Internet

I've had a play with Instant Internet (from Performance Technology): it simply plugs into a Netware or PowerLAN network to provide direct Internet access. The unit is housed in a standard computer case with keyboard and monitor connections.

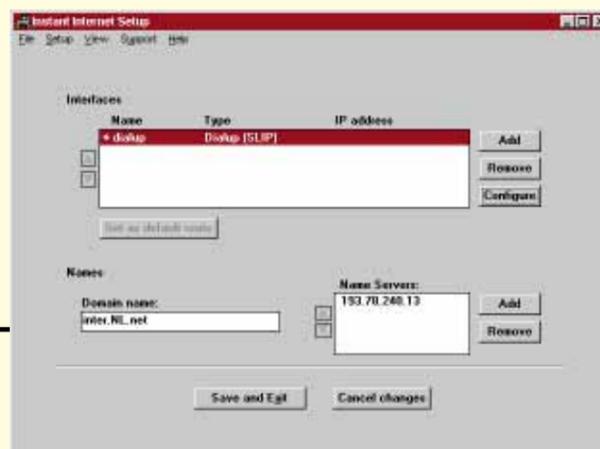
The one I tested had a built-in network connection and modem, although a bridge version (for a permanent Internet connection) exists with two network interface cards. This acts as a networking router. Physically, the installation is simple: plug the box into a telephone point, the LAN

and the mains, and you're ready to go. Software configuration is less simple, but thanks to the comprehensive list of British and European services it's easy to connect to any Internet supplier's point of presence. It allows distributed Internet access for up to 50 concurrent users, without the hassle of having to set up TCP/IP for each workstation on the LAN.

If you are going to have that number of people using it at the same time, the supplied 28Kb 8-baud modem would probably be woefully inadequate, although for my own smaller LAN it was quite good enough. In this case, you would probably want to use a dedicated Internet feed from your supplier.

For those who know about Internet connections, you will see that this is a considerable amount of work saved. For others, I shall describe the work that would normally be needed. First, you would have to get a currently unused Internet address range from the authorities (to allow you to have a complete domain where your network allocation numbers won't interfere with anyone else), then you would have to convert the whole

*Setting up the Instant Internet unit from a remote PC*



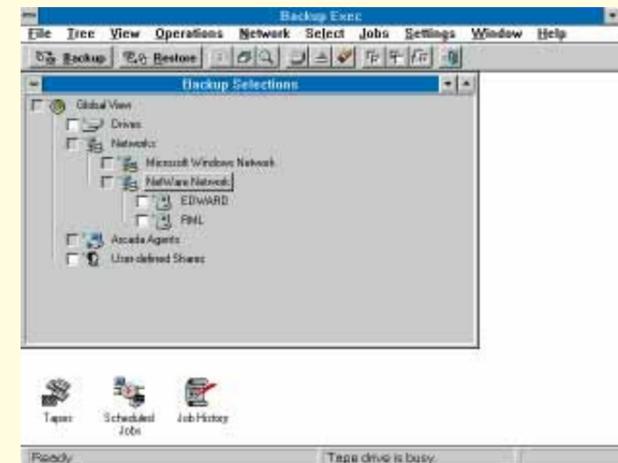
LAN to using TCP/IP protocols rather than IPX/SPX (in the case of Netware) over the LAN. This would entail changing the server's protocol stack as well as that in use on every workstation. Having done that, you would have to get and maintain a hosts file in order for the workstations to have somewhere for the Internet services to look up domain names — those names which follow the commercial version of "at" (i.e. @, such as cix.compulink.co.uk in the case of cix) in an Internet address.

Now all you have to do is connect. This could take up to half an hour per workstation, and perhaps an hour in the case of a server. Regarding the standard number of workstations (50) at which this unit is targeted, this could save about 26 man-hours. A name server would have to be running, which could take more time and hardware too.

I configured the server in about a minute. The program is well-designed and performs efficiently. The package comes with WinWeb and Eudora — an SMTP mail package. But for those of you who prefer, say, Netscape or Mosaic (since the unit supports the Winsock socket interface) you may use whichever software you desire which utilises Winsock sockets.

The whole operation was completed in less than no time. I took another minute to configure a second PC to attach through the Instant Internet unit. It was simple, and worked within minutes of plugging it in — I like hardware like that.

An Internet firewall is included straight out of the box. For those who don't know anything about the Internet; once you have a connection you immediately have the problem of packets which can go both ways. Of course, you will want to send and receive your own packets, but while you are connected (even through a telephone line) you immediately have the problem



*The Arcada Backup Exec saw the shared drive although not the Agent, which proclaimed itself as running*

reasonably easy; all I had to do was share out the other machine's hard disk.

Now, my partner's getting into World Wide Web page design and he wanted to use Word 6 with the Web Author package from Quarterdeck, so I ended up walking from one end of the flat to the other (where his machine now is) to set up the recalcitrant backup agent. I certainly lost weight. I must have walked the distance at least twenty times.

### Preventing snoopers

Certainly, we know that these conditions, although they work, are not ideal: I wondered what others would do to enable the wretched thing to work. The advantage is that the agent type share is special and other users can't attach to the drive and slow the machine down. I even installed the version (not provided with Windows 95) but the one on the installation CD from Arcada. Despite this, I still find Arcada to be one of the better backup solutions.

A firewall prevents all this simply by erecting an Internet barrier between the TCP/IP packets on your side of the network and those on the Internet side. On a small system where data might not be sensitive, this would be unnecessary: the chances that someone would be snooping on your Demon connection are highly remote. But where a large proportion of time is spent connected to the Internet, and the network is of a large or sensitive nature, then you should be aware of the necessity of using a firewall. Instant Internet accomplishes this feat because it just translates directly between TCP/IP and IPX/SPX. Since your machines have no complete Internet address, nobody outside can manipulate your data. The simplicity is impressive.

### Arcada

I've eventually managed to get hold of the full version of Arcada Backup Exec for Windows NT, and although I'm still waiting for the various Backup Agents which allow the executive to talk to networked computers, I've tried (unsuccessfully as it turned out) to use the Windows 95 agent.

Although the installation file said that I had to have IPX/SPX networking, the only way I managed to get the thing to back up a remote Windows 95 machine was to use the file-sharing method. This was

ner's getting into World Wide Web page design and he wanted to use Word 6 with the Web Author package from Quarterdeck, so I ended up walking from one end of the flat to the other (where his machine now is) to set up the recalcitrant backup agent. I certainly lost weight. I must have walked the distance at least twenty times.

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### Scotchbrite and suckers

I've been getting lots of support calls from my clients lately. Admittedly, we're in the middle of a heatwave as I write and most of these calls are due to the fact that their machines are overheating. So remember, get a vacuum cleaner and use it to take all the dust out of the fans in your server and workstations. It's a better bet (if you feel you are capable) to reverse the fan, so that it blows air into the machines, rather than sucking it through the floppy drives. Many's the floppy drive in a server which failed to load a disk simply because of the accumulated dust.

A good move would be to tape a Scotchbrite pan shiner over the fan intake. This will filter out most of the airborne detritus which would otherwise circulate over your hardware. So, all you'll have to do is replace the pan shiner (or wash it out, making sure you dry it thoroughly) to achieve effective filtration again.

## Questions & Answers

### Printer sharing under Netware

In a recent *Networks* column, in the "Questions & Answers" section, referring to memory problems you said: "Remember that under Netware, printer sharing to and from a Windows workstation can be problematic to say the least."

I am presently studying Novell Netware 3.12 and 4.1 to achieve the CNI certificate. I am using a simple network consisting of three computers: two clients and a server. I have tested printing with a dedicated print server and the PSERVER.NLM for a period of six months with Netware 3.12 and have encountered no difficulties whatsoever, either with Windows for Workgroups or with standard Windows 3.1.

As I am a novice Netware student, it would be a great help if you could explain the problems in Netware print sharing. Since Netware is widely used, I think it would be of interest to other readers of your very rewarding column.

**Kalevi Nyman, Norrtälje, Sweden**

*Thanks for the compliment, Kalevi. Actually, what I was getting at in my reply to the letter which you read, was the fact that although using a Netware printer is simplicity itself (whether it is run from the file server, acting as a print server, or from a dedicated print server), it isn't the easiest thing in the world to service a print queue from a Windows workstation by loading RPRINTER on top of DOS and under Windows.*

*Fortunately, people can now escape this problem simply by upgrading to Windows 95, which contains a Novell-type print server. For those not lucky enough to be running under Windows 95, there is a new version of RPRINTER which, although a little slow, will run under Windows 3.x.*

### SCSI drive replacement

I need to move a 1Gb SCSI drive out of a Netware 3.12 server in order to replace it with a 2Gb SCSI drive. I have enough memory to do this. The old 1Gb drive already has a new home, but I want to get the data off it as simply as possible. What method would you recommend — preferably the easiest way possible?

**TonyG@cix**

*Back up: not once, not twice, but three times. I always recommend this many backups whenever you're going to do anything which might just possibly have an affect on your data.*

*Now, add the drive to the SCSI bus (say it's drive 1, with the original as drive 0). Using FDISK, partition some of it into a DOS partition to take all the Netware DOS files, and DOS itself. Remember that it is not possible at this time to make this partition active, since the drive is recognised as the secondary drive. Now format the partition with the /s switch to add the DOS system files, making sure that you have a copy of FDISK on the floppy. Now format a floppy disk with the /s switch so that you have a bootable floppy.*

*Start netware so that the server comes on line, and at the console, load the install module.*

*Partition the new disk so that you have a partition of exactly the same size as the old drive. Now, since you are using SCSI (which includes its own hot-fix area) create another partition which uses up*

*the rest of the drive space. Bear in mind that when you do this, you can decrease the hot-fix area, since SCSI already has one allocated. Now mirror the old drive and the first new Netware partition. Go away for as long as it takes to establish the mirror — at this point, lunch might be a good idea.*

*Once the mirroring has taken place, make sure there are no users connected, nor open files, and break the mirroring arrangement.*

*Now, down the server and remove the 1Gb disk, remembering for the sake of tidiness to reallocate the SCSI to device 0 on the new disk. Then boot the server with the floppy disk you prepared earlier. Run FDISK and mark the DOS partition on the new drive as active. Remove the floppy disk and reboot the server.*

*Your system will now start as normal. Once the server has started, all you have to do is use what's commonly known as drive spanning (actually partition spanning) to add the extra unallocated Netware partition on the new disk to the first, original partition. And bingo! — you now have a 2Gb Netware drive.*

### Wiring up a LAN

I've been asked to specify a network wiring system for quite a large LAN (probably about 30 users). How should I do it?

**SimonT@cix**

*Firstly, you need to consider where the desks are going to be in a couple of months' time, and the answer to that is: just about anywhere. So put in LAN cabling (Unshielded Twisted Pair since nobody's using thin ethernet for larger installations any more) and pluggable points behind where you think the plants, filing cabinets, coffee machine and such like are going, as well as behind the desk positions — even put one or two in the kitchen.*

*Make sure that you don't penny-pinch and connect only four of the cables in each connector. Do connect all eight because in future, you could use 100Mb/sec networking for no extra outlay in cabling over certain segments, if you subsequently discover data transfer to be slow. While you are wiring the network cabling, remember that you can get the telephone wiring installed simultaneously, by the same people.*

*If you're really circumspect, you might plump for an integrated wiring system so that a given cable could carry either telephone or data communication at any specified time. This means that you should neither run out of telephone nor data points since any connection can do either job.*

*Try to arrange for the same generous spread of mains outlets. And don't forget that the trend is no longer to plug a monitor into the system case: they tend nowadays to be plugged directly into the wall. Don't forget desk lights, printers, modems, possibly other external devices like tape drives and removable cartridge drives. I'd suppose that each desk should have a minimum of four or five power sockets available. And add to the specification from there.*

*Remember too that the server will need a few extra sockets, and budget for a good UPS so that the server will work continuously.*

Machines in sunlight can cause problems, too. Apart from the heating consideration and the bright light flooding out screen images, you may find that users with graphical user interfaces find their mice performing erratically. This is

because the mice are optical and sunlight leaks through the cases, giving false signals to their optical detectors. Move the mouse out of the sunshine, or paint the inside of the case (black), or change the mouse. This should solve the problem.

### PCW Contacts

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