



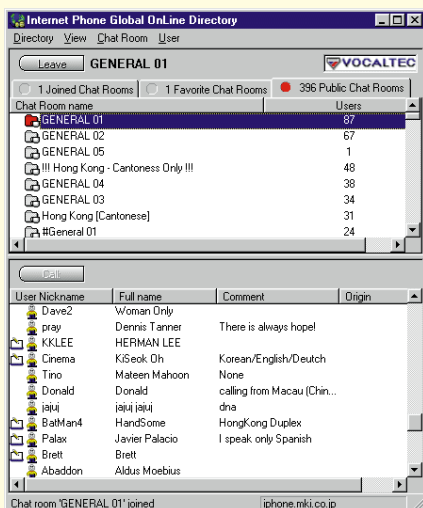
## If you can't beat 'em...

**Stephen Rodda has finally given in and fitted a sound card. There's fun with the Internet Phone, a fax pack and FAT 32, too.**

This old fuddy-duddy has finally got a sound card. "Why," I hear you ask "is this in a networking column?" I don't know; apart from the fact that almost everybody's machine seems to be sporting one, and you can't really consider a high-range machine without one these days. So, multimedia has finally hit "Rodda Towers" and, after all, it is necessary for things such as internet and intranet telephony.

With plug and play, which was almost perfect under Windows 95, the card ran quite happily. Until, that is, the Energy Star power-save on my green motherboard cut in. Then the sound card's output had a severe attack of the vibratos. The only cure was to restart the machine and open the BIOS configuration to prevent the processor being clocked at a slower speed when not strictly in use. This cured the problem.

The review sample came from Creative



*Internet Phone waiting for a call*

parameters. It seems there are no drivers available for the plug and play card.

I was surprised by the fact that although clone cards come with AWE-32 MIDI-capability as they stand, the kosher SoundBlaster cards have this as an additional extra. I was not able to use any of the MIDI voices already installed on the clones.

Something which comes with the cards is a voice synthesiser. These voices sound like a cross between a dalek and the Beverly Hillbillies. One of them sounds like they've got a throat infection. Just for fun I got one of the voices to read the Dutch text which came with the sound card. The result was hysterically funny.

Labs and was a SoundBlaster 16 Plug and Play which came with its own IDE port for CDs. This makes three IDE ports, including two on the motherboard, which are installed in my machine, none of which I use.

Under NT 3.51 I had to use the ordinary SoundBlaster NT driver and tweak the

*Internet Phone's directory of currently online users*

### Internet Phone phun

Wondering about the Internet Phone, I downloaded INETPhone 4.0, which has just been released, and tried it out.

This package allows the transfer of audio data over the Internet and lets you make a "telephone" call without the associated call charges. All you need is a sound card, an internet connection, a microphone, and a loudspeaker or a pair of headphones.

There are various methods of calling.

You can either specify an address directly (if you have a schedule to call someone) or phone them and tell them to get onto the internet in, say, ten minutes' time. Or you can join chat rooms. This journalist discovered that people were merely lurking in these chat rooms for some nefarious purpose or other, and quickly left.

If we were to use this piece of technology wisely, it could save a fortune in phone calls over the company WAN. But be advised that the bandwidth is probably greater than a traditional telephone call. PTTs (Postal, Telephone and Telegraph) are trying to ban this as it could undermine their monopoly on voice transmission.

One other problem is that if everyone used the Internet Phone program, the internet or intranet could screech to a halt (at least until the backbones had all been upgraded again).

Internet Phone is well-presented, installs professionally and does what it claims. This new version allows you to leave voicemail for someone, which gets dropped into their mailbox. A whiteboard option is available which allows multiple users to leave comments, much like OS/2's groupware which I reviewed about a year ago.

It seems that people are on the internet just to make funny noises or for, er, other reasons. As the technology matures, or in the right hands, it will be a very useful tool.

### Telcom Fax

On a more serious note, I've been looking at Telcom Fax, which has just come out in the new 3.0 version. This is specifically written for Windows NT and allows the modem to be shared as a fax machine.

I know I keep griping about this, but the manufacturers of fax-sharing packages should really get their heads together and

work out a method of including the poor relations like Macintosh, OS/2 and UNIX in the general scheme of things.

As things stand, there is no cross-platform fax package. Why not? Simply because nobody ever considers the advantages of real networked fax. Many networks are of mixed-platform machines, especially now that NT makes mixing Unix, OS/2 and Macintosh machines on the same LAN as their PC counterparts so easy.

Why can't we have a shared network fax package which caters for Macintosh and Unix machines? I'm sure it wouldn't take too much work to implement. NT Server even has a PostScript rasteriser and Adobe has fax extensions for PostScript, which are already in use on Data-products machines, available on the Macintosh and other platforms.

A program would have to fish out the details, presumably encoded into the PostScript output, send the code to the rasteriser and then transmit the resultant bitmap to the address and recipient which it read from the PostScript code. I've had the idea, so all someone needs to do now is to implement it. Remember, you read it here first!

I tried installing it on the net as <http://www.compulink.co.uk/~teddy/TF30/EVAL.EXE>. It seemed to get nowhere under NT 3.51, with or without service packs or the new-technology shell preview (Windows 95-alike). Don't say I didn't warn you. I have included a screenshot of it (*below*) just to whet your appetite.

### FAT filing

FAT 32 is the new version of the MSDOS FAT filing system. It's just like the old MSDOS filing system, with long file names which we've been used to under NT and

Windows 95 but with one important difference: don't expect to read the partition under DOS 6.22 or under NT, because it isn't supported.

This FAT 32 filing system is installed on Windows 95 machines which have had Windows 32 installed on them at the factory, and it makes NT multibooting a very difficult procedure. The advantage is that it is capable of using far smaller cluster sizes, hitherto a problem under FAT.

With 2Mb drives, a cluster size of 32Kb was always used as there were only 16 bits used to address a FAT cluster. With FAT 32, we can use 4Kb clusters for DOS files. No doubt there will be NT drivers, but they are not yet available.

If you want to use a FAT 32 drive with

NT, it would be better to install an older version of DOS. Partition and format the partition under this version of the operating system. Install Windows 95 on this partition so that NT can read the FAT partition and consequently share the primary partition.

### Putting the boot in...

● "I am working for a project to get diskless workstations to run from a Windows NT server 3.51. NT, believe it or not, provides a remote boot service which allows it to happen. (To my surprise, I recently discovered this in the installation guide.) But I am having trouble with the boot PROM chips on the network cards.

Apparently, there are specific boot

PROMs for NetWare, as well as for NT. I have not been able to find a provider for the NT versions. Can you help me?"

Ivan

[ilabra@clink.samara.co.zw](mailto:ilabra@clink.samara.co.zw)

That is a problem. I'm afraid I've never been able to find LAN Manager remote boot PROMs either.

The other thing to remember is that you have to use cards with MAC addresses within Microsoft's pre-planned scheme of things for each manufacturer. Otherwise it doesn't do a good job of recognising them, and therefore pukka Novell/Eagle cards are the best bet.

Unless you're running DOS on the diskless machines, it's wise to forget the

### Two-way Winder

I've been reading Davey Winder's new book, *Sex and The Internet*. Firstly, let me get this out into the open: Davey's an acquaintance of mine, so I may be thought of as plugging the book. But I'm not.

The book is a well-written, humorous and authoritative guide (at the time of writing) to all the sites where things of a sexual nature within the bounds of reason, if not censorship, can be found.

This book can be thought of in two different ways: firstly, as a guide to where to find this type of material, and secondly, as a guide to where *not* to go so as *not* to discover this type of material.

Let me clarify what I mean. The first meaning is obvious, but the second perhaps not so. A network administrator may configure a firewall — a computer used to share and filter various bits and pieces out of a direct internet connection — in one of two ways. The firewall may only allow connections to and from trusted sites, say [www.bigcompany.com](http://www.bigcompany.com), or the firewall may disallow connections to sites such as a mythical [www.leatherknickers.com](http://www.leatherknickers.com).

With the information supplied in this book, a network administrator could compile a list of sites to which to disallow connections at all costs, rather than having to compile a list of trusted sites, which would certainly mean much more work.

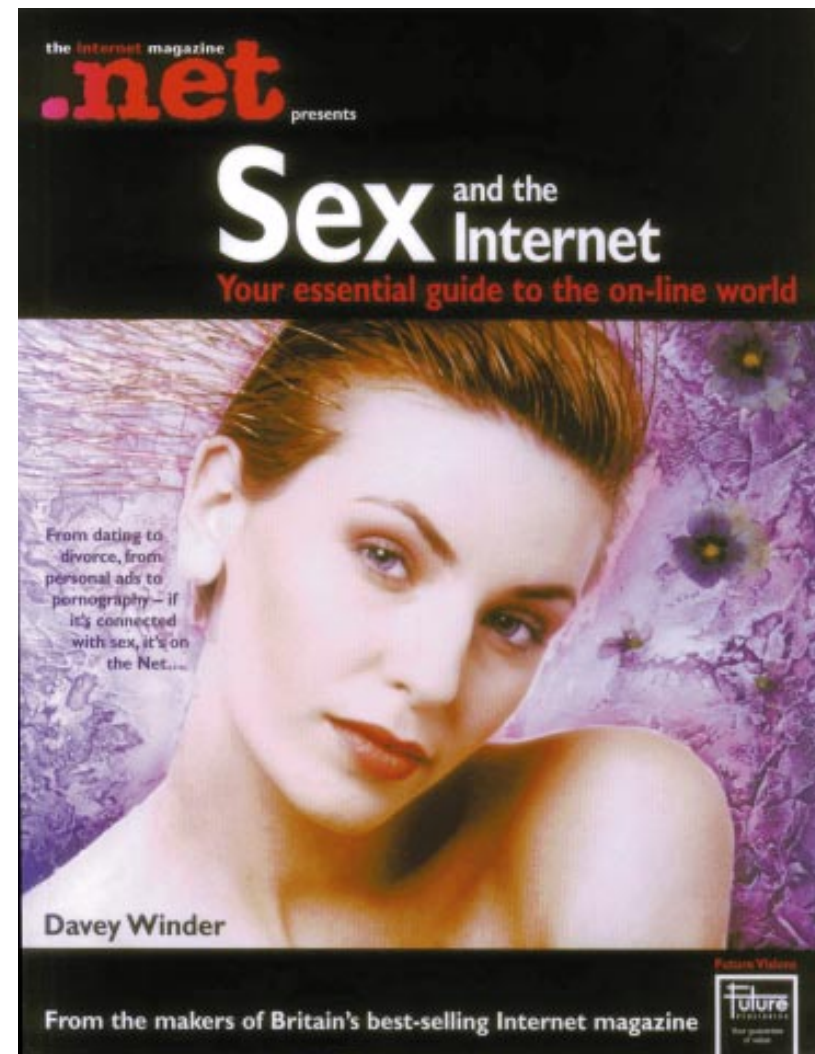
With this secondary strategy there would be loopholes, and the main use of a firewall is to prevent attacks on one's LAN from the outside. The economic reason behind blanking access to naughty sites is simply to prevent extraneous web browsing and time-loss during work-time.

Naturally, you wouldn't want young Thomasina, Richard or Harry browsing [www.big-bits-of-anatomy-of-your-](http://www.big-bits-of-anatomy-of-your-)

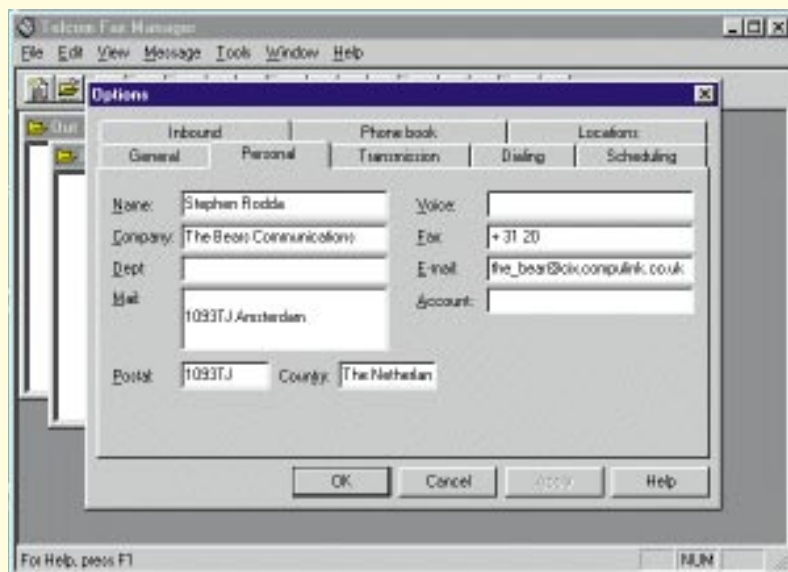
choice.com, so in an educational installation you'd probably only allow access to trusted sites. Apart from all that, it's entertaining and

a recommended read.

● *Sex and The Internet*. £12.99 from Future Publishing. ISBN: 1-85981-049-7.



You pays your money and you takes your choice: where to go, or where not to go, on the internet



The Telcom Fax client: sadly, I couldn't get the other bits to work

remote booting aspect. I've set up remote boot networks and although they work, and work very well, I don't think I'd do it again.

### ...I got the boot

● "Thanks for your reply." (See "Putting the boot in", above). "I actually solved the problem of the PROMs. There is a company in Canada called lanworks ([www.lanworks.com](http://www.lanworks.com)) which claims that it can do the boot PROMs. However, I would like to find out more about Microsoft's pre-planned scheme of MAC addresses. Can you direct me on that?"

Ivan

[ilabra@clink.samara.co.zw](mailto:ilabra@clink.samara.co.zw)

It's not actually Microsoft's pre-planned MAC address scheme; it's the MAC addresses used by the card manufacturers themselves. Certain manufacturers use certain ranges of addresses and Microsoft uses the addresses to identify the cards. As long as your clone NE2000 card doesn't use, say, a 3Com address there's no real problem, but you'll have to edit the remote boot service's configuration manually. I'm afraid it's quite a messy business, but then remote boot usually is messy, anyway.

### Making amends

"One of our NT Systems crashed. Following reboot, the disk administrator showed no file system on partition. The partition was a volume set with two volumes. Any idea how I might recover this partition?"

Do you know of a tool which can find the partition table of a drive containing

NTFS partitions where the table is lost?

Can someone post a place where I can download the NTFS package for Linux?"

Joerg Viernmann

[<jv@cadlab.de>](mailto:jv@cadlab.de)

All you have to do is to start the machine with your NT installation diskettes and accept the "repair" option. The installation program will prompt for your recovery disk and should then repair this for you.

With regards to the Linux driver, email [loewis@tiger.informatik.hu-berlin.de](mailto:loewis@tiger.informatik.hu-berlin.de) for information.

### No entry

"I run Windows 95, and successfully connect to NetWare and Windows networks. I want to connect to the firm's AS/400s. I thought it was just a case of installing MSDLC, but it didn't do much good. I suspect it's not as simple as this. All I want for now is access to the drives — client access will come later. I notice that IBM have a 95 beta available.

The other option is TCP/IP, which we have running on the AS/400. If I have TCP/IP on Windows 95, I should be able to ping the 400. We have a standard ethernet connection to the 400. When we use 3.1 or 3.11, we use all manner of drivers. I presumed 95 would have this functionality built-in."

Paul Moss

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Windows 95 has got TCP/IP built-in. The thing to remember is that TCP/IP is a transport protocol, much like IPX, but as in NetWare NCP you still have to run a filing

system as well.

Much the same is the case with TCP/IP. You have to have some form of file transfer protocol (or FTP). To use this, you have to have an FTP client on 95. Just type ftp from the command prompt, or use CuteFTP or some other commercial product, and run ftpd (the FTP daemon) on the AS/400, assuming it's not already running it.

Alternatively, install Samba on the AS/400 and then you can use NETBEUI over TCP/IP from Windows and mount drives properly on your desktop. To use Samba, you either have to use the Unix compiler on the AS/400 or download Samba from a ready-compiled source.

Samba is by far the easier option, although you may already be using NFS. If so, just install the NFS client onto the Windows 95 machines, direct from the CD. ■

### Next Month: heavy testing

As a taster for next month, I've had a Hewlett-Packard Colour LaserJet 5 delivered for network evaluation, so that's going to be tested under all the operating systems I can throw at it.

I've got the promise of an AMD-powered 80586 machine to look at and contrast with the more traditional Intel Pentium, and I've also got hold of a couple of utilities which add NFS and TCP/IP to Novell NetWare 3.1x more cheaply than the Novell product.