Help the

DO YOU HAVE AN UP-TO-DATE PC? Chances are – unless you have money to upgrade regularly – you're using a system that's a couple of years old. And if you're stuck on a system such as a 200MHz Pentium, you may well salivate at the thought of something much faster.

There are plenty of upgrades on offer from PC parts suppliers that can, apparently, breathe new life into your system. You could add a faster processor, more memory, better hard drives and end up with a PC the equal of the latest models.

That's the theory, but in practice, it might be a false economy. Take, for instance, a PC based on a 166MHz MMX Pentium with 64MB of memory – enough for general use these days. To go to a really fast processor would require a new motherboard. With most new motherboards being made for ATX-style cases, that means a new case too. And then new memory chips, since the old ones will not work on a new motherboard.

And here's where it all starts to add up. In fact, if you have a really old machine, about the only thing worth considering is an overdrive type processor that fits in the existing motherboard, costing around £100-150. Spend much more than that, and you stumble into dangerous territory where there may be as little as £100 difference between upgrading an old system and buying a new one. While for some users, that difference may be crucial, for others it's not – and remember that a new PC will come with a warranty, new software, faster hard drives, USB ports and, most likely, a better monitor than your old one.

In short, if you have anything that won't take

ILLUSTRATION JONNY MENDELSSON

aged?

DON'T JUST CHUCK YOUR OLD PC OUT. YOU CAN TEACH AN OLD DOG SOME INTERESTING NEW TRICKS, SAYS NIGEL WHITFIELD.

the latest chips without a motherboard upgrade, it simply isn't worth spending money on it when new systems can be bought for less than £500.

Another thing to bear in mind is that if you buy a new PC, your old one will still be hanging around. And that's what we're interested in here. Just because a system is slow when you're running Office 2000 doesn't mean its only value is as an oversized doorstop. There are still plenty of ways to make use of older hardware.

Got a buddy?

If you have around £140 to spare on top of the cost of a new PC, one thing that's worth looking at is Buddy. This is an expansion card that fits in your new system, and links via a cable to a small control box.

It's not the same as re-using the whole of your old computer – instead, you just plug the old keyboard, mouse and monitor into the control box and it gives you another terminal that lets two people use your new PC at the same time.

The technology isn't that new – it's been around for a while in the world of Unix systems – but on a home computer running Windows, it needs the fast processors that are used on the latest systems to provide two Windows desktops.

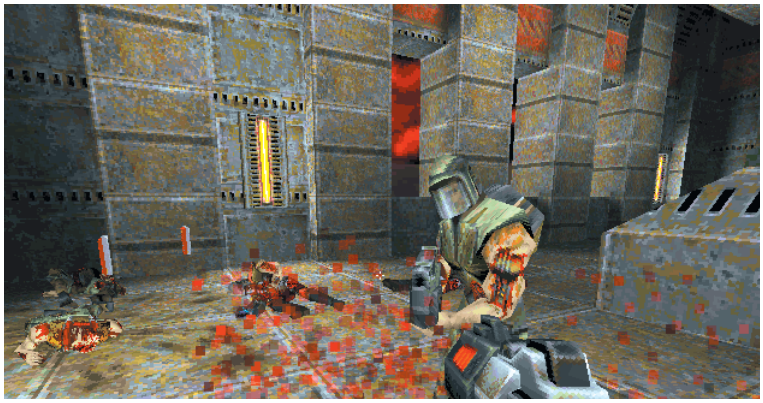
That said, your new PC – unless you're a heavy gamer – is spending most of its time twiddling its thumbs, waiting for you to press a key, so you'll find that using a sharing card such as this will provide two systems that have reasonable performance. This option will also allow you to transfer other parts of your old system, such as the hard drives or a CD-RW, into the new one.

But if you decide against transferring these

parts across, you could invest in a monitor and keyboard switch to put between the old monitor and the Buddy box. This will let you use the same screen either on your new system via the Buddy card, or on the old one. Switcher boxes start at around £30 for models with a mechanical switch. Alternatively you could opt for a unit such as the Belkin OmniCube that lets you switch the display from the keyboard.

Playing games

If your household or office has more than one up-to-date PC, capable of playing the latest multiplayer games, then you might consider keeping the old PC fully intact and using it as a server for networked play. Most PC games can be networked in one way or another and you'll be able to find out on the Internet whether or not



there are servers that you can download, and what they'll require in terms of hardware.

With Quake, for example, you can download servers from ID Software's pages at www.idsoftware.com/quakeworld – and the server simply needs a Windows 95 machine to run.

You'll also need, of course, a network card for each computer that you want to link up – but with cards costing £25 or less, that's not too much of a problem.

The old PC acting as a server will allow you to play multi-player games on your network without any of the clients being slowed down by having to handle all the network communication. If you connect to the Internet, though, there are a few reasons why you might want to use your own Quake server rather than one provided by your ISP. You can control all the settings on the server, such as the type of matches, or assign a password to restrict connections. And that means you and your friends can have a private game, without sharing the server with all the other users of your ISP.

Those with a very fast PC might not see much benefit in doing this – dumping some of the load from a 700MHz Pentium III onto an old P150 probably won't help things – but if you already have more than one computer and want to share games with lots of people, it's worth downloading the server for your favourite games and giving it a whirl to see what difference it makes.

Network-ready

Network cards aren't just used for games, of course. With the addition of a network card to your old and new PCs, you can link the two together using the standard file and print sharing in Windows.

For a home office, there are obvious advantages, allowing two people to work together and share information easily. That could mean allowing a machine in the kitchen to check your diary, if a call comes in late when you've shut the office door. Or investing in a full-blown multi-user accounts program.

There are other things you should consider, too. If you have a Windows printer, for example, you'll know that they can slow down a lot of the rest of the work you're doing, since they use the main processor to create the page that is to be printed. By networking two machines together you can leave your old PC to handle the printer, so that as soon as the job has been sent over the wire between them, you can switch back to your real work.

An old system could also be used as a backup server, either by adding a tape drive or just by using it to automatically back up your critical data onto its existing hard drive. There's no need to worry about floppy disks – you simply copy it all back from your old system should something go wrong.

Once your computers are networked, there are plenty of other things they can be used for. If the old system is running Windows 98 Second Edition, you can use the built-in Internet Connection Sharing facility. This lets you leave the modem on the old machine, but still access the Internet from the new one.

Why do this? Well, one advantage is extra security. If anyone does manage to attack the computer that's connected to the Internet – perhaps you forgot to set a password for file sharing – that's the only computer they'll reach. Your accounts and other important data can be stored safely on the new computer, away from prying eyes.

This isn't exclusive to Windows 98 SE. There are products, such as WinGate (www.wingate.com) which you can use to achieve the same result, using Windows 95 on your old PC. A version of WinGate that supports up to three users costs around £25, but you can download a trial version from the website as well.

Other systems

When it comes down to it, you probably decided to ditch your old system because it was slow. Slow running Windows.

But that doesn't mean it's unusable for other operating systems. Windows is a huge behemoth of an OS, and there are alternatives, such as Linux, that you can run on the same hardware, with much better performance.

For example, many people use ageing 486s running Linux as mail servers. As long as the

No such thing as a free computer?

If you're not tempted to re-use an old PC yourself, there are other options, besides leaving it out for the garbage collectors.

It may well be the case that the PC you're replacing is still fairly serviceable for business applications, even if it won't run the latest version of Office.

That doesn't matter to some organisations, especially in the voluntary sector, where massive software and hardware upgrades are seldom the norm. Some, you'll find, are still running systems based on DOS or Windows 3.1.

So, if you have no real use for an old computer, donating it to a charity or voluntary organisation is one option that you can consider. Some of the smaller organisations in your area might be crying out for computer hardware so it might be worthwhile giving them a call to offer your PC to them.

If you do go down this route, however, you might have to do some work to prepare a system yourself – and remember to check the licences for any software you installed to see whether or not you can pass it on to someone else. You may simply have to reformat the disk to ensure you're not unwittingly committing software piracy.

The simplest solution is to find an organisation that specialises in recycling computers for charity, and there are a number around the UK. Some sell the systems on to students or other people on low incomes. Others distribute them overseas, or to other charities. In all cases, though, they'll look after cleaning the system up and making sure it's only running licensed software.

You'll find some useful links to refurbishing computers on the DTI website at www.dti.gov.uk/support/comp.htm. If you'd like to support education, www.free-computers.org is a charity that distributes old computers to schools, in association with the Rotary Club. WasteWatch, an environmental organisation at www.wastewatch.org.uk, has a list of recyclers and other information on its site, on the Electronic Equipment fact sheet.

Even if it turns out that your old PC can't be used or refurbished, by passing it on to one of these organisations, you can be sure it won't just end up in a landfill site.

computer has enough RAM, around 20MB, then it will be able to deliver thousands of email messages a day without needing a reboot for several months.

If you have at least 16MB of memory – although preferably more – and a couple of hundred megabytes of disk space, then you can run Linux on your PC. And you'll find downloadable software on the Internet for most of the things discussed here – connection sharing, mail servers, firewall and even games servers. Not only this, but it'll all perform much faster than under Windows.

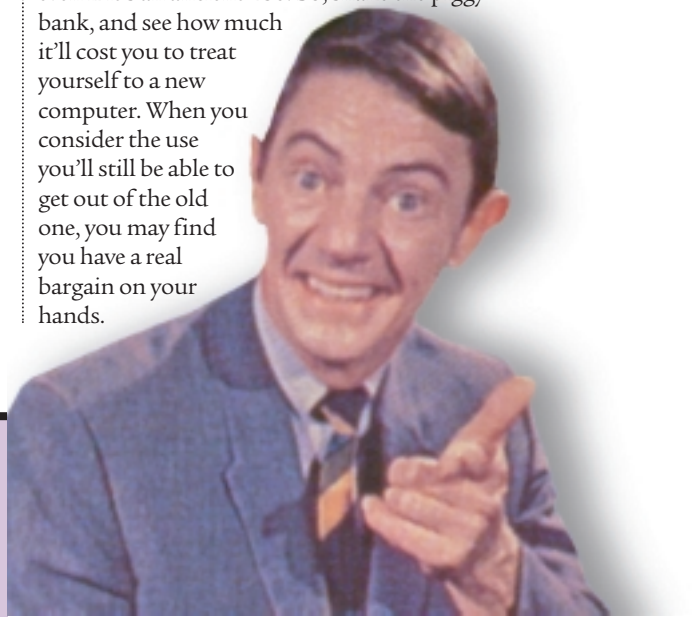
You can even download graphical word processors for Linux, such as WordPerfect, but adding a graphical interface will slow things down. For the best performance, especially if you want to run a Linux system as a firewall or an Internet gateway, it's worth the time and effort learning how to control the OS from the command line. When things are set up properly, you really can leave it alone to do its job.

There's no doubt that Linux is the most versatile option for an older PC. SAMBA, for example, turns the system into a Windows-compatible file and print server, while Netatalk or CAP will allow it to serve files to Apple Macintosh systems.

Add a web cache such as squid, or CERN's proxy server, and you can route all your Internet access through the Linux box, helping to make the most of your bandwidth with an intelligent local cache – a file where pages you frequently visit are held so that they don't have to be constantly downloaded from the Internet.

Best of all, Linux is 'free', although you can expect to pay around £40 for a copy in PC World, which is a lot less trouble than downloading it. Similarly, if you prefer to play with a commercial Unix, then why not order a free version of OpenServer or UnixWare from www.sco.com, for a similar price?

While upgrading an old PC is seldom cost-effective these days, that doesn't mean it has to be tossed into a landfill. As our suggestions show, there are still plenty of things you can do with it – even if it's an ancient 486. So, shake the piggy bank, and see how much it'll cost you to treat yourself to a new computer. When you consider the use you'll still be able to get out of the old one, you may find you have a real bargain on your hands.



CONTACTS

Belkin OmniCub monitor and keyboard switch costs £119.85 inc VAT, www.belkin.com 01604 678 300; PC World Buddy B-200 PC sharing system costs £139 inc VAT, buddy.direct2u.co.uk 0800 298 7178.