Losing your bottle

Fed up with your server? Is it a bottleneck which slows up your system? Terence Green uncorks some options to alleviate matters. Plus, is it better to buy or build your own PC?

Having viewed Warp rumours at www.jmast.se/warpx/ warpx.htm, reader Richard Avery wonders whether there is any other news of Warp 5. See the OS/2 columns in the March and April 97 issues of *PCW* for more details, but in summary, everything to do with Warp 5 seems to be going according to plan. The promised Java 1.1 update has arrived, new TCP/IP software for Warp Server is available, Netscape 4 is close to beta, and we're still waiting for SmartSuite for OS/2!

Having previously hedged my bets in consecutive columns with an each-way prediction on SMP support for the Warp client, I'd hazard a guess that Warp 5, client and server, will have a single SMP-enabled kernel. As for the rest, it will be improvements all round, much of it coming out as fixes, or Fix Packs. Recent Fix-Pack enhancements include improved drive support, a 32-bit CHKDSK, performance tuning, and a fix for a Warp 4 problem with DOS boxes hogging the system.

Rumours, news and any available information regarding Warp 5 can be found on the net

The SmartSuite for OS/2 Warp beta program is now under way. Perhaps we may see shipping product in 1998? Netscape Communicator for OS/2 will probably be in beta or shipping by the time this issue has been printed. You can check progress at http://people.netscape.com/danda/ index.html which is home to one of the developers. Another source of information and comment on OS/2 Warp issues can be found in "Timur Tabi's Guide for New and Potential OS/2 Users" at www.os2ss.com/ Information/NewUsers/.

In October, IBM announced TCP/IP 4.1 for Warp Server featuring enhanced Dynamic DNS support for faster, more secure intranets and OS/2 Warp, Windows 3.11, Windows 95, Mac and Windows NT clients. TCP/IP 4.1 for Warp Server includes a Java user interface. Administrators can log on to the network from any system. The Warp web page at www.software.ibm. com/os/warp will keep you up to date on these and other advances.

TCP/IP updates appear on IBM's software FTP site at ftp://service.software. ibm.com/ps/products/tcpip/ in the /beta sub-directory.
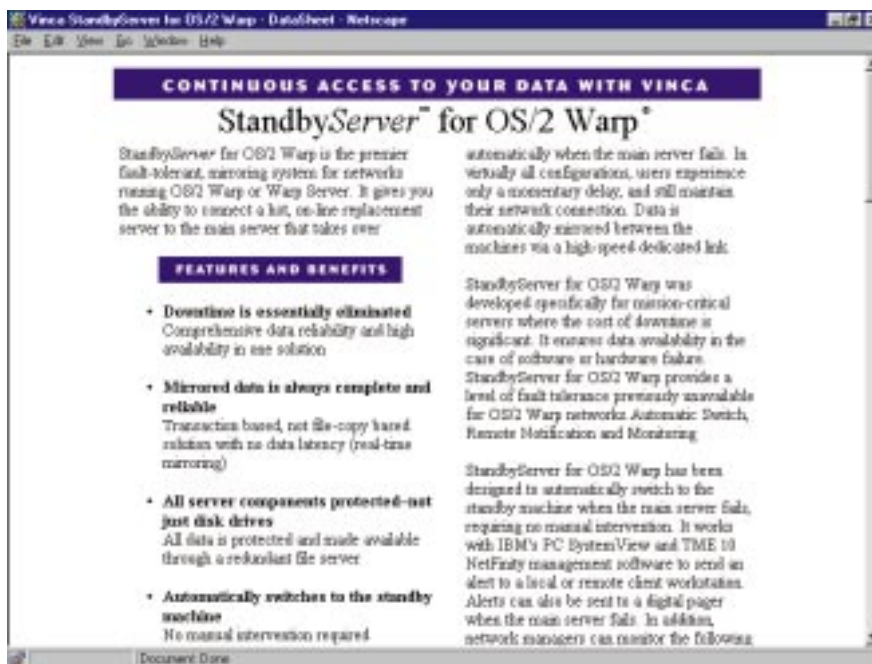
Message on a bottle
What to do when the server becomes the bottleneck? Intranets and web servers suck up CPU cycles and the Pentium Pro only supports four-way symmetric multi-processing. Current Pentium II systems are limited to dual processors.

Compaq solved the problem by buying Tandem's mid-range business, and then in

Tel's tips

■ **Fix Packs for Warp 3 (31) and Warp 4 (3)** are at ftp://ftp.software.ibm.com/ps/ products/os2/fixes/warpv4/ while the Team OS/2 site at www.cincyteamos2.org/ warpservice.html remains the best source of update and Fix Pack status.

■ **If you're getting into Java programming** and using OS/2 you might want to have a look at InstallShield Java Edition from www.installshield.com. InstallShield Java Edition is a visual tool for developing single installation programs that run on all Java-enabled platforms.

■ **Looking for a secure web server?** Get Lotus Domino Go Version 4.6 for OS/2 Warp from www.ics.raleigh.ibm.com/dominogowebserver/getos2.htm and tuning advice from www.software.ibm.com/os/warp/performance/os2gotip.html.

■ **IBM has a new OS/2 Warp driver** for CD-ROMs which supports the Microsoft Joliet file system, mixed case and long filenames at http://service.software.ibm.com/ os2ddpak/html/miscellb/os_2warp/updatedc/.

Standby your LAN. Vinca's high-availability system for Warp Server (*see below*)

September Intel bought Corollary and its eight-processor SMP design skills. If you're committed to server applications which only run on Windows NT, you're in a waiting game. But there are alternative options.

The new Warp Server for AS/400 can move an existing Warp Server file and print service on to an AS/400 application server. Huge overkill if you only need a faster PC, in which case the less expensive alternative would be the SMP upgrade for Warp Server Advanced and a four-way or eight-way SMP box. IBM, Intel and several others have used Corollary's eight-way systems.

Multiplatform software (Lotus Domino, Netscape servers and IBM software servers) runs on Windows NT, Warp Server and Unix platforms and reduces scalability constraints. Scalability and high-availability are often assumed to be the same thing; in fact, the former is about maintaining response times as the number of clients increases, while the latter is about ensuring continuous availability of the server for all clients.

Vinca Corporation's new StandbyServer for OS/2 is a high-availability solution for Warp Server. It adds an on-line secondary server which mirrors the primary server and takes over the load if the primary should fail.

Warp builder
Upgrading an ageing 486 system is a perennial concern. Is it better to buy from a major name, or to build your own? Several UK suppliers, such as Adams Technology and Elonex, offer OS/2 support, as do many of the larger international PC manufacturers.

When it comes to single PCs it's really up to the individual whether to buy or build. Building your own can save money if you already have a number of basic components — but you need to feel comfortable about wielding a screwdriver inside your PC. Some prior research pays dividends, especially if it's carried out on the net since that's where you'll find the best ongoing OS/2 support.

Stick to mainstream components such as ATI, Matrox and Adaptec, and be prepared to reconfigure and re-install a few times until you get it right. If you have to mix plug-and-play and ISA components in the system it can get tricky, regardless of the operating system.

I have seen no evidence of incompatibility in current non-Intel CPUs, but I would use Intel simply because the price/performance difference doesn't favour AMD or Cyrix. Be wary of older CPUs. Mark Davies says his IBM Valuepoint with IBM Blue Lightning DX2 66 chip "does not let Warp shut down or reboot". Swapping the chip for an Intel 486/33 fixed the problem, which was then reproduced on the system into which the Blue Lightning was transferred.

PCW Contact

Meeting our demands

Terence Green's prescription for new IBM products has finally been processed: WorkSpace On-Demand for large networks and the Upgrade Protection Option for Warp have arrived.

As I write, it is the end of August and we should be entering the Windows 98 hype zone by the time you read this. But think about CompuServe, which was swallowed up by AOL: three years ago, CompuServe was the dominant online service, but the internet brought it down. Things started to go wrong when CompuServe tried to bolt an internet interface onto its venerable product. So think on this: as far as I can make out, Windows 98 is Windows 95 with an internet interface bolted on…

Meanwhile, a couple of IBM announcements at the end of August finally revealed products that I have been wittering on about for ages: Workspace On-Demand, and Upgrade Protection.

Fly, bluebird, fly

Workspace On-Demand, the Bluebird network client software, is mainly of interest to people with large networks to maintain, Details can be found at www.software.ibm.com/os/warp/workspace. It provides centralised control of clients, applications and updates. Data is stored on the server and clients remote-boot from the server. Roaming clients can log in from any appropriate workstation.

Workspace On-Demand supports OS/2, DOS and Windows 3.x applications as well as Java applications. With a Citrix Winframe server in the mix, Win 32 applications (Win NT and Win 95) can be served up, too. There are two components: the WorkSpace On-Demand client which is essentially OS/2 Warp 4, and WorkSpace On-Demand Manager. The client needs a 486/33 PC or better, with 16Mb RAM, while the Manager runs on OS/2 Warp

New for Netscape

Netscape 2.02 for OS/2 has been updated to include the security-problem fix, although there's still no sign of Netscape 4.0 for OS/2 Warp

Server. A local hard disk is optional and if present will be used as a cache for reasons of performance.

Based on OS/2 Warp and Warp Server, Workspace On-Demand has two specific objectives. First, it provides real centralised management, leading to a reduction in total cost of ownership (TCO). Microsoft's NetPC and Zero Administration Kit does not do much more than automate the process of keeping up with the steady flow of Windows upgrades and updates.

Second, if you run client/server applications with DOS and Windows 3.1 clients (with or without OS/2 servers or clients) Workspace On-Demand enables you to maintain the client/server environment while introducing Java-based network computing applications.

Workspace On-Demand can do this because, in contrast to the Windows NT and Windows 95 operating systems, it fully supports Java and can run Java applications on the client (applets) or server (servlets).

Upgrade Protection option

Upgrade Protection should appeal to those who want to keep up to date with Warp developments. IBM has opened up the Upgrade Protection Option (UPO) for OS/2 Warp to all, via a subscription offer. Previously available only to customers who purchased $10,000-worth of IBM software, UPO can now be bought in single units through this offer.

IBM offers updates and new features for OS/2 Warp, Warp Server and WorkSpace On-Demand customers via the IBM Software Choice web site at www.software.ibm.com. Some of the features on this site are freely downloadable, although others are only available to subscribers with an access username and password.

The UPO subscription includes any new features as well as new major versions which ship during the two-year period covered. Since we know that Warp 5 is in the pipeline for a mid-1998 delivery, buying a subscription now is like buying the next version of Warp by instalments.

File system drivers

There are a couple of new file-system drivers for Linux and Windows NT file systems. Be careful with these drivers if you are planning to use them with data that you would not like to lose, and if you don't have an up-to-date backup. A Linux EXT2FS partition file-system driver for OS/2 can be

Question corner

Q I have had a problem deleting a file from the Warp 4 desktop because it is apparently being used by another program.

A Occasionally this happens when a file's directory data has become deranged. If you are sure the file is unwanted and not in use, you can delete it by rebooting and hitting ALT-F1 when the OS/2 blob appears. Opt to boot to a command line from the ensuing menu, change to the desktop directory and delete the file. Exit and reboot. Cross your fingers in case you really needed that file.

I been advising people with installation problems to make use of the WAPINST.ZIP file which has newer drivers for the Installation diskettes. Well, the name has now been changed to WRP34INS.ZIP. Look for it at service.boulder.ibm.com/ps/products/os2/fixes/wrp34ins/.

The large EIDE drive problem seems to have been narrowed down to drives over 4Gb. Get the replacement IBM1S506.ADD driver from the Device Driver Pak Online at service.software.ibm.com/os2ddpak/.

It's still standing!

SmartSuite 97 for OS/2 promised for Q4 this year! Six native OS/2 applications — incredible! And we thought Lotus had forgotten about it

found on the EXT2-OS2 home page at www.geocities.com/SiliconValley/Bay/5313. The driver, ext2-os2.ifs, enables OS/2 to see native Linux partitions with read/write access. Linux ext2fs partitions are given OS/2 drive letters and can be formatted or checked from OS/2. The driver is a port of the original Linux driver, along with several of the Linux ext2 file system utilities. The port is the work of an IBMer but done in his leisure time, so it is not an official IBM driver.

While the Linux file-system driver is already at version 2.4, a new Windows NT file system (NTFS) driver is still at the early beta stage. The author claims that NTFS-

OS2 v.0.01 is "Currently only a collection of tools with which to access a Windows NT file system (NTFS) in read-only mode", so be careful. Once again, it is a port of some code that originated as a Linux NTFS driver. Look for it at ftp-os2.nmsu.edu/pub/os2/system/drivers/filesys/ntsf_001.zip or at ftp.leo.org/pub/comp/os/os2/drivers/ifs/ntfs001.zip.

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Drive ways

Terence Green examines various drive problems that readers have reported in connection with Warp, considers the effects of Windows 98, and tackles decoding and Bus problems.

A s we discovered back in July, the next version of Windows 95 is to be called Windows 98. The confusion over whether to use Windows NT Workstation instead of Windows 95/98 is set to continue for a long time yet. We also discovered that Warp Server is increasing its penetration in the mission-critical environments in major banks, worldwide. Considering these two facts together, I can't think of a better reason to remain confident that Warp continues to be a viable alternative to Windows on the desktop.
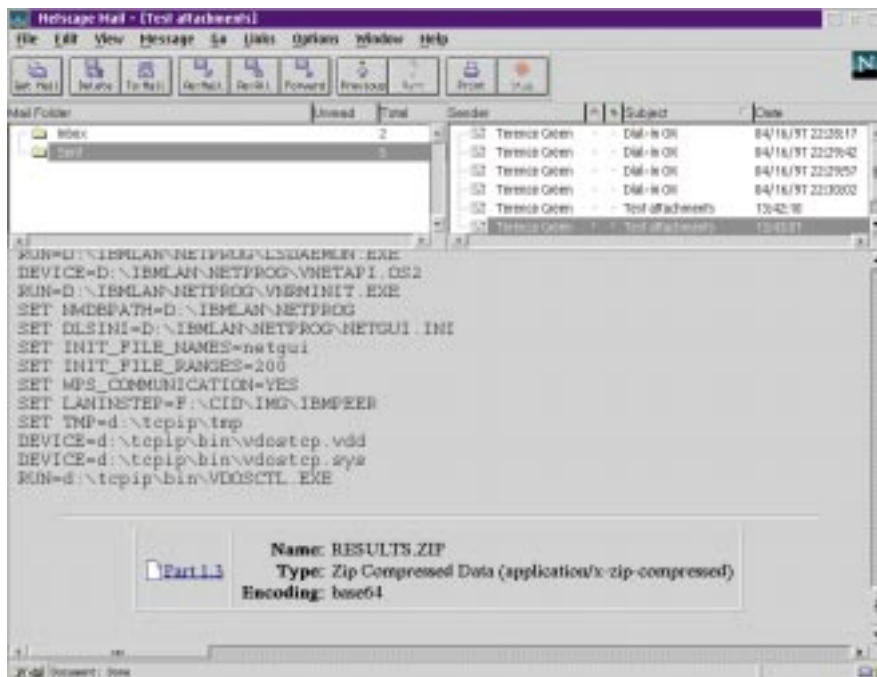
As long as Warp Server continues to be successful, Warp will be maintained and improved. Apart from devices for locking users into a Microsoft world, there is nothing startlingly new in Windows 98: why does Microsoft think that recreating the old, failed, IBM way is going to work?

Suck it and see

Augustin Man wrote to me with a problem that affected some Java code he was trying between Linux and Warp Connect boxes on a LAN. He included a lot of Java code which, I am afraid, means nothing to me because I am not a programmer. I am happy to answer queries if and when I can, but please don't ask me about Java problems!

For everyone sending me lists of hardware wondering whether Warp will run; I cannot provide categorical answers here either. If your PC is not on the Warp compatibility list, the only solution is to suck it and see. If the PC were deterministic, the world would be a better place, but the sorry truth is that two identical PCs can display radically opposed behaviour.

People do tend to worry whether Warp dislikes non-Intel CPUs but I've had only one reader actually report a problem. In the

Fig 1 Netscape Navigator for OS/2 Mail can MIME-encode file attachments to send with the message body. Recipients need email software that can decode the attachment

end he solved it by exchanging one SoundBlaster card for another with a different device driver, and neither he nor I am any the wiser as to the real cause.

I have noticed no particular AMD or Cyrix problems reported on the internet, but if any readers have discovered specific issues, I would like to hear from them.
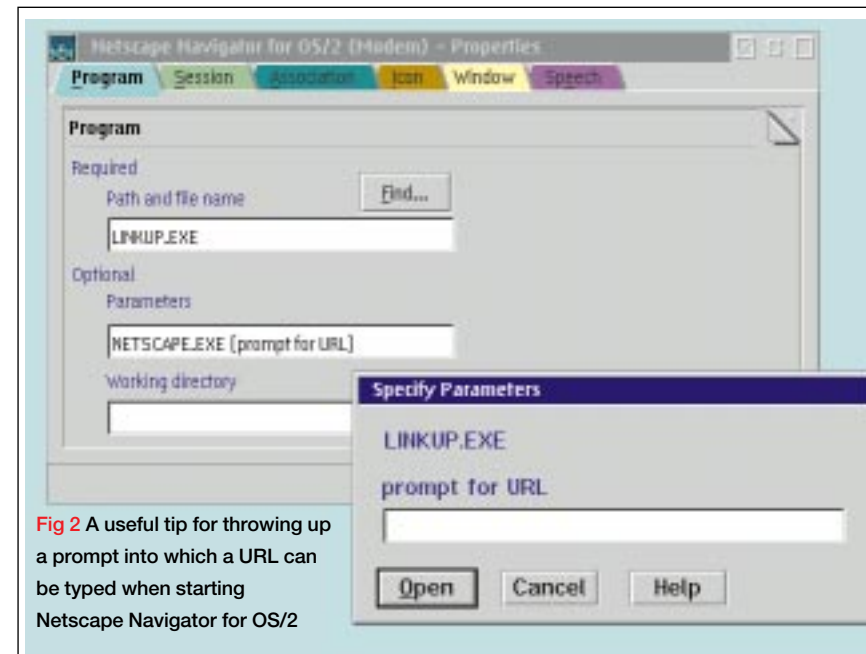
Coded messages

Reader Paul Smith had a problem where recipients of email with attachments Paul sent from Netscape Navigator for OS/2, received the attachment in the body of the message. That's normal, because Netscape sends mail attachments encoded as part of the message body. The recipient's mail

program should be able to decode it. If not, they should consider using a more recent version or else copy the message to a file and run a decoder over it (Fig 1).

On the Buses

Edward Gladwin asked whether Warp supports the Universal Serial Bus in his PC? At this point it doesn't, but it probably will when USB products start shipping. Most manufacturers will provide support for Windows 95 first, because that is what ships on most PCs today.

New hardware excepted, most Warp hardware problems can be resolved with patience and a methodical approach, and access to the internet for driver updates.

Fig 2 A useful tip for throwing up a prompt into which a URL can be typed when starting Netscape Navigator for OS/2

A prompt tip

Cecil Wallis posted a follow-up to the use of LINKUP to automate dial-up (*PCW August*). He wanted to type URLs in to start a dial-up link, so he modified the Parameter filed in the Settings/Properties dialog to include a prompt (Fig 2). The entry in the Parameter field should read: NETSCAPE.EXE [prompt for URL]. Thereafter, every time Netscape is started, a URL prompt will appear. Type in a URL, or leave the box empty and click Open to continue.

Unfortunately, there are also very many reasons why a particular combination may not work, which is why it is hard to provide a concise answer to the "will it work?" questions. More often than not, a failure to install is the result of a hardware configuration problem.

Don't let it drive you mad

Several readers have reported problems with IDE CD-ROM drives, especially with Warp 3 which came out when IDE CD-ROMs were rare. The OS/2 Device Driver Pak Online <service.software.ibm.com/os2ddpak> is well worth a visit.

There has been a steady stream of updates recently, for removable drives, large drives and CD-ROM drives. Sometimes it might be a buggy Warp driver. More often, especially when upgrading from a DOS or Windows system, it's because Warp is more picky about hardware conflicts. Sometimes it's just a configuration problem that Warp hasn't resolved.

This happens with jumpered ISA adaptors which have been changed from the default. It may have happened without your knowledge if you had acquired a used PC, or if the jumper change had been made by the PC builder. Many CD-ROM drives attached to ISA adaptors can be made to

work if you know the jumper setting. With luck, it will be marked on the adapter and a quick CONFIG.SYS edit to add the /P:XXX I/O port address parameter to the driver will fix the problem. Taking the SoundBlaster card CD interface as an example, you would edit the BASEDEV=SBCD2.ADD statement to add the port address:

```
BASEDEV=SBCD2.ADD /Pxxx
```

where xxx is the sound card's address.

Don't discount hardware or device driver glitches as a possible cause of problems with applications. Pat Soutter wrote to me with a NetWare slowdown problem. When I searched Usenet and the Novell web site I discovered many messages relating to slowdowns, but in this case Pat solved the problem himself by downloading the latest driver for the 3Com network interface card.

Finally, Stuart Hepburn asked about manuals for the Warp 3 version of IBM Works. Printed manuals can be ordered from the IBM Publications Library on 01256 478166.

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Source notes

Terence Green presents some foundation URLs for problem solving, general information and upgrades. There's a word on disk-drive dilemmas, and corrections to the Fix Pack in July.

Several people have written in to this column, querying internet addresses for various information sources and software upgrades I have mentioned. Usually I give the addresses, if not in the body copy, then in the illustrations. Sometimes, for reasons of space, the illustrations may be omitted, so here is a brief list of good starting points:

■ The OS/2 Device Driver Pak Online at service.software.ibm.com/os2ddpak collates most of the drivers available online, and provides links to the hardware vendor ftp sites from where new drivers may be obtained.

■ Alternatively, you might want to check out the OS/2 Master Update list at www.cincyteamos2.org/masterupdate.html which includes some useful undocumented Warp tips.

Useful downloads from the ftp site for people having problems installing Warp 4 or Warp 3 over earlier versions include ATAPI.ZIP which updates the Warp 3 CD-ROM detection, and WARPINST.ZIP which updates the Warp 4 Install disks with more recent files than those that were originally shipped. Both programs have been featured on earlier *PCW* CDs, too.

■ Another site worth investigating is the OS/2 Warp drivers and fixes page which can be found at ps.boulder. ibm.com/. It includes news about fixes and language versions as well as technical support information.

On the "OS/2 Fixes, Drivers, Files and News" page you will also find a link to the IBM Software Download FTP Server

This Lotus Domino site hosts a Notes database of Technical and Support information on all versions of OS/2 and has its own search engine: very good for tracking down the answer to specific problems

(service.boulder.ibm.com/ps/ products/os2) which is useful if you already know what you are looking for.

■ If you are unsure about the solution to a problem you are experiencing, you may well be able to track it down in IBM Technical Documents: a Lotus Domino site hosting a Notes database stuffed to the gunwales with problem-resolution documents.

This can be found at service3. boulder.ibm.com/pspsdocs.nsf/ and, because it is a Notes database, it includes a nifty search engine of its own to help track down specific hardware and software issues with all OS/2 versions.

The OS/2 Master Updates list is a mine of useful information, as well as being the easiest way to track down any updates that might apply to your Warp system

Warp 4 Fix Pack 1: Snags & Queries

A couple of queries about the copy of Warp 4 Fix Pack 1 on July's cover disc have come in. The placement of files on the *PCW* CD is not exactly intuitive. The location of OS/2 files in July, up to and including July's, is:

```
CD-Drive:\HTML\RES\RESOURCE\HANDS\OS2
```

Steve Wall hit a snag when trying to create the Fix Pack disks using the "loaddsk" command. He receives a message saying the command is not recognised. Thanks for spotting my cleverly disguised cock-up, Steve, and apologies to you and the other correspondents I managed to confuse, since the program is actually called LOADDSKF.EXE. Your best bet is to follow the "Creating Fixpak Diskettes" section in the README.1ST file included with the Fix Pack.

And had I managed to give out the right name, it probably still wouldn't have worked since LOADDSKF.EXE is most probably not in the path or even on the hard disk. You can find LOADDSKF.EXE on the Warp 4 CD in the \DISKIMGS sub-directory. It's also included in the WKICKR.ZIP file distributed by IBM. A copy of WKICKR.ZIP with LOADDSKF.EXE can be found on the March 1997 *PCW* CD.

Disk drive problems

On several occasions, this column has covered installation and boot problems in which the hard disk, CD-ROM drive or boot partition becomes inaccessible. Readers continue to write in with similar problems. It is hard to generalise much beyond what has already been covered in past columns, since there are a multitude of reasons why the install program might fail or lock up.

Quite often it is the result of a lack of specific hardware support, in which case you probably need updated device drivers; but it can also be a physical configuration problem. Try and make sure IDE or EIDE hard disks and CD-ROM drives do not share a controller. Put the hard disk on the primary and the CD-ROM on the secondary EIDE/IDE controller. Make sure master and slave combinations are correctly jumpered.

Another quirk occurs if you add a second hard disk and that drive has an existing primary partition. As the BIOS ensures that a primary partition on the second physical drive automatically becomes D:, this will change the drive lettering for your OS/2 system if it boots from a logical drive on the first hard disk. You will have to boot from floppies (DOS will do) and run FDISK to make all partitions on the second drive logical drives in an extended partition.

Network Notes

Jonathan Phillips wonders whether there are any details on how to set up Lotus Notes for OS/2, for using the IBM network: "*It would really make life easier for me to manage multiple email addresses using internet access,*" he writes. Look at service2. boulder.ibm.com/notespop/notespop.htm where the Notes Internet Client is described and made available for download. It is a 2Mb download and instructions are included.

News from Warp FM

The OS/2 Warp FM news service at www.software.ibm.com/os/warp/warpfm is a source of current and archived news on Warp. It is now also available on a list server which will send you a regular email. To subscribe, send an email to warpfm@mail.software.ibm/warpfm.html including in the body text the line: "subscribe <your email address>"

Readers help out

■ Barry Marsden writes with details of a source for Gravis Ultrasound OS/2 drivers for cards up to and including the UltiMOD Plug-and-Play card. The site includes the Manley drivers which have long been the shareware alternative in the absence of Gravis' own support for OS/2. The driver source is maintained by Sander van Leeuwen sandervl@xs4all.nl who also maintains a page which includes the latest Manley drivers and UltiMOD updates at www.polsci.wvu.edu/Henry/Sander or www.xs4all.nl/~sandervl.

■ Paul Bunyan sends details of a new OS/2 section on the Tucows (The Ultimate Collection Of Winsock Software) web site at www.tucows.com or at the UK mirror site, tucows.cableinet.net.

■ A few months ago I mentioned the SwapMon swapper monitor utility from Keith Jones. He has now updated the program so it no longer requires IBM's Theseus memory utility. The latest version of SwapMon can be found at www.users.dircon.co.uk/~kjones/.

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The Warp **factor**

Terence Green ponders the future of OS/2: will Warp development continue, or fade? Should you upgrade Warp? He believes so. And here's what IBM told him about the Bluebird Warp client.

The future of OS/2 has been a subject of some interest over the years but 1996 was a particularly good year for rumours of its death. Numerous readers looking to upgrade to something a little more reliable than Windows 3.1 or Windows 95 have written to me, asking whether it's worth taking the plunge with Warp in the light of all this speculation in the Press.

Since he sees a strong shift to Windows 95, reader Neil Rackett wonders whether there is any point in upgrading from Warp 3 to Warp 4 now that Java 1.02 is freely available for Warp 3? It's a good point, but I do still think it's worth upgrading.

Warp 4 is the base of the next wave of Warp improvements and enhancements to internet and network connectivity. And, despite appearances, far fewer Windows 95 pre-loads than expected were shipped last year. In fact, people chose to buy 20 million Windows 3.1 client licences in 1996.

Far from shifting to Windows 95, the industry is accepting a heterogenous world: shown by the support that everyone in the industry, including Microsoft, is giving to Java. Just *having* Java is a start, but you also want to start thinking of interesting ways of using it.

Jazzing-up web pages is only the start. Java really starts to get interesting when it runs on the server, too, and does meaningful things from there like searching

Above Bluebird helps companies to manage and administer applications for desktop clients. Java (run in a browser or on the desktop), Win32, Windows, OS/2 and DOS applications are directly supported

Right Bluebird can be implemented manually, using technology in Warp Server today; for the shipped version, IBM will provide an integrated systems management and network administration utility

databases without downloading a mass of code to your desktop. This is where Warp is headed and where Windows 95 is going to follow.

Bluebird

At its annual technical conference, in May, IBM demonstrated the "Bluebird" Warp client which has been trailed in this column for some time. I had an opportunity to speak to some of the IBM executives and managers behind Warp.

Having talked to Anthony Brown, who manages new technology for Warp and is responsible for Bluebird, John Albee, the Warp product manager, and John Soyring, director of worldwide technical projects for personal computer operating systems, I came away feeling pretty relaxed about continuing with Warp as my desktop. I had wanted to find out whether or not the new Warp policy of concentrating on big business, specifically banks and large financial corporations, was bad news for Warp users. The answer is that unless you're looking for a games machine, Warp, like the pizza man, continues to deliver.

Warp is going to be around for years to come but IBM is no longer cloning Microsoft APIs (DOS, Windows, Open32) nor pushing OS/2 client applications. Instead, developers are being encouraged to develop to the server OS/2 APIs and a steady transition to Java is under way.

John Soyring claims the plan is to protect the existing investments that companies have made in Warp, and to enhance them, while also seeking to reduce the total cost of ownership.

The Warp strategy is based on IBM's Network Computing Framework (NCF), announced in April. The NCF is designed to support existing systems with an open-ended timetable for a transition to Java. The only difference between IBM's strategy and Microsoft's strategy is that the former supports more server and client platforms and can be rolled out today.

Additionally, and crucial to managing network costs, Warp Server supports both locally booted clients and diskless Warp clients which boot from a boot image held on the server. Windows NT cannot yet do this for Windows 95 clients, which means they have to boot from a local hard disk. Warp's flexibility makes management easier and is a key part of Bluebird which is based on Warp Server. Bluebird supports

both locally-booted and server-booted (Remote IPL, or RIPL in IBM-ese) workstations.

Bluebird enables a Warp-based client to run Java, OS/2, Windows and DOS applications, natively. By adding a Windows NT-based Citrix WinFrame Windows applications server to the network, a Bluebird client can run Win32 applications, too. And, there are several X-servers for Warp that will enable the Bluebird server to provide support for Unix applications.

Bluebird is only one of several novel Warp-based systems available now or in the pipeline. Expect to see Warp-embedded systems such as a Fujitsu fax machine, soon. And, there's an Internet Access set-top box imminent and a GPS navigational device for cars. Believe it or not, there's a Warp pacemaker, too, and it doesn't get more mission-critical than that!

Warp continues

So Warp remains a crucial part of IBM's strategy and that means a continuing development, since, with the exception of the SMP version, Warp's kernel is identical whether it's running a traditional locally-booted Warp power-user client or the Bluebird client booted from a Warp Server.

What all this means for Warp users is that Warp 5.0 can be expected on schedule early next year. There will not be an SMP version of the Warp client since it imposes a performance penalty when running on uniprocessor systems. In any event, the NCF proposes to move much of the processing to the server. So, in every respect Warp continues to be the most reliable and flexible client operating system.

OS/2's **top ten**

Years, that is. The tenth anniversary of OS/2 prompts Terence Green to exhort users to make that net connection. Automatic dialling from DOIP and REXX resurface, and there's Warp NCs, too.

Browsing the press in late April for coverage of the tenth anniversary of OS/2 (1987-1997) I came across a comment to the effect that: "OS/2 Warp Server sales are only about half (Windows) NT Server's".

Only half? For Warp Server to take that many licences after so many exaggerated rumours of OS/2's death, and to do so in the face of massive coverage for Windows NT, is encouraging. IDC research produced preliminary sales estimates for server operating systems in 1996. Out of 2.64 million licences sold, Warp Server took 13 percent, against Windows NT's 27 percent. Novell managed 37 percent and Unix took the rest.

Warp on the web side

A recent Dataquest report made encouraging noises about OS/2's future and IBM has certainly not forgotten it. Earlier this year IBM said R&D expenditure continues at the same level and the arrival of a new management team last March has re-invigorated Warp.

Interestingly, readers have started sending me copies of these and similar reports which they've gleaned online. This is an excellent example of the information opportunity represented by the internet. All OS/2 users are aware of diminishing coverage in the media, with the notable exception of *PCW*. But on the information highway it's still possible to keep in touch with what is really happening, which is why OS/2 users should make a point of getting connected.
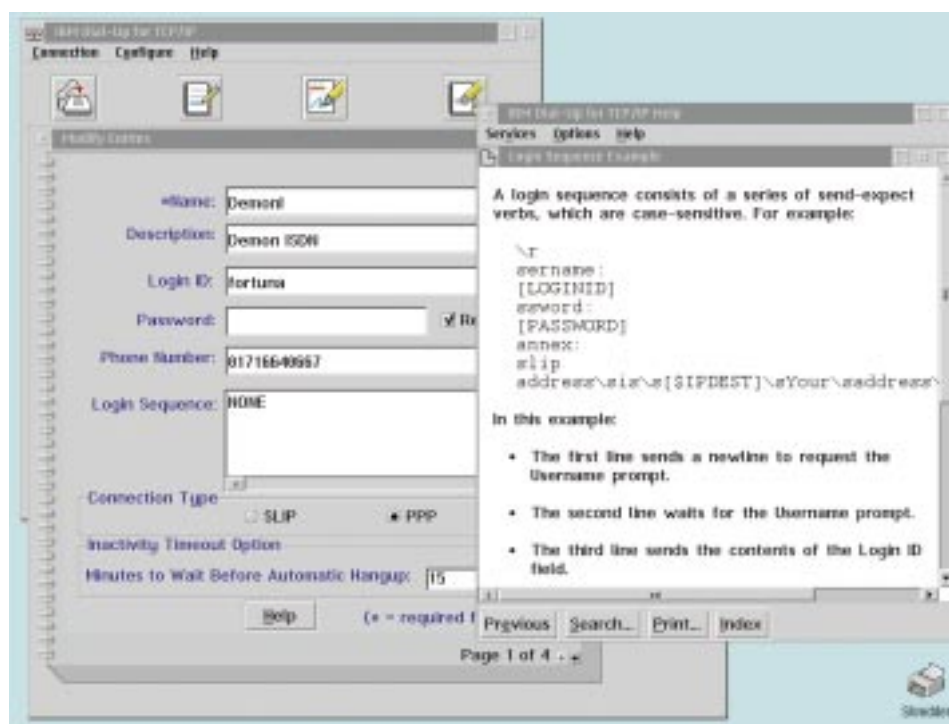
View the new OS/2 Warp web page at

www.software.ibm.com/os/warp for a start. It has been jazzed up, and Software Choices, the upgrade plan trailed in earlier *PCW* columns, has been announced. It came late and is restricted to larger organisations which buy a lot of OS/2, but

Place the cursor over the Login Sequence field and click on Help for context-sensitive assistance on login sequences

plans are under way to bring it to a wider audience.

Subscribing to the Upgrade Protection Plan amounts to buying the next version of Warp incrementally, either downloading the components as they appear on the website or purchasing a quarterly CD-ROM. When Warp 5 appears some time early in 1998, it will be the sum of the quarterly upgrades.

The message is, get connected!

Another subject we've recently touched on is the evolving Warp-based network computer. Take Warp, add a selection of Lotus Kona Desktop Components (or any other Java browser) and you have a

machine that runs OS/2, DOS, Windows and Java applications. As more Java applications appear, you have freedom to migrate from the older applications and drop the WorkPlace Shell, ending up with a thin client network computer running Java applications, on a reliable kernel, with all Warp's solid networking and comms attributes.

So the Warp message is to get

The road to Warp 5 is outlined on the IBM Software Choices web pages, a mixture of free and paid-for upgrades that incrementally will add up to the next major version of Warp in 1998

connected and my email correspondence shows that more readers are doing just that — if they can. Several have written in about problems with IBM's Internet Dialler, Dial Other Internet Provider, or DOIP. Most involve Warp 3 which shipped with a SLIP driver. This needs to be upgraded to make the PPP connections which most internet service providers now support.

The latest version of the DOIP SLIPPM.EXE dialler can be downloaded by following links from www.software.ibm.com or use the version that appeared on the cover CD with the November 1996 issue of *PCW*. A third-party dialler, InJoy, appeared on our April issue cover disc.

Automatic dialling

Bob Towers writes asking if it is possible to automate the DOIP dialler. With REXX, you can do anything. I have some simple suggestions for REXX illiterates like myself.

I don't autodial. I prefer to type in my password each time rather than save it because the password is rather foolishly stored as plain text. Automation depends on the LINKUP.EXE program which triggers the DOIP dialler to make the connection to an ISP before starting an internet program. LINKUP only works for OS/2 programs.

1. First, prepare DOIP. There are some useful instructions under Login Sequence in DOIP Help. The November 1996 issue of *PCW* with the Dialler on our cover disc includes helpful instructions for DOIP setup. In order to have DOIP dial immediately, it is started by LINKUP. Enter the Name of the Connection to dial in the Parameters field of DOIP Properties.

2. Now create a program object for Web Explorer (or Netscape Navigator for OS/2) and type LINKUP.EXE in the Path and Filename field on the Program page.

3. Enter the name of the application in the Optional Parameter field. You can modify the way Web Explorer starts with options (see the Help file). Close Properties.

4. Double-click the new program object to start it. You'll have to click Start Connection in LINKUP to start DOIP but that's all. If you need a fully automated solution, the next step would be a simple batch file to start DOIP, followed by a pause before starting the internet program and then WebEx. Beyond that, you have to get into REXX to achieve automatic re-dial on busy.

Java good time?

From the JavaOne conference, Terence Green foresees a change from the Windows-centric world. He takes a look at Corel Office for Java and new IBM Clients. Plus, how to fight FAT32.

At the JavaOne conference last April, Sun announced the adoption of the Lotus InfoBus as the standard method for sharing data between JavaBeans. The InfoBus is part of the Java-enabling technology in the Lotus Kona Desktop, and JavaBeans is a component architecture enabling Java applets to be assembled into applications.
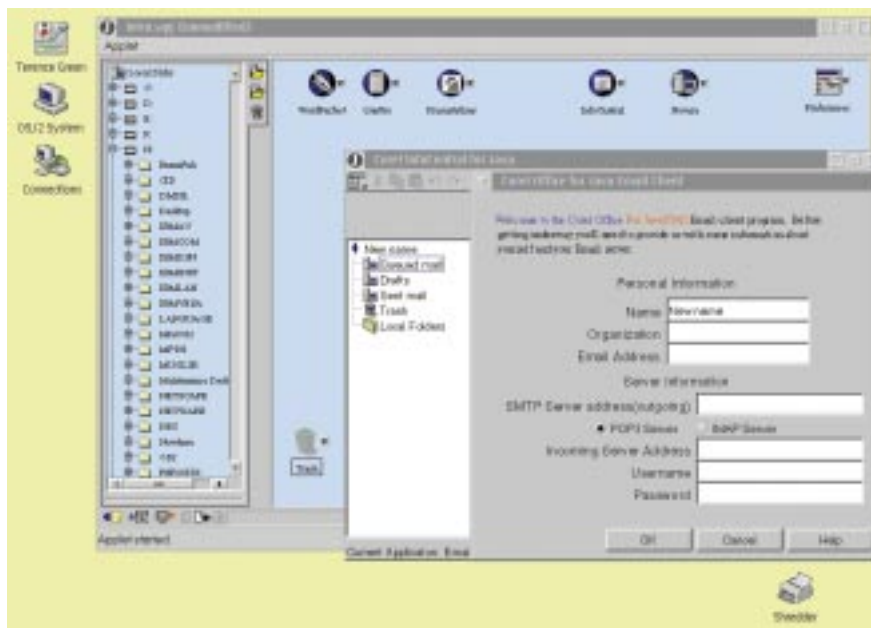
Since the Lotus InfoBus enables Java applications to exchange data dynamically, it becomes possible for internet/intranet applications to be assembled from JavaBeans components without the need for programming. Thus, the more developers who incorporate the InfoBus, the easier it will become to create truly distributed applications.

At the time of writing, the InfoBus APIs were due to be published for review in May or June and incorporated in a future release of the Java Developer's Kit. It's amazing how quickly Java has established itself. It is barely two years since it first surfaced.

Further news confirms the shift from a Windows-centric world: just a few days after the JavaOne conference it was reported that Microsoft is porting significant sections of the Win32 to Java classes. The Microsoft plan will assist Windows developers in porting their Windows-only applications to the more open Java environment. But the really useful Java applications are more likely to come from the new work being carried out by Lotus with the Kona Desktop, for instance.

Corel Office for Java
Somewhere in between new Java applications and ports of Windows applications, sits Corel Office for Java. I mentioned the pre-alpha version a while

Corel Office for Java is still in beta, and needs lots more work and a fast PC. Nevertheless, it is evidence that Java is more than a web animation tool
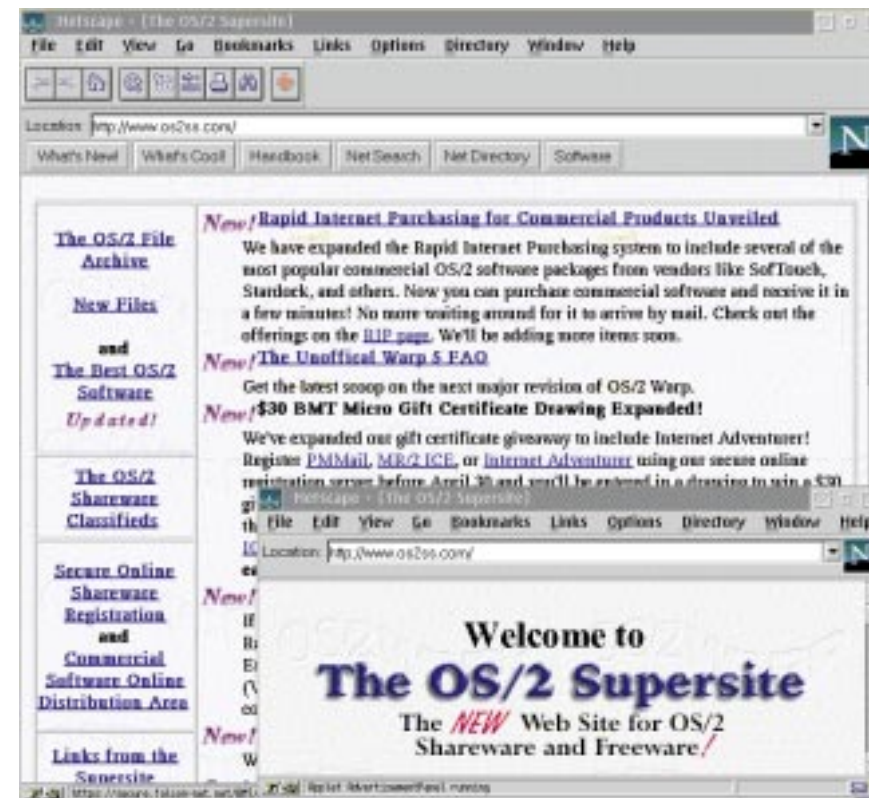
ago: that version could only be used by connecting over the internet to Corel, but now a real beta has become available for download and local testing in an OS/2 version. It's also available in Windows 95/NT and Unix flavours from the www.corel.com web site. As far as I can tell from the licence, I can't put this on the *PCW* cover disc — but at least the OS/2 version is a not-too-large 7.5Mb download. To save files locally, it needs the Java Development Kit 1.02 which featured on the June edition of our *PCW* CD. JDK 1.02 is required for the security extensions which enable files to be saved on the local hard disk.

A Netscape for OS/2 update is another bulky new item that cannot be included on our cover disc because of licence restrictions. Since it weighs in at nearly 5Mb

for the basic package and almost 10Mb if the plug-in support is added, it's a big download for those of us with 28.8K (or slower) modems.

So is it worth downloading? Netscape says it "encourages" all existing users to take the upgrade and generally this seems like good advice. It will install directly over the original December 1996 US version. If you use Netscape for OS/2 infrequently and you're happy with the US English version, you might want to wait for Netscape 4.0 for OS/2 which will be based on the Netscape 4.0 Communicator now available as a Windows beta.

The major change in the new version is that it now fully supports international languages including Arabic and Hebrew (but not Chinese). The changes also affect

The OS/2 SuperSite at www.os2ss.com is relatively new but growing quickly. It is worth a visit for OS/2 information and software, including shareware and freeware

Mail and News which now support Document Encoding. Bug fixes include those affecting newsgroup handling and page layout.

Biting the bullet
I suppose it had to happen, but the new version includes a document encoding bug which messes up bullets. You can correct this by selecting a different font for the default Latin1 character set. If this doesn't solve the problem, close Netscape for OS/2 and delete the NETSCAPE.INI file. You'll have to reconfigure your settings, so make a note of any changes from the defaults before deleting the NETSCAPE.INI file.

There are also some installation problems which can be avoided. These are common to the IBM installation program which Netscape uses. Don't unpack archived files into a temporary directory with a space in its name and don't install the product to the same directory in which you unpacked its install files. Also remember to use an OS/2 decompressor rather than a DOS version in order to preserve long filenames present in the archive.

IBM Clients
If you're running Warp Server you might want to download the new IBM Clients for
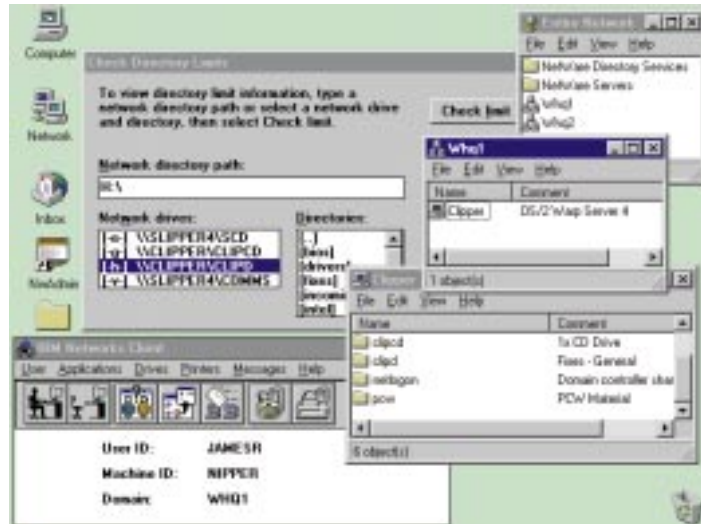
Windows 95 and Windows NT along with the Browser Enabler. The clients allow users easy access to all the Warp Server facilities including connection to home directories, aliases and logon assignments, running network applications and checking disk quotas on HPFS386 drives.

The IBM Windows 95 Client *(see page 274)* installs easily and replaces the Microsoft login window. As there's still no way of booting a diskless Windows 95 workstation, the added security and built-in ability to set limits on each client's use of disk space afforded by Warp Server makes it a useful server for Windows 95 clients.

The IBM Neighbourhood Browser Enabler is an extra component which, when installed on Warp Server, enables Warp Server domains to show up in the Microsoft NetWork Neighbourhood. You can do this, after a fashion, without installing IBM's browser enabler by adding IBM domain names to the search list in Windows, but it's not ideal. The enabler automates the process, speeds up browsing and makes it generally easier to connect to Warp Server.

Another tip, for Windows 95 and NT users who have difficulty connecting to Warp Server domains, is to use the Find/Computer utility: type in the name of the server and Windows will find it.

Supporting Windows 95 and Windows NT clients with Warp Server is easier now with new IBM clients and the Network Neighbourhood Browser Enabler

All this talk of Windows reminds me that each time I mention Windows in this column, someone asks me to save the space for OS/2. Heaven knows what they'll think of the Windows 95 screenshot showing the IBM Client, but OS/2 has always appealed to me as an integration platform for a variety of applications. I like Windows and there's a lot in it that Warp could copy. But I like Warp a lot more because it doesn't dictate what applications I should run, and there are fewer restraints on some of the older DOS and 16-bit apps that many of us still use.

FAT is an unfriendly issue
One of the least friendly attributes of Windows is the way it tramples all over standards to suit itself. The latest example is the new FAT32 file system which you'll come across on new machines pre-loaded with Windows 95. Tony Jackson stumbled on this when he purchased a new Gateway PC with Windows 95.

The FAT32 file system enables Windows to make better use of large hard drives than the old DOS FAT system. Unfortunately, it is incompatible with other file systems including Microsoft DOS, Microsoft Windows NT and IBM OS/2 Warp.

Windows 95 was sprawled all over the 5Gb hard disk when Tony received his system so he decided to repartition and install OS/2 Warp and the Boot Manager. But OS/2 refused to look at the drive, claiming it had faulty partition information. Tony managed to resolve his situation by using a DOS 5.0 boot disk and running FDISK/MBR to recreate the DOS partition data. The undocumented command line switch /MBR for DOS FDISK writes a clean Master Boot Record in the partition table

without altering the existing DOS data. The OS/2 equivalent is FDISK /NEWMBR. Its main use is as part of the process of cleaning up a boot sector virus because a DOS 5.0 FDISK /MBR will clean out any oddities that have been put into unused parts of the partition table.

Operating systems which do this include Dual Boot OS/2 (but not the Boot Manager, which is safe), the original release of Win95 to support long filenames, and NT to support its multiboot option, to which you can now add the Windows 95 update with FAT32. Do *not* run FDISK/MBR against a hard disk with any of these operating systems installed if you value your data.

Having deleted all partitions and run an FDISK/MBR against the hard disk, Tony managed to install Boot Manager, Warp and Windows 95 on his new 5Gb hard disk.

There's a rider to this story, though. There may be a bug in the Warp 4 disk driver which causes large drives with more than a certain number of translated cylinders to register negative values. If you hit this problem, it may help to specify the exact drive details in CONFIG.SYS against the BASEDEV=IBM-1S506.ADD line. Go to an OS/2 command prompt and enter HELP IBM1S506.ADD to see the help screens — you're looking for the /GEO (Geometry Override) switches.

■ **On the *PCW* cover disc:** FixPack 1 for Warp 4, the UK English version in diskette format. Use the "LOADDSK filename.dsk a:" command to create the diskettes.

PCW Contact

Terence Green can be contacted by post via the *PCW* office or at **os2@pcw.co.uk**.

Sending out an **OS/2**

Terence Green deals with cries for help and advice from his readers. There are problems with Warp and hardware, plus there's information on all the goodies on our CD-ROM.
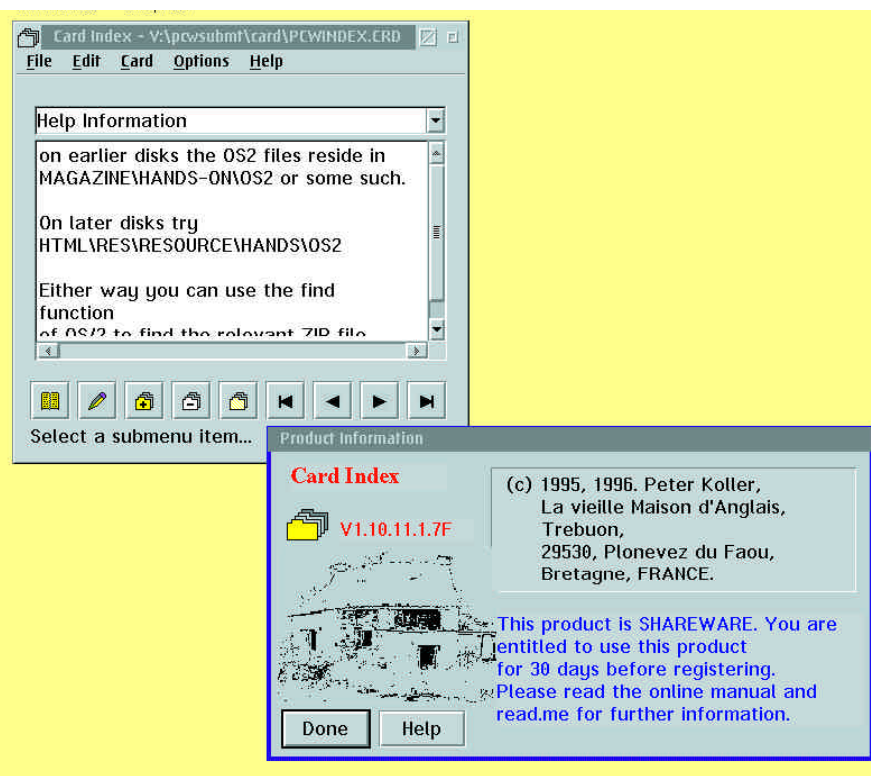
This month's cover CD is largely the work of Peter Koller, in France. He sent in a selection of OS/2 utilities which he has written; some shareware, some freeware. One of his programs is a card filing system and Peter deserves special thanks for including an index of the OS/2 content on the *PCW* cover-mounted CD-ROMs up to February (Figs1 & 2). Nice one, Peter.

WARPing
Another frequent request involves the hardware required for Warp. Richard Smith wanted to know whether a 133MHz Pentium with 32Mb RAM would be enough for Warp 4? It would be fine for speech dictation and navigation, together with Java and some productivity applications. A 100MHz Pentium with 32Mb RAM works for me, but you can also run Warp on much less powerful hardware if you don't need all the bells and whistles. Richard claims to have once run Warp 3 on a 386 with 4Mb RAM and, frankly, once is probably as far as anyone would want to go down that road.

Bernice Roust wrote to me to say she's running Warp 3 on an AMD 386DX 40MHz with 8Mb RAM. Bernice likes the *PCW* cover CD and has successfully run it in a full-screen Win-OS/2 session, although she says "It's little slow" — I love that English reserve.

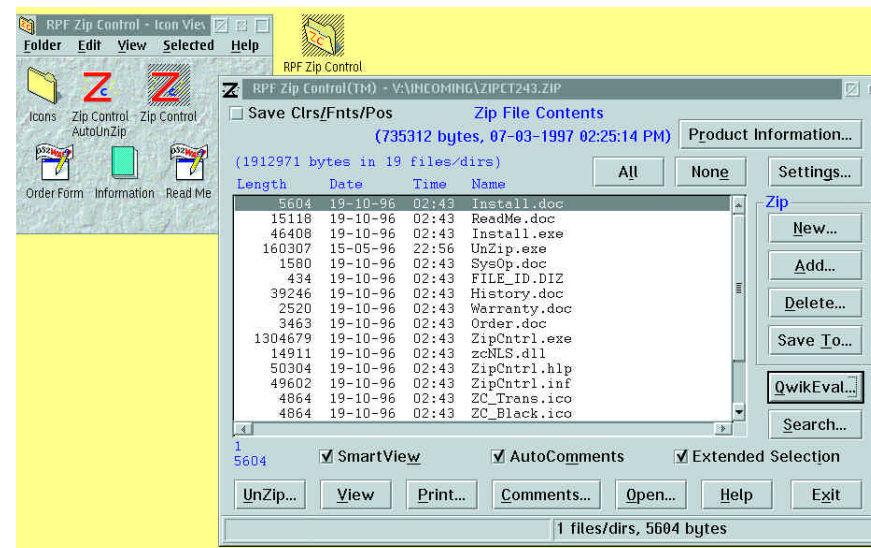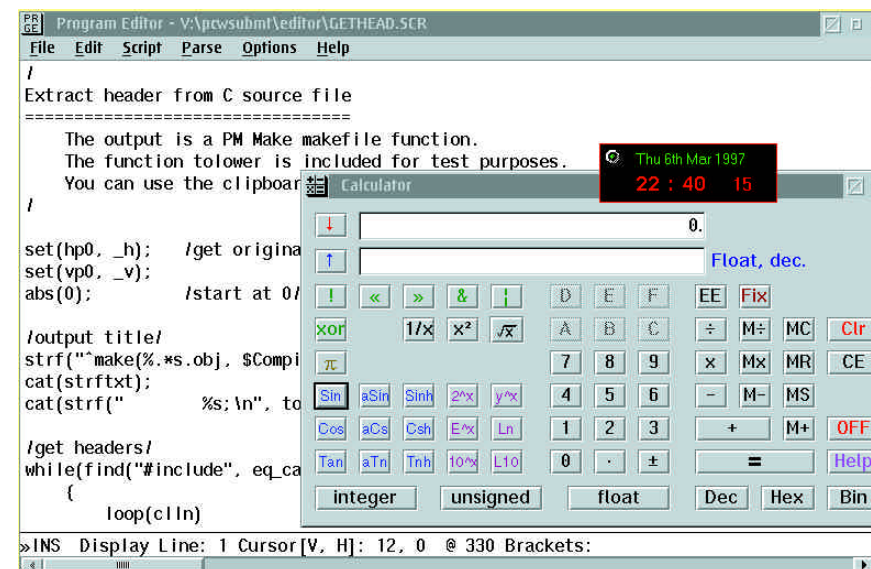Having discovered that Creative Labs doesn't support OS/2, Bernice tells me that she now boots into DOS to set up the plug-and-play parameters on her SoundBlaster 16 before booting OS/2.

She raises another good point when she recalls having had problems with other cover CDs installing Win32s version 1.30 which Warp does not support. A lot of software for Windows 95 might actually be based on Win32s, which is designed to run on Windows 3.1 as well. Win32s up to version 1.25 will work on Warp, but for Win32s 1.30 Microsoft introduced a Virtual Device Driver (or VxD) and these are no-no's for any operating system like OS/2 or

Windows NT that aims to deliver reliable multitasking.

Essentially, VxDs touch the hardware directly. They don't like the controlled hardware access that OS/2 Warp allows for certain DOS/Windows applications and they won't work with the virtualised hardware access that both Warp and Windows NT provide.

Usually VxDs are there to do something that requires direct hardware access or sensitive timing, so they are often found in backup and communications applications. The only new twist is the VxD in Win32s

Fig 1 Peter Koller has included an index of the OS/2 files on the *PCW* cover-mounted CD-ROM to go with his card index filing utility

Fig 2 (Top) More pictures of the Peter Koller cover disc contribution: a program editor, a clock, and a scientific calculator
(Above) ZipControl is a shareware front-end that can be used with the freeware OS/2 ZIP and UNZIP programs. It is also to be found on our cover-mounted CD

version 1.30 and care is needed to ensure you don't install an application that installs Win32s version 1.30 into Warp. It's not always possible to discover beforehand whether the software you plan to install will make troublesome alterations to your system, so backing up before installing new software is always a good idea.
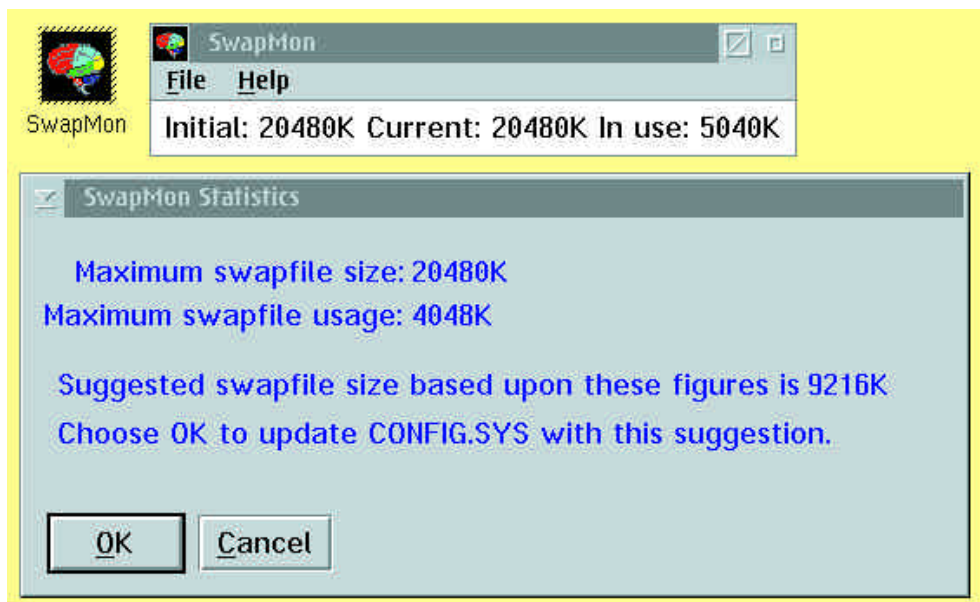
Bernice goes on to say she thinks the best way to download files from the cover CD is to copy the OS/2 folder to a temporary folder and to use ZipControl to unpack or execute them. Run an ATTRIB x:\temp -r command against files copied from the CD to remove the read-only attribute that CD files have. Also, try to use an OS/2 unpacker to decompress those compressed files which contain OS/2 material, in case there are any extended attributes (EAs)for the

compressed files. A DOS or Windows decompressor will lose the EAs. After taking a look at ZipControl, which includes free OS/2 ZIP and UNZIP executables, I've placed it on the cover CD.

One other question that Richard Smith raised when he was wondering whether to upgrade to Warp 4 or to stay with Warp 3 was whether Java support could be added to Warp 3? The answer is "yes", as of February, and it's on the current cover CD, which will please reader John Lewis.

Java palaver
John has a single-speed CD-ROM which he finds is too slow for the *PCW* CD-ROM browser interface. He's interested in Java if it delivers smaller, more focused, applications rather than the "megalithic

packages" that are currently the norm.

The interesting point about this is that it reveals "real" users who don't have the latest whizz-bang hardware and yet manage to derive benefit from Warp. It also shows how tricky it is to come up with any generalised rules for recommended hardware to run Warp. Bernice, with a slow 386 PC and a six-speed Mitsumi CD, is happy with the *PCW* cover disc while John, with a faster 66MHz 486 and single-speed CD-ROM drive, is not.

Anyway, Java for OS/2 1.02 is on the cover CD. Java 1.02 upgrades all versions of Warp and Warp Server but please read the read.me file before you install. Run the executable JAVAOS2.EXE in a temporary directory to extract the files.

Java 1.02 is faster, has better security provisions and works better with firewalls, it says at www.software.ibm.com/os/warp/java.

The ability to run Java on the Warp server also opens up interesting possibilities for client/server applications, but I've waffled on incessantly about Java for months so I'll give it a break now, except to say that the Lotus Kona Desktop Java applets I mentioned in last month's column should now be available for download in beta versions from the www.kona.lotus.com web site.

Net gain
I know I've been slow to reply to my email and that's because I *am* slow, but readers who contact me via the postal system are likely to have to wait an even longer time for a reply through this column. I appreciate that this is easier said than done, but it really

does pay to have an internet connection. Not necessarily to spend hours downloading megabytes of files, but simply because the information you need can be found really quickly.

My current ISP preference is for Demon Internet because it's a big, competent, organisation and because unlike many other ISPs they acknowledge the existence of OS/2. I mention this because Steve O'Neil says his ISP is reluctant to help him because he is trying to access the service with OS/2 Warp. This sounds like an ISP to avoid, Steve.

UK chat
Talking of ISPs to avoid, I've not been near AOL for many moons but Andy Marston has asked me to pass this message to any AOL users who might want to drop by the OS/2 area (Keyword OS/2) where plans are under way to create a UK Chat session on Sunday evenings. Contact him at AndySisko@aol.com if you are interested.

Andy also tells me that he uses a printer driver, with his Epson Stylus, that he found at ftp.software.ibm.com/ps/products/os2/drivers/printers. It's a file called WARP4DD4.XDF and, although not specifically for the Epson EPL-5500, it should work as it uses the general purpose LASERJET.DRV.

Flexible DOS sessions
Having unsuccessfully tried for a while to run Borland Pascal for Objects 7, a protected mode program, in a DOS session in OS/2 Warp 3.0, John Hines remembered that the batch file which he uses under DOS sets the environment variable.

Running the batch file in a DOS session got Pascal calculating. OS/2's DOS sessions are very flexible and can run protect mode programs and other troublesome DOS programs with picky demands, but they might need configuring first.

Configuring the DOS Command Prompt icon in the System/Command Prompts folder will set the default for that and subsequent DOS sessions. Alternatively, you can create a program icon to start a DOS session and run your application. Each session can have its own special environment which can be configured with batch files and from the Settings menu. The help system is a good introduction but don't be afraid to experiment. The worst that can happen is that your DOS program won't run and you may have to kill the session.

The type of change you might want to make, for example, with a program that requires DOS Protect Mode memory and doesn't seem to want to work, is to change the DPMI memory setting up or down.

Hoots mon! It's SwapMon
SwapMon v2.01 is not on our cover-mounted disc but the author, Keith Jones, says it's the only swapfile utility you need. It monitors swapfile activity and gives you an indication of whether you would benefit by altering the initial size, which is set in the CONFIG.SYS (Fig 3). The reason it isn't on our CD-ROM is because SwapMon relies on a few IBM memory utilities so Keith suggests you download the whole package from the SwapMon home page at www.users.dircon.co.uk/~kjones/. I will check the status and put it onto a subsequent cover disc if possible, but if you can stand a half-megabyte download it's a useful tool to have around.

The waiting game

Okay, it's not the networking article Terence Green promised last month, but he does have a good excuse. And if you're waiting for a full native SmartSuite for OS/2, take a deep breath...

L ast month I promised a networking article, but all I can say is, never trust a journalist. As I was starting to put this column together, IBM released the first of a series of enablers for Warp, Windows 95 and Windows NT network connections. I haven't had time to try them out and only one of the three components is available at the time of writing: that's a new Windows 95 client which allows you to have a single log-in from a PC running Windows 95. It replaces the Microsoft or NetWare client you're currently using and enables you to store user profile data on a Warp Server.

Currently (the beginning of February) there are some bugs being reported by early users but nothing too serious. The other two new network components are a Windows NT client and a Network Neighbourhood enabler for Warp Server. These were in beta at the time of writing. Check out the Warp Server home page at http://www.software.ibm.com/warp-server/ for more details.

I'll do the networking thing in the next issue and put the new clients on the Cover CD for the June issue, if that's permitted in the licence.

I had hoped to be able to plonk the first FixPack for Warp 4 onto the current issue but it hasn't surfaced yet. It's slipped out once but that was unofficial. Why would you want a FixPack for Warp 4? Well, it's a case of "Lotus SmartSuite — the Nightmare continues!"

Nightmare on SmartSuite

I recently attended the annual Lotusphere conference and spoke to the new OS/2 product manager, the previous incumbent having managed to escape back to sanity

The essential update site for IBM's Java developments is down south at
http://ncc.hursley.ibm.com/javainfo/hurindex/html

after what must have been some very trying times. Basically, the Open32 saga has yet to run its course, and in order to install and run the Generally Available (GA) versions of Lotus WordPro 96 for OS/2 and Freelance 96 for OS/2 on Warp 4, you must have the Warp 4 FixPack which may or may not be FixPack 1 when it is released.

In the UK, Lotus has decided not to ship the full SmartSuite 96 for OS/2 which includes only WordPro and Freelance in native OS/2 versions and the rest as Win-OS/2 applications. It will only ship the native OS/2 WordPro 96 and Freelance 96.

Now that the Windows version of SmartSuite 97 is shipping we can expect later this summer to see the full native OS/2 suite, I'm told, and this should include the

final working version of Open32 which is supposedly what the first Warp 4 FixPack will also include and which the '96' GA versions require. The Open32 scheme, which seemed like such a good idea when it was mooted, has taken nearly two years since first being publicly announced to get to the point where IBM has nearly managed to get it working.

Hopefully IBM will manage Java a lot better. For a start, the Java team is pumping out updates at http://ncc.hursley.ibm.com/java and the Java story for OS/2 is looking good. The possibility of OS/2 being refined to run as a Java machine to which I alluded in an earlier column now looks like becoming a reality in the not too distant future.

Currently, Warp uniquely ships with a native Java Virtual Machine so does not need to run Java applications in a browser; which means that a Warp client can run Java, OS/2, DOS and Windows applications. Some people call this a "thick" client to distinguish it from a "thin" client which, for example, would be a network computer that only ran Java applications or perhaps used one of the ICA clients such as Citrix mentioned in the previous column.

Warp NC

Clearly there's a huge interest in Java as a means of distributing applications to networked computers from central servers. Whether you're an end-user in a corporate running a small portfolio of applications, or a home user with a WebTV, thin clients are going to enable many more people to have access to computing services as the equipment will be cheaper than a PC and easier to manage. The way OS/2 fits into this scheme is that it can serve either or both purposes, thus providing a seamless transition from client/server computing to networked computing. With the full set of Warp services, a company could start to run Java applications while still maintaining traditional client-server applications. Later, Warp could be run without the WorkPlace Shell and with a Java interface instead, perhaps running the Kona Desktop, a collection of Java components, that Lotus demonstrated at Lotusphere.

The Lotus Kona desktop components are similar to Lotus ActiveX Components but contain more functionality, and they're tied together with the InfoBus, a dynamic component bus which allows them to interact. So in effect, it would be possible to have Warp running on a PC (and even perhaps on non-Intel architectures — remember the ill-fated microkernel Warp for PowerPC project?) without the WorkPlace Shell.

This sits neatly with the IBM NC (see http://www.internet.ibm.com/networkstation) which only runs Citrix at the moment but will run a Java front-end by mid-year. The problem some people have with this approach is that it is not flexible or powerful enough and therefore the Warp middle way is seen as a more viable integration path until Java comes of age. Once Java does begin to provide the services that take it out of hype space and into the real world, we can expect computing to become a lot more interesting. The problem with Windows on the PC is not that it's the wrong way, but that there are some things it simply can't do, and networked computing with Java can take both PCs and many other computing devices into areas where they can't go today.

IBM has spun off a Network Computing Project from the OS/2 developer team which will look at "mission-critical" Java applications, and at a recent seminar talked

more about this. The developers have been through the OpenDoc component architecture mill and have taken that experience into the JavaBeans component architecture. At the same time, IBM, Sun, Novell and Netscape are embarking on a Java World Tour to promote the "100% Pure Java Initiative". See http://javaworldtour.sbexpos.com or any of the major Java sites for more details.

The aim of the Pure Java initiative is to ensure that Java retains the "write once, run everywhere" ethos and does not fall into the trap of "enhanced HTML" which "runs best on" this or that web browser. Such moves, whereby companies try to gain a competitive advantage with proprietary enhancements, have confused the browser world and Java would suffer if it went down that road.

Reader response

We have some utilities coming up that have been written by readers, but the only material on the current cover CD is a set of backup and restore utilities for Warp LAN Server disk quota management (THCDASD.ZIP). They were written by Steve Sharrad of Henley College who is happy to take email at ssha@henleycol.ac.uk on the subject of LAN Server. Steve plans to upgrade to Warp Server this summer. He has "200 multimedia-hungry, yet totally diskless, stations running from two 486-DX33 servers". He has nearly 3,000 home directories to manage and reckons his OS/2 servers can give Windows NT a run for its money.

Several people responded to my query regarding Hauppage Win/TV drivers and I should have given more detail in the last column as there are several Win/TV boards. Faye Pearson has a Win/TV PCI board. She discovered that drivers were being written for the Win/TV PCI back in December. They may be ready now at http://www.wdi.co.uk/os2tv/os2tv.html which is the homepage for the Warp/TV application and where you will find drivers for the more expensive Celebrity and Prisma boards.

Paul Bristow wrote to me that Warp includes a driver for the standard Win/TV card. He's running a Win/TV Celebrity and says the drivers are kept well up to date.

John Hern says he has used the Windows NT 4.0 workaround on about 25 configurations and has seen no problems so far. This is the fix that puts HPFS support
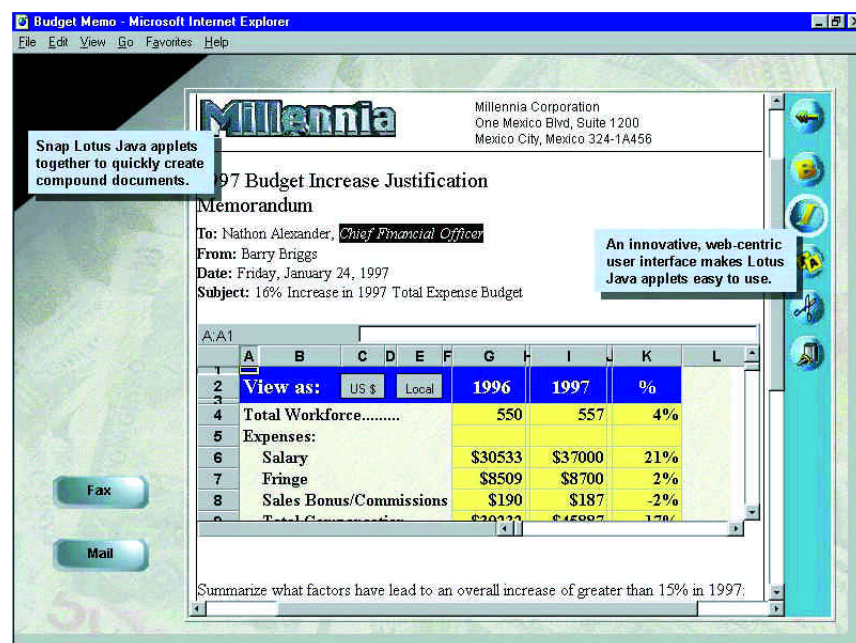

The Kona Desktop from Lotus consists of a suite of Java applets which can be snapped together to create web applications

More details of the totally cool Lotus Kona Desktop technology can be found at http://www.kona.lotus.com

Visit http://www.strath.ac.uk/~cadp44 to try out the games that Miltiadis Mitrakas has ported to Java

back into Windows NT 4.0. John is also looking for a way of dealing with Win95 and HPFS on the same system. The easy answer, John, is to dump that pesky FAT file system, but that's not always possible.

John also wants to hear if anyone supporting Windows 95, Windows NT and OS/2 Warp can recommend a solution for "backing up different OSs on the same network with one program" as he has problems with restores. He's testing backup hardware and currently has a Seagate EIDE 4000 tape streamer.

Miltiadis Mitrakis responds on the subject of Java with a suggestion that

readers might wish to try out a couple of Java games he has ported from the OS/2 originals he wrote last year. He says the Chinese Checkers for Java game scored "Top 5%" in JavaWorld magazine in Japan. Yyou can find the games on Mil's site at http://www.strath.ac.uk/~cadp44 where there are applet and application versions.

PCW Contacts

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Citrix fruit

Terence Green finds a novel solution to running Win32 apps on OS/2, explaining how Citrix WinFrame turns NT into a multi-user applications server. Plus, Warp 5 and the Domino effect.

Several readers have enquired about running Win32 applications designed for Windows 95 and NT. The fact is that for Win32 applications, you have to run Windows NT or Windows 95.

There are some exceptions, but if you absolutely must run Office 97 or Office 95, you have no choice. However, it is not all gloom because there are some alternative paths. Applications written to Win32s up to version 1.25 will run on Warp. If you do a little digging around you may even find that some supposedly Windows 95 applications are actually Win32s. And remember that you only have to run Windows NT or Windows 95 if you cannot find a suitable OS/2 application.

All the news seems to be about Windows, but this doesn't mean that OS/2 applications don't exist. It's only that they're not likely to be reviewed or written about in the popular press. Blame IBM's past folly for that. At least now, if you've upgraded to Warp 4 and seen the Application Sampler, you know there are loads of OS/2 applications out there. You'd be amazed at what you can find by searching the internet.

Another course of action is to select applications that do not mandate Windows: Lotus SmartSuite 97, for example. SmartSuite runs on Windows and Warp, which gives you more flexibility — especially if you are supporting a mix of users. The Windows version is shipping in the United States as I write and an OS/2 version will soon be ready. Non-US versions will take a little longer and OS/2 versions a while longer still, but the Warp version of SmartSuite 97 should pitch up by about mid-1997.

Just add Citrix

A more novel solution for running Win32 applications on OS/2 is Citrix WinFrame 1.6 or later. WinFrame turns Windows NT into a multi-user Windows applications server and supports clients running a variety of operating systems including OS/2 version 2.11 or better (Fig 1).
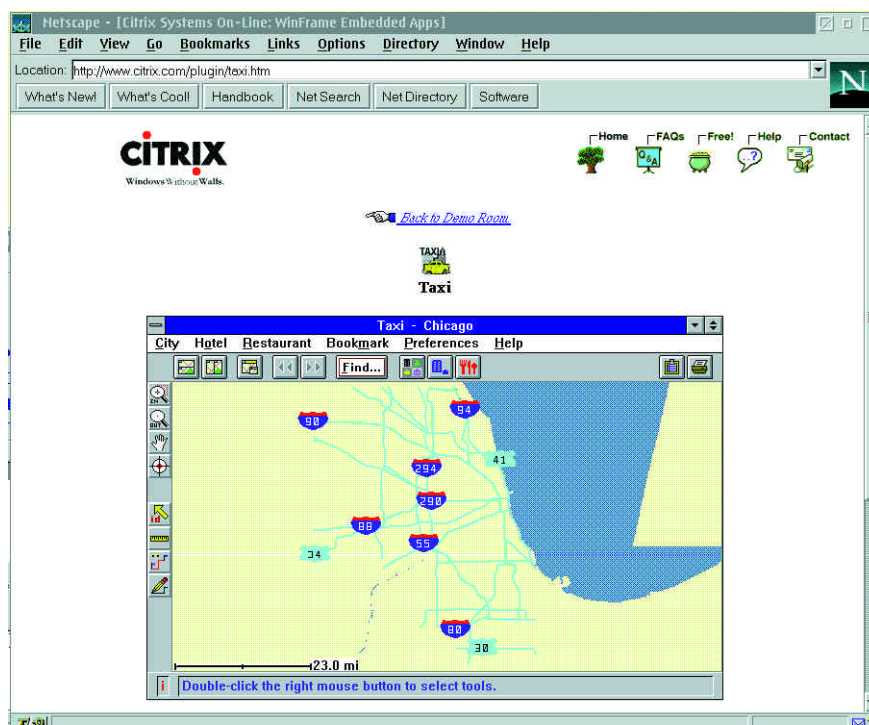
Win32 applications run on the Windows NT WinFrame server and OS/2 clients view the display in a Warp Win-OS/2 session. Wyse and Insignia offer similar solutions for Windows clients using technology licensed from Citrix (www.citrix.com) but only Citrix WinFrame ports OS/2 clients.

Citrix WinFrame is a specialised solution that won't suit everyone and isn't cheap, but it's very much in tune with the idea of OS/2 as a networked client in a network computing environment.

For the right applications and processes, the WinFrame model enables large companies to manage multi-platform networks more easily and to have more choice over the client hardware. Instead of equipping everyone with fast Pentiums with multi-gigabyte drives and 32Mb RAM, you can make better use of older hardware by serving up remote applications.

The WinFrame model is pretty similar to network computing with Java except that it delivers existing Win32 applications while

Fig 1 With the Citrix WinFrame Plug-In for Netscape, it is even possible to work over the internet with Windows applications that are running on a remote server

Points of support

■ OS/2 Central on CompuServe
GO:OS2CENTRAL has been started to provide discussion and support for all areas of OS/2 Warp. One of the founder companies, Creative Systems, produces the CompuServe OS/2 offline reader, Golden CommPass, and has acquired rights to the CompuServe Information Manager for OS/2 (OS/2-CIM).

■ Drivers
• Epson Germany is developing drivers for several printers in Epson's Stylus range. The drivers aren't free. Send mail to novasta@ibm.net for details.
• If you have a WinTV card take a look at the WarpTV page at www.wdi.co.uk/os2tv/download.htm for the driver situation.

we're waiting for Java to get real. Of course, when there are Java applications, they will be just one more ingredient which can be added to the mix available to network computing clients alongside WinFrame.

Warp 5.0
Java is coming along nicely. Java 1.02 is now GA (or generally available — IBM's way of saying "shrinkwrap") along with the Java 1.02 Just in Time (JIT) 2.0 compiler for Warp 4. Java 1.02 for Warp 3 and for Warp Server is pencilled in for this summer and Java 1.1 for OS/2 should be ready by the autumn.

Shrinkwrap, as a physical entity, is set to shrink as software companies begin to explore alternative software delivery methods. With network computing in mind, software is bound to reduce in size and more packages will become available electronically. In particular, IBM and Lotus are experimenting with software delivery via the internet and one of the plans is to offer Warp upgrades online (as hinted at by me in my previous column).

IBM will deliver well over a dozen different updates to Warp 4 this year. The sum of the updates, which includes SMP support, TCP/IP 5.0 and Java 1.1,

will take Warp 4 to its next major version. Warp 5 is pencilled in for a 1998 release, about 18 months after Warp 4 shipped.

Users can choose which updates to receive. An OS/2 user in a traditional network might concentrate on the client/server enhancements to NetWare, Windows and Unix connectivity. By contrast, a network computing OS/2 user might be more interested in the TCP/IP, Java and network security modules.

With effect from next month the service will be chargeable, available to any Warp 4 user with a modem and internet access. It is like buying Warp 5 on an instalment plan.

Warp updates
All the discussion of how few applications there are for Warp, and how much choice there is in the world of Windows, can make for depressing reading, but more often than not this ignores the fact that Warp is often the first platform to have real leading-edge capabilities. Put another way, Flash now seems more popular but Jif was the first.

I was reminded of the way in which OS/2's advanced capabilities often go unsung when I read the header of some email I received from a former *PCW* columnist, now working for a rival publisher.

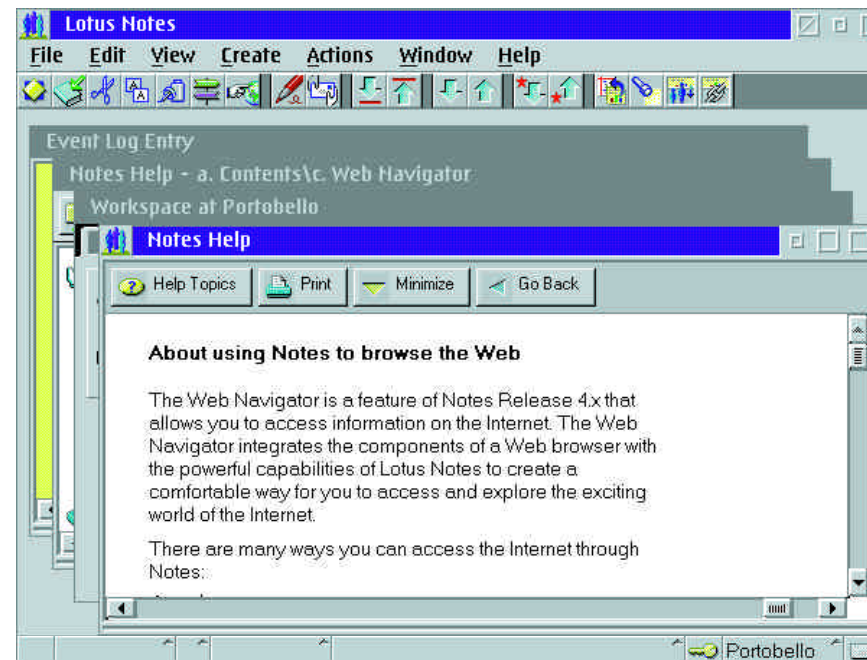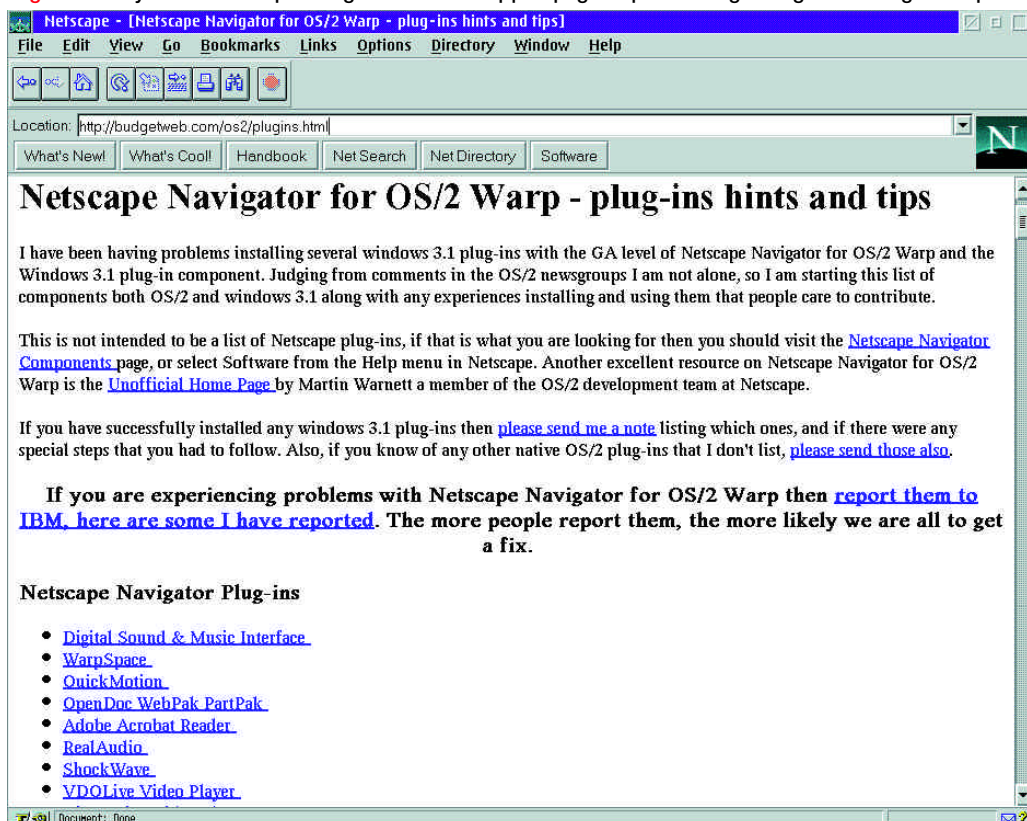In the header of his message I noticed

that his organisation was using an OS/2 SMTP mail gateway. As it happens, Lotus now has a gateway that runs on Windows NT, too, but it made me think of all those years during which OS/2 provided the backbone of that organisation's email system. I suppose in some ways, OS/2 is doomed to be first!

Interestingly, IBM, through its Lotus subsidiary, is now cashing in on the widely held perception that Windows NT is the one and only future direction of server computing, although it irritates OS/2 fan-club members no end. Because OS/2 used to be the preferred platform for Lotus Notes, it is now Windows NT that leads out new Lotus releases. Naturally, Lotus continues to ship multiple-platform versions including OS/2 Warp thereafter, so there is always a choice of platforms.

There are sound business reasons for this change. A lot of marketing money is being thrown at Windows NT and, as it is free, it therefore makes sense for Lotus to utilise it. Additionally, it makes it easier for Lotus to compete directly against Microsoft's groupware and office suite, and for users to compare the two.

Somehow, as much as I like Warp's stability and user interface, I do not think that facing-off SmartSuite for OS/2 against

Fig 2 This very useful Netscape Navigator for OS/2 support page helped me to get Plug-Ins running in Warp

Fig 3 Lotus Domino 4.5 runs on OS/2, all versions of Windows, the Mac and Unix systems

Office 97 would have been a successful business decision.

Domino spotted
The Plug-Ins Hints and Tips page for Netscape Navigator for OS/2 Warp at budgetweb.com/os2/plugins.html is a mine of information and useful even if you don't think you'll be using Plug-Ins (Fig 2).

The latest downloadable version of the Lotus Domino web server, version 1.5a for OS/2 (and several other platforms), is on the Lotus web site. There is a lot said and written about the difficulty of making money on the web but not much about saving money on the web by delivering timely and effective support, let alone saving money by using web-based support.

The "a" in the Lotus Domino Web Server version 1.5a refers to a security update which corrects a problem in version 1.5 where a web browser coming in from the internet (not on a LAN) could impersonate a user. Lotus was informed via the web and used the same medium to deliver a fix and notify users. It was a web problem, but as with Netscape and Microsoft when they discovered security holes in their products, the web helped Lotus and its customers in a timely manner.

The other point of note about Lotus Domino 4.5 (Fig 3) is that it is the add-on which devoured its host. Originally (less than twelve months ago) Domino merely added web protocols to the Lotus Notes server. Now, Lotus has changed the name

of its flagship multi-platform groupware application development environment from Lotus Notes to Lotus Domino. From Release 4.5, the Notes name is only retained by the Notes desktop clients. As the pace of web development hots up, it is only a matter of time before newer developments like the IBM/Netscape link-up and consequent Netscape Communicator groupware web client, reduce the importance of Notes clients.

■ *I have received some Warp Server tools from a reader with a very large network, and have been given a pointer to a couple of Java games, all of which I hope to be able to bring you next month, plus some network-specific advice for Warp and Warp 4 users.*

On the CD-ROM

Having burnt my fingers on beta timeouts I am now wary, so the follow-up to last month's cover-mounted CD is an OS/2 Dialer in version 1.0, a totally pointless Simpsons guide and a pair of Novell updates, the OS/2 Utilities for NetWare 3.12 and 4.10, plus the latest NetWare OS/2 Client V2.12.
The self-extracting ZIP (run it to expand onto a drive from which it can be installed) requires in excess of 6Mb of free space.

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