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.

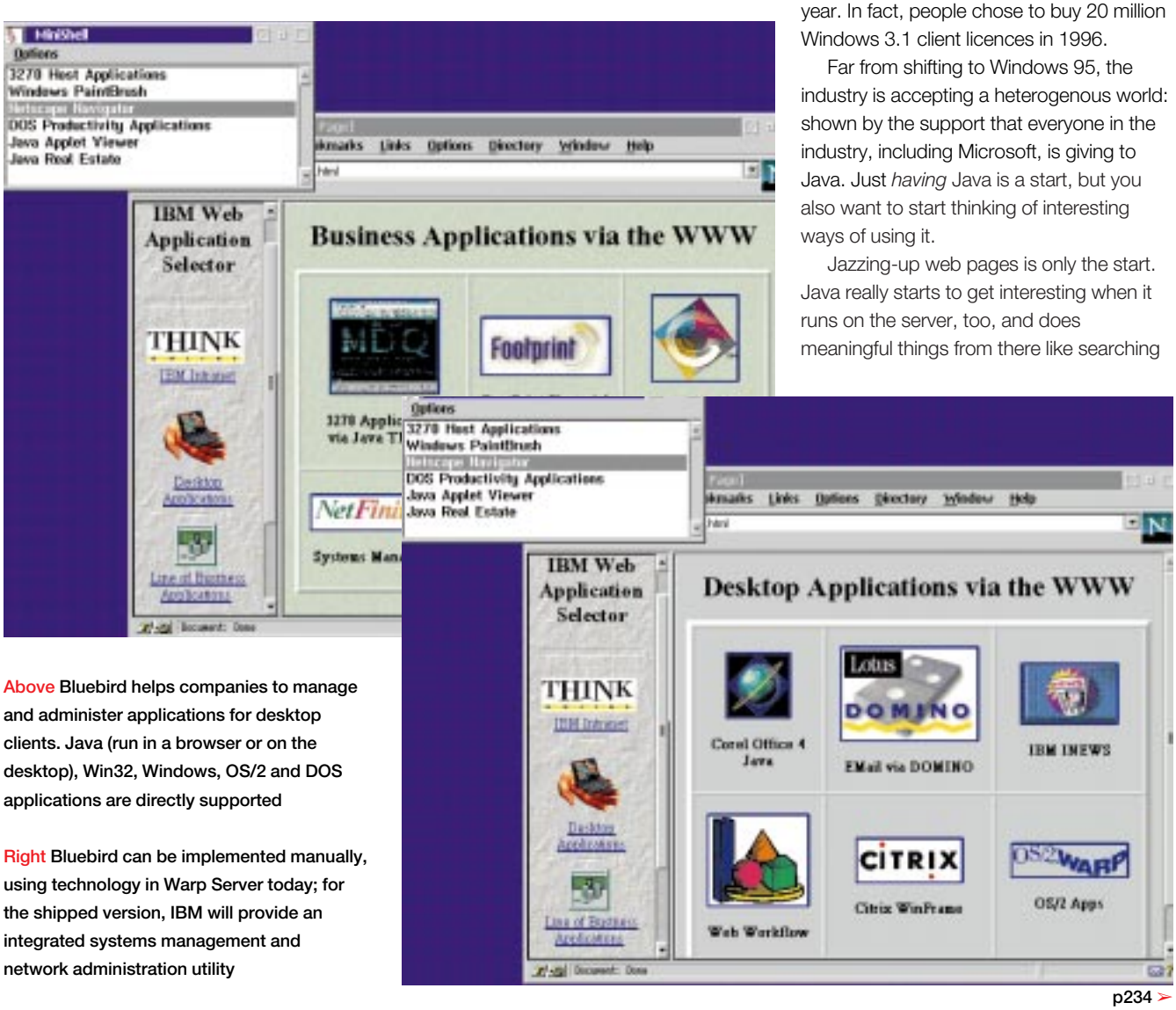
The future of OS/2 has been a subject of some interest over the years but 1996 was a particularly good year for rumours of its death. Numerous readers looking to upgrade to something a little more reliable than Windows 3.1 or Windows 95 have written to me, asking whether it's worth taking the plunge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

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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.

Readers' self-help

■ Barry Marsden wrote in with information for Gravis UltraSound cards, up to and including the Plug and Play card: Sander van Leeuwen <sandervl@xs4all.nl> has what you need and his website at www.xs4all.nl/~sandervl or www.polsci.wvu.edu/Henry/Sander includes the shareware Manley drivers.

■ Barry has a problem with AOL running at a crawl on OS/2 — is anyone else experiencing this? Please let me have your comments.

PCW Contact

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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.

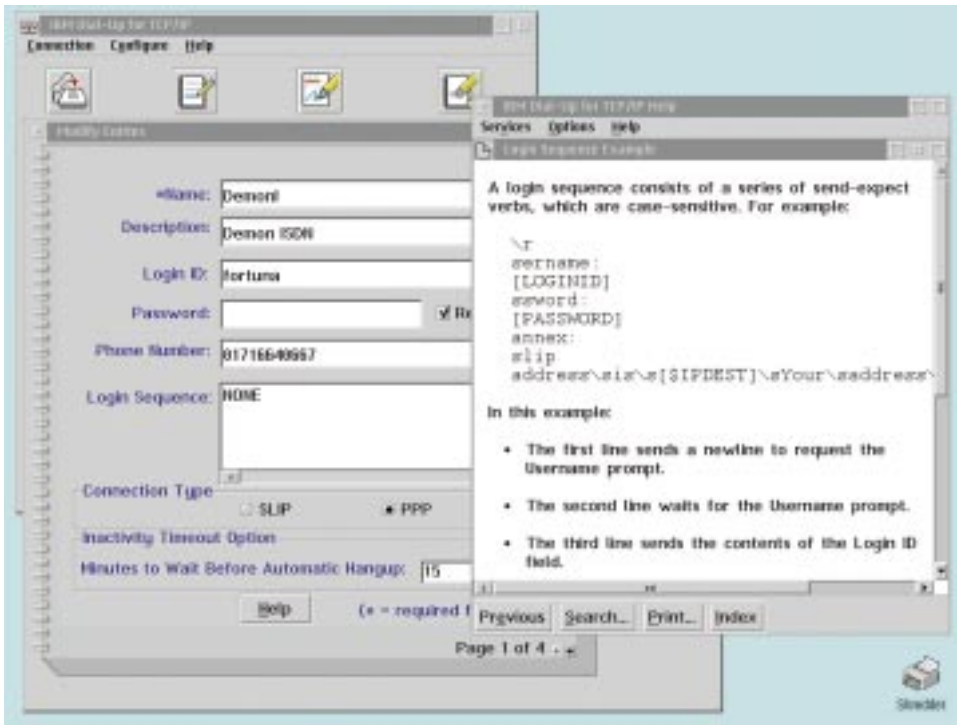
View the new OS/2 Warp web page at www.software.ibm.com/os/warp for a start. It has been jazzed up, and Software Choices, the upgrade plan trailed in earlier *PCW* columns, has been announced. It came late and is restricted to larger organisations which buy a lot of OS/2, but plans are under way to bring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



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

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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.

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Java good time?

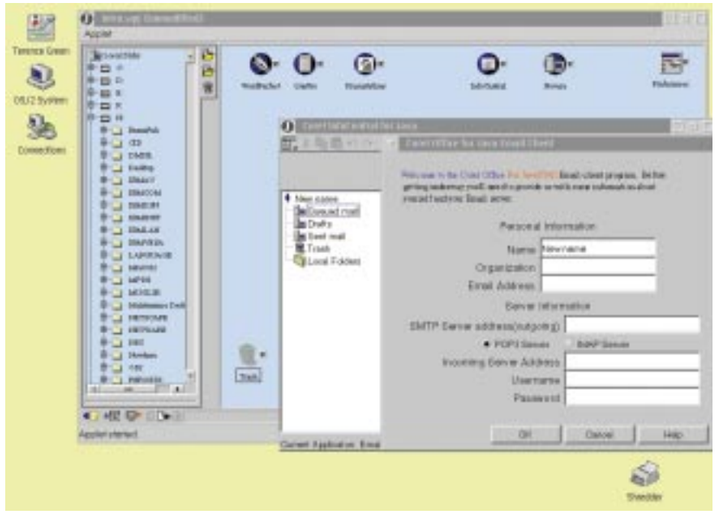
From the JavaOne conference, Terence Green foresees a change from the Windows-centric world. He takes a look at Corel Office for Java and new IBM Clients. Plus, how to fight FAT32.

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 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

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 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.

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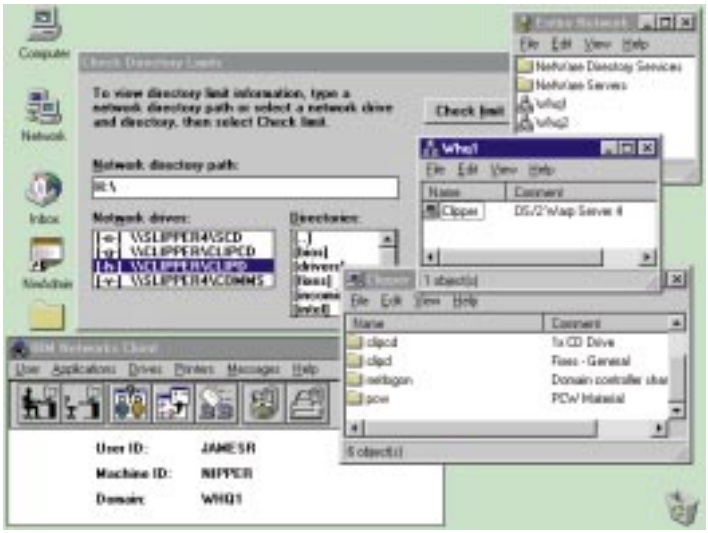

Supporting Windows 95 and Windows NT clients with Warp Server is easier now with new IBM clients and the Network Neighbourhood Browser Enabler

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

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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.

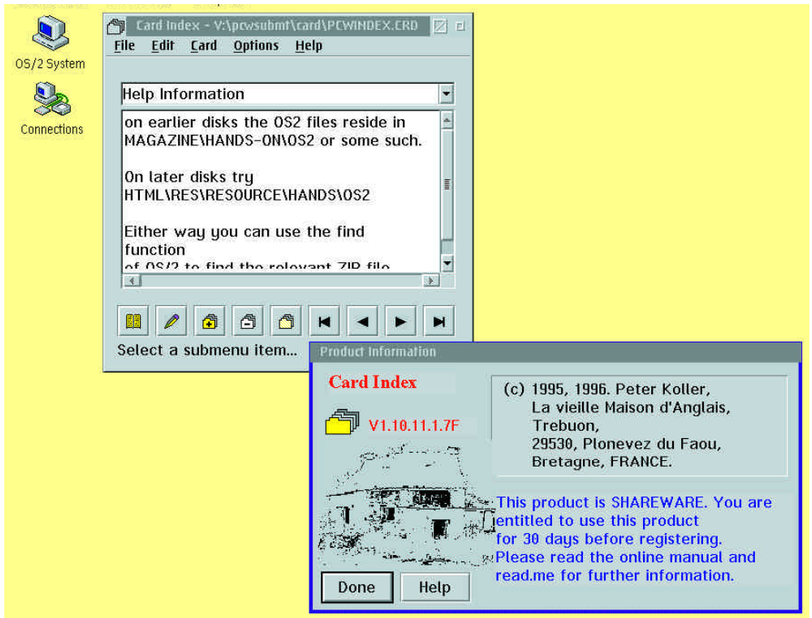


Fig 1 Peter Koller has included an index of the OS/2 files on the *PCW* cover-mounted CD-ROM to go with his card index filing utility

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.

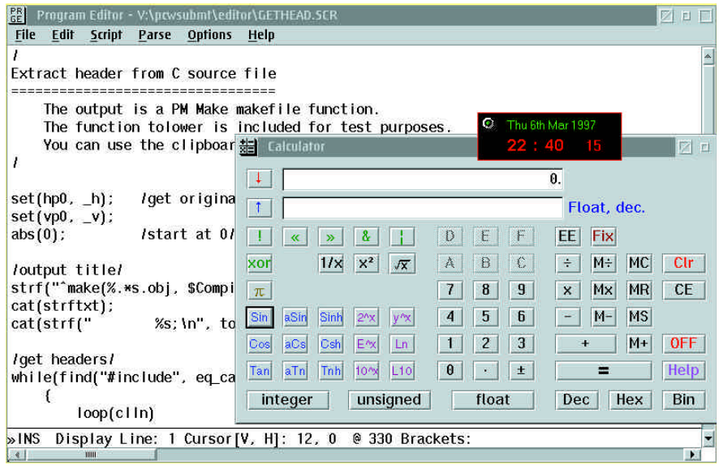
She raises another good point when she recalls having had problems with other cover CDs installing Win32s version 1.30 which Warp does not support. A lot of software for Windows 95 might actually be based on Win32s, which is designed to run on Windows 3.1 as well. Win32s up to version 1.25 will work 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 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.



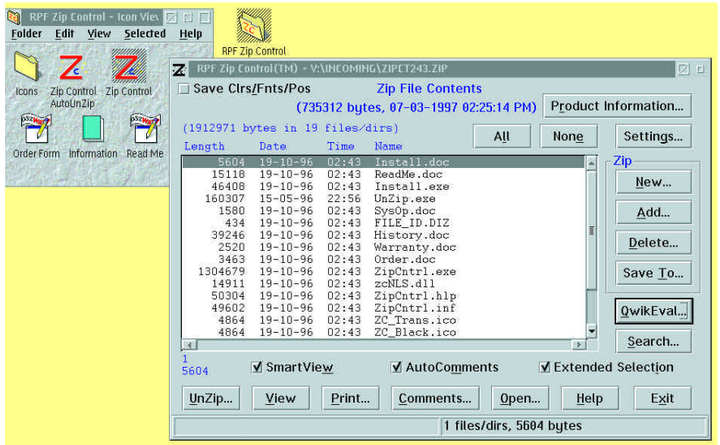


Fig 2 (Top) More pictures of the Peter Koller cover disc contribution: a program editor, a clock, and a scientific calculator
(Above) ZipControl is a shareware front-end that can be used with the freeware OS/2 ZIP and UNZIP programs. It is also to be found on our cover-mounted CD

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

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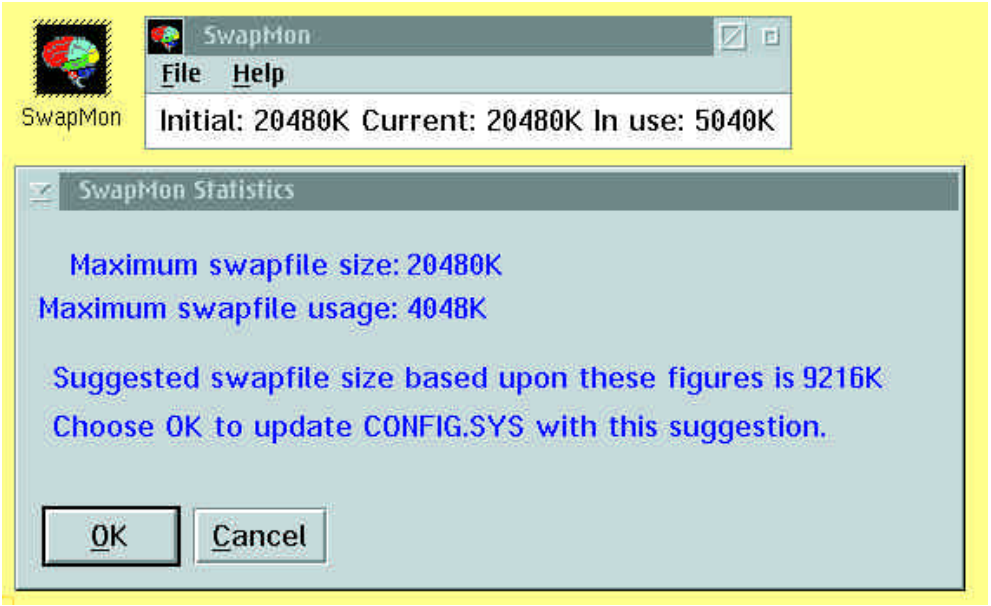

Fig 3 And now for something completely different — Keith Jones sent in this swapfile monitor. It's not on the *PCW* CD-ROM; you need to download it from the net

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.

PCW Contact

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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...

Last 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!"

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

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 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.

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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

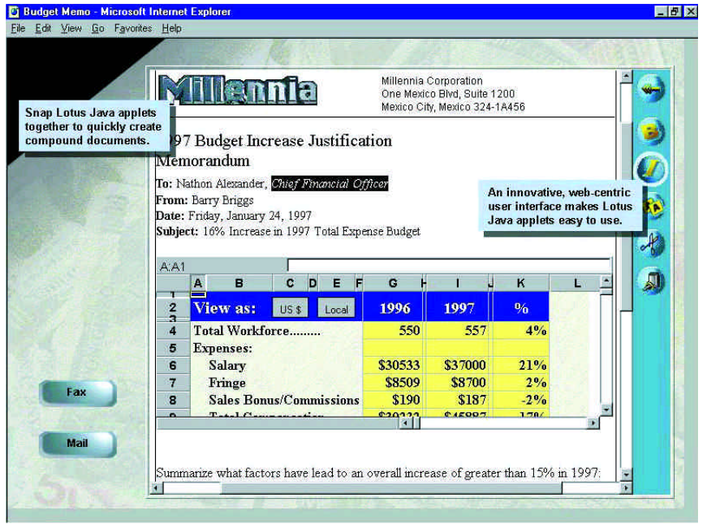
Clearly there's a huge interest in Java as a means of distributing applications to networked computers from central servers. Whether you're an end-user in a corporate running a small portfolio of applications, or a home user with a WebTV, thin clients are going to enable many more people to have access 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.



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

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 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.

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

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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

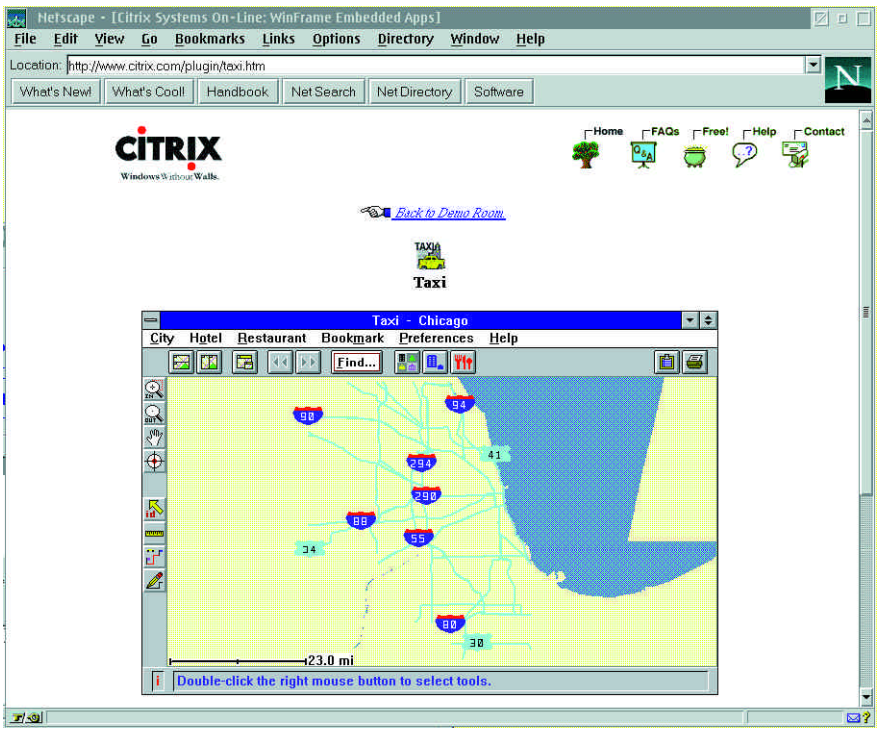

Fig 1 With the Citrix WinFrame Plug-In for Netscape, it is even possible to work over the internet with Windows applications that are running on a remote server

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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.

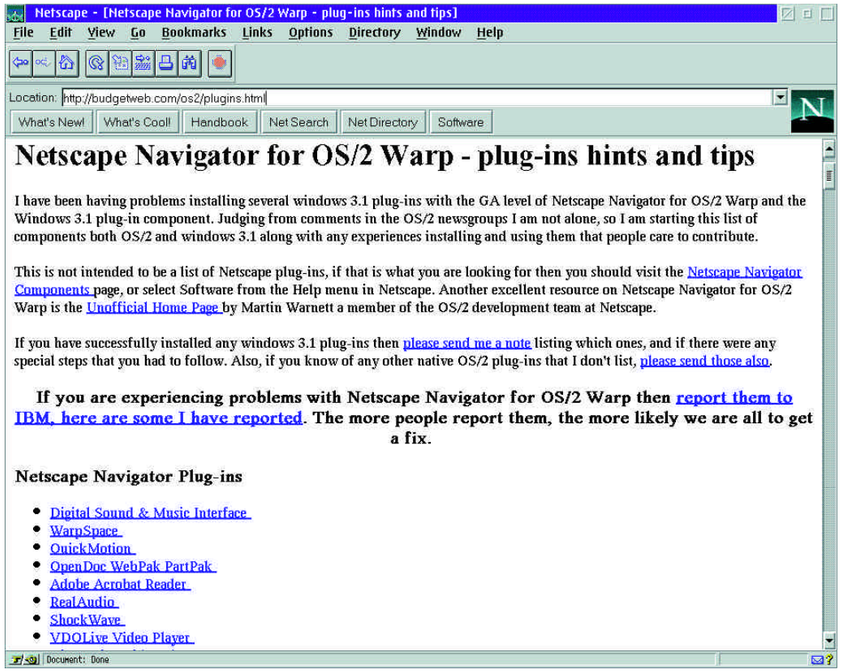
In the header of his message I noticed that his organisation was using an OS/2 SMTP mail gateway. As it happens, Lotus now has a gateway that runs on Windows NT, too, but it made me think of all those years during which OS/2 provided the backbone of that organisation's email system. I suppose in some 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**



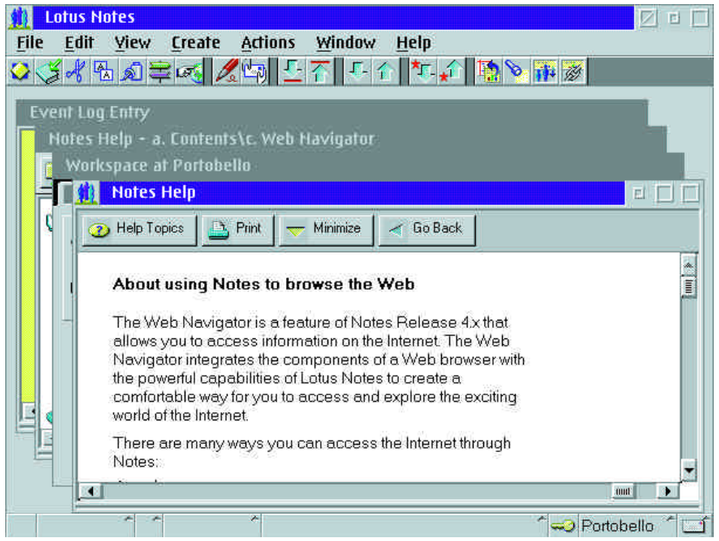


Fig 3 **Lotus Domino 4.5 runs on OS/2, all versions of Windows, the Mac and Unix systems**

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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The Warp factor

The surging popularity of networked computing has brought out the best in Warp, with its development into a highly competent internet tool. Terence Green predicts good things for 1997.

One of the pleasures of the Hands On OS/2 section for me is the amount of feedback and the way it shapes the column each month. Because of the way I write the piece, it may not be apparent that large sections appear as a result of email received. The feedback goes well beyond simple queries. Readers correct my errors as often as they draw on my resources, so if you appreciate the column, remember that thanks are due for the contributions of many un-named readers.

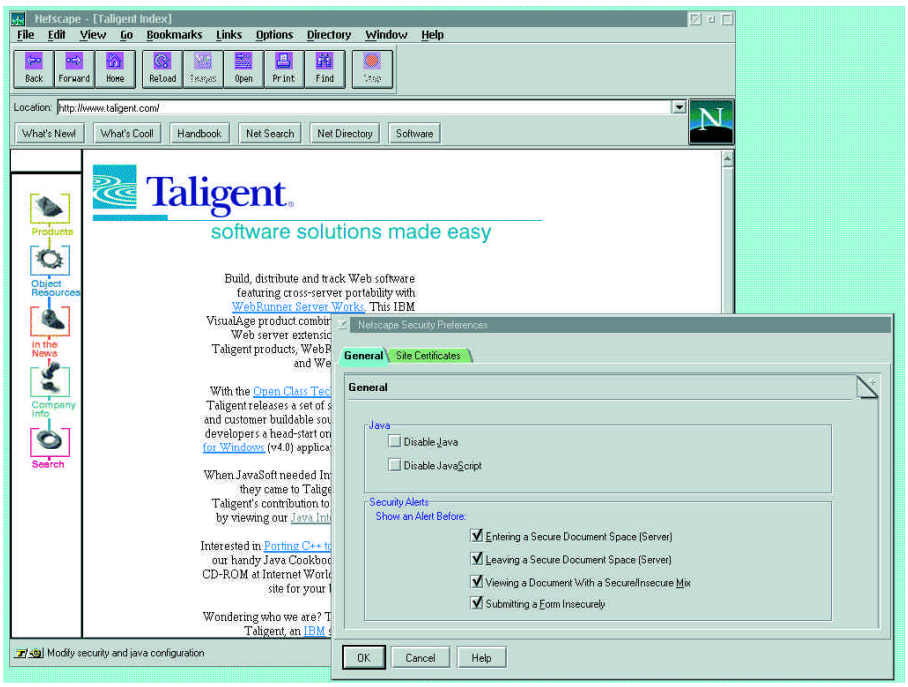
It did occur to me when I took on the OS/2 column, just as Windows 95 was making its way into the world, that many people considered OS/2 at best a legacy operating system. But, some 16 months later, Warp 4 has grown into an extremely competent internet tool just as interest in networked computing has grown to fever pitch. So, while 1996 saw a lot of speculation about the future for Warp, 1997 looks like being a good year for its users.

Warp's focus on the internet started back in 1994 when Warp 3 with the Internet Access Kit shipped. Since then, the internet has become the prime driver and Warp 4, the first desktop operating system to be Java-enabled, is obviously well placed. But internet development time is measured in months, and operating systems traditionally take years to develop.

To that end IBM decided in 1996 to consolidate and prepare for more rapid upgrades. The press reported this as "freezing the kernel" and predicted (yet again!) OS/2's demise. In fact, what is happening is that the core of Warp is being kept stable so that sub-systems, especially those concerned with the internet, with Java, and with communications in general can more easily be adapted, enhanced or added to in order to exploit the emerging uses that are being discovered through the internet and the web.

During 1997 IBM plans to ship lots of modular enhancements to Warp 4 but will not make any major changes to the kernel until 1998 when Warp 5 is pencilled in. That probably means no major alterations to the input queue fixes already in Warp 4 and almost certainly means no SMP-enabled end-user version. Instead, we can expect to see Warp 4 both gaining new power-user features for Pentium-powered systems while also slimming down to tackle emerging markets such as set-top WebTVs and other embedded systems.

There are obvious benefits to the user from the set-top box approach modelled on the network computer because it's a pay-as-you-go system which will take Warp into the home far more effectively, at lower cost, and with much greater ease of use for consumers than having to tussle with



Taligent frameworks are being incorporated into Java to ease international-isation for developers. See www.taligent.com for more details and don't forget to enable Java in Netscape for OS/2; it's disabled by default

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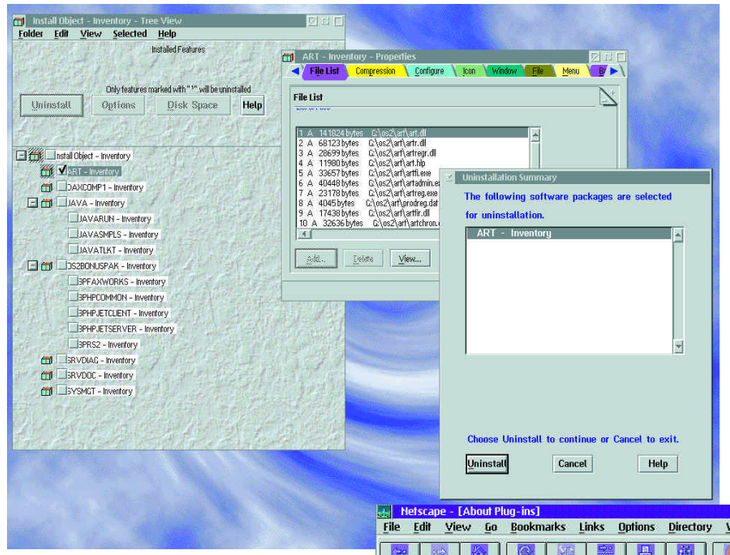
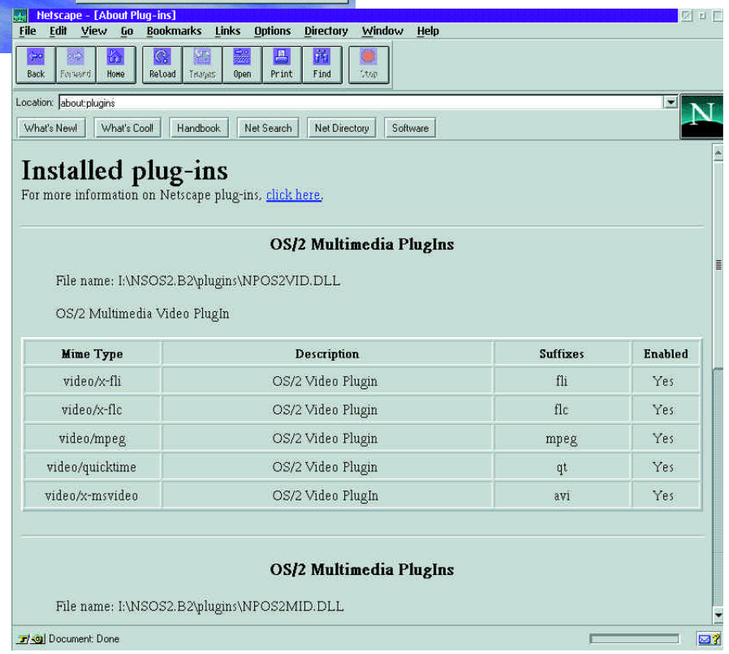


Above You can eliminate the irritating registration screen using the uninstall utility in \OS2\INSTALL\Installed Objects



Right The Plug-In situation with Netscape for OS/2 is complex and differs between Warp 3 and Warp 4. For a fuller explanation follow the URL link on the Help/About:Plug-Ins screen

installing and configuring a Pentium box.

Meanwhile, we nerds can continue to expand our Warp 4 systems through the modular enhancements promised for 1997. Quite how IBM plans to make the 1997 enhancements available for Warp 4 users has not been disclosed at the time of writing, but now this is in print it would be a good time to check the latest news.

Any answers?

It isn't always possible to answer every query satisfactorily and sometimes I can't answer them at all. Here are a couple of queries that have been hanging around unanswered. Currently I'm having difficulty discovering whether there are device drivers for the Hauppage WinTV card and for the Epson EPL5500 laser printer, not the Windows system version. There was some discussion about a set of Epson printer drivers for OS/2 being prepared by Epson Germany but they were not yet ready, and it seemed that Epson was hoping to charge for a driver diskette.

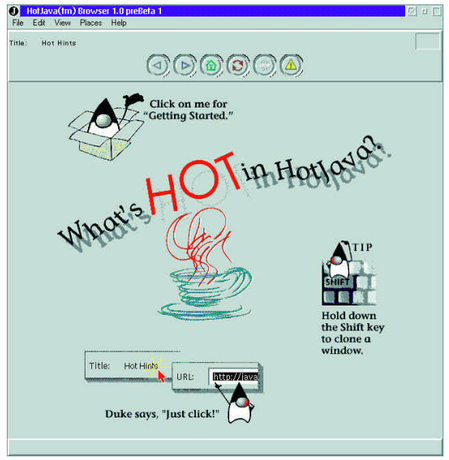
Another request I haven't solved is whether there are any Windows 95 HPFS readers. I'm aware of a DOS-based HPFS reader and there's a workaround for the unwillingness of Windows NT 4.0 to see HPFS drives, but is anyone aware of any utility which will enable HPFS drives to be seen from Windows 95?

Talking of readers who add to the knowledge bank, here are a few quick tips. If you have one of the older NEC CD-ROM drives such as the NEC 2xi and you're having difficulty installing OS/2 or accessing the drive, try turning parity checking off in the SCSI BIOS.

And then there are readers who are just weird! One writes to say that he has mixed feelings about Windows 95 but loves the image quality which he adjudged by viewing the same (Windows 95) bitmap in Windows 95 and OS/2 Warp. Apparently it looks much crisper and sharper in Windows 95. Well, one would hope that an image shipped with Windows 95 would look good, but how many factors are involved? First there's the video device driver itself, then the resolution, then the refresh rate. To make an accurate comparison, all of these should have identical settings, particularly the refresh rate.

The same reader also wants to know whether to stay with OS/2 or switch to Windows NT. This question has become common since Windows NT 4.0 arrived. I guess the first consideration is how much you want to pay for your operating system, as Windows NT workstation costs a lot more than OS/2 Warp. The next consideration would be your applications. Our reader wants a "top-notch" office suite but can't wait any longer for Lotus SmartSuite. Well, it's okay to run Microsoft Office versions up to 4.3 in a Warp Win-OS/2 session, but not Office 95 or Office 97 which are exclusively Win32.

You should also consider which legacy applications you might wish to run, as some DOS and Windows 3.1 applications run very slowly, if at all, in Windows NT. On top of that you would need to check whether



Sun's HotJava browser will soon be available for Warp

you have any specific applications which are poorly supported on Windows NT such as fax software and games. Further considerations are that Windows NT does not support power management and that it only supports static PCMCIA insertion prior to booting up, not hot insertion/removal of PC Cards.

As to whether Windows NT is more reliable or stable than OS/2 Warp, I don't feel the question has a simple yes or no answer. Depending on the quality of the hardware and the associated device drivers, both Windows NT and OS/2 Warp can range from rock-solid to flaky as hell.

Hints and tips

I've sent Fixpak #26 to the cover CD. This is the latest official release dated 18th November 1996. It includes several important fixes for bugs introduced with Fixpak #17 which appeared on an earlier *PCW* Cover CD and also includes the Open32 support required for applications developed with the Developer API Extensions. It is also required if you wish to run Windows 3.1 Plug-Ins with Netscape for OS/2 beta 2 and later.

Some interesting fixes in Fixpak #26 include a fix for the "994" message received when attempting to view files on a Windows NT Server, and the ability to reserve drive letters in order to ensure a consistent address for CD-ROM drives. See the XR_W026.1ST file for more details. Also note that you must use the latest Corrective Service Facility (CSF) boot disks in order to install FixPack #26. These disk images are included on the cover CD.

A couple of tips for those who have installed or plan to install Warp 4 over Warp 3. Warp 4 creates a new desktop and saves the old one along with any printer objects in the Previous Desktop folder. Look in here for your printer icons and drag them to the new Warp 4 Desktop.

If you upgrade Warp Connect to Warp 4 and see a blue screen with a clock which turns to a blank Desktop when you press CTRL-ESC, reboot and press Alt-F1 when a white blob appears top left of the screen. Select F2 to bring up a command prompt, change to the :\OS2\INSTALL subdirectory and type MAKEINI INSTALL.INI INSTALL.RC, then press Enter. Restart the system, press ALT-F1 and select F6 to disable hardware detection.

If you have installed FixPak #22 over Warp 3, do not use the Warp 4 Easy Install without first removing FixPak #22. This is because Warp 4 shipped at the FixPak #20 level. You can use the Advanced Installation and when asked whether to overwrite newer files reply "yes".

If you have a ProAudio Spectrum 16 and the IBM-supplied Andrea microphone, you must obtain the optional battery pack for the microphone to work. The tiny power adaptor (easily overlooked in the packaging) is required for Creative Labs SoundBlaster boards.

If you lose the new Warp Sans font, the most likely cause is because you installed a new video driver and allowed it to overwrite the DSPRES.DLL file. Replace the correct DSPRES.DLL by rebooting and pressing ALT-F1 when the white blob appears top left. Call a command prompt with F2 and enter the following;

```
UNPACK X:\OS2\INSTALL\VGA\VGA
 /N:DSPRES.DLL
```

where X: is the Warp 4 boot drive. Exit the command prompt to reboot.

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Cover charge

Terence Green charges *PCW* with negligence over the shoddy representation of OS/2 on our Cover CD. Why not try it with Java, he says. And he gets verbal with Warp 4.

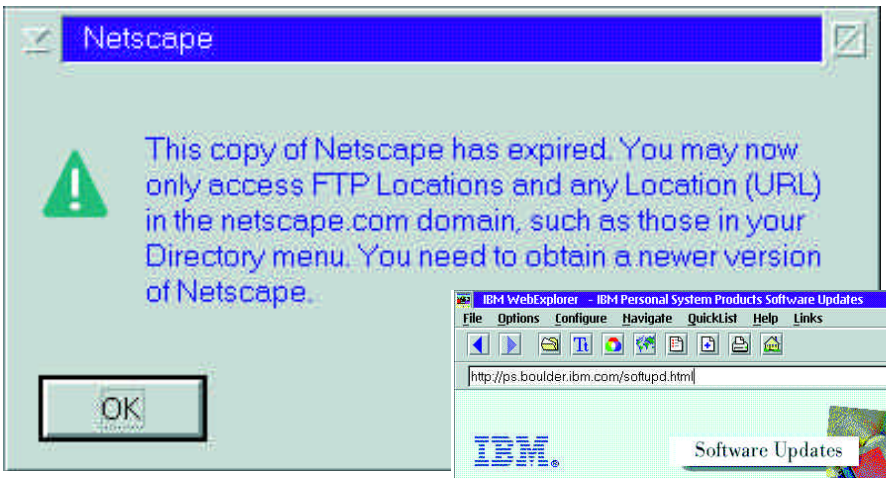
This month's big question is, where did they put the OS/2 stuff on the CD? Congratulations to anyone who managed to find the material on the December issue free cover disc! And sincere comiserations to those who found the Netscape OS/2 beta on the January Cover CD, only to discover that it had just timed out. In future I had better read the licence agreement a little more carefully so as not to miss the obvious BLOCK CAPITALS timeout warning.

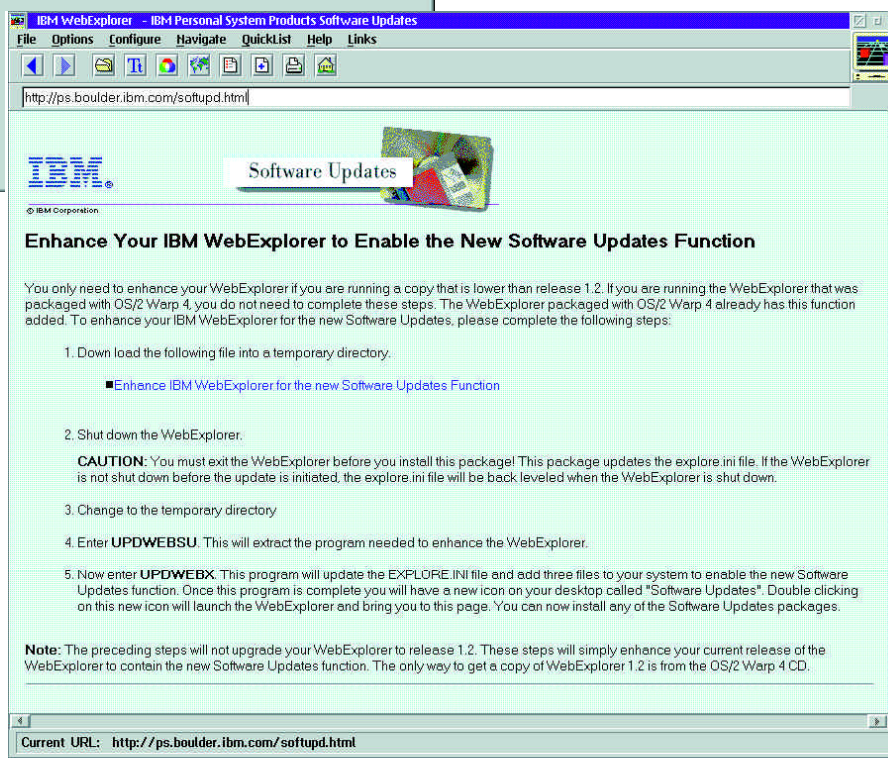
The location of the OS/2 files for the December issue turns out to be in <Cover CD>:\HTML\RES\RESOURCE\HANDS\OS2. It's obvious really, but the PCW CD-ROM team tell me they are working on making the CD directory structure a little bit more logical.

Speaking of which, if anyone has managed to install and run the Cover CD software with OS/2, do tell. It seems to be hard-wired for Windows users. I had the Adobe Acrobat Reader for OS/2 and Netscape for OS/2 (both beta) installed but couldn't manage to get the Cover CD software to use them, or to install properly in a Win-OS/2 window.

Eventually I found and ran the Windows help file from the CD and discovered that I could use a web browser to access the HTML file RESOURCE.HTM in <cd drive>:\HTML\RES. Sadly this uses frames so it's a no-go area for Web Explorer. And then it turns out that only a fraction of the OS/2 files on the CD turn up in the HTML listing anyway.

I guess the cover CD software works okay in Windows 95 with a late-model





Above Sorry, but the Netscape for OS/2 Beta 1a had a hidden timeout set for 30th November, 1996, which renders its inclusion on the previous cover CD a little pointless
Right Web Explorer lives on! But it's only in maintenance mode now. Still, the Warp 3 versions can be enhanced to automatically install updates

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browser, but what about OS/2, Windows 3.1, Windows NT 3.51, Linux, Macintosh, Amiga, Atari, Unix and so on? Isn't this exactly why there's so much interest in Java? One binary executable — many platforms supported.

Java brouhaha

Java doesn't have to be trivial, and trivial doesn't necessarily imply useless. If Corel can build an Office suite in Java, the PCW Cover CD could be given a Java front-end and made accessible to all PCW readers.

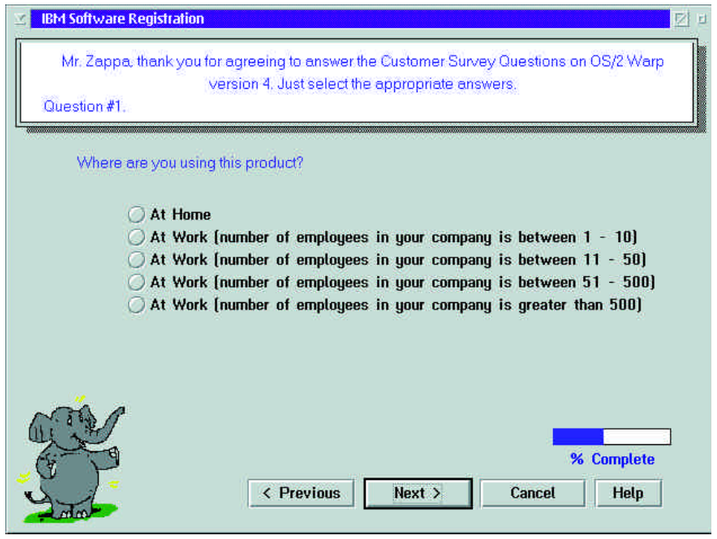
Seek out the Corel Office Java suite preview page at http://officeforjava.corel.com/preview/ for a view of more complex Java applications than the usual animations. However, it's pre-release, it's on the other side of the transatlantic pipe, and it really does need a high-bandwidth internet connection, ISDN 128Kbps or better.

But, what about the Cover CD? It's in your CD-Drive on a relatively fast I/O bus and bandwidth would not be a problem. Java-based Cover CD software would make it easier for everyone to enjoy the CD regardless of their chosen browser, operating system or operating system version. Grounds for a new approach?

There are a number of ways of running Java applets in OS/2 Warp 3, none of them obvious and most requiring large downloads. For legal and practical reasons you'll need to download Java support from IBM. Practically speaking, the Java OS/2 situation changes faster than the lead time of the OS/2 column, so check the latest situation at www.ibm.com/java or browse to the IBM Java Centre at http://ncc.hursley.ibm.com/java/ and the IBM Alphaworks site www.alphaworks.ibm.com/ .

The easiest way to run Java applets is to use Warp 4. If you need to use a browser to navigate to and run a Java applet on a web server, you have to use Netscape for OS/2 because the Web Explorer 1.2 in Warp 4 doesn't do Java. Weird or what? The Java-enabled Web Explorer demo has also since vanished from the IBM Web sites. Another possibility might be to run the Java-enabled 16-bit Netscape Navigator for Windows 3.1 which Netscape was threatening to ship around mid-November.

Netscape for OS/2 should be in production by the new year. The unfortunate timeout problem with the cover-mounted Netscape beta is a consequence of the speed of change associated with internet technologies, so while I realise people appreciate the cover software, I'll be more circumspect with beta selections in future.



The famous dancing elephant is an old IBM in-joke and has nothing to do with stamping out wild ducks, burning or not

Speak to me

In early November the UK version of Warp 4 arrived and I replaced the US version I had been running since late September. In an earlier column I waffled on about difficulties with the US speech model in the Merlin beta. To my surprise, the US version handled speech navigation and basic dictation really rather well straight out of the box. Soon I was blithely issuing commands to my computer and receiving an instant response. This system I can heartily recommend to any parents of teenagers.

The one thing that can turn Warp 4 speech enablement into a real drag is insufficient memory. Memory prices have edged up yet again but I reckon I'd still fork out for the extra memory to have at least 24Mb in a Pentium 100MHz system for the voice capabilities.

Warp's Java capabilities are discussed above and the feature set was listed in a previous column where I enthused about the interface, which I really like. The trays on the Status Bar are very useful. Drag and drop anything onto the status bar and it will open or start from there. Add extra trays by right-clicking on the status bar for the popup menu and change trays by clicking on the bar. Click the box to the far right of the status bar to change from time to date to timer. A little clock appears.

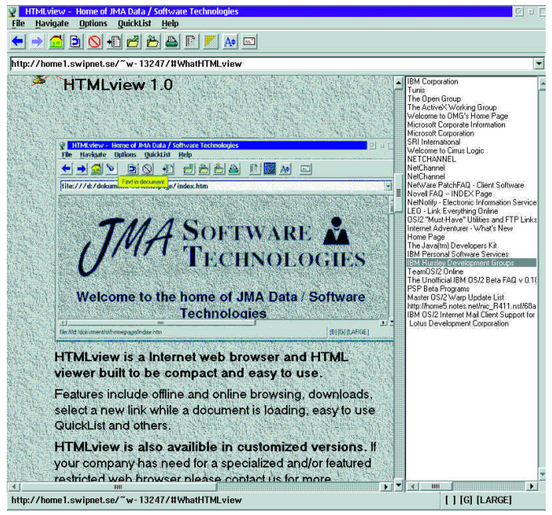
Warp 4 networking is much better integrated now and easier to set up too. One thing you need to do during install if you plan to use the internet and you don't have a networked PC with a network card is to be sure to choose the NO NETWORK ADAPTER option when asked to select a card. And if you run any version of Warp on a small network using NETBEUI to peer with other OS/2 and Windows PCs and the login process takes an age, reduce the timeout which is more appropriate to an enterprise network. Open MPTS in System Setup and opt to configure the LAN Adapter and Protocol Support. Select IBM OS/2 NETBIOS in the Current Configuration window and click EDIT. Change the Query Timeout (default 2,000) to 1,000 or 500.

Warp surprises

Warp's not perfect — it can go wrong, and sometimes it's difficult to know where to start. Customer service is always worth a try but you need to register, which is one way of turning off that irritating elephant. The other is to put up with it — it appears five times in the first 40 days, after which it won't return until a year has passed when it presents you with a customer satisfaction survey! Free end-user support covers basic installation issues for the first 30 days from a 24x7 call centre. After that you have to pay, but if you're up and running you can try the internet support. Alternatively there is a HelpFax service. Coverage varies — there are four HelpFax lines covering Europe.

Files for the cover CD

HTMLVB5.ZIP — a small and quick web browser from Sweden.
JR09427.ZIP — a fix for the CHKDSK "Minor System Error" buglet in Warp 4.
WARPINST.EXE — the FixPack #22 level installation disk update. ONLY USE IF UNABLE TO INSTALL WARP 3. Self-extracting file. Place in its own directory before executing.
WEBXV11F.EXE — Latest Web Explorerfor Warp3.



A lightweight, fast HTML viewer (web browser) from Sweden

Some OS/2 showstoppers are quite easy to resolve. Several problems can cause the Warp WorkPlace Shell to hang or to run so slowly as to make no difference. Warp 4 is much better than Warp 3 in this respect, but not immune. Typical problems are installation hangs, driver glitches, and some Windows programs. It's become much easier to troubleshoot OS/2 since Warp 3 and Warp 4 takes it a bit further. The following applies to all Warp versions unless otherwise stated.

If the Warp 4 install program stalls, reboot and press ALT-F1 when the OS/2 block cursor appears. Select F6 to disable Hardware Detection and cross your fingers.

If Warp installs but fails to display, or if it mangles the display, do the ALT-F1 thing and select the return to VGA option. If it works okay in standard 640 by 16 colour VGA, there's a problem with the SuperVGA driver or the selected resolution or perhaps it was incorrectly detected.

If, after working properly, Warp displays the graphic backdrop when rebooted but then hangs, either displaying or trying to display the desktop, there might be a network problem or some other process or thread might have started and hung unseen.

Reboot and wait until the backdrop and clock appear. Then hold down Left-Ctrl and Left-Shift and F1 simultaneously until the desktop icons appear to stop programs from autostarting.

Alternatively, take the long-term option and edit CONFIG.SYS. Reboot and ALT-F1 and this time choose the Maintenance Desktop. Open a windowed OS/2 session and start the E.EXE editor. Load CONFIG.SYS and edit out the word PROGRAMS from the line beginning "SET AUTOSTART=". This stops programs which were running when the system was rebooted from restarting.

A better option is to add the line

```
SET RESTARTOBJECTS=
STARTUPFOLDERSONLY
```

to CONFIG.SYS. RESTARTOBJECTS defaults to YES if the SET command is absent form CONFIG.SYS but this can result in a program being started twice on reboot, once from the Startup folder and once again because it was running when Warp was rebooted.

Finally, Warp 4 has a new feature which enables you to kill a process from the desktop. Add the line

```
SET KILLFEATUREENABLED=ON
```

to CONFIG.SYS. Now when you encounter a hung program press the Ctrl while clicking on the Window List (the little cascaded window icon on the Start Bar) and a list of running threads will pop up. If you click on one of the threads, you are offered the option to kill it.

PCW Contacts

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What a Warper

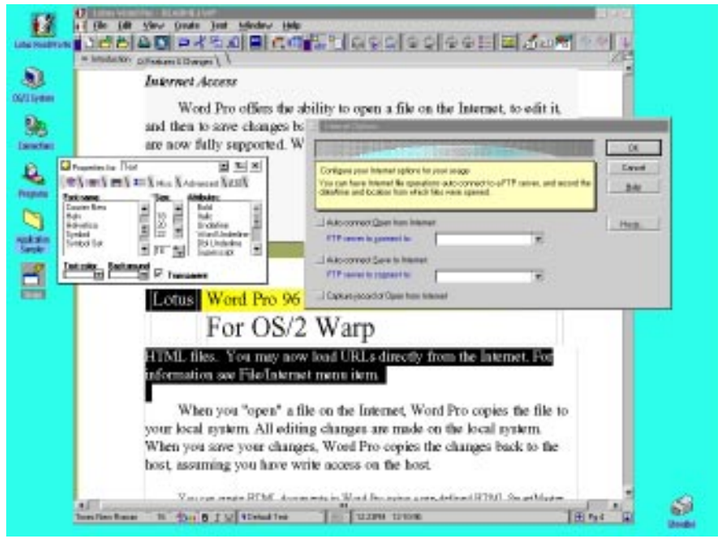
Terence Green reports on how Warp 4.0 (in beta) has fared on his system. With its new components and three new CDs, he recommends it as a must-have upgrade.

I have been running Warp 4.0, the product formerly known as Merlin, during its beta phase and I have to recommend it as a must-have upgrade for anyone running Warp or OS/2 as their desktop operating system. It's a superb network client and an excellent choice for the connected end user.

Warp 4.0 includes great internet connectivity with Java support in the operating system. A native OS/2 version of Netscape Navigator didn't make it into the box, but will follow shortly as a free download.

As the US Warp 4.0 code I'm using now has a speech model designed for US accents, I've not yet installed the VoiceType navigation and dictation support. I'll do that when UK Warp 4.0 has become available (due, at the time of writing, by the end of October) and report in my next column if my deadline permits.

What is apparent from the US shrinkwrap is that simply upgrading an existing Warp 3.0 system to Warp 4.0, without adding any of the new bundled components, has very little effect on memory and hard disk space, yet improves both performance and usability. The proviso is that your existing system is a 486 or better with at least 16Mb RAM if you're running a connected desktop, whether you're connected directly to the network or on a dialup connection.



A word processor for Warp. Lotus WordPro 96 for OS/2, still pre-release, emerges slowly

New CDs and BonusPak

In addition to the new components of Warp there are three, new, bundled CDs and an updated BonusPak. The new CDs are NotesMail, the Device Driver CD and the Application Sampler. The Sampler contains around 80 trial versions of OS/2 applications including StarDivision's StarOffice 3.1, an office productivity suite with word processor, spreadsheet, graphics, multimedia and internet capabilities.

The Sampler CD also contains MGI PhotoSuite for OS/2 imaging software. MGI used the Open32 developer extensions to port their application from Windows 95 to OS/2 Warp. Lotus helped develop Open32 which they're using to develop SmartSuite 97 for OS/2. At the beginning of October, Lotus put pre-release versions of WordPro and Freelance Graphics up for free download from www.lotus.com on the SmartSuite product page. So finally, a Lotus OS/2 suite is in prospect, and one based on a quite different approach than the original idea of a parity release floated by Lotus some years ago. What a long, strange, trip it has been.

The BonusPak CD contains native OS/2 applications (updated from Warp 3.0 versions) including IBM Works, HyperAccess Lite, and FaxWorks. There's also a new Remote Support for the OS/2 Warp package which enables IBM technical support, or company support, teams to offer remote support, maintenance and upgrade for Warp 4.0 users.

WarpCentre

Without doubt, Warp 4.0's user interface is the most user-friendly and functional graphical interface in a desktop operating system today. It precisely reflects desktop and drive structures, and does so automatically. Thanks to the new Lotus-inspired WarpCentre action bar you can have one-click access to all your programs and files without having to clutter up the desktop with lots of pointers.

As you can see from the screenshot on page 286, the desktop and hierarchical folder structure is presented on the WarpCentre menu exactly as you arranged it. Furthermore, there's no need to worry when you move things around or re-arrange the desktop, because Warp keeps track of this for you.

The user interface is visually pleasing, with new, coloured, tabs in the properties (formerly settings) notebooks, and the new Warp Sans system font. And, of course, all the existing usability features remain. Every folder can be individually configured with details such as its own background image or pattern, which can be a useful way of identifying different projects.

To further speed up access, WarpCentre (actually WarpCenter in the US spelling) also allows you to stack up "trays" of program and folder objects on the taskbar. Using Trays is like having multiple task bars. And, if

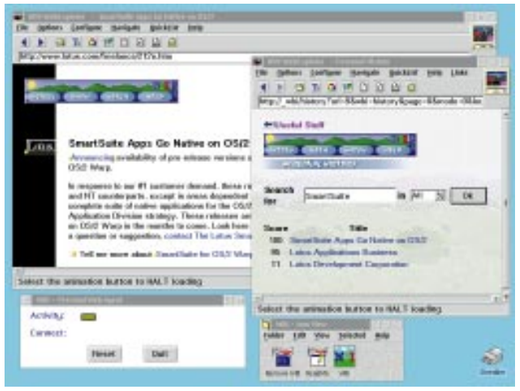
On this month's cover-mounted CD

Netscape Navigator 2.02I for OS/2 beta 1
Although it is incomplete and the shipping version should be out by the time you read this, I've nevertheless popped it onto the cover CD as a taster.

The fully-functional shipping version of Netscape Navigator 2.021 for OS/2 should be available now from Netscape and IBM's web sites *(http://home.netscape.com)*

Adobe Acrobat beta 3 for OS/2
This beta is not time limited, as was the case with the prior version. Adobe's licence permits me to pass it on, but the web site from where I downloaded it does request registration of interest. So if you like the beta and want Adobe to know, do visit www.adobe.com and register your interest.

WBI (Web Browser Intelligence) or "Webby"
Terrible name, but it's one of several really interesting demonstrations of upcoming technology from IBM that can be found at www.alphaworks.ibm.com. Other Alphaworks demos include a Java applet development kit for Windows 3.1 and the NetRexx scripting language for Java.



This technology demonstration of an intelligent agent from IBM is available for OS/2 and Windows 95. It tracks your internet usage, and creates a sorted and indexed audit trail *(www.alphaworks.ibm.com)*

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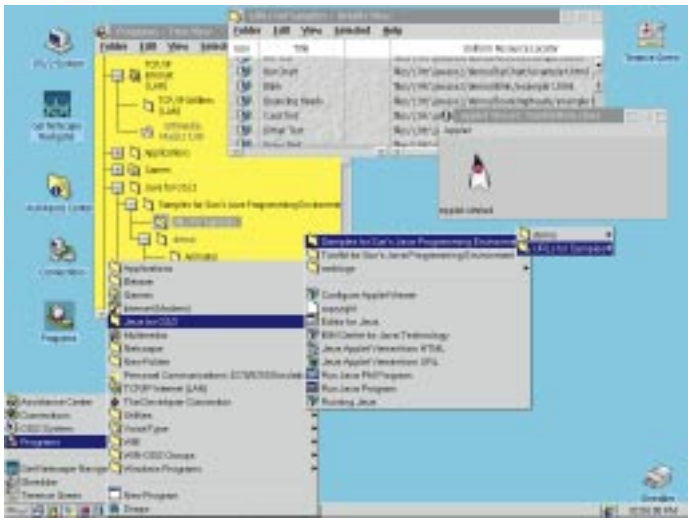

Of all the graphical user interfaces for PCs, Warp 4.0's truly object-orientated WorkPlace Shell with WarpCentre is the most user-friendly and functional desktop

you have become used to the LaunchPad, it's still there but now called the Toolbar.

Install

Another aspect of usability is the ease with which Warp 4.0 can be installed and maintained. For large installations there is a remote network install facility which can be used to automate batch or new user installs and upgrades. Incidentally, Warp 4.0 will install over any previous OS/2 system and it now includes Microsoft Windows applications support as standard. There's no longer a separate Red Box for Windows version.

One of the main problems with Warp 3.0 and earlier versions was the way the install would bog down and fail on some systems. Usually, these were systems with IDE CD-ROM drives, specific IBM PC models, systems with dodgy memory, or PCs with IRQ clashes which weren't apparent under Windows or DOS.

Support for plug-and-play

Warp 4.0 includes support for plug and play, a graphical Hardware Manager (essentially a graphical version of the RMVIEW command), and a bunch of more device drivers including a separate CD with hundreds of drivers and links to the internet sites of hardware vendors where the latest drivers can be found.

Warp 4.0 plug-and-play support autodetects hardware during the installation process, but this can be turned off if required. If you've ever played with plug and play you might have discovered that it can sometimes go wrong, particularly if there's a mix of plug-and-play and legacy adaptors in the PC. By pressing Alt-F1 and selecting the new F6 option from the ensuing menu, you can disable the auto-detect feature and manually install drivers for problematic hardware.

A brief Warp 4.0 contents list

We're running out of space again and haven't begun to explore Warp 4.0 behind the scenes, so here's a quick rundown of what's in it. (Coverage will continue in next month's column unless the editor requests a full review. His email address is in the front of the magazine if you should feel the urge to let him know how much you appreciate his support for OS/2 coverage.)

- VoiceType for OS/2 Warp
- File and print client for OS/2 and Windows (3.x, 95 and NT)
- Novell NetWare client
- Remote Access Client
- Java (runtime and developer tools)
- Internet connectivity
- Web Explorer browser
- Plug and Play
- Power Management
- Multimedia
- TrueType
- Systems Management (client and agent)

Dear Santa...

Last year, I wanted internet access for schools, a ThinkPad on which to run Warp, and a new home PC. Shortly thereafter, an IBM PC company person wondered why I wanted to run OS/2 when Windows 95 ran so well on the ThinkPad. I used a Toshiba to test Warp mobility instead.

On the home PC front, I eventually built my own thanks to the plummeting price of RAM and Pentiums. I purchased a TMC Pentium/Triton 2 motherboard from Simply Computers for £99 and two 16Mb SIMMs for under £150. The rest of it came from a PC whose disk drive had died in June, and the motivation was the motherboard which died in August. It has worked like a dream, with Warp 3.0, and Warp 4.0 shrinkwrap installed without a hitch, and now runs perfectly.

Three wishes for 1997

The internet story rumbles on, so this year my three wishes are:

1. A return to common sense in internet reportage.
2. Better ISDN support in Warp.
3. Britain to stop frustrating a worldwide ban on landmines. These weapons kill civilians, in the main, and a disproportionate number of kids who think the landmines are toys and pick them up.

The whole idea of the internet as a global information resource is being perverted by trash journalism. For a better perspective on the subject, read *Bandits on the Information Highway* by Daniel J. Barrett, published by O'Reilly & Associates and distributed through International Thompson (www.thomson.com) in the UK. A good point Barrett makes is that it is far easier to spend time with your kids directing them to the good things on the internet, than it is for anyone, governments included, to exert control over computers which may be running in another country with different laws.

The internet is a global forum. It contains nothing that you can't find elsewhere, but it does provide a simple way of discovering information of all types. Parents shouldn't let their kids venture out into the street without offering them guidance on road safety.

PCW Contacts

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A new **arrival**

Terence Green takes a look at the new Netscape 2.02i for OS/2, deals with common queries about Windows compatibility and touches on HPFS support for NT 4.0.

While reading a lifestyle magazine, as one does when on holiday or at the dentist, I learnt that trainer shoes should be replaced "every three to six months" as this enables the wearer to "keep up with the technology".

I know we've been waiting for the computer and consumer markets to converge but this is ridiculous. Still, I know how they feel. As I was collating this month's column, IBM and Netscape announced the imminent arrival of Netscape 2.02i for OS/2.

The "i" in the version number stands for "international" language edition. Having just collected a bunch of browser, internet mail and news tools which I was going to describe I think they will have been superseded by the time they appear on our cover-mounted CD-ROM. Anyway, I've simply dumped them onto the CD and left it for you to decide. The files appear in the Resources section.

There's no way that the internet mail and news pieces in Netscape 2.02i are so wonderful that you'll forswear all others when Netscape 2.02 for OS/2 appears. But it does mean that you have the three main internet tools in one place. The major benefit is that this reduces the amount of effort required to configure TCP/IP, bearing in mind there are a couple of versions (depending on your version of Warp) and separate fixes for each.

Netscape for OS/2 should have appeared in beta form by late September which will have been too late for me to plonk it on this month's cover-mounted CD. Netscape 2.02i for OS/2 is a native OS/2 application, not a port of the Windows version (it would not be possible as the Netscape Windows code was written using Microsoft Foundation Classes which cannot easily be ported).

The first Netscape OS/2 version will be based on Netscape 2.02i because the combined Netscape and IBM programming team started working on it back in May (after having previously decided to do it in April). At that time, version 2.xx was a stable product while 3.0 had yet to enter beta. In fact, Netscape OS/2 will skip the 3.0 version entirely and will fall into line with Netscape's simultaneous multi-platform releases with the next version.

According to IBM and Netscape, the OS/2 version will run Netscape plug-ins but it's too early to say which ones. Apparently, RealAudio was working and Quicktime Video was almost working at the time of the announcement.

Netscape 2.02i for OS/2 will additionally run Java applets if it is running on Warp 4 (Merlin). OS/2 Warp 3.0 users will be able to run Netscape 2.02i for OS/2 but they will not have Java support unless they purchase a Java upgrade kit which IBM had planned to announce on 25th September. Netscape for OS/2 will not be ready to ship with Warp 4. But it will be freely downloadable soon afterwards.

Of course, Netscape for OS/2, when running on Warp 4, will be speech-enabled. As I wrote in a previous column, this is going to be a boon as browsing the internet inevitably means using the mouse a lot more. A considerate reader sent me an email on this point, kindly pointing out that there was a CIX conference called "RSI" where advice and assistance on computer-related health issues can be found.

If you do not have access to CIX, there is also a wealth of information on critical health issues like RSI on the internet which you can track down via one of the web search engines such as altavista.digital.com/ .

Co-existence

Recent emails I have received questioned whether Warp will co-exist with Windows 95. The answer is generally: "yes, but what are your particular requirements?" It's hard to produce an "idiot's" guide because of the number of possibilities.

A year ago, IBM produced a utility called Just Add (OS/2) Warp, or JAOW, which wasn't that wonderful but did include some useful scenarios for co-existence. It has since been discontinued but I've found a copy and bunged it on our free, cover-mounted CD-ROM.

A lot depends on your existing setup and and on whether you will consider re-partitioning your hard disk. The most simple thing is to use Dual Boot which enables you to add OS/2 Warp to a PC with a single disk partition, which already has Windows 95 installed. However, this means running OS/2 on a FAT partition which is less than optimal and the imminent arrival of FAT32 for Windows 95, which won't be supported by Windows NT or OS/2, will complicate matters.

I prefer the hard way: back up the Windows 95 installation, re-partition the drive with separate Windows 95 and OS/2 partitions and perhaps a third FAT partition for shared data. Don't make both the Windows 95 and OS/2 partitions primary partitions because you won't be able to see the other. Just put Windows 95 on the C: primary and OS/2 on a logical drive.

I wouldn't bother with the Just Add (OS/2) Warp utility that purports to make Windows 95 and OS/2 long-filename compatible either — just make sure you avoid using Windows 95 long filenames for files that you want to access from OS/2.

32-bit Windows

Another common query regarding Windows compatibility is whether Win32 applications will run on OS/2. The answer is that some which have been written to the Win32s API will run. The *caveat* is that this does not apply if they need Win32s version 1.30. Win32s v.1.30 is the final version but OS/2 Warp 3.0, as delivered, only supports versions up to 1.15.

If you have a program that requires Win32s 1.30 you are out of luck, but often the previous version of the program will run on Win32s v.1.25 and a beta driver from IBM, which supports Win32s versions up to 1.25, is available, I've included it on this issue's CD-ROM.

The only significant difference between Win32s 1.25 and Win32s 1.30 is that the latter ships with a VxD (.386 file). Of course, it cannot run under OS/2 (or for that matter Microsoft Windows NT) because it compromises system security. This explains why the reader who wrote to me about his problem with a Windows program that generated an error referencing the "MMD.386 virtual device driver...", won't be able to use that application under OS/2.

In addition to the beta Win32s driver, you will need a matching version of Microsoft's Win32s 1.25 software. Generally, this ships with the program that requires Win32s. If not, you can usually find a copy on the internet (try tsikora.tiac.net) but I can't legally distribute it on our CD-ROM.

If you were already confused by the proliferation of Win32s versions, would you believe that there were two versions of Win32s 1.25? It's true! Be sure to read the instructions supplied in the Win32s file as you have to edit the configuration files manually to account for this!

HPFS support for Windows NT 4.0

You might well be wondering why Microsoft saw fit to produce so many different versions of Win32s ending up with a final version that definitely won't run on OS/2 Warp?

It's odd. But here's something stranger still. The latest version of Windows NT, version 4.0, drops support for the HPFS file system. If you install Windows NT 4.0 Workstation or Server on a PC on which you also run OS/2, you won't be able to see any HPFS drives from Windows NT. When I told the Microsoft US product manager that I

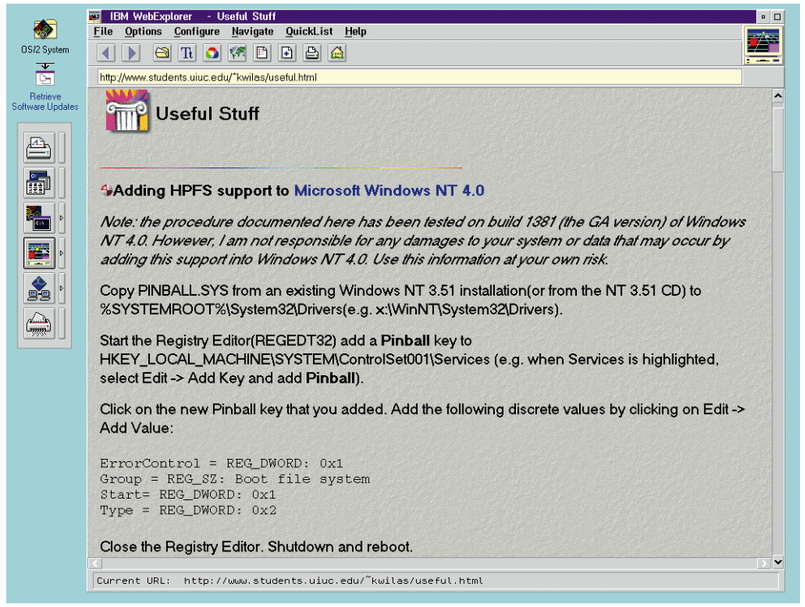

Fig 1 Kris Kwilas' site is an excellent source of OS/2 information and tips, plus all the latest news. It's well worth a visit for tips on Netscape and enabling HPFS support for Windows NT 4.0. Go to www.students.uiuc.edu/~kwilas/useful.html

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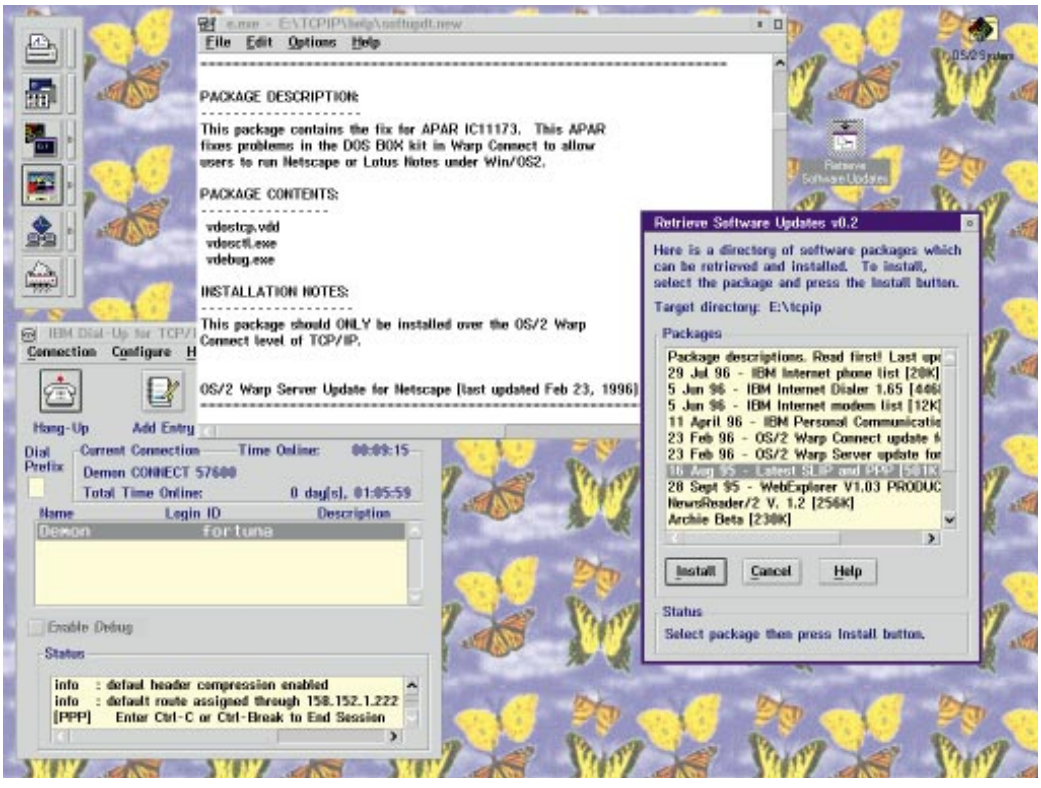

Fig 2 (left) Use the "Retrieve Software Updates" application to update Warp Internet support but be careful to apply the correct fixes. There are different fixes for Warp, Warp Connect and Warp Server and they're not all here. Also try www.software.ibm.com/download/

Fig 3 (below, left) Intelligent life on the World Wide Web? Perish the thought! Have a look at IBM's Intelligent Agents at www.raleigh.ibm.com/iag/iaghome.html and do follow the instructions carefully, especially if it's still in alpha test

couldn't understand why the company had done this, he informed me that it was "a business decision."

Well, thanks to the free and unfettered flow of information on the internet, I was directed to a site which explained how I could make my very own business decision to reverse Windows NT 4.0's aversion to HPFS. It takes five minutes. You need to copy a 120KB file (Pinball.sys), which you can find in Windows 3.51, to your Windows 4.0 \SYSTEM32\DRIVERS sub-directory and you need to create a registry entry with four values. While you are doing this, you might ponder why Microsoft could not find space for a 120Kb file on the Windows NT 4.0 CD?

Does it work? Well, I've tried it and so far it does but if it all goes pear-shaped… you didn't read it here! The site with the useful tip is www.students.uiuc.edu/~kwilas/-useful.html (Fig 1) and yes, it's the wonderful Mr. Kwilas' eternally incomplete OS/2 page again. The same page also includes useful information on how to get Netscape running in Warp and how to get the best out of an IOMEGA Jaz drive under OS/2. Check it out.

Well, I'm running out of road already. I had better end with a warning to be very careful whenever you're updating the TCP/IP support in Warp, Warp Connect or Warp Server as you will have to if you want to run Netscape for Windows or other DOS/Windows winsock applications. Each has a different version of TCP/IP with different fixes (see Fig 2).

The Internet Access Kit (IAK) in Warp and Warp Connect uses TCP/IP 2.0. If you're using Warp Connect, it is more likely that you have TCP/IP 3.0 support installed. You'll only be running on TCP/IP 2.0 in Warp if you installed the IAK instead of selecting TCP/IP 3.0 during the initial Wapr Connect install.

Finally, I've had several requests for the Adobe Acrobat reader for OS/2. I looked at www.adobe.com just before committing this column. It was still in alpha and had a time-out which will probably have passed by the time this issue appears. Adobe was promising an imminent beta, so…

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Rich pickings

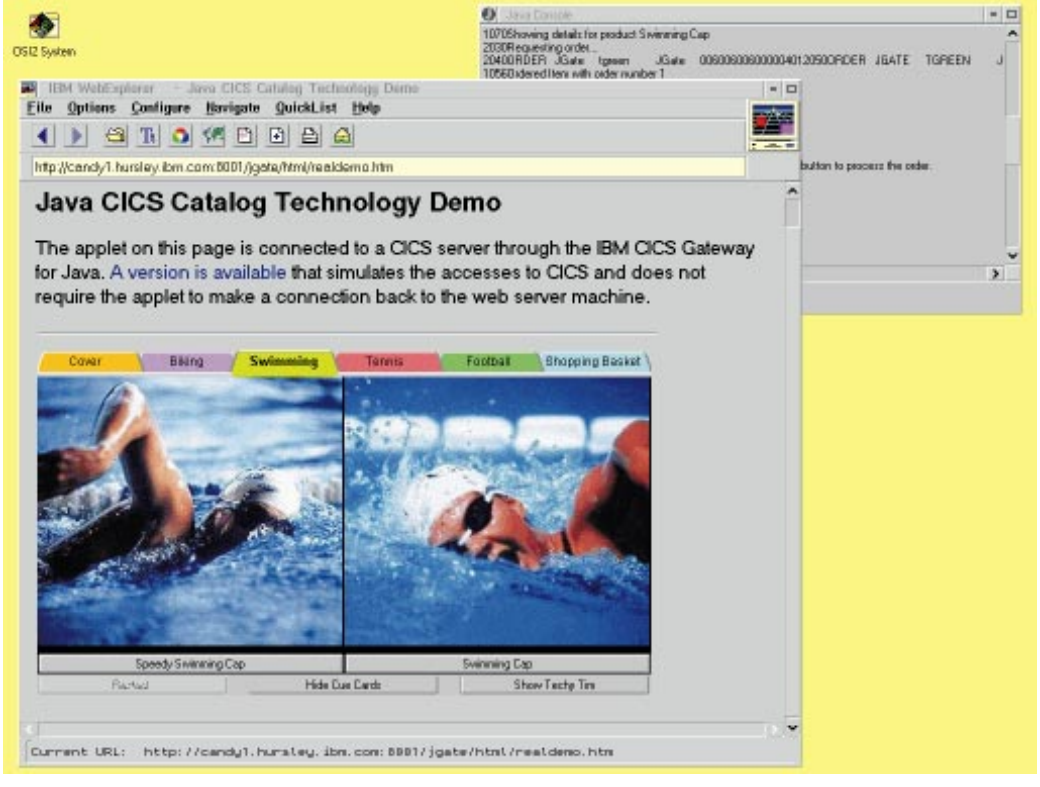
The internet has transformed the OS/2 online experience from being basically quite poor, to rewarding and full of potential. Terence Green applauds the way forward.

A while back I promised to report on my experiences with online services and how OS/2-friendly they are. Basically, they aren't very; but thanks to the internet, the online experience is turning out to be far richer and more difficult to summarise. And it moves rather quickly: within a year, Java has become very important and OS/2 is well placed. I'm running a Java-enabled OS/2 browser now, and Merlin will ship with Java support as part of the operating system. You will be able to drag a Java applet onto the desktop and run it anytime.

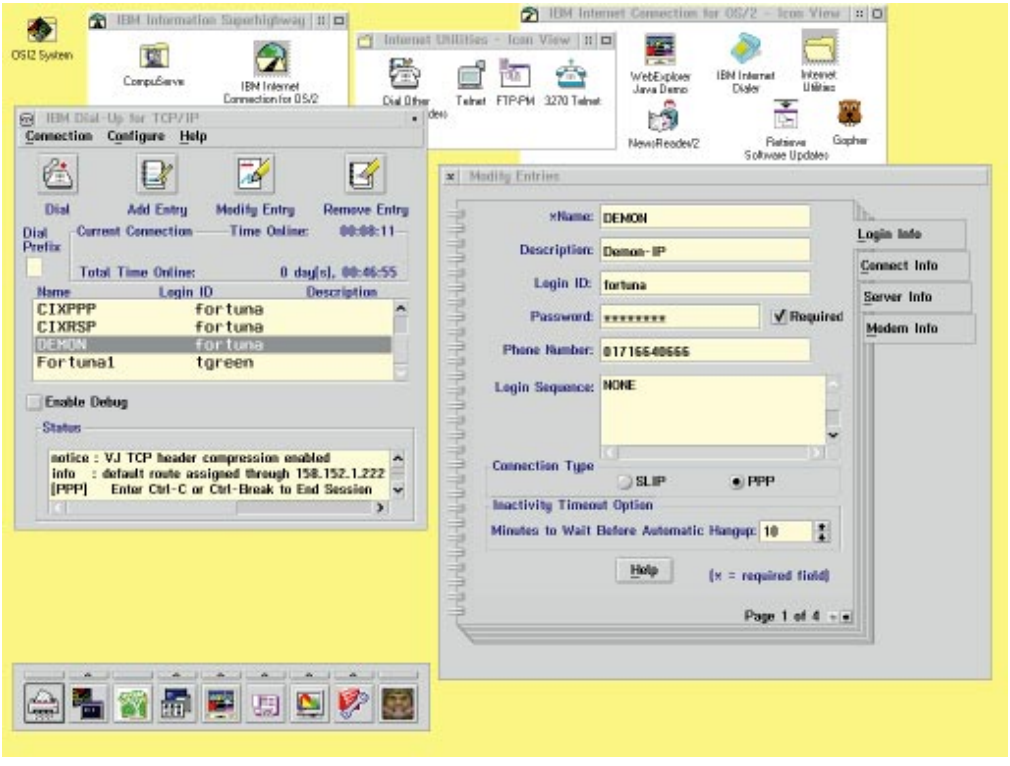
It puts Warp users in a good position. Warp was the first general-purpose desktop OS to include internet access software. Merlin will be the first general-purpose desktop OS to run Java, a platform-neutral way of creating internet applications which has garnered the support of every major player in the business. And it's nice to hear that an OS/2 Netscape is in prospect, although the Java-enabled Web Explorer (below) is pretty neat for a product that started with a couple of IBM employees and was bundled into Warp back in 1994.

All my fiddling with early beta code for Merlin and Java means you'll have to wait another month for a full internet round-up including a selection of news-readers, mailers and access tools, but I'll cover basic CIX and Demon access here. Remember, if you're an international traveller, you'll want an internet service provider with worldwide local access points such as CompuServe, AOL, MSN or the IBM Global Network. Demon may expand into Europe, but CIX looks firmly settled in the UK.

This month's CD grab bag includes some demos, namely Colorworks, UniMaint, FileStar/2 and some fixes (ATAPI CD-ROMs, Adobe Type Manager 3.x for Windows, PPP dialler, an interface monitor, small fonts for S3 video) and the latest Web Explorer 1.1D official release, plus information on setting up with an Internet Service Provider. Look (or rather search for it, as the CD production people like to hide the OS/2 stuff lest its presence upsets Windows users) on the covermounted CD.



A live demonstration of a Java-enabled Web Explorer accessing a CICS order processing system at IBM's Hursley Labs where Java development is centred



Setting up IBM's catchily-named Dial Other Internet Provider utility. It's important to get every detail correct in order to avoid connection errors

To set up the DOIP dialler, choose to add an entry and fill in the details on all four pages. Select PPP for Connection Type on page one; enter Login ID (your CIX-IP login name) and Password on page one of the dialler notebook. Enter the IP address of your host for CIX or Demon, and the nameserver IP address on page two. Fill in the modem details on page four.

For CIX, type the following script into the Login Sequence entry box on page one, save it and you're in business.

```
\r name:
[LOGINID]
word:
[PASSWORD]
ster>
ppp\sxxx.xxx.xxx.xxx\r
```

Replace "xxx.xxx.xxx.xxx" with your CIX-IP address. To use the Internet dialler with Demon Internet, enter details as above, leaving the Login Sequence field at its default "NONE". Demon's login procedure is a straightforward PPP login. The Warp dialler automatically passes the Login ID and Password fields to Demon.

Java jive

Java is only a year old, yet it has taken the industry by storm. The reason is, it promises platform-neutral network applications that will run anywhere. A Java applet only needs to be written once and the binary code will run on any platform with any Java-supporting operating system or web browser.

The code is still a little slow, and it's hard to find applications that do something other than bouncing heads and spinning frogs in blenders. But this is changing. Sun will deliver Java 1.1 this autumn, and together with Just in Time (JIT) compilers the speed of execution will increase. JIT compilers change the Java bytecodes into native processor instructions on the fly. A further optimisation phase, yet to be included in the JIT compilers, will also drive performance.

However, the really interesting stuff is still being worked out. I referred to Arabica in a previous column, suggesting that it was Java in an OpenDoc container. I was wrong. Arabica is the generic name for IBM's approach to Java Beans. Just as Java is a platform-neutral binary format for programs, so Java Beans is a platform-neutral component model for programs that will run anywhere.

Java Beans can be plugged into other component architectures such as ActiveX and OpenDoc or the new component model with a funny name that IBM's website says is super-secret stuff. Java Beans components will retain the ability to run on any platform, in contrast to the OpenDoc or ActiveX model where components must be compiled for specific platforms although they can interoperate.

Why is this interesting, and why is it so important to have platform-neutral binaries? Because users can freely choose their desktop platforms. IT departments spend most of their time reconciling the conflicting needs of multiple different desktop platforms with multiple versions of the same or similar programs. Imagine a Java applet sitting on a server, an internet server or a corporate server on a private network. Anyone can run it, execute it directly with a Java-enabled OS such as Merlin, call it from a Java-enabled web browser from the LAN, or dial in with a browser or LAN connection. Compile that application, for example in OpenDoc or ActiveX, and you need separate binaries for every operating system. In specific cases this is desirable, for power-user applications, but there's lots of real work that can be done with Java.

The screenshot of the IBM Java Gateway for CICS (above) shows a transaction processing system being accessed via a web browser. I took the screenshot while using the Java-enabled Web Explorer Demo but it worked with Windows NT and Internet Explorer, and with NetScape. I've seen it demo'd elsewhere on Windows 95, and IBM also has a Java-enabled Windows 3.1 in the pipeline. And there's Java on Macs and Unix and pretty soon on televisions too! Ordering sports gear, checking stock, data on the mainframe, on mid-range, on the web, on networks — all freely accessible with Java binary applications that only need to be written once to run everywhere.

The demo CICS ordering system based in Hursley may still be at http://www.hursley.ibm.com/cics when this appears in print. By the end of 1996 you can expect to see real applications that run everywhere and do really useful stuff.

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Packing it in

VoiceType Dictation is just one of the attractions of Merlin (the new version of Warp), and also why it needs a hefty system to support it. Terence Green speaks out.

I've been getting some hands-on experience with Merlin lately and thought a couple of tips for readers contemplating the upgrade when it arrives might be appropriate. Get more memory. Get a bigger hard disk.

The addition of OpenDoc, Java, network connectivity, VoiceType Dictation and an expanded Bonus Pack takes a full install of the beta to nearly 30 megabytes, and speech dictation and navigation really churns the swap file on a 90MHz Pentium with 16Mb RAM, the proposed recommended minimum when it hits shrinkwrap.

One expects a beta not to be optimised, but I've decided to upgrade from my old 66MHz 486DX2 and 16Mb RAM to a Pentium 100 with 24Mb for regular work. Speech dictation and navigation is something I'd really like to use on a daily basis, especially as I'm starting to suffer pains in my arms from using a mouse to travel around the web. My use of a mouse has increased considerably over the last few years through using the internet and I've been remiss in not paying more attention to proper posture. Merlin's support for speech-enabled Web browsing is another plus that I hope will reduce mouse use.

CD CONTENTS

This month the OS/2 content for the cover CD contains several video drivers, printer fix-packs, some games demos, and a number of utilities. Take a look in the Resources section under the OS/2 category. All files are contained in the file CD30S2.ZIP.

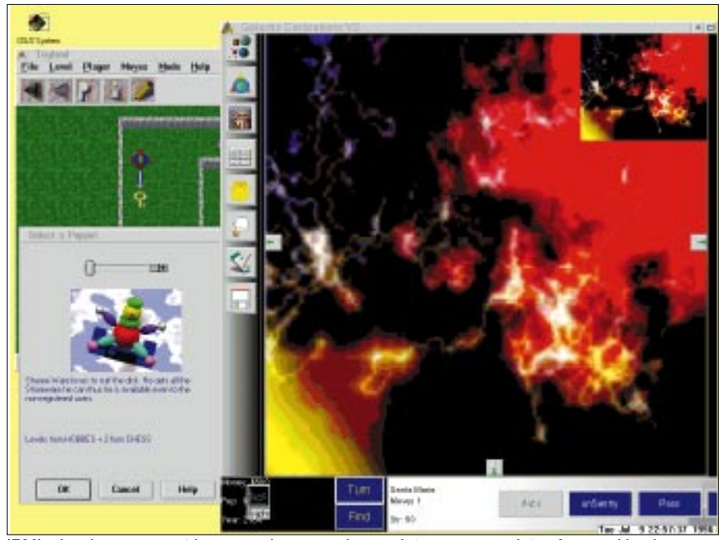
The trouble is that as soon as VoiceType Dictation comes into play you're looking at about another 8Mb RAM to support it properly, so I don't think my old 16Mb system is going to be good enough for the work I do now plus VoiceType Dictation. I'm only sorry that a week after I bought the RAM, I could have bought twice as much for the same price. Buy now while stocks are cheap. It'll also help on those occasions when I run Windows 95 and Windows NT.

Slamming in the RAM helps, but tuning the system for performance is an important consideration too. There are a number of simple edits to the CONFIG.SYS that can speed up the system and make it run noticeably smoother. The CNFGINFO freeware tool which was on the *PCW* July cover CD is a really useful tool to have around, as you can work your way through CONFIG.SYS optimising the way your system uses memory.

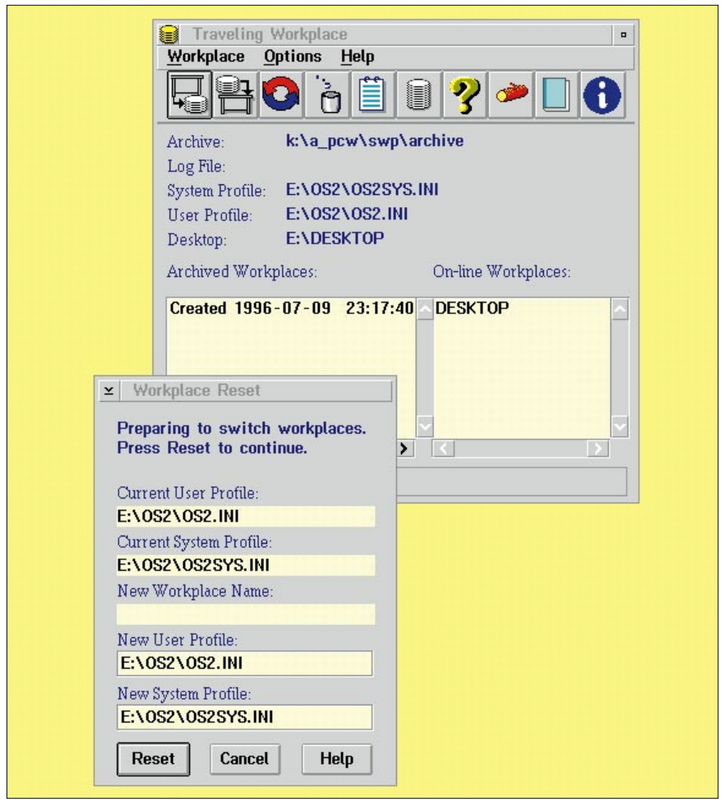
GO SCSI

Before jumping into the nitty-gritty, though, bear in mind that there's one other guaranteed way to boost speed other than adding RAM, and that's to run OS/2 from a SCSI drive. The fastest Enhanced IDE drives can have a theoretical maximum throughput of about 16Mb/sec but real throughput will be much lower because the IDE controller really chews up CPU time. A modern two-channel PCI busmaster SCSI-2 controller such as the Adaptec 3940 can manage 20Mb/sec through using both channels.

A SCSI adapter costs a bit but they're a much better match for multitasking, multi-threaded 32-bit operating systems such as Warp and Windows NT because the intelligent SCSI controller takes over much of the CPU work involved in passing data between the SCSI interface and the attached drives. Busmaster SCSI host adapters are even better: they pass data directly between system memory and the SCSI bus, almost entirely cutting out the CPU as middleman. Most EIDE drives use programmed input/output (PIO) which keeps the CPU occupied throughout data transfers.



IBM's developer support has never been good enough to encourage lots of general business applications, but games developers abound *(see cover CD)*



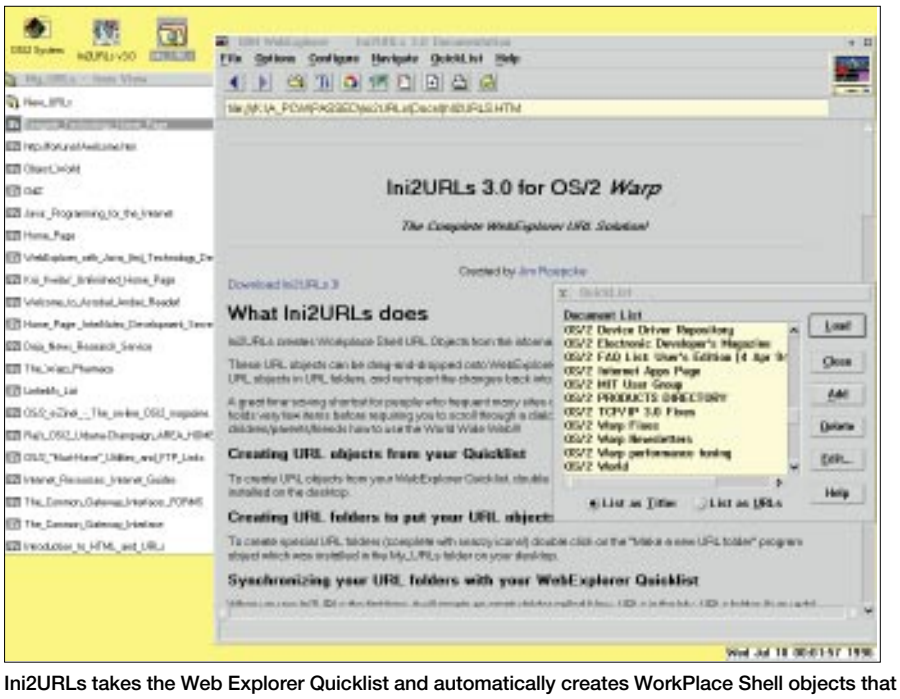
Traveling Workplace goes beyond the basic desktop archiving system in OS/2 Warp to enable multiple archives of the system startup and desktop files that can not only be saved and restored but also swapped around on a whim *(see cover CD)*

A well-known Warp performance tip is to use multiple drives and to distribute operating system, applications and data across two or more drives. With multiple IDE drives this doesn't produce much benefit because the EIDE interface allows one active device at a time. By contrast, a dual-channel SCSI-2 host adapter with two or more drives can keep several drives active, ensuring a peak data flow of 20Mb/sec with 8-bit Fast SCSI-2 drives. For servers, a Fast & Wide (16-bit) SCSI host adapter can deliver 40Mb/sec over a PCI bus.

The first item to put on a separate drive if you have two or more is the swap file (SWAPPER.DAT). To do this, edit the "SWAPPATH =" line in CONFIG.SYS and point it at a different drive to that on which the operating system is installed. The general rule is to have the swap file on the most used partition on the least used hard drive. Put it in the root directory rather than a sub-directory, and it's better if it's an HPFS partition. The change will take effect after the next reboot. Remember to delete the defunct SWAPPER.DAT at the old location — Warp isn't *that* smart.

While you're editing SWAPPATH, increase the size of the second numeric variable in order to pre-allocate a swap file that approximates the size the swap file reaches when you're running your usual applications mix. Type HELP SWAPPATH at an OS/2 command prompt for a detailed explanation. You can either monitor SWAPPER.DAT manually with DIR commands (its default location is x:\OS2\) or use a swapfile monitor such as DINFO (included on the July cover CD). Pre-allocating a larger SWAPPER.DAT slows down boot time a little, but you'll feel the difference when you start to run out of

p288



Ini2URLs takes the Web Explorer Quicklist and automatically creates WorkPlace Shell objects that can be organised in URL folders and dragged onto the Explorer to go to a web link *(see cover CD)*

memory and OS/2 doesn't have to expand the swap file immediately.

Cache size

After tinkering with the swap file, the next step is to adjust the cache buffers. Warp's default settings, which are set in CONFIG.SYS, are fairly conservative. The DISK CACHE statement applies to FAT partitions while the CACHE parameter in the opening IFS statement applies to HPFS partitions. The CACHE parameter controls the HPFS cache. In systems with 16Mb RAM or more, set it to 2048 (Kb). With 8Mb RAM set it to 1024. Or check with the CNFGINFO utility for more detailed advice.

FAT drive cacheing (but not floppy disk drives) is controlled by the DISKCACHE statement in CONFIG.SYS. In Warp it defaults to DISKCACHE=D,LW. LW enables write-back cacheing while "D" stands for a set of defaults which are dependent on the amount of system memory (RAM) in the particular machine. Replace "D" with a specific number, 1024 if you have 16Mb RAM or more and 256 for 8Mb RAM.

Windows performance

One of the great benefits of OS/2 is its ability to run the majority of DOS and Windows applications alongside OS/2 applications. But sometimes Windows applications performance can be sluggish. If you find that actions such as scrolling speed up when you "twitch" the mouse over the application, try these settings under the Settings button of the Win-OS/2 Setup icon in the System Setup folder.

```
DOSHIGH = ON
DOS FILE = 50
DPMI MEM LIMIT = 64
HW ROM TO RAM = ON
IDLE SECONDS = 60
IDLE SENSITIVITY = 100
```

Remember that if you enable Fastload in WIN-OS/2 Setup it applies only to seamless Windows, not Full Screen Windows sessions. Fastload loads the Windows code into memory at bootup which speeds up the process of loading the first Windows application. The caveat is that you must set up WIN-OS/2 and any Windows applications you want to run with compatible settings. If you start a Windows application in a separate session or set it to run in Standard mode when WIN-OS/2 settings are set to Enhanced mode, that Windows application will load in a new Windows session which will load another instance of the Windows code into memory.

Printing performance

In order to deal with the plethora of sound cards whose preferred option is IRQ 7, a change was made to the print setup for Warp which defaults to printing by polling rather than using interrupts as did previous versions of OS/2. This may cause slowdowns, though, as polling is slower and can be interrupted by other running tasks.

Other problems reported might be "Printer not responding, offline, out of paper, turned off...". Enable interrupts (IRQ7 for LPT1: and IRQ5 for LPT2: by adding the "/IRQ" qualifier to the base printer driver in CONFIG.SYS. Change it to read "BASEDEV=PRINT01.SYS /IRQ".

Hard disk problems

One of the worst problems that can arise when running OS/2 is when the boot files become corrupted and you can't boot up and the system issues a SYS1475 error message. There are a number of other messages associated with SYS 1475 including: cannot boot to OS/2, OS2BOOT cannot be found, or Operating System missing.

First check to see whether there's a non-bootable diskette in the floppy drive as this will also trigger a SYS1475. If not, you can restore the system files to the hard disk by booting with the original Installation Diskette. Insert Diskette 1 when prompted, and when the Welcome screen appears press F3 to go to the command prompt. Now re-insert the Installation Diskette and type SYSINSTX D: where D: is the drive where the OS/2 system is installed. That should replace the system boot files and allow the system to boot.

A more usual problem arises when, after adding a new hard disk, OS/2 fails to boot. The problem in this instance is that the new hard disk contains a primary partition which has caused OS/2 to re-map the drives. OS/2 follows DOS conventions for logical drive mapping. Primary partitions are assigned letters first on a drive by drive basis, followed by logical drives in extended partitions also in drive order from first to last.

In a single-drive configuration the first primary partition is C: followed by D:, E:, F:, etc. for logical partitions. If you have installed OS/2 on any partition other than C: and you then add a second drive, be sure to boot under DOS first (use a DOS boot floppy) and FDISK the new drive with an Extended Partition containing logical drives only. Do not create a primary partition on the second drive because it will take the letter D: when the system boots up and your OS/2 system will be unable to start.

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A real **sun trap**

Terence Green **suffers over-heating and CPU traps, serves up some cool tips, and chills out to some Merlin and DBExpert 2.0 applications.**

It very nearly was a flaming June when my Warp Server system started to act up right after the summer arrived. First thing I knew was that I'd lost the connection to the server, so I went to see what had happened and heard an awful grinding noise. Fearing the worst, I opened the lid and discovered to my amazement that the cheapo plastic fan on top of the Pentium CPU was the source of the noise.

I replaced it with a ten quid replacement from Maplin and restarted the server, but all was not well. Things crashed left and right and the dreaded Trap screen was invariably no more than a few minutes away from each boot. Fortunately, I have a list of the CPU Traps and it soon became obvious that they were all software-based — Trap 0006, Trap 0008, Trap 000E and so forth *(see the general list in Fig 1, alongside)*.

I decided to restore the system from backup, and since then all's been well. The moral of the story is to be really careful with hot systems, especially when the temperature changes rapidly as it did at the beginning of June.

I moved my main server from NetWare 3.12 to Warp Server several months ago and I've thus far been pleasantly surprised. Performance is excellent and Warp Server is very easy to administer through the graphical administration utility. It's also a great file and print and application server for OS/2, DOS, Windows 3.x, Windows 95 and Windows NT clients, and the integrated systems management and backup tools are the most comprehensive among comparable network server packages.

OS/2 applications

In the August issue, I said that I'd mention some new and updated applications for OS/2, but having asked several vendors for review copies, only two turned up. Depressing, really, but at least the two that did turn up were worth a mention.

DBExpert 2.0 is a really nice, inexpensive database from Designer Software. It's easy to use and it supports forms, reports and macros, and works out of the box with dBase, Clipper, FoxPro and FoxBase tables. It will also work with DB/2, Oracle 7, SQL/400 and SQL/DS databases.

Meeting Maker XP from ON Technology is the other OS/2 product that turned up. This is a really neat cross-platform group scheduler. Meeting Maker started on the Macintosh and is now also available OS/2, DOS, Windows and Unix systems. It supports MAPI and TCP/IP so you can use it for scheduling over the Internet with remote locations, and with other MAPI-based email applications.

Merlin

Merlin is now in beta (*please let this be true by the time this appears in print!*). The first limited beta drop happened in early June, with the second scheduled for mid-July. The mid-July beta is a wide, public beta described as an "early experience programme", and the final product, which now looks like being called Warp 4.0, should ship at the end of August.

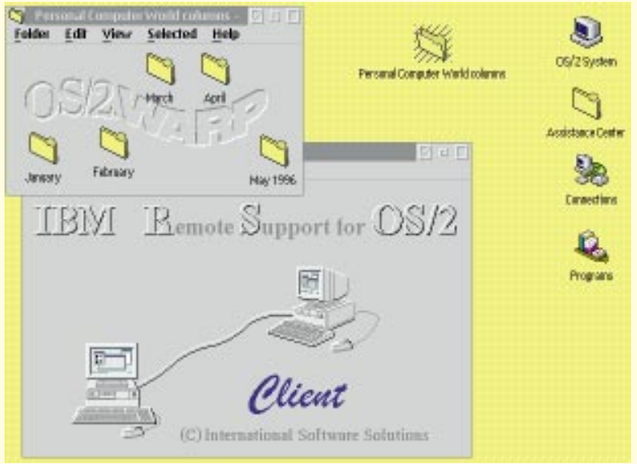
With the inexorable rise of the internet and Java, it's good to see that IBM has once again been quick off the mark. Merlin will ship with Java support included in the operating system. A JIT (Just In Time) compiler, which will dramatically boost Java applet performance, is in beta now and should ship by the end of the year.

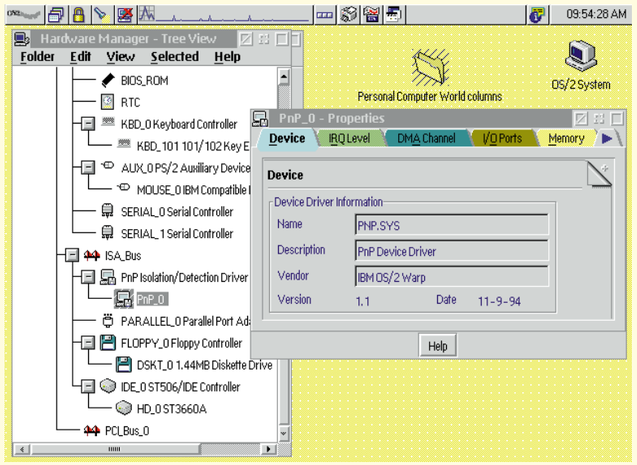
Merlin will include OpenDoc support as well (this has been available via the Developer Connection http://www.developer.ibm.com for several months now). OpenDoc is available on the Mac as I write and should be in beta for Windows 95 and Windows NT as of early June. The significance of the conjunction between Java and OpenDoc is that OpenDoc provides a secure way of integrating Java applets into a wider framework. IBM's Arabica is an OpenDoc-based framework that allows Java components to be linked into more complex commercial business applications in multi-vendor networks; for example, linking clients into transaction processing systems.

There's so much going on at IBM to do with Java that it's hard to keep a handle on it. Best place to look on the Internet is the IBM Hursley site. Look at NetRexx for instance (this is a simple programming language combining the best elements of Java and Rexx), at http://www2.hursley.ibm.com/netrexx.

Fig 1 A general list of OS/2 traps

TRAP 0000	DIVIDE ERROR.	A program attempted to divide a number by zero. Contact software support.
TRAP 0001	DEBUG EXCEPTION.	Contact software support.
TRAP 0002	HARDWARE/MEMORY ERROR.	Memory or hardware failure in the system. Contact hardware support.
TRAP 0003	BREAKPOINT.	This is a special instruction (INT3) used in "debugging" software, which was left in the code either accidentally or by design. Contact software support.
TRAP 0004	OVERFLOW.	An overflow occurred while doing an arithmetic operation. Contact software support.
TRAP 0005	BOUND RANGE EXCEEDED.	A Bound instruction exceeded the specified limits. Contact software support.
TRAP 0006	INVALID OPCODE.	The processor tried to execute an unreserved invalid opcode. Contact software support.
TRAP 0007	CO-PROCESSOR NOT AVAILABLE.	If CO-PROCESSOR diagnostics run error-free. Contact software support.
TRAP 0008	DOUBLE FAULT.	The processor detected an exception while processing an exception. It could be caused by either hardware or software. If trap 0002 is also being experienced, contact hardware support.
TRAP 0009	CO-PROCESSOR OVERRUN.	The middle portion of a CO-PROCESSOR operand is protected or not-present. Contact software support.
TRAP 000A	INVALID TASK STATE SEGMENT.	A task switch to an invalid task switch segment was attempted. Contact software support.
TRAP 000B	SEGMENT NOT PRESENT.	The segment being referenced is not present. Contact software support.
TRAP 000C	STACK FAULT.	The page being referenced is not present in memory or the procedure referencing the page does not have enough privilege to access the page. Contact software support.
TRAP 000D	GENERAL PROTECTION EXCEPTION.	All protection violations which do not cause another exception cause a Trap 000d. Contact software support.
TRAP 000E	PAGE FAULT.	The page being referenced is not present in memory, or the procedure referencing the page does not have enough privilege to access the page. Contact software support.
TRAP 000F	RESERVED BY INTEL.	N/A
TRAP 0010	CO-PROCESSOR ERROR.	The processor detected an error from the CO-PROCESSOR. This could be caused by hardware or software.





Top, Fig 2 *A remote support application will ship with Merlin so that help desk and OS/2 support personnel can dial in to the user's system and effect changes*

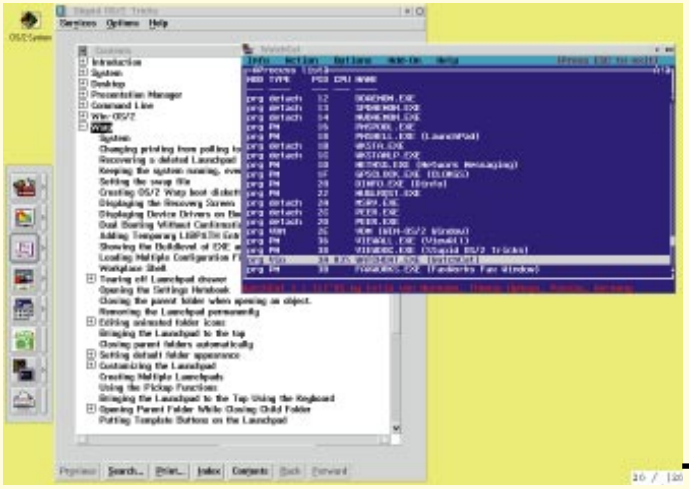
Above, Fig 3 *The new Hardware Manager in Merlin will support plug and play for the ISA bus, as well as on standard PCI plug and play systems*

OpenDoc (http://www.software.ibm.com/clubopendoc) and Java are at the forefront of the move to component technology which can be implemented on many PC platforms including OS/2, Windows and Macintosh, but also on mid-range Unix and AS/400 systems and eventually on IBM mainframes, too.

Go to IBM's Warp information site for the latest on Merlin — it's easy to find from http://www.software.ibm.com. As well as speech navigation and dictation, Merlin includes support for OpenGL 3D graphics and for TrueType in OS/2 applications. TrueType in Win-OS/2 sessions is already supported in Warp.

Installation is much smoother now, and plug and play is supported. Problems can be tracked down with the Hardware Resource Manager *(see Fig 3)*. Systems management is a priority in Merlin, and there are some excellent aids including AI-based configuration assistants called WarpGuides: a remote support facility which will enable support personnel to dial in and diagnose problems on client workstations; and DMI support. Merlin is the first operating system with integrated support for the Desktop Management Interface. IBM has also extended the Software Updates feature of the TCP/IP applications suite so that Merlin users will be able to upgrade Merlin over the internet or LAN through a browser interface.

My screenshot of Merlin is taken from early code and I wasn't able to take the screen resolution beyond 640 x 480 x 16 because the video drivers weren't ready before beta distribution proper started. The reason for this is the new fully 32-bit graphics device interface. Called GRADD for Graphics Adaptor Device Driver it is designed to make video drivers easier for hardware manufacturers to write, by reducing the amount of coding required.



WatchCat for OS/2 (included on our cover-mounted CD-ROM) can be used to find and destroy an application which has hung and blocked input. Stupid Tricks for OS/2 (also included) is anything but stupid

TG Tips

● Warp Server and the OS/2 Peer can browse multiple domains if you edit the "othdomain" line in the [requester] section of IBMLAN.INI which you can find in the x:\IBMLAN sub-directory. Add up to three the additional domain names separated by a comma.

● If you find that you're having problems printing with TrueType fonts from Microsoft Word or PowerPoint running in a Win-OS/2 session, make sure that the correct driver for your printer is installed.

● If you have a new keyboard with the three Windows 95 keys, and OS/2 flips when you hit one of these keys: install the drivers in "WINKEY01.ZIP", which I've included on the cover-mounted CD-ROM cover disc.

● Has your mouse left you? Shut down OS/2 from the keyboard by pressing Ctrl-Esc to open the Windows list, and choosE the desktop. Press the spacebar to deselect any highlighted icon. Then press Shift-F10 to open the Desktop menu and select Shutdown.

● Looking for an inexpensive scanner that works with OS/2? Try the new Epson GT-5000. It doesn't have a native OS/2 driver yet but it works fine in an OS/2 Windows session. More importantly, Epson supports its use under OS/2.

● Need to keep OS/2 running even if it traps because you're running a BBS? Add these lines to CONFIG.SYS:

1. REIPL=ON (automatically reboots after a trap).
2. SUPPRESSPOPUPS=<drive>. This stops Trap data from appearing and logs it to POPUPLOG.OS2 on the selected drive.
3. DUMPPROCESS=<drive>. This optional command causes a diagnostic process dump to be written to PDUMP.* on the specified drive.

Places to go, sites to see

● Developing database applications with DB2? Check out the Product and Service Technical Library on the World Wide Web at
`http://www.software.ibm.com/data/db2/support/servinfo/index.html`

● Looking for the latest Warp updates? Go to the IBM Download library at
`http://www.software.ibm.com/download`

● Need more detail on Internet options for OS/2? Wander over to
`http://www.internet.ibm.com`

● A great source of OS/2 technical data can be found in IBM Red Books. They are written by IBM technical support people. They're available on CD-ROM, too, and not very expensive: the OS/2 library costs around £15. The Red Book site is at
`http://www.redbooks.ibm.com/redbooks`

● Kris Kwilas' Highly Unofficial IBM OS/2 Beta FAQ is a good way of keeping up to date with the latest information and can be found at
`http://www.students.uiuc.edu/~kwilas`

● Another useful site from which to search out OS/2 data is the CyberBlue OS/2 Online Exploration Guide at
`http://www.cyberblue.com`

Software included on our cover-mounted CD-ROM this month:

● DINFO.ZIP: a useful system monitor.
● GPSCLOCK.ZIP: a small digital screen clock.
● TRICKS.INF: OS/2 tricks (view with VIEW.EXE).
● TRIT32.ZIP: Triton Bus Master/PIO drivers for Intel 82430FX/HX chipset.
● WCAT21.ZIP: WatchCat 2.1 recovery program.
● WINKEY01.ZIP: Driver (for Warp only) for Windows 95 keyboards.
● WEB Explorer 1.1B.

PCW Contacts

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DBExpert 2.0 from Designer Software, USA **(970) 858 0200**
Meeting Maker from ON Technology **01753 673220**

Add a **dob of DAPIE**

Terence Green **considers Merlin, destined to include DAPIE which will allow cross-platform compatibility between OS/2 and Windows. There's good news from Lotus, too.**

I recently listened in on a conversation between a research scientist and a journalist when the scientist explained why Windows 95 was better than OS/2 Warp.

"Just right-click on a Warp WorkPlace Shell object," said the scientist "and the menu offers the choices, 'Create Another' and 'Copy'. One creates a new object with default settings, the other makes a duplicate. But the user can't discern the difference!"

My colleague pointed out that by contrast with Windows 95 one had to press 'Start' in order to stop. The scientist hooted: "A detail! They misnamed it!"

On the surface, this seems to be a simple case of seeing what one wants to see; which was my first impression. On reflection, however, the scientist may well have been saying that the WorkPlace Shell (WPS) is over-engineered for the purposes of the average user — and that's a valid viewpoint. The WPS is a superior interface, built using DSOM (IBM's Distributed System Object Model) object technology which allows applications to interact with the WPS both locally and across networks.

But superior technology is worthless unless it provides a genuine benefit to the user. General business applications which exploit Warp and the WPS are rare because IBM's courting of the developer community has been erratic to say the least. The OS/2 flip-flop between home users and corporate users in 1995, when IBM suddenly figured that corporate users would be deterred by the thought of Warp as a home-user OS, didn't help either. These things are usually political so it's a good sign that IBM has come up with a form of words that covers the waterfront. OS/2 Warp is for "the connected user", so that's all sorted now.

Good news

In the next issue I'll provide a run-down on a bunch of new and updated Warp applications, but for now the good news is that Lotus has finally started to wrap up a new version of it's applications suite which will be called SmartSuite 96 for OS/2. If all goes to plan, SmartSuite will demonstrate to developers how it is possible to develop for Win32 and OS/2 simultaneously.

There's a sizeable OS/2 user-base around the world and we're getting tired of waiting for decent, native, OS/2 applications.

All of the Lotus SmartSuite 96 for OS/2 pieces won't be ready until later this year but WordPro 96 for OS/2 has gone into customer beta ready for a summer release. Freelance for OS/2 is almost ready for beta, while Approach and 1-2-3 are waiting on completion of the Windows 95 versions.

This delay hinges on Windows 95 versions because Lotus is using IBM's Developer API Extensions (sometimes abbreviated to DAPIE or DAX) in order to maintain a common core code set for both Windows and OS/2 versions of SmartSuite 96. This saves Lotus development money but means that OS/2 SmartSuite users can finally plan for feature parity with their Windows brethren.

Merlin

Lotus demonstrated WordPro and Freelance 96 for OS/2 at IBM's annual April developer gathering, where IBM also previewed the next version of Warp, Merlin (see *Figs 1, 2 and 3*).

At the time of writing: the Merlin beta won't be ready until June or July and will probably ship in August if all goes well; DAPIE was still being finalised by IBM, particularly the form in which it will ship. DAPIE will be part of Merlin but existing Warp users will have to add DAPIE support before being able to run any DAPIE applications. At the moment, users can only add DAPIE support to Warp 3.0 by installing FixPack #17 or later but adding an entire FixPack just for this reason is unwieldy. Lotus will simply add DAPIE support to it's SmartSuite distribution.

But smaller companies can't afford to take that cost. One such company is MGI in Toronto, which is into image processing. It has ported its budget-priced PhotoWorks image processing software from Windows 95 to Warp using DAPIE.

MGI says a single developer took five days to port 200,000 lines of C++ code to Warp. MGI's OS/2 product, renamed as PhotoSuite, will be available when Merlin ships but IBM PSP vice-president, Wally Casey, would only say that they were "looking into" how DAPIE support for existing Warp users would be provided.

Wally Casey was also unable to answer

Online locations

A reader complains that I haven't mentioned the most useful (to him) source of OS/2 help and assistance, the COMP.OS.OS2.* newsgroups — I thought I had, but there's no harm in mentioning them again. Be aware, however, that they are a wild and woolly read with lots of irrelevant chatter, too. There's certainly useful information in there but it's far quicker to ask a direct question than to search for the needle in a haystack. Remember, too, that there's little or no peer review on the Internet, so be sceptical.

For up-to-date information on OS/2 software happenings, try http://www.software.ibm.com

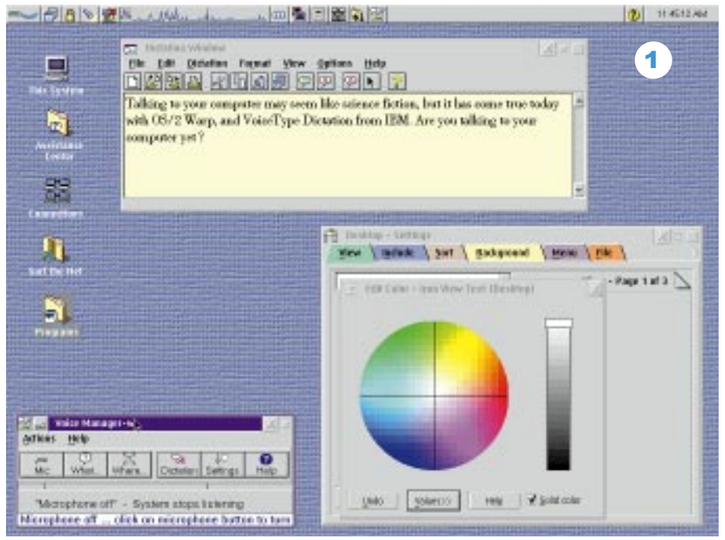

Fig 1 *Merlin, with the Lotus-originated WarpCentre along the top, colourful new Properties dialogues, formerly known as Settings Notebooks, and the promise of speech control and dictation*

Fig 2 *Merlin WarpCentre in action, showing drop-down menus which change dynamically to reflect the Desktop arrangement. The WarpCentre task bar can be placed anywhere on the desktop and LaunchPad is retained, in case you prefer that*

Uploads

This month, I've decided to include FixPack #17 as the OS/2 column's contribution to the cover-mounted CD. A number of readers have expressed a need for it but have pointed out that it's a rather large download at nearly 12Mb.

There are eight FixPack #17 diskette images and one separate file called WKICKR.ZIP, containing ancillary files that you will need to create the FixPack diskettes and to install the FixPack.

Personally I don't recommend installing a FixPack unless you're absolutely sure you need it but if you want to experiment, here's your chance. Please read the instructions very carefully before going ahead — I've included them separately as README.1ST.

README.1ST can also be found on FixPack #17 diskette, once you have created it from the image file. You need LOADDSKF.EXE to create diskettes from the images. LOADDSKF.EXE is included on CD-ROM versions of Warp but it's also in the WKICKR.ZIP file.

If you get as far as starting service and discover only an option to service the multimedia support but not Warp itself you may have previously installed a third-party device driver which messed with the system level file. To work around this problem copy SYSLEVEL.OS2 from your original install Diskette 1 over the corresponding file in the X:\OS2\INSTALL subdirectory on your Warp system.

Tel's tips and tricks

● If you've ever wondered how to remove a desktop object that the shredder rejects, try picking it up and dropping it onto a floppy disk. Right-click on the object to open the pop-up menu and choose "Pickup". Drag it to the floppy disk and right-click for the menu again. Select Drop and then the Move option.

● If you delete or move Warp and end up with a drive with "WP ROOT . SF" and "EA DATA . SF" files that you can't delete (because of the blanks in the filename) try this: ATTRIB *.?SF -R -S -H followed by DEL *.?SF. *Don't do this on a working Warp system!* The wild card characters "*" and "?" get around the blank character problem and the ATTRIB command removes the hidden and read-only attributes that would prevent deletion.

that other bugbear of image processing software users — when and how OS/2 would provide native scanner support for OS/2 sessions. Currently, users have to seek out one of the rare scanner software packages that supports OS/2, or set up a Win-OS/2 session, or even boot into DOS/Windows to scan images.

Casey was a little more helpful on the subject of device drivers in general. You know how Windows always seems to include drivers for hardware that OS/2 users have to track down in obscure FTP sites? Up until now, IBM has only shipped third-party device drivers that have been through a rigorous certification process (don't laugh!). Starting with Merlin, IBM will collate all those scattered drivers and ship them with the distribution CD.

Hopefully Merlin will be a marker showing that IBM has finally understood that it needs to get its act together on device drivers, make installation and configuration even easier and stimulate applications development but Casey's April preview was short on detail, preferring to show off the new user interface and speech input. If Merlin turns out to be no more than another technology demonstration without the follow-through, pressing start in order to stop is a minor detail.

Wizard WARP

Merlin was shown at the IBM Technical Interchange in Nashville last April. The major new feature announced was support for speech navigation and dictation but the user interface has been given a complete work-over, too.

The user interface is looking pretty good. IBM hired a designer to come up with a new Warp system font which is much more legible, especially on mobile LCD screens, and there's some imaginative use of colour and 3D icons, too.

The Warp LaunchPad is superseded by the WarpCentre taskbar. This is a port of the Lotus SmartSuite SmartCentre. And guess what? Merlin has Wizards, er… I mean Warp Guides, to simplify configuration.

What was missing at the preview was detail on how the connected user will take advantage of Internet developments. Apparently there are at least three Internet-related announcements still to come regarding Merlin. The first was made a few days after the Technical Interchange when IBM announced that Java support would be included in the base operating system. The other two must be related to web browsing and email. UltiMail is dead so email support will have to come from Lotus, either cc:Mail or NotesMail — cc:Mail is a possibility as it is being withdrawn from SmartSuite OS/2 but I think a Notes desktop client with NotesMail is the likely choice for Merlin.

The browser situation is also up for grabs. According to Wally Casey, Merlin will have a state-of-the-art browser. IBM's Web Explorer was terrific when it first shipped, in December 1994, but is no longer state-of-the-art. It's possible that Web Explorer could leap a generation but the chances are that an OS/2 version of NetScape will be included instead.

Fig 3 *A number of Web sites have started using Adobe's Acrobat format .PDF files. An OS/2 Acrobat reader can be downloaded from http://www.adobe.com. Look for the "Get Acrobat" page. If it has gone by the time you get there, hassle Adobe… they were asking how many people wanted an OS/2 version*

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