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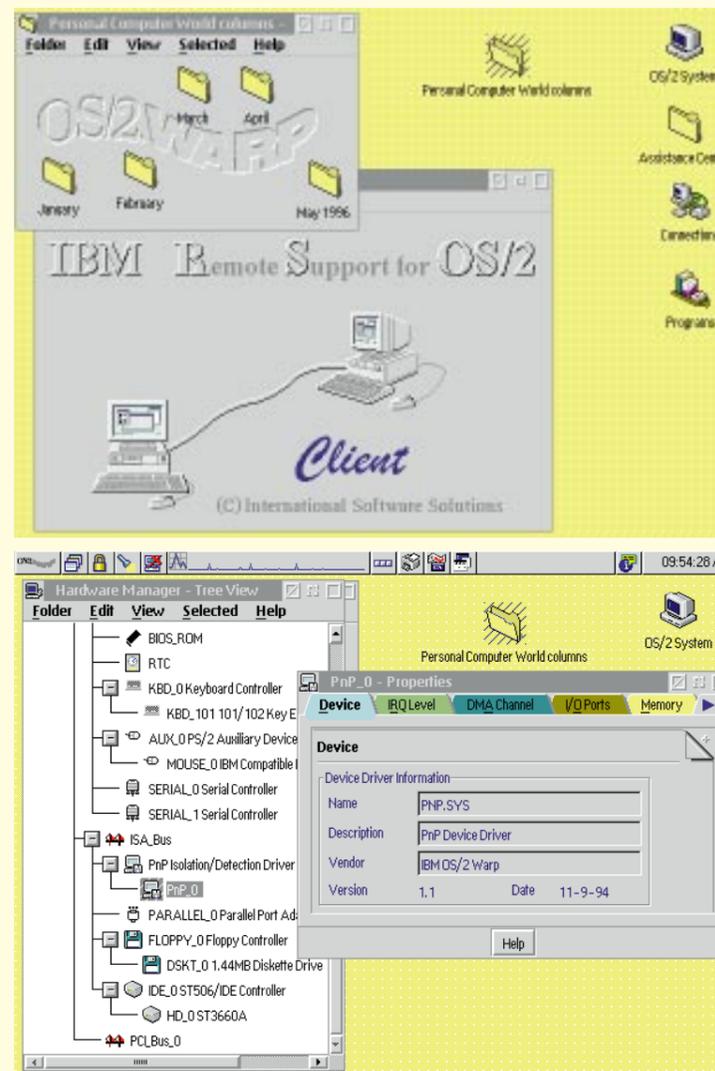
Meeting Maker XP from ON Technology is the other OS/2 product that turned up. This is a really neat cross-platform group scheduler. Meeting Maker started on the Macintosh and is now also available OS/2, DOS, Windows and Unix systems. It supports MAPI and TCP/IP so you can use it for scheduling over the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

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*

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
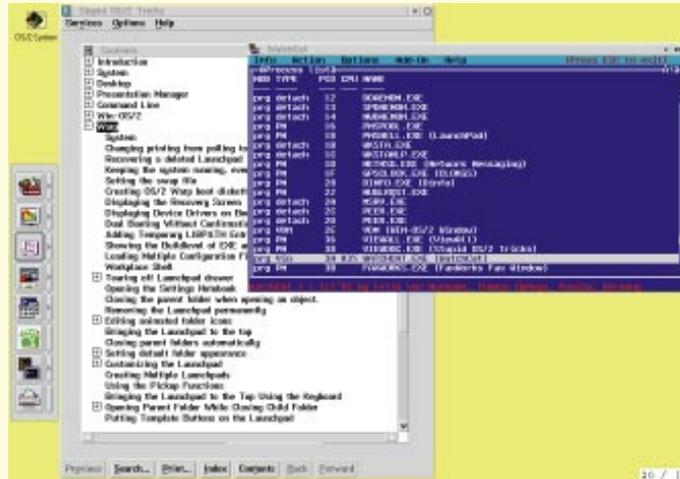
I write and should be in beta for Windows 95 and Windows NT as of early June. The significance of the conjunction between Java and OpenDoc is that OpenDoc provides a secure way of integrating Java applets into a wider framework. IBM's Arabica is an OpenDoc-based framework that allows Java components 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.

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

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

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.

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.