

The NeXT wave

Chris Bidmead gives himself a PEP-up, suffers a bout of modem madness and loses his way in WebExplorer.

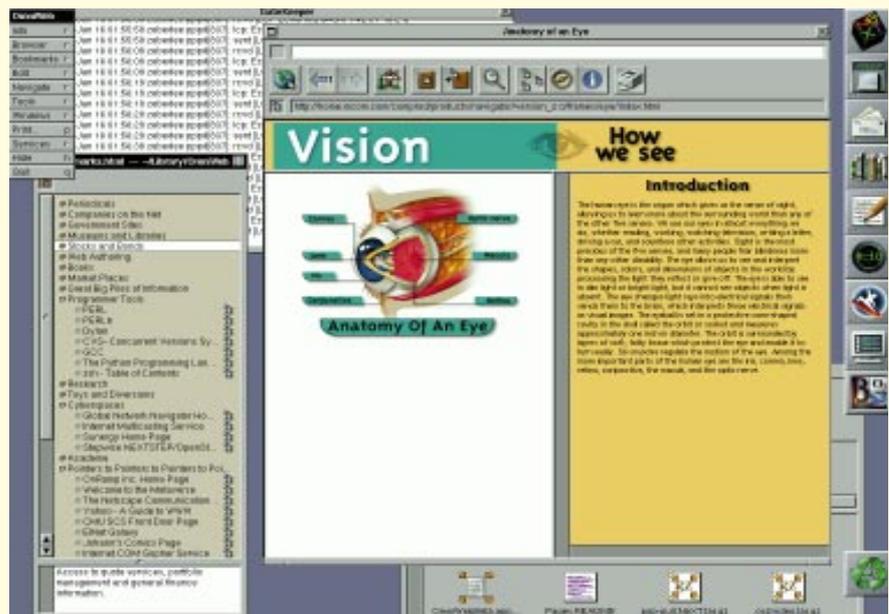
Paul Lynch, of P&L Systems, is the guru who has been helping me over the years with the NeXT side of my network, which is currently running a mixture of OS/2, AIX, NeXT, Windows 95, Windows NT, Linux and NeXTStep workstations. Regular readers will remember that it was Paul's outfit that came to the rescue last year when I managed to scramble my operating system on the Canon object.station. Paul is to NeXTStep what the Rover's Return is to Coronation Street — he's an indispensable adjunct to this column.

Paul came over to help me put a new NeXT machine on the network; an Intel-based racer from UK computer manufacturer, PEP. The company has joined with an outfit called "The Ledge", an indefinable entity that I've always thought of as a general fount of NeXTness; whereas Paul's operation, P&L, is a down-to-earth supplier of NeXT hardware, software and support,

The Ledge is more like an inexhaustible source of NeXT enthusiasm. It's run by ex-photojournalist and musician, Jackie Mackay, and is (loosely speaking) the computer research division of the information management association, ASLIB. It's also the HQ of NeXTStep Users UK (NUUK). The two strands come together because Jackie's prime role is as manager of the ASLIB Internet Programme, awakening people to the burgeoning opportunities of getting connected. Net browsing is something at which NeXT machines are particularly adept — in fact, the World Wide Web was born on a NeXT machine. But more on that in a moment.

133MHz Pentium, and has the look and feel of a fully-fledged technical workstation. Jackie's sales pitch is that: "Unlike workstation manufacturers who use expensive proprietary parts, PEP PC used high quality but standard components, which means that they managed to deliver the machine at an excellent price."

The AIX machine I have here is mostly built on a similar philosophy (if you'll



To my mind, NeXT really got started when it migrated to generic Intel hardware about three years ago and became more widely accessible. Since then, Jackie and NUUK have formed a good idea of what it takes to build a decent NeXT machine.

She says that in the past there's been a tendency to build down to a price, rather than pitch the hardware up to the level required by NeXTStep. It's a demanding operating system that isn't seen at its best when, for example, it's fighting against a so-so generic video card. So NUUK defined their ideal Intel NeXT box to PEP, and the result is called the I+ Machine, where "I" stands for Internet.

The 100MHz 486-based Canon object.station I've been using for the past year is no slouch, but the new PEP machine is noticeably faster, thanks to its

The fully-featured OmniWeb browser for NeXTStep supports advanced NetScape bells and whistles like frames and backgrounds. The Bookmarks window on the left of the screen is an outline list of favourite sites — drag one onto the browser to make a visit

accept IBM's definition of the PowerPC processor as "standard"), and I'm impressed by the level of performance you can get from generic hardware these days. The I+ Machine is the first Triton chipset PCI bus machine I've had in the office and it's the first time I've come across a Number Nine Imagine video card. The combination makes for brilliantly fast graphics on the Iiyama MT9021E 21in monitor that PEP has supplied with the I+.

The machine's stereo sound system

uses a SoundBlaster AWE32 card, driving a pair of 80W Active Drive speakers. As an old fuddy-duddy whose definition of multimedia is reading a book with the radio on, I tip my hat to the possibilities opened up by properly equipped machines like the I+.

Modem madness

However, it took a while after the machine's arrival before I heard the awesome orchestral chords that announced the successful completion of the dialup Internet connection.

"Internet ready" out of the box this machine wasn't. I hit the screen button that was supposed to start the connection, and

the machine just hung. The problem wasn't helped by the fact that the I+ Machine uses an internal modem with no visual indication of what's happening to your connection. I'm not a particular fan of flashing LEDs in a general way, but when you're diagnosing a modem they just can't be beaten. The modem wasn't making any sounds either, and because it was on COM2 with a serial mouse on COM1, I couldn't fit another modem without taking the machine to pieces. Which is just what we did when Paul arrived.

The internal modem proved to be the problem, and once we'd replaced it with a Hayes Optima 288 (an external modem

with aggressive red flashing LEDs), Paul showed me how you can use the BSD utility "tip" to check out how the modem's doing.

BSD stands for Berkley Standard Distribution, a flavour of Unix distinct from the version by AT&T, the company whose Bell Laboratories gave birth to the operating system, which it liked to regard as being mainstream. Today's System V, the descendent of AT&T's Unix, has absorbed much of BSD, but some utilities such as "tip" remain distinctly Berklean. Linux draws heavily on System V, and none of the Linux distributions I have floating around here know anything about tip.

I won't go into the nitty-gritty of "tip" here, or into the other low-level Unixy tweaking we did to get NeXTStep to work with Demon, my Internet service provider.

The birth of the browser

The word "excited" is over-used in this business, particularly by marketing managers introducing the latest me-too product, but I must confess that using Nexus sent a shiver down my spine. It was the first-ever Web browser, written at the end of the eighties by the inventor of the World Wide Web. The fame of the US Mosaic browser in '93, spinning off the following year into NetScape, has obscured the fact that the WWW idea was put together on a NeXT machine at the CERN physics lab, by Oxford graduate Tim Berners-Lee.

Nexus was never intended to be more than a "proof of concept" implementation. The other browsers add bells and whistles and show off NeXT features, like drag and drop, to the full. I don't want to get into a features war between them, but a couple of things shine through loud and clear. Firstly, Web browsing is essentially a multitasking activity, so having a decent 32-bit operating system becomes important; and secondly, NetScape may dominate, but it's not the only browser, and it's not "the best". So Web sites that tie themselves to it with NetScape-only enhancements are gaining a few flashy features at the expense of the thing the Web is really all about — universality of access.

OmniWeb's wry comment about this on its Web page is a logo that mocks the ubiquitous "Enhanced for NetScape" tag. It says: "Not too shabby in OmniWeb 2.0", and the adjacent comment is: "When you see this icon you'll know the Web site you're visiting is using advanced HTML features such as tables, frames, background images, font control, progressive JPEGs, and others, but that the site isn't geared exclusively towards a certain monopoly. Feel free to use this icon on your pages if you tire of worshipping monopolies."

Berners-Lee's original Nexus uses plain NeXT windows for the browsers and standard NeXT screen furniture to build control windows like the Document Inspector. I wouldn't say it's the world's fastest browser, but it's certainly a tribute to what you can knock up in NeXT to no time with the Developer's Kit



Broadly, you need a SLIP or PPP driver to carry TCP/IP through the serial link, out to the modem. On top of this sits a control program that takes care of the dialling and activates the connection — in this case it's the freeware package, GateKeeper. Once GateKeeper had made the connection I found I had a choice of several NeXTStep Web browsers to play with, including Netsurfer, OmniWeb, SpiderWoman and Nexus.

OS/2 and the World Wide Web

Running multiple operating systems is hard work, but one of the compensations is that it certainly gives you an insight into the good, the bad and the ugly of the soft-

ware offerings across all platforms. For instance, if I had nothing to compare it with, I'd say that Warp's WebExplorer is a pretty good browser, setting aside the unfortunate bug in the latest version 1.03 that drops out whole paragraphs when it's printing Web pages to a PostScript printer.

When it first came out, IBM's Internet Access Kit, bundled with Warp, was an eye-opener; to my mind the best ready-to-go way of getting full Internet access. WebExplorer wasn't quite finished in time for the launch of Warp, but you could download a decent workable Beta using the built-in Internet software update mechanism and get up and running in no time. If you take a look at <http://www.ibm.com/Features/4guys.html> you'll see the proud story entitled "Four Folks, Four Months, No Sleep", about how the WebExplorer was rushed together as soon as it dawned on IBM that Tim Berners-Lee's invention was opening up a not-to-be-missed strategic opportunity (four years after TBL had told the world about the World Wide Web, but at least a year ahead of Microsoft).

Bugs and stinkers

Well, okay, that's noble stuff. But what's happened since the first launch of Web Explorer? A few NetScape-inspired features have been added, some bugs killed, some new stinkers introduced. Thanks to OS/2's good underlying multithreaded architecture, WebExplorer runs nice and smoothly and much of it integrates well into the WorkPlace shell. You can drag a graphic from a Web page and drop it into a directory as an independent file, and you can similarly use drag'n'drop to store a URL, the Universal Resource Locator address that will allow you to call up the same page next time you log on. But, as becomes apparent when you compare WebExplorer with a properly thought-through browser like NetSurfer, or OmniWeb, some elementary stuff ignored in the initial rush to product remains unfixed a full year later.

IBM, do you copy?

Web browsers are tools for gathering information, much of it textual. One of the first things you expect to be able to do with text is copy and paste it between applications. So naturally in NetSurfer you can mark a block of text and copy it across to an editor or word processor. The same goes for OmniWeb, NetScape, and virtually every other browser. Except WebExplorer. The best you can do is call up the HTML source for the page into Warp's editor and copy from that, collecting a bunch of probably unwanted HTML codes in the process. Some months ago, we talked here about how you might use the Unix text processing language, awk, to tidy this up, but frankly you shouldn't have to.

Publishing limitations mean that this column is written a few weeks in advance of publication, so I hope my WebExplorer whinges will be overtaken by events and that IBM will have released an update, or a new browser, that takes care of my objections.

Your Letters

A while ago, PCW responded to the many requests we've had from readers by including a copy of the Linux Slackware distribution on our cover-mounted CD. I should say that I wasn't involved in this initiative, and I wouldn't have described it as "shareware" which, of course, no GNU software is. Check the terms of the GNU licence if you want to know more about this.

So a lot of you now have your own copy of this powerful 32-bit operating system. But there's no pleasing some people. A number of you have written to me to complain that it isn't the very latest version of Slackware.

● This correspondence is representative:

"On reading that the Slackware distribution of Linux was included on PCW's cover CD-ROM, I was extremely happy as I had been planning to purchase the LDR CD-ROM set. However, on discovering that it was version 2.0 of Slackware Pro, my heart sank. I can see no reason for not including version 3.0. Hopefully this 'oversight' will be corrected at a later date."

Chris Bannister
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Steady on, Chris. I take the view that the Linux world isn't about keeping up with the latest releases. For instance, I'm happy with version 1.2.13 of the kernel; the "production version". Yes, there's an experimental, less stable, version 1.3x which is supplied as an option with Slackware 3.0 but for me there's a universe of stuff to explore on these slightly older implementations of Linux. I'm in no hurry to rush on to the latest version.

I concede that if you have Linux already, our cover-mounted CD wouldn't have been a great upgrade. But then, whatever you get off a CD anywhere is bound to be out of



date in this fast-moving world. You should be tapping it directly off the Internet if you really want to keep up. And for people who haven't tried Linux yet, Slackware 2.0 is a great start to your journey. What you've got is a fully-fledged, enterprise-worthy, industrial-strength 32-bit operating system and development environment comparable with software that sells for four-figure sums. Get stuck in. And by the time you're ready to upgrade, Slackware 3.0 will probably be history anyway.

● Robert Collier writes to congratulate me on the column (thanks, Robert):

"...it is the first thing to be read in my copy of PCW these days (blush). I've recently installed the time-limited demo of NT-Server from the cover of a magazine, and I have been pleasantly surprised (I'm -r'd Windows months ago). It seems quite sane and stable compared to Windows. Now if only Microsoft would sell it at an affordable price."

Robert Collier
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Well, free off a magazine cover isn't bad, except of course your Windows NT server will bomb out after 60 days. You may have read that applying the £2 Service Pack (read "bug fix"), downloadable from Microsoft's Web site (<http://www.microsoft.com>) defeats the time-out mechanism and gives you a full-featured version, except that it can't be a primary or backup domain server.

I have not investigated the legality of using this trick to extend the time you spend evaluating the software, so don't go telling Microsoft I said you could do it. But in my view, all these time-out tricks and nagware nuisances you get with proprietary software strengthen the argument for going down the GNU route.

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