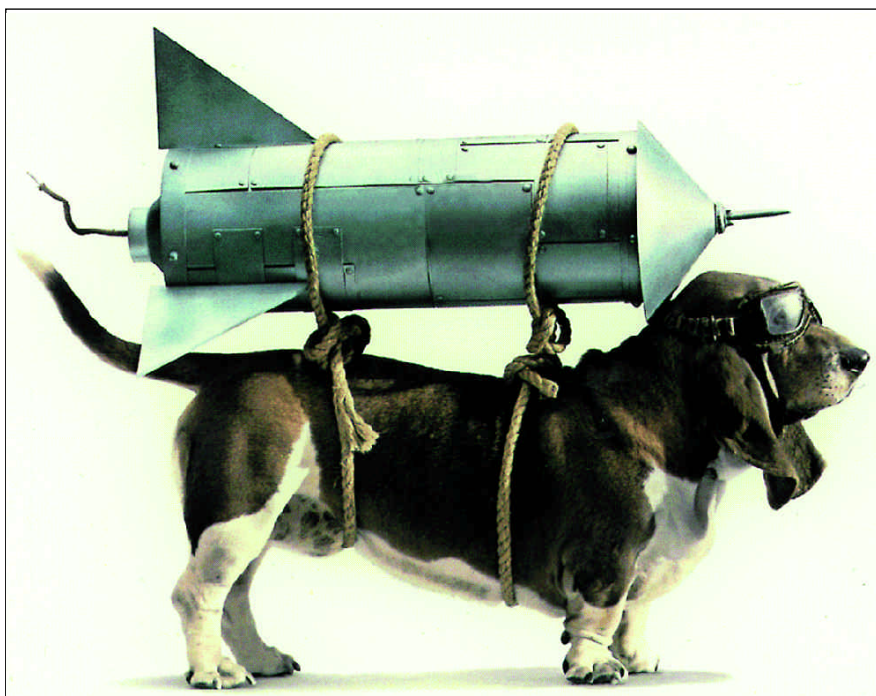# Top **hat time**

Chris Bidmead looks at RedHat and OpenLinux Base, and installation on a notebook computer using XFree86 3.2. There's the latest RedHat Linux for you on our CD-ROM, too.

O ne of the frequent themes of your emails to me is the request for Linux on the "front cover". This month you're in luck, because the very latest version of RedHat Linux is there, on our cover-mounted CD-ROM, ready for you to install.

Meanwhile, devotees of other UNIX-like operating systems want to know why I am forever harping on about Linux, at the expense of, say, FreeBSD? No doubt some of you will regard the inclusion of RedHat on our CD-ROM as not so much a positive blow for Free Software or the UNIX life-style, as a kick in the teeth for FreeBSD or NetBSD.

Operating-system wars are not very interesting. My network sports a number of different operating systems: Linux, NeXTStep, AIX, SCO and (as a link into the Microsoft world) Windows NT. And that happens to be just about as far as I can stretch it for the moment. I've nothing against the BSDs, or other UNIXes, and it's always good to hear from readers who have positive and interesting things to say about them. This column is certainly not written on the assumption that you're all running Linux, or that Linux is all you want to read about. Linux, for me, is just one instantiation of a UNIX-like operating system, chosen because it does make a pretty good reference point: it's probably the easiest for anyone to get hold of and it runs on the widest range of software.

To get a broad picture of the free UNIX products available, you might visit www.public.iastate.edu/~free-unix/homepage.htmld or www.ici.net/faq/unix-for-pc.html. And the free version of SCO on www.sco.com is proving popular, too.

Perhaps not a wildly informative screenshot, but I fell for this picture when UNIX workstation vendor, Silicon Graphics, used it to explain why its own new Octane graphics workstations (starting price $25,000) are in a different league from anything else you could put together around a PC. This is supposed to represent a PC with a whizzy graphics card installed

There are also many readers who turn to this column to expand their horizons without necessarily wanting to get involved in installing any of this stuff. That, too, is fine by me. If you're among this group, please don't junk the CD-ROM: there is a lot of really useful documentation on it and Martin Houston, the Linux guru who helped put it all together, has fixed it so that you can read most of it from the comfort of your Windows installation, using a web browser.

Probably the best thing on the CD is Matt Welsh's *Linux Installation and Getting Started* book which you'll find on the disc, complete and in HTML format under the

/instguid/ directory. Load the file called gs.htm into your browser and you're on your way. This is the way to read it from DOS or Windows, because this copy has been doctored to work with DOS-foreshortened filenames. If you're already running Linux or another UNIX, use the copy at /doc/HTML/ldp/install-guide-2.2.2.html/gs.html.

Be aware that Matt's book is a general guide to Linux. For specific details of how to install the Linux from the CD, turn to the instructions that Martin Houston has provided in the folder called "linuxtxt". The instructions assume that you'll probably

want to preserve your existing DOS or Windows installation and will show you how to create an additional partition using only existing DOS software and the fips DOS utility provided on the CD-ROM. As Martin says, please do read the documentation thoroughly before you proceed, and back up your data first.
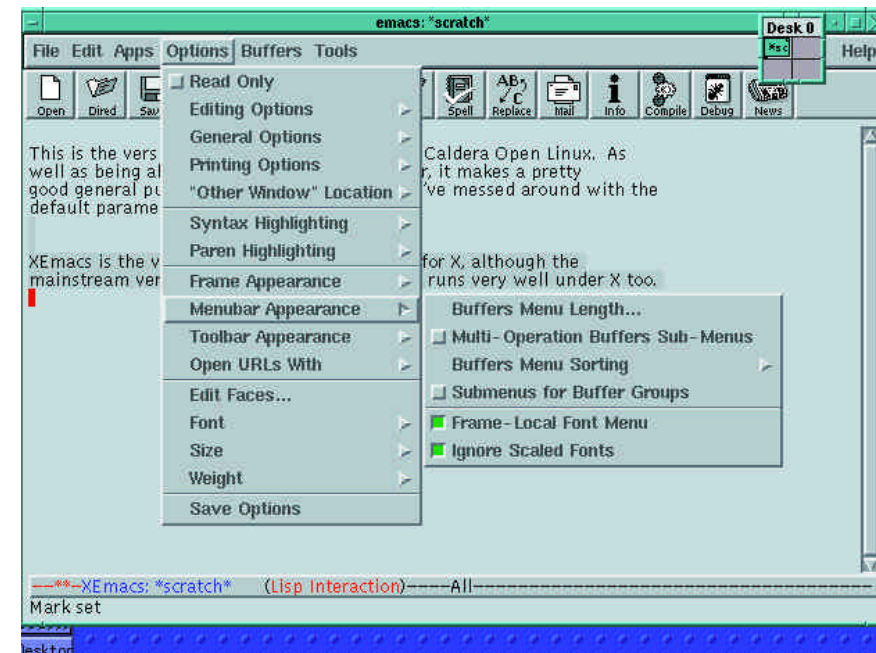
RedHat and Caldera

Until recently, RedHat provided the core operating system on which Caldera built the Caldera Network Desktop release. That has now changed, and the new Caldera product is called Caldera OpenLinux Base and it's built around the company's own implementation of Linux. Essentially, it's the same kernel as the one on our CD-ROM but with some additional Caldera features, including a proprietary implementation of PPP (the code used to dial up an internet connection), a commercial X-server and a fancy desktop called Visix LookingGlass. Also included is a licensed copy of Netscape Navigator.

Caldera plans a range of products under the name Caldera OpenLinux (COL) with Base as the entry level. In a month or so it will add OpenLinux Workstation which will include NetWare client software and a secure web server. Later in the year, the range will be expanded to include the Caldera OpenLinux Server: a multiprocessor version with a built-in SQL database intended as a high-powered web site, or as an enterprise intranet server.

I don't suppose many of you "home-brew" readers will be rushing out at the end of the year to spend over $1,000 on this last item, but equally, I don't doubt that a lot of serious business customers will be flocking to Caldera to snap this up. As a full-blown commercial server it's not at all expensive for what it offers, and it will come with full technical support.

The interesting thing from the point of view of anyone using Caldera products is that they'll all be based on the same industrial-strength version of Linux. And if you're thinking "hang on a minute, you just said the high-end server version will be multiprocessor…" Yes, right. The truth of the matter is that the core of all the Caldera products will be multiprocessor. Bryan Sparks, CEO of Caldera, tells me that if you load any of Caldera's products onto a Quad Pentium box, it will find all four processors and know what to do with them.

You may also be thinking "Yes, but

The new Caldera OpenLinux Base comes with the latest update of Xemacs, the version of the Emacs text editor specially developed for X. I use variants of Emacs for all my writing, and as a totally cross-platform writing tool it cannot be beaten at any price (even though it's free!)

whatever happened to the spirit of free software among all this commercialism? Isn't Caldera just exploiting the labours of some dedicated, unpaid software engineers for its own commercial ends?" Well, frankly, I'm still in two minds about this. Caldera is certainly treading a delicate path in this case and we'll have to see where the company goes with it. In the firm's favour, though, this is probably the place to mention that it will be making available a freely downloadable version of OpenLinux from its web site at www.caldera.com. I understand that this will be stripped of any proprietary hinderences (so you will not get the LookingGlass desktop accompanying it, for instance) and will mostly be covered by the GNU licence, so the source code should be available.

The only exception, I am told, is that the installation routine will be copyright Caldera. This is not to deter you from passing a copy on to your friends once you've downloaded it, or making multiple copies across your own network: the intention is to prevent the code being exploited by certain CD manufacturers who have been bundling multiple Linux distributions into cheap CD sets and cornering the market. There's nothing in the GNU licence to prevent this. Indeed, the GNU licence is expressly designed to encourage distribution of all kinds, but the creators of easy-to-install Linux distributions have worked hard at writing installation routines and testing

them, and they feel they should be in charge of dishing them out.

Caldera OpenLinux Base is sold and supported in this country through a company called Avalan. It costs around £55 and the company's Ben Partridge can tell you where to get hold of it *(see "PCW Contacts", p274)*.

Installing Caldera OpenLinux Base

Several readers have been asking me about installation on notebook computers. In the early days, the problem was getting the X-server to understand the LCD screen, but this has become much easier with last October's release of XFree86 3.2, which contains drivers for the main notebook video chips and includes an easy-to-use graphical setup. To help me gauge just how much easier, Seimens-Nixdorf kindly delivered one of its top-of-the-line notebooks, the Scenic Mobile 700, with a built in CD-ROM and stereo sound system.

It came with Windows 95 installed and my natural instinct was just to format the hard disk. However, I do know that many of you like to run machines that dual boot between the two operating systems and I get a lot of letters asking how to do this. Windows 95 was occupying the whole 1Gb of the Scenic's hard disk, so I needed to shrink this down to about half that size and create a second partition for Linux. Well, two new partitions, actually: one for the Linux root file system, and a second

partition dedicated to swapping. (If you are puzzled by this, look up "Linux partition requirements" in the Matt Welsh book, mentioned earlier.)

Firstly, I used Windows 95's own disk defragger to squeeze out the spare space and pack everything down into the lower 500Mb of the drive. To create the new partitions I could have used the fips utility, but this seemed a perfect opportunity to put Partition Manager 3.0 to the test. It runs from Windows 95 as an old DOS application, closing down the whole of Windows before loads and bringing Windows back again when it has finished. It shows a diagrammatic representation of the partitions on your drives and allows you to resize them visually by mouse dragging, and this gives you a much better picture of what's happening than having to calculate in megabytes or, as in the early days of fdisk, in cylinders.

In fact, I ended up with four partitions in all: one for Win95, a pair for Linux and Linux swap, and a fourth to house OS/2's Boot Manager… "Eh? How did OS/2 get in here?" you may wonder. It so happens that version 3.0 of Partition Magic comes with OS/2's Boot Manager as an optional way of handling multiple boots once you've got your partitions set up.

It's rather unfortunate that Boot Manager needs a whole partition to itself even though this is only as small as 1Mb, because the PC architecture only allows you a total of four primary partitions. But in this case it fitted in nicely. Installing the Boot Manager is a simple matter of clicking a pull-down menu from inside Partition Magic.

When I eventually quit Partition Magic I had just three partitions: in between Windows 95 and the Boot Manager was an unformatted wasteland onto which I was about to drop Caldera OpenLinux (establishing and formatting the Linux partitions is usually something you do during Linux installation).

Before you can do that, you first need to create one or more boot diskettes from the CD-ROM: at least, that is what I have always had to do so far; but not this time. Between them, Caldera and the Scenic Mobile had a neat trick up their sleeves — something I'd never seen or done before on an ordinary PC. The Caldera CD is set up to act as a boot disk on hardware that knows how to boot off a CD, and the Scenics BIOS setup has an option to do just that.

I felt I was cheating somewhat. This was just too simple: insert the CD, boot the machine, and up comes the skeleton version of Linux that Caldera uses to run its installation routine.

Anyway, I'll have more to tell you about Caldera on the Scenic Mobile, next month.

A chat with Caldera's Bryan Sparks

Bryan Sparks, CEO of Caldera, was in the UK earlier in the year setting up distribution and support, so I thought I'd corner him and get the Caldera story direct from the horse's mouth, so to speak. He has a nice, soft-spoken manner and what he says sounds OK; not at all like marketing-speak.

Caldera started inside Novell as something called "The Corsair Project". Bryan Sparks was one of 15 researchers whose brief it was to look for new ways to develop quick time-to-market system software products. I wondered why he settled on Linux, rather than any of the other free UNIX offerings?

"We looked at NetBSD, FreeBSD and all the others," Sparks told me. "The truth is, FreeBSD is a good product and its networking has always been very, very strong. Linux's networking wasn't, at the time, but that was fixed when Linux 2.0 came out." (By the way, the Linux 2.0 kernel is the one used in our cover CD-ROM RedHat version.) Sparks calls picking Linux "a kind of gut move on our part". It was the originator of the kernel himself, Linus Torvalds, who finally decided the Novell team. "We flew him in to Utah to get to know him better because this was going to be a big risk for Novell. In fact, we got to know several of the key Linux people and we thought their personalities were perfect."

The idea for a commercial platform based on Linux was originally Sparks' own. He'd worked on several projects inside Novell, including the NetWare for UNIX that was called "Portable NetWare", and he was in on the early days of Novell's relationship with USL, the company that owned UNIX and which Novell eventually, and disastrously, bought. "It was a total mess," says Sparks. "I was working with USL for six months, and there were such irreconcilable philosophical differences that I just couldn't stand it any more." Tragically, Sparks could see the opportunities that UNIX represented, if only the politics hadn't been getting in the way. "I went back to Novell and said, 'Boy, you have the opportunity of a thousand lifetimes here'. Windows NT was totally unproven. UNIX System V Release 4 was decades ahead — well, I'm exaggerating, but it was a very good technology. But the personalities at USL just killed it."

However, the experience prepared Sparks for Linux. In fact, he liked Linux so much that he wanted to quit Novell and set up his own company around it with two other Novell employees. "But I owed a lot to Ray [Noorda], so before we quit we took the business plan to him." Sparks had put together a working prototype. "I had good friends at Visix giving me their user interface, and a bunch of other things I'd done myself. I showed it to Ray and he said 'Boy, we need to be doing that…'"

Ray Noorda OK'd the Corsair Project in early 1993, but in the following year, at the age of 70, he announced his retirement. "We ended up with Bob Frankenberg coming in," said Sparks. "I don't have any qualms about him: he listened to what we were doing (we were kind of a skunk-works, off-site). He was a very bright man and he said 'This is really good… but we're not doing it.' But Ray Noorda still believed in it and financed what became Caldera with his own money."