
Linux revisited

Jon Jermey*

Linux, the other operating system – a free, open-source alternative to Windows – has been working away quietly in the background for a long time, running on the kinds of computers, like web servers, that users deal with only indirectly. Three years ago, when I first wrote about it, Linux was just starting to make its appearance on ordinary desktop PCs. It was awkward to install, and slow and clumsy to use, but it was clear that it had a future. Since then, Linux has made great strides forward, and it's now in a position to challenge Windows directly for possession of a large proportion of users' screens. As Linux is free and Windows isn't, Microsoft must be getting a little nervous.

The success of Linux can be put down to excellent programming, aided by four factors: broadband, demo distributions, easier installation, and an increasing number of applications programs.

BROADBAND

Linux has always been a team effort. Software is developed by groups of people, often widely separated and working in isolation, but coming together to discuss, modify and improve their products. Broadband makes it possible for large and complex Linux applications to be updated around the world in a matter of hours, rather than days or weeks. For convenience, most Linux software is stored in centralised repositories; by the time a Linux program upgrade makes it into a repository it has been thoroughly tested and debugged. Most of the software is free, so there's no need for complex on-line purchases or registration keys; your Linux installation simply checks the Internet for updates every day and downloads the latest upgrades to the applications you have. Want a new kind of application? There's no need to search the web; your program installation manager already has a list of all items in the repository for you to choose from. The whole thing is ridiculously easy.

Even complete Linux distributions ("distros"), including those described below, can be downloaded directly from the internet if you have a good connection and time to spare. However, for safety and convenience, it's hard to beat buying CDs and DVDs. You'll want to back up your downloads on to optical media anyway, so why not send off a few dollars and let someone else do the copying?

DEMO DISTRIBUTIONS

Once upon a time, setting up Linux required a spare computer – or at least a computer with a spare hard disk. Since relatively few offices or homes have a PC or a hard disk sitting around doing nothing, users lost their opportunity to see Linux running and to recognise all its good points.

To address this, a German developer named Klaus Kopper invented Knoppix. Knoppix is a version of Linux that runs directly from a CD or DVD. It boots up into a fully functional copy of Linux, but all storage is done into RAM or temporary cache. You can find and open files from your hard disk, but they are read-only; none of the material on the hard disk is altered in any way. Take out the CD or DVD and reboot, and the computer is back to Windows, just as it was before. With Knoppix the technically inclined can play with Linux to their hearts' content, but leave the PC still set up to run Windows when it's needed.

Knoppix is available from the official Knoppix site at <http://www.knoppix.net/get.php>. The official Australasian distributor is Linux CD Mall in Auckland (<http://www.linuxcdmall.com>). It will supply Knoppix on CD for \$9.50 or DVD for \$19.25, plus \$4.50 postage. My copy arrived within a week. You will occasionally find Knoppix or similar systems in your newsagency, on cover disks with computer magazines or Linux beginners' guides. I have had trouble getting these to work, so be prepared to get them replaced if necessary.

* Jon Jermey is an indexer, computer trainer and consultant, and moderates the Golden Age of Detective Fiction mailing list and Wiki. With Glenda Browne he has written *Website Indexing* (Auslib Press, 2004: <http://www.webindexing.biz>) and *The Indexing Companion* (CUP, due 2007).

As well as providing a user-friendly demo, Knoppix can also be used to virus-proof a PC during a web session: if you're browsing into territory you think might result in hostile downloads, then booting up with Knoppix guarantees that nothing gets written to your hard disk. For that reason, it's also a good environment for children to play around in. Knoppix can be installed on to a hard disk, but that's not really what it's designed for. If you want to switch a system over to Linux permanently, it's better to have a distro designed for this purpose. Meanwhile other Linux systems are jumping on the Knoppix bandwagon including Kate OS (<http://kateos.org>).

FIGURE 1 Knoppix 5.0



EASIER INSTALLATION

In the past, installing Linux involved guessing the answers to a lot of questions about hardware and drivers. However, now Linux can recognise the vast majority of peripheral devices. It can find memory chips, disks, monitor, mouse, keyboard, printer, scanner and USB devices without difficulty. So unless you have something unusual attached to your PC, Linux should practically install itself. In fact all it usually needs to know is what language you speak and what time it is where you are.

There are several self-installing Linux distros to choose from, but the best all-rounder is Ubuntu, which comes with a graphical interface known as "Gnome", or its variant Kubuntu, which uses KDE (K Desktop Environment) instead. The difference between the two is largely cosmetic; KDE has a slightly more Windows-like feel, while Gnome is more Mac-like. You can start with Gnome and switch to KDE, or vice versa. For the technically-minded, Ubuntu is based on Debian, but has more formal support; the main alternatives are Fedora Core from Red Hat Software and OpenSUSE Linux from Novell – both also free.

I obtained an Ubuntu DVD from a computer magazine. (They can be ordered from the Linux CD Mall – on DVD only – for the same price as Knoppix). Ubuntu will boot itself from the DVD in the same way that Knoppix does, but the resulting screen includes an "Install" button that installs it on to

the hard disk. This in turn triggers a partition manager that you can use to select which hard disk – if you have more than one – or to divide up a single hard disk into Linux and Windows sections. If you do this, then you will be able to choose whether to go into Windows or Linux each time the PC is switched on.

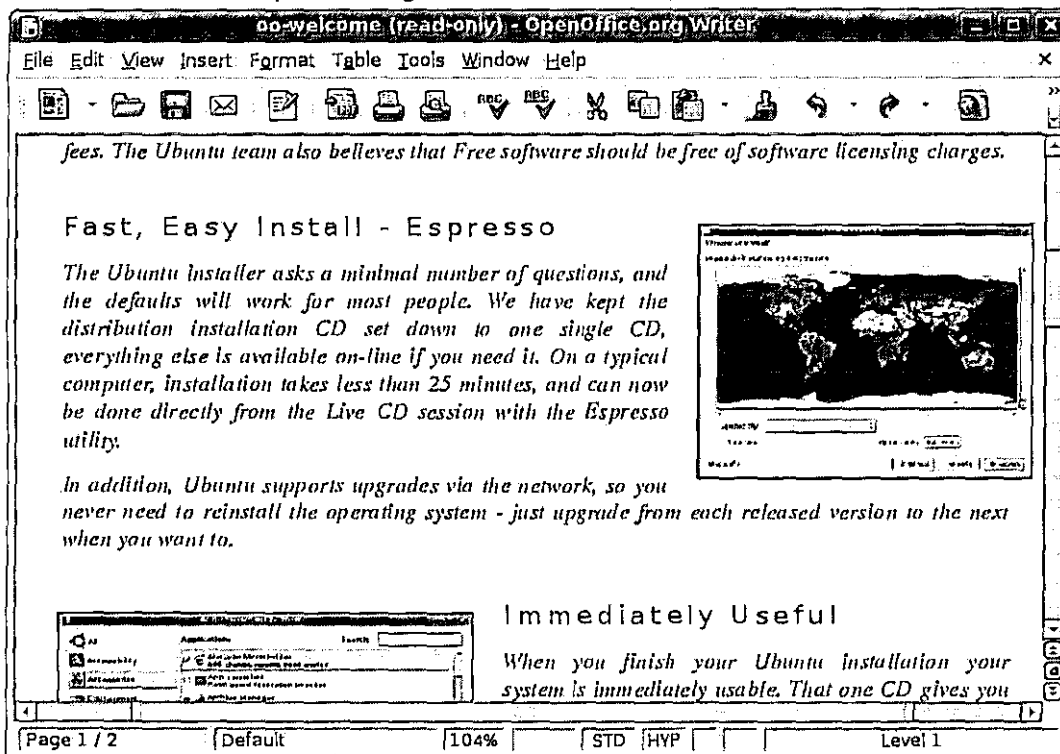
FIGURE 2 Installing Ubuntu



I installed Ubuntu twice, on to two different hard disks on an older Pentium II PC with 32Mb of memory. The first installation went without a hitch; the second stopped and had to be restarted, after which it proceeded with no further problems. In half an hour I had a working Linux installation with a full complement of file management programs, a word processor, spreadsheet and database, a working connection to the internet and a functioning web browser. I added the Mozilla Thunderbird email manager from a repository and the Adobe Reader program from the Adobe site – both free – and had pretty much everything I needed for my daughter to do her schoolwork, play games and browse the internet. A network connection with the two Windows-based computers in the house worked partially – I could see them and access their disks from Ubuntu, though they couldn't see me. Connecting to the Canon network printer, though possible in theory, went into the “too hard” basket; however, since most Linux programs can “print” to PDF files, I can just send these over the network and print them from one of the PCs.

There is plenty of documentation on the distro disks themselves, and much more available online. Fiddly changes to Linux settings may have to be done through a text prompt system known as Terminal – the Linux equivalent of DOS – but this is fairly rare and the sequence of steps should be set out clearly in the help file or tutorial you are working from. Everything else is done graphically – in fact, there is a strong screen resemblance to Windows and the Mac.

FIGURE 3 Word processing with Ubuntu and Open Office



MORE APPLICATIONS

Operating systems are useless without applications to run on them. Over time, Linux has built up an impressive collection of applications programs. Most are free, but if you have a specialised requirement then you may have to purchase software. Most commercial software companies are now beginning to produce Linux versions of their popular Windows applications.

The quality of programming in general was good and all the programs I used seemed fairly reliable, though none of them were especially fast on this five-year-old PC. Word processing, spreadsheets and relational databases are covered by the Open Office package, which was included in the distro, as was the Mozilla Firefox web browser. I was unable to play MP3 files and DVDs, however, until I had downloaded the appropriate codec software -- Ubuntu doesn't include these in the package for legal reasons, but they are readily available elsewhere for free.

The Linux equivalent of Photoshop is a program called Gimp. My daughter had this up and running fairly rapidly and didn't seem to have any trouble painting and creating text in this new environment. I plugged in a Bluetooth dongle and tried two Bluetooth programs, with mixed results; one worked and found my mobile phone, but the other was unresponsive. Memory sticks were identified and mounted as disks with no difficulty. CD burning was straightforward and, when I plugged in a scanner, it worked immediately. Windows fonts can be added by copying them across from a Windows directory.

If you really must have Windows programs, then you may be able to get them to run under Linux. The smaller and more self-contained the Windows program is, the better your chances. The Codeweavers site, at <http://www.codeweavers.com>, provides Linux add-ins, which can run a number of popular Windows applications. Users looking to run a particular program can search the site for details.

PROS AND CONS

The amount of progress Linux has made in three years is staggering. I would not hesitate to recommend it to a home user or a small business owner as a reliable free alternative to Windows. In fact, beginners and low-level users, who mainly work with word processors and spreadsheets, will find it much easier to switch to Linux than those mid- or high-level users who rely on specialised Windows programs to do their jobs. The Open Office word processing and spreadsheet programs are so much like Word and Excel that it's hard to spot the differences.

The biggest hurdles are learning the different file system on disk, which still uses obscure names like "bin" and "dev", and getting used to the annoying distinctions that Linux systems make between upper and lower case. You can't log in as "Jon" if your username is "jon", for instance, and typing "LS" in the Terminal window will give you an error message instead of the directory listing you get from "ls". However, most of this can be avoided by using the graphical interface. In addition, interoperability with Windows is much better than it was, largely because of the spread of open-systems software: file formats like HTM, XML, RTF, PDF, TTF and MP3 will now open happily on both systems.

Linux is built for reliability rather than speed; it won't run applications faster than Windows, though on a newish PC it should be fast enough. However, if speed issues are all that are keeping Linux off your desktop, then an increase in RAM may be a cheap way to tip the balance. You may also be able to tinker with the system settings to extract more speed.

As well as saving money, free software also saves a lot of time; you don't have to hunt down a particular distributor and work out how to pay them, because everything is available from the same place. Viruses and spyware are less of a threat, and experts claim that the structure of Linux makes it inherently safer than a Windows system (this claim will be thoroughly tested when hackers start to give it more attention). In the meantime, why not put a couple of hours aside and give Linux a test drive? It's easier than it ever has been, and it could drastically change your working life.