

Re: I want to migrate to Linux

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- *From:* Aragorn <aragorn@xxxxxxxxxxxxxxxxxxxxxx>
 - *Date:* Thu, 28 Feb 2008 12:20:59 +0100
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pcblDrNinetyEight <pcblDrninetyeight.com> wrote:

Aragorn <aragorn@xxxxxxxxxxxxxxxxxxxxxx> wrote in
[news:3Ebxj.225035\\$901.92433@xxxxxxxxxxxxxxxxxx](news:3Ebxj.225035$901.92433@xxxxxxxxxxxxxxxxxx):

pcblDrNinetyEight <pcblDrninetyeight.com> wrote:

I want to migrate from WIN98SE to Linux and am looking
for advise.

<big snip of things about which I am unqualified to make any intelligent
comment about>

;-)

Those things were mainly intended to make you better understand some
low-level stuff regarding partitioning and UNIX or GNU/Linux interiors. ;-)

Microsoft considers the x86 platform to still be what it was when it was
first introduced in the IBM PC in 1982, i.e. a single-user home machine,
which can of course also be used in offices for regular office work –
because computers are never used for science, right? :p

As such, Microsoft Windows still maintains the old-style drive letters,
which stem from Digital Research's CP/M operating system, which was later
"rewritten in a not too legal fashion" by Tim Patterson of Seattle
Computer. Patterson had called this "rewritten CP/M" QDOS – for "Quick &
Dirty Operating System"; not to be confused with the Q(uick)-DOS
filemanager – and had deemed it pretty useless.

Around that time, IBM had approached Digital Research's Gary Kildall, the
owner of the company and developer of CP/M, to provide for the operating
system for the IBM Personal Computer, but a series of no-shows by Kildall
at agreed meetings and disagreements with Kildall's wife over the licensing

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and IBM's emphasis on a non-disclosure agreements led the Big Blue guys to turn to Bill Gates, who hesitated the first time – he said that "Microsoft does not produce any operating systems" – but chose to seize the opportunity when IBM appealed onto him again after failing to negotiate their intended use of CP/M, and subsequently bought Tim Patterson's QDOS and rebranded it MS-DOS.

The successor to MS-DOS was to be OS/2, a joint venture between IBM and Microsoft. OS/2 was a single-user multitasking operating system that made use of the protected mode on i286 and i386 processors. Its first version had a menu-driven user interface based upon the DOS Shell, but subsequent 1.x versions had a GUI called Presentation Manager, from which the Windows 3.x user interface was derived. OS/2 also made use of DOS-like commands and drive letters.

Back around 1990, IBM had an agreement running with Microsoft that IBM would develop the next generation of OS/2, OS/2 2.x, which was to be a 32-bit operating system – OS/2 1.x was still 16-bit – and was to feature an entirely new object-oriented graphical user interface, the Workplace Shell.

(I myself have used OS/2 2.x for 5 years, whereas other people were using the combination of MS-DOS/PC-DOS/DR-DOS and Windows 3.x(x) at first and Windows 95 later on. My only experience with Windows dates back to the first 6 months of owning my first PC – which came with DOS 5.0 and Windows 3.0 – pending the public release of OS/2 2.0, and about two years of using Windows NT 4.0 Workstation – more as a hobby, as I didn't have any internet connection and I would often go weeks without even looking at my computer – between late 1997 and late 1999.)

But to continue, the deal between IBM and Microsoft was that Microsoft were to concentrate its effort on the 3.x version of OS/2, which was to be dubbed OS/2 NT. At that time however, Microsoft took that plan and turned it into *Windows* NT instead, with as a result that IBM had to develop the 3.x generation of OS/2 itself, which they would end up calling OS/2 Warp.

With all of the above in mind, you can see that Windows in essence still traces back to MS-DOS and even Digital Research's CP/M. However, computer hardware and computer technology have evolved a great deal over these last two decades, and so did the x86 platform. As of the Intel 80386 on, x86 systems were capable of running UNIX-like operating systems such as GNU – be it with the Linux kernel (which was written on an i386!) or with any of the other available kernels that work with GNU – or the various BSD's, or proprietary UNIX systems like SCO XENIX, Sun Solaris or the at that time revolutionary BSD-based NeXtSTeP by Steve Jobs.

Despite Microsoft's aspirations to get Windows deployed in the business market – something they have partially succeeded in – Windows itself is still mainly designed as a "home computer operating system", and the server version is based upon that paradigm, but with a slightly better usage of the capabilities in the NT kernel, which itself was not written by Microsoft but by Dave Cutler, who had developed the VMS operating system at

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DEC (Digital Equipment Corporation). Cutler was even caught redhanded inserting literal VMS code – property of DEC! – into the NT kernel, and DEC wanted to sue Microsoft, but a settlement was reached out of court. Cutler was then hired by Microsoft, as they had also hired Tim Patterson from Seattle Computer earlier.

GNU/Linux on the other hand is an operating system consisting of two major components, i.e. the Linux kernel and the GNU userspace libraries and toolchain. Both projects were and still are developed independently and with different intentions.

GNU was an initiative from Richard Stallman, founder of the Free Software Foundation. Their intent was to create a freely licensed UNIX-like system, with the emphasis on the political aspect of freedom, and the UNIX architecture being chosen because of its portability, scalability, flexibility, versatility, security and robustness. Their native kernel however still isn't considered stable or mature enough, and this is where Linux comes in.

Linux was developed by IT student Linus Torvalds as he was using Minix – i.e. a UNIX-like operating system written for educational purposes by Andrew Tanenbaum – but wanted to rewrite some of the Minix code as he was unhappy with it, and the Minix license did not allow modification. So he decided to write his own kernel from scratch, and as he was a follower of Richard Stallman's philosophy – something which has cooled down quite a bit over the last decade or so – he and his co-developing friends ported the GNU tools and libraries to work with the Linux kernel, which he then also released under the GNU General Public License (GPL), the most popular Free & Open Source Software license. (Note: Linux is continuing to be released under GPLv2, while the FSF prefers the latest version of the GPL, GPLv3).

UNIX and UNIX-like systems – the name "UNIX" is trademarked and may legally only be used by operating systems which are certified by the Open Group for compliance with their Single UNIX Specification – originate from the world of minicomputers and mainframes – UNIX was developed by Ken Thompson and Dennis Ritchie at AT&T Bell Labs in the late 1960s for use on a DEC PDP-7 and later a PDP-11 minicomputer – and those machines are typically multi-user computers. (Note: Despite the Open Group's objections to the usage of the trademark UNIX name by non-certified operating systems, Ken Thompson has stated that GNU/Linux and cousins are all de facto UNIX systems.) Such machines were and are mainly used for very technical stuff – rather than the multimedia- and office-minded "personal computers" – and thus they have a history of appealing more onto the technical knowledge and skill of their users. Still, UNIX is not such a user-unfriendly operating system design.

The entire above history lesson only serves as to show you the different vantages behind both Windows and UNIX-like systems like GNU/Linux, FreeBSD and the likes. The more technically oriented background of UNIX systems makes that UNIX-like systems are in fact much more logical in their design and in the way they are used than Windows, which was developed for

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single-user environments and with flat commercialism in mind. Windows originally didn't even have networking support.

The ubiquity of Windows has led the masses to adopt certain Windows-specific traits as being proper to a computer as a piece of technology, while those things are in fact aberrations, e.g. the frequent need for rebooting – which is not exactly beneficial to your hardware as a reboot – especially a cold boot – represents multiple powerspikes and high CPU loads – or the need to regularly defragment the filesystem. Windows also has a lot of security holes because of the fact that it was never designed to be networked, despite the replacement of MS-DOS by the VMS-based NT kernel. The base layout and internal design of Windows is still grafted on those narrow single-user principles, nevertheless. And all the Windows-isms like rebooting et al are not normal computer behavior. GNU/Linux has a UNIX design, and UNIX was (and still is) mainly used on mainframes, supercomputers, minicomputers and scientific workstations. Such systems require 24/7 uptime and cannot afford to need such idiocies as regular reboots, protection against virus/spyware/trojan infections by third-party software or frequent filesystem defragmentation.

GNU/Linux is very different from Windows. As mentioned by another poster, KDE has a somewhat Windows-like appearance in its default configuration – which is totally changeable, by the way; mine actually looks quite different – but what's underneath the hood is quite a different beast. Having used Windows for a long time, you will have to unlearn some of the habits and Windows behavior expectations, some of which I've been attempting to draw your attention onto. ;-))

That all said, the wonderful graphical user interfaces available for GNU/Linux (and other UNIX-like operating systems) and the logic behind the UNIX design – which is basically all about logic, not about some big corporation making decisions for you – will soon enough win you over. ;-))

Can the partitioning be accomplished by point and click?

Absolutely, unless you are using any of the *buntus, Debian or Slackware. At least, to my knowledge the installation of Debian or Ubuntu and siblings is mainly done via a menu-driven interface, but then it still should be quite trivial.

All other desktop-oriented distributions typically use mousedriven installation procedures and utilities. Mandriva for instance – and I presume that PCLinuxOS uses the same tools – uses its own graphical partitioning tool, called /DiskDrake/ – the name dates back to when Mandriva was still called MandrakeSoft.

RedHat, Fedora Core and CentOS make use of the RedHat /anaconda/ set-up utility, which also has a graphical partitioning tool built-in – it might be /gparted,/ but I'm just guessing as I've never checked.

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Most distributions also come with individual graphical partitioning tools, and even among the commandline partitioning tools, there is a particularly good one that's typically supplied with every distribution, i.e. `/cfdisk/`. It's completely menu/arrow-key-driven.

Edubuntu is aimed especially towards children.

I'm feeling particularly dim now so this might be for me.

Well, I didn't mean to suggest that it's for newbies but that it features a lot of educational tools – e.g. pertaining to language, typing, spelling, sciences, etc. – and games.

Assuming I can come to grips with all of these concepts I can't picture being able to sit in front of a PC and make any practical use of this at the command line given my current lack of experience. I don't want to sound like a broken record but how much of this can I do while still avoiding the command line?

Most of it, in any recent desktop-oriented distribution. In UNIX systems, most tools are in fact commandline utilities, but there are (at least one but typically multiple) GUI front-ends to allow you to use those commandline back-ends. This design is so as to be able to use those utilities regardless of whether you have a GUI running or not, and it makes quite a lot of sense as the GUI tools therefore don't need to clog up the memory. The distribution's installer will typically preconfigure any GUI packages you install to make use of the non-GUI tools you have installed, and if one GUI package requires a non-GUI tool that you have not installed, it will be installed as a dependency.

For instance and mentioned by other users as well, let's take a partitioning tool. There is `/gparted/` which has a Gnome-like appearance, and there is `/qtparted/` which has more of a KDE-like appearance. Both of these make use of `/parted/` which is a non-graphical tool. (PARTition EDitor).

For CD-/DVD-burning, there are several graphical tools available which make use of the non-graphical back-ends such as `/cdrdao/` and `/cdrecord/`. I strongly recommend KDE's K3B burning tool; it's really userfriendly and feature-rich.

Are there any online step by step walk throughs that would be suitable given what I want to do?

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Well, just about every commandline utility comes with an on-disk manual – note: these are manuals, not prosaic guides or tutorials – but there are typically lots of HTML and plain text documentation files in */usr/share/doc.* Next to that, you can also find those and lots more at the "Linux Documentation Project" website, i.e.

<http://www.tldp.org>

I also strongly recommend reading Paul Sheer's RUTE, which is however quite lengthy and pretty technical. You can find it here...:

<http://rute.2038bug.com/index.html.gz>

Can you recommend any beginner books like "Linux for the totally clueless" ;-) Thank you for your help.

As another poster mentioned, there is a book called "Linux For Dummies", but there are also other, more distribution-oriented books. Mandriva for instance provides for good documentation – available both in a printed version or as online reading, albeit that I'm not up to date anymore on their user service, so it might be possible that they require you to a paid subscription to the Mandriva Club even for the online version – I personally feel that Mandriva has been suffering from a severe degree of corporatitits for years already, the pinnacle of which was their decision to lay off the company's founder Gael Duval, who has in the meantime started a userfriendly, newbie-oriented (but still quite beta-level) and self-maintaining distribution called Ulteo, based upon the Debian package management system.

<http://www.ulteo.com>

Next, you may also want to bookmark...

<http://www.linuxnewbie.org>

.... and...

<http://www.linux.org>

There's probably a whole lot more on the web, and last but not least, Google is your friend. ;-) Google archives Usenet via Google Groups, and you may often find useful posts there regarding a specific problem you might have which have already expired on the newsservers themselves. Google also archives the Linux Kernel Mailing List and several other such exchanges of information.

It is often claimed – by Windows-minded people, of course – that GNU/Linux is not user-friendly, and that there is a steep learning curve. I will

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fully admit that GNU/Linux and other UNIX-style systems are more technical than something like Windows or a MacIntosh, but that's only because they are so much more powerful.

At the same time, for anyone who's never ever sat at a computer in their life, even Windows has a fairly steep learning curve, and some of the Windows-typical stuff might even seem quite illogical to such people – in fact, that would only be righteously so – because the only reason Windows *doesn't* seem illogical to Windows users is the fact that they're habituated to it. So the alleged "steep learning curve" of GNU/Linux is a matter of subjective perception by Windows addicts, not a factual truth.

In fact, people who are totally new to IT and really want to learn and understand computers are far better off and will have less problems using and understanding GNU/Linux than if they were to start using Windows, which is in my humble opinion an ugly mess and most likely the worst operating system design to have ever existed.

A frequent misconception is then also the typical question as to why Windows is so ubiquitous if GNU/Linux is so much better, but this is once again an irrational, Windows-indoctrinated question. Windows is ubiquitous *only* because of the monopolistic deals Microsoft makes with consumergrade computer manufacturers – which has in the meantime also extended from the typical personal computer into the realm of PDAs and smartphones – but luckily this is beginning to change now that many big names in the computer industry have started to back GNU/Linux.

Companies like IBM, Hewlett-Packard, SGI (formerly Silicon Graphics) and Sun Microsystems all have their proprietary UNIX-branded operating systems. IBM has AIX, Hewlett-Packard has HP/UX, SGI has IRIX, Sun Microsystems has Solaris. Yet these companies all know that GNU/Linux is just as good and at the same time a lot more interesting to invest development resources into than still trying to innovate through their own expensively licensed proprietary operating systems, especially with regard to the widespread and versatile x86 architecture. Novell and RedHat are two of the bigger names in the GNU/Linux world and are both also delegating developers to working on the Linux kernel. Dell is also cooperating on the Linux kernel development.

Processor manufacturers AMD and Intel are also actively cooperating on the development of the Linux kernel, albeit that their motives are quite different – AMD is typically more FOSS- and standards-minded than Intel, which has already shown a lot of monopolistic behavior and the same kind of foul play as Microsoft, with whom they are also participate in a common endeavor called the Trusted Computing Platform.

Peripheral hardware vendors such as Adaptec and LSI are also actively cooperating on the development of the Linux kernel and are offering GPL-licensed drivers to the tree. Many other companies are also offering drivers or other software for GNU/Linux – albeit proprietary and binary-only – for GNU/Linux, e.g. Brother, nVidia, Adobe, Sun Microsystems,

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VMWare, et al.

Google's Android operating system for the upcoming Google phone is based upon GNU/Linux. Nokia and Motorola both have GNU/Linux-based cellphones in their offer. Many routers from Cisco and LinkSys use a GNU/Linux-based operating system, as to many set-top boxes and most of the pre-built consumergrade NAS solutions.

It has taken a long time and it's still moving at slow pace, but the IT industry is starting to realize that GNU/Linux and FOSS (Free & Open Source Software) are valuable, are here to stay and are simply the perfect roadmap to the future. ;-)

Oh, and by the way, Sun Microsystems has just built a brandnew one-off supercomputer, capable of 500 Teraflops. It's got 15'744 dualcore AMD Opteron processors, and it runs... GNU/Linux... ;-)

GNU/Linux is not user-unfriendly, but it requires that the user keeps a computer-friendly state of mind. ;-)

Don't fear the penguin... :p

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Aragorn
(registered GNU/Linux user #223157)

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