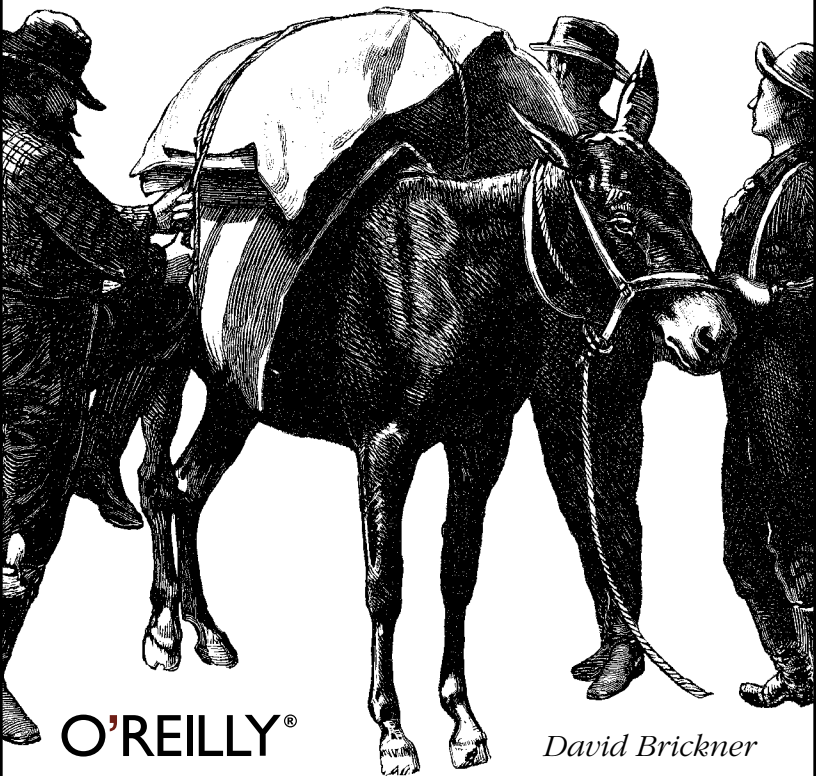


GETTING THE MOST
OUT OF YOUR LINUX DESKTOP

Covers KDE & GNOME

LINUX DESKTOP

POCKET REFERENCE



O'REILLY®

David Brickner

Distributions

As I explained in the Preface, Linux is really just the core of an operating system, not particularly useful for your desktop by itself. The other components that make it a usable OS are developed by thousands of individuals and groups. Because there is no single point of control exerted on the entire OS, as Microsoft exerts on Windows and Apple on Mac OS X, there is no “definitive” Linux operating system. Instead, individuals, groups, and businesses package the different open source components together, add a few unique programs (installers, configuration programs, and artwork), and call the result a Linux *distribution*.

There are hundreds of Linux distributions that you can use as your desktop operating system. Choosing from among them can be a difficult task, particularly when you are new to Linux and don’t know the distinguishing characteristics of each distribution. If you aren’t experienced with Linux or haven’t yet branched out beyond your first distribution, I hope you’ll find this chapter a valuable introduction to the popular distributions.

Choosing a Distribution

The good news is that Linux distributions are more alike than they are different. They are all stable, fast, and secure, and they run the same web browsers, email clients, and desktop environments. Once installed, you can get most any distribution to do what any other distribution can do. What

makes each distribution truly different is the path it takes to get you there. Some will be difficult to install but very easy to configure afterwards; some have almost nonexistent documentation but are so simple to keep up-to-date that you might not need any. After using Linux on the desktop for six years and trying more than a dozen distributions, I've identified four broad factors that you can use to compare distributions; these factors will help you determine which distribution may be most appropriate for your skill level and needs. These are:

Installation

I define “installation” as the act of getting Linux placed upon your hard drive and getting your system to boot. Most distributions provide equally capable installation programs. You typically install the distribution only once per machine, so this isn't as important as many people would have you believe. However, the better the installation routine of a distribution is, the more you'll enjoy your first interaction with the system, and, more importantly, the less work there is to do to completely configure the system afterwards.

Configuration

Configuration is when you make sure your network, sound, and video cards are fully working; when your peripherals are attached and operational; and when your user environment is set up the way you want. Technically, configuration never ends, but most people consider it to be at an end once they have all of their hardware configured. The ease of configuration is where many distributions distinguish themselves.

Program installation and upgrade

Another way that a distribution distinguishes itself is by the ease with which you can install new programs or update or remove exiting ones. This is typically called

“package management.” Although many distributions share a common package format, how well it works in practice can vary dramatically.

Documentation and community

While using Linux, you will occasionally have problems; in this regard, it is no different than using Windows XP or Mac OS X. Your ability to solve these problems is directly related to how much you already know, the quality of available documentation (both on the Web and in print), and the willingness of the distribution’s community to help out. Good documentation and a friendly, knowledgeable community go a long way toward making up for weaknesses in other areas.

Table 1-1 ranks the five distributions discussed in this book using the four criteria I just mentioned. Keep in mind that these are my numbers only, based upon personal experience. I weight each category to show how important I regard it with relation to the others.

Table 1-1. Weighted comparison of five popular distributions

Item	Fedora	Gentoo	Mandriva	SUSE	Ubuntu
Installation (15%)	4	2	4	4	3
Configuration (25%)	3	3	4	4	3
Program installation (30%)	4	4	4	3 ^a	5
Documentation (30%)	3	5	3	3 ^b	4
Weighted average	3.45	3.75	3.70	3.40	3.90

^a Despite the general excellence of the YaST program installation tool, I gave SUSE a slightly lower score than other RPM-based distributions because it does not provide a capable command-line variant.

^b The boxed set of SUSE comes with a couple of excellent books, and the same documentation is available from within SUSE as online help. Though good, this documentation is not as helpful for troubleshooting and system configuration as a dynamic online community—thus the average score.

As you can see, the distributions are fairly close to each other when all the factors are considered. My suggestion is to start with a distribution that ranks high in installation and configuration first (such as Mandriva or SUSE). Get your toes wet. If you're ever ready to move on, the knowledge you gained from using this "easy" distribution will prove valuable when working with one that's slightly harder to install, but more forgiving or informative with regard to the last two criteria.

Though understanding the relative strengths of distributions can aid you in deciding which one to use, it might not be your only concern. For example, you might want a distribution that uses a particular package management scheme, one that has a GUI installer, one that lets you resize a Windows partition during installation, or one that supports your processor's architecture. Table 1-2 allows you to easily compare features across distributions. To compare an even broader range of distributions, see their respective pages at <http://www.distrowatch.com>.

Table 1-2. Feature comparison across distributions

Criteria	Fedora	Gentoo	Mandriva	SUSE	Ubuntu
Processor architecture	i386, ^a x86-64, PPC, SPARC	x86, ^b x86-64, PPC, SPARC	i586, ^c x86-64, PPC	i586, x86-64	i386, x86-64, PPC
Package format	RPM	Source	RPM	RPM	Debian package
Package manager	Yum and apt-rpm	portage	urpmi and apt-rpm	YaST and apt-rpm	apt
GUI installer	Yes	No ^d	Yes	Yes	No ^e
Resize Windows partitions	No	No	Yes	Yes	No
Default desktop	GNOME	None	KDE	KDE	GNOME
# of CDs/DVDs	4/1	1	4/1	5/1	1

- a i386-compiled distributions will run just fine on Pentium and higher processors but might not be as optimized as they could be.
- b Gentoo allows you to specify exactly how you compile your system from the very beginning. It supports all probable variants of the x86 architecture and, if you choose, can be optimized for your specific processor architecture.
- c i586-compiled distributions will not run on processors prior to Intel Pentium (x486 and x386). This is usually not a problem for most users.
- d There is a beta graphical installer that may be usable by the time you read this.
- e Though the installer is not GUI, it is menu-driven, which makes it quite simple to use and very fast.

The following sections provide detailed descriptions of each distribution covered in this book with respect to the four criteria laid out earlier in this section. The order is alphabetical.

Fedora

The Fedora project started in 2003 when Red Hat opened up their development process and created a community-driven distribution. This caused a lot of confusion at first, and many users didn't know if they should continue to track the commercial Red Hat releases, Fedora, or jump ship to an entirely new distribution. In the past two years, this confusion has largely cleared up and Fedora has become a respected and highly used Linux distribution. The main Fedora web site, found at <http://fedora.redhat.com>, contains documentation, release information, and links to download the distribution.

A new version of Fedora is released roughly every eight months. These are numbered releases starting with Fedora Core 1 up to the most recent, Fedora Core 4. Each new release updates core software—such as the kernel, GNOME, KDE, and X—and adds new features. As Red Hat uses Fedora as a testing ground for their commercial release, some of the new features or changes have a very “enterprise” feel to them, like the addition of Security Enhanced Linux (SELinux).

The default desktop for Fedora is GNOME. Although KDE can be installed, it is a heavily themed version that feels very different from the typical KDE install. In fact, if you like

KDE, I would say Fedora is a poor choice, unless you are prepared to install it from the source. However, the GNOME experience is one of the best, and I highly recommend Fedora if GNOME is your preferred desktop environment.

To avoid any legal hassles, the Fedora project follows the lead of Red Hat and doesn't include the necessary software to play DVDs, MP3s, or Windows Media files. The necessary support can be added easily once you configure a third-party package repository, as outlined in Chapter 6.

Installation

The installation program for Fedora is known as Anaconda; you will find this used as the installer for several other distributions, especially Red Hat derivatives. Though the installer asks several questions, none of them are particularly hard to answer. It does a decent job of detecting and setting up typical hardware, such as keyboards, mice, video cards, sound cards, and monitors. I've found it less capable at handling wireless cards, but, to be fair, many installers have this trouble. The installer can easily set up a dual-boot system (a system that can boot into either Windows or Linux), but it doesn't provide any support for resizing Windows partitions; this means you will need to use another tool to make room on your Windows hard drive for Fedora. What I like least about the installer is its linear nature, which makes it hard to jump back to earlier steps if you want to change a setting. Also, when installing Fedora Core 4, I ran into numerous errors when creating nondefault filesystems.

Configuration

Configuration of a Fedora system is a mix of distribution-specific utilities and configuration file editing. I've found the configuration programs to be capable, but not particularly fancy. Fedora has not yet developed a centralized control panel from which all of these tools can be accessed, which means that you'll need to choose the programs individually

from the menu or run them from the command line. The good news is that Fedora's close relation to the commercially supported Red Hat means you'll often find that drivers and programs provided by third parties have a Fedora or Red Hat install package. Also, many commercial programs that are certified to run on Red Hat, such as Oracle, work with Fedora as well.

Package Management

Just like Red Hat, Fedora uses RPM files for package management. (RPM is a recursive acronym that means RPM Package Management, though at one point the R stood for Red Hat.) You can install RPMs from the command line or by using a GUI tool. RPMs perform a dependency check when you attempt to install them. This means they will tell you if you need to install other pieces of software on which the current program *depends*. Unfortunately, RPMs will not install the dependencies for you automatically or even locate them for you. This deficiency can be overcome by using a package manager such as Yum, which is the default package manager for Fedora and is covered in Chapter 6.

Documentation

A body of online documentation is slowly forming around Fedora in the form of Wikis, FAQs, and forums. There are more books published on Fedora than any other distribution, which may explain why the online documentation is taking so long to materialize. In many cases, I have often found it easiest to locate information on my particular problem by doing a web search, as opposed to visiting a specific site. This approach often didn't work well with Red Hat because a general web search frequently returned help for earlier versions of the software than what I was using, but because the Fedora name is new, almost all information I find on it is relevant to my particular problem. I've found

two sites especially useful: the Unofficial Fedora FAQ (<http://www.fedorafaq.org>) and the forums (<http://www.fedoraforum.org>). The Fedora project maintains a page of other community resources, located at <http://fedora.redhat.com/participate/communicate/>.

Overall, I believe Fedora is a solid distribution that is great for beginners and experienced users alike. It is a particularly good choice if you are familiar with Red Hat server offerings, need to work with a distribution that is likely to be found in a business setting, or prefer GNOME and its related programs over KDE.

Gentoo

Gentoo (<http://www.gentoo.org>) is a fairly new distribution that began gaining popularity around 2002. Started by Daniel Robbins, it has since evolved into a very successful project that has captured the hearts of many Linux users. It is entirely free, so you don't need to purchase it from a web site or buy it in a store. There is a Gentoo store, however, where you can buy install CDs with nice artwork on them—such a purchase is an easy way to support the project.

The philosophy behind Gentoo is pretty much “Linux the way you want it.” To this end, Gentoo is installed by compiling all of the programs from source—using a set of criteria known as USE flags, which you choose, and several compiler options to make the resulting programs run faster. This extreme configurability—and the tools to manage it—have helped to create an enthusiastic Gentoo fanbase. Some people liken Gentoo users to the car enthusiasts who put bolt-on performance parts on their cars; both groups seek extreme customization and performance.

In most cases, Gentoo doesn't favor one program over another, meaning that there are no default choices for the big questions like which web browser, desktop environment, or

email client to use. This neutrality is different from many distributions that present you with a small set of default choices in order to provide a “better” experience. The choice is great, but when you don’t like the defaults, and setting up the alternatives is difficult, you might find a distribution unusable. This is seldom the case with Gentoo, where—from the beginning—you can really have it your way.

One great thing about Gentoo is that you don’t need to access third-party repositories in order to install software with full multimedia capabilities. However, you do need to pay attention to which USE flags you compile your software with in order to get all the features you are entitled to. The portage USE statement is fully explained in the portage documentation found at the Gentoo web site.

Installation

To install Gentoo, start by downloading one of the live CDs from the download link (appears as Get Gentoo!) on the main Gentoo page. You have the choice of downloading from an http or ftp mirror, or using BitTorrent. When you select the *mirror* link, you are taken to a list of mirror sites where you should choose one that is geographically close to you (but you might want to try others if your first selection is too slow). The mirror site link often takes you to a high-level Gentoo directory with several choices. To work with stable Gentoo releases, you should select the *release* link. Gentoo releases are named for the year and the release number. So, release 2005.1 is the second release in 2005 (the count starts at 0). Download the ISO image that corresponds with your processor architecture. There are three types of ISOs per architecture:

Minimal

This live CD will boot your PC into a Gentoo environment where you can begin setting up your system. It is a minimal CD because it does not contain all the software

(known as *stages*) that you will need to complete your installation. Instead, the stages are downloaded as you need them.

Universal

This CD has all the functions of the minimal CD and includes all three software stages needed to complete the install. I recommend getting this CD in most cases, as you can reuse it on multiple machines without needing to download the later stages each time.

Package

This CD includes precompiled binaries of many software programs. This option is useful only if you are performing a GRP Gentoo install, which is when you use precompiled programs instead of building your own. The Gentoo documentation has more information about this type of install.

Although installing Gentoo requires running a lot of manual steps from the command line, the process is well-documented at the Gentoo web site and is not actually hard—just time-consuming. However, I do not recommend the process for someone who is not already familiar with Linux or who is not very comfortable with computers.

Configuration

As with the install, Gentoo does not hold your hand when it comes to configuring your system. There are no pretty GUI tools or centralized control panels, and very few command-line tools. What Gentoo does provide are sensible defaults, several well-commented configuration files, and an uncluttered feel that comes from not needing to support 10 years or more of legacy configuration methods. To configure a Gentoo system, you need to be comfortable editing configuration files and willing to dig for answers in the online documentation (more on that in a bit).

Package Management

Gentoo's package management program is one of the two features that really sets it apart—the other is documentation. Known as *portage*, the program installer is a clever combination of Python and bash scripts (command-line scripts) that determines software dependencies, downloads all the required packages, and then compiles the software using compile-time settings that you choose. Using portage, you can easily install software that is optimized for your computer. The downside is that installing from source takes a long time, possibly a day or more, for large packages like KDE, OpenOffice.org, or X.org. Linux users who want the ultimate control over their software love the flexibility that portage gives them. If you're not willing to wait for your programs to compile, you can take advantage of the increasing number of precompiled programs available in portage. Of course, you lose the ability to customize the compile, which is one of the reasons for using Gentoo in the first place, but this is a nice way to try out a large program like OpenOffice.org without waiting for several hours.

Documentation

The Gentoo documentation and community are second to none (though new kid on the block Ubuntu is giving it a run). These two Gentoo “features”—package management and documentation—more than make up for the manual steps required to install and configure the distribution. Because Gentoo is only a few years old, both the documentation and the community are highly centralized. Almost all documents worth reading about Gentoo can be found at <http://www.gentoo.org/doc/en/index.xml>; support for your most vexing problems can be found at <http://forums.gentoo.org>. With these resources at your disposal, and an occasional visit to the Gentoo IRC channel #gentoo at irc.freenode.net, or the Gentoo Wiki at http://gentoo-wiki.com/Main_Page, there is almost no problem with Gentoo you cannot overcome.

I strongly recommend Gentoo as a desktop distribution for Linux hobbyists, computer enthusiasts, programmers, and system administrators. It really isn't the best distribution for those looking for a simple Linux experience, those with slow processors, or new Linux users.

Mandriva

Mandriva is the name of the distribution (and company) formed from the merger of the Mandrake and Connectiva distributions in early 2005. The effects of the merger are yet to be felt in the distribution itself, so you can largely consider the current release of Mandriva, known as LE for Limited Edition, to be equivalent to what would have been Mandrake 10.2. The main web site for Mandriva is <http://www.mandriva.com>.

Mandriva had one of the first truly easy-to-use graphical installers for Linux. This, combined with optimizations for Pentium processors (most distributions are compiled for x386 processors) and a tendency to include the latest versions of many programs, made Mandriva popular with enthusiasts, and earned it the reputation for being a good desktop distribution. All of this holds true today.

Traditionally, Mandriva has favored the KDE desktop over GNOME, but, for the past year or so, it has treated both almost equally. However, KDE is the default Mandriva desktop, it is usually more up-to-date than GNOME, and the appearance feels as if it has received just a bit more attention.

Refreshingly, Mandriva pulls out all the stops when it comes to enabling your computer to run all media types that Linux can support. Because of this, you don't need to install any additional software to watch DVDs, listen to MP3s, or playback Windows Media, QuickTime, or RealPlayer files.

You can obtain Mandriva in a variety of ways. It is available for sale from the Mandriva web site; you can join the Mandriva Club (<http://www.mandrivaclub.com>) to gain access to various downloads; or you can download the community versions of the software, known as download editions, from <http://www.mandrivalinux.com>. The downloadable editions do not include drivers or support for 3D graphics cards or playback of many media types. It is not difficult to add this support yourself, but if you want to avoid the hassle, get a paid-for version.

TIP

My first book *Test Driving Linux* (O'Reilly), details how to use the Mandriva Live CD known as *Move* to learn the Linux desktop. It is a useful guide for anyone using KDE and related applications, not only for Mandriva users.

Installation

As I mentioned earlier, Mandriva comes with a GUI installer that offers a nice blend of power and usability. One nice feature of this installer is its ability to resize existing Windows partitions to make room for Linux and set up your system to dual-boot. The installer does an adequate job with hardware detection and configuration, but it isn't perfect.

Configuration

One of the ways in which Mandriva has distinguished their distribution is in the area of configuration. There is a centralized control panel, known as the Mandrake* Control Center (accessible from Menu → Administer your system → Configure your computer), from which you can access several Mandriva-unique tools to fully configure the hardware on your system. The included tools help you set up your network,

* Maybe the name will be updated to Mandriva by the time you use it.

printer, monitor, hard disks and other storage devices, firewall, mouse and keyboard, and so on. Although this is not the only way to configure a Mandriva system, it is a great starting place for those who are reluctant to configure hardware and services from the command line.

Package Management

Mandriva is an RPM-based system like Fedora, but you usually can't use Fedora RPM packages on Mandriva. Mandriva has attempted to overcome the limitations of the RPM package format with a tool called *urpmi*, which not only checks for package dependencies, but downloads the required packages as well. Although a useful tool, it is still not as powerful as Gentoo's portage or Ubuntu's apt solutions; yet, it is significantly better than regular RPM tools. I've also had more difficulty removing programs with Mandriva than any other distribution. Sometimes the removal of a program—say, the Postfix email server—will require the removal of dozens more programs that shouldn't be affected at all, and that you may want to keep. This can be very frustrating when you are trying to remove unnecessary server software in order to run a lean desktop.

Documentation

Mandriva's documentation is no better than what you'll find for Fedora, but with the added disadvantage that there are no in-depth books written about it. Besides the scattering of information you'll find at distribution-agnostic web sites like <http://www.linuxquestions.org>, you'll find information in the forums found at <http://www.mandrivausers.org>, on personal web pages, and in the newsgroup *alt.os.mandrake*. Because of the sheer volume of Mandriva users (there are several millions of them), chances are good that you'll find some useful information through one of these resources.

If you need more help, consider signing up for the Mandriva Club, which is an online subscriber community with forums, FAQ, and direct access to some of the Mandriva developers. Indeed, Mandriva focuses a lot of attention on this community, as it is a significant source of revenue for the company. The web site is <http://www.mandrivaclub.com>.

Personally, I rather like Mandriva. Although I had been using Linux for a couple of years, Version 7.0 of Mandriva (called Mandrake back then) was the first distribution to give me a Linux desktop that I found really usable and enjoyable—and Mandriva has only gotten better. If you are new to Linux, Mandriva should be one of the first distributions you try.

SUSE

In the corporate world, SUSE is probably the second best known Linux distribution after Red Hat. Originally developed by the Germany company SUSE, LLC, it was purchased, in early 2004, by the American company Novell, which also purchased the Linux development house Ximian in 2003. These acquisitions show that Novell is placing its bets for future customers and growth on the popularity and technology of the Linux operating system. The future of the SUSE brand is uncertain, so by the time you read this book, the SUSE distribution may be called something else—such as Novell Linux or similar. Regardless, it is still the same technology, and what you read here should continue to apply. The main web site is <http://www.novell.com/linux/suse>. Pronunciation of SUSE varies, but, increasingly, you'll hear English speakers saying *sue-say*.

When thinking of SUSE, I can't help but compare it to German cars. Like a BMW or Mercedes, SUSE Linux is well-designed, well-engineered, powerful, and possesses a simple, understated elegance. Unlike pricey German cars, however, it is not any more expensive than other commercial Linux distributions.

Although pre-Novell SUSE favored the KDE desktop, post-Novell SUSE treats both desktop environments equally, which makes sense, considering that Ximian was a GNOME development shop. However, the default install and desktop is still KDE. No one knows how much longer this arrangement will continue, and there may come a day when one environment is clearly favored over the other. Until that time, enjoy the fact that, out of the box, SUSE offers the best KDE and GNOME experience of any commercial Linux distribution—in my opinion anyway.

Out of the box, SUSE's multimedia capabilities are not much better than Fedora's. You need to download support for many multimedia formats yourself (though SUSE makes them available through YaST—just look for the multimedia packs in the updates list). However, to play encrypted DVDs, you need to download the tools for a third-party repository, as outlined in Chapter 6.

You can purchase SUSE at retail stores, like CompUSA and Fry's, or you can order it from numerous sites on the Internet. The boxed set comes with two manuals: one for users and one for system administration. Both are excellent and are, hands-down, the best documentation you'll get with any Linux distribution. SUSE has never been as open as other distributions to making free downloads of the software available, and the situation hasn't changed under Novell management. To get SUSE cheaply, your best bet is to find a BitTorrent (check out <http://www.linuxISOTorrent.com>) or to order a copy from a discount site like <http://www.cheapbytes.com>.

Installation

SUSE comes with a powerful installation program known as YaST (Yet another Setup Tool). Its power comes from the sheer volume of settings that can be configured and the non-linear configuration mode, which allows you to jump around in the process at will, thus making it easier to adjust a setting

you made earlier without undoing all the changes in between. The drawback to all of this is a more confusing install routine that may cause new Linux users to accidentally skip a configuration setting or two. That said, as an experienced Linux user, I find YaST the most useful of the GUI installers. It also provides the ability to resize Windows NTFS partitions, which makes it a good choice of distribution if you want to dual-boot with Windows.

Configuration

YaST continues to be the tool of choice for configuration of your SUSE system. Like the Mandrake Control Center, YaST is a central configuration panel for most of the tools you'll need to set up your system. Like the installer, you'll find this control center both powerful and a little daunting. My suggestion is that you click through everything early on to figure out which control applet contains which type of settings. Later, when you actually have a problem, you should have a good idea where to go for the fix. A second control center devoted to X configuration is called SaX. My two complaints about YaST as a configuration tool are that it takes too long to load and that some of the tools will overwrite changes in a configuration file you've made by hand.

Package Management

Try to guess the name of the tool SUSE uses to add, remove, and upgrade programs. If you said YaST, you're right. This do-it-all tool also handles package management chores for SUSE. It truly is a one-stop experience. SUSE is an RPM-based distribution, like Fedora and Mandrake, and suffers from the limitations of that package format. In my experience, though, it has done a better job of overcoming dependency problems, particularly when the time comes to remove a program.

Documentation

The boxed set of SUSE comes with two books: a users' guide and a system administration guide. These books are also available in the online help system. However, documentation is not so plentiful on the Internet—at least not in English. A good place to start is <http://www.suseroot.com>. Besides being a valuable site in its own right, it has a page that links you to other helpful web sites. The URL is <http://www.suseroot.com/suse-linux-help.php>. Like Mandrake, I consider SUSE a good distribution for beginning Linux users. Like Gentoo, I also consider it a great distribution for more advanced users, programmers, and system administrators.

OpenSUSE

During LinuxWorld San Francisco in 2005, Novell announced that they were opening the development of SUSE Linux in a manner similar to what Red Hat did with Fedora. The main web site for this project is at <http://www.opensuse.org>.

I'm excited about this development. I believe it will lead to increased community involvement, improved community-developed documentation, and an increased user base, because the distribution will be freely available using convenient access methods (no need to perform FTP installs). I'm also hopeful that the community will adopt a command-line package management tool.

Ubuntu

Ubuntu is a new distribution that is based upon the venerable Debian. As this is a desktop pocket guide, I will focus upon Ubuntu because it has increasingly become the de facto Debian desktop distribution. The main web site for Ubuntu is <http://www.ubuntulinux.org>. Ubuntu receives corporate backing from Canonical Ltd., but it remains entirely free in all uses of the word. Pronunciation is usually *oo-BOON-too*.

The Ubuntu project made a big splash with its first release in late 2004. Not only was it eagerly embraced by Debian users tired of waiting for the long-delayed release of Debian 3.1, it also picked up distro switchers who were happy to find an easy-to-install and -maintain desktop-oriented version of Linux. To top it all off, Canonical offered to ship free CDs to anyone who requested and ended up shipping more than a million. Within months, this distribution had risen from obscurity to sitting at the top of the Distrowatch rankings (<http://www.distrowatch.com>).

Ubuntu comes in two forms: a live CD and an install CD. Both can be freely downloaded from the Ubuntu web site and are available as torrents. The live CD is rather interesting—not only will it let you run Ubuntu on the fly from the CD, but it also includes Windows installers for a few cross-platform open source applications like OpenOffice.org and Firefox. Just stick the CD in the drive while using Windows to access these programs. You can obtain either CD from the Ubuntu web site. A new version of Ubuntu is planned every six months, but you don't need to install from the CD each time. The package management program, described shortly, allows you to update your current install to all of the latest package versions with just a simple command or two.

The default Ubuntu desktop is a very up-to-date GNOME. If you prefer KDE, you are free to install it later; if you prefer a completely GNOME-free desktop, install the Ubuntu derivative Kubuntu. It's the same distro with a different default desktop.

Ubuntu does not install any non-free (as in free licensed) software by default, which means that its multimedia support is rather weak until you add additional software—you can't even play MP3 files. However, adding the required support is quite simple, as documented on the Ubuntu Wiki; some tips are provided in Chapter 6.

Installation

Installation of Ubuntu is fairly simple, if a little on the drab side—Ubuntu comes with a text-based installer only. Still, it has all the tools you need to set up Ubuntu quickly. The downside is that you can't customize the packages you want installed (beyond a single minimal install choice). This isn't so bad because the default install has pretty much the programs everyone wants to install on their machine anyway. Of course, having more flexibility would be better. Although you can't resize existing Windows partitions, you can still set up a dual-boot system if there is free space available.

Configuration

The install routine does a fairly good job of setting up most of your hardware, leaving little for you to configure afterwards. However, you still have to take extra steps to configure most wireless network cards, 3D graphic acceleration for NVIDIA and ATI cards, and printers. In addition, Ubuntu doesn't include anything that isn't free, so you'll have to manually install packages like Java and MP3 support. Configuring devices and adding non-free software involves using a mix of standalone GUI tools and editing configuration files—nothing difficult, but some of it is not intuitive if you are not familiar with Debian-derived distributions. The online documentation at the main web site comes in handy here.

Package Management

Package management is the same as with its Debian parent—which means it's fantastic. Ubuntu uses the *apt* system to figure out program dependencies and download all the needed packages for you automatically. The installer is very easy to use on the command line, as is the included graphical installer Synaptic. If you've never experienced the wonderfulness of the *apt* package manager, you should give Ubuntu a try for this reason alone.

My only gripe is the difficulty in installing very large programs that are made up of a lot of components, such as KDE. Most distributions provide a meta-package called KDE that installs all the necessary software, but Ubuntu (and Debian) require you to select all the components yourself. Don't get me wrong—it still handles dependencies—it just doesn't roll everything up in one easy selection. This makes it flexible, because you don't need to install unwanted software, but also annoying, because there are dozens of KDE options, which makes it difficult to know which ones you should select to give you the software you desire.

Documentation

Despite its youth, Ubuntu already has terrific community-created documentation in the form of a Wiki (<http://wiki.ubuntu.com>) and a forum (<http://ubuntuforums.org>). I've found the Wiki to be the best stopping place to learn how to install Java or get 3D video acceleration working, and the forum is the best place to search for troubleshooting help.

The combination of good default configuration; easy-to-use package management; quality documentation; and a large, active user community makes Ubuntu a superb option for your desktop distribution for beginners and advanced users alike.

Other Distributions

The main tracking web site for Linux distributions is <http://www.distrowatch.com>. Here you will find news and information of practically every public distribution in existence—there are more than 300! A column on the right ranks the distributions based upon the number of clicks each distribution gets on this web site. Though this ranking would seem to be a perfect indicator of popularity, it is misleading. For one thing, it indicates which distributions are currently getting the most attention, not which ones have the most users.

Also, users can vote for each distribution multiple times, which means that some distributions might have artificially inflated numbers.

Here are brief descriptions of a few other distributions worth looking at sometime:

Knoppix

Using Knoppix, you can run Linux completely from a CD without having to install anything to your hard drive. This distro is a great way to try out Linux without committing a lot of time or effort to the endeavor. Knoppix does a great job of detecting and setting up your computer hardware, and many people use it as a quick test to find out whether a computer they are about to purchase will work well with Linux. Visit <http://www.knoppix.net> for more information. O'Reilly offers documentation on Knoppix in the form of *Knoppix Hacks* and the *Knoppix Pocket Reference*.

Linspire

This is a purely desktop-oriented distribution that focuses upon ease of use and attempts to be as Windows-like as possible. If all you want out of your Linux experience is a secure and stable replacement for Windows, try this distribution. Besides an easy install, Linspire provides an easy-to-use package management program with their CNR (click 'n' run) service. With just a couple of mouse clicks, you can install hundreds of programs. Unfortunately, this service will cost you about \$50 a year to use. Linspire supports only KDE, however, so if you prefer GNOME or another desktop environment, it isn't for you. For more information, visit <http://www.linspire.com>.

Slackware

Slackware is the oldest Linux distribution that has been in continual development. Mostly a one-man show, this distribution is often regarded as being the most "Unix-like" of the Linux distributions, which basically means

that it lets you configure everything yourself and doesn't hold your hand while you do it. This isn't to say it is difficult to set up, just that it has a clean, simple method of configuration that won't do anything unexpected, like launch a GUI tool to overwrite the X configuration file you just spent the last 20 minutes tweaking. Slackware has a lot of "mature" users and often attracts new users who are tired of the complexity of other distributions. The web site is <http://www.slackware.org>.

Xandros

The folks at Xandros have done a great job of producing a Linux replacement for Windows, particularly for business users. Out of the box, Xandros can authenticate users against a Windows directory server and can browse Windows network shares. In addition, some versions of Xandros come with Codeweavers CrossOver Office, which lets you install the Windows version of several important programs such as Microsoft Office, Quicken, and Photoshop. Xandros is a Debian-based distribution, and it has the same ease of use with regard to program installation as Ubuntu, but its default has you install software from Xandros Networks. Personally, I find Xandros a little too Windows-like for my tastes, but new Linux users may find it the best way to make the transition. For more information, visit <http://www.xandros.com>. *Linux Made Easy* (No Starch Press) is an excellent book on Xandros.

Getting a Distribution

The retail software market is dominated by Microsoft and Windows software. It's not even easy to find stores that carry Macintosh software, and finding Linux is yet more difficult. Here are the various channels you can use to obtain a Linux distribution:

Retail stores

Most Linux distributions have stopped selling in the retail channel. I imagine this is because frequent updates to the software, coupled with low sales volume, lead to a lot of returns. At this time, you have a reasonable chance of finding SUSE and Linspire in CompUSA, and SUSE in Best Buy and Fry's. In other words, your choice is extremely limited.

Online stores

Major brick-and-mortar retailers seldom carry more online than they do in their stores, so you're more likely to find Linux sold online by second-tier vendors. Amazon is a notable exception. Each distribution provider is likely to sell products direct from their web site or allow you to download the software for free. Optionally, you can visit <http://www.cheapbytes.com> or <http://www.lincd.com>, where you can purchase cheap, legal copies of a distribution. Of course, this version doesn't include support from the original vendor.

Free downloads

Many Linux distributions are available at no cost. Projects such as Fedora, Gentoo, and Ubuntu make the complete distribution available for free at their respective web sites. Ubuntu will even mail you a free CD. Mandriva makes community editions that have a slightly smaller feature set and no support available for free download. Linux CDs and DVDs are usually made available as an ISO file. These files, which are often around 650 MB in size, represent a complete CD image and can be burned to CD with any burning software. There are also numerous web sites where you can find ISOs of various distributions available for free download—most of these are BitTorrent sites. A particularly useful site is <http://www.linuxisotorrent.com>.