

TUX EXPLAINS Need a lightweight desktop? Try Fluxbox



The History of
Linux Distributions



Linux Application
Availability and Usability

TUX

the first and only magazine for the new LINUX USER

Gadget Guy Goes Looking for Good Sound

- Logitech Z-5450 Digital 5.1 Speaker System
- Sennheiser RS-130

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LEARN WHAT TO LOOK FOR
WHEN CHOOSING YOUR FIRST
LINUX DISTRIBUTION IN OUR
SMACKDOWN REVIEW GUIDE

TUX REVIEWS ONE OF THE BEST
STRATEGY GAMES ON THE MARKET,
THE BATTLE FOR WESNOTH

THIS MONTH'S MANGO PARFAIT:

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- Readers guess Mango's true identity, NOT
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DISTRIBUTION SMACKDOWN

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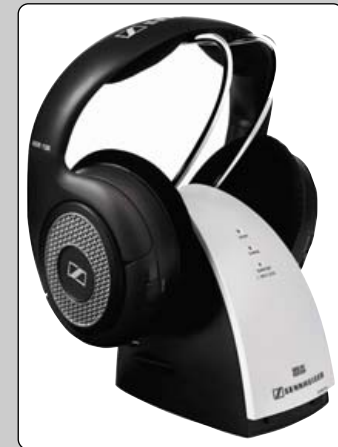
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- Let mind mapping and FreeMind help your business planning.
- The Gadget Guy looks at new digital cameras, and *TUX* shows you how to manage your photographs with F-Spot.

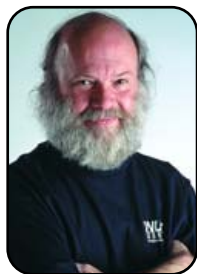
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FROM THE PUBLISHER

The Evolution of Distributions

Understanding the history of Linux distribution improvements makes it easy to appreciate the wonders of using a live Linux CD.

PHIL HUGHES

When I first got into the Linux game, the idea of a distribution was quite different from today. The big debate was over whether it was better to download all the floppy disk images for SLS (and, later, Slackware) or to “roll your own” by downloading individual program files from an FTP site.

In Seattle, we first had one and then two copies of the latest Slackware distribution on floppies. As I remember, it was about 40 disks, meaning almost 60MB of software. We would pass them around to load them on systems.

Soon thereafter, buying a CD started to make sense. Yggdrasil, Slackware and Red Hat were the most popular. These competed with Debian’s “always free” position. Others came and many went, as did Yggdrasil. We also had InfoMagic to thank, as they sold sets of Linux software on a whopping four CDs. Wow.

Fast-forward a dozen years, and we see some

very serious changes. Commercial Linux attacked the server market with Red Hat having the biggest win, and even today, it continues to have significant market share. The desktop market, however, still isn’t seriously commercialized. In fact, it is less commercial today than it was a few years ago with Red Hat abandoning it and SUSE becoming Open SUSE.

Although you could see this as a negative, it actually has created a great opportunity for the consumer. As Linux itself is free, you see smaller vendors offering quality products trying to gain market share. They compete alongside free products.

I see this as an interesting marketing model. You can, for example, ask Canonical, Ltd., to send you any number of Ubuntu or Kubuntu CDs for free—even the postage. And, it is a good product. Many other free products exist as well, including Debian. But, many people will choose to buy a distribution.

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Is this like buying a set of tools when the store next door gives it away? No. It is like buying a set of tools and someone to help you use them, rather than getting the tools but no help.

Is this model sustainable? Sure. Many of those new Linux users are migrating from other operating systems. Although the total percentage of Linux users is growing, it is still a one-digit number. This means a

No, it isn't perfect, but for 90% of the users out there, it meets their requirements and a lot more. Whether you select the free option or buy a commercial version, the purchase cost will be at least an order of magnitude less than the costs associated with a complete Microsoft or Apple system. And, finally, you are looking at the edition of *TUX* that will help you choose the best Linux distribution for you.

Windows-based file servers and local non-Linux disk partitions.

For those of you who aren't scared to run Linux but occasionally end up in a Linux-free environment, a live CD also may be a way to bring Linux with you. I personally booted up the Breezy Badger version of the Kubuntu distribution from a live CD and then ran a proprietary application program on the system from a USB

FOR THOSE OF YOU WHO ARE STILL AFRAID TO GIVE LINUX A TRY, THERE IS A VERY SAFE BABY STEP YOU CAN TAKE.

continued supply of people who will need or at least want that support for a long time to come. Plus, there are many users totally new to computing.

In addition, there is the inertia factor. That is, if people start using a particular brand of Linux and are happy with it, they are more likely to continue to buy again rather than change brands.

So, today you are very lucky. First, Linux has proved itself on the desktop.

For those of you who are still afraid to give Linux a try, there is a very safe baby step you can take. You can try a live CD distribution. Multiple distributions, including Knoppix and Kubuntu, can run directly from the CD drive without needing to store anything on your hard disk.

Today's live distributions are very smart. They configure networks automatically, which includes recognizing

Flash drive. It worked perfectly—even the required Internet connection.

The bottom line is you are out of excuses. If you haven't given Linux a try yet, now is the time. And, even if you gave it a try a few years back and it didn't do what you needed, it is time to try again. Linux for the desktop has come of age. ■

Phil Hughes is Group Publisher for SSC Media Corp.



FROM THE EDITOR IN CHIEF

People, It's All about the Applications

Application availability and usability are critical factors for increased Linux desktop adoption.

BY KEVIN SHOCKEY

Have you ever thought, "if only there were a Linux version of _____ [insert your favorite application here, or better yet, go to <http://www.novell.com/coololutions/tip/16646.html> and share your frustration with the world], then I really think I could make a permanent operating system switch?" Or, maybe you've heard this sort of thing from a friend or colleague who uses the lack of a certain application in Linux as the reason for not trying Linux?

Many proponents of free and open-source software advocate switching from a proprietary application to a more open application. What a noble ideal, if it were only that simple! From my experience, any time people recommend or suggest replacing x software with y, they do so without fully understanding technology adoption and the costs associated with software change. (Besides, history has shown us that we always end up with both x and y.) There are countless reasons why switching software is a complex task.

To assess realistically the cost of switching, one must consider a long list of factors involved in a total-cost-of-ownership calculation. Typically, the actual licensing costs are small compared to everything else involved.

Novell Corporation has been running the survey mentioned above since January 2006 and has been sharing the results. The most recent tabulation of the votes indicate that Adobe Photoshop is the application most people want ported to Linux. AutoCAD is the second, followed by iTunes and Macromedia Studio. The trio of Photoshop, AutoCAD and Macromedia Studio are perfect symbols for the challenge of moving to Linux. Each has a loyal and passionate customer base forged over many years of daily use. It is unrealistic for anyone to suggest to an extremely experienced Photoshop user to start using The GIMP. And although The GIMP is an outstanding image manipulation program, the time invested in Photoshop over years of

daily use is irreplaceable. The experience of using Photoshop for some people has become indistinguishable from their creative process, such that they can't tell where their imagination ends and Photoshop begins.

For a master designer, the experience of using AutoCAD approaches perfection. From installation, use and through the eventual upgrade to the next release, architects or game designers feel comfortable with the software. They can anticipate how the software will respond to their sketches, even if they are using new functionality. Or, if a Photoshop user switches between Windows or Macintosh, a sense of familiarity persists.

Many people within the product management and marketing fields hail experience as the key product differentiator. They conduct focus groups, usability studies and choreograph their customers' interaction with their products. And although some might call this level of scrutiny an obsession, the

results are undeniable. Consider for a moment that Macromedia Studio customers are often so fanatical, that even though there has been a long string of new Web development alternatives, they have remained loyal. None of the competitors was ever able to convince these customers that a new alternative held a large enough return on the effort it would take to switch.

I wish that more commercial open-source product managers would assume that same level of obsession. My perception is that very few software applications made for Linux undergo any type of usability testing. Unfortunately, most open-source projects are still in the “made by engineers for engineers” stage of their lives. I’m a firm believer in always remembering your roots, so I believe this perspective must always be part of the Open Source community. However, as open-source software evolves, improves and receives wider and wider adoption, we must pay closer attention to the experience of using that software.

Open-source software’s success has created a paradox for the Open Source Development community. Ask most open-source hackers, and they’ll express two desires for the software they write: first, that people find the software use-

ful, and second that people actually use the software, maybe even begin to rely on that software. With increased use and increased reliance, users of that software begin to expect more from that software. They begin to expect an experience that is completely pleasing. So although the software originally may have been built for other engineers, it now must be built for all users. It is completely acceptable for engineers to tinker with software to make it install and integrate well with their operating system and desktop of choice. However, it is *not* acceptable to expect that an end user will want to tinker with software to get it to install correctly.

To illustrate this paradox, let’s look at the installation of Mozilla Firefox on Windows and Linux. Each has an extremely contrasting installation experience. On Windows, all you need to do is double-click the *.exe file and complete a few dialogs, and you’re ready to go. On Linux, you need to extract the files from the compressed distribution. Wherever you extract the files is where Firefox is installed. Unfortunately, if you want Firefox to appear as a menu option or as a desktop or quickstart shortcut, you must create it manually. Another example can be found on the Mozilla Thunderbird Help for Editing Configuration Files Web page

(<http://www.mozilla.org/support/thunderbird/edit>). In the section to edit user.js, the instructions for Windows indicate in great detail how to add this file. For Linux, the directions state, “I assume that you know how to create a file if you’re running Linux. Just create user.js in your profile folder.” Now I ask you, are these instruction meant for an engineer or for all users? Why does the Mozilla Foundation believe that Windows instructions should be for all users, and Linux instructions should be only for engineers?

Sometimes creating an impressive, powerful and rewarding experience becomes just a part of doing business. With so many people working to make the Linux desktop a reality, I believe that all open-source software projects, especially commercial ones, should change their perception of what a typical Linux user knows. They also should accept that user expectations are increasing. For the growing community of new Linux users, tarball installations that simply contain the application files are no longer acceptable as the standard application distribution method. The sooner projects can achieve a better application installation experience, the closer we will be to desktop Linux reality.■

Kevin Shockey is Editor in Chief of TUX.

LETTERS

Loyal Reader Starts a New Linux User Podcast

First, I would like to say what a huge fan I am of your magazine. It's been more than a year for *TUX*, and I think it has quickly become the #1 resource for new Linux users (and Linux veterans as well). I have been a subscriber since about the 4th issue, and I read every issue from cover to cover. Not only is it extremely informative, but it looks beautiful. I just love the layout.

Anyway, the reason I am writing to you is to let you know about a little podcast I have started called "Linux Reality". It is intended to be a hands-on, basic instructional type of podcast aimed at new Linux users and computer users who may have never tried Linux at all. I did one episode on Linux resources and mentioned *TUX* magazine, in fact. The podcast has really caught on, it seems. As far as I can tell, I probably have about 1,000 listeners, and it keeps growing every day. It appears there is a real need for a down-to-earth podcast for new users, as much as there is clearly a need for a great magazine like *TUX*. So, I just wanted to drop you a line about my podcast and let you know about it. Thank you, again, for *TUX* magazine. It truly is a great resource for the community.

—
Chess

Thanks and congratulations on the success of your podcast. From Doc Searls' LJ Index in the March 2006 issue of Linux Journal, podcast listeners could grow from about 4.8 million currently to anywhere from 45–75 million listeners by 2010. Maybe we should try to add podcasting to the editorial calendar for next year, so more of our readers can get into this exploding trend.—Ed.

Linux Is for Hobbyists! Or Is It?

I'm getting tired of all the people complaining about Linux not being similar enough to Windows. Just because you're tired of Windows and all its quirks and you are looking for an alternative doesn't mean you should come and say Linux is inferior for not being similar to Windows. For many of us, this difference is a relief, not an issue.

To quote a favorite article of mine (available at <http://linux.oneandoneis2.org/LNW.htm>):

[The] current influx of Linux users has a large percentage of non-hobbyist non-hackers. They want a computer that Just Works, a computer that works like Windows. They aren't interested in spending time setting up Linux to make it work the way they want it, they want it to work like that out of the box.

And that's perfectly okay, but from the typical Linux user's perspective, this is like somebody who wants a Lego car that comes pre-assembled and glued together so it can't come apart. It is alien to their understanding. The only way they can react is with a baffled, "Why would anybody want that?"

It's baffling. If you want a ready-made model car, buy a toy car. If you want a car you can build and take apart, buy Lego. Why would anybody want a Lego car that can be used only as a toy car? The whole point of Lego is that you have fun assembling it yourself!

This is how a typical Linux user reacts to the "Why can't it Just Work?" brigade: "If you want it to Just Work, use Windows. If you want to hack it, use Linux. Why do you want to switch to Linux if you have no interest in taking advantage of its open-source nature?"

Right. So please, before you complain more, dear fellow readers, read this article through, and properly let it sink in. Read it twice if you want. I've at least read it thrice, that's how good it is.

—
Alexander

I quickly scanned through the referenced link, and I can't really add my support to this perspective. The article makes some good points, but some of the premises are faulty. Yes switching to Linux may require changes and learning some new things, but it also doesn't mean that if something doesn't work in Linux we can't expect more. As for some of those premises, I think if you were to ask Novell, it does want Linux to be on every desktop (Novell Linux Desktop to be exact). Organizations may want to switch to Linux to improve security and virus protection or to avoid vendor-forced upgrades. International organizations also may want to switch for national security or autonomous reasons. Linux is different and requires change, but that change shouldn't require forcing an engineer mentality upon users and asking them to live with reduced usability.—Ed.

A Reader's Useful Newbie Web Site

I've quietly been reading *TUX* since issue 1 in my spare time. I'm no Linux novice, having used it since 1998, however, even a "veteran" user like me can see that for Linux to become noticeable, usable and approachable to normal desktop users, publications like *TUX* need to happen. That's why I'm pleased to say that you hit

the nail on the head with the format of the magazine. Linux is just as good (if not better) a platform than any other out there for anyone to use and with so many benefits in cost and choice, Linux makes sense too—it just needs some "PR" along the way.

This brings me to my next point: I feel so strongly about removing the technobabble often found alongside Linux on the Web that I did something about it too. I started my own Web site, called The Ultimate Linux Newbie Guide (<http://www.linuxnewbieguide.org>), which centers around getting folks into using Linux instead of what came with their computers, and reaping the benefit all the while.

It's split into bite-size chapters, and there is also a series of hot topics as well as a forum for general Q&As.

The reason I write about my site is not to blow my own whistle though. I want to make people aware that alongside great resources such as this fine magazine, there are some great sites that are suitable for an average user, and that nobody needs to be stuck in technobabble world any more!

—
Ali

Linux Advocacy Toolset Need

First, *TUX* is a great mag. I've been using Linux since my copy of Windoze 98 died on my parents' computer, and I rushed out to the library to get Red Hat Linux 6 for dummies. Since I moved to Fedora Core, after Red Hat stopped making personal editions, I've been trying to convert my friends to Linux. I helped a bud of mine install Fedora on his computer, and I became sort of a remote system administrator for him because he was having problems managing his computer. I remembered that when I came into his computer via VNC, he would retain what I was telling him better than when I would come in over SSH and tell him what I was doing over IM. Anyway, the idea came to me that making short, little instructional video clips would really help people new to Linux. I wouldn't know where to start, but maybe somebody over there would.

—
caleb

I think the term people are using to describe these types of videos is screen-casts. I'll see if we can't get a review of some Linux software to complete these in a future issue. For now, investigate DemoRecorder, Xvidcap and Istanbul.
—Ed.

Readers Helping Readers— the Power of Community

In the March 2006 issue of *TUX* magazine, a reader named Luke inquired about ways to go about setting up a secure, public Linux computing environment. I'd like to suggest that Luke visit <http://www.damnsmalllinux.org> and check out Damn Small Linux. DSL is a 50MB live CD distro based on Knoppix/Debian, which also can be installed to your hard drive like any regular distro. In addition, it also has an HD installation method called Frugal Install, which copies the compressed drive image from the CD to HD, and then mounts and boots that when booting from the hard drive (you can't screw it up). You also can boot DSL in "toram" mode, which copies the entire OS into 128MB of RAM, where it runs blazingly fast.

Despite its small size, Damn Small Linux comes with X, the Fluxbox desktop environment, and a full set of applications such as ppp, Firefox, word processor, spreadsheet, xpdf, file manager and more. You can expand DSL with additional apps and utilities and can even remaster the entire distro into your own customized live CD. Damn Small Linux also might be a good distro to be reviewed someday by *TUX* magazine (hint, hint).

The DSL user forums are friendly and helpful as well, just be sure to do a search for your questions prior to posting something that already may have been answered a dozen times. There are also plenty of docs on the Web site. As for myself, I am still primarily a Windows 2000 user, although I am looking to migrate entirely to Linux eventually. In the past, I've tried Red Hat and Mandrake—er, Mandriva—and found them both capable, but a bit overwhelming for a Linux newbie. I tried SUSE once, but I couldn't get X configured. I even tried the new Linspire a few weeks ago, but it refused to see my serial mouse.

Damn Small Linux was small enough for me to wrap my mind around. It ran fine from the get go, and I eventually learned it well enough to write and post a remastering how-to in their forums. With a frugal hard drive install, individual users still can save personalized desktop settings, but they can't mess up the OS itself. Luke, if DSL isn't quite what you're looking for, a Web search for something like "kiosk Linux" might reveal some other useful distros as well.

—
Greg

Man's Best Friend, Puppy Linux

I have come to love Puppy Linux over the last few months. It holds a number of advantages over other distributions, and furthermore, Windows:

1. Easy application install—a way to upgrade the apps is still needed, but there's no easier way to install them. During the install, you are presented with four choices, all dead simple. With each question, you can choose yes, no, always or never. With a combination of the latter two choices throughout the installation process, the only click you'll ever have to make to install a program is the one in the file manager. After the app is installed, it's in your start menu automatically—no hunting. And, this is only with a downloaded dotpup file. There are two on-line application repository managers built-in: official and user-contributed. Both are also dead simple to use.
2. Blazingly fast—when my 2.4GHz Pentium 4 died, I went in search of an ultra-lightweight distro for use on an old 500MHz tower. I found Puppy, and it was fast enough that I actually felt comfortable using it for real stuff—even when I had a Centrino work laptop running M\$ Windows right next to

me. As soon as I got my P4 fixed—WOW! Blown away! And, this is due to the fact that....

3. Installation is so easy, you don't have to. You read right. I have a partition on my HDD that's Puppy-friendly, one that already existed from other distros. When you boot up the Puppy LiveCD, it copies the entire 60MB ISO into RAM, so there's no HDD r/w or tracking time to slow you down. When you shut down, Puppy saves all of the stuff you did to that partition on your HDD, ready to use the next time you boot. No config needed. Of course, you can install Puppy to your HDD—or anything else—if you want to.
4. Excellent community—Puppy uses a rather obscure package format, dotpup, but there's an great forum where people are willing to help you get things going and make Puppy packages for you if you need them. I have had few applications that I wanted to use on Puppy that couldn't be installed from a dotpup somewhere.

This is why I love Puppy Linux. My distro can do these cool trix—what can yours do?

—
Brian C.

Negative Linux In-fighting Tarnishes One Reader's Opinion

Unfortunately, for the time being, I've stopped pursuing Linux as a viable operating system alternative. Having been a techie my whole career, it's a drag reading information that must inherently slam other methodologies. In fact, with the exception of Linux, I've never even really encountered such animosity, except perhaps in the case of some political and religious propaganda. Slogging through negative opinions and outright hatred just to get to technical information is a turnoff, distraction and waste of time. In fact, if I ever see anyone with a penguin tattooed on their forehead (or anywhere else), I'm running like hell.

I fully expect to be flamed. Have fun.

—
Bob

I totally appreciate your perspective; however, I don't think that is contained only within the Linux community. In my 20 years of software-industry experience, I've seen it in almost every aspect of the computer industry. But I don't even think that this is unique to computers either. I believe, in general, people are divisive, exclusionary, arrogant and tribal by nature. All of that aside, it does sadden

me too when people focus on being right and telling everyone else that doesn't agree with them that they are wrong. In the infamous words of Rodney King, "Can we all just get along?"—Ed.

Reader Seeks Advice for Talking with Hardware Manufacturers for Linux Device Drivers

As with many of your readers, I think you have the best Linux publication available today. I have many devices that are not Linux-compatible, and I'm a fairly capable programmer. Many times I have contacted these manufacturers asking for Linux support or documentation to help build drivers to support their products. I never seem to be able to get anywhere with these vendors; do you have any advice on what to say when talking to the manufactures?

—
jj

This is a very common complaint. As Mango and I recommended last issue, the first advice is not to buy non-Linux-compatible hardware. If you already have sunk the money and are looking for a workable solution, the best piece of advice is to see if you can talk to a design engineer. Most likely, first- and second-line support will be a source of frustra-

tion, not help. To find the design engineer, I would recommend trolling forums and communities to see if you can find one. You probably won't get passed to them within regular support channels. I think you have a better chance just researching exhaustively within the Linux community to find other people with the same problem and seeing if together you can't reverse engineer, which I realize is probably not much of a solution. If you can afford it, you might want to bite the bullet and buy a compatible device and unload the old device on eBay.—Ed.

Feedback to Help Ease Application Installation Pain

Regarding the letter “Feeling the Pain from Linux Application Installation” in the March 2006 Letters section: most distros include some sort of package management tool that automates the install and removal of packages. It is only for few packages that you actually have to build from a source tarball (be sure to read the INSTALL file *first*). Fedora, Debian and Gentoo are three of the more popular distros, and they all include powerful package management tools that are easy to use. Even Slackware, which has a reputation for being hard to use, has a few third-party package management apps (like swaret) to manage installs.

These distros use yum, apt-get and emerge, respectively, which all have key features that make them more powerful than Windows installers. Most notably, they resolve dependencies automatically and download the necessary files automatically—Windows does neither. They are command-line tools though, and they take some getting used to.

Windows installers tend to have all of the dependencies built-in, which 1) vastly increases the program size and 2) duplicates libraries that otherwise could be shared. In addition, we have grown used to clicking Next until the installer goes away and really have no idea what just happened. Windows has unintentionally fostered the tendency to click before you think. This presents the biggest challenge to new Linux users, because they expect everything to just work without knowing how to make it work.

For example, to install Firefox with Flash support on Windows, these are the steps:

Windows:

1. Go to the Mozilla Firefox Web site.
2. Download the Installer.

3. Run the Installer.
4. Go to the Macromedia Web site.
5. Download the Flash plugin.
6. Run the Flash plugin installer.

On Gentoo, the step is:

```
emerge -av mozilla-firefox
netscape-flash
```

There are many ways to do things in Linux; there is usually one way in Windows (take desktop managers for example, Linux has KDE, GNOME, XFCE, WM, IceWM, matchbox and so on, each with pros and cons for their end users. Windows has no choice). This means users need to do their homework before making choices about what they will run, or run a distro that makes choices for them. Neither is wrong; it depends on your personal wants and needs. The key is that *you* have the *choice*. The greatest lesson I have learned in my transition to Linux is to read the documentation *first* and not blindly jump in and expect it to work.

In my experience, Linux “gurus” are exceedingly approachable and willing to

help, if you are willing to put in some effort. If you are willing to learn, eventually everything begins to make sense and gets much easier.

—
Christopher

A Reader Suggests the Graphing Calculator, GraphMonkey

Regarding the “Praise and Frustration from India” letter in the March 2006 issue: the easiest to use mathematical graph program I’ve ever encountered in Linux is one called GraphMonkey, and you should be able to download it with Synaptic in most Debian-based distros (for example, Ubuntu, Knoppix or Simply MEPIS).

—
oliver

Frustration in Solving Linux on Old Hardware

I “discovered” TUX in January 2006, and read all the previous issues completely. I still am not able to install Linux at home, because I have crappy hardware: a laptop with 64MB of RAM, a damaged floppy, an old BIOS that won’t boot from USB and a CD-ROM drive that refuses to read my freshly burned CDs (even when burning them at 1X). Soooooo...I have been

looking around for ways to install directly from within W2K or FreeDOS. So far I have looked at muLinux and ZipSlack (both worked, but now I am stuck at the terminal and have to figure out how to install X); DragonLinux died with “Kernel Panic, No init found”. I also tried IsoEMU (http://sysoft.zdwx.com/isoemu/index_eng.html and <http://sysoft.zdwx.com/isoemu/bin>) to load Damn Small Linux (DSL) and Puppy from the ISOs, but they gave me kernel panic too (“kernel panic, VFS unable to mount root fs on 01:00”).

Puppy also has a Wiki for installing it from DOS, but it requires MS-DOS, and I am using FreeDOS, so doesn’t work for me either.

Will you, in future issues, review any of the distributions that install from Windows or DOS? It might help those who really want to try Linux but are unable to use the bigger distros.

—
Nelson

A Powerful Suggestion to Further the Impact of the TUX Community

It would be nice if you would supply a (filtered) means for your readers to respond to the people who write

“Letters to the Editor”. Some questions go unanswered in your publication, and many of your readers may know the answer. Another idea for the general public to add answers to some of the questions is if you could create a Forum (phpBB), with major topics being Letters, Mango and so on, and minor topics being “Issue xyz - Can’t find the ANY key”, or something like that.

I have no good solution for the inevitable GNOME versus KDE slapfights.

—
Bob

Another Reader Builds a Web Site to Help New Linux Users

I’ve been a reader of your magazine since the second issue, and I’d like to inform you of a Web site I just launched called Linux App Finder (<http://linuxappfinder.com>), which many of your readers may find interesting. I’ve created a listing of applications that can be browsed by category and lead to individual app pages that contain a description, home page, associated programs, interface type and more. One of the most useful features for Debian users is a quick look at which Debian, Ubuntu and select other repositories, a package is located in and which version is available. The database is

updated on a regular basis (~weekly) to give an up-to-date view of the packaged versions available.

New applications and new features are added on a regular basis. One recent addition is the ability to filter applications by interface so users who want only a graphical- or Web-based view aren't distracted by a list of command-line apps, plugins or books/guides. Hopefully you and others will find the site useful.

—
Chad

Linspire Reaches Out to Clear Up Confusion and Extend a Helping Hand

I see one of our/Xandros' users had some difficulties ordering our product as well as some less than pleasing results afterward. [See the "Linspire and TUX Disappoints in Australia" letter in the March 2006 issue.]

First, I must say that I agree with his take on the confusing nature of our ordering system, as I'm not sure, depending on the exact item purchased, it always takes you to the download page. We have a section called My Linspire→CD Downloads where downloads are available immediately after purchase, but it is possible to get lost on the way there. This is what I take away

most from the letter, and I appreciate your publishing it.

I'm not sure if your editorial section has rebuttals/replies or not, but I'd like to clear up that we in no way cripple anything in our distribution, but somehow, people perceive this. This user claims he couldn't get multiple desktops working. It's true we default to one, but in typical KDE fashion, this can be changed. Right-click on kicker, Add→Applet→Pager. Right-click on the pager, and click Configure.

Finally, we have a full-time, dedicated employee who handles concerns raised by users such as this one. We call him our community liaison and he can be reached at kendall.dawson@linspireinc.com.

I look forward to seeing you guys at the desktop summit again this year.

—
Brian

On the day TUX issue 11 hit the cybersphere, I was contacted by Linspire to help Ken. You'll remember he wrote in to share his experiences with Linspire, and we wrote that maybe by sharing his story Linspire might take some interest. Between this letter and contacting me directly, I'd say they most definitely

responded. Way to go Linspire!—Ed.

TUX Helping to Banish FUD

This week, I finally made the jump to GNU/Linux, installing Kubuntu on top of Ubuntu (sorry, I'm more of a KDE kinda guy). My new Averatec laptop, with its special hd partition-only version of XP was the final straw.

But it was coming across OpenOffice.org and buying my Zaurus PDA in September 2001 that started me on this path. Soon, I had Firefox, GIMP, e-Sword, KDE-Pim (OS-independent version of KOrganizer) and a few other open-source appliances that ruled my desktop. However, I was still running Win98, which was showing its age and slowness. Then, downloading my first (and yours) TUX magazine and all the rest broke down all my fears and reasons.

Thank you for covering Audacity, Inkscape and your series on OpenOffice.org and The GIMP, and giving so many of your fine writers such wide latitude and ordinary users an outlet to tell their story. God Bless.

—
Rev. Doug Jenkins

Music to our ears. Thanks for sharing.
—Ed.■



Q&A with Mango Parfait

Readers provide another disk imager, aliases for Mango and ask how to get the GNOME working directory working and more.

MANGO PARFAIT

Someone wrote to me and said, "I've noticed over the months that you rarely use contractions. Are you related to Commander Data?" Who is Commander Data? If she is not pregnant, then she does not have contractions. I do not have contractions because I am not pregnant. I do not want to be pregnant until I am married. I have a boyfriend, Otaku, but I will not marry him until he stops spending so much time with his toys and pays more attention to me.

Are you reading this, Otaku? No, you are not. You are playing the *Viewtiful Joe* game again. Am I the only beautiful, humble genius who has this problem? Maybe I am a genius with Linux but not with boyfriends. My girlfriend Bunny is no help. She tells me I should find out Victoria's Secret, but I do not want to know Victoria's Secret. That would not be very nice. If I knew Victoria's Secret, it would not be a secret anymore. Maybe you girls out there can give me some advice.

Another person says I am Nicholas

Petreley. I am glad I am dating Otaku and not this person. This person cannot see the difference between a fat, ugly, bald man and a beautiful, petite woman, so how could he appreciate me? Haha, I can say this now because Mr Petreley is not my boss anymore!

Another person says I am Carlie Fairchild, the vice president of sales and marketing at SSC. Carlie Fairchild is almost as pretty as I am, so I do not think this is an insult. But she is much too busy to be me. Executive editor Jill Franklin is almost as pretty as I am too, but she is too busy to be me. Maybe they are not as pretty as I am, but I am still jealous of Carlie and Jill. They have boyfriends who pay attention to them. Are you reading this, Otaku? For one minute I think maybe they have boyfriends who pay attention because they are really prettier than I am. But that is impossible.

I am glad to disappoint all of you. I am simply Mango Parfait, the most cute, brilliant and humble Manga girl I know.

Q I have been using Ubuntu 5.10 for the last four months and have come to a roadblock running a Windows program under Wine in the GNOME desktop environment.

Some Windows programs require the setting of a working directory when the program is started, so that the data files are immediately available to the program. But when using Wine in GNOME with Ubuntu, I can find no way to implement a working directory (Windows→Start In directory equivalent) for the programs I temporarily require in Wine. The only short-term solution I have found is to move all the specific data files into the .wine directory on the C:\xxx drive under the specific program directory, which eliminates the need for the working directory requirement. But this makes it much more difficult to back up my data.

Recently, I installed Fedora Core 4 on another machine with the KDE desktop to test out, and I have found that KDE does allow me to set up a working

directory in the application links.

Is it possible to duplicate this working directory in the GNOME desktop environment in the application link, or am I going to have to switch to a Linux KDE distribution until I can get off Windows XP completely?—Dennis McLeod, Sudbury, Ontario, Canada

A You do not have to switch to KDE. You should switch to KDE, because KDE is designed for people like you. You are smart enough to know what you need to do. You also are smart enough to know what options you need to set. You want to set these options without having to edit files or registries. KDE is designed for people like this.

GNOME is designed for people who do not know about things like working directories. GNOME is for people who are so confused by options like working directory that if they see an option like this in a dialog, they become stiff from fear and maybe have a seizure and need to go to the hospital. The GNOME designers do not want their users to go to the hospital, so they do not put options like working directory in the settings. This is very thoughtful.

But that is not the only type of people GNOME is designed for. GNOME is also designed for people almost like you who need to change more than just the simple settings. But these people do not want an easy way to make these changes. They do not like settings dialogs. They want to edit the registry and edit configuration files.

So if you are too stupid for KDE, GNOME is perfect for you. If you are too smart for KDE and do not like the fact that KDE makes options simple, GNOME is perfect for you. If you are anywhere in between these two types of people, you should use KDE or something else.

I bet by now you think maybe I will not answer your question. I will answer it because maybe there are people who read my writing and like to edit registries and configuration files. But if you are the first type of GNOME user, I hope you will not read the rest of my answer. It is too complicated for you, and you might get stiff or have a seizure and go to the hospital. I do not want to be responsible for that.

You already know how to create a launch icon for a program. GNOME creates a file called <your program>.desktop for the program. Start up your favorite editor and edit the <your program>.desktop file. You are smart enough to use KDE, so I think you already know that you do not want to type <your program>. I do not know what programs you are running, so I put <your program> in that place.

You will see settings something like this:

```
[Desktop Entry]
Encoding=UTF-8
Version=1.0
Type=Application
Exec=opera
TryExec=
X-GNOME-DocPath=
Terminal=false
```

```
Name[en]=<your program>
GenericName[en]=<your program>
Comment[en]=<your program>
```

Add the following line, but change <path> to the working directory you want:

```
Path=<path>
```

This sets the working directory. Save the file. You are finished.

My boyfriend Otaku asked me to add this disclaimer: no GNOME users were harmed during the research for this answer.

Q I've been working on Linux (consoles only—my employers gave me only logins, not Linux machines) for the past eight years now. I have a PC at home that has Linux, Windows 98 and Windows 2000 on it. Configuration is as follows:

- Windows 98 and Linux on hard disk 1 (Red Hat 8.0).
- Windows 2000 on hard disk 2.

I want to remove the Windows 98 and install Fedora Core 3 on hard disk 1, with 8GB of space. What do you suggest? Would it mess up my booting up of Windows 2000?—Anonymous

A I recommend you install Fedora Core 5 instead of Fedora Core 3. Fedora Core 5 recently became available.

It is hard to answer your question, because you do not give me many details. What bootloader are you using? Are you using GRUB? Are you using LILO? I hope you are using GRUB, because it is easier to use than LILO.

It should not matter if you are using GRUB or LILO, but I do not know for sure. I always use GRUB.

You should be able to boot Windows 2000 after you install Fedora Core. There are some things that can go wrong though.

Here is one thing. Are you tricking Windows 2000 into thinking it runs on the first drive? If this is what you are doing, you must make sure that the bootloader you choose with Fedora Core still tricks Windows 2000 into thinking it runs on the first drive. If you are not tricking Windows 2000 into thinking it is running on the first drive, you must make sure Fedora Core does not try to trick it into thinking it runs on the first drive.

If you are using GRUB and tricking Windows 2000, you will see something like these map lines in your GRUB menu file:

```
map          (hd0) (hd1)
map          (hd1) (hd0)
```

If the menu file does not have the map lines, you are not tricking Windows. If you have a menu option to boot Windows 2000, but it does not work, look at your boot configuration file and see if it changed from tricking Windows to not tricking Windows (or the opposite).

Q I've been in charge of managing a Web site for our class for some time now, and I've found that Nvu can do pretty much anything I want it to do. The only thing is that someone, somewhere, decided that the server on which I'd like to publish the site (which would happen to be our university's official server) would support only Microsoft Frontpage protocol, which Nvu doesn't seem to support. I now have the choice either to publish on another server (which is the answer I was given on forums about Nvu) or to try running Frontpage inside Wine, which is utterly dumb. Isn't there any piece of software out there that could let me connect on a server using Frontpage protocol?—David

A I do not know of any Web author tools that use Frontpage protocol. Can you make sure that your server does not support anything but Frontpage? There is a nice KDE Web development program called Quanta Plus. It can use many protocols besides FTP to publish files. It can use fish, smb (Windows shares), WebDAV and more. Maybe one of these will work for you? I think if your Web server is using Frontpage, it is probably a Windows server. Maybe you can convince your server administrator to make a Windows share for the Web directory, so you can use the smb feature in Quanta?

The package you will install is probably called something like kdwebdev, not usually quanta. Search your distribution's package database for both quanta and kdwebdev, and I think you will find it.

Q I read your response to Ed [see the March 2006 issue of *TUX*] who was looking for some sort of backup-imaging solution/app. I don't know if g4u is what he is looking for, but it might be worth a quick look.—Tom

A You are very smart, Tom. The g4u means ghost for UNIX. It is based on NetBSD, but you run it by booting it from a CD or floppy. It backs up drive images, so it does not matter that it is not a Linux program. It should back up any operating system.

I do not like the name g4u. It reminds me of that silly Anime show *Bobobo-bo Bo-bobo*. I liked this show at first, but now I think the show does not have a plot, and it is crazy all the time. The only plot is how Bo-bobo is a superhero who fights people who want to shave off your hair. He has a nose hair attack called snot-for-you. When I see g4u, I think snot4u. Maybe if Otaku stops watching that silly show, I will stop thinking about snot4u when I see g4u.

I think maybe g4u is a good replacement for Acronis TrueImage or Norton Ghost. Thank you for telling me about it, so I can tell readers too. Here is the URL for g4u: <http://www.feyrer.de/g4u>.■

I am a sweet, humble, delicate and very cute genius who is at your service to answer your Linux questions. Send your questions to mango@tuxmagazine.com. I am deeply sorry that I do not have time to respond to anyone directly by e-mail, but I will select as many questions as I can and answer them here.

Linux Distribution Review Guide

An introduction to the key categories our testers used to complete their new Linux user-centric reviews.

JES HALL

Ubuntu. Fedora. Debian. MEPIS. SUSE. Linspire. Man—what are they calling it this week?—driva. Many people have said that using Linux is “all about choice”, and this certainly seems to hold true when confronted with the bewildering array of Linux distributions from which to choose.

Given the wildly varying purposes for which distributions are designed, the task of finding one to suit specific needs can seem daunting to the uninitiated. In this month’s no-holds-barred smackdown issue, we’re taking some of the most popular Linux distributions and putting them in the ring. Whatever your tastes, we have a Linux flavour for you. When the last bell sounds, we’ll present you with the best of breed—winner of the Editors’ Choice Championship belt.

Choosing a Linux distribution that meets your needs is a very challenging task, and our dedicated test team has been examining every aspect of a distribution aiming to make your choice easier, with special attention being paid to these main categories:

- **Installation:** here we’re looking for an installer that will let the greenest new user feel comfortable while still allowing old hands to tweak more advanced options. Partitioning, setting up dual-boot configurations with other operating systems like Microsoft Windows, hardware detection and other aspects of installing a new Linux system will be put to the test.
- **Application installation:** how easy is it to install new applications from your install media or package repositories on the Internet? Is there a wide range of software easily installable? How fast are packages of current application versions put out?
- **Ease of use:** how easy is the distribution to use as a desktop for everyday purposes? This category includes working with documents and data, performing basic tasks such as burning CDs, working with removable media like cameras and USB pendrives and so forth. There’s no bias toward KDE here,

and no GNOMEs were hurt in the making of this issue.

- **Maintenance:** how smooth is the process of installing security patches? We also take a look at how feasible rolling back to the last known good configuration is, and whether updating to a new major version can be achieved keeping user configuration and settings.
- **Documentation:** here we take a look at what documentation is included in a distribution, with an emphasis on good tutorial and how-to style documentation, regardless of the format of the publication.
- **Support:** most distributions are supported through community effort—for example, forums, mailing lists and IRC channels. Here, we go looking for problems to solve and rate how well the distribution is supported. Those distributions we pay for should be well supported by the vendor, even if only by vendor-supplied mailing lists and forums, and we’ll

be rating them on this too.

- **Price:** some distributions are commercial, offering additional products and services to round out a more complete package. Are they worth the price, when compared with the free offerings? Of course, free is always a good price, but we won't rate a distribution badly for costing money if we feel it provides a user experience worth the cost.
- **Mobility:** if applicable, we're also taking a look at how well a distribution supports portable devices. PCMCIA cards, battery monitors, suspend and resume—everything mobile users need to maximize portability.
- **Multimedia capabilities:** how well equipped is the distribution to play DVDs, listen to MP3s and other media formats? Having to track down and install codecs yourself for obscure ideological reasons can be, quite frankly, a pain in the backside.

We have excluded the distribution's performance from our review. Because the reviews were done by separate authors on their respective personal equipment, there was no way to discount the hardware speed from the evaluation, so we excluded it altogether.

We'll also take a look at the hard-to-define essential quality we like to call flair—the one

original characteristic of a distribution we'd be the least willing to lose. It's our hope that this issue will serve as a guide to help you choose a Linux distribution that is perfect for your needs. We feel it's important for new Linux users to pick the right distribution for the best possible chance of migrating successfully and for the quality of their user experience.

Put your feet up, relax and pass me the popcorn—the fight is just about to start, and

I'm as eager as you are to see who the winner will be. So, ladies and gentlemen, "LET'S GET READY TO RUMBLE!" ■



Jes Hall is a UNIX systems consultant and KDE developer from New Zealand. She's passionate about helping open-source software bring life-changing information and tools to those who would otherwise not have them.

EDITOR'S NOTE

Although the pile drivers were fierce and the trash talk was even nastier, we're happy to announce the results of our first distribution smackdown. The objective of this comparison was to take most of the leading distributions and review them with the distinct purpose of assessing them from a new Linux user's perspective.

To conduct the review, we requested volunteers from our author mailing list. We first requested takers for some of the most popular distributions, but we also received several suggestions. Although there were some notable exclusions, we reviewed seven leading distributions.

Authors received a review guide outlining the key areas of our interest, and then they took over—each conducting the review on his or her own hardware. So although not the most scientific or controlled method of comparison, the results are not too surprising.

The competition was close, but Mandriva outlasted the other distros to take the Editors' Choice championship belt. With consistently high scores in all categories, Mandriva really soared above the rest in flying suflex fashion in mobility. MEPIS was a very close second, and if it weren't for a weak mobility score, it would have walked away with the belt.

Debian GNU/Linux

The Debian social contract, a wide selection of pre-prepared applications and strong maintenance make a difference.

COLIN MCGREGOR

Debian is one of the old guys of the GNU/Linux wrestling circuit, having taken on the third-rate punks since 1994. This article explains why you want this old guy in your corner.

The other major Linux distributions will tell you they are free without bothering to explain what they mean by free. With Debian, free means more than merely price; it also means free from corporate entanglements. Debian always has been a purely volunteer-driven effort with no one company backing the distribution. So, there is no one firm, or even ten firms, that could go bankrupt and leave Debian users alone in the ring. The Debian philosophy is described in the Debian Social Contract, so its agenda is always clear, upfront and unlike most of the other distributions.

Debian supports a dozen different hardware platforms, so if you want to step into the ring against everything from a little old 68K Macintosh computer to the biggest IBM S/390 monster mainframe computer, Debian has you covered.

The name Debian comes from project founder Ian Murdock's first name and the first name of his then girlfriend, now wife, Debra. For each type of computer, Debian is available in three versions: stable, testing and unstable. The stable version is, as the name suggests, fully tested and should be good for almost

every situation. The testing version of Debian is updated frequently and shows people what is planned for the next Debian release, but although the software has had some testing, it still may have problems. The unstable release is updated on a constant basis, and it is software on the cutting edge with effectively no testing. This is the version of Debian aimed at software developers. The current version of Debian has both a version number and a code name taken from the movie *Toy Story*, so the current release is known as version 3.1 or Sarge, taken from the Sargent of the green plastic army men. The testing release, which in time will become the stable release, is known as Etch, from the children's drawing toy. The unstable release is always known as Sid, from the boy next door that wrecks toys.

INSTALLATION

Before going into a Debian install, I should mention that to get Debian, you don't have to install it yourself. The Debian Web site (<http://www.debian.org>) lists more than 40 different computer vendors in more than a dozen countries that would be happy to sell you a computer with Debian already installed.

Most people, however, will want to install Debian on a PC, so there are more options to consider. You could order a set of CD-ROM disks or DVD disks from more than 250 different vendors in more than 50 different countries.

Alternatively, if you have easy access to a high-speed Internet connection, a CD and/or DVD burner, you can choose to download Debian, and then burn it onto one or more CDs or DVDs. With Debian spread out over two DVDs, 14 CDs and two mini-CDs, you may wonder, "What do I download and burn on a CD or DVD?" The answer depends on your response to these two questions: do you have

access to a high-speed Internet connection and on how many machines will you be installing Debian? If you have easy access to a high-speed Internet connection and are simply installing on one machine, the netinst install disk, designed to be less than 180MB, and which will fit on a mini-3.1 (80 mm) CD-ROM, will do just fine. The netinst disk does a very basic Debian install, setting up an Internet connection and then downloading the other packages needed for a nice-looking install over the Internet. If, on the other hand, you have a poor Internet connection and/or are planning to install Debian on multiple machines, you may simply want to download and be done with it all. As for how many disks you should download, if you are not doing the install with netinst, remember that as the disk number gets higher, the more specialized the software becomes, so by the time you reach CD 14, you will be talking software for a very narrow audience. The first DVD, or the first two CD-ROMs, should cover most situations.

Once you have your Debian CD(s) or DVD(s), the install goes the same way. Tell your computer to boot from the CD or DVD drive (you may need to check your computer's manual for this), drop in the first CD or DVD and boot the machine. After a short boot-up process, you will see the Debian logo (a stylized swirl) and a request that you press Enter. Next, you will see a question regarding language choice, with a list of the languages Debian supports and the English option highlighted. If English is right for you, simply press Enter. The next screen asks what country you are in and shows a short list of nations that commonly use English for the installation, with the United States highlighted. There is an Other option that brings up a list of all the nations Debian knows about. For each step along the way, the Debian install packages offer up a reasonable

default and give you the option of changing things.

When I installed Debian on an old Toshiba Satellite Pro 4300 laptop, Debian correctly detected and then configured the Xircom network card. However, Debian did not autodetect what sort of screen display I was using, and some of the questions in the configuration had me going to another computer to look up answers via Google, which is not hard but more of a pain than it should be. The only hardware from that old laptop that Debian didn't autodetect and couldn't be made to work with easily was the built-in Winmodem—a modem where some of the tasks normally handled in hardware is handled by a Microsoft Windows program. Winmodems are problematic for most Linux distributions.

As scores go for installation, Debian is a heavyweight, though not an inexpensive heavyweight, if you have someone else install Debian on new hardware. Alternatively, if you install Debian yourself, you are talking a welterweight. The text interface is clear but not attractive, and the trouble it had autodetecting the screen hurt its rating.

APPLICATION INSTALLATION

A junior heavyweight, with more than 15,000 pre-prepared applications and a very straightforward install program. Debian's only weakness is its old-fashioned interface.

To install a package, your first step is to get the package name from the <http://packages.debian.org> Web site. For example, let's look at gnu chess and eboard. gnu chess is a good chess program, with a very poor user interface; eboard doesn't know how to play chess, but it does know how to talk to other computers running eboard, or it can run gnu chess on your machine. So, between the two programs, you end up with a pretty good chess

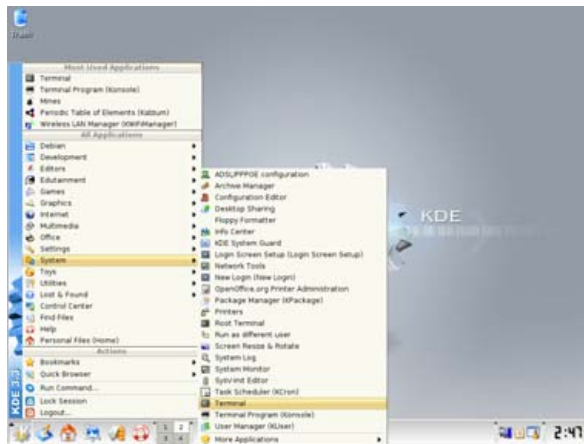


Figure 1. Installing gnu chess and eboard—Starting Terminal

program. The commands boil down to:

```
su
apt-get install gnu chess eboard
exit
```

The first command asks you for the root password, so the system knows you are authorized to add software, and the second command installs both gnu chess and eboard. The third line returns you back to being a normal user. Then, once the programs are installed, simply type:

```
eboard
```

and you're off. Under Peer, you have to tell eboard that it should use gnu chess rather than another computer. Then, use your mouse pointer to move the pieces around.

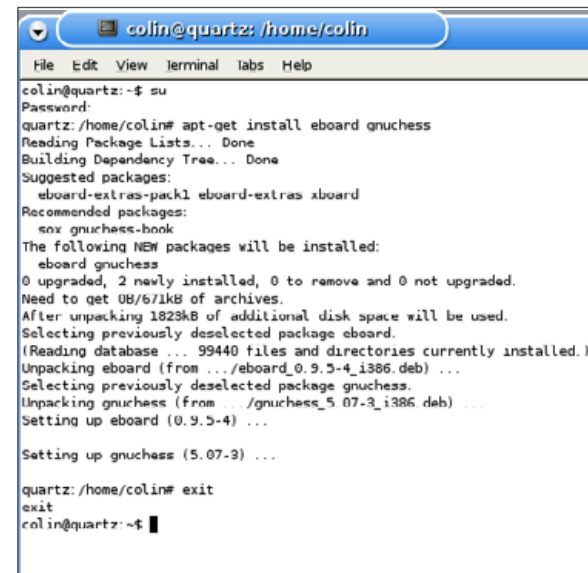


Figure 2. Installing gnu chess and eboard



Figure 3. Running eboard



Figure 4. The GNOME Desktop

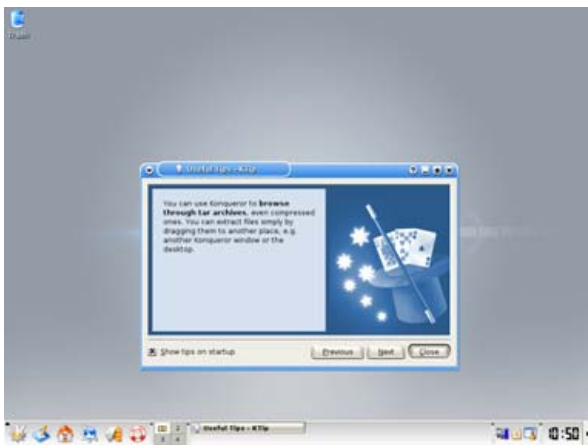


Figure 5. The KDE Desktop Screen Showing a Small Help Display

EASE OF USE

A welterweight. A key element for ease of use with any Linux distribution is the window manager. With the default X Window System install, Debian installs both the GNOME window manager and the arch-



Figure 6. The KDE Desktop Screen without the Help Display

rival KDE window manager. Both have their strengths, and unlike some of the other distributions, with Debian you don't have to choose one or the other. The login screen has a drop-down menu where you can select which one you prefer. A weakness with Debian is that there are no graphical tools for changing a number of key system settings. You need to go to the command line and edit a text file.

MAINTENANCE

Debian is a junior heavyweight here. Connect to your Internet service provider, start the terminal window and type these four commands:

```
su
apt-get update
apt-get upgrade
exit
```

The first command asks you for the root password, so the system knows you have permission to

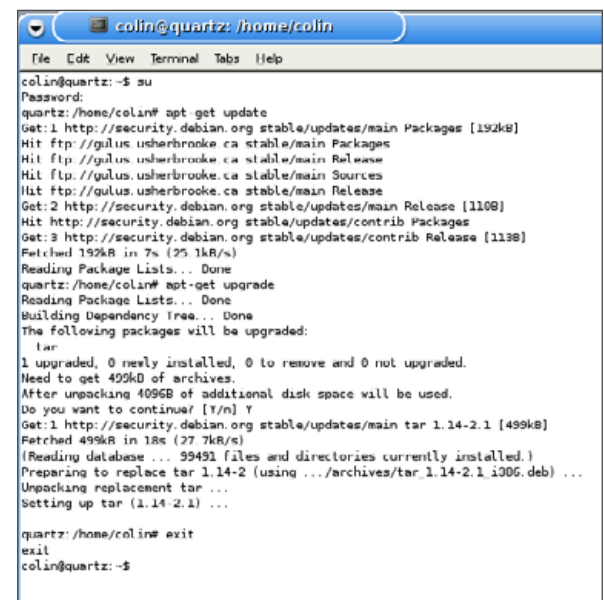


Figure 7. Updating the Machine to Stay on Top of the Latest Version

change things around. The second command makes sure your list of packages is up to date. The third command downloads and upgrades any packages that are not current, and the last command takes you back to being a normal user of the system.

When upgrading to a new version of Debian, it is just as simple: connect to your Internet service provider, start up a terminal window and type:

```
su
apt-get -u dist-upgrade
exit
```

One thing that hurts Debian's rating is that it's rather easy to make a serious error when changing your current configuration.

DOCUMENTATION

A heavyweight. Besides the wide range of on-line tutorials, frequently-asked-questions lists and general documentation, there are eight different books out in five different languages regarding the current version of Debian.

SUPPORT

A junior heavyweight. True, you don't get a 1-800 number to call if you have problems, but on the other hand, the Debian Web site has a wide range of documentation and tutorials. There also are several mailing lists dedicated to Debian issues. Finally, most problems you are likely to encounter have been encountered by someone else and noted somewhere Google or one of the other search engines can find it.

PRICE

A heavyweight. Short of giving away distribution CDs the way Ubuntu does, this is the cheapest deal on the block. With Debian, all you need is a CD-ROM or DVD burner, a blank CD-ROM or DVD plus access to a high-speed Internet connection for a little while, or a friend with at least one Debian disk and you're good.

MOBILITY

A middleweight. Debian does include power management tools, and wireless tools are part of a default desktop install. As for the hibernate program that lets a laptop pause and then resume later exactly where it left off, that is available for easy download, but installation is a bit of a pain.

MULTIMEDIA

A lightweight. A basic Debian install supports



Figure 8. The Laptop Battery Status

MP3 audio files, but in most other areas, it falls short. Dealing with Flash media is a fairly easy download and install. Most other multimedia is a pain, and playing most DVDs a royal pain. To support playing most DVDs, you need to deal with CSS systems, and because of legal reasons, no totally free operating system can offer the CSS software legally.

FLAIR

What keeps me with Debian is freedom—the freedom from worry. I have used commercial Linux distributions where, for any of a number of reasons, the vendor has dropped its distribution, leaving users in the lurch. With Debian, I know that a year from now, it still will be around. The code name may change, but I still will be covered, and it still will be free.

So, with some 12 years in the ring, Debian is still a serious contender with strengths that come from having been around for a while. It

is clear that Debian also will be available for a long time to come. Debian's only weakness is that it still loves the old command line much too much. ■



Colin McGregor has been using computers since the late 1970s when he got access to a Digital Equipment Corporation PDP-8L 12-bit computer in high school. Currently, Colin works for a Toronto-area charity, does consulting on the side and has served as President of the Toronto Free-Net. He also is secretary for and occasional guest speaker at the Greater Toronto Area Linux User Group meetings.

DEBIAN'S SCORE

Installation: 2

Application installation: 4

Ease of use: 2

Maintenance: 4

Documentation: 4

Support: 4

Price: 5

Mobility: 3

Multimedia: 1

Overall rating: **3.2—Middleweight**

Linspire

Looking for a distro that just works as a desktop and is backed by excellent documentation and support? Maybe Linspire is for you, but don't expect multimedia as a strength.

JOHN REEP

Most of us computer users, yeah—real people—just want to flip on a computer and do stuff. We don't want to spend all day tweaking or installing patches. We have work to do; our clients won't sit and wait for us to fine-tune our OS.

If you're reading this, you're tired of being the slave of expensive and secret operating systems with no customer support. You want easy ways to add software, and you want to pay less for a computer. Linux is what you want, but there are so many distros wrestling for attention, how do you know which one to try?

There are geek distros like Mandriva (for people who "like" computers, they say), and there are those aimed at us simpletons raised on Windows, ready to be weaned—people who "hate" computers. Yeah, baby—Linspire is for us.

I wanted to try it raw. My own L-box. Nothing else on it. So I cobbled one together out of a Panasonic Toughbook I found cheap on eBay, a Wi-Fi card and a new battery. Then I went to <http://www.linspire.com> and downloaded the OS.

This distro has thrown me against the ropes a

few times since I installed it, but now that I've given it the Dusty Rhodes Elbow Drop, things are running better. Let's see how Linspire stacks up. Is it a contender or a pretender?

INSTALLATION

My fellow non-geeks whine about installing Linux, so I was ready for a fight. I was worried I'd be laying there bleeding in the ring before I even got started, but it turned out I had a great team backing me up.

What you download from <http://linspire.com> is an ISO file that has to be burned to a CD as an image. Your burning software has to offer "burn image" as an option. Don't simply burn the ISO file as a copy, or you'll end up wanting to burn your computer, like I almost did. Burning an image is kind of like unzipping a zip file, so when you boot the computer from the disk, it'll actually do something. Once I figured that out, the installation was a breeze.

I really liked that I didn't have to enter a tedious alphanumeric key to prove I didn't steal Linspire. You simply click a few times, and then it asks if you want Linspire to "take over the entire hard drive". I said, "L, yeah." After a

few minutes, it was done. This no-brainer installation earns Linspire a Heavyweight rating.

APPLICATION INSTALLATION

Linspire's included software could keep me busy for weeks, but because I subscribed to the CNR service (Click-N-Run, \$19.95 US annually), I checked the warehouse. I picked a bunch of things to try, and as promised, one click downloaded the software, installed it, placed an icon on the desktop and filed it in the Launch/Run Programs menu. That's a killer app. If I ever change computers, CNR remembers what I've installed and, with one click, installs the same stuff on the new machine.

Installing peripherals is not killer. Like all Linux users, drivers are our downfall. When Linux World Domination materializes, that'll all change.

I had no trouble with my Jump Drive USB card, and Linspire works well with digital cameras. So, on balance, I give Linspire a Middleweight rating in this category.

EASE OF USE

I thought I'd be body-slammed for not knowing the Linux lingo, but it wasn't so. If you're at home with Windows, you'll be at home with Linspire. There are different names for basic apps, and they're all instinctive to use.

Networking with Windows machines has been hit or miss. Network printing from the Linspire to Windows machines works in theory, but so far not in practice. File sharing across a network is a little easier. There are a lot of set-

tings to mess with, and a ham-fisted user may never get perfect networking.

Though this distro is very strong in usability, the networking issues drag it down to the Middleweight category.

MAINTENANCE

The CNR Gold service annual subscription (only ten bucks more than CNR Standard) lets you upgrade Linspire for free, among other perks. Security updates are free to all users. As I write this, there are no security updates to download (unlike some of those other distros).

Unfortunately, I've had crashes, but Linspire anticipated that. Terminate Application is a cool tool where you click a skull and crossbones icon on the frozen application's window, and it closes. If you don't have control of the cursor, you can reboot with the power switch or the three-fingered salute.

Fewer crashes would have earned it a higher rating than the Middleweight I gave it.

PRICE

You can order a CD via snail mail for \$59.95 US and receive a 300-page No-Nonsense Guide to Linspire. If you're spoiled by instant gratification, you can download Linspire for ten bucks less and go solo, without the book. Because I'm a guy, and guys don't ask for directions (and we want our gratification instantly), I chose the cheaper option.

Compared to Windows XP costing two C-notes, the price of Linspire is almost nothing,

and you get a whole lot more. It comes with a Mozilla-powered Internet browser and e-mail suite. You also get OpenOffice.org 1.1.3 with spreadsheet, presentation, PDF viewer, games and lots more. All of the OpenOffice.org applications include the function Export as PDF, which saves another \$300 US off buying Adobe's Acrobat Writer.

Windows baits you with MS Office, but it makes you pay \$400 US to use it. Linspire's OpenOffice.org gives you the same applications for free. For the price of Linspire, you also get amazing technical support. How can you go wrong? On value for the money, Linspire is Heavyweight nitro.

DOCUMENTATION

I can't sit still long enough to read a software manual. But that's fine, because Linspire includes an extensive tutorial that you can even use on-line before you buy. It's very informative, and it "linspired" me to buy.

I can honestly say I don't regret having saved the ten bucks. There's nothing I need to learn about Linspire I can't find in the software itself or on-line. I give Linspire a Heavyweight rating for documentation, because it really doesn't need any.

SUPPORT

Because I'm a computer user, not a geek, I need some hand-holding sometimes. The Linspire user forum helped me with my questions, both major and

dunce-level, the answers came fast and free, and most of the solutions actually have worked. And, I didn't have to call India and wait on hold for an hour.

Linspire goes one step further, though. If you navigate to the Diagnostic Report function from the Launch icon, Linspire reads all your computer's settings, lets you write a question, and e-mails the settings and your problem to the folks at Linspire. Within a day, they've gotten back to me with things to try, like "un-mute your speaker". If your Internet connection is not working, you also can save it to a file and send it another day, or from another computer.

I get the impression that I'm working with a software company that's got something to prove. If nothing else compelled me to buy Linspire, that's a refreshing change from most software companies. Definitely Heavyweight.

MOBILITY

Getting the wireless card to work is another driver issue we all deal with, a common enemy. I was determined to make it happen, even if I had to get out the sledge hammer. The solution, I learned, is ndiswrapper. The basic steps can be found on the Linspire forum, and Jes Hall's article in the November 2005 issue of *TUX* filled in the blanks for me. One hint—restart your computer after making changes.

Linspire's laptop power options do exactly what you'd expect. The klaptop application lets you configure hibernating, screen brightness and battery power—all the normal things you'd want. Icons in the panel tell you if you're on

battery power or plugged in, what percent the battery is charged and even the estimated battery time remaining.

If it weren't for the touchy Wi-Fi connection, I'd give Linspire a higher grade on mobility. I went out and connected to another Wi-Fi, and when I came home it wouldn't connect to my home network. I fiddled with all the wireless network settings and eventually it came back, but I was this close to getting the sledgehammer again. If it ain't broke, don't fix it. Despite my ordeal with the wireless system, I give it a Junior Heavyweight rating, because it does what it's supposed to.

MULTIMEDIA

I have a problem with this category. Now it is sledgehammer time. Linspire comes with Lsongs, KPlayer and Real Player. Out of the box, Real Player is the only way I've been able to listen to audio files. I can hear nothing on the Internet. I've been working with the Linspire people to get sound to work, but it isn't there yet.

Lsongs is the Linux equivalent of Windows Media Player, and KPlayer is for video, supporting AVI, MPEG, Ogg and MP3 files, but not WAV, CDA or WMA. Also included is Macromedia Flash Player for streaming Internet video.

KView is a basic image viewer, and Lphoto is for retouching and organizing digital images; it has your basic red-eye tool, brightness enhancer and color saturation tool that work pretty well.

I love music, but sound isn't a vital computer function for me. It would be nice if I could at least pop in a music CD, but that didn't work either. Until this gets sorted out, I'm giving multimedia a Welterweight rating.

FLAIR

CNR is such a bad-ass feature, it's what I'd miss most if my Toughbook got crushed in a pile-drive. Close behind CNR is Linspire's technical support. I've never seen any better.

CONCLUSION

Linspire is a Junior Heavyweight when I average all the categories discussed here. The simplicity of Linspire fools you; it's so inexpensive and easy to install, you think it'll be a lightweight—a pretender. It pleasantly surprised me by doing almost everything I could want. When more programs are compatible with Linux, my personal need for Windows will be history.

A Texas Cage Match between Linux distros might seem like a secret plan to divide and conquer (or is it Konquer?). But no, WWF would be boring if there were only one wrestler, and the competition for operating systems should be at least as varied. We have a common enemy. Together we will prevail.

Whether you like Dead Cat, Debbie-Ann, SnuZe, Mandrivel, Oh-Boo-Hoo or Five-Oh Alive-Oh, you're winning. To have a real choice in affordable, flexible, transparent and user-friendly operating systems is the ultimate smackdown. ■



John Reep is an architect with projects in Florida and Nicaragua. He's building a Piper Cub replica in his garage and using a Linux computer to write a novel on his front porch. He meets each week with other writers on a shantyboat on the Trout River where his novel is beaten into shape little by little. His official job description is "chief pilot, harmless eccentric and traditionalist raconteur".

LINSPIRE'S SCORE

Installation: 5

Application installation: 3

Ease of use: 3

Maintenance: 3

Documentation: 5

Support: 5

Price: 5

Mobility: 5

Multimedia: 2

Overall rating: **4—Junior Heavyweight**

SUSE Linux 10.0

A well-rounded distribution, plus YaST, minus crippled media players, still equals one extremely satisfying distro.

JES HALL

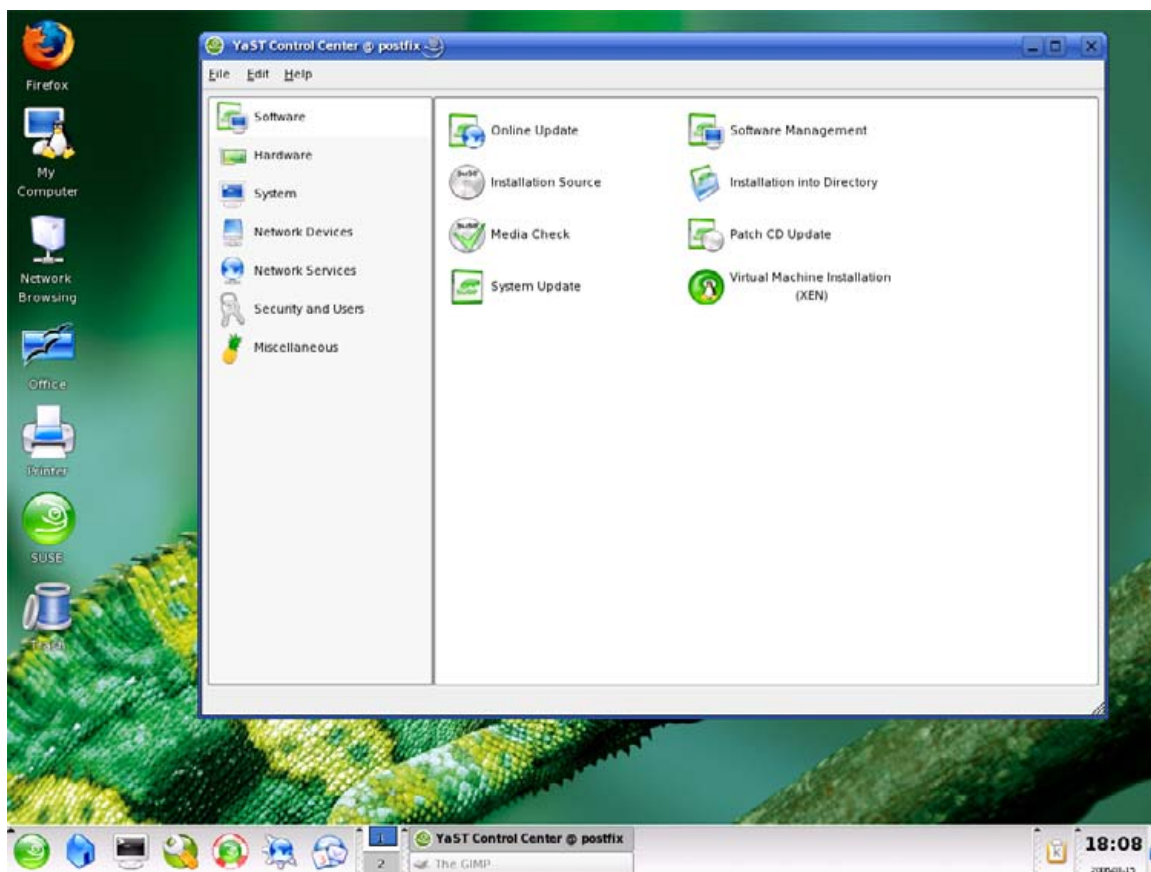


Figure 1. The SUSE Default KDE Desktop and the YaST System Tool

Since Novell acquired SUSE last year, SUSE Linux has become an even more polished professional package. With support out of the box for many corporate technologies, such as LDAP, SUSE Linux is clearly marketed for the business user. We tried out SUSE 10.0 (all five CDs of it) to see how well it performs on the desktop.

How we tested:

- Darkstar—IBM ThinkPad T22, 900MHz, 256MB of memory, 40GB disk.
- Hal—Intel 2.4GHz, 1024MB, fx5200.

INSTALLATION

The SUSE installer in its basic mode is clear and quite polished. It uses YaST, the SUSE system tool that can be accessed after the installer to customize and administer the system further. On both machines, we had partitioned the disks previously using a separate tool in order to preserve installations of Microsoft Windows. The SUSE partitioning tool was easy to follow and allowed us to select the blank partitions we had created for it and leave the Microsoft Windows installations intact.

The package selection in basic mode was straightforward, simply asking for your choice of desktop environment—either KDE or GNOME. There was no easy way to specify that you'd like to install both. The advanced package selection tool was cluttered and difficult to use.

We elected to install a custom system with both GNOME and KDE as well as a large collection of server and development tools that are not included in the basic/simple install. Installing packages was a very lengthy process. Once packages were installed, we were prompted to set a root

password and create a nonroot user. We then were presented with a dialog where we could see the autodetected settings for hardware and change the settings if we wanted.

The automatic hardware detection was excellent. SUSE correctly identified all of the hardware on both the laptop and the desktop machine as well as the correct resolution for both of their monitors. Even the RTL8180L wireless card in the ThinkPad was identified correctly and a driver provided. This surprised us greatly given that we'd set up the card on Slackware a few months before and discovered the only viable driver option at that point was `ndiswrapper`. At that time, no open-source driver existed. We were extremely impressed that SUSE had included such a bleeding-edge driver. We rated SUSE's installer at Junior Heavyweight.

APPLICATION INSTALLATION

The YaST system tool is the hub of administering your SUSE installation. It allows you to define additional installation sources, such as a Web repository accessed via NFS, HTTP or FTP. Unfortunately, no Web sources are configured by default, and the process of adding one was found to be nontrivial.

SUSE really shines, however, in the sheer number of applications included in the install CD. Thousands of applications are packaged, and we rarely had to look any further than the CDs. Plugins like Java and Macromedia Flash were installed easily—no ideological headaches here. The package installation tool is a little cluttered and quite complex. One feature that those who have had to compile software from sources will appreciate is the ability to install all matching development packages for the set of packages installed with a single click.

The other point that most impressed us about the YaST software management tool is how it handles

dependency conflicts. Whenever a conflict is detected, the software management tool allows you to specify your preferred resolution—whether that be upgrading, downgrading or uninstalling the offending packages, installing other packages to satisfy dependencies or even ignoring the problem completely (at your own peril). Anyone who ever has had `apt` decide to remove your entire GNOME desktop due to a small, conflicting font package will appreciate this increased control. We rated SUSE's application install process at Junior Heavyweight.

EASE OF USE

Our SUSE installations provided both the excellent GNOME and KDE desktop environments. We found SUSE to be a joy to use on the desktop due to thoughtful configuration of both environments.

SUSE excelled at handling removable media. CDs, DVDs and USB storage devices were detected on insertion and mounted without requiring any kind of configuration. Both of my digital cameras also were detected, and transferring photos from them was very simple. Setting up my network printer was also a trivial process—I simply clicked the button for the printer to be searched for on the network, and SUSE found it and configured it appropriately. We rated SUSE as a Junior Heavyweight for ease of use.

MAINTENANCE

SUSE has an update manager that docks in either the KDE or GNOME system tray and informs you when security updates are available. This tool could be configured to download and apply the updates automatically. The update process appears to use RPM deltas, which are a form of binary patching. This makes the update process very bandwidth-efficient.

Here we were extremely impressed with the YaST system tool. It provides a graphical way to

configure almost every imaginable option. Tasks like adding users, setting quotas and setting up network services like Samba were quick and easy with this excellent tool. SUSE was a Junior Heavyweight for maintenance.

DOCUMENTATION

The quality of documentation was quite good. A full set of KDE and GNOME application documentation was installed as well as the usual collection of man pages and Linux how-tos.

Two detailed guides also are included, the SUSE Linux 10.0 Reference Guide and the SUSE Linux 10.0 Start-up Guide.

The SUSE Linux 10.0 Reference Guide is a manual for SUSE that gives a broad overview for system administrators and those power users administering SUSE at home. It's a fairly exhaustive guide, covering a wide range of topics. It's reasonably well written and would answer most questions a new user would have on how to run and administer SUSE Linux. Topics covered a range from the basics of using a Web browser to advanced system administration issues like setting up virtualisation with Xen. The SUSE Linux 10.0 Reference Guide is an excellent resource for the home SUSE user.

The SUSE Linux 10.0 Start-up Guide is aimed at getting a first-time user up to speed quickly. It covers the installation and basic configuration of your new SUSE system as well as the basics of using a Linux desktop environment and a troubleshooting section.

The installation section of the SUSE Linux 10.0 Start-up Guide gives a detailed step-by-step commentary of the install process, with explanations of the options to help you decide what to choose. This guide is excellent for inexperienced Linux users. If you're planning on installing SUSE, we recommend

browsing through this guide on-line or even printing it out before attempting an installation of SUSE Linux.

The Novell Cool Solutions page (<http://www.novell.com/cool solutions>) has a SUSE Linux section that lists user-contributed tutorial-style articles. Plenty of interesting solutions can be found here, from articles showing how to get the most out of the KDE IM client to sample bash scripts for doing various administration tasks. The wide variety of topics these informal tutorials cover make them an interesting read and a great documentation resource. We found SUSE to be a Heavyweight in documentation.

SUPPORT

Because we tested the free version of SUSE Linux, we weren't entitled to any support from Novell. We turned to the community and were pleasantly surprised.

Freenode hosts the official SUSE IRC channel, #suse. We spent quite some time there getting help with setting up the software management tool to pull from an on-line repository. We found the volunteers who man the channel to be helpful and friendly.

Novell also provides an exhaustive selection of mailing lists covering a variety of SUSE-related topics. The general suse-linux-e (English) list archives show a lot of users successfully getting their problems solved. Sadly, the list is a bit spammy—you'll want some pretty robust spam filters if you subscribe.

There are also a wealth of unofficial forums where you can get help, and there's a SUSE section at <http://linuxquestions.org>. We rated SUSE Linux as a Junior Heavyweight for support.

MULTIMEDIA CAPABILITIES

So far, this has been a spotless report for SUSE. Unfortunately, multimedia support is a let-down.

There is no support for MP3 or other proprietary media formats by default, with the exception of including the official Real Player client. Although various tutorials can be found on-line showing you how to add these missing codecs from the Web and install CDs, we find the lack of out-of-the-box support a little disappointing. Of course, Ogg, flac and other free formats are supported. In the area of multimedia capabilities, SUSE Linux was a Welterweight.

MOBILITY

We were simply blown away with how well SUSE supports notebook computers. The power management is excellent, with support for easy suspend to RAM and suspend to disk by choosing the desired option from a system tray icon menu. Suspend is disabled by default, as there are some notebook computers with particularly buggy BIOS implementations that can crash or lock up on suspend or resume. This is true of all Linux distributions and is not a flaw in SUSE. Enabling suspend is as simple as placing a tick in a check box. Both types of suspend worked flawlessly on our ThinkPad, Darkstar. We were extremely impressed given that Darkstar has been used to test recent Ubuntu and Slackware versions without any success in this area. Support for hot-plugging PCMCIA cards is also very good.

The one thing we feel SUSE lacks in this area is a tool for different wireless networking profiles. The ability to switch between different wireless networks easily during the course of the day when moving from home to work to school would be very convenient, supplying the correct WEP key and other information for each network. For mobility, SUSE Linux was a Junior Heavyweight.

SUSE Linux clearly shows the professional polish one associates with a company like Novell. It's an exceptionally well-rounded distribution with its only

real drawback being the pain of uncrippling its media players to play proprietary formats. The one thing about SUSE that we found the most distinctive and that we'd be the least willing to lose from the distribution is the system tool YaST. We sincerely can recommend SUSE for the home user and are eagerly anticipating the soon-to-be-released SUSE 10.1. ■



Jes Hall is a UNIX systems consultant and KDE developer from New Zealand. She's passionate about helping open-source software bring life-changing information and tools to those who would otherwise not have them.

SUSE'S SCORE

Installation: 4

Application installation: 4

Ease of use: 4

Maintenance: 4

Documentation: 5

Support: 4

Price: 5

Mobility: 4

Multimedia: 2

Overall rating: 4—Junior Heavyweight

Fedora Core 5

Free, easy to use and install—except for mobility and multimedia, what's not to like?

DEE-ANN LEBLANC

Fedora Core 5 owes its fancy hat to the original Red Hat Linux. As such, not only is this version the Linux distribution market leader, it has a big brother in Red Hat Enterprise Linux that can knock the blocks off any remaining competition. Keep reading to see why Fedora Core 5 should win this distribution smackdown, leaving the rest of the entries to cower at Fedora Core's big-hairy GNOME feet.

INSTALLATION—HEAVYWEIGHT

Installing Fedora Core 5 is a point-and-click operation, which even your dog could do if he wasn't



Figure 1. Fedora Core 5's installer offers easy-to-understand choices for selecting your partitions.

so busy chewing on your mouse. The spot where Fedora Core's installer really starts kicking butt is in selecting partitioning layout (Figure 1).

The new lingo for selecting how to partition your system is nice and straightforward. Choose your option, mark the drive(s) you want to make available, and go. Those who need Linux and Windows to share a single computer will find both a Fedora Core entry and a Windows entry in the boot menu listing and can select which operating system starts by default.

The installer also provides three levels of software selection. You can take the defaults and



Figure 2. Fedora Core 5's installer lets you choose packages by groups or even individually.

make only really big overview selections, such as Office and Productivity and Software Development, or you can choose to make more customized selections (Figure 2). If you do so, you can choose groups of packages (such as GNOME, KDE and Graphical Internet Tools), and from there you can choose whether you want to go inside these groups and add extra packages that aren't added by default.

The biggest feature lacking in the installer is that you can't use it to resize existing partitions to make room for Fedora.

APPLICATION INSTALLATION—JUNIOR HEAVYWEIGHT

Fedora took a huge leap forward with version 5 when it comes to adding and removing software—thanks to Pirut (har!), the new package manager (Figure 3). The command-line tool, yum, is still available and powerful, but many people break out in hives if they have to type too much. Pirut simply uses yum under its peg leg.

Navigate Pirut by category, by list of packages or by searching on keywords. Say you realize that you don't have an FTP program installed. In Pirut, you can select Applications→Graphical Internet, and then click Optional Packages to look through it and find GFTP (Figure 4), and then add it to the system.

You also can select Search, and search on the



Figure 3. Fedora Core 5's Pirut Package Manager

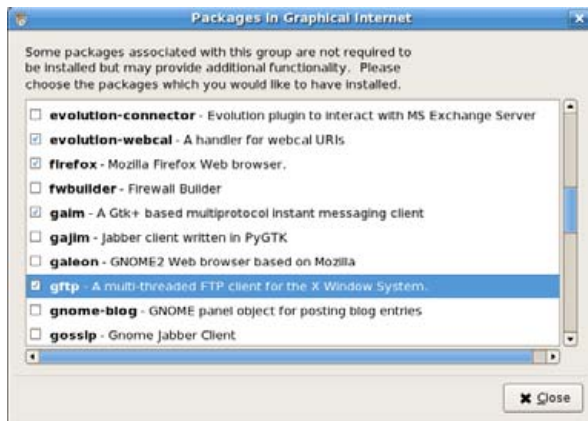


Figure 4. Fedora Core 5's Pirut Package Manager Displaying the Graphical Internet Optional Packages

keyword ftp to get a list of available FTP programs. What if you want to add Macromedia Flash support for your Web browser? If you search on Flash, you won't find this tool. Instead, you'll need to find out which on-line package repository contains Flash, so you can add it to the programs

that Pirut consults. Once you do, its software offerings show up too.

However, there is no graphical way to add repositories in this version (note that this article covers the final beta of Fedora Core 5, not the final release). Instead, you have to add them by editing yum configuration files; the Unofficial Fedora FAQ site (<http://www.fedorafaq.org>) helps quite a bit.

EASE OF USE—HEAVYWEIGHT

There are two ways to consider ease of use. One involves configuration—if I can't get the desktop to do what I want, what's the point? The other involves getting things done.

For configuration, some people like all-in-one tools, and others like many small, specific tools. I'm of the second mind set. I hate fishing through a huge tool; it's more likely to pull up rusty car parts rather than what I need to do. Fedora's GNOME interface offers a groovin' collection of small, helpful tools that won't leave you lost in a menu quagmire.

When it comes to getting things done, I need to be able to find my way around, find the programs I want to run and not have the system get in my way. Fedora excels at all of these. For the filesystem, I can use the Places menu to choose common shortcuts. When looking for programs, the Applications menu is well organized with straightforward menus. One tiny thing that does get on my nerves is that the screensaver kicks in and you have to enter your password in order to get out of it. However, it's easy enough to shut that feature off.

MAINTENANCE—JUNIOR HEAVYWEIGHT

The PUP (Package UPdater) tool (Figure 5) is a

geek's best friend. It looks on the Internet, finds out what new versions of your installed programs are available, double-checks to make sure you don't need anything extra to cover new software dependencies (maybe an update requires you to add new software), adds any dependencies to the list for you, downloads the updates and then installs them for you.

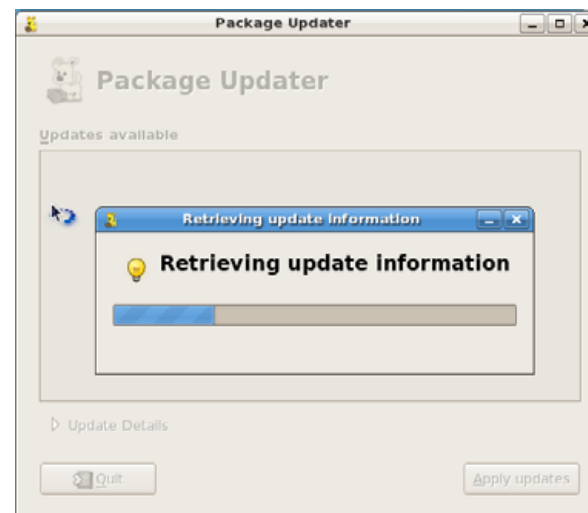


Figure 5. Fedora Core 5's PUP Checking for Updates

If you don't want to update everything, uncheck the items you don't want. You can't roll back to a previous update level unless you add the optional up2date tool and use it to manage your updates. If you mess up a particular package, however, and want to replace it with a fresh version, it is possible using command-line tools or by uninstalling it and re-installing it with the GUI tools.

When it's time to upgrade to the next version, the installer offers an upgrade tool. However, the updater may warn that you have customized your

system so much that using it could render your system unstable. Ignore this warning at your peril.

DOCUMENTATION—JUNIOR HEAVYWEIGHT

Because Fedora is available only as a download, there is no printed documentation. However, Fedora comes with a full set of man (manual) pages, program documentation in /usr/share/doc, and many programs have their own help systems. There's a ton of documentation on-line at a variety of Web sites devoted to Fedora and to Linux. For official on-line documentation, check out <http://fedora.redhat.com/docs>.

SUPPORT—JUNIOR HEAVYWEIGHT

Red Hat, Fedora Core's corporate sponsor, does not offer official, paid support channels for this distribution. However, places such as the FAQ mentioned earlier, the Fedora Forums

(<http://www.fedoraforum.org>), Fedora News (<http://www.fedoranews.org>) and other sites mentioned on the Fedora Project's Wiki (<http://fedoraproject.org/wiki>) all provide help. Don't forget search engines, either.

PRICE—HEAVYWEIGHT

It's hard to argue with free. The only thing that would be better is if a scantily clad gender-of-your-choice showed up to install the sucker for you.

MOBILITY—MIDDLEWEIGHT

Laptops are often "interesting" in Linux, especially when it comes to wireless. In my case, Fedora Core 5 sees the wireless card, and I can create an entry for it with the Network tool, but it can't actually use the card. I would probably have to use ndiswrapper to load the Windows driver for this card as it's not supported in Linux. If it worked, the wlassistant tool would let me scan for signals.

Power management has come a long way. There's an icon up to the right that shows how much battery time is left, and you can place the computer in both hibernate and suspend modes if they are supported by the hardware.

MULTIMEDIA—MIDDLEWEIGHT

Although a variety of multimedia players are included, for legal reasons, many of the most popular audio and video formats, such as MP3, QuickTime, Windows Media and Real Player can't play by default. Using the Web sites listed above, you can add functionality for some of these, but this is one area where you'll have to do a lot of digging.

FLAIR

This might seem like an odd choice, but I like that the Fedora GNOME desktop (Figure 6) isn't too cluttered with huge, garish icons and graphics, which is usually my complaint about distributions that use KDE. ■



Dee-Ann LeBlanc (dee-ann.blog-city.com) is an award-winning technical writer and journalist specializing in Linux and miniature huskies. She welcomes comments sent to dee@renaissoft.com.



Figure 6. The Fedora Core 5 (Test 3) Desktop

FEDORA'S SCORE

Installation: 5

Application installation: 4

Ease of use: 5

Maintenance: 4

Documentation: 4

Support: 4

Price: 5

Mobility: 3

Multimedia: 3

Overall rating: **4.1—Junior Heavyweight**

Ubuntu/Kubuntu

With the Synaptic Package Manager and a passionate community, Ubuntu is easy to use. However, an Internet-based installation and limited documentation may not be the best for a new Linux user.

BRIAN JONES

You know, the world of Linux desktop distributions really is quite similar to an all-out, winner-take-all title wrestling bout, where the fans are Linux users, and the wrestlers are distributions. There are fans of every single distribution out there, but in the end, only one of them can take home a belt. The belt, in my opinion, should go to Ubuntu Linux.

In the wrestling world, some wins come from brute force. Some come from sheer stamina and persistence. Still more come from precise technique. In Ubuntu's case, the win comes from pragmatism, practicality and common sense. Ubuntu is a competitor that has watched the competition, observed the weak spots, formed a plan and executed it beautifully. That plan involved scratching the itch of the end users, instead of those of the developers. It is the road less traveled, and it has made all the difference.

THE BASICS

Ubuntu uses a GNOME desktop by default, but users always can change it at their leisure. Want to run KDE instead? Have no fear! Simply go to the trusty Synaptic Package Manager, do a search for kubuntu-desktop, and a few min-

utes later, you'll be running KDE. Lest you think that KDE might not work as well because it's not the default, I'll have you know that I use both desktops—Ubuntu with GNOME on my workstation, and the KDE-based Kubuntu on my laptop. Both work exceedingly well—it comes down to personal preference in determining which is better.

Don't get hung up on names. They're less important than what you're going after as an end user, which is a usable desktop. Remembering the difference between Ubuntu and Kubuntu is senseless. If you're unsure about whether GNOME or KDE is right for you, go ahead and install Ubuntu. It will have a GNOME desktop. If you don't like it or want to try KDE, simply install the kubuntu-desktop package and have at it.

WHY UBUNTU ROCKS

Ubuntu has all the moves, and then some. Sure, any distribution can play media files, configure printing and let you know when there are new packages available, but the polish and shine of Ubuntu comes from the work that has gone into making all of this easier to do for users who don't wear pocket protectors or have tape

on their glasses.

For example, switching between wireless networks on your laptop as you travel from home to the office still serves as a stumbling block for some of the more archaic distributions, which require that you go out and get an extra software package to manage wireless connections. Ubuntu includes a graphical, easy-to-use tool to manage these connections, and it's available right out of the box in the System→Administration menu.

Ubuntu also puts tools that end users are more likely to use in places where they're likely to look for them. Other distros take a lot of pride in stuffing every conceivable tool into their menus, creating an unwieldy menu experience, but Ubuntu puts things in places where you'll find them.

For example, some distributions seem to make every effort to hide what I feel is GNOME's biggest asset: the New Login button. Ubuntu puts this right in the Applications→System Tools menu. My wife and I use this button so that we can each be logged in to our own desktops simultaneously, and we can switch back and forth between them without interrupting any running applications the

other might need. It's essentially fast user switching, and it's great for machines that are shared among several users.

Beyond menu configuration, the Ubuntu squad also has taken great pains to make very subtle changes to application configurations that make life easier. One example of this can be seen when you are browsing for files using the Nautilus file browser, which you can launch by clicking Places→Home. I've never been a fan of Nautilus until now. It turns out, the things that irked me about Nautilus were configuration quirks rather than bugs, and Ubuntu has helped me see that. The biggest gripe I had was that, using Nautilus, every time I clicked to enter another folder, Nautilus would open yet another new window. This is not the case with Ubuntu's default configuration.

Nit picky? Maybe, but the sum of all of these small, subtle changes is a far more pleasant experience, where one spends time doing work or playing games and music rather than performing the endless tweaking that Linux historically has been known to require.

INSTALLATION

For years, there has been talk of Linux distributions being difficult to install. For some of those years, that talk was at least loosely based on the reality that Linux developers had a hard time understanding the needs, the mind set and the perspective of less technical users. However, most Linux distributions that bill themselves as an easy-to-use desktop are a breeze to install and have been for at least the past three or

four years. Ubuntu is no exception.

Configuring Ubuntu at installation time takes all of about six or seven minutes on modern hardware. Maybe ten minutes if Ubuntu is going to be sharing a hard drive with Windows—just long enough for you to notice that Ubuntu detects your Windows installation automatically and presents a reasonably logical plan for sharing the hard drive. Then, simply press Enter to move on.

At every step during the installation, there are very clear instructions and information about what's happening. Ubuntu installation is not something that requires much in the way of prior computer knowledge. You don't have to know what a cylinder is to install it (though if you have that knowledge, you're free to use it).

One thing that will bring installation to a grinding halt is a complete lack of an Internet connection. You see, in order to save you from having to download and burn five CDs, Ubuntu requires you to burn only one. That one CD contains enough to get a basic system put together and get your network up and running, so that the rest of the toasty software goodness can be downloaded from the Internet.

Once the installation is finished, Ubuntu presents you with a screen telling you to remove the CD-ROM and press Enter to reboot, and that's it!

SYNAPTIC PACKAGE MANAGER

The Synaptic Package Manager is a free tool for managing the software on your system that rivals the software management systems of any commercial Linux distribution in existence. At least two well-known distributions (and they know who they are) charge good money for what basically amounts to a *subset* of what the Synaptic Package Manager does, and does well. In short, the tag team of Synaptic Package Manager and Ubuntu means you don't have to wonder or worry about software.

The key to this program's success is flexibility. More important, it is flexible enough to do anything you're likely ever going to need, without sacrificing usability or turning into a monstrosity that users don't want to deal with. By default,

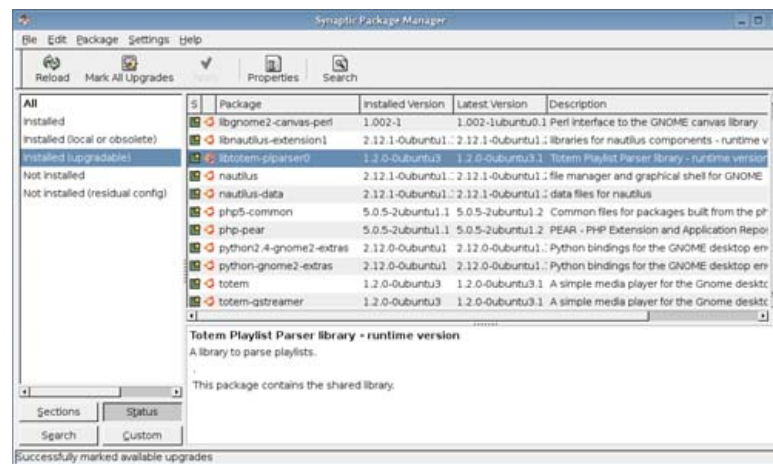


Figure 1. Ubuntu's Synaptic Package Manager eases software management.

opening Synaptic takes you to a basic window where you can search for applications by name or description, or browse the packages that are available for your system. You also can search the packages that are installed already, or as shown in Figure 1, click the Status button, and choose installed (upgradeable) to see which installed packages can be upgraded. If you're unsure of what one of the listed upgrades is for, clicking on the package in question also shows you a description of the package. If all's well, click the Mark All Upgrades button, followed by the Apply button to make it happen.

First, the window shown in Figure 2 appears, letting you know what's about to happen, and clicking

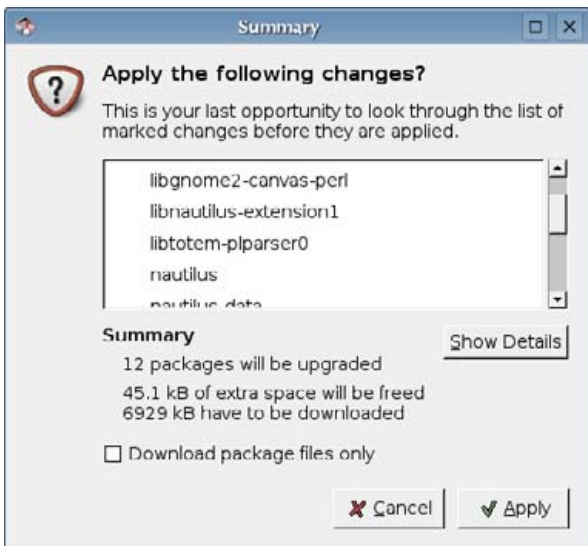


Figure 2. Upgrade Package Summary and Apply Change Confirmation Option

Apply kicks off the system updates. On a broadband connection, I think the longest I've ever waited for updates to be applied is less than five minutes.

The beauty of Synaptic is that there is now a single, easy-to-use interface for managing installation, upgrade and even removal of any package on the system. This is far better than using one application to Add/Remove Programs, and another to perform updates, and then doing some manual work to remove some applications. Ever find yourself perusing random folders you've never seen trying to figure out whether it's safe to remove it? All horrors of the past, my friend. Synaptic is all you need.

IT'S ALL ABOUT COMMUNITY

One of the great things about Ubuntu is its support community. Here you will find people, some of whom have been using Linux for centuries and others who are just like you, who are there to help should you find yourself against the ropes with your new system. I cannot urge you enough to take advantage of that resource. There are mailing lists, on-line chat forums and bulletin board systems teeming with other Ubuntu users who probably have seen whatever issue you're having 100 times over and fixed it. If they don't know the answer, the more experienced users can certainly help you find the answer for yourself. Though this shouldn't really be necessary, it's very comforting to know that you are absolutely not alone.

The Ubuntu Web site (<http://www.ubuntu.com>) is also a launching pad to get to all manner of documentation and other resources that can help empower you to make your Ubuntu system all that it can be.

It's a new era. The giants have fallen. Humanity

to others—or, to phrase it using an ancient African word, “Ubuntu”. ■



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UBUNTU'S SCORE

Installation: 4

Application installation: 5

Ease of use: 5

Maintenance: 5

Documentation: 4

Support: 5

Price: 5

Mobility: 4

Multimedia: 1 (none given)

Overall rating: 4.2—Junior Heavyweight

MEPIS

Engineering first leads the way and lands MEPIS with a number one contender spot; unmatched multimedia support and ease of use made MEPIS a contender, but weak mobility support gave away the belt.

ROY BRANDER

There are so many ideologues bouncing off the walls in the Linux community that you'd swear they were re-enacting the Cold War, complete with the RedNeck Capitalists (who still wear 50s hats) vs. the GComms. (The G is silent.)

The Pro-Corporate crowd regards the noncommercial Linuxes, and even many of those from sub-billion-dollar corporations, as hopeless hobby projects that merely distract customers from their Crusade to take over the corporate Enterprise market with Linux. Good luck, but the desktop the Bank of America wants isn't necessarily the best one for me and my video files.

Then, there are the "Free Software Will Bring the Millennium of Love and Peace" cyberhippies who won't touch a byte that isn't GPL'd out the yinyang. (I admit I was stunned speechless to find that the very popular, heavily advertised, overhyped Ubuntu Linux distro comes without any ability to play an MP3, because it would be Politically Incorrect. How pedantically stupid can you get?)

And then there's MEPIS, the Linux distribution that just wants to be the best-engineered, best-of-breed package list, easiest-to-use desktop Linux ever. And it has succeeded.

TUX already has devoted an article to the amazingly easy install of MEPIS [June 2005]. This is a smackdown, so I'll put it this way: it's the



Figure 1. The MEPIS Desktop with the Multimedia Menu open

best. Try it. As covered last June, it runs 14 steps, 11 of which are clicking Next, OK or Yes prompts. (And, step #6 is read your magazine—while the system is copied to your hard drive.) If any competitors want to smack it down, let's try having the residents of a senior's care home install MEPIS and the challenger, with a new laptop riding on the bet—come on, are you Penguins, or just Chickens? Installation: Heavyweight.

APPLICATION INSTALLATION AND UPGRADE MAINTENANCE

All of the children of Debian are going to ace these two categories, if they include Synaptic, the package manager. This is how you upgrade *all* of your operating system and every application on it to the latest version with the latest security patches:

1. Choose Synaptic Package Manager from the system menu, and type in your system root password when it asks, because you're about to do (painless) brain surgery.
2. Click the Reload button at the far upper left to query the Debian package libraries for the latest versions.
3. Click the Mark All Upgrades button beside that to mark all the software packages you have where a newer version is available.
4. Click the Apply button beside that one.
5. If you've forgotten (shame!) to do this for weeks (every couple of days at most is recommended) you may have a long wait while it downloads and applies a lot of changes.

That's it. You can find out what changed, of course, by reading the reams of info that fly by as the updates occur. But after a few times, I lost interest, because it always worked. Every time. Upgrade and maintenance: Heavyweight

And, the same grade applies to any Debian-based distro for application installation. There

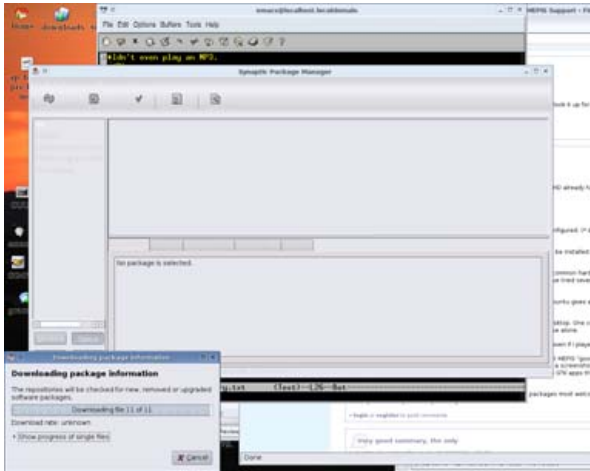


Figure 2. Synaptic. Right after Starting It and Clicking Reload

are one or two more steps for installing a whole new package. To install grip, a CD-ripping program, I clicked the next button over from Apply, which is Search. Then I typed `grip`. About a second later, it showed me the package, and I right-clicked on the name and picked Mark for Installation off the menu that dropped down. It instantly popped up a message saying it would have to install several other library packages it depended on, so I clicked the Mark for Installation button on that dialog. Then, I clicked Apply again, and that was that. It's the same with *any* available application—and Debian has a reported 30,000 of them. Application installation: Heavyweight.

EASE OF USE

Ease of use is tough for an experienced computer user to grade, but here's a story. The primary developer of MEPIS, Warren Woodford, was inter-

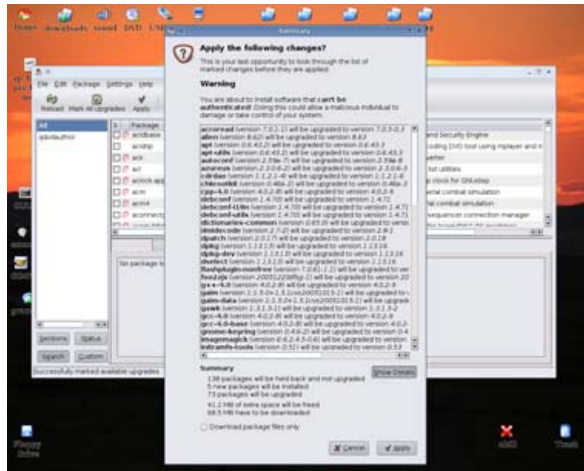


Figure 3. Synaptic Showing Imminent Upgrades before Clicking Apply

viewed by the Linux Tech Show on March 16, 2005. One of his interviewers told him that he's always been used to being the tech support guy for his own father, but had never switched him away from Windows to Linux because of ease-of-use concerns. He visited home one day in 2005 to find that his father had switched from Windows to MEPIS...by himself, and no longer needed so much tech support. MEPIS just needed less than Windows. (See why I made the installation bet involving the senior's care home? If there's a fool among my fellow reporters, I get a free laptop!)

Keeping the system stable and upgraded is a big part of ease of use, and the rest is in the capable hands of KDE. MEPIS is so tied to KDE that the MEPIS version numbers parallel the KDE version. The current offering is MEPIS 3.4.3, meaning it uses KDE 3.4.3. And that, of course, means the familiar taskbar at bottom and K menu (Start menu for Windows converts) at the lower right.

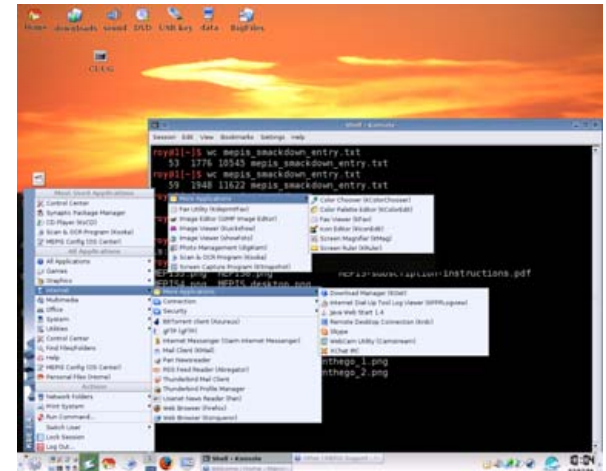


Figure 4. Superimposition of Both the Graphics and Internet Menus in MEPIS

This means USB keys and cameras and scanners simply install themselves when plugged in, and a desktop icon appears with which to open them.

MEPIS has done what it can to maximize how intuitive and clear the user choices are, certainly. Its fans are pleased that it isn't a tiresome pile of shovelry with 37 text editors and nine graphics tools. MEPIS has a solid set of applications that all do the jobs and are at least tied for first in most people's best-of-breed preferences in any software category. Then, they were pre-installed so that the K menu has only seven submenus: Games, Graphics, Internet, Multimedia, Office, System and Utilities. It rarely takes a mere minute to find the app you need for a new job. Ease of use: Heavyweight

DOCUMENTATION

Well, there's the rub. As a free download, MEPIS has no manual. There is a User Guide available at <http://www.mepis.org>, but the volunteer effort is

not always up to date and was a version behind at press time. The link to other documentation at the MEPIS Web site is literally labeled “old user docs” on the home page, and those instructions date to the 2004 version. That’s not badly out of date, but any really new users that need documentation at all get that warm and fuzzy feeling only if the screenshots correspond exactly to what they see on the screen, so I grade the free MEPIS download harshly. It helps that there is a documentation wiki at <http://www.mepislovers.org> with some hundreds of articles, most of which are for the nonbeginner wanting to extend MEPIS’ capabilities.

A number of commercial versions of MEPIS are available from TaFusion, Inc., at <http://tafusion.com>, which do have printed manuals. For those who don’t mind the price of a book, there is one by Robin Miller (“Roblimo” of Slashdot fame) called *Point and Click Linux*. (\$18.99 US at Amazon). It, too, is based on a 2004 version, but it is a good manual for those converting from Windows in particular. Admittedly, this hardly compares to the bookshelves one could fill with Red Hat books and manuals. Documentation: Middleweight.

SUPPORT

The commercial MEPIS products from TaFusion come with 60 days of telephone support. For the free version, there’s an active MEPIS user community, including six IRC channels and dozens of forums hosted by the mepis.org server. There are entire volunteer-run sites, like the Mepis Lovers site and specialty sites for French and Italian MEPIS fans. The value of forums and IRC for Linux distros is of course proportional to the number of participants. If Distrowatch is any indication, MEPIS’ #5 position (just behind Fedora and well ahead of Knoppix and Debian) gives new users a lot of

company. The forum traffic approaches a thousand posts per day when all the English-language sites are added up. Support: Junior Heavyweight.

PRICE

As there’s a free version of MEPIS, it’s a heavyweight. The free version is not crippled in any way. The nine different MEPIS products at TaFusion (starting at \$49.95 US) add value with printed documentation, support and extras CDs for those without broadband—or a concern that the Debian repositories might post unstable versions of apps. The more expensive products add in nonfree software, such as CrossOver Office, invariably for a little less added cost to \$49.95 than buying the non-free product separately. The \$49.95 price is about par for the course in commercial Linux desktop products—and not all the others have uncrippled versions available for free, so TaFusion has good incentive to keep its docs and support worth it! Price: Heavyweight. All of them.

MOBILITY

MEPIS installed well on a five-year-old laptop, and it runs well as a live CD on a 2005 laptop. All hardware was recognized and configured correctly—except for the two-year-old Linksys Wi-Fi card on the five-year-old laptop, and the built-in Wi-Fi chip on the 2005 laptop. MEPIS has the MadWiFi and `ndiswrapper` packages to assist with configuration and make it easy, but I never got a chance to use them, because the hardware was simply invisible in both cases. From the forums, it seems MEPIS is about average at supporting Wi-Fi hardware, and I’ve just been unlucky.

MEPIS, however, has a special trick for *real* mobility: MEPIS OnTheGo. This feature sets up a home directory on any USB memory key that allows any MEPIS live CD session to have all the settings, e-mail boxes and user document files of a home installa-

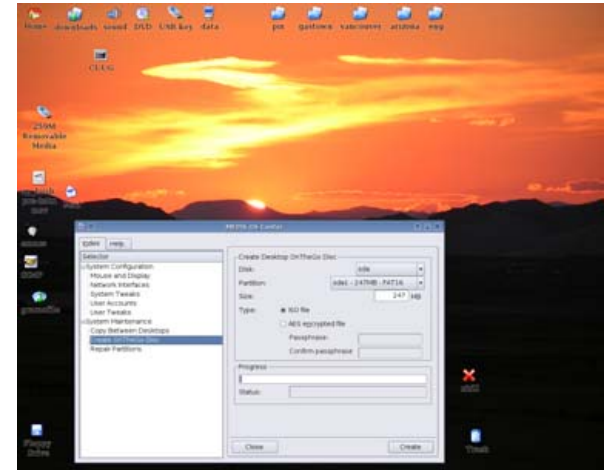


Figure 5. Formatting Your USB Key to Be Your Mobile MEPIS Home Directory

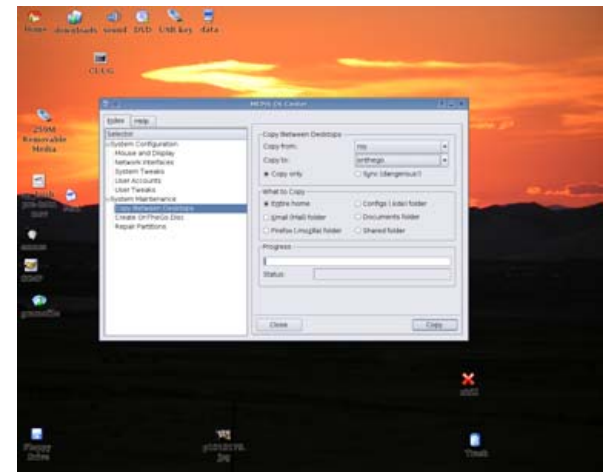


Figure 6. Copy Your Home Directory to USB—or Sync It Back Later

tion—and re-synchronize the two home directories on return. Running a live CD is a slow session unless

it has oodles of RAM (on a 512MB, 2GHz machine, the MEPIS live CD feels almost normal in many apps), but you can't beat the sheer mobility with any laptop. With 2GB double-speed USB keys running less than \$149 US, it's a lot cheaper than any laptop too! Mobility: Middleweight.

MULTIMEDIA

MEPIS is comprehensive, indeed exhaustive, in its multimedia support and nearly unique in its inclusion of non-GPL products like Real Player and Flash on a free-as-in-beer CD.

Here are the multimedia setup chores that the MEPIS distro won't weary you with:

- Installing Flash.
- Installing Java.
- Installing Quicktime.
- Installing a PDF reader.
- Installing players for *most* other media.
- Configuring Firefox to play all of the above.

In short, "The Web Just Works" on MEPIS, right out of the box. You simply won't find any Web sites that don't work, or movies or music that don't play. Everything on MEPIS plays from the popular Kaffeine media player to MP3s to DVDs. The chore you must do for yourself is install the legally controversial DVD-decoding library, meaning you have to read my sidebar on the subject in *TUX's* June 2005 issue and do the three simple steps to add the package. For higher-end ATI and NVIDIA video card owners, it has the nonfree drivers that some distros

PLS	Showcast Playlists	Open with
PDF	PDF file	Open with Adobe Reader 7.0
MPGA	MPGA file	Open with mplayerplug-in 3.15
MP4	MP4 file	Open with mplayerplug-in 3.15
MPEG	MPEG file	Open with mplayerplug-in 3.15
OGG	OGG file	Open with mplayerplug-in 3.15
FU	FU file	Open with mplayerplug-in 3.15
QTL	QTL file	Open with QuickTime Plug-in 6.0
QT	QT file	Open with QuickTime Plug-in 6.0
RA	RA file	Open with RealPlayer 9
RA	RA file	Open with RealPlayer 9
SMI	SMI file	Open with RealPlayer 9
SPL	SPL file	Open with Shockwave Flash
SWF	SWF file	Open with Shockwave Flash
WAV	WAV file	Open with Windows Media Player Plugin
WMA	WMA file	Open with Windows Media Player Plugin
WAX	WAX file	Open with Windows Media Player Plugin
WVX	WVX file	Open with Windows Media Player Plugin
WMV	Audio Video Interleave - Microsoft	Open with Windows Media Player Plugin
WM	WM file	Open with Windows Media Player Plugin
ASF	ASF file	Open with Windows Media Player Plugin
AVI	AVI file	Open with Windows Media Player Plugin
PDF	PDF document	Save to Disk

Figure 7. Firefox comes pre-installed by MEPIS to handle these media types.

don't want you to dirty your hard disk morally with, but they are better. Multimedia: Heavyweight.

FLAIR

There is a special flair to the whole MEPIS distro, however, and it's called Engineering First.

Many commercial distros now put money first—that's no knock, they have livings to make. And they may make them by providing good value. But their every effort is subject to cost/benefit analysis, not you/benefit analysis. A number of free distros put ideology first. If it's a choice between providing you with service and providing you with moral instruction and guarding you from the vile temptation to accept free binaries from big companies—they'd rather save your soul. MEPIS simply wants to assemble the best-engineered, feature full and convenient desktop solution anywhere. Where they could get free software, they did; where the function needed nonfree software, they got that. Where nobody had a great solution, they wrote their own, like the installer and the OnTheGo feature.

I wanted only an easy-to-use desktop, not the

new hobby of nursing along a loveable jalopy with all its loveable quirks. And no political polemics. I tried Red Hat, Mandriva, Linspire, Lycoris and Ubuntu—and then MEPIS. It's just the best, hands down. ■



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maintenance and replacement schedules for water and sewer systems. He enjoys hiking, European travel and not tinkering with his Linux multimedia system.

MEPIS' SCORE

Installation: 5

Application installation: 5

Ease of use: 5

Maintenance: 5

Documentation: 3

Support: 4

Price: 5

Mobility: 3

Multimedia: 5

Overall ranking: 4.4—Junior Heavyweight

Mandriva

Mandriva says “Shut your mouth and know your role” to the other distros and snatches the Distribution Smackdown championship belt. Find out how.

EVAN LEIBOVITCH

I’ve tried most distributions at one time or another, but I always find myself coming back to Mandriva when it comes time to install something that Just Works. For me, it has the right balance—not dumbed down, but also not DIY.

There are a lot of things to like about Mandriva. Historically, the distribution evolved out of a desire to make KDE work well on top of Red Hat after that company decided to standardize on GNOME, but since then Mandriva has taken on quite the personality of its own.

Mandriva as a company is one of the most international of Linux distro vendors. An amalgam of France’s Mandrake and Brazil’s Conectiva, with a little of the American Lycoris distro tossed in for good measure, Mandriva has truly diverse roots. Its head office, within walking distance of the Paris Opera House, is by far the coolest of any distro maker—I wish they did open houses there. Still, if you can’t make it to Paris, Mandriva’s graphics (screensavers, icons, wallpapers and so on) most certainly have a European character to them.

But enough about style. Functionally, Mandriva is also pretty cool.

Mandriva can be obtained in one of four ways:

- You can buy boxes of the distribution—complete with printed documentation—in a number of different configurations, either on-line

from Mandriva’s Web site or from appropriate resellers.

- You can use Bittorrent to download freely copyable versions of the distribution as ISO files that can be burned onto CDs or DVDs (the torrent files are available at the Mandriva Web site).
- Sources such as CheapBytes sell already-burned versions of the free versions of Mandriva for less than \$10 US.
- A subscription service called Mandrake Club provides higher-speed access to ISOs, and Club members have access to new versions of the distro before they’re publicly released.

Depending on which method you choose to obtain it, a full Mandriva set can be from four to seven CDs of software. The difference is in the proprietary software included with the more-expensive levels—though most of these extras (such as Acrobat Reader and Real Player) are freely available. It’s mainly a matter of convenience. Support from the community Web site forums has been helpful when needed, and I’m told that commercial support from Mandriva does what it’s supposed to do.

Regardless of where you get your CDs, installation is fairly straightforward once you boot from the



first one. Mandriva is not the three-clicks-and-you’re-up super simplicity of some distros I’ve seen, but then I’ve rarely needed to use anything other than the defaults. The install system automatically recognizes existing MS-Windows and DOS partitions for booting and mounting, which is useful if you have a dual-booting laptop. The default choices are fine for most uses, but if you ever want to get fancy with customized settings, you have that option. The installation can be done in dozens of languages, and although you can interrupt installation to make custom settings, you also can leave defaults in place and cruise through the process. At install time, you indicate what kind of installation you want—client, server or some combination of the two. Then, simply sit back and switch the CDs as prompted.

To be honest, I haven’t spent much time with the printed documentation, as I found that the combination of the on-screen help and the installation guide freely available on the Mandriva Web site (in HTML or PDF format) is more than adequate. What I remember of the printed documentation (I haven’t looked at it recently) is that it’s useful and sufficient but not outstanding.

Mandriva has been the only distro I have used that has correctly recognized and installed the video, wireless, mouse and Ethernet drivers on a number

of different laptops, servers and desktops. It was the first to understand how to install the Intel Centrino wireless system properly, which under Linux requires both drivers and (binary-only) firmware.

I found that Mandriva was exceptionally strong in working with laptops. It recognized my ThinkPad and installed `tpctl`, which enabled a number of hardware-specific features. As a result, it was also the only distro I've used that, without fiddling, immediately after installation was able to hot-plug my ThinkPad docking station. Pen drives and many other hot-plug USB devices are handled with ease. And, other laptop-specific features, such as battery-life monitors and wireless-Ethernet management tools, are installed as needed.

To a Windows user, such facilities are taken for granted; on Linux, these seemingly mundane accomplishments can be rather significant. The problems I continue to encounter—such as switching and easy configuration of the laptop's external video connector—plague most other distributions as well, but they appear to be getting collectively solved.

Once up and running, you have a fairly standard and robust KDE setup. Although GNOME and its applications are available and work fine, Mandriva always has been a very KDE-centric distribution, and the Mandriva-specific tools and graphic themes are mainly tuned to KDE.

Administration is reasonably harmless. Anyone familiar with the Control Panel will understand and be able to use Mandriva without much prodding. Users, hardware and software updates can be handled from its screens. What does take a little time to understand is the difference on the menu between Configure Your Desktop (which controls KDE functions such as window colors and wallpapers) and Configure Your Computer (which deals with hardware, software updates and other system

functions through Mandriva's Control Center).

The available software certainly covers the range of applications that most people would want. I find that Mandriva is not as bleeding edge as some other distributions—for instance, the current version of Firefox as I write this is 1.5.0.1, but the one currently supported by Mandriva is 1.0.6.

The method of discovering, installing, updating and removing software is both a strength and a frustration. Mandriva is an RPM-based distribution that has, over the years, created some novel and useful tools for managing its packages. Pre-merger Conectiva was the first distribution to adapt the Debian `apt-get` interface for use with RPM files. And the evolution of the Mandrake package management system, which I still use, is flexible and powerful.

The Mandriva `urpmi` system, accessible from the Control Panel or the command line, flexibly allows you to define sources of software on removal media (your installation CDs), as well as on-line locations where more packages (and newer versions of the ones you have already installed) are located. It handles, and can automatically install, dependent files such as libraries quite well.

To supplement, and eventually update, the packages on the installation CDs, a worldwide network of servers exists that support the `urpmi` system. Every Mandrake system ships with a list of servers that provide basic updates. However, there are also a number of software categories provided by these repositories:

- Main: the official set of current packages.
- Contrib: packages that have been provided by the community but not verified or supported by Mandriva.

- Cooker: new or updated packages that are undergoing testing before future release.

Two other sources for packages exist. MandrakeClub subscribers have access to easily installable RPM files of commercial no-cost packages. The other source, unique to Mandrake, is a very interesting project called the Penguin Liberation Front (PLF). Based at <http://plf.zarb.org>, the PLF and its mirrors are where Mandriva users from around the world can get packages that for whatever reason, Mandriva can't or won't include. These include video codecs, file transfer clients and DeCSS libraries for playing DVDs using open-source software. With the PLF packages installed, Mandriva can play just about any audio or video file you can throw at it through conventional tools such as `amaroK`, `Xine` or `MPlayer`.

Another useful feature is `EasyURPMI` (<http://easyurpmi.zarb.org>), which offers a very nice facility for configuring `urpmi`. `EasyURPMI` helps you set your system to find the right sources for all packages described above (including PLF files). Mandriva also offers a mirror finder on its Web site, but `EasyURPMI` offers more complete assistance.

I find everything fairly easy to use and straightforward, but I've been using Linux for a decade. Although it's easy to use (and easier than many other distros), the Mandriva system can still be fairly intimidating to new users. If you know the name of the open-source package you want to load, the system works nicely in searching through all the above-mentioned sources. However, searching by category is not as easy as it should be, and Mandriva makes no difference between applications (which are what you're looking for) and the libraries and other dependent packages (which are necessary, but you shouldn't be pre-

sented with everything else when searching for applications). Although this problem is common to most other distributions, I consider it a real shortcoming in Mandriva given its broad appeal to new users in most other areas. Having said that, the availability of the PLF and EasyURPMI community features are real standouts.

One should, in theory, be able to do full-system upgrades from one Mandriva release to another, but I've never tried it myself. One of the nice directions the company has gone in is making a version of Mandriva that is highly portable, using a live CD and a USB stick that contains your configurations. This combination,

MANDRIVA'S SCORE

Installation: 4

Application installation: 5

Ease of use: 5

Maintenance: 4

Documentation: 4

Support: 5

Price: 5

Multimedia: 5

Mobility: 5+ (super heavyweight)

Overall ranking: **4.7—Heavyweight**

called Mandriva Move, allows you to boot Mandriva on any system, complete with all your familiar settings, without touching the hard disk of the computer on which it's running. Another option, called Globetrotter, is a small portable USB-connected drive with Mandriva installed and runnable on any system (again, without touching the system's hard disk).

This attention to portability is, to me, what makes Mandriva stand out amongst distros. It's great on the desktop but really shines on laptops. The software works well, and the company understands the community. How much you pay for Mandriva is determined by the amount of hand-holding you want. The packages used in the commercial versions are the same as in the free ones. Overall, I have no hesitation recommending Mandriva to old-timers and newcomers alike. Newcomers will appreciate the ease of use, yet longtime users will have plenty of opportunities to tinker. In all, using Mandriva is as comfortable and satisfying as sipping a café au lait on the Champs Elysee. *C'est un vrai plaisir!* ■



Evan Leibovitch has been using and advocating Linux for more than ten years and UNIX for a lot longer than that. Based in Toronto, he is Executive Director of CLUE, the Canadian Association for Open Source.

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Fluxbox

A small, yet slick desktop that, when combined with Rox, provides a powerful alternative to KDE or GNOME.

JOHN KNIGHT

Here's a desktop that happens to be a favorite of mine, and a favorite of readers too, Fluxbox. Aesthetically pleasing, minimalist, slick, simple, elegant and lean, Fluxbox is easily one of the best lightweight desktops available. Fluxbox is based around the coding, look and feel of Blackbox, a much-revered desktop of the past, but Fluxbox picks up where Blackbox left off. Adding usability enhancements, entirely new features and updating to newer standards, Fluxbox takes Blackbox into the 21st century.

SEE ALSO:

Blackbox—the original project from which all its derivatives spring:

<http://blackboxwm.sourceforge.net>.

Openbox—if you like the look and feel of Blackbox/Fluxbox, you can use it under large desktops like GNOME with Openbox:

<http://openbox.org>.

Waimea—much like Openbox, Waimea adds extra features, such as menu translucency:

<http://www.waimea.org>.

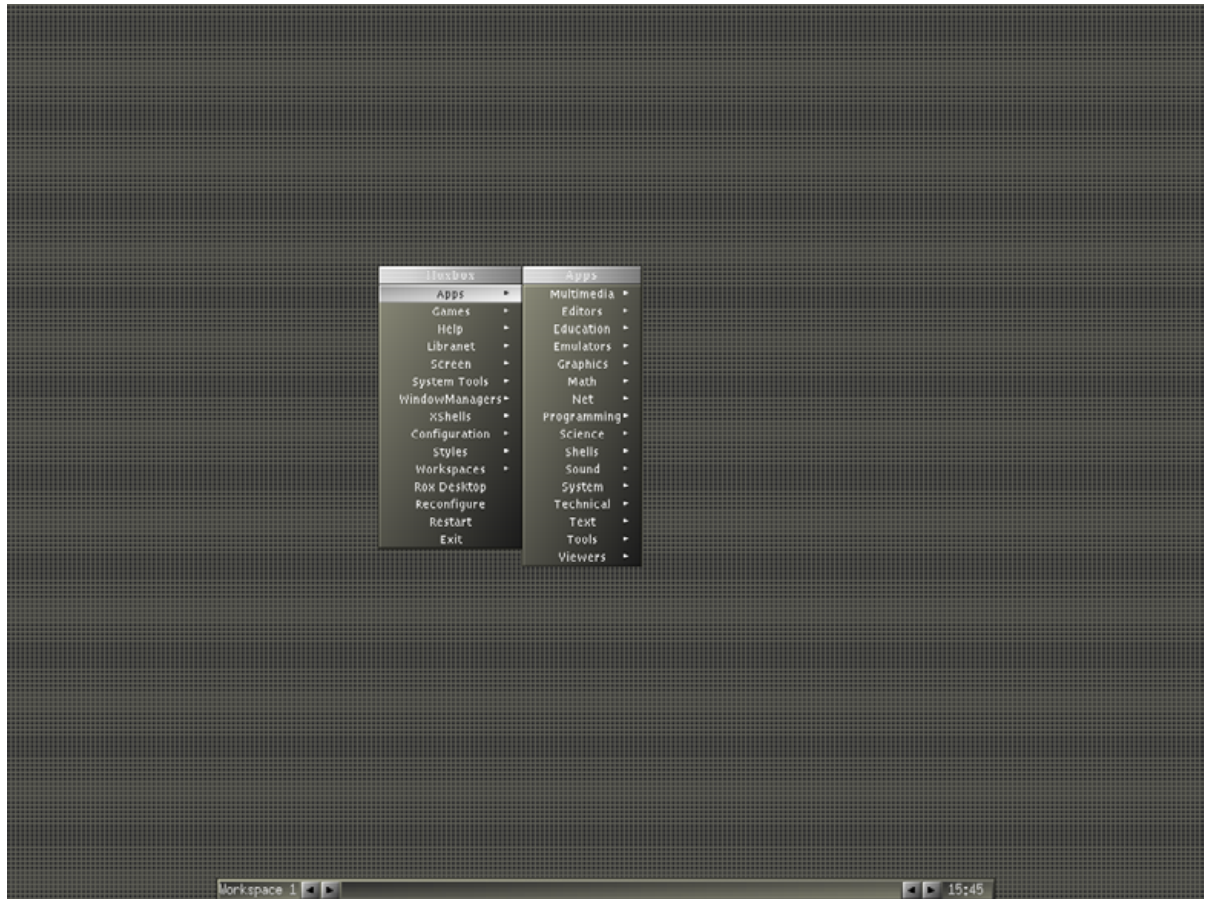


Figure 1. The Default Fluxbox Screen—Nice and Minimalist

LOOKING AROUND

The Fluxbox interface is simple, and the first time you boot in to the main screen, you won't be intimidated. You'll be greeted with a blank desk-

top, usually sporting a tasteful color scheme, with a non-invasive taskbar at the bottom. Is that it? Nope. Right-click on the desktop, and a menu appears. Middle-click, and a different menu

appears. And that's pretty much it, sort of. The GUI provides all the features you could want, but they've been neatly organized so there's no clutter. Let's explore each feature in detail.

THE TOOLBAR

Going from left to right, first we have the workspace name. Second are two arrows, which are for switching between workspaces. Third, in the center of the bar, is each window's button, and (assuming you have windows open) clicking them switches between the windows, like most desktops. Fourth, are two more buttons, which switch between any open windows. And, finally, there's the clock.

FLUXBOX MENU

Right-clicking on the desktop opens the Fluxbox menu. Unlike many other desktops, if you move the mouse away from the menu, the menu doesn't disappear (which avoids the hassle of having to go through the menu again if you miss the target the first time). To make the menu disappear, simply left-click on the desktop. If you middle-click on the desktop, the

Workspaces menu appears, which we discuss more later.

Going back to the Fluxbox menu, if you're lucky, there will be a menu containing most of your installed applications, system-wide (this is called Apps in my distribution, but it may be called something different in yours). From here, you should be able to fire up any application that you can under KDE or GNOME. If you look down the list, you'll see that the Workspaces menu is also in the Fluxbox menu.

WINDOWS

At the top right of a window's titlebar are the three familiar buttons: Minimize (or Iconify), Maximize and Close. At the left of the titlebar is the Sticky button, used to make a window persist on every workspace. However, resizing windows isn't as intuitive as with other window managers; you can't simply grab any part of a window's border and pull it the way you want to go. To resize, look in the bottom left and right corners of the current window, and you'll see a small button in each corner. Click one of the buttons and drag to resize.

TRAVERSING DESKTOPS

Middle-clicking on the desktop brings up the previously mentioned Workspaces menu. The menu contains the following items:

- New Workspace: adds another workspace to the ones you already have.
- Remove Last: gets rid of the last workspace on the list.
- Workspace x: a submenu (x is the number of

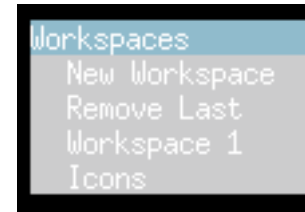


Figure 2. The Workspace Menu (Middle-Click)

the workspace being used at the time), it allows you to view all of the open windows in that particular workspace and switch to them. With each window entry comes its own submenu, letting you minimize or close the window, send it to another workspace and so on.

- Icons: gives you a listing of the minimized windows across all workspaces and allows you to restore them.

Switching between workspaces is an easy process. The two buttons on the left of the toolbar (next to the workspace name) move forward and backward through workspaces. If you have a mouse-wheel, flicking up and down over empty space on the desktop also changes between workspaces. If you want to rename the current workspace, simply click on the workspace name on the left of the toolbar, and a small menu appears. Choose the top option called Edit current workspace name, and a small dialog box appears. Enter the new name, press Enter and you're set. Desktop warping also is enabled by default. When you drag a window to the edge of a workspace and keep going, Fluxbox automatically warps to the next workspace and places the window there.

VIEWING HIDDEN DIRECTORIES

Konqueror and Nautilus:
Click View→Show Hidden Files

Xffm:
Click Options→Show Hidden

Rox:
Click the eye icon on the top row of buttons.

THE SLIT

What is this Slit thing anyway? Many people think the Slit is the toolbar on the bottom, but they are mistaken. The Slit is a place for certain dock windows to reside. WindowMaker users will be familiar with docking windows, but KDE and GNOME users will recognize these as the icons that appear on the taskbar when you run something like KMix, XMMS, amaroK and so forth. The Slit usually resides on the toolbar, but you can configure it to sit somewhere else. Like the Toolbar, the Slit can be configured from within the Fluxbox menu—simply browse through Configuration→Slit.

CONFIGURING

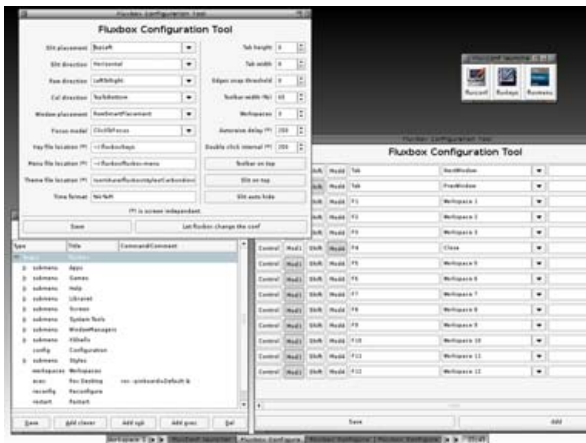


Figure 3. All Three Configuration Tools, along with fluxbar in the Top Right

FLUXCONF LAUNCHER

There are three main configuration utilities, and they all reside in the Fluxconf Launcher. To run the Fluxconf Launcher, either find it somewhere in your menu, or run the command. In my menu (Libranet

3.0), it's under Apps→Tools→fluxconf. If you can't find it, try running it from a terminal, usually available under XShells in the Fluxbox menu. Simply enter `fluxbare`, and you should be fine. The command `fluxbare` provides a tiny toolbar allowing you to launch the different parts of the Fluxconf package. If it isn't there, you can run each utility individually with the commands `fluxconf`, `fluxkeys` and `fluxmenu`.

FLUXCONF

Here you can change things like the number of workspaces, whether or not to autohide the Slit, how wide the toolbar is and so on. We don't have space to go into all the available options, but try experimenting for yourself. One of the first things you should do is change the Key file location and Menu file location to `~/ .fluxbox/keys` and `~/ .fluxbox/fluxbox-menu`. If they are set to something like `/etc/...` or `/usr/...`, you won't be able to save any modifications you make, unless you're root. Once you are finished, click Save and Let Fluxbox change the conf at the bottom. You have to restart Fluxbox for the changes to work. Simply choose Restart, which is second from the bottom on the Fluxbox menu.

FLUXKEYS

As the title suggests, this defines shortcut keys in Fluxbox. To define a shortcut, browse through the predefined shortcuts on the left, and choose the action you want from the drop-down menu toward the right. And, in case you're wondering, the Mod keys are Alt (don't ask me why).

FLUXMENU

The `fluxmenu` application allows you add or remove entries on the main Fluxbox menu. The first thing you should do is resize the window so that the third

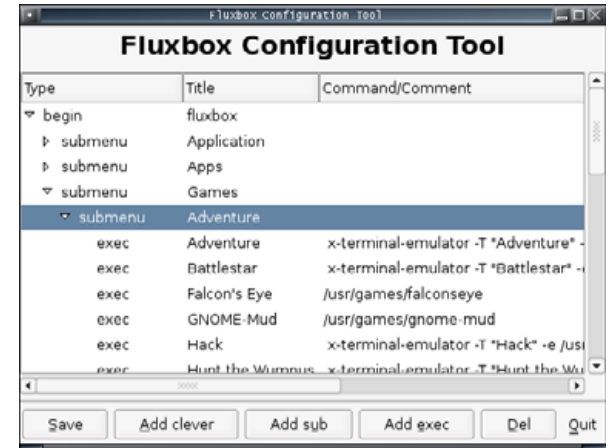


Figure 4. Editing the Menu with Fluxmenu

column, Command/Comment, is visible. The Save button explains itself, but the others are more cryptic. As you should see when scrolling through the list, the menu is made up of submenus and execs.

A submenu is a menu within the main menu. An exec is the actual program you want to run, and these are the entries within the menus. To make a new submenu, perform the following steps:

- Click Add sub.
- Click on the empty title field on its right, and enter the name you want.
 - To make a new exec, perform the following steps:
- Click on the submenu under which you want it to be located.
- Click the Add exec button.

- Give the new entry a name in the Title field.
- Enter the program's command in the field on the right.

What about the Add clever button? Well, if you have an exec selected, it'll make a new exec. If you have a submenu selected, it'll make a new submenu. If you don't like an entry's position on the list, click and drag it up or down to wherever you want it. Once you're finished, don't forget to click Save before you quit.

DESKTOP ICONS—ROX

For a desktop file manager and icons, the best choice is Rox. Like the window managers covered in previous issues of *TUX*, however, you have to dive into a hidden directory to make it work (see the Viewing Hidden Directories sidebar).

1. Look under (your home)/.Fluxbox, and open the file startup.
2. Add a new line at the end of the section where it says "# Applications you want to run with Fluxbox", and type `rox -pinboard=Default &`. Make sure there's no # at the start of your new line.
3. Save the file, and restart Fluxbox.

Under my distribution, GNOME's login manager gets in the way, and the above steps don't work properly. For a workaround, I simply add Rox to my Fluxbox menu using the same command and activate the Rox Pinboard through the menu. This can be annoying, but at least you always have the choice of running a normal



Figure 5. Fluxbox Running with a Rox Pinboard and the fbpanel on the Bottom (see the Addons sidebar).

Fluxbox or running Rox as well.

Once you have Rox running, you need to retrieve the Fluxbox menu, or you won't be able to quit Fluxbox or run any of the programs!

1. Right-click on the Rox Pinboard and choose Rox-Filer→Options.
2. Choose Compatibility from the menu on the left and check the boxes for Pass all backdrop mouse clicks to window manager and Blackbox root menus hack under Window manager problems.

This enables you to access Fluxbox's right-click desktop menu again, but with the side effect of not being able to use Rox's menu anymore. If you ever need to access the Pinboard's right-click menu again, simply make your way to Rox Options by right-clicking in the Rox File Manager, and turn off the above options.

ADDONS

FbPager adds a box to preview workspaces and switch between them, as in KDE and GNOME.

Command: fbpager

URL: <http://fluxbox.sourceforge.net/fbpager>

fbpanel adds a GNOME-like toolbar, but is designed around Fluxbox.

Command: fbpanel

URL: <http://fbpanel.sf.net>

fbdesk is Fluxbox's original, yet less-intuitive answer for desktop icons.

Command: fbdesk

URL: <http://fluxbox.sourceforge.net/fbdesk>

Themes

URL: <http://Fluxbox.org/themes.php>

IS FLUXBOX FOR YOU?

At the end of the day, Fluxbox is one of the slickest, smallest, yet most elegant desktops in existence, and trying it out at least once is mandatory. By itself, it's very strong and attractive, but combined with Rox, it becomes powerful yet CPU-friendly. After years of Linux usage, Fluxbox is still a favorite of mine. ■



John Knight is a 21-year-old, rock-climbing, Japan-loving megalomaniac, trying to take over the world from his bedroom via his keyboard. He spends most of his time tinkering with MPlayer and headbanging to his MP3s.

Gadget Guy: Sounds Good

SEAN CARRUTHERS

It doesn't matter where you look—computers of all shapes and sizes are turning into multimedia powerhouses. But, what's the point of all that multimedia if you can't make it sound good?

Getting good sound on a computer is easier than ever these days, thanks to the fact that you can get reasonably high-quality surround sound out of the jacks on the rear of even inexpensive motherboards. Whether you decide to use to trusty old 1/8-inch audio jacks or opt for the newer digital connector, there's a speaker set ready to convert the digital audio on your computer into glorious surround-sound audio.

LOGITECH Z-5450 DIGITAL 5.1 SPEAKER SYSTEM

<http://www.logitech.com>
\$500 US

Logitech long has been known for its lineup of mice, keyboards and Webcams, but the company also has made the leap successfully into surround-sound speaker setups. The Z-5450 Digital 5.1 Speaker System is the company's most recent high-end audio offering, and it adds a feature that's bound to appeal to a lot of users: wireless satellite speakers.

If you're not familiar with 5.1 surround-sound setups, the 5.1 refers to the number of speakers in the setup. The 5 refers to a left and right channel on the front, a left and right channel on the rear and a center speaker directly in front of you; the .1 refers to the subwoofer. Other surround-sound setups have fewer speakers (2.1 or 4.1) or additional speakers (6.1, 7.1 and up), but 5.1 is



the most popular configuration.

As with previous sets in Logitech's Z series, the Z-5450 features a breakout box. There's a volume control on the front and inputs for all of the different sound sources on the back. The box gets its power from the subwoofer unit, to which it attaches via a length of cable. The subwoofer itself features standard bare-wire clips for the three speakers on the front (left, right and center). Thanks to the length of cable between the subwoofer and the breakout box, it's very easy to tuck the subwoofer away under a desk where it won't get in the way.

One of the nicest features of the Z-5450 is the variety of ways you can hook up to multimedia equipment and computers. There's a trio of 1/8-inch audio jacks, which matches the configuration of most new computer motherboards. Simply match up the colors from the computer to the colors on the back of the breakout box (the cables that come with the speaker set are helpfully color-coded), and you'll have done the majority of the work.

In addition to the 1/8-inch jacks, the breakout box also features one digital coax SPDIF connector and two optical SPDIF connectors. This means if you have your computer located near your multimedia equipment, you also can connect other items, such as a DVD player, video game console and more. When you're using the speaker set, you can cycle between your input sources

using a button on the front of the breakout box or a button on the remote control.

The new feature on the Z-5450 set is the wireless satellite speaker capability, which lets you hook up the two rear speakers without the hassle of stringing cables across the room. The downside is you will need to plug both of the rear speakers in to a power outlet, which eats up two more outlets than the previous Z-series set required. You can tell whether the rear speakers are up and running by checking for the little light behind the speaker grille, located right above the Logitech logo. Blue means the speakers are communicating with the breakout box, and red means they're either too far away or the speaker set is powered down.

The packaging for the speaker set notes that it features a top rating of 630 watts, but that's peak power. The RMS rating is 199 watts for the satellite speakers and 116 watts for the subwoofer, which means overall the set probably will have a bit less oomph than you'd expect. That said, the Z-5450 still has enough power to rattle the walls a bit—a surefire way to annoy the neighbors or break a lease, if that's your purpose.

SENNHEISER RS-130

<http://www.sennheiserusa.com>
\$170 US

If you're interested in keeping the peace with your neighbors but don't want to sacrifice sound quality, Sennheiser may have just the thing.

The RS-130 wireless headphone set comes with a base station that doubles as a charging stand—the two upright wires that the headphones rest on also charge the headphones when

you set them into place. The base station can plug directly in to RCA outputs, but the set also comes with an adapter, so you can use it with a standard 1/8-inch headphone jack.

The headphones seem a bit large, but they aren't very heavy. A switch to turn them on and off is tucked behind the left earpiece, and a volume control sits behind the right ear. One minor annoyance is that the headphones don't always kick in instantaneously once the sound starts flowing—if they've gone into power-saving mode, it can take a few seconds before the audio starts pumping out of the earpieces.

As with all wireless equipment, your range will depend on your environment—a lot of concrete will diminish your range, as will a lot of walls. That said, I got reasonably good range with them—about 100 feet in an area with concrete dividing walls and a lot of wireless network traffic. So within the same room, your sound quality should be top notch. ■



Sean Carruthers is a freelance technology journalist from Toronto. He spent six years at Canada Computer Paper, first as Products Editor at *The Computer* and later at *HUB Digital Living* magazine. As a freelancer, he has written for the *Globe and Mail*, <http://globetechnology.com>, *HUB Digital Living*, *Computer Dealer News*, *Homefront* and *CE-Biz*. Although a relative newbie with Linux (SUSE, thank you very much), he has extensive experience with tech gadgets of all sorts and is enjoying figuring out which ones are compatible with Linux.



The Battle for Wesnoth

Still unconvinced about which distribution is best? Take it outside (sort of) with *The Battle for Wesnoth*!

DANIEL BARTHOLOMEW

The Battle for Wesnoth is an open-source strategy game. It is turn-based, like the popular *Civilization* and *FreeCiv* games, but with a fantasy slant, similar to *Warcraft* or *Freecraft*.

The Battle for Wesnoth is included with many Linux distributions, so check your install CDs or software repositories first. If you can't find it there, visit <http://www.wesnoth.org/wiki/WesnothBinariesLinux>

for a list of precompiled binaries for various flavors of Linux, along with installation instructions. Versions also are available for Windows and Macintosh computers, so you can take the fight to your less-enlightened friends and neighbors. Send them to the main Web site at <http://www.wesnoth.org> for the easy download. If you would like to try your hand at compiling the

game from scratch, check out the helpful instructions at <http://www.wesnoth.org/wiki/CompilingWesnoth>.

When you launch the game, you'll come to the main screen. From here you can take the tutorial, start a campaign, host or join a multiplayer game, load a saved game, and change your language and other preferences.

The language and preferences screens let you change various aspects of game play. If you are looking for a quick game, the Accelerated Speed and Skip AI Moves options help speed things along.



Figure 1. Welcome to *The Battle for Wesnoth*!



Figure 2. *The Battle for Wesnoth* is available in a number of languages.



Figure 3. The tutorial does a good job of explaining how to play.



Figure 4. Choosing a Single-Player Campaign

Before you jump into a campaign or go on-line to battle your friends, be sure to run through the tutorial. It does a good job of explaining the basic concepts of game play, and then reinforces those concepts with lots of hands-on practice.

After you complete the tutorial, you should be prepared to play through one or more of the included single-player campaigns. I recommend you start with the “A Tale of Two Brothers” and “Heir to the Throne” campaigns. Both are designed with beginners in mind.

If you finish all of the included campaigns, and find yourself wanting more single-player action, scroll down the campaign list and select Get More Campaigns. A list of available campaigns and map packs will be displayed. Select the one you want, click OK and it will be downloaded and installed. If it is a campaign, it will appear in your campaign list. If it is a collection of multiplayer maps, it will be available from the map selection screen when you create a



Figure 5. Starting a Multiplayer Game

new multiplayer game.

Speaking of multiplayer features, these add limitless replay value to the game. From the Multiplayer screen, you can connect to the official server to host or join a game there, or you can host your own or join a friend’s game. You don’t even need to be on-line to start a multiplayer game. If you have friends over, you can start a hotseat game. In this mode, you each take turns at the same computer, which is a great way to introduce people to *The Battle for Wesnoth*. Finally, if you want to try out a multiplayer map so you can get the feel of it, choose the Human vs. AI option.

When hosting your own multiplayer game, you can have the system create a random map for you, or you can use one of the supplied maps or a map you have downloaded. You also can set various options to make the game easier or harder, quicker or slower, as desired.

The Battle for Wesnoth has a strong fantasy slant to it, complete with castles, dragons,



Figure 6. *The Battle for Wesnoth* has a strong Tolkien-esque feel.



Figure 7. Every episode contains victory conditions.

elves and so on. The game also has an extensive storyline that is revealed as you play through the campaigns.

The way a typical level of a campaign works is you are given certain conditions that must be met



Figure 8. Recruiting a New Unit



Figure 9. Is that Mango?



Figure 11. Getting Ready to Attack an Enemy Unit

in order to progress to the next level. These conditions are usually along the lines of “don’t let your leaders get killed” or “kill all of the enemy leaders”—often both.

Leaders are important in *The Battle for Wesnoth*, because they are the only units that can recruit other units. During your turn, when your leader is in possession of a castle, you can right-click on empty castle tiles and recruit units. You are limited only by how many castle spaces are free and how much money you have. You get more money by capturing towns. When you put one of your troops on a town, a little flag in your color goes up signifying that you own it, and it will generate gold for you every turn until an enemy unit captures it.

You also have to keep track of your support commitments. A large army takes more gold away from you each turn. So, the more towns you own, the larger your army can be. This is the essence of the resource management required for the game. Unlike other strategy



Figure 10. Moving a unit—the colored area shows how far it can move.



Figure 11. Getting Ready to Attack an Enemy Unit

games, you don’t need to worry about collecting various kinds of resources and wasting units on resource gathering or construction tasks.

Little touches abound that help improve the experience. For example, different units can

move a different number of spaces depending on which land type they are on. Elves move well in the forests, dwarves move well in the mountains and so on. Instead of making this overly complicated, when you want to move a unit, click on it and the places the unit can



Figure 12. The integrated help system is very useful.

move remain colored and the areas the unit cannot travel to in the current turn become gray. Move your mouse, and it shows the path your unit will take to get to where you want it

to go, complete with footsteps. Click the tile you want it move to, and it will go—easy.

Attacking works the same way. Click the unit you want to have attack, then click the

unit you want to attack. The mouse cursor even turns into a little sword to reinforce the action. These little touches improve and streamline the game play and the whole game exhibits a level of completeness and polish that is lacking from many open-source and home-brewed games. In fact, it exceeds the quality of many commercial games.

For those who want to delve deeper into the tactics of the game and perfect their strategy, the help system, accessible from the in-game menu or by pressing the F1 key, goes into great detail on all of the various unit types, their abilities and attributes, who does best on specific types of terrain, the upgrade path for each character and so on.

The Battle for Wesnoth is a great strategy game. Its turn-based nature and gentle learning curve combine with the story, visuals, excellent sound track, multiplayer features and a lot of polish to create what is arguably one of the best strategy games on the market, open source or not. So, stop the endless debates and call out your SUSE-, Slackware-, Fedora-, Mandriva- or Ubuntu-using friends and find out once and for all who's the best. ■



Daniel Bartholomew has been using computers since the early 1980s when his parents brought home an Apple IIe (with an 80-column card!). After stints on Mac and Windows machines, he discovered Linux (Slackware) in 1996 and has been using various distributions ever since. He lives with his wife and children in North Carolina.