

Introduction

Welcome to *openSUSE Linux Unleashed*! This book is going to help you get the most out of your SUSE Linux system, and it includes a fully functional copy of the operating system distribution.

Since SUSE Linux A.G. was acquired by networking pioneer Novell in 2003, more North Americans are becoming familiar with the SUSE Linux distribution that has long been popular in Europe. SUSE Linux offers an incredibly easy installation and a large number of applications that have been tested for stability.

openSUSE marks a new way of doing things for both Novell and SUSE, and this book can help you join the excitement. openSUSE 10.3 is now the fourth SUSE release built and tested through the openSUSE project. Many thousands of people around the world have downloaded and run beta releases and have contributed bug reports, feature wish lists, and postings on the openSUSE mailing list. Novell has committed to opening up the process even further in the future. You'll read more about the openSUSE project in Chapter 1.

Whether you're completely new to Linux or coming to openSUSE Linux from another distribution, you're going to find solid information in a slightly more relaxed style than you're used to in a computer book.

SUSE Linux has always been known as a distribution packed with applications, and openSUSE 10.3 is no exception. This book, as always, includes a complete copy of the distribution on a DVD. The Linux kernel forms the core of a truly modern operating system that can power anything from wrist watches to supercomputers. openSUSE Linux can run on computers running processors ranging from the Intel 486 through 64-bit processors from AMD and Intel.

This book will be especially helpful to the millions using Linux as their everyday desktop system. After first sweeping over the server landscape in the late 1990s, Linux is gaining ground in the desktop arena. More Linux developers have become interested in writing software for the masses of ordinary users. You'll learn how to use several open-source office productivity applications, access the Internet, work with digital music and video, and even play a few games.

openSUSE Linux Unleashed contains everything you need to get started and be productive.

NOTE

This book includes a copy of openSUSE 10.3, but readers owning earlier versions of SUSE Linux should find nearly all the advice contained here useful.

You'll get a little bit of Linux history before jumping into the preparation needed for a successful installation and long-term operation of openSUSE Linux. Then you'll get step-by-step instructions in using the SUSE Linux standby, Yet another Setup Tool (YaST), to

install the distribution and configure your hardware. Next, you'll learn about the everyday applications you need to run Linux on the desktop, and then you'll learn about using the Internet, creating websites, and running web and FTP servers.

System administration is the next major topic; in this topic, you'll learn how to manage your files, users, and data, and how to keep your system current by updating it with the same tool you used to install the system.

Finally, because Linux has always been a playground for programmers, we'll cover both the classic tools for creating new programs and the newer scripting languages.

Why Use Linux?

More than a decade has passed since Linus Torvalds put his operating system code on the Internet, and millions have been putting Linux to good use. It's been a while since Linux was viewed as a "toy operating system" used only by geek computer hobbyists.

Big corporations, colleges, governments, school districts, nonprofit organizations, and everyday users are all turning to Linux to boost productivity at a low cost. If you're still thinking about whether to join them, here are a few good reasons:

- ▶ Linux puts you in control of your computing environment. Although much of the buzz around "free software" revolves around cost (and we'll get to that argument in a moment), what's really important is that the user is really in charge. Choices abound in the Linux space. If you're not happy with the way one application works, there's usually something else out there that can make you happy. Most applications are also endlessly customizable, so if there's an annoying feature included as a default, you can always turn it off or modify its functioning.
- ▶ Linux is inexpensive to install, run, and update. Unlike proprietary operating systems, you can take the DVD from this book and install openSUSE on as many computers as you need to. Configure Linux individually for your file servers, routers, web servers, and desktops. All these systems will run crash-free with little maintenance required and (if you like) automated updates that don't even need user intervention to install.
- ▶ Linux is ready for the desktop. Nearly everything you can do on a Windows machine can be done on openSUSE, from creating professional office documents and presentations to getting files on the Internet. It's also not that hard to get used to after you've made the switch. When Grandma is running Linux, she's less likely to see error messages and crashing programs, too.
- ▶ Linux is a rock-solid server performer. The operating system (OS) made its first impression as a fast, secure, stable, scalable, and robust server OS. The current kernel easily handles multiprocessor machines, gigabytes of system memory, and terabytes of data. Most enterprise-level applications have Linux versions. Although this book does not cover the Novell Open Enterprise Server (OES), openSUSE serves as a proving ground for new enterprise applications to be included in OES.

- ▶ Linux thrives in a variety of environments. Linux drives many personal digital assistants, laptops, desktops, and specialized computers. You can put your ancient 486 processor to work as a router or file server with openSUSE. It also runs on AMD 64-bit Opteron processors, and did so for a year before 64-bit Windows XP was released.
- ▶ Linux offers a royalty-free development platform for several operating systems. Because of the open-source development model and the high-quality, free tools available to developers, anyone from 13-year-old budding programmers to massive development shops can produce quality software relatively inexpensively.
- ▶ Linux now offers big player support. Although the Linux community is still the best place to go for support when things go wrong, the presence of IBM, Novell, and other big companies in the support space can make even the most uneasy bean counter relax a little.

Who This Book Is For

This book will get you going on openSUSE Linux. When Novell began the openSUSE project, this distribution became targeted for the computer enthusiast and personal user. The contents are aimed at the intermediate to advanced user, but even the newest Linux users should find much useful information, especially in Part 1. The end of each chapter offers pointers to excellent resources on the World Wide Web (WWW) to keep you current and help you delve deeper into the subject areas covered here.

The YaST installer is better than most at identifying and configuring hardware, but you should have at least some familiarity with your system and the types of hardware it contains before installing any Linux system. Knowing your way around the command line never hurts either. This book will help you gain and refine those skills and show you how to learn more about your computer, Linux, and the applications included in the distribution.

System administrators of all experience levels will be able to use this book to install, set up, and run common network services, including the Apache web server, FTP servers, and Samba for cross-platform networking. You'll also get comfortable with using YaST to update your systems.

Programmers will learn about the tools available to help them be productive, with summaries of many professional-grade text editors, integrated development environments, and web programming languages and tools.

What This Book Contains

openSUSE Linux Unleashed is organized into six parts, covering installation and configuration, everyday usage, Internet access and usage, basic and advanced system administration, and programming. The idea is to work from the very basics of using the OS into more difficult and advanced tasks. With the accompanying DVD, you have everything you need to get started.

New Linux users will find the first three parts most helpful. You'll get valuable information on the following topics:

- ▶ An overview of SUSE Linux.
- ▶ Getting help through the printed and online documentation provided with openSUSE, through the Internet, and through Linux User Groups (LUGs).
- ▶ Planning for your installation by looking at the tasks you have for your computer, and then examining your hardware.
- ▶ A detailed walk-through of the installation process.
- ▶ Preserving an existing Windows installation for dual-boot launching.
- ▶ Configuring and using the X Window System, the Linux graphical interface, and the two primary desktop environments for Linux—KDE and GNOME.
- ▶ Making friends with your command line.
- ▶ Printing in Linux.
- ▶ Running OpenOffice and other productivity tools.
- ▶ Accessing the Internet.
- ▶ Managing email, Usenet, and file transfer with both FTP and peer-to-peer protocols.
- ▶ Playing music, video, and games.
- ▶ Burning CDs and DVDs.
- ▶ Turning your PC into a personal video recorder like TiVo.
- ▶ Creating your own websites and weblogs.

Parts 4 and 5 are about system administration. New users should at least review Part 4 to learn how to manage data and users and use YaST and other tools to keep the system updated. Professional system administrators can go deeper, with material on the following:

- ▶ Managing the boot process.
- ▶ Securing your system and network.
- ▶ Managing the kernel and its modules.
- ▶ Setting up networks.
- ▶ Working with Samba to network Linux and Windows systems together.
- ▶ Running the Apache web server.
- ▶ Managing Internet domains.

Part 6 covers programming in SUSE Linux. You'll learn about these topics:

- ▶ Tools for the C, C++, and Java programmer.
- ▶ Managing databases and using them in programming.
- ▶ The LAMP web programming suite: Linux, Apache, MySQL, and the scripting languages Perl, Python, and PHP.

The appendixes describe the various permutations of SUSE Linux offered by Novell and deliver an expanded list of Internet resources for learning about the topics introduced here.

Conventions Used in This Book

openSUSE Linux Unleashed is intended to be as complete as possible, but with all the applications included in the distribution, it's impossible to cover every option. You'll find a lot of lists and tables to help you through, however.

Where there are graphical tools to use, you'll find screenshots giving you visual cues to the steps you're working through.

To help you better understand code listing samples and the command-line interface, several formatting techniques are used to show input and responses. For example, where you have to type something in, the typeface looks like this:

```
ls
```

If typed input is in response to a prompt, what you type will also be in bold:

```
Delete files? [y/n] y
```

Words in commands that are between brackets are placeholders. If you see

```
<username>
```

enter the username at that spot.

The following elements give you useful tidbits of information that relate to the surrounding text.

NOTE

Notes give you additional information that may help you perform a task, give you some ancillary detail, or point to another spot in the book, or online, for more information about the current topic.

Longer notes, or sidebars, will help you with specific tasks, related technologies, and events on the horizon.

TIP

A tip will have a timesaving technique, a special insight, or some bit of information designed to make you a smarter user.

CAUTION

Cautions will warn you about potential mishaps or steps to take before doing something potentially dangerous, such as running a command, editing configurations, or choosing a setting.

You should know that everything in this book was developed using openSUSE Linux and open-source tools.

As you work through this book and learn more about the OS and its tools, always keep in mind the admonition SUSE Linux developers try to remind us of at the end of every installation: “Have a lot of fun!”