

- ♦ Understand what Linux is and where it comes from
- ♦ Sort through the various distributions of Linux to choose one (or more) that is right for you (you get several on this book's CD and DVD)
- ♦ Try out Linux as a desktop computer, server computer, or programmer's workstation
- ♦ Become connected to the open source software movement, as well as many separate high-quality software projects that are included with Linux

Whether you are using Linux for the first time or just want to try out a new Linux distribution, *Linux Bible 2006 Edition* is your guide to using Linux and the latest open source technology. While different Linux distributions vary in the exact software they include, this book describes the most popular software available for Linux to:

- ♦ Manage your desktop (menus, icons, windows, and so on)
- ♦ Listen to music and watch video
- ♦ Use word processor, spreadsheet, and other office productivity applications
- ♦ Browse the Web and send e-mail
- ♦ Play games
- ♦ Find thousands of other open source software packages you can get for free

Because most Linux distributions also include features that let them act as servers (in fact, that's what Linux has always been best at), you'll also learn about software available for Linux that lets you do the following:

- ♦ Connect to the Internet or other network
- ♦ Use Linux as a firewall, router, and DHCP server to protect and manage your private network
- ♦ Run a Web server (using Apache, MySQL, and PHP)
- ♦ Run a mail server (using exim or other mail transfer agent)
- ♦ Run a print server (using Samba or CUPS)
- ♦ Run a file server (using FTP or Samba)

This book guides you through the basics of getting started with the Linux features just mentioned, plus many more features that I'll get to later. You'll go through the following basic steps:

- 1. Understanding Linux.** You need to know where Linux came from, how it is developed, and how it's ultimately packaged. This chapter describes the UNIX heritage on which Linux was founded, the free and open source software development efforts underway, and the organizations and individuals that package and produce Linux distributions.

2. **Trying Linux.** In the past, an impediment to trying Linux was getting it installed on a computer that was devoted solely to Microsoft Windows. With bootable Linux systems such as KNOPPIX (and others included with this book), you can boot a fully functioning Linux from DVD, CD, or floppy disk without disturbing the current contents of your computer.
3. **Installing Linux.** You can install a fully functioning Linux system permanently on your hard disk. Disk space required varies from a few hundred megabytes for a minimal installation to 6 gigabytes for a full range of desktop, server, and programming features. Chapters in Part III, “Choosing and Installing a Linux Distribution,” describe how to install several different Linux distributions.
4. **Using Linux.** You won’t know if Linux can be used to replace your current desktop or server system until you start using it. This book helps you try OpenOffice.org software to write documents, create spreadsheets, and build presentations. It describes xmms and mplayer for playing your music and video content, respectively, and covers some of the best Linux tools available for Web browsing (for example, Firefox, Mozilla and Konqueror) and managing your e-mail (such as Evolution and Thunderbird).
5. **Configuring Linux.** Linux works very well as a desktop system, and it can also be configured to act as a router, a firewall, and a variety of server types. While there are some excellent graphical tools for administering Linux systems, most Linux administrators edit configuration files and run commands to configure Linux. Part II, “Running the Show,” contains basic information for administering Linux, and Part V, “Running Servers,” discusses procedures for setting up various types of servers.

Once you’ve been through the book, you should be proficient enough to track down your more advanced questions through the volumes of man pages, FAQs, HOW-TOs, and forums that cover different aspects of the Linux operating system.

## Understanding Linux

People who don’t know what Linux is sometimes ask me if it’s a program that runs on Microsoft Windows. When I tell them that Linux is, itself, an operating system like Windows and that they can remove (or never purchase) Windows, I sometimes get a surprised reaction: “A PC can run with nothing from Microsoft on it?”

Yes, Linux is a full-blown operating system that is a free clone of the UNIX operating system. Start your computer with Linux, and Linux takes over the operation of your PC and manages the following aspects of your computer:

- ♦ **Processor** — Because Linux can run many processes from many different users at the same time (even with multiple CPUs on the same machine), Linux needs to be able to manage those processes. The Linux scheduler sets the priorities for running tasks and manages which processes run on which CPUs (if multiple processors are present). The scheduler can be tuned differently for