Mastering Mandriva Linux

2009

Information

- Product registration number (corresponds to the product activation key)

.....

- Internet Login (email address used to register on my.mandriva.com)

.....

- Internet Password (password associated with above email address)

.....

- Incident numbers (the incident numbers you reported on Expert website)

..... - ..... - ..... - .....

..... - ..... - ..... - .....

Access to Mandriva Services

http://expert.mandriva.com

https://my.mandriva.com/login/

mandriva.com

store.mandriva.com

Mastering Mandriva Linux

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Preface

1. About Mandriva Linux

Mandriva Linux is a Linux distribution supported by Mandriva S.A., which was born on the Internet in 1998. Its main goal was and still is to provide an easy-to-use and friendly Linux system. Today, Mandriva's activity lies on three pillars: simplicity, openness and innovation. Mandriva's distribution is the result of the best of Open Source, based on the collaboration between Mandriva and its contributor community.

On April 7th 2005, the Mandrakesoft company changed its name to Mandriva to reflect its merger with Brazil-based Conectiva. Consequently, its core product, Mandrakelinux, became Mandriva Linux.

1.1. Contacting Mandriva Linux Community

The following are various web links pointing you to the most important Mandriva Linux-related sources. If you want to know more about the Mandriva company, connect to the Mandriva web site [http://www.mandriva.com/]. You will find information concerning Mandriva Linux distributions and derivatives.

Mandriva Expert [http://expert.mandriva.com/] is Mandriva's online support platform. It offers a new experience based on trust and the pleasure of rewarding others for their contributions.

We also invite you to subscribe to the various mailing lists [http://www.mandriva.com/community/resources/newsgroups] where the Mandriva Linux community demonstrates its high spirits and keen debates.

Please also remember to connect to our Security page [http://www.mandriva.com/security/]. It gathers all security-related material about Mandriva Linux distributions. You will find security and bug advisories, as well as kernel update procedures, the different security-oriented mailing lists which you can join, etc. This page is a must, for any server administrator or user concerned about security, which completes tools available in the distribution.

1.2. Joining Mandriva Community

Mandriva Community is *the* place where users, developers and translators meet to help each other out, exchange valuable information about Mandriva Linux, get informed about the latest Mandriva, Linux and Open Source news and also participate to the design of future distributions.

To join this community, you only need to create your personal Mandriva ID (you can obtain it for free by subscribing to My Mandriva [http://my.mandriva.com]). You will have access to:

- help (forums, chat, Knowledge Base with tutorials, how-tos, tips and tricks),
- news,
- much Mandriva and community-contributed content,
- and the official Mandriva Linux documentation.

Mandriva Community is where you get the best Mandriva Linux experience, learning from others, teaching others, accessing exclusive features and contributing to the development of Mandriva Linux and Free and Open Source Software in general.

1.3. Purchasing Mandriva Products

You can purchase Mandriva products on-line through the Mandriva Store [http://store.mandriva.com]. You will not only find Mandriva Linux solutions but also special subscription offers, support, third-party softwares, documentation, Linux-related books, as well as other Mandriva goodies.

We couldn't close this section without mentioning one of Mandriva flagship products: Mandriva Flash is a pre-installed Mandriva Linux distribution on a simple 8GB USB 2.0 key. You only need to plug the key in your computer to start your Linux system anywhere. You can also save and exchange your data on this key.

1.4. Contributing to Mandriva Linux

The skills of the many-talented folks who use Mandriva Linux can be very useful in the making of the Mandriva Linux system.

- **Packaging.** A Linux system is mainly made of programs found on the Internet. These need to be packaged in order to work together and to update safely.
- **Programming.** There are many projects directly supported by Mandriva: find the one that most appeals to you and offer your help to the main developer.
- **Writing Documentation.** Be it for inline help in the installer or the Control Center, or for the various manuals accompanying the Mandriva Linux flavors, new material is always required. If you feel like sharing your knowledge in a structured and pedagogical way, join us at the Wiki [http://wiki.mandriva.com/en/Development/Tasks/Documentation].

- **Internationalization.** Mandriva Linux is translated in more than 70 languages. You can help us translate web pages, programs and their respective documentation.

Consult the Community page [http://www.mandriva.com/en/community/start] on Mandriva official website.

2. About this User Guide

The aim of this manual is to give you a better understanding of the Mandriva Linux system. In it, we focus on graphical applications that allow you to perform your daily tasks, such as writing documents and e-mails, surfing the Web, and listening to music. We also show you how to configure your desktop to your liking, install software, and to configure the whole system in general.

3. Conventions Used in this Book

3.1. Typing Conventions

Formatted Example	**Meaning**
inode	Used to emphasize a technical term .
ls -lta	Used for commands and their arguments. (see Section 3.2.1, “Commands Synopsis” [xviii]).
`a_file`	Used for file names. It may also be used for RPM package names.
ls (1)	Reference to a **man** page. To read the page, simply type **man 1 ls**, in a command line.
`$ ls *.pid`	Formatting used for text snapshots of what you may see on your screen including computer interactions, program listings, etc.
`localhost`	Literal data which does not generally fit in any of the previously defined categories. For example, a key word taken from a configuration file.
OpenOffice.org	Defines application names. Depending on context, the application and command name may be the same but formatted differently. For example, most commands are written in lowercase, while applications names usually begin with an uppercase character.

Formatted Example	Meaning
Files	Indicates menu entries or graphical interface labels. The underlined letter, if present, informs you of a keyboard shortcut, accessible by pressing the Alt key plus the letter in question.
Le petit chaperon rouge	Identifies foreign language words.
Warning!	Reserved for special warnings in order to emphasize the importance of words. Read out loud.

Highlights a note. Generally, it gives additional information about a specific area.

Represents a tip. It could be general advice on how to perform a particular action, or hints about nice features, such as shortcuts, which could make your life easier.

Be very careful when you see this icon. It always means that very important information about a specific subject will be dealt with.

3.2. General Conventions

3.2.1. Commands Synopsis

The example below shows the symbols you will see when the writer describes the arguments of a command:

```
command <non literal argument> [optional arg -...]
```

These conventions are standard and you will find them elsewhere such as in the **man** pages.

The “<” (lesser than) and “>” (greater than) symbols denote a *mandatory* argument not to be copied as is, which should be replaced according to your needs. For example, `<filename>` refers to the actual name of a file. If this name is `foo.txt` you should type `foo.txt`, not `<foo.txt>` or `<filename>`.

The square brackets (“[ ]”) denote optional arguments, which you may or may not include in the command.

The ellipsis (“...”) means an arbitrary number of arguments may be included.

The curly brackets ("{ }") contain the arguments authorized at this specific place. One of them is to be placed here.

3.2.2. Special Notations

From time to time, you will be asked to press, for example, the keys Ctrl+ R, which means you need to press and hold the Ctrl key and tap the R character right after as well. The same applies for the Alt and Shift keys.

We use capital letters to represent the letter keys; this doesn't mean that you have to type them capitalized. However, there might be programs where typing R is not the same than typing r. You will be informed about this when dealing with such programs.

Regarding menus, going to menu item File → Reload user config (**Ctrl+ R**) means: click on the File text displayed on the menu (generally located in the upper-left of the window). Then in the pull-down menu, click on the Reload user config item. Furthermore you are informed that you can use the Ctrl+ R key combination (as described above) to get the same result.

3.2.3. System-Generic Users

Whenever possible, we use two generic users in our examples:

Queen Pingusa	queen	This is our default user, used through most examples in this book.
Peter Pingus	peter	This user can be created afterward by the system administrator and is sometimes used to vary the text.

4. Quick Install

If your computer is not already installed with Mandriva Linux you only need the installation media (DVD or CDs), very basic computer skills (of the "move the pointer and click" kind), common sense, and a few minutes.

Installing Mandriva Linux implies copying the required system and application files on your system and answering a few questions regarding the system's configuration and security. Once this is done, all that is left is to fine tune your system... and enjoy it. We

concentrate on installation here. System configuration and security are subjects we touch upon in the rest of this book.

4.1. Performing the Installation

If your computer already has another operating system installed, you might want to first check the notes in Section 4.2, “Co-existing with Other Operating Systems” [xx].

All recent systems can boot from a CD-ROM, configure your computer to boot from the CD, insert the 1st CD (or the DVD), boot the system and follow the on-screen instructions.

The installer asks you some simple questions regarding the desired language, keyboard layout (if applicable), security level, disk partitioning scheme and package selection; it is usually safe to accept the defaults proposed.

Please refer to Part III, “Installing Mandriva Linux”[259] if you have doubts about what to answer on any given install step.

4.2. Co-existing with Other Operating Systems

You can install Mandriva Linux alongside other operating systems, such as Windows®, or other versions of Linux. Have the documentation for those OSes handy and make sure you:

1. Backup existing data. This is always the safest choice to ensure no data is lost.
2. Defragment the disk . This is mostly needed with all variants of Windows®. Linux file systems have very little fragmentation, so there is no need to defragment them.
3. Make room for Mandriva Linux. 10 GB can be enough depending on what you want to do with it. Note that the installer itself can resize existing installations of Windows® and Linux without the risk of losing data.

Once Mandriva Linux is installed, and the system is restarted, a menu appears from which you can select the operating system to start: use the arrow keys to highlight the one you want, then press Enter to boot it.

Part I. Free Software Daily

Mastering Mandriva Linux

Using Mandriva Linux on a Daily Basis

The following chapters introduce the applications available under Mandriva Linux for your daily needs.

Chapter 1. Discover your New Environment

1. Discovering the K Desktop Environment

This chapter introduces the K Desktop Environment (KDE). It discusses where to find your usual folders, and how to customize your desktop. It also talks about how to search for files and introduces the concept of KDE sessions. The range of features KDE offers as well as its degree of personalization is huge and you are encouraged to refer to its integrated help to learn more about this great desktop environment.

1.1. The Desktop

Figure 1.1. The KDE Desktop

KDE is very much like any modern desktop. In the figure above, you see the desktop itself, icons, plasmoids (which are applets tightly integrated to the desktop), and the panel sitting at the bottom.

Use the Desktop plasmoid (which is semi-transparent and usually located at the center of the screen) to put files and folders on your desktop. Any file can be placed on the Desktop plasmoid. Clicking on a file opens its associated application.

1.2. The Panel

Figure 1.2. The KDE Panel

The panel is the bar which sits, by default, at the bottom of your desktop and contains the following main components:

The Main Menu. Allows you to access the software installed on your system. It is the equivalent of the Start Menu of Windows®. Programs are arranged into convenient categories, so you can quickly and easily find the applications you want to run.

Show Desktop. Use this to minimize all currently opened windows. Pressing it again will restore the windows to the state they were previously in. Handy when your desktop is full of opened windows and you want to view or access one of the plasmoids on your desktop.

Pager Applet. Displays applications currently opened in the virtual desktops, and makes switching between virtual desktops as easy as one, two, three. See Section 1.3, “Virtual Desktops” [4] for more information.

Various Launchers and Applets. You also find some icons to launch applications (Firefox or Mandriva Control Center for example) and other useful applets at the far right: a task organizer, network status and config, world clock, etc.

1.3. Virtual Desktops

Think of virtual desktops as having several screens available but with only one monitor. Right click on the pager applet and select Configure Desktops to add or remove virtual desktops and change desktop names to more meaningful ones such as `Work`, `Play` or `Internet`.

The Pager applet makes it easier to quickly spot your applications and distinguish between them. To switch between virtual desktops just click on the desktop number in the applet *et voilà !*

You can also move application windows from one desktop to another. To do so, simply click an application's icon in a virtual desktop, then drag-and-drop it to the desktop you want.

When you log in into KDE, the virtual desktop you were in when you closed your last session is re-opened.

2. How to Access Folders

If you come from the Windows® world, you may be a bit disoriented at the beginning, but once you know how folders are organized, you will see how simple it is to find your usual folders, access removable media (CDs, DVDs, USB storage devices, etc.), and external resources.

2.1. Welcome Home!

Choose Tools+ System Tools → Dolphin File Manager from the main menu to open the folder containing your personal files.

Figure 1.3. Home Folder Content

These are some folders already present on your personal folder which you can use to better organize your data:

Documents
: This is where all the documents you create are saved by default. It corresponds to the `My Documents` folder on a Windows® system.

Download
: This is where the files you download from the Internet are stored. It corresponds to the `My Downloads` folder on a Windows® system.

Music
: This is where your music is saved by default. It corresponds to the `My Music` folder on a Windows® system. Please refer to Section 1.1, “amaroK Audio Player”[47] to learn about how to play music files.

Pictures
: This is where pictures you download from your digital camera are saved. It corresponds to the `My Pictures` folder on a Windows® system.

Videos
: This is where you can store all your videos. It corresponds to the `My Videos` folder on a Windows® system.

You can create, remove, and rename files and folders inside your personal (Home) folder.

2.2. Accessing Other Folders

You can also browse the file system tree by opening the Root folder on the Places sidebar. These folders contain your system configuration settings and the installed programs, as well as other things. If you need to change the system's settings, use the Mandriva Linux Control Center (refer to Part II, “Configuring and Tweaking Your Box” [91] for more information).

2.3. Accessing Removable Media

Removable media is auto-detected on medium insertion, which makes accessing and managing CDs, DVDs and USB storage devices easy.

Figure 1.4. A CD Has Been Inserted

Just click to open the medium in the file manager. Click on the eject icon to eject the removable medium, it will not be available until you insert it again.

2.4. Accessing Remote Shares

You can easily access shared resources on remote systems on your network with the file manager. Here's how:

1. Open your Home folder
2. Open Network on the Places sidebar.
3. Open Samba Shares.
4. Select a system whose content you want to view, and navigate down to the resource that interests you.

Figure 1.5. Accessing Remote Shares

You can then access the files on the share as if they were located on your own system.

3. Personalizing Your Desktop

Use the System Settings applet[1] to customize your desktop features (see Figure 1.6, "KDE System Settings" [10]). Configurable features are grouped into categories, for example to change the screen resolution click on Display inside the Computer Administration category.

[1]The System Settings applet replaces the KDE Control Center present in previous Mandriva Linux versions.

Figure 1.6. KDE System Settings

3.1. Changing Your Desktop's Appearance

Figure 1.7. Changing KDE's Color Scheme

Click on Appearance inside the Look & Feel category, then on the Colors section (see Figure 1.7, “Changing KDE's Color Scheme”[11]). In the Scheme tab the Color Scheme list has predefined color schemes, select the one you like and click Apply.

You can also define custom color schemes: Open the Colors tab, select the item you want to change from the list and click the color button. Then, choose the color you like and click OK to apply it.

Once you have customized your color scheme, open the Scheme tab again and click on Save to store your color scheme for later use. Fill its name and click OK. Clicking

Remove removes the currently selected customized color scheme, predefined color schemes cannot be removed.

You are *not* asked for confirmation before removing a color scheme. Therefore use the Remove button carefully.

Figure 1.8. Changing KDE's Background Wallpaper

To change the desktop background right click on an empty place in the desktop and choose Desktop Settings. Select the Image option in the first pulldown list; then choose a picture in the Picture pulldown list or click the disk icon to browse for your own pictures. Configure other settings to your liking and click on OK to accept.

3.2. Customizing Your Panel

KDE's panel is highly customizable. All features, from the panel's position to its appearance and the icons it has, can be set up to better suit your preferences. Right click on the panel and choose Panel Settings from the menu[2]. The panel settings window (see Figure 1.9, “Panel Settings Window”[13]) appears near the panel. Drag the panel settings window and drop it at the desired edge to move the panel from the bottom edge to a different edge.

[2]If the panel has its widgets locked, you will have to unlock them first, select Unlock Widgets from the menu that pops up.

Figure 1.9. Panel Settings Window

The panel adjusts its size dynamically to fit its contents. Use the sliders to set the relative position (the gray one in the middle), and minimum (green, pointing up) and maximum (blue, pointing up) sizes the panel can have.

You can also enrich the panel with the applets or plasmoids you use most frequently to have them handy. Click on the Add Widgets button in the panel settings window, select the one you want then click on Add Widget. In the example (see Figure 1.10, “Adding a Battery Monitor to the Panel”[14]) we add a battery monitor. Click on the red minus icon to remove an existing widget.

Figure 1.10. Adding a Battery Monitor to the Panel

With the Panel Settings window open, hover the mouse over a widget and a move emblem appears, click on the widget, move it to its desired location, and click again to place it there.

4. Searching for Files

You can use Dolphin, KDE's file manager, to find files on your disk, proceed as follows:

1. Choose Tools+ System Tools → Dolphin File Manager from the main menu to launch Dolphin.
2. Choose Tools → Find File from the menu to open the search dialog.

3. Enter the name of the file you are looking for. You can use a star (*) to mean “anything” or a question mark (?) to mean “any single character”.

4. Click the Find button to launch the search. Results are displayed at the bottom of the search window.

5. KDE Sessions

KDE and its applications support sessions. This feature allows the system to save the state of all applications that are in use when the user logs out of the desktop environment, and to restore them when the user logs back in.

Please bear in mind that for non-KDE applications, and even some KDE ones, the range of session recovery support is up to the application: from doing nothing, to opening the application again along with all the files that were open inside that application.

Open System Settings and click on Session Manager in the Advanced tab to control how KDE manages sessions. For example, to tell KDE to ignore session state choose On Login

→ Start with an empty session and click the Apply button. The settings are effective the next time you log into KDE.

6. Manipulating the 3D Desktop

If you have configured your desktop to use 3D effects (Section 3, “Configuring a 3D Desktop” [121]), here are some hints about the most useful features, depending on the type of implementation you have chosen.

6.1. Manipulating the 3D Desktop with Compiz

Table 1.1. 3D Desktop Manipulations with Compiz

Effect	Manipulation or Keyboard Shortcut	Comment
Show all windows of current desktop	Move the cursor to the top right corner of screen. Keyboard Shortcut: Ctrl+ Alt+ #.	All windows are scattered on the desktop, click the one you wish to use.
Move window to next cube face	Grab the window and drag it to the left or right desktop edge	This rotates the cube and allows you to place the window on the next face
Switch face	Ctrl+ Alt+ # or Ctrl+ Alt+ #	Rotates the cube left or right
Show faces	Ctrl+ Alt+ #	“Flattens” the cube so more than one face becomes visible
Make active window transparent	Alt+Mouse wheel	Control the transparency level of the window by moving the wheel up (less transparent) and down (more transparent). Objects behind the window appear in transparency

6.2. Metisse, an Innovative Windows Manipulation System

Figure 1.11. Metisse in Action

Table 1.2. Basic Windows Manipulations

Effect	Manipulation or Keyboard Shortcut	Comment
Temporary Window Move	Double-click the window title, and hold the mouse button down, then move the window.	Useful to temporarily see what's behind the window.
Windows Maximize	Click and hold the maximize icon of the titlebar and then move the cursor to one of the edges or top right corner.	Windows gets maximized to fit the edge.

Table 1.3. Advanced Window Effects

Effect	**Manipulation or Keyboard Shortcut**	**Comment**
Scale and zoom	Click and hold any window border and choose action	Clicking on an edge or on a corner (where the mouse pointer becomes a double-head arrow) and holding the button makes various options appear Resize Same effect as simply dragging the window border. Scale Allows you to actually resize any element inside the window, so they are actually shown bigger or smaller. Rotate Rotates the window according to the chosen axis while moving the mouse.
Zoom Window In and Out	Place the mouse on window title and use the mouse wheel.	The mouse sticks to the title while the window resizes.
Restore Original Window Appearance	Click the middle button mouse on the window title.	Useful after you have played too much.

Table 1.4. Pager Actions [b]

Effect	**Manipulation or Keyboard Shortcut**	**Comment**
Show or Hide Pager	Press the Super key and roll mouse wheel.	You can then move your desktop to another page by clicking on it.
Move Desktop	Press key combination Ctrl+ Alt+ Arrow key.	You can see the desktop move on the pager (bottom right).
Zoom Current Desktop:	Press Super+ F8/F9	

[a]This allows you to move from one “desktop” or “page” to another, and zoom through them. Note that the Super key is generally the Windows key on your keyboard.

[b]This allows you to move from one “desktop” or “page” to another, and zoom through them. Note that the Super key is generally the Windows key on your keyboard.

This was just an introduction to Metisse capabilities, for more effects, please check the Metisse page at Mandriva [http://www.mandriva.com/en/projects/metisse/functionalities] and Metisse's official documentation [http://insitu.lri.fr/metisse/].

Chapter 2. Using the Internet

1. Writing E-mails

KMail is a full-featured and easy to use mail client. This section focuses on KMail's common features. We encourage you to refer to the integrated help to learn more about its advanced features.

Launch KMail by choosing Internet → KMail Mail Client from the main menu.

The first time you run KMail, a wizard appears to help you set up the mail account you will use with KMail. You only need to enter some connection data. Press the Next button to validate the information you entered and proceed with the setup.

1.1. Mail Configuration

Figure 2.1. Mail Account Type

Select the account type from the suggestion list and advance to the next step. Please bear in mind that the POP3 protocol downloads messages to the local computer (they can be kept on the server too), while the IMAP protocol doesn't. Otherwise the IMAP and POP3 account setups are the same.

Figure 2.2. Your Personal Data

Then you need to provide your account information and fill in your personal data. Note that the name you input in the Real name field is the one that will appear on your outgoing mails.

Figure 2.3. Account Credentials

Then you must supply the account credentials: enter your login name and password. Your ISP or system administrator should have provided this information together with your e-mail address.

Figure 2.4. Mail Servers

You are finally asked to provide mail server parameters. Again, your ISP or system administrator should have provided you with the incoming and outgoing mail server information. Outgoing servers are usually of the `smtp.provider.net` form. Incoming POP3 servers are usually of the `pop.provider.net` or `pop3.provider.net` forms. Incoming IMAP servers are usually of the `imap.provider.net` form. The `mail.provider.net` form is also common for both incoming and outgoing mail servers.

1.2. Mail Client Interface

Figure 2.5. KMail Client Interface

Toolbar. Where the main action buttons lie. See Table 2.1, “KMail's Toolbar Buttons” [25].

Message List. Where information (subject, date, sender, etc.) about messages stored in the currently selected folder is displayed.

Message View Pane. Where the contents of the currently selected message are displayed.

Folder List. Where all folders are listed. The default folders are `inbox` (incoming messages), `outbox` (unsent messages), `sent-mail` (already sent messages), `trash` (deleted messages), `drafts` (draft messages) and `templates` (templates for writing messages). There is also a special folder named `Searches` which contains the results of a search for messages.

The following table shows the most important buttons available in KMail's toolbar, their equivalent keyboard shortcuts, and a brief explanation of the functions they provide.

Table 2.1. KMail's Toolbar Buttons

Button	Keyboard Shortcut	Function
	Ctrl+ N	Compose a New Message.
	Ctrl+ L	Get new messages for all defined e-mail accounts. Keep this button pressed to display a list of all defined accounts. Select the one you want to get mail from to retrieve messages for *only* that account.
	R	Reply to the author of the selected message. A message-compose window pops up with some fields already set.
	F	Forward the selected message (send to a third party).
	Del	Delete the selected messages. Deleted messages are moved to the `Trash` folder. You can recover messages moved to the `trash` folder, but deletion from the `Trash` folder cannot be undone: be careful!

Some of those buttons have a little black arrow (▼) at the bottom right corner. An additional menu with related actions can be displayed by pressing the mouse button a little longer.

1.3. Composing a Message

Figure 2.6. The Message-Compose Window

Toolbar. This is where the main message composition buttons reside. See Table 2.2, “Message-Composition Toolbar Buttons” [27].

Message Body. The area where you type the content of your message.

Message Recipients. The list of all recipients of this message. The following options are shown:

- `To`: the principal intended recipient of this message.
- `CC` (Carbon Copy): not-hidden secondary intended recipient(s) of this message. All recipients have access to the mail addresses to which this message is sent.

- `BCC` (Blind Carbon Copy): these recipients are also secondary but are hidden from the other recipients of this message. No recipients of the message have access to the other mail addresses to which this message is sent.

The following table shows the buttons which are mostly used in the message-composition window, their equivalent keyboard shortcuts, and a brief explanation of the functions they provide.

Table 2.2. Message-Composition Toolbar Buttons

Button	Keyboard Shortcut	Function
	Ctrl+ Enter	Sends the message immediately (your network connection must be active). A copy of the message is kept in the `sent-mail` folder.
		Queue the message. The message is saved in the `outbox` folder and is sent the next time you request mail to be sent (File → Send Queued Messages).
		Attach a file to the message. This function is also accessible through the Attach → Attach File menu. A standard file dialog pops up. Select the file you want to attach and click on Attach. Repeat for multiple files.

1.4. Folders and Filters

The filter tool is located in the Settings → Configure Filters menu and can automatically sort mail into different folders according to specified criteria (sender, subject, date, etc.) by using filters.

Let's assume you want to filter incoming messages according to the sender and you have at least one message from that sender in your `inbox` folder. You want all incoming e-mail from `someuser@somecompany.net` to go directly into the `SomeUser` folder. The first step is to create a new folder to store the messages.

Choose Folder → New Folder from the menu and give your new folder a meaningful name. Then, select the mbox mailbox format and click on OK to create the folder.

To create the filter, select one of the sender's messages and right click on it. From the contextual menu, select Create Filter → Filter on From, select the destination folder (Filter Actions) and accept that rule by clicking on Apply and OK.

2. Stay Informed with News Feeds

Akregator is a feed reader (or aggregator) which can check on RSS-enabled sites for the latest headlines or articles. RSS is typically used on blogs and personal Web sites but also on major media sites such as those from CNN, BBC and Reuters. Choose Internet+ Akregator Feed Reader from the main menu to launch it.

Figure 2.7. Akregator's Interface

Toolbar. Where the main action buttons lie.

News Channels. Shows a tree of all news feed channels with the channel names, the number of unread articles on the channel and the total number of articles.

Article List. Where the subject and date of articles for the currently selected news channel are displayed. Select an article to display it in the Article View Pane.

Article View Pane. Where the currently selected article's content is displayed. Some news feeds don't provide the article's contents but a link to them instead. Clicking on that link opens the article on a new tab inside Akregator.

Example 2.1. Add a New Feed

As an example, let's add a feed for the CNN World News Feed [http://rss.cnn.com/rss/cnn_world.rss]. Right-click on the `All Feeds` folder at the top of Akregator's tree structure and select Add Feed from the pop-up menu. Type the URL (`http://rss.cnn.com/rss/cnn_world.rss`) in the Feed URL field and accept your settings.

Find the RSS Link

Look for the RSS icon on a web site, or an RSS link, then right click on it and choose Copy Link Location. You then just need to paste (**Ctrl**+**V** it into the URL field.

Figure 2.8. Feed Properties

Click on to fetch new articles for the currently selected feed. Click on to update all news feeds. By default, feeds are updated every 30 minutes. Right-click on a given feed, then select Edit Feed, put a check mark in the Use a custom update interval option and select the desired update interval, as shown in Figure 2.8, “Feed Properties” [29].

3. Browsing the Web

Today, most people know how to use a web browser. So, this section focuses on describing the characteristics of Firefox. It also tells you how to install some of the more popular plugins.

Launch Firefox by selecting Internet+ Firefox Web Browser from the main menu.

Figure 2.9. Firefox's Interface

The main components of Firefox's interface are:

Page Display Area. Where the contents of the pages you browse are displayed.

Navigation Buttons and Location Bar. Buttons allowing you to move around pages you visit: go back, go forward; refresh a page; stop loading page elements; and go to your home page. The location bar is where you enter a web site's URL (or a local file using `file://` as the protocol part of the URL).

Bookmarks Toolbar. You can add manage displayed bookmarks by right-clicking on the bar.

Search Bar. Located at the upper-right corner, it allows you to perform web searches, dictionary searches, and others.

Customizing the bars

You can add and remove bars and buttons on them by selecting View → Toolbars → Customize.

3.1. Tab Browsing

One of Firefox's most convenient features is the ability to browse many websites at the same time, without being confused by lots of open windows. Each website is opened in a new tab. This is called “tabbed browsing”.

Figure 2.10. Tabbed Browsing with Firefox

To open a new tab, click File → New Tab. To close a tab, right-click on the tab, and select Close Tab. You can also click on the cross located at the right of the tab.

To quickly open new tabs, simply press Ctrl+T as many times as you want tabs. Pressing Ctrl+W closes the currently open tab.

Firefox allows you to manage tabs easily. You can choose to close, refresh, mark-up all tabs on the fly, or just the one currently displayed. To do so, right-click on a tab, then select the option you want.

You can also *move* tabs. Click on a tab, hold the mouse button down and drag it where you want. When you see a little purple downward-pointing arrow, you can drop the tab to its new location on the tab browsing bar.

Figure 2.11. Moving a Tab

If you want to duplicate a tab, “grab” the tab's URL (when rolling your mouse over the icon before the URL: a little hand pointer appears) in the location bar, drag-and-drop it onto an empty tab.

3.2. Built-in Search Bar

Firefox has a built-in search bar which allows you to search the web using the most popular search engines. To perform a search, type the text to be searched for, select the search engine (using the arrow and icon at the left of the search bar) and press the Enter key. Search results are shown in the Page Display Area.

If you are looking for a website, and you cannot remember its exact address, just enter some keywords in the Location Bar, press the Enter key, and you will be taken to the related website. For example, entering `new york times` in the location bar, opens the New York Times website.

3.3. Installing Plugins

Plugins are programs which let your browser handle content other than HTML and graphics, such as animations, streaming audio, Java™ applets, and so on. Firefox's plugins are stored in the `/usr/lib/mozilla/plugins` directory and installing plugins requires root privileges.

Entering **`about:plugins`** in the Location Bar displays a page showing installed plugins and some details about them.

We look at the procedures to install Java™ and Flash® plugins. If you own a commercial version of Mandriva Linux, installation is greatly simplified and all the required packages are on the provided media. See Chapter 7, *Package Management*[99], for information on how to install RPM packages.

If you have a Mandriva Club user name and password, you may be able to install even newer versions of the software mentioned here.

3.3.1. Java™

Install the `jre` RPM package: If it is available in your distribution you will simply find it in the software installer. Otherwise follow the procedure below.

Procedure 2.1. Manual Java Plugin Installation

1. You can get the Java plugin on the Java Plug-in Home Page [http://java.sun.com/products/plugin/].
2. Follow the links to JRE for Linux.
3. Download the RPM file for the Linux Platform.
4. Login in a console as `root` and make the file executable once the download is finished (**chmod 700 jre*.rpm.bin**).
5. Execute the file (**./jre*.rpm.bin**).
6. Accept the license (press Space various times, and then enter **`yes`**).
7. The plugin is installed.
8. Run this command: ln -s /usr/java/jre1.*/plugin/i386/ns7/libjavaplugin_oji.so /usr/lib/mozilla/plugins/
9. Close and start again Firefox.
10. test the installation by connecting to the Java test page [http://www.java.com/en/download/help/testvm.jsp].

3.3.2. Flash®

You can retrieve the Flash plugin on the Adobe® web site [http://www.adobe.com/go/getflashplayer]. Follow the link to the Flash Player and download and install the RPM. Test the plugin by opening the Flash web site [http://www.flash.com] URL in the browser after you have restarted it.

Chapter 3. Doing Office Work

Abstract

Mandriva Linux can be used to perform office work with the OpenOffice.org office suite: we show you how to create documents with OpenOffice.org Writer, spreadsheets with OpenOffice.org Calc and presentations with OpenOffice.org Impress. OpenOffice.org tools are Microsoft ® Office-compatible, meaning that you can easily exchange documents between them.

With OpenOffice.org, you can export your documents in PDF format (choosing File → Export as PDF from the menu). This allows you to publish your documents in the Adobe ® Reader ® format.

1. Writing Documents

Choose Office+ OpenOffice.org Writer Word Processor from the main menu to launch OpenOffice.org Writer.

1.1. Word Processor Interface

Figure 3.1. OpenOffice.org Writer's Main Window

Format Bar. This is the standard format bar for all OpenOffice.org applications which you can use to change fonts, colors, alignment, etc. of the application's data.

Rulers. Define the horizontal location of the text and format elements. Rulers are very useful when you want to establish tabulation and paragraph indentation.

Work Area. Where you enter the content of your document: words, numbers, images, tables, hyperlinks, etc.

Insertion Point. All characters typed on your keyboard will be placed at the left of this point. Also called the cursor.

Page Style. Many elements define style: page size, margins, text-orientation, etc. Page style can be changed by choosing Format → Page from the menu. You may use the predefined styles, or define your own.

1.2. Styles

Word processor users often waste a lot of time formatting their documents: changing paragraph alignment, font family, weight and size, etc. Instead, they should concentrate on document structure and content writing.

Styles provide a structure-centric approach to writing documents with a word processor, while normalizing document formatting and layout, and easily automating the generation and maintenance of tables of contents (TOC), indexes, references, etc. In OpenOffice.org Writer, styles are handled using the Stylist. Click on its icon in the Format Bar to open or close it.

Table 3.1. Suggested Text Styles

When you have a...	Then apply the ... style
Chapter Title	Heading 1
Section Title	Heading 2
Sub-Section Title	Heading 3
Sub-Subsection Title	Heading 4
Paragraph	Text Body, First Line Indent
List Item	List

Use the styles listed in Table 3.1, “Suggested Text Styles”[37] as a guide. Select the region of the document to apply the style to, and in the Stylist window, double-click on the style you want to apply to that region.

1.3. Lists

Use lists to enumerate the properties of an object (“unordered” or “bullet” list), or the steps to be performed to do a task (an “ordered” or “numbered” list).

Click on this button to format the selected text into an unordered list. Select the list items and choose Format → Bullets and Numbering from the menu to select the bullet type from a predefined set.

Clicking on this button formats the selected text into an ordered list. The same rules as for unordered lists apply to the numbering format.

1.4. Page Headers and Footers

By default, page headers and footers are common to *all* pages of a document. Use them to describe aspects of a document's content, for example: page number, total number of pages, chapter, section, document title, etc.

Choose Insert+ Header → Default from the menu to add a page header to your document, and choose Insert+ Footer → Default to add a page footer to your document. Just type the header or footer text or use one or more of the Insert → Fields menu items to compose your headers and footers.

2. Calculations and Simulations

Choose Office+ OpenOffice.org Calc Spreadsheet from the main menu to launch OpenOffice.org Calc.

2.1. Spreadsheet Interface

Figure 3.2. OpenOffice.org Calc's Main Window

Format Bar. This is the standard format bar for all OpenOffice.org applications, you can use it to change fonts, colors, alignment, etc. of the application's data.

Formula Bar. Use it to enter, edit or delete formulas inside cells.

Work Area. This is where you enter the data in the spreadsheet: numbers, dates, formulas, images, etc.

Select All. Clicking on this little area at the top left corner of the Work Area selects *all* cells at once. It's useful when you need to make changes which are “global” to the spreadsheet. For example, changing all font sizes in the cells to `10pts`(points).

Sheet Changing Buttons and Tabs. Spreadsheets usually contain more than one sheet. You can use these buttons to easily navigate through each of the spreadsheet's sheets. From left to right they are: Go to the first sheet, Go to the previous sheet, Go to the next sheet and Go to the last sheet. You may also use the tabs to switch between sheets.

2.2. Entering Data

To enter data into a cell, navigate to the cell and type the data into it, pressing the Enter key when you are finished.

Auto-completion simplifies data entry “guessing” the next cell's value using the current cell's value as a base. It works for any kind of data which can be associated to a simple series of integral numbers.

Figure 3.3. Simplifying Data Entry Using Auto-Completion

To use auto-completion, put your mouse over the base cell “handle”(the little square located at the bottom right of the cell border), click on it and drag the cell. The cell values are then shown in a tool-tip (see Figure 3.3, “Simplifying Data Entry Using Auto-Completion” [40]). Release the mouse button to complete the cells once the desired final value is shown.

Cell data can also be sorted according to different criteria. Select the cells you want to sort and then open the sort options dialog choosing Data → Sort from the menu. Specify the sort criteria, order and additional options and click on OK to sort the cells.

Make sure you also select columns and rows which act as “headers” for the data so they “follow” the sorting of the data.

2.3. Adding Formulas

Formulas can be used to “automate” the spreadsheet. For example, you can run complex simulations. Within cells, formulas are defined by preceding all cell data with the `=` sign. Anything else is treated as “static” data.

Operations are expressed using conventional algebraic notation. For example, `=3*A25+4*(A20+C34/B34)` divides the value in cell `C34` by the value in cell `B34`, adds the value in `A20` to the result, multiplies that by `4` and adds it to `3` times the value of cell `A25`. Therefore, rather complex expressions can be made using simpler ones as a base.

OpenOffice.org Calc gives you many pre-defined functions which you can use in your formulas. You can explore them by choosing the Insert → Function menu.

You can also click on the function wizard button for assistance with formula entry.

2.4. Charts: Explaining Data in a Simpler Way

When a spreadsheet contains too much information, it becomes difficult to understand how pieces of data relate to one another: too many numbers and too little meaning. The best way to represent this kind of data is through a chart.

As in all data-analysis functions, you must select the region you intend to show in the chart. So, select a range of cells and then choose Insert → Chart from the menu to bring up the chart assistant.

Make your selections for the chart type, variant, title, axis titles, etc., and then click Create to create and insert the chart in the spreadsheet (see Figure 3.4, “A 3D Chart Inside the Spreadsheet” [42]).

Figure 3.4. A 3D Chart Inside the Spreadsheet

Charts are “dynamic” in the spreadsheet, which means that when you change data in a cell belonging to a chart, the chart is automatically updated.

Double clicking and then right-clicking on an inserted chart brings up a menu showing options to change many chart parameters.

3. Communicating Your Ideas

Choose Office → OpenOffice.org Impress Presentation from the main menu to launch OpenOffice.org Impress. A wizard offers you assistance for creating a presentation, but we won't detail it here. Just create an empty presentation by clicking Create.

3.1. Presentation Interface

Figure 3.5. OpenOffice.org Impress' Main Window

Slide Format Bar. There are options for changing the slide shading, background color, line thickness, etc.

Work Area. This is where you compose the slides which build your presentation.

Toolbar. Contains the main tools you use to create your slides: the text, shapes, curves, lines and arrow input; object rotate, alignment and arrangement; and others.

Some of these buttons contain a little triangle on one side. Keeping these buttons pressed opens a menu of options for that tool. For example: filled or hollow rectangles, sharp or round edges, etc.

Layout Templates. Contains a gallery of the templates available. Just click on the template you want to switch the current slide to.

Slide Navigation. Displays a list of all the slides comprising the presentation. Slides are displayed as miniatures, so you can see what they look like at a glance. To open a slide, search for it in the list, then click on it.

3.2. Adding Slides to Your Presentation

Choose Insert → Slide from the menu to add a new slide, after the current one, with the currently selected slide template.

Choose Insert → Duplicate Slide instead if you want to base your new slide's content on the current one.

3.3. Simple Charts

Choose Insert → Chart from the menu to insert a chart diagram into the current slide. A “default” bar chart is inserted and OpenOffice.org Impress switches to chart mode. Click “outside” the chart area to return to the slide design mode.

You can drag the border handles to adjust the chart's size. Double click on the drawn chart, then right-click on it and select Chart Data to enter the data according to the chart you want to build (see Figure 3.6, “Entering Chart Data” [45]).

Figure 3.6. Entering Chart Data

Once you have entered the chart's data, close the data entry window and click on the page to update the chart in the slide.

Repeat the double-click / right-click sequence to change the chart's title, legends, axis, type (2D or 3D, bar, pie, points, lines, etc.), selecting the appropriate entries from the pop-up menu.

3.4. Slide Background

Use the Format → Page menu and click the Background tab to define colors, gradients, patterns, or bitmapped backgrounds for the slide. Each background type has options of its own. Feel free to explore them.

Using bitmaps for backgrounds increases the file's size considerably. This could lead to a performance hit, especially on older systems.

Once the background is selected, you can make that background the default one for all slides. Make your choice and the slide(s) background(s) will be changed.

3.5. Transitions, Animations and Effects

The Slide Show menu has slide transitions, animations and effects options and wizards which let you add “dynamism” to your presentations. However, you should try not to overuse transitions, animations and effects because they can be distracting to your audience, turning their attention to the effects themselves instead of the content of your presentation.

3.6. Running Your Presentation

Choose Slide Show → Slide Show, or press the F5 key to run your presentation. The presentation then takes up the entire screen. Press the Esc key to stop the presentation.

4. Going Further

Tutorials. The tutorials available at the Tutorials for OpenOffice [http://www.tutorialsforopenoffice.org] Web site are helpful if you want to learn more about the use of OpenOffice.org suite's major components. Check the tutorials for Writer [http://www.tutorialsforopenoffice.org/category_index/wordprocessing.html], Calc [http://www.tutorialsforopenoffice.org/category_index/spreadsheet.html], and Impress [http://www.tutorialsforopenoffice.org/category_index/presentation.html].

User Guides. The official documentation [http://wiki.services.openoffice.org/wiki/Documentation/OOoAuthors_User_Manual] is available online.

Inline Help. You can also use the inline help which is accessible through the Help → OpenOffice.org Help menu, or by pressing the F1 key. You are bound to find the answers to your questions.

Chapter 4. Audio, Movie and Video Applications

1. Audio Applications

Abstract

This section introduces the main audio applications you may need for your entertainment: **Amarok** the music player, and KMix the sound mixer. They can be accessed by choosing Sound & Video from the main menu.

1.1. amaroK Audio Player

Amarok is “the” multimedia application to listen to your favorite music. You can organize your music into collections, get information about recordings such as artist, lyrics, album covers, and more. We only describe its essential features.

Figure 4.1. amaroK's Main Window

Figure 4.1, "amaroK's Main Window"[48] shows the main interface components of **Amarok**:

Browser. This displays various information depending on the function selected using the tabs at its left.

Playlist. Where the files to be played are shown. Right click on any file to access a menu allowing you to play the file, remove it from the playlist, etc.

Play Controls. **Amarok**'s play controls are "standard" audio equipment ones: Previous/ Next Tracks, Play, Stop. The Play button doubles as a Pause button too.

Volume Control. Slide it right to increase the volume and left to decrease it.

Once **Amarok** is launched, this icon appears on the panel. Right click on it to control playback and access some options.

You access **Amarok**'s main features by clicking on the tabs located at the left of the Browser.

The Collection browser allows you to view and organize your entire music collection. To start building a collection, simply copy files to the `Music` folder inside your personal folder, then choose Tools → Update Collection from Amarok's menu to update the collection with the files you added recently.

Figure 4.2. Music Collection

If you added files from removable devices (such as a USB key or an external hard drive), make sure they are mounted at the same location as when you originally added them to your collection or **Amarok** won't be able to find the files they contain.

The playlist browser lets you roam your playlists and podcasts. To create a playlist, simply drag tunes into the playlist, then choose Playlist → Save Playlist and give it a

name. To add new podcasts, click the Add button, select Podcast and add the podcast's URL into the dialog.

The File Browser allows you to access and search your local file system. You can use it as an alternative to **Amarok**'s Collection.

1.2. Using KMix, the Mixer

KMix is a sound mixing application for KDE. It allows you to fine-tune your sound card's audio levels through various sliders.

The availability and type of the controls discussed below depend on your particular sound card. Some controls may even be absent for your hardware.

When KMix starts, this quick-launch icon appears near the clock. Click on it, then click Mixer to view the full mixer window.

Figure 4.3. KMix Main Window

You have a slider for each input source of your sound card. The most important one is the leftmost one (labelled Master, Front, etc.) which controls the general volume. By right clicking on each slider, you have extra options such as Split Channels, Muted, Hide, etc.

Clicking on the quick-launch icon pops up a slider which lets you control the master volume and mute all sound.

2. Listening to Music and Watching Videos with Totem

Abstract

Totem is a media player based on Xine supplied with Mandriva Linux. It features a playlist, a full-screen mode and controls for navigation and for changing the volume. It is capable of playing DVDs, VCDs and media files (audio or video). In addition, you can control it easily using both the mouse and the keyboard.

2.1. Getting Started

2.1.1. How to Start Totem

Totem can be started by choosing Sound & Video → Movie Player from the main menu. It can also be started by double-clicking an Xine-supported media file from within the file manager.

Figure 4.4. Totem Media Player Main Window

2.1.2. Inserting Video Media

To watch a movie, insert a DVD or VCD into the drive and select the corresponding item from the Movie menu.

2.1.3. Changing Media

Rather than just pressing the eject button on the drive, to let Totem know that you are changing discs, use Totem's own Movie → Eject menu. This will prevent `Unable to read...` errors.

2.2. Settings

2.2.1. Display Size

Watching a movie may be a bit difficult with a small window, but this is easily resolved by using the various options to resize it. You can change the size of the display with the usual method of resizing the window itself (clicking Maximize, dragging the borders, etc.), or by using the items in the View menu: Fullscreen, Fit Window to Movie → Resize 1:2 or Resize 1:1 or Resize 2:1.

Obviously the best one here, if you only want to sit and watch a movie, is the Fullscreen mode. This option also removes all menus and controls so you get maximum use of the screen. The controls can be made to reappear by moving the mouse cursor, and you can exit Fullscreen by clicking the button in the top right-hand corner, or by pressing the F key.

When watching a movie, you may find that you are unable to view the extreme left and right of the picture. To correct this, you can change the shape of the display using View → Aspect Ratio, which cycles the display from normal, through the various widescreen sizes. You will now be able enjoy the movie, without missing any of it.

Except for Fullscreen mode, you will need to resize the window again after changing the aspect ratio.

2.2.2. Sound

The volume can be increased or decreased by clicking on the volume icon at the bottom right of displaying screen or, more easily, by pressing the up or down arrow keys. The latter of these methods is more useful in full-screen mode, particularly if you don't want the panel to be displayed on top of the movie you are watching.

2.3. Usage

2.3.1. Navigation Controls

Not everyone watches a movie or listens to an album from beginning to end, and sometimes you may want to skip back to a particular place in the movie or album, or pause it to go get another drink from the refrigerator.

You can change to the Next or Previous chapter of the movie or track using the corresponding buttons at the bottom left of the window, or by pressing the keys N and B respectively.

To pause play, click the Play/Pause button or press the P key. Clicking the button again will start again at the same point.

To jump back or skip forward within a scene or in a track, drag the Time slider, located immediately below the display, to the right or left and release. You can also use the left and right arrow keys to a similar effect. The movie or track will jump to the point you select.

When listening to audio files, if you want to leave the music playing, so that it loops around continually, select Edit → Repeat Mode to start again at the first track. Also, if you want a variation from the usual playing order, you can place the tracks in a random order by selecting Shuffle Mode.

2.3.2. Watching and Listening to Media Files

Totem is based on Xine and will play any media file type that Xine supports.

To open a media file, select Movie → Open. This will bring up a file selection dialog. From here you can browse folders and select one or more files to be played.

You can also open streams: use Open Location and type in the URL.

2.3.3. Managing Playlists

Once you have selected all of your media files, you may want to be able to watch or listen to them again without having to go through the process of selecting them all again. A playlist is a list of tracks that can be retrieved at a later date.

To create or modify a playlist, click on the Sidebar button to display the Playlist at the right of the displaying screen. You can now change the order of the tracks, add or remove tracks and then save the playlist using a filename of your choice by clicking on the button.

Figure 4.5. Playlist Dialog

2.3.4. Taking Stills

There may be times when you want a still photo of a scene in a movie, for example you may want to use the title scene as your desktop image. Totem includes a feature where you can take a screenshot of the display and save that image to a file.

To take a screenshot, choose Edit → Take Screenshot from the menu, or press the Shift+ S keys if the movie is playing fullscreen. At this point the screen will be captured and a dialog pops up asking how you want to save the image. If you use the default option, it will save it as `Screenshot0.png`, `Screenshot1.png`, and so on in your `Pictures` folder. Alternatively, you can save the file giving it a more meaningful name and in a location of your choice.

Figure 4.6. Taking a Screenshot

3. CD and DVD Burning

Abstract

In this section, we concentrate on using K3b to perform common CD burning operations. DVD recording is very similar to its CD counterpart.

Copyrighted Material. Please note that data, audio, video CD or DVD copying is often forbidden by copyright law. We assume that if you want to duplicate copyrighted material, it's because you have the right to do so.

3.1. Getting Started

Choose Tools+ K3b CD and DVD Burning from the main menu to start K3b. Figure 4.7, “K3b's Interface” [57] shows K3b's interface with a new data project open.

Figure 4.7. K3b's Interface

Toolbar. Where buttons to perform common actions lie. See Table 4.1, “K3b's Toolbar Buttons” [58].

File Manager. To choose which files to include in the burned CD. Use the left-hand tree to navigate the file system, then drag-and-drop the files you want to include into the Project Manager.

Project Manager. Where all files which will be on the burned CD are shown and handled. Files can be removed and their location (directory) on the CD can be changed here.

The following table shows the most important buttons available in K3b's toolbar, their equivalent keyboard shortcuts, and a brief explanation of the functions they provide.

Not all buttons are enabled at all times. For example, the Save button is not enabled if there is no active project.

Table 4.1. K3b's Toolbar Buttons

Button	Keyboard Shortcut	Function
		Getting Started
		Create a New Project. When you click on this button, a list of available project types is shown: New Data CD Project creates a data CD; (see Section 3.2, “Burning Data CDs” [59]); New Data DVD Project creates a data DVD; New Audio CD Project creates an audio CD; (see Section 3.3, “Burning Audio CDs (CDDA)” [63]); New Mixed Mode CD Project creates a mixed mode (data+audio) CD; New Video CD Project creates a digital compressed video CD; New Video DVD Project creates a video DVD; that is a video DVD that can be played on any DVD player; New eMovix CD Project creates an eMovix [http://movix.sourceforge.net] CD; New eMovix DVD Project creates an eMovix DVD.
	Ctrl+ O	Open an existing project. A standard file dialog opens from where you can choose the project you want to open. Select the project you are interested in and click Open.
	Ctrl+ S	Save the current project. A standard file dialog opens where you can enter the name under which you want to save the current project. Type the name of the project and click Save.
		Copy a CD. To make an exact copy of a CD. It opens a window which asks for the copy settings. Refer to Section 3.5, “Duplicating a CD” [65], for more information.
		Copy a DVD. To make an exact copy of a CD. It opens a window which asks for the copy settings. Refer to Section 3.5, “Duplicating a CD” [65], for more information. Please note that you cannot duplicate copyrighted DVD movies with this function, as they are encrypted.
		Erase a CD-RW. To erase re-writable CD medium. It opens a window which asks for the erase operation settings. Please refer to Section 3.6, “Erasing CD-RW media” [67], for more information.
		Format a DVD-RW. To format a re-writable DVD medium. It opens a window which asks for the formatting settings.

3.2. Burning Data CDs

3.2.1. Burning a Set of Files or Directories

Choose File+ New Project → New Data CD Project from K3b's menu (or use the New Project button shown in Table 4.1, “K3b's Toolbar Buttons”[58]). Then drop the files and directories you want to include on the CD into the Project Manager (see Figure 4.8, “Selecting Files and Directories to Include on a CD” [59]).

Figure 4.8. Selecting Files and Directories to Include on a CD

Adding directories containing lots of files can take some time. Please be patient and wait until the `Adding files to Project PROJECT_NAME` message disappears.

The space occupied by the selected files and directories is shown by a color-coded bar at the bottom of the Project Manager, together with the volume expressed in MB and the available MB of the medium's total capacity. The bar's color codes are as follows:

Green
: The size of the set is less than that of the selected medium's capacity (700 MB by default). There are no capacity-related problems.

Yellow
: The size of the set is nearly equal the selected medium's capacity. If it's a few MB below the medium's capacity, there won't be any capacity-related problems; if it's a few MB above, the CD might be written without problems, but there's little guarantee of success.

Red
: The size of the set exceeds the medium's capacity by many MB. The CD won't be burnt properly.

Right clicking on any file or directory in the Project Manager pops up a contextual menu with options to remove and rename files, create new (empty) directories, etc. Files and directories can be relocated (change the directory under which you want them to appear) on the CD using drag-and-drop.

Renaming the top element of the left side tree in the Project Manager changes the CD's volume name.

Insert a recordable medium in the CD burner and click on the Burn button or choose the Project → Burn menu entry. Then select writing parameters (see Figure 4.9, “Setting Writing Parameters” [61]) and click the Burn button to start writing the CD.

Figure 4.9. Setting Writing Parameters

3.2.2. Burning an ISO Image

Let's assume you have downloaded a CD-ROM image from the Internet and you want to burn it on a CD. Choose Tools → Burn CD Image from K3b's menu. Click the "open file" button to browse for the CD image file and select the file in the standard open file dialog. The CD image is then verified and information about it is displayed (see Figure 4.10, "Burn CD Image Options" [62]).

Figure 4.10. Burn CD Image Options

Once the image is verified, you can insert the recordable medium and click Start to write it to the disc.

The Speed pull-down list should be set to Auto to make K3b select the fastest possible recording speed supported by the combination of your CD burner and the currently inserted recordable medium. The “slowest” speed of the two determines the recording speed.

3.3. Burning Audio CDs (CDDA)

By audio CD s, we mean the ones you play in your car or home stereo equipment, not data CDs containing OGG, MP3 or any other digital audio format files.

K3b supports recording audio CDs from tracks digitized in Wave (`*.wav`), Ogg Vorbis (`*.ogg`), and MP3 (`*.mp3`) formats. You can mix digital audio formats since K3b decompresses the compressed ones on-the-fly. K3b can also create digital audio tracks from audio CD s, also known as “ripping” (see Section 3.4, “Audio CD Extraction or Ripping” [64]).

Choose File+ New Project → New Audio CD Project from K3b's menu. Select K3b's File Manager's filter to Sound Files, navigate to where the digitized audio files are and then drag and drop the audio tracks them in the Project Manager (see Figure 4.11, “Selecting Audio Tracks to Include on the CD” [63]).

Figure 4.11. Selecting Audio Tracks to Include on the CD

Use drag-and-drop to move the files up and down the compilation. Once you have the tracks compiled in the order you want in the Project Manager, you can write them to CD.

3.4. Audio CD Extraction or Ripping

Insert the audio CD to rip tracks from and click on the drive in the left side of the File Manager. The CD is read and, by default, all tracks are marked to be ripped. Just click on the check mark of those you don't want to rip.

Make sure that enough temporary space is available. You can check the available space in K3b's status bar. Bear in mind that each minute of CD-quality digitized uncompressed audio takes a little more than 10 MB of disk space.

Click the Start Ripping button to review the different ripping options (see Figure 4.12, “CD Ripping Options”[65]), especially the file naming ones. Once you're satisfied with your settings, click Start Ripping.

Figure 4.12. CD Ripping Options

3.5. Duplicating a CD

Choose Tools → Copy CD from the menu. Select the number of copies (`1` in the example), whether to remove the temporary image or not (`yes`), the reader and burning devices (automatically set), and click Start. The “source” CD is then read, an image of it is made, and the “target” CD is written.

Figure 4.13. Setting Options to Copy a CD

3.6. Erasing CD-RW media

Figure 4.14. Setting CD-RW Blanking Options

You might want to format your CD-RW media in order to write it with different data. To do so, insert the medium in the CD burner and choose Tools → Erase CD-RW from the menu (see Figure 4.14, "Setting CD-RW Blanking Options"[67]). The Erase Type can be set to Fast (the CD-RW is quickly erased in up to 3 minutes); Complete (the CD-RW is completely erased taking up to 90 minutes); and a few options related to multi-session recording are also available. Click Start to erase the CD-RW.

Chapter 5. Graphics Tools and Practical Devices

1. Graphic Art and Image Manipulation

This chapter concentrates mainly on GIMP, and introduces other interesting applications you may wish to explore on your own.

1.1. GIMP

The GNU Image Manipulation Program (GIMP) is a free software program challenging proprietary applications such as Adobe® Photoshop® and Corel® Painter™, allowing advanced photo editing tasks such as cropping, resizing, painting, drawing, modifying colors, etc. Its true beauty lies in its extensibility and its scripting options, which opens GIMP to full integration in programs and scripts therefore enabling it to act as a mass production image rendering application.

1.1.1. Introduction

Strengths

For normal users, GIMP will seduce you with its advanced functions for web images and formats. You can easily create animations and optimize your art for web publishing, and take advantage of GIMP's extensive photo manipulation features.

Power users, publishers and document management specialists can truly benefit from GIMP's advanced scripting capabilities and the programs' function accessibility.

Weaknesses

GIMP, like most Free Software graphic design applications, suffers from the fact that prepress standards, such as PANTONE® Color Systems, are proprietary and closed. So for GIMP, it means that there are no usable implementations of these standards. Also, because the press world is dominated by *Apple*-compatible computers you will have to put in some extra effort to print professionally with GIMP, although it is feasible. Another limitation is the internal 8 bit-per-channel representation for images, which may not be sufficient for the professional digital photographer (16 bits-per-channel would be required).

Finding More Information

GIMP includes extensive documentation. If the `gimp-help` package is installed, pressing the F1 key lets you access a help index for the current “active” item, and pressing Shift+F1 gives you access to contextual help.

On the net, GIMP is a very well documented application and a geat amount of information is freely available. Please refer to The GIMP web site [http://www.gimp.org/docs/] for more information about the available GIMP documentation.

1.1.2. Starting GIMP and its Interface

Choose Graphics → GIMP Image Editor from the main menu to start GIMP.

Unlike Adobe® Photoshop®, when you open GIMP a few dialogs appear, the main one being the toolbox (see Figure 5.1, “GIMP's Main Interface”[70]). It offers GIMP's core functions and allows you to initiate other tasks.

Figure 5.1. GIMP's Main Interface

1.1.3. Concepts

GIMP embraces differences. Therefore, there are usually many ways to achieve the same goal. The following is a brief description of some concepts and the way they work under GIMP.

Menu

From GIMP's main window (called the tool box), you can access the basic program options such as opening a file, creating a new file, etc.

Right-clicks

Once an image is opened or created, you can right-click in the image window and access the image's specific options such as Close, Save, Save as, Dialogs, Filters, etc. We call this the “image menu” in the following sections.

Layers, Image Modes and File Formats

Some of the key concepts to grasp in order to truly benefit from an advanced graphic design application like GIMP are those to do with layers, formats and file modes. Roughly put, digital image editing adds a 4th dimension: layers. Images are built vertically (as are animations), and each layer has user-defined properties which determine other tasks that can be accomplished. File mode defines the inner logic of the graphic elements. Hence, an RGB image allows for different operations and capabilities that you would not have for a gray scale image. Finally, the file format also impacts on which operations can be done on that file.

If you face difficulties accomplishing any task described below, check those three elements before jumping to conclusions.

1.1.4. Using GIMP

Basic Operations

Opening a File. Choose File → Open from the menu. Your image appears in a new window. From that window, you can access the image's menu (File, Edit, Select, etc.) or right-click as explained in the section called “Right-clicks”[71]. Depending on the file format you want to open, you may have to answer some questions pertaining to the details of that format and its conversion. Keyboard shortcut: Ctrl+O.

Creating a New File. Choose File → New from the menu. A dialog appears allowing you to determine image dimensions in different measurement units (pixels, inches, millimeters, etc.), image orientation (landscape or portrait) and some advanced

options (see Figure 5.2, “Creating a New File”[72]). You may also specify a Template from the pulldown list and have most image parameters filled for you. Once you click on the OK button the image is created in a new window. Keyboard shortcut: Ctrl+ N.

Figure 5.2. Creating a New File

Saving a File. The first time you Save, or when you Save as, a dialog pops up which allows you to set the name and location of your image. More importantly, this is the place to define the file type such as JPEG or PNG. Keyboard shortcut: Ctrl+ S for Save, Shift+ Ctrl+ S for Save as.

New users, at the stage of saving their work, run into multiple problems such as losing layers or simply damaging their work. Most of these problems come from the specific options allowed for each file format. If you have no idea, preserve the image format or save in `XCF`, GIMP's own file format. You can always try saving the image under different formats later.

The Tool Box

The tool box contains your basic graphic design tools. If you move your mouse over any item, its name and keyboard shortcut pops up in a help balloon. Tool options are accessible through the Active Tools Options section of the tool box. We will not detail each tool in this guide as there are already books written about GIMP to assist you. Remember that all operations take place in the current active layer.

If you close the tool box, GIMP and all windows are closed. Closing any other window only affects that window.

Image Window

Figure 5.3. GIMP Picture

This window manages either new or opened images and it is where tools selected in the tool box may be used.

View Size

At the bottom of the image window is a numeric value shown as a percentage. This is the zoom ratio. Click on it to choose another zoom ratio. You can also press the + key to increase zoom or the - key to decrease it. Press the 1 key to set zoom to 100%.

Go to menu entry View → Navigation Window to launch a window navigator allowing you to pan and change the zoom ratio of an image window.

Undo and Redo

All operations can be undone and redone. You can change how far, as a minimum, you can go back in the command “history” and how much memory to reserve for it, by choosing File+ Preferences from the menu, then selecting the Environment section. Please bear in mind that both settings have a large impact on RAM usage which might make it difficult, or even impossible, to manipulate a large image file.

Choose Edit → Undo from the image menu, or press the Ctrl+ Z keys, to undo the last operation.

Choose Edit → Redo from the image menu, or press the Ctrl+ Y keys, to redo the last undo operation.

Copy, Cut and Paste

GIMP allows you to copy (Ctrl+ C), cut (Ctrl+ X) and paste (Ctrl+ V) within any window, as well as between any GIMP image window. You can also paste as layers.

Layers, Channels and Paths

Choose Dialogs → Layers (or press the Ctrl+ L keys); Dialogs → Channels; Dialogs → Paths from the image menu to access the layers, channels and paths dialogs respectively (see Figure 5.4, “Layers, Channels and Paths Dialogs” [74]).

Figure 5.4. Layers, Channels and Paths Dialogs

GIMP allows for an unlimited number of layers. Each layer has a specific set of properties.

In a RGB color image there are three channels, one for red, one for green and one for blue. The channels dialog lets you turn a channel off or on, as well as add and remove other channels. Clicking on the eye at the left of a channel name turns it on or off depending of its original status.

Paths let you manipulate your selections in very complex ways. You can transform selections into paths which let you treat the selection as a curve, giving you more control over it since you can, for example, add points to the curve to manipulate it.

Filters

Filters are a set of programmed actions which modify your image according to specified options. GIMP offers a vast range of filters such as blurs, noise effects or image enhancement operations that may be applied to selections and layers. Feel free to explore them all.

Figure 5.5. Filter's Menu

1.1.5. Dialogs

Dialogs give any tool further options. There is quite a large number of them and for the purpose of this introduction, we only discuss the Color Selection and Brushes dialogs.

Color Selection

Figure 5.6. Color Selection Dialog

Choose the Dialogs → Colors menu to open the color selection dialog. Use the buttons at the top to select the color “space” you want to use for color selection: GIMP (lets you select colors using different palettes: Red, Green, Blue, Hue, Saturation and Value), CMYK, color triangle, watercolor, a reduced color palette or scales. The fore/background colors are handled the same way they are in GIMP's tool box. Selected colors are active immediately after choosing them. Rule of thumb: try to work in RGB so you can have a wider number of formats to save your work into.

Brushes

Figure 5.7. Brushes Dialog

This dialog lets you define the type and size of the brushes which apply to most drawing and erasing tools. Click on the active brush section of the tool box, or choose the Dialogs → Brushes menu to open this dialog. Keyboard shortcut: Ctrl+ Shift+ B.

1.1.6. Printing

GIMP is ideal for web development but printing from GIMP is sometimes tricky. Because of the absence of PANTONE® Color Systems support, GIMP might not be ideal for prepress work, although CMYK images are supported.

Internally GIMP supports many printers and it is always feasible to filter images through GhostScript or print to file (PostScript). Therefore, you can print images relatively easily. Remember to adjust your resolution to match your printer's capabilities.

A great deal of online documentation is available to further your knowledge about printing with GIMP, and we encourage you to explore further.

1.1.7. Plugins

Plugins are external applications which extend a program's core functions. GIMP, like Adobe® Photoshop®, relies on a vast range of plugins to extend its capabilities. You may also contribute plugins to the community. Most of them are free to use and distribute.

Choose Xtns → Plug-In Browser from the menu to view all installed plugins.

1.1.8. Conclusion

Hopefully, this brief introduction caught your interest for this amazing piece of software. GIMP is a first-class application and should be considered by any Linux graphic artist.

1.2. Vector Graphic Applications

GIMP is a bitmap graphics applications, however for enterprise logos, diagrams, maps or any kind of drawing (as opposed to photo), a vector graphics application is preferred.

Dia
: Dia is a diagramming application which can be considered as an alternative to Microsoft® Visio®. It contains a set of predefined symbols for different types of diagrams you may use. Just like GIMP, Dia offers many common look-and-feel features. Right-clicking in the image gives you image-specific menus, and allows you to modify the image to your needs. Please refer to the Dia web site [http://www.gnome.org/projects/dia/] for more information.

Kivio
: Very much like Microsoft® Visio®. Kivio possesses a very complete stencil set and it can even use Dia stencils. Worth a try if you are familiar with Microsoft® Visio®. Please refer to the Kivio web site [http://www.koffice.org/kivio/] for more information.

Inkscape
: Inkscape could be considered the “star” of current vector drawing applications for Linux. With it you can draw anything you want (unlike Dia and Kivio). It's a very mature application available under both Linux and Windows® and it saves in the SVG format by default, easing interoperability and the support of standards. Please refer to the Inkscape web site [http://www.inkscape.org/] for more information.

2. Digital Cameras

2.1. Configuring Your Digital Photo Camera

This section describes the different functions of digiKam. We go through basic configuration, image transfer from your camera to your computer, image editing, and creating web albums.

To start using digiKam, plug your camera in a free USB slot, turn it on in “play” mode [1] (if available), and choose Graphics → digiKam Photo Management Program from the main menu to launch digiKam. The 1st time you do this operation, you must provide a folder to store pictures into: you can accept the default.

Figure 5.8. The digiKam Main Window

Detecting The Camera. If your camera is not listed in the Import+ Digital Cameras menu, then choose Import+ Cameras Added Manually+ Add Cameras and click on Auto-Detect. If detection fails, click on Add and look for your camera in the list, or fill the parameters corresponding to your camera, and accept your settings.

Check GPhoto2's supported cameras list [http://www.gphoto.org/proj/libgphoto2/support.php] for more information on camera support. If your camera uses the Picture

[1] As opposed to “record” mode, which is the mode used to take pictures.

Transfer Protocol (PTP), it may be supported even if it's not in the Gphoto2 list. You can also consult the very complete Digital Camera Support for UNIX, Linux and BSD [http://www.teaser.fr/~hfiguiere/linux/digicam.html] web page.

2.2. Handling Digital Camera Storage Media

If your digital camera is not recognized, you can still try to use a “card reader” which lets you plug in the camera's memory. They usually appear mounted under the `/media` folder, so you can access them as you would any other storage device. Many card readers support multiple memory card types: Compact Flash, Secure Digital, etc.

If you have a laptop computer with a PCMCIA slot, you can use the ATA photo memory PCMCIA card adapters in order to access your pictures. They are mounted just like any other ATA device (CD-ROM, hard disk, etc.). This is the fastest method to access photo cards. It also means the camera's batteries could last longer.

2.3. Transferring Pictures

1. Choose your camera from the Import menu.

2. Select the photos you want to transfer: images not yet transferred have a star in the upper-right corner.
3. Click on the Download Selected button.

4. Choose the album to store photos into and click OK. You can also click on Create and enter an album name to create a new album.
5. Selected pictures are transferred to that album [2].

2.4. Touching Up Pictures

All transformations on pictures are made on the on-disk file, digiKam doesn't make a backup of the transformed pictures. Transformations are, when possible, loss-less, but may affect the quality of the picture's on-disk file.

Select a picture and click on this button to open the image edit window. Bear in mind that on-screen rendering is quite different from printing your digital pictures on photographic paper. So if you intend to both print and publish your pictures for online viewing, it might be wise to treat both copies differently from the beginning.

Press Ctrl+Z to undo the last transformation operation. However, once you have saved the image, changes cannot be undone.

We will overview a few tools in this introduction, feel free to experiment with all the available menus and tools.

2.4.1. Rotation

Simply choose one of the entries (Left or right) from the Transform menu.

When rotating pictures “by hand”, it is better to correct the EXIF orientation information in order for the EXIF information to reflect the picture correctly.

Choose the appropriate entry from the Image → Adjust Exif Orientation Tag menu.

2.4.2. Brightness, Contrast and Gamma

Choose Colors → Brightness/Contrast/Gamma from the menu and use the sliders to adjust the brightness, contrast and gamma of the picture using the picture copy as a guide.

2.4.3. Image Resizing and Cropping

Resize (Change Resolution). Multi-megapixel images are excellent for photographic paper print-ups, but are far from adequate for e-mailing or publishing on the Web. Choose Transform → Resize from the menu, then select the desired size, either in pixels or in percentage, and whether or not to keep (recommended) the aspect ratio.

Crop. You can also crop an image to a desired size while keeping aspect ratio. Choose Transform → Aspect Ratio Crop from the menu, drag the rectangle to frame the part of the image you are interested on, and select the aspect ratio, orientation, width and height.

For electronic publication, the usual aspect ratio is `4:3`, while for printing the usual aspect ratio is `3:2`.

Usually a size of `640x480` is enough when e-mailing a photo, while `800x600` is enough for web publishing.

2.5. EXIF Photographic Settings, Comments and Tags

You can use the tabs located at the right of digiKam's window to view EXIF information, add comments and tags, etc.

Most digital cameras produce EXIF (Exchangeable Image File Format) files. EXIF provides extra tags containing information about the image such as the date, camera model, exposure time, ISO speed setting, aperture, etc. Select the picture, open the Metadata tab, and select the EXIF tab.

To add a comment to a picture, open the Caption/Tags tab, then enter your Comments(see Figure 5.9, “Adding a Comment and a Tag to a Picture” [85]). Using

the same tab you can also add tags to your pictures, for example, to organize them. Click on Apply once you are satisfied with your settings.

Figure 5.9. Adding a Comment and a Tag to a Picture

Those tags and comments can then be used to search your photos and be used as captions when exporting your albums on the Web.

2.6. Sharing your Photos

If you want to share your pictures with your family and friends, you can easily either:

- create a Web publishable version of your album (HTML, Flash, etc.),
- or automatically publish your photos to a public sharing website like Picasa or Flickr.

Figure 5.10. The digiKam Export Menu

Each export option needs its own parameters.

3. Scanning Documents and Images

This section explains how to use a scanner with Kooka and GIMP. Please refer to Section 8, “Installing and Sharing Scanners”[138] for instructions on how to set up your scanner.

3.1. Scanning Documents with Kooka

While there are many scanning applications available, we chose Kooka because it is both simple and complete. Make sure the `kooka` package is installed.

You can launch Kooka from the Graphics → Kooka Scan & OCR Program menu item.

Choosing the Scanning Media Device. The first time you launch Kooka, a dialog prompts you to choose the scanning device to use. Check the box to always use this device.

Figure 5.11. Kooka Main Interface

1. Place your document into the scanner, and click the Preview Scan button. The image appears in the right pane.
2. Click and drag your mouse over the preview image to select the area to be scanned
3. Set the scan parameters, especially the Scan mode and Resolution.
4. Click Final Scan to launch the actual document scan.
5. In the window that pops up, choose the image format to be used to store that scan. The image then stacks on the images list, top left.
6. Check the result by opening the final scan tab. You can then change parameters and scan again if required.

7. If all looks fine, you can save your image wherever you want by right clicking on it in the list of images. Remember to clean that list from time to time by deleting items from it.

3.2. A Note About the Resolution

Most modern scanners boast high resolutions, such as 1200, 1600 or 2400 DPI (Dots Per Inch). But it would be a mistake to perform all of your scanning at the maximum available resolution. You will notice very little — if any — quality difference between a 300 and a 600 DPI image scan, but the file size will grow exponentially, up to many MBs of disk space for a single image file.

The resolution value should be chosen according to the device on which the image is to be reproduced. For images to be viewed on computer monitors, e.g. for web sites, the resolution should be close to typical monitor resolution values, between 70 and 100 DPI. Higher values will result not only in bigger images, but the dimensions will also increase, so that an image scanned at 160 DPI instead of 80 will be about twice as large [3].

If you intend to print your images, a resolution of 300 DPI should be enough for most home printers. Increase this value if you have a very high quality printer.

Higher values should be chosen only for specific uses, such as enlarged images on very high quality printers, or quality scans of black and white originals. You will have to experiment a little until you're satisfied with the results.

3.3. Extracting Text from Scanned Documents (OCR)

By installing the `ocrad` package, you will be able to use Kooka to perform OCR tasks. The Figure 5.12, “Scanned Document in Kooka” [89] shows Kooka with a document scanned as explained in Section 3.1, “Scanning Documents with Kooka” [86].

For better results, you should set the scanning mode to Gray and the resolution to no less than 300 DPI.

[3] However scanning at a higher resolution and then reducing the resulting image size using graphic manipulation software such as GIMP is one method often used to obtain better results than directly scanning at the desired final resolution.

Figure 5.12. Scanned Document in Kooka

Once the document is scanned, you can click on this icon (Image → OCR Image) and click on Start OCR. The resulting text appears along with a spell-correction window.

Depending on your hardware and the quality of the document you want to scan, you might need to adjust some parameters until you obtain a rendering that satisfies you. For more information on Kooka, please read its handbook (Help → Kooka Handbook).

Part II. Configuring and Tweaking Your Box

Mandriva

Mastering Mandriva Linux

Chapter 6. Introduction to the Mandriva Linux Control Center

1. MCC's Components

The Mandriva Linux Control Center (MCC) allows the system administrator to configure the hardware and the services used by all users in a friendly way.

Access the Mandriva Linux Control Center through the main menu (Tools → System Tools → Configure Your Computer). As with all system configuration tools under Linux, you must provide the system administrator's password.

Text Mode Configuration

Some of the Mandriva Linux Control Center components are also available from the command line in text mode by running **drakconf**.

Figure 6.1. The Network Sharing Section of the Control Center

Here are some of the available menu entries:

- **Options** → **Display Logs.** When activated this option displays a Mandriva Linux Tools Logs window. It shows all system modifications made by the configuration tools launched from within Mandriva Linux Control Center.
- **Help** → **Help.** Opens the help browser which displays documentation about the active configuration tool.
- **Help** → **Release Notes and Help** → **Errata.** Opens the web browser and displays the release notes and errata for your Mandriva Linux system. Here you may find tips for solving issues with certain hardware.
- **Help** → **Report Bug.** Allows you to report a bug to the development team. See Section 2, “Raise an Issue” [97].

The tools are sorted into categories. The following table lists them all and refers to the corresponding sections of this manual.

Table 6.1. Overview of Graphical Tools

	DrakFont” [176]
	Section 5, “Setting your Machine's Date and Time” [177]
	Section 6, “System Localization” [179]
	Section 7, “Monitoring System Activity” [180]
	Section 8, “Access to the Console” [185]
	Section 9, “Managing Users and Groups” [186]
	Section 10, “Import Windows® Settings and Documents” [189]
	Section 11, “Backing Up and Restoring your Files” [194]
	Section 12, “System Snapshots” [204]
Network Sharing	Section 1, “Importing Remote SMB Directories” [209]
	Section 2, “Samba Shares Managements” [210]
	Section 3, “Importing Remote NFS Directories” [219]
	Section 4, “Share Drives and Folders using NFS” [220]
	Section 5, “Setting up WebDAV Mount Points” [221].
Local Disks	Section 1, “Managing your Hard Drive Partitions with DiskDrake” [225]
	Section 2, “Managing Removable Devices” [230]
	Section 3, “Allowing Users to Share Folders” [232]
Security	Section 1, “Securing your Machine with DrakSec” [235]
	Section 2, “Controlling File Permissions with DrakPerm” [240]
	Section 3, “Securing your Internet Access via DrakFirewall” [242]
	Section 4, “Network Interface and Firewall Failover” [246]
	Section 5, “Parental Controls” [249]
Boot	Section 1, “Configuring the Login Mode” [253]
	Section 2, “Changing your Boot-up Configuration” [254]
	Section 3, “Display Manager Setup” [256]
	Section 4, “Customizing your Boot Theme” [257]

Some other categories and tools appear if the drakwizard package is installed. The documentation for those server wizards is available in the *Server Administration Guide*. Those wizards enable you to do basic configuration of common LAN services such as web, FTP, mail and database servers.

2. Raise an Issue

If you encounter unexpected behavior in Mandriva Linux-specific tools, Drakbug allows you to report it to the development team.

To be able to report bugs using Drakbug, you need a working Internet connection as well as a Drakbug account [http://qa.mandriva.com/createaccount.cgi].

To run Drakbug, go to the Help → Report Bug menu entry of the faulty tool, or run it from Mandriva Linux Control Center's own menu. A crashed Mandriva Linux tool may also trigger Drakbug.

Figure 6.2. Reporting a Bug

1. In order to correctly report a bug, it is important to identify the package it is related to. You can Select the Mandriva Tool or enter the application name in the Application Name (or Full Path) field and then click on the Find Package button.
2. Click on the Report button. Your web browser will then open. If you are not logged in to the Mandriva Bugzilla web site [http://qa.mandriva.com/] you will be asked to log in. Once you are logged on the site, complete the bug report as completely and accurately as possible and click on Commit.

Chapter 7. Package Management

To begin with, a bit of vocabulary.

Package
: Software needs to be broken down into different files to ease development and management. An application ends up being lots of pieces: the binaries, the documentation and the resources the application needs (images, icons, translations, sounds, etc.). A package is the set of all of an application's components, stored in a single file in a way that's very simple to install, update and remove.

Dependency
: Applications rely on software libraries or components made by different developers to perform a given set of functions, not part of the main function but needed to achieve it. A dependency is a package another package needs in order to work properly. Mandriva Linux's package management tool takes care of all these dependencies automatically.

Update
: Software is a living thing: new features are added, existing features are enhanced and problems (bugs) are fixed. An update is a package which brings in some or all of these enhancements or fixes into an existing application. It is recommended that you check for updates often in order to keep your system in good shape and free from bugs and security threats.

Source
: A source is a repository of packages, and the place where packages are installed from. Sources for the media used during system installation are automatically created, you can add your own sources for updates and packages you find on the Internet.

Media
: The place where (software) packages are stored physically, be it CDs, DVDs, or an FTP server.

Repository
: Centralized place containing media (and thus, packages).

Mandriva Linux uses the RPM packaging system. Mandriva Linux provides convenient tools to simplify package maintenance. The Urpmi set of tools is command line based; here we will concentrate on Rpmdrake, Mandriva Linux's graphical software installation tool and the Software Media Manager. Figure 7.1, “Software Management in the Mandriva Linux Control Center”[100] shows the Software Management section of Mandriva Linux Control Center.

Figure 7.1. Software Management in the Mandriva Linux Control Center

Rpmdrake can be used to install or remove software (explained in Section 1, "Adding and Removing Software" [100]) or to update existing software (explained in Section 2, "Updating Packages" [104]). Media management is covered in Section 3, "The Software Media Manager" [105]. You can use Package Stats to get some statistics about the usage of installed packages on your system: use this advanced information to help you decide whether to remove a package or not, for example, if you need more disk space.

1. Adding and Removing Software

Adding Media at First Launch

When you launch this tool for the first time, if no installation media are configured already, you are prompted to add new official installation media.

That will give you access, over the Internet, to many more packages than those that could fit in your CD or DVD. Add them if you have a fast Internet link.

1.1. Meet Rpmdrake

When launching Rpmdrake you have to wait a few seconds while the package databases are scanned. Then you are presented with Rpmdrake's main interface.

Figure 7.2. Rpmdrake Interface

Package Set. Use the first pulldown list to select the types of package to be displayed: applications having a graphical user interface (Packages with GUI, the default); Meta packages (which are packages containing other packages, and whose names start with `task`: for example `task-c-devel`, for all packages required for C development); a few options for updated packages (All updates, Security updates, Bugfixes updates, General

updates); Backports containing software adapted from other releases of Mandriva Linux; or simply All packages. Use the second pulldown list to filter which packages to display: All of them (installed or not); only Installed ones (to be uninstalled); or only Not installed ones (to be installed). Each time a package set is selected, the Categories Tree is rebuilt to display matching packages.

Package Search. Use this facility to search for a package name, description, summary, or content (the files it provides). Type the string to be searched for, select the criterion using the binocular, and press Enter.

Categories Tree. To ease management, packages are classified into categories (Networking, Office, Games, Development, Graphics, etc.). Open a category to display packages which match the current criteria set using Package Set and Package Search.

Package List. Where currently matching packages (Set, Category and Search Criteria) are displayed. This is where you select packages to take action on them.

Package Details. Displays details about the currently selected package in the Package List.

Procedure 7.1. Performing Actions on Packages

1. Use the Package Set pulldown lists, the Categories Tree and, optionally, the Package Search facility to browse for packages to be installed or removed.
2. In the Package List, select packages by checking their corresponding box. If the checkbox by the package name is empty, it means that the package can be installed, once selected it will be marked with the icon. If the package is marked with the icon, it means the package is already installed, uncheck its box to select it for removal and it will be marked with the icon.

   You may notice that some packages are marked with a “do not enter” icon. These are “base” packages which cannot be removed because one would end up with a broken system, their checkboxes cannot be unselected.

3. Once you are satisfied with your choices, click on Apply to perform the actual installation or removal of packages. You are shown how many bytes will be transferred and how much disk space will be needed (or regained) and asked for confirmation, then a new window appears, where you can see the progress of the actions being taken. If you prefer to leave without doing anything, you can click on Quit.

1.2. Handling Dependencies

It may happen that you select a package which requires dependencies (additional libraries or other tools) or which is a dependency of other packages. In this case Rpmdrake displays an information window allowing you to choose whether to accept the selected dependencies, to Cancel the operation, or to get More info on the operation (see Figure 7.3, “Dependency Alert Box”[103]). It also shows how much disk space will be used.

Figure 7.3. Dependency Alert Box

Alternative Dependencies. You may also want to install a package which requires dependencies, and various packages which are capable of providing that dependency. The list of alternatives is then presented (see Figure 7.4, “Alternative Packages”[103]). You may read the additional information presented by clicking the Info... button to help you choose the best alternative.

Figure 7.4. Alternative Packages

2. Updating Packages

This simple interface allows you to quickly check for available updates and to install them with one click.

Adding Update Media. The first time you launch this tool, you are prompted to add update media. Follow the instructions to do so.

Figure 7.5. Updating Packages

1. By default, all updates are selected for installation, you should review the list.
2. Click Update to download and install all selected updated packages.

Update Notifications

Once update media is configured, the Mandriva Update applet, sitting on your panel, will pop up a message and show a red icon when updates are available.

3. The Software Media Manager

Use this tool to configure the package media repositories. Figure 7.6, “Configured Software Media” [105] shows some media already defined: “Main”, “Contrib”, etc. You can also add other software media: a CD from a magazine containing RPMs, a Web repository, etc.

Figure 7.6. Configured Software Media

Use the check boxes in the left-hand columns to flag the repositories

Enabled
: Uncheck this box to temporarily disable the corresponding medium. The packages contained in this medium will not be available until you enable the medium again.

Updates
: This box is checked for update media, that is, media that contains updates of packages that are already in another medium, albeit with an older version number. Thus only selected update media are taken into account when looking for updates.

To avoid headaches because of wrong media marked as update media, you cannot change whether a medium is considered as an update medium or not. If you really must set a medium as an update medium, and you really know what you are doing, you can run **drakrpm-edit-media --expert** from the console and the Updates column will be enabled again. *Use at your own risk*.

Action Buttons on the Right

Remove
: Discard a medium which you no longer use. Simply select (highlight) the medium to be removed and click the Remove button.

Edit
: Change the medium's parameters: the URL or the downloader (if you do not know what we are talking about, it is wise to leave this window via Cancel instead of Save changes).

  If you need to pass through a specific proxy to access this particular medium, you can configure it here by clicking on Proxy.

Add
: Add to your system all publicly available official package sources from Internet repositories. This is useful for example if you have a fast Internet connection or only have the first installation CD at hand. You should choose a mirror geographically near to your location.

  After choosing a mirror and clicking Ok, package information for the source you have chosen is downloaded and all included packages will be available.

Up and Down arrows
: These buttons allow you to change the order in which sources will be used when installing packages. By default, the newest version of a given package will always be

installed, but if the same version is found on two different media, the one from the first medium in the list will be installed.

Therefore, it is better to move fastest media further up the list

Actions Available From the Menu

File → Update

You are shown a list of all enabled media; select those you want to update the list of available packages for, and click Update. This is useful for remote media to which new packages are being added. Keyboard shortcut: Ctrl+ U.

Options → Global options

Allows you to configure the program used to retrieve remote packages, whether the packages should be checked against a key and also to set the package information download policy (on-demand - the default, always, update-only, or never - useful for slow network connections or if you are charged per bytes transferred). These choices affect all package sources. Keyboard shortcut: Ctrl+ G.

Options → Add a custom medium

Choose this to open a new dialog, in which you define all the required parameters for a new software package medium. Please bear in mind that the parameters, and available options, depend on the type of medium being defined. Keyboard shortcut: Ctrl+ A.

Figure 7.7. Adding a Custom Package Repository Medium

Options → Manage keys

It is important that any package you install is authenticated. To do so, each package can be electronically signed with a "key", and you can allow/disallow keys on a per-medium basis. In Figure 7.8, "Package Repository Authentication Key Management" [108], you can see that the Mandriva Linux key is allowed for medium "Main". Click on Add to allow another key for the selected medium (beware, do this with care, as with all security-related questions), and on Remove to remove a key from the selected medium. Keyboard shortcut: Ctrl+ K.

Figure 7.8. Package Repository Authentication Key Management

Options → Parallel

If you are running a large network of computers, you may want to install a package on all the computers in parallel; choosing this menu opens a dialog window allowing the configuration of the "Parallel" mode. As it is rather complicated and only useful to a limited group of people, this short introduction will not give further details about it. Keyboard shortcut: Ctrl+ P.

Options → Proxy

If you are blocked by a firewall and you still need to access remote media (especially for package updates), you can do so if you have a proxy server which leads to the Internet (at least in an area where you can find a package server). Normally it should be enough to fill in the Proxy hostname to get it working (see Figure 7.9, "Specifying

a Proxy for Remote Media”[109]). If you need a user / password combination to get through the proxy, you can also specify these here. Adjust your settings and confirm your changes by clicking on OK and you are done. Keyboard shortcut: Ctrl+R.

Figure 7.9. Specifying a Proxy for Remote Media

4. Package Statistics

This utility serves two purposes:

1. To inform you about the software you don't use on your computer so you can eventually remove it to save space,
2. and send that usage information to Mandriva so statistics about most used software can be compiled and shared among users.

Figure 7.10. The Main Package Stats Window

Sort Packages

You can click on a column header to change the ordering scheme.

Browse the Packages Statistics List. The Not used since column indicates the number of days since the package was last used. You can check the higher numbers and then choose to uninstall them. Make sure that you thoroughly read the description of that package before deciding to remove it.

Share your Usage Statistics. Press the Send Stats button to send your usage statistics to Mandriva. That will send them along with an identification string. No other personal information will be sent.

Show Package Information

Right click on a package name, and choose More Info to display useful information about that package.

Chapter 8. Controlling a Remote Machine

Abstract

Being able to remotely control another machine offers many possibilities, from remote technical assistance to teaching how an application works. We describe how to configure and use a virtual network computing environment under Mandriva Linux for its main use: helping a remote user.

1. Concepts

Here are a few concepts:

Virtual Network Computing (VNC)
: An environment which allows you to interact with a remote computer “as if you were sitting in front of that computer”. The computers don't have to be of the same type, nor do they have to be running the same OS: they only need a working TCP/IP network connection.

Controlled Computer
: This is the computer to be controlled without the need, or the possibility, to be actually sitting at its console. It is remote from your location. Also called the “server”. In our example scenario this is the computer of the user you are assisting.

Controlling Computer
: This is the computer in front of which you're sitting, from where you interact with the controlled (remote) computer. Also called the “viewer”.

2. Installation and Setup

Rfbdrake lets you setup and use the VNC in an simple and easy way. Look for it in the Online Administration section.

2.1. Controlled Computer Setup

Two scenarios can occur here: either you, or the person you are assisting, can access Rfbdrake (local access); or not (typically remote administration tasks), we only describe the first scenario here.

Firewall

If the system to be controlled is behind a firewall, then you have to make sure that ports `tcp/5900+N` and `tcp/5800+N` are opened on the firewall, where `N` is the VNC server display number.

Select the Allow control of my machine (linux server) option. Fill the Set Password field. This is mandatory or the server will not be started. Please bear in mind that this password is not related to the user's local/remote account password in any way.

Figure 8.1. Server Options

Once Launch server is clicked this icon indicates that the computer is ready to accept incoming VNC connections on the display number shown at the bottom. Closing it will stop the VNC server. Right-clicking on it to gives access to a pop-up menu with some options.

2.2. Controlling Computer Setup

Figure 8.2. Viewer Options

1. On the machine which will act as the controller (viewer) computer, run Rfbdrake and select the Want to take control (linux client) option.
2. Fill the Remote server Address pull-down list with the IP address or hostname of the computer to be controlled.
3. Fill the Display Number field with the remote computer's display number, or leave it empty to use the default (display number `0`).
4. Fill the Enter Password field with the server password.
5. If you want the remote desktop to use all of the controller computer's screen (by default it's displayed in a window), put a mark in the FullScreen check-box.
6. Once you are satisfied with your settings, click on the Connect button to access the remote computer.

3. Connecting to a Windows® Terminal Server

Figure 8.3. Windows Terminal Services Options

1. Select the Windows Terminal Services option to connect to Terminal Services on a Windows® machine.
2. Fill the Windows Hostname pull-down list with the hostname of the Windows® machine or its IP address.
3. Select a desktop size in the Screen Size pull-down list and a language for the keyboard in the Keyboard Language pull-down list.
4. Finally, click on the Connect button once you're satisfied with your settings.

4. Remote Control in Action

Once you connect to the remote computer you see its desktop and you are able to perform *any* action as if you were sitting in front of it.

Figure 8.4. Controlling a Remote Computer

The Mouse Cursor

The mouse cursor becomes a round point and the remote computer's arrow-cursor will “follow” it. This can prove useful to keep track of where the cursor is at any given time.

Link Speed and Responsiveness. The limiting factor of the response time of the remote computer is the speed of the link to it. For LAN connections (typically 100-1000 Mbps), you will feel that you're really in front of the remote computer. For Internet connections (typically between 56 Kbps and 1-10 Mbps), don't expect “instantaneous” response from the controlled computer.

Disconnection. Once you've finished using the remote computer, you can disconnect from it by closing the VNC viewer window. If you're using the full-screen mode, press the F8 key and select the Quit viewer option from the menu which pops up.

5. More Documentation

This short introduction to VNC has hopefully shown you some of the possibilities of remotely controlling computers. The options are endless, please refer to the TightVNC Documentation [http://www.tightvnc.com/docs.html] and to the VNC Documentation [http://www.realvnc.com/documentation.html] web sites.

Chapter 9. Hardware Setup

1. Sound System Configuration

This tool allows you to configure your sound card which can be necessary if you experience sound problems (no sound, etc.) or if the sound card you use is not the same as at installation time. You can find it in the Hardware section of the Mandriva Linux Control Center.

Figure 9.1. Sound Configuration Main Window

1.1. Changing Drivers

You can switch from one driver to another by selecting it from the Driver drop-down list. All the drivers compatible with your sound card are displayed: you have to choose between the OSS or the ALSA API.

We recommend that you use ALSA because OSS is a very basic and limited API. If your sound card is very old you may need to use OSS. On the other hand ALSA is a more elaborate and much richer API than OSS and provides many enhanced features.

You can read more detail on this subject by clicking on the Help button.

If you are an expert you can access the full list of drivers and choose another one by clicking on Advanced and then on Let me pick any driver.

1.2. Other Sound Options

You can configure other options for PulseAudio, the sound server. by checking the corresponding boxes.

Enable PulseAudio
: Activates the sound server. PulseAudio accepts sound input from many sources and mixes them together enabling sound output on the desktop. It is compatible with most audio sources. PulseAudio is the default sound server, it is recommended you leave it enabled.

Automatic routing from ALSA to Pulse Audio
: There are still many programs (especially games) that use sound and are programmed to use the ALSA API instead of PulseAudio. It is recommended to leave this option checked so that these programs are able to output sound.

Enable 5.1 sound with PulseAudio
: Check this option if you have a multichannel audio system and want to take advantage of all its features.

Enable user switching for audio applications
: When a user logs in they monopolize the sound hardware: if another user logs in, their programs won't have any sound. If your machine hosts several users, check this option to enable sharing the sound hardware among logged in users. Even if a user is logged in and has locked the session, other users can login and have the sound available for their programs. It is recommended that you leave this option checked. You may uncheck it in specific cases when you want the first logged in user to have exclusive access to the sound hardware.

Click on Advanced to access more options. Here you can choose another driver, reset the sound options to their defaults or find a troubleshooting procedure.

2. Configuring Your Hardware

2.1. Hardware Detection and Configuration

Abstract

The HardDrake project simplifies hardware detection and configuration under Linux by providing a user-friendly interface.

HardDrake detects and configures existing hardware at boot time automating and simplifying the process of installing new hardware. When launched from the Mandriva Control Center, HardDrake displays information about your system's hardware and can launch configuration tools to modify hardware or driver settings.

HardDrake uses the “ldetect” engine, so if your new hardware is not detected, you may try to upgrade the `ldetect` library itself and its hardware database, located in the `ldetect-lst` package.

2.1.1. Using HardDrake

After all devices have been detected, the main HardDrake window appears (see Figure 9.2, “Selected Device” [120]). On the left is the device tree that shows all the hardware categories.

Figure 9.2. Selected Device

By selecting a device, you see additional information about it in the right frame. To better understand the meaning of the information presented, you can consult the help page accessible by choosing Help → Fields description from the menu.

Depending on the device selected, other buttons may appear:

- **Set current driver options.** This pops up a window with all the module device parameters listed. *For experts only*!
- **Run config tool.** Launches the Mandriva Linux configuration tool (available through Mandriva Linux Control Center) associated with that device. For sound cards, a special configuration tool is used which allows you to select the sound card's driver and provides some troubleshooting tips.

Unknown hardware. A special category called `Unknown/Others` may also show up, containing all the unknown hardware in your system, as well as known hardware

which does not fit into any existing categories (such as thermal sensors, random number generators, etc.).

Auto-detection of special devices. You can also toggle the entries in the Options menu to enable automatic detection of some hardware which wouldn't have been detected otherwise. You need to restart HardDrake for this change to take effect.

2.2. Problems and Troubleshooting

If you think you have found a bug related to HardDrake, report it using the Mandriva Linux bug reporting tool (see Section 2, “Raise an Issue” [97]).

Sound Cards. HardDrake does not probe for ISA PnP devices. If you have an ISA PnP sound card, run **sndconfig** or **alsaconf** from the command line. You may need to install the `sndconfig` or `alsa-utils` package.

3. Configuring a 3D Desktop

This tool allows you to configure a 3D desktop for stunning visual effects on your desktop, together with a change from a flat desktop to a cubic one.

The first time you run Drak3D, a few required packages may be installed. Then, its main window is displayed (see Figure 9.3, “Activating 3D Desktop Effects” [122]).

Figure 9.3. Activating 3D Desktop Effects

You can choose between the following special featured desktops:

- Metisse;
- Compiz Fusion.

3.1. Metisse

Metisse is a window manager developed by the In Situ project [http://www-ihm.lri.fr/]. Available under the GPL License and exclusively for Mandriva Linux, Metisse differs from a classic 3D desktop (“the cube”, see Section 3.2, “Compiz Fusion”[123]) because it focuses on an innovative interaction with windows.

Activate Metisse. Click OK and accept required package installation. Then, log out in order to activate the changes.

Once you're logged in again, you will see nine squares at the bottom right of your desktop. Those represent the nine virtual desktops you can use to organize your applications. The main options of Metisse are detailed in Section 6.2, “Metisse, an Innovative Windows Manipulation System” [17].

3.2. Compiz Fusion

Select the Compiz Fusion option to enable a 3D cubic desktop. Click Advanced settings to check your options (see Figure 9.3, “Activating 3D Desktop Effects” [122]).

Optional Configuration. There are two approaches for the graphical server: native support and Xgl. Depending on your hardware, Drak3D selects the most appropriate one for you.

To try out that 3D desktop, click OK and accept any required packages to be installed. Changes take effect the next time you log into your computer.

Please see Section 6.1, “Manipulating the 3D Desktop with Compiz” [16] for more information on keyboard shortcuts and mouse usage with the 3D desktop.

3.3. No 3D desktop effects

Select the No 3D desktop effects option to disable the 3D desktop completely, and return to your normal desktop.

4. Controlling the Graphical Configuration

This tool allows you to configure your graphical display. With it, you can change your video card, your resolution and your monitor. It can be useful if you change one of your graphical components after the initial installation.

If you don't see a graphical login at boot

If the graphical server cannot start because of a configuration error, a dialog offers to reconfigure the graphical server. You get a tool similar to the one described here, but in text mode.

4.1. XFdrake Interface

Figure 9.4. XFdrake Main Window

The buttons allow you to change aspects of the graphical configuration:

Graphic Card

The button displays the name of the graphic card currently configured. Click on it if you want to change it. Depending on your card, different servers may be available, with or without 3D acceleration. You may need to try different ones until you get the best result.

You may be asked if you want to use a proprietary driver for your card, answer Yes to use the driver provided by the card's manufacturer. This driver may give you access to more features and also make your card perform better on 3D applications, such as games.

If you cannot find the graphic card you have, but you know which driver supports it, select it from the Xorg entry at the bottom.

Monitor
: Allows you to change the monitor with the tool described in Section 4.2, “Changing the Monitor” [126].

Resolution
: Enables changing the pixel resolution and the color depth with the tool described in Section 4.3, “Changing the Resolution” [126].

Other buttons are also available:

Test
: Allows you to verify that your modifications actually work. It is highly recommended that you do test it, because if it does not work, it will be harder to recover a working graphical environment later. If the test fails, simply wait until it ends. If you are not satisfied with the suggested settings, choose No during the test, and you will return to XFdrake's main window.

If the test is not available

Depending on your video card, video testing may not be available. You will be warned of such a situation. If it happens that the settings are incorrect and your display does not work, type **XFdrake** as `root` in the console to use XFdrake's text version.

Options
: Graphic card options
: Depending on your hardware capabilities, you can choose to enable or disable specific features such as hardware acceleration or special visual effects (translucency).

: Graphical interface at startup
: Use this option to choose whether you want your machine to automatically switch to a graphical interface at boot. Obviously, you may want to disable this option if your machine is to act as a server, or if you were not successful in getting the display configured.

Quit
: If you modify your graphical display in some way, the current configuration is displayed and XFdrake asks you whether you want to keep your changes. This is your last chance to go back to the old configuration. If all seems OK, click on Yes. If you want to restore the previous parameters, click on No.

Confirm the changes and restart your graphical environment to activate the new configuration.

4.2. Changing the Monitor

Monitor models are listed in XFdrake's window (see Figure 9.5, “Choosing a New Monitor” [126]). If your monitor was automatically detected, it is listed as Plug'n Play along with its model.

Figure 9.5. Choosing a New Monitor

If your monitor wasn't automatically detected, you can choose it from the list, from the Vendor entry. If you don't find your monitor or a compatible one, choose one with parameters corresponding to the monitor from the Generic entry, at the bottom.

4.3. Changing the Resolution

Simply choose the resolution (`800x600`, `1024x768`, `1152x864`, etc.) and the color depth (`16 million colors (24 bits)`, `65 thousand colors (16 bits)`, etc.) you want from the lists.

Figure 9.6. Changing the Resolution of Your Screen

The monitor in the window displays what the desktop will look like with the chosen configuration (see Figure 9.6, "Changing the Resolution of Your Screen"[127]). If it looks good, click OK. Depending on the resolution you've chosen you may need to logout and restart your graphical environment for the settings to take effect.

Monitor and Resolution Ratio. By default, the available resolution list only shows resolutions supported by your video card and monitor combination. There is a special entry named Other that adds more possible resolutions along with their ratios. Bear in mind that most monitors are designed with a 4:3 horizontal vs. vertical ratio.

5. Changing Your Keyboard Layout

Abstract

This tool allows you to define another keyboard layout, which is useful when the keyboard you want to use is different to the one chosen at installation time.

Figure 9.7. Choosing a Different Keyboard Layout

Select your keyboard's layout (which is closely associated to the language you speak) and then its type (or model) from the lists shown in Figure 9.7, “Choosing a Different Keyboard Layout” [128]. If you own a multimedia keyboard and it is listed in the list of manufacturers, chances are that most multimedia keys on it will be supported. Otherwise, choose your keyboard type under the Generic branch. Changes are effective immediately after clicking OK.

If you choose a keyboard layout based on a non-Latin alphabet, you are asked to choose the key combination that will switch the keyboard configuration between the Latin and non-Latin layouts.

6. Changing Your Mouse

This tool enables you to set up a different mouse, which is useful if the mouse you are currently using is not the same as the one you chose at installation time.

The “Synaptics Touchpad” function is automatically configured to work with almost every touch pad found on notebook computers. The same goes for Wacom® tablets.

Figure 9.8. Choosing a Different Mouse

Mice are sorted into a tree according to their connection type and model (see Figure 9.8, “Choosing a Different Mouse”[129]). Highlight the mouse of your choice and click OK. Changes take effect immediately after the mouse test is done.

The Any PS/2 & USB mice option works with virtually all modern mice.

If you have a mouse with more than 5 buttons, and it's not automatically configured, select the Force evdev option and use the assistance provided to configure the non-working buttons.

7. Configuring Printers

This tool allows you to configure printers, both connected directly to your system, and remote printers served by other systems. You can find this tool in the Hardware section of the Mandriva Control Center.

It is possible that you will be asked to install software packages when you run the tool for the first time, please accept these package installations.

7.1. Adding a Printer

Procedure 9.1. Local Printer

1. Connect the printer to your system.
2. Choose Server+ New → Printer from the menu. If the printer was detected automatically, it's offered as the 1st option in the Devices list (see Figure 9.9, “Automatically Detected Printer” [131]), otherwise you can select the port and driver manually: make sure you have all needed data at hand. Keyboard shortcut: Ctrl+ N.

Figure 9.9. Automatically Detected Printer

3. Select the printer driver. If the printer was autodetected (as is the case with USB printers), just accept the suggested settings and click Forward. You can also provide your own PPD file or search for a suitable driver on the Internet. If there is more than one driver available for your printer, you are asked to choose which one to use: it is advisable that you keep the recommended one (see Figure 9.10, “Choosing Printer Driver” [132]).

Figure 9.10. Choosing Printer Driver

4. Provide descriptions for the printer. These serve to better identify printers if you happen to have more than one configured (see Figure 9.11, “Printer Description” [133]). Fill the Printer Name, Description, and Location fields as you see fit.

Figure 9.11. Printer Description

5. Click on Apply, the printer is then listed and marked as ready and available (see Figure 9.12, “Available Printers” [134]).

Figure 9.12. Available Printers

Procedure 9.2. Remote Printer

1. Ask your system or network administrator for the model and name of the printer and the protocol it uses. Make sure the printer is turned on.

2. Choose Server+New → Printer from the menu and choose the communications protocol in the Devices list using the information provided by your system or network administrator. The example shows a printer served by a Windows system (see Figure 9.13, "Windows System Printer Setup"[135]). Keyboard shortcut: Ctrl+N.

Figure 9.13. Windows System Printer Setup

3. The rest of the steps are the same as described for the Local Printer configuration: choose the driver, fill in the descriptions, and click Apply to make the remote printer available to print on your system.

7.2. Changing Printer Configuration

Double click on a printer to access its properties. Open the section you are interested in, make your selections and click Apply to make your settings effective immediately.

7.2.1. General Settings

Allows you to change the printer descriptions and driver. It also provides buttons to print test pages and clean print heads (if applicable).

7.2.2. Policies

Allows you to change whether the printer is enabled, if it's accepting jobs, if it's shareable, what to do when printing errors occur, etc.

7.2.3. Access Control

By default, all users can print on the system printers, if you want to limit the users that can or cannot print on your system, fill the field and click the Add button to add user names to the Users list and then choose the following:

- Allow printing for everyone except these users to deny printing to the listed users
- Deny printing for everyone except these users to allow printing only to the listed users.

The example shows that only users `peter` and `queen` can print.

7.2.4. Printer Options

Allows you to change the default paper size, printout mode and quality settings.

7.2.5. Job Options

Allows you to change various print job parameters, such as the number of copies, scaling, orientation, etc.

8. Installing and Sharing Scanners

The ScannerDrake wizard helps you install your scanner. Make sure your scanner is powered on and launch ScannerDrake by clicking on the Scanners entry of the Mandriva Linux Control Center's Hardware section.

Please note that not all scanners are supported under Linux. Before buying new hardware, remember to check out Mandriva's Hardware Database [http://hcl.mandriva.com] and the SANE home page [http://www.sane-project.org/] for compatibility issues.

8.1. Main Interface and Scanner Installation

The program tries to detect the manufacturer and model of your scanner. If it finds the scanner then information about it is displayed in the upper part of the wizard's main window. The window also offers a few action buttons (Figure 9.14, “Installing your Scanner” [139]).

Figure 9.14. Installing your Scanner

Search for new scanners
: Click on this button to autodetect a new scanner you have just plugged in.

Add a scanner manually
: Use this button if the automatic detection fails and then look for the specific model you own by browsing through the list of available scanners and models.

Figure 9.15. The Tree-list of All Known Scanner Models

Choose the correct Port. After choosing the appropriate model, you can leave the default Auto-detect available ports option unless you have a parallel port scanner, in which case selecting `/dev/parport0` in the pull-down list should be the right choice.

HP multi-function devices

Note that HP multi-function devices, such as the OfficeJet and PSC printers, must be configured through the printer configuration tool described in to Section 7, “Configuring Printers”[130]. The scanning part of non-HP multi-function devices can be set up with ScannerDrake as a stand-alone scanner.

Test the Scanner. Once your scanner appears in ScannerDrake main window, you can test its configuration by using any scanning application such as Kooka or The Gimp (See Section 3, “Scanning Documents and Images” [86]).

8.2. Share your Scanner

ScannerDrake allows for scanner sharing between users connected via a LAN.

Figure 9.16. Sharing Scanners within a LAN

Procedure 9.3. Share Your Own Scanner

1. Check the The scanners on this machine are available to other computers box.
2. Click the Scanner sharing to hosts button and then Add host to specify which hosts will be actually allowed to access your scanner.

Procedure 9.4. Use Other People's Scanners

1. Check the Use scanners on remote computers box.
2. Click the Use the scanners on hosts button and then Add host to specify which hosts serve the scanner you wish to use.

9. Configuring a Fax Server

Use this tool to set your machine up as a fax server so you can send faxes from any machine on the network through your machine, provided it has (or is connected to) a working fax-modem.

Figure 9.17. Fax Server Hardware Options

1. Choose the hardware options for the fax-modem your machine has, or is connected to:

   Device
   : Select the port the fax-modem is connected to. Please note that `/dev/ttyS0` or `/dev/cua0` correspond to what's called “COM1” on DOS/Windows®; `/dev/ttyS1` or `/dev/cua1` to what's called “COM2”, and so on.

Modem Type
: Select the fax type of the fax-modem, `Class 1`, `Class 2` or `Class 1.0`. `Class 2` is the recommended setting if your hardware supports it.

Flow Control
: Select the communications flow control between software (`xonxoff`) or hardware (`ctsrts`). Hardware flow control is the recommended setting if your hardware supports it.

Figure 9.17, “Fax Server Hardware Options”[142] shows an example for a Class 2 fax-modem with hardware flow control connected to “COM1”.

2. Using the Options tab you can fill other options for your fax system:

Country Code
: The International Dialing Code for your country. You can refer to Wikipedia's list of country calling codes [http://en.wikipedia.org/wiki/List_of_country_calling_codes] for a complete list of all countries dialing codes, or ask your phone company.

Area Code
: The local area code for your city, if you don't know it you can ask your phone company.

Fax Number
: The telephone number of the line the fax-modem is connected to.

Dial Rules
: Select the appropriate dial rules for your system from the pull-down list. Dialing rules automate dialing prefixes so there's no need to include a number sequence to get an outside line, for example.

Figure 9.18. Fax Server System Options

Figure 9.18, "Fax Server System Options"[144] shows an example for a system located in Buenos Aires, Argentina, with fax number `1234-5678` and with no special dialing rules.

3. Once you are satisfied with your settings, click on Apply, your system is ready to send faxes.

10. Setting up your UPS

This tool will configure the NUT (Network UPS Tool) service for you. The service checks the UPS connected to your machine and automatically shuts it down when the UPS is about to run out of battery power.

Automatic Installation. Select the Connected through a serial port or a USB cable option to let DrakUPS autodetect your UPS.

Procedure 9.5. Manual Configuration (Serial Port)

1. Select the Manual configuration option.
2. Select your UPS from the list of manufacturers and models.

3. Then assign a Name, Driver, and Port[1].

If all went well your UPS should now be configured and ready to help avoid power outage surprises.

Chapter 10. Setting up your Network and Accessing the Web

1. Network and Internet Connection Management

By default, your computer is protected by a firewall so as to avoid bad surprises such as intrusions into your system. If you need to open some incoming ports for other people to connect to your computer, you can use DrakFirewall. Please refer to Section 3, “Securing your Internet Access via DrakFirewall” [242] for more information.

The drakconnect set of tools allows you to easily configure your network access, whether it be to the *Internet* or to a local network, while the new Network Center allows you to reconfigure and monitor your network interfaces. Open Mandriva Linux Control Center and select the Network & Internet section to access these tools. A view of the main interface is shown in Figure 10.1, “Network Configuration and Monitoring Tools” [148] . The Internet connection sharing tool is described in Section 3, “Sharing an Internet Connection” [159], the proxy configuration tool is described in Section 2, “Proxies Configuration” [157], and the network profiles tool is described in Section 5, “Activating and Managing Network Profiles” [165].

Figure 10.1. Network Configuration and Monitoring Tools

1.1. Setting up a New Network Interface

drakconnect supports different types of Internet and network connections[1]. The first step consists of choosing which type of connection you want to configure. Always make sure you have all the information provided by your ISP or network administrator at hand.

After a connection has been configured, it may be further modified using the Network Center (see Section 1.2, “Network Center: Reconfiguring and Monitoring Network Interfaces” [154]).

1.1.1. Wired Ethernet Connection

1. Your NICs are detected automatically; if you have more than one, select the one you want to configure. You can also load a driver for your NIC manually.
2. You now have to specify whether the network parameters are automatically set up (Automatic IP (BOOTP/DHCP)) or not (Manual configuration): fill the next fields with the parameters that your ISP or network administrator gave you. See our example of manual configuration of IP parameters in Figure 10.2, “Setting Static LAN Connection Parameters” [150].

[1]We only describe the most common types. If yours is not described, you may still be able to use the methods described here as a guide.

3. a.

Figure 10.2. Setting Static LAN Connection Parameters

If you chose the static IP configuration type, you must specify the rest of the parameters, namely the hostname, DNS server IP address(es) and the IP address of the machine giving you access to the Internet, known as the gateway (see Figure 10.2, “Setting Static LAN Connection Parameters” [150]).

b. If you configure the network with DHCP, you can optionally provide DNS server information (remove the check from the Get DNS servers from DHCP option and fill the corresponding fields with the IP addresses or hostnames of the DNS servers) and the machine's hostname (remove the check from the Assign host name from DHCP address option and fill the corresponding field with the hostname: this is the name which will be assigned to the machine when no network configuration has been found).

4. Allow users to manage the connection

If you want users to be able to bring up or shutdown the connection without having to provide the administrator (`root`) password check this box.

Start the connection at boot

Uncheck this if you want the connection to be activated on demand only.

The Net Applet

An applet appears in the desktop's panel indicating that the connection is up or down . Right click on it to access a menu that also allows you to control the connection's state, as well as other parameters.

1.1.2. Wireless Connection

This entry allows you to configure WiFi (PCMCIA or PCI) devices.

1. If your WiFi card is not listed, insert the manufacturer's card drivers CD, then choose the Use a Windows driver (with ndiswrapper) entry and select the driver (it's a file whose name ends in `.inf`) from the CD.
2. A list of detected networks is then shown. Select yours; otherwise, choose unlisted.
3. Operating Mode
   The mode the card will operate on, with respect to the other WiFi devices in the network. The most common one is Managed to simply connect to an existing access point.

   Network Name (ESSID)
   The name of the network you want to connect to. Ask your network administrator.

   Encryption Mode
   This depends on the network settings, ask your network administrator.

   Encryption Key
   This also depends on the network settings, ask your network administrator for the key the network uses.
4. Remaining configuration is similar to the traditional Ethernet network setup: see Section 1.1.1, “Wired Ethernet Connection” [149].
5. Check the Allow access point roaming box if you want the connection to automatically switch from one access point to another, depending on its signal strength. This is particularly useful when moving a laptop around.

Managing Connections. Consult Section 4, “Managing Wireless Connections (Roaming)” [162] to learn how to configure and manage various wireless networks.

1.1.3. DSL Connection

1. Choose the device your DSL modem is connected to, and click Next.

2. You then see a list of countries/ISPs. If yours is listed, select it: most of the following parameters will be automatically set. If your ISP is not listed, select the Unlisted - edit manually option, click on Next and fill the parameters with the settings provided by your ISP.

3. You have to specify the connection protocol, as advertised by your provider. The most common protocol being DHCP, followed by PPPoE and PPPoA.

Figure 10.3. Setting the DSL Connection Protocol

All protocol types need at least a user name and a password, fill the corresponding fields with them. The required packages are installed.

4. You are then asked whether users can bring the connection up/down and whether or not to bring the connection up at boot: since DSL connections are of the “always up” type, you can safely check the Start connection at boot option. Finally you can test the connection: we strongly recommend you to do so, to make sure all parameters are accurate.

1.1.4. Cable Connection

This configuration is very similar to the one described in Section 1.1.1, “Wired Ethernet Connection” [149]. Make sure you have all required parameters provided by your ISP at hand.

Authentication. Some cable ISPs need you to authenticate. If this is your case, select the Use BPALogin option. If you are unsure or don't know, it is safe to select the None option.

1.1.5. Analog Telephone Modem Connection (POTS)

1. A list of detected modems is shown. If no modem was detected, only the Manual choice option is shown, click on Next and choose the communications port the modem is connected to. The required packages are installed.
2. Then you see a list of countries/ISPs. If yours is listed, select it and continue to the next step: some parameters (connection name, phone number to dial, and authentication scheme) will be automatically set. If not, select the Unlisted - edit manually option.
3. Verify the parameters, add the missing ones provided by your ISP.

Figure 10.4. Entering Dial-up Connection Parameters

All parameters should be obvious, except for the authentication type. The value in the Authentication pull-down depends on what your ISP supports: Script-based (an old

type of authentication method based on “expect” and “send” types of chat between your system and your ISP); Terminal based (a terminal window pops up when the connection is made and you have to login interactively); PAP, CHAP, or PAP/CHAP (authentication information exchange protocols, CHAP is preferred because it is more secure, PAP/CHAP will automatically choose the supported one).

4. Then come the IP, DNS and gateway settings. Nowadays, most ISPs provide them automatically when a connection is made, so selecting the Automatic option on them is usually a safe bet.

5. You are then asked whether users can bring the connection up/down and whether or not to bring the connection up at boot: since analog modem telephone connections are not of the “always up” type, you should not check the Start connection at boot option. Finally you can test the connection: we strongly recommend you to do so, to make sure all parameters are accurate.

1.2. Network Center: Reconfiguring and Monitoring Network Interfaces

The Network Center allows you to check network interface status; modify network interface-specific parameters, after you have set them up through the new interface wizard (see Section 1.1, “Setting up a New Network Interface”[149]); and connect/disconnect the network interfaces.

For each network interface the following is shown: an icon[2] representing interface status (for Up or Connected; for Down or Disconnected; and for Non-configured - typical for WiFi interfaces which are not linked to an access point); the interface hardware name; and the interface software device, for example `eth0` for the 1st Ethernet interface.

Click on the small triangle on the interface status icon to show buttons to take actions on the corresponding interface:

Traffic Monitoring
: Click on Monitor to monitor traffic on the interface as shown in Section 1.3, “Monitoring Connections” [156].

Change Configuration
: Click on Configure to change the interface configuration parameters as shown in Section 1.4, “Reconfiguring a Network Interface” [157].

[2]The example shows the icons for Ethernet interfaces, the icon displayed will vary for other interface types, but the coloring scheme is the same.

Show Available Wireless Networks (if a wireless interface is selected)

Click on Refresh to rescan for available wireless networks, and select the network you want to connect to from the list. For more details about how to use the wireless connections management interface, please refer to Section 4, “Managing Wireless Connections (Roaming)” [162].

Connection Control

Simply click on Connect/ Disconnect to bring the network link up or down on that interface.

1.3. Monitoring Connections

Figure 10.5. Real-Time Network Connection Monitoring

Network interface activity is shown for the selected interface. You can specify some options for the traffic graphic and statistics (see Figure 10.5, “Real-Time Network Connection Monitoring” [156]). It can also be used to control the status of the network connection, bringing it up or down using the button at the lower left.

The network monitoring interface can be brought up by users through the net applet to monitor traffic.

1.4. Reconfiguring a Network Interface

Figure 10.6. Changing Network Parameters

The current interface configuration is shown where you can change basic parameters such as whether to use an automatic or manual configuration, and if set to manual then which IP address, gateway and DNS servers to use. Click on Advanced to access more advanced configuration parameters, for example which DHCP client to use.

2. Proxies Configuration

If your Internet connections must (or can) pass through a proxy, this tool allows you to define the URLs of proxies for the FTP and HTTP protocols. Figure 10.7, “Proxy Server Settings” [158] shows example settings, just fill the fields with the required values and click Ok.

Figure 10.7. Proxy Server Settings

What's a Proxy. A proxy is a server that retrieves information from the Internet on your behalf, keeping a local copy of the web pages that are most frequently requested. They are referred to as “caching proxies”, and optimize bandwidth usage. In some organizations, you cannot access the Internet directly. You must pass through a proxy that authenticates you before allowing you to connect to the Internet. This is usually combined with a firewall that only guarantees the proxy direct access to the Internet. They are referred to as “authentication proxies”. In corporate or business environments, proxies perform both caching and authentication functions for performance and security reasons.

3. Sharing an Internet Connection

This tool configures your system so that it acts as a gateway to the Internet for other machines connected to it via a LAN. This is very useful at home, for example, if you want all computers to access the Internet through the same Internet link.

Figure 10.8. A Simple Gateway Configuration

The overall procedure is as follows:

1. Configure your Internet access (Section 1, “Network and Internet Connection Management” [147]). In order for your machine to act as a gateway, you need an already configured and working connection to the Internet, plus a network connection to your LAN. This implies at least two interfaces, for example, a modem and an Ethernet card.
2. Set up the gateway (Section 3.1, “The Gateway Connection Wizard” [160]).
3. Configure the other local machines as clients (Section 3.3, “Configuring the Clients” [161]).

This wizard also configures a firewall to block most connections from the Internet. You are encouraged to check that the firewall configuration (Section 3, “Securing your Internet Access via DrakFirewall”[242]) suits you after completing the wizard.

After you complete this wizard, all computers on the LAN will have to access the Internet. Their configuration will be automated due to the DHCP server, which is installed on your gateway, and the web access will be optimized through the Squid transparent proxy cache.

3.1. The Gateway Connection Wizard

These are the steps the wizard takes:

In order to successfully complete the wizard, some steps require software packages to be installed. Please accept installation of those packages.

1. You first need to specify the name of the interface connected to the Internet. The wizard may automatically select it for you, otherwise make sure you select the correct one from the drop-down list. It should be the interface name you configured in the Internet Configuration Management tool.
2. If you have more than one Ethernet interface, and depending on what you chose as your Internet interface, the wizard might ask you to select the one connected to your LAN[3]. Make sure you select the correct one.
3.

Figure 10.9. Configuring the LAN

At this point, if it is the 1st time the system has been configured as a gateway, the wizard offers default parameters for the new local network to be managed. Check that these values are not already in use in your network, and proceed to the next step.

Otherwise, the wizard will first offer to reconfigure the LAN interface so that it will be compatible with the gateway services. It is recommended that you leave the default options and click on Next.

4. If you plan on having a local name server on your machine, you can check this box. Otherwise, you can choose to use your provider's name server. If you don't know what a name server is, leaving the box checked is safe.
5. Installing a DHCP server on your machine allows all client machines to have their network configurations made automatically. Otherwise, you have to configure each client by hand: IP address, network, gateway, DNS.
6. A caching server records the Web pages requested by local browsers. Then, if the same page is asked for again by someone else, it is able to serve it without needing to retrieve it again from the Internet, therefore saving bandwidth and improving response time. This is very useful if there are many clients behind the gateway.

   The application used to perform this task is Squid [http://www.squid-cache.org/].
7. This step shows if your local machine (the gateway) has access to printers.

   Choose Yes if you want the client machines connected to the gateway to be able to access the printers accessible from the gateway itself.

3.2. Disable Connection Sharing

If you wish later to disable the gateway, relaunch the wizard. You will be asked whether you want to reconfigure or disable connection sharing.

3.3. Configuring the Clients

The configuration of the clients depends mainly on whether you chose to install a *DHCP* server on your gateway or not. By configuring the clients on the local network to use DHCP, they will automatically use the Mandriva Linux machine as a gateway to the Internet. This works for Windows ®, Linux and any other OS that supports DHCP.

If you have no DHCP server, you have to configure each of your machines manually, according to the network parameters set on the connection sharing wizard.

Configuring your Mandriva System. For DHCP, on a Mandriva Linux client system, simply go to the Network Center (Section 1.2, “Network Center: Reconfiguring and

Monitoring Network Interfaces" [154]) and make sure you select options Automatic IP (BOOTP/DHCP) and Get DNS servers from DHCP when configuring the network, as shown in Figure 10.10, "Configuring a Client to Use DHCP" [162].

Figure 10.10. Configuring a Client to Use DHCP

4. Managing Wireless Connections (Roaming)

How to Use this Tool

This tool is embedded into the Network Center (Section 1.2, "Network Center: Reconfiguring and Monitoring Network Interfaces" [154]). You can also right click on the "signal meter" icon in the panel and choose Wireless networks+ Manage wireless networks. Then enter the system administrator's password to access the tool.

This tool shows the wireless networks currently available. It also allows you to switch between the networks and to change their configurations. If you haven't configured your wireless interface yet, please refer to Section 1.1.2, “Wireless Connection”[151]. Figure 10.11, “DrakRoam's Interface”[163] shows DrakRoam's interface: a list of the available networks, together with their status, and buttons for actions at the bottom.

Figure 10.11. DrakRoam's Interface

The list of detected networks is shown. If you expect to see other networks, click Refresh.

4.1. Switching Networks

To change networks, select one from the list, then click on Connect. If the network is public, you are immediately connected. If it's private, you are asked for configuration parameters with the same dialog shown in Figure 10.12, “Changing Wireless Network Configuration” [164]. Provide the required settings (in particular, the encryption key) and click OK. Settings take effect immediately.

4.2. Configuring a Wireless Connection

If you need to change the network parameters, select the network from the list, then click on Configure. See Figure 10.12, “Changing Wireless Network Configuration”[164] for an example of a secure wireless network connection.

Figure 10.12. Changing Wireless Network Configuration

Make your adjustments and click OK; the settings take effect immediately. Click on Advanced to fine tune parameters such as network ID and frequency.

5. Activating and Managing Network Profiles

Mandriva Linux Control Center profiles enable you to store different configuration sets for your machine, for example for different locations. This is especially useful for laptops that need different configurations for home, the office, the coffee shop, etc. The parameters that can change from one profile to another are:

Network Configuration
: Activates different interfaces, with different configurations, for wireless-type connections, for example.

Services Configuration
: Allows you to activate different services from one profile to another, for example a firewall at home and no firewall at the office (see Section 3, “Configuring Start-Up Services” [174]).

5.1. Profile Handling

New profiles you want to create are based on the active one. All modifications are automatically recorded in the active profile.

Figure 10.13. The Network Profiles Interface

Activate
: Make the selected profile active.

Clone
: Creates a new profile based on the settings of the selected one. A dialog pops up asking for the name of the new profile. Don't forget to activate that profile after creating it if you want to configure it.

Delete
: Deletes the currently selected profile without further prompts. Please note that a warning is shown if you try to delete the active profile, because it cannot be removed while it is in use.

The Default Profile. This is the profile that is used at boot time. It cannot be deleted.

Example: Create a New Profile for Your Dial-Up Home Connection. You come back home with your brand new laptop, which your system administrator configured so

you can connect to your corporate network. You now want to configure the network to access the Internet from home with a dial-up connection.

1. Create a new profile called “Home”.
2. Switch to it.
3. Reconfigure your network so that the modem, instead of the network card, is used to access the Internet (see Section 1, “Network and Internet Connection Management” [147]).
4. Connect to the Internet.
5. When back at the office, switch back to the “default” profile.

5.2. Choosing a Profile at Boot Time

It's more convenient to specify a profile at boot time than to activate it once the system is booted. drakboot (Section 2, “Changing your Boot-up Configuration”[254]) allows you to associate a specific profile to each menu entry of the bootloader.

Figure 10.14. Associating a Profile to a Boot Entry

Create or modify a boot entry in drakboot. In the Advanced options, access the Network profile pull-down menu and select the profile you want to associate to it.

6. Configure VPN Connections

DrakVPN allows you to setup a Virtual Private Network with a remote VPN server. Protocols supported are Cisco VPN Concentrator and OpenVPN. You can find this tool in the Network & Internet section of the Mandriva Linux Control Center.

7. Manage Hosts Definitions

If you have fixed IP addresses on your network, Drakhosts allows you to associate names to those IP addresses, easier to remember. You can find it in the Network & Internet section of the Mandriva Linux Control Center.

Figure 10.15. Modifying Drakhost Main Window

If you want a specific machine on your network to provide services, such as Internet gateway, file serving, databases, etc., assigning a host name to it will make systems administration easier. With this tool you can add a name to the host IP address in order to manage hosts more easily.

You can:

- add a machine to your network, click on the Add button and fill the fields: add the IP address, the host name and if needed host aliases.
- change or add a name to an existing host by selecting it and clicking on Modify. Simply add or change the Host name field and add Host aliases if needed.

You can find the IP address of a host by placing your mouse cursor on the net applet.

8. Firewall Black/White Lists, etc.

This tool is used to detect suspicious or abnormal activities and warns you of intrusion attempts to your machine. You can access it via the net applet by right clicking on it and choosing Interactive Firewall from the pop-up menu.

Even if your machine is protected by a firewall, intrusion attempts can be made, we recommend that you use this tool to monitor security status and to detect any intrusions.

8.1. Enabling and Accessing Interactive Firewall Feature

When you set up your firewall configuration, check the Use Interactive Firewall option to enable this feature. (Refer to Section 3, “Securing your Internet Access via DrakFirewall” [242] for more details about firewall settings).

Each time a remote host tries to connect to one of the open ports on your system the tool pops up a message: click on it to view the full log of the connection attempt and to manage these remote hosts by allowing or denying their access.

8.2. Monitoring and Managing Intrusions

Figure 10.16. Interactive Firewall Window

The Log tab shows connection attempt details: the date and time, the IP address of the machine trying to connect to yours, the service or port and protocol, and the network interface on which the connection attempt was made.

You can the manage the remote hosts access with the following buttons:

Blacklist
: Forbid connections to addresses selected.

Whitelist
: Allow access to addresses selected.

Open the Blacklist tab to view all the forbdden remote hosts. You can then:

Remove from blacklist
: Remove a remote host from the black list.

Move to whitelist
: Allow a remote host by adding them to the whitelist.

Open the Whitelist tab to view all the allowed addresses. You can then:

Remove from whitelist
: Remove addresses from this list.

Chapter 11. Personalizing your System

1. Users Authentication

Drakauth is a tool that allows you to change the way users are authenticated on your computer. You can find it in the System section of the Mandriva Linux Control Center.

Figure 11.1. Authentication Window

You can change the authentication method only if your system administrator asks you to do so.

If you select a method other than Local file, you need to provide parameters which vary from one method to the other: ask your network administrator.

2. Menu Style

Menudrake is a tool to switch the menu style from the “Original” menu to the more complete “Mandriva” menu. You can find it in the System section of the Mandriva Linux Control Center.

3. Configuring Start-Up Services

Abstract

At boot time, the system starts a number of services (programs which run in the background to perform a variety of tasks). This tool gives the administrator control over those services.

Figure 11.2. Choosing the Services Available at Boot Time

For each service, this is the list of items found in each column:

- Service name;
- Current Status: either `running` or `stopped`;
- Info: click on this button to get a little explanation about this service;
- On Boot: check this box if you wish this service to be automatically started at boot time.[1] Alternatively, if xinetd is installed and the service is a xinetd service, the label Start when requested will be displayed. Checking the box will then mean to activate that service in xinetd. You will also have to make sure that the xinetd service itself is activated.
- Start: immediately starts the service, or restarts it (stop+start) if it is already running;
- Stop: immediately stops the service.

After pressing the Start or Stop buttons, a tool tip shows you the status of the operation.

4. Managing Fonts on your System with DrakFont

Abstract

This tool allows you to review the different font families, styles, and sizes available on your system. It also allows for fonts to be installed or removed.

The main window (see Figure 11.3, “DrakFont's Main Window”[176]) shows a visual appearance of the currently selected font combination.

Figure 11.3. DrakFont's Main Window

drakfont is made up of a number of dialogs which are accessible through the buttons located at the bottom.

Get Windows Fonts
: This button automatically adds fonts found on your Windows ® partitions, if any, of your local hard drives.

Options
: Allows you to specify which applications and devices (such as printers) will support the fonts. Select those you want support for and click on the OK button.

Uninstall
: Allows you to remove installed fonts, in order to save space for example. Use this with great care, it could have serious side effects for your applications. In particular you should not remove fonts you did not install yourself.

  This actually removes all fonts found in a given directory. Note that fonts manually added through drakfont are found in `/usr/share/fonts/drakfont/`.

Import
: Allows you to manually add fonts found outside the Mandriva Linux distribution, from a fonts disk you have purchased or from the Internet, for example. Supported font types are `ttf`, `pfa`, `pfb`, `pcf`, `pfm`, `gsf`. Clicking on the Add button opens a standard dialog allowing you to specify the font file to import. Once you've specified all the fonts you want to import, click on the Install button.

Selecting more than one font

To select more than one font, press and hold the CTRL key while selecting the fonts you want to install and click OK, they will be added to the Import Fonts window. Then, click on the Install button.

When adding or removing fonts, the change might not appear immediately in the font list. Close and re-launch drakfont to ensure your changes were taken into account.

5. Setting your Machine's Date and Time

Abstract

This little tool enables you to set your system's correct internal date and time.

Figure 11.4. Changing Date and Time

You set the date on the left and the time on the right:

1. To change the year, click on the little arrows on each side of the year; same procedure to change the month. This updates the month view where you can click on the current day in order to highlight it.
2. We recommend that you check the timezone settings for your geographical location. Click on the Change Time Zone button and select the correct place in the tree view.

   Once you've chosen the timezone, a dialog appears asking you whether your hardware clock is set to GMT. Answer Yes if only Linux is installed on your machine, No otherwise.
3. To change the time, you can either move the hour, minute and second hands of the analog clock, or change the numbers below.
4. If you have a permanent Internet connection and want your system to synchronize its internal clock with time servers on the Internet, put a check mark in the Enable Network Time Protocol option and select a server in the Server pull-down list,

preferably one near you. If you know the name or the IP address of a local server you can also enter it manually in that field.

When you're finished, click on OK to apply your settings or Cancel to close the tool, which will discard your changes. If you want to return to your previous settings, click on Reset.

6. System Localization

Localedrake is a tool that allows you to switch the main language of the system, as well as locale settings. You can find it in the System section of the Mandriva Linux Control Center.

Figure 11.5. Selecting the Language of the System

1. Choose the language you want to use. The available languages correspond to those selected during the installation of the system, so be sure to select all the languages you are likely to use during the installation steps.

The Advanced button allows you to activate the old compatibility (non-UTF8) encoding.

2. Choose the country or region: the list displays only the countries speaking the language you selected at the previous step. If the country you are looking for is not listed, click on Other countries to access the full list.

   You need to restart the system for these changes to take effect.

7. Monitoring System Activity

Abstract

This tool allows you to look for specific entries in various log files, making it easier to search for particular incidents or security threats.

Additionally a nifty wizard allows you to set up mail alerts to warn you whenever the load is too high on your machine, or when a service is down.

7.1. Browsing System Logs

Figure 11.6. Browsing and Searching through System Logs

These are the steps to follow in order to browse or look for a specific event into the system logs:

1. You must choose which specific words to match by filling the Matching field (log files contain the words) and/or the but not matching field (log files which don't contain the words). At least one of the two fields must be filled.
2. Then in the Choose file area select the file you want to perform the search on. Simply check the corresponding box.

The Mandriva Linux Tools Logs are filled by Mandriva Linux-specific configuration tools, such as those you find in the Mandriva Linux Control Center. Each time these tools modify the system configuration they write to this log file.

3. Optionally, you can restrict the search to a specific day. In that case, check the Show only for the selected day box and choose the desired day from the calendar.
4. When all is set up, click on the Search button. The results appear in the Content of the file area at the bottom.

Clicking on the Save button opens a standard dialog letting you save the search results into a plain text (`*.txt`) file.

7.2. Setting up Mail Alerts

Abstract

In order to facilitate server monitoring, Mandriva Linux supplies a simple tool which sends automatic mail alerts whenever something goes wrong on your server.

Clicking on the Mail alert button of the LogDrake main interface (see Figure 11.6, “Browsing and Searching through System Logs”[181]) starts the wizard. First you're asked whether you wish to configure or stop the mail alert system. Choose Configure the mail alert system entry in the pull-down list, and click Next.

Figure 11.7. Setting up a Mail Alert: Services

The next step (Figure 11.7, “Setting up a Mail Alert: Services”[183]) allows you to select the services you wish to receive alerts about if they stop working. Simply check the service boxes which interest you.

The services listed are the ones present on your system. Here's a list of the currently trackable ones:

- Postfix Mail Server;
- Webmin Service;
- FTP Server;
- BIND Domain Name Resolver;
- Apache World Wide Web Server;
- SSH Server;
- Samba Server;
- Xinetd Service.

Figure 11.8. Setting up a Mail Alert: Load

Select the load which you consider unacceptable by moving the Load slider (Figure 11.8, “Setting up a Mail Alert: Load”[184]). A high system load may indicate that a process has gone out of control, or simply that there's a very high demand on this machine. Therefore a service is suffering from it and is delayed. As a rule of thumb, the load on your computer should not exceed 3 times the number of processors you have on it.

Figure 11.9. Setting up a Mail Alert: Recipient

Finally you need to tell the system to whom these alerts should be sent (Figure 11.9, “Setting up a Mail Alert: Recipient”[185]). Provide an e-mail address and the mail server (local or on the Internet) to relay the alerts to.

When the wizard is finished, an hourly check is set up to verify services availability and the system's load. If needed a mail alert is sent to the alerts' recipient until the problem is solved.

8. Access to the Console

This tool simply opens a virtual terminal console for the `root` user. You can use it to issue any command, but be careful! There are no restrictions on the actions you can take on your machine as `root`, and you could render your machine unusable.

To learn how to use the command line interface, you should read the Introduction to the Command Line chapter of the Mandriva Linux *Reference Manual* Chapter 19, *Introduction to the Command Line* [293]. To exit the console, type **exit** or press the Ctrl+D keys.

9. Managing Users and Groups

Abstract

UserDrake allows system administrators to easily add and remove users from the system, to assign users to a group, and to manage user groups in the same manner.

In this section we will only focus on user management. Group management is similar.

9.1. The Interface

Launching UserDrake will display the main window (Figure 11.10, “The User List in UserDrake” [186]) which lists the users currently defined on the system. You can switch from users to groups by clicking on the Groups tab next to the Users tab.

Figure 11.10. The User List in UserDrake

All changes have immediate effect on your local user database. If the user list is modified outside of UserDrake, you can refresh UserDrake's window by clicking on the Refresh button.

If you make changes to an already logged in user, those changes won't take effect until the next time that user logs in again.

Available actions are:

Add User
: Adds a new user to the system. We detail this procedure in Section 9.2, “Adding a New User” [187].

Add Group
: Adds a new user group to the system.

Edit
: Allows you to change the parameters of the selected user or group. We detail editing user parameters in Section 9.2, “Adding a New User” [187]. In the case of a group you will be able to assign or remove users from that group.

Delete
: Removes the selected user or group from the system. A confirmation dialog will be shown, and in the case of a user you will also be able to remove the user's `/home` directory and `mailbox`.

9.2. Adding a New User

We created the non-privileged user Queen Pingusa at installation time, and now we want to create a new user called Peter Pingus. Then we want to make them both members of the `fileshare` group, so that they can share folders with other users on the network (see Section 3, “Allowing Users to Share Folders” [232], custom option).

Click on the Add User button, a dialog box to add a new user will pop up (see Figure 11.11, “Adding a New User in the System” [188]). The only required field is Login although we strongly recommend that you set up a password for this new user: enter it in both the Password and Confirm Password fields. You can also choose to add a comment in Full Name. Generally, this is the full name of the user, but you can put whatever you want. Once you accept your settings you are asked if you wish to run the Windows® data migration wizard, please refer to Section 10, “Import Windows® Settings and Documents” [189] for more information.

Figure 11.11. Adding a New User in the System

We now have two users in our list. Select one of them with your mouse, and click on the Edit button. The dialog box shown in Figure 11.12, “Adding Users to a Group”[189] pops up. It allows you to modify most available user parameters.

Figure 11.12. Adding Users to a Group

The dialog is made of the following tabs:

User Data
: Allows you to modify information provided when the user was created.

Account Info
: Enables you to provide an expiration date for that account, after which the user won't be able to connect to the system. This is useful for temporary accounts. It's also possible to temporarily lock an account to prevent a user from logging in. Finally, this tab allows you to change the icon associated with the user.

Password Info
: Allows you to provide a password expiration date, after which the user will be required to change his password.

Groups
: Shows the list of available groups where you can select the groups to which any user should belong.

For our users we only need to look for the `fileshare` entry and check the box associated to it. Then click on the OK button to make the changes effective.

10. Import Windows® Settings and Documents

Transfugdrake allows you to import settings and documents from your Microsoft® Windows® partition into your Mandriva Linux partition, in order to ease your migration from Windows® to Mandriva Linux. The wizard consists of a few simple steps, detailed below.

Transfugdrake only supports migration from the Windows® 2000, Windows® XP, and Windows Vista® operating systems.

Please bear in mind that each wizard operation takes effect immediately after clicking Next.

Procedure 11.1. Migrating User Settings and Documents

1. If you have more than one user on your operating systems, you are asked to select the source (Windows®) and target (Mandriva Linux) users: use the corresponding pull-down lists to select users.

2. You are then asked whether you want to migrate documents. Select the Skip step option if you don't want to migrate documents right now, but are interested in migrating settings.

Select the Import documents option to copy documents from the Windows® partition to your Mandriva Linux system. Use this if you don't plan to use Windows® anymore and want to be able to delete its partition without too much risk of data loss. Files and folders from “My Documents”, “My Pictures” and “My Music” are copied over to the user's `Documents`, `Pictures` and `Music` folders, respectively.

Please be patient, depending on the amount of information to transfer, the copying operation may take a long time to complete.

3. Select the Import bookmarks option to import the web browser bookmarks. Both Microsoft® Internet Explorer® and Mozilla Firefox bookmarks are merged with the user's Mozilla Firefox bookmarks on Mandriva Linux.

If you select the Skip Step option web browser bookmarks are not imported and you will have to rebuild your Windows® bookmarks collection one by one.

4. Simply select the Use Mandriva background option to keep your current Mandriva Linux desktop's background image, or select Import background to use the desktop background image from Windows® instead.

11. Backing Up and Restoring your Files

This tool allows you to backup the data present on your computer to different media and/or to a remote machine over the network. It supports multiple profiles for different backup scenarios. Once the parameters are set, you can run the backup periodically. Then, you can forget about it until you wish or need to restore files.

11.1. A Practical Example Using the Wizard

Figure 11.13. Main Backup Wizard Window

You can access this tool by clicking on the Backups icon in Mandriva Linux Control Center's System section. Click on the Wizard Configuration button to start the wizard. After making your choices in each step click on Next.

11.1.1. First Step: What to Backup

Figure 11.14. Selecting What to Backup

Select Backup System to include the `/etc` directory where all your current system configuration files lie. This allows you to “transport” your system to another computer with little effort: only hardware-dependent configuration will need to be revised.

The “System” backup does not include the applications themselves (i.e. executable files, libraries). *A priori* this makes sense because it is likely that you will have access to the system's installation media from which applications can be easily installed again on the target computer.

Select Backup Users to include the files in your users' `/home` directories. Clicking on the Select user manually button lets you select individual users and gives you the following options:

- Do not include the browser cache. Selecting this option is recommended due to the very nature of ever-changing browser caches.

- Use Incremental/Differential Backups. Selecting this will preserve old backups. Choosing Use Incremental Backups will only save files which have been changed or added since the *last* backup operation. Choosing Use Differential Backups will only save files which have been changed or added since the *first* backup operation (also known as the "base" backup). This last option takes up more space than the first, but allows you to more easily restore the system "as it was" at any given point in time for which a differential backup was made.

11.1.2. Second Step: Where to Store the Backup

Figure 11.15. Selecting Where to Store the Backup

All possible backup media are listed, along with a Configure button to change media-dependent options:

Hard Disk Drive
: The local hard disk drive is used to prepare backups for all media except NFS and direct to tape. You should not perform backups on your local hard disk, you should

always backup to remote or removable media. You can set the directory for storage and the limit of storage space. You can also set how many days to keep incremental or differential backups in order to save disk space.

Across the Network
: To store the backup on a remote computer accessible using different methods. You can set the connection parameters as well as the access method and its options (if applicable). Please note that NFS backups are considered to be local disk backups, even if they are effectively stored on a remote system.

On Tape
: You can select the tape device if it's not detected automatically, and any tape parameters such as writing directly to tape, whether or not to rewind, erase and eject the tape.

Optical Media (CD-R)
: This is our preferred media for the example, so click on its Configure button to set the required parameters (see Figure 11.16, “Setting Optical Media Parameters” [198]).

Figure 11.16. Setting Optical Media Parameters

If it isn't done automatically, use the Choose your CD/DVD device combo box to select the CD/DVD device. Set the medium's type and size, multisession and erase options.

For multisession recordings, please bear in mind that the option to erase the medium is only effective for the 1st session and also that session-related information recording takes some space out (20 to 30 MB) for each session, so the “real data” storage space will actually be less than the medium's size.

11.1.3. Third Step: Review and Store the Configuration

Figure 11.17. Review Configuration Parameters

The last wizard step shows a summary of the configuration parameters. Use the Previous button to change any parameter you are not satisfied with. Click on Save to store them in the `drakbackup.conf` profile. The backup set is now ready to be performed.

Backup Profiles

You can choose File → Save profile as from the menu and provide a profile name to store the current backup settings within a named backup profile. You can then run the configuration wizard again, define other settings and store them under a different profile.

Use the `--profile Profile_Name.conf` option when you run Drakbackup from the command line to load the `Profile_Name.conf` profile.

11.1.4. Performing the Backup

Figure 11.18. Backup Progress Dialog

Click on Backup Now, make sure the corresponding media is ready (the recordable DVDs in our example), and then on Backup Now from configuration file to perform the backup.

If the backup set size exceeds the medium's available capacity, the backup operation might just fail. This is a known issue and it's being worked on. As a

work-around, please try to remove files from the backup set so its size never exceeds the medium's available capacity.

A dialog (see Figure 11.18, “Backup Progress Dialog”[200]) will display the current progress of the operation. Please be patient: the time it takes to back up depends on many factors such as the size of the backup file set, the speed of the storage option selected, and so on. Once the operation is finished a report is shown: look for possible errors in it and take corrective measures if required.

11.2. Restoring Backups

Figure 11.19. Choosing the Restore Type to Perform

Make sure the media you want to restore the backup from is accessible and ready and click on the Restore button. In our example we restore the whole backup so on the restore dialog (Figure 11.19, “Choosing the Restore Type to Perform”[201]) click on Restore all backups and then on the Restore button to start the restoration process.

Existing files in the target restoration directory (the same location as the backup was made from, by default) will be overwritten.

Feel free to investigate the other restore options if you want to restore part of a backup instead of the full file set, or to restore the backup to a different location.

11.3. Automating Periodic Backups

In the tool's main window, click on Advanced Configuration and then on the When button. In the backup scheduling window (see Figure 11.20, “Daemon Options Window” [202]) select Use daemon to define the schedule.

Figure 11.20. Daemon Options Window

You are then asked to specify the interval (or period) between each backup operation and the storage media. In our example we set up a customized calendar (custom period selected) to perform a backup from Wednesday to Friday at a quarter to midnight and store it on CD, using the Default backup profile. Press the Add cron entry button to schedule the backup operation.

11.4. Advanced Backup Wizard Configuration

Click on Advanced Configuration and then on the More Options button to set more backup options (see Figure 11.21, “Miscellaneous Options Window” [203]).

Figure 11.21. Miscellaneous Options Window

Archiving Program
: You can choose between **tar** (the default) and **star** which allows you to backup extended ACLs too.

Compression Type
: You can choose the compression strategy used for your backups among `tar` (no compression), `tar.gz` (**gzip** compression) and `tar.bz2` (**bzip2** compression: better but slower).

Files to Ignore
: You can exclude certain files from the backup. The `.backupignore` file should be present in the top directory of the backup file set; if you want to exclude some files

on subdirectories, you have to name them explicitly. Its syntax is very simple: a one-file-per-line list of the names of the files to exclude.

You can use the star (`*` = "matches any string") and the question mark (`?` = "matches one and only one character, regardless of what that character is") in the `.backupignore` file to exclude sets of files. For example, `somename*` matches all files whose names start with `somename`, and `pics/image00?.jpg` matches files named `image001.jpg`, `image009.jpg`, `image00a.jpg`, `image00Z.jpg`, etc, located in the `pics` subdirectory.

Send Reports by Email

Enter the mail address to which a report of the operation will be sent. You can specify several mail addresses by separating each with a comma (`,`). Please also complete the Return address for sent mail field with the email address of the backups administrator, and the SMTP server for mail field with the name or IP address of the outgoing mail server.

If you want to send the report to more than two or three recipients, it is better if you setup a mailing list, containing all those addresses, and fill the field with the mailing list's post address.

Delete Temporary Files

Select the Delete Hard Drive tar files after backup to other media option to free that space after performing the backup.

View Restore Log

You can choose to view the restore operation log after each restore. This can be handy to spot and fix potential problems when restoring files: read errors, network communications errors, etc.

12. System Snapshots

Draksnapshot is a tool that allows you to perform system snapshots, which is a kind of backup, using a special strategy to avoid duplicating equal files in order to save disk space. You can find it in the System section of the Mandriva Linux Control Center.

Figure 11.22. Draksnapshot Main Window

Check Enable Backups, choose Section 12.1, “What to Backup”[205] and Section 12.2, “Where to Backup” [206], then click Apply. You can then choose File → Quit to close draksnapshot.

12.1. What to Backup

12.1.1. Backing-up the Whole System

Check Backup the whole system to backup the whole system. Please bear in mind that this will take a lot of disk space.

12.1.2. Backing-up Specific Folders

When the Backup the whole system option is not checked, only some folders are backed up:

- the folder where the system's users personal folders are stored,
- the folder where system configuration is kept,
- the folder where programs are stored.

Click on Advanced to change what's included in the snapshot.

Figure 11.23. Including and Excluding Files and Folders From the Snapshot

Backup list
: shows folders and files that will be included in the backup.

Exclude list
: shows folders and files, residing on the folders listed in the backup list, that will not be included in the snapshot.

Use the Add and Remove buttons at the side of each list to populate both lists. If the exclusion list is empty, whole folders and files of the backup list are included in the snapshot.

12.2. Where to Backup

By default snapshots are stored in the (hidden) `/home/.snapshots` folder. Click on Browse to select a different folder to store snapshots into.

Backup on a Remote Media

If you have a remote folder mounted on your file system, you can select that folder to perform the backup on the remote machine, on an external USB disk, etc.

Chapter 12. Network Sharing

1. Importing Remote SMB Directories

Abstract

This tool allows the system administrator to give users access to remotely shared directories using the SMB protocol (used mainly by Windows®).

While users can individually access remote shares through their file managers, it may be required in some cases to import a specific share for it to become immediately available for all users. We'll go through an example showing you how to import a directory from a Windows® machine.

Figure 12.1. Scanning the Whole Network

Choose a Server. Clicking on the Search servers button scans the local network for machines which currently share directories (including the local one). We'll choose one of them and make it available locally for all users.

Procedure 12.1. Choose a Share

1. Click on a machine name, then on the little arrow at the left of the machine icon to show available shares. Then select the one you wish to configure.

   If the machine you're connecting to has both public and password-protected shares, then canceling the password entry dialog will connect you to that machine, but only to its public shares.

2. Once a share is selected, a Mount point button appears, click on it to enter the local directory name where remote files will be accessible.
3. Once this is done, two more buttons appear:

   Options
   : Allows you to set a user name and password to access that SMB mount point. Other permissions and advanced settings can also be set through this button. Make sure you set at least the username, or leave all options empty to use defaults.

   Mount
   : Makes the resource available locally. When this is done, users simply have to point their file manager to the directory selected as the mount point to get the files hosted by the server.

Import Share on Each Reboot. When you're finished configuring the access points for remote directories, click on Done. A dialog box will appear asking you whether or not you wish to save your modifications to the `/etc/fstab` file (where mount point information is usually stored). Click on Yes to make the share configurations persistent between sessions. Click on No to exit without saving your changes.

2. Samba Shares Managements

This tool allows you to define which folders and printers on your machine can be accessed by other machines on the network by means of the SMB/CIFS protocol, mainly used by Windows® machines. You can find it in the Network Sharing section of the Mandriva Linux Control Center.

Figure 12.2. DrakSamba Main Interface

The interface is composed of three tabs we will detail now, to manage folder shares, printer shares, and users allowed to access those shares.

2.1. Basic Server Setup

The first time you run the tool a wizard helps you configure basic server settings.

1. Select the PDC option to have your system act as a domain controller for a Windows® network. Select the Standalone option to have your system act as a standalone server, not part of any domain. This is the recommended setting for simple file and print sharing services.

Figure 12.3. Standalone Samba Server

2. Fill the Workgroup field with the name of the workgroup the system will serve. Fill the Netbios name field with the NetBIOS name of the system, that is the name your server will be known by other machines on the network.

Figure 12.4. Workgroup and Server Names

3. Use the Security mode pull-down list to choose the security level from user (clients authenticate once per session), share (clients authenticate per share) and domain (clients authenticate on a domain controller). The user level security mode is the recommended option.

Figure 12.5. User Level Security Mode

4. Fill the Banner field with a phrase to describe your system on the network. Please note that this phrase is arbitrary, however it is advisable to put something meaningful to the services your system will provide to the network.

Figure 12.6. File Server Banner

5. Choose the log settings: log file name, maximum log size (in KB), and the verbosity level. It is recommended that you leave settings at their defaults, that way there will be a per-client log file with reasonable maximum size and verbosity.

Figure 12.7. Per-Client Small Log File Setting

6. Finally, review your settings and click Ok. Settings are applied and the Samba service is started.

2.2. Samba User Management

You must add a Samba user for each client that needs to connect to the Samba server for file and print sharing.

Procedure 12.2. Adding a Samba User

1. Open the Samba Users tab.
2. Click on Add, use the User name pulldown list to select the users defined in the Mandriva Linux system, then fill the password field.

To simplify the configuration and connection of shared resources on Windows® clients, it's very important that both the user and password you set on the Mandriva Linux server are the same as the ones set for the client on his Windows® machine. Please bear in mind that case is important for both user and password, so `Peter` and `peter` refer to two different users.

2.3. File Sharing Settings

By default, the `home` file share is defined, giving Samba users access to their home folders on the Mandriva Linux server. We describe below how to add a public share with read/write access for all clients.

Procedure 12.3. Adding a File Share Resource

1. Open the File share tab.
2. Click on Add, fill the Name of the share (it can be any name, meaningful to the share contents, in our example “Public”); the Comment (again, it should be descriptive of the share contents, in our example “Public R/W Share”); and Directory with the name of the folder (it must be an existing folder) to be shared (for example, `/home/samba/Public`).

3. Click Ok once you are satisfied with your settings.

Procedure 12.4. Modifying a File Share Resource

1. Open the File share tab.
2. Select the share to change (in our example, `Public`) and click on Modify.

3. In the Samba share directory section change the Public (the file share is publicly accessible), Writable (it can be written to) and Browsable (it is shown on the Windows® client "Network Neighbourhood") options to yes using the corresponding pulldown lists.

4. You can optionally fine tune file permissions, file creation masks, filename case, and more options by opening the corresponding Advanced options.

5. Click Ok once you are satisfied with your settings.

2.4. Printer Sharing Settings

By default, all printers configured in the Mandriva Linux system are available for the clients of the Samba server, and there's also a special printer named `pdf-gen` which generates PDF files, available only to valid Samba users. Select a printer share and click on Modify to fine tune printer sharing settings (valid users, printer drivers, etc.)

3. Importing Remote NFS Directories

This tool is exactly the same as the one mentioned in Section 1, “Importing Remote SMB Directories” [209], except that it controls file sharing with the NFS protocol rather than SMB. Therefore it allows you to locally import shared files from NFS-friendly machines. The interface and its effects are similar to the one described in Section 1, “Importing Remote SMB Directories” [209]. Only the corresponding machines are different: UNIX ® for NFS and Windows ® for SMB.

One other difference is that there is no need to provide a password to access NFS shares. The authentication mechanism is host-based.

4. Share Drives and Folders using NFS

Draknfs is a tool that allows you to create and maintain shares to be mounted by other UNIX® machines on the local network. You can find it in the Network Sharing section of the Mandriva Linux Control Center.

Figure 12.8. The DrakNFS Main Window

Procedure 12.5. How to Modify or Add a NFS Share

1. Click the Add button or select an entry and click Modify.

2. Choose a Directory to be shared.
3. Configure the various access options by consulting the corresponding Information buttons.
4. Click OK.
5. Allowed hosts can then access this share using Section 3, “Importing Remote NFS Directories” [219].

5. Setting up WebDAV Mount Points

Abstract

WebDAV (*Web-based Distributed Authoring and Versioning*) is an extension to the HTTP protocol which allows you to create, move, copy, and delete resources on a remote web server. In practice, mounting a remote WebDAV repository on your local machine allows you to modify a remote web server's files as if those files were local to the system.

Browse the WebDAV Resources [http://www.webdav.org/] pages to learn more about this extension protocol.

Figure 12.9. Managing WebDAV Mount Points

1. The first time you launch this tool the required packages are installed if needed, and only two buttons are available. New, which allows you to define a new mount point, the other one just Quits the application. After you have defined the mount points, they will appear as new buttons at the top of the buttons list. Clicking on a mount point button will take you to the mount point menu (see Figure 12.10, “WebDAV Menu” [223]).

2. When you click on the New button you are asked for the URL of the web server. Enter the complete URL of the web server, beginning with `http://` or `https://`, then click OK.

3.

Figure 12.10. WebDAV Menu

You must now decide where the web server files will be accessible from. Select the Mount point option and click OK. Here you are able to choose a local directory or enter your own. If the selected mount point does not exist, it will be created.

4. If the server requires authentication, do not forget to fill the username and password fields in the Options dialog. Then all you need to do is to actually mount the remote repository by selecting Mount and clicking OK.
5. You are now able to browse and modify files on the local mount point you have defined and the changes will be immediately available on the web server.
6. To make your settings persistent between sessions, remember to save modifications to the `/etc/fstab` file, as suggested when you quit the wizard.

Chapter 13. Local Disks

1. Managing your Hard Drive Partitions with DiskDrake

Partitions are initially set up during the installation process. DiskDrake allows you, to some extent, to resize your partitions, move them, etc. DiskDrake can also deal with RAID devices and supports LVM but we will not discuss these advanced uses here.

DiskDrake is very powerful and can therefore be a dangerous tool. Misuse could very easily lead to data loss on your hard drive. Because of this potential loss of data, you are strongly advised to take some protective measures before using DiskDrake:

1. Back up your data. Transfer it to another computer, or the removable medium of your choice.
2. Save your current partition table (the table describing how your disks are organized) to a floppy disk (see Section 1.2, “DiskDrake's Action Buttons” [227]).

1.1. The Interface

Figure 13.1. DiskDrake's Main Window

DiskDrake enables you to manage partitions on each physical hard drive on your machine, and also on removable drives: USB hard disks, keys, memory cards, etc. You can see as many tabs as hard drives your system has. Each tab is named after the Linux name for that drive (for example: `sda` for the first hard disk).

The window (see Figure 13.1, “DiskDrake's Main Window”[226]) is divided into four zones:

- Top. The structure of your hard drive. When you launch DiskDrake it will display the current structure of the drive. The display is updated as you make changes.
- Right. A menu relevant to the partition currently selected in the above diagram.
- Left. A description of the selected partition.
- Bottom. Buttons for executing general actions. See Section 1.2, “DiskDrake's Action Buttons” [227].

We will now review the actions available through the buttons at the bottom of the window, and then describe a practical use case.

1.2. DiskDrake's Action Buttons

Clear all
: Clicking on this button will clear all partitions on the current hard drive.

Toggle to expert mode
: This button allows you to access the expert mode functions (which are even *more* dangerous if you are not sure what you are doing). Reserved for experts.

Help
: Displays documentation in a browser window.

Done
: Saves your changes and exits DiskDrake.

1.3. Resizing an Old Partition and Creating a New One

We are now going to do a little exercise to demonstrate one of the more useful features of DiskDrake. Let us imagine that you decide to use your machine as an FTP server and you want to create a separate `/var/ftp` partition in order to host the FTP files. *Note that doing this step-by-step tutorial will actually modify the structure of your hard drive.*

1. Reboot the machine and press the Ctrl+ Alt+ F1 keys at the login screen.
2. Login as `root` and run the command: **`xinit -e diskdrake -- :1`**
3. This is what the current `/home` partition looks like before modification. We are going to shrink this partition in order to create free space for the new file system.

First of all, you need to unmount the `/home` partition by clicking on it and then pressing the Unmount button.

4. The next step, as you may have guessed, is to click on the Resize button. A dialog appears which allows you to choose the new size for the `/home` partition. Move the slider to reflect the new size, then click on OK.

5. When resizing is done, the graphic representation of your hard drive changes. The `/home` partition is smaller, and an empty space appears. Click on the empty space and then on the Create button. A dialog will let you choose the parameters for the new partition. Set the size, choose the file system you want to use (usually `Journalized FS: ext3`) and then enter the mount point for the partition, which in our example will be `/var/ftp`.

This is how our projected partition table now looks like.

6. The last step is to format (prepare to host files) the newly created partition. To format the partition, click on its representation in the partitions picture, then on the Format button. Confirm the writing of the partition table to disk, the formatting of the partition and the update to the `/etc/fstab` file. You may be asked to reboot the computer to make changes effective.

2. Managing Removable Devices

These tools allow system administrators to easily control those options which affect the behavior of removable devices such as floppy, CD and DVD disks. Note that, by default, all removable devices are automatically made available so users shouldn't need to manually mount media.

Starting with version 2007.1 of Mandriva Linux, removable media such as CD, floppy, USB keys and disks, etc. are found under `/media/` instead of `/mnt/`.

Figure 13.2. Changing a Parameter

For each device the following properties may be changed:

- **Mount point.** The directory from where the device's files will be accessed. You can either choose an entry from the list or type in your own path. If the directory does not exist, it is created automatically.
- **Options.** Controls various device options, notably whether a user is allowed to use new media without `root` privileges. By default, the user currently logged on the system's physical console is given access to removable media.
- **Type.** Displays a list of file-system types. If you have a specific medium with a different file system on it, this is where you can tell Linux how to access it.

Select the property you wish to change and click OK. The corresponding dialog pops up in which you can change your settings. Then click OK again and save your modifications to the `/etc/fstab` file: the device is automatically remounted.

3. Allowing Users to Share Folders

Abstract

This tool enables you to share files with other users of your computer network. File sharing can be done on heterogeneous systems such as Linux and Windows ®.

The file-sharing configuration is done in two simple steps: determining who can export folders, and then which protocol to use. A third step is necessary if you select the Custom export option.

Figure 13.3. Controlling Exports

1.
   - **No sharing.** Prevents users from sharing data with others.
   - **Allow all users.** All users are allowed to share data with others.

- **Custom.** By choosing this option, only users within a special group (named `fileshare`) will be allowed to share data. If you choose this option, the `fileshare` group will be created and, as a last step, you will be prompted to run UserDrake in order to add the allowed users to this group (see Section 9, "Managing Users and Groups" [186]).

2. You must now choose which protocol(s) to use for file sharing.

- **SMB.** If most of your users use Windows® systems, this is the preferable protocol to select.
- **NFS.** If most of your users use UNIX® systems (such as Linux), this is the preferable protocol to select.

3. Once you have checked the appropriate boxes, click on OK. The required packages will be installed, if needed. If you uncheck a previously checked box, the corresponding service will be stopped.

4. Lastly, if you have activated the Custom option to allow the users to share folders, you are prompted to launch UserDrake. There you can add those users to the `fileshare` group (see Section 9, "Managing Users and Groups" [186]).

Users Can Now Share Folders. Once users are allowed to share data, they can select the folders to be shared through their preferred file manager .

If you have just added your own user to the `fileshare` group, you need to logout and back in for the changes to be taken into account.

Chapter 14. “Security” Section

1. Securing your Machine with DrakSec

DrakSec allows you to change your system's security level and to configure options and features associated to those levels.

Draksec allows you to configure three aspects of your system's security:

- system behavior,
- periodic checks of system state,
- rights delegation (Section 1.3, “Setting up Rights Delegation” [238]).

Each increase in security level modifies the system configuration, making it more and more secure, and verifying more and more security related aspects.

1.1. Setting your Security Level

Figure 14.1. Choosing the Security Level of your System

Choose a Security Level. Simply choose the security level you want from the Security Level pull-down list: it will be effective as soon as you click on OK. Please read the help text regarding security levels very carefully so that you know what setting a specific security level implies.

Explore Each Level

If you wish to check which options are activated for each security level, review the other tabs: Network Options, System Options, Periodic Checks and Authentication. Click on the Help button to display information about the options and their default values. If some of the default options don't suit your needs, simply redefine them. See Section 1.2, “Customizing a Security Level” [237], for details.

Activate Security Alerts. Put a check mark on the Security Alerts box to send mail about possible security issues found by msec to the local user name or to the e-mail address defined in the Security Administrator field.

We highly recommend you activate the security alerts option so that the administrator is automatically informed of possible security issues. Otherwise the administrator will have to regularly check the relevant system log files.

1.2. Customizing a Security Level

Clicking on each of the Options tabs (and the Periodic Checks one) leads you to msec's list of security options. This allows you to define your own security level based on the security level previously chosen.

Figure 14.2. Modifying Standard Options

For each tab, there are two columns:

1. **Options List.** All available options are listed.
2. **Value.** For each option you can choose from the corresponding pull-down menu:
   - **Yes.** Activate this option no matter what the default value is.
   - **No.** Deactivate this option no matter what the default value is.
   - **Default.** Keep the default security level behavior[1].
   - **Ignore.** Set this value if you don't wish the corresponding test to be performed.
   - **ALL, LOCAL, NONE.** The meaning of these are option-dependent. Please see the Help text available through the Help button for more information.

Clicking on OK accepts the current security level with custom options, applies it to the system and exits the application.

1.3. Setting up Rights Delegation

This tab is used to allow users to perform tasks normally reserved to the system administrator (`root`).

Figure 14.3. Delegating Rights

This tab presents most of the tools available in the Control Center, and defines the level of authentication required to launch each of them:

No password
: The tool is launched immediately.

User password
: The user password is asked for to make sure he is actually the one using the computer and launching the configuration tool.

Root password
: The standard behavior: the administrator password is asked for.

Example 14.1. Allow the Users to Manage Network Connections

With the default security level (High), users are allowed to launch the Network Center without password (by clicking on the network applet). This allows them to manage their connections themselves.

2. Controlling File Permissions with DrakPerm

Drakperm allows you to customize the permissions which should be associated with each file and directory in your system: configuration files, personal files, applications, etc. If the owners and permissions listed here don't match the actual permissions of the system's files, then msec (which stands for *Mandriva Linux Security Tool*) will change them during its hourly checks. These modifications can help prevent possible security holes or intrusions.

Figure 14.4. Configuring File-Permission Checks

The list of files and directories which appears depends on the current system's security level as set by msec, along with their expected permissions for that security level. For each entry (Path) there exists a corresponding owner (User), owner group (Group) and

Permissions. In the drop-down menu, you can choose to display only msec rules (System settings), your own user-defined rules (Custom settings) or both as in the example shown in Figure 14.4, “Configuring File-Permission Checks” [240].

You cannot edit system rules, as stated by the “Do not enter” ( ) sign on the left. However you can override them by adding custom rules.

Create Your Own Rules. If you wish to add your own rules for specific files or modify the default behavior, display the Custom settings list and click on the Add a rule button.

Figure 14.5. Adding a File-Permissions Rule

Procedure 14.1. Customize Your Home Directory Permissions

1. Let's imagine your current security level is set to `3` (high). This means that only the owners of the home directories can browse them. If you wish to share the content of Queen's home directory with other users, you need to modify the permissions of the `/home/queen/` directory.
2. msec only changes file permissions that are more permissive than the one required by a certain security level. That means that for the change above, the permissions must be changed by hand.

You can do this in Konqueror by modifying the permission properties of your home directory, and checking the Apply changes to all sub-folders and their contents option.

3. If you create more rules, you can change their priorities by moving them up and down the rules list: use the Up and Down buttons on your custom rules to have more control over your system's permissions.

3. Securing your Internet Access via DrakFirewall

This little tool allows you to configure the basic firewall installed by default on your machine. It filters connection attempts made from the outside, and blocks unauthorized ones. You will have to configure it if you wish to allow incoming connections to your computer, if you host specific services on it such as file sharing, Web Server, etc.

This Wizard consists of the steps detailed below.

3.1. Choosing Services to be Available from Outside

Figure 14.6. The DrakFirewall Window

Open Up Ports, If Needed. If checked, uncheck the Everything (no firewall) box, and then check the boxes corresponding to the services you wish to make available to the outside world. If you wish to authorize a service which isn't listed here, click on Advanced to manually enter the port numbers to open and to control the logging of firewall messages.

Opening Unusual Services

Clicking on Advanced opens a field named Other ports where you can enter any port to be opened to the outside world. Examples of port specifications are presented just above the input field: use them as a guide. It's possible to specify port ranges by using the `:` syntax such as `24300:24350/udp`.

This Won't Block You from Accessing the Net. Not checking a service in this list won't stop you from connecting *to* the Internet. It will only prevent people *from* the Internet

connecting to that service on your machine. If you don't plan on hosting any services on your machine (common case for a desktop machine) just leave all boxes unchecked.

How to Disable the Firewall. On the other hand if you wish to disable the firewall and leave all services accessible from the outside, check Everything (no firewall), but please bear in mind that this is *very insecure*, and therefore not recommended.

3.2. Activating Interactive Firewall Feature

Figure 14.7. Interactive Firewall Options

Stay Informed of Connections on your Machine. The interactive firewall can warn you of connection attempts on your machine by displaying alert popups through the network applet. Check the Use Interactive Firewall option to activate this feature. (Refer to Section 8, “Firewall Black/White Lists, etc.” [170] for more details.)

Port scan detection

Activate this option to be warned of possible malicious attempts to access your machine.

Other entries corresponding to open ports

Next you are shown a checkbox for each port you have chosen to open during the previous step. Activating them will pop up a warning each time a connection attempt is made on those ports.

3.3. Which Interface(s) to Protect

The next step consists of selecting the network interface connected to the Internet.

Figure 14.8. The Internet Interface

If you don't know which interfaces you have connected for the Internet, you can check the system network configuration (see Section 1.2, “Network Center: Reconfiguring and Monitoring Network Interfaces” [154]). You can finally click OK to install the required packages, activate the firewall and enjoy your secure Internet connection.

Managing Threats

Consult Section 8, “Firewall Black/White Lists, etc.” [170] to learn how to manage threats and how to manage access black and white lists.

4. Network Interface and Firewall Failover

This tool configures your system so that it can automatically replicate its firewall state to a different machine. In case of failure, it provides a highly available firewall service for your network. Please note that two firewall machines are needed, both configured similarly.

Figure 14.9. Highly Available Firewall

The firewall configuration for the master and slave should be similar, or at least have rules for common services configured identically, so that transparency (at least for those services) is achieved. The clients are configured to use the Virtual IP address of the replication pool.

Firewall replication automatically moves the connection state from the failing firewall to the replica, providing workstations with an uninterrupted firewall service in a transparent way. Workstations don't loose their already established network connections to the outside.

Open DrakInvictus choosing Advanced setup for network interfaces and firewall in the Security section of the Mandriva Control Center. At the top you configure network redundancy and at the bottom you configure firewall replication. Please note that this tool has to be run on each server which is part of the replication pool.

Figure 14.10. The DrakInvictus Window

4.1. Network Redundancy Configuration

Fill the following fields for the interface corresponding to the network where the other server (the one providing network redundancy) is located, for example eth0:

Real Address
: IP address of the interface. This is the physical address of this server on the network.

Virtual shared address
: Virtual IP address shared by both servers. Fill with an unused, fixed, IP address on the network. This is the address clients will use as their Internet gateway. Please note that this address must be the same in both master and slave servers.

Virtual ID
: Shared identifier number (between 1 and 255). Please note that this ID must be the same on both master and slave servers.

Password
: Provide a password to be used by the replicated machines to identify themselves as being part of the same replication pool.

Start as master
: One of the servers must be declared as Master, to allow for proper recovery when the master returns to service. Check this box to override the default and recommended setting of having the system arbitrarily decide which server is the Master and which is the Slave.

4.2. Firewall Replication Configuration

Check Synchronize firewall conntrack tables to enable firewall replication and select the following:

Synchronization network interface
: Choose the interface connected to the network on which both firewalls communicate. Please note that this interface cannot be the same one as used for network redundancy.

Connection mark bit
: Bit number of the connection mark field used for connection tracking, you can leave it at the default value, `30`.

5. Parental Controls

The Parental Controls tool allows you to monitor what children can see and even place a time-limit restriction to their Internet access. It is a web content filtering tool which blocks websites which may have offensive or shocking content. You can find the tool in the Security section of the Mandriva Linux Control Center.

Figure 14.11. Parental Controls Main Window

Website filtering is carried out before the site is opened: if it is evaluated as inappropriate, it will not be opened and a suitable message appears. Choose your settings in the tool and click Ok once your satisfied with your settings.

If you are requested to install some extra software packages, please accept by clicking Ok.

5.1. Defining Main Options

If children are to use your machine, we advise that you create a user account for them before setting control options.

Check the Enable parental control box in the Configuration tab to access parental control settings.

Then select the level of control in the Control level drop-down list:

- High is generally advised for young children,
- Normal is for children,
- Low is for young adults.

By default, all users created on the system are subject to parental control. However, in the User Access section, you can choose those who won't be under control.

The All users list displays the different user accounts created on the machine. Select users in the All users list and click on the Add button to put them in the Allowed users list. Those users will then be able to access the Internet without restrictions.

5.2. Scheduling a Timeframe

In addition to website filtering, you can define timeframes during which users under parental control can access the Internet. Check the Allow connections only between these times box and select the time frame during which access is allowed.

5.3. Using the Blacklist

You can decide to ban certain websites. This can be particularly useful in a professional environment and especially for network administrators who wish to restrict Internet access.

Simply enter the addresses of these websites in the Blacklist tab. Fill in the first field with the URL of the website in question and click on the Add button. Accept the list by clicking Ok.

Select a URL in the list and click Remove from blacklist to remove it from the blacklist.

5.4. Using the Whitelist

As opposed to blacklisting, you can decide to authorize access to certain websites banned by the parental control filtering.

Simply enter the addresses of these websites in the Whitelist tab. Fill in the first field with the URL of the website in question and click on the Add button. Accept the list by clicking Ok.

Select a URL in the list and click on Remove from whitelist to remove it from the whitelist.

Chapter 15. Boot Device Configuration

1. Configuring the Login Mode

This tool allows a user to be automatically logged into the system at boot time, without requiring a password to be entered.

Figure 15.1. Choosing the Login Mode

Here are the available parameters:

Graphical Interface

If you wish to have the X Window System (graphical display) started at boot time, check the Launch the graphical environment when your system starts box. If you leave it unchecked, the text login will be displayed and you will need to start the graphical environment manually.

Autologin

If you're the only person using your machine and nobody else has access to it, you may choose to be automatically logged in at boot time.

1. Select the Yes, I want to autologin with this (user, desktop) option.
2. Choose the user you want to be logged on automatically in the Default user pull-down menu.
3. Choose the preferred Default desktop in the pull-down menu.

2. Changing your Boot-up Configuration

This tool allows you to configure how your system boots and which boot options are available.

Unless you are an expert, it's not recommended that you change these settings as it may prevent you from booting your machine the next time you try to power it up.

Figure 15.2. Choosing the Boot Mode and Main Options

2.1. Configuring the Bootloader

You can choose between the GRUB and LILO bootloaders. Either one allows you to boot Mandriva Linux, it's just a question of taste.

Unless you really do know what you're doing, you shouldn't change the default Boot device shown, because that's where the bootloader installs itself. If more than one OS is installed on your machine, it's a good idea to delay booting the default OS by at least 5 seconds so that you can easily select which one to boot.

The dialog finally shows a few options which can be useful depending on your specific hardware.

Enable ACPI
: This option provides better power management support if your hardware is ACPI compatible. ACPI is often needed for newer computers which no longer support APM.

Click on Advanced to select extra options:

Enable APIC
: The IO-APIC [http://www.wlug.org.nz/APIC] is only really useful for multi-processor systems for sending interrupts to the various processors, instead of sending them to only one processor.

Enable Local APIC
: The local APIC can be used by Linux to program interrupts to wake up threads. On multi-processor machines, it can be used to send interrupts to another processor.

  These APIC features are known to cause problems on some computers. These problems can cause system freezes or incorrect device detection. So you may need to deactivate them by removing the check from the corresponding boxes.

Clean /tmp at each boot
: This option allows you to wipe the contents of the `/tmp` directory. For instance, it could contain some files you downloaded from the Internet.

Precise RAM size if needed (found XXX MB)
: Use this option to tell Linux how much RAM your machine possesses, if the amount found differs to what your system actually has, or should this prove to be an issue at boot time.

2.2. Managing Boot Entries

After clicking Next, the list of available entries at boot time is displayed. The default entry is marked by a star (`*`): it corresponds to the one activated if you don't take any action after a few seconds.

To change the default entry, check the Default check-box in the Modify dialog.

3. Display Manager Setup

DrakeDM is a tool that allows you to choose the graphical display manager userd to log onto the machine. Basically, all display managers offer the same features, it's only a question of taste. You can find it in the Boot section of the Mandriva Linux Control Center.

4. Customizing your Boot Theme

The Set up boot graphical theme of system utility enables you to change the default theme displayed at boot time, as well as a few other options.

- Choose one of the available boot modes in the pull-down menu (Figure 15.3, “DrakBoot Theme Window” [257]).
- Uncheck the Display theme under console option if you want a clean, “traditional” console. This relates to those accessible through the Ctrl+ Alt+ Fn keys.

Figure 15.3. DrakBoot Theme Window

The boot theme setting will have no effect if your system isn't set to boot using the graphical mode. Please refer to Section 2, “Changing your Boot-up Configuration”[254], for more information on setting the boot mode.

Installing Fancy New Themes. If you only have one theme available, you may install the `bootsplash-themes` package which you will find in `contribs`. Other themes are also available on the web.

Create Your Own. The Create new theme button allows you to fully customize an existing boot theme or to create a new boot theme from scratch. Adjust the parameters to your liking and save it. It will then be accessible in the available Theme list.

Part III. Installing Mandriva Linux

Mandriva

Mastering Mandriva Linux

Chapter 16. Coexisting with Other Operating Systems

If you plan on using Windows ® as well as Linux by dual-booting (being able to access either system on the same computer), please note that it is easier to install Windows ® *before* Linux. If Windows ® is already set up on your system, and you have never installed Linux before, DrakX — Mandriva Linux's installation program — will have to re-size your Windows ® partition. This operation can be harmful to your data. Therefore, you *must* perform the following steps before proceeding:

1. Run **chkdsk** on your Windows ® computer (also called **scandisk** on some non-NT systems, such as Windows ® 9x). The resizing program can detect some obvious errors, but **chkdsk** is better suited for this task. Refer to the **chkdsk** documentation for more information on the different options it has.

   Before using **chkdsk** make sure your screen saver and any other program that might write to the hard disk is turned off. To obtain even better results, you should run **chkdsk** from Windows ®'s “Safe Mode”, though it will take longer.

2. For maximum data security, also run defrag on your partition if you use Windows ® 9x [1]. This further reduces the risk of data loss. This isn't mandatory, but it's *highly recommended*. Doing so will make the resizing process much faster and easier.

3. The ultimate insurance against problems is to always *back up your data*! Of course, you should back up your data on *another* computer, upload your back-ups onto the web, on a friend's computer, etc. *Do not* back it up onto the computer on which you want to install Linux.

Chapter 17. Before Installation

This chapter covers issues which should be addressed *before* you start your new Mandriva Linux installation. Make sure you read it completely since it will save you a lot of time. Also back up your data (on a different disk to the one you will install the system into) and plug in and turn on all your external devices (keyboard, mouse, printer, scanner, etc.).

1. Configuring your BIOS

The BIOS (*Basic Input/Output System*) is used to find the device on which the operating system is located and starts it up. It's also used for the initial hardware configuration and low-level hardware access.

The appearance of plug'n'play devices and their widespread use means that all modern BIOSes can initialize these devices. In order for Linux to recognize plug'n'play devices, your BIOS must be configured to initialize them.

Changing your BIOS' settings is usually performed by holding down the Del key (some BIOSes may use the F1, F2, F10 or Esc keys instead) right after the computer is switched on. Unfortunately, there are so many types of BIOSes, you will need to look for the appropriate option yourself. It's often called PNP OS installed (or Plug'n'Play OS installed). Set this option to No and the BIOS will then initialize any plug'n'play devices, which helps Linux to recognize them.

Look for Boot sequence or First boot device in the BIOS' features setup, and set the CD-ROM as the first boot device.

If you want to use a parallel printer connected locally to your machine, make sure the parallel port mode is set to ECP+EPP (or at least to one of ECP or EPP) and not to SPP, unless you have a *really* old printer. If the parallel port is not set this way you might still be able to print, but your printer will not be detected automatically and you will have to configure it manually. Also make sure the printer is properly connected to your machine and powered on beforehand.

2. Supported Hardware

Mandriva Linux can handle a large number of hardware devices, and the list is far too long to be quoted exhaustively. You may consult an up-to-date list of supported hardware on the Mandriva Linux Hardware Database [http://www.mandriva.com/hardware] web site.

Legal Disclaimer: The Mandriva Linux *Hardware Database* contains information about hardware devices which have been tested and/or have been reported to function properly with Mandriva Linux. Due to the wide variety of

system configurations, Mandriva cannot guarantee that a specific device will work correctly on your system.

Support for USB 1.x and USB 2.0 is now extensive. Most peripherals are fully supported. You can obtain the list of supported hardware on the Linux-USB device overview [http://www.qbik.ch/usb/devices/] site. Relevant information can also be found on the Linux USB [http://www.linux-usb.org] web site.

Chapter 18. Installation with DrakX

1. The Mandriva Linux Installer

With the DrakX installation program, it doesn't matter whether you're a newbie or a Linux guru. The job of DrakX is to provide you with a smooth installation and an easy transition to Mandriva Linux's latest version. DrakX also detects existing Windows® and Linux installs and adds boot menu entries for them, so you can start either operating system.

Make sure that all your hardware is connected to your computer and powered on during the installation. Printers, modems, scanners and joysticks are just a few examples of peripherals which DrakX can automatically detect and configure as Mandriva Linux is being installed.

Procedure 18.1. Begin Installation

1. Place your installation CD or DVD into the reader and reboot your machine. The installer will start automatically.
2. Press any keyboard key (except Enter) when you see Mandriva's welcome screen appear (shown in Figure 18.1, “First Installation Welcome Screen”[266]). A list of possible actions is offered, and if you do nothing, the selected action is carried out when the timer expires.
3. Press the F2 key to have all options displayed in your language. Simply select your language by using the up and down arrow keys, then press Enter.
4. Select the Installation option from the list, and press Enter.

Figure 18.1. First Installation Welcome Screen

If Something Goes Wild

If the default procedure does not work for you, read Section 1.2, “Startup Options” [267].

1.1. The Installation Process

When the installer starts, you see a nice graphical interface (see Figure 18.2, “Choosing the Default Language” [268]). On the left are the various installation steps, the current one is marked by a highlighted bullet. The installation occurs in two phases: installation, then configuration.

Steps and Substeps. Each step may present various screens. You can surf between those screens with the Next and Previous buttons. Additionally an Advanced button may be available to show more advanced configuration options. Note that most of the latter should only be used by *expert* users. But there's no harm in looking at them!

The Help button displays explanations about the current installation step.

1.2. Startup Options

If something goes wrong during the first installation attempt, boot from the installation medium again, and depending on your problem, try one of the Fx options at the bottom of the screen. Select an option and press F1 to get more information about what that specific option does.

Boot Options. This line contains the options passed on to the kernel that will be used for the selected action. Most machines don't require specific kernel options.

2. Choosing your Language

The first step is to choose your preferred language. If you have already changed the language at the CD or DVD boot splash screen (Figure 18.1, “First Installation Welcome Screen” [266]) and don't need to install additional languages, you can safely move to the next step.

Figure 18.2. Choosing the Default Language

Open the tree representing the continent you are located in, then choose your language. Your language choice will affect the installer, the documentation, and the system in general.

Multi-Language System. Use the list accessible through Multi languages to select other languages to be installed on your system, thereby installing the language-specific files for system documentation and applications (translations, fonts, spell checkers, etc.) For example, if Spanish friends are to use your machine, select English as the default language in the tree view and Español in the list view. You may choose several, or even install them all by selecting the All languages option. Make sure you select all languages which are likely to be useful on the machine now, once the system is installed it may be difficult to configure support for languages not chosen at install time.

UTF-8 (Unicode) Support

Unicode is a character encoding intended to cover all existing languages and alphabets, and Mandriva Linux uses it by default. However, if you have

previously noticed problems with it for your language, you can resort to your language-specific encoding by selecting the Old compatibility (non UTF-8) encoding option.

Switching from one Language to Another

To switch between the various languages installed on your system once it is installed, go to the main menu and open the Tools → Regional Settings entry. To change the language used by the entire system, use the Control Center.

3. License Terms of the Distribution

Before continuing, you should carefully read the terms of the license. It covers the entire Mandriva Linux distribution. If you agree with all the terms it contains, select Accept and click Next. If not, clicking on Quit reboots your computer.

Release Notes

If you are curious about any technical changes which have occurred in the distribution since the last release, you can click on Release Notes.

4. Configuring your Keyboard

This step is activated only if your language settings match more than one keyboard. Otherwise your keyboard is automatically selected.

Depending on the language you choose (see Section 2, “Choosing your Language” [267]), DrakX automatically selects a particular type of keyboard configuration. Verify that the selection suits you or choose another keyboard layout.

More Keyboards. Click on More to display the list of all supported keyboards, if your keyboard is not in the first list.

Non Latin Alphabets. If you choose a keyboard layout based on a non-Latin alphabet, the next dialog allows you to choose the key binding which can switch the keyboard between the Latin and non-Latin layouts.

5. Installation Class

This step is shown only if an existing Linux partition is found on your machine.

DrakX now needs to know if you want to install from scratch or to upgrade your existing Mandriva Linux system:

Upgrade

This installation type simply updates the packages currently installed on your Mandriva Linux system. Your current partitioning scheme and user data won't be altered. Most of the other configuration steps remain available and are similar to a standard installation.

Using the “Upgrade” option should work fine on Mandriva Linux systems running versions up to two releases “in the past”. Performing an upgrade on prior versions is not recommended.

Depending on your hardware and your installation size, upgrading may take a very long time.

Install
: For the most part, this completely wipes out the old system. However, depending on your partitioning scheme, you can prevent some of your existing data (particularly `/home` directories) from being overwritten.

6. Where to Install Mandriva on your Hard Disk

You now have to decide where you will install Mandriva Linux on your hard drive. Your hard drive needs to be partitioned which means it must be logically divided in order to create the required space for your new Mandriva Linux system.

Because the process of partitioning a hard drive is usually irreversible and can lead to data loss, it can be intimidating and stressful for the inexperienced user. Fortunately, DrakX includes a wizard which simplifies this process. Before continuing with this step, read through the rest of this section and above all, take your time.

Depending on the configuration of your hard drive, several options are available:

Use free space

This option performs an automatic partitioning of any blank areas of your drive. If you use this option there will be no further prompts.

Use existing partitions

The wizard has detected one or more existing Linux partitions on your hard drive. If you want to use them, choose this option. Then choose the mount points to be associated with each of the partitions. The legacy mount points are selected by default, and for the most part it's a good idea to keep them. Then choose the partitions to be formatted or preserved.

Erase and use entire disk

Choose this option to delete all existing data and partitions present on your hard drive. You won't be able to undo this operation after you confirm.

If you choose this option, *all* data on your disk will be deleted.

Remove Microsoft Windows®

This option appears when the hard drive is entirely taken by Windows ®. Choosing this option simply erases the entire drive, partitioning everything from scratch.

If you choose this option, *all* data on your disk will be lost.

Use the free space on a Microsoft Windows® partition

If Windows ® is installed on your hard drive, you might have to create free space for Linux. To do so, you can either delete your Windows ® partition and data (see the “Erase and use entire disk” solution) or resize your FAT or NTFS partitions. Resizing can be performed without the loss of any data, *provided you have previously defragmented the Windows ® partition. Backing up your data is strongly recommended*. Using this option is recommended if you want to use both Mandriva Linux and Windows ® on the same computer.

Before choosing this option, please understand that after this procedure, the size of your Windows ® partition will be smaller than when you started, which means you will have less free space to store your data or to install new software.

Custom disk partitioning

Choose this option to manually partition your hard drive. Be careful: it's a powerful but dangerous choice and you can very easily lose all your data. This option is only recommended if you have performed custom disk partitioning before, and have enough Linux experience. For more instructions on how to use the DiskDrake utility, refer to Section 1, “Managing your Hard Drive Partitions with DiskDrake” [225].

7. Choosing Mount Points

This step only shows if you have chosen to reuse existing Linux partitions.

Listed here are the existing Linux partitions detected on your hard drive, with the corresponding associated mount points. If you are unsure, keep the automatic settings.

Each partition is listed as follows: “Name” (“Capacity”, “Detected mount point”, “File System Type”).

7.1. Manual Choice

If for any reason the mount points are not detected or if you make changes, you must at least define a root partition (`/`). Do not choose too small a partition or you will not be able to install enough software. If you want to store your data on a separate partition, you will also need to define a `/home` partition (only possible if you have more than one Linux partition available).

7.2. Partition Naming

A partition name (for example `sda1`) is made up of three parts: “hard drive type”, “hard drive number”, “partition number”.

8. Choose the Partitions to Format

This step is only available if you choose to reuse existing Linux partitions.

You may wish to reformat some of your legacy Linux partitions and to erase any data they contain. To do so, please select those partitions as well.

Please note that you don't have to reformat all pre-existing partitions. You must reformat the partitions containing the operating system (such as `/`, `/usr` and `/var`) but not the partitions containing data you wish to keep (typically, `/home`).

Please be careful when selecting partitions. After the formatting is completed, *all data on the selected partitions is deleted* and you won't be able to recover it.

- Click on Next once you've selected the partitions to format.
- Click on Previous if you want to choose another partition for your new Mandriva Linux operating system installation.
- Click on Advanced if you want to check for partitions with bad blocks on the disk.

9. Package Selection

We now enter the software package installation itself. It consists of selecting the installation media and the packages to be installed.

9.1. Choosing the Installation Media

Select Available CDs. If you are doing an installation from a CD, you are first asked to select the CDs you actually have available.

Copy whole CDs. You are also given the option to copy all packages on to your hard drive. This will probably speed up installation and will ease later package installation as all packages will already be available on your hard disk.

9.2. Supplementary Installation Media

It is possible to add new installation media, such as a CD or remote network repositories from Mandriva Club, for example. If you choose a network repository, you will go through the following steps:

1. Choose the connection type needed to access the remote repository. The network is configured and your settings are preserved for the actual system network configuration.

2. Choose a mirror from the list of official ones suggested, or the very first entry (URL) and provide the information (URL or NFS server and path) to access the new media.

9.3. Choosing a Graphical Environment

You can choose between 2 workstation desktop profiles or customise your desktop environment.

KDE desktop
: KDE is similar in look and feel to a Windows desktop.

GNOME desktop
: GNOME is similar in look and feel to a Mac OS interface.

Custom install
: This option allows you to specify each package group and application you want to install.

For those who are using Linux for the fist time, you are advised to choose one of the first two profiles, as the package groups are automatically selected and installed. Note that this guide focuses on the KDE desktop.

9.4. Choosing Package Groups to Install

This window is activated only if you choose the Custom install in the previous step.

It's now time to specify which applications you want to install on your system. There are thousands of packages available for Mandriva Linux, and to make it simpler to manage, they have been placed into groups of similar applications.

Mandriva Linux further sorts package groups into general categories. You can mix and match applications from the various categories, so a Workstation installation can still have applications from the Server category installed.

1. Workstation: if you plan on using your machine as a workstation, select one or more of the groups in this category. The special LSB group will configure your system so that it complies as much as possible with the Linux Standard Base Project [http://www.linux-foundation.org/en/LSB] specifications.
2. Server: if your machine is intended to be a server, select which of the most common services you wish to install on your machine.
3. Graphical Environment: this is where you can choose your preferred graphical environment. You must select at least one if you want to have a graphical interface available.

Moving the mouse cursor over a group name displays a short explanatory text about that group.

Select Individual Applications. You can check the Individual package selection box, which is useful if you are familiar with the packages being offered, or if you wish to have total control over what will be installed.

Upgrade Applications Only. If you start the installation in Upgrade mode, you can deselect all groups and prevent the installation of any new packages. This is useful for repairing or updating an existing system.

9.5. Minimal Installation

If you deselect all groups when performing a regular installation (as opposed to an upgrade), a new dialog is displayed after pressing Next, suggesting different options for a minimal installation:

- With X: installs the minimum number of packages possible to have a working graphical desktop.
- With basic documentation: installs the base system plus basic utilities and their documentation. This installation is suitable for setting up a server.
- Truly minimal install: installs the absolute minimum number of packages necessary to get a working Linux system. With this installation, you will only have a command-line interface.

9.6. Choosing Individual Packages to Install

If you choose to select which packages to install, the installer presents a tree structure containing all packages classified by groups and subgroups. While browsing the tree, you can select entire groups, subgroups, or individual packages.

Package Description. Whenever you select a package on the tree, a description appears to let you know the purpose of that package.

Server Applications

If a server package has been selected, either because you specifically chose the individual package or because it was part of a group of packages, you are asked to confirm that you really want those server packages to be installed. By default Mandriva Linux will automatically start any installed services (servers) at boot time. Even if they are safe and have no known issues at the time the distribution was shipped, it is entirely possible that security holes were discovered after this

version of Mandriva Linux was finalized. If you don't know what a particular service is supposed to do or why it's being installed, then click No.

Dependencies Between Packages. Uncheck the Show automatically selected packages option to disable the information dialog that appears whenever the installer automatically selects a package to resolve a dependency issue. Some packages depend on others and the installation of one particular package may require the installation of others. The installer can determine which packages are required to satisfy a dependency, and to successfully complete the installation.

Load/Save the List of Packages. The little floppy disk icon at the bottom of the list allows you to load or save the package list. This is useful if you have a number of machines that you want to configure identically. Click on this icon and select whether you wish to Load or Save the package list, then select the medium in the following screen and click on OK.

10. User Management

10.1. Administrator (root) Password

The Root Password is Key to Your System Security. The `root` user is the system administrator and is the only user authorized to make updates, add users, change the overall system configuration, and so on. In short, `root` can do everything! That's why you must choose a password which is difficult to guess: DrakX tells you if the password you chose is too simple. Depending on the security level you chose, you're not forced to enter a password, but we *strongly* encourage you to do so. Linux is just as prone to operator error as any other operating system. Since `root` can overcome all limitations and unintentionally erase all data on partitions by carelessly accessing the partitions themselves, becoming `root` *must* be difficult.

Choose the Right Password. The password should be a mixture of alphanumeric characters and its minimum length will vary according to the chosen security level. Never write down `root`'s password — it makes it far too easy to compromise your system. However, don't make the password too long or too complicated because you must be able to remember it too!

Enter the Password, Twice. The password won't be displayed on screen as you type it. To reduce the chance of a blind typing error you have to enter the password twice.

10.2. Enter a User

Create a User. You are first asked for a real name. DrakX uses the first word you type in this field and copies it, all in lowercase, to the Login name field, which is the name this user must enter to log on to the system. Then enter a password, twice (for confirmation). From a security point of view, a non-privileged (regular) user's password isn't as crucial as the `root` password, but that's no reason to neglect it by making it too simple: after all, *your* files could be the ones at risk.

Linux is a Secure Multi-User System. You can add other users. Refer to Section 13, “Checking Miscellaneous Parameters”[284]. Each user may have his own preferences, files and so on. But unlike the system administrator called `root`, the user you create at this point is not authorized to change anything except its own files and configurations, protecting the system from unintentional or malicious changes which could have a serious impact.

User Shell

Clicking on Advanced allows you to change the default shell for that user (bash by default), and to manually choose the user and group IDs for that user.

11. Installing a Bootloader

This step only shows if there is a Linux bootloader already on your system.

A bootloader is a small program which is started by the computer at boot time. It's responsible for starting up the whole system. Normally, the bootloader installation is totally automated. DrakX analyzes the disk boot sector and acts according to what it finds:

- If a Windows ® boot sector is found, it is replaced by a GRUB/ LILO boot sector. This way you are able to load either Linux or any other OS installed on your machine.
- In any other case it asks you where it should place the boot loader. Generally, the First sector of drive (MBR) is the safest place.

Choosing Skip won't install a bootloader. Use this option only if you really do know what you're doing.

12. Graphical Interface Configuration

If the installer was not able to automatically configure your graphical display, this step allows you to do so manually. Simply follow the instructions, choosing the appropriate configuration corresponding to your hardware.

13. Checking Miscellaneous Parameters

13.1. Summary

As a review, DrakX presents a summary of information it gathered about your system. Depending on the hardware installed on your machine, you may have some or all of the following entries. Each entry is made up of the hardware item to be configured, followed by a quick summary of the current configuration. Click on the corresponding Configure button to make any changes.

- Timezone: by default, DrakX deduces your time zone based on the country you have chosen. You can click on the Configure button if this is not correct. See Section 13.2, “Time Zone Options” [286].
- Country / Region: check the current country selection. If you're not in the country selected by DrakX, click on the Configure button and choose the correct one. If your country isn't in the displayed list, click on Other Countries to get a complete country list.

- Bootloader: to change your bootloader configuration. This should be reserved to advanced users. Refer to the printed documentation or the in-line help about bootloader configuration in the Mandriva Linux Control Center.
- User Management: you can add other users for example, for each of your friends, your father, your sister, etc. Click on Configure then enter a user name and a password as you did in previous steps.

  Linux is a secure multi-user system. Each user may have his own preferences, files and so on. But unlike the system administrator called `root`, the user you create at this point is not authorized to change anything except its own files and configurations, protecting the system from unintentional or malicious changes which could have a serious impact on it.
- Services: with this entry you can fine tune which services are run on your machine. If you plan to use this machine as a server it's a good idea to review this setup.
- Keyboard: check the current keyboard mapping configuration and change it if necessary.
- Mouse: verify the current mouse configuration and change it if necessary.
- Sound card: if a sound card is detected on your system, it is displayed here. If you notice the sound card isn't the one actually present on your system, you can click on the button and choose a different driver.
- Graphical Interface: by default, DrakX configures your graphical interface with a resolution that best matches your video card and monitor combination. If that doesn't suit you, or DrakX could not automatically configure it (not configured is displayed), click on Configure to reconfigure your graphical interface. You can click on Help from within the configuration wizard to benefit from full in-line help.
- Network: if you wish to configure your Internet or local network access, you can do so from here. Refer to the printed documentation or use the Mandriva Linux Control Center after the installation has finished to benefit from full in-line help.
- Proxies: allows you to configure HTTP and FTP proxy addresses if the machine you're installing on is to be located behind a proxy server.
- Security Level: this entry allows you to define the security level. As a rule of thumb, the security level should be set higher if the machine is to contain crucial data, or if it's to be directly exposed to the Internet, or hosting many users. The trade-off is that a higher security level is generally obtained at the expense of ease of use.

  If you do not know what to choose, read the descriptions, or keep the default option. You will be able to change it later with the draksec tool in the Mandriva Linux Control Center.

Fill the Security Administrator field with the e-mail address of the person responsible for security. Security-related messages will be sent to that address.

- Firewall: if you plan to connect your machine to the Internet, it's a good idea to protect yourself from intrusions by setting up a firewall. Consult the corresponding chapter of the *Starter Guide* Section 3, “Securing your Internet Access via DrakFirewall” [242] for details about firewall settings.

13.2. Time Zone Options

This setup allows you to refine the time zone you are currently located in. After you've chosen the location nearest to your time zone, two more options for time management are shown.

Date, Clock & Time Zone Settings
: Linux manages time in UTC (Coordinated Universal Time) and translates it to local time according to the time zone you selected. If the machine also hosts another operating system that doesn't handle time the same way, it's better to select the hardware clock set to local time option.

NTP Server
: If you check the Automatic time synchronization option the system clock will be regulated automatically by connecting to a remote time server on the Internet. For this feature to work, you must have a working Internet connection. We recommend that you choose a time server located near you or the default All servers entry which will select the best server for you. This option actually installs a time server which can be used by other machines on your local network as well.

13.3. Configuring X, the Graphical Server

X (for X Window System) is the heart of the Linux graphical interface on which all the graphical environments (KDE, GNOME, AfterStep, WindowMaker, etc.) bundled with Mandriva Linux rely on.

Graphic Card

If everything works fine, the installer should detect and configure the video card installed on your machine. If the detection or configuration is incorrect, you can choose the card installed on your system from a list.

Monitor

If the installer fails to detect or configure your monitor properly, you can choose the monitor which is connected to your computer from the displayed list.

Resolution

Here you can choose the resolution and color depth from those available for your graphics hardware. Choose the one which best suits your needs (you will be able to

make changes after the installation). A sample of the chosen configuration is shown in the monitor picture.

Test

This entry may not appear if your hardware does not allow testing.

The system tries to open a graphical screen at the desired resolution. If you see the test message during the test and answer Yes, then DrakX will proceed to the next step. If you don't see it, it means that some part of the auto-detected configuration was incorrect and the test automatically ends after a few seconds and returns you to the menu. Change settings until you get a correct graphical display.

Options

Graphic card options

Depending on your hardware capabilities, you can choose to activate or disable specific features such as acceleration or special visual effects (transparency).

Graphical interface at startup

This option allows you to choose whether you want your machine to automatically switch to a graphical interface at boot. Obviously, you may want to untick the box if your machine is to act as a server, or if you were not successful in getting the display configured.

13.4. Selecting Available Services at Boot Time

This dialog is used to select which services will be automatically started at boot time: DrakX lists all services available on the current installation. Review each of them carefully and uncheck those which aren't needed at boot time.

A short explanatory text is displayed about a service when it is selected. However, if you're not sure whether a service is useful or not, it is safer to leave the default setting.

Server Installation

At this stage, be very careful if you intend to use your machine as a server: you probably don't want to start any services which you don't need. Please remember that some services can be dangerous if they're enabled on a server. In general, select only those services you *really* need.

14. Installing Updates from the Internet

By the time you install Mandriva Linux, it's likely that some packages have been updated since the initial release. Bugs may have been fixed, security issues resolved, etc.

Choosing Yes displays a list of web locations from which you can retrieve updates. You should choose a location near to you. Review the packages from the tree selection, and press Install to retrieve and install the selected packages.

15. It's All Done!

There you are. The installation is now complete and your Linux system is ready to be used. Just click on Reboot to restart the system. Remember to remove the installation media. The first thing you should see, after your computer has finished doing its hardware tests, is the bootloader menu, which allows you to choose between the OSes your system can boot.

16. How to Uninstall Linux

Removing partitions on your hard drive will inevitably result in the loss of all data stored on those partitions. Please make sure you've backed up all of the data you want to keep *before* proceeding.

If for any reason you want to uninstall Mandriva Linux, you can do so. The process of uninstalling Mandriva Linux is done in two steps:

1. a. To do so, reboot your computer with the installation CD or DVD (see Section 1, “The Mandriva Linux Installer” [265]).

b. Choose the Rescue System option.

c. In the new menu that appears, choose the Restore Windows Boot Loader option, then press Enter to write the MBR with a Windows® one.

2. These are usually partitions hosting ext3 file systems and the `Swap` partition. You can also replace them with a single partition using **fdisk**.

   a. Still in rescue mode, select option Go to console.

   b. Run **fdisk /dev/sda** (if the hard disk containing Mandriva Linux is other than the 1st disk, change `/dev/sda` accordingly).

   c. Use the **`p`** command to display partition information, and then use the **`d`** command to delete all unneeded partitions.

   d. If you want to create a single partition, use the **`c`** command, specify **`1`** as the partition number, make it use all of the space available, and when asked for the partition type, use the **`L`** command to list the supported partition types and choose the one for the OS you plan to install later.

      Some examples:

      - **`c`** for a FAT32 (Windows® 9x) partition
      - **`7`** for a NTFS (Windows® NT/ Windows® 2000/ XP/ Windows Vista®) partition,
      - **`83`** for a Linux partition.

   e. Finally use the **`w`** command to write changes back to disk.

3. Once this is done, just reset or shutdown the machine using the corresponding buttons.

Chapter 19. Introduction to the Command Line

Even if using graphical applications is very comfortable and easy for most people, the command line is a very powerful interface to interact with your system. The shell's main asset is the number of existing utilities: there are thousands of them, and each utility is devoted to a particular task. We look at a very small number of these utilities hoping that you will feel more comfortable interacting with your system through the command line.

Choose Tools → Konsole Terminal from the main menu to get a terminal window to have access to the command line. By default you will be "inside" your personal directory, named after your user name: `/home/your_user_name`.

1. File Manipulation

All your data is contained within files: office documents, songs, movies, etc. We present some commands to organize and manage those files.

1.1. List the Contents of a Directory

ls (*LiSt*) is equivalent to the DOS command **dir**. Its syntax is as follows:

```
ls <directory>
```

The most common options are:

- `-R`: recursively list the contents of the directory and all its subdirectories. Please note that before displaying a directory's contents the name of the directory itself is shown.
- `-l`: use a long listing format. Details about the file such as the file's type, permissions, owner and size are displayed.
- `-a`: show also hidden files. In UNIX ® systems, all files whose names start with a period (`.`) are hidden. Use this option to show such files when listing a directory. If you don't want the current directory and its parent (namely, `.` and `..`) to be displayed use the `-A` option instead.

Some examples:

- **ls -lA /tmp/movies /tmp/images**: list the contents of both the `movies` and `images` directories inside the `/tmp` directory, displaying file details and hidden files, but not displaying the `.` and `..` entries for each directory;

- **ls -R ~/**: display, recursively, all the files and directories you have inside your personal directory.

1.2. Copy

cp (*CoPy*) is equivalent to the DOS commands **copy** and **xcopy** but has more options. Its syntax is as follows:

```
cp  <file|directory> [file|directory -..] <destination>
```

The most common options are:

- `-R`: recursive copy; *mandatory* for copying a directory, even an empty directory.
- `-f`: replaces any existing files without requesting confirmation. Use with care.
- `-a`: archive mode, preserves all file attributes on the copy and performs a recursive copy.
- `-v`: verbose mode, displays all actions performed by **cp**.

Some examples:

- **cp -f /tmp/images/* images/**: copies all files in the `/tmp/images` directory to the `images` directory located in the current directory. It *doesn't* request confirmation if a file is going to be overwritten.
- **cp -vR docs/ /shared/mp3s/* mystuff/**: copies the whole `docs` directory, plus all files in the `/shared/mp3s` directory to the `mystuff` directory, displaying all actions performed.
- **cp foo bar**: makes a copy of the `foo` file with the name `bar` in the current directory.

1.3. Move

mv (*MoVe*) is equivalent to the DOS command **move**. Its syntax is as follows:

```
mv  <file|directory> [file|directory...] <destination>
```

Note that when you move multiple files the destination must be a directory. To rename a file you simply move it to the new name.

The most common options are:

- `-f`: forces the operation. No warnings are given if an existing file is to be overwritten. Use with care.
- `-v`: *verbose* mode, reports all changes and activity.

Some examples:

- **mv /tmp/pics/*.png .**: move all files in the `/tmp/pics` directory whose names end with `.png` to the current directory.
- **mv foo bar**: rename file `foo` to `bar`. If a `bar` directory already existed, the effect of this command would be to move file `foo` or the whole directory (the directory itself plus all files and directories in it, recursively) into the `bar` directory.
- **mv -vf file* images/ trash/**: move, without requesting confirmation, all files in the current directory whose names begin with `file`, together with the entire `images` directory to the `trash` directory, and show each operation carried out.

1.4. Remove

The **rm** command (*ReMove*) is equivalent to the DOS commands **del** and **deltree**, but has more options. Its syntax is as follows:

```
rm <file|directory>
```

The most common options are:

- `-r`, or `-R`: delete recursively. This option is *mandatory* for deleting a directory, empty or not. However, you can also use **rmdir** to delete empty directories.
- `-f`: forces deletion of the files or directories. Use with care.

Some examples:

- **rm images/*.jpg file1**: deletes all files with names ending in `.jpg` in the `images` directory and deletes `file1` in the current directory.
- **rm -Rf images/misc/ file***: deletes, without requesting confirmation, the whole directory `misc` in the `images` directory, together with all files in the current directory whose names begin with `file`.

Using **rm** deletes files *irrevocably*. There is no easy way to restore them! Be extra careful when using the `-f` option to skip confirmation request to ensure that you do not delete something by mistake.

1.5. Create a Directory

mkdir (*MaKe DIRectory*) is equivalent to the DOS commands **mkdir** and **md**. Its syntax is as follows:

```
mkdir <directory>
```

Only the `-p` option is worth noting. It does two things:

1. creates parent directories if they did not exist previously. Without this option, **mkdir** would just fail, complaining that these directories do not exist;
2. returns silently if the directory you wanted to create already exists. If the `-p` option is not specified, **mkdir** sends back an error message, complaining that the directory already exists.

Some examples:

- **mkdir foo**: creates a directory `foo` in the current directory;
- **mkdir -p images/misc**: creates the `misc` directory in the `images` directory, creating first the latter if it does not exist.

1.6. Change the Working Directory

The current working directory, symbolized by a period (`.`), is the place on the file system you are “standing onto”. The double period (`..`) symbolizes the parent directory of the current one which is “one level up”(or back) on the file system structure.

cd (*Change Directory*) lets you navigate the file system structure. Its syntax is as follows:

```
cd <directory>
```

Some examples:

- **cd /tmp/images**: changes to the `images` directory inside the `/tmp` directory;
- **cd -**: changes to the previous current working directory;
- **cd**: changes to your personal (home) directory;
- **cd ~/images**: changes to the `images` directory inside your personal directory.

Type **pwd** to display the directory you are currently located in.

2. Process Manipulation

From the system's point of view, applications run in one or many processes, consuming system resources, such as memory and processor time. We present some commands to

monitor and manage those processes, and as a consequence, the applications they belong to.

2.1. Information on Processes

The **ps** command displays a list of processes currently running on the system, according to the criteria you set.

Running **ps** without arguments will show only processes initiated by you and attached to the terminal you are using:

```
$ ps
  PID TTY       TIME CMD
18614 pts/3 00:00:00 bash 20173 pts/3 00:00:00 ps
```

The most common options are:

- `a`: displays processes started by all users;
- `x`: displays processes launched from any terminal, not just yours (or even from no terminal at all);
- `u`: displays for each process the name of the user who started it and the time at which it was started.

2.2. Controlling Processes

Processes are controlled by means of signals. The **kill** and **killall** commands are used to send signals to processes. The **kill** command requires a process number as an argument, while **killall** requires a process name.

Please bear in mind that processes react differently to the same signals. You cannot expect *a priori* that the process behaves as you thought it would when you send it a signal.

```
kill <process_number>
```

```
killall <process_name>
```

Signals can be specified by number or name. Execute **kill -l** to view a list of available signals. The most commonly used signals are:

- `TERM` or `15`: this is the default signal sent if the signal name or number is omitted. It terminates the process gracefully.

- `STOP` or `19`: this signal is used to temporarily pause a process. Send signal `CONT` or `18` to continue a paused process.
- `KILL` or `9`: this signal is used to force process termination. It is commonly used to end a process that is not responding anymore (or “frozen”). It terminates the process abruptly.

Some examples:

- **kill 785**: asks the process identified by the number `785` to finish execution giving the process the chance to perform any clean-up operation it needs;
- **kill -KILL 785**: forces termination of the process identified by the number `785` without giving the process the chance to perform any clean-up operation. The process ends immediately;
- **killall -TERM make**: asks all processes named `make` launched by this user to finish execution.

Whatever happens, you will only control your own processes (unless you are `root`) so you do not need to worry about other users' processes since they will not be affected.

2.3. Mixing ps and kill: top

top is a program which simultaneously fulfills the functions of **ps** and **kill**, and is also used to monitor processes in real-time giving information about CPU and memory usage, running time, etc., as shown in Figure 19.1, “Monitoring Processes with top” [298].

```
top - 22:54:53 up 15:10,  0 users,  load average: 0.02, 0.06, 0.01
Tasks:  80 total,   1 running,  79 sleeping,   0 stopped,   0 zombie
Cpu(s):  1.7% us,  0.7% sy,  0.0% ni, 97.7% id,  0.0% wa,  0.0% hi,  0.0% si
Mem:    515640k total,   484920k used,    30720k free,    39856k buffers
Swap:   506008k total,        4k used,   506004k free,   244752k cached

  PID USER      PR  NI  VIRT  RES  SHR S %CPU %MEM    TIME+  COMMAND
16666 reine     15   0 25232  14m  23m S  0.7  2.8   0:51.21 kscd
 1732 root      15   0 57860  21m  38m S  0.3  4.3  21:14.37 X
13510 reine     16   0  2172 1036 1964 R  0.3  0.2   0:00.03 top
13512 reine     15   0  9364 2580 8912 S  0.3  0.5   0:00.01 import
    1 root      16   0  1580  516 1424 S  0.0  0.1   0:03.45 init
    2 root      34  19     0    0    0 S  0.0  0.0   0:00.01 ksoftirqd/0
    3 root       5 -10     0    0    0 S  0.0  0.0   0:00.55 events/0
    4 root       5 -10     0    0    0 S  0.0  0.0   0:00.02 kblockd/0
    5 root      15   0     0    0    0 S  0.0  0.0   0:00.03 kapmd
    6 root      25   0     0    0    0 S  0.0  0.0   0:00.00 pdflush
    7 root      15   0     0    0    0 S  0.0  0.0   0:00.20 pdflush
    8 root      15   0     0    0    0 S  0.0  0.0   0:00.04 kswapd0
    9 root      10 -10     0    0    0 S  0.0  0.0   0:00.00 aio/0
   11 root      20   0     0    0    0 S  0.0  0.0   0:00.00 kseriod
   15 root      15   0     0    0    0 S  0.0  0.0   0:00.83 kjournald
  121 root      16   0  2036 1204 1588 S  0.0  0.2   0:00.31 devfsd
  247 root      15   0     0    0    0 S  0.0  0.0   0:00.00 khubd
```

Figure 19.1. Monitoring Processes with top

The **top** utility is entirely keyboard controlled. Commands are case-sensitive. You can access help by pressing `h`. Its most useful commands are the following:

- `k`: sends a signal to a process. You are asked for the process' PID followed by the number or the name of the signal to be sent (`TERM` or `15`, by default);
- `M`: sorts display of processes by the amount of memory they take up (field `%MEM`);
- `P`: sorts display of processes by the CPU time they take up (field `%CPU`): this is the default sorting method;
- `u`: displays a given user's processes. You are asked to enter the user's *name*, not his UID. If you do not enter any name, all processes are displayed;
- `i`: by default, all processes, even sleeping ones, are displayed. This command ensures that only processes currently running are displayed (processes whose `STAT` field shows `R`, *Running*) and not the others. Using this command again takes you back to showing all processes.

3. Commands Documentation

If you want to know more about a given command options and usage, you can consult the commands manual, or “man page”. The syntax for the **man** command is:

```
man <man_page>
```

Sections are like different chapters of a big book, each one specific to an aspect of the system. Some commands might appear indifferent sections, so you might need to specify which section you are interested in.

Sections are numbered from `1` to `9`, and there's a 10 th one, called `n`. You can also specify `a` to display all matching sections for a given man page. If you omit the `section` parameter, the first matching man page is displayed.

man has its own man page, execute **man man** to display it.

4. Further Reading

Here we've just “scratched the surface” on the command line and its powerful tools. If you want to read more you can try the GNU Linux Tools Summary Guide [http://www.tldp.org/LDP/GNU-Linux-Tools-Summary/html/index.html] from The Linux Documentation Project website [http://www.tldp.org].

Appendix A. Where to Get Documentation

Apart from the manuals included with Mandriva Linux, documentation is available from many sources. The next few pages contain suggestions which you might find useful.

1. Mandriva Linux-Specific Documentation

1.1. Mandriva's Own Documentation

The manual you have in hand contains most of the documentation available for home and corporate usage. You may also consult our on-line versions for other products in our documentation pages [http://doc.mandriva.com/].

Some of these manuals may be available in your Mandriva Linux pack, in the `mandriva-doc-MANUAL_NAME-en` package. Once installed, menu entries of the form Documentation → Mandriva Linux MANUAL_NAME in English are available. Choose then to open the manual in a browser and select the format you want to use.

Installing manuals

You can check which manuals are available in your distribution by going to the Control Center and choosing the Installing and Removing Software tool. You can then search for `mandriva-doc`.

Mandriva Control Center Inline Help. All Mandriva Linux Control Center tools have online help, which you can access through Help → Help from Mandriva Linux Control Center's menu: the browser opens up with Mandriva Linux Control Center's help.

1.2. Internet Resources

Internet information sources are widespread and many web sites are devoted to Linux and its use or configuration. However, some sources of information are better than others.

Your preferred source of information should be the Mandriva Linux official web site [http://www.mandrivalinux.com]. In particular, check out the support section [http://expert.mandriva.com]. You can also check out the Mandriva Community Wiki [http://wiki.mandriva.com]. It offers lots of resources, information and documentation, which will certainly interest Mandriva Linux users.

1.2.1. Mandriva Security Advisories

The Mandriva Security Advisories web site [http://www.mandriva.com/security/] is Mandriva's very own security site. It covers package vulnerabilities.

1.2.2. Mandriva E-training

The Mandriva eTraining web site [http://etraining.mandriva.com/] allows you to buy quality Linux training to improve your Open Source knowledge. You can access this web site by using your Mandriva “My” account [https://my.mandriva.com/]. A free demo for some training modules is available, and many more if you are a registered Club member.

2. Linux Useful Resources

Abstract

In this section, we present resources useful for any Linux distribution. Most are not written specifically for Mandriva Linux, but may nevertheless prove useful.

2.1. The /usr/share/doc Directory

Most packages include their own documentation in one of the sub-directories of `/usr/share/doc`, which will be named after the specific package. Mandriva Linux's own documentation, when installed, is available in the `/usr/share/doc/mandriva/` directory.

2.2. Web Resources

2.2.1. Security-Related Web Sites

Security Focus [http://www.securityfocus.com/]
: Reviews current attacks and publishes vulnerability advisories for a great number of products, including Mandriva Linux.

Linux Security [http://www.linuxsecurity.com/]
: Entirely devoted to Linux and includes news, advisories, newsletters, and many other resources such as documentation, forums, tools, etc. Check out the site's documentation page [http://www.linuxsecurity.com/docs].

Linux dot com [http://www.linux.com]
: Excellent site regularly fed with articles on present security issues. It also features articles about desktop, sound, and more. You should particularly check out the HOWTO [http://howtos.linux.com/] section.

2.2.2. Other Linux Web Sites

Of the many existing web sites, here are some with the most information:

Linux Online! [http://www.linux.org/]
: One of the very first sites devoted to Linux, it contains a whole slew of links to other useful sites.

Freshmeat [http://freshmeat.net/]
: This is the place to visit to get the latest applications available in the Linux world.

Linux Weekly News [http://www.lwn.net/]
: One of the most exhaustive Linux publications available, it covers everything from the latest security alerts to new distributions, information about current and past kernels, books, and a weekly newsletter (for subscribers only).

And, of course, remember your favorite search engines. Generally speaking, they are the most practical information seeking tools. A few carefully chosen keywords in a search engine often produce the answers you need for your specific problem. With Google™, you can even make a Linux-oriented search by visiting its Linux section [http://www.google.com/linux].

2.3. The Man Pages

Abstract

The Manual Pages (also known as “man pages”) are a set of exhaustive documents, which help you acquire better knowledge of Linux commands. The latter are usually issued through the “command line” and allow great control over your system. Although these man pages might seem discouraging at first, they offer great detail and we encourage you to browse through them when a problem occurs.

This should be your primary source of information for `shell` commands. Almost all commands have a manual page. Other items, such as certain configuration files, library functions for programmers and others system aspects also have their own man pages.

Man page contents are arranged in different sections. References to these are made in the following manner: for example, open (2) , fstab (5) respectively refer to the **open** page in section 2 and the **fstab** page in section 5.

The easiest way to view a man page is through a browser. Using Konqueror, type **`man:/man(1)`** in the Location bar for the man page for the **man** command to be displayed. For example, to display the man page for fstab (5) , type **`man:/fstab(5)`** in the Location field.

To display a man page in a terminal (or `shell`), type **man**. The syntax to obtain a man page is:

```
man <manual page>
```

man also has documentation, which can be obtained by typing **man man**. Manual pages are formatted and then displayed using the **less** *pager*.

The names of the manual pages and their relevant sections appear at the top of each page. At the bottom of the page are references to other pages with related subjects (usually in the *SEE ALSO* section).

If you cannot find the right manual page — for example, you want to use the `mknod` function in one of your programs but you end up on the **mknod** command page — make sure you spell out the section explicitly. In our example: **man 2 mknod**. If you forget the exact section, **man -a mknod** will read through all the sections looking for pages named `mknod`.

2.4. Info Pages

info pages complete the documentation included in the manual pages. The command to access **info** pages from a terminal is **info**.

Info pages are organized using a tree structure, the top of which is called `dir`. From there, you can access all **info** pages.

info may be called up in two ways: either by omitting any argument, thereby placing you at the very top of the tree structure, or by adding a command or a package name, which (if it exists) opens the relevant page. For example:

```
info emacs
```

In the **info** pages:

```
* Buffers::
```

indicates a link. Moving the cursor to this link (using the arrow keys) and pressing **`Enter`** takes you to the corresponding **info** page.

You may also use the following keyboard shortcuts:

- `u`: for *Up*, takes you up one level;
- `n`: for *Next*, takes you to the next **info** page on the same tree-structure level;
- `p`: for *Prev*, takes you back to the previous **info** page.

- q: for *Quit*, exits the **info** page viewer.

A great number of commands may be listed by pressing the ? key.

You can also display info pages in Konqueror by using the `info:/` prefix in your URL. For example, to display the info page for **make**, type **`info:/make`** in the Location field.

This makes navigation through the info pages much easier.

2.5. HOWTOs

`HOWTOs` published by the TLDP (The Linux Documentation Project) are available in many languages and cover many aspects of your system. As long as the proper packages are installed (the `howto-html-en` package for the English edition), `HOWTOs` provide you with an answer to a specific question or a solution to a problem. The documentation is located in the `/usr/share/doc/HOWTO/HTML/en/` directory. These are HTML files readable and printable with any web browser.

The list is quite long. To get an idea of its length, consult the TLDP web site [http://www.tldp.org/HOWTO/HOWTO-INDEX/howtos.html]. You can have the documents locally by installing the `howto-html` package corresponding to your language. You can then access them through the Documentation → Howtos menu.

When you encounter a complex problem, start by reading the corresponding `HOWTO`, if available. Not only will you be given a solution to your problem, but you will also learn a great deal at the same time. Examples of what is covered range from networking (`NET-3-HOWTO`), sound card configuration (`Sound-HOWTO`), the writing of CD media (`CD-Writing-HOWTO`) as well as NIS and NFS configuration and much much more.

An important step is to check the modification dates of the `HOWTO` documents — such as the publication date located at the beginning of the document — to make sure they are up-to-date. Otherwise, the information may be invalid. Watch out for old `HOWTOs` relating to hardware configuration: Linux evolves very quickly in the hardware area. Something else to keep in mind: in the free software world, the term “old” carries even more weight than in IT in general: free software may be considered old after being around for only fifteen days!

`HOWTOs` are available on-line on TLDP [http://www.tldp.org/] web site and are likely to be slightly more up-to-date there. Have a look at the following as well: `HOWTOs` classified by categories [http://www.tldp.org/HOWTO/HOWTO-INDEX/categories.html], and FAQ s [http://www.tldp.org/docs.html#faq].

Appendix B. About the Making of this Manual

1. Technical Infrastructure

This manual is written and maintained by NeoDoc [http://www.neodoc.biz]. Translations are assured by NeoDoc, Mandriva and other translators.

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Abstract

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