Starter Guide

Mandriva Linux 2006

Mandriva

http://www.mandriva.com

Starter Guide: Mandriva Linux 2006

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Sobre a Elaboração deste Manual

Este manual é escrito e mantido pela NeoDoc (`http://www.neodoc.biz`). Traduções são realizadas pela NeoDoc, Mandriva e outros tradutores.

Este documento foi escrito em DocBook XML. O conjunto de arquivos envolvido foi gerenciado com o uso do Sistema de Criação de Conteúdo Colaborativo Borges (`http://sourceforge.net/projects/borges-dms`). Os arquivos-fonte XML foram processados pelo xsltproc, e `jadetex` (para a versão eletrônica) utilizando uma versão customizada das folhas de estilo de Norman Walsh. As imagens de captura de tela foram realizadas com o `xwd` ou GIMP e convertidas com o `convert` (do pacote ImageMagick). Todos estes programas são software livre e estão todos disponíveis na sua distribuição Mandriva Linux.

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Prefácio

1. Sobre o Mandriva Linux

O Mandriva Linux é uma distribuição GNU/Linux produzida pela Mandriva S.A., que surgiu na internet em 1998 com o objetivo primário de fornecer um GNU/Linux amigável. Os dois pilares da Mandriva são trabalho de código aberto e colaborativo.

Em 7 de abril de 2005 a Mandrakesoft mudou o seu nome para Mandriva para refletir a fusão com a empresa Conectiva, com sede no Brasil. Seu produto principal, o Mandrakelinux, tornou-se o Mandriva Linux.

1.1. Entrando em Contato com a Comunidade Mandriva Linux

Existem vários locais na internet onde você pode buscar por informações sobre o Mandriva Linux. Se você deseja saber mais sobre a empresa Mandriva, acesse o nosso web site (`http://www.mandriva.com/`). Você também pode verificar o web site da distribuição Mandriva Linux (`http://www.mandrivalinux.com/`) e seus derivados.

A Mandriva Expert (`http://www.mandrivaexpert.com/`) é a plataforma de suporte da Mandriva. Ela oferece uma nova experiência baseada na confiança e no prazer de recompensar os outros por suas contribuições.

Nós também convidamos você a participar de várias listas de discussão (`http://www.mandriva.com/community/resources/newsgroups`) onde a comunidade Mandriva Linux demonstra a sua vivacidade e sabedoria.

Lembre-se também de conectar à nossa página de segurança (`http://www.mandriva.com/security`). Esta página reúne todo o material relacionado a segurança sobre as distribuições Mandriva Linux. Você irá encontrar avisos de erros e falhas de segurança, assim como procedimentos para a atualização do kernel, uma lista de discussão e o Mandriva Online (`https://online.mandriva.com/`) (veja Capítulo 20). Esta página é essencial para qualquer administrador de servidores ou usuário preocupado com segurança.

1.2. Junte-se ao Clube!

A Mandriva oferece uma grande variedade de vantagens através do Mandriva Club (`http://club.mandriva.com`):

- download de software comercial normalmente disponível apenas em pacotes no varejo, como drivers para equipamentos especiais, aplicações comerciais, freeware e versões de demonstração;
- vote e sugira novos softwares através do nosso sistema de votação;
- acesse mais de 50,000 pacotes RPM para todas as distribuições Mandriva Linux
- ganhe descontos para produtos e serviços na Mandriva Store (`http://store.mandriva.com`);
- tenha acesso a uma lista de mirrors exclusiva para membros do clube;
- leia artigos e participe de fóruns em diversos idiomas.
- acesse a Base de Conhecimento (`http://club.mandriva.com/xwiki/bin/view/KB/`) da Mandriva, um web site do tipo wiki que hospeda documentação sobre diversos assuntos, como administração, conectividade, resolução de problemas e mais;
- converse com os desenvolvedores da Mandriva Linux no Club Chat (`https://www.mandrivaclub.com/user.php?op=clubchat`);
- aumente os seus conhecimentos sobre GNU/Linux através das lições de treinamento à distância da Mandriva (`http://etraining.mandriva.com/`).

Participando da Mandriva através do Mandriva Club você estará contribuindo diretamente para o aperfeiçoamento da distribuição Mandriva Linux e nos ajudando a oferecer o melhor desktop GNU/Linux para os nossos usuários.

Uma nova versão do Mandriva Club está a caminho. Você pode vê-la através da nova URL (`http://club-beta.mandriva.com/`). Uma nova Base de Conhecimento (`http://club-beta.mandriva.com/xwiki/bin/view/KB/`) também está sendo repensada.

1.3. Assinando o Mandriva Online

A Mandriva oferece uma maneira muito conveniente de manter o seu sistema automaticamente atualizado, mantendo bugs afastados e corrigindo falhas de segurança. Consulte Capítulo 20.

1.4. Comprando Produtos Mandriva

Os usuários do Mandriva Linux podem comprar produtos on-line através da Mandriva Store (`http://store.mandriva.com/`). Você não irá apenas encontrar software Mandriva Linux, sistemas operacionais e CDs "live" (como o Move), mas também ofertas especiais para assinantes, suporte, softwares e licenças de terceiros, documentação, livros relacionados a GNU/Linux e outros produtos da Mandriva.

1.5. Contribuindo com o Mandriva Linux

As habilidades de muitas pessoas talentosas que utilizam o Mandriva Linux podem ser muito importantes no desenvolvimento do sistema Mandriva Linux:

- **Empacotamento.** Um sistema GNU/Linux é feito principalmente de programas recolhidos da internet. Eles têm que ser empacotados para poderem funcionar juntos.

- **Programação.** Existem vários, vários projetos diretamente apoiados pela Mandriva: encontre o que mais lhe agrada e ofereça a sua ajuda para o(s) desenvolvedor(es) principais.

- **Internacionalização.** Você pode nos ajudar a traduzir páginas web, programas e documentação.

Consulte a página dos projetos de desenvolvimento (`http://qa.mandriva.com/`) para saber como você pode contribuir para a evolução da Mandriva Linux.

2. About this User Guide

We wrote this to give you a better understanding of the Mandriva Linux system. In it we focus on graphical applications which 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 finally, we give you some tips and tricks to help you fix common — and not so common — problems.

We start off with *Instalando o Mandriva Linux*, where we discuss what you need to know **before** you actually install Mandriva Linux onto your system (see Capítulo 1, and Capítulo 2). Then we show you how to correctly install and configure your Mandriva Linux distribution (Capítulo 3) by describing the preparation, installation and post-installation procedures.

The next part (*Descobrir*) is an introduction to Linux basics. We discuss the Linux paradigm by comparing it to other OSes in Capítulo 4. In order to help new users, we wrote Capítulo 5. In it we describe the first steps a new user must master and we explain concepts such as "logging in and out", security tips, and more. The following chapter (Capítulo 6) guides you through a fairly exhaustive list of documentation sources which you can consult to attain a better understanding of Linux. A Mandriva Linux-specific section points to numerous in-house resources which you can find on the Net. We close this part by speaking about the popular KDE graphical environment (see Capítulo 7).

We then tackle Internet applications (*Utilizando a Internet*). We explain how to send e-mails using the KMail component of the Kontact suite (Seção 8.1), how to read news and RSS feeds with Akregator (Seção 8.1.2) and how to browse the web using Firefox (Capítulo 9).

The next part (*Uso*) discusses the OpenOffice.org suite (see Seção 10.1, and Seção 10.2), file managers (see Seção 10.3) and printers (see Seção 10.4). We then explore the world of multimedia by reviewing audio and movie applications (see Seção 11.1, and Seção 11.2), as well as CD burning (see Seção 11.3).

Finally we go through more technical aspects of the Mandriva Linux system (*Uso Avançado*):

- **Mandriva Linux Control Center.** This is your main graphical configuration tool (see Seção 12.1). With it you can configure your software sources (Capítulo 13), your hardware (Capítulo 14), and your network (Capítulo 15). You can also set up your general system settings (Capítulo 16) such as your menus (see Seção 16.1) and your start-up services (see Seção 16.2). We also address more complex issues like configuring your mount points (Capítulo 17) and general system security (Capítulo 18). Finally, you can tune-up your boot options (Capítulo 19).

- **Package Management.** Mandriva Linux offers different ways to update your system with normal software updates and security fixes. This can be done through the Rpmdrake Software Manager (Capítulo 13) which allows you to install and remove software packages, set up Mandriva Update sources as well as other media such as Cooker.

- **Troubleshooting.** For most users, switching to GNU/Linux is a challenging experience. And this manual wouldn't be complete without a chapter dedicated to helping you solve what might go wrong during your GNU/Linux experience (Capítulo 21). It gives you tips and tricks if "all hell breaks loose": needless to say, this chapter cannot be exhaustive.

3. Nota do Editor

Na filosofia do código aberto, contribuidores são muito bem-vindos! Atualizar a doumentação do Mandriva Linux é uma tarefa e tanto. Você pode ajudar de várias formas. Na verdade, a equipe de documentação está procurando constantemente por voluntários talentosos para nos ajudar com as seguintes tarefas:

- elaboração ou atualização;

- tradução;

- edição;

- programação XML/XSLT.

Se você tem bastante tempo, pode escrever ou atualizar um capítulo inteiro; se você fala outro idioma além do inglês, pode nos ajudar a traduzir os nossos manuais; se você tem idéias de como melhorar o nosso conteúdo, conte-nos; se você possui habilidade com programação e quer nos ajudar a aperfeiçar o Sistema de Criação de Conteúdo Colaborativo Borges (C3S) (`http://sourceforge.net/projects/borges-dms`), junte-se a nós. E não hesite em nos contactar se você encontrar qualquer erro na documentação, pois assim podemos corrigí-los!

Para qualquer informação sobre o projeto de documentação do Mandriva Linux, por favor entre em contato com o administrador da documentação (`mailto:documentation@mandriva.com`) ou visite a página do Projeto de Documentação do Mandriva Linux (`http://qa.mandriva.com/twiki/bin/view/Main/DocumentationTask/`).

Note que desde junho de 2004 a documentação do Mandriva Linux e o desenvolvimento do Borges é feito pela empresa NeoDoc (`http://www.neodoc.biz`).

4. Convenções utilizadas neste livro

4.1. Convenções Tipográficas

Para realmente diferenciar as palavras especiais do fluxo do texto, a equipe de documentação utiliza diferentes interpretações. A tabela a seguir demonstra um exemplo de cada palavra especial ou grupo de palavras com a sua interpretação atual e o que cada uma significa.

Exemplo Formatado	Significado
inode	Utilizado para enfatizar um termo técnico.
`ls -lta`	Utlizado para comandos e seus argumentos. (veja Seção 4.2.1).
`um_arquivo`	Utilizado para nomes de arquivo. Também poed ser encontrado em nome de pacotes RPM.
ls(1)	Referência para uma `man` page. Para ler a página, simplesmente digite `man 1 ls`, na linha de comando.
`$ ls *.pid`	Formatação usada para representações textuais do que pode estar sendo exibido na sua tela, incluindo interações com o computador, listagem de programas, e outros.
`localhost`	Informações literais que não se encaixam em nenhuma das categorias definidas anteriormente. Por exemplo, uma palavra-chave retirada de um arquivo de configuração.
OpenOffice.org	Define nomes de aplicação. Dependendo do contexto, o nome da aplicação e o do comando podem ser o mesmo, mas formatados de maneira diferente. Por exemplo, a maior parte dos comandos estão escritos com letras minúsculas, enquanto nomes de aplicações normalmente começam com letra maiúscula.
Aquivos	Indica entrada de menus ou rótulos da interface gráfica. A letra sublinhada, quando presente, informa um atalho, que pode ser acessado pressionando a tecla **Alt** mais a letra em questão.
Le petit chaperon rouge	Identifica palavras em outros idiomas.
Aviso!	Reservedo para avisos especiais, para dar ênfase à importância das palavras. Leia em voz alta.

Este ícone destaca uma nota. Geralmente, é uma remarca no contexto atual, dando informação adicional.

Representa uma dica. Ele pode ser um conselho geral de como executar uma ação específica, ou uma bela funcionalidade que poderá tornar a sua vida mais fácil, como teclas de atalho, por exemplo.

Tenha bastante cuidado ao ver este ícone. Ele sempre significa que uma informação bastante importante sobre um tópico específico que precisa ser abordado.

4.2. Convenções Gerais

4.2.1. Sinopse dos Comandos

O exemplo abaixo demonstra os símbolos que você encontrará quando o autor descreve os argumentos de um comando:

```
comando <argumento não literal> [--opção={arg1,arg2,arg3}] [argumento opcional ...]
```

Essas convenções são padronizadas e você poderá encontrá-las em outros lugares, como as páginas do manual.

Os símbolos "<" (menor que) e ">" (maior que) denotam um argumento **mandatório** a não ser copiado verbatim, mas a ser substituído de acordo com as suas necessidades. Por exemplo, `<nome_do_arquivo>` refeer ao nome de um arquivo. Se o nome é `foo.txt` você deve digitar `foo.txt`, e não `<foo.txt>` ou `<nome_do_arquivo>`.

Os colchetes ("[ ]") denotam argumentos opcionais, que podem ou não ser incluídos no comando.

As reticências ("...") significam um número arbitrário de argumentos que podem ser incluídos.

As chaves ("{ }") contém os argumentos autorizados neste lugar específico. Um deles deverá ser colocado aqui.

4.2.2. Anotações Especiais

De tempo em tempo você será direcionado a pressionar, por exemplo, as teclas **Ctrl-R**, o que significa que você deve pressionar e manter pressionada a tecla **Ctrl** e então pressionar a tecla **R** em seguida. O mesmo caso se aplica para as teclas **Alt** e **Shift**.

Nós utilizamos letras maiúsculas para representar as teclas, mas isto não significa que você tem que digitá-las em maiúscula também. Entretanto, pode haver programas em que **R** não significa o mesmo que **r**. Você será informado quando estiver trabalhando com estes programas.

Em relação aos menus, acessar o item Arquivo→Recarregar configuração do usuário (**Ctrl-R**) significa: clique no texto Arquivo exibido no menu (normalmente localizado na diagonal superior esquerda da janela). Então, quando o menu desdobrar, clique no item Reacrregar configuração do usuário. Além disto, você é informado que pode utilizar a combinação de teclas **Ctrl-R** para obter o mesmo resultado.

4.2.3. Usuários Genéricos do Sistema

Sempre que possível nós utilizamos dois usuários genéricos em nossos exemplos:

Queen Pingusa	queen	Este é o nosso usuário padrão, utilizado na maior parte dos exemplos neste livro.
Peter Pingus	peter	Este usuário pode ser criado mais tarde pelo administrador do sistema e, às vezes, é utilizado para variar durante o texto.

Capítulo 1. Notas de Instalação

Este guia cobre somente os passos mais importantes do processo de instalação. Se você planeja usar tanto o Windows® como o GNU/Linux através de dual-booting (ou seja, poder acessar qualquer um dos dois sistemas no mesmo computador), note que é mais fácil instalar o Windows® **antes** do GNU/Linux. Se o Windows® já está instalado no seu computador, e você nunca instalou o GNU/Linux antes, o DrakX — programa de instalação do Mandriva Linux — terá que redimensionar a sua partição Windows®. Esta operação pode acabar danificando seus dados. Então, você **deve** executar os seguintes passos antes de proceder:

- Execute o `chkdsk` no Windows® (ou `scandisk`, caso você esteja no NT ou Windows® 9x). O programa de redimensionamento pode detectar alguns erros óbvios, mas o `chkdsk` é mais recomendado para esta tarefa. Veja a documentação do `chkdsk` para mais informações sobre as diferentes opções que ele possui.

> Antes de usar o `chkdsk` esteja certo de que o protetor de telas e qualquer outro software que possa escrever em disco esteja desabilitado. Para obter resultados ainda melhores, é recomendado executar o `chkdsk` a partir do "Modo de Segurança" do Windows®.

- A segurança máxima contra problemas que possam ocorrer em seus dados é **sempre ter uma cópia de segurança (backup)**! É claro que que você deve ter o backup de seus dados em **outro** computador, hospedá-lo na web, no computador de um amgo, etc. **Não** deixe a cópia guardada no computador em que o GNU/Linux será instalado.

> **NTFS Partitions.** Usuários do Windows® 2000, NT e XP devem tomar cuidado: embora o DiskDrake (através da apicação ntfsresize) é capaz de redimensionar partições NTFS, é altamente recomendável que você tenha uma cópia de segurança de seus dados antes de iniciar a instalação. Por favor, veja o site do Linux-NTFS (`http://linux-ntfs.sourceforge.net/info/ntfs.html#2.6`) a NTFS Resize FAQ (`http://linux-ntfs.sourceforge.net/info/ntfsresize.html`) para mais informações sobre o assunto.

> Os usuários do Windows® pode querer utilizar o Norton Partition-Magic™ para redimensionar uma partição NTFS. Entretanto muitas fntes indicam que a redimensionamento falha e pode danificar a partição! Então nós recomendamos que você utilize o programa DiskDrake. Se tiver dúvidas, recorra a FAQ mencionada acima.

Capítulo 2. 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.).

2.1. 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 use the **F1**, **F2**, **F10** or **Esc** keys instead) right after the computer is switched on. Unfortunately, there are many types of BIOSes. Therefore you will have 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.

All recent systems can boot from a CD-ROM. Look for Boot sequence or First boot device in the BIOS' features setup, and set the CD-ROM as the first boot device. If your system can't boot from a CD-ROM you will need to use a floppy boot disk.

> 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.

2.2. Supported Hardware

Mandriva Linux can handle a large number of hardware devices, and the list is far too long to be quoted exhaustively. Nevertheless some of the steps we describe will help you to find out if your hardware is compatible. It will also guide you in configuring some problematic devices.

You may also 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 properly on your system.

USB devices: 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.

Capítulo 3. Instalando com o DrakX

3.1. The Mandriva Linux Installer

With the DrakX installation program, it doesn't matter whether you're a newbie or a GNU/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 works best if all of 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.

Figura 3-1. Very First Installation Welcome Screen

The first screen offers to run the installation with special options if the standard mode wasn't suited for your hardware. Let the installation start automatically with no options. If something goes wrong, see Seção 3.1.2.

3.1.1. The Installation Process

When the installer starts, you see a nice graphical interface (see Figura 3-3). On the left are the various installation steps, the current one marked by a highlighted bullet. The installation occurs in two phases: installation, then configuration.

Each step may present various screens. You can surf between those screens through 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 concerning the current installation step.

3.1.2. Installation Options

If something goes wrong during the first installation attempt, pressing **F1** at the welcome screen (see Figura 3-1) opens a help window (see Figura 3-2). Here are some useful options to choose from:


```
              Welcome to Mandriva Linux install help

In most cases, the best way to get started is to simply press the <Enter> key.
If you experience problems with standard install, try one of the following
install types (type the highlighted text and press <Enter>):

 o  vgalo for low resolution graphical installation.
 o  text for text installation instead of the graphical one.
 o  linux for standard graphical installation at normal resolution.


To repair an already installed system type rescue followed
by <Enter>.

You can also pass some <specific kernel options> to the Linux kernel.
For example, try linux noapic if your system has trouble operating
your network adapter correctly.
NOTE: You cannot pass options to modules (SCSI, ethernet card) or devices
such as CD-ROM drives in this way. If you need to do so, use noauto mode.

[F1-Help] [F2-Advanced Help] [F3-Main]
boot: _
```

Figura 3-2. Available Installation Options

- `vgalo`: If you tried a default installation and didn't see the graphical interface (see Figura 3-3), you can try to run the installation in low resolution mode. This happens with certain types of video cards. With Mandriva Linux you are given a number of options to work around problems related to older hardware. To try the installation in low resolution mode, enter **vgalo** at the prompt.

- `text`: If your video card is very old and the graphical installation doesn't work at all, you can always choose to install in text mode. Since all video cards can display text, this is the "last resort" kind of installation. However don't worry: it's unlikely that you will need this option.

- `noauto`: In some rare cases, your PC may appear to freeze or lock up during the hardware detection phase. If that happens, adding the word `noauto` as a parameter tells the installation program to bypass hardware detection. Therefore you will need to manually specify hardware parameters later in the installation process. You can add the `noauto` parameter to the previous modes, so depending on your hardware you may have to specify **vgalo noauto** to perform a low-resolution graphical installation without DrakX performing a hardware scan.

- `kernel options`: Most machines don't require specific kernel options. Due to bugs in the design or in the BIOS, there have been a few cases of motherboards incorrectly reporting the amount of memory installed. If you need to manually specify the amount of RAM installed in your PC, use the `mem=xxxM` parameter. For example, to start the installation in normal mode with a computer containing 256 MB of memory, your command line would look like **linux mem=256M**

3.2. Choosing your Language

The first step is to choose your preferred language.

Figura 3-3. Choosing the Default Language

Open the tree relative to the continent you're located in, then choose your language. Your language choice will affect the installer, the documentation, and the system in general.

Use the list accessible through the Multi languages button to select other languages to be installed on your workstation, thereby installing the language-specific files for system documentation and applications. 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.

> About UTF-8 (unicode) support: Unicode is a character encoding intended to cover all existing languages. However full support for it in GNU/Linux is still under development. For that reason, Mandriva Linux's use of UTF-8 depends on your choice:
>
> 1. If you choose a language with a strong legacy encoding (latin1 languages, Russian, Japanese, Chinese, Korean, Thaï, Greek, Turkish, and most iso-8859-2 languages), the legacy encoding will be used by default.
>
> 2. Other languages use Unicode by default.
>
> 3. If two or more languages are to be installed, and those languages don't use the same encoding, then Unicode is used for the whole system.
>
> 4. Finally, Unicode can also be forced for use throughout the system at a user's request by selecting the Use Unicode by default option independently of which languages have been chosen.

Note that you're not limited to choosing a single additional language. You may choose several, or even install them all by selecting the All languages option. Selecting support for a language means translations, fonts, spell checkers, etc. are also installed for that language. Make sure you select all languages which are likely to be useful on the machine now, it may be difficult to configure support for languages not chosen at install time at a later time.

> To switch between the various languages installed on your system, you can launch the `localedrake` command as `root` to change the language used by the entire system. Running the command as a regular user only changes the language settings for that particular user.

3.3. 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 on Next. If not, clicking on Quit reboots your computer.

> If you are curious about any technical changes which have occurred in the distribution since the last release, you can click on the Release Notes.

3.4. Installation Class

This step is shown only if an existing GNU/Linux partition is found on your machine.

DrakX now needs to know if you want to install from scratch or 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.

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.

> Using the "Upgrade" option should work fine on Mandriva Linux systems running version 10.1 or later. Performing an upgrade on prior versions is not recommended.

3.5. Configuring your Keyboard

> This step only shows if your language settings don't match one single keyboard. Otherwise, your keyboard layout is automatically selected.

Depending on the language you choose (see Seção 3.2), DrakX automatically selects a particular type of keyboard configuration. Verify that the selection suits you or choose another keyboard layout.

Also, you may not have a keyboard which corresponds exactly to your language: for example, if you are an English-speaking Swiss native, you may have a Swiss keyboard. Or if you speak English and are located in Québec, you may find yourself in the same situation where your native language and country-set keyboard don't match. In either case, this installation step will allow you to select an appropriate keyboard.

Click on the More button and a list list of supported keyboards appears.

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.

3.6. Security Level

At this point, DrakX allows you to choose your machine's 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. The trade-off is that a higher security level is generally obtained at the expense of ease of use.

If you don't know what to choose, keep the default option. You'll be able to change it later with the draksec tool (see Seção 18.1).

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.

3.7. Partitioning your Disk

You now have to decide where you want to 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 your blank drive(s). If you use this option there will be no further prompts.

Use existing partitions

>   The wizard 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 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.

Use the free space on the Windows partition

>   If Windows® is installed on your hard drive, you might have to create free space for GNU/Linux. To do so, you can delete your Windows® partition and data (see the "Erase entire disk" solution below) or resize your FAT or NTFS partition. Resizing can be performed without the loss of any data, **provided you 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.

Erase entire disk

Choose this option to delete all 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 Windows(TM)

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.

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 performed custom disk partitioning before, and have enough GNU/Linux experience. For more instructions on how to use the DiskDrake utility, refer to Seção 17.1.

3.8. Packages Selection

We now enter the software packages installation itself. It first consist in selecting the installation media and then the packages to be installed.

3.8.1. Media Handling

If you are doing an installation from a CD, you are first proposed to select the CDs you actually have available.

You are also proposed to copy all packages on your hard drive. That will probably speed up installation and will ease posterior package installation as all packages will already be available on the hard disk.

3.8.2. Supplementary Installation Media

It is now possible to add a new installation media, being a CD or a remote network repository from Mandriva Club for example. If you choose a network repository, you will go through the following steps:

1. Network Configuration

   Simply choose the coonection type needed to access the remote repository. Your settings will be preserved for the actual system network configuration.

2. Media Selection

   Provide the information (URL or NFS server and path) to access the new media.

3.8.3. Choose Package Groups to Install

It's now time to specify which programs you wish 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 sorts package groups into 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 to use 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.linuxbase.org/`) specifications.

2. Server: if your machine is intended to be a server, select which of the more common services you wish to install on your machine.

3. Graphical Environment: this is where you will choose your preferred graphical environment. At least one must be selected if you want to have a graphical interface available.

> Moving the mouse cursor over a group name will display a short explanatory text about that group.

You can check the Individual package selection box, which is useful if you're familiar with the packages being offered or if you want to have total control over what will be installed.

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.

Minimal Installation

If you deselect all groups when performing a regular installation (as opposed to an upgrade), a new dialog shows after pressing the Next button, suggesting different options for a minimal installation:

- With X: install 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.

3.8.4. Choosing Individual Packages to Install

If you choose to install packages individually, the installer will present a tree structure containing all packages classified by groups and subgroups. While browsing the tree, you can select entire groups, subgroups, or individual packages.

Whenever you select a package on the tree, a description will appear on the right to let you know the purpose of that package.

> ⚠️ 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 will be 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.

The Show automatically selected packages option is used to disable the warning dialog. Those appear 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 another one. The installer can determine which packages are required to satisfy a dependency and to successfully complete the installation.

The little floppy disk icon at the bottom of the list allows you to load or save the packages list. This is useful if you have a number of machines that you wish to configure identically. Click on this icon and select whether you wish to Load or Save the packages list, then select the medium in the following screen and click on the Ok button.

3.9. Root Password

This is the most crucial decision point for the security of your GNU/Linux system: you must enter the `root` password. `Root` 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 choose 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. GNU/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.

The password should be a mixture of alphanumeric characters and at least 8 characters long. Never write down `root`'s password — it makes it far too easy to compromise your system.

One caveat: don't make the password too long or too complicated because you must be able to remember it!

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.

You can change the way users are authenticated on your computer by clicking on the Authentication method button. The following authentication methods are available:

- Local file. Use a local file for all authentication and user information. This is the default method.

- LDAP. Use an LDAP server for some or all authentication needs. An LDAP directory consolidates certain types of information within your organization.

- NIS. Authenticates users against a NIS domain. This allows you to run a group of computers in the same NIS domain using a common password and group file.

- Windows Domain. Uses a Windows® domain controller to provide authentication services through Active Directory, Microsoft's implementation of LDAP.

If you select a method other than Local file, you are asked to provide some parameters which vary from one method to the other. If you don't know those parameters, you should ask your network administrator.

3.10. Adding a User

GNU/Linux is a multi-user system which means each user can have his own preferences, files and so on. But unlike the system administrator called `root`, the users you add at this point are not authorized to change anything except their own files and their own configurations, protecting the system from unintentional or malicious changes which could have a serious impact on it.

You must create at least one regular user for yourself — this is the account which you should use for routine, day-to-day usage. Although it's very easy to log in as `root` to do anything and everything, it may also be very dangerous! A very simple mistake could render your system unusable. If you make a serious mistake as a regular user, the worst that can happen is that you'll lose some information, but you won't affect the entire system.

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. 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 blank or too simple: after all, **your** files could be the ones at risk.

Once you click on Accept user you can add other users. Add a user for each one of your friends, your father, your sister, etc. Click Next when you're finished adding users.

Clicking the Advanced button allows you to change the default `shell` for that user (bash by default), and allows to manually choose the user and group IDs for that user.

3.11. Installing a Bootloader

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 GNU/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 know what you're doing.

3.12. Checking Miscellaneous Parameters

3.12.1. 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.

- Keyboard: check the current keyboard map configuration and change it if necessary.

- Country / Region: check the current country selection. If you're not in the country selected by DrakX, click on the Configure button and choose another. If your country isn't in the list shown, click on the Other Countries button to get a complete country list.

- Timezone: by default, DrakX deduces your time zone based on the country you have chosen. You can click on the Configure button here if this is not correct.

- Mouse: verify the current mouse configuration and change it if necessary.

- Printer: clicking on the Configure button will open the printer configuration wizard. Consult Seção 14.5 for more information on how to set up a new printer. The interface presented in our manual is similar to the one used during installation.

- Sound card: if a sound card is detected on your system, it will be 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.

- TV card: if you have a TV card, this is where information about its configuration will be displayed. If you want to try a different driver for your TV card, or its detection wasn't accurate you can click on Configure to try to configure it manually.

- 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 redefine the security level as set in a previous step (see Seção 3.6).

- 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 Seção 18.3 for details about firewall settings.

- 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.

- Services: with this entry you can fine tune which services will be run on your machine. If you plan to use this machine as a server it's a good idea to review this setup.

3.12.2. Time Zone Options

This dialog appears after selecting a new time zone in the time zones list. After you've chosen the location nearest to your time zone, two more options are shown.

GNU/Linux manages time in GMT (Greenwich Mean Time) and translates it to local time according to the time zone you selected. If the clock on your computer is set to local time, you may deactivate this by deselecting Hardware clock set to GMT, which will let GNU/Linux know that the system clock and the hardware clock are in the same time zone. This is useful when the machine also hosts another operating system.

The Automatic time synchronization option will automatically regulate the system clock 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 generic World Wide 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.

3.12.3. Configuring X, the Graphical Server

X (for X Window System) is the heart of the GNU/Linux graphical interface on which all the graphical environments (KDE, GNOME, AfterStep, WindowMaker, etc.) bundled with Mandriva Linux rely on.

You will see a list of different parameters which you can change in order to optimize your graphical display.

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 from this list the monitor which is connected to your computer.

Resolution

> Here you can choose the resolution and color depth from the available ones 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 will be shown in the monitor picture.

Test

> Depending on your hardware, this entry might not appear.

> The system will try 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 will automatically end after a few seconds and return you to the menu. Change settings until you get a correct graphical display.

Options

This step allows you to choose whether you want your machine to automatically switch to a graphical interface at boot. Obviously, you may want to select the No option if your machine is to act as a server, or if you were not successful in getting the display configured.

3.12.4. Selecting Available Services at Boot Time

This dialog is used to select which services you wish to start at boot time.

DrakX will list 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 will be 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.

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.

3.13. 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. To benefit from these updates select Yes if you have a working Internet connection, or No if you prefer to install updated packages later.

Choosing Yes displays a list of web locations from which you can retrieve updates. You should choose one near to you. Review the packages from the tree selection, and press Install to retrieve and install the selected packages.

3.14. It's Done!

There you are. The installation is now complete and your GNU/Linux system is ready to be used. Just click on Reboot to restart the system. Remember to remove the installation media (CD-ROM or floppy). 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.

3.14.1. Advanced Options

The Advanced button shows more buttons to:

1. Generate auto-install floppy: enables you to create an installation floppy disk which automatically performs a whole installation, similar to the one just finished, without the help of an operator.

   Note that different options are available after clicking on that button:

   • Replay. This is a partially automated installation. The partitioning step is the only interactive procedure.

   • Automated. Fully automated installation: **the hard disk is completely rewritten, all data is lost**.

   This feature is very handy when installing on a number of similar machines. See the Auto install (`http://qa.mandriva.com/twiki/bin/view/Main/AutoInstall`) section on our web site for more information.

2. Save package selection[1]: saves a list of the packages selected in this installation. The following screen shows you the possible media to use to save the package list onto: you might need to fill some parameters when you click on the Next button.

   To use this selection of packages with another installation, perform the installation as usual up to the point of the package selection, and choose to select individual packages, without worrying about the current package selection. Use the floppy icon and select the Load option. Then choose the medium which contains the package list. Finally click OK: the list of packages you loaded will be selected and installed.

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[1] You need a FAT-formatted floppy to save on a floppy disk. To create one under GNU/Linux, type `mformat a:` or, as root, `fdformat /dev/fd0` followed by `mkfs.vfat /dev/fd0`.

3.15. How to Uninstall Linux

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:

> ⚠️ 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.

1. Remove the bootloader, LILO in this example, from the Master Boot Record (MBR). To do so, execute `lilo -U` in a console, as `root`. Doing this will not only uninstall LILO but will also restore the previous master boot record, if any.

   If you have a different boot loader, please refer to its documentation to determine how to regenerate the master boot record.

2. Delete all partitions related to Mandriva Linux on your hard drive (usually partitions hosting ext3 file systems and the Swap partition) and — optionally — replace them with a single partition using `fdisk`.

   a. Logout from your current session and log back in as root.

   b. Open a terminal window and run `fdisk /dev/hda` (if the hard disk containing Mandriva Linux is other than the 1st IDE disk, change `/dev/hda` 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 the whole space available, and when asked for the partition type specify **c** for a FAT32 (Windows® 9x) partition or **7** for an NTFS (Windows® NT/2000/XP) partition. Finally use the **w** command to write changes back to disk.

Once this is done, just reset or shutdown the machine "the hard way".

Capítulo 4. Migrating to Linux from Windows® and Mac OS® X

This chapter is aimed at users migrating from Windows® or Mac OS® X. Instead of presenting the various applications in depth, it tries to answer the most common questions and/or issues former Windows® or Mac OS® X users might ask.

4.1. Where's my...?

Experienced Windows® and Mac OS® X users are normally accustomed to certain functions and/or concepts which are often treated differently in GNU/Linux.

4.1.1. Start Menu

In Windows®, most applications and system tools are accessed through the so-called Start Menu; this concept remains more or less the same, except it's now called the Main Menu: you open it by clicking on the yellow star in the panel.

For users coming from Mac OS® X, Mandriva Linux's Main Menu can be considered as a replacement for functions from both the Apple Menu, located at the far left of the menu bar, and the Applications folder available in the Finder.

4.1.2. Applications

The wide variety of applications is a large differentiator between GNU/Linux and Windows®. Mandriva Linux installs many more applications onto your system, and clicking on the main menu gives you a wide range of choices depending on what you would like to do. Most standard file formats can be handled: PNG pictures, Rich Text Format texts, PostScript printouts, etc. These file formats should always be preferred as they facilitate exchange of data between applications, while ensuring your freedom to change to another application and/or operating system at any time.

You may also have many files in proprietary formats such as Microsoft® Excel or Microsoft® Word documents. OpenOffice.org is just one application which can handle most popular formats for office applications (see Seção 10.1 and Seção 10.2).

> We specifically mention office documents because they are widely used. Due to space constraints we cannot cover every single Windows® application and its GNU/Linux equivalent. However, there is a high probability that you will find GNU/Linux equivalents for all the programs you used under Windows® or Mac OS® X. To get an idea of GNU/Linux equivalents of Windows® applications, you can consult this table of equivalents (`http://linuxshop.ru/linuxbegin/win-lin-soft-en/table.shtml`).

Mac OS® X users may find similarities between Mac OS® X and GNU/Linux applications, because Mac OS® X is based on BSD®, a UNIX®-like system on which GNU/Linux is also based. Moreover, other applications designed for the desktop have been ported to, or are available under, the X11 implementation available for Mac OS® X.

You may also install a large number of applications through the RpmDrake utility (please refer to Capítulo 13).

4.1.3. Control Panel/System Preferences

The Control Panel in Windows® and the System Preferences utility in Mac OS® X are replaced by the Mandriva Linux Control Center under Mandriva Linux. It can be accessed by choosing System+Configuration→Configure Your Computer in the main menu. With this interface, you have the ability to modify most of your system's settings with graphical tools.

4.1.4. Command Shell

GNU/Linux is still very fond of shell environments. Unlike Windows® the popularity of the shell is not fading away as is evident by the availability of the shell in Mac OS® X. By default, Mandriva Linux installs bash, a truly powerful shell environment. You can access it by opening the main menu and choosing System+Terminals→ Konsole.

> Few of your DOS commands or functions work in a Linux shell. Take a look at the *Introdução a Linha de Comando* chapter in the *Guia de Referência* to discover their equivalents and much, much more.

4.1.5. Network Neighborhood

GNU/Linux uses TCP/IP by default, not SMB (the Windows® network protocol), so there's nothing like a network neighborhood icon to give you a view of the network you're in. However, you may use the LinNeighborhood application to give you similar functionality.

Konqueror can also accomplish the same tasks. Just type **smb:/** in the location bar, and all of the shared Windows® resources on the network will appear.

See Seção 10.3.5 for more information.

4.1.6. C: Drive

The "lettered drive" is a concept exclusive to Windows®. On UNIX® systems, the drive notion (`C:`, `D:`, ..., `Z:`) is replaced by "**mount points**". From a user perspective, you're always accessing directories. Your system is configured to "load" all relevant disks, disk partitions and remote systems, and then assign them to a specified directory, generally under the `/mnt` directory. While this concept is similar to that found in Mac OS® X, it is slightly different. What is mounted under `/mnt` with GNU/Linux is mounted under `/Volumes` in Mac OS® X but is made available as a "root file system" in the Finder.

4.1.7. CD/DVD Drives

The same concept as for `C:` applies here. CD-ROMs are mounted in `/mnt/cdrom`. To access the CD-ROM, just click on the desktop icon and the CD-ROM's contents appear in a new window.

> Things are a bit different for audio and data CDs: upon inserting an audio CD in the drive, the CD player is automatically loaded and starts playing. Please see Seção 11.1.

4.1.8. Other Removable Media (floppy, USB key, etc.)

Like CD-ROMs and disk partitions, floppy disks, USB keys, and other removable media are mounted and will appear under the `/mnt` directory. Icons are displayed on your desktop to access some media directly; all media is accessible through the media icon on the desktop.

4.1.9. My Documents

Under Mandriva Linux every user has a directory called the user's home directory: that is the place to store the user's documents. For example, Peter should store documents in `/home/peter`. A `MyDocuments` directory could be created inside the user's home to "mimic" Windows® behaviour.

The **home directory** concept is analogous to the `C:\Winnt\Profiles\user_name\` or `C:\Documents and Settings\user_name\` directories in Windows NT®, Windows® 2000 and Windows® XP and is explained in Capítulo 7.

Under Mac OS® X this is very similar. The home directory's equivalent is `/Users/user_name` which contains a directory called `Documents`.

4.2. A Brave New World!

Now that you have found your way around GNU/Linux, here is a brief presentation of the features which make excellent reasons to migrate to GNU/Linux.

4.2.1. A Multi-User Environment

GNU/Linux, like Mac OS® X, is based on UNIX®. This basically implies a shift in the structure of your environment, from a single workstation to a multi-user architecture and implies very thorough user management. Each file, service and application is exclusively allocated to a user or a group of users, according to its nature. For example, every user has his or her own personal directory, containing personal data and personal configuration files, which can be made inaccessible (even invisible) to other users.

4.2.2. Multiple Tasks

GNU/Linux has always been a very strong operating system for multi-tasking (running many applications concurrently) and still remains a leader in this domain.

4.2.3. Multiple Desktops

Modern desktop environments available for GNU/Linux give you many desktops to work with, instead of just a single desktop. Users who like to have numerous applications running at the same time will greatly appreciate this feature since it makes for a much cleaner working environment.

4.2.4. Full Desktop Customization

Regarding aesthetics, GNU/Linux truly rocks! Not only can you choose between many different window managers, but you can also highly customize their appearance with **themes**. Themes go beyond just the initial look and feel: actually, everything you see can be modified, from the background image to the behavior of applications when they are closed, which is truly unique.

See the themes page on Freshmeat (`http://themes.freshmeat.net/`) for available designs.

4.2.5. Thousands of Free Applications

The GNU/Linux community is by far the most generous one. Given a specific problem, you will most likely find a script or an application to answer your needs, for free! Also, Mandriva Linux includes hundreds of applications not documented in this book, so don't be shy, try them out. You'll most probably be surprised by the extent of the possibilities GNU/Linux offers.

GNU/Linux also offers advanced server functionality, such as the ability to host mail or web page servers "out of the box".

4.2.6. No More Reboots!

Windows® and Mac OS® (although this has largely been addressed in Mac OS® X) users know the level of frustration generated by crashing systems. Even though GNU/Linux is not perfect, its stability is one of its strongest points. Sometimes, applications crash, but rarely do they take the operating system down with them. Also, installing new applications or devices and modifying the system's configuration don't require a reboot: they are immediately taken into account.

We hope this rapid tour will help you truly appreciate GNU/Linux's strengths. Do not be afraid to explore further!

Capítulo 5. Linux for Beginners

5.1. Introduction

This chapter is written for inexperienced GNU/Linux users. If you know how to log in and out, use KDE and know where your applications reside on your Mandriva Linux system, skip ahead to the next chapter. If not, read on! After reading this chapter, all subsequent chapters will make much more sense to you.

If you're an experienced Windows® or Mac OS® user, refer to Capítulo 4, which will ease the transition between those operating systems and GNU/Linux.

5.2. The Bootloader Menu

The first component you see when your Mandriva Linux boots is the bootloader menu. It allows you to boot your GNU/Linux system, or any other operating system installed on your machine, as well as some special options.

The number of items and their names vary depending on your particular configuration. The one labelled linux starts your Mandriva Linux system and it's the default item unless you manually configure it differently. Wait a few seconds or press **Enter**, and Mandriva Linux starts to load. Use the arrow keys on your keyboard and press **Enter** to select another item.

5.3. Getting Ready for your Session

GNU/Linux is a multiuser system which means more than one user can access your machine, each with the ability to keep his own data and configuration files private and protected from other users. The different user accounts must be created by the administrator whom is called root. You must have set his password during the installation, and he has **no restrictions at all** on the system.

It's very important to understand the terms "to log in" and "to log out". To log in means to identify yourself to the computer. Think of it as a security officer verifying who you are before letting you in. After logging in, the system takes a number of actions in order to give you access to the system's resources. By logging in, you start a so-called "session".

When you log out you are telling the system you no longer need to use its resources. Your personal session is closed, you exit the graphical interface and the login screen appears once more.

Although these definitions are valid within the scope of this chapter, they are oversimplified. As you read the following chapters, you will better understand these concepts, their advantages and options.

5.4. Beginning your Session

We assume that you are sitting in front of a running Mandriva Linux computer which, when turned on, automatically displays the graphical login screen. If this isn't the case and you're facing a black screen with something like:

```
Mandriva Linux release 2006.0 for i586
Kernel 2.6.12-8mdk on an i686 / tty1
machine_name login:
```

with a flashing cursor, type your user name then your password. You should now be logged in. Now type startx to launch the graphical interface (KDE by default, see Capítulo 7). If this doesn't work, please refer to Seção 21.5.3. In order to automatically start your system in graphical mode, refer to Seção 14.2.

Identifying Yourself

To log into the system, you need to supply your user name and password (see Figura 5-1).

Figura 5-1. The Login Window

If you're the only user on your Mandriva Linux system, and typing your user name and password annoys you, you can set your system to boot directly into your favorite desktop environment. This feature is called **auto-login** (see Seção 19.1).

> Be careful with this option as no password is asked for, therefore **anybody** sitting in front of your system can use it and have access to your files.

5.5. Using your Graphical Environment

5.5.1. The Mandriva Linux Desktop

All modern graphical environments share a common set of features: a main menu, a desktop area with some icons, a panel, etc. In the following paragraphs we describe the elements which compose the desktop environment.

Figura 5-2. The KDE Desktop

1. Icons are located on the left of the screen and in the panel at the bottom of the screen. Clicking on an icon either launches a program or opens a folder. In both cases a window appears on your desktop.

2. The **panel** is located in the lower part of the screen. It provides quick access to useful tools such as a Terminal, a web browser, a text editor, etc. Each icon represents a program.

3. The *desktop*, also called the background, is where everything you see or use lives, like the icons and the panel. Right-click on a free area on the desktop (i.e. where there is nothing) and a menu appears. It gives you access to several more functions like configuring your background or accessing your bookmarks.

5.5.2. Accessing Applications

Click on the main menu to access the software installed on your machine. The applications are organized by tasks so finding the program you're looking for is pretty easy.

5.5.3. Opening a Window on the Desktop

Click on this icon on your desktop to launch your file manager:
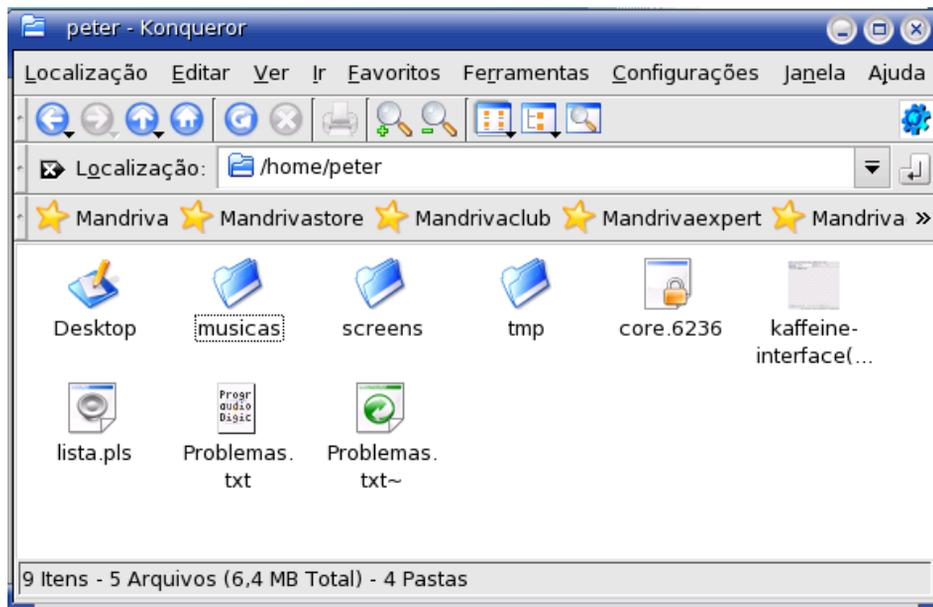
Figura 5-3. KDE File Manager

The Konqueror file manager displays the content of your Home directory where all your personal documents and files are stored. Only you and `root` can access them.

5.5.4. Managing Desktops

We introduced the desktop to point out the area of the screen where all objects are placed. At the panel there's a group of **desktop buttons**.

These buttons give you access to *virtual desktops*, which are identical copies of the desktop you see after you log in. You will find more information about the handling and usage of virtual desktops in Seção 7.1.3.

Click on the button labeled 2 to simply switch desktops. Click on the button labeled 1 to go back to previous desktop.

This feature called virtual desktops is very handy. It allows you to open several windows and to organize them as you wish.

You can also change which virtual desktop a window is currently in. This may be handy to logically organize your work by desktop, for instance moving all Internet-related windows into desktop 2, all multimedia applications into another desktop, and so on.

Right-click on the window's title bar and access the To Desktop item. Simply choose the virtual desktop to which you want to move your window.

5.6. Logging Out of Your Session

When you are finally done using your computer, don't forget to **log out** in a proper manner.

Logging out can be done from the main menu or from the menu which appears when you right-click on the desktop.

The screen shades and a little box with options appears. Click on End Current Session and you return to the login screen.

Two other options are available: you can choose to shutdown the system (Turn Off Computer), as well as reboot your system (Restart Computer).

This is the correct and safe way to shut down or reboot your system. You should **never** do it by pushing your computer's power or reset buttons because this can lead to serious problems such as file-system corruption or the loss of data.

Capítulo 6. Accessing 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.

6.1. Mandriva Linux-Specific Documentation

6.1.1. Mandriva's Own Documentation

Some of those manuals may be available in your Mandriva Linux pack, in the `mandriva-doc-en` package. Once this is installed, a new menu entry will be available: More Applications+Documentation→Mandriva Linux documentation in English.

This section lists all the documentation which Mandriva produced for the current release:

Guia do Usuário

> This manual is intended to get you going with Mandriva Linux. It includes basic topics which should be of interest to new GNU/Linux users, as well as configuration procedures for the most important elements of Mandriva Linux.

Guia de Referência

> Available on-line and in the Mandriva Linux — PowerPack Edition, this document covers advanced GNU/Linux operations and system administration.

Guia do Servidor

> This manual, only available in the Mandriva Linux — Corporate Server pack, tackles the configuration of your system as an intranet or internet server. It covers most common service like web server, mail, file sharing, etc.

6.1.2. Internet Resources

Internet information sources are widespread and many web sites are devoted to GNU/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`).

On the other hand, many unofficial sources will also be of value. For one there is the Mandriva Community Twiki (`http://mandriva.vmlinuz.ca/bin/view/Main/WebHome`). It offers a lot of resources and gives information and documentation which can certainly interest Mandriva Linux users.

6.1.2.1. Mandriva Club

If you're familiar with Mandriva Linux's web sites, you probably know about Mandriva Club (`http://club.mandriva.com/`). It's the meeting point for all Mandriva Linux users. On it you will find questions along with their answers, suggestions and news related to Mandriva Linux and GNU/Linux. You will be able to express your opinions and influence future development of Mandriva Linux. If you're not a member yet, we encourage you to join in.

One specific area of the Club is of particular interest: the Mandriva Club Knowledge Base (`http://club.mandriva.com/xwiki/bin/view/KB//`) is **the** Mandriva Linux user's database. It is probably the largest collection of Mandriva Linux-related documentation on the web.

It collects submissions by Mandriva Linux users. It also features a discussion forum and a community newsletter. These articles are meant to be practical and target beginner and intermediate users.

Topics range from administrative issues, such as the handling of the shell, to the tweaking of X, GNU/Linux's graphical subsystem.

6.1.2.2. Mandriva Security Advisories

The Mandriva Security Advisories web site (`http://www.mandriva.com/security/`) is Mandriva's very own security site which covers package vulnerabilities.

6.1.2.3. Mandriva E-training

The Mandriva E-Training web site allows you to buy quality GNU/Linux training in order to improve your Open Source knowledge. You can access this web site (`http://etraining.mandriva.com/`) by using your Mandriva Club account. A free demo on Samba is available.

6.2. GNU/Linux Useful Resources

In this section we present resources useful for any GNU/Linux distribution. Most are not written specifically for Mandriva Linux, but may nevertheless prove useful.

6.2.1. The /usr/share/doc Directory

Most packages include their own documentation in one of `/usr/share/doc`'s sub-directories, which will be named after the specific package. Mandriva Linux's own documentation, when installed, is available in the `/usr/share/doc/mandriva/` directory.

6.2.2. The Man Pages

The Manual Pages (also known as "man pages") are a set of exhaustive documents which help you acquire better knowledge of GNU/Linux commands. The latter are usually issued through a "command line" and allow great control over your system (see the Introdução a Linha de Comando chapter of the *Guia de Referência*). 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) will 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 and the man page for the `man` command will be displayed. For example, to display the man page for fstab(5), type in the Location field: **`man:/fstab(5)`**.

To display a man page in a terminal (or shell), type `man`. The syntax to obtain a man page is:

```
man [options] [section] <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 you will find references to other pages with related subjects (usually in the **SEE ALSO** section).

You can start by consulting the pages related to the different commands covered in the *Guia de Referência*: ls(1), chmod(1), etc.

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 forgot the exact section, `man -a mknod` will read through all the sections looking for pages named `mknod`.

Capítulo 7. Using KDE

7.1. Discovering the K Desktop Environment

This chapter will introduce the K Desktop Environment (KDE) and its panel. It will also talk about the concept of virtual desktops, how to navigate through and manage them and session support. 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.

7.1.1. The Desktop
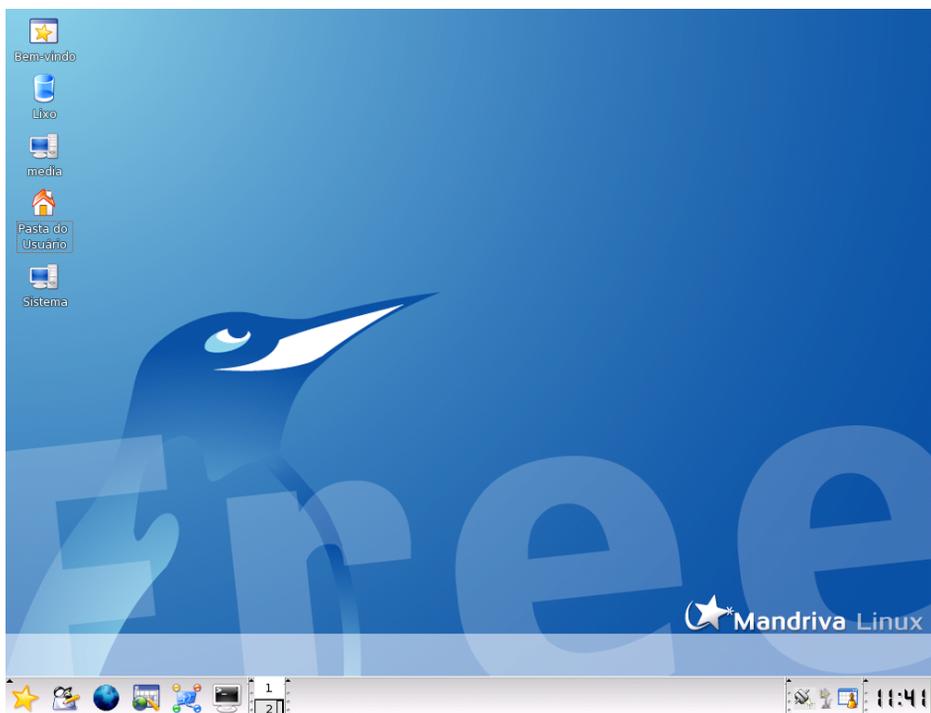
Figura 7-1. The KDE Desktop

KDE follows the modern desktop paradigm. In the above figure you see the desktop itself with some icons on it, while the panel sits at the bottom. This figure also introduces something new if you come from the Windows® world: virtual desktops (see Seção 7.1.3).

> Virtual desktops are **not** an exclusive KDE concept. Other GNU/Linux desktop environments and window managers also make use of them.

The icons on the desktop represent files, directories, applications, devices, web pages, etc. Almost "everything" can be placed on it. Clicking on each icon opens its associated application.

Here are some of your desktop's default icons, along with a brief explanation for each of them.

Home. Gives access to all your personal files. Under UNIX®-like operating systems (Mandriva Linux is one of them), every user has a personal directory usually named `/home/login_name`.

Trash. Gives access to all deleted files (the equivalent of Windows®' Recycle Bin). Files can also be deleted without being thrown into the trash can ("direct" file deletion) so some deleted files might not be accessible through the trash can.

45

System and media Icons. Gives you access to your home folder, system's settings, networked places, storage media and the trash can. The media icon gives you access to all the storage media present in the system, fixed and removable: hard disk partitions, CD/DVD drive, floppy disk drive, ZIP/JAZ drives, USB keys, and others. Double clicking on a device icon opens the corresponding medium.

7.1.2. The Panel

Figura 7-2. The KDE Panel

The panel is the bar which sits at the bottom of your desktop[1] and contains the following main components:

The Main Menu. Allows you to access the software installed on your system. It is the equivalent of Windows®' Start menu. Programs are arranged into convenient categories, so you can quickly and easily find the application 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 you your desktop is so full of opened windows and you want to access, for example, a folder on your desktop.

Desktop Switching Applet. Makes switching between virtual desktops as easy as one, two, three. See Seção 7.1.3 for more information.

Kat Search Tool. Allows you to perform searches on files according to different criteria and metadata. Plase refer to Seção 7.3 for more information.

7.1.3. Virtual Desktops

Think of virtual desktops as having several screens available but with only one monitor. By default, there are two virtual desktops, right click on the desktop switching applet and select Configure Desktops to add or remove virtual desktops and change desktop names for more meaningful such as `Work`, `Play` or `Internet`.

When you log in into KDE the last virtual desktop you were in when you closed your last session is opened. To switch between virtual desktops just click on the desktop number in the desktop switching applet *et voilà !*

7.2. Personalizing your Desktop

7.2.1. Changing your Desktop's Appearance

To change the desktop color scheme choose System+Configuration+KDE+ LookNFeel →Colors from the main menu. In the Color Scheme list are predefined color schemes. Select the one you like and click on Apply.

---

1. By default the panel is at the bottom, but it may be placed on any border of the desktop.
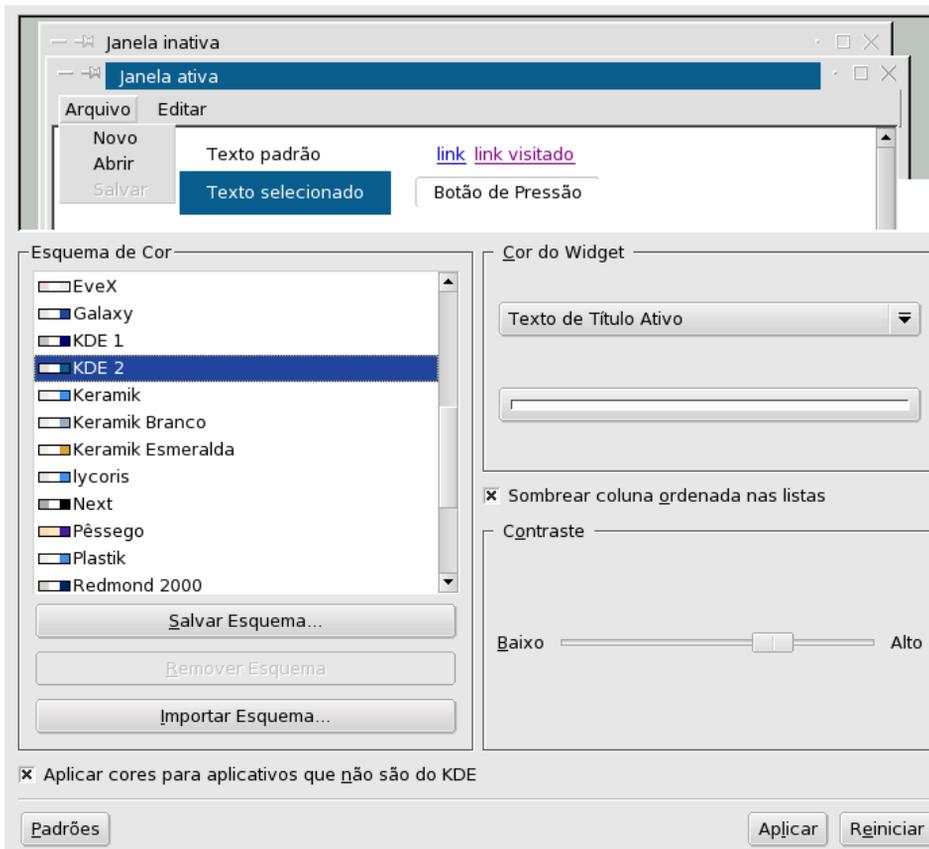
Figura 7-3. Changing KDE's Color Scheme

You can also define custom color schemes: click on the element you want to change (for example, Active Window to change the active window colors), then on the color bar, choose the color you like and click on OK to apply it.
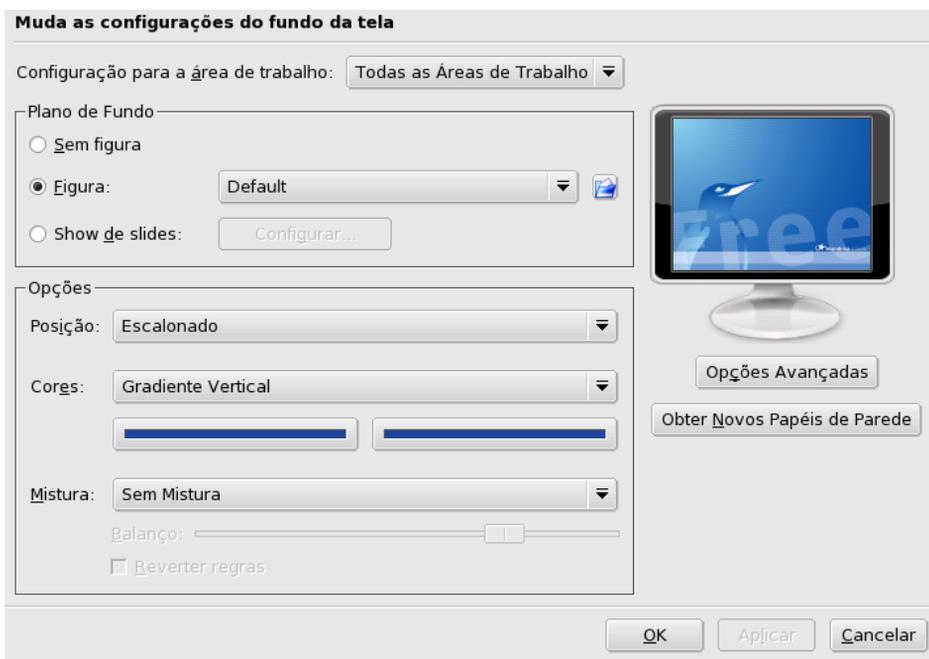
Figura 7-4. Changing KDE's Background Wallpaper

To change the desktop background, choose System+Configuration+KDE+ LookNFeel →Background from the main menu. Select the background picture option in the Background section and background scaling, colors and blending in the Options section.

All desktop background settings can be applied on a per-desktop basis using the Setting for desktop pull-down list. Please note that doing so consumes more memory.

7.3. Searching For Files

Kat is a search tool that is able to index your files based on the content of the file, thus allowing you to look for files on your system. For example it cal help you find all of your PDF documents containing a given project. Kat is made of two parts: a daemon responsible for periodically indexing files, and an interface to manage catalogs and perform searches.

Choose System+Archiving+Other→Kat from the main menu to open Kat.

Figura 7-5. Kat Catalogs View

1. Check configuration

   Launch the setup wizard (Settings→Launch Wlzard) to check everything works correctly. Pay particular attention to the Helper Programs step. If some applications are missing, it is time to install them through the Mandriva Linux Control Center (see Capítulo 13).

2. Add Catalogs

   This is done using the Catalog→New menu, or by right-clicking on the Kat applet, and choosing Configure KAT, then clicking on the Add button in the Catalog section.

   Add a catalog for your home folder, and another one for `/usr/share/doc` so that you can perform searches both on your personal files and on the documentation installed on your computer.

3. Check Indexation is Done

After adding new catalogs it can take some time before they get fully indexed. To check the indexation status of each catalog, simply click on the Kat applet.

4. Perform Searches

Click on the search button in Kat's main interface to toggle to the search utility.

Figura 7-6. Sample Search Using Kat

7.4. 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 non-KDE applications, and even some KDE ones, may have limited session support. The degree of session recovery is up to the application, ranging from just opening the application again, to opening it along with all the files that were open inside that application.

By default, KDE automatically saves sessions whenever you log out of the desktop environment. To change the default behavior, open the Session Manager (System+Configuration + KDE+Components→Session Manager from the main menu.), make your choices and click on the OK button. The settings are effective the next time you log into KDE.

Browsing, Reading and Surfing

Using the Internet with Mandriva Linux is very easy. And since it includes many mail clients and web browsers, you can choose the one you prefer.

The default e-mail client in Mandriva Linux is part of the Kontact suite of applications and is called KMail. With it you can read and write e-mails, filter spam, sign and encrypt your messages, and more (see Seção 8.1). The growing popularity of RSS feeds convinced us to document Akregator an open-source news reader (Seção 8.1.2). To browse the web we provide you with documentation about the very popular Mozilla-based Firefox (see Capítulo 9. Since it's also available on Windows®, it's seriously threatening Internet Explorer's monopoly. With it you can enjoy tabbed browsing, watch RSS feeds as well as the other standard web browser features such as managing (and importing) bookmarks.

Capítulo 8. WRITE_ME

8.1. Writing E-mails and Reading News

The KMail mailer is integrated into a groupware client named Kontact which also holds the Akregator RSS news reader. This chapter describes how to configure and use both of these applications to compose, read and organize your e-mail messages, as well as your news feeds.

8.1.1. KMail

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

8.1.1.1. Configuring KMail
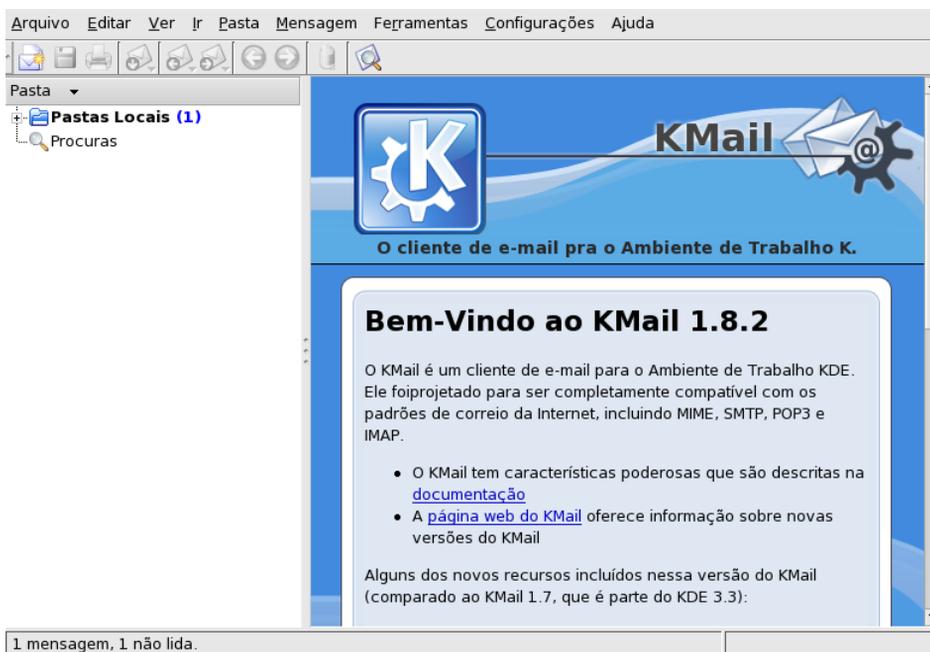
Figura 8-1. KMail's Startup Interface

The first time you run KMail, Kontact's main window appears and the Mail section is selected. Access the configuration window through the Settings→Configure KMail menu. First of all, you must define an identity[1] under the Identities category. Click on the Modify button and fill in Your name, Organization and E-mail address.

Use the Cryptography, Advanced and Signature tabs to set up other parameters such as different "Reply-To" addresses, a GPG key to send messages securely, and so on. Click on OK and Apply to define your default identity.

Now configure the mail servers in the Accounts section. Click on Add in the Receiving tab, select POP3 as the account type[2].

---

1. It is useful to create a different identity for each e-mail address you might have (work and private, for instance).
2. We use POP3 in our example since most ISPs provide POP3 accounts to retrieve mail. If you have another account type, such as an IMAP (Internet Mail Access Protocol) one, the configuration differs slightly.

Figura 8-2. Configuring a POP3 Mail Account

Complete the Name field with a meaningful one for this account and the Host field with your POP3 server's name or IP address. Type in the e-mail user name and password which your ISP provided you with in the Login and Password fields. Check the Store POP Password option to avoid having to type your password each time you want to retrieve messages (see Figura 8-2)[3]. If you use many computers to access your e-mail with a POP3 account, you should check the Leave fetched messages on the server option which allows you to access the messages you already downloaded from another computer. Click on OK to add the account.

> If you have a permanent network connection (such as DSL or cable-modem) activate the Enable interval mail checking option which tells KMail to fetch messages periodically.

---

3. However please understand that this means anyone can actually access your e-mails if they are using your user account.

Figura 8-3. Setting the Outgoing Mail Server

In the Sending tab click on Add, and select SMTP as the transport type. Fill the Name field with a meaningful name for this server and the Host field with the SMTP server's name or IP address (see Figura 8-3).

For security reasons, the outgoing mail server you use may need authentication. If this is the case, check the Server requires authentication box and complete the login and password provided by your ISP or network administrator.

8.1.1.2. KMail's Interface

Figura 8-4. KMail Client Interface

Toolbar. Where the main action buttons lie. See Tabela 8-1.

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

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

Folders List. Where all folders are listed. The default folders are `inbox` (incoming messages), `outbox` (unsent templates), `sent-mail` (already sent messages), `trash` (deleted messages) and `drafts` (draft messages).

Kontact Buttons. On the left of the interface are buttons to access Kontact's components such as RSS Feeds (see Seção 8.1.2).

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.

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 in order to retrieve messages **only** for that account.
	R	Reply to the author of the selected message. A message-compose window pops up with some fields already set.
	F	Forward (send to a third party) the selected message.
	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!

Tabela 8-1. KMail's Toolbar Buttons

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

8.1.1.3. Composing a Message

Figura 8-5. The Message-Compose Window

Toolbar. This is where the main composition buttons reside. See Tabela 8-2

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

Message Recipients. The list of all recipients of this message. By default, 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 will 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 will have access to the other mail addresses to which this message was 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.

Button	Keyboard Shortcut	Function
	Ctrl-Enter	Sends the message immediately (your network connection must be active). A copy of the message will be kept in the `sent-mail` folder.

Button	Keyboard Shortcut	Function
		Queue the message. The message will be saved in the `outbox` folder and will be 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 will pop up. Select the file you want to attach and click on Attach. Repeat for multiple files.

Tabela 8-2. Message-Composition Toolbar Buttons

8.1.2. Akregator

Akregator is a feed reader or aggregator which can check on RSS-enabled web sites for the latest headlines or articles. RSS is typically used on blogs, personal web sites but also on major media sites such as those from the BBC and Reuters.

Figura 8-6. Akregator's Interface

Find a syndicated site[4] and save the feed's URL by right-clicking on it. Then right-click on the All Feeds folder at the top of Akregator's tree structure. Paste the URL by clicking on your middle mouse button in the Feed URL field and click OK.

---

4. A site which offers RSS feeds.
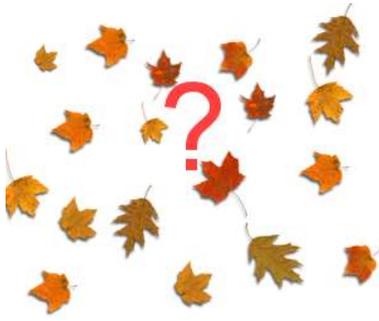
Figura 8-7. Adding a Feed

Right-click on a feed and select Fetch Feed to recuperate all of its articles. The right side of Akregator's window allows you to see all of your feed's article titles. Click on a title and then on the Complete Story link to read that story in a new tab.

Capítulo 9. Surfing The Web With Firefox

This chapter deals with the Firefox browser which is gaining more and more popularity each day, and is also challenging other very widespread browsers on different operating systems due to its cross-platform availability. One of Firefox's *fortes* is that you can personalize it endlessly through extensions (Seção 9.5) and themes (Seção 9.6).

9.1. A First Glance at Firefox
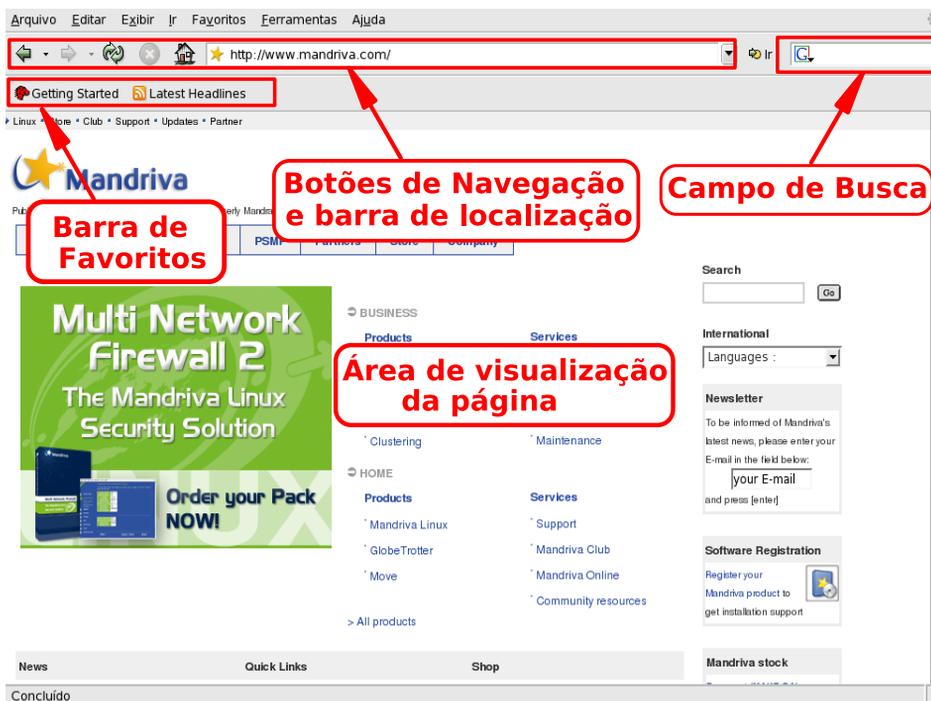
Figura 9-1. Firefox Interface

To launch Firefox click on this icon on your panel. You can also access it through the Internet+Web Browsers→Mozilla Firefox submenu.

> If Firefox's interface isn't displayed in the language you expected, access the Edit→Preferences menu entry, and select the General Language option. Add your preferred language on top of the list. Refresh your browser for the changes to apply.

Firefox's interface (Figura 9-1) is composed of the following:

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

- Bookmarks Bar. Contains buttons which give you quick access to your favorite sites (see Seção 9.3), as well as Live Bookmarks.

- Navigation Buttons & Location Bar. Enter the URLs you wish to visit in the location bar. Local files can be accessed through the `file://` protocol.

- Search Engine Field. Type in a keyword and choose your preferred search engine (such as Google™ or Yahoo!). The results are available in the Page Display Area.

9.2. Using the Sidebar

The sidebar gives you a quick access to the history of the sites you visited recently, as well as to your book-marks. To enable it, choose View+Sidebar from the menu and then choose between Bookmarks (**Ctrl-B**) or History (**Ctrl-H**).
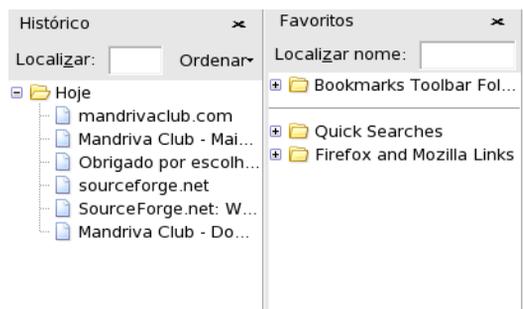

Figura 9-2. Bookmarks and History in the Sidebar

Search. Enter the keyword you wish to find results for (i.e. Mandriva Linux) in the Search field and press **Enter**. This applies for both the Bookmarks and History sidebars.

Bookmarks. Clicking on one of your bookmarks from the sidebar automatically launches a request for that page. It's then shown in the display area. To search for specific bookmarks based on keywords, type one in the Search field.

History. If you want to return to a site you visited three days ago, access the 3 days ago folder in the History sidebar and click on the plus sign (+). The same behavior as for the bookmarks sidebar applies.

> To change the number of history days to keep, choose Edit+Preferences→Privacy from the menu and open the History sub-section.

9.3. Managing Bookmarks
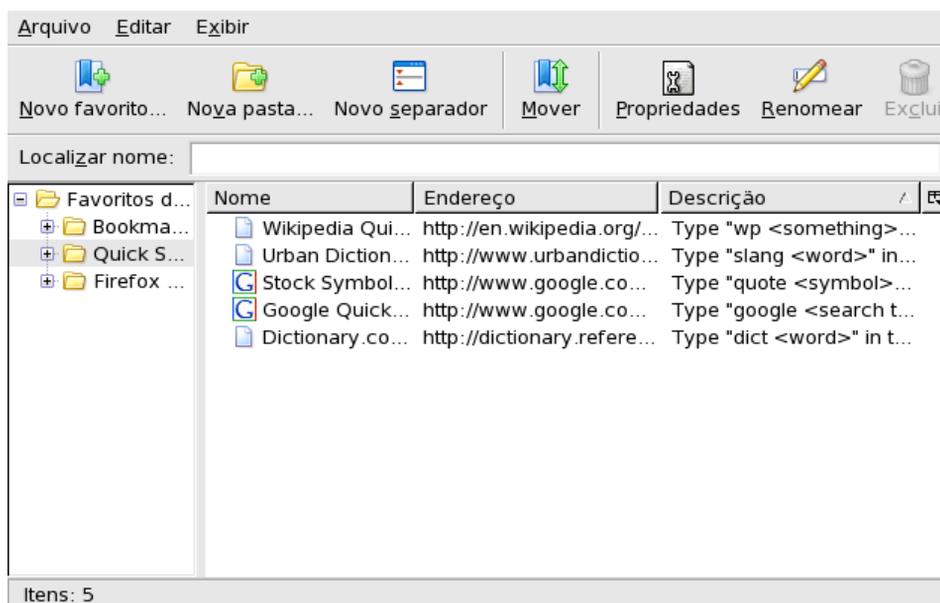
Figura 9-3. Bookmarks Manager Dialog

Select Bookmarks→Manage Bookmarks from the browser's menu to open the bookmarks manager (Figura 9-3). They are classified in a tree structure, all operations taking place on the currently selected tree node. Click on

the different available buttons to create folders, add separators, etc. Click on the Properties button to change the current bookmark's name or URL.

To export bookmarks to an HTML file choose File→Export, type a file name (`bookmarks.html` by default) and click on Save.

To import bookmarks from an HTML file access File→Import, enter the name of the file you want to import and click on Open.

9.4. Tabbed Browsing

Firefox allows you to browse many web pages at a time through tabbed browsing. Tabs let you browse many sites at once without opening another browser window. Just hit **Ctrl-T** to open a new tab.

Figura 9-4. Firefox Tabs

Located at the right of the tab list the red cross button allows you to close the current tab. By right-clicking on it you access more options.

9.5. Extensions

Extensions are add-ons or plugins which enhance Firefox's functionalities. To install extensions access Tools→ Extensions and then Get More Extensions.
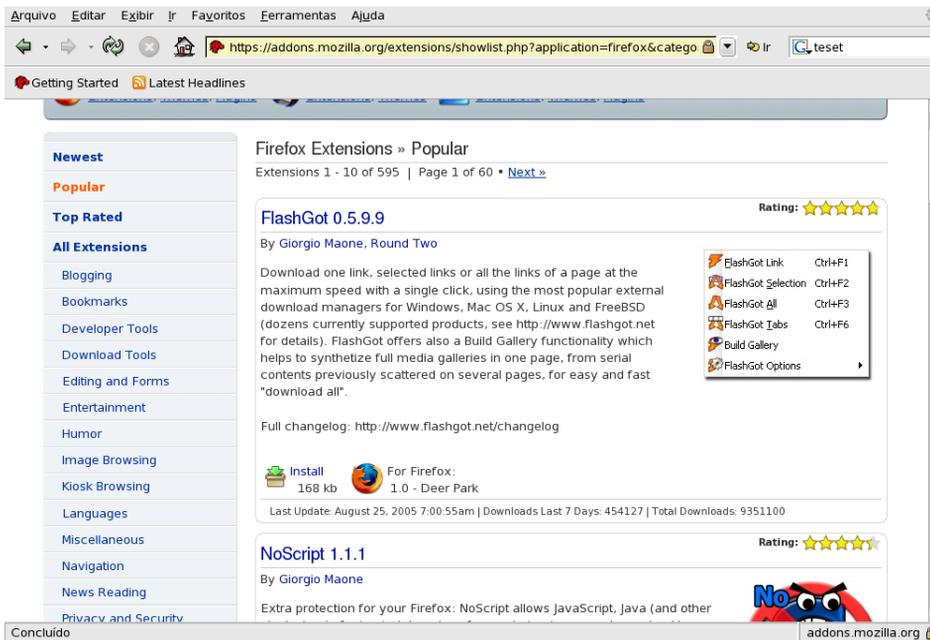

Figura 9-5. Firefox Extension Page

Once you find an extension which interests you click on it and install it. You need to close and reopen your browser for the extension to be activated. Access the Extensions sub-menu again. The new extension will be there and you can check out its Options.

9.6. Themes

A theme is what determines a window's appearance. To acquire new themes:

- access the Tools→Themes submenu;
- select a theme and install it;
- close and reopen Firefox.

9.7. Installing Plugins

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

We will look at the procedures to install Java™, Flash® and Real plugins. If you own a commercial version of Mandriva Linux, installation is greatly simplified and all the needed packages are on the CDs. If not you will need to find them on the Web yourself.

> If you are a Mandriva Club member, you may be able to install even newer versions of the software mentioned here.

9.7.1. Java™, Flash® and Real Player

To use Java install the `jre` RPM package. To view sites built with Flash technology install the `FlashPlayer` RPM. To listen to streaming media install the `RealPlayer` RPM (see Capítulo 13).

Using Mandriva Linux on a Daily Basis

The following chapters introduce the applications available under Mandriva Linux, such as file managers and external devices.

First, we explore the office suite domain. We discuss the basic uses of OpenOffice.org placing emphasis on its word processing (Seção 10.1) and spreadsheet (Seção 10.2) components.

The next section (Seção 10.3) discusses Konqueror to manage or share files. You can also browse the web with Konqueror. Then we guide you through basic printing operations (Seção 10.4).

Multimedia applications are a must for any OS to be considered as a personal workstation. We introduce you to the multiformat amaroK audio player (Seção 11.1.1), the KsCD CD player and KMix (Seção 11.1.3), a simple mixer. Then we show you how to use popular open-source movie applications such as Kaffeine (Seção 11.2) and how to burn music, data and even mixed data onto CDs using K3b (Seção 11.3).

Capítulo 10. Escritório

10.1. Word Processor

This section will give you a brief introduction to OpenOffice.org Writer's word processing functions.

In order to make the text a little easier to read, we will alternate between the popular OOo acronym and the very long, yet full and correct OpenOffice.org name.

10.1.1. OpenOffice.org Writer

OpenOffice.org Writer is the part of the OpenOffice.org suite which provides the word processing functions. OpenOffice.org Writer can read most popular Office formats, easing the transition from, and ensuring compatibility with, other Office suites.

10.1.1.1. Starting

To launch OpenOffice.org Writer, select Office→Wordprocessors→OpenOffice.org Writer from the main menu. You can also open it from any other OOo application screen, by selecting File→New→Text Document, which will open a blank OOo Writer document.

When you first launch OpenOffice.org Writer, a dialog will show up asking you whether you prefer to use the Microsoft® or OpenOffice.org format to save your files.

Your decision depends on whether you plan to exchange a lot of files with people who only use Microsoft® tools. If this is the case, click Use the Microsoft ® Word file format, but be warned that it is not perfectly supported. Also this is only the default format and can always be overridden by changing the File type in the Save as dialog.

10.1.1.2. Interface
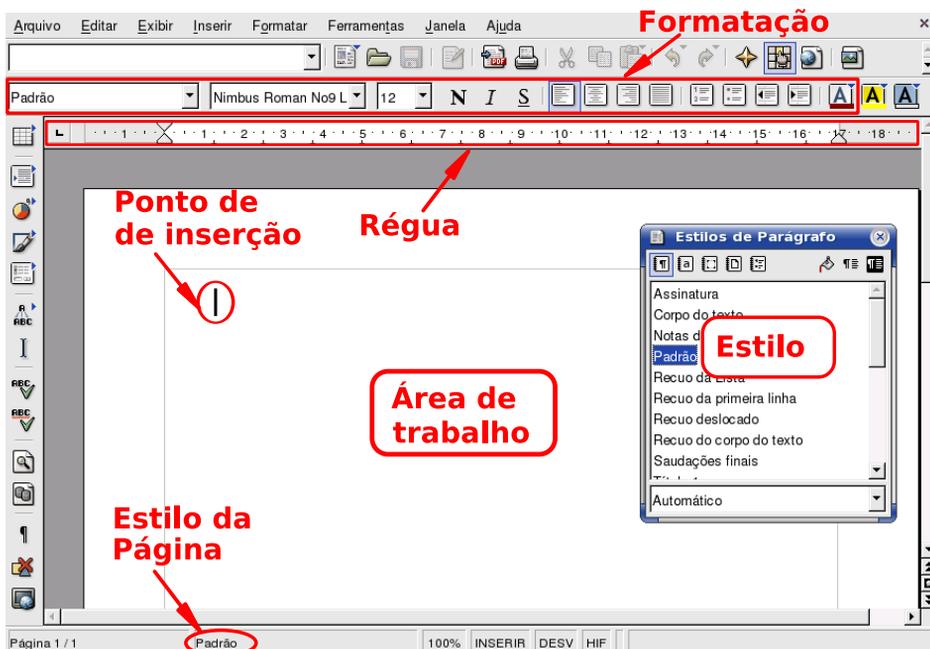
Figura 10-1. OpenOffice.org Writer's Main Window

10.1.2. Using the Word Processor

10.1.2.1. Styles

Word processor users often waste a lot of time formatting (changing paragraph alignment, font family, weight and size, etc.) their documents instead of using that time to concentrate on document structure and document 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 table of contents (TOC), indexes, references, etc. In OpenOffice.org Writer, styles are handled using the Stylist, click on its icon in the tool bar to open/close it.

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

Tabela 10-1. Suggested Styles

Use the styles listed in Tabela 10-1, 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.

> The styles you use from the Stylist automatically become available in the styles drop-down list (the first one in the format bar), so you have the most used styles handy.

10.1.2.2. Margins

You can always adjust margins by hand with the ruler, but if you want to format a long document, this may not be the best solution. This is where the Stylist comes in handy.

By clicking on this icon in the Stylist, you will access the page formatting section of the Stylist. First, make a copy of the Default style:

1. Right-click on the Default item in the Stylist.

2. Choose New from the menu which pops up.

3. Assign a Name to your new style. The Next Style field will be updated accordingly when you select it. For the purpose of this example, `Default Copy` will be used as the style name.

4. Click on OK to insert your new style into the list of available styles.

Then, right-click on your newly created style item and choose Modify from the pop-up menu. The Page Styles: Default Copy window will appear. Open the Page tab and modify the margins to your liking.

> This is the same as choosing the Format→Page menu.

In the Page Styles: Default Copy window, you can modify many formatting elements. If most of your work with a word processor consists of writing business letters with a predefined format, you could set it up right now, thereby saving lots of time.

> If you modify an existing style, you will overwrite that style's original settings. If you feel that you have made a mistake, simply click on the Reset button to return to the last saved settings.

10.1.2.3. Lists

Use lists to enumerate the properties of an object ("unordered" or "bullet" list), or the steps to be performed in order to accomplish some task (an "ordered" or "numbered" list).

Clicking on this button will format the selected text into an unordered list. Selecting the list items and choosing Format→Numbering/Bullets from the menu will allow you to change the bullet type from a predefined set.

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

10.1.2.4. Page Headers and Footers

By default page headers and footers are common to **all** pages of a document. Use them to describe certain aspects about the document's content, for example: page number, total number of pages, chapter, section, document's 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/footer text you want to be shown or use one or more of the Insert→Fields menu items to compose the header/footer.

10.1.3. Going Further

If you wish to learn more on the usage of OpenOffice.org Writer, you should consult the tutorial available on the Tutorials for OpenOffice (`http://www.tutorialsforopenoffice.org/category_index/wordprocessing.html`) Web site.

Also don't hesitate to refer to the OpenOffice.org Writer's help which is accessible through the Help→Contents menu, or by pressing the **F1** key. You are bound to find the answers to your questions.

> OpenOffice.org Writer is able to 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.

10.2. Spreadsheet

This section will give you a brief introduction to OpenOffice.org Calc's spreadsheet functions. We take for granted that you know why you intend to use a spreadsheet and will not delve deeply into application-specific (accounting, financial, simulation, etc.) considerations.

10.2.1. OpenOffice.org Calc

10.2.1.1. Starting

To launch OpenOffice.org Calc, select Office→Spreadsheets→OpenOffice.org Calc from the main menu. You can also open it from any other OpenOffice.org application screen, selecting File→New→Spreadsheet, which will open an OpenOffice.org Calc window with a blank spreadsheet on it.

When you first launch OpenOffice.org Calc, a dialog will show up asking you whether you prefer to use the Microsoft® or OpenOffice.org format to save your files.

Your decision depends on whether you plan to exchange a lot of files with people who use only Microsoft® tools. If this is the case, click Use the Microsoft® Excel file format, but be warned that it is not perfectly supported. Also note that this is only the default format and can always be overridden by changing the File type in the Save as dialog.

10.2.1.2. Interface

Figura 10-2. OpenOffice.org Calc's Main Window

Format Bar

> This is the standard format bar for all OpenOffice.org applications used 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

> 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 will select **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. Use these buttons to easily navigate through each of the spreadsheet's sheets. You may also use the tabs to switch between sheets.

10.2.2. Using the Spreadsheet

The following sections explore basic functions such as entering data and formulas in the spreadsheet and adding graphics to represent that data. An example of an imaginary company's monthly expenses and sales figures is used.

OpenOffice.org Calc is an enterprise-ready spreadsheet application and includes many features way beyond the scope of this document. Consult Seção 10.2.3, for more information on how to make full use of OpenOffice.org Calc.

10.2.2.1. Entering Data

To enter data into a cell navigate to the cell and type the data in 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 series of consecutive integral numbers.

To use auto-completion put your mouse over the cell "handle" (the little black square located at the bottom right of the cell border), click on it and drag the cell. The cell values will be shown in a tool-tip. 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, orden and additional options and click on the OK button to sort the cells.

> Make sure you also select columns and rows which act as "headers" for the data in order for those to "follow" the sorting of the data.

10.2.2.2. Adding Formulas

Formulas can be used to "automate" the spreadsheet allowing you, for example, to 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 to `3` times the value of cell `A25`. Thus, 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, explore them by choosing the Insert→Function menu.

10.2.2.3. Charts: Explaining Data in a Simpler Way

When a spreadsheet contains too much information it often 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 chose 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 on Create to create and insert the chart in the spreadsheet (see Figura 10-3).

Figura 10-3. 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 will be automatically updated.

Clicking and then right-clicking on an inserted chart brings up a menu showing options to change many chart parameters. For instance, the chart's title can be changed by double-clicking on it.

10.2.3. Going Further

If you wish to learn more on the use of OpenOffice.org Calc, you should consult the tutorial available at the Tutorials for OpenOffice (`http://www.tutorialsforopenoffice.org/category_index/spreadsheet.html`) Web site.

Also, don't hesitate to refer to OpenOffice.org Calc's help accessible through the Help→Contents menu, or by pressing the **F1** key. There you are bound to find answers to your questions. Topics are accessible through a table of contents. An index is also available as well as a contextual search tool.

10.3. Managing Your Files

File managers have grown to become multi-tasking applications, which don't only take care of basic tasks such as copying and moving files around. With Konqueror you can browse a LAN, listen to songs, view your photos, and more.

Access your file manager by clicking on the Home icon located on the top left of your desktop.
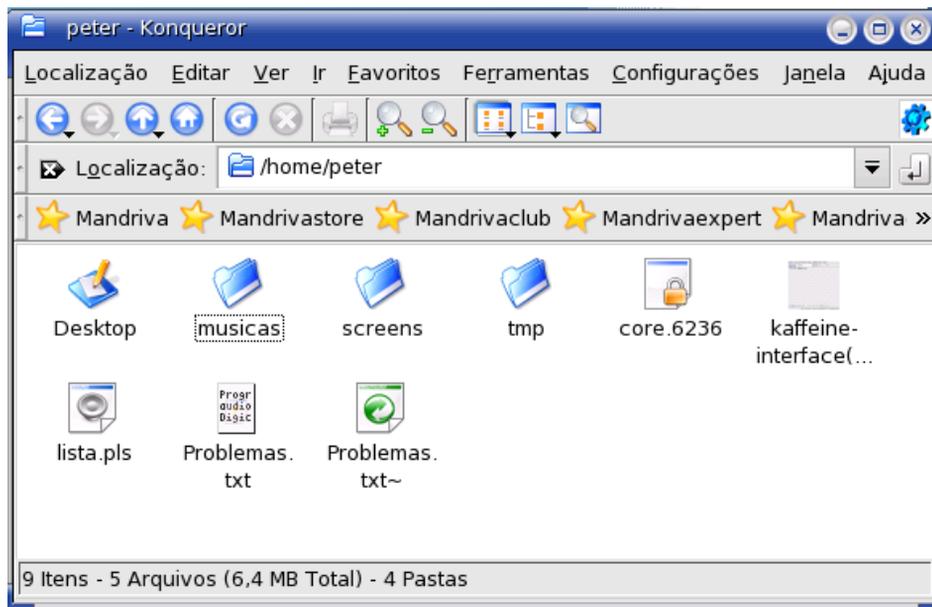
Figura 10-4. Konqueror's Main Window

10.3.1. Sidebar

A sidebar may appear on the left side of the main view. Select Window→Show Navigation Panel (or use the **F9** key) to show it.

Here are short definitions of the icons in Konqueror's sidebar:

Icon	Meaning
	amaroK. Gives you access to the `amaroK` music player (Seção 11.1.1).
	Bookmarks. Quick access to your bookmarks.
	History. Permits you to access folders and network (web, FTP, etc.) sites you visited recently.
	Home Directory. Represents your personal folder in which you organize your personal files.
	Network. Gives you access to FTP archives as well as to Mandriva Linux- and KDE-specific web sites (of course, you can add or delete entries too).
	Root Folder. Lets you access your whole tree structure. Usually, you don't have sufficient rights to manipulate files outside your home directory. Only the system administrator (`root`) can.
	Services. Gives you access to all your applications as well as your Audio CD Browser, your Fonts, your LAN Browser, Printer Browser and your system Settings.

Tabela 10-2. Konqueror Sidebar Icons

10.3.2. Accessing Storage Media

Access the Go→Storage Media menu to read the contents of your USB keys, external hard drives as well as every media your computer holds (hard disks, mounted partitions, CD drives, etc.).

10.3.3. Manipulating Files

> There are many ways to manipulate files within your file manager. Drag'n'drop, keyboard shortcut combinations, opening two file managers, etc. Choose the method you prefer (check out the Edit and Window menus).

Copying Files. The easiest way to copy a file elsewhere in your tree structure is to select it and then to press the **Ctrl-C** keys. Go in the directory in which you want to copy the files and press the **Ctrl-V** keys.

Moving Files. The same principle applies to moving files around. Cut the file using the **Ctrl-X** keys and paste it with **Ctrl-V** keys.

Linking Files. Linking files allows you to access them without actually copying them to a different location. Let's imagine one of your files is buried into the `/home/queen/Music/Artists/FavoriteArtist/` directory and you want to access it quickly. Simply drag it to the desired folder, release the mouse button and select Link Here.

Deleting Files. The safe way to suppress a file is to move it to the Trash, while the unsafe way is to delete it for good directly. Select a file and press the **Del** key to suppress it. To restore it, double-click on the Trash icon on your desktop and drag the file(s) back into your Konqueror. To delete trashed files, simply Empty Trash Bin by right-clicking on the Trash icon. To delete a file directly and permanently, select it and press the **Shift-Del** keys.

10.3.4. Browsing Web Pages

If you frequently browse through directories containing HTML files, for example your distribution's documentation, these directories generally contain a file called `index.html`.

Let's take the `/usr/share/doc/mandriva/en/Drakxtools-Guide.html/` directory as an example. Click on `index.html` to display its contents and browse through the documentation.

10.3.5. Compartilhamento de Arquivo

This feature allows you to share your documents with other people on a local network and access documents other people share. It also enables system administrators to provide users with common repositories where everyone can add, modify and consult files.

10.3.5.1. Sharing Files

If file sharing is activated through the Mandriva Linux Control Center (please see Seção 17.5) right-click on folders in your Konqueror window and choose Share which enables you to share one or as many folders as you like through NFS[1] or Samba[2].

10.3.5.2. Browsing Shared Files with Konqueror

> The `lisa` package must be installed for LAN browsing to work. If not, you will have to start the `lisa` service after installing it.

Browse all available shared files on the network by opening the LAN Browser section in the Services sidebar. All machines offering shared files will appear as folders under this section. Inside the host name folder appears one folder per protocol supported by this machine. Those may be:

FISH

> This protocol relies on `ssh` communications. Every local machine running an `ssh` server is able to connect (providing proper authentication) and browse all the folders you have access to.

NFS

> Under this Remote Share folder the shares provided by UNIX® machines are displayed (see Seção 17.4).

SMB

> Shares provided by Windows® or SMB-enabled machines (see Seção 17.3) show up under this Remote Share folder.

10.4. Printing and Faxing from Applications

GNU/Linux applications support a simple printing method based on a program called kprinter which can even be used to build PDF files and to send faxes.

10.4.1. Accessing KPrinter

Just click on any application's print button to invoke the printing interface. In most cases, this is kprinter. Select the different printing settings and click on the Print button to start printing.

Every X application which supports the definition of its printing command can use kprinter. All you have to do is invoke the application's print options, look for an option named "Print command", "Printer", "Printer Options" or similar, and fill it with `kprinter --stdin`. Then when clicking on the Print button kprinter's main window is displayed (no actual document will be printed at this point).

---

1. NFS (Network File System) allows you to share files to or from your computer in a networked environment. Although the NFS setup is easier than the Samba one, it can **only** be used within a UNIX®-based system (like GNU/Linux). Moreover, NFS is an insecure protocol and should be used exclusively in a secure local network environment.
2. SMB is a protocol by which PCs share resources such as files and printers. Windows® and GNU/Linux (through Samba) and OS/2 operating systems, among others, support the SMB protocol. It can be considered an alternative to Netware and NFS.

10.4.2. KPrinter's Interface

kprinter allows you to set many options for printing your documents[3], such as the output device (generally a physical, local or remote printer), the number of copies, the paper size, the printer resolution, etc.

Figura 10-5. KPrinter Window

Choose the printer using the pull-down list in the Printer section. You can further configure the printer settings by clicking on the Properties button. Click on the Options >> button at the bottom to set more printing options and on the System Options button to access global printing configuration.

> Usually, your local printer, the "Print to file" printers (both PDF and Postscript) and the "Fax" printer are listed. However, if you are in a network, all printers available on the network will be listed too, so network printing becomes very simple.

---

3. The actual printing options you are able to set depend on the output device you have selected.

10.4.2.1. Printer Properties

Figura 10-6. Printer Properties Window

One option worth mentioning is Pages per sheet (set to 2 in the example). This allows you to put up to 4 pages onto a single sheet of paper (or 8 if you can print on both sides). This is a nice feature to save paper when printing book drafts or other lengthy material which changes often.

Figura 10-7. Changing Printer Resolution

Click on the Driver Settings tab to change printer-specific options such as the resolution of the printing device. When you click on the Resolution option the available resolutions are displayed, select the one you want from the list.

Other settings include printing modes which use much less toner or ink (search for something like "Economy Mode", "Toner Density" or "Toner Saving"). However, the output is much paler. If this is not available, choosing a lower resolution often has similar effects.

> Use the Save button to store current settings, making them the defaults for subsequent printing jobs.

10.4.3. Building PDF Files

Select the Print To File (PDF) special printer, enter the file name in the Output file field as shown in Figura 10-8, and click on Print to build a PDF file.

Figura 10-8. Generating a PDF File

10.4.4. Sending Faxes

The special Send To Fax printer allows you to send the document you are working on directly by fax[4]. When you click on the Print button, a dialog (Figura 10-9) will appear.

---

4.   Of course a modem fax must be installed on your computer and connected to the phoine line.

Figura 10-9. Faxing Main Window

The first time you need to make sure that your fax modem is properly configured, select Settings→Configure KdeprintFax from the menu. Fill the information under the Personal section with your name, company and fax number. In the System section make sure that the correct faxing system and its corresponding parameters are set. An example is shown in Figura 10-10.

Figura 10-10. Fax Settings

Fill in the Fax number field and click on the Send Fax button, or press the **Enter** key, to send the fax immediately.

The View Log button (**Ctrl-L**) shows a window with the fax activity log (check it to make sure your fax has been sent correctly).

The Address Book button (**Ctrl-A**) opens the KDE address book to let you select fax numbers to dial.

Capítulo 11. Aplicações de Audio, Filmes e Vídeo

11.1. Audio Applications

11.1.1. amaroK Audio Player

`amaroK` is "the" multimedia application to use to listen to your favorite music. You can organize your music in collections, get information about recordings like artist, lyrics, album covers, and more.

In this section we will go through its essential features. Choose Multimedia+Sound→Amarok from the main menu to launch `amaroK`.
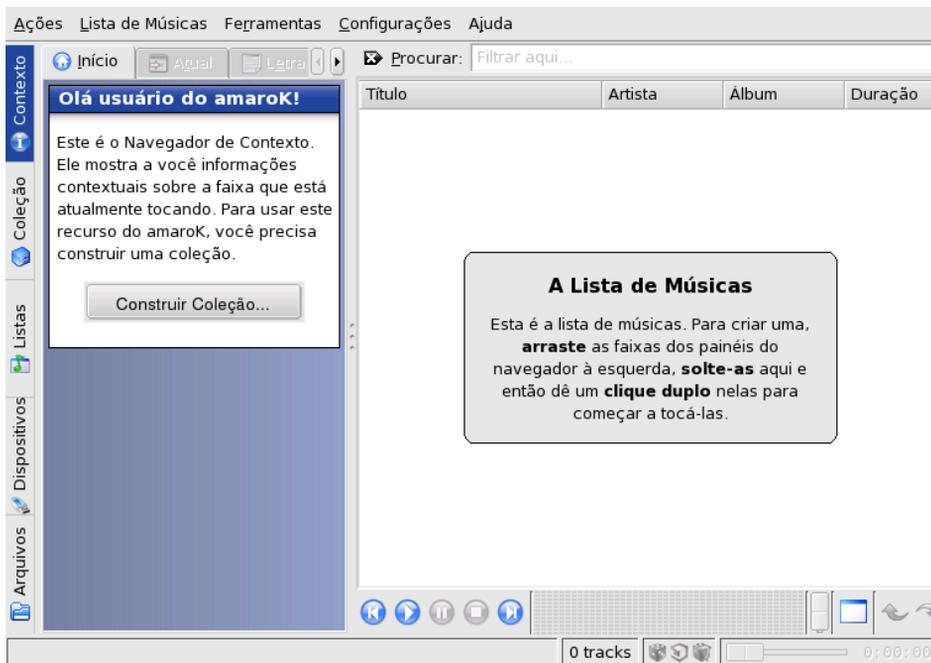
Figura 11-1. amaroK's Main Window

Once `amaroK` is launched this icon will appear on the panel. Right click on it to access its options.

Click on the Build Collection button to configure a collection, check all folders you want `amaroK` to look for music files and click Ok to start building the collection.

Choose Settings+Configure amaroK→Collection from the menu to add more folders to your collection. Then choose Tools→Rescan Collection from the menu to update the 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.

Click on this tab to access all your playlists. If you don't have any you can listen to the Cool-Streams which is a collection of techno streams. To build a playlist, simply drag tunes into the playlist then select Playlist→Save Playlist As and give it a name.

Click on the Media Device Browser tab to transfer songs to your iPod.

Finally this icon allows you to access you local file system. You can use it as an alternative to `amaroK`'s Collection.

11.1.1.1. Burning Tracks with K3B through amaroK

Right-click on songs or music folders and access the Burn contextual menu (it's slightly different whether you choose to burn an entire album or a single song). You can burn in two formats: the "data" format means you'll be able to listen to the songs on your computer and your MP3 player, for example. On the other hand, the "audio" format only permits you to listen to the music through a traditional CD player.

11.1.1.2. Cover Manager

Access the Tools→Cover Manager menu for album covers to be displayed in the Context Browser.

Figura 11-2. amaroK Cover Manager

Click on Fetch Missing Covers to recover missing album covers. To find covers from a specific artist, type his/her name in the filter input box ( ).

11.1.2. KsCD CD Player

When you insert an audio CD in your CD drive the KsCD player starts up.

Figura 11-3. KsCD's Main Window

On the left you have the typical CD player controls: Play/Pause, Stop, Eject, etc. The ones below alter the playing order. Then, there are buttons to give you information on the disk you are listening to and to access more advanced configuration options.

11.1.3. Using the KMix Mixer

KMix is a sound card mixer application under KDE. It allows you to fine-tune your sound cards through various sliders.
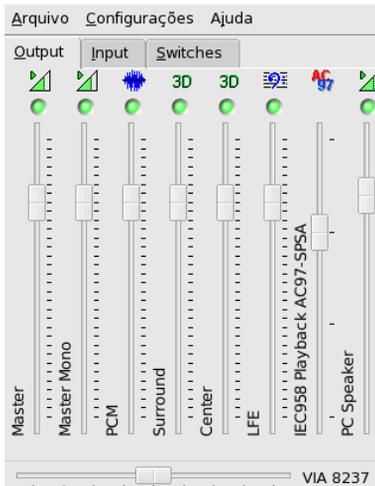
Figura 11-4. KMix Main Window

The Output tab controls the volume levels of the sound sources of your sound card. The most important one is the Master 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 green dot at the top of a column will mute/unmute that sound source.

Clicking on this icon pops up a slider which lets you control the master volume, as well as mute all sound and launch the full mixer window.

The Input tab controls the volume levels of the recording sources of your sound card. If you use videoconferencing software or are a musician, this is where you'll want to adjust your microphone and your auxiliary devices. Clicking on the green dot at the top of a column will mute/unmute that recording source, the red dot at the bottom enables or disables it.

The Switches tab goes deeper into your sound card's configuration. Boosting your microphone, using an external amplifier: these features are for advanced users who wish to **really** master their sound system. To activate them, simply click on the dot at the top of each column.

Finally the horizontal slider enables you to balance your sound between the left and right speakers. Notice that if your sound card supports separate levels for master's right and left, the Output's Master controllers will be modified following the movement of the horizontal balance slider.

11.2. Movie Applications

11.2.1. Introduction

The main problem with video players under GNU/Linux is that most popular video codecs are proprietary, and to implement them in a free software application (mainly due to the cost of licensing), the codecs have to be reverse-engineered. This is very complex and may not be legal in some countries, which limits the availability of such codecs, and thus the type of video files which may be displayed under GNU/Linux.

For example, it's virtually impossible to play some compressed digital video files or DVDs without downloading the corresponding codecs from the Internet.

> ⚠️ In some countries, the status of DVD playback and reverse-engineered codecs are still under review. That is why Mandriva doesn't include all the plugins to use those codecs[1]. The information included here is meant to help Mandriva Linux users who know that, in their country, using these codecs and plugins is legal. **Mandriva does not encourage law violation and you should verify the law(s) which apply in your case before you download and use these codecs and plugins**.

11.2.2. Kaffeine

Kaffeine is based on Xine libraries which can play video files and streams.

Double-clicking on a supported video file launches Kaffeine, opens the file, and starts playing it. You can also launch Kaffeine by selecting Multimedia+Video→Kaffeine from the main menu.

> 📝 The first time you run Kaffeine, a configuration wizard pops up and we recommend you accept the default options.

Figura 11-5. Kaffeine's Interface

Kaffeine's simple interface (Figura 11-5) is composed of the following:

- Display Area. Where the movie being played is shown. Press the **Ctrl-Shift-F** keys to switch between full-screen and windowed modes.
- Position Control. You can "jump" to any part of the movie by dragging the slider right (or press the right arrow key) to forward; drag the slider left (or press the left arrow key) to rewind.
- Volume Control. Drag the slider right (or press the plus key) to make the sound louder; drag the slider left (or press the minus key) to make it softer.
- Play Controls. A reduced set of the usual VCR controls: Previous, Play/Pause (keyboard shortcut: **Space Bar**), Stop (keyboard shortcut: **Backspace**) and Next.
- Status. Located at the bottom right of Kaffeine's window, it shows some information about the playlist and the movie being played.

Simply insert a DVD in the disc in the drive and Kaffeine starts playing the DVD title. We recommend you use full-screen mode to play DVDs.

11.2.3. Other Movie Applications for Linux

Xine

> Xine is one of the most interesting video application for GNU/Linux. It supports a wide range of formats and input sources. It's fast, flexible and extensible. It's also provided as a library on which many players are based.

MPlayer

> MPlayer is yet another interesting application and supports multiple output drivers, and even older video cards. It can also handle DVD, AVI, VideoCD, amongst others. However you'll probably have to download and install winDLLs and proprietary codecs to make it work with many popular video formats. On one hand this might seem unfortunate, but on the other it gives you access to all formats supported under Windows®.

Totem

> Totem is a GNOME 2 application based on Xine's libraries. As you might imagine, its capabilities are very similar to those of its "parent", but it's better integrated in the GNOME environment.

11.3. CD Burning

In this section we discuss using K3b to perform common CD burning operations. K3b also supports DVD recording, but we only concentrate on CD recording in this section. You only need to install the `k3b-dvd` package. 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. The examples provided here are informational only and aren't intended to make a CD/DVD pirate out of you. We assume that if you want to duplicate copyrighted material, it's because you have the right to do so.

11.3.1. Getting Started

K3b is automatically configured to give normal users access to the CD burner. However, we highly recommended that these users be part of the `cdwriter` group to minimize burning errors due to system overload. So, go ahead and add those users to the `cdwriter` group. Please refer to Seção 16.6, for information on users and group management.

Choosing System+Archiving+CD burning→K3b from the main menu starts K3b. Figura 11-6 shows K3b's interface with a new data project open.
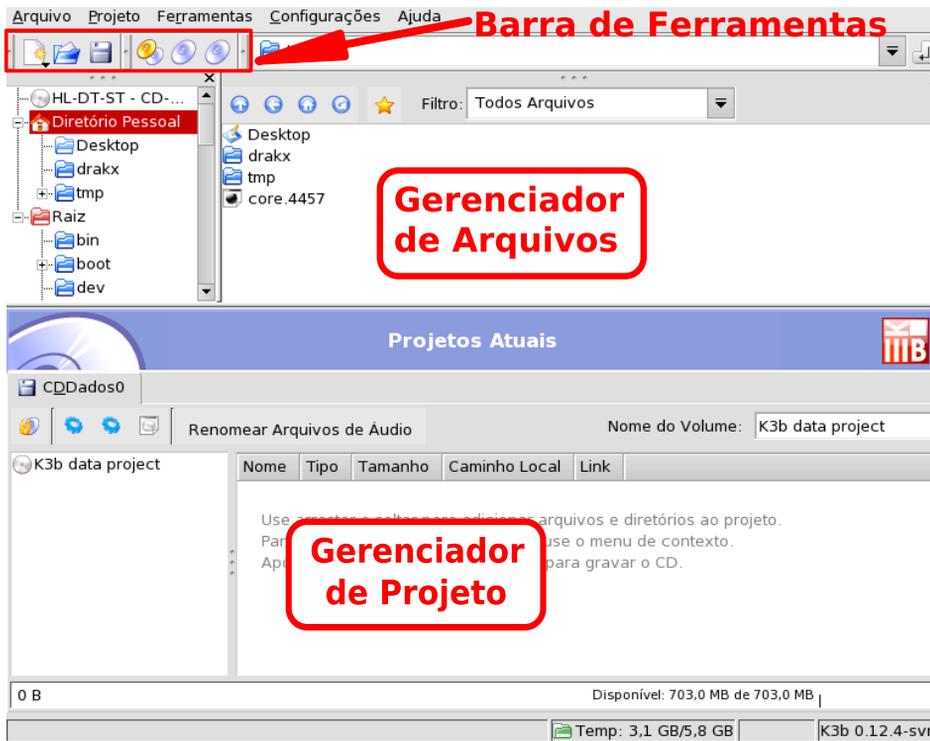
Figura 11-6. K3b's Interface

Tool Bar. Where buttons to perform common actions lie. See Tabela 11-1.

File Manager. To choose which files to include in the burned CD. Use the left-side tree to navigate the file system and drag and drop the files you want to include in the project 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 tool-bar, 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.

Button	Keyboard Shortcut	Function
		Create a New Project. Once you click on this button a list of available project types are shown: choose New Data CD Project to create a data CD (see Seção 11.3.2) ; choose New Audio CD Project to create an audio CD (see Seção 11.3.3); choose New Mixed Mode CD Project to create a mixed mode (data+audio) CD; choose New Video CD Project to create a digital compressed video CD; choose New eMovix CD Project to create an eMovix (`http://movix.sourceforge.net`) CD.
	Ctrl-O	Open an Existing Project. A standard file dialog opens from where you can choose the project you wish to open. Select the project you are interested in and click the OK button.
	Ctrl-S	Save the Current Project. A standard file dialog opens where you can enter the name under which the current project will be saved. Type the name of the project and click the Save button.

Button	Keyboard Shortcut	Function
		Copy a CD. To make an exact copy of a CD. It opens a window which asks for the copy settings. Refer to Seção 11.3.4, for more information. Please note that you cannot duplicate copyrighted DVD movies with this function, they are encrypted.
		Erase a CD-RW. To erase re-writable media. It opens a window which asks for the erase operation settings. Please refer to Seção 11.3.6, for more information.

Tabela 11-1. K3b's Toolbar Buttons

11.3.2. Burning Data CDs

11.3.2.1. Burning From an ISO Image

Let's presume you 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 Figura 11-7).
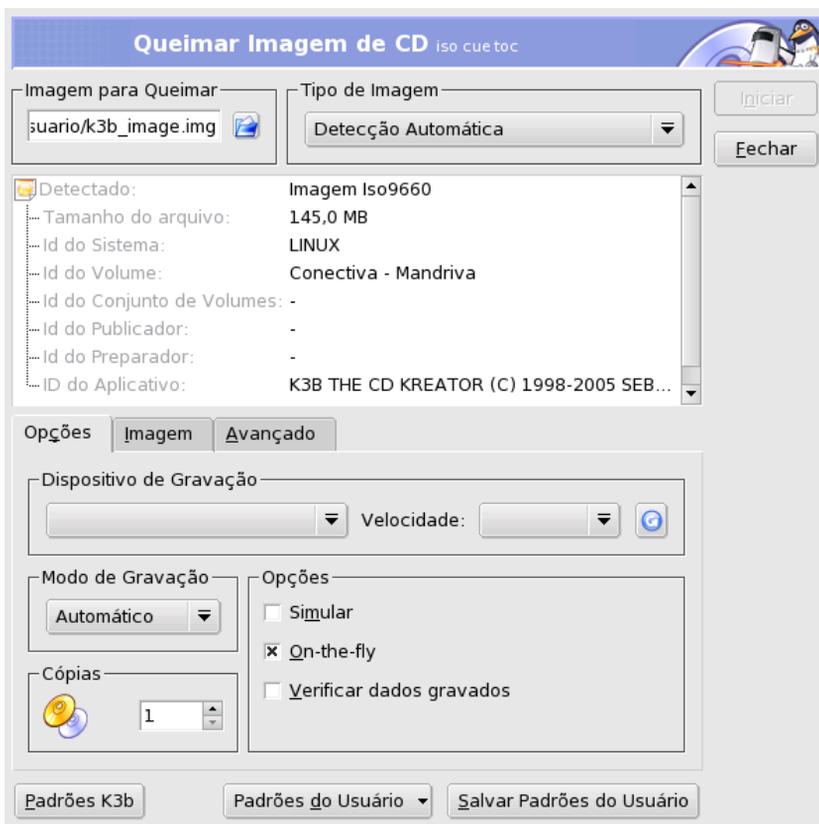
Figura 11-7. Burn CD Image Options

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

> If an already written re-writable medium is found in the CD burner, a dialog pops up asking you whether to erase it first. Click Yes and follow subsequent instructions if you want to erase it, or change the medium for a non-written one and click No.

> 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 between the two limits the maximum recording speed.

11.3.2.2. Burning a Set of Files or Directories

Choose File→New Project→New Data CD Project from K3b's menu shown in Tabela 11-1). Then drop into the Project Manager the files and directories you want to include on the CD (see Figura 11-8).
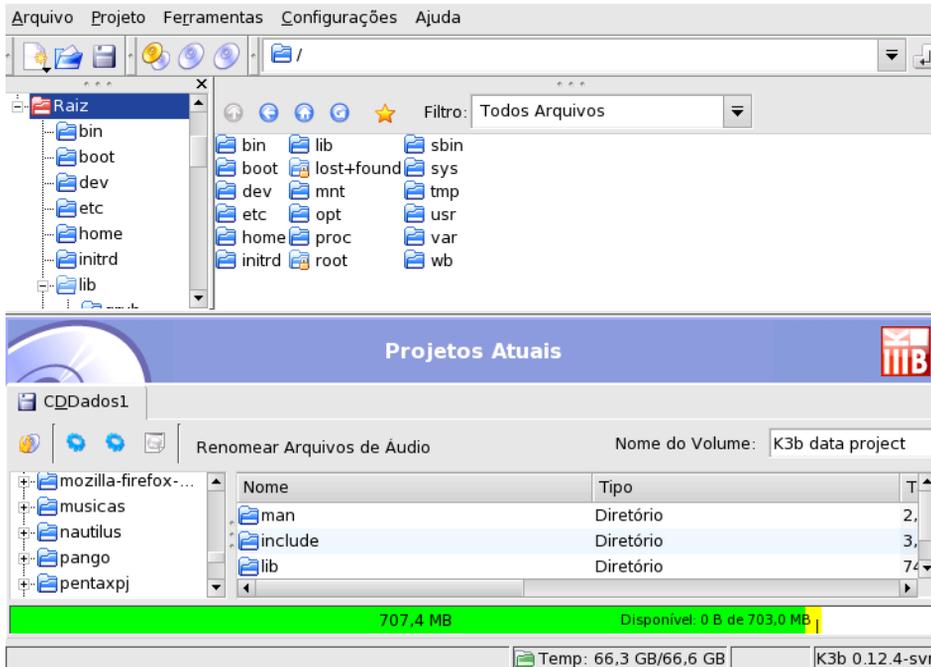
Figura 11-8. Selecting Files and Directories to Include on a CD

> 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 quantity expressed in MB and the available MB of the medium's total capacity. The bar's color codes are as follows:

Green

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

Yellow

   The set's size 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 medium's capacity, the CD might be written without problems, but there's little guarantee of success.

Red

   The set's size exceeds the medium's capacity by many MB. The CD won't be recorded 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 (`K3b data project` by default for data CDs).

Choosing the Project→Burn menu entry displays a window where you can select writing parameters (see Figura 11-9). Insert a recordable medium in the CD burner and click the Burn button to start writing the CD.
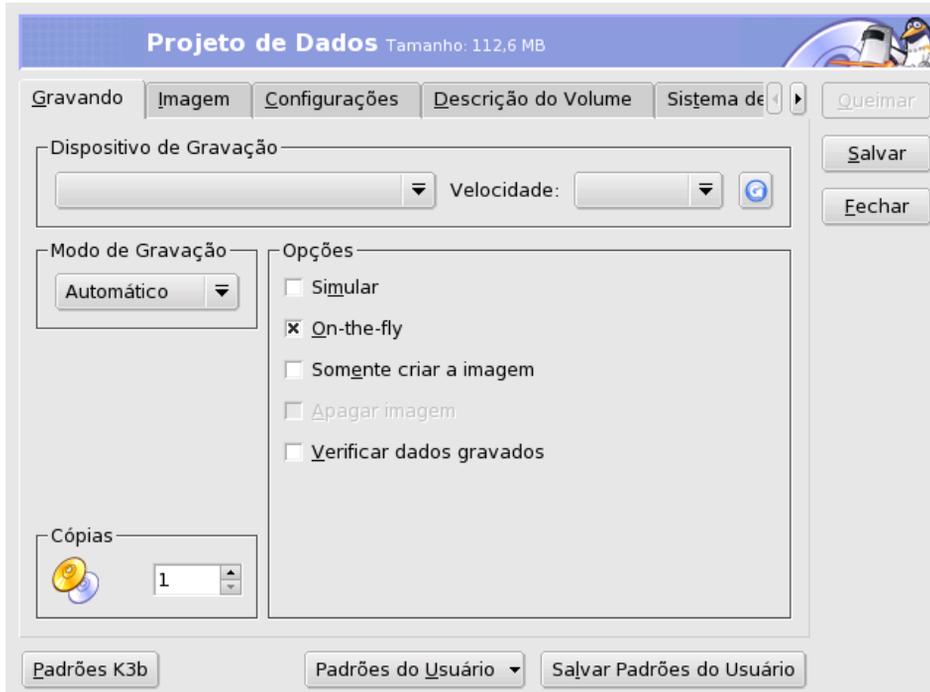
Figura 11-9. Setting Writing Parameters

11.3.3. Burning Audio CDs (CDDA)

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

At the time of writing, 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 CDs, also known as "ripping" (see Seção 11.3.5).

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 the audio tracks and drop them in the Project Manager (see Figura 11-10).
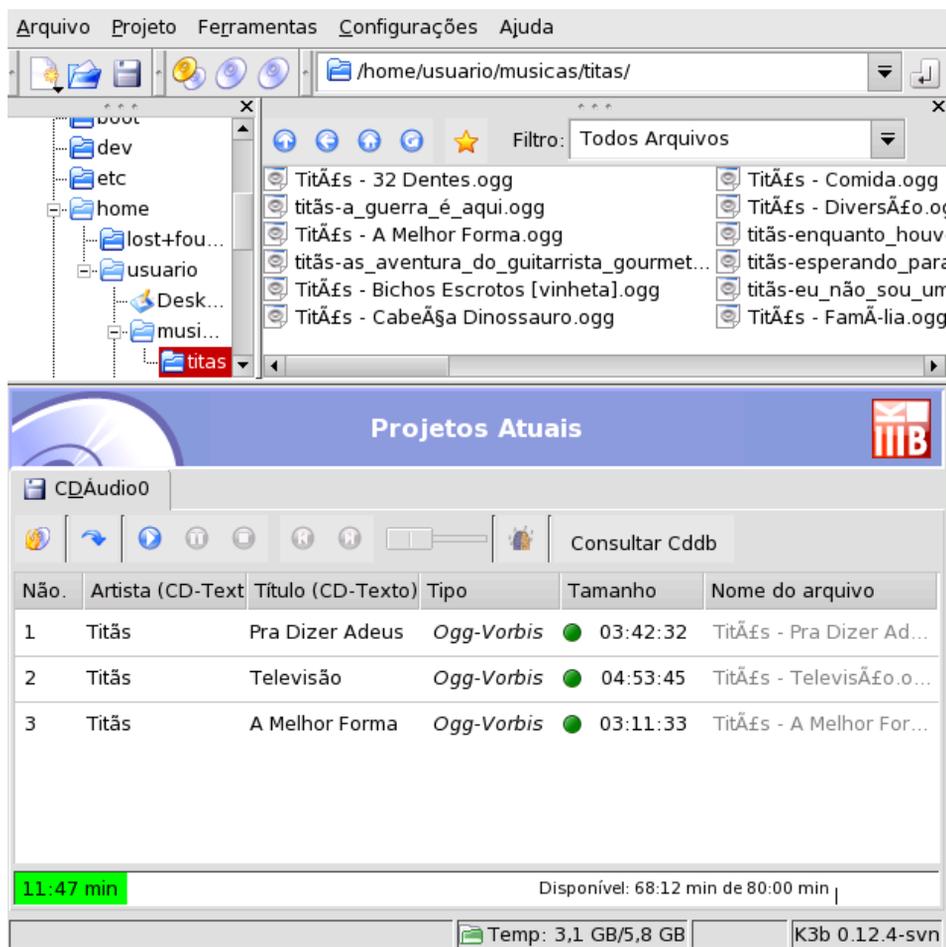
Figura 11-10. Selecting Audio Tracks to Include on the CD

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.

11.3.4. Duplicating a CD
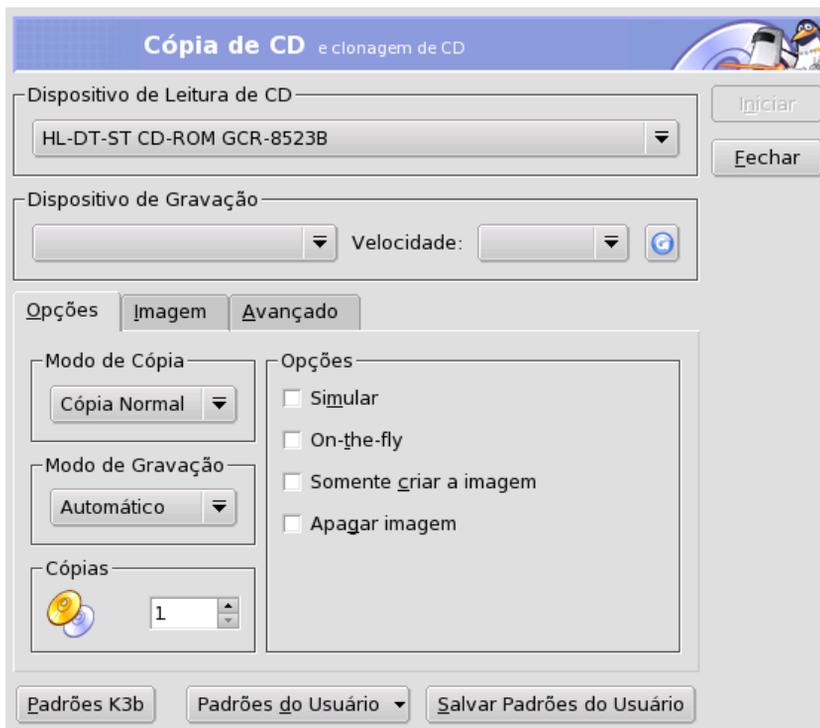
Figura 11-11. Setting Options to Copy a CD

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 on Start. The "source" CD is then read, an image of it is made and the "target" CD is written.

11.3.5. Audio CD Extraction (Ripping)

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

Insert the audio CD to rip tracks from and double 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. Remove the check mark from those you don't want to rip and click on the gears button to show a dialog to set ripping options (see Figura 11-12).
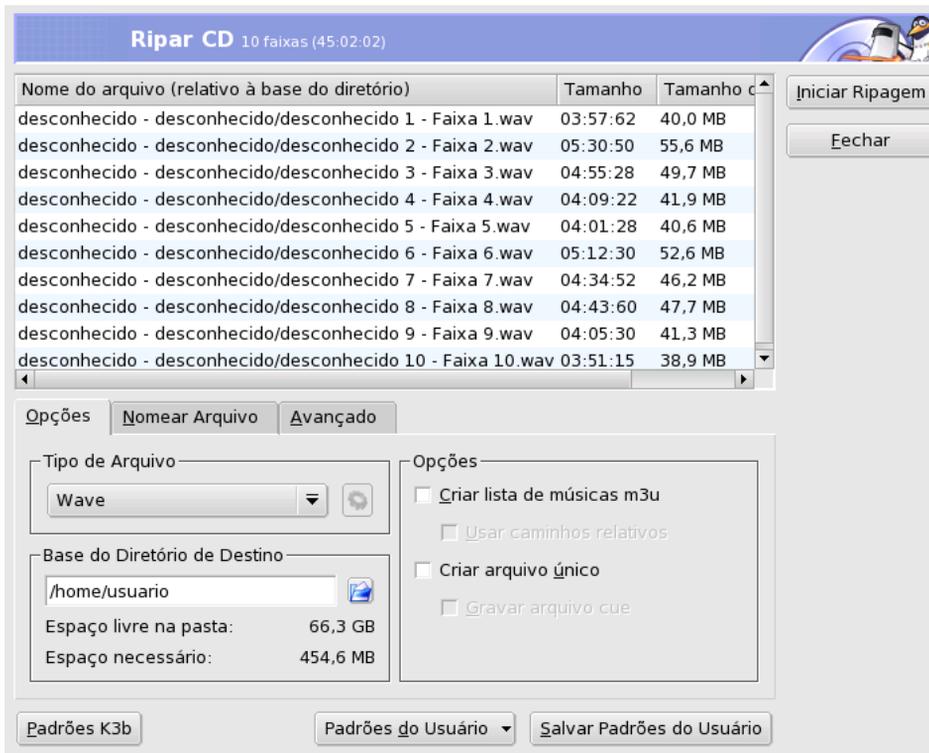
Figura 11-12. CD Ripping Options

Review the different ripping options (notably the file naming ones) and once you're satisfied with your settings click on the Start Ripping button.

11.3.6. Erasing CD-RW media

Figura 11-13. 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, choose Tools→ Erase CD-RW from the menu (see Figura 11-13). 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. Insert the medium on the CD burner and click the Start button to erase the CD-RW.

Capítulo 12. Introduction to the Mandriva Linux Control Center

12.1. MCC's Components

The Mandriva Linux Control Center (MCC) enables 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 (System+Configuration→Configure Your Computer).

Figura 12-1. The Control Center's Main Window

Here are some of the available menu entries:

- **Options→Display Logs.** When activated this option displays a Tools Logs window. It shows all system modifications made by the configuration tools launched from within the Mandriva Linux Control Center.
- **Options→Expert mode.** Gives you access to some of the more advanced tools, which are marked in the table below.
- **Profiles.** This menu gives you access to the configuration profiles features. We cover this topic in Seção 12.2.
- **Help→Help.** Opens the help browser which displays documentation about the active configuration tool.
- **Help→Report Bug.** Allows you to report a bug to the development team. See Seção 12.3.

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

Software Management	Capítulo 13
Hardware	Seção 14.1
	Seção 14.2
	Seção 14.3
	Seção 14.4
	Seção 14.5
	Seção 14.6

	Seção 14.7
Network & Internet	Seção 15.1
	DrakProxy: enables you to configure a proxy to access the Internet.
	Seção 15.2
System	Seção 16.1
	Display manager chooser: allows you to choose the X11 display manager for users who graphically log onto the machine. Basically, all display managers offer the same features, it's just a question of taste.
	Seção 16.2
	Seção 16.3
	Seção 16.4
	Seção 16.5
	Console: simply opens a terminal to directly enter commands with the administrator account (root).
	Seção 16.6
	Seção 16.7
Mount Points	Seção 17.1
	Seção 17.2
	Seção 17.4
	Seção 17.3
	Seção 17.5
	Seção 18.3
Boot	Seção 19.1
	Seção 19.2
	Seção 19.3

Tabela 12-1. Overview of Graphical Tools

> Additionally, the Online Administration category only appears if the rfbdrake package is installed. This tool allows you to take control of a remote host (Linux/UNIX®, Windows®).
>
> Some more categories appear if the drakwizard package is installed. The documentation for those wizards is available ondisk as well as in the *Guia do Servidor*. Those wizards enable you to do basic configuration of common LAN services such as web, FTP, mail and database servers.

12.2. Managing Configuration Profiles

A profile is a specific set of configuration settings suited for a computer in a given environment. Profiles allow you to store configuration parameters specific to certain environments and to switch between them, according to the context.

By default Mandriva Linux Control Center profiles enable you to configure network setups for different locations. This is especially useful for laptops which need a different configuration for home, at the office, the coffee shop, etc. It also allows you to activate different services from one profile to another (see Seção 16.2).

12.2.1. Profile Handling

New profiles you wish to create are based on the active one. All modifications are automatically recorded in the active profile. A single menu (Profiles) lets you manage them.

Figura 12-2. The Control Center's Profile Menu

New

> Creates a new profile based on the active one's settings. A dialog pops up asking for the name of the new profile. Don't forget to switch to that profile after creating it.

Delete

> Shows a list of profiles you can remove. The active profile won't be shown because it can't be removed while being used.

default

> The entries which follow correspond to all available profiles, the active one being checked. Click on a profile name to switch the host configuration to that profile.

Let's take an example. 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 dialup 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 Seção 15.1).

4. Connect to the Internet.

5. When back at the office, switch back to the "default" profile.

12.3. The Drakbug Reporting Tool

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. Drakbug can also be triggered automatically by a crashed Mandriva Linux tool.

Figura 12-3. Reporting a Bug

In order to correctly report a bug, it is important to identify the package it is related to. To make this task easier, enter the application name in the Application Name (or Full Path) field and click on the Find Package button.

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 (or create an account if you do not have one). Once you are logged on the site, complete the bug report as completely and accurately as possible and click on Commit

Capítulo 13. Gerenciamento de Pacotes através do Rpmdrake

Mandriva Linux usa o sistema de pacotes RPM e oferece ferramentas convenientes para simplificar a instalação destes pacotes através da resolução atuomática de dependências. O conjunto de programas urpmi é baseado na linha de comando e discutido rapidamente no *Manual de Referência*; aqui iremos nos concentrar no Rpmdrake: a ferramenta gráfica de instalação de programas do Mandriva Linux.

Rpmdrake é constituído por diversas ferramentas que podem ser acessadas através de Sistema+Configuração+Pacotes no menu principal ou então através do ícone Gerenciador de software no Mandriva Linux Control Center (veja Figura 13-1).

Figura 13-1. Gerenciador de Software no Centro de Controle Mandriva

Recomendamos que você acesse o Rpmdrake através do Mandriva Linux Control Center.

13.1. Instalando Programas

Ao iniciar esta ferramenta, será necessário aguardar alguns momentos enquanto Rpmdrake analisa a base de dados de pacotes. Após esta análise, a interface Instalação de Pacotes de Software será apresentada.

Figura 13-2. A interface de Instalação de Pacotes de Software

A janela está dividida em quatro partes: a parte superior apresenta algumas possibilidades de manipulação da lista de pacotes que podem ser instalados. Esta lista está no meio, à esquerda. Ao seu lado, à direita, temos uma área onde pode ser vista uma descrição do pacote atualmente selecionado. Na parte inferior da janela existem dois botões e informações sobre quanto espaço em disco será necessário para instalar os pacotes selecionados, bem como quanto espaço livre existe atualmente.

> Além disto, uma barra de estado na parte inferior da janela exibe mensagens sobre as ações atualmente em progresso ou uma notificação sobre quando alguma tarefa foi terminada.

13.1.1. Selecionando Pacotes para Instalação

Vamos analisar a figura Figura 13-2 em mais detalhes. Um pacote chamado "`frozen-bubble-1.0.0-7mdk`" está selecionado na visão em árvore e, na área que descreve o pacote, temos exibidas as informações de espaço em disco necessário, um pequeno resumo (Frozen Bubble, jogo tipo arcade) e uma descrição mais detalhada (cheio de recursos, pingüim colorido, animado e bonitinho...).

> Se sua mídia de instalação estiver configurada para utilizar a lista completa de pacotes (ou seja, não o formato parcial `synthesis`, mas sim o formato completo `hdlist`, que é o padrão da instalação do sistema Mandriva Linux), informações adicionais sobre o pacote podem ser obtidas através da opção Informação máxima na área de acesso. Além disto, uma lista dos arquivos fornecidos pelo pacote e seu registro de alterações também podem ser vistos.

A barra de estado informa o espaço em disco necessário para instalar os pacotes selecionados bem como quanto espaço livre ainda existe no momento. Note que, devido às dependências, o espaço em disco necessário pode ser maior que o espaço necessário para apenas o pacote selecionado.

> O Rpmdrake emitirá um alerta caso não haja espaço em disco suficiente para executar a instalação pedida. Você pode, no entanto, continuar mesmo assim (você pode, por exemplo, remover arquivos que não são mais necessários, como programas baixados da Internet no passado e que não são mais usados, de forma que a instalação possa continuar).

Agora a instalação pode ser iniciada, bastando para isto clicar no botão Instalar. Uma nova janela aparecerá com uma barra de progresso mostrando o andamento da instalação. Para sair sem executar nada, basta clicar no botão Cancelar.

Durante a seleção dos pacotes, pode acontecer que seja selecionado um pacote que requer dependências adicionais para funcionar corretamente (como bibliotecas novas ou outra ferramenta). Neste caso, Rpmdrake mostrará uma janela onde as dependências adicionais poderão ser aceitas ou não. Para rejeitar as dependências, clique no botão Cancelar (Figura 13-3).

Figura 13-3. Rpmdrake — janela de alerta de dependência

Outro cenário possível: você deseja instalar um pacote que requer dependências e vários outros pacotes são capazes de prover as dependências necessárias. A lista de pacotes alternativos será então exibida (Figura 13-4). Você pode analisar a informação adicional apresentada clicando no botão Informação... de forma a poder escolher a melhor alternativa.

Figura 13-4. Rpmdrake — alternativas de pacotes

Vamos agora analisar em mais detalhes as funções de pesquisa e ordenação disponíveis para facilitar seu trabalho de administração do sistema.

13.1.2. Procurando Pacotes

Algumas vezes você pode conhecer uma ferramenta que viu em algum lugar ou sobre a qual ouviu falar na casa de um amigo e agora fica imaginando como encontrar e instalar este programa.

É bastante fácil: apenas digite o nome (ou parte dele) na área de texto ao lado do botão Procurar. Agora escolha, a partir da lista, onde você gostaria de realizar esta pesquisa (no nome do pacote, na sua descrição ou na lista de arquivos pertencentes ao pacote). Após clicar no botão Procurar, uma nova lista aparecerá (Resultados da busca), mostrando o que o Rpmdrake encontrou.

Vamos analisar as opções de ordenação:

Recomendação do Mandriva Linux

> Esta opção de ordenação mostra a lista de pacotes nos quatro grupos que foram vistos durante a instalação do Mandriva Linux. Esta é a opção de ordenação mais simples e fácil pois ela se concentra em apenas uma parte específica dos pacotes disponíveis: aqueles que são considerados os mais úteis da distribuição.

Todos os pacotes, alfabeticamente

> Ao invés de uma visão em árvore, esta opção mostra uma lista simples de todos os pacotes disponíveis que podem ser instalados no seu sistema.

Todos os pacotes, por grupo

> Aqui os pacotes são exibidos agrupados de acordo com sua função (por exemplo: Jogos, Sistema, Vídeo, etc.).

Todos os pacotes, por tamanho

> Nesta opção, a lista de pacotes está ordenada por tamanho (o maior pacote no topo e o menor no fim da lista).

Todos os pacotes, por estado de seleção

> Ao escolher esta ordenação, será apresentada uma lista simples onde os pacotes selecionados são apresentados primeiro e os outros logo abaixo. Para tornar isto mais fácil, estas duas partes da lista estão ordenadas alfabeticamente. Esta opção de ordenação é particularmente útil para ser usada momentos antes de executar a instalação desejada, pois facilita a visão dos pacotes que serão instalados.

Todos os pacotes, por repositório de mídia

> Mais uma vez os pacotes estarão ordenados alfabeticamente, mas desta vez eles são exibidos sob o nome do repositório de mídia que os contém.

Todos os pacotes, por disponibilidade de atualização

> Neste modo, dois grupos de pacotes podem surgir: um contém a lista de pacotes que podem ser acrescentados ao seu sistema, e o outro contém a lista de pacotes que podem ser atualizados (ou seja, uma versão antiga está atualmente instalada e existe uma nova disponível).

13.2. Removendo Programas

Como esta interface funciona de forma semelhante a "Instalando Programas", não iremos repetir suas funções básicas. A única diferença para a interface de instalação de programas é que você irá lidar com pacotes que já estão instalados e escolher quais serão removidos em vez de que pacotes serão instalados.

13.3. Atualizador do Mandriva Linux

Mandriva agora possui um serviço de atualização automática; veja Capítulo 20.

Mais uma vez: se você já trabalhou com a interface de instalação de programas do Rpmdrake, então irá se sentir confortável com a interface do Atualizador do Mandriva Linux. Mas vamos analisar alguns aspectos deste aplicativo mesmo assim.

Assim que esta ferramenta for iniciada, ela pedirá para que seja escolhido um repositório Internet que deverá ser analisado à procura de atualizações. Você deve escolher o que estiver mais próximo da sua região geográfica.

Uma pequena diferença em relação à interface do programa de instalação de pacotes é a possibilidade de se escolher que tipo de atualização se deseja instalar. Você pode selecionar:

Atualizações de segurança

> Estas atualizações resolvem problemas de segurança e devem ser instaladas o quanto antes.

Atualizações para correção de erros

> Estas atualizações corrigem problemas diversos nas aplicações.

Atualizações normais

> São atualizações que trazem alguma pequena melhoria ou nova característica.

A outra diferença é uma nova seção de texto (chamada "motivo da atualização") existente dentro da área de descrição do pacote. Ela oferece informações sobre o motivo desta atualização ter sido tornada disponível. Isto pode ajudar na decisão de atualizar o pacote ou não. Se você tiver uma conexão Internet lenta, ou tiver que pagar por MB durante o download, por exemplo, pode ser importante conhecer o motivo da atualização.

Se você ainda não estiver familiarizado com esta interface, por favor consulte Seção 13.1 para saber mais.

13.4. O Gerenciador de Mídias de Programas

Esta parte do Rpmdrake é dedicada para a configuração dos repositórios de pacotes. Como pode ser visto em Figura 13-5, existem algumas mídias já configuradas: "Main", "Contrib", etc. Com esta ferramenta, você pode adicionar outras mídias de programas: um CD de uma revista contendo RPMs, um repositório web, etc.

Figura 13-5. O "Gerenciador de Mídias de Software"

As caixas de seleção nas colunas à esquerda permitem que você marque os repositórios:

Habilitar?

Desmarque esta opção para temporariamente desabilitar a mídia correspondente. Os pacotes contidos nesta mídia não estarão disponíveis para instalação até que ela seja habilitada novamente.

Atualizações?

Esta caixa de seleção deverá estar marcada para mídias de atualizações, ou seja, mídias que contenham atualizações de pacotes que já estão em alguma outra mídia, mas com versão mais antiga. Desta forma apenas mídias marcadas desta forma são analisadas durante uma atualização.

Botões diversos que permitem executar alguma ação na mídia selecionada.

Remover

Permite que uma mídia que não está mais em uso seja removida. Basta selecionar a mídia a ser removida e clicar neste botão.

Editar

Aqui você pode modificar a URL ou o diretório relativo do arquivo `synthesis/hdlist` (se você não estiver entendendo este assunto é recomendado que saia da janela através do botão Cancelar em vez de Salvar alterações).

Caso você precise utilizar um proxy para acessar alguma mídia, ele pode ser configurado através do botão Proxy.... Note que você também pode definir uma variável global de proxy para todas as mídias remotas através do botão Proxy... da interface principal.

Esta opção também permite que se mude o formato do repositório de `hdlist` para `synthesis`, que é bem menor mas contém menos informações sobre os pacotes. Arquivos synthesis somente possuem informações sobre o nome dos pacotes, suas dependências e um pequeno resumo. Não será possível, por exemplo, realizar pesquisas sobre os arquivos contidos em pacotes não instalados e a descrição completa também não estará disponível.

Adicionar…

Use este botão para adicionar ao seu sistema todas as fontes de pacotes publicamente disponíveis em repositórios da Internet. Isto é útil, por exemplo, caso você tenha uma conexão rápida ou somente possui o primeiro CD de instalação disponível. Escolha um servidor geograficamente perto da sua localização.

Figura 13-6. Rpmdrake — acrescentando uma nova fonte

Após escolher um servidor e clicar no botão Ok, informações sobre os pacotes disponíveis nesta fonte serão baixadas e todos os pacotes estarão disponíveis para instalação e atualização.

Adicionar personalizado…

Este botão abre uma janela de diálogo onde uma nova mídia de instalação de pacotes de software pode ser acrescentada.

Figura 13-7. Rpmdrake — acrescentando mídias

Atualizar…

Ao clicar neste botão, uma lista das mídias já definidas será apresentada. Você pode escolher aquelas cuja lista de pacotes você deseja atualizar. Isto é útil para mídias remotas que receberam novos pacotes na sua base. Depois de fazer esta seleção basta clicar em Atualizar para iniciar o processo.

Gerenciar chaves…

É muito importante que quaisquer pacotes que forem instalados sejam autenticados. Cada pacote pode ser assinado digitalmente com uma "chave", e você pode permitir ou proibir certas chaves de forma individual por mídia. Em Figura 13-8, você pode ver que a chave da Mandriva Linux está autorizada para a mídia "CD de Instalação". Clique em Adicionar chave… para autorizar uma outra chave para a mídia selecionada (atenção: faça isto com cuidado, como em todas as questões de segurança). Para remover uma chave associada com uma mídia, clique em Remover chave.

Figura 13-8. Rpmdrake — gerenciando chaves

Proxy…

Se você estiver atrás de um firewall e precisar ter acesso a mídias remotas (para atualizações, por exemplo), você pode fazê-lo se tiver um servidor proxy que permite o acesso à Internet (pelo menos à região onde houver um servidor de atualizações). Normalmente é suficiente preencher o campo Servidor proxy para ter isto funcionando (Figura 13-9). Se você precisar de uma combinação de usuário / senha, isto também pode ser especificado aqui. As alterações podem ser confirmadas através do botão OK.

Figura 13-9. Rpmdrake — configurando um proxy

Paralelo...

Se você estiver administrando uma grande rede de computadores, pode querer instalar os pacotes em todos eles em paralelo; este botão abre uma janela de diálogo que permite a configuração do modo "paralelo". Como este modo é relativamente complicado e somente é útil para um grupo limitado de pessoas, esta curta introdução não irá fornecer mais detalhes.

Opções globais...

Este botão permite que se escolha o programa utilizado para baixar os pacotes e se a fonte deve ser verificada com uma chave ou não. Estas opções afetam todas as fontes configuradas.

Setas para cima e para baixo

Estes botões permitem que a ordem de utilização das fontes seja alterada.

Para usuários avançados

O Rpmdrake processa o arquivo de configuração do urpmi (`/etc/urpmi/urpmi.cfg`) do início até o fim para obter a lista de repositórios e pacotes contidos em cada um.

Caso um repositório posterior contenha pacotes que também existem em um repositório anterior (isto é, mais próximo do topo do arquivo), apenas aparecerão os pacotes do repositório posterior. Se o repositório posterior tiver **todos** os pacotes de algum repositório anterior, este repositório anterior nem será exibido.

Desta forma, se seu arquivo `urpmi.cfg` tiver por exemplo cinco repositórios definidos, é possível que Rpmdrake exiba apenas o último se ele tiver todos os pacotes já contidos nos quatro repositórios anteriores. Alterar a ordem de definição das mídias no arquivo `urpmi.cfg` pode causar uma exibição de mídias mostradas pelo programa Rpmdrake bem diferente mesmo estando os mesmos pacotes disponíveis.

De qualquer forma, os pacotes não deixarão de estar disponíveis, é apenas a lista de repositórios que será diferente.

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Capítulo 14. Hardware Setup

14.1. Configuring your Hardware

14.1.1. Hardware Detection and Configuration

The HardDrake project has been developed to simplify hardware detection and configuration under GNU/Linux by providing a user-friendly interface.

14.1.1.1. What Is HardDrake?

HardDrake is a service for hardware detection, run at system boot time, and also a full GUI-based tool which ties together many of the tools already included in a GNU/Linux distribution. It automates and simplifies the process of installing new hardware. For the most part, HardDrake will be able to detect most devices.

On one hand, HardDrake is used to display information, and on the other, it can launch configuration tools. With its easy-to-use interface, you can browse all the hardware your system contains.

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.

14.1.1.2. Usage

To launch HardDrake, you can start it through:

- the Mandriva Linux Control Center: click on the Hardware category, and then on the Hardware icon.
- a terminal: type `harddrake2` as `root`. You can also pass parameters to HardDrake through the command line (type `harddrake2 -h` to get a list of possible parameters).
- the desktop: go to the main menu. The HardDrake entry is in the System+Configuration+Hardware→HardDrake sub-menu.

After all devices have been detected, the main HardDrake window will appear (see Figura 14-1).

On the left, you can see the device tree showing you all of the hardware categories.
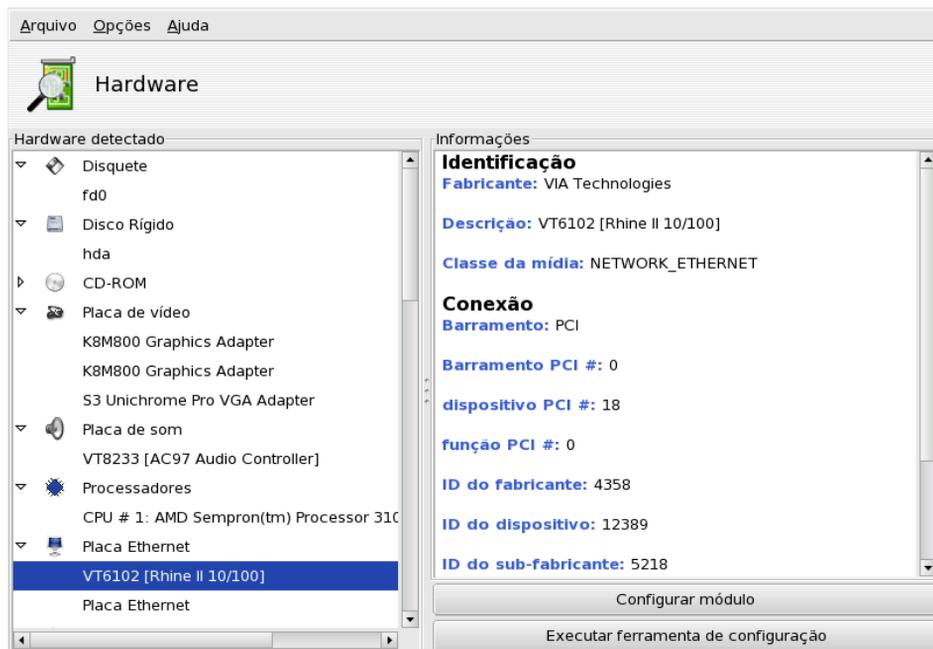
Figura 14-1. Selected Device

By selecting a device, you will 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, two other buttons may appear:

- **Configure module.** 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 the Mandriva Linux Control Center) associated with that device.

A special category called `Unknown/Others` might also show up, containing all the currently unknown hardware in your system, as well as known hardware that does not fit into the existing categories (such as thermal sensors, random number generators, etc.).

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 those changes to have effect.

If you have a Mandriva Online account and want to help us improve hardware support under Mandriva Linux, or want to see your hardware better supported in the future, you can choose File→Upload the hardware list from the menu and fill the form with your account data, then click on the Ok button: your hardware list will be uploaded. You need a working Internet connection.

14.1.2. Problems/Troubleshooting

If you think you have found a bug related to HardDrake, report it using the Mandriva Linux bug reporting tool (see Seção 12.3).

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` package or the `alsa-utils` package.

14.2. Controlling the Graphical Configuration

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

If you cannot boot into graphical mode and you end up in a console (command-line interface), log in as `root` and launch `XFdrake`. You will get a tool similar to the one described in Seção 14.2.3, but in text mode.

The graphical configuration tools are accessible through different icons in the Mandriva Linux Control Center Hardware section.

14.2.1. Changing the Monitor

Figura 14-2. Choosing a New Monitor

This tool allows you to change the monitor type currently in use. When you click on it a window pops up, listing many monitor models (see Figura 14-2). If your monitor was automatically detected it will be listed as Plug'n Play along with its model.

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

14.2.2. Changing Resolution

Figura 14-3. Changing the Resolution of your Screen

This tool enables you to change the current screen resolution (`800x600`, `1024x768`, etc.) and the color depth. Simply choose the one you wish to use. The monitor in the window displays what the desktop will look like with the chosen configuration (see Figura 14-3). If it looks good, click on OK.

The changes will be activated after you quit and restart your graphical environment.

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

14.2.3. Controlling All Video Parameters

Figura 14-4. XFdrake Main Window

If you happen to change your video card after installing your system, or want to have full control over the graphic configuration, run as `root`, `XFdrake` from a console. The tool shown in Figura 14-4 will be shown.

Let's look at the interface. The first three buttons allow you to change certain aspects of the graphical configuration:

Graphic Card

The button displays the name of the graphic card currently configured. If you wish to change it, just click on 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.

In case 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

Enables you to change the monitor with the tool described in Seção 14.2.1.

Resolution

Enables you to change the pixel resolution and the color depth with the tool described in Seção 14.2.2.

> If you are using KDE you can also change the screen resolution on the fly by using the .

Then, there are more buttons:

- **Test.** Click on this button to verify that your modifications actually work. It is highly recommended you do test it, because if it does not work, it will be harder later to recover a working graphical environment. 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 be returned to XFdrake's main menu.

> 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, refer to Capítulo 21Capítulo 21 to use XFdrake's text version.

- **Options.** You can choose to start the graphical server when your system boots. Answer No if you prefer to have a text login. Selecting Yes will launch the graphical login manager at boot time.

- **Quit.** If you modified your graphical display in some way, the current configuration will be displayed and XFdrake will ask you whether you want to keep your changes or not. This is your last chance to go back to the old configuration. If all seems OK, click on Yes. If you wish to restore the previous parameters, click on No.

The changes will be activated after you confirm them and restart your graphical environment.

14.3. Changing your Keyboard Layout

This tool allows you to define another keyboard layout. This is commonly done when the keyboard you want to use is different from the one chosen at installation time.
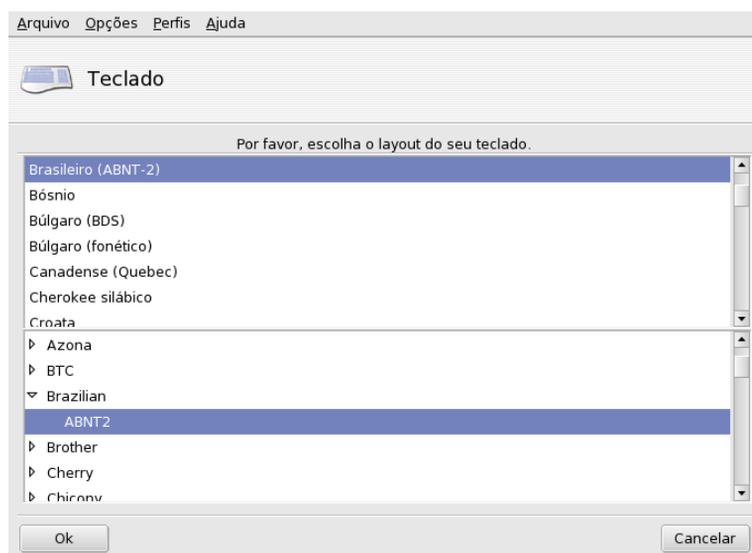
Figura 14-5. Choosing a Different Keyboard Layout

Select your keyboard's language and then its model from the lists shown in Figura 14-5. If you own a multimedia keyboard and are lucky enough to have it listed in the manufacturer list, chances are 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, the next dialog will ask you to choose the key binding that will switch the keyboard configuration between the Latin and non-Latin layouts.

14.4. 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.

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

Figura 14-6. Choosing a Different Mouse

Mice are sorted into a tree according to their connection type and model (see Figura 14-6). 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.

14.5. Configuring Printers with PrinterDrake

This tool allows you to:

• configure a newly installed printer on your machine;

• configure your machine to act as a server for a printer which has just been connected to your local network;

• set up your machine to access network printers served by other servers (GNU/Linux as well as Windows® ones).

If you just installed a printer that wasn't available when you installed Mandriva Linux, make sure it is correctly connected and powered on before launching the configuration tool.

14.5.1. Initial Configuration

When you first launch the PrinterDrake tool, it may be in one of these states:

14.5.1.1. There is no printer directly connected to the computer.

Figura 14-7. Activate Printing

The tool did not detect any local printers. However you can print on network printers, or manually install printers which weren't detected by clicking on Yes.

Figura 14-8. Activating Network Printers

- Select the Local CUPS printing system option if you wish to configure your machine to act as a print server for either a local printer which was not detected, or a network printer connected to your local network.

  Any required software will be installed and then the main configuration interface (see Figura 14-9) appears. Click on Add Printer to install the network printer.

- Select the Remote server option if you wish to be able to print on printers served by another CUPS printing server on the network. Your applications will immediately have access to all public printers served by that

server. You only need to provide the hostname or IP address of that server in the field below (ask your system administrator).

When this is done, the main configuration interface (see Figura 14-9) appears. The Configured on other machines tab will be filled with the available network printers.

14.5.1.2. New Printer Detected

The following window appears when PrinterDrake detects a new printer.

Simply confirm the automatic installation of the new printer. The main configuration interface (see Figura 14-9) is then displayed. Make sure to check that the printer parameters fit your needs (see Seção 14.5.5).

14.5.1.3. Printer Configured at System Installation Time

The main configuration interface (see Figura 14-9) is shown. Make sure to check that the printer parameters fit your needs (see Seção 14.5.5).

14.5.2. The Printer Management Interface

Use the printer configuration tool's first tab for locally connected printers (Configured on this machine), and the other tab for printers available on your local network (Configured on other machines).

> ⚠️ If your local printer was automatically added you should now verify its configuration. Select it in the list, click on Edit and check the Printer options.

Figura 14-9. Managing Printers

The following buttons give you access to all available maintenance tasks:

- Add Printer: launches the printer configuration wizard described in Seção 14.5.4.

- Set as default: sets the selected printer as the default printer when no specific printer is chosen at print time. A cross appears in the Def. column of that printer.

- Edit: opens the printer configuration dialog described in Seção 14.5.5.

- Delete: removes the selected printer from the available printer pool.

- Refresh: updates the list of printers with possible new or removed printers, especially true for networked printers.

- Configure CUPS: by default, your system is totally open. PrinterDrake uses all of the network's available printers and shares all of its local printers with the local network. Click on this button if you don't want to access network printers, or if you want to restrict the access to your local printers. This dialog also lets you configure access to servers outside the local network.

> The Options→Expert mode menu adds extra features to the tool. See Seção 14.5.6.

14.5.3. Print Server General Configuration

The Configure CUPS button allows you to control the behavior of printers connected to your machine and to your network.

Figura 14-10. CUPS Printer Server Configuration

This dialog enables you to switch between the client and server printing modes through the Remote CUPS server and no local CUPS daemon button.

14.5.3.1. Client Mode

Figura 14-11. Client Mode Configuration

Select the On option to connect to another printer server. You then just need to specify the name or IP address of that server in the field below.

If you choose this mode, your printing configuration is now finished. Accept the options by clicking the OK buttons, and you will be able to check the list of available printers in the Configured on other machines tab of the main interface (see Figura 14-9).

14.5.3.2. Server Mode

If you want your machine to access locally connected printers (through parallel or USB ports), or network printers not already configured on another server, you need to select the Off option. Click OK, and you will then be able to fine tune your printer server (see Figura 14-10).

A number of options are available to further secure and enhance your print server features:

The printers on this machine are available to other computers

> Allows other computers to print on printers configured locally. Remember to restrict access by clicking on Printer sharing on hosts/networks (see below).

Automatically find available printers on remote machines

> Tells your print server to automatically make available all printers found on other servers on the local network, as if they were locally connected to your print server. This way your system's users are able to print on any printer the print server "sees". If the remote printers you intend to use are served by a server not on your local network, you can still tell the print server to use them with the Additional CUPS servers button (see below).

Printer sharing on hosts/networks

> Allows you to specify from which networks the local printers are made available.

Additional CUPS servers

> Allows you to specify one or more CUPS servers to which you can connect and access printers. Specify the IP address and port of the CUPS server in the dialog.

Japanese text printing mode

> Replaces the original text filter for one more suited to Japanese texts, but with less features. Use it if you have to print Japanese text-only files.

14.5.4. The Printer Configuration Wizard

Click on Add printer and the configuration wizard comes up.

14.5.4.1. Detecting a Printer

This tools enables the auto-detection of locally connected printers, network printers, and finally printers served by SMB (Windows®) servers. First choose which type of printer you want to add (Local printer, Network printer, Printer on remote lpd server, etc.).

Figura 14-12. Printer Type

Select the printer you want to add from the list. If the detected printer isn't the correct one check the Manual configuration box and proceed with the printer model step (see Figura 14-14). If autodetection fails, remove the check mark from all check boxes, click on Next and follow the instructions below.

If you own a multi-function device like those of HP or `Sony`, an information window pops up and gives you information about your scanner and scanner software (Seção 14.6.1.1). Additional packages are also installed.

PrinterDrake displays your printer's model name. Choose Select model manually if it's incorrect. Select the printer you have or a compatible one (see Figura 14-13) if yours is not specifically listed.

Figura 14-13. Choosing the Printer Model

If you want to install the driver supplied by your printer manufacturer, click on the Install a manufacturer-supplied PPD file button and select the medium containing the PPD file and browse to it. Accept subsequent dialogs to use your chosen PPD file.

Figura 14-14. Choosing a Name for your Printer

Provide a name for your printer. The printer name must contain only letters, numbers and the underscore

("_") character. It's better to limit its length to 12 characters maximum so that Windows® clients don't have problems when accessing it through Samba.

> If you have one or more configured printers, you are asked whether the printer you are configuring is to be the default printer. If you say No, the previous default printer will be retained.

Finally we strongly recommend that you print a test page in order to make sure everythin works as expected.

14.5.4.2. Printing Options

Once the configuration is done, the options associated with the chosen printer are shown (see Figura 14-15). It's important you choose the proper settings (such as paper size, media source, etc.) currently installed on the printer. If the settings you choose are incorrect, printing may fail.

Figura 14-15. Configuring the Printer's Options

> For settings referring to printout quality, bear in mind that higher quality levels may make the printing operation slower and may consume more ink.

14.5.4.3. Printer Test

A few test pages are available (see Figura 14-16). We recommend you print at least one test page so you can immediately correct the parameters if something goes wrong. The printer should begin to print almost immediately.

Figura 14-16. Testing the Printer

14.5.4.4. It's Done

If you're not satisfied with your test page, answer the appropriate question with No and you will be led to the printer configuration menu (see Figura 14-17) where you can correct the settings. See Seção 14.5.5.

Your printer will now appear in the list of available printers in the main window (see Figura 14-9).

14.5.5. Reconfiguring an Existing Printer

Double-clicking on a printer's name in the list, or clicking on the Edit button, displays a menu where you can choose actions to take on the selected printer (Figura 14-17). Each option gives access to a particular step of the wizard we described above (see Seção 14.5.4). One difference is that the current settings are predefined in all fields, and you may update them where required.

Figura 14-17. Modifying an Existing Printer

There are a few additional options:

1. Disable Printer. Use this option to remove that printer from the printers available to the system's users. You might need to temporarily disable a printer under maintenance so that users don't try to use it in the meantime. When a printer is disabled, that option changes to Enable printer.

2. Learn how to use this printer. Displays information on how to use a particular printer model. In the case of a multi-function device from HP, information about scanning and photo memory card access is also displayed.

3. Remove printer. Deletes that printer's configuration from the system.

Select an action in the dialog and then click on the Do it! button to perform it.

14.5.6. Expert Mode

The expert mode has three additional features:

- **Choose a Different Driver to the Default One for a Printer.** Different drivers are available for the same printer. In expert mode, a third level appears in the printer model selection list (see Figura 14-13). It allows you to change each printer's driver.

- **Install Many Kinds of Remote Printers.** This feature enables you to print on remote printers using the LPD protocol, printers on Windows® servers which require authorization, or other arbitrary printer types.

> If PrinterDrake is in expert mode, it doesn't automatically configure new local printers on start-up. Use the Add printer button to configure the printer. However you can choose to Configure Auto Administration from the Options menu to override that behavior.

If you start the new printer wizard in expert mode, there is an additional step at the beginning.

Figura 14-18. Configuring a Remote Printer

Different connection types are available:

- Local printer. A printer directly connected to a parallel or USB port on your computer. In most cases, the printer model will be auto-detected.

- Printer on remote lpd server. A printer already served by another machine on a `lpd` server.

- Network printer (TCP/socket). A printer directly connected to your local network. The network can be scanned and printer models automatically detected provided the Printer auto-detection box is checked.

- Printer on SMB/Windows 95/98/NT server. Relevant for printers already connected to a computer running an OS which serves printers with the SMB protocol, including Samba printers (the necessary Samba components will be automatically installed in this case). The network can be scanned provided the Printer auto-detection box is checked.

- Enter a printer device URI. This option allows you to directly enter the printer's Universal Resource Identifier (URI) on your network. It can be used for any of the above remote connections, and more. This is useful when your system administrator provides you directly with the printer's URI.

Click on the Modify timeout for network printer auto-detection button to change the default timeout (4000 milliseconds, or 4 seconds) for detection of networked printers. Please bear in mind that the bigger the timeout, the better the chances of detecting remote printers. However the auto-detection process will also take more time.

14.6. Installing and Using Scanners

This section explains how to install a scanner through ScannerDrake, and how to use it with SANE and XSane (scanner interface software). We also present a list of other scanner interface software you could use with GNU/Linux.

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

14.6.1. Configuring your Scanner

14.6.1.1. ScannerDrake

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.

The program tries to detect your scanner's manufacturer and model. If it finds one information about it is displayed in the upper part of the wizard's main window. Other options are also available (Figura 14-19):

Figura 14-19. Installing your Scanner

Click on Search for new scanners to autodetect a new scanner you just plugged in. Click on Add a scanner manually if the automatic detection fails and look for the specific model you own by browsing through the list of available models.

Figura 14-20. The Tree-list of All Known Scanner Models

After choosing the appropriate model, you can leave the default Auto-detect available ports option and click on OK. If you have a parallel port scanner, selecting `/dev/parport0` in the pull-down list should be the right choice.

Your scanner should now be installed and you should be ready to use the programs which come with SANE, XSane or other acquisition software.

⚠️ Note that HP multi-function devices, such as the OfficeJet and PSC printers, must be configured through PrinterDrake. Please refer to Seção 14.5. The scanning part of non-HP multi-function devices can be set up with ScannerDrake as a stand-alone scanner.

To test that everything works correctly, launch xscanimage[1] from a terminal and try to acquire a picture from your scanner. You may first acquire a preview of the scanned image by clicking on the Preview window button, as shown in Figura 14-21.

Figura 14-21. Acquiring Images with xscanimage

Note that xscanimage can also be launched directly from GIMP by choosing File+Acquire+xscanimage→Device dialog.

ScannerDrake allows for scanner sharing between users connected via a LAN. Installation is very easy: just click on Scanner sharing and either select The scanners on this machine are available to other computers or Use scanners on remote computers depending on what you want to do. With these buttons you can define which machines are allowed to use your scanners and which remote scanners you want to use.

---

1.   The `sane-frontends` package must be installed.

Figura 14-22. Sharing Scanners within a LAN

> In order to share your scanner on your LAN, the `saned` package needs to be installed. If it isn't, ScannerDrake will ask you if you want to install it. You also need to set up scanner sharing on the machines from which you want to access the scanner. Check the Use scanners on remote computers box, and then click on Add host. Fill in the information in the Name/IP address of host field for each of the machines which scanners.

14.6.2. Using Image Acquisition Software

14.6.2.1. XSane

While xscanimage is more than enough for your basic scanning needs, more experienced and/or graphic-oriented users will want to use a more sophisticated program. XSane[2] offers more options and a more informative display during the image acquisition process.

You can launch XSane through the Multimedia+Graphics→XSane menu item. Several windows pop up on your screen.

---

2. The `xsane` package must be installed.

Figura 14-23. XSane Multiple Windows

> If the `xsane-gimp` package is installed, a GIMP plugin will be at your disposal. It allows you to import your images directly into GIMP for image retouching tasks. Choose File+Acquire →XSane: device dialog to launch XSane. You can now scan your image and have it sent directly to GIMP.

14.6.3. Advanced Configuration

14.6.3.1. Fine-Tuning 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.

14.6.3.2. OCR Software

By installing the `kdegraphics-kooka` and `ocrad` packages, you'll be able to use Kooka, a simple graphical front-end to SANE which is also able to perform OCR tasks. To launch it, choose Multimedia+Graphics→Kooka from the main menu.

First choose the scanning device and then Kooka's main window appears.

---

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.

Figura 14-24. Kooka's Main Window

Place the image you want to scan onto your scanner and click on Preview Scan at the bottom left of Kooka's window. For better results, you should choose the Grayscale Scan mode. Then adjust the resolution (200 DPI should be enough), select the part of the image to be scanned and click on Final Scan.

To benefit from Kooka's OCR features, you must configure it. Access the Settings→Configure Kooka menu, click on OCR, and select the OCR engine you want to use.
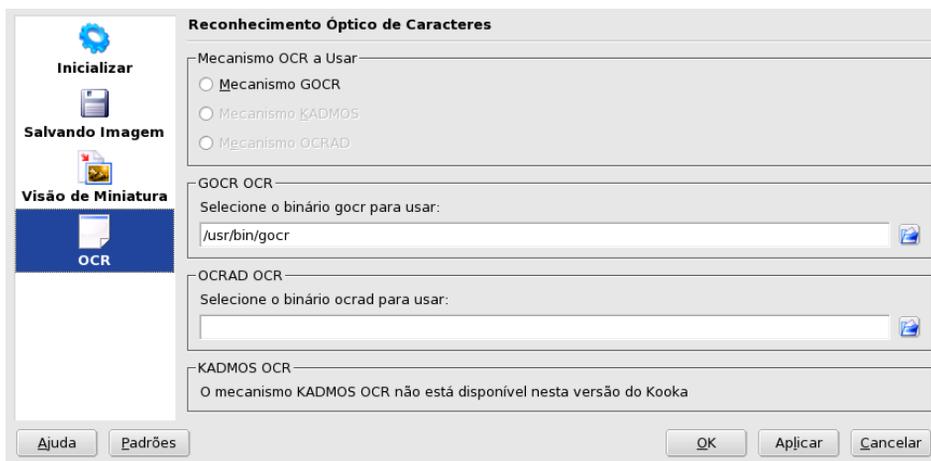
Figura 14-25. Kooka's Configuration Window

 Once this is done you can click on this icon (Image→OCR Image) and click on Start OCR. The resulting text will appear along with a spell-correction window.

> Kooka is still in beta phase. Although it's possible to make it work properly you will need to adjust its parameters until you obtain a decent rendering. For more information on Kooka please read its handbook (Help→Kooka Handbook).

14.6.4. Other Scanner Interface Software

Here is a list of other scanner interface software which is known to work under GNU/Linux.

- Users of the FLTK ("Fast Light Tool Kit") graphic user interface could try FlScan (`http://freshmeat.net/projects/flscan/`), a FLTK front-end for SANE.

- For EPSON scanners, you could download Image Scan! for Linux (`http://www.avasys.jp/english/linux_e/index.html`), a scanner utility provided free of charge to GNU/Linux users by EPSON KOWA Corporation.

- While multi-functional HP devices are configured using PrinterDrake, owners of these devices should have a look at the HP Linux Inkjet Project (`http://hpinkjet.sourceforge.net/`). The developers involved in the project aim at providing GNU/Linux support for most Hewlett-Packard OfficeJet, PSC, LaserJet, and PhotoSmart printer multi-function peripherals (MFPs).

14.7. Setting up your UPS

The role of a UPS (Uninterruptable Power System) is to provide you with electrical power whatever happens. A UPS enables you to continue working for a certain amount of time due to its battery (up to 10 minutes usually depending on the model) even if there's a power outage in your area. Its main function, however, is to allow you to save your data and to cleanly close your machine, minimizing and even avoiding data corruption and loss.

Open the Mandriva Linux Control Center in the hardware section and click on Set up a UPS for power monitoring to launch DrakUPS.

> The `nut-server` ("nut" stands for Network UPS Tool) package needs to be installed.
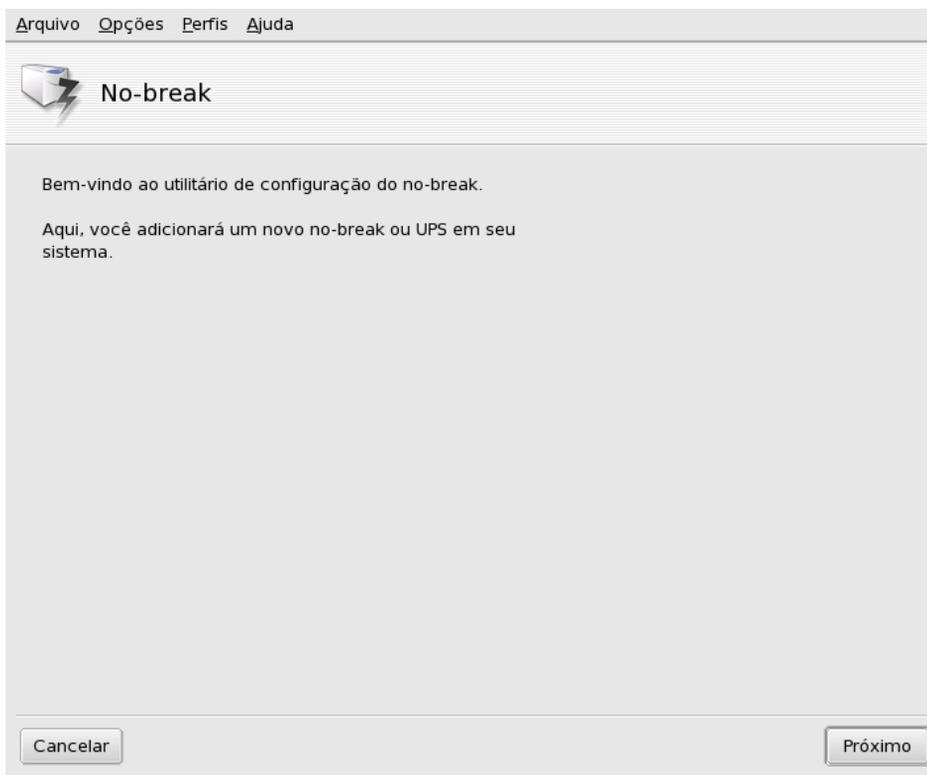
Figura 14-26. DrakUPS Setup

Next let DrakUPS autodetect your UPS. If all goes well you should get a congratulation message. If not try to do it manually.

Select your UPS in the list of manufacturers and models.
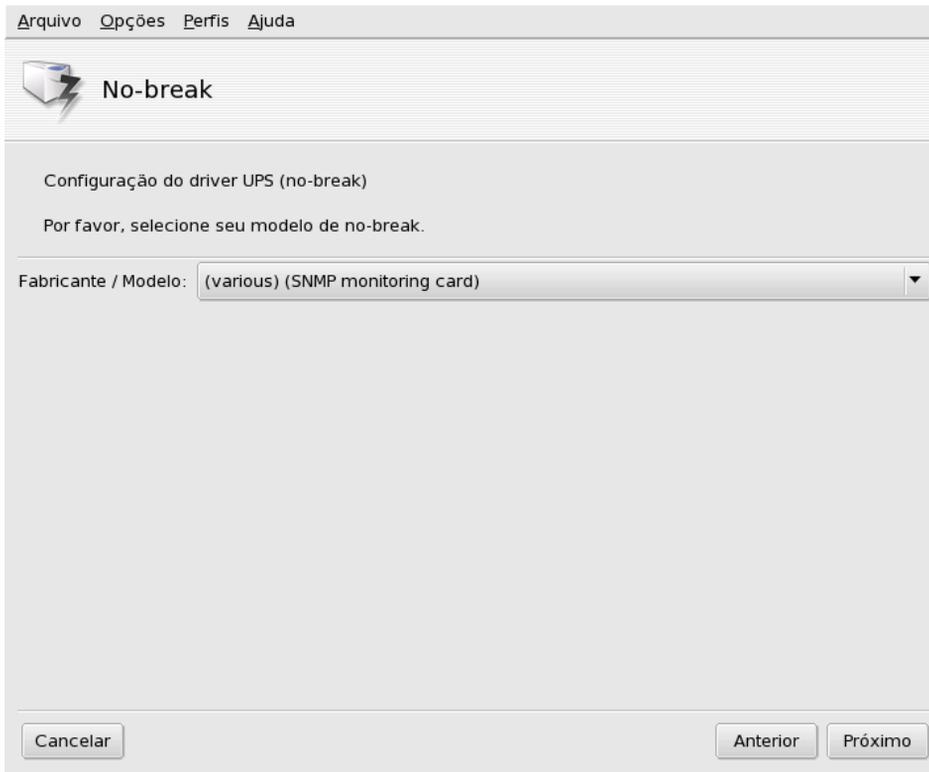
Figura 14-27. Selecting the Manufacturer and Model

Then assign a Name, Driver, and Port[4].

---

4.   The Name and Driver fields should automatically be filled. Of course, you can change its name but we recommend you keep the driver name.

Arquivo Opções Perfis Ajuda

No-break

Configuração do driver UPS (no-break)

Será configurado o no-break "(various)" de "APC".
Por favor, preencha o nome, o driver e a porta.

Nome: myups
Driver: snmp-ups
Porta: ttyS0 / COM1

Cancelar   Anterior   Próximo

Figura 14-28. Name, Device and Port Names

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

Capítulo 15. Setting up your Network and Accessing the Web

15.1. Network and Internet Connection Management

Before connecting to the Internet, you are encouraged to set up a firewall on your machine so as to avoid bad surprises such as intrusions on your system. You can set up a very simple, yet effective, firewall using DrakFirewall. Please refer to Seção 18.3 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. Open Mandriva Linux Control Center and select the Network & Internet section to access drakconnect tools. A view of the main interface is shown in Figura 15-1. The Internet connection sharing tool is described in Seção 15.2.

Figura 15-1. DrakConnect Tools

15.1.1. Set Up a New Network Interface

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

15.1.1.1. LAN Connection

Select the LAN connection type and continue to the next step. Your NICs are detected automatically; if you have more than one, you have to select the one you wish to configure. You can also load a driver for your NIC manually.

Then, you have to specify if the network parameters will be automatically set up (Automatic IP (BOOTP/DHCP)) or not (Manual configuration): fill the next steps with the parameters which your ISP or network administrator gave you.

Check the Network Hotplugging box to have your network brought up and down automatically when you connect and disconnect the network cable. This is specially handy for laptop users.

If you configure the network with DHCP you can optionally provide the machine's hostname. Then you can supply the Zeroconf hostname: this is the name which will be assigned to the machine when no network configuration has been found.

After the configuration is done, you can bring the network connection up or down as described in Seção 15.1.4. Please bear in mind that LAN connection types are set up to always be started at boot time.

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 will also let you control the connection's state as well as other parameters.

15.1.1.2. Wireless Connection

This entry allows to configure WiFi PCMCIA or PCI devices.

1. Choose the card you wish to configure. If your card is not listed, choose the Use a Windows driver entry. The next step then asks you to select the driver from the manufacturer's card drivers CD.

2. Network configuration is then similar to the LAN connection type (see Seção 15.1.1.1).

3. Finally some wireless specific parameters are asked, make sure to set them correctly according to your wireless access point configuration.

15.1.1.3. ISDN Connection

Simply make sure to select the right parameters in all steps, concerning your area and provider.

The last step proposes to handle the connection status through the net applet, this can prove useful if you only need the Internet connection from time to time.

15.1.1.4. Modem Connection

A list of detected modems is shown. If no modem was detected then only the Manual choice option is shown, click on Next and choose the communications port the modem is connected to. The required packages will be installed.

You will then 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. Verify them, add the missing ones and accept them. If yours is not listed, select the Unlisted - edit manually option, click on Next and fill the parameters with the settings provided by your ISP (see Figura 15-2).
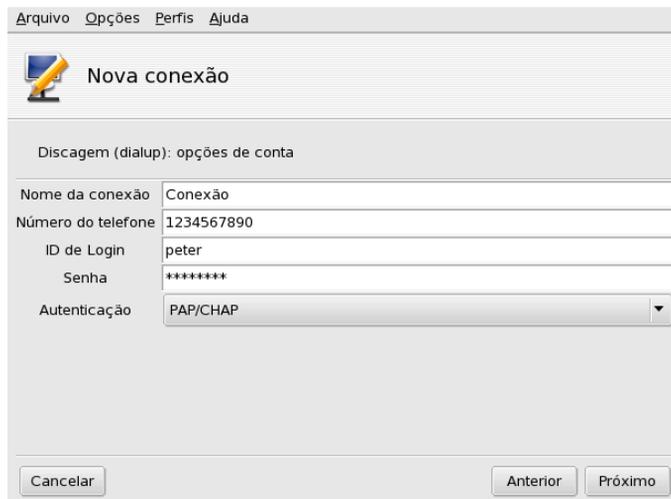
Figura 15-2. Entering Dial-up Connection Parameters

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 will pop up when the connection is made and you will 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).

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. You will then be asked whether you wish to allow users to start the connection. The safest choice is No. Otherwise any user will be able to take the link down, therefore disconnecting every other user.

During the next step you will be asked whether to start the connection at boot time or not: it is probably safer and cheaper to choose No. Finally you will be asked to test the connection: we recommend you to do so to make sure all parameters are accurate. You can now control your Internet connection using the net applet. You can also use the kppp remote access connection dialer (package kppp) through the main menu: Internet+Remote Access→KPPP

15.1.1.5. DVB Connection

This conection type is used for satellite connections.

1. Choose the connection card you wish to configure, and then the adaptater settings.
2. Network configuration is then similar to the LAN connection type (see Seção 15.1.1.1).

15.1.2. Internet Settings
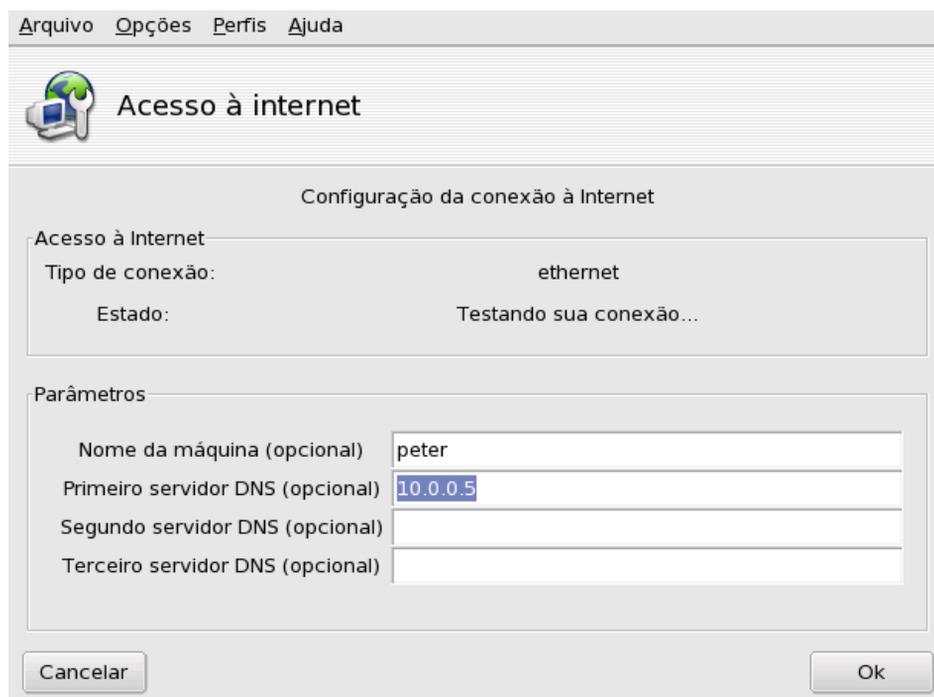
Figura 15-3. Configuring the Internet Access

This tool allows you to specify Internet access parameters if they need to be modified after your initial configuration. Please bear in mind that these parameters are system-wide and apply to all interfaces.

15.1.3. Reconfigure Interfaces
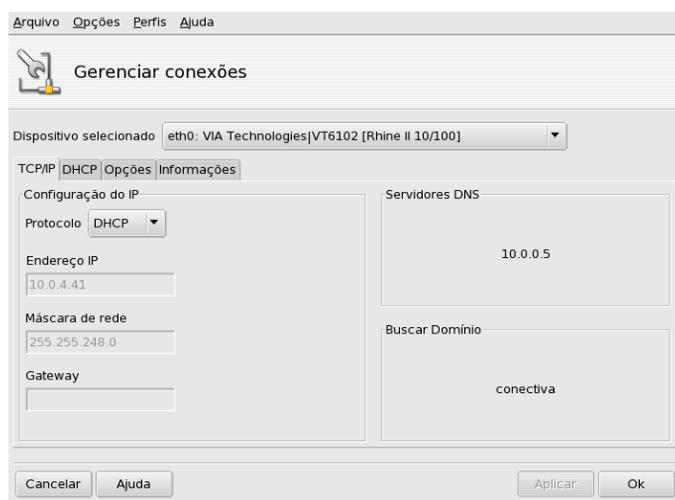
Figura 15-4. Manage Network Connections

This tool permits you to modify network interface-specific parameters, after you have set them up through the new interface wizard (see Seção 15.1.1). Use the drop-down list at the top to select the interface you want to configure. The tabs allow you to change parameters and options according to the network interface type selected.

> This interface can be brought up by simple users through the net applet just to monitor traffic.

15.1.4. Monitoring Connections
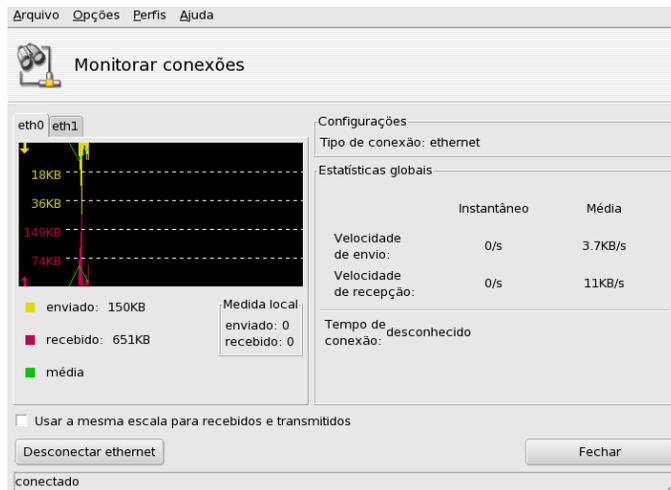
Figura 15-5. Real-Time Network Connection Monitoring

This tool shows the network interfaces activity. You can specify some options for the traffic graphic and statistics: update interval, scale, etc (see Figura 15-5). 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.

15.1.5. Removing a Connection

This tool simply enables you to remove a network interface. Select the interface to be removed in the Net Device pull-down list.

> You will not be asked for confirmation. Once an interface is selected for removal, pressing the Next button deletes it immediately.

15.1.6. Proxy Settings

This tool allows you to define the hostnames or IP addresses of proxies for the FTP and HTTP protocols your computer will use. Fill the fields with the required values and click OK.

A proxy is a server which retrieves information from the Internet on your behalf, keeping a local copy of the web pages which 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 which authenticates you before allowing you to connect to the Internet. This is usually combined with a firewall which 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.

15.1.7. Wireless Connection Management

This tool shows the wireless networks currently available allowing you to switch between them.

15.2. Internet Connection Sharing

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 wish all computers to access the Internet through the same Internet link.

Figura 15-6. A Simple Gateway Configuration

The overall procedure is the following:

1. Configure your Internet access (Seção 15.1). In order for your machine to act as a gateway, you will 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. Setup the gateway (Seção 15.2.1)

3. Configure the other local machines as clients (Seção 15.2.2)

This wizard will also configure a firewall to block most connections from the Internet. You are encouraged to check that the firewall configuration (Seção 18.3) suits you after completing the wizard.

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

15.2.1. The Gateway Connection Wizard

These are the steps that compose that wizard:

1. Choosing the Internet Interface

   You first need to specify the name of the interface connected to the Internet. Make sure you select the correct one: use the examples in the on-line help as a guide.

2. Choosing The LAN Network Adapter

   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. Make sure you select the correct one. Note that all traffic to and from this network passing through the gateway will be masqueraded, that is: it will appear to come from the gateway instead of from the LAN.

3. Local Area Network Settings

Figura 15-7. Configuring The LAN

   At this point, if it is the 1st time the system has been configured as a gateway, the wizard proposes default parameters for the new local network to be managed. Check those values are not already in use in your network, and go on to 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. Then, all the software needed will be installed.

4. DNS Configuration

   If you plan on having a local name server on your machine, you can check the box. Otherwise you can choose to use the name server of your provider. If you don't know what is a name server, leaving the box checked is safe.

5. DHCP Server Configuration

   Installing a DHCP server on your machine will allow all client machines to have their network configuration automatically done. Otherwise you will have to configure each of the clients by hands: IP address, network, gateway, DNS.

6. Proxy Caching Server (SQUID)

   A caching server records the Internet pages requested by local browsers. Then if the same page is asked again by someone else, it'll be able to serve it without needing to retrieve it again from the Internet, thus saving bandwidth, and improving response time. This is most useful for many clients.

   The application used to perform this task is Squid (`http://www.squid-cache.org/`).

When the wizard is completed, required packages are installed and configured.

15.2.2. Configuring the Clients

Configuration of the clients mainly depends 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®, GNU/Linux and any other OS which supports DHCP.

If you have no DHCP server, you will have to configure each of your machines manually, according to the network settings configured during the connection sharing wizard.

For DHCP, on a Mandriva Linux client system, make sure you selected DHCP in the Protocol pull-down list when configuring the network as shown in Figura 15-8.
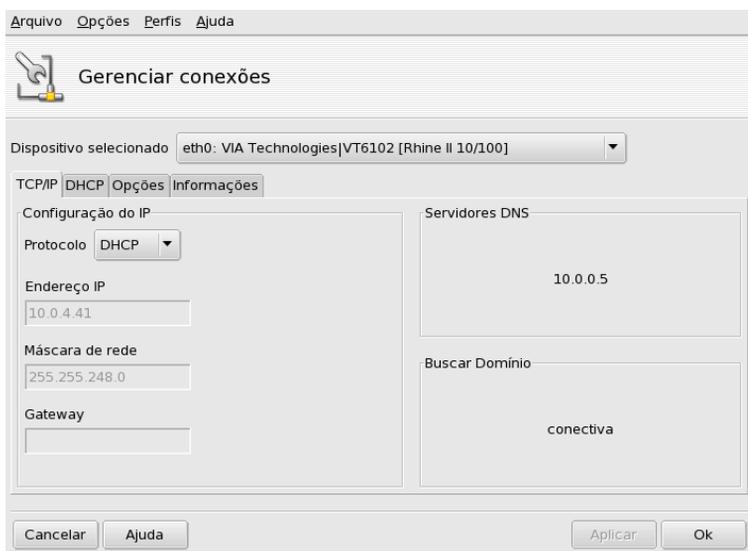

Figura 15-8. Configuring a Client to Use DHCP

Capítulo 16. Personalizing your System

16.1. Customizing your Menus with MenuDrake

In order to help you manage the main menu of your preferred graphical interface, Mandriva Linux provides you with a menu editor which ensures menus from all desktop environments (such as KDE or GNOME) are coherent. This tool allows system administrators to control the menus for all users (the system menu) but can also be utilized by users to personalize their own menus. You can launch MenuDrake from the Mandriva Linux Control Center or from the System+Configuration+Other→Menudrake menu entry.
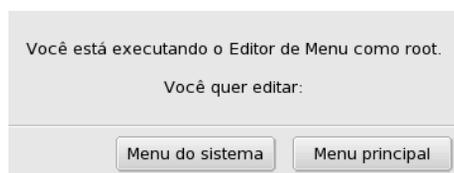
Figura 16-1. Launching MenuDrake in System or User Mode

If started by `root`, MenuDrake can be used in two different modes: either changing menus for all users, or customizing the menus for user `root`. You will be able to switch from within the application thereafter, but for now, click on:

- `System menu` to make changes to menus available for all system users;
- `Root menu` to customize the menus for the `root` user only.

When you launch MenuDrake, it first scans your current menu structure and displays it. The main window (see Figura 16-2) is divided in two parts: the menu itself on the left, and a form relative to the highlighted menu item on the right.

Figura 16-2. MenuDrake's Main Window

You can click on the tree's [+] signs to view the content of the related sub-menus, and on [-] to hide them.

> In your tree you may see entries which do not appear in your actual menu. These are empty directories which are not displayed but can be used for future applications which you may wish to install.

16.1.1. Adding a New Menu Entry

This should seldom happen as all Mandriva Linux graphical applications should provide a menu entry. However if you want to add a menu entry for a package you compiled yourself, or for a console mode program, use this function. Let's suppose you want to run the `top` command in a terminal window to view running processes and the utilization of system resources through a menu entry in the System→Monitoring menu.

Select the System→Monitoring entry, and click on the tool bar's Add application button. A dialog will appear asking you for the title of the menu entry and the command associated with it.

Figura 16-3. Adding a New Menu Entry

Edit the title (you could insert "Table Of Processes") to be shown in the menu. Then you need to provide the action the system should execute in the Command field: `top`. Click on OK and the entry will be added to the menu tree.

You can also choose an icon for your entry from the list which appears once you click the icon button itself. The new entry is shown in Figura 16-4. Do not forget to check the Open in a terminal box to have the program run in a terminal window.

Figura 16-4. A New Menu Entry with MenuDrake

> While modifying your menus, you might make a big mess out of them... Remember that you can reload the menus as you last saved them by pressing the **Ctrl**-**R** keys (or accessing the File→Reload user config sub-menu). You can also revert to the default menus by accessing the File→Reload system menu sub-menu.

Finally to activate your modifications, click on the Save button and that's it. Congratulations! You can now test your new settings by accessing the main menu.

> Depending on the graphical interface you are using, the changes to your menu may not be shown immediately. In some cases, you may need to log out and back in again for the changes to take effect.

16.1.2. Advanced Features

16.1.2.1. Different Menu Styles

Depending on the experience the users working with your machine have, you may want to provide them with different menu styles. Mandriva Linux provides a few template menus which you can eventually customize. They are available through the main window's Menu Style button.

Figura 16-5. Choosing a Menu Style

Choose one of the available options:

- **Use system administrator settings.** If you started MenuDrake as a simple user, you can choose to set your personal menu style to use the menus prepared by the system's administrator.
- **All applications.** This is the traditional menu shipped with Mandriva Linux and it contains nearly all the available applications, sorted into functional categories.
- **What to do?** Specifically designed by our ergonomics team, this menu provides a fast access to most common applications sorted by usage, such as Play a game, Use the Internet, etc.
- **Original menu.** These are the plain menus as provided by the KDE or GNOME desktops. This menu probably lacks some applications.

When you have chosen a menu style, click on OK. You will then be able to see the corresponding menu structure in the main window, and you can then customize it.

16.1.2.2. About the Environment Menu

The entry we have just added to the menu is now available in the active graphical manager menu. It is also possible to make modifications to all graphical manager menus by choosing Environment→All environments.

All entries which only apply to the active graphical environment appear in blue in the tree structure on the left.

16.1.2.3. Moving and Removing Entries

MenuDrake entries support the drag-and-drop feature. Similarly, you may have noticed that whenever you remove an application from the menu, it appears in the "attic", that is the Available applications list on the bottom right corner. If you ever wish to add them again, you simply have to drag them to the desired place in the menu tree.

16.2. Configuring Start-Up Services

At boot time, the system starts a number of services (programs running in background to perform a variety of tasks). This tool gives the administrator control over those services. See the *Os Arquivos de Inicialização: init sysv* chapter of the *Manual de Referência* for more information.
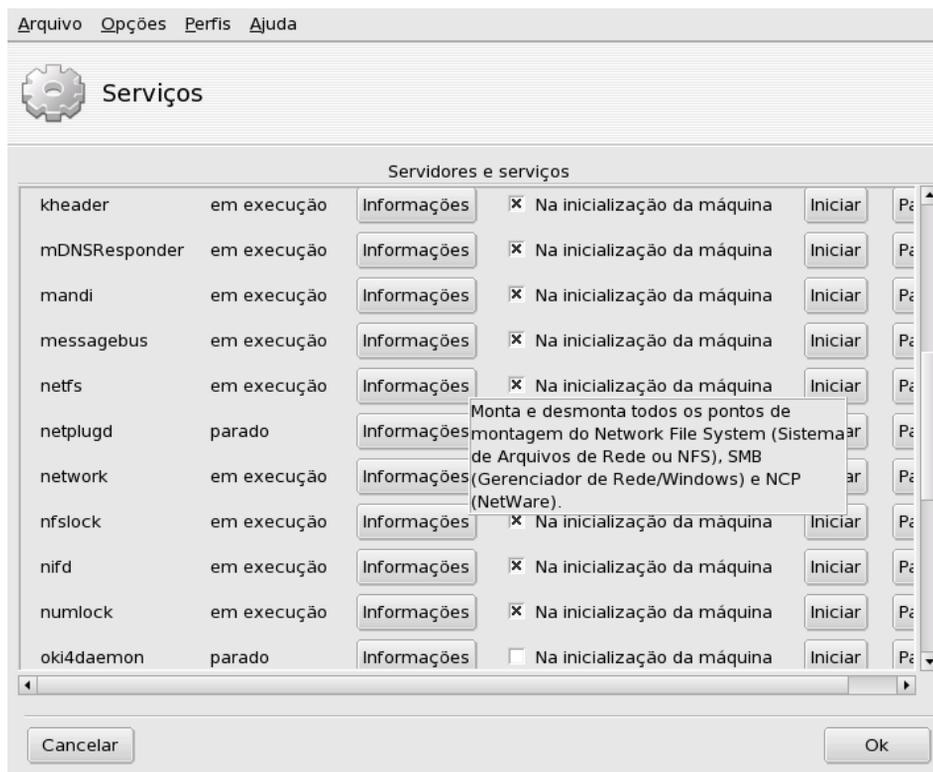

Figura 16-6. Choosing the Services Available at Boot Time

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 that service;

- On Boot: check this box if you wish this service to be automatically brought up 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.

For both the Start and Stop buttons, a tool tip will show you the status of the operation.

16.3. Managing Available Fonts on your System with DrakFont

This tool enables you to review the different font families, styles, and sizes available on your system. It also allows the system administrator to install new fonts.

The main window (see Figura 16-7) shows a visual appearance of the currently selected font combination.
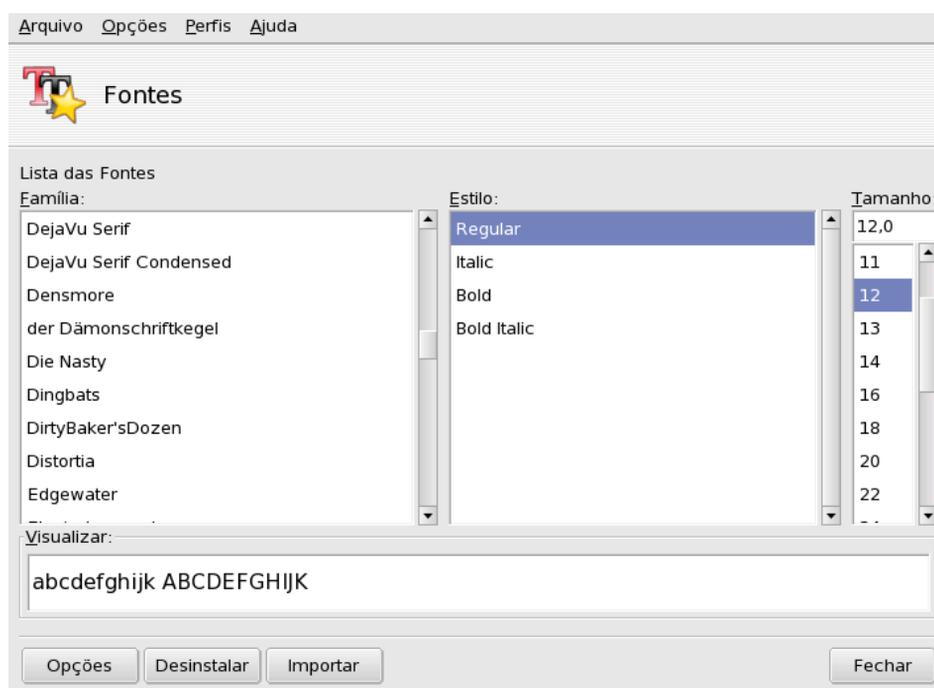
Figura 16-7. DrakFont's Main Window

drakfont is made up of a number of windows which are accessible through the buttons located at the bottom-left corner.

Options

　　Allows you to specify which applications and devices (such as printers) will support the fonts. Select the ones 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 side effects on your applications. You should notably not remove fonts you did not install yourself.

1.　Generally in *runlevels* 3 and 5.

Import

Allows you to manually add fonts found outside the Mandriva Linux distribution, on a local Windows®
installation or from the Internet, for example. Supported font types are `ttf`, `pfa`, `pfb`, `pcf`, `pfm`, `gsf`.
Clicking on the Add button will open 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 fonts button.

> To select more than one font, double-click on the first font you wish
> to select and it will be added to the Import Fonts window. Then
> double-click the other fonts you wish to install and the same action
> will occur. When you are done click on the Close button and then
> on the Install fonts button. Once the installation operation is done,
> make sure the new fonts appear in the Family list.

16.4. Setting your Machine's Date and Time

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

Figura 16-8. Changing Date and Time

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

- 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.

- We recommended that you check the time-zone 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 time zone, a dialog will appear asking you whether your hardware clock is set to
  GMT. Answer Yes if only GNU/Linux is installed on your machine, No otherwise.

- To change the time, you can either move the hour, minute and second hands of the analog clock, or change
  the numbers below it.

- 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.

> The NTP (Network Time Protocol) package needs to be installed. If it isn't, a dialog will pop up and ask you whether you wish to install it.

> If you select the `pool.ntp.org` server, NTP will automatically choose a server near to the time zone you selected.

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.

16.5. Monitoring System Activity and Status

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

16.5.1. Browsing System Logs
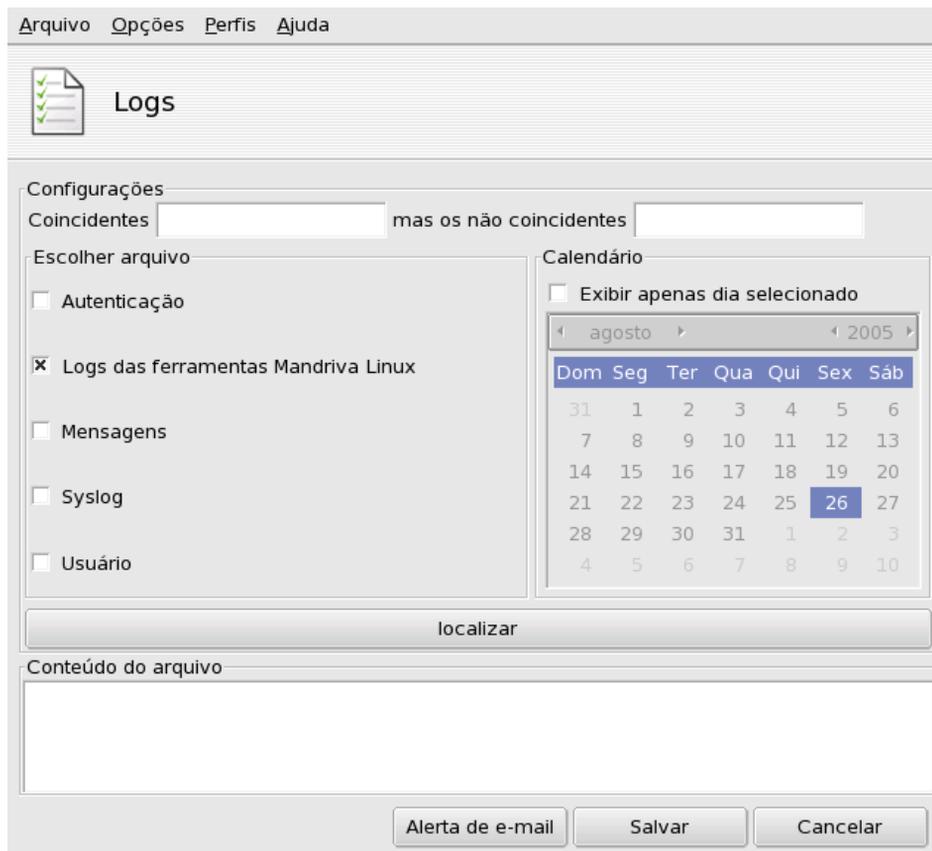
Figura 16-9. Browsing and Searching through System Logs

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 (log files contain the words) field and/or the but not matching (log files which don't contain the words) field. 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 Log is filled by Mandriva Linux-specific configuration tools, like those you find in the Mandriva Linux Control Center. Each time these tools modify the system configuration they write a line in 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 will appear in the Content of the file area at the bottom.

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

16.6. Managing Users and Groups

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 being similar.

16.6.1. The Interface

Launching UserDrake will display the main window (Figura 16-10) 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.

Figura 16-10. 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 he or she logs out, and logs in again.

Available actions are:

Add User

Adds a new user to the system. We will detail this procedure in Seção 16.6.2.

Add Group

Adds a new user group to the system.

Edit

Allows you to change the parameters of the selected user or group. We will detail editing user parameters in Seção 16.6.2. 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`.

16.6.2. 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 Seção 17.5, custom option).

Click on the Add User button, the dialog box to add a new user will pop up (see Figura 16-11). 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.

Figura 16-11. 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 Figura 16-12 will pop up. It allows you to modify most available user parameters.

Figura 16-12. 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 temporary 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 have 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 just 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.

16.7. Backing Up and Restoring your Files

This tool allows you to back up data present on your computer on different media and on a remote machine over the network. Once the parameters are set, you can run the backup periodically. Then, you can forget about it until you wish to restore some files.

The backup parameters must be defined so that the tool knows what, where and when to perform the backup. We will guide you step-by-step with a back up-and-restore example using the wizard. Then we will introduce you to automation of periodic backups.

16.7.1. A Practical Example Using the Wizard

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.

16.7.1.1. First Step: What to Backup
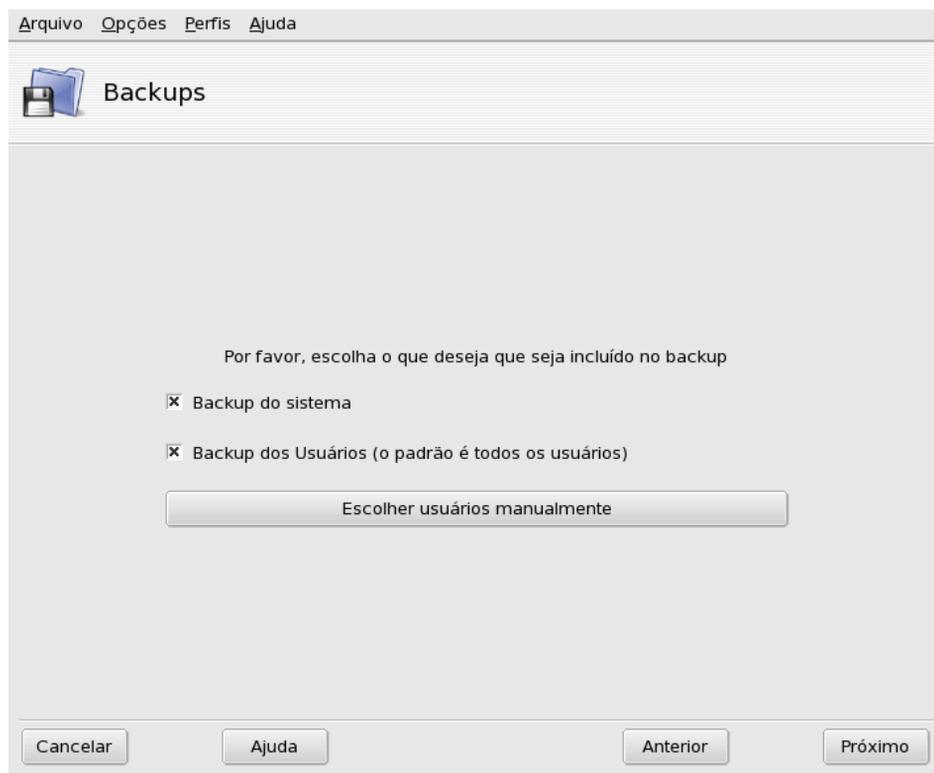
Figura 16-13. Selecting What to Backup

Select Backup System to include the /etc directory where all your current system configuration files lie. This allows you to "transport" your system to a different computer with little effort: only hardware-dependent configuration will have to be revised.

> The "system" backup does not include 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 all the files included in all of your users' /home directories. Clicking on the Select user manually button lets you select individual users and give you the following options:

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

- 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 more space than the first one, but allows you to restore the system "as it was" at any given point in time for which a differential backup was made.

16.7.1.2. Second Step: Where to Store the Backup

Figura 16-14. 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 anyway, you should always backup on 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

> To store the backup on a tape drive. You can set the tape device if it's not detected automatically, and tape parameters such as writing directly on tape, whether or not to rewind, erase and eject the tape.

Optical Media (CD-R)

> To store the backup on optical media: (re)writable CD or DVD. This is our preferred media for the example, so click on its Configure button to set the required parameters (see Figura 16-15).
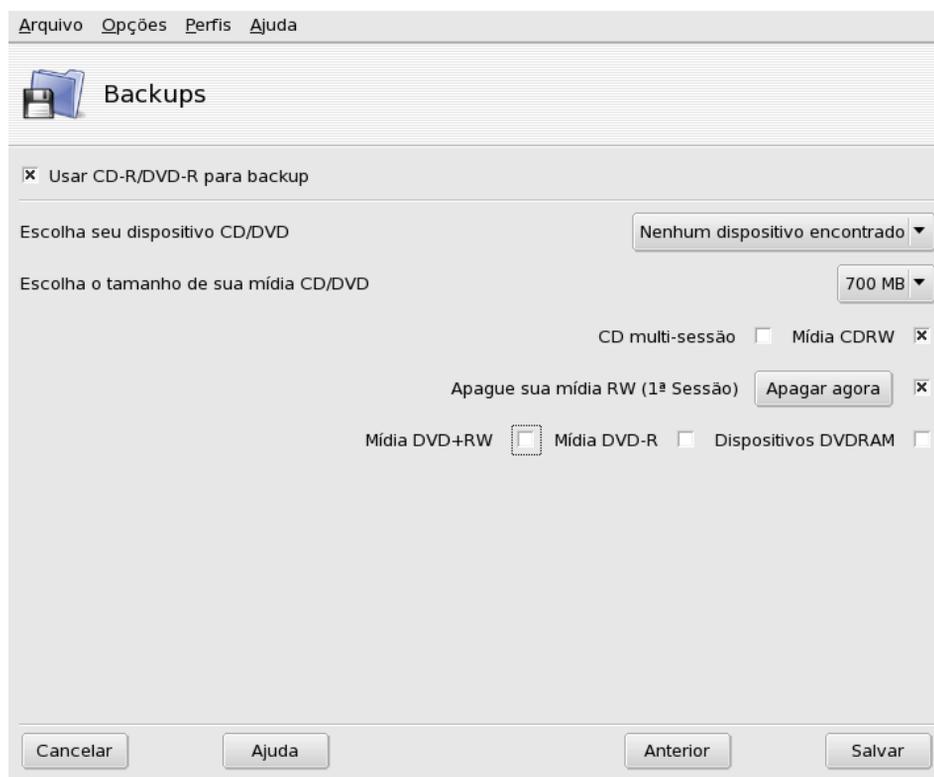
Figura 16-15. Setting Optical Media Parameters

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

For multisession recordings, please have 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.

16.7.1.3. Third Step: Review and Store the Configuration
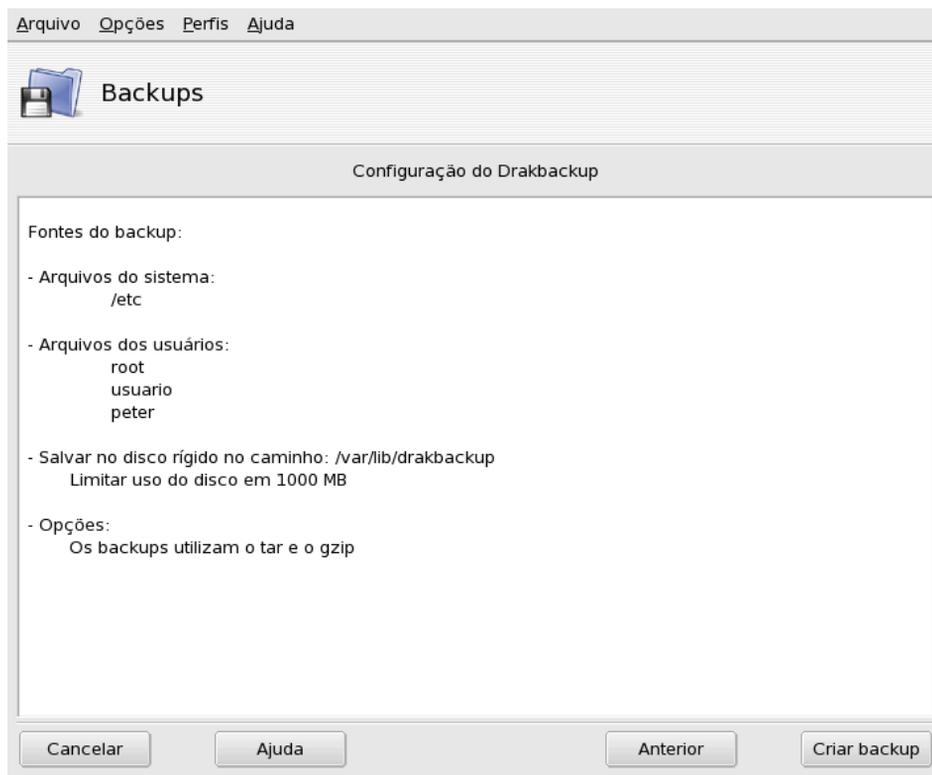
Figura 16-16. Review Configuration Parameters

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. The backup set is now ready to be performed.

16.7.1.4. Performing the Backup

Click on Backup Now, make sure the corresponding media is ready (the recordable CDs 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 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 on it and take corrective measures if needed.

16.7.2. Restoring Backups
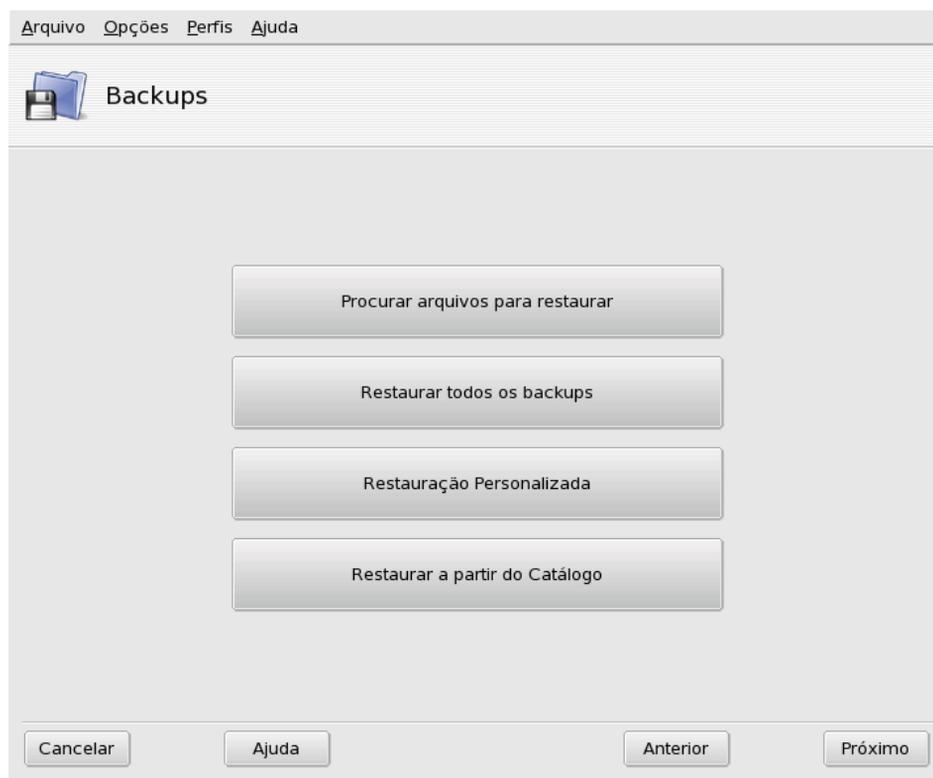
Figura 16-17. Choosing the Restore Type to Perform

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 will restore the whole backup so on the restore dialog (Figura 16-17) click on Restore all backups and then on the Restore button to start the restoration process.

⚠ Existing files in the target restoration directory (same location where 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.

16.7.3. 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 Figura 16-18) select Use daemon to define the schedule.
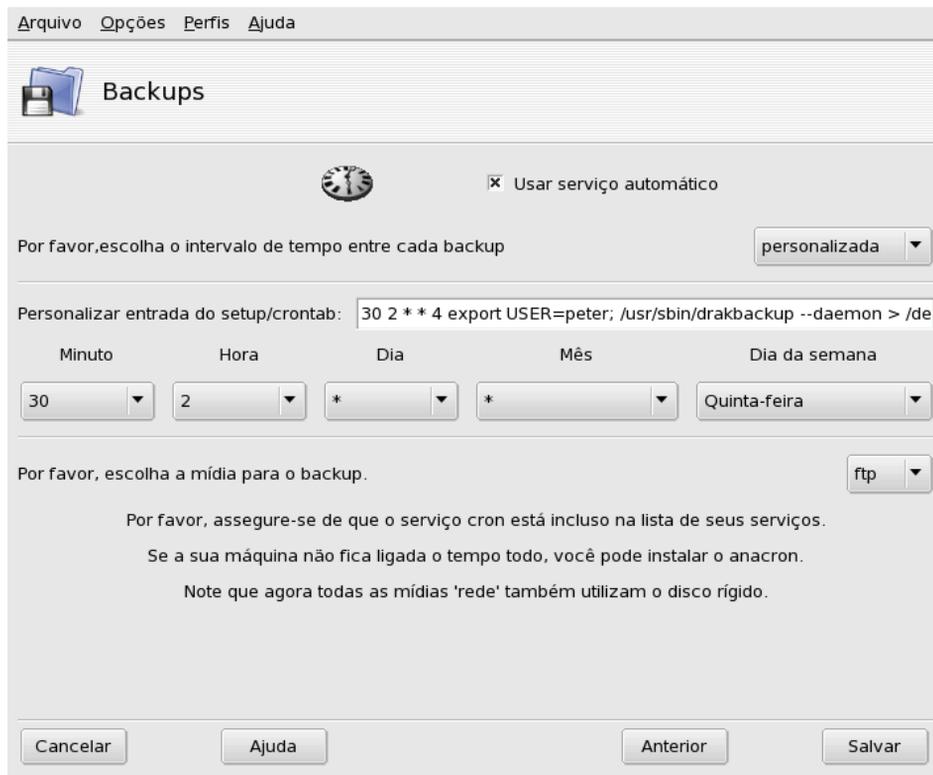
Figura 16-18. Daemon Options Window

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 every Friday at a quarter to midnight and store it on CD.

16.7.4. Advanced Drakbackup Configuration

Click on Advanced Configuration and then on the More Options button to set more backup options (see Figura 16-19).
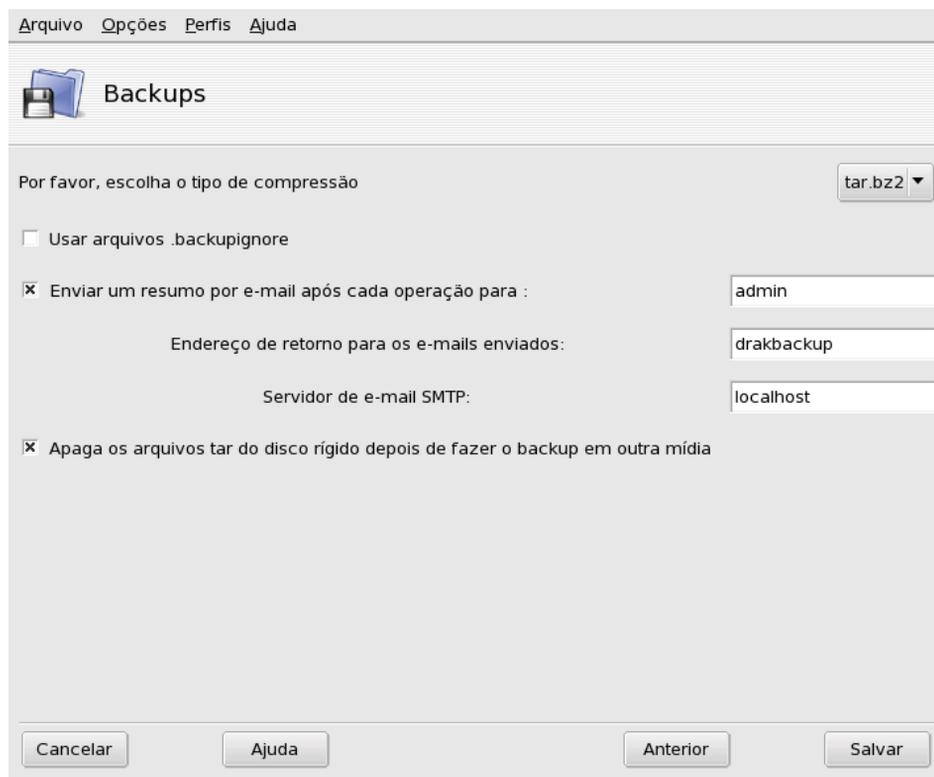
Figura 16-19. Miscellaneous Options Window

Use the Please choose the compression type pull down list to select the compression used for your backups among `tar` (no compression), `tar.gz` (gzip compression) and `tar.bz2` (bzip2 compression: better but slower).

Select the Use .backupignore files option to have certain files excluded from the backup. The `.backupignore` file should be present in every directory of the backup file set where files are to be excluded. Its syntax is very easy: 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 `image00?.jpg` matches files named `image001.jpg`, `image009.jpg`, `image00a.jpg`, `image00h.jpg`, etc.

Select the Send mail report after each backup to option and fill the e-mail address so the tool knows to whom to mail the backup operation report. Please bear in mind that the system needs to have a working MTA (Mail Transport Agent) for this option to be effective.

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

Capítulo 17. Pontos de Montagem e Diretórios Remotos

## 17.1. 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. Please refer to the *Guia de Referência* to learn more about what partitions are used for.

DiskDrake is very powerful and can therefore be a dangerous tool. Misuse of it can 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, ZIP disks, etc.

2. Save your current partition table (the table describing the partitions held on your hard drive(s)) to a floppy disk (see Seção 17.1.2).

17.1.1. The Interface

Figura 17-1. DiskDrake's Main Window

DiskDrake enables you to configure each physical hard drive on your machine. If you only have one IDE disk, you will see a single tab called hda below the file-system types. If there is more than one drive, then each drive will have its own tab and will be named according to the Linux name for that drive. DiskDrake will allow you to manage the partitioning of each drive.

The window (see Figura 17-1) 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. DiskDrake will update the display as you make changes.

- Left. A menu relevant to the partition currently selected in the above diagram.

- Right. A description of the selected partition.

- Bottom. Buttons for making general actions. See next section.

We will now review the actions available through the buttons at the bottom of the window, and then describe a practical use case.

17.1.2. DiskDrake's action buttons

Clear all

> Clicking on this button will clear all partitions on the current hard drive.

More

> Displays a three button dialog allowing you to:

> Save partition table

> > Allows you to save the current partition table to a file on a disk (a floppy, for example). This may prove useful if a problem arises (such as an error made during drive repartitioning).

> Restore partition table

> > Allows you to restore the partition table as previously saved with Save partition table. Restoring a partition table may recover your data as long as you do not reformat partitions, because the formatting process will overwrite all your data.

> Rescue partition table

> > If you lose your partition table and have no backup, this function scans your hard drive to try and reconstruct the partition table.

Help

> Display this documentation in a browser window.

Undo

> Cancels last action. Most modifications done on your partitions are not made permanent until DiskDrake warns you it will write the partition table. This button therefore allows you to undo all of your modifications on partitions up to last write.

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.

Done

> Saves your changes and exits DiskDrake.

17.1.3. Resizing an Old Partition and Creating a New One

In this section, we are 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.**

This is what the current `/home` partition looks like (see Figura 17-2), before any modification. We are going to shrink this partition in order to create free space for the new file system.

In order to perform the steps in this example, all users of your
system must be logged out, except `root`.

First of all, you need to unmount the `/home` partition by clicking on it and then pressing the Unmount button.


Figura 17-2. The /home Partition Before Resizing

The next step, as you may have guessed, is to click on the Resize button. A dialog will appear (see Figura 17-3) which will allow you to choose the new size for the `/home` partition. Move the slider to reflect the new size, then click on OK.
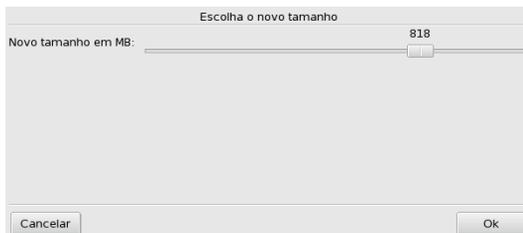
Figura 17-3. Choosing a New Size

When this is done, you will notice that the graphic representation of your hard drive has changed. The `/home` partition is smaller, and an empty space appears on the right. Click on the empty space and then on the Create button which appears. A dialog (see Figura 17-4) 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`.
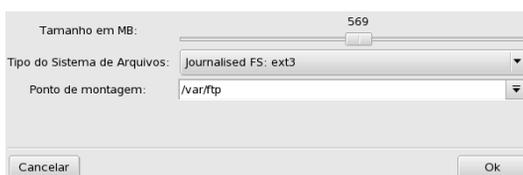
Figura 17-4. Defining the New Partition

Figura 17-5 shows what our projected partition table now looks like.

Figura 17-5. The New Partition Table

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.
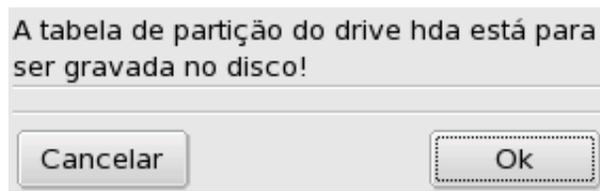

Figura 17-6. Confirming the Writing of the Partition Table

17.2. Managing Removable Devices

These tools enables system administrators to easily control most 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 have to manually mount media.
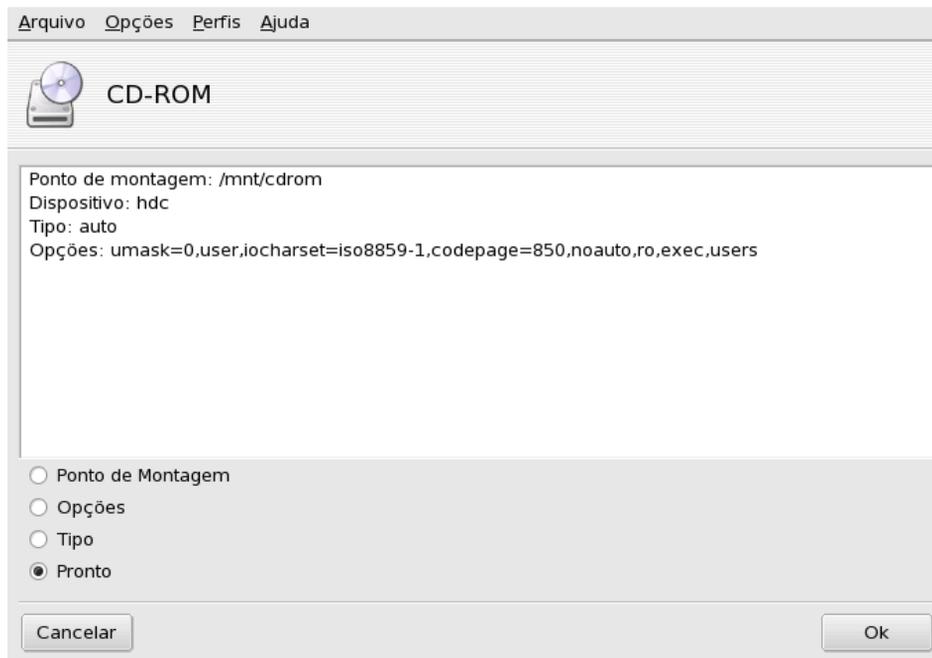
Figura 17-7. Changing a Parameter

For each device the following properties may be changed:

- **Mount point.** The directory where the device's files will be accessible from. You can either choose an entry in the list or type in your own path. If the directory does not exist, it will be automatically created.

- **Options.** Controls various device options, notably whether it is mounted automatically (supermount) or not. Note that if the supermount option is selected, the two others (user and noauto) must not be selected.

- **Type.** Displays a list of file-system types. If you have a specific medium with an uncommon file system on it, this is where you can tell Linux how to access it.

Select the property you wish to change and click on OK. The corresponding dialog will pop up in which you can change your settings. Then click on OK again. The system will then ask you if you want to save the modifications in the /etc/fstab file. By saying yes, you will not have to unmount and re-mount that device: it will be done automatically

17.3. Importing Remote SMB Directories

This tool allows the system administrator to import remote shared directories based on the SMB protocol (used mainly by Windows®) on the local machine.

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 template directory from a Windows® machine.
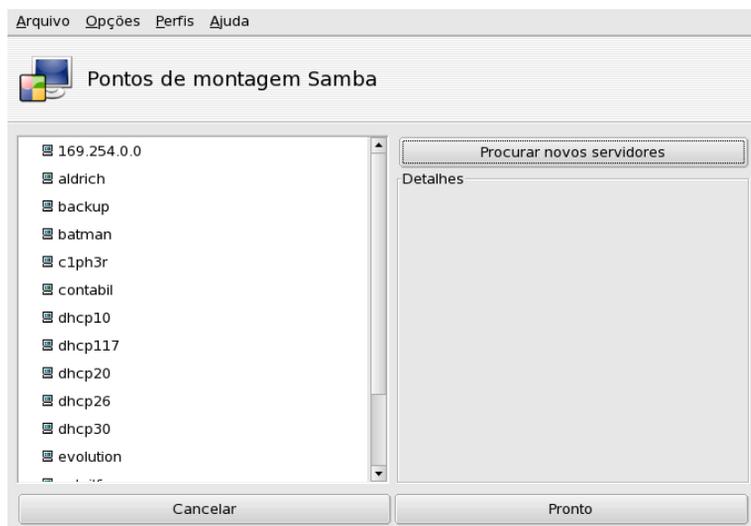
Figura 17-8. Scanning the Whole Network

Clicking on the Search servers button scans the local network for machines which currently share directories (including the local one). In our example, many servers are available. We'll choose `skywalker` and we'll make it available locally for all users.

Clicking on a machine's name will try to connect to it and browse for available shares. If that machine has password-protected shares, a dialog will pop up asking you to identify yourself.

Figura 17-9. Authenticating on a Remote Samba Server

Enter the correct Username, Password and Domain. The available shares on that machine will then appear. Click on the little arrow on the left of the server icon to show available shares.

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.

Figura 17-10. Choosing the Remote Directory to Import

Once a share is selected, a Mount point button appears. Clicking on it displays a dialog where you can type the local directory name where remote files will be accessible.

Once this is done, two more buttons appear:

- **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.

- **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.

Also, the little icon in front of the shared directory ![icon] becomes ![icon]

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

17.4. Importing Remote NFS Directories

This tool is exactly the same as the one mentioned in Seção 17.3, except that it controls file sharing through the NFS protocol rather than SMB. Therefore it allows you to locally import shared files from NFS-friendly machines. The interface is the same as the one described in *Importing Remote SMB Directories*, and the effects are similar. Only the corresponding machines are different: UNIX® for NFS and Windows® for SMB.

Another difference is that there is no need to provide a password to access NFS shares. The authentication mechanism is host-based.

17.5. Allowing Users to Share Folders
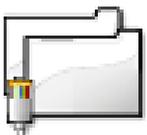
This tool enables you to share files with other users of your computer network. File sharing can be done on heterogeneous systems such as GNU/Linux and Windows®.

The file-sharing configuration is done in two simple steps: determining who can export folders, and then which protocol to use. A 3rd step is necessary if you select the Custom export option.
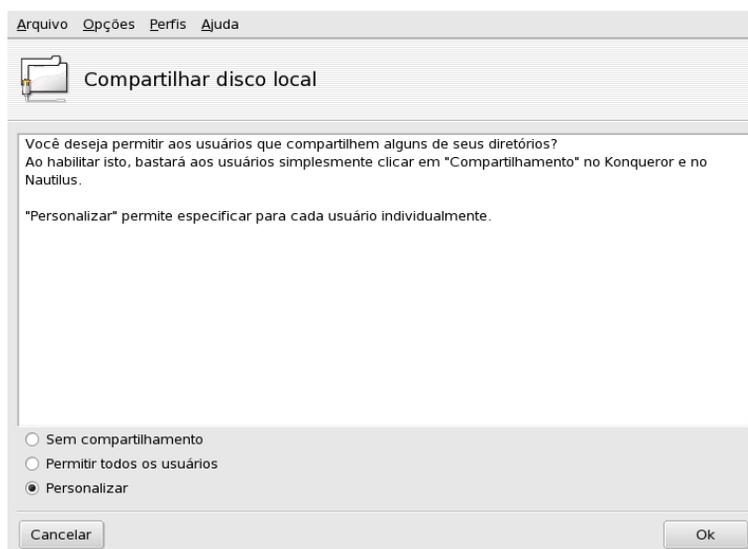
Figura 17-11. Controlling Exports

First of all, you must determine who will be able to share folders. Here are the different available options:

- **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 the same `fileshare` group will be allowed to share data. If you choose this option, the `fileshare` group will be created and, as a 3rd step, you will be prompted to run UserDrake in order to add the allowed users to this group (see Seção 16.6).

Figura 17-12. Choosing the Export Protocol

Then you must choose which protocol to use for file sharing. Check one or both of the following:

- **SMB.** If you want your users to share files using Windows® systems.

- **NFS.** If you want your users to share files using UNIX® systems (such as GNU/Linux).

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.

Once users are allowed to share data, they can select the folders to be shared through their preferred file manager (see Seção 10.3.5).

17.6. Setting up WebDAV Mount Points

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 will allow users 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 protocol.

Figura 17-13. Managing WebDAV Mounts Points

The first time you launch this tool the required packages will be installed if needed, and only two buttons will be available. New, which allows you to define a new mount point, the other one just Quits the application. After you have defined mount points, they will appear as new buttons at the top of the buttons list. Clicking on a mount point button will get you to the mount point menu (see Figura 17-14).

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.

Figura 17-14. WebDAV Menu

You must now decide where the web server files will be accessible from. Select the Mount point option and click OK. There you will be able to choose a local directory or type in your own. If the selected mount point does not exist, it will be created.

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.

You will now be 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.

To make your settings persistent between sessions, do not forget to save modifications to the `/etc/fstab` file, as suggested when you quit the wizard.

Capítulo 18. Securing your Linux Box

18.1. Securing your Machine through DrakSec

draksec is a graphical interface to msec (which stands for Mandriva Linux Security Tool). It allows you to change your system's security level and to configure every option of msec's security features.

msec has two aspects: system behavior configuration and periodic checks of system state. Each security level modifies the system configuration, making it more and more secure, and verifying more and more security related aspects.

18.1.1. Setting your Security Level

> This tool is only displayed in expert mode. Choose Options→Expert mode from the menu and then access the Security section of Mandriva Linux Control Center.

Figura 18-1. Choosing the Security Level of your System

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.

> If you wish to check which options are activated for each security level, review the other tabs: Network Options, System Options and Periodic Checks. 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 Seção 18.1.2, for details.

Put a check mark on the Security Alerts box to send by mail 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 immediately informed of possible security issues. Otherwise the administrator will have to regularly check the relevant system log files.

18.1.2. Customizing a Security Level

Clicking on each of the Options tabs (and the Periodic Checks one) lead you to msec's list of security options. This allows you to define your own security level based on the security level previously chosen.

Figura 18-2. Modifying Standard Options

For each tab, there are two columns:

1. **Options List.** All available options are listed.
2. **Value.** For each option[1] 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.
   - **Ignore.** Use this option if you don't wish that 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. The default security level setting is shown in the Help window.

18.2. Controlling File Permissions with DrakPerm

In Seção 18.1, you saw how to change your system's security level and customize the security checks associated to those levels.

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. Those modifications can help prevent possible security holes or intrusions.

This tool is accessible only in expert mode. Choose Options→ Expert mode from the menu and then access the Security section of Mandriva Linux Control Center.

Figura 18-3. 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) 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 Figura 18-3.

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.

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.

Figura 18-4. Adding a File-Permissions Rule

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.

> 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 that in Konqueror by modifying the permission properties of your home directory, and checking the Apply changes to all subfolders and their contents option.

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.

18.3. Protegendo sua Conexão Internet com o DrakFirewall

Esta pequena ferramenta permite a configuração de um firewall básico para sua máquina. Ele filtra tentativas de conexão vindas de fora e bloqueia as que não forem autorizadas. É recomendado que a ferramenta seja executada logo após a instalação da máquina e antes de se conectar à Internet, minimizando portanto os riscos da sua máquina ser comprometida.

Figura 18-5. A Janela do DrakFirewall

Se estiver marcada, desmarque a opção Todos (sem firewall) e marque as opções correspondentes aos serviços que você deseja tornar disponíveis para o mundo externo. Se você desejar disponibilizar um serviço que não está listado aqui, clique no botão Avançado para especificar manualmente as portas que devem ser abertas.

> O botão Avançado faz surgir um novo campo chamado Outras portas onde você pode digitar o número da porta e seu protocolo que deve ser aberta para o mundo externo. Alguns exemplos são apresentados logo acima deste campo: use-os como guia. É ainda possível especificar faixas de portas usando a syntaxe `:` como em `24300:24350/udp`.

Não marcar um serviço nesta lista não impedirá uma conexão sua **para** o serviço. Irá apenas impedir conexões **vindas da** Internet para este serviço na sua máquina. Se você não planeja hospedar serviços na sua máquina (caso comum para máquinas domésticas ou desktop), deixe todas as opções desmarcadas.

Por outro lado, caso você deseje desabilitar o firewall e deixar todos os serviços acessíveis para o mundo externo, marque a opção Todos (sem firewall) mas, por favor, tenha em mente que isto é **bastante inseguro** e não recomendado.

Após clicar no botão OK, o próximo passo será selecionar qual a interface que conecta sua máquina à Internet.

Figura 18-6. A Interface Internet

Analise os exemplos para determinar o nome da sua interface que está conectada à Internet. Se não tiver certeza, consulte a configuração de rede do sistema (veja Seção 15.1.3). Por fim, clique no botão OK para instalar os pacotes necessários, ativar o firewall e aproveitar sua conexão protegida.

Capítulo 19. Boot Device Configuration

19.1. Configuring the Login Mode

This tool allows a user to be automatically logged into the system at boot time, without a password being required.
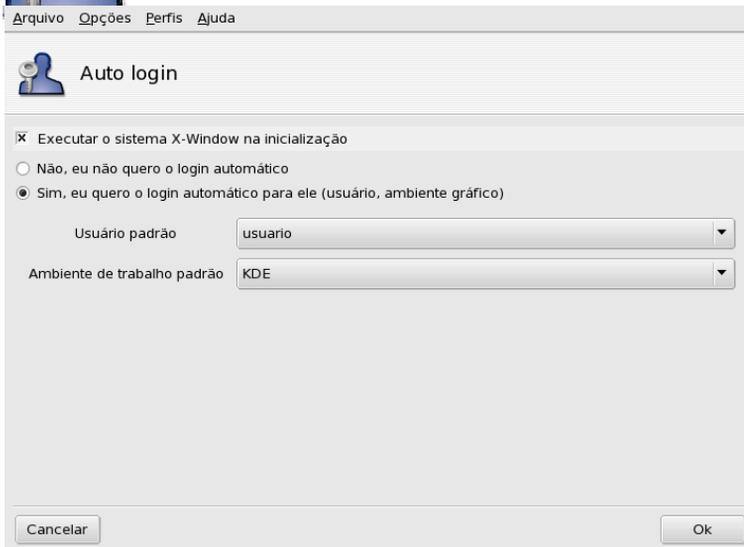
Figura 19-1. Choosing the Login Mode

There are a few parameters:

1. 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.

2. 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. To do so, select the Yes, I want to autologin with this (user, desktop) option. Then choose the user you want to be logged on automatically in the Default user, as well as the preferred Default desktop in the pull-down menus.

19.2. Changing your Bootup Configuration

This tool allows you to configure the bootloader and the boot menu entries.

Unless you're an expert, it's not recommended to change these settings as this may prevent you from booting your machine the next time you try to power it on.
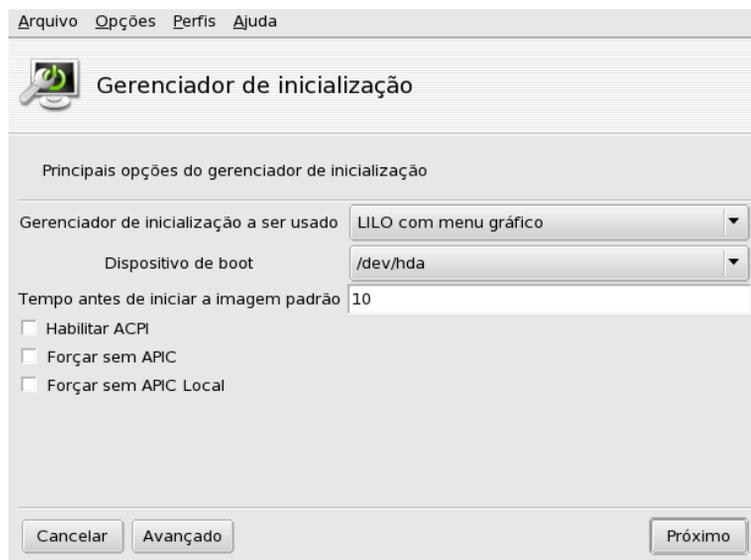
Figura 19-2. Choosing the Boot Mode

19.2.1. Configuring the Bootloader

You can choose between the GRUB and the LILO bootloader. Either one will allow you to boot Mandriva Linux, it's just a question of taste.

Unless you know what you're doing, you shouldn't change the default Boot device shown, since that's where the bootloader installs itself. If more than one OS is installed on your machine, it's a good idea to leave at least 5 seconds so that you can easily select a different menu item than the default image.

The dialog finally shows a few options which can be useful depending on your specific hardware.

Enable ACPI

> Enable this option to allow better power management support if your hardware is ACPI compatible. ACPI is often needed for new laptops which no longer support APM.

Force No APIC

> The IO-APIC (`http://www.wlug.org.nz/APIC`) is only really useful for multi-processor systems. It may cause problems on single processor systems and should be deactivated in that case by checking this box.

Force No Local APIC

> The Local APIC can be used by Linux to program interruptions to wake up threads. On multi-processor machines it can be used to send interrupts to another processor.

These relatively new APIC features are known to cause problems on some computers because of badly designed chip sets or poor support in Linux kernel drivers. These problems can cause system freezes or incorrect device detection. So you may need to deactivate them by checking the corresponding box.

Click on Advanced to be able wipe the contents of the `/tmp` directory (which might hold some files you download from the Internet, for instance) and to tell Linux how much RAM your machine uses should this prove to be an issue at boot time.

19.2.2. Managing Boot Entries

After clicking Next, the list of available entries at boot time is displayed; the default one is marked by a star (*).

It's also possible to make an entry the default one by checking the Default checkbox in the Modify dialog.

19.3. Customizing your Boot Theme

The Boot Theme 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 (Figura 19-3).

- 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.
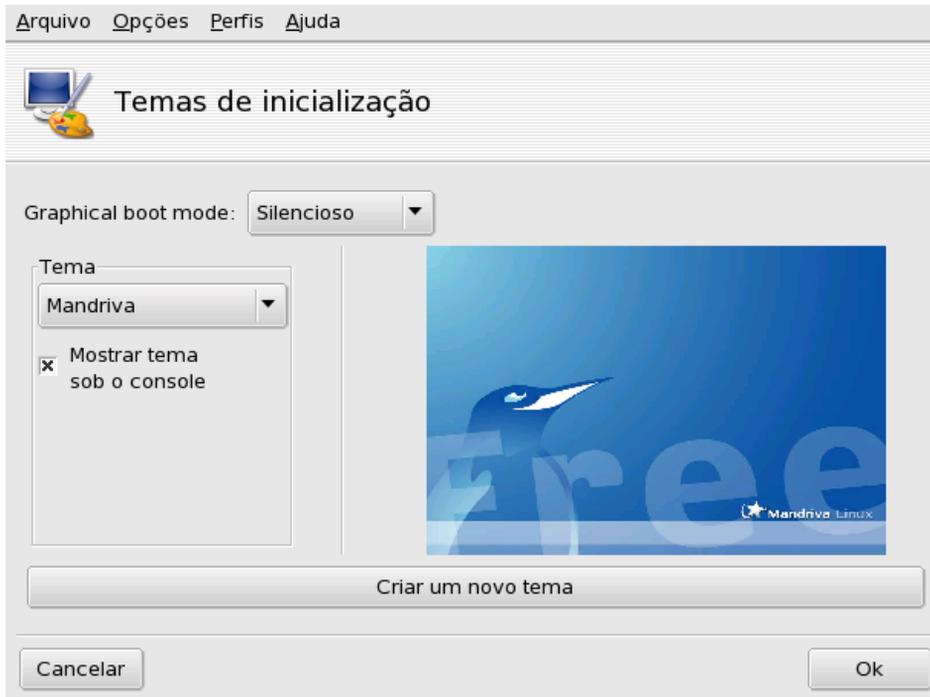
Figura 19-3. DrakBoot Theme Window

The boot theme setting will have no effect if your system isn't set to boot using the graphical mode. Please refer to Seção 19.2, for more information on setting the boot mode.

If you only have one theme available, you can install the `bootsplash-themes` package which you will find in `contribs`. Other themes are also available on the web.

The Create new theme button allows you to fully customize an existing boot theme or create a new boot theme from scratch. Adjust the parameters to your liking and save it. It will then be accessible in the available Themes list.

Capítulo 20. Mandriva Online Services

Mandriva's convenient update service warns you about bug or security fixes specifically available for your machines. This service can also be configured to automatically install package updates so you don't have to run it manually.

The system is composed of the following items:

Initial Configuration Wizard (see Seção 20.1)

Enables you to register a new machine.

Web Management Interface (see Seção 20.2)

Allows you to manage all the hosts you maintain and to activate hosts so they are taken into account for updates.

Applet (see Seção 20.3)

Informs you on the status of your updates, and allows you to launch the installation of updates when needed.

Take a look at the Mandriva Online FAQ (`https://online.mandriva.com//page.php?page=info`) page to get further information about the Mandriva Online service.

20.1. Initial Configuration

The Mandriva Online wizard shows up when you boot your machine for the first time. It allows you to create a new account or to register an existing one. To manually launch the wizard from your user account, right-click on the Mandriva Online applet icon on the panel and choose Configure Now!. You must provide `root`'s password.

Figura 20-1. Existing or New Mandriva Online Account?

After clicking on Next, check the appropriate option (I already have an account or I want to subscribe) and click Next.

Figura 20-2. Authentication on Mandriva Online

Enter your login information and provide a name to identify your machine. This is useful if you manage several computers with Mandriva Online.

The next step explains what information is collected on your computer. This information is required for the service to work correctly.

Figura 20-3. Uploading Your Configuration

Finally, choose your country so that automatic updates occur from the nearest possible server. If your country is not listed, select the nearest one. Click on Next and Finish to exit the wizard.

> To complete your setup, you must activate this machine in your Mandriva Online account.

20.2. The Web Management Interface

Access the Mandriva Online web administration interface (`https://online.mandriva.com//page.php?page=info`) by right-clicking on the Mandriva Online applet on the panel to activate your Mandriva Online account. Choose Online WebSite and once you're on the website, provide your Mandriva Online email address and password.

> Please check out your personal space (`https://my.mandriva.com`) on the My Mandriva Web site.

20.2.1. Subscribing New Machines

Figura 20-4. Mandriva Online Hosts List

20.2.2. Host Management

Once you activate a host you can access its management interface by clicking on the details icon.

Figura 20-5. Up-To-Date Mandriva Online Host

The available actions differ slightly according to whether your machine's packages are up-to-date or not, but basically here are the actions you can perform:

Control email alerts

> Change the mail-sending status to yes (by clicking on the link) to receive an email when updates are available.

Control automatic scheduled updates

> Change the auto-update status to yes (by clicking on the link) to have updates for your machine automatically installed by the applet (see Seção 20.3) which regularly connects to the Internet to check for such updates.

Check current packages

> Click on the See link by the Installed packages or Errata(s) label.

20.2.3. Scheduling Updates

You can update your machine manually from the applet (see Seção 20.3); from the Web interface, you can check which updates are available and choose which ones to install.

Figura 20-6. Outdated Mandriva Online Host

You must now select the packages to be updated. You can either schedule all packages to be updated, or choose them one by one by clicking on the See link in the Outdated packages field.

Figura 20-7. Select Packages to be Updated

Click on the advisory link (of the `MDKA-year:number` or `MDKSA-year:number` forms) to obtain details about that update. Check the box for each package you want to be updated on your machine. When this is

done, click on Schedule Packages.

Once updates are selected, they are automatically installed next time the applet connects to the Mandriva Online server, which occurs several times a day.

20.3. Mandriva Online Applet

The applet resides on your desktop panel. It informs you about update availability and allows you to perform basic system maintenance tasks.

The applet icon can be in one of many states, depending on your machine's status:

The system is up-to-date. All is fine.

A standard program update is available for your installed packages.

A bugfix update is available for your installed packages.

A security update is available for your installed packages. It is **highly** recommended that you install security updates.

The applet is currently contacting the server, be patient.

This host isn't currently activated. Activate it using the Web interface (see Seção 20.2.1).

The applet cannot connect to the server. Check your Internet connection.

The system is currently not configured or a configuration error was found. Launch the configuration wizard (see Seção 20.1) to use Mandriva Online.

Click on the applet icon to open a dialog with action buttons, followed by the current machine's status.

Figura 20-8. Mandriva Online Applet

Install updates

Manually launch the updates installer by opening Rpmdrake (see Seção 13.3).

Configure

Launch the wizard (see Seção 20.1). This can be useful to resend your machine configuration to the server, for example if you upgraded your hardware.

Check updates

Manually connects to the server to check if updates are available. This is done periodically by the applet, but if you have no permanent connection to the Internet, it may be useful to manually check for updates

when you are online.

Capítulo 21. Resolvendo Problemas

This chapter guides you through some troubleshooting basics, that is: what to do when everything goes wrong or, better yet, what to do to be **prepared** if something goes wrong and then how to fix it.

21.1. Introduction

Making backup copies of your data, fixing little problems, recompiling the kernel, installing software, and tweaking configuration files are not uncommon scenarios in every day GNU/Linux life: even if you don't do it all the time, some day you may want or need to. Those tasks can be managed without any hassle if you use a little common sense and follow some practices and guidelines we discuss in this chapter.

> Many of the examples and tools presented in this chapter deal with the command line. Usually, restoration of a damaged system to a working state can only be done this way. We assume that you feel comfortable enough using this powerful tool.

So, on to the basic things you need to have ready...

21.2. A Boot Disk

The very first thing you need when your system cannot boot from the hard disk is a boot disk. It allows you to boot your system up and, in a matter of minutes, enable you to undo what rendered your system unusable.

21.2.1. Using the Mandriva Linux CD Rescue Mode

To access Mandriva Linux's rescue mode (available on the first CD-ROM), boot from the CD-ROM, and press the **F1** key, then type `rescue` and hit **Enter**. The system boots in rescue mode (see Figura 21-1).
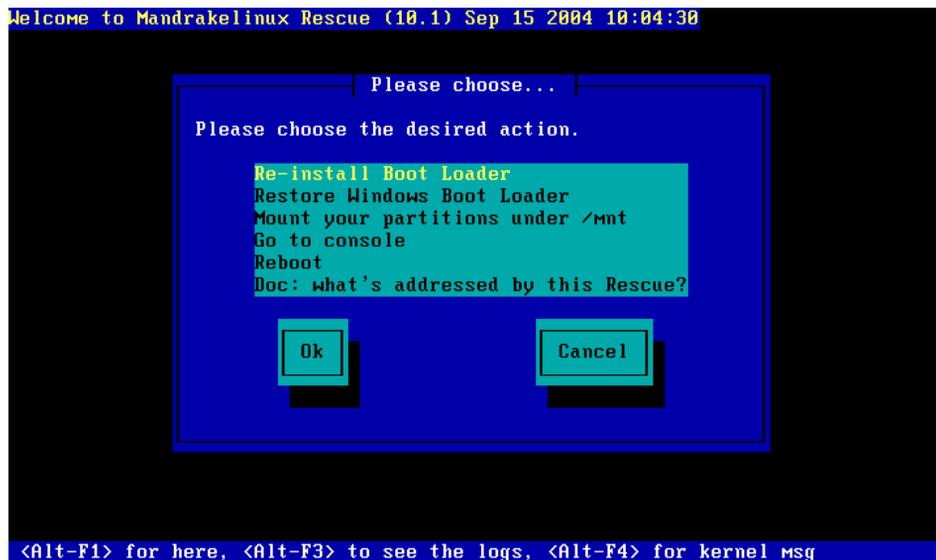
Figura 21-1. Available Rescue Mode Actions

You navigate through the actions with the arrow keys and execute the selected action by pressing **Enter**. The actions available are:

Re-install Bootloader

Use this option to restore the Linux bootloader to the disk's MBR. The former bootloader configuration will be activated again. This is handy, for example, if you dual boot with Windows® and activated a virus which corrupted your disk's MBR leading to an unbootable system.

Restore Windows Bootloader

Use this option to restore the Windows® bootloader to the disk's MBR. This can be used to completely clean the Linux bootloader information and leave Windows® only "as if Linux had never been installed". Press **Enter** to perform the action, or **N** followed by **Enter** to cancel the action.

> ⚠️ You won't be able to boot Linux after performing this action. Note however, that this doesn't erase the Linux partitions and system from your harddisk.

Mount your partitions under /mnt

Use this option to mount all available partitions under the `/mnt` directory. Each partition will be mounted in its own directory, with the same name it would have if mounted by the original system. This option is very useful when you need to access data on your partitions, for example to back it up. You will probably need to mount partitions before accessing the console, for example.

Go to Console

Use this option to access the console where you can perform further operations, for example loading network card drivers, copying files, formatting partitions, etc. A very basic Linux system is available with a few consoles which you can switch between using the **Alt-F<n>** key sequence.

> 💡 You can return to the rescue mode actions menu issuing the `rescue-gui` command.

Once you finished using the console you can issue the `reboot` command to restart the system.

Reboot

Restarts the machine. Take the CD-ROM out if you want the system to boot as usual. You won't be asked for confirmation, the system reboots immediately.

Doc: What's addressed by this Rescue?

Shows a few pages of help text, with briefs explanations on what the rescue mode addresses. Navigate through the pages using the **Page Up** and **Page Down** or the arrow keys and press the **Q** key followed by the **Enter** key to return to the rescue actions menu.

21.3. Backup

21.3.1. Why Backup?

Backing up your system is the **only** means of being able to repair it if it suffers severe damage, if you accidentally delete some important system files, or if someone breaks into your system and intentionally deletes some files. You should also back up your personal data (compressed audio, images, office documents, e-mails, address book, etc.) to be safe.

You should make your backups using an appropriate medium and keep them in a safe place. Such a place should be outside the place you usually work in, if possible. You can even have two backups, one on-site, and one outside. Generally speaking, you should make sure that you will be able to restore those backups if you want all this to be really useful.

21.3.2. Preparing your System

You probably have everything you need already installed in your system. You should also keep a boot disk near at hand (you **created** one, didn't you?). Actually, you can make backups using only `tar` and, optionally, a compression tool such as `gzip` or `bzip2`. See an example in Seção 21.3.6.

As an alternative, you can use specialized backup programs, such as Taper, Time Navigator, Arkeia, or Mandriva Linux's own Drakbackup (please refer to Seção 16.7).

21.3.3. What to Backup?

Well, this might be the single most difficult question every system administrator asks himself when the time to backup comes. The answer depends on issues such as: are you only backing up your personal data, your configuration files, or your whole system? How much time or space is it going to take? Will you be restoring your backup on the same machine/OS version, or on a different one?

Since this is a troubleshooting chapter, we try to focus on making a backup that allows you to quickly restore your system to the state it was before that terrible thing which rendered it unusable happened. Of course, you need to make a backup of your personal data if you don't want to lose it.

As a rule of thumb, you should back up the following directories: `/etc`, `/home`, `/root` and `/var`. If you do a complete backup of these directories, you saved not only your system configuration, but your data as well. Please bear in mind that a backup can take a **long** time to complete, but it's the safest bet.

A more sophisticated scheme would be to backup only those files which have changed, skipping the ones which haven't. This will take more planning time, but will lead to quicker backups (and quicker restores, too). They will also be "easier" to port from one machine/OS version to another.

To summarize, back up all the configuration files of the programs you use and all of the configuration files you have changed. Also back up all your personal (and your system's users) data files. You won't regret it.

21.3.4. Where to Back Up?

The other big question to answer. This depends on how much you want to back up, how fast you want to make your backups, how easy it is to access the backup media, and a large list of etceteras.

Generally speaking, you need media that is at least as large as the amount of information you want to back up, and fast enough so the whole process won't take forever to complete.

Available backup media options vary in capacity, reliability, and speed. You can combine backup media according to your backup strategy, for example: tapes and CD-R/DVD+RW, hard disk and tapes, hard disk and CD-R/DVD+RW, etc., but bear in mind that your backup software may or may not support all of these options.

21.3.5. When to Back Up?

There are many policies for backup schedules. We discuss a few in this chapter but remember that these are not mandatory, nor the best ones, nor the only ones. These are just guidelines you may want to follow in rolling out your own backup schedule.

The many backup strategies out there depend on the media you use, on how often your data changes, and on how critical that data is to you or your organization. For example, one strategy states that you should make a full backup each weekend, and an incremental (changed data only) backup every day. Then make a full backup every month and store that one in at least two places. This strategy might prove useful for a company, but not for a personal computer. For your personal backups you can think of something like this: make a weekly backup of your files on your disk drive and each month transfer those backups to CD-R/DVD+RW or tape.

21.3.6. Backup Example Using tar

Next, we introduce you to a little backup script which uses `tar` and `bzip2` to make a compressed backup of the list of directories you provide. Please read the script's comments for tips on its usage.

> ⚠️ You need read permission on the files, and read and execute permissions on the directories you are going to back up. Otherwise the backup operation will fail.

```bash
#!/bin/bash

# Create a compressed backup of all the directories specified and put the
# resulting file in a directory of your choice.

BACKUP_DIRS="$HOME /etc /var"
BACKUP_FILENAME=`date '+%b%d%Y'`
BACKUP_DEST_DIR="/backups"

# Uncomment the following line for GZipped backups, comment for
# BZipped backups

#tar cvzf $BACKUP_DEST_DIR/$BACKUP_FILENAME.tar.gz $BACKUP_DIRS

# We do a BZipped backup here...
# Comment the following line for GZipped backups, uncomment for
# BZipped backups

tar cvjf $BACKUP_DEST_DIR/$BACKUP_FILENAME.tar.bz2 $BACKUP_DIRS
```

Use `BACKUP_DIRS` to specify the directories you want to include in the backup and `BACKUP_DEST_DIR` to specify the destination directory where the backup is going to be stored. Make the script executable: open a terminal and run `chmod 700 backup.sh`.

Of course, you can always move the resulting `tar.bz2` or `tar.gz` file to any media you want later. You can even backup directly to the media you want by mounting it and changing the variable `BACKUP_DEST_DIR` of the script accordingly. Feel free to enhance this script and make it as flexible as you want.

To restore the backups made this way, please look at Seção 21.4.1.

21.4. Restore

The restoration of a backup depends on which program, media, and schedule you used to make it. We won't cover all the restore cases, but only mention that in order to recover your settings and data files, make sure that you restore the files and/or directories to the same places they were in when you made the backup.

21.4.1. Restore Example Using tar

Now, we introduce a little script to restore the backup we made with `tar` using the script introduced earlier in Seção 21.3.6.

> ⚠️ You need write permissions on the files and directories you are going to restore. Otherwise the restore operation will fail.

```bash
#!/bin/bash

# Extract a compressed backup of all the directories specified
# putting the backed up files into their original places.

BACKUP_SOURCE_DIR="/backups"
RESTORE_FILENAME=$1

# Uncomment the following line if you are restoring GZipped
# backups

#tar xvzf $BACKUP_SOURCE_DIR/$RESTORE_FILENAME
```

```
# Restore a BZipped backup here...

tar xvjf $BACKUP_SOURCE_DIR/$RESTORE_FILENAME
```

As you can see, this script is simple enough. All we have to do is to pass it the file name of the backup we want to restore as a parameter (just the file name, not the full path), and it restores the backed up files into their original locations. Make sure the script is executable: open a terminal and run `chmod 700 restore.sh`.

21.4.2. Making a Recovery CD-ROM

There is a way to be prepared in case of "total disaster", and that is by making a **full** backup of your system. Programs such as mkCDrec can be very useful to get you up and running in a matter of minutes. You can find it, together with its documentation on the mkCDrec web site (`http://mkcdrec.ota.be`).

mkCDrec allows you to do multiple-CD-ROM volumes, disk cloning (copying the full contents of a disk or partition to another with similar characteristics — at least the same size), and many more.

In order to restore a system with mkCDrec you only have to boot with the first CD-ROM of the multiple-CD-ROM volume and then follow the on-screen instructions.

21.5. Problems Arising at Boot Time

It could happen that your system hangs during boot up. If so, don't panic, just keep reading.

> The next sections are not introduced in any particular order.

21.5.1. System Hanging During Boot

If your system hangs during `Rebuilding RPM database` or `Finding module dependencies`, just press **Ctrl-C**. This allows the system to skip this step and continue to boot. Once booted, execute `rpm --rebuilddb` as `root` if the system hang was at the `Rebuilding RPM database` phase. If the system hang was at the `Finding module dependencies` phase you have most likely been through a kernel upgrade, but haven't done it correctly. Check if the files in the `/boot` and `/lib/modules` directories match the current kernel version (i.e., have the current version number attached).

If the boot process hangs at `RAMDISK: Compressed image found at block 0` you have a corrupted `initrd` image. Either try to boot another `lilo.conf` entry or boot an emergency system and remove or change the `initrd=` section in `/etc/lilo.conf`

21.5.2. Filesystem Check on Boot Fails

> The information below applies to ext2 and ext3 filesystems only. If you use a different filesystem, please check its documentation.

If, for any reason, you didn't shut your box down properly, the system runs a routine filesystem check during the next boot. Sometimes it may fail to do this on its own and asks for the root password and drops you to a console. Execute `e2fsck -py [device]` where `[device]` is the name of the partition on which the automatic check failed. The `-p` switch tells `e2fsck` to make all the necessary repairs without asking, `-y` assumes you answer `yes` to all questions. When the check and repair phase is over, press **Ctrl-D** to leave the emergency console. The system will reboot.

If you get this error regularly, there may be bad blocks on your disk. Execute `e2fsck -c [device]` to find out. This command automatically marks any bad blocks and prevents the filesystem from storing data in these blocks. `e2fsck` checks the file system automatically only if it hasn't been unmounted properly during

the previous system shutdown; or if the `maximal mount count` has been reached. To force a check, use the `-f` option.

> The verification for bad blocks on a disk should only be done on unmounted file systems, and can take a long time to complete.

21.5.3. X Doesn't Start

If you boot into X **by default** and have managed to break your X configuration somehow, and cannot enter X anymore, you can log into a console and use XFdrake to reconfigure X. You can also boot into a different runlevel, fix X's configuration with XFdrake and reboot into X.

21.5.3.1. Booting Into a Different Run Level

The default run level GNU/Linux boots to is defined in the `/etc/inittab` file. Look for an entry like `id:5:initdefault:`. To boot into run level 3 (the console), you have to define that run level on the boot prompt. Under LILO, press the **Esc** key once and type `linux init 3`. Under GRUB, press the **E** key twice, add `init 3`, press the **Enter** key and then the **B** key to boot.

For a more detailed description about run levels, please refer to the Os Arquivos de Inicialização: init sysv chapter of Mandriva Linux's *Guia de Referência*.

21.5.3.2. Configuring X From The Console

To reconfigure X using XFdrake from the console, simply type `XFdrake` as `root`.

Using XFdrake is no different to the graphical environment except that you won't have nice icons and may not be able to use the mouse pointer. To move down you have to press the right or down arrow keys on your keyboard; to move up press the left or up keys on your keyboard. You can also use the **Tab** key to move between the different options/buttons. The text on the currently selected button/option will be highlighted with a different color. Press the **Enter** key to activate it.

Please refer to Seção 14.2 for instructions on its usage.

21.6. Bootloader Issues

21.6.1. Bootloader Reinstall

It may happen that you make a mistake and wipe your disk's MBR (Master Boot Record), or some misbehaving program erases it, or you dual boot with Windows® and catch a virus which suppresses it. So, you think you won't be able to boot your system anymore, right? **Wrong!** There are many ways to recover the boot record.

To recover your bootloader you **need** a boot disk. Without a boot disk of some kind you might be completely lost, unless you made a backup of your MBR, see Seção 21.6.2.

Reboot your computer using the boot disk. What you do next varies according whether you use LILO or GRUB. No matter which bootloader you use, all the commands you must execute need to be run as `root`.

21.6.1.1. With LILO

If you use LILO, you only need to issue the following at the command prompt: `/sbin/lilo`. This command reinstalls LILO on your disk's boot sector and fixes the problem.

21.6.1.2. With GRUB

If you use GRUB things are a little bit different to that of LILO.

> In the following example we assume that you are trying to install GRUB in the MBR of your first IDE drive, and that the file `stage1` is in the `/boot/grub/` directory.

First, invoke GRUB's shell by issuing the `grub` command. Once there, issue the following command: `root (hd0,0)`. This will tell GRUB that the files it needs are in the first partition (`0`) of your first hard disk (`hd0`). Then issue the following command: `setup (hd0)`. This installs GRUB in the MBR of your first hard disk. That's it!

You can also try to use `grub-install /dev/hda` to install GRUB on your first hard drive's MBR, but the method described above is the preferred one.

21.6.1.3. Some Considerations for Dual-Booting Systems

Windows 9x, NT, 2000 and XP upgrades. If you run a dual-boot system, be very careful to always have a GNU/Linux boot disk prepared. If you don't have a boot disk, and you (re)install Windows® (all versions) you won't be able to boot GNU/Linux after the Windows® upgrade because Windows® rewrites the MBR **without any warning at all**.

21.6.2. Backing Up and Restoring the MBR

To make a backup copy of your hard disk's MBR, insert a blank floppy in your floppy disk drive and issue the following:

```
# dd if=/dev/hda of=/dev/fd0/mbr.bin bs=512 count=1
```

If you want to restore a backed up copy of your hard disk's MBR, insert the floppy containing it into your floppy disk drive and issue the following:

```
# dd if=/dev/fd0/mbr.bin of=/dev/hda bs=512
```

> The above examples assume that the MBR of your first IDE hard disk (`/dev/hda`) is backed up to a file named `mbr.bin` on your first floppy diskette drive (`/dev/fd0`) and should be run as the `root` user.

21.7. Filesystem Issues

21.7.1. Repairing a Damaged Superblock

> The information below only applies to ext2 and ext3 filesystems. If you use a different filesystem, please check its documentation.

The superblock is the first block of each ext2FS/ext3FS partition. It contains important data about the file system, such as its size, free space, etc. (it is similar to the method used by FAT partitions). A partition with a damaged superblock cannot be mounted. Fortunately, ext2FS/ext3FS keeps several superblock backup copies scattered over the partition.

Boot your system with a boot disk. The backup copies' location depends on the block size of the filesystem. For filesystems with 1 KB block sizes it is at the beginning of each 8 KB (8192 bytes) block. For filesystems with 2 KB sizes it is at the beginning of each 16 KB (16384 bytes) block, and so on. You can use the `mke2fs`

-n [your_disk_device_name] command to find out at which byte positions the superblock copies are. Assuming a 1 KB block size, the first backup copy is in byte number 8193. To restore the superblock from this copy, execute e2fsck -b 8193 /dev/hda4; change hda4 accordingly to reflect the name of your damaged partition. If that block also happens to be damaged, try the next one at byte number 16385, and so on until you find a suitable one. Reboot your system to activate the changes.

21.7.2. Recovering Deleted Files

We discuss ways of recovering deleted files and directories. Please bear in mind that recovery tools are not magical, and they will only work depending on how recently you deleted the file(s) you are trying to recover.

You might be wondering how to recover files you accidentally deleted. There are some utilities designed for GNU/Linux's ext2 filesystem which allow you to recover deleted files and directories. However they won't recover the files you deleted a few months ago because of disk usage, space marked as "free" will have been overwritten. So the **best** way to protect against accidental or not so accidental deletions is by making backups.

> There are not (as yet) tools to recover files deleted on reiserfs file systems. Keep in touch with the ReiserFS home page (http://www.namesys.com) for the latest news about it.

One recovery tool is Recover. It's an interactive tool. You can find it in the contribs CD-ROM or on the Rpmfind web site (http://www.rpmfind.net). Once you have the RPM, install it. Then run it with recover and answer the questions it asks you. The questions help you to set a time span to look for deleted files and directories to minimize the time it takes to do the search[1].

Once the tool finishes its search, it asks you where you want to save the recovered files and directories. Pick a directory of your choice, and you have all the files and directories recovered into it. Note that you won't be able to recover the file names, just their contents, but you can inspect them or try to rename them with different names until you get the right one. This is better than nothing.

> There are also mini-HOWTOs related to "undeletion" for ext2, look at Ext2fs-Undeletion (http://www.tldp.org/HOWTO/mini/Ext2fs-Undeletion.html) and undeletion of whole directory structures (http://www.tldp.org/HOWTO/mini/Ext2fs-Undeletion-Dir-Struct/index.html).

21.8. Recovering from a System Freeze

When stuck in a "freeze", your computer doesn't respond to commands anymore and input devices such as keyboard and mouse seem to be blocked. This is a worst-case scenario and could mean that you have a very severe error in either your configuration, your software or your hardware. We will show you how to deal with this annoying situation.

In the case of a system freeze, your top priority should be trying to shutdown your system properly. We assume you are running under X. So try these steps consecutively:

1. Try to kill the X server by pressing the **Ctrl-Alt-Backspace** keys.

2. Try to switch to another console by pressing the **Ctrl-Alt-Fn** keys (where n is the console number, from 1 to 6). If you succeed, login as root and issue the command: kill -15 $(pidof X) or the command kill -9 $(pidof X), if the first command shows no effect. Check with top to see if X is still running.

---

1. You can search for **all** deleted files too by appending the -a option, but it takes much longer...

3. If you are part of a local network, try to use `ssh` to connect into your machine from another box. It is advisable to `ssh` into the remote machine as an unprivileged user and then use the `su` command to become `root`.

4. If the system doesn't respond to any of these steps, you have to go through the SysRq (System Request) sequence. The SysRq sequence involves pressing and holding three keys at once: the left **Alt** key, the **SysRq** key (labeled **Print Screen** on older keyboards) and a letter key.

   a. **Alt-SysRq-R** puts the keyboard in "raw" mode. Now try pressing **Alt-Ctrl-Backspace** again to kill X. If that doesn't work, carry on.

   b. **Alt-SysRq-S** attempts to write all unsaved data to disk ("sync" the disk).

   c. **Alt-SysRq-E** sends a termination signal to all processes, except for `init`.

   d. **Alt-SysRq-I** sends a kill signal to all processes, except for `init`.

   e. **Alt-SysRq-U** attempts to re-mount all mounted filesystems read-only. This removes the "dirty flag" and prevents a filesystem check upon reboot.

   f. **Alt-SysRq-B** reboots the system. You might just as well press the "reset" button on your machine.

> Remember that this is a sequence, i.e. you have to press one combination after the other in the right order: **R**aw, **S**ync, t**E**rm, k**I**ll, **U**mount, re**B**oot[2]. Read the kernel documentation for more information on this feature.

5. If none of the above helps, cross your fingers and press the "reset" switch on your machine. If you are lucky, GNU/Linux will just run a disk check upon reboot.

By all means, try to find out what causes these lockups because they can do severe damage to the filesystem. You might also want to consider using one of the journaling filesystems included in Mandriva Linux: ext3, `reiserfs`, etc. which handle such failures more gracefully. However, replacing ext2FS with `reiserfs` requires reformatting your partitions. You can use `tune2fs -j /dev/hdaN` to convert the filesystem in the Nth partition of the first IDE disk from ext2FS to ext3FS.

21.9. Killing Misbehaving Apps

Well, this one is not so hard after all. You have many ways to do it. You can do it by finding the PID of the program which stopped responding, and then using the `kill` command to terminate it, or you can use the `xkill` tool or other graphical tools such as the ones that show the process tree.

21.9.1. From the Console

The first thing to do to terminate a misbehaving program is to find its PID, or process ID. To do so, execute the following from a console: `ps aux | grep mozilla-firefox-bin`, supposing that Firefox is the misbehaving program. You will get something like the following, which tells you among other things that Firefox was started by user peter and that its PID is `3505`:

```
peter   3505  1.7  5.0  82208 25804 ?       Sl   09:30   0:01 /usr/lib/mozilla-firefox-1.0.6/mozilla-firefox-bi
```

Now that we have the PID of the misbehaving program, we can execute the `kill` command to terminate it. So we execute the following: `kill -9 3505`, and that's it! Firefox is killed. Note that this is **only** to be used when the program doesn't respond to your input anymore. **Do not** use it as a standard means of exiting from applications.

Actually, we sent the `KILL` signal to the process number `3505`. The `kill` command accepts other signals besides `KILL`, so you can have greater control over your processes. For more info, see kill(1).

21.9.2. Using Graphical Monitoring Tools

You can also use the graphical process' status tools (like KPM, KSySGuard, and GTOP to name a few) which allow you to point to the process name and with one click send that process a signal or just kill that process.

> If you are using KDE, you can press the **Ctrl**-**Alt**-**Esc** keys: the pointer changes to a skull with crossed bones and you can simply click on the window of the misbehaving application to kill it.

21.10. Miscellaneous

Some considerations on newer hardware such as legacy-free systems, nVidia® and ATI 3D® graphics accelerator cards, winmodems and other things that don't fit in the preceding sections.

21.10.1. Legacy-Free Systems

Hardware manufacturers have recently introduced what they call "legacy-free systems", mainly on laptops[3], but there are also legacy-free desktop computers. This basically means that the BIOS has been considerably reduced to allow you only to choose which media to boot from. Mandriva Linux will be able to configure everything properly.

21.10.2. nVidia and ATI 3D Graphics Cards

Computers with nVidia or ATI graphics cards need a patched kernel to be able to use OpenGL hardware 3D acceleration on OpenGL-compatible applications. If you own a Mandriva Linux — PowerPack Edition, the kernel should have been installed by DrakX. If this is not your case, please obtain and install the corresponding packages. You can visit nVidia's web site (`http://www.nvidia.com`) and ATI's web site (`http://www.ati.com`) and download the appropriate drivers, or you can download the RPM packages from Mandriva Club (`http://club.mandriva.com`). Then run Mandriva Linux Control Center and re-configure X from there.

21.10.3. Winmodems

winmodems are also called controller-less modems or software modems. Support for these peripherals is improving. Drivers do exist, but most of them are in binary form and available only for newer kernel versions.

If you have a PCI modem, look at the output of `cat /proc/pci` run as the `root` user from a terminal window. It tells you the device's I/O port and IRQ. Then use the `setserial` command (for our example, the I/O address is `0xb400`, the IRQ is `10` and the modem is the 4th serial device) as follows:

```
setserial /dev/ttyS3 port 0xb400 irq 10 UART 16550A
```

Then try to query your modem using `minicom` or kppp. If it doesn't work, you may have a software modem. If it does work, create the `/etc/rc.d/rc.setserial` file and place the appropriate `setserial` command line in it.

If you happen to have a software modem in your machine, and you have a Mandriva Club account, you might find an RPM package that supports your modem (try searching on the `ltmodem` package for instance). You should also take a look at the web site of your modem's manufacturer and at the linmodems (`http://linmodems.org/`) and the Winmodems are not modems (`http://freewebhosting.hostdepartment.com/g/gromitkc/winmodem.html`) web sites.

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3. Refer to the great Linux on Laptops (`http://www.linux-laptop.net`) web site for more information on your laptop make/model.

21.10.4. My Computer is "slow"

If you notice your computer is really slow, or significantly slower than with other GNU/Linux versions, you might overcome this "problem" by disabling ACPI support. To do so, add the following to your `/etc/lilo.conf` file:

```
append="acpi=off"
```

If the file already has an `append=` line, only add `acpi=off` at its end. Running `lilo -v` as `root` and rebooting your computer will make the changes effective.

21.11. Mandriva Linux's Specific Troubleshooting Tools

Each administration tool (the ones started from Mandriva Linux Control Center) is a potential trouble fixing tool. You can use all these tools to revert configuration changes, to add or remove software, to update your system with the latest fixes from Mandriva, etc.

If you think you have found a bug in any of our tools, please feel free to submit a bug report using Drakbug, our automated bug report tool.

21.12. General Guidelines for Solving a Problem under Mandriva Linux

Here are the different means available to you in your problem-solving quest. Try the first option and only then, if that does not work, try the second, and so on.

21.12.1. Search the Internet

The various Internet sites previously mentioned are excellent starting points. They deal with general **and** very specific aspects of your potential problems. Finally, try a general search engine such as Google™ or, as mentioned above, the Linux-specific Google™ search engine. And do not hesitate to use the Advanced search (`http://www.google.com/advanced_search`) option with very detailed questions, such as the error message you are receiving.

21.12.2. Mailing Lists and Newsgroups Archives

The previous searches may lead you to general answers which hide the results of your specific question amongst many other answers. To refine your search, you can try the following.

First, try to find a list which seems specifically geared to your problem, then perform a search in its archive pages.

Example

You've noticed some strange behavior while trying to use GRUB with a minix partition.

One of the results of a search using the "grub mailing list" keywords in Google™ is a link to the *GRUB mailing list archive* (`http://mail.gnu.org/archive/html/bug-grub/`). It even offers a search engine, which when searched for "Minix" leads you directly to a patch.

> Note that not all archives have an embedded search engine. However, using Google™ as an example, you can easily use the advanced field `domain` to limit your search to the specific site hosting the archive. This strategy may also be used to exclude sites which keep returning garbage.

For a newsgroups search, Google Groups™ (`http://groups.google.com/`) maintains an archive of an amazingly large number of newsgroup channels.

21.12.3. Directly Contacting the Person in Charge

Use this option as a very last resort and in really extreme situations — unless you want to offer your collaboration! Software developers generally receive mountains of e-mails, so your anguished question on the use of the `cd` command will most likely... be ignored!

The addresses will be found either on the home page of a project's site or in the software documentation.

A last word: do not underestimate your neighbors' skills or those of your local LUG (Linux Users Group). And please, do not throw your computer through the window. If your problem isn't fixed today, it may be tomorrow...

21.12.4. Mandriva Business Services

Finally, when facing a really challenging situation, corporate users (especially) might consider hiring one of Mandriva's consultants to address their specific needs.

This is one of the strong suits of open-source products: we have the source, we have the power! Therefore, almost any problem, no matter how complex, specific or high level, may be solved right in the heart of the software.

You might also want to customize your Linux environment to meet very precise goals. For example, you could use Mandriva Linux as a custom routing application on special devices. Know that Mandriva consulting services (`http://www.mandriva.com/enterprise/products`) can help you.

21.13. Final Thoughts

As you have seen there are many more ways to recover from an emergency than by re-installing the whole system again[4]. Sure, you need a little expertise in applying some of the techniques described in this chapter, but with a little practice you will gain such expertise. However, we hope that you will never need to really master these techniques ... although it does not hurt to know them. We hope that the instructions and examples given will be useful when you are in need. Good luck recovering from an emergency!

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4.   The usual way to fix things in some other operating systems...

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