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Linux Desktop Hands-On

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Seminar Agenda

- **Introduction**
  - Linux Desktop Startup
  - Configuring the *gdm* Login Manager
  - Finding Your Way Around the Desktops
  - Desktop Customization: Wheee!
  - ***Lab 1: Configuring Linux Desktop Settings***
  - Gkrellm
  - Web Tools
  - The Nautilus File Browser
  - Ximian Evolution Organizer
  - Xcdroast
  - ***Lab 2: Useful Linux Graphical Tools***
  - Mounting SMB Shares
  - Using OpenOffice
  - Running MS Office Tools with Crossover Office
  - Running MS Windows and Tools with VMware
  - ***Lab 3: Microsoft ® Windows® Interoperability***
- **Questions and Wrap-Up**

Warning!

This seminar is intended for Linux desktop users who have little or no exposure to Linux. If you just spent a week in Linux boot-camp, or if you have years of experience with Linux, then this seminar will be too basic for you.

Introduction

- Linux Desktop Startup
- Finding Your Way
- Using VMware
- Using Crossover Office
- Using Open Office
- Desktop Tools

Desktops and XFree86

- **The graphical desktops on Linux are all based on the X-windows system**
- **The implementation of the X-server is XFree86 from *http://www.XFree86.Org***
- **There are several useful commands that you can use with the XFree86 X-server:**

• Ctrl-Alt-Backspace	Immediately kill the server
• Ctrl-Alt-Keypad+	Next video mode
• Ctrl-Alt-Keypad-	Previous video mode
• Ctrl-Alt-F1 … Ctrl-Alt-F12	Switch to virtual terminal (Ctrl-Alt-F7 is default graphics)

Making your own choices: "*xdm*" or *"startx"*

- **The good old X-windows stuff is still around!**
  - xdpyinfo — Give information about current display
  - xset — Set various X-windows options
  - xrdb — Set display and client resources
  - xinit and startx — Start up X-windows session
- **So, if you want complete control, use "*xdm*", and your *~/.xinitrc* file:**

```
xrdb        –load ${HOME}/.Xresources
xsetroot    –solid gray &
xterm       –geometry -60+60 &
xconsole    –geometry -0+0 &
exec twm
```

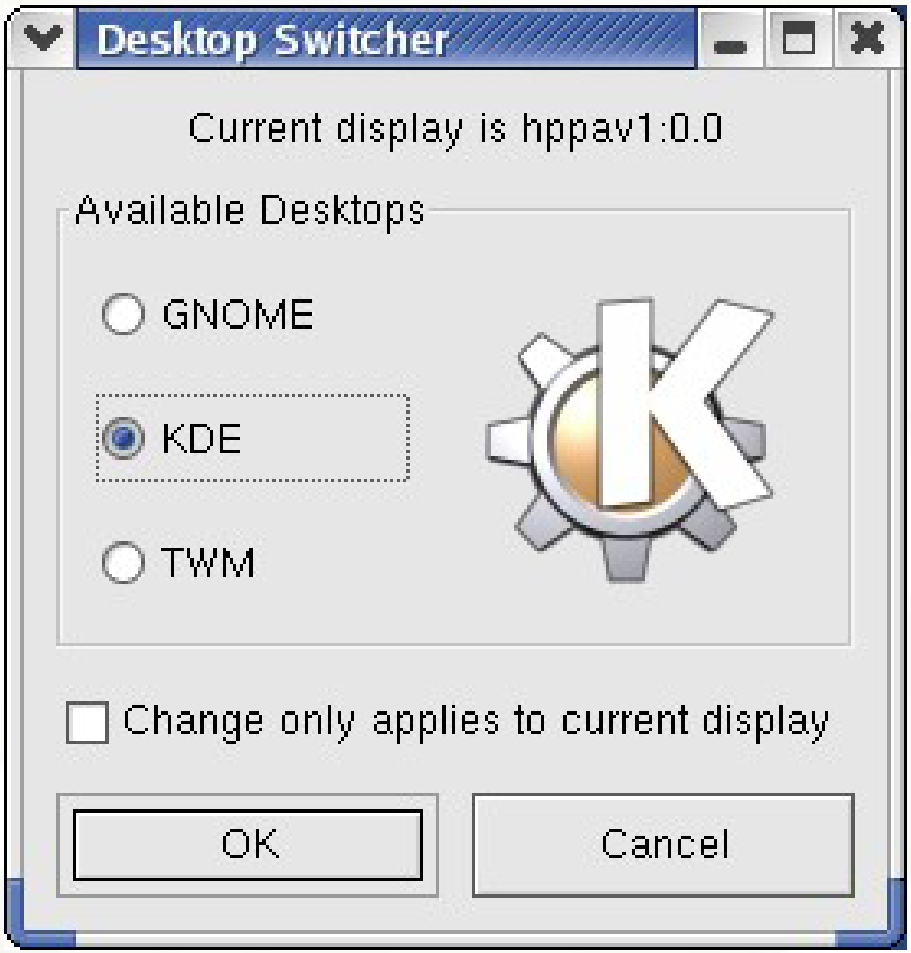
Linux Desktop Choices

- **There are *lots* of desktop choices on Redhat Linux:**
  - GNOME
  - KDE
  - Ximian GNOME (add-on, replaces “standard” GNOME)
  - “Many, many more window managers and environments
- **Three main environments are run out of the */etc/inittab* file:**
  - GNOME → GDM
  - KDE → KDM
  - X → XDM
- **These are started by the following line in */etc/inittab*:**

  x:5:respawn:/etc/X11/prefdm -nodaemon

- **Note that */etc/X11/prefdm* is a script that checks for the existence of */etc/sysconfig/desktop* which defines “DESKTOP=GNOME” if that was the primary *system-wide* default desktop selected during installation**

Selecting Your Own Default Desktop With "*switchdesk*"



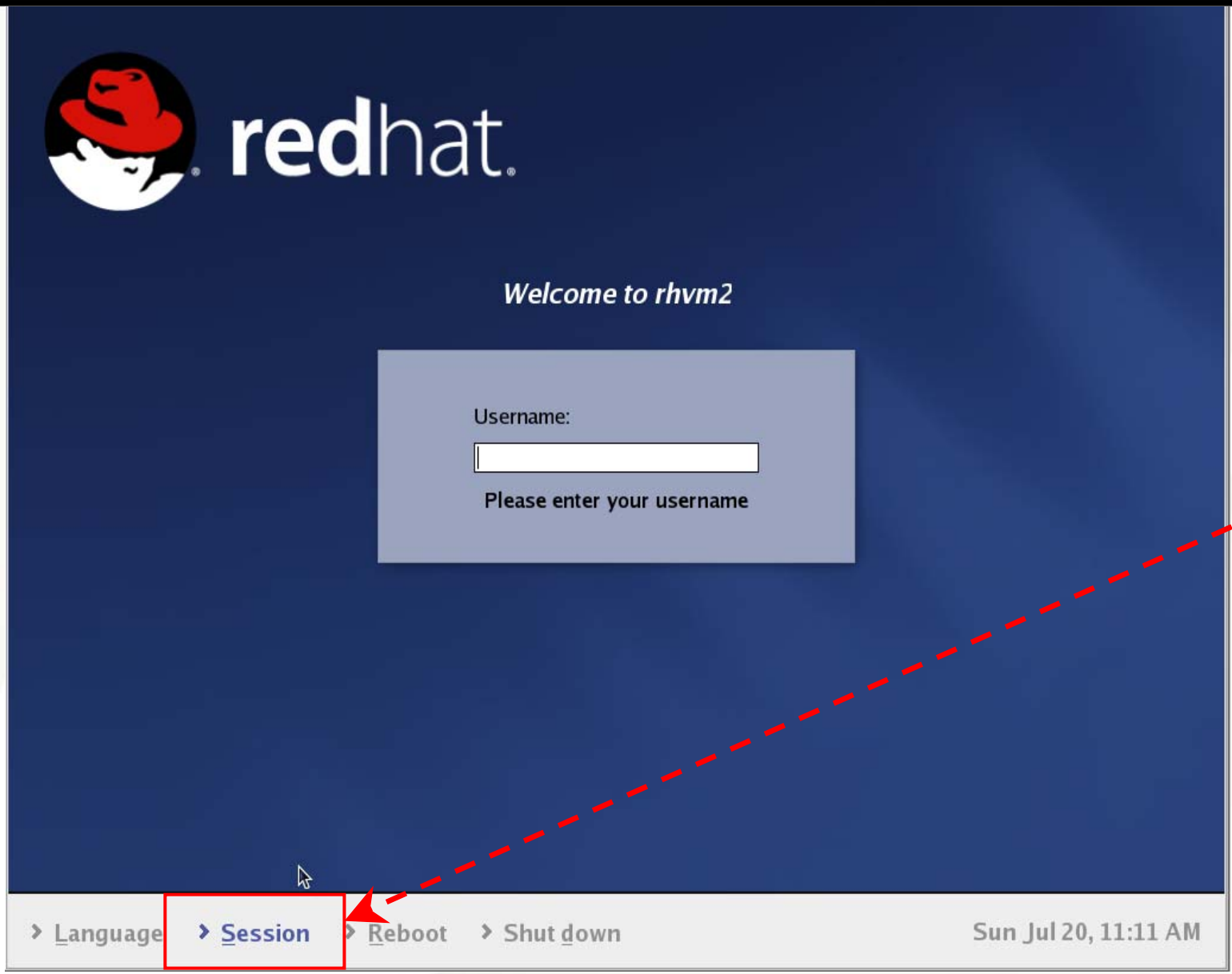
You can run "*switchdesk*" with no parameters, and it will graphically query for your choice.

You can also run the command in text mode: "*switchdesk kde*" will switch to KDE as your default desktop.

The command alters the *~/.Xclients* file to use your *~/.Xclients-default* to launch the proper desktop session manager. Other displays might get involved if there is a *~/.Xclients${HOST}${DISPLAY}* file in your home directory.

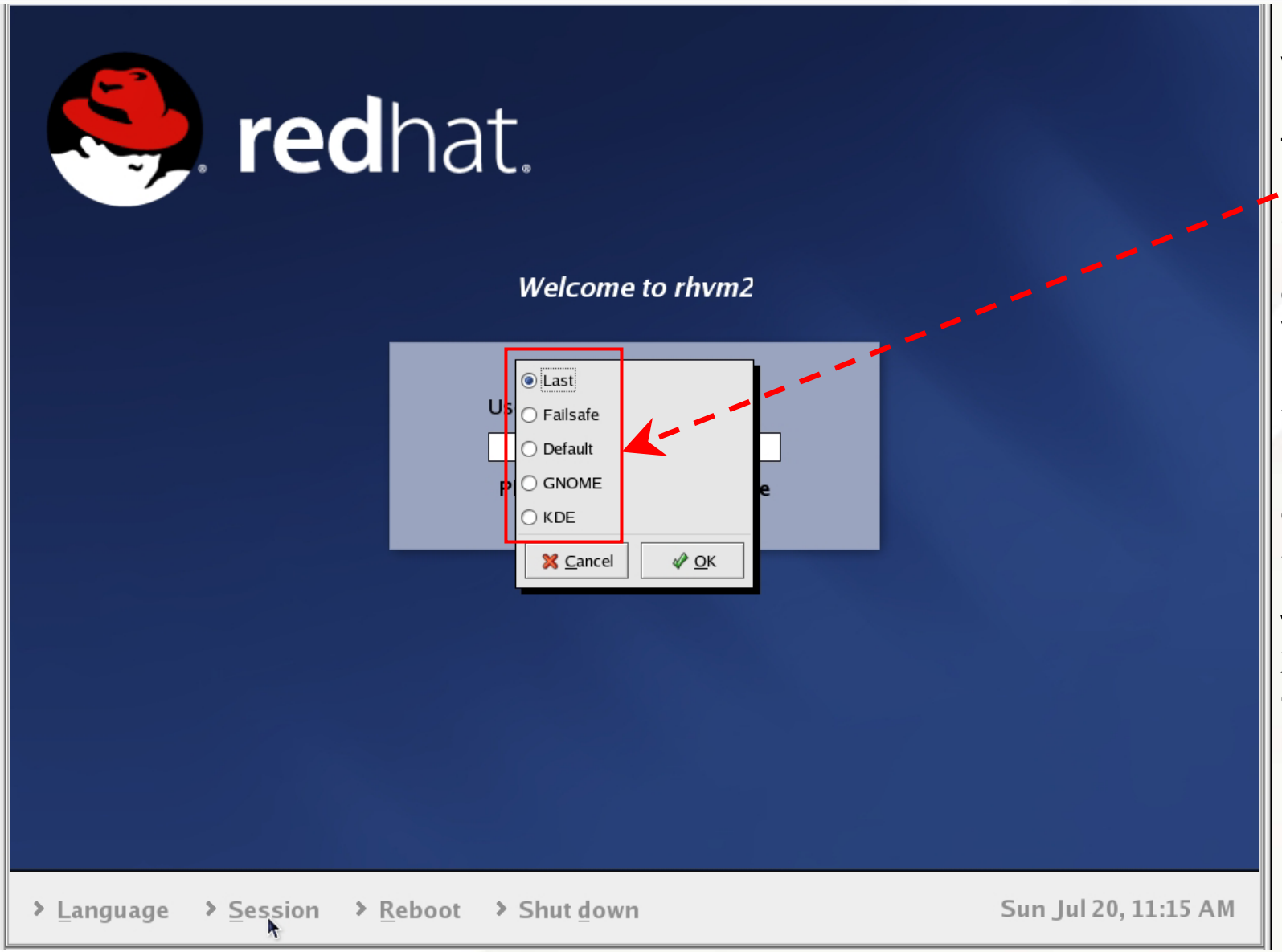
This is either *gnome-session*, *startkde*, or */usr/X11R6/bin/twm*. Other desktop environments might be used if they have been loaded (i.e. WindowMaker).

Login Screen



The "Session" option at the bottom of the login screen will allow you to choose which desktop you run for the current login. You will be prompted to make the change permanent.

Login Session Options

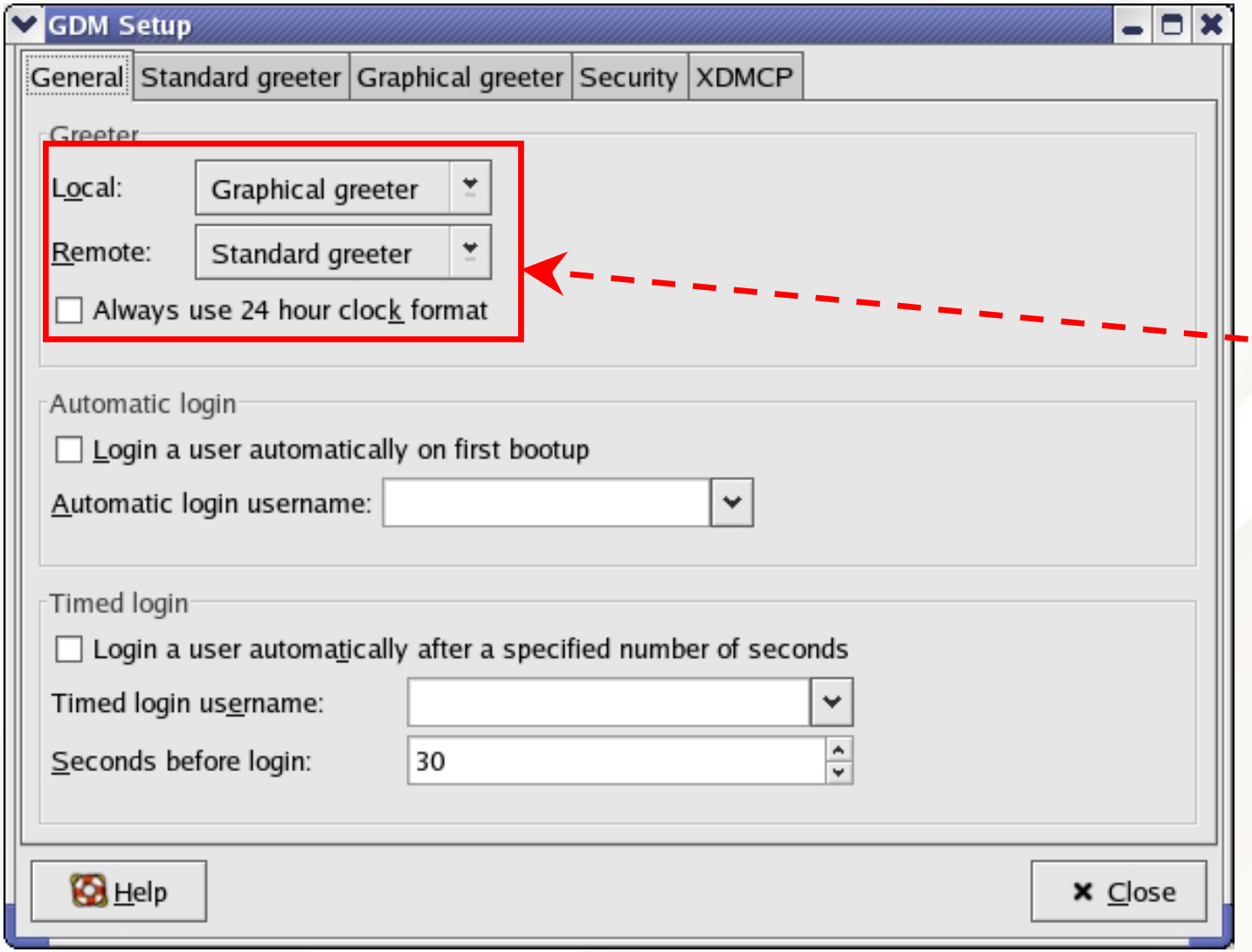


We already know about the KDE and GNOME choices. “Default” will give you your last permanent selection (switchdesk). “Failsafe” will give you a simple background with an xterm for debugging.

Configuration for Login Managers

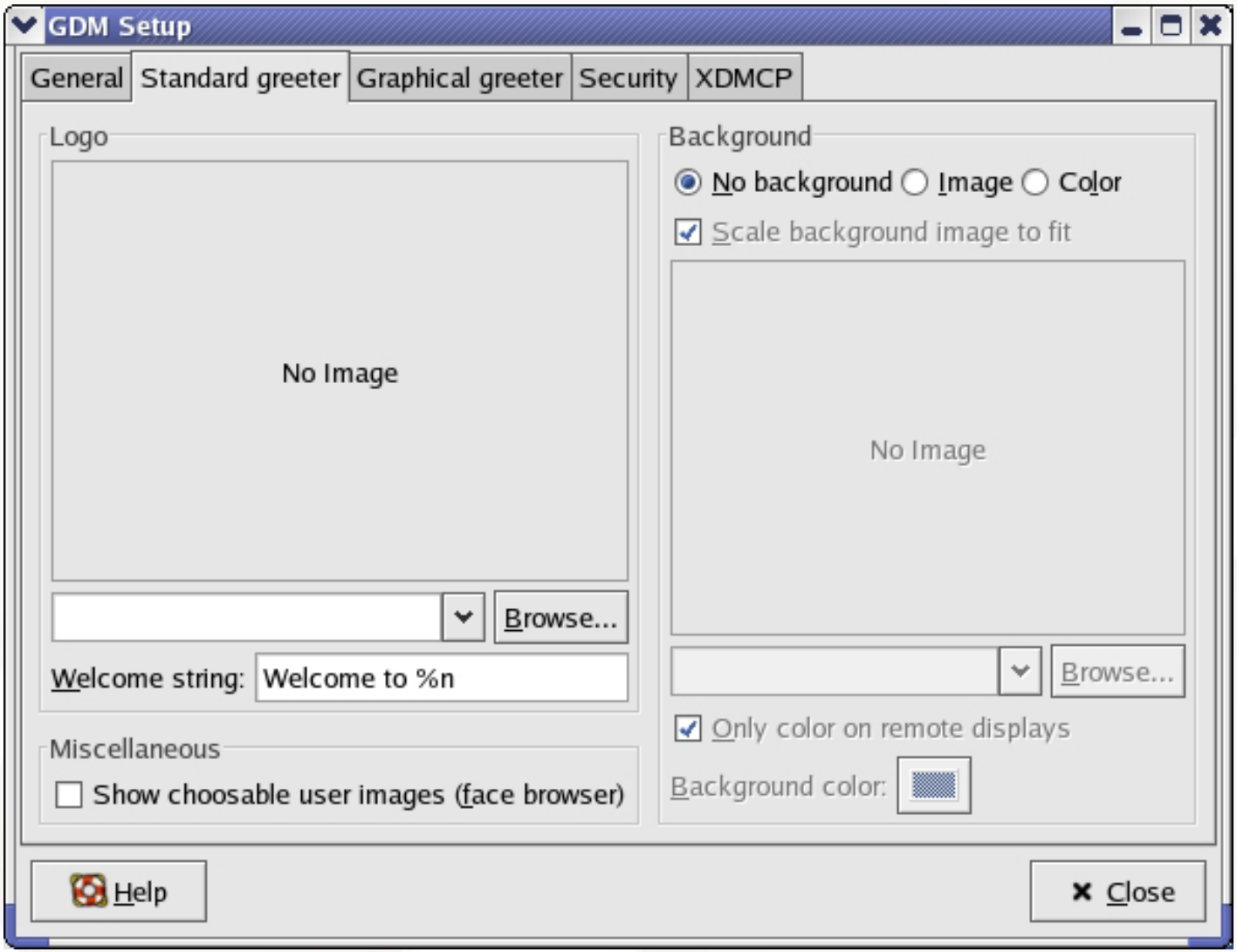
- **You will find a lot of the files involved in the X11 login process in the directory */usr/lib/X11***
- **Many of the files in */usr/lib/X11* are links to */etc/X11***
- **The "standard" Redhat 9.0 configuration uses *gdm* as the login display manager**
- **The configuration information for *gdm* is kept in */etc/X11/gdm/gdm.conf***
- **There is a graphical tool *"gdmconfig"* that will set up the options for you**
- **Underneath the */etc/X11/gdm* directory are *Init, PreSession, Session,* and *PostSession* directories containing scripts that implement the desktop login and logout behavior**

The *gdmsetup* Tool



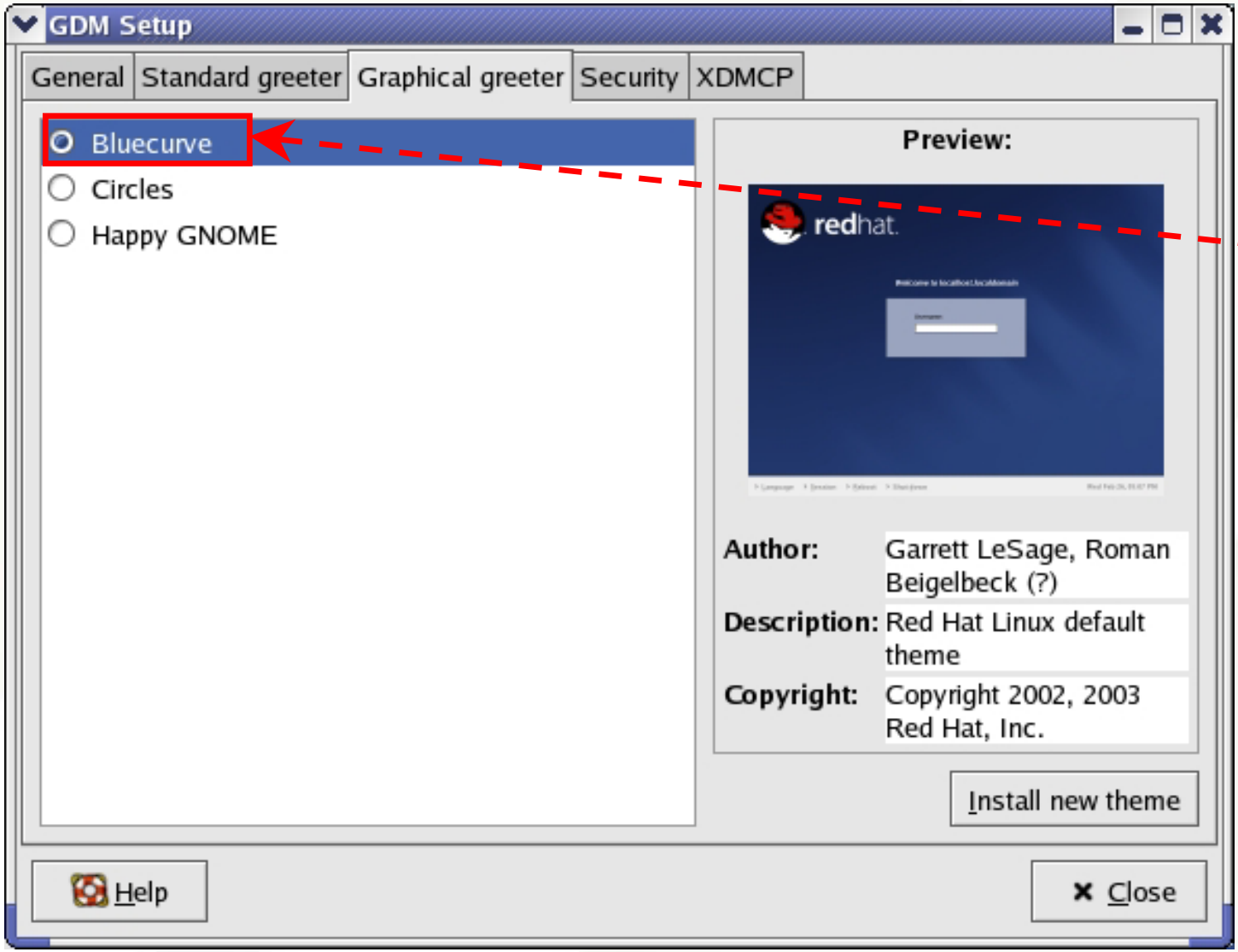
Two main ways to login: Local and Remote. These map to “on a locally attached display” or “on an XDMCP managed display (x-terminal)”

The *gdmsetup* Tool (continued 1)



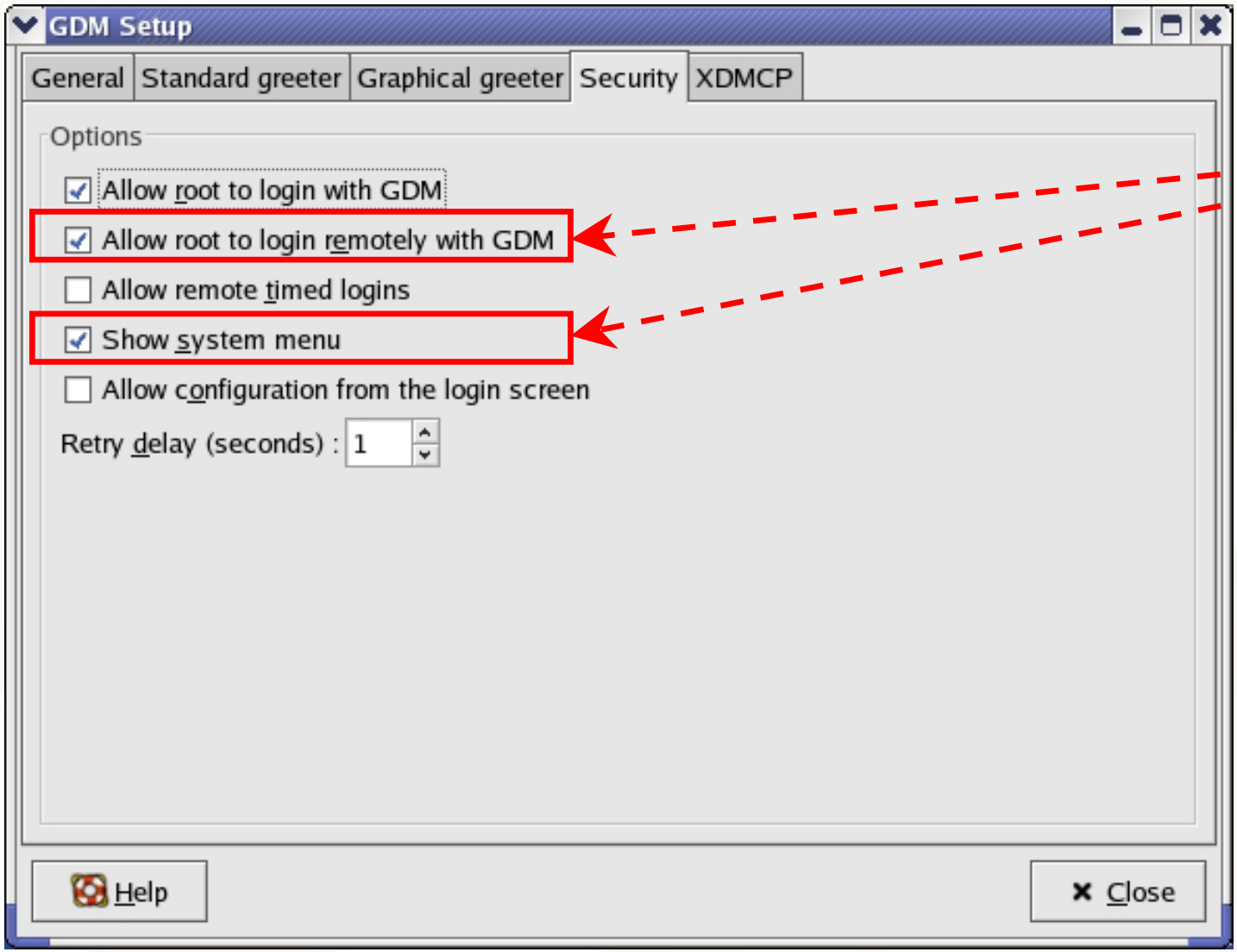
Remote login is not configured by default to use any graphical information.

The *gdmsetup* Tool (continued 2)



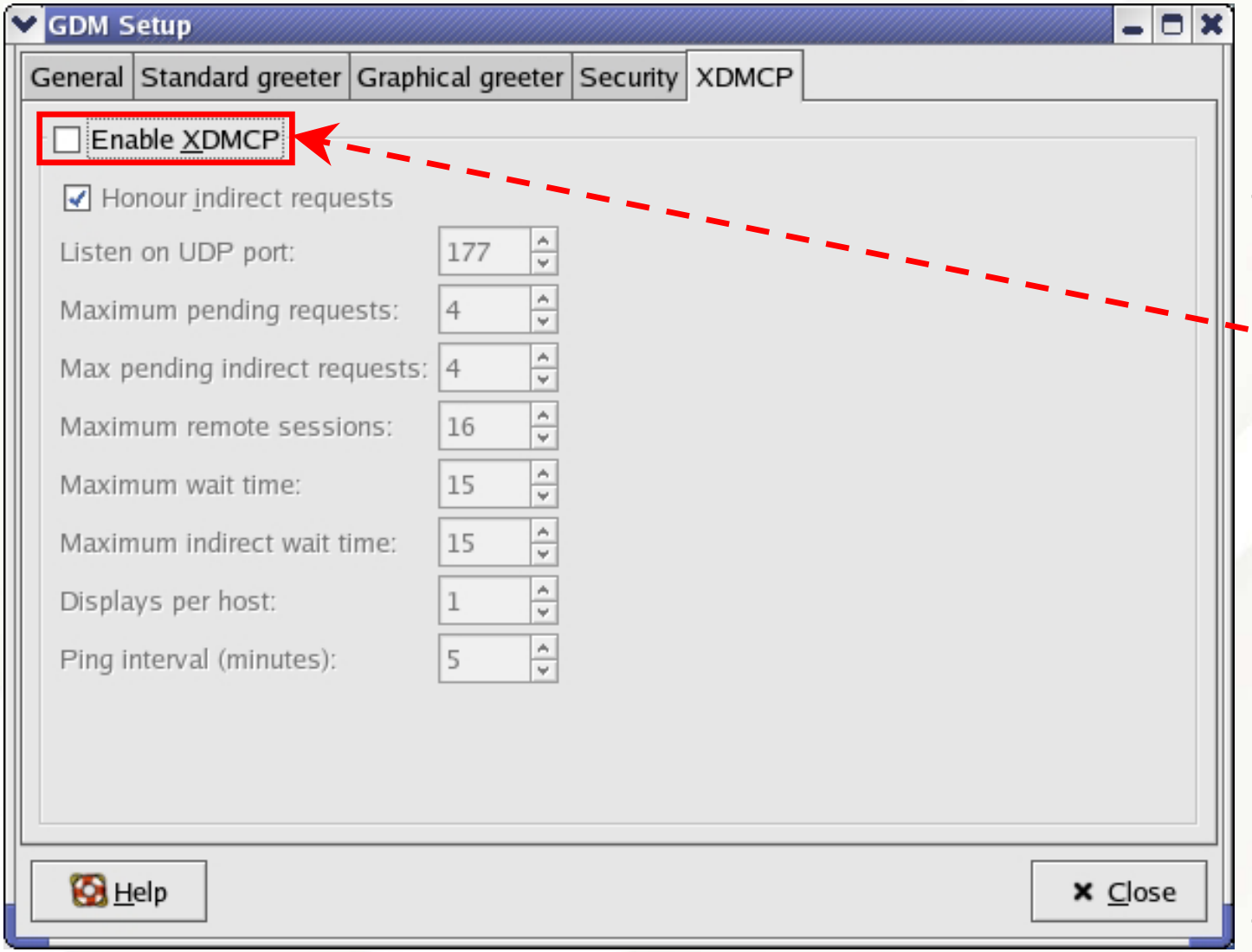
Does this look familiar? Note that the "Bluecurve" theme is the "look and feel" that Redhat uses to make GNOME and KDE look similar. This probably comes from an underlying X-windows toolkit (library). GNOME and KDE each have their own by default.

The *gdmsetup* Tool (continued 3)



Security for graphical login may be (partially) controlled here

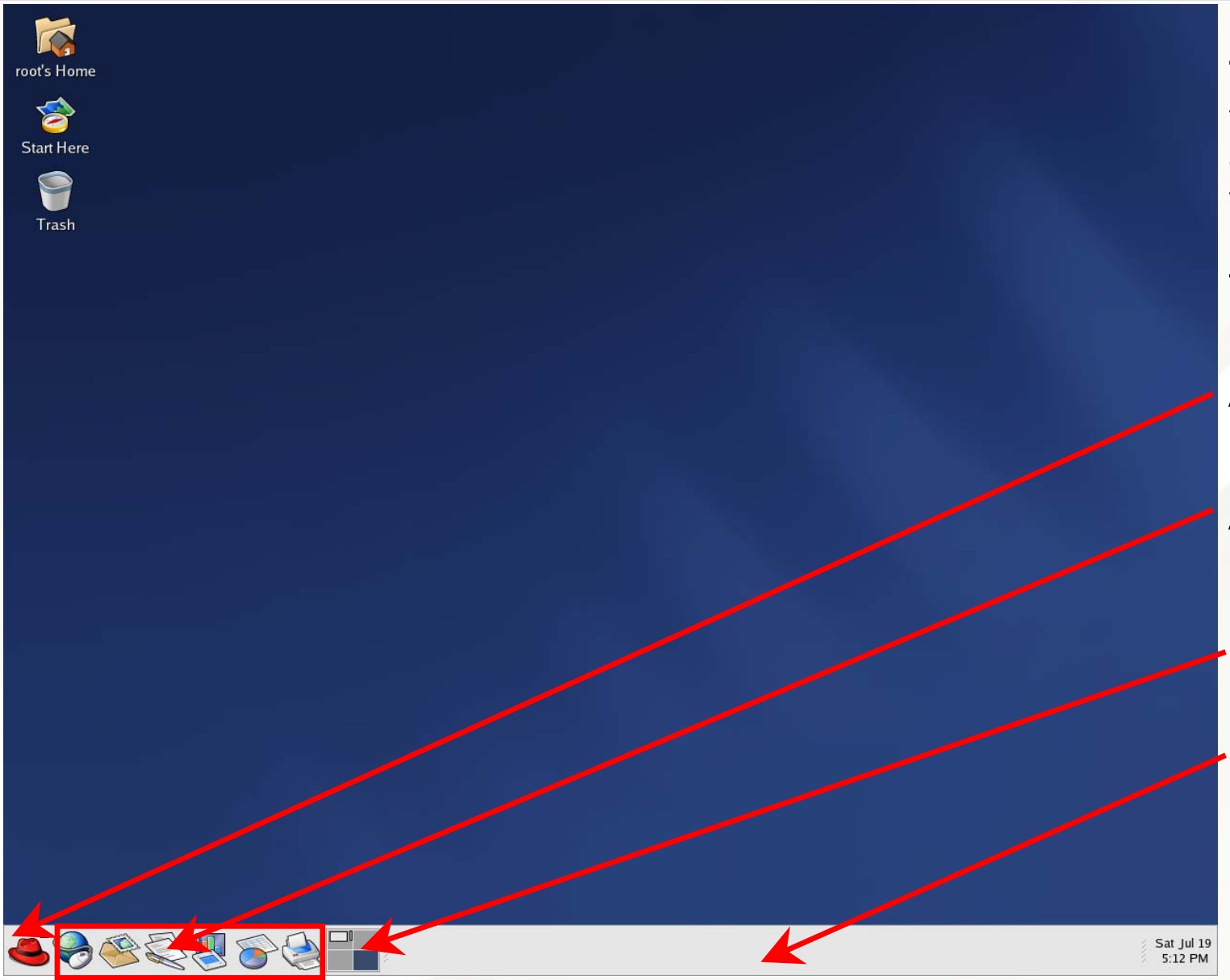
The *gdmsetup* Tool (continued 4)



Support of remote X-servers on Windows machines or X-terminals may be controlled here. XDMCP is a broadcast request handled by *xdm*. The desktop runs locally, the display is remote.

Also, check out the Linux Terminal Server Program (LTSP) and several other Linux-based X-terminal projects. LTSP is located at *www.ltsp.org.*

GNOME Desktop (Default Configuration)



This is what you get, default when you log into GNOME for the first time.

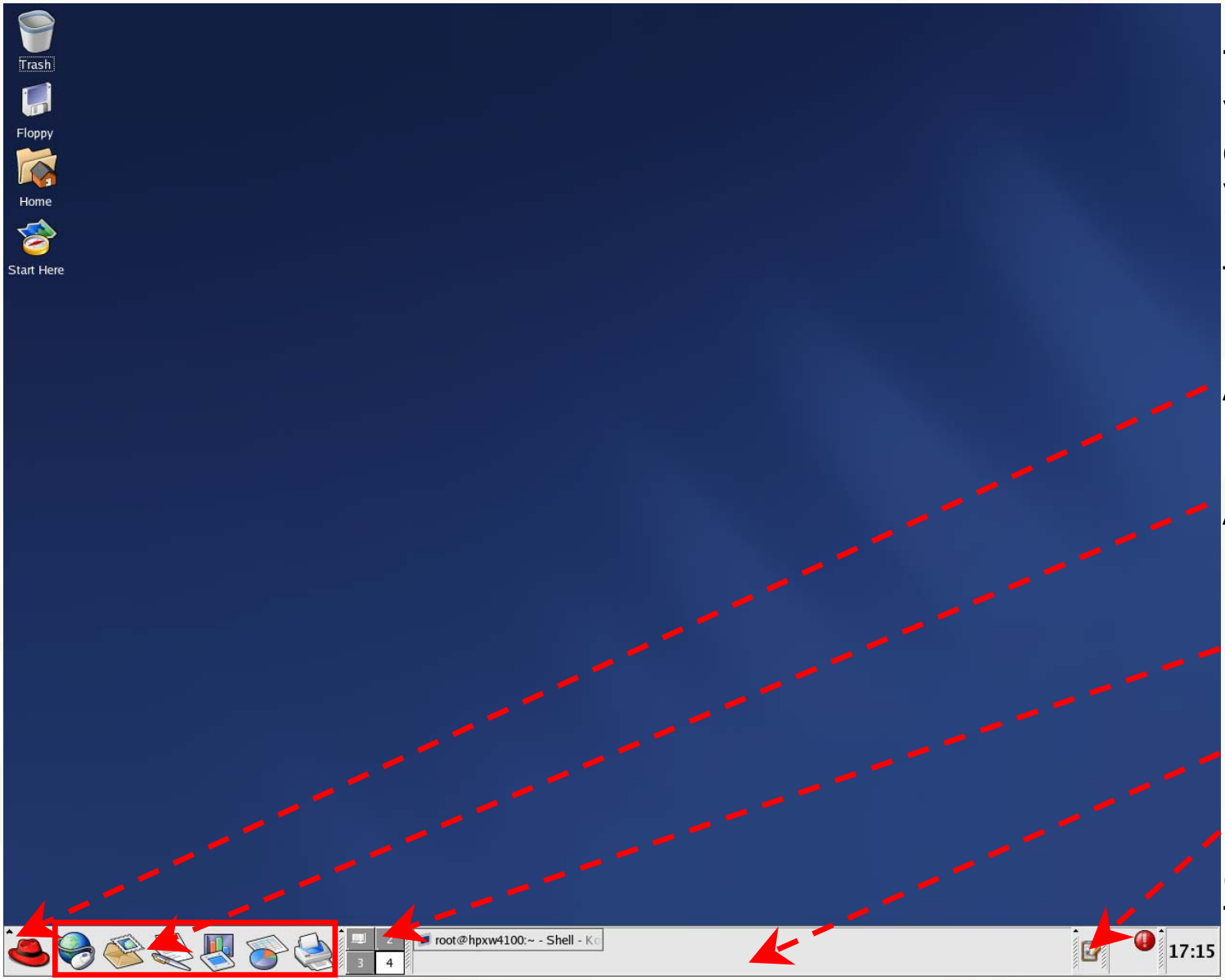
Application Menu

Application Launchers

Desktop Pager

Panel

KDE Desktop (Default Configuration)



This is what you get, default when you log into KDE for the first time.

Application Menu

Application Launchers

Desktop Pager

Panel

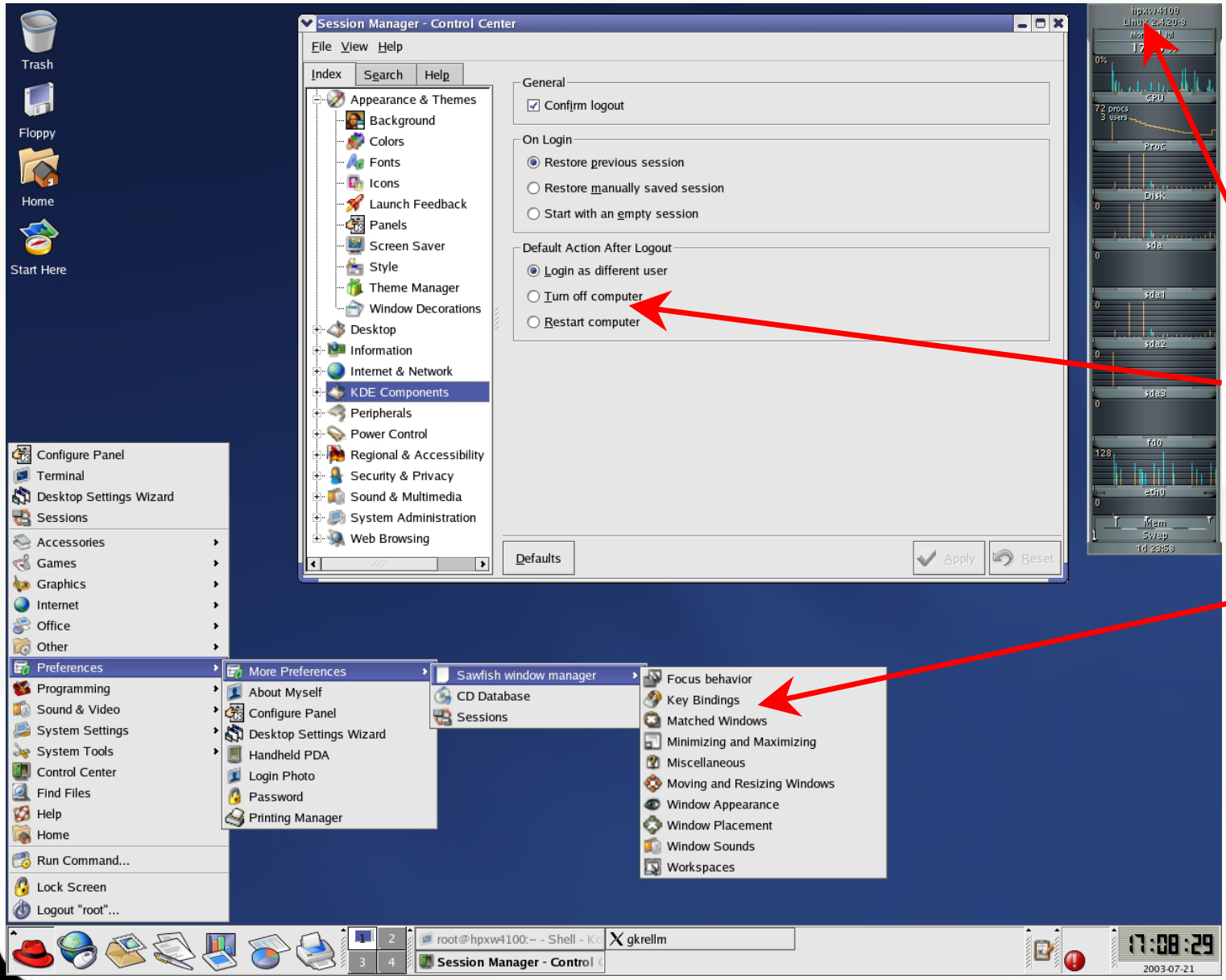
KDE Clipboard Tool

Okay, So Now What?

- **Why, customization, of course!**

- **Both KDE and GNOME have control panels that allow you to customize:**
  - Backgrounds
  - Mouse Behavior
  - Window Focus Behavior
  - Workspaces
  - And a whole lot more …
- **You can add additional panels**
- **You can add launchers to panels**
- **You can go nuts customizing your environment**
- **There are also window manager customizations**
- **Don’t forget to set “save current setup” or to select it when you log out …**

KDE Control Center and Window Manager Preferences

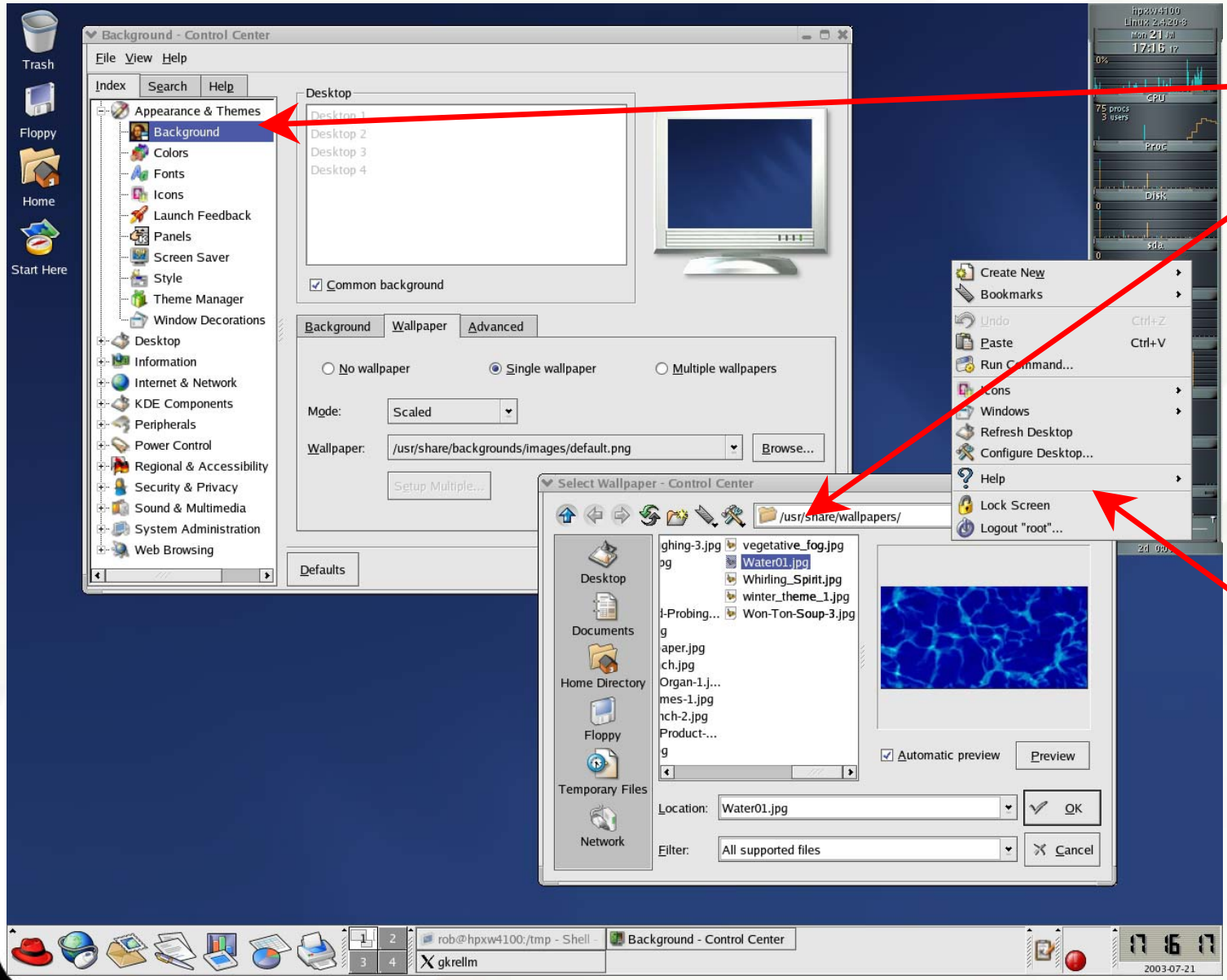


"*gkrellm*" is a very useful system monitoring tool

The KDE Control Center allows changing many of the KDE desktop's settings

The window manager preferences menu has more detailed "fine-tuning" of window, pointer, and workspace behavior

Changing the KDE Desktop Background

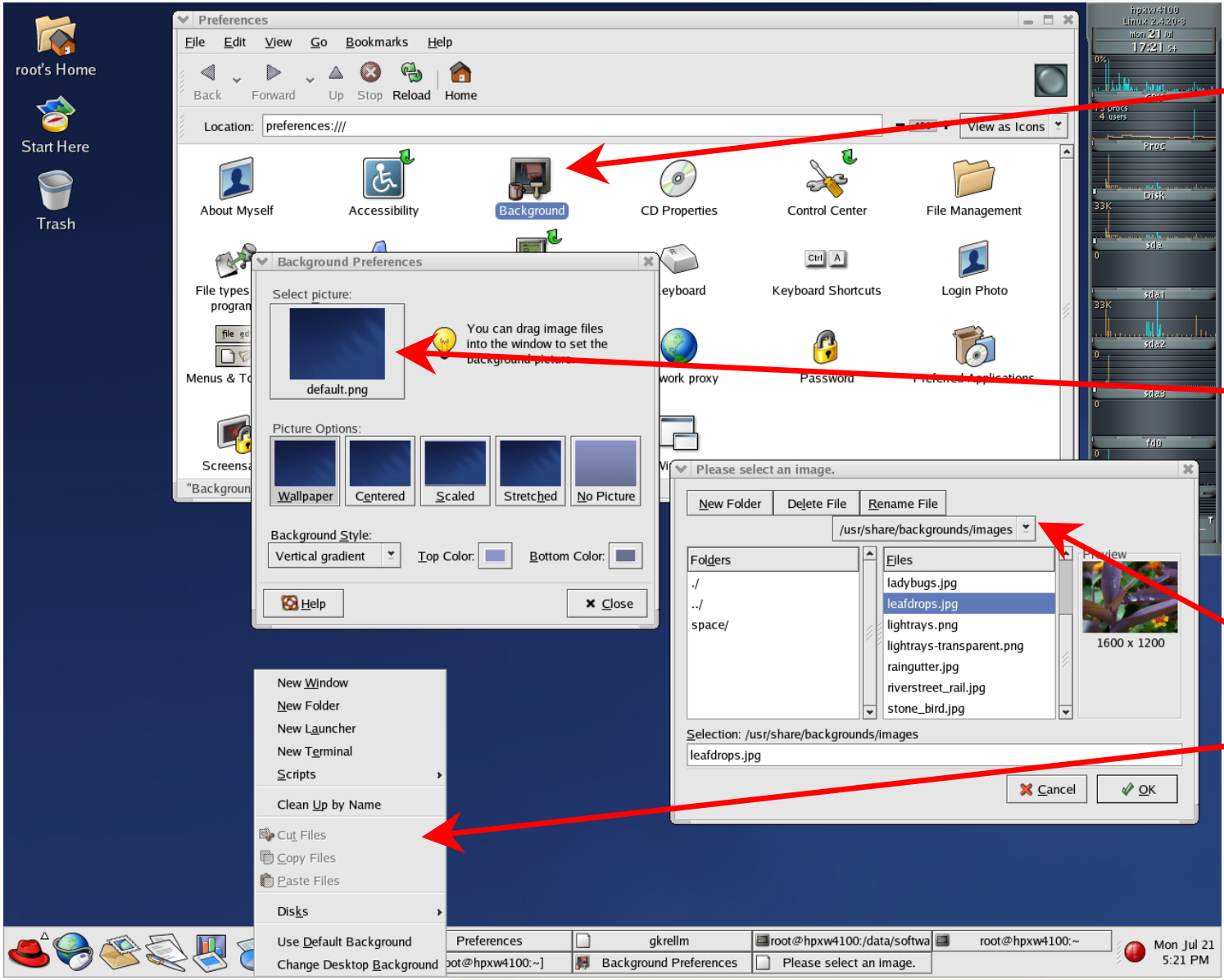


Changing the KDE desktop background

The KDE backgrounds are in */usr/share/wallpapers*

Several configuration options are available from the right-click menu, including “Configure Desktop”

GNOME Background Customization



Changing the GNOME desktop background from the Preferences window

Not intuitive, but click here to get the background menu

The GNOME files are in */usr/share/backgrounds/images*

The right-click menu makes “Change Desktop Background” available

Lab #1: Configuring Linux Desktop Settings

See Lab #1 Handout for details

System Monitor: *gkrellm*

The *gkrellm* tool is not loaded by default for some reason (unless you select it or "Everything" during installation. It has multiple skins (i.e. look and feel packages) and monitoring plug-ins.

Here we see CPU monitoring and network interface traffic, along with current system processes.

Information and *gkrellm* itself is available from:

http://www.gkrellm.net

Skins (themes) are available from"

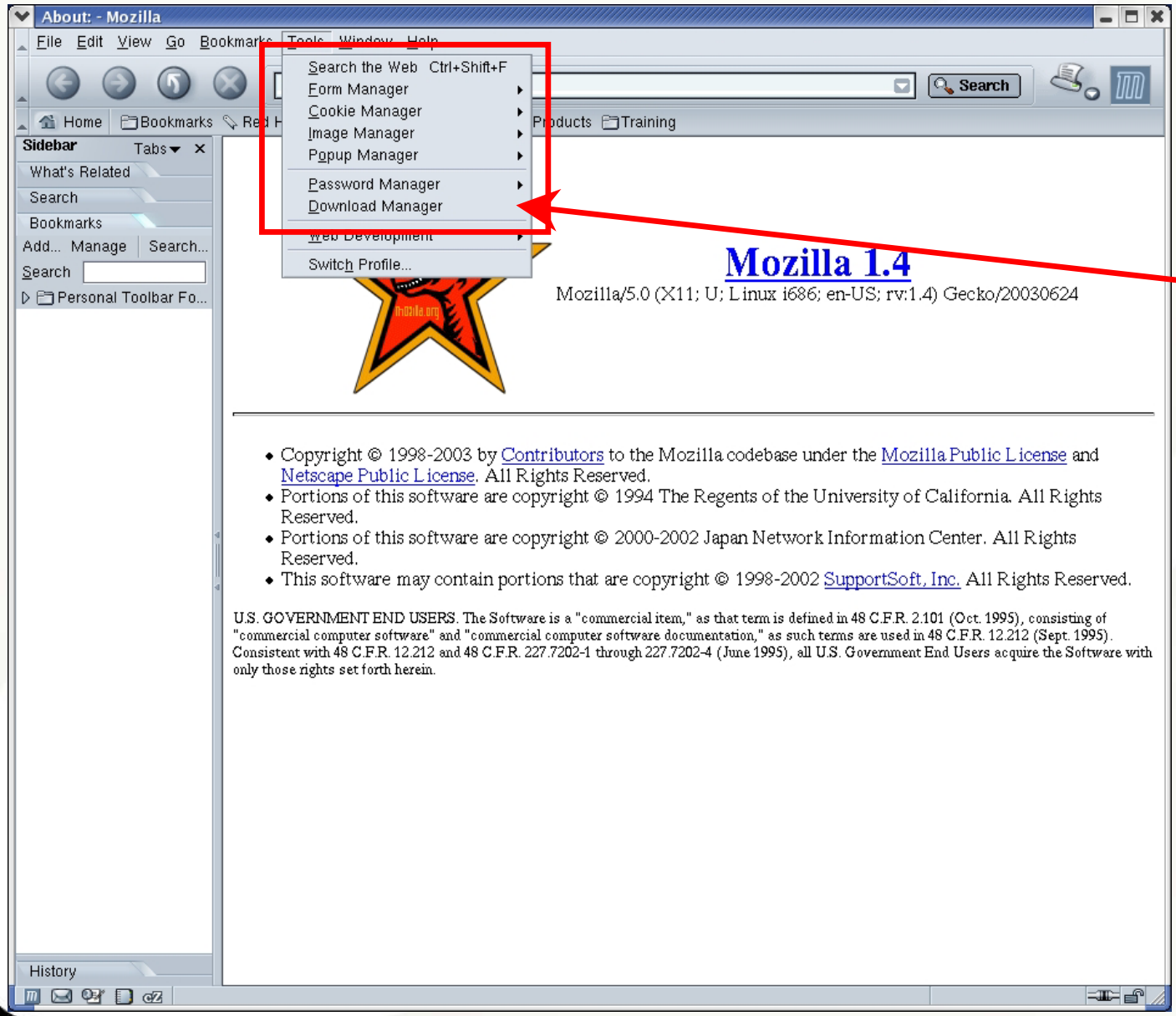
http://www.muhri.net

Also can be run in client-server mode to collect and display data from remote systems

Web Browsers and Web Tools

- **There are a *lot* of web browsers and similar web tools available for Linux:**
  - mozilla (open-source released by Netscape)
  - mozilla firebird (open-source next generation of mozilla)
  - netscape (modified Mozilla)
  - lynx (text-based browser)
  - opera (downloadable)
  - galeon (based on Mozilla's gecko)
  - konquerer (KDE browser)
  - wget/curl (command-line URL get)
  - privoxy (privacy proxy filters ads and popups)
- **The *mozilla* browser implements cookie management, pop-up controls, ad filtering, and numerous other privacy features (netscape removes these before releasing their version of the browser)**
- **By the way, the *mozilla* install "lives" in */usr/lib/mozilla-1.2.1* and the */usr/bin/mozilla* executable is really a script to set up the environment and launch the browser**

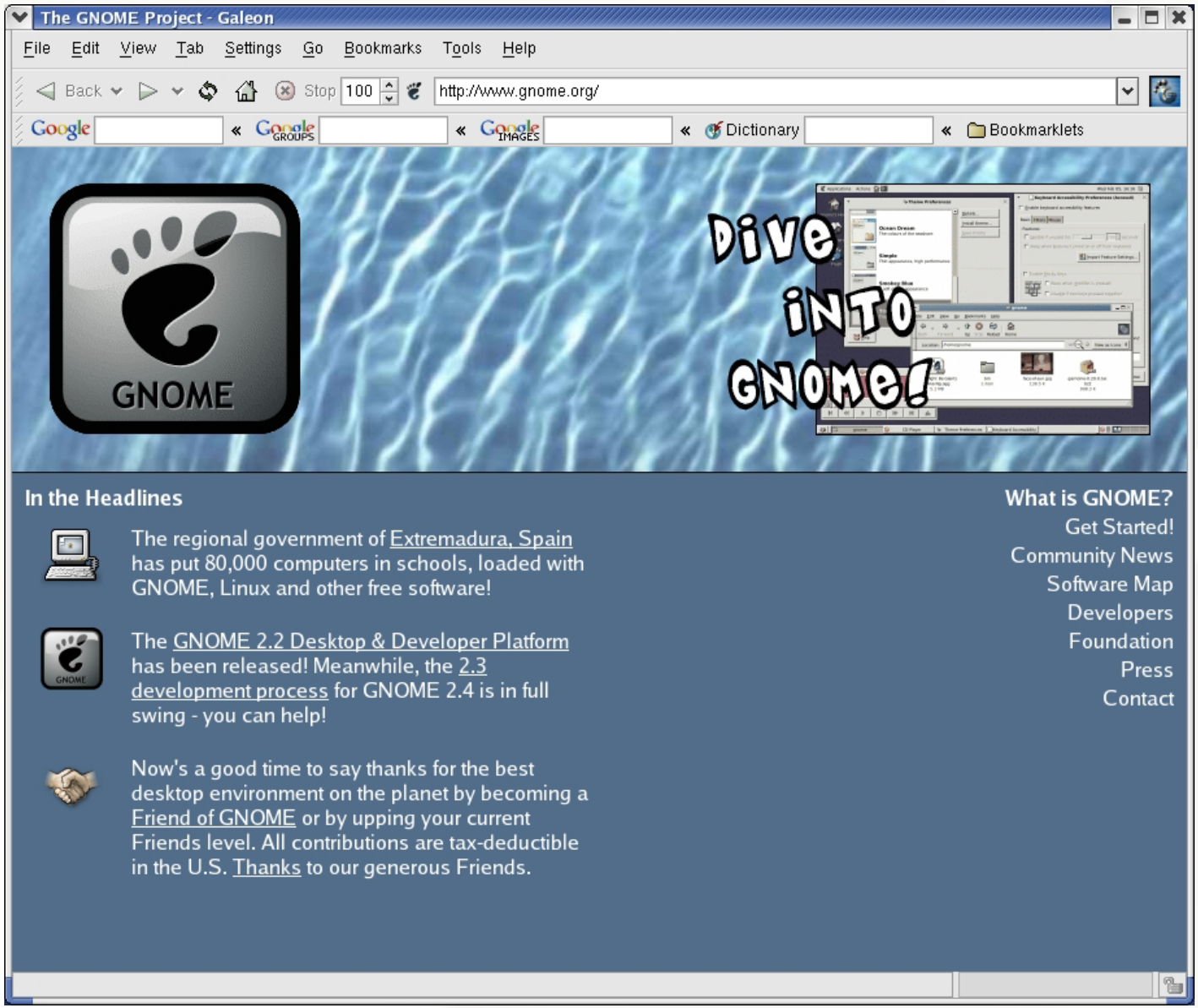
Mozilla



Mozilla can manage:

passwords
form data
popups
cookies
images

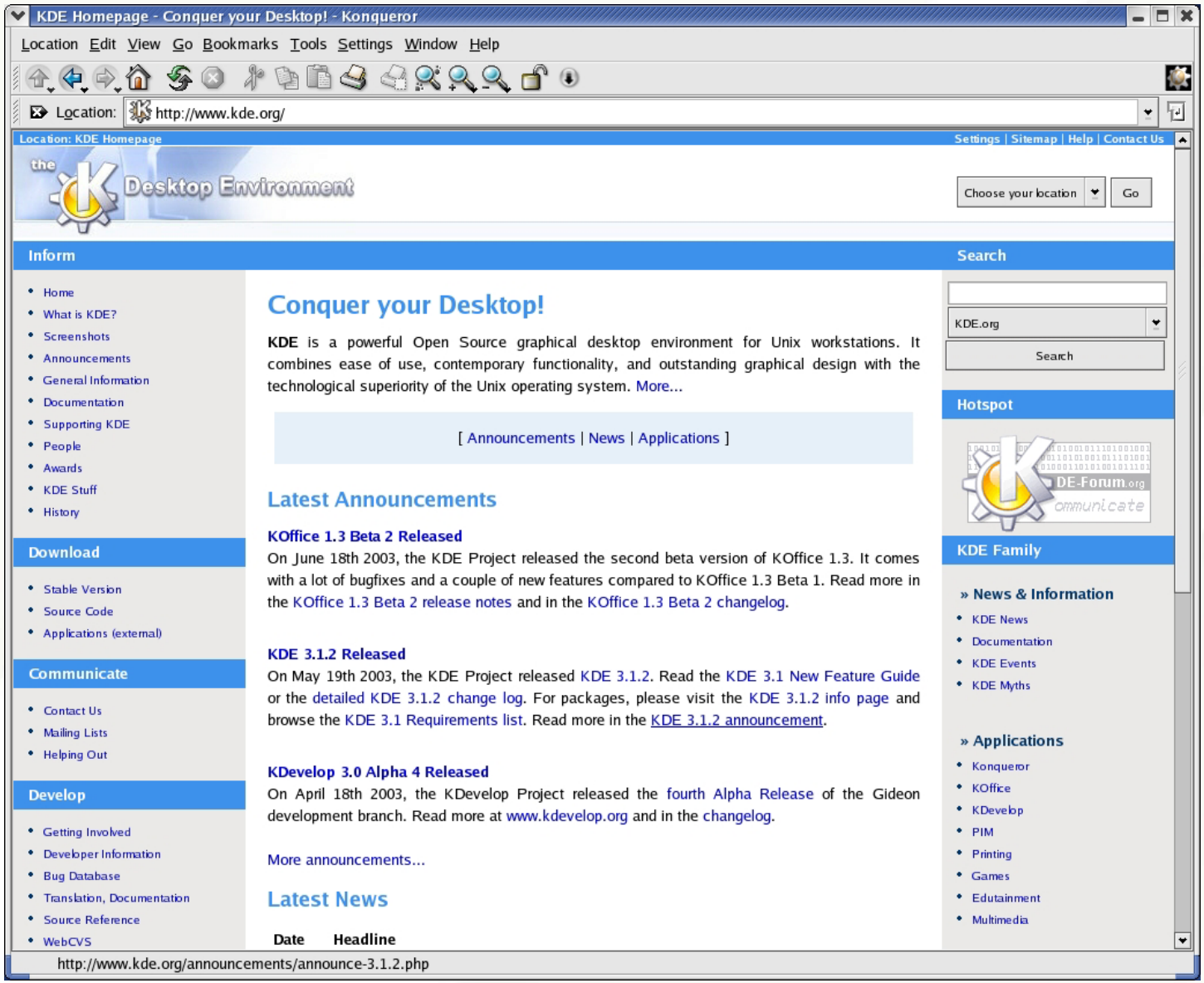
GNOME Galeon



The galeon browser is built into the GNOME environment in a number of places.

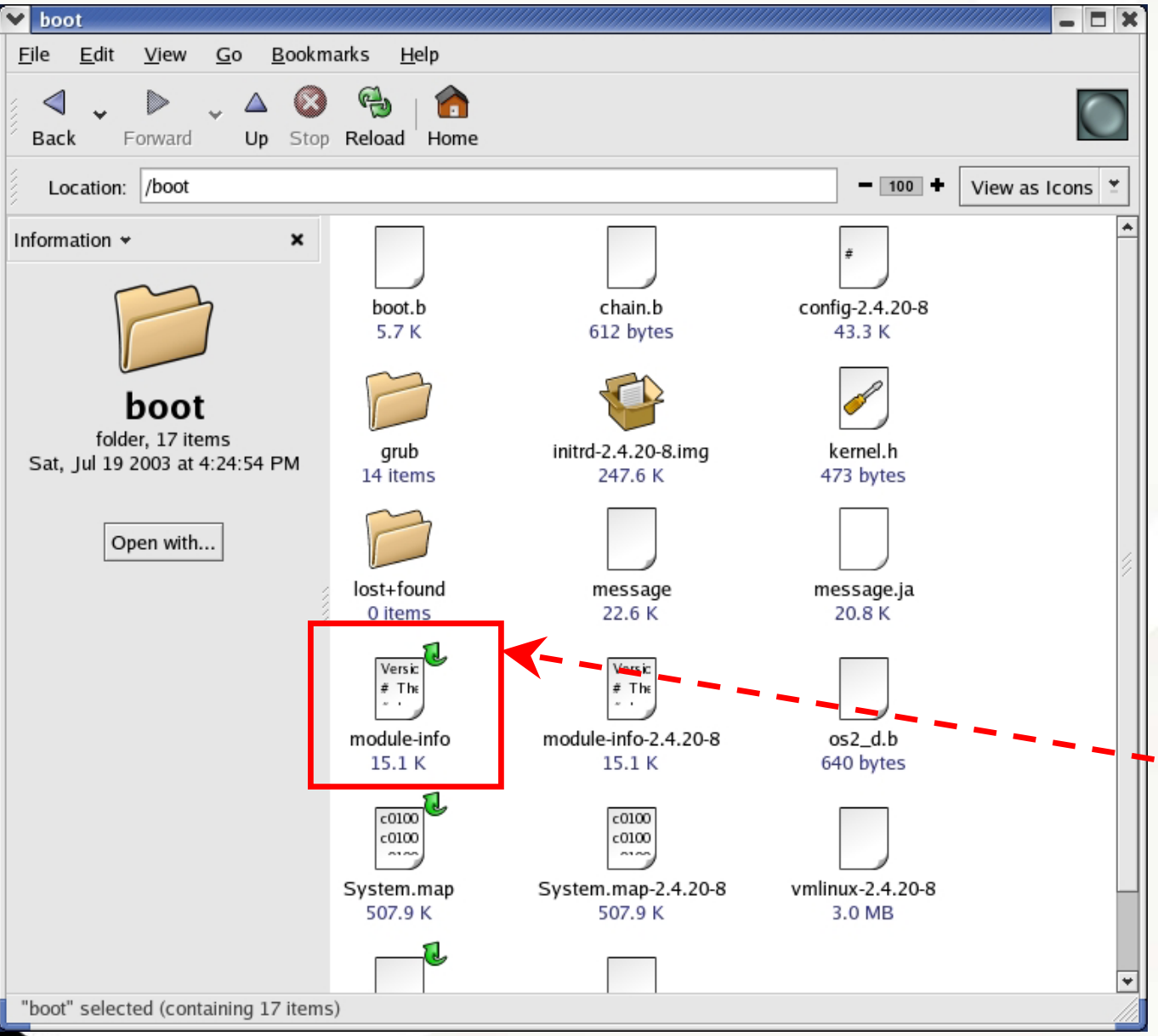
It is based on the same *gecko* rendering engine and network engine as the *mozilla* browser.

KDE Konqueror



The *konqueror* browser is built into the KDE environment in a number of places, just like *galeon* is built into the GNOME environment

The Nautilus File Browser

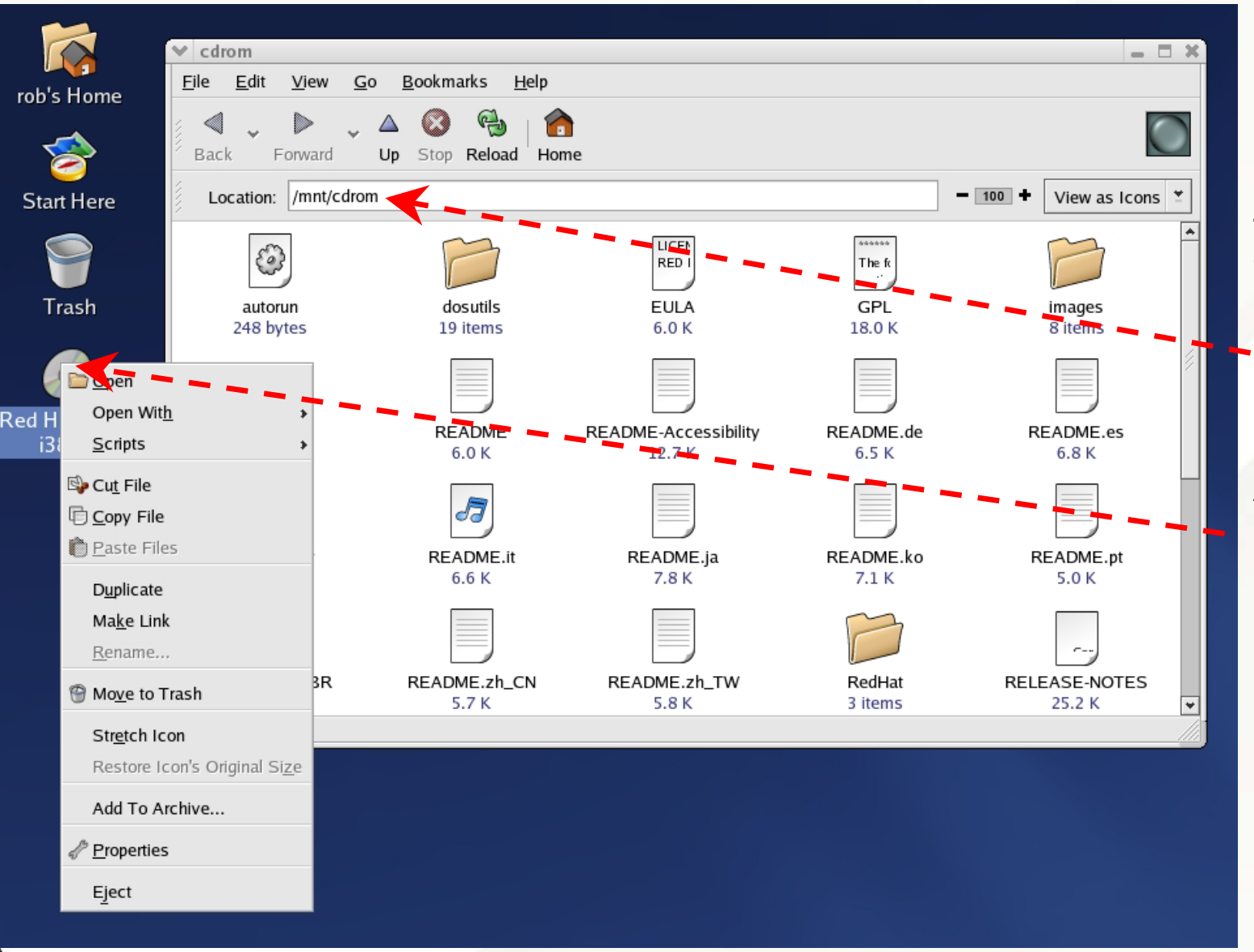


The nautilus file browser is used to show your home directory, the “Start Here” information, and other information like preferences. This is a lot like the Windows ® Explorer behavior.

The icons describe the file type, may show the file contents, and have “emblems” that describe attributes like “executable”.

The Nautilus File Browser Emblems

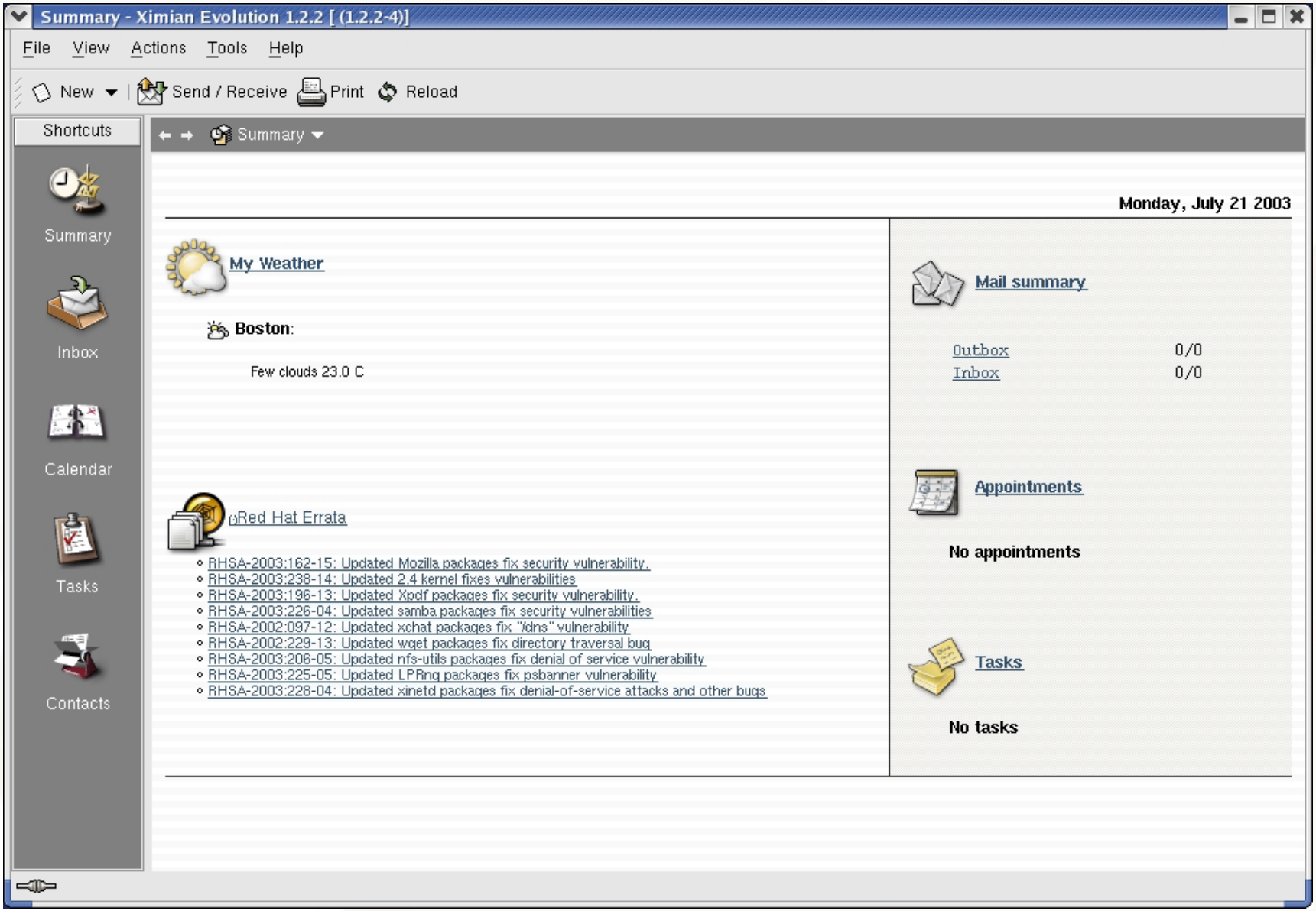
Inserting An ISO CD-ROM



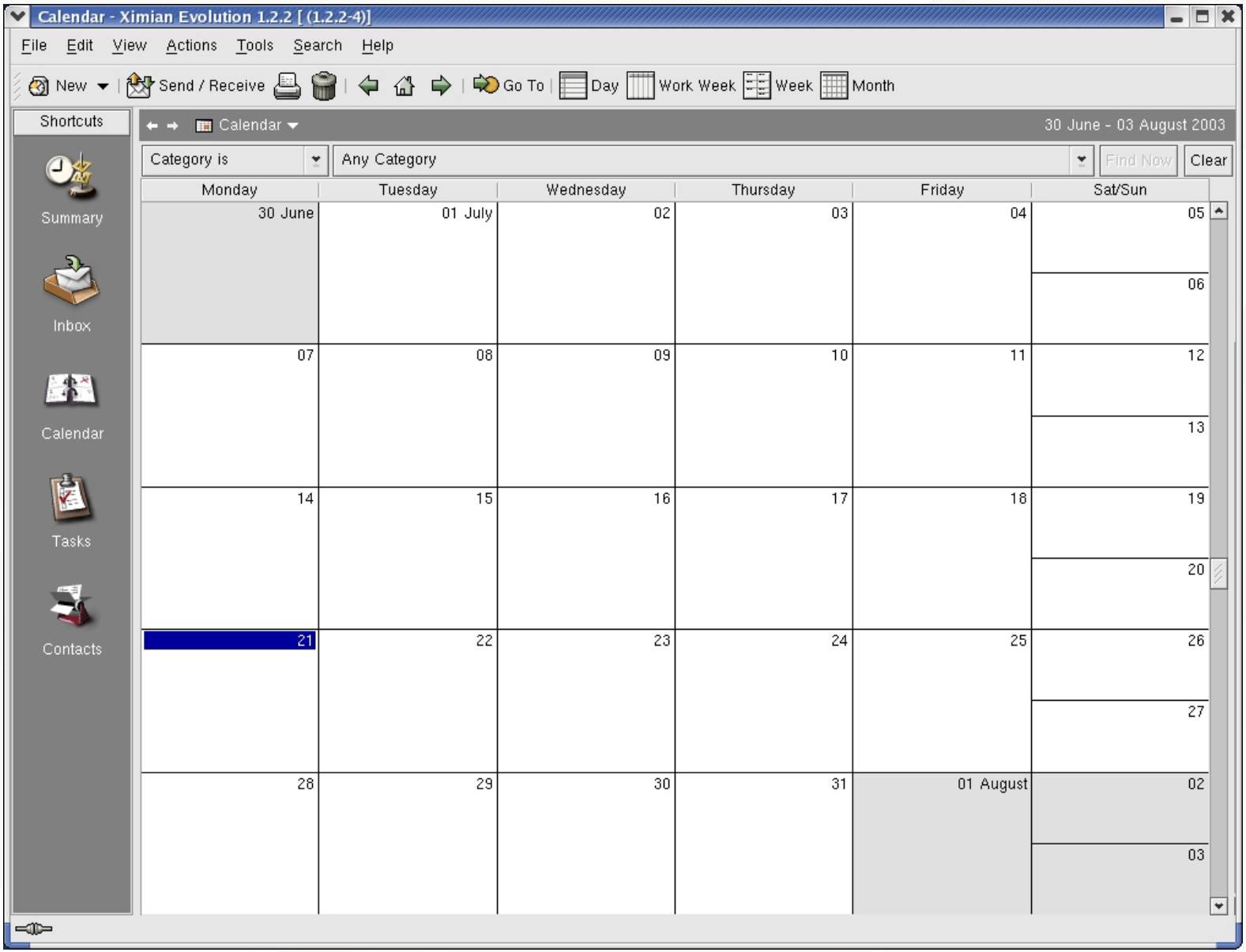
Inserting a CD-ROM will open *nautilus* if it is an ISO file system, or the CD player if it is an audio CD.

A desktop icon will appear when *nautilus* opens the CD-ROM, and options are available by right-clicking the CD icon

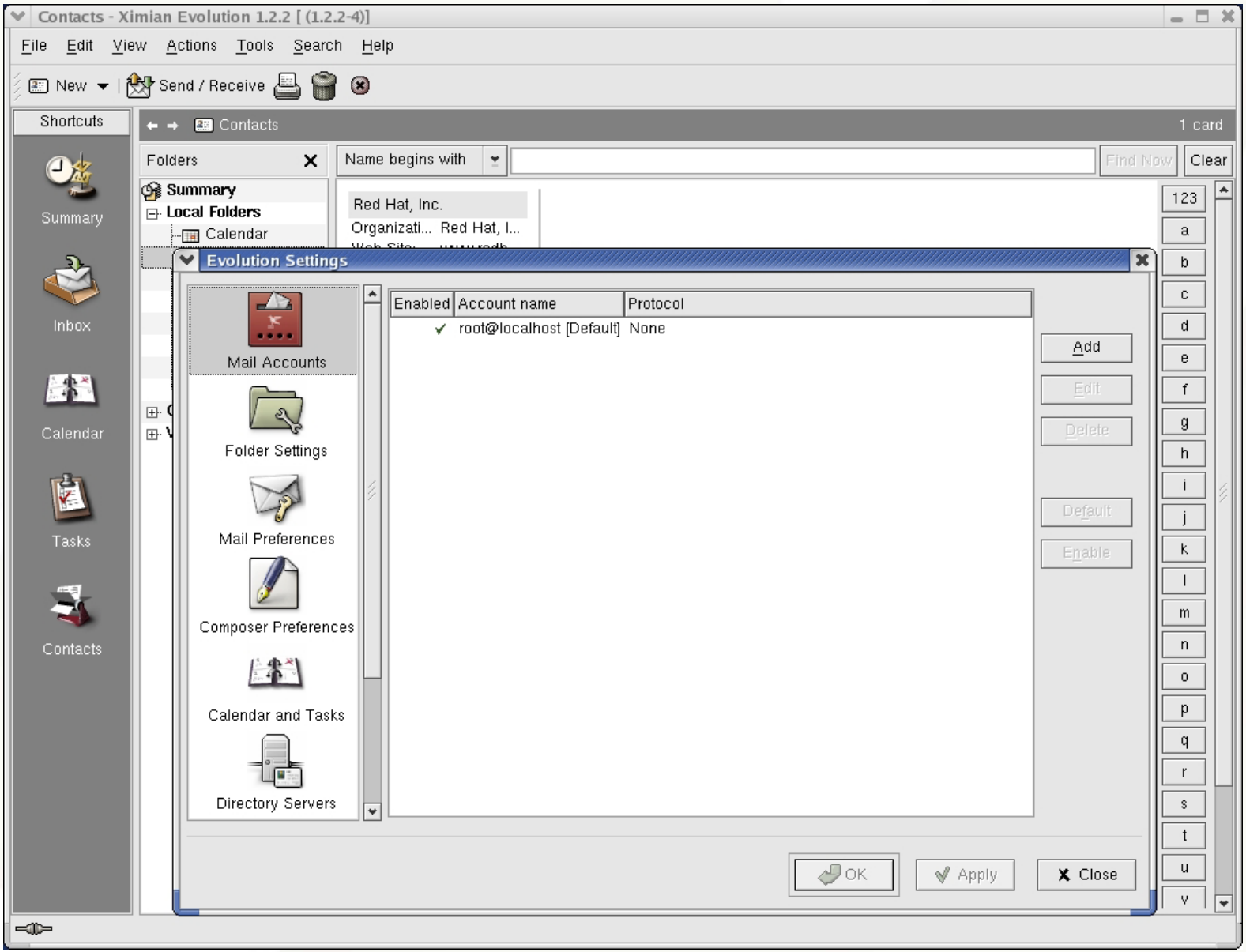
Ximian Evolution Organizer Summary View



The Ximian Evolution Calendar

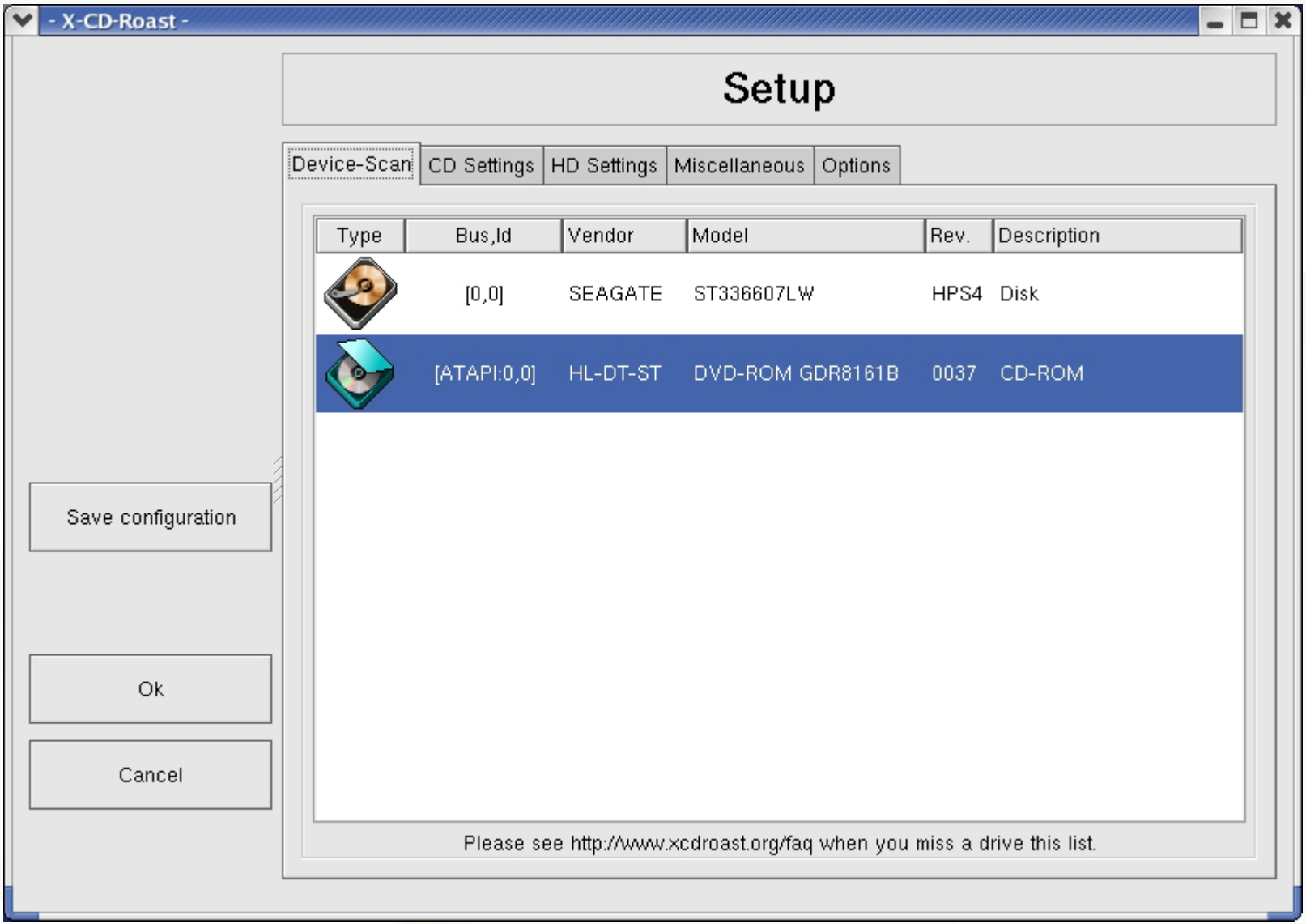


Ximian Evolution Settings

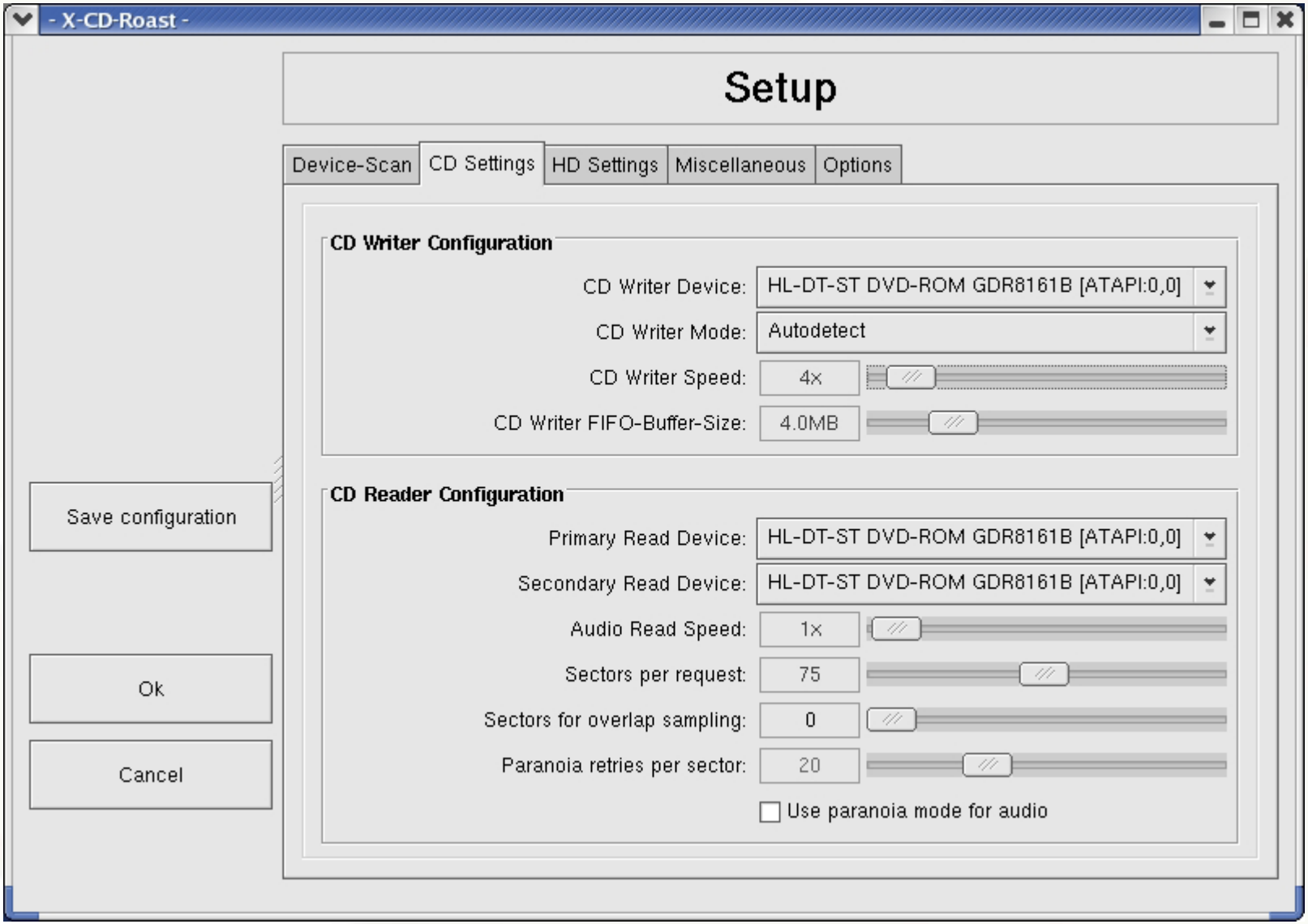


Creating Your Own CDs

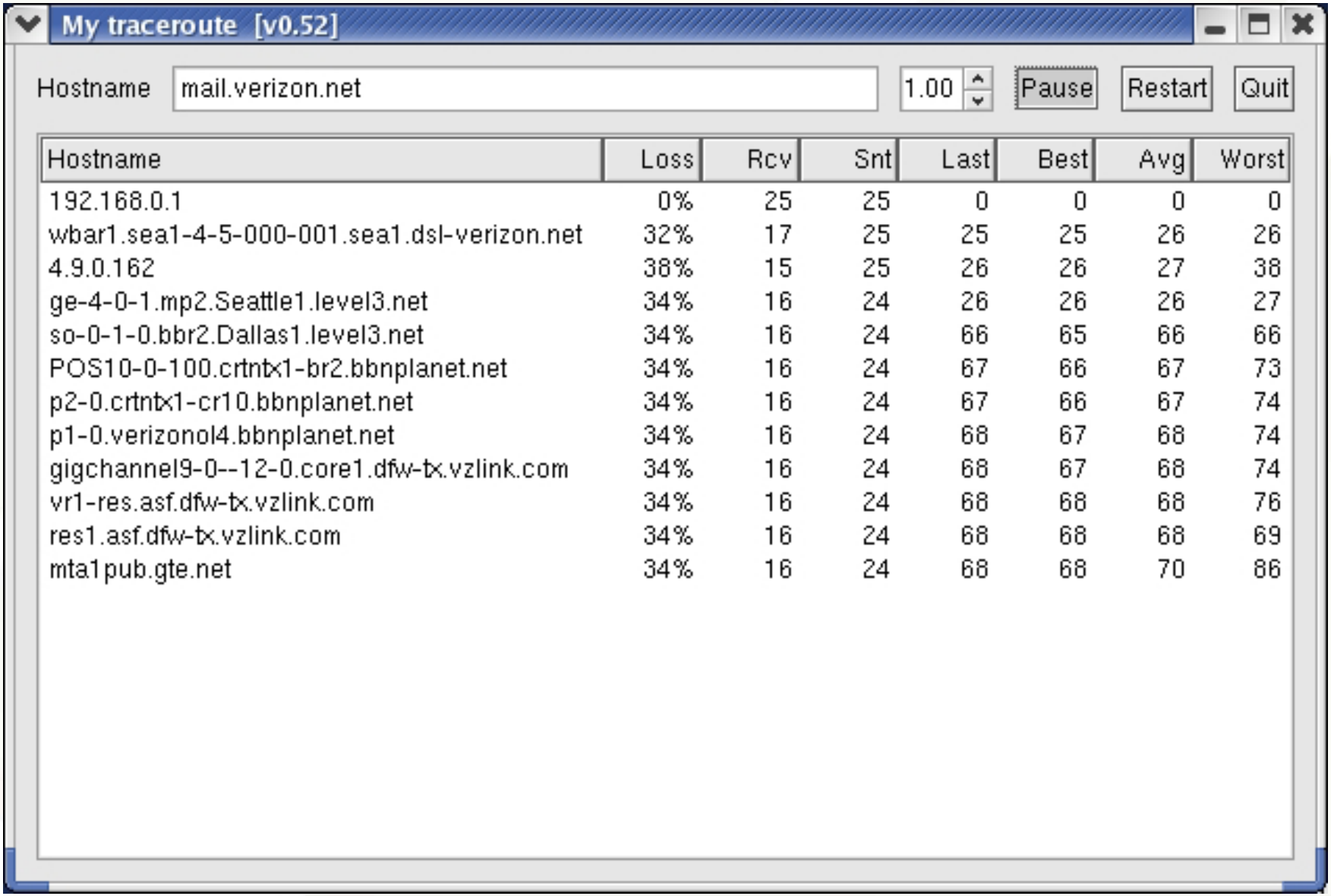
Configuring Xcdroast CD-RW Drives



Xcdroast CD Reader/Writer Configuration



Traceroute

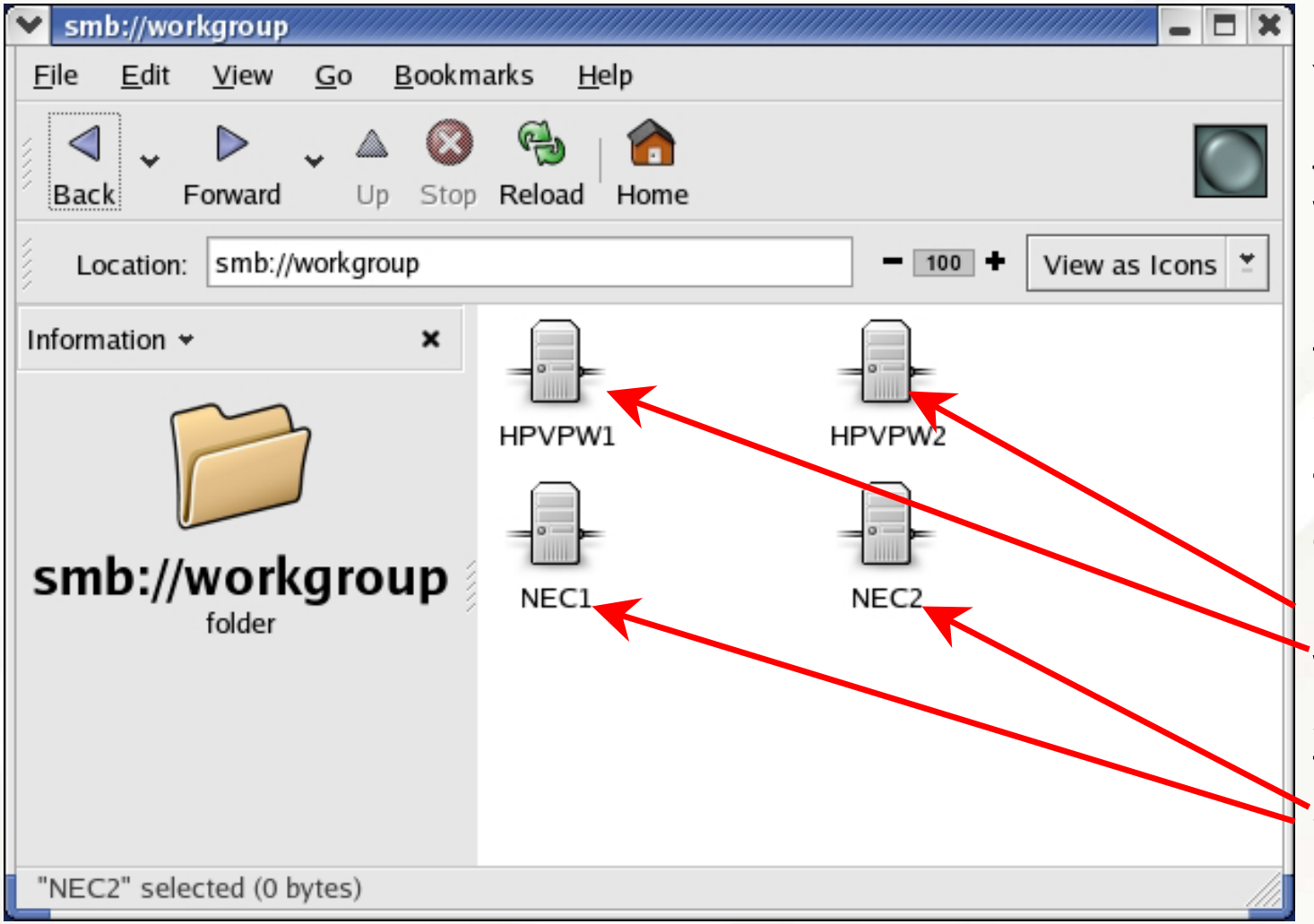


Hostname	Loss	Rcv	Snt	Last	Best	Avg	Worst
192.168.0.1	0%	25	25	0	0	0	0
wbar1.sea1-4-5-000-001.sea1.dsl-verizon.net	32%	17	25	25	25	26	26
4.9.0.162	38%	15	25	26	26	27	38
ge-4-0-1.mp2.Seattle1.level3.net	34%	16	24	26	26	26	27
so-0-1-0.bbr2.Dallas1.level3.net	34%	16	24	66	65	66	66
POS10-0-100.crtntx1-br2.bbnplanet.net	34%	16	24	67	66	67	73
p2-0.crtntx1-cr10.bbnplanet.net	34%	16	24	67	66	67	74
p1-0.verizonol4.bbnplanet.net	34%	16	24	68	67	68	74
gigchannel9-0--12-0.core1.dfw-tx.vzlink.com	34%	16	24	68	67	68	74
vr1-res.asf.dfw-tx.vzlink.com	34%	16	24	68	68	68	76
res1.asf.dfw-tx.vzlink.com	34%	16	24	68	68	68	69
mta1pub.gte.net	34%	16	24	68	68	70	86

Lab #2: Useful Linux Graphical Tools

See Lab #2 Handout for details

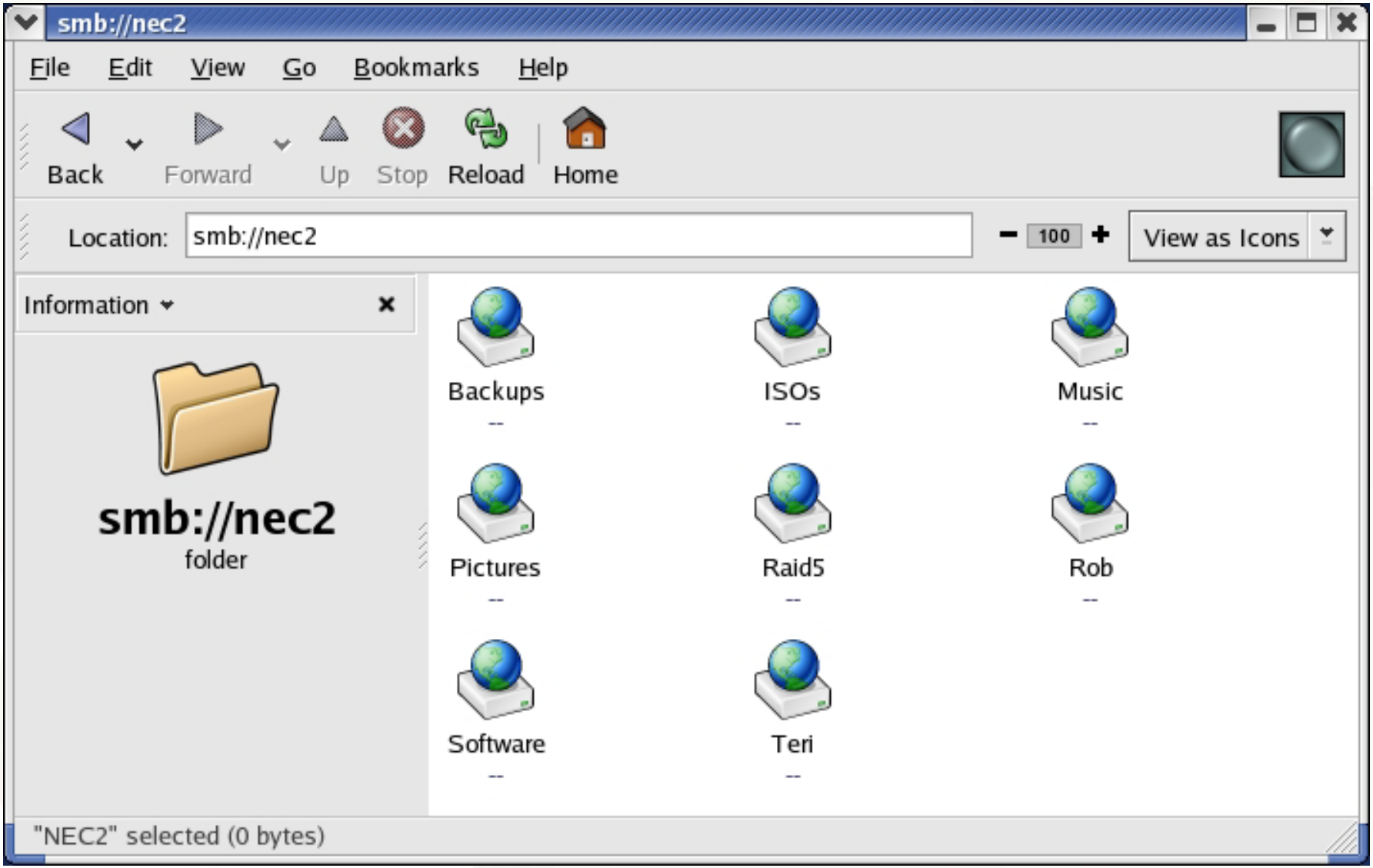
Mounting SMB Shares



You can mount SMB shares from Windows® or Samba servers and access them through *nautilus.*

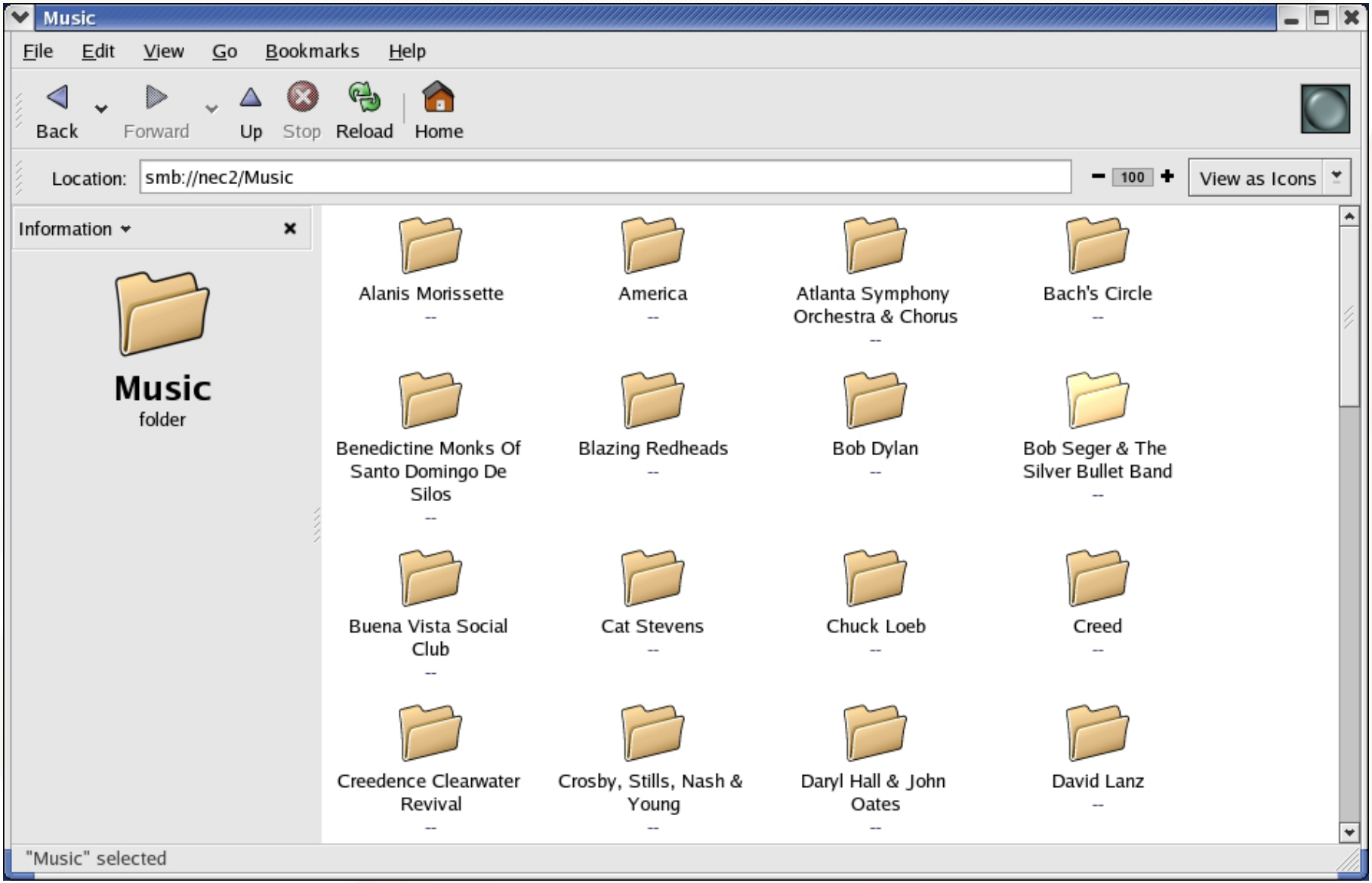
This is a map of the systems in my home network: two Windows systems and two Samba servers.

Viewing Individual Samba Shares



Music Share After Authentication

(Dear RIAA: Yes, I have purchased all of the music present here and do not share)



OpenOffice Tools

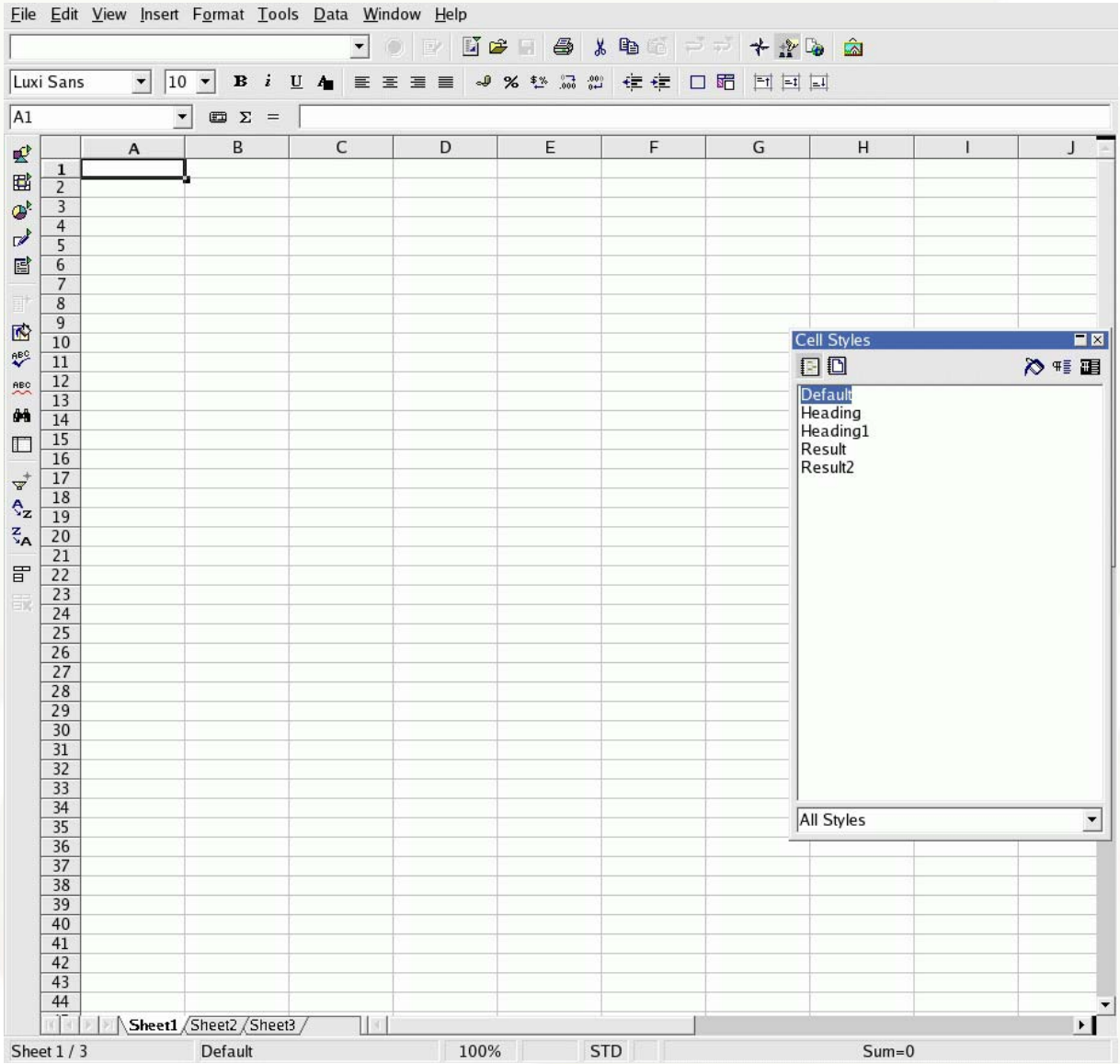
- **The OpenOffice tools are an open-source version of the Sun StarOffice Suite**
- **The StarOffice tools are available for $$ from Sun**
- **The OpenOffice tools are available from http://OpenOffice.org**

Announcement: OpenOffice.org 1.1 RC

OpenOffice.org 1.1 RC is ready for general use. It replaces our legacy build, OpenOffice.org 1.0.3.1, which lacks the new features making OpenOffice.org 1.1 revolutionary. OpenOffice.org 1.1 RC not only includes features introduced in 1.1beta, such as export to PDF, SWF, DocBook, and improved on-line Help, but also:

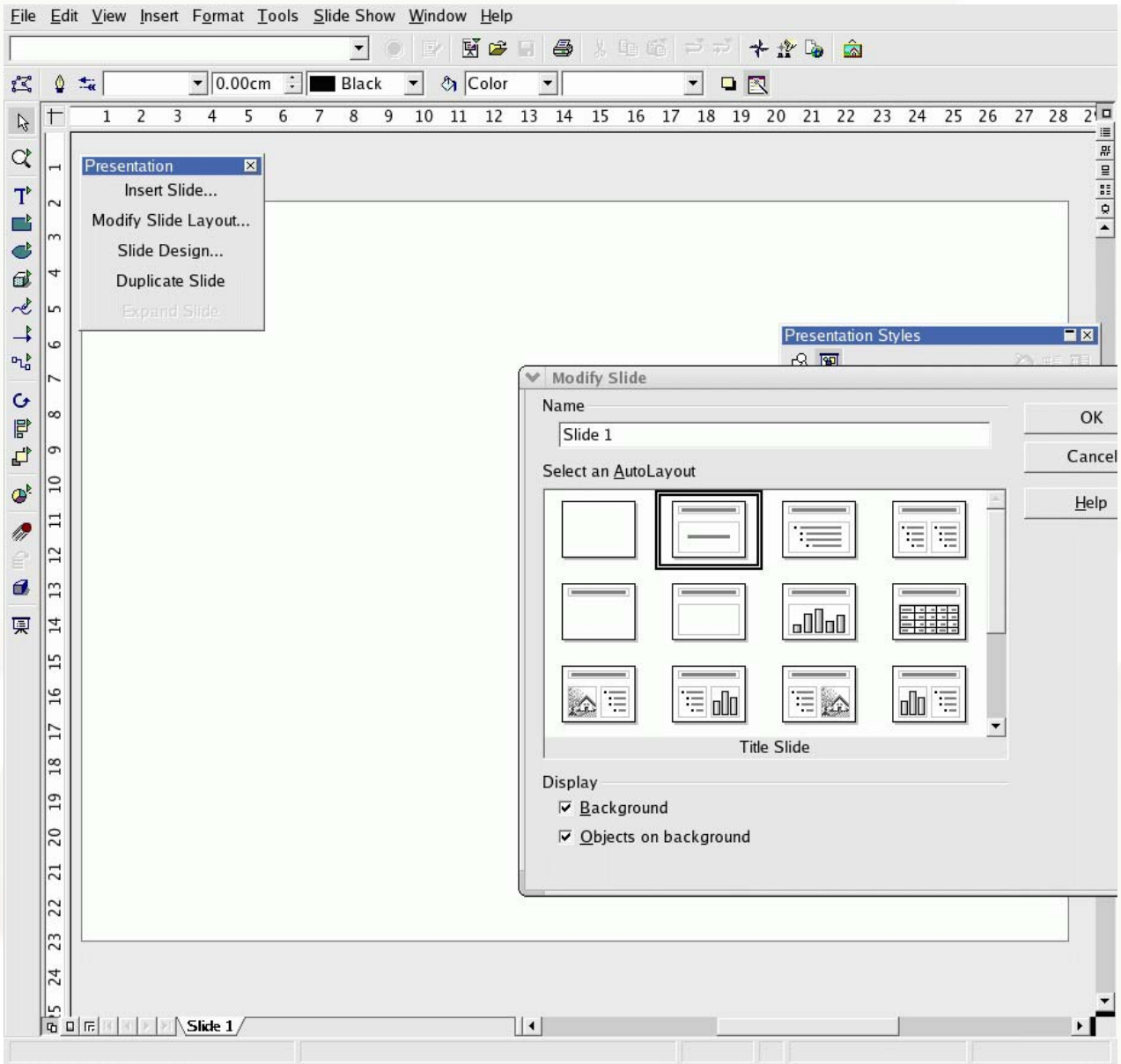
- Existing single-user installation update capability
- Integrated Bitstream Vera fonts
- Built-in proofing tools and hyphenation for many languages
- Better Microsoft Office filters

OpenOffice Calc Spreadsheet



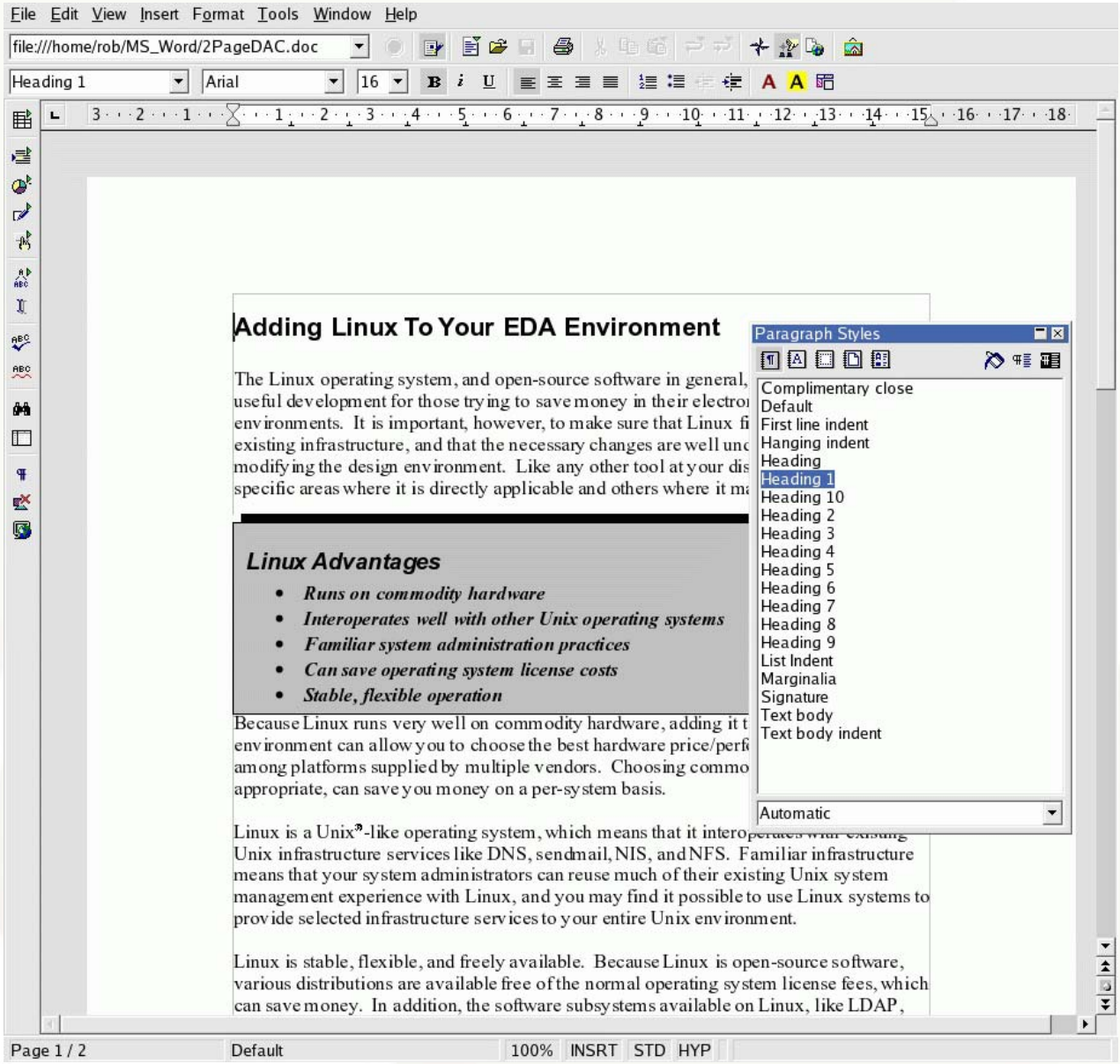
OpenOffice "*Calc*" runs natively on Linux, and can import and export files to Microsoft® Excel®

OpenOffice Impress



OpenOffice "*Impress*" is a presentation tool that can import and export Microsoft® Powerpoint® presentations

OpenOffice Writer



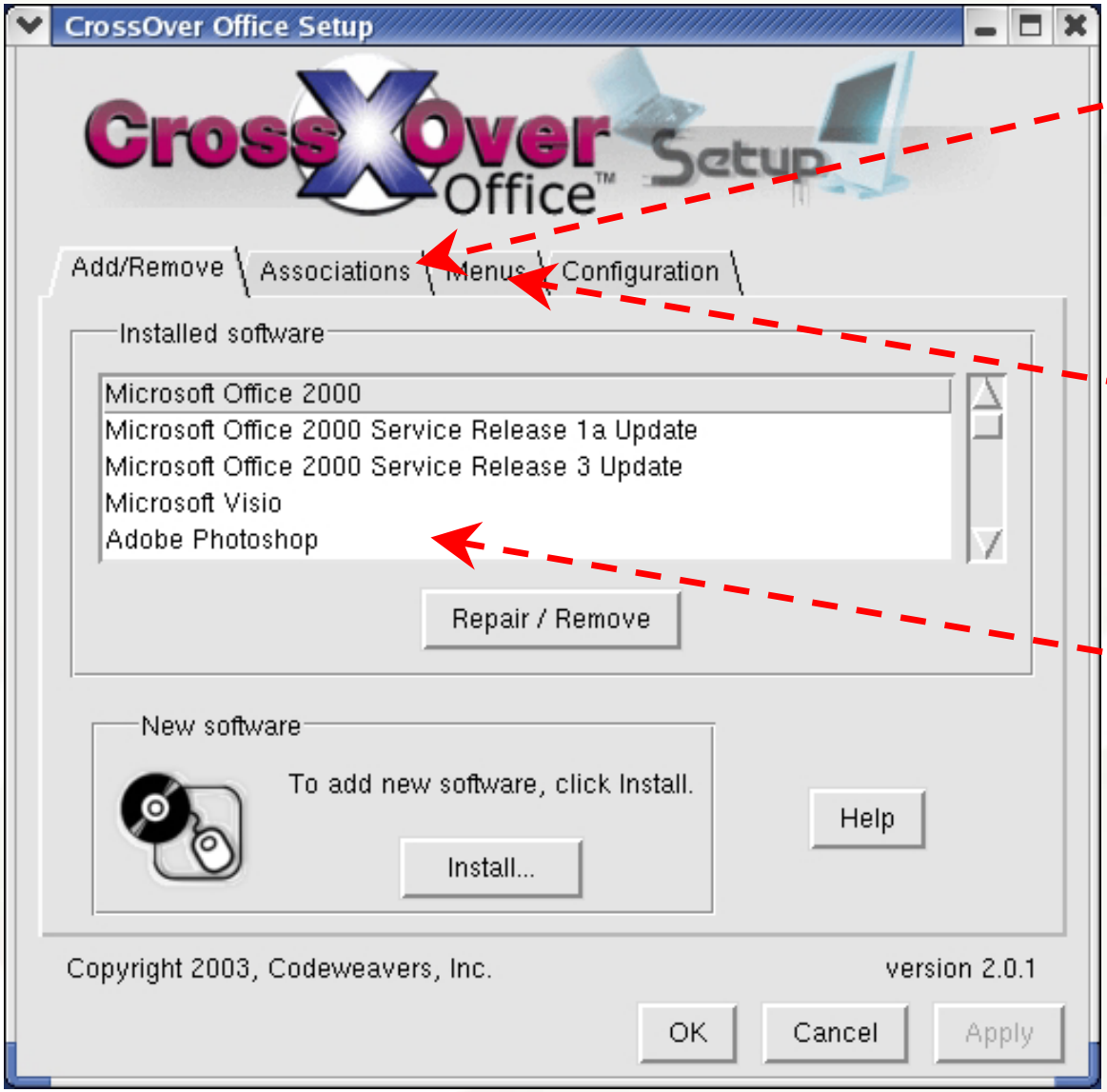
OpenOffice "*Writer*" is a word-processor that can import and write Microsoft® Word® documents.

Crossover Office

- Crossover Office®, from CodeWeavers Inc. is a special version of WINE (Wine Is Not an Emulator) that can execute Microsoft® Office programs on the Linux Desktop
- Available for $$ from http://Www.CodeWeavers.Com
- You are required to purchase licenses for the Microsoft software, and then install it in the CrossOver Office environment
- The CrossOver Office environment integrates itself into your application menu and provides a pseudo-Windows disk arrangement
- The tools run quite well as long as you use supported versions of the Microsoft Office product: Office 98, Office 2000, and parts of Office XP
- There is no compatibility issues with the application behavior, because is *is* the same software

CrossOver Office™

CrossOver Office Setup

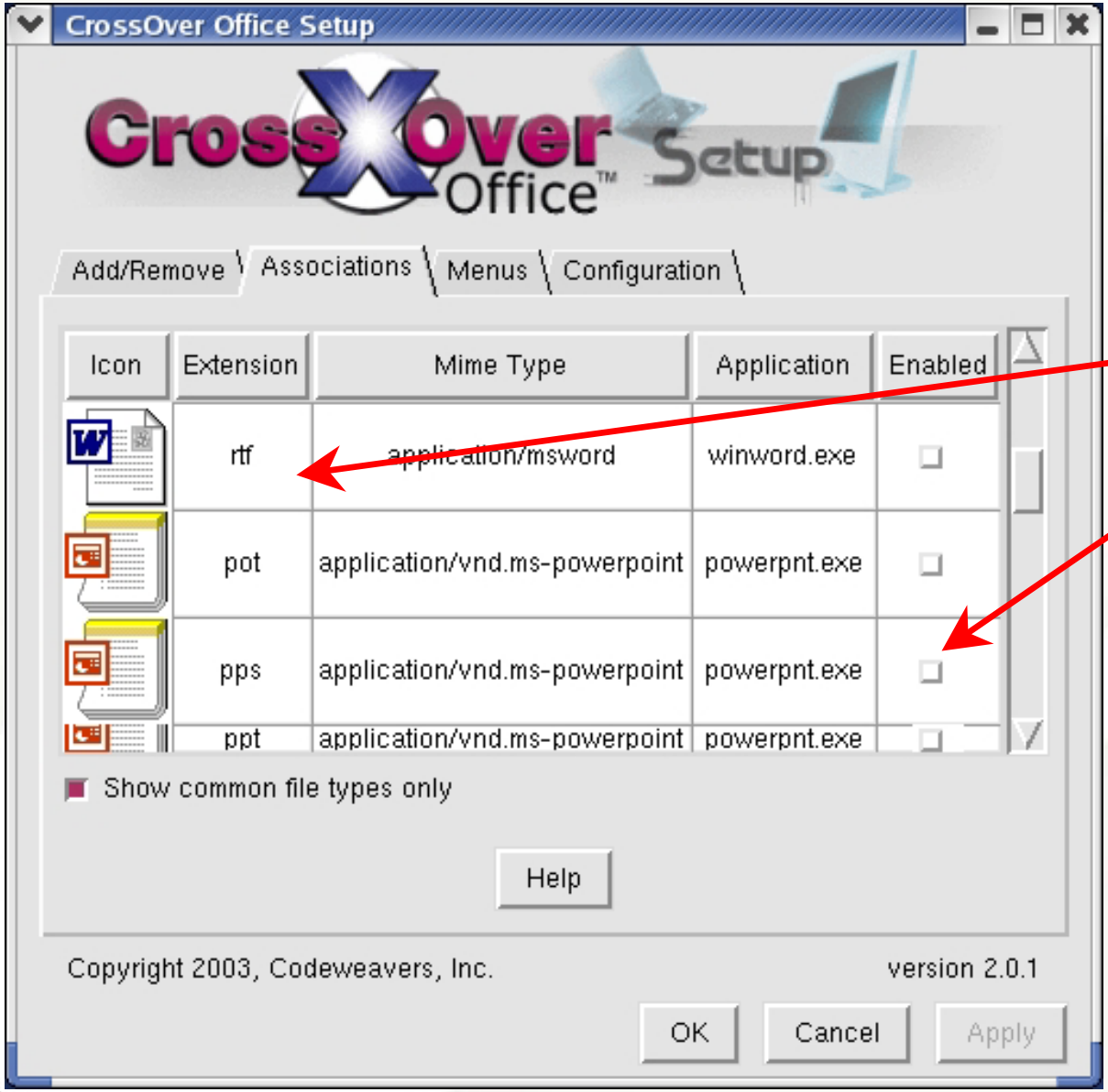


You can create file-type associations and MIME types that start the applications for e-mail attachments

You can choose which tools are integrated into the Linux desktop menus

Some of the supported tools are listed in the “Installed Software” window

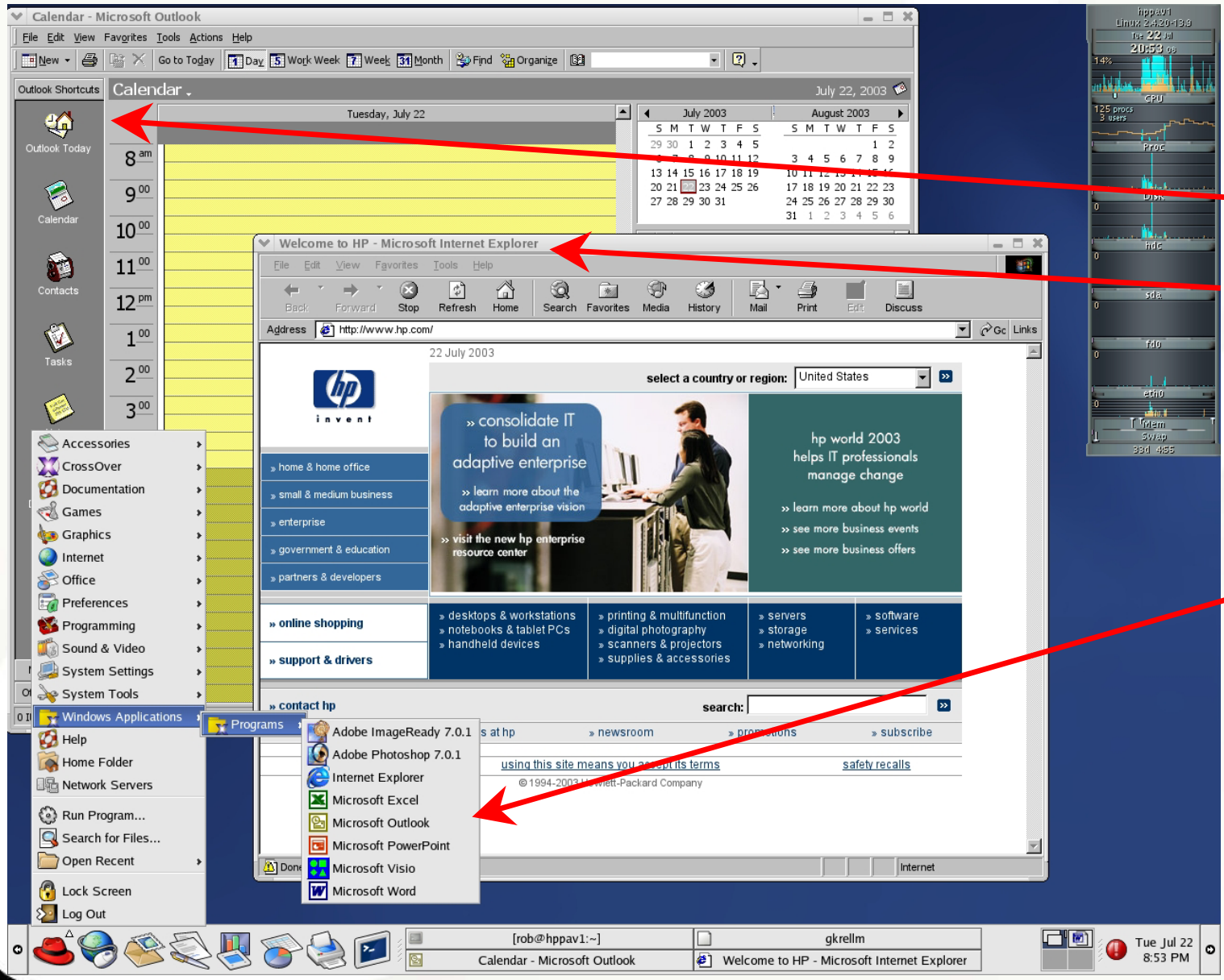
CrossOver Office File Associations



Creating file type associations in the MIME database allows automatically starting the proper tool in response to clicking on an e-mail attachment

The associations are disabled by default

Example Desktop with Outlook and Internet Explorer 6

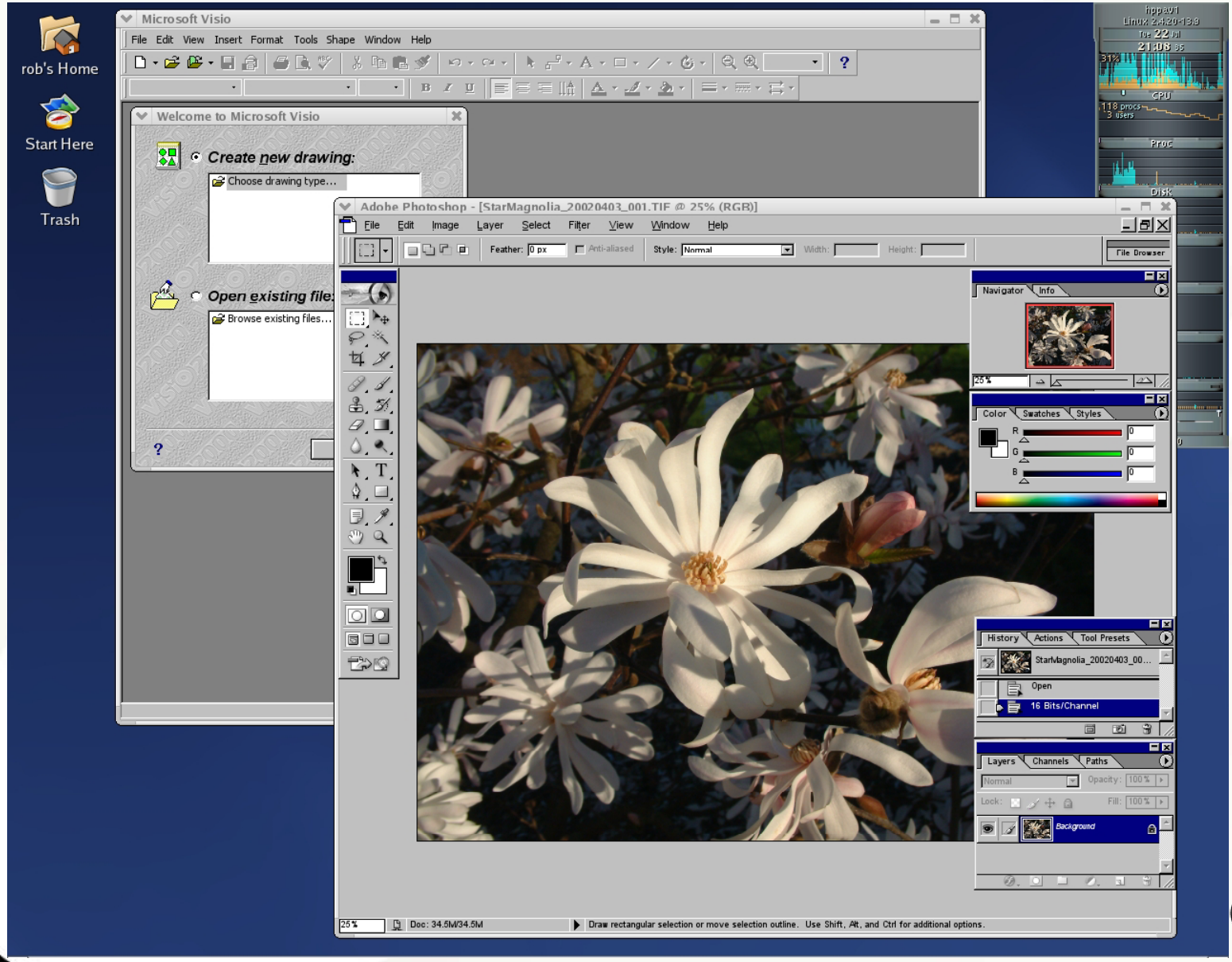


Linux desktop running Microsoft Outlook ® and Internet Explorer®

Microsoft Office applications are integrated into the KDE or GNOME application menus

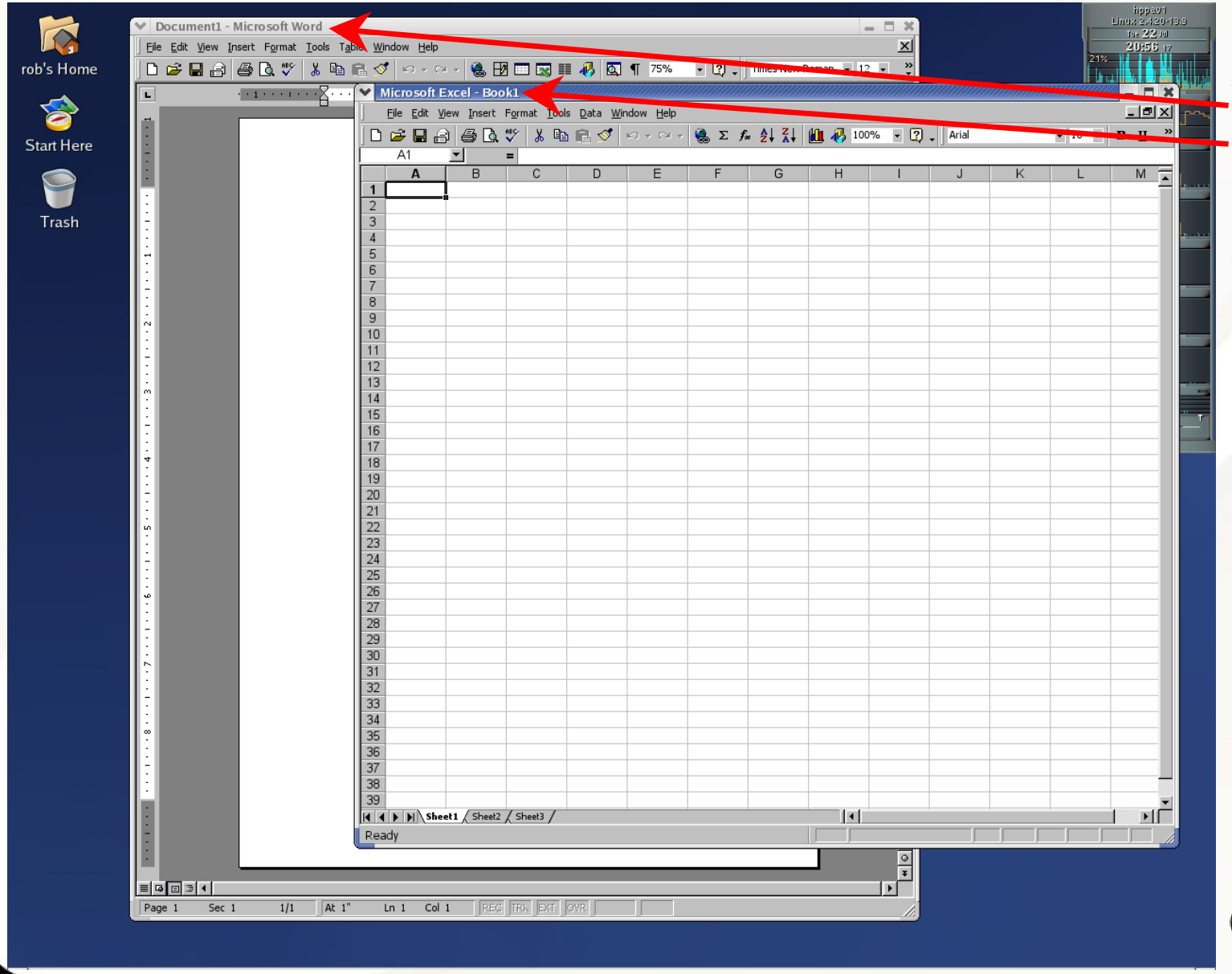
CrossOver Office™

Example Desktop Running ViSiO and Adobe Photoshop



Microsoft Visio® and Adobe Photoshop® 7 are also supported applications in CrossOver Office

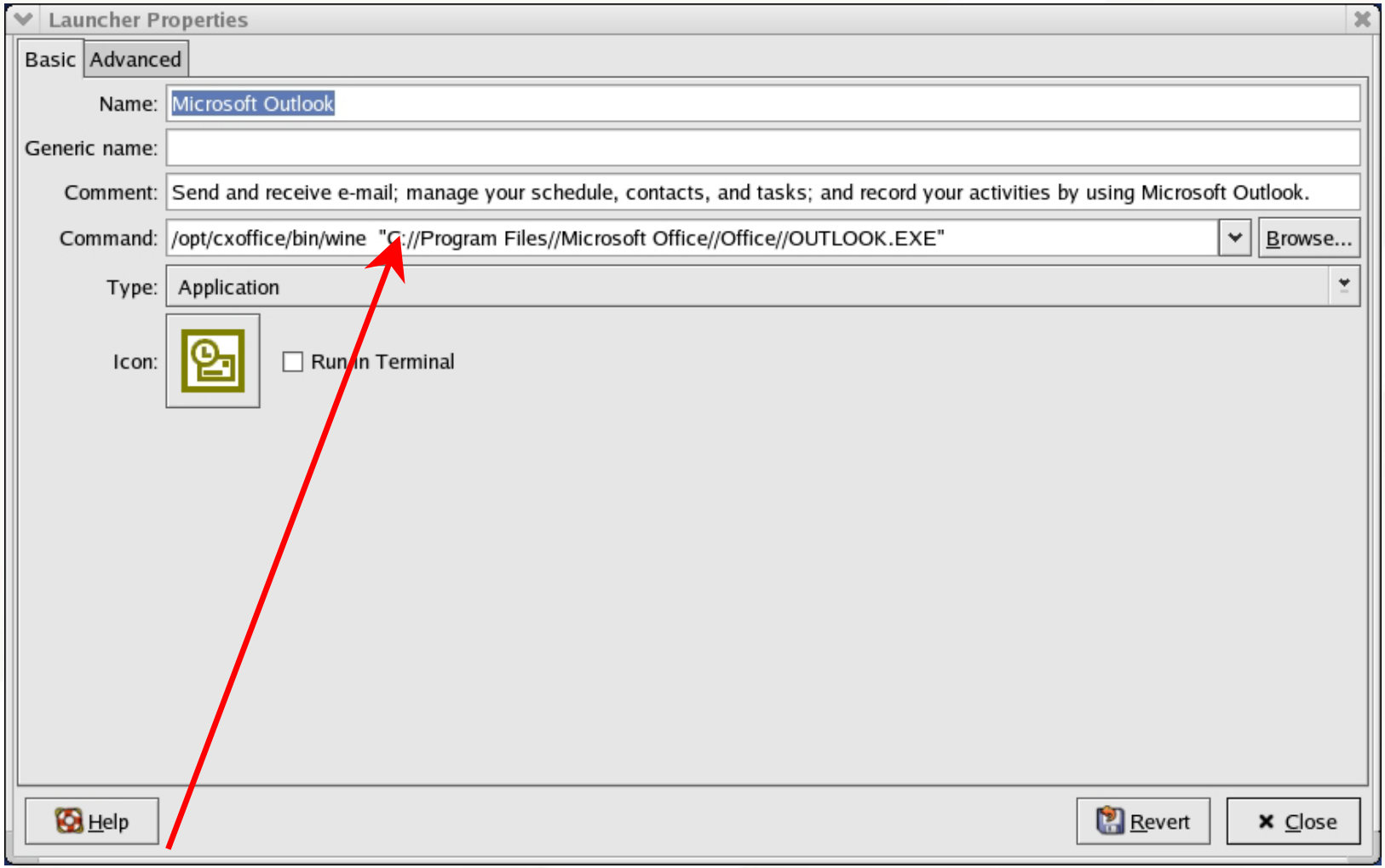
Example Desktop with Microsoft Word and Excel



Microsoft Word and Excel are also supported tools

CrossOver Office™

An Example Launcher for CrossOver Office



An example launcher for Outlook

Note the path that is passed to *wine*. It is relative to the *.cxoffice/dotwine/fake_windows* directory in the user's home directory

Running Windows Inside a Virtual Machine

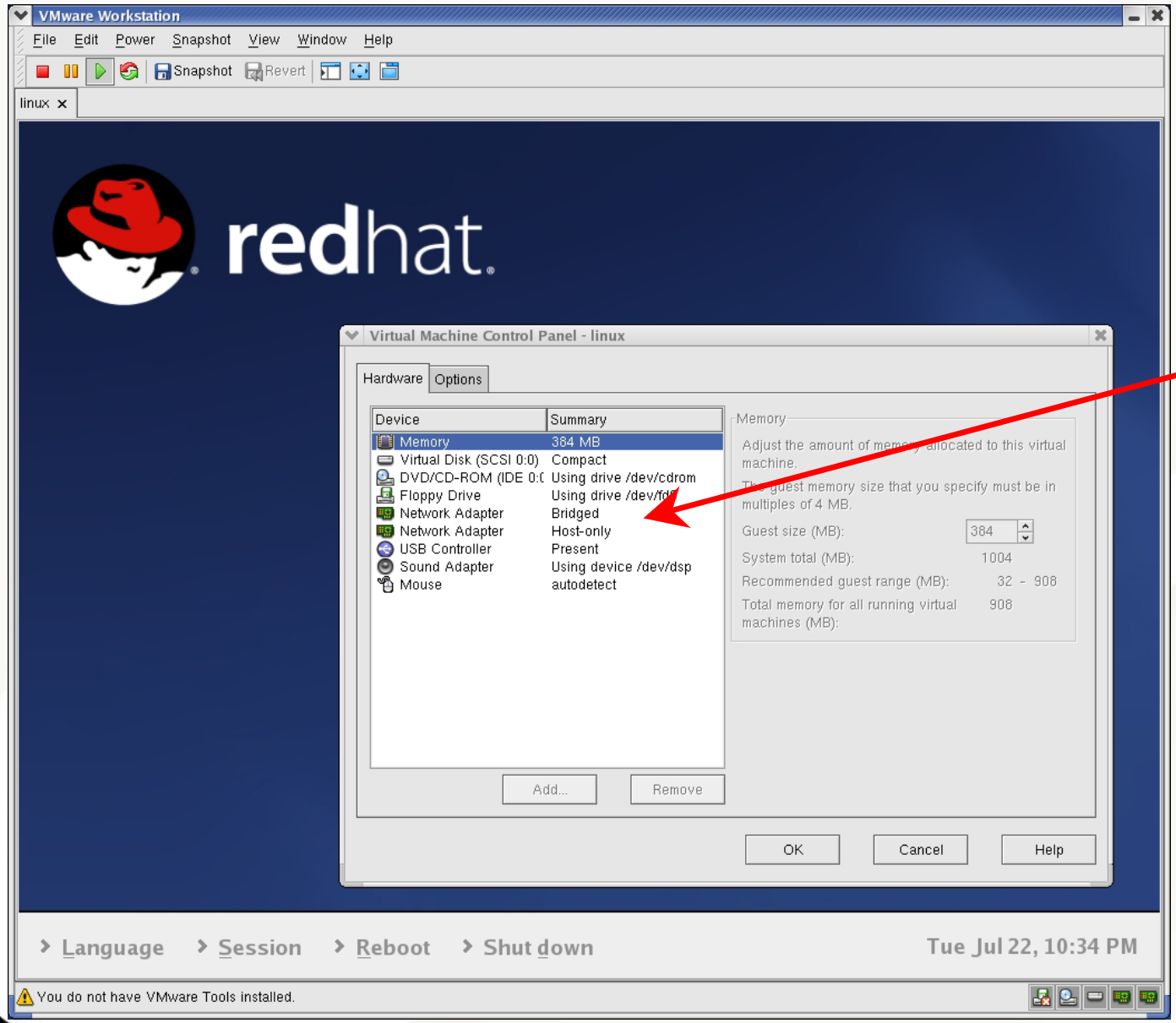
- Another product that makes running Windows applications possible is VMware®, which provides a virtual machine to share the workstation's CPU
- The performance is that of the native hardware, minus a small percentage
- Think of the virtual machine as a "container" inside which a complete Microsoft Windows operating system environment exists, unaware that it is being treated like just another application on the Linux system
- The virtual machine's software interfaces with the Linux hardware to provide networking, sound, graphics, USB, and other support
- To the operating system and software running in the virtual machine, it is a fully compatible x86 PC
- To Linux, the virtual machine appears as a process (and some other auxiliary processes)
- Running multiple virtual machines on the same system is possible if you have enough resources (CPU and RAM)

More about VMware Workstation

- The virtual machine uses files in the Linux file system as “virtual disks”
- Virtual machine configurations are portable and can be cloned (and backed up with “*tar*” or other tools)
- The virtual machine can roll back changes to the virtual disk when it terminates
- Only the space actually used is allocated from the Linux file system (i.e. the virtual disks are “sparse”)
- The interface to the VMware software is X-based on Linux (it also runs on Windows), and can be shared across the network like other X-windows applications
- You must have licenses for all software that you run in the virtual machine
- The “guest” operating system is not limited to just Microsoft Windows, you can run virtually (pardon the pun) any x86-based operating system

vmware

VMware Settings for Hardware

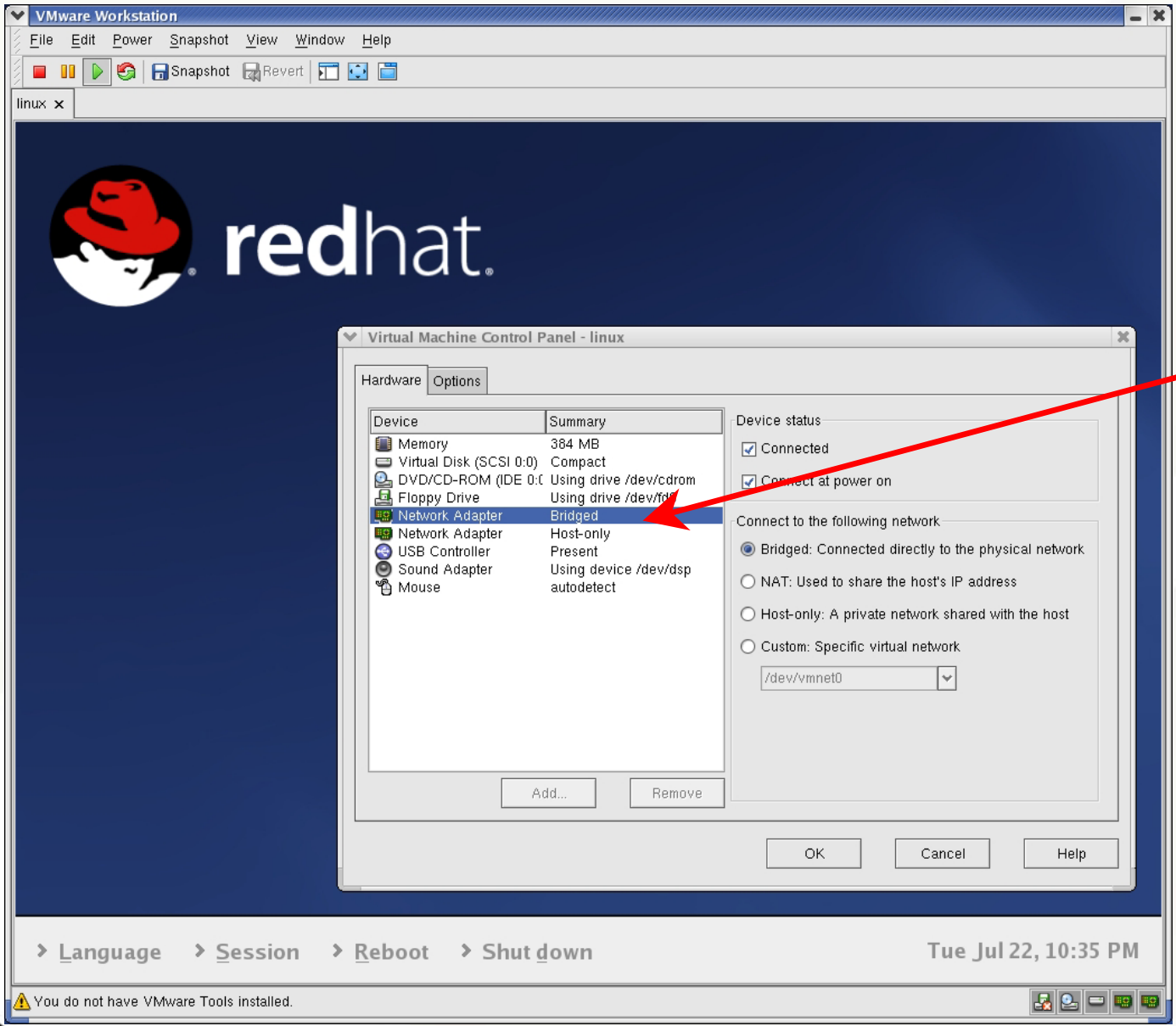


A Linux “guest” operating system running on a Linux “host” operating system.

The control panel shows the hardware being provided to the virtual machine’s operating system (384 MB of RAM, DVD, etc.)

vmware

VMware Network Device Configuration

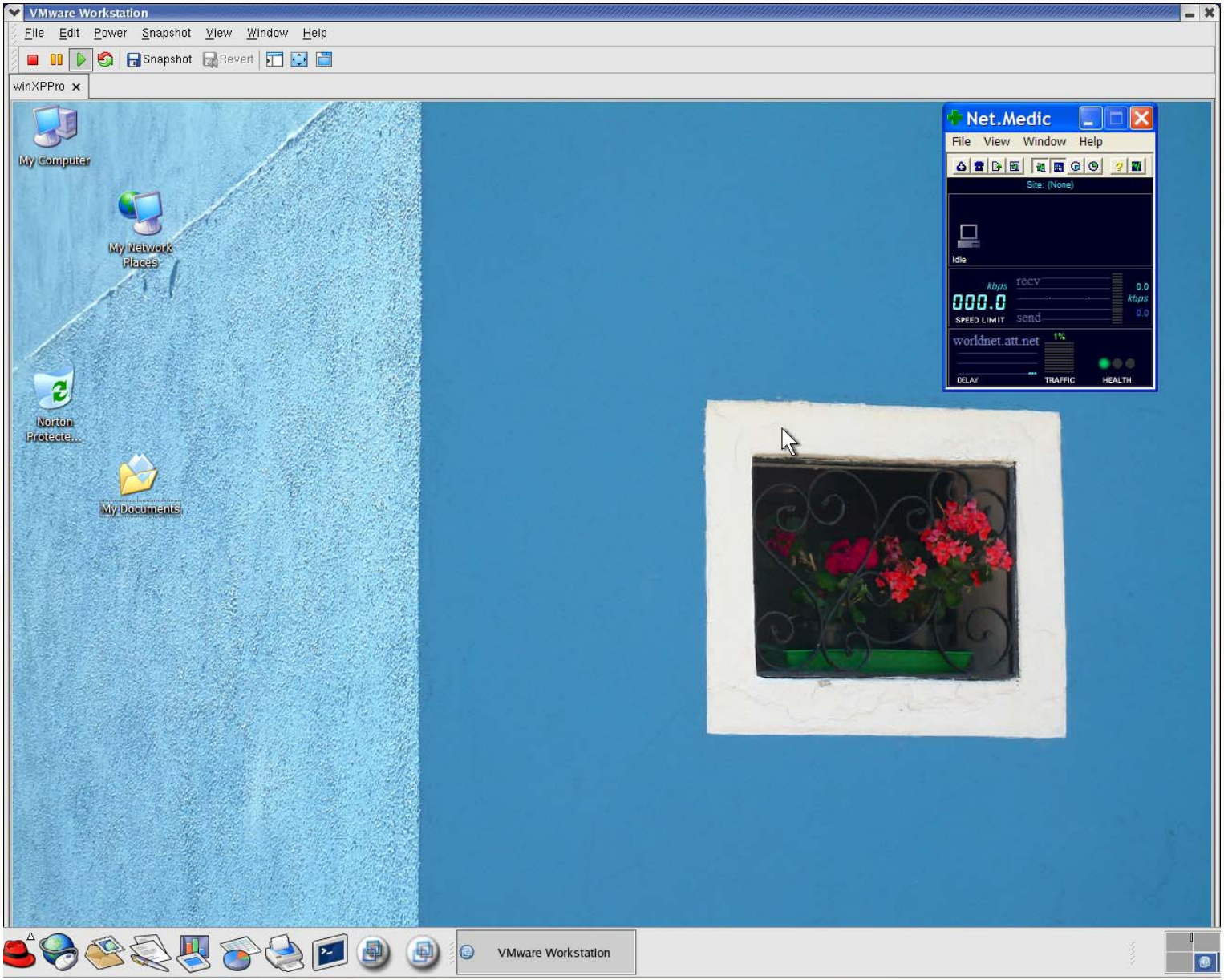


The VMware virtual machine is providing two network adapters to the guest operating system.

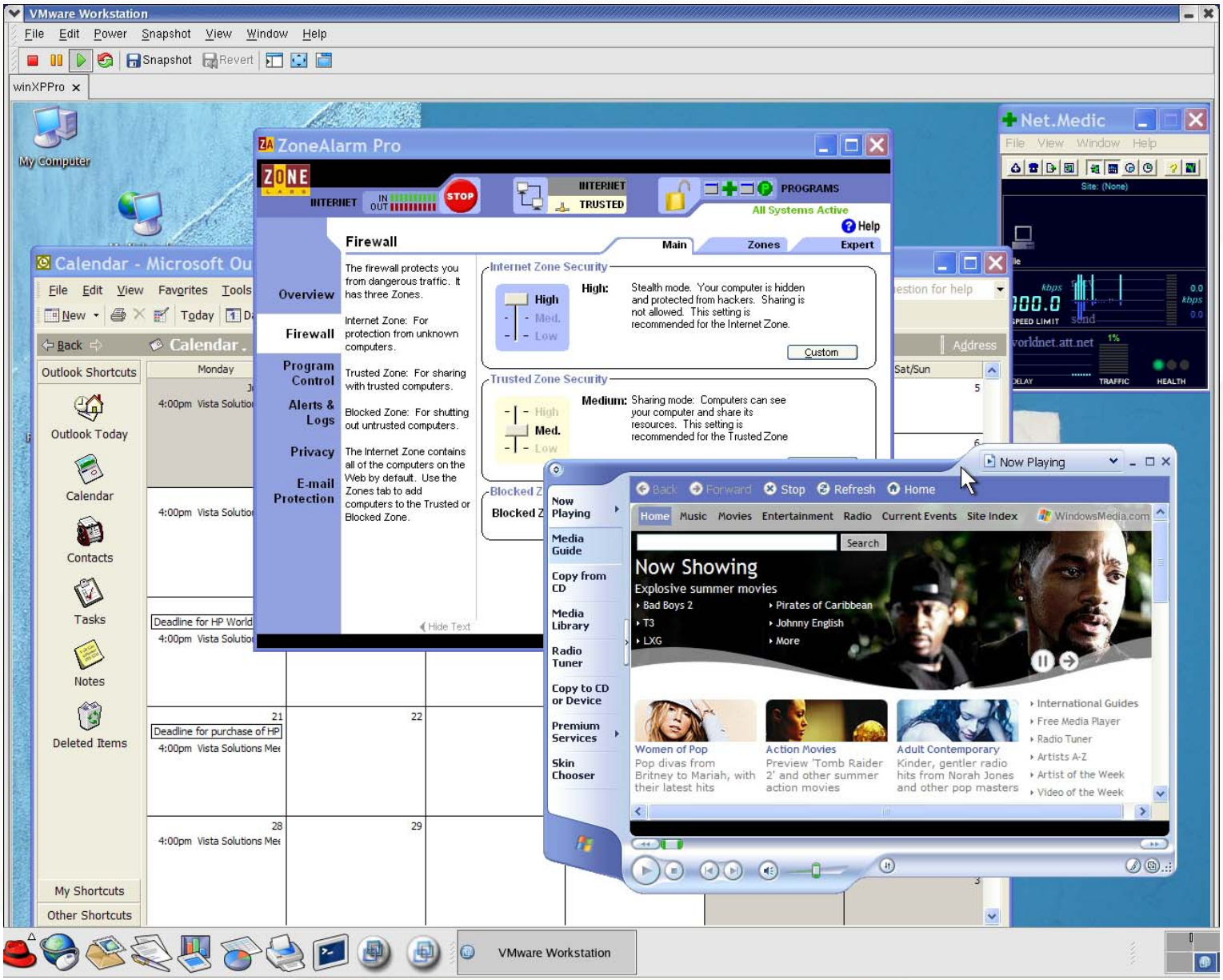
One is bridged to the host operating system's network (eth0) and the other is a "host-only" connection to share the local file system with the virtual machine's guest operating system.

vmware

VMware Windows Guest on Linux Host



VMware Running Windows Applications



Lab #3: Microsoft ® Windows ® Interoperability

See Lab #3 Handout for details