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Linux
Desktop
Hands-On



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- **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**





- **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)**



- **The good old X-windows stuff is still around!**
 - `xdpinfo` 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:**

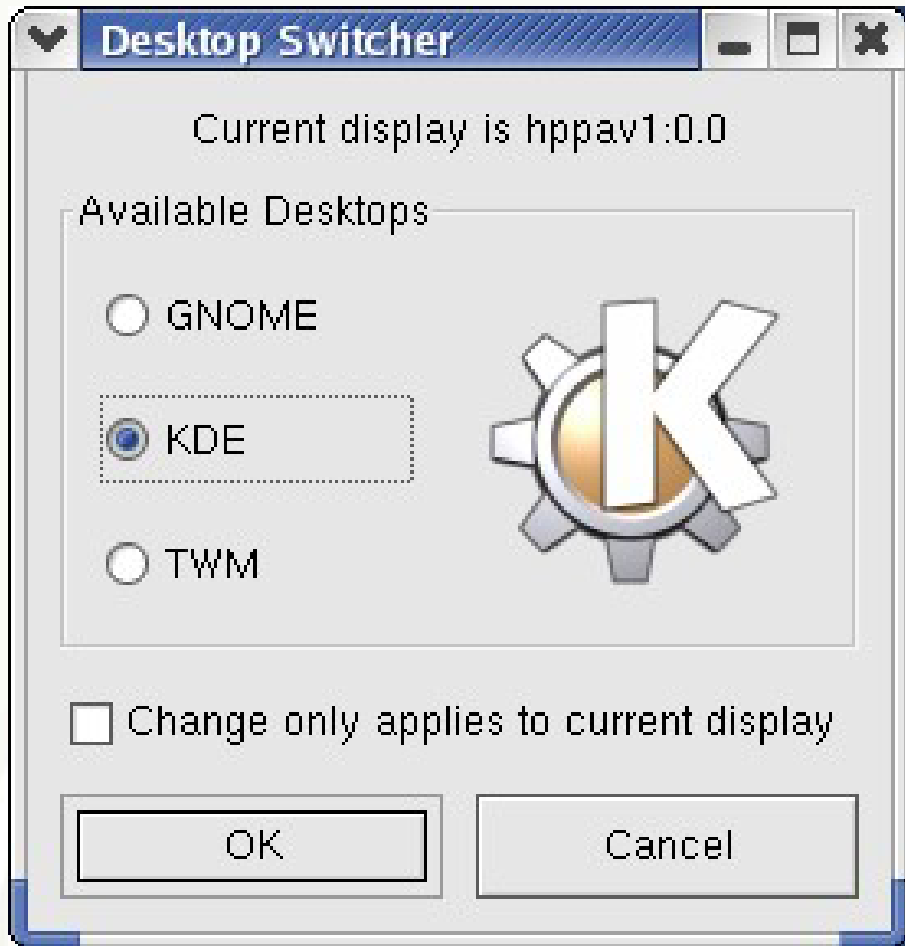
```
xrdb                      -load ${HOME}/.Xresources  
xsetroot                -solid gray &  
xterm                    -geometry -60+60 &  
xconsole                -geometry -0+0 &  
exec twm
```



- **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).



Welcome to rhvm2

Username:

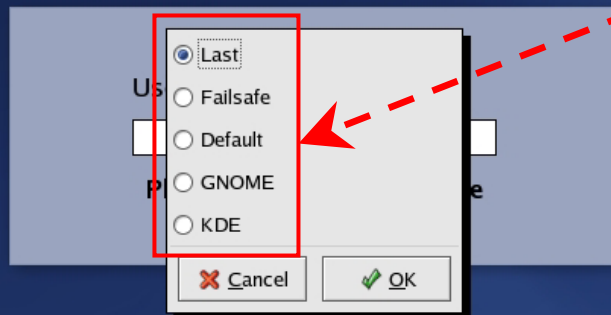
Please enter your username

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.



redhat.

Welcome to rhvm2

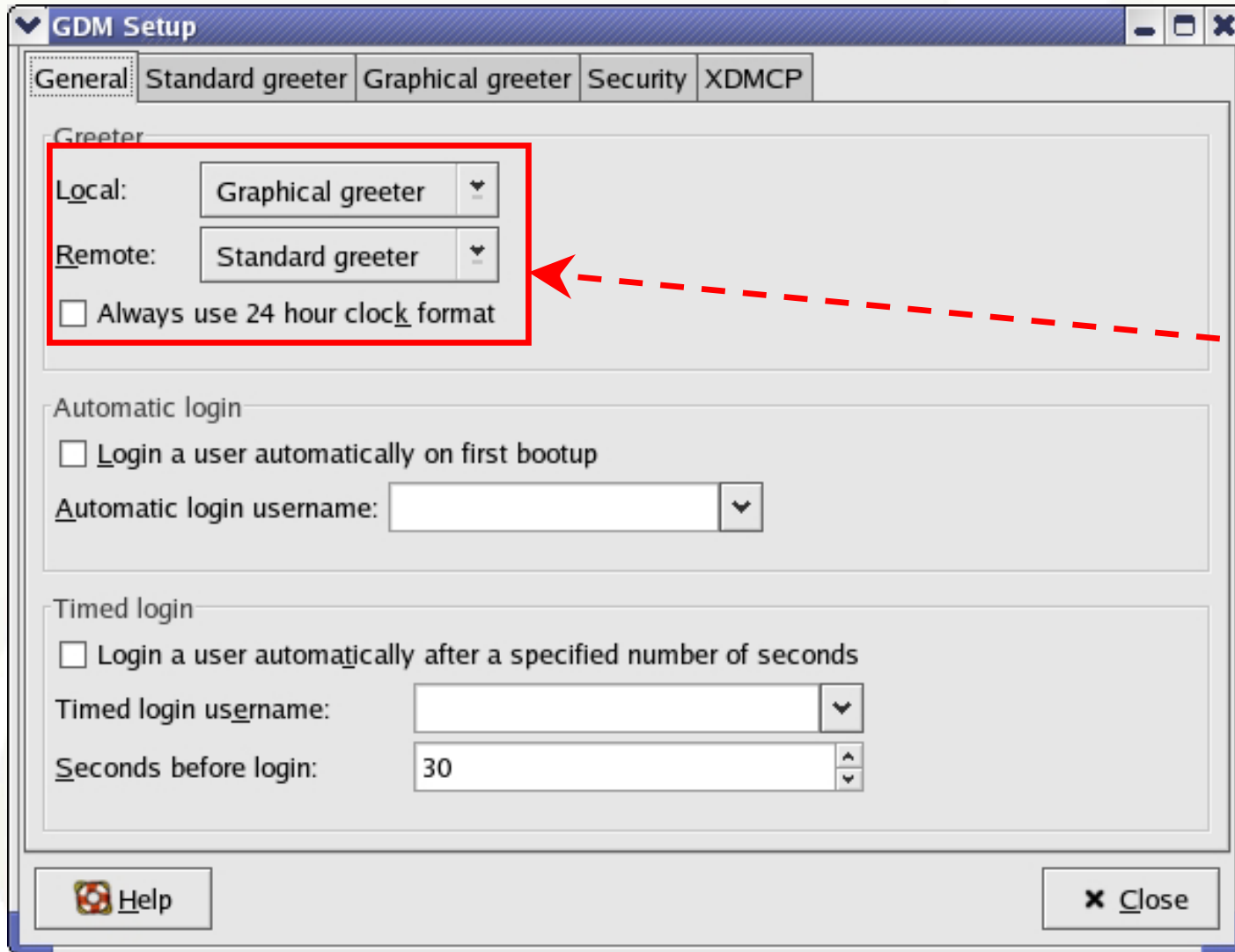


We already know about the KDE and GNOME choices. “Default” will give you your last permanent selection (switchdesk). “Failsafe” will give you a simple background with an xterm for debugging.

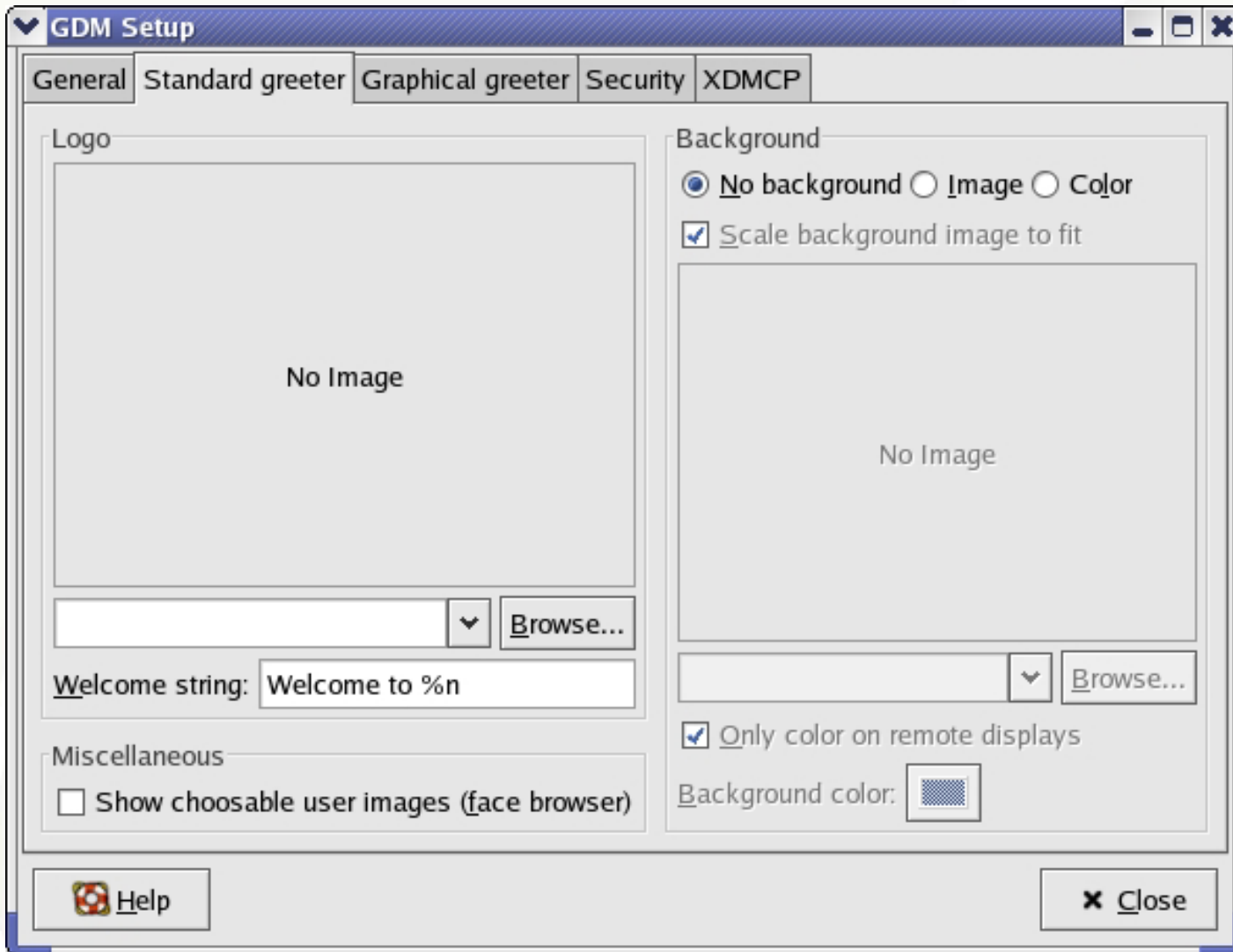


- You will find a lot of the files involved in the X11 login process in the directory */usr/lib/X11*
- Many of the files in */usr/lib/X11* are links to */etc/X11*
- The “standard” Redhat 9.0 configuration uses *gdm* as the login display manager
- The configuration information for *gdm* is kept in */etc/X11/gdm/gdm.conf*
- 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

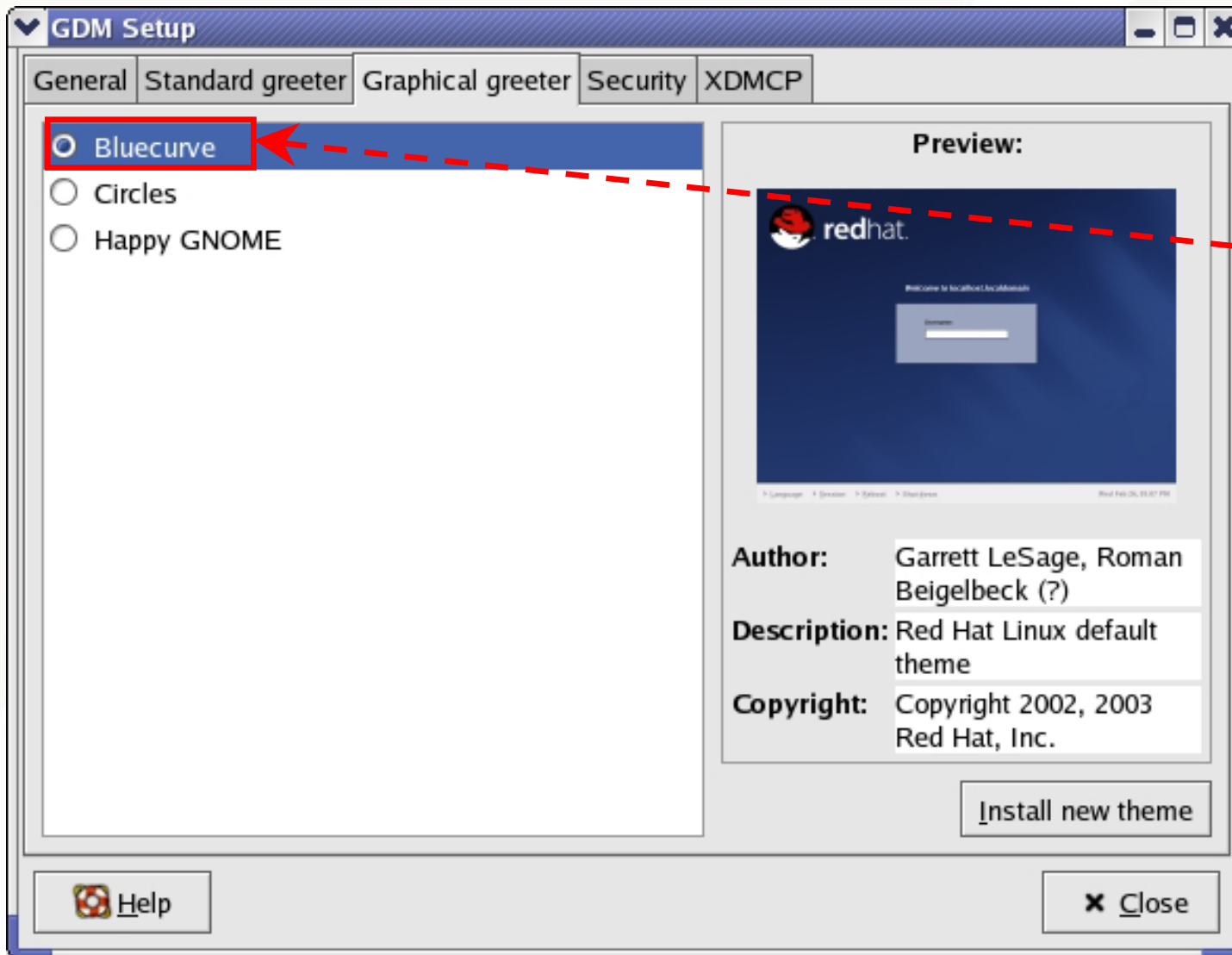
The *gdmsetup* Tool



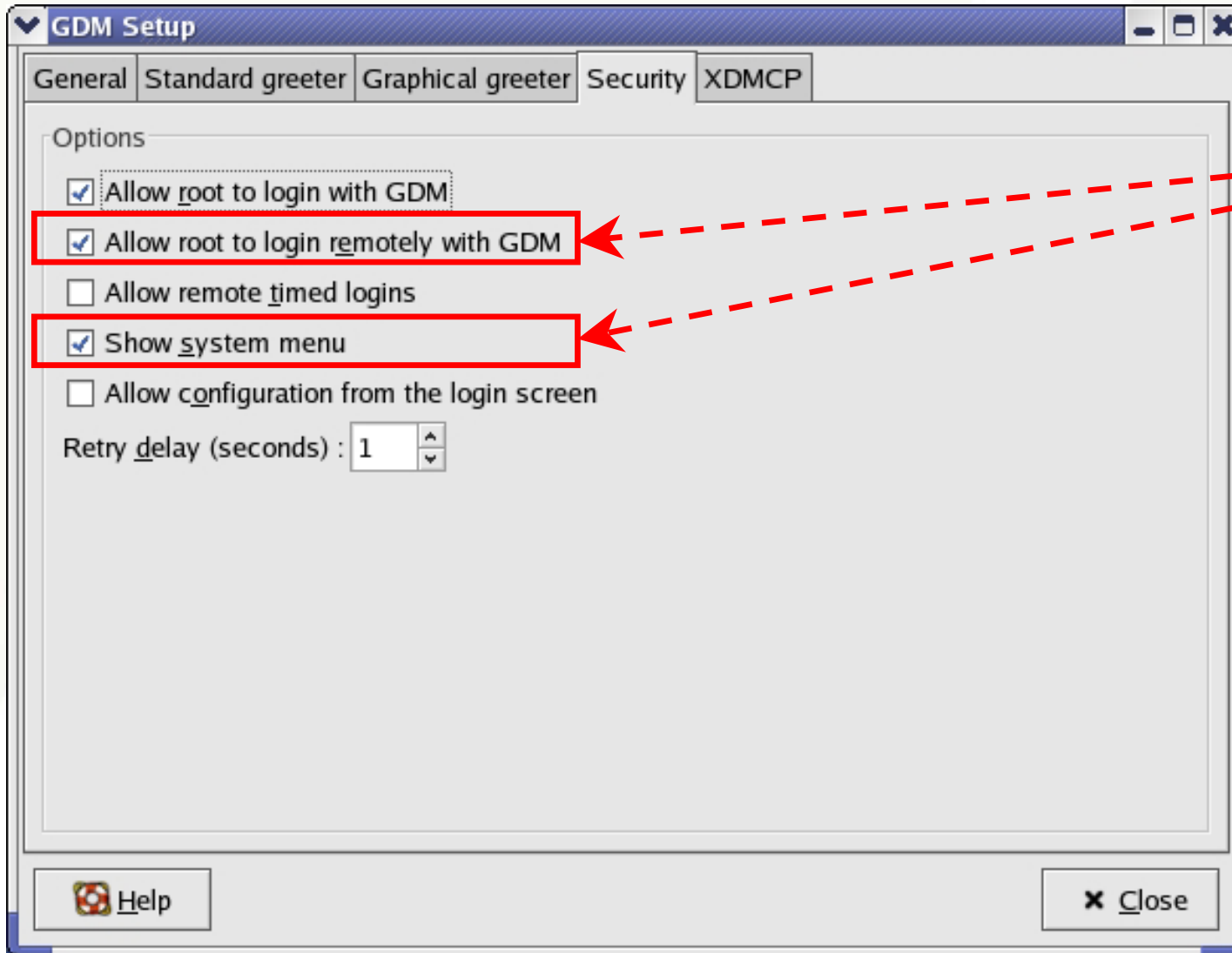
Two main ways to login: Local and Remote. These map to “on a locally attached display” or “on an XDMCP managed display (x-terminal)”



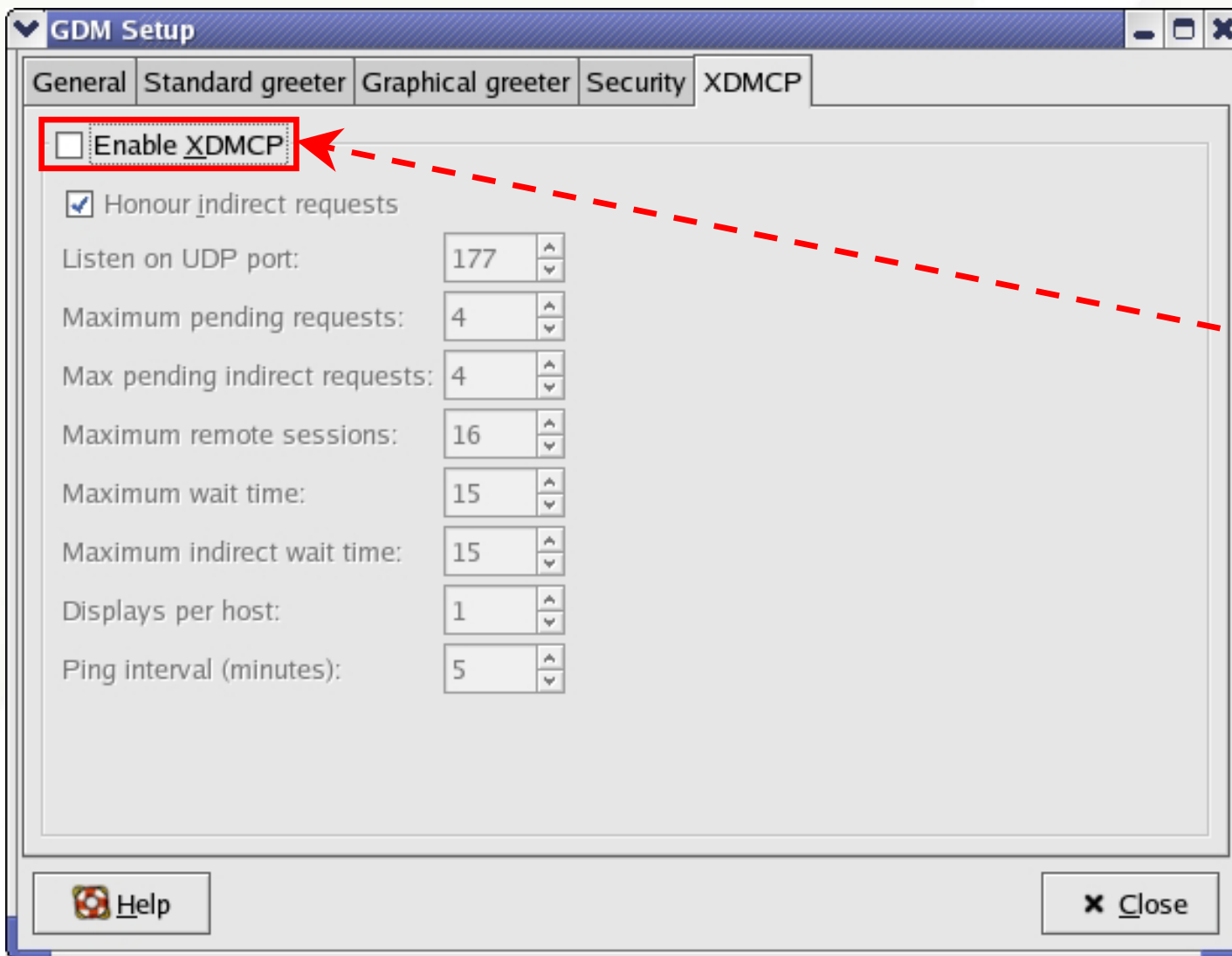
Remote login is not configured by default to use any graphical information.



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.



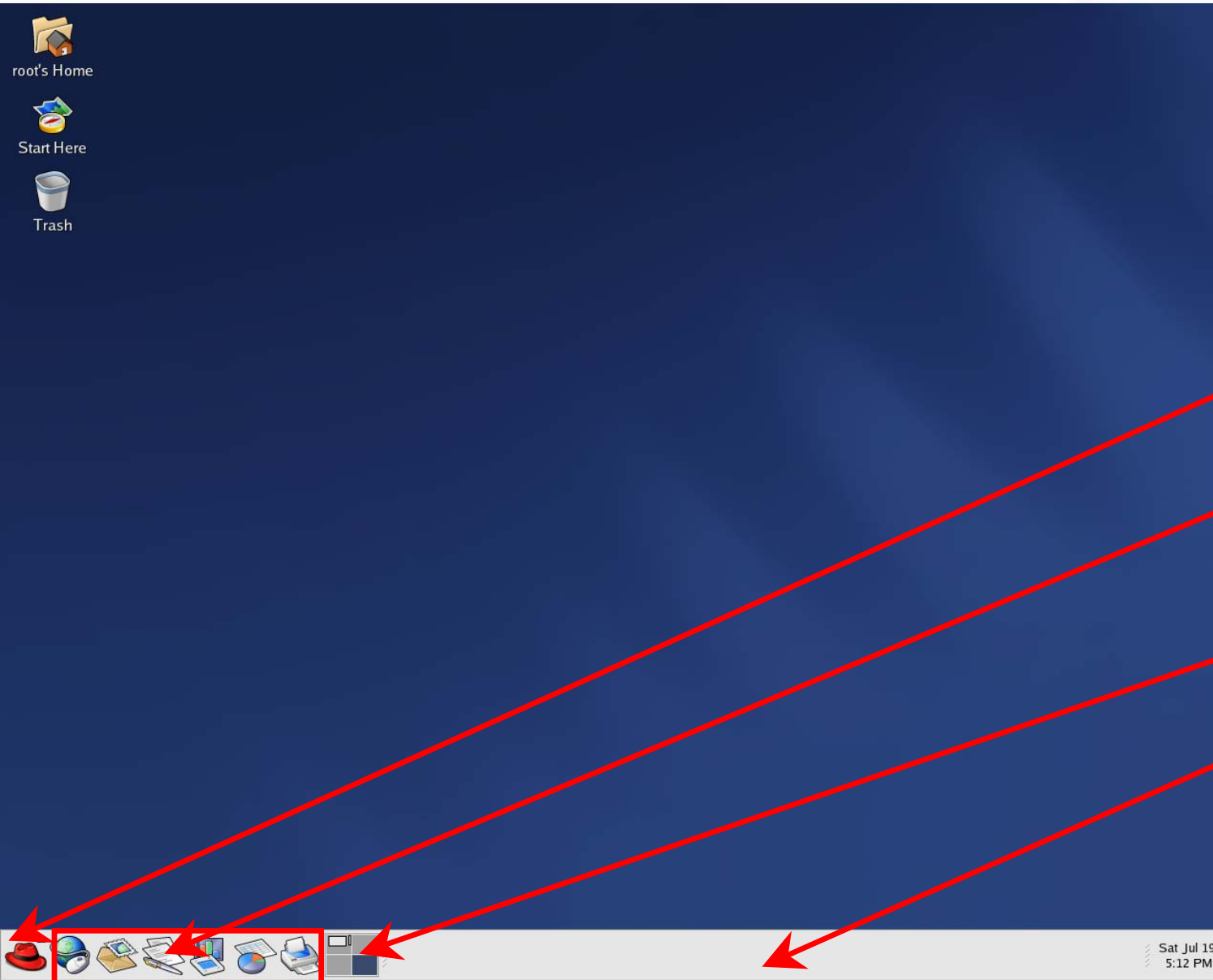
Security for graphical login may be (partially) controlled here



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.

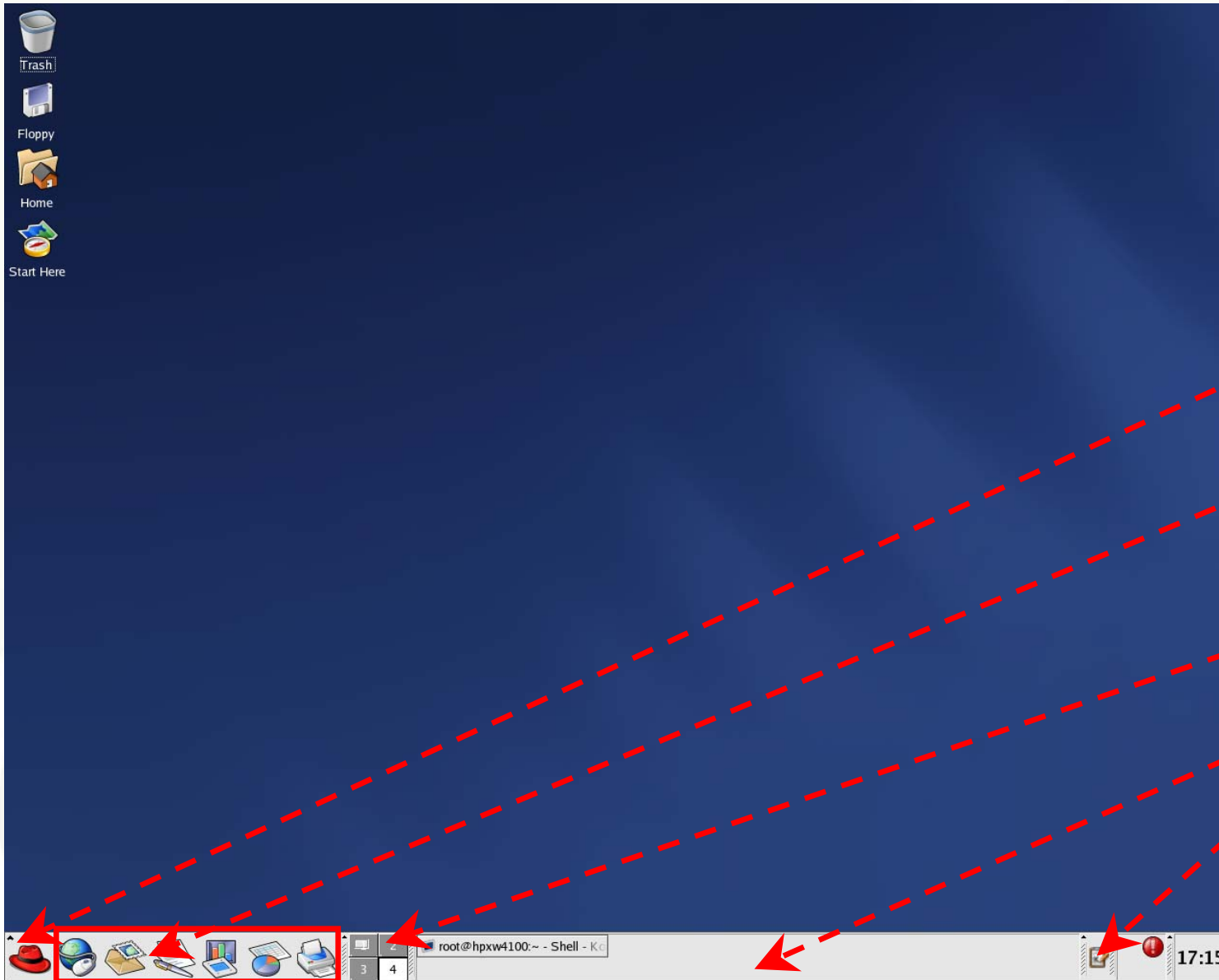
Application Menu

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



- **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

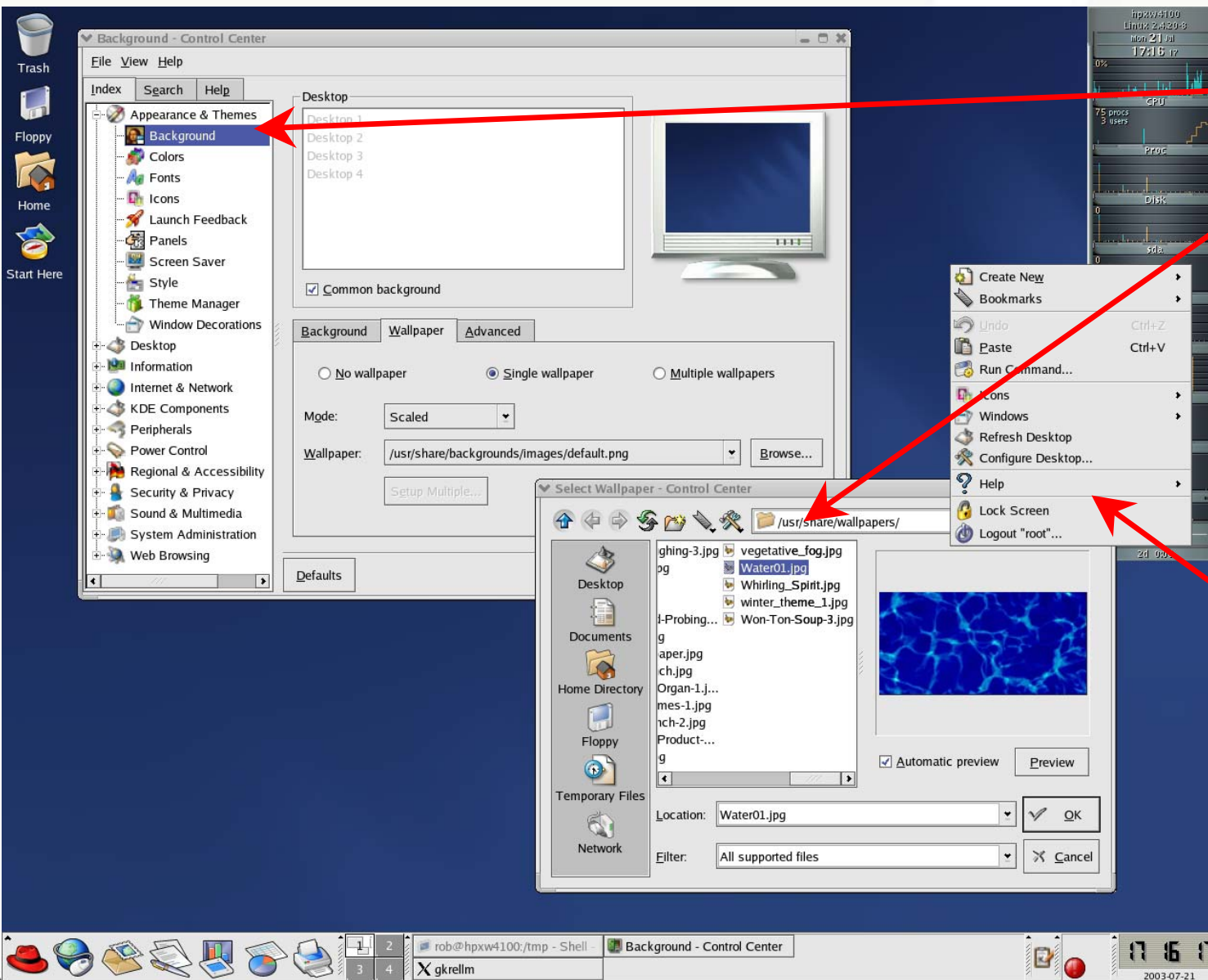


“gkrellm” is a very useful system monitoring tool

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

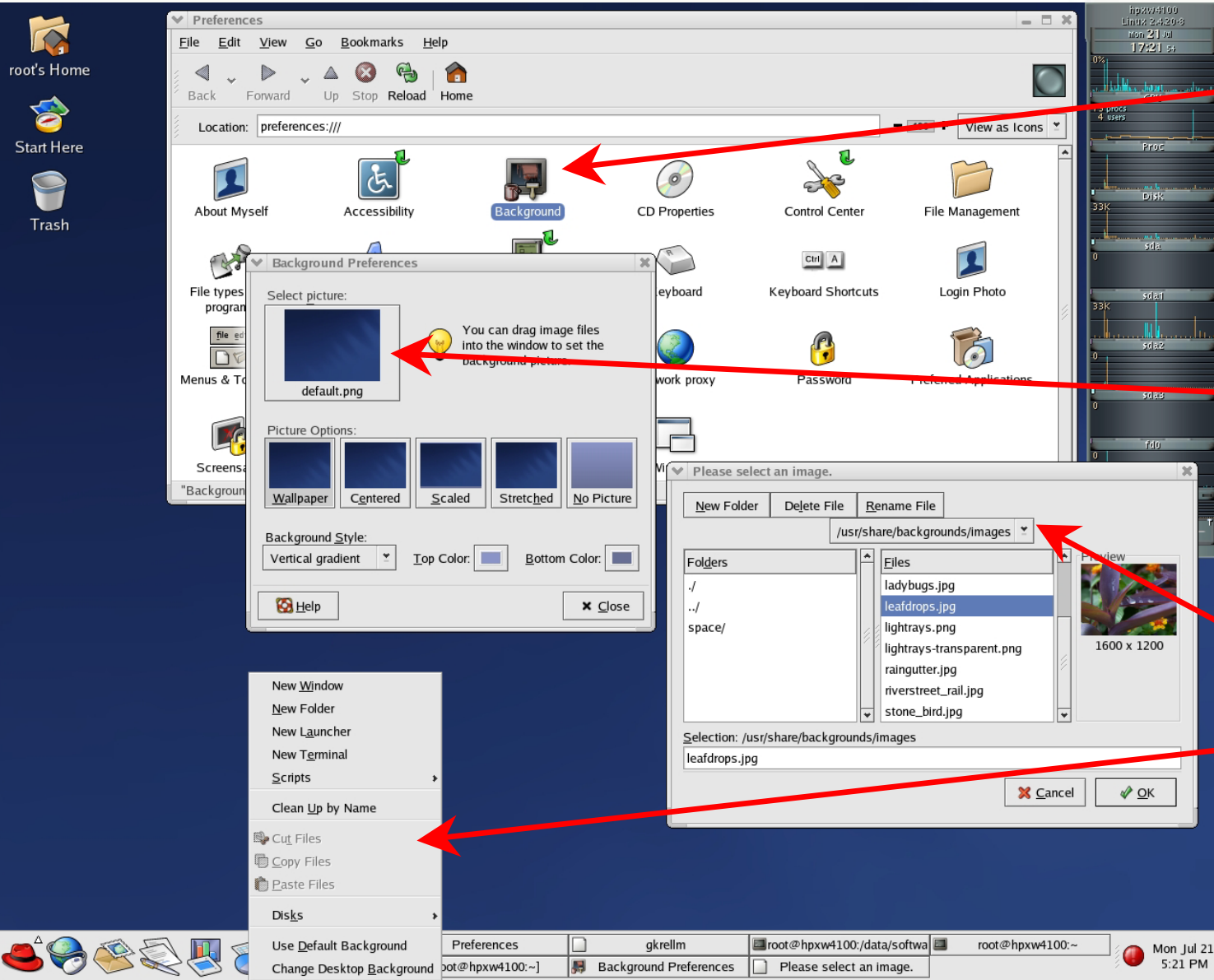


Changing the KDE desktop background

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**



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”

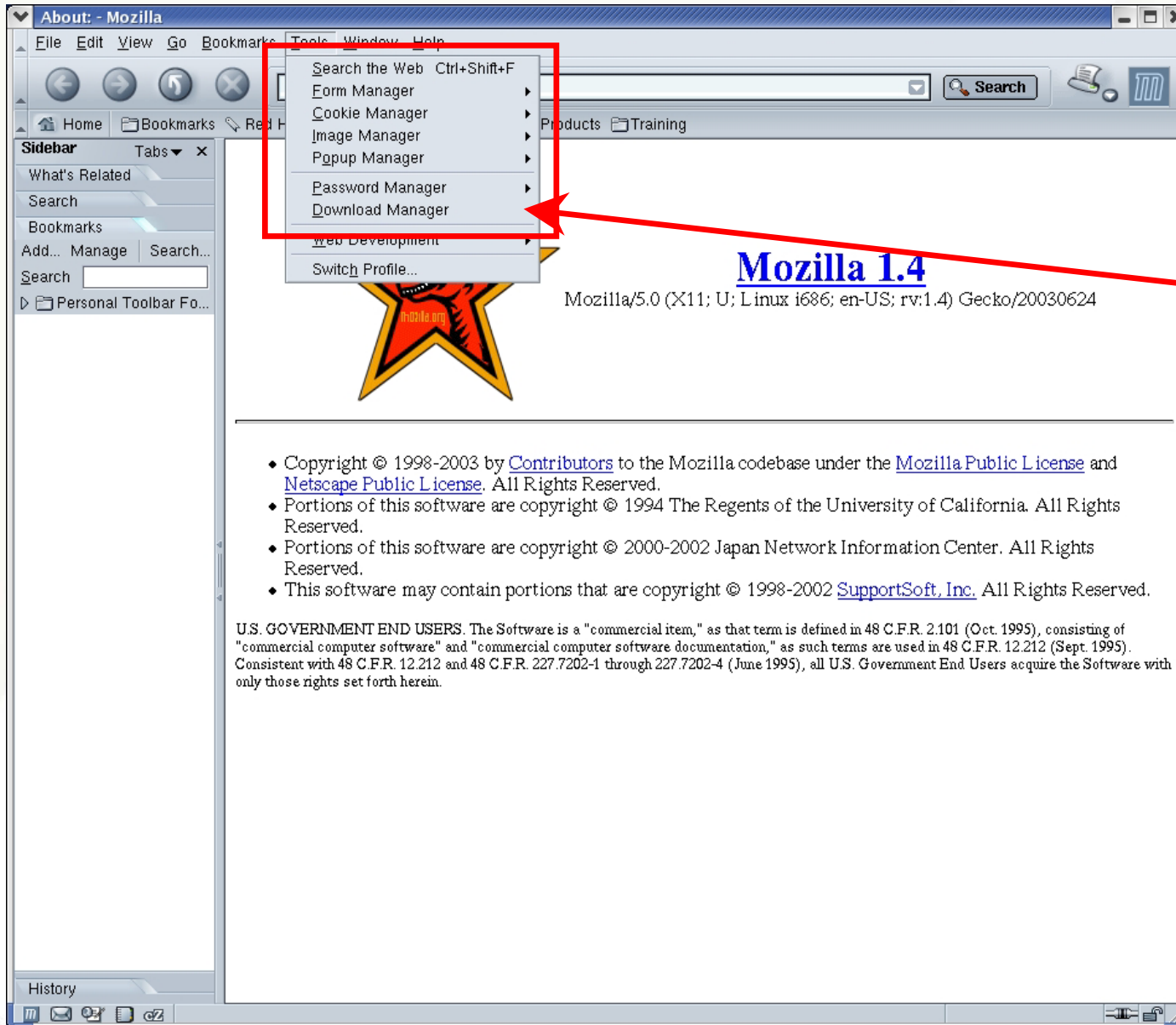
<http://www.muhri.net>

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





- **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 can manage:

passwords
form data
popups
cookies
images



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.



The screenshot shows the KDE Konqueror browser window. The title bar reads "KDE Homepage - Conquer your Desktop! - Konqueror". The address bar shows "http://www.kde.org/". The main content area features a large heading "Conquer your Desktop!" and a paragraph describing KDE as a powerful Open Source graphical desktop environment. Below this, there are sections for "Latest Announcements" and "Latest News". The left sidebar contains navigation links such as "Home", "What is KDE?", "Screenshots", "Announcements", "General Information", "Documentation", "Supporting KDE", "People", "Awards", "KDE Stuff", and "History". The right sidebar includes a search box, a "Hotspot" section with a link to "DE-Forum.org", and a "KDE Family" section with links to "News & Information" and "Applications".

KDE Homepage - Conquer your Desktop! - Konqueror

Location: <http://www.kde.org/>

the **K** Desktop Environment

Settings | Sitemap | Help | Contact Us

Choose your location Go

Inform

- Home
- What is KDE?
- Screenshots
- Announcements
- General Information
- Documentation
- Supporting KDE
- People
- Awards
- KDE Stuff
- History

Download

- Stable Version
- Source Code
- Applications (external)

Communicate

- Contact Us
- Mailing Lists
- Helping Out

Develop

- Getting Involved
- Developer Information
- Bug Database
- Translation, Documentation
- Source Reference
- WebCVS

Conquer your Desktop!

KDE is a powerful Open Source graphical desktop environment for Unix workstations. It combines ease of use, contemporary functionality, and outstanding graphical design with the technological superiority of the Unix operating system. [More...](#)

[[Announcements](#) | [News](#) | [Applications](#)]

Latest Announcements

KOffice 1.3 Beta 2 Released

On June 18th 2003, the KDE Project released the second beta version of KOffice 1.3. It comes with a lot of bugfixes and a couple of new features compared to KOffice 1.3 Beta 1. Read more in the [KOffice 1.3 Beta 2 release notes](#) and in the [KOffice 1.3 Beta 2 changelog](#).

KDE 3.1.2 Released

On May 19th 2003, the KDE Project released KDE 3.1.2. Read the [KDE 3.1 New Feature Guide](#) or the detailed [KDE 3.1.2 change log](#). For packages, please visit the [KDE 3.1.2 info page](#) and browse the [KDE 3.1 Requirements list](#). Read more in the [KDE 3.1.2 announcement](#).

KDevelop 3.0 Alpha 4 Released

On April 18th 2003, the KDevelop Project released the fourth Alpha Release of the Gideon development branch. Read more at www.kdevelop.org and in the [changelog](#).

[More announcements...](#)

Latest News

Date	Headline
------	----------

<http://www.kde.org/announcements/announce-3.1.2.php>

Search

KDE.org Search

Hotspot

[DE-Forum.org](#)
communicate

KDE Family

» News & Information

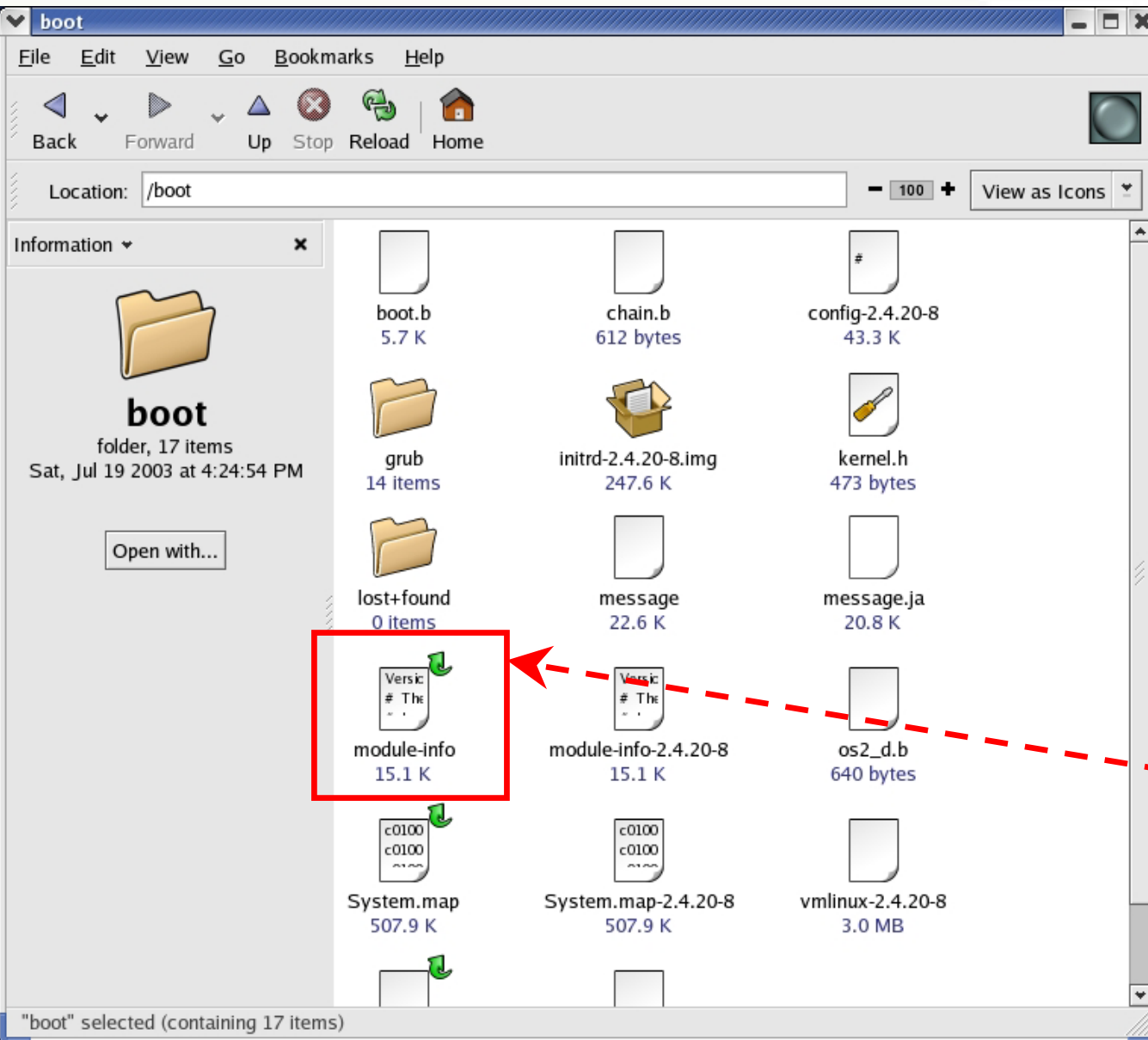
- KDE News
- Documentation
- KDE Events
- KDE Myths

» Applications

- Konqueror
- KOffice
- KDevelop
- PIM
- Printing
- Games
- Edutainment
- Multimedia

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



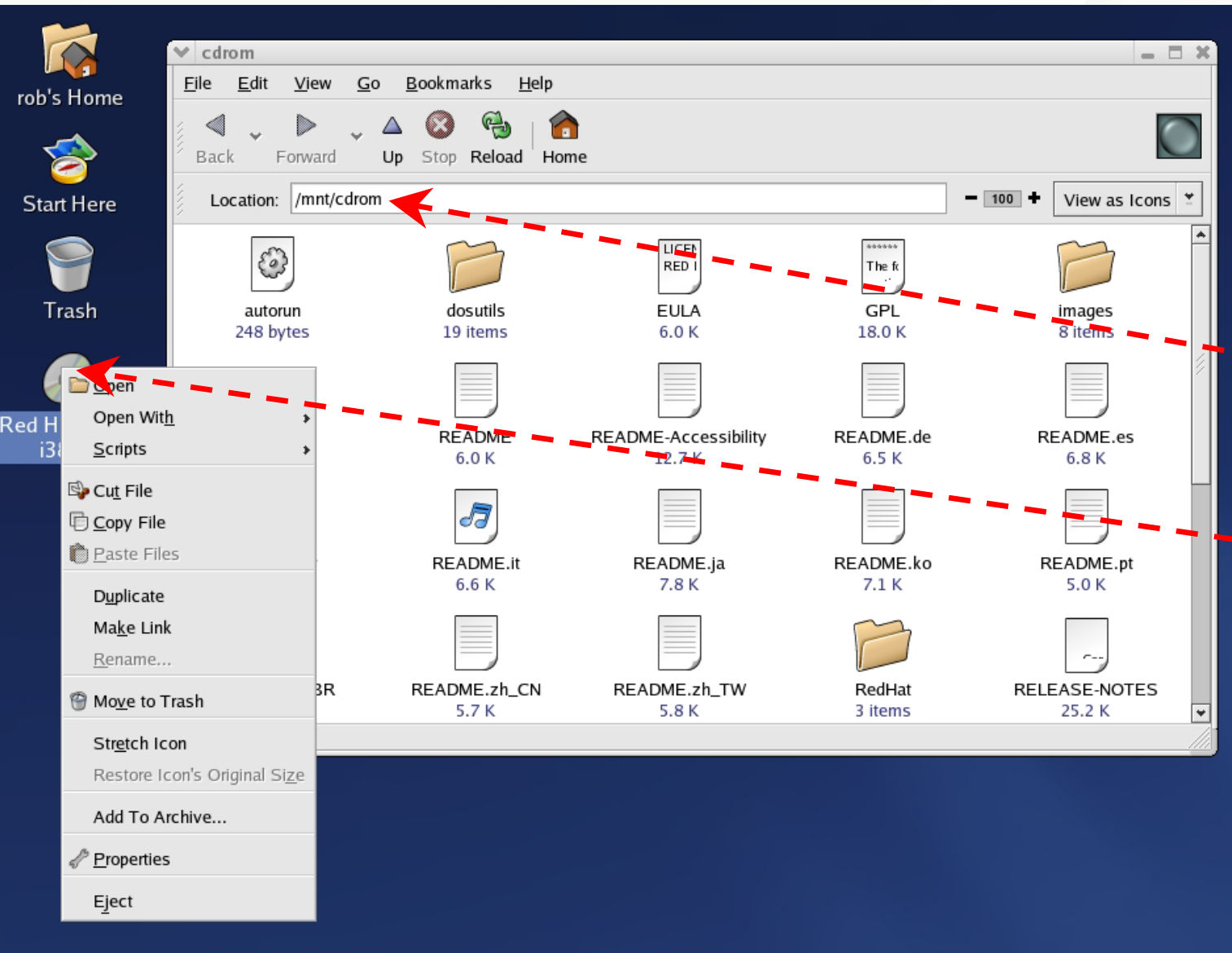
The nautilus file browser is used to show your home directory, the “Start Here” information, and other information like preferences. This is a lot like the Windows ® Explorer behavior.

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



Summary - Ximian Evolution 1.2.2 [(1.2.2-4)]

File View Actions Tools Help

New Send / Receive Print Reload

Shortcuts

- Summary
- Inbox
- Calendar
- Tasks
- Contacts

Summary

Monday, July 21 2003

My Weather

Boston:
Few clouds 23.0 C

Red Hat Errata

- [RHSA-2003:162-15: Updated Mozilla packages fix security vulnerability.](#)
- [RHSA-2003:238-14: Updated 2.4 kernel fixes vulnerabilities](#)
- [RHSA-2003:196-13: Updated Xpdf packages fix security vulnerability.](#)
- [RHSA-2003:226-04: Updated samba packages fix security vulnerabilities](#)
- [RHSA-2002:097-12: Updated xchat packages fix "dns" vulnerability](#)
- [RHSA-2002:229-13: Updated wget packages fix directory traversal bug](#)
- [RHSA-2003:206-05: Updated nfs-utils packages fix denial of service vulnerability](#)
- [RHSA-2003:225-05: Updated LPRng packages fix psbanner vulnerability](#)
- [RHSA-2003:228-04: Updated xinetd packages fix denial-of-service attacks and other bugs](#)

Mail summary

Outbox	0/0
Inbox	0/0

Appointments

No appointments

Tasks

No tasks

The Ximian Evolution Calendar



Calendar - Ximian Evolution 1.2.2 [(1.2.2-4)]

File Edit View Actions Tools Search Help

New Send / Receive Go To Day Work Week Week Month

Shortcuts

Calendar 30 June - 03 August 2003

Category is Any Category Find Now Clear

Monday	Tuesday	Wednesday	Thursday	Friday	Sat/Sun
30 June	01 July	02	03	04	05
					06
07	08	09	10	11	12
					13
14	15	16	17	18	19
					20
21	22	23	24	25	26
					27
28	29	30	31	01 August	02
					03

Ximian Evolution Settings



Contacts - Ximian Evolution 1.2.2 [(1.2.2-4)]

File Edit View Actions Tools Search Help

New Send / Receive

Shortcuts: Summary, Inbox, Calendar, Tasks, Contacts

Contacts: 1 card

Name begins with: Find Now Clear

Summary: Red Hat, Inc. Organizational Unit: Red Hat, Inc. Web Site: www.redhat.com

Evolution Settings

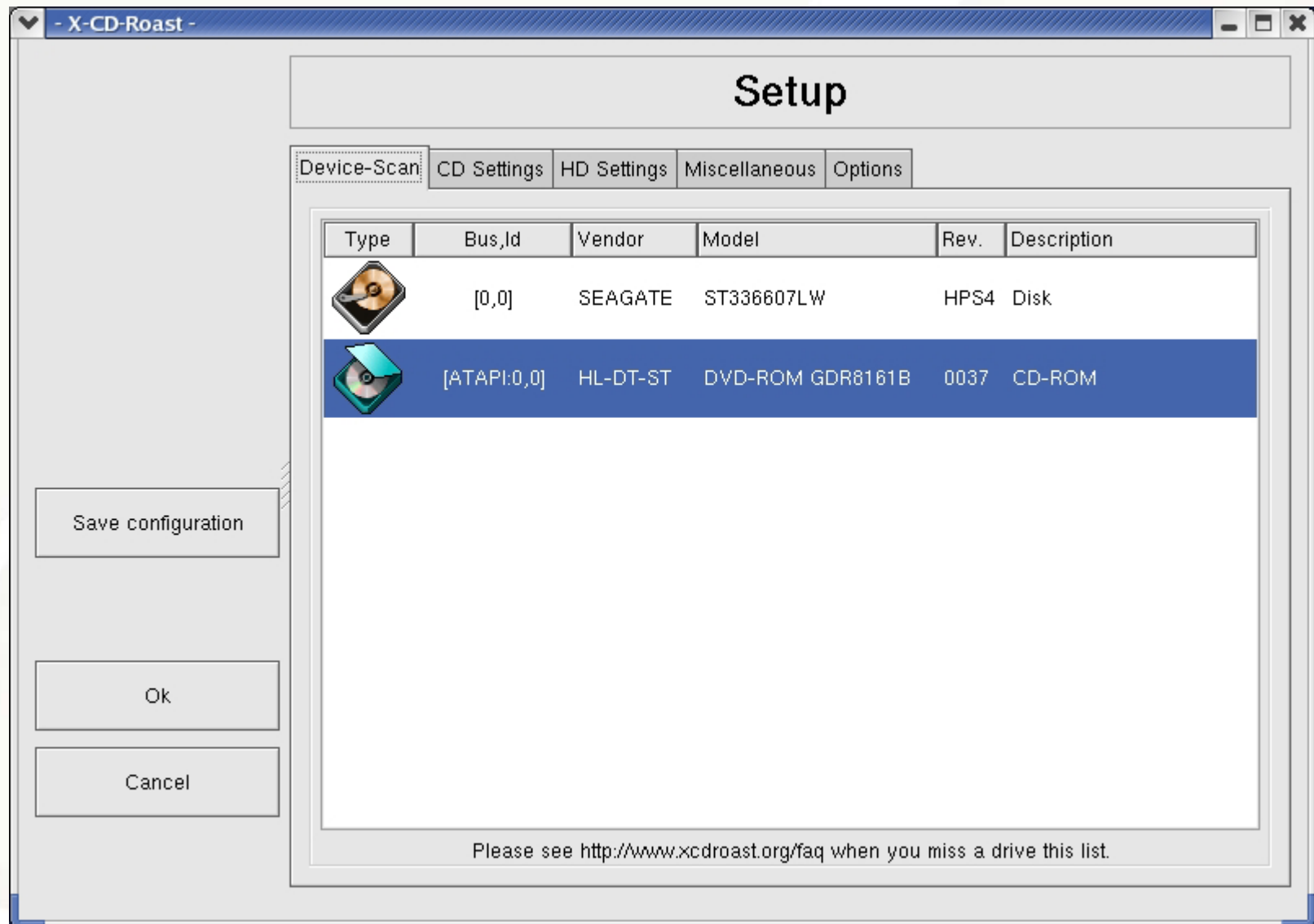
Enabled	Account name	Protocol
<input checked="" type="checkbox"/>	root@localhost [Default]	None

Buttons: Add, Edit, Delete, Default, Enable



Bottom Buttons: OK, Apply, Close



Configuring Xcdroast CD-RW Drives



Device-Scan | CD Settings | HD Settings | Miscellaneous | Options

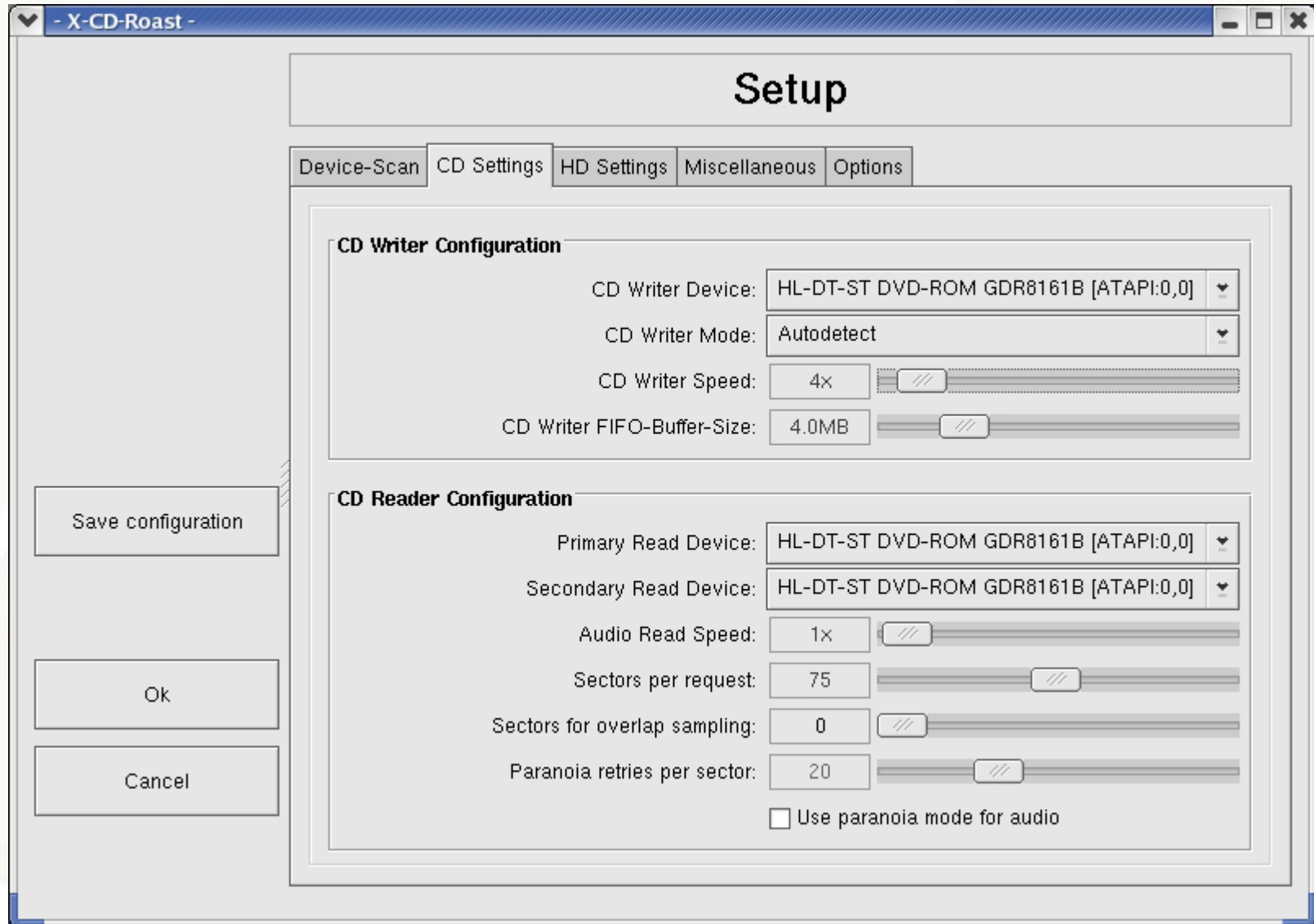
Type	Bus,Id	Vendor	Model	Rev.	Description
	[0,0]	SEAGATE	ST336607LW	HPS4	Disk
	[ATAPI:0,0]	HL-DT-ST	DVD-ROM GDR8161B	0037	CD-ROM

Save configuration

Ok

Cancel

Please see <http://www.xcdroast.org/faq> when you miss a drive this list.



Traceroute



My traceroute [v0.52]

Hostname: mail.verizon.net 1.00 Pause Restart Quit

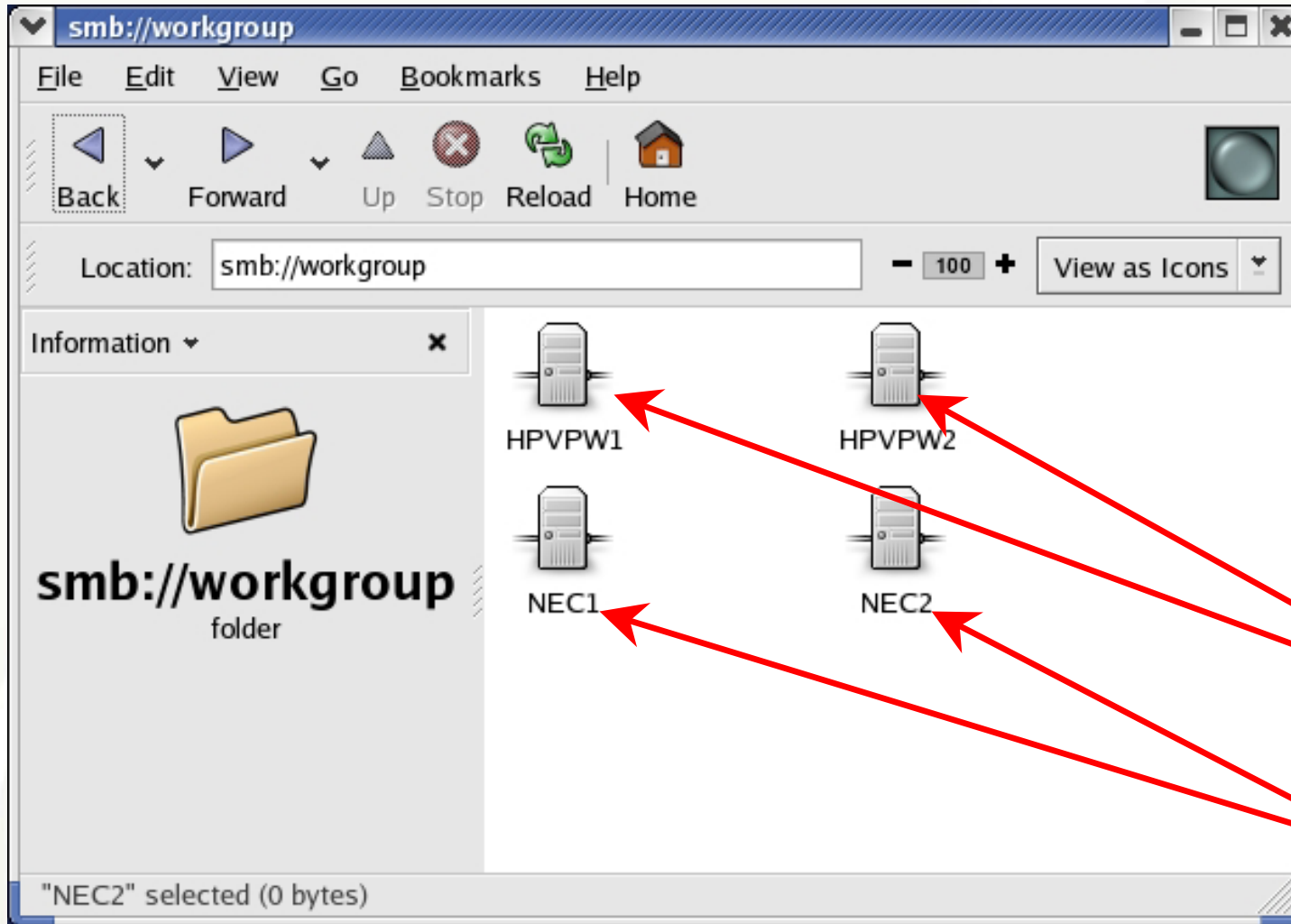
Hostname	Loss	Rcv	Snt	Last	Best	Avg	Worst
192.168.0.1	0%	25	25	0	0	0	0
wbar1.sea1-4-5-000-001.sea1.dsl-verizon.net	32%	17	25	25	25	26	26
4.9.0.162	38%	15	25	26	26	27	38
ge-4-0-1.mp2.Seattle1.level3.net	34%	16	24	26	26	26	27
so-0-1-0.bbr2.Dallas1.level3.net	34%	16	24	66	65	66	66
POS10-0-100.crtntx1-br2.bbnplanet.net	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**

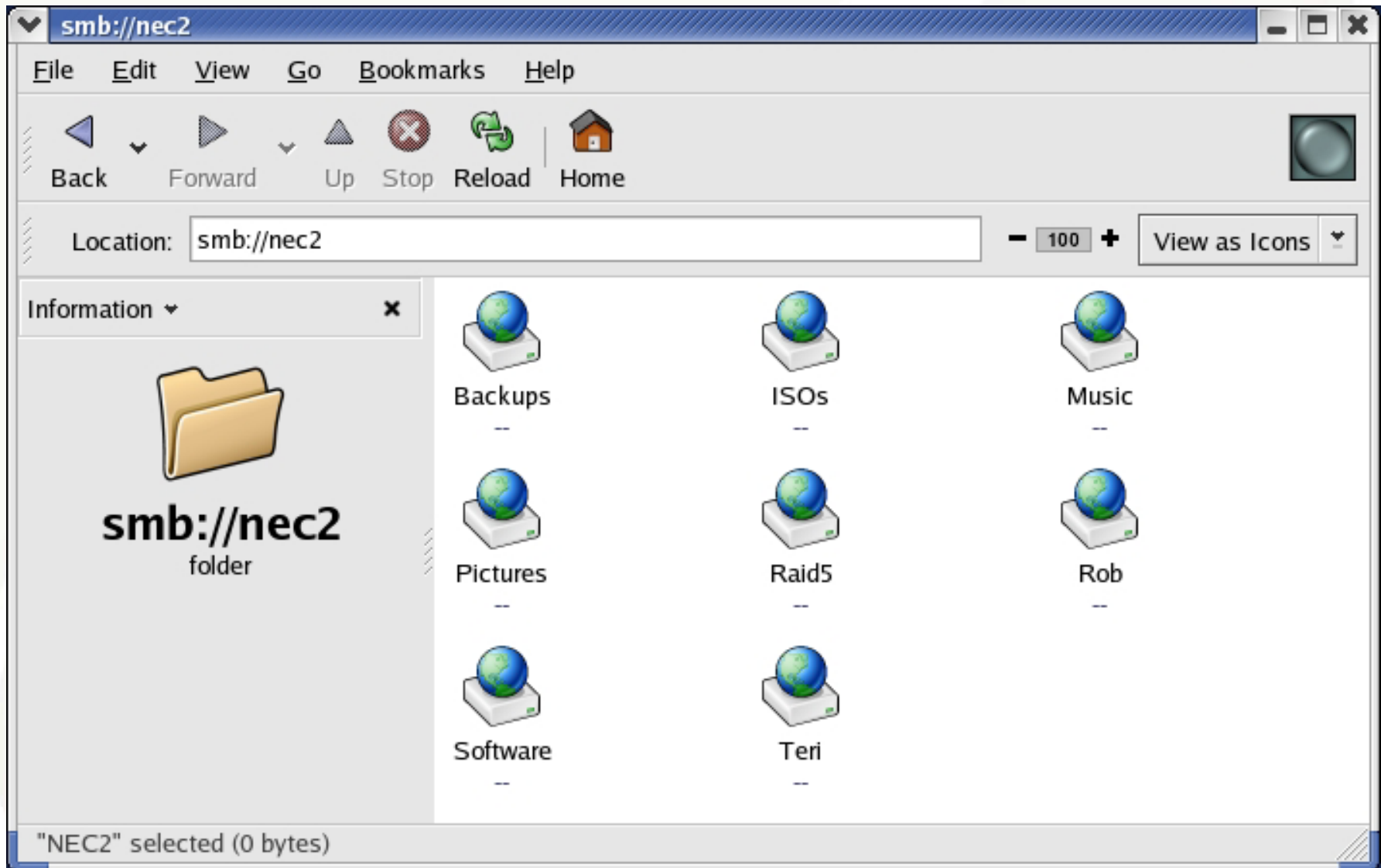
Mounting SMB Shares



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

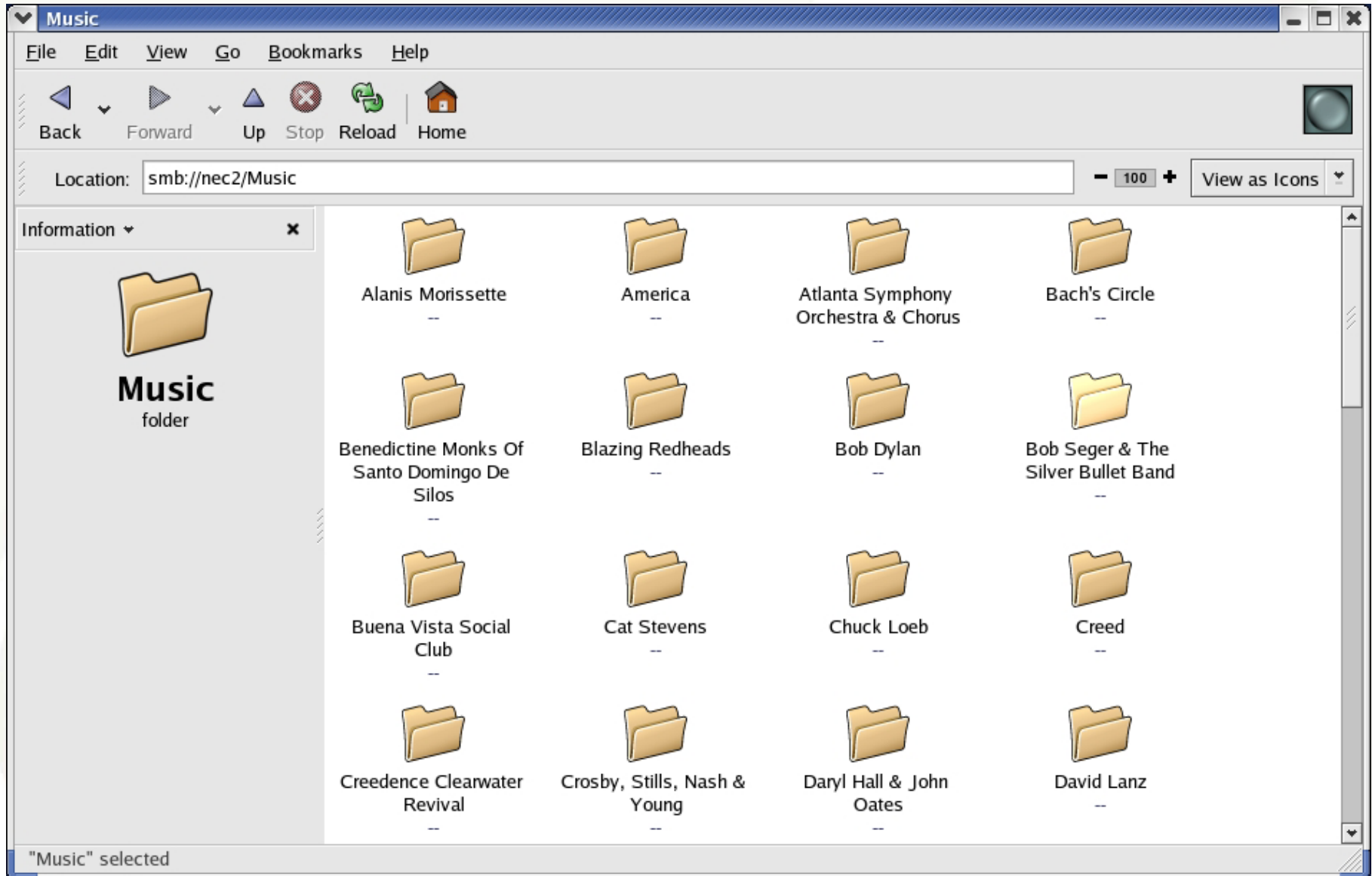
This is a map of the systems in my home network: two Windows systems and two Samba servers.

Viewing Individual Samba Shares



Music Share After Authentication

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





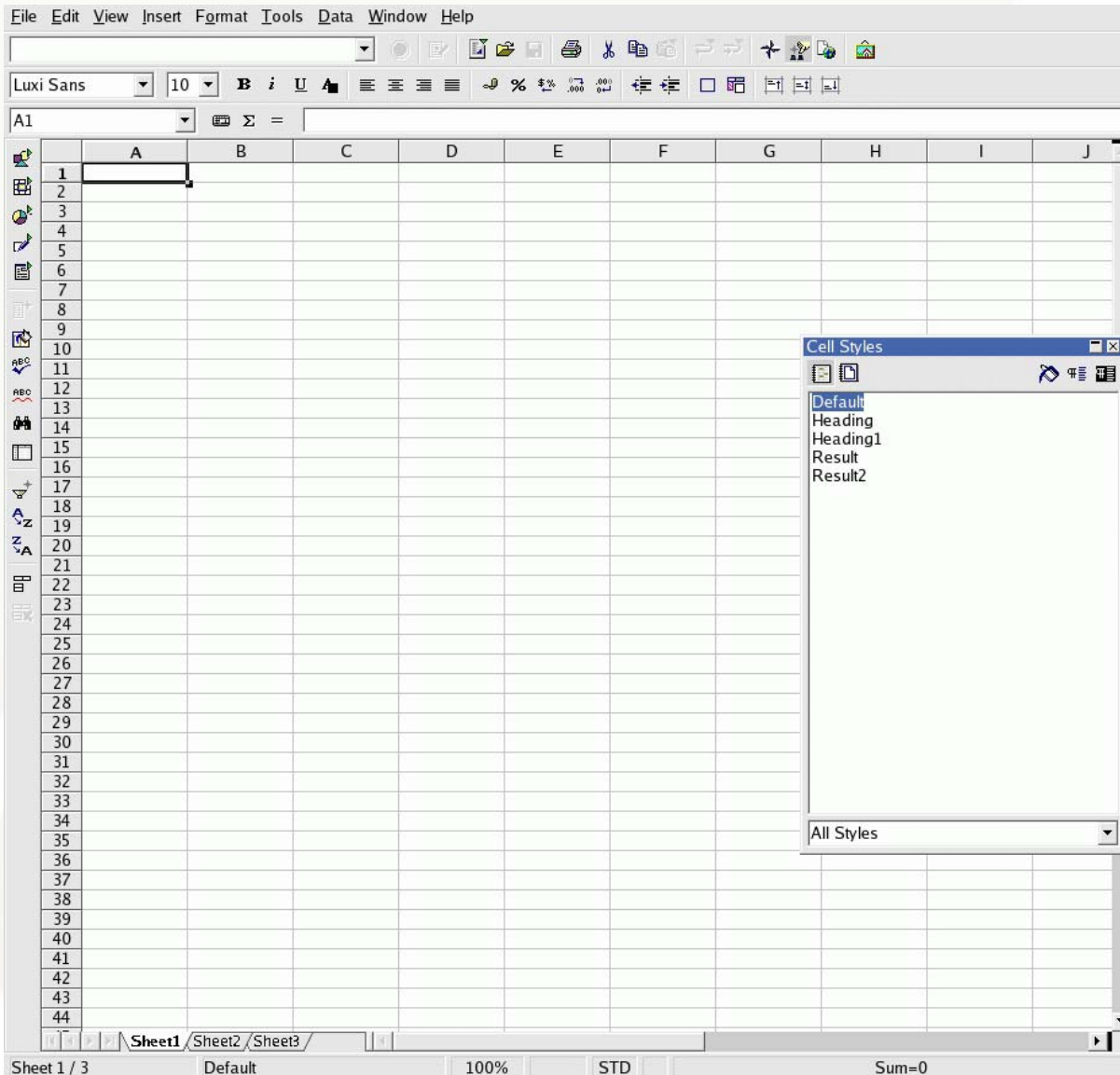
- **The OpenOffice tools are an open-source version of the Sun StarOffice Suite**
- **The StarOffice tools are available for \$\$ from Sun**
- **The OpenOffice tools are available from <http://OpenOffice.org>**

Announcement: OpenOffice.org 1.1 RC

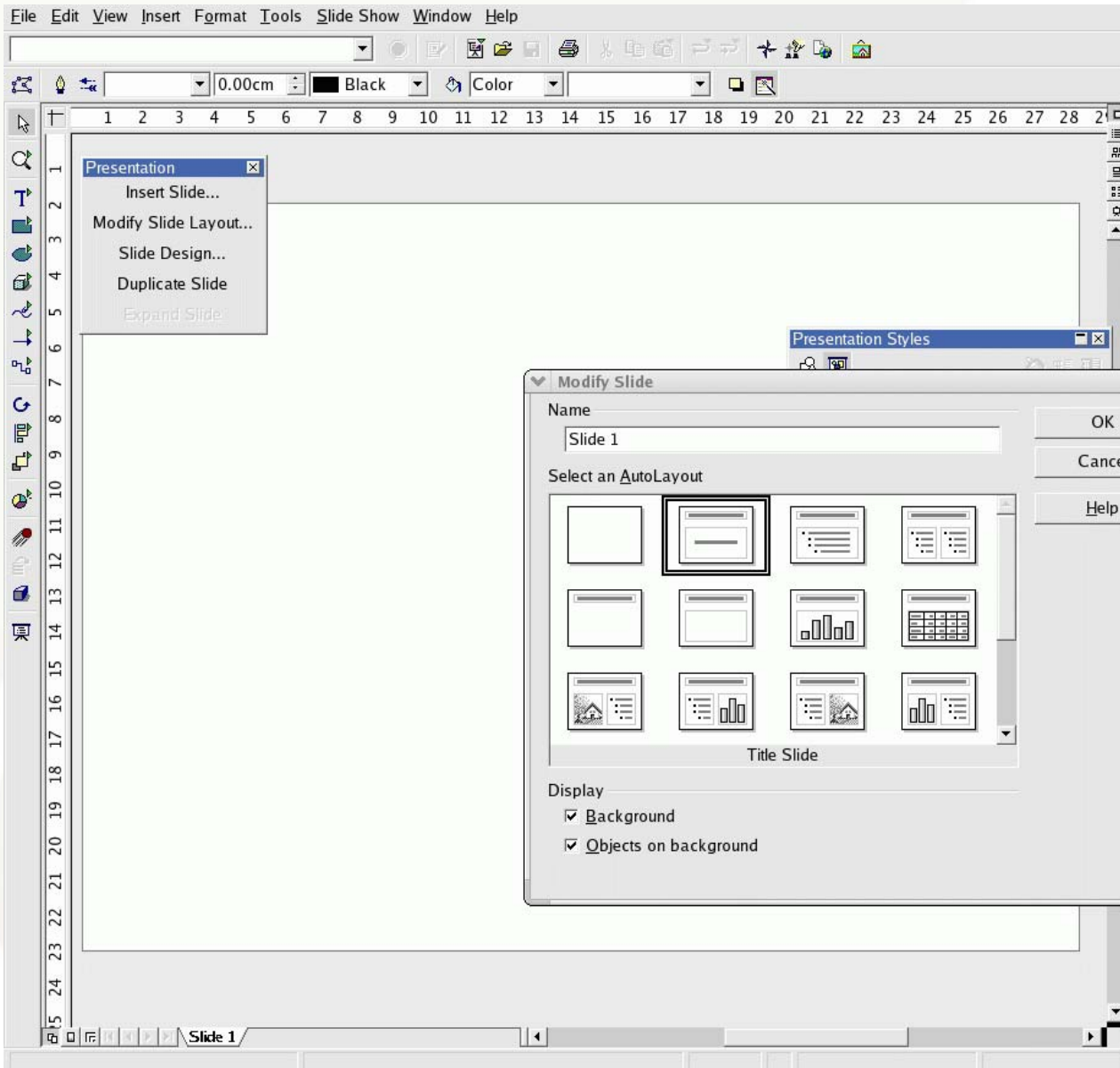
OpenOffice.org 1.1 RC is ready for general use. It replaces our legacy build, OpenOffice.org 1.0.3.1, which lacks the new features making OpenOffice.org 1.1 revolutionary. OpenOffice.org 1.1 RC not only includes features introduced in 1.1beta, such as export to PDF, SWF, DocBook, and improved on-line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

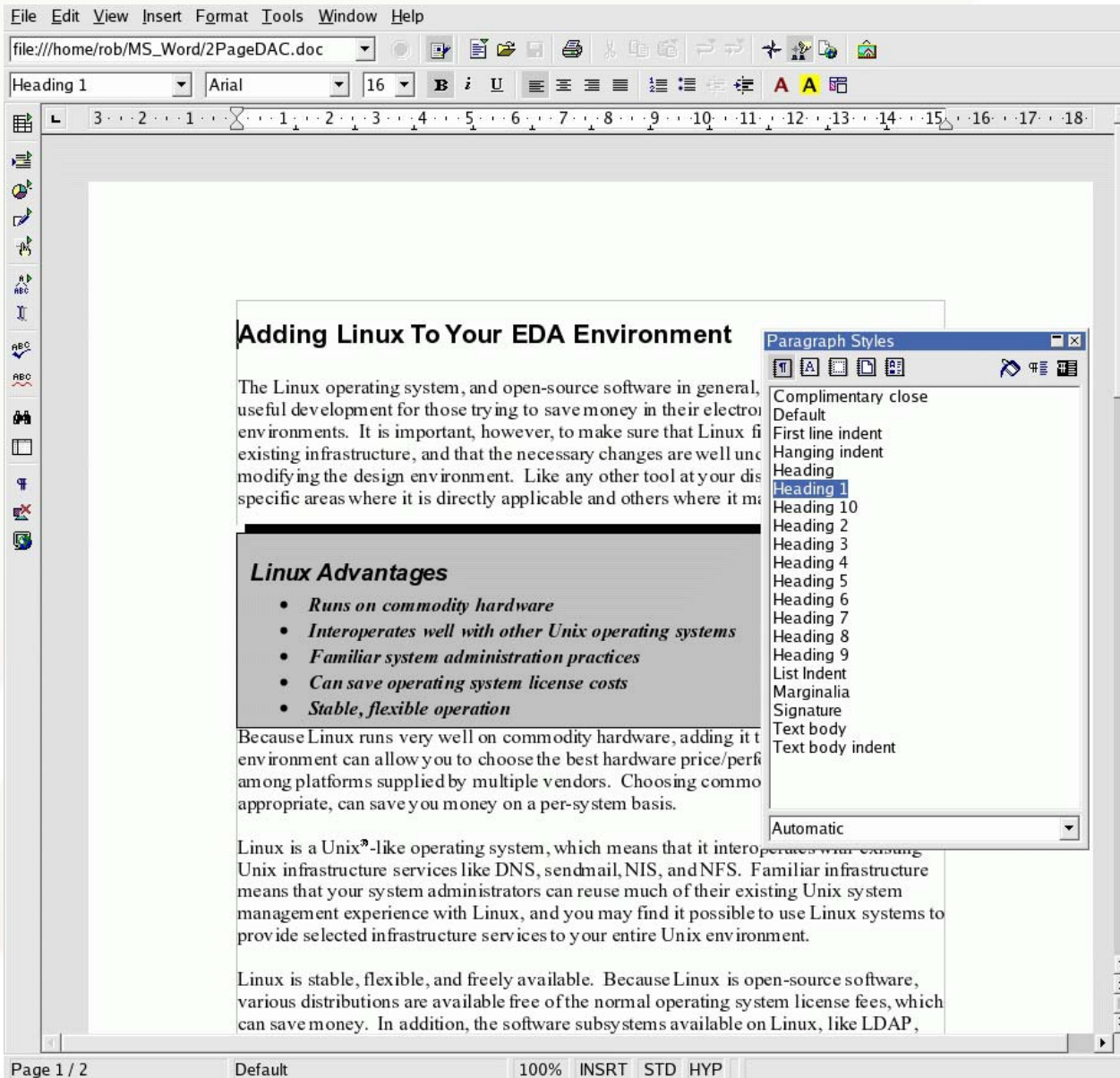
OpenOffice Calc Spreadsheet



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



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

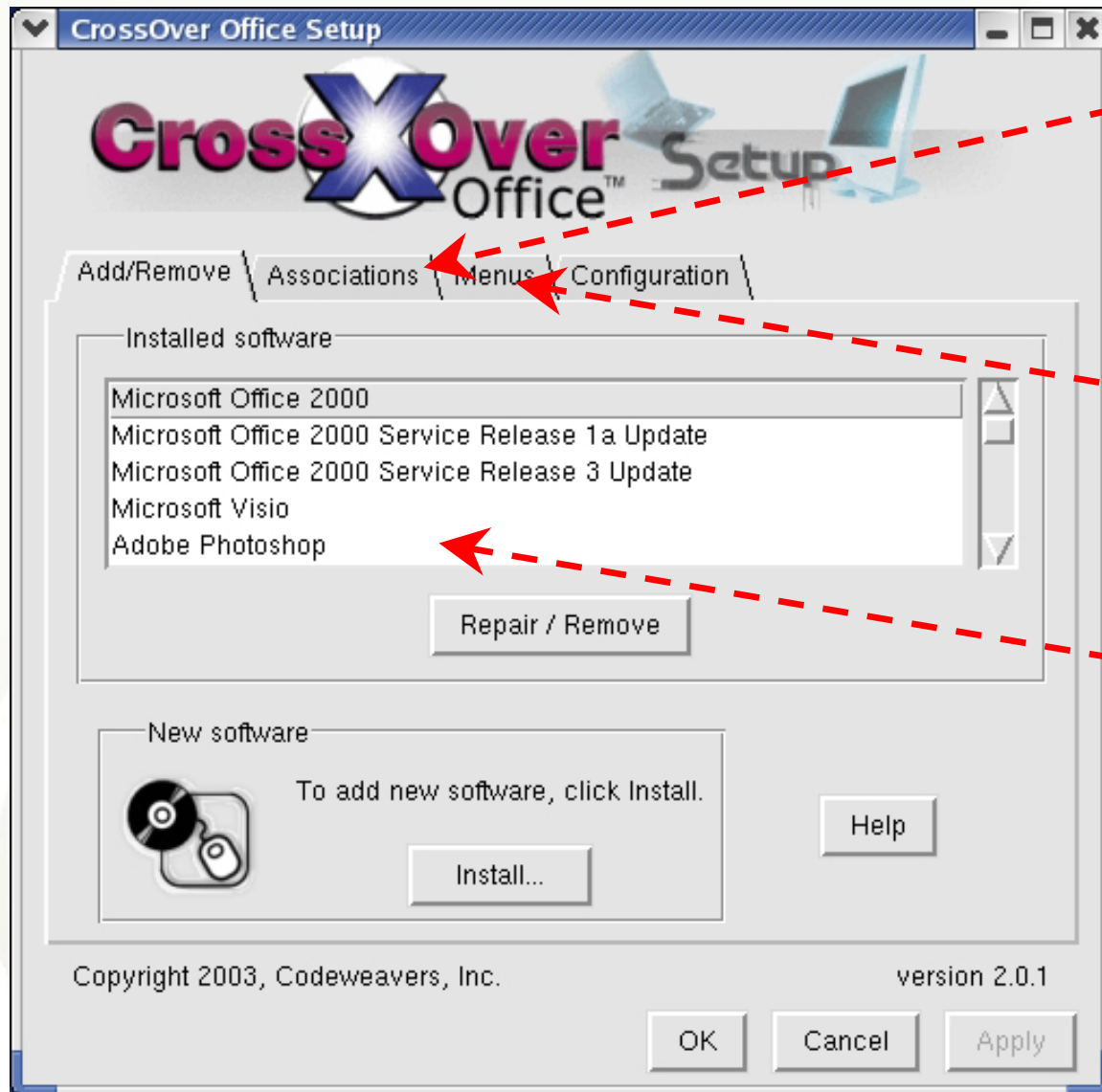


OpenOffice “*Writer*” is a word-processor that can import and write Microsoft® Word® documents.



- **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 Setup

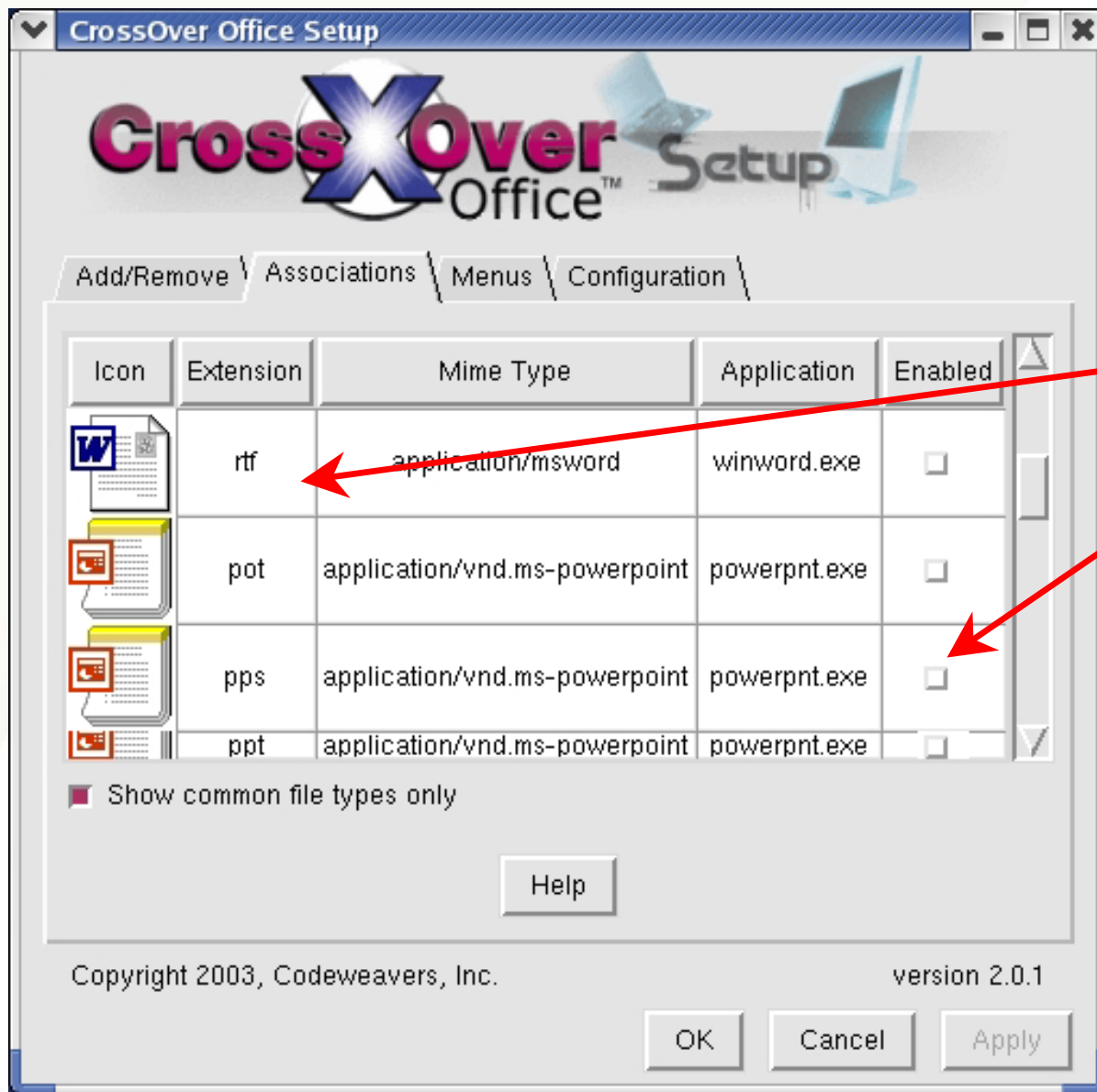


You can create file-type associations and MIME types that start the applications for e-mail attachments

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

Some of the supported tools are listed in the "Installed Software" window

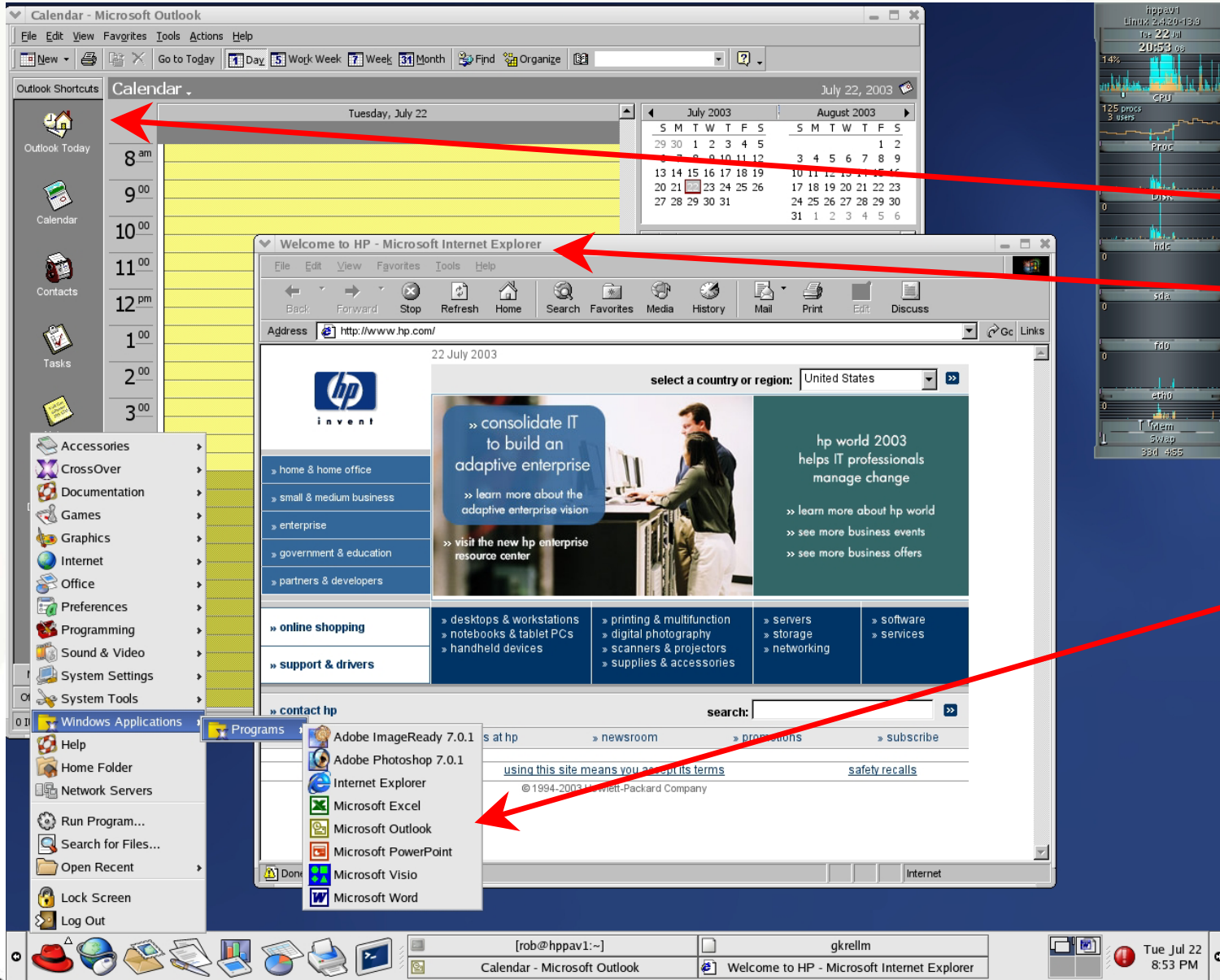
CrossOver Office File Associations



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

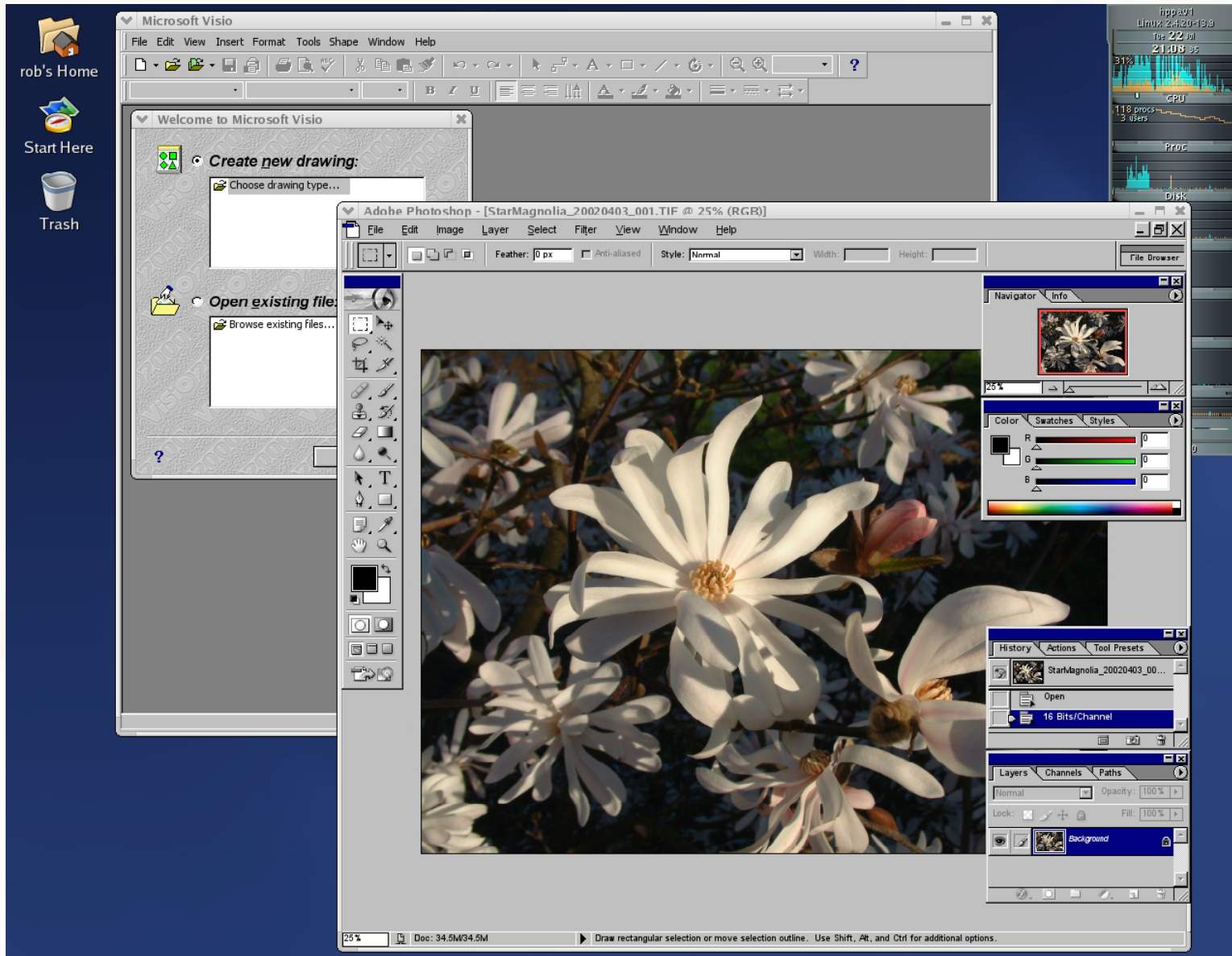
Example Desktop with Outlook and Internet Explorer 6



Linux desktop
running
Microsoft
Outlook[®]
and Internet
Explorer[®]

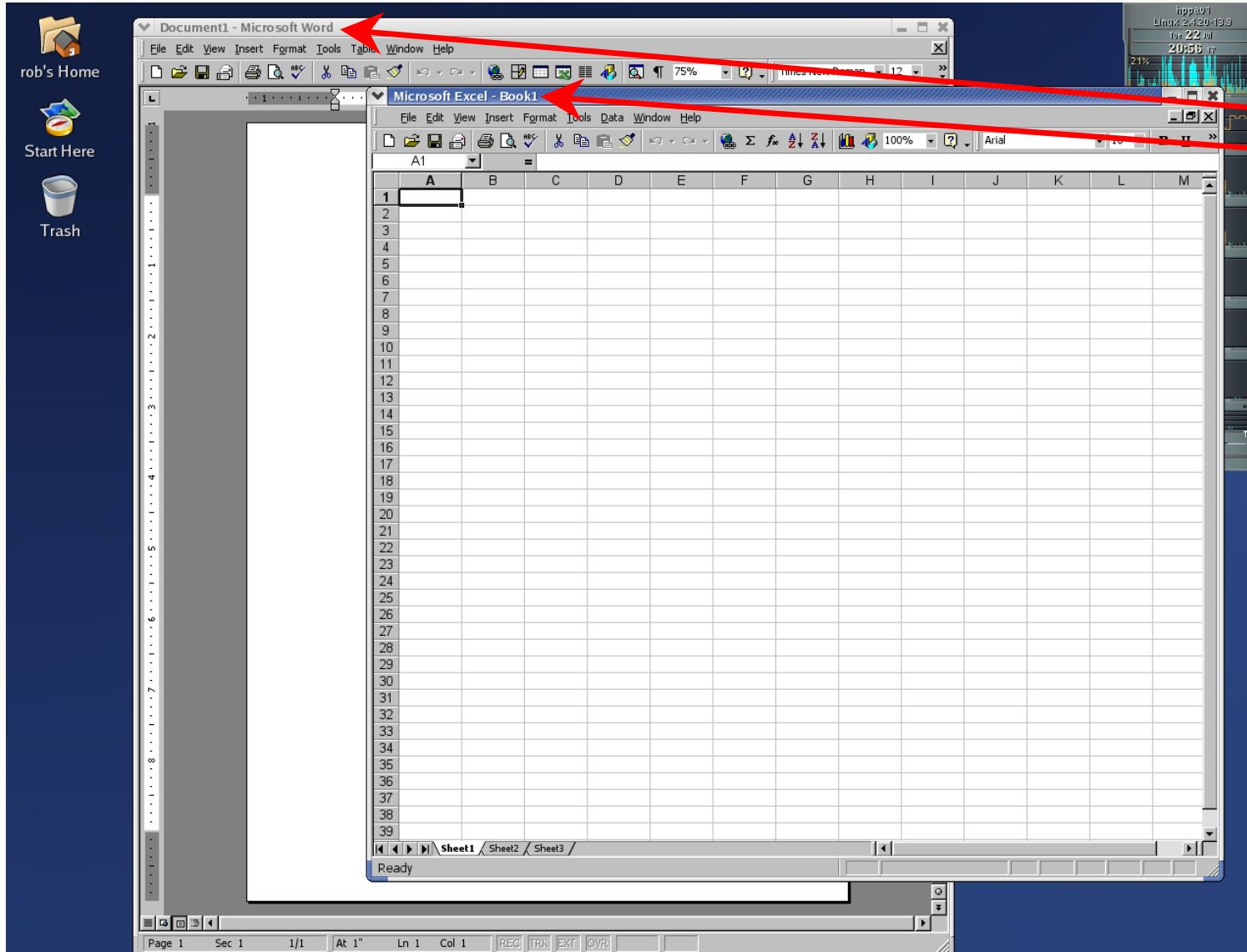
Microsoft
Office
applications
are integrated
into the KDE
or GNOME
application
menus

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

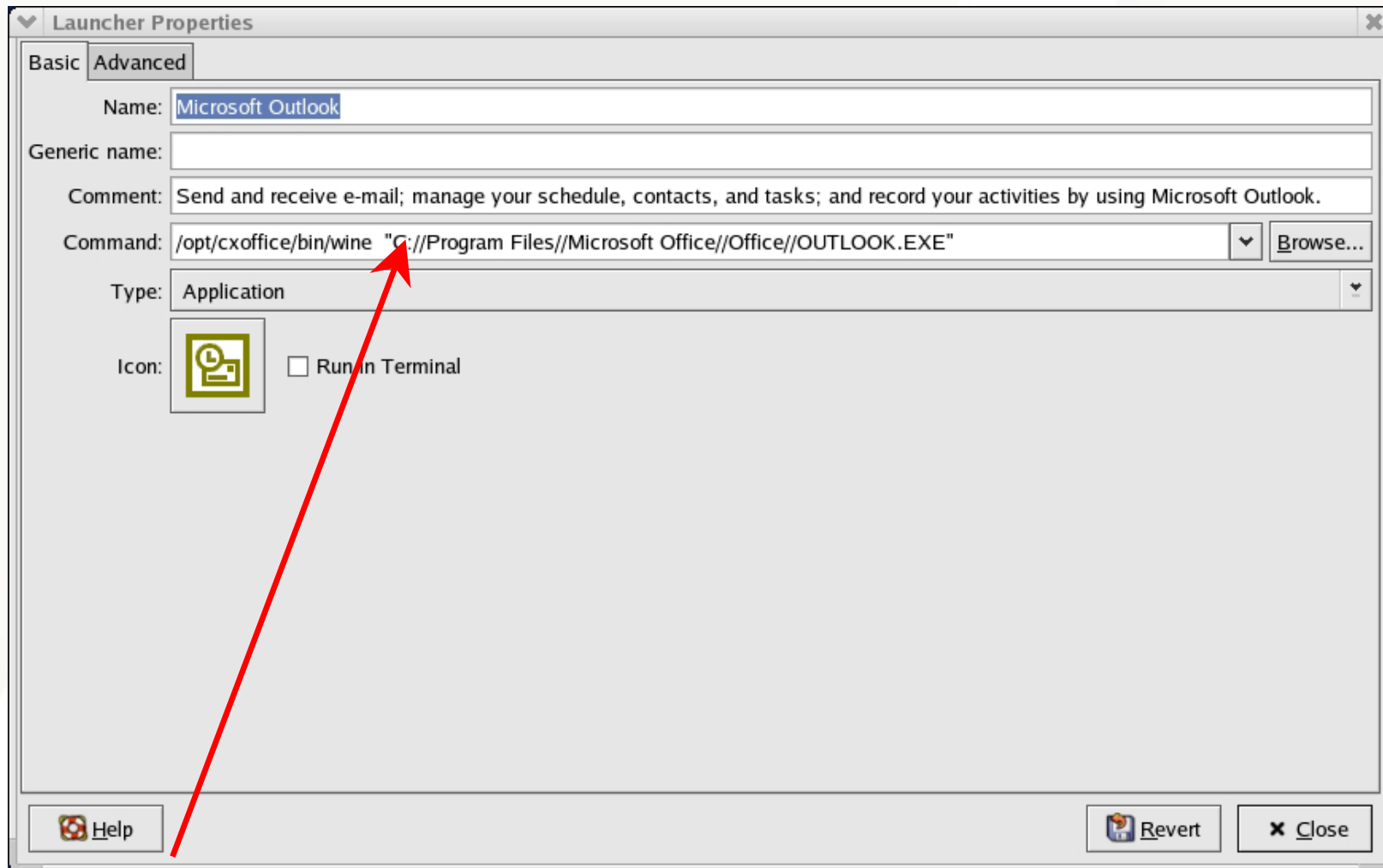


Microsoft Word and Excel are also supported tools

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

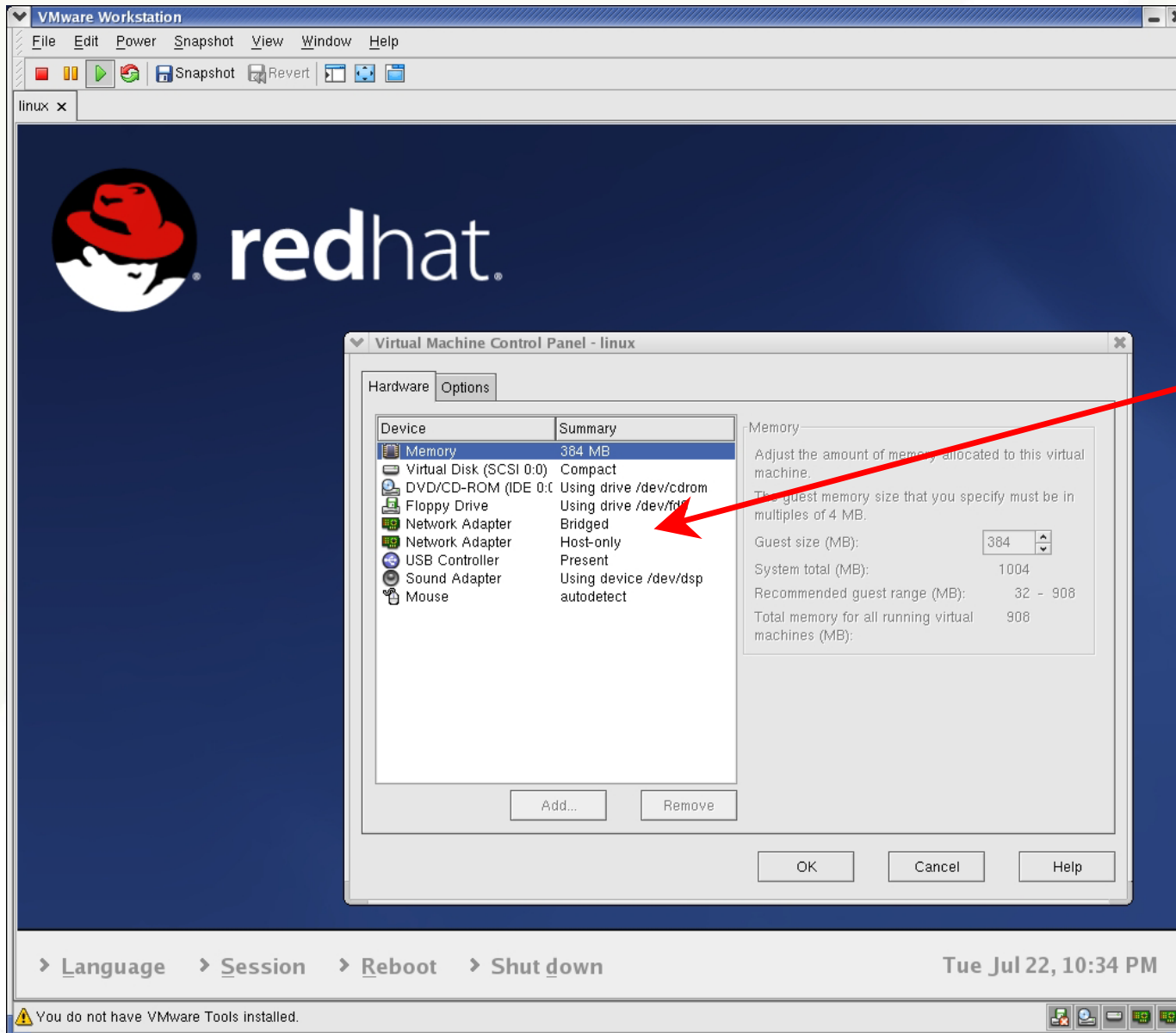


- **Another product that makes running Windows applications possible is VMware®, which provides a virtual machine to share the workstation's CPU**
- **The performance is that of the native hardware, minus a small percentage**
- **Think of the virtual machine as a “container” inside which a complete Microsoft 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)**



- 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 Settings for Hardware

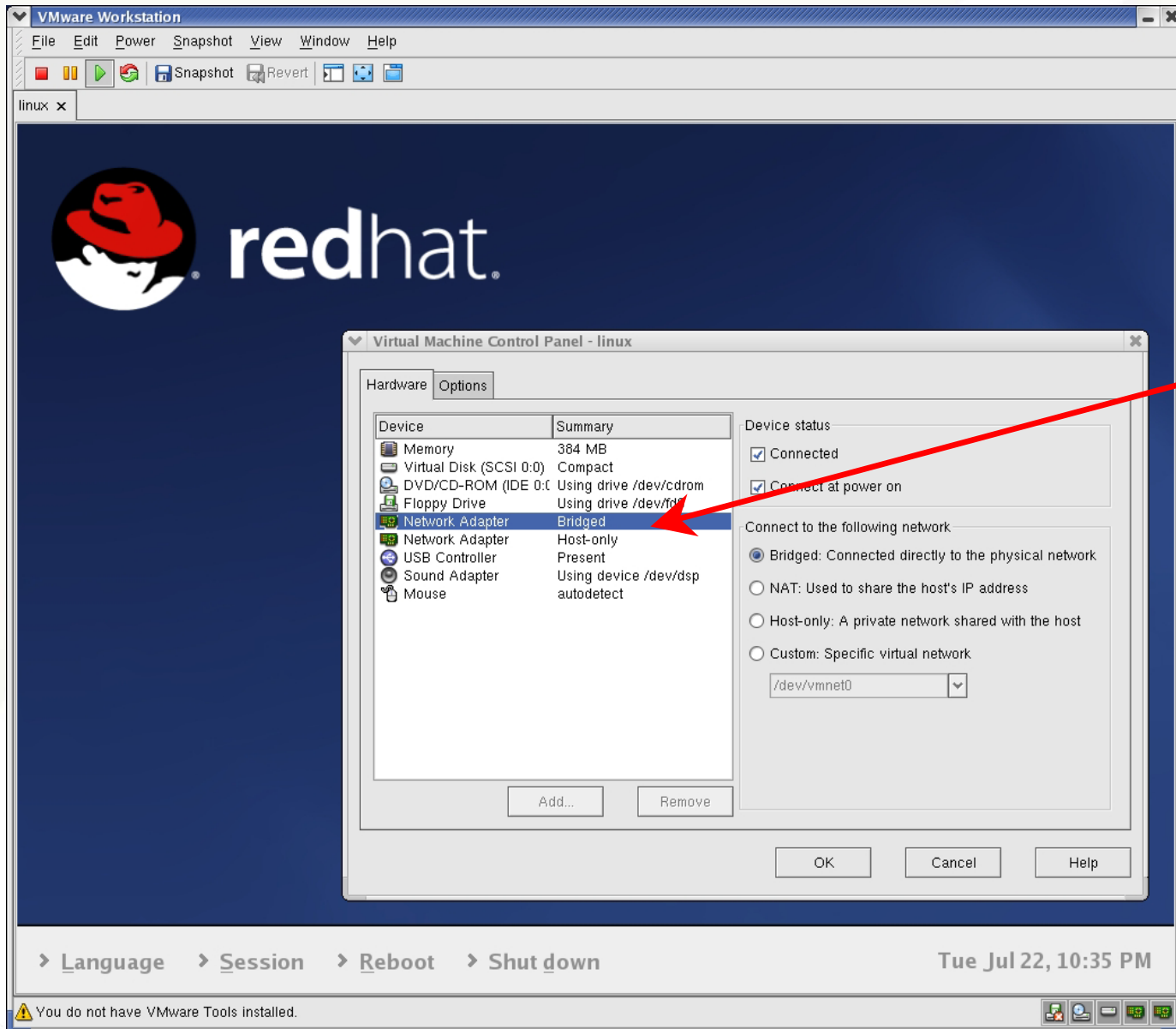


A Linux “guest” operating system running on a Linux “host” operating system.

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



VMware Network Device Configuration

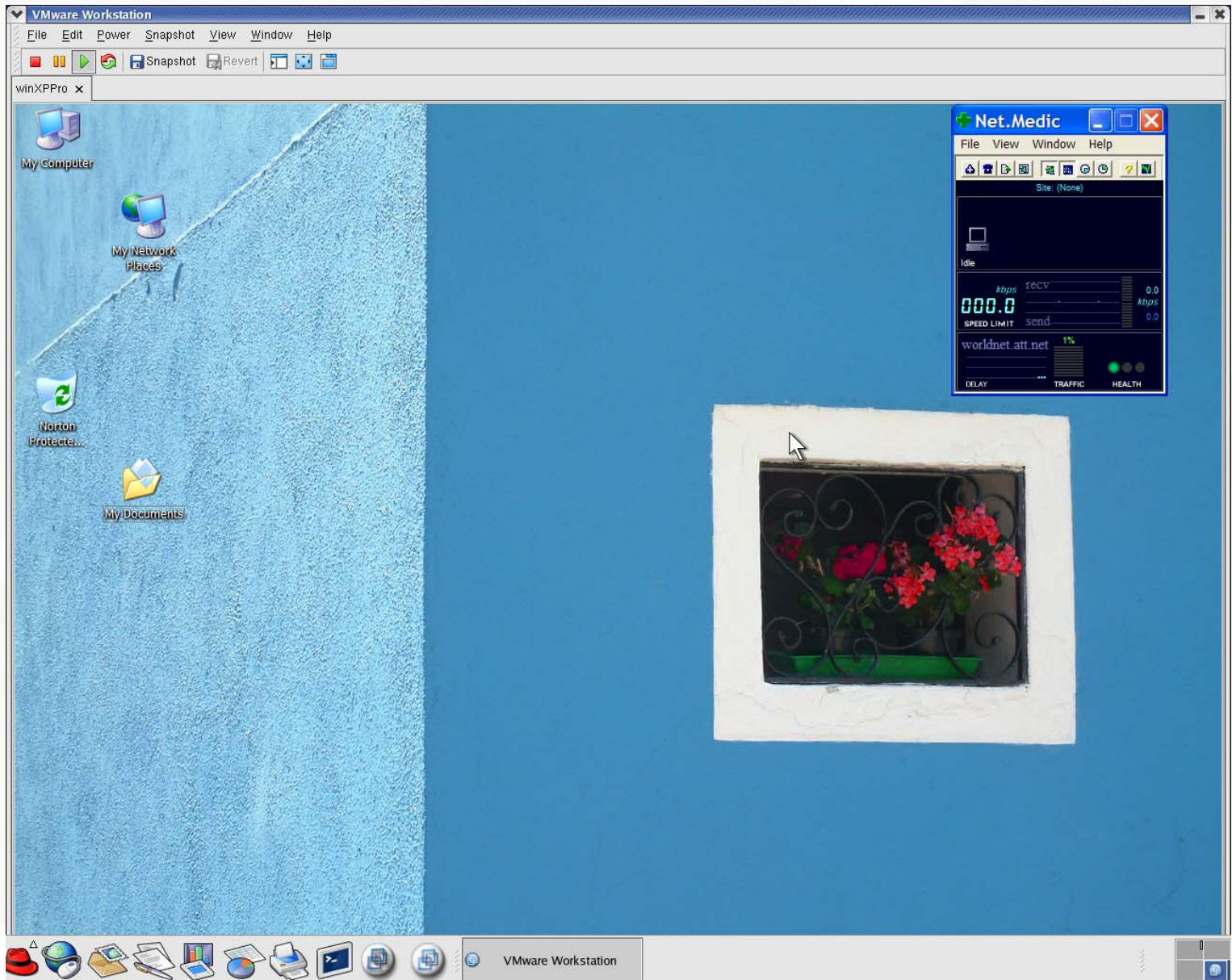


The VMware virtual machine is providing two network adapters to the guest operating system.

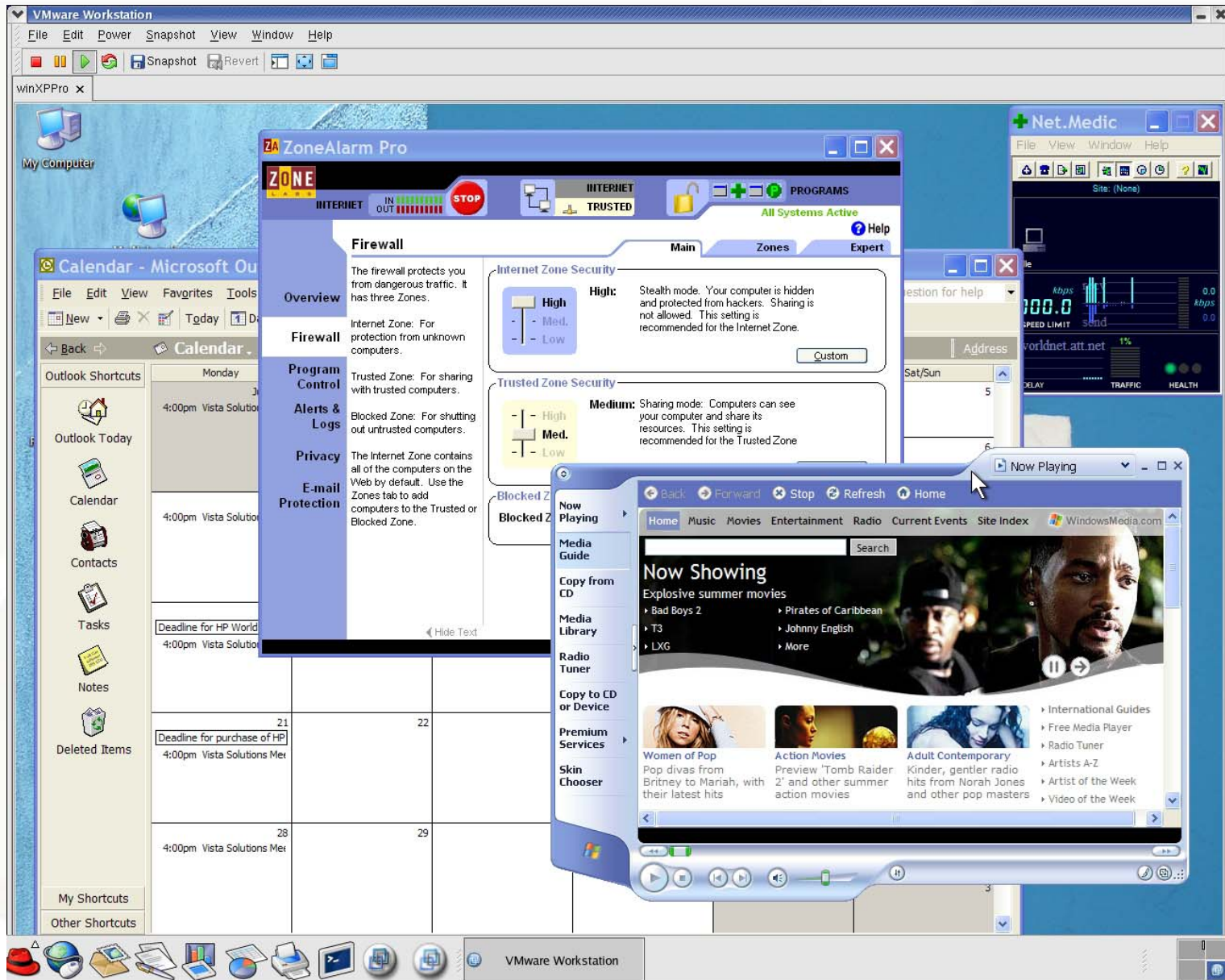
One is bridged to the host operating system's network (eth0) and the other is a "host-only" connection to share the local file system with the virtual machine's guest operating system.



VMware Windows Guest on Linux Host



VMware Running Windows Applications





Lab #3: Microsoft ® Windows ® Interoperability

**See Lab #3 Handout
for details**