Linux class 1

Introduction to GNU-Linux. Debian, Linux Evolution. Linux Environment in Princess Marina Hospital; Servers, services and workstations.

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General objectives of the skill sharing

- Familiarize the PMH IT personnel with the technology currenly installed on the hospital servers and a few workstations.
- Share knowledge of the Linux OS and most common services for corporate environments.

“I can show you the door,

you have to open it”

Specific Objectives

- Introduction to: Linux, Debian, Ubuntu, GNU, Linux Environment in Princess Marina Hospital, Servers, Services, Linux Workstations.
- Linux, executing commands on the prompt. Configuration files, edition of text files, Software installation. Commands: cat, ls, pwd, whoami, passwd, nano, mkdir, touch, rm, aptitude, apt-get, network configuration.
- DHCP service; isc-dhcp-Server. Installation and basic configuration. Commands: service, tail.
- Other Important Commands to work in a Linux Environment, Linux Philosophy. Commands: ps, grep, uname, make, make install, aptitude purge.
- DNS server; Bind9. Installation and basic configuration. Zone, reverse zone, forwarders, zone transfer, etc.

Specific Objectives 2

- Web server; Apache 2. Installation and basic configuration. Virtual host, Apache module.
- Proxy server; squid. Installation and basic configuration. Acls: Authentication configuration basics, sarg, cache configuration.
- Linux start up and Linux crontab configuration. How to make a command or a software to execute when the system starts, how to create chronological/periodical tasks.
- Virtualization; Virtual Box. Installation and basic configuration, commands headless Virtual machines.
- Windows file sharing service; Samba Service, printing servers, introduction to integration with active directory.

Princess Marina Hospital Network

- Princess Marina has a network of around 300 computers.
- 6 physical servers and 2 more virtual OSs.
  - 3 of them with Windows OS and 5 Linux OS
- We also have 8 workstations with Linux installed.

PMH Server Network

Firewall/Cacti:

1. **Linux Debian 6**
2. **IP: 10.175.0.2**

GLPI & OCS Sever:

1. **Linux Debian 6**
2. **IP: 10.175.0.14**

Domain Controller:

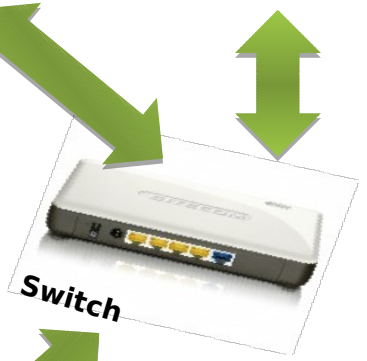
1. **WS2008_64 R2**
2. **10.175.0.4**

File Server, Intranet:

1. **Linux Debian 6**
2. **IP: 10.175.0.1**

UTP

Switch



Switch

Router

O

F

GDN

USB Blocker:

1. **Not operational**
2. **Windows XP**

Virtualization Server (Linux):

1. **WS2003_64 R2 (E-mail)**
   a) **IP: 10.175.0.7**
2. **Linux Debian 6 (Proxy-DNS-DHCP)**
   a) **IP: 10.175.0.1**

What is Linux?

What is GNU?

What is Debian?

What is Debian GNU/Linux?

Distrubution?

Kernel?

Are they all the same?

Is Linus Torvalds the author of every thing?

Kernel

A kernel is the central part of an operating system. It manages the tasks of the computer and the hardware - most notably memory and CPU time.

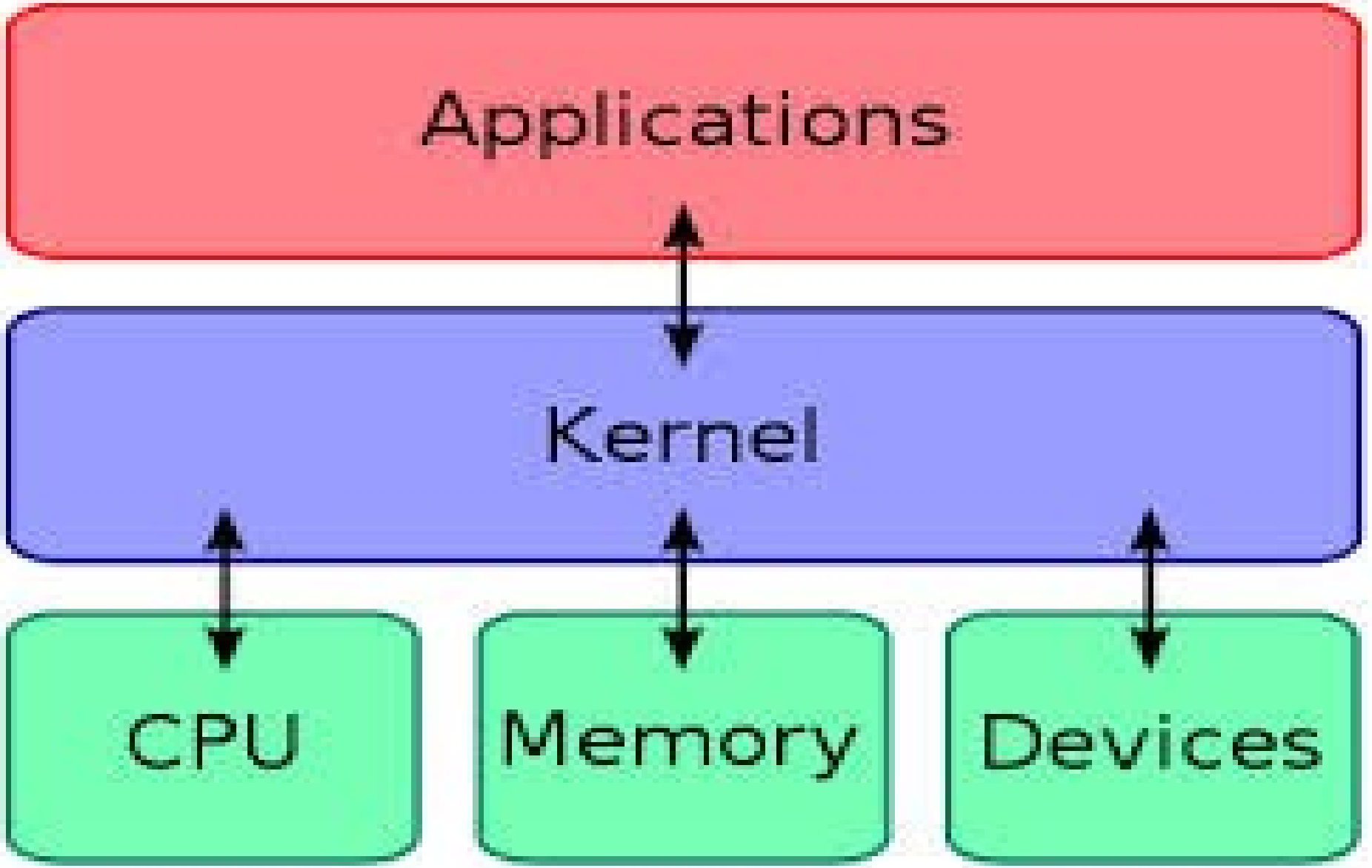
There are two types of kernels:

- A microkernel, which only contains basic functionality;
- A monolithic kernel, which contains many drivers (Linux).

A computer user never interacts directly with the kernel. It runs behind the scenes and cannot be seen, except for the text logs that it prints.

Taken from:
http://simple.wikipedia.org/wiki/Kernel_%28computer_science%29
2014-02-12

Kernel in Action



Linux – GNU/Linux

- Many Linux users are familiar with Linux being called "GNU/Linux". This means something special. "GNU" refers to the userland and "Linux" refers to the kernel. Now, you may be wondering if these two components can be swapped. Yes, they can. For example, in the beginning of Linux's history, the GNU community had no kernel at the time and Linux was just a kernel. So, they put the two projects together. Today, the GNU community has a kernel called "Hurd". They then swapped the Linux kernel with the Hurd kernel to make "GNU/Hurd" systems. For instance, Arch exists as "GNU/Linux" and "GNU/Hurd". Not only do various userland and kernel combinations exist, there are different Linux kernels. Also, Linux is not the only operating system with a module (obvious, right?).
- Taken from: http://www.linux.org/threads/the-linux-kernel-types-of-kernels.5409/
  11/02/2014.

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GNU/Linux

Linux

GNU

GNU/Linux

Distribution X

Distribution Y

Distribution Z

XA

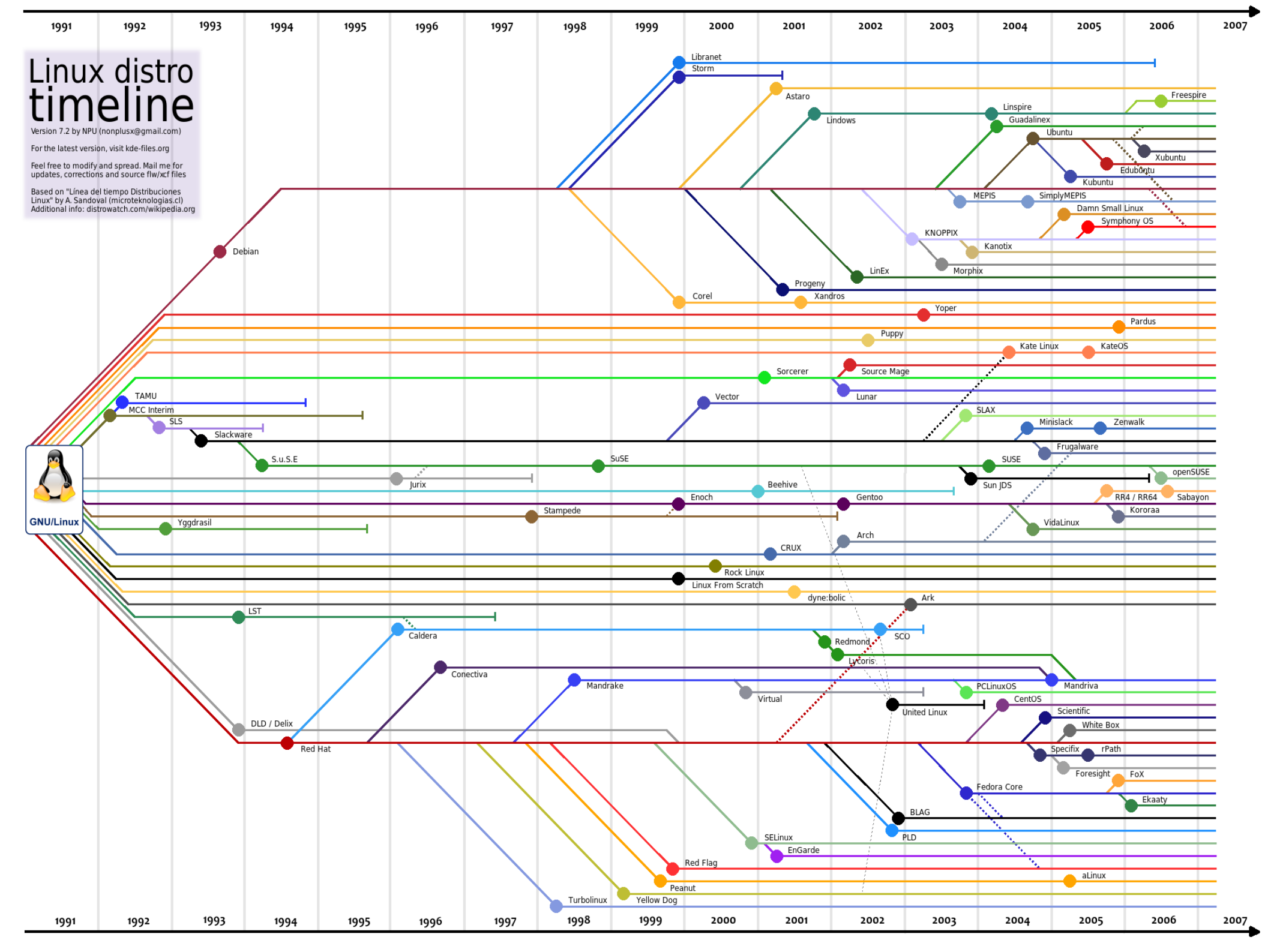
AB

XC

XD

ZA

ZAA


Linux distro timeline
Version 7.2 by NPU (nonplusx@gmail.com)
For the latest version, visit kde-files.org
Feel free to modify and spread. Mail me for updates, corrections and source flw/xcf files
Based on "Línea del tiempo Distribuciones Linux" by A. Sandoval (microteknologias.cl)
Additional info: distrowatch.com/wikipedia.org
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
GNU/Linux
Libranet
Storm
Astaro
Freespire
Linspire
Lindows
Guadalinex
Ubuntu
Xubuntu
Edubuntu
Kubuntu
MEPIS
SimplyMEPIS
Damn Small Linux
Symphony OS
KNOPPIX
Kanotix
Morphix
LinEx
Debian
Progeny
Xandros
Corel
Yoper
Pardus
Puppy
Kate Linux
KateOS
Sorcerer
Source Mage
Lunar
Vector
TAMU
MCC Interim
SLS
Slackware
SLAX
Minislack
Zenwalk
Frugalware
S.u.S.E
SuSE
SUSE
openSUSE
Sun JDS
Jurix
Beehive
Enoch
Gentoo
RR4 / RR64
Sabayon
Koroaa
Stampede
Yggdrasil
VidaLinux
Arch
CRUX
Rock Linux
Linux From Scratch
dyne:bolic
Ark
LST
Caldera
SCO
Redmond
Lycoris
Conectiva
Mandrake
Mandriva
PCLinuxOS
Virtual
CentOS
United Linux
Scientific
White Box
DLD / Delix
Red Hat
Specifix
rPath
Foresight
FoX
Fedora Core
Ekaaty
BLAG
PLD
SELinux
EnGarde
Red Flag
aLinux
Peanut
Turbolinux
Yellow Dog

Debian

- The Debian Project (...) is a free operating system. An operating system is the set of basic programs and utilities that make your computer run. At the core of an operating system is the kernel. The kernel is the most fundamental program on the computer and does all the basic housekeeping and lets you start other programs.
- Debian systems currently use the Linux kernel or the FreeBSD kernel. Linux is a piece of software started by Linus Torvalds and supported by thousands of programmers worldwide. FreeBSD is an operating system including a kernel and other software.
- However, work is in progress to provide Debian for other kernels, primarily for the Hurd. The Hurd is free software produced by the GNU project.
- Taken from: http://www.debian.org/intro/about#what 2014-02-11.

Official websites

- Debian Project: www.debian.org
- Linux Project: www.linux.org
- GNU project: www.gnu.org

Graphic Interfaces

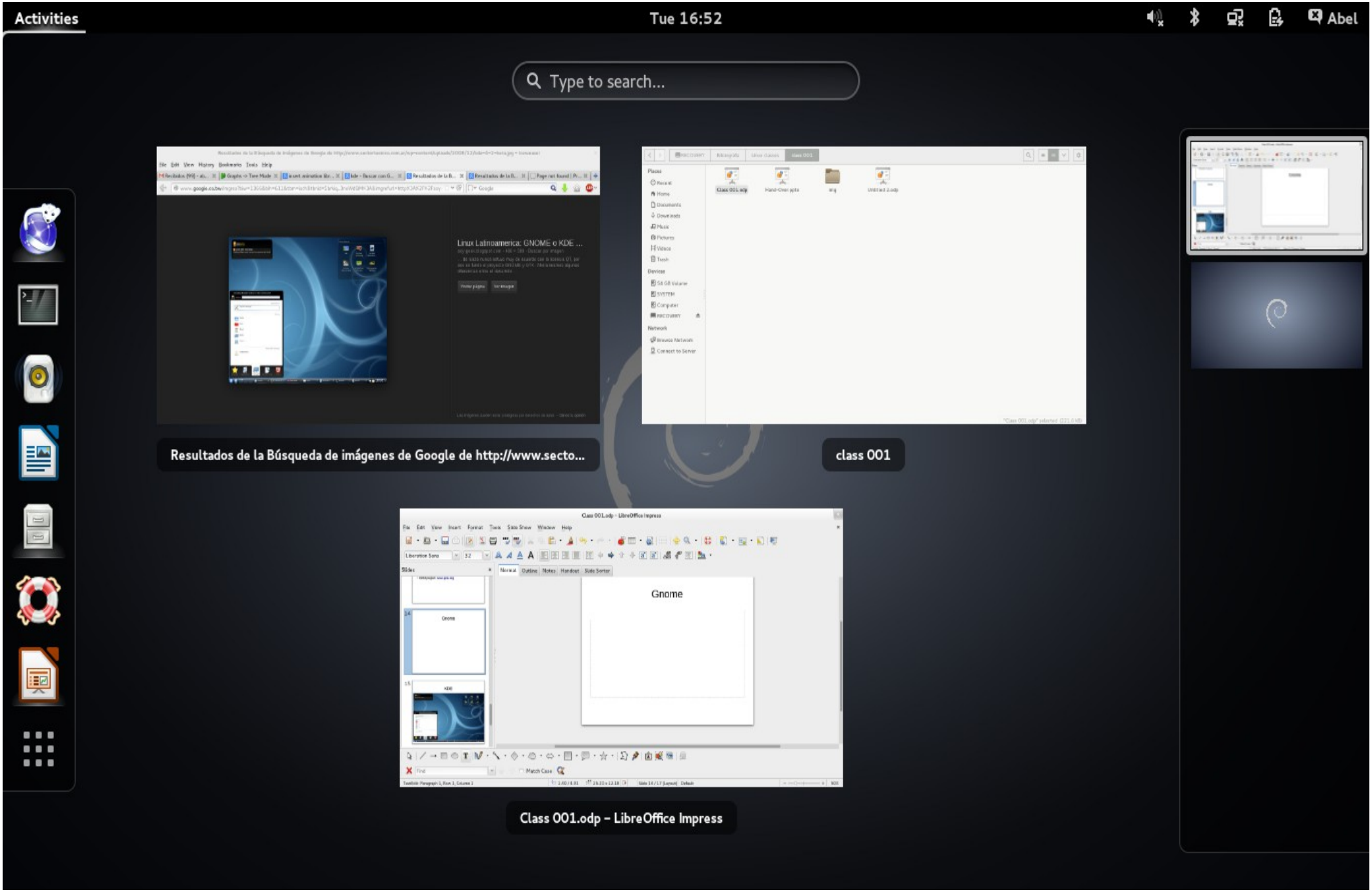
Gnome

KDE

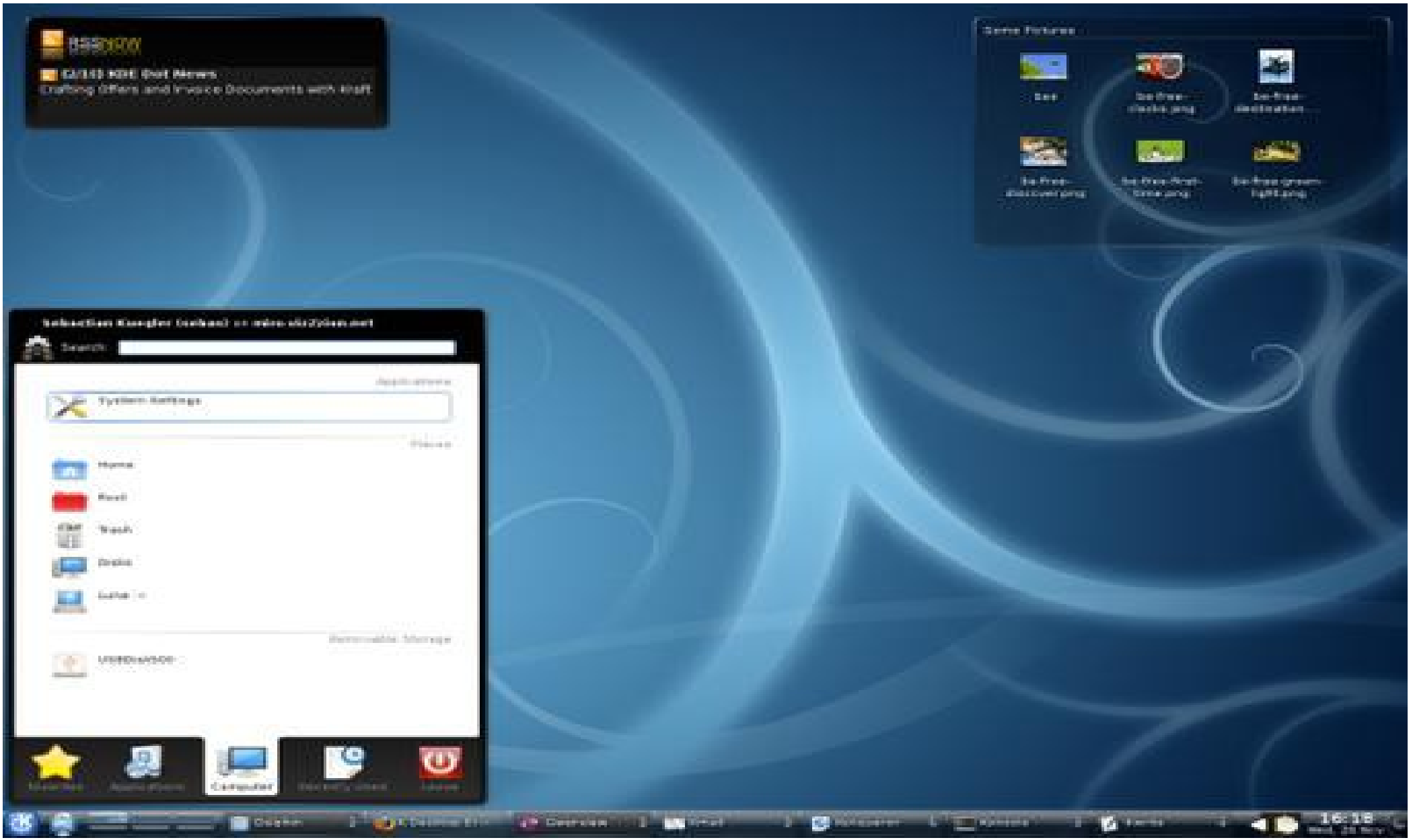
LXDE

XFCE

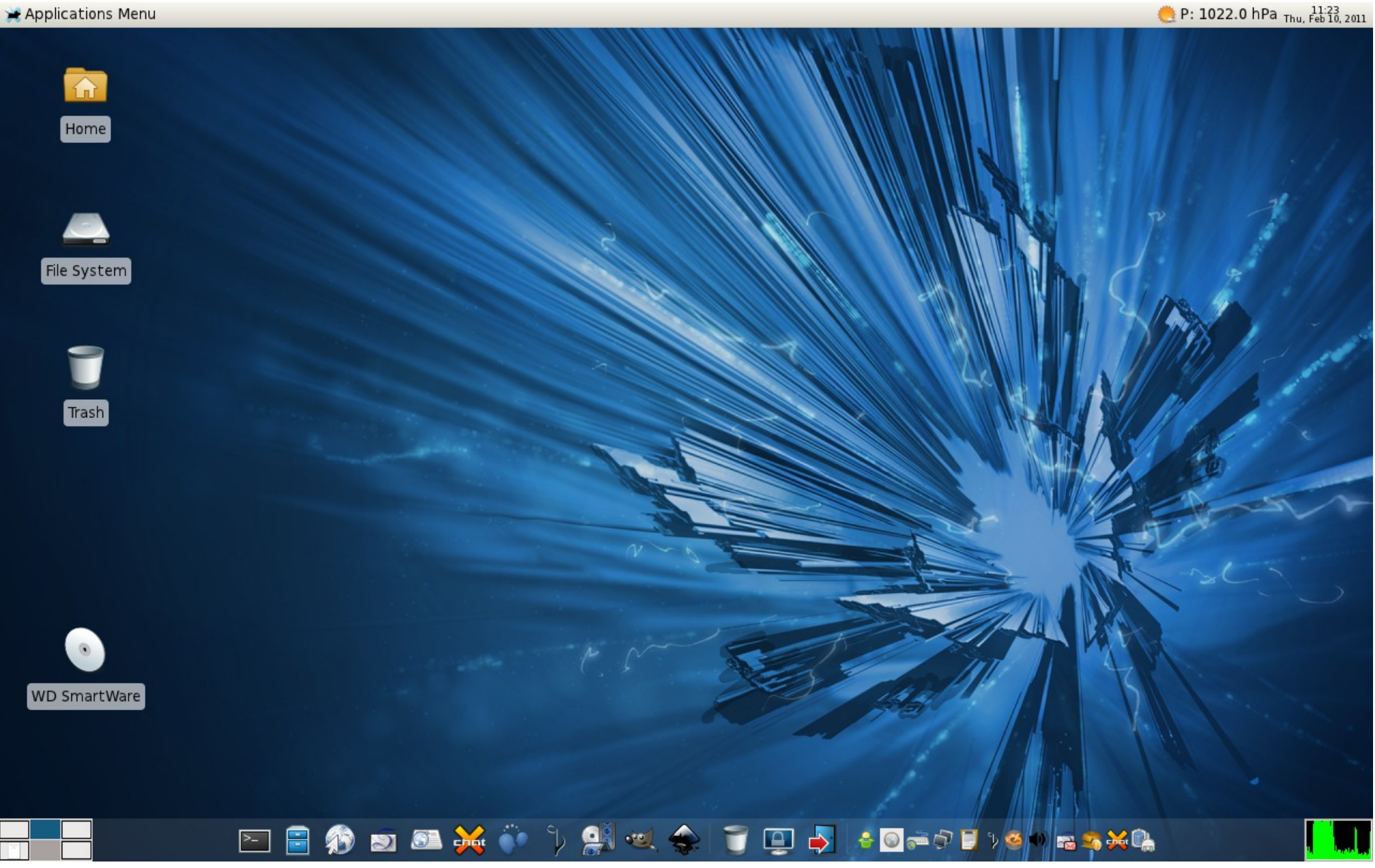
Gnome


Activities
Tue 16:52
Abel
Type to search...
Linux Latinoamerica: GNOME o KDE ...
Resultados de la Búsqueda de imágenes de Google de http://www.secto...
class 001
Gnome
Class 001.odp – LibreOffice Impress

KDE



XFCE


Applications Menu
P: 1022.0 hPa
11:23
Thu, Feb 10, 2011
Home
File System
Trash
WD SmartWare

LXDE

LEFT 4 DEAD
Savage 2
LXDE
Lightweight X11 Desktop Environment
Grafik
Internet
Kontor
Ljud och video
Programmering
Spel
Systemverktyg
Tillbehör
Övriga
Inställningar
Kör
Logga ut
LibreOffice 3.4
LibreOffice 3.4 Base
LibreOffice 3.4 Calc
LibreOffice 3.4 Draw
LibreOffice 3.4 Impress
LibreOffice 3.4 Writer
Ordbok
23:37

The terminal

CTRL+ALT+(F1 to F6) Opens a Text terminal.

Alt+F7 Opens the graphic terminal.

You can also open the graphic terminal
from your graphic interface.

Commands-Homework

Whoami

man

pwd

ls -la

passwd user

cd

mkdir

rm

Thank you!!!