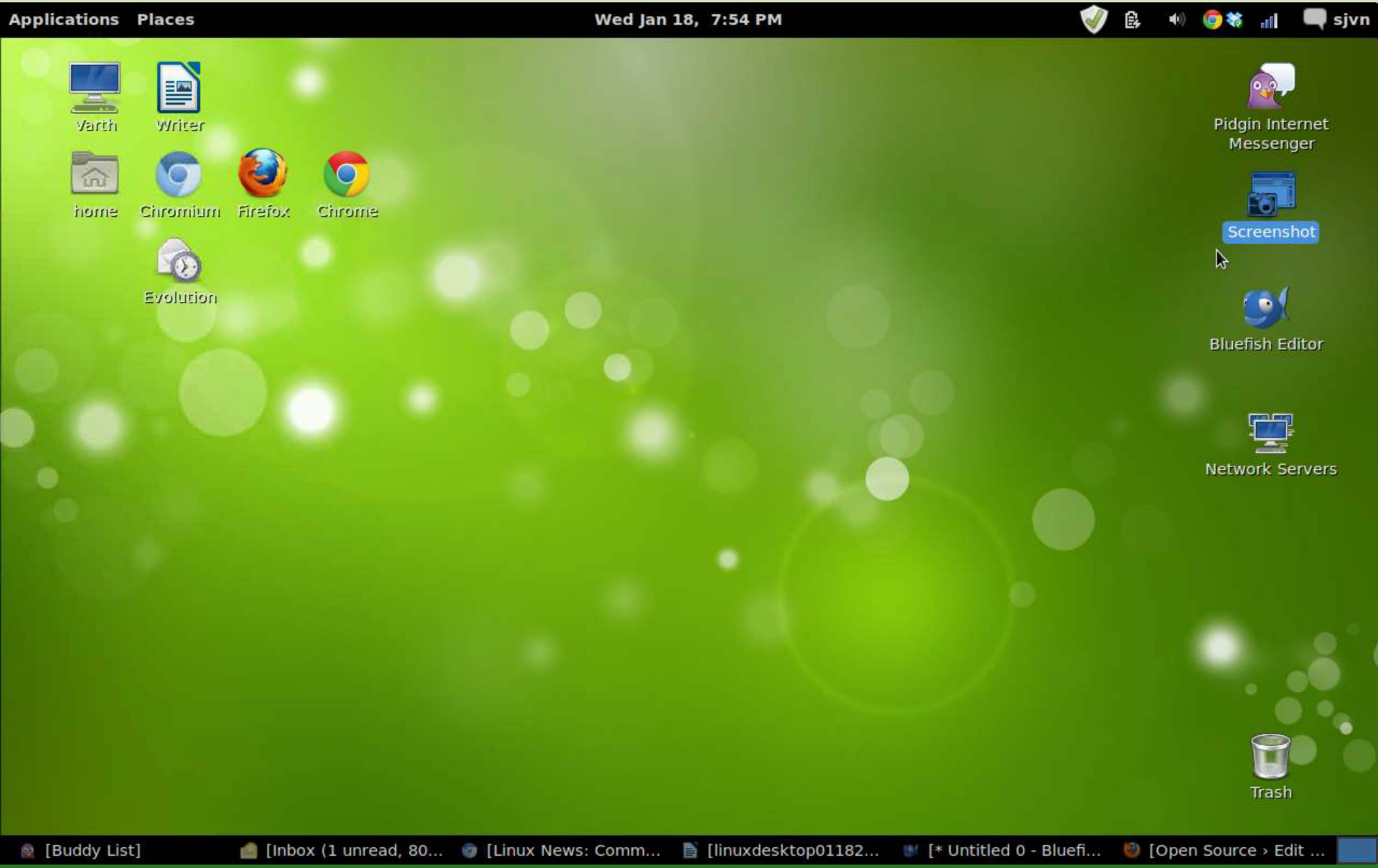
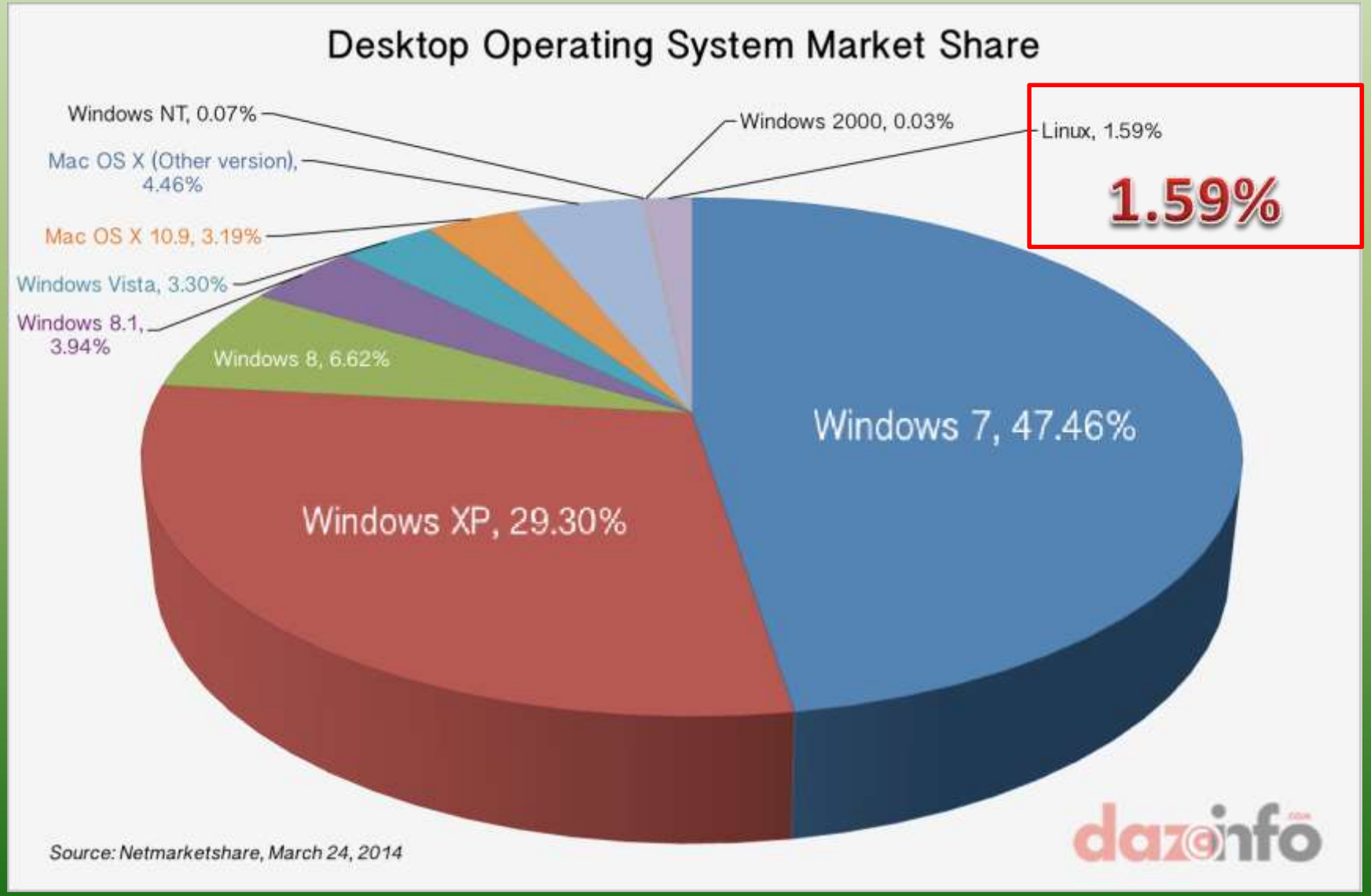
A History of Linux


Applications
Places
Wed Jan 18, 7:54 PM
sjvn
Varth
Writer
home
Chromium
Firefox
Chrome
Evolution
Pidgin Internet Messenger
Screenshot
Bluefish Editor
Network Servers
Trash
[Buddy List]
[Inbox (1 unread, 80...
[Linux News: Comm...
[linuxdesktop01182...
[* Untitled 0 - Bluefi...
[Open Source › Edit ...

This VGA/VBE Bios is released under the GNU LGPL
Please visit :
. http://bochs.sourceforge.net
. http://www.nongnu.org/vgabios
cirrus-compatible VGA is detected
Bochs BIOS - build: 10/12/07
$Revision: 1.166 $ $Date: 2006/08/11 17:34:12 $
Options: apmbios pcibios eltorito
ata0 slave: QEMU HARDDISK ATA-7 Hard-Disk (40 MBytes)
ata1 master: QEMU CD-ROM ATAPI-4 CD-Rom/DVD-Rom
Booting from Floppy...
Loading system ...
Partition table ok.
31278/40950 free blocks
13545/13664 free inodes
1513 buffers = 1549312 bytes buffer space
Ok.

Desktop market share (2014)



Prehistory of Linux

- The Unix operating system was developed by Ken Thompson and Dennis Ritchie of AT&T Bell Laboratories in 1969 and first released in 1970.

Prehistory of Linux

- In 1977 the University of California, Berkeley released a free UNIX-like system, Berkeley Software Distribution (BSD). But BSD contained Unix code, so AT&T sued.

Prehistory of Linux

- In 1983, Richard Stallman started the GNU project to create a free UNIX-like operating system. Hurd (the GNU kernel) failed to attract enough developers, leaving GNU incomplete.

Prehistory of Linux

- In 1987 Andrew S. Tanenbaum released MINIX, a Unix-like system intended for academic use. While source code for the system was available, modification and redistribution were restricted.

comp.os.minix
Message from discussion What would you like to see most in minix?
Linus Benedict Torvalds View profile
More options Aug 26 1991, 2:12 pm
Hello everybody out there using minix -
I'm doing a (free) operating system (just a hobby, won't be big and professional like gnu) for 386(486) AT clones. This has been brewing since april, and is starting to get ready. I'd like any feedback on things people like/dislike in minix, as my OS resembles it somewhat (same physical layout of the file-system (due to practical reasons) among other things).
I've currently ported bash(1.08) and gcc(1.40), and things seem to work. This implies that I'll get something practical within a few months, and I'd like to know what features most people would want. Any suggestions are welcome, but I won't promise I'll implement them :-)
Linus (torva__@kruuna.helsinki.fi)
PS. Yes - it's free of any minix code, and it has a multi-threaded fs. It is NOT protable (uses 386 task switching etc), and it probably never will support anything other than AT-harddisks, as that's all I have :-(.
Reply to author
Forward
Report spam

Linus Benedict Torvalds

- Born: December 28, 1969 (age 45)
- Born in Helsinki, Finland
- Chief developer on the Linux kernel
- Created the revision control system Git
- 2014 IEEE Computer Society Computer Pioneer Award

Linux

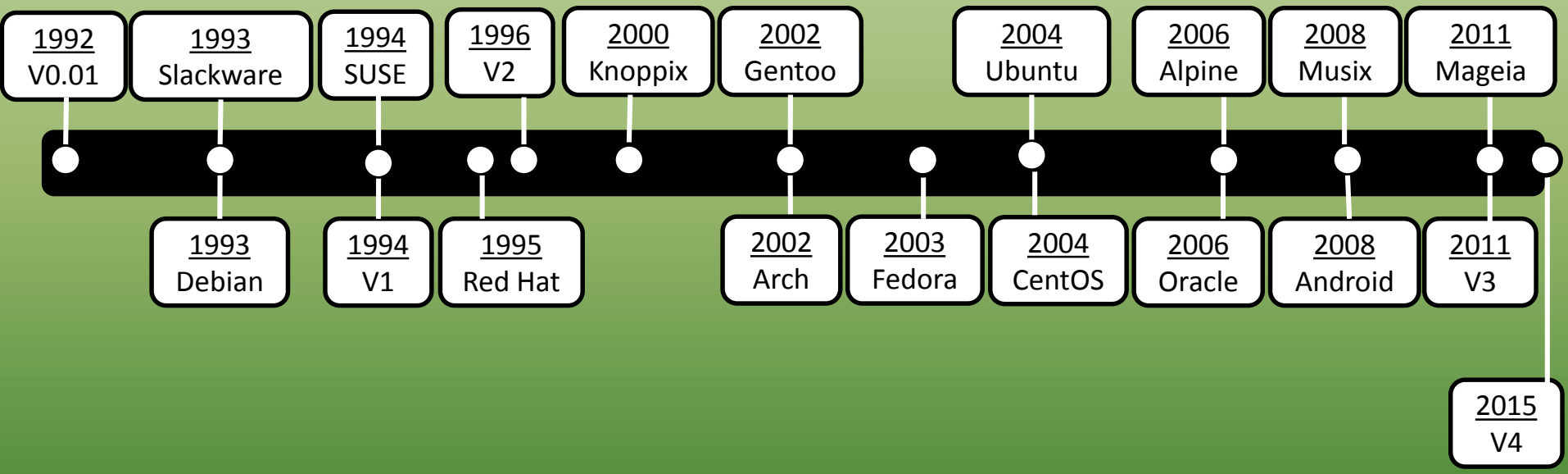
- Torvalds made the code of Linux freely available to everyone on the internet, and therefore lots of people created their own versions of Linux.

Linux

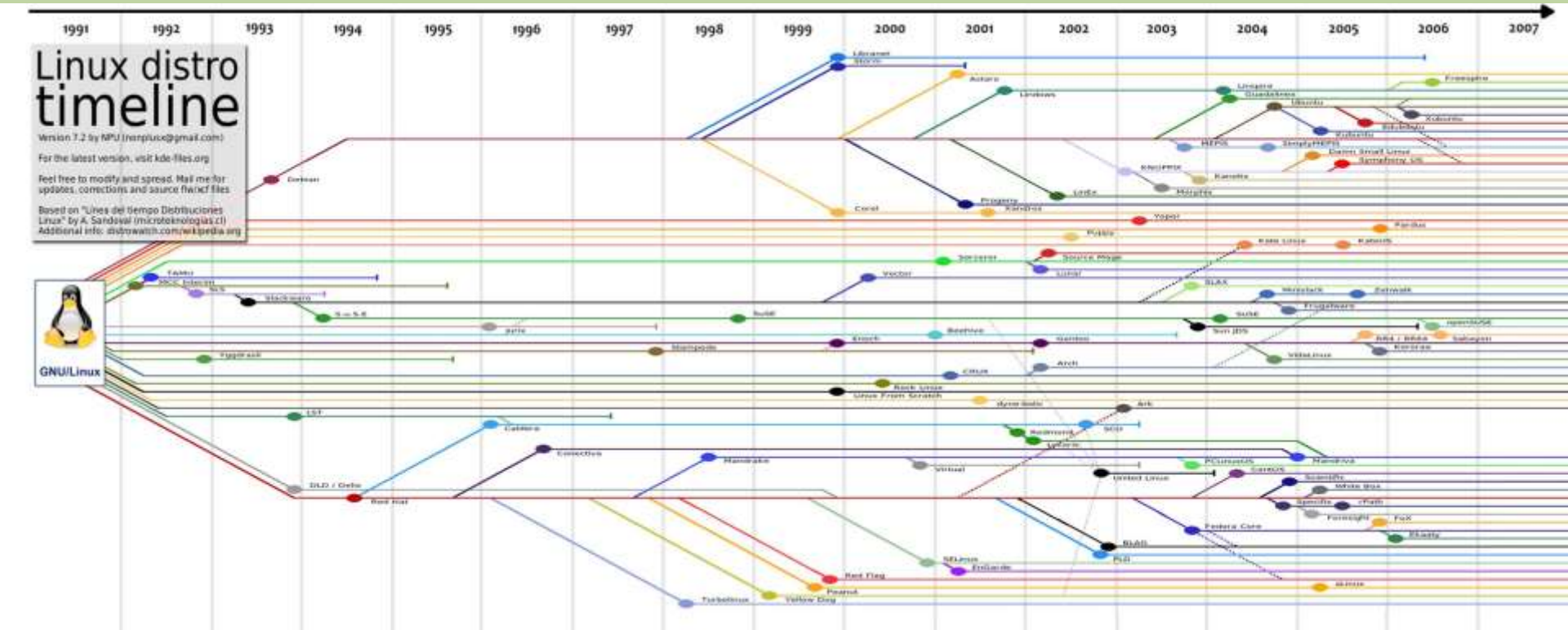
- Linux is therefore an example of Open-source software, in which the copyright holder provides the rights to study, change and distribute the software to anyone and for any purpose. Open-source software is often developed in a public, collaborative manner.

Timeline of Linux

Timeline of Linux



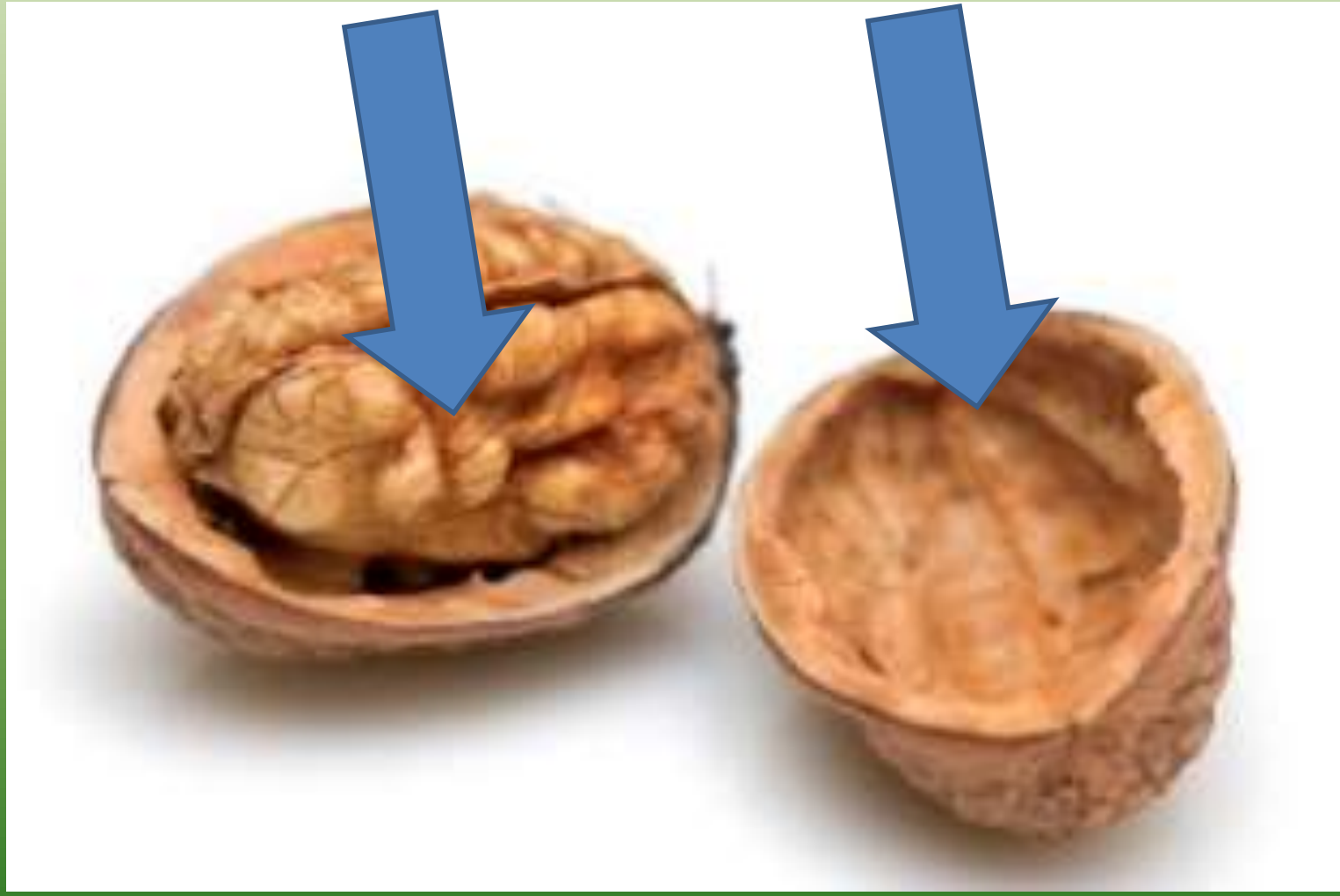
Timeline of Linux

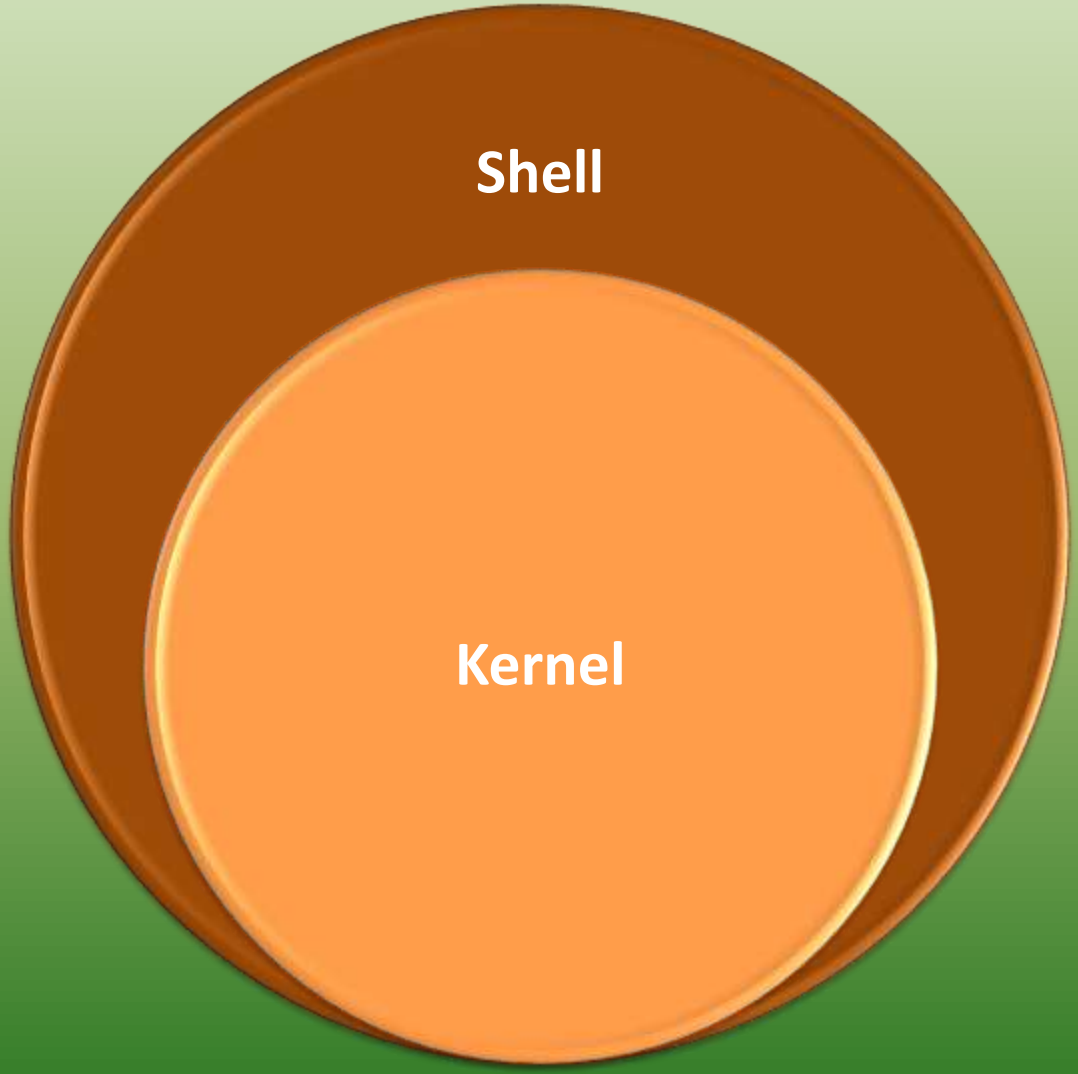


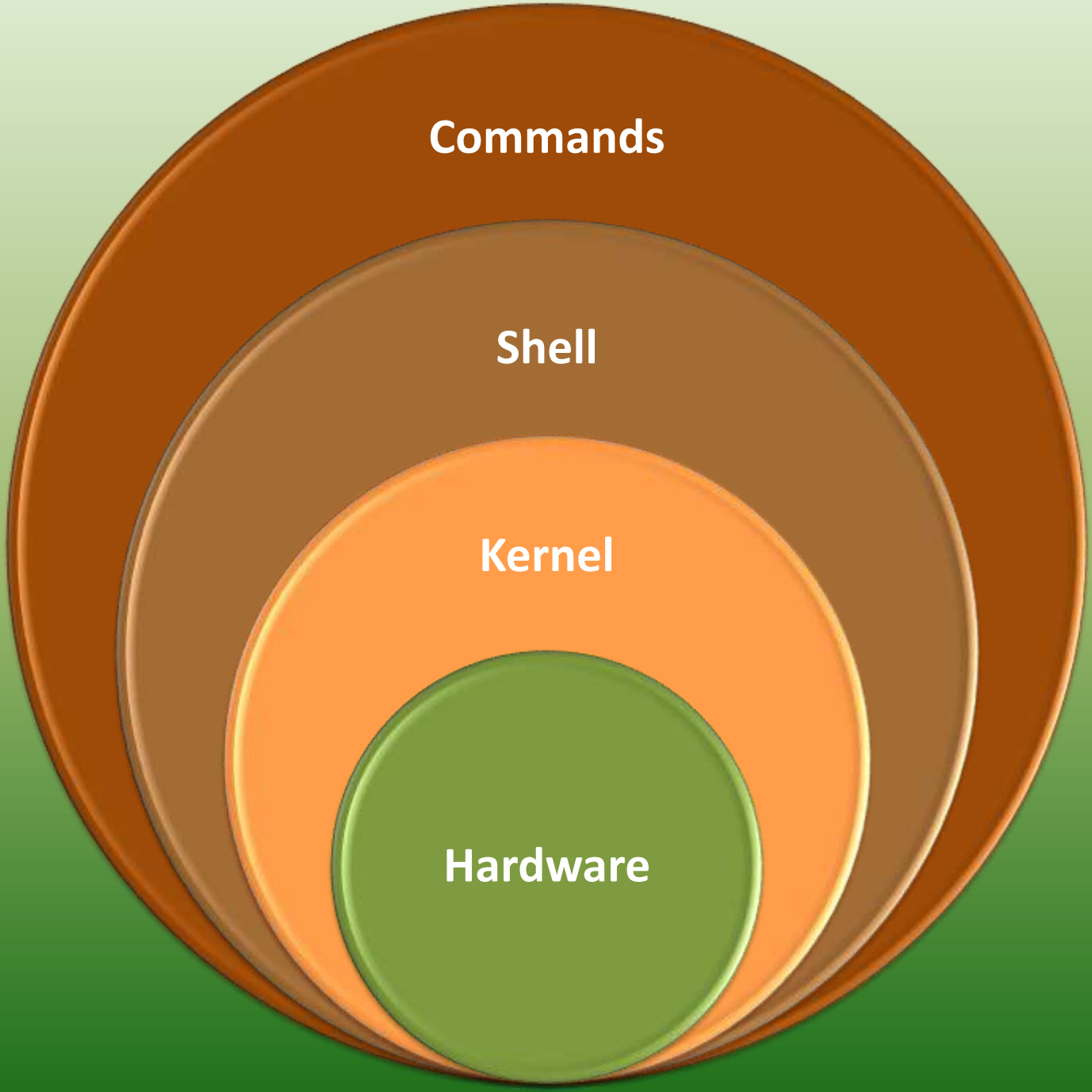
Timeline of Linux

Kernel

Kernel Shell




Shell
Kernel

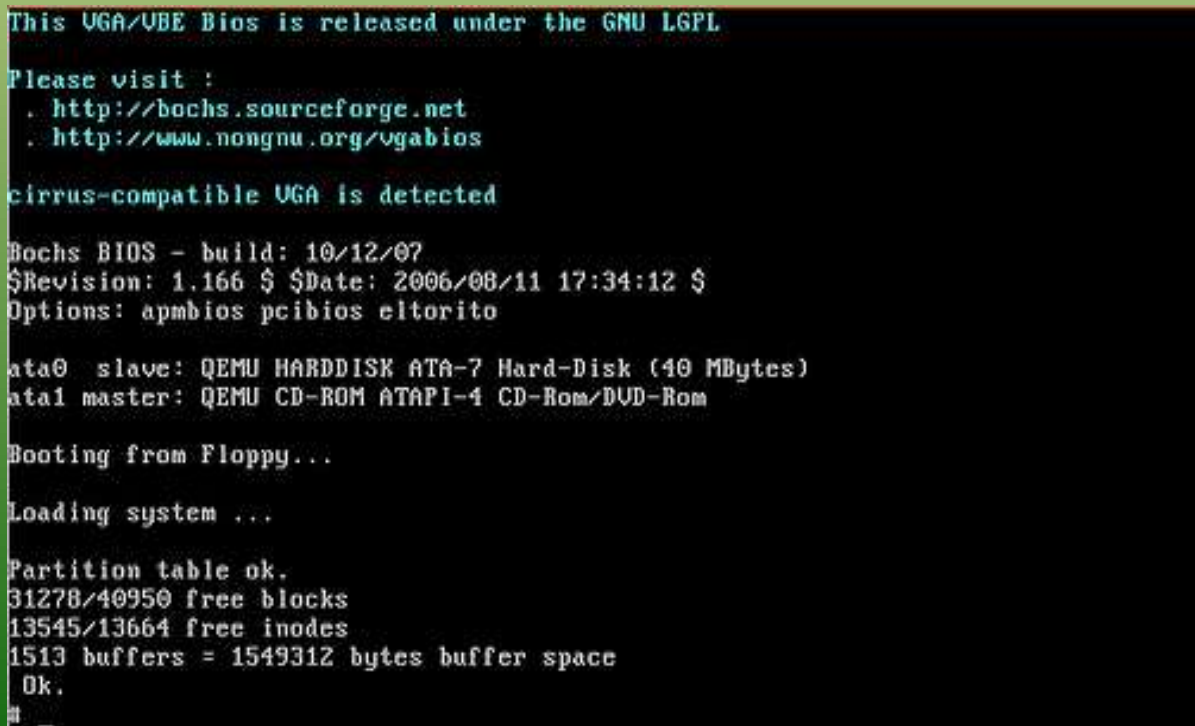

Commands
Shell
Kernel
Hardware

V0.01

September 1991

- Not a mature product at the time
- Minix-like kernel for i386(+) based AT-machines

Efficiently using the 386 chip, use of system calls rather than message passing, a fully multi-threaded FS, minimal task switching, and visible interrupts



V1.0

March 1994

- Allowed Multi-programming – multiple programs run at the same time.
- Virtual Memory management supported

Linux is highly backwards compatible, so if a program worked in any version of Linux it will work on all versions of Linux.

```
[    8.920947] input: HDA Intel PCH Headphone as /devices/pci0000:00/0000:00:1b.0
/sound/card0/input11
[    8.921089] mei 0000:00:16.0: PCI INT A -> GSI 16 (level, low) -> IRQ 16
[    8.921096] mei 0000:00:16.0: setting latency timer to 64
[    9.249847] Synaptics Touchpad, model: 1, fw: 7.5, id: 0x1e0b1, caps: 0xd00073
/0x240000/0xa0400
[    9.283798] input: SynPS/2 Synaptics TouchPad as /devices/platform/i8042/serio
1/input/input12
[    9.422009] scsi 6:0:0:0: Direct-Access     Multiple Card  Reader     1.00 PQ:
 0 ANSI: 0
[    9.423558] sd 6:0:0:0: [sdb] Attached SCSI removable disk
[    9.767983] Adding 2097148k swap on /dev/sda3.  Priority:-1 extents:1 across:2
097148k
[   10.540393] XFS (sda4): Mounting Filesystem
[   10.773454] XFS (sda4): Ending clean mount
[   21.358256] alx 0000:02:00.0: irq 44 for MSI/MSI-X
[   21.358260] alx 0000:02:00.0: irq 45 for MSI/MSI-X
[   21.358263] alx 0000:02:00.0: irq 46 for MSI/MSI-X
[   21.359557] alx 0000:02:00.0: enp2s0: NIC Link Up: 100 Mbps Full
[   21.363343] ADDRCONF(NETDEV_UP): enp2s0: link is not ready
[   21.363933] ADDRCONF(NETDEV_CHANGE): enp2s0: link becomes ready
[   29.219796] fuse init (API version 7.16)
[   31.707722] enp2s0: no IPv6 routers present
```

V2.0

June
1996

- Restructured memory management and improvements in task scheduling
- Improved SCSI support

Increased networking protocols. Filesystem support for NCP (Novell) and SMB (MS Lan Manager, etc.) network filesystems added.

```
SLOC    Directory       SLOC-by-Language (Sorted)
5292368 drivers         ansic=5287617,yacc=1688,asm=1475,perl=792,lex=779,
                        sh=17
1813893 arch            ansic=1579228,asm=233258,sh=683,awk=470,pascal=121,
                        perl=58,python=45,sed=30
677915  fs              ansic=677887,sh=28
493972  sound           ansic=493789,asm=183
461287  net             ansic=461191,awk=96
276270  include         ansic=274652,cpp=1576,asm=42
112545  kernel          ansic=112240,perl=305
52239   mm              ansic=52239
46132   Documentation   xml=35306,ansic=6192,perl=2320,sh=1018,python=949,
                        lisp=218,awk=129
42838   tools           ansic=38994,perl=2376,python=1286,sh=181,asm=1
40654   crypto          ansic=40654
39560   security        ansic=39560
36305   scripts         ansic=22033,perl=7903,sh=1909,cpp=1817,yacc=1278,
                        lex=917,python=448
25749   lib             ansic=25736,awk=13
13763   block           ansic=13763
5556    ipc             ansic=5556
4414    virt            ansic=4414
2306    init            ansic=2306
1876    firmware        asm=1660,ansic=216
1103    samples         ansic=1103
538     usr             ansic=524,asm=14
0       top_dir         (none)
```

V3.0

July
2011

- Better handling of virtualization systems
- Btrfs data scrubbing and automatic defragmentation

Not a major change in kernel concept, but started a new version number to mark the 20th anniversary of Linux

V4.0

2015

- xx

xxx

Some Other Linux Versions

Slackware

July
1993

- Slackware is oriented toward simplicity and software purity
- Provides no graphical installation procedure

Developed by:
Patrick Volkerding

Debian

September 1993

- The Debian Project's policies focus on collaborative software development and testing processes
- New release every two years.

Developed by:
Ian Murdock and the Debian Project

SUSE

1994

- "Software und System-Entwicklung", meaning "Software and systems development".
- Often includes YaST setup and configuration tool

Developed by:
Roland Dyroff, Thomas Fehr, Burchard Steinbild, and Hubert Mantel

Red Hat

May
1995

- In 2003 Red Hat Linux merged with the community-based Fedora Project
- Introduced a graphical installer called Anaconda and Lokkit for configuring the firewall capabilities.

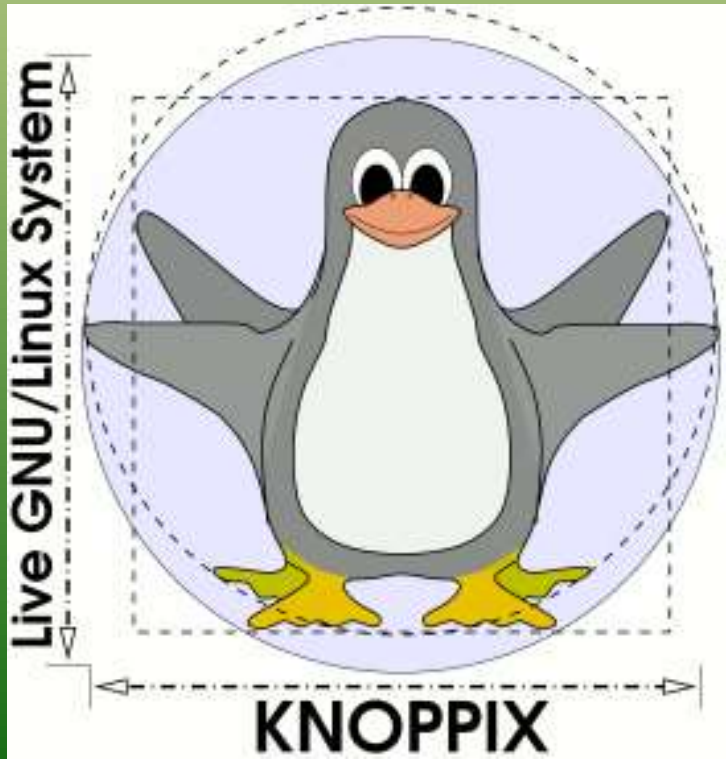
Developed by:
Bob Young, Marc Ewing and Red Hat Inc.

Knoppix

September 2000

- Can be used to copy files easily from hard drives with inaccessible operating systems.
- Designed to be booted straight from CD, DVD or USB.

Developed by:
Klaus Knopper



Gentoo

March 2002

- Gentoo package management is designed to be modular, portable, and easy to maintain.
- Not a binary software distribution, source code is compiled locally and optimized for the specific type of computer.

Developed by:
Daniel Robbins and Gentoo Foundation

Arch

March 2002

- The development team focused on elegance, code correctness, and minimalism.
- The user is expected to make significant effort to understand the systems function.

Developed by:
Judd Vinet, Aaron Griffin and the Arch Linux team

Fedora

November 2003

- Focuses on innovation, integrating new technologies early on and working closely with Linux communities.
- Linus Torvalds uses Fedora on all of his computers.

Developed by:
Fedora Project (owned by Red Hat)

CentOS

2004

- The project is affiliated with Red Hat but aspires to be more public, open, and inclusive.
- Provides a free, enterprise-class, community-supported computing platform.

Developed by:
David Parsley, Lance Davis and the CentOS Project

Ubuntu

October 2004

- Committed to open source development; encouraged to use free software, study how it works, improve upon it, and distribute it.
- Named after the Southern African philosophy of ubuntu (literally, "human-ness").

Developed by:
Mark Shuttleworth and Canonical Ltd.

Alpine

2006

- Lightweight and secure by default while still being useful for general-purpose tasks.
- Compiles all packages with stack-smashing protection.

Developed by:
Alpine Linux development team

Oracle

October 2006

- Based on Red Hat Enterprise Linux (RHEL), repackaged and freely distributed by Oracle.
- Oracle Linux supports KVM and Xen.

Developed by:
Oracle Corporation

Musix

December 2006

- Collection of software for audio production, graphic design, video editing and general purpose applications.
- Documentation is in Spanish.

Developed by:
Marcos Germán Guglielmetti. And teams from Argentina, Spain, Mexico and Brazil.

Android

September 2008

- Android is designed primarily for touchscreen mobile devices such as smartphones and tablet computers.
- The most widely used mobile OS.

Developed by:
Google, and Open Handset Alliance

Mageia

June
2011

- A secure, and sustainable operating system, designed to set up a stable and trustable governance to direct collaborative projects.
- Uses all major desktop environments

Developed by:
Former employees of Mandriva

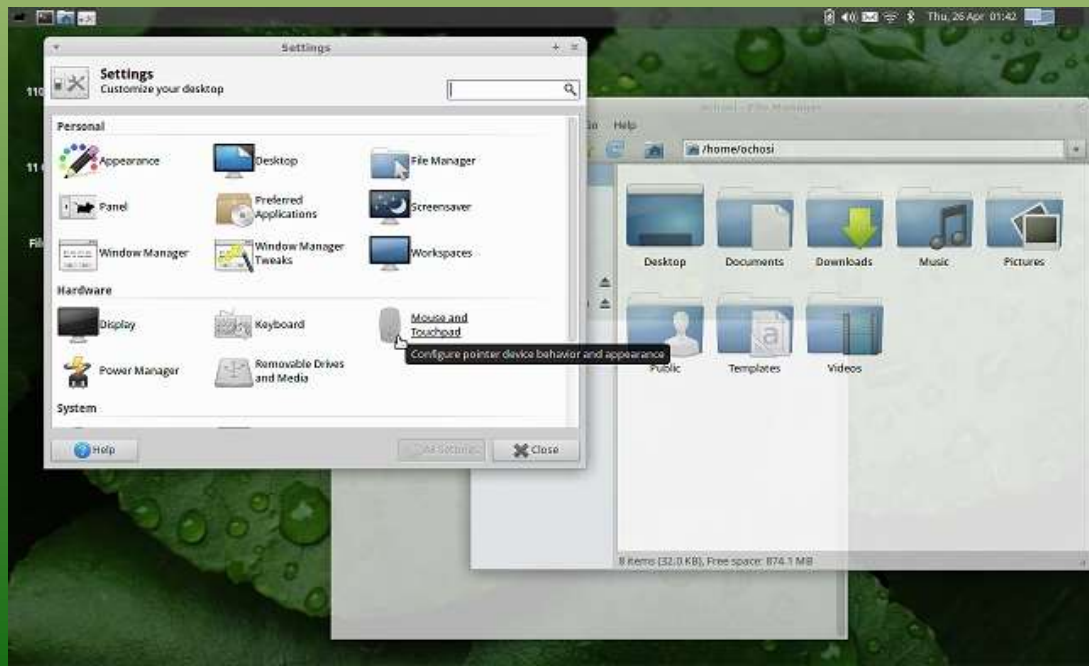
Some Linux Desktop Environments

Xfce

1996

- It aims to be fast and lightweight, while still being visually appealing and easy to use.
- Does not feature any desktop animations, but translucency effect is supported.

Developed by:
Olivier Fourdan



Enlightenment

1997

- Enlightenment developers have referred to it as "the original eye-candy window manager“
- Supports virtual desktops

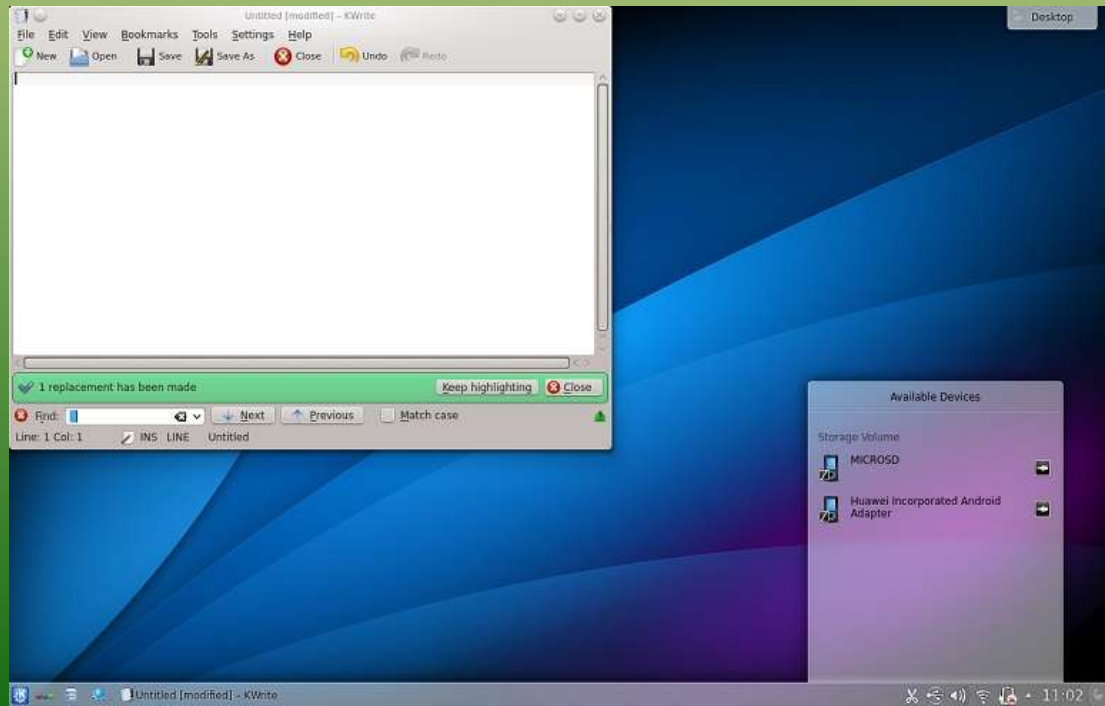
Developed by:
Carsten Haitzler (aka Raster or Rasterman)

KDE

July
1998

- Developed as an easy-to-use environment
- Works well with multimedia devices and applications and mobile devices.

Developed by:
Matthias Ettrich and KDE



GNOME

March 1999

- Focuses on internationalization and localization and accessibility of software.
- Incorporates *freedesktop.org* standards and programs to better interoperate with other desktops.

Developed by:
Miguel de Icaza, Federico Mena, and the GNOME project

LXDE

2006

- Suitable for resource-constrained computers, e.g., netbooks or System on a chip computers.
- A desktop environment that is fast and energy efficient

Developed by:
Hong Jen Yee (aka PCMan)

Razor-qt

2010

- Tailored for users who value simplicity, speed, and an intuitive interface
- Merged with LXDE in 2013 to become LXQt

Developed by:
The Razor-qt Team

MATE

August 2011

- Forked from GNOME 2, to maintain the simple and clean interface that was controversially removed in GNOME 3.

Developed by:
Perberos and MATE Developers

Cinnamon

December 2011

- Another fork of GNOME 2, which provides a range of user configurable interface components.
- Better performance.

Developed by:
Linux Mint development team