

Altri sistemi operativi liberi

Claudio Imbrenda

Linux Day 2008 PISA

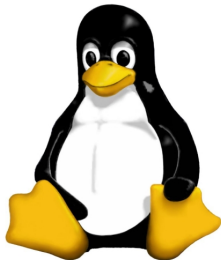
25 ottobre 2008

Qualche chiarimento sulla terminologia:

Tipo Interfaccia delle chiamate di sistema.

Kernel Tipo di kernel: generalmente monolitico o ibrido (vanno tanto di moda!)

Architetture Le architetture hardware supportate dal sistema operativo.



Linux (ultima versione: 2.6.27)

Licenza: GPL v.2

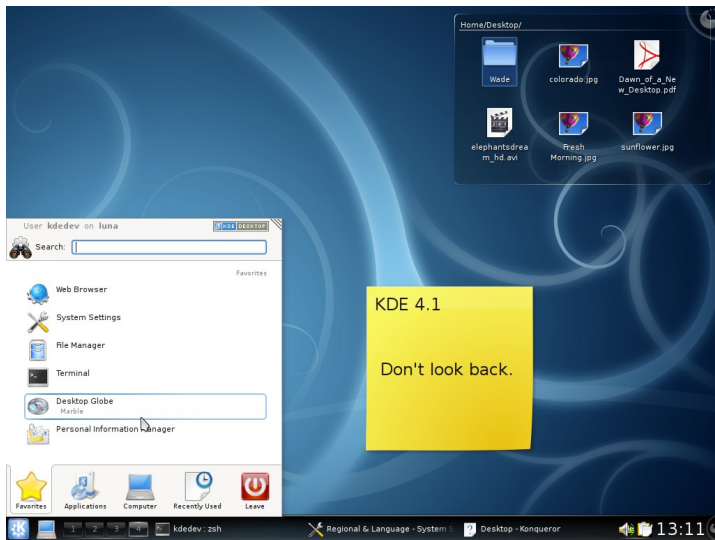
Tipo: Unix-like

Kernel: Monolitico modulare

Architetture: alpha, arm, avr32, cris, h8/300, hp-pa, ia64, m32r, m68k, mips, powerpc, s/390, system z, sparc, superH, v850, x86, xtensa

Sito di riferimento: www.kernel.org

Linux (screenshot)





Minix (ultima versione: 3.1.3)

Licenza: BSD

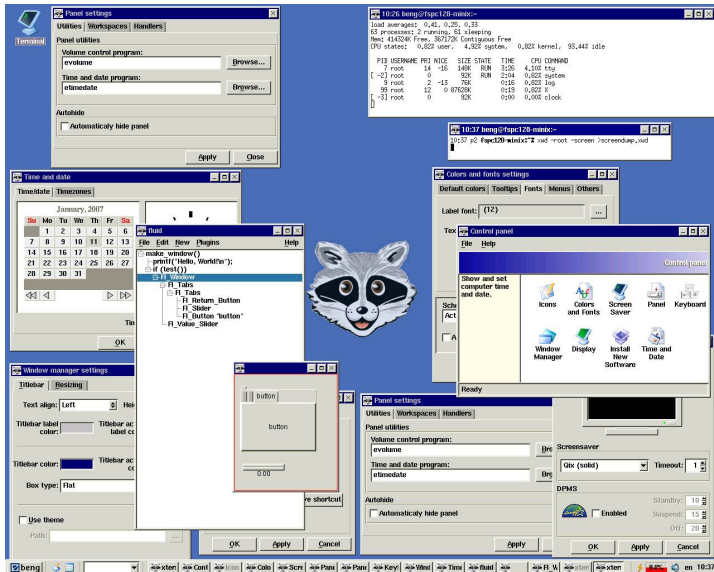
Tipo: Unix-like

Kernel: Microkernel

Architetture: i386, *arm*, *powerpc*, *mips*

Sito di riferimento: www.minix3.org

Minix (screenshot)





OpenSolaris (ultima versione: 2008.05)

Licenza: CDDL

Tipo: Unix-like

Kernel: Monolitico modulare

Architetture: sparc, x86, system z, *powerpc*

Sito di riferimento: www.opensolaris.com

OpenSolaris (screenshot)





Haiku (ultima versione: alpha-r28303)

Licenza: MIT

Tipo: BeOS

Kernel: Ibrido

Architetture: i386

Sito di riferimento: www.haiku-os.org

Haiku (screenshot)





ReactOS (ultima versione: 0.3.6)

Licenza: GPL, LGPL, BSD

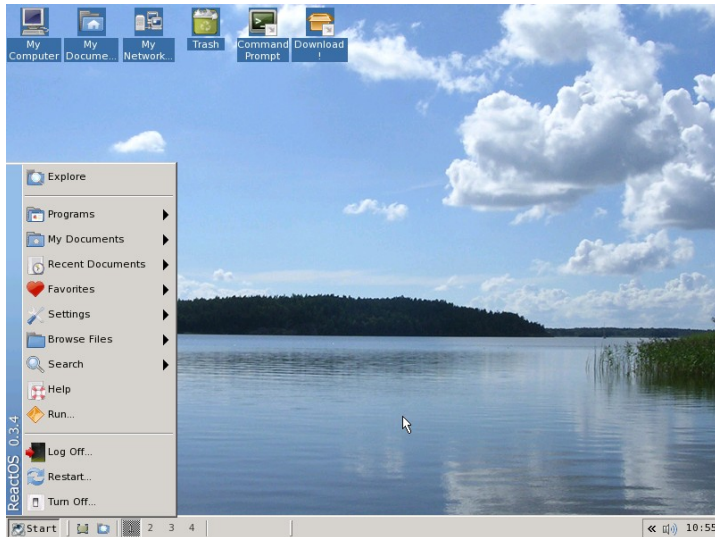
Tipo: Windows

Kernel: Ibrido

Architetture: i386

Sito di riferimento: www.reactos.org

ReactOS (screenshot)





FreeBSD (ultima versione: 7.0)

Licenza: BSD

Tipo: Unix-like

Kernel: Monolitico modulare

Architetture: x86, ia64, powerpc, sparc64

Sito di riferimento: www.freebsd.org

FreeBSD (screenshot)

The screenshot displays a FreeBSD desktop environment with KDE. The System Monitor window is open, showing a list of processes with columns for Name, User Name, CPU %, Shared Mem, and Window Title. The terminal window shows a chat log with messages from 'gahrh' and 'aseuca'. The desktop background is dark blue with a clock showing 22:01 on Thu, 21 Feb 2008. The taskbar at the bottom shows icons for the terminal, System Monitor, and other applications.

System Monitor Process Table:

Name	User Name	CPU %	Shared Mem	Window Title
init	root,-1	0%	0 k	
laccess	mmv,-1	4%	0 k	86,016 k
klipper	mmv,-1	0%	0 k	18,625,664 k
konsole	mmv,-1	4%	0 k	19,877,888 k
master	root,-1	0%	0 k	32,657,408 k : <3>
sh	mmv,-1	0%	0 k	458,752 k
mpd	root,-1	0%	0 k	1,036,288 k
sshd	root,-1	0%	0 k	458,752 k
cron	root,-1	0%	0 k	405,504 k
lighttpd	mmv,-1	0%	0 k	1,703,936 k
parif8.0	root,-1	0%	0 k	11,452,416 k
login	root,-1	2%	0 k	
getty	root,-1	0%	0 k	
getty	root,-1	0%	0 k	
getty	root,-1	0%	0 k	
getty	root,-1	0%	0 k	
getty	root,-1	0%	0 k	
kdeinit4	mmv,-1	0%	0 k	15,106,048 k
getty	root,-1	0%	0 k	
sdjkmzt	root,-1	0%	0 k	
syslogd	root,-1	0%	0 k	548,864 k
getty	root,-1	0%	0 k	
polkitd	root,-1	0%	0 k	
hald	hald@daemon,-1	0%	0 k	1,645,888 k
gdm	nobody,-1	0%	0 k	1,862,376 k
gdm	root,-1	0%	0 k	212,992 k
dbus-launch	mmv,-1	0%	0 k	1,003,520 k
dbus-daemon	mmv,-1	0%	0 k	1,380,352 k
dbus-launch	root,-1	0%	0 k	1,556,480 k
dbus-daemon	root,-1	0%	0 k	1,523,712 k
dbus-daemon	root,-1	0%	0 k	1,343,488 k
dbus-daemon	messagebus,-1	0%	0 k	843,776 k
cvsupd	mmv,-1	0%	0 k	
kde4	mmv,-1	2%	0 k	29,089,792 k
mouse	root,-1	0%	0 k	704,512 k
smartd	root,-1	0%	0 k	491,520 k

112 processes CPU: 9% Memory: 755.8 MB / 1,007.4 MB

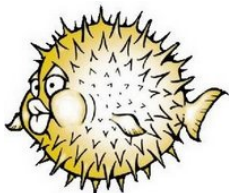
About System Monitor:

System Monitor
Version 4
Using KDE 4.0.1 (KDE 4.0.1)

About Authors

KDE System Monitor
(c) 1996-2008 The KDE System Monitor Developers
[License: GNU General Public License Version](#)

Close



OpenBSD (ultima versione: 4.3)

Licenza: BSD

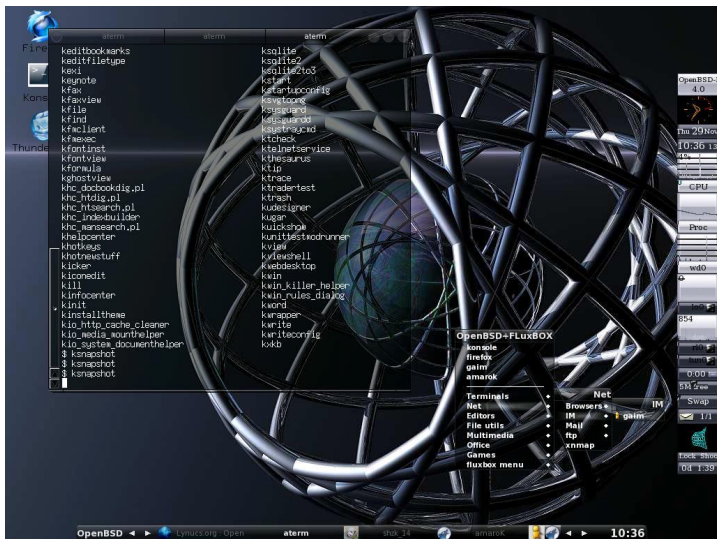
Tipo: Unix-like

Kernel: Monolitico modulare

Architetture: alpha, arm, hp-pa, m68k, m88k, mips, powerpc, superH, sparc, vax, x86

Sito di riferimento: www.openbsd.org

OpenBSD (screenshot)





NetBSD (ultima versione: 4.0.1)

Licenza: BSD

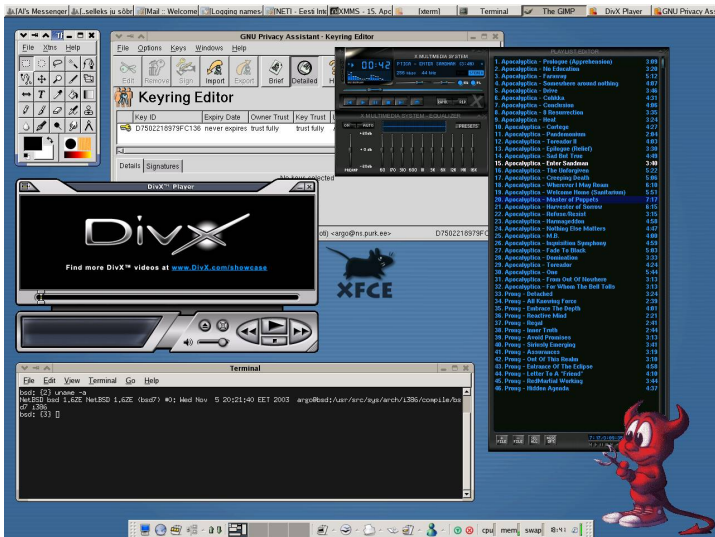
Tipo: Unix-like

Kernel: Monolitico modulare

Architetture: alpha, arm, hp-pa, m68k, mips, powerpc,
superH, sparc, vax, x86, *ia64*

Sito di riferimento: www.netbsd.org

NetBSD (screenshot)



DragonFlyBSD (dettagli)



DragonFlyBSD

DragonFlyBSD (ultima versione: 2.0.1)

Licenza: BSD

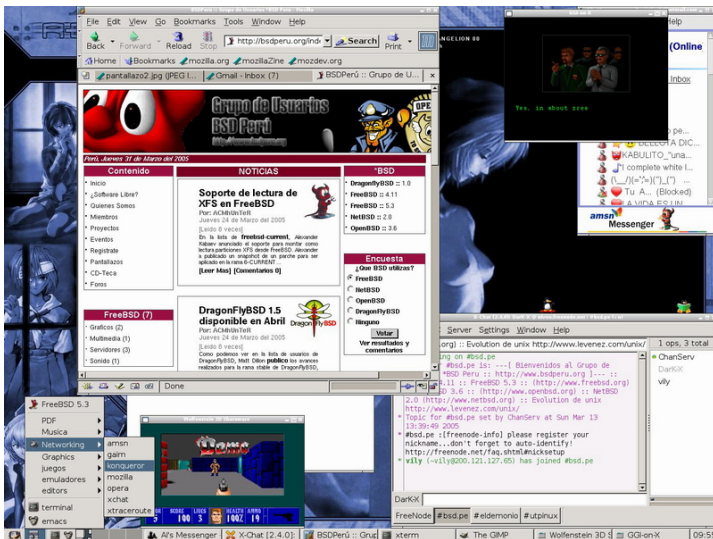
Tipo: Unix-like

Kernel: Ibrido

Architetture: i386

Sito di riferimento: www.dragonflybsd.org

DragonFlyBSD (screenshot)





DesktopBSD (ultima versione: 1.6)

Licenza: BSD

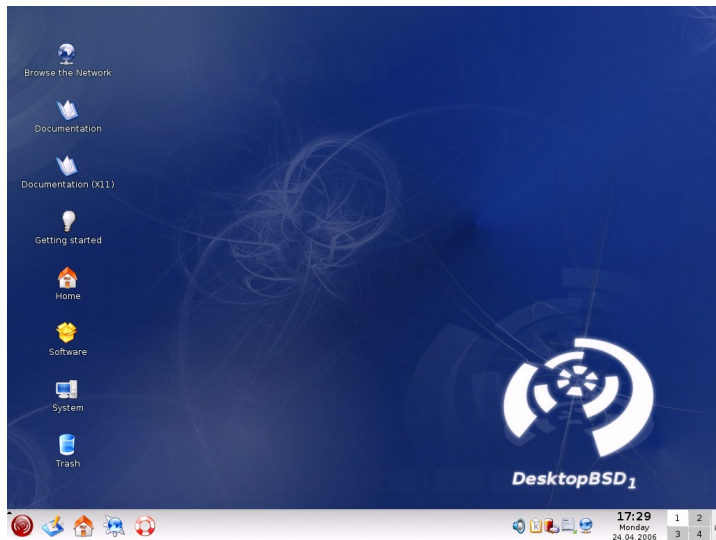
Tipo: Unix-like

Kernel: Monolitico modulare

Architetture: x86

Sito di riferimento: www.desktopbsd.net

DesktopBSD (screenshot)





PC-BSD (ultima versione: 7.0)

Licenza: BSD

Tipo: Unix-like

Kernel: Monolitico modulare

Architetture: x86

Sito di riferimento: www.pcbsd.org

PC-BSD (screenshot)

The screenshot displays the PC-BSD System Guard interface. The main window is titled "Process Table [modified] - KDE System Guard". It features a menu bar (File, Edit, Settings, Help) and a toolbar. On the left, there's a "Sensor Browser" showing "localhost". The main area is divided into "System Load" and "Process Table" tabs. The "Process Table" tab shows a list of running processes on "localhost".

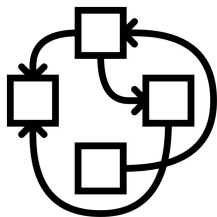
Name	PID	User%	System%	Nice
NetworkTray	1780	0.10	0.00	0
SystemUpdater	1835	0.00	0.00	0
Xorg	1520	21.58	0.00	0
acpi_task_0	6	0.00	0.00	0
acpi_task_1	7	0.00	0.00	0
acpi_task_2	8	0.00	0.00	0
adjkerntz	132	0.00	0.00	0
airtd	1735	0.00	0.00	0
bufdaemon	40	0.00	0.00	0
cron	1069	0.00	0.00	0
csd	4492	0.00	0.00	0
cupsd	873	0.00	0.00	0
dbus-daemon	902	0.00	0.00	0
devd	667	0.00	0.00	0
dhclient	291	0.00	0.00	0
dhclient	297	0.00	0.00	0
fdcd	35	0.00	0.00	0
g_down	4	0.00	0.00	0
g_event	2	0.00	0.00	0
g_up	3	0.00	0.00	0
gam_server	1598	0.00	0.00	0
gam_server	4510	0.00	0.00	0

Below the table are checkboxes for "Free" and a "Refresh" button. At the bottom, system statistics are shown: "123 Processes", "Memory: 234,888 KB used, 14,364 KB free", and "Swap: 20,808 KB used, 503,352 KB free".

Overlaid on the right is the "Configure - KDE Control Module" dialog. It contains a table of services and their configurations:

Service Name	Status	Enabled at Startup	Description
CUPS (Common UNIX Printing System)	Running	Startup Enabled	The default printing s
Denyhosts	Running	Startup Enabled	Blocks brute-force SS
FreeBSD Update	Stopped	Startup Disabled	Installs FreeBSD upda
HAL (Hardware Abstraction Layer)	Running	Startup Enabled	Provides a system-fr
OSS (Open Sound System)	Stopped	Startup Disabled	Provides the default
PF (Personal Firewall)	Running	Startup Enabled	Enables the System F
PF Generator	Stopped	Startup Disabled	Generates your PF ru
SSH (Secure Shell)	Running	Startup Enabled	Enables encrypted sh
cpufreq module	Stopped	Startup Disabled	Enables the cpufreq

The dialog has buttons for "Start", "Stop", "Restart", "Enable Startup", and "Disable Startup". At the bottom right, there are "OK" and "Apply" buttons.



Hurd (ultima versione: CVS)

Licenza: GPL

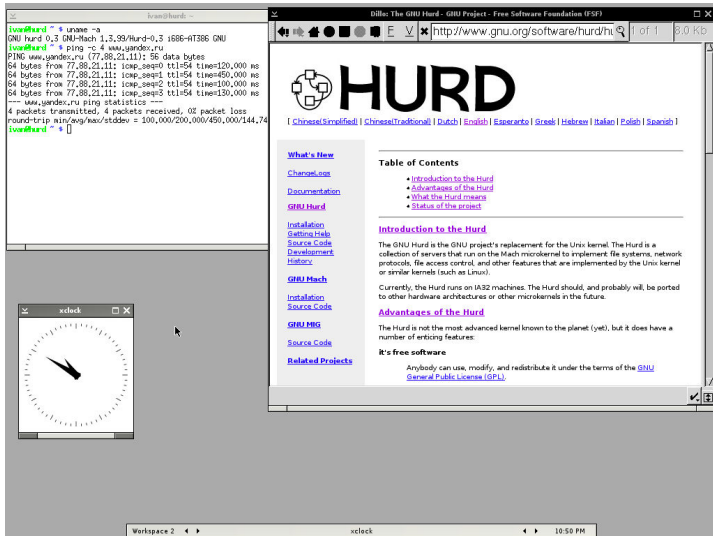
Tipo: Unix-like

Kernel: Microkernel

Architetture: x86

Sito di riferimento: www.gnu.org/software/hurd/

Hurd (screenshot)



FreeDOS (dettagli)



FreeDOS (ultima versione: 1.0)

Licenza: GPL

Tipo: DOS

Kernel: Monolitico

Architetture: i386

Sito di riferimento: www.freedos.org

FreeDOS (screenshot)



FreeDOS 1.0 Final CD
<http://www.freedos.org>

- 1) Continue to boot FreeDOS from CD-ROM
- h) Boot from first harddisk (0x80)
- a) Boot from first floppy drive (0x00)
- q) Skip CD-Rom boot (try next boot device)

Press ENTER to boot FreeDOS from CD.

When no key is pressed within 2 min, harddisk will be booted...

boot: _

Plan9 (dettagli)



Plan9 (ultima versione: quarta edizione)

Licenza: Lucent Public License

Tipo: POSIX

Kernel: Ibrido

Architetture: alpha, arm, mips, powerpc, sparc, x86

Sito di riferimento: plan9.bell-labs.com/plan9/

Plan9 (screenshot)

Sun Jun 11 12:45

Germany

olive(4) anna achille

1
o
a
c
o
n

rscl /dev/n 12:17
jmk skipt tklopp john bruce lorenz 11:47 02:50 02:03 Jun 10 Jun 10

Mail Newcol Kill Putall Dump Exit

%g scat
ori
638 items
plot nogr

New Cut Paste Snarf Sort Zerox Delcol
/mail/fs/mbox/34/ Del Snarf | Look Reply all Delmesg Save

---> 3/ (multipart/mixed) [inline]

mkbox /mail/box/\$user/new_box

/mail/fs/mbox/ Del Snarf | Look Put Mail

34/ Russ Cox <rsc@plan9.bell-labs.com> Su
n 11 Jun 12:17
34/1/ (text/plain)
34/2/ rob pike <rob> (text/plain)
34/3/ renee french <cornelia@world.s
d.com>
34/3/1/ (text/plain)
34/3/2/ (image/jpeg)
34/3/3/ (text/plain)

33/ /dev/null Sun 11 Jun 11:47
32/ jmk Sun 11 Jun 11:16
32/1/ (text/plain)
32/2/ DAGwyn@aol.com (text/pl

/usr/rob/lib/plumbing Del Snarf | Look |
to update: cp /usr/\$user/lib/plumbing /mnt/
plumb/rules
editor = acme

body.jpg /usr/rob/plan9bunnysm.jpg

Plan 9 from Bell Labs

3-6 augrim, 4 -ym, 5 -ime,
-ime, 7 agrum, algrim. 8. 4-6
jarosme, augorism(e, augrisme,
7-9 algorism, algorithm. [a. OFr. augorisme, algorisme, augorime;
ad. med.L. algorism-us (cf. Sp. guarismo cipher), f. Arab. al-Khawārizmī
the native of Khwārazm (Khiva), surname of the Arab mathematician
Abu Ja'far Mohammed Ben Musa, who flourished early in the 9th
c., and through the translation of whose work on Algebra, the
Arabic numerals became generally known in Europe. (Cf. 'Euclid'
= plane geometry.) Algorisme being popularly reduced in OFr.
to augorime, English also shows two forms, the popular augrim,
ending in agrim, agrum, and the learned algorism which passed

3-6 augrim, 4 -ym, 5 -ime,
-ime, 7 agrum, algrim. 8. 4-6
jarosme, augorism(e, augrisme,
7-9 algorism, algorithm. [a. OFr. augorisme, algorisme, augorime;
ad. med.L. algorism-us (cf. Sp. guarismo cipher), f. Arab. al-Khawārizmī
the native of Khwārazm (Khiva), surname of the Arab mathematician
Abu Ja'far Mohammed Ben Musa, who flourished early in the 9th
c., and through the translation of whose work on Algebra, the
Arabic numerals became generally known in Europe. (Cf. 'Euclid'
= plane geometry.) Algorisme being popularly reduced in OFr.
to augorime, English also shows two forms, the popular augrim,
ending in agrim, agrum, and the learned algorism which passed

window
x
x.gif
y
日本語
%g ech
%g I

y



QNX SOFTWARE SYSTEMS

QNX (ultima versione: 6.3.2)

Licenza: ?

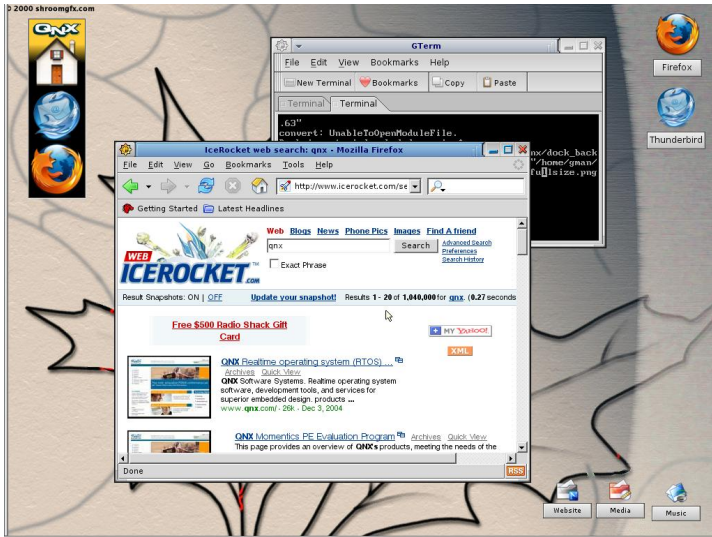
Tipo: POSIX

Kernel: Microkernel realtime

Architetture: arm, mips, powerpc, superH, intel 8088, x86

Sito di riferimento: www.qnx.com

QNX (screenshot)





Syllable (ultima versione: 0.6.5)

Licenza: GPL

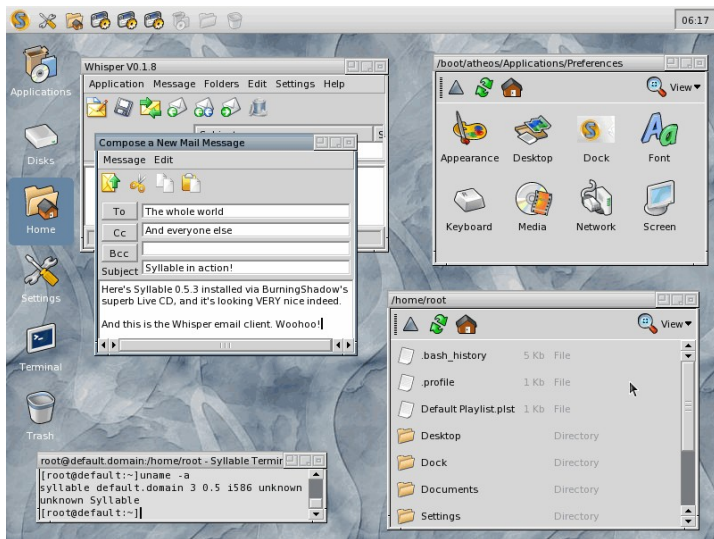
Tipo: POSIX

Kernel: Ibrido

Architetture: i386

Sito di riferimento: www.syllable.org

Syllable (screenshot)



JNode (dettagli)



JNode (ultima versione: 0.2.7)

Licenza: LGPL

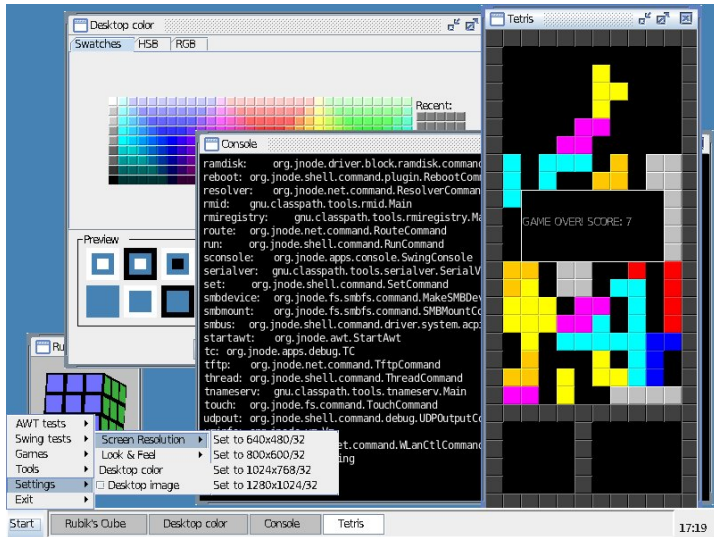
Tipo: Java

Kernel: Esotico

Architetture: x86

Sito di riferimento: www.jnode.org

JNode (screenshot)



KolibriOS (dettagli)



KolibriOS (ultima versione: 0.7.1.0)

Licenza: GPL

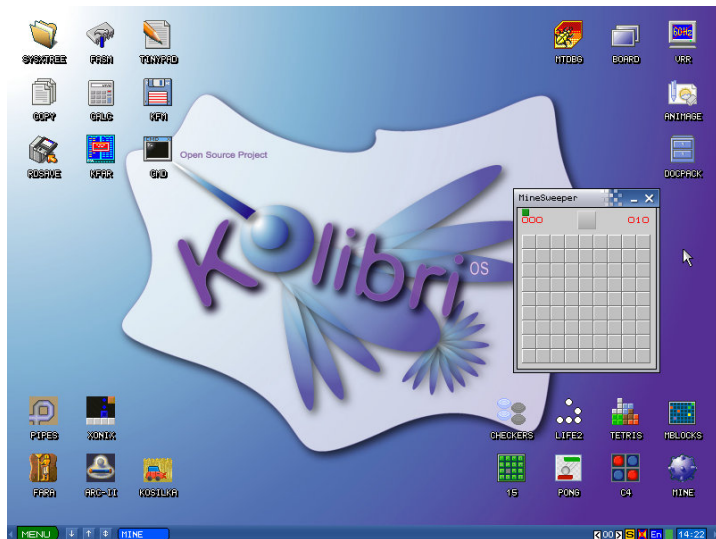
Tipo: Esotico

Kernel: Monolitico

Architetture: i386

Sito di riferimento: www.kolibrios.org

KolibriOS (screenshot)



Darwin (dettagli)



Darwin (ultima versione: 9.5.0)

Licenza: Apple Public Source License

Tipo: Unix-like

Kernel: Ibrido

Architetture: arm, powerpc, x86

Sito di riferimento: developer.apple.com/opensource/

Darwin (screenshot)



Happy hacking!