

*“Now what can I do with
that old XP®
computer?”*



**Stew Bottorf
Dunedin, FL
Tampa Bay Computer Society**

*“Linux
for mostly
Windows®
users”*



TARGET AUDIENCE:

- ✓ a Windows user who is considering using Linux
- ✓ an enthusiastic Windows power user at work or home
- ✓ build on their Windows skills
- ✓ someone new to Linux (maybe even reluctant to try)
- ✓ an adventurer





*Yes, my XP computer
is super-slow and
Microsoft support ends
April 8th...*

*But why would
I want to
learn Linux?*

Windows XP home users should upgrade to Linux -- not Windows 8.1



By **Brian Fagioli**

Published 5 days ago

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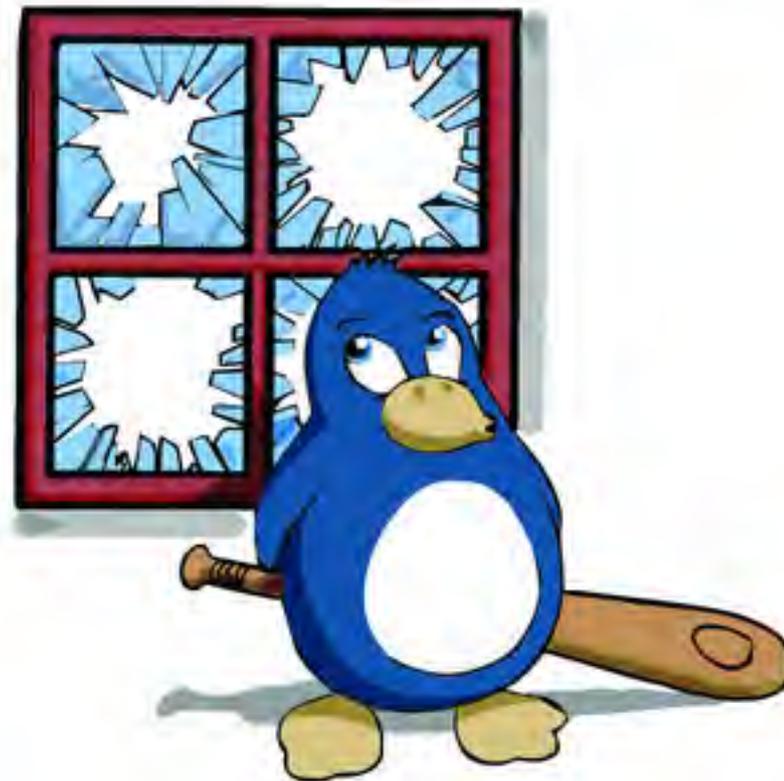
[Tweet](#)

84

The Windows XP death clock is ticking away. While Microsoft has [extended support](#) for malware protection, do not be fooled -- XP will be officially unsupported on April 8. If Microsoft has its druthers, these XP users will upgrade to Windows 8 and maybe even buy a new computer.

However, there is a problem with this -- the Windows 8 UI is radically different from XP and people do not like change (especially people clinging to an operating system from 2001). Also, they may not need to buy a new computer, because their existing is probably fast enough... for Linux!

Yes, Linux is far less intensive than the arguably bloated Windows. And so, if a user wants a supported operating system that should work well on their existing, but aging hardware, a Linux-based OS may be the best choice. The problem is, what distribution should a user choose? What software is



Laptop
Nettop
Desktop



Atom or Pentium
Processor

1 Gb RAM

Wireless or wired Ethernet

USB or CD/DVD Drive

Just about any computer made in the last 15 years!

Advantages of Windows

Software standard
(nearly everyone uses it)

Better support (both paid and free)

Better hardware support



Advantages of Linux

Cost - Software and Licenses (it's hard to beat \$0)

Install Linux on as many computers as you like

No application costs

Better stability (uptime)

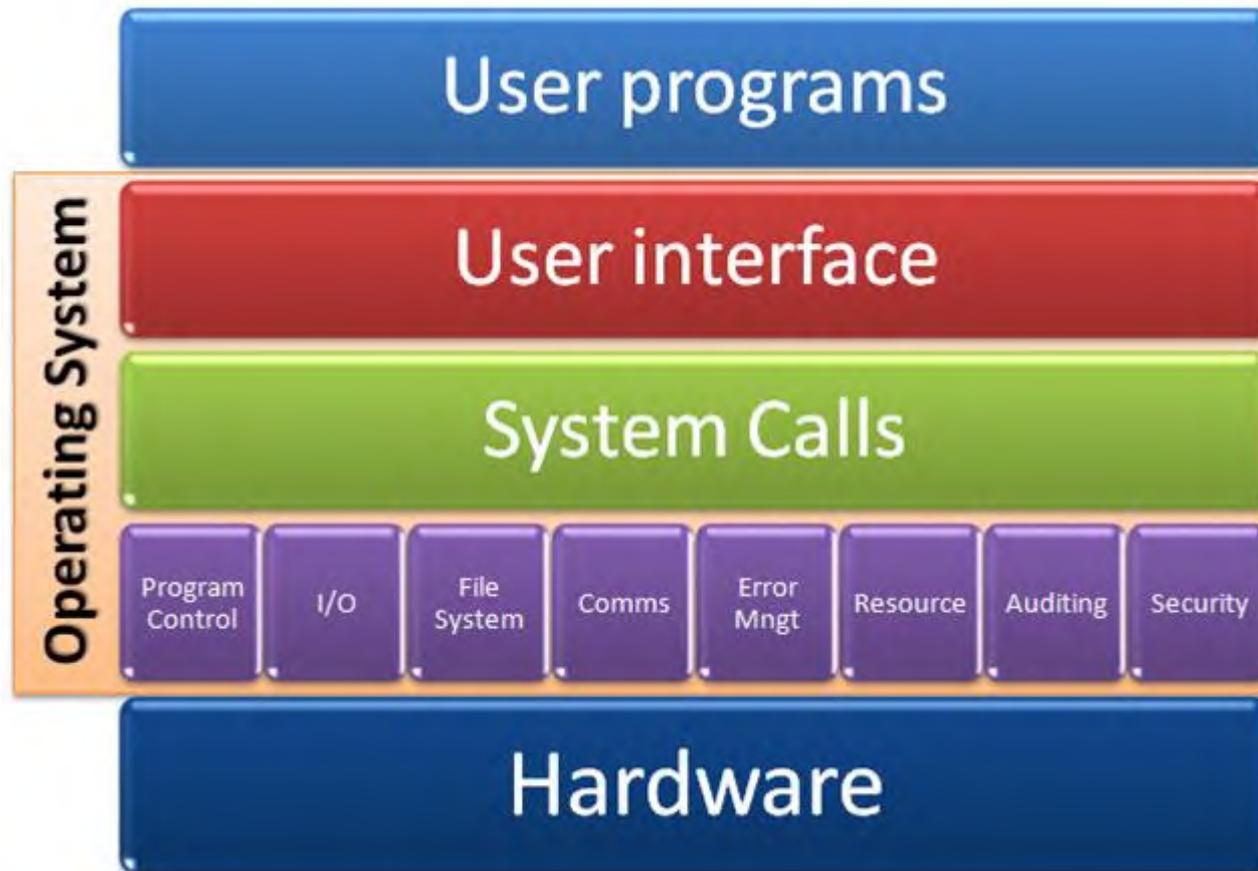
Better file organization on HDD
(defrag never required)

Anti-virus protection not needed



Operating System (OS)

The heart and soul of a computer.



Computer Operating Systems



Windows

OS X iOS (Mac)



UNIX

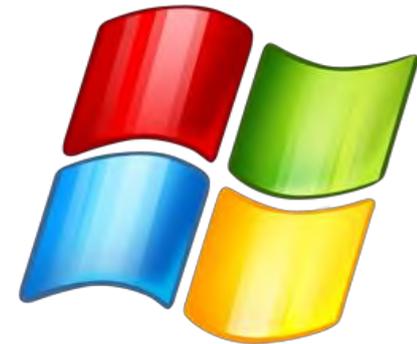


Linux

BSD

Android

Chromium

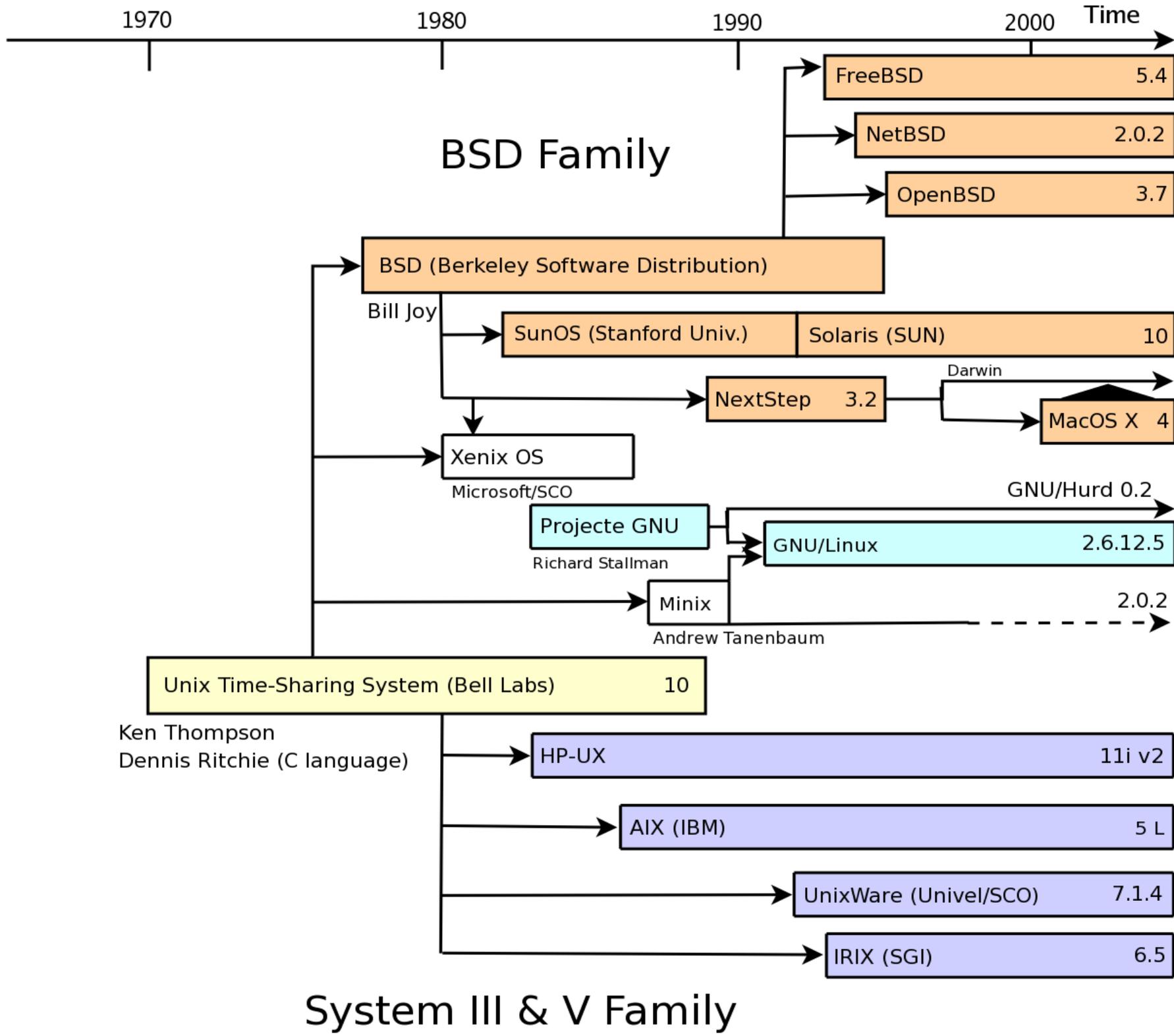


UNIX is the Granddaddy OS

Developed by Bell Labs
1971

Still being sold







Open Source Heros

Richard Stallman
Linus Torvalds



open source



Watch Revolution OS

My Smörgåsbord of Linux Terms



Distribution (distro)

Packages

dependencies

Program (software
or application)

Desktop Environment
(GUI)

User

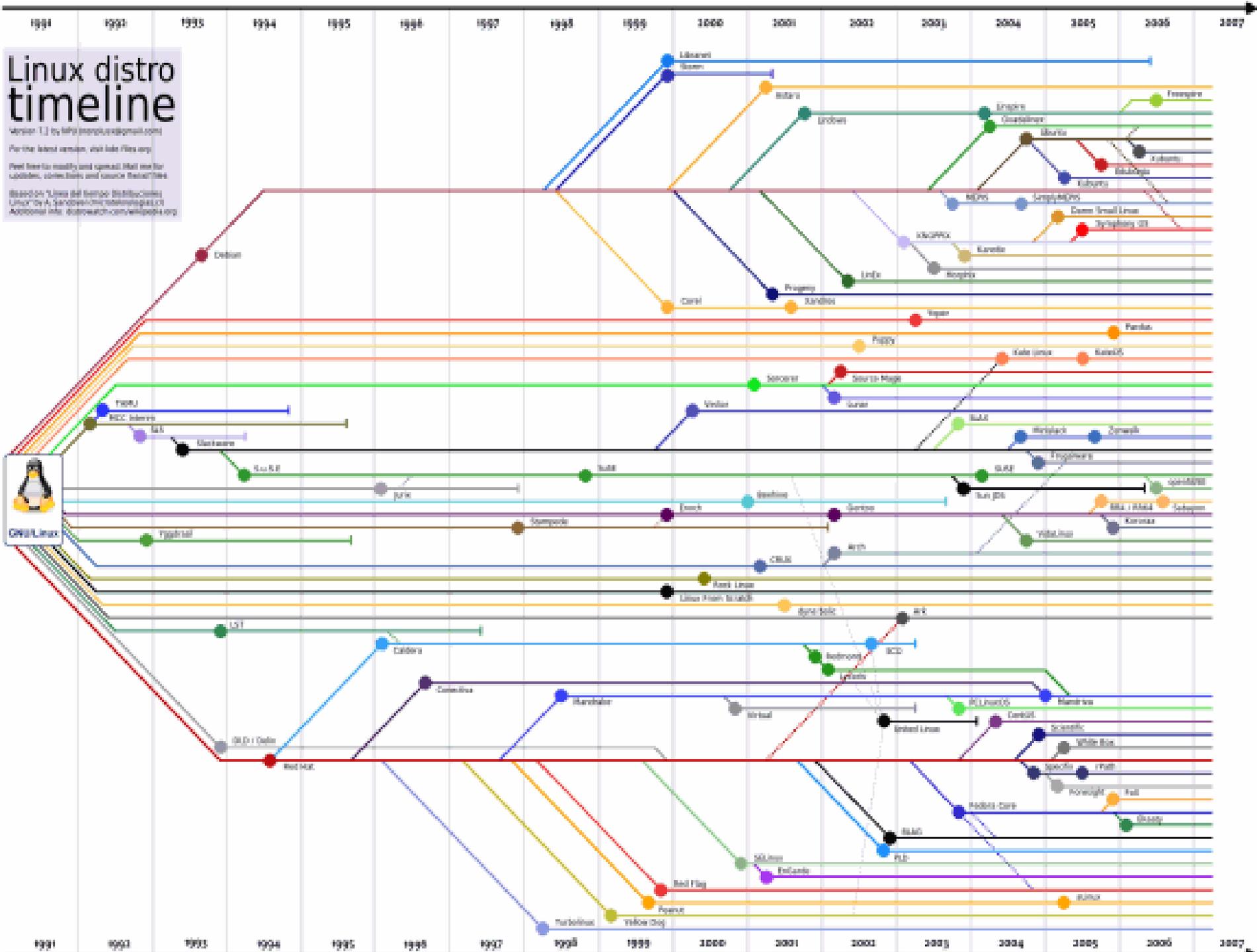
Memory (RAM)

Root (2)

Web address
(URL)

Operating System
(OS)





THE LXLE DESKTOP

[HOME](#) [ABOUT](#) [SUPPORT](#) [CONTACT](#) [REVIEWS](#) [SOAPBOX](#) [PRIVACY](#) [DONATE](#)

Revive that old PC!

LXLE Linux 12.04.4



Full featured OS for an aging PC.

Release Candidate Now Available

- Light on resources; Heavy on functions.
- Always based on Ubuntu/Lubuntu LTS.
- Uses an optimized LXDE user interface.
- Four familiar desktop layout paradigms.
- Prudent full featured Apps preinstalled.
- The latest versions of all major software.
- Added PPA's extends available software.
- Updated Openbox, PCmanfm, OpenJDK
- Fast Forecast, Aero Snap, Quick Launch
- Random Wallpaper, Panel Trash access
- Theme consistency throughout system.
- 50 gorgeous wallpapers preinstalled.
- Numerous other tweaks/additions.
- Stable and rock solid performance.
- 32 and 64 bit OS versions available.
- Boots & is online in less than 1 minute.

[What others are saying](#)

[Download Now](#)

"This is fabulous. I'll try this on a few old laptops I have." - B. De

So, you're ready to try Linux !

Four Installation Steps:

1. Planning: where & how you will install Linux?
Alone? Alongside Windows? (Inside Windows?)
2. Download an ISO or image file
3. Burn ISO to DVD/CD or USB
4. Run the install program

(I always try to use a wired Ethernet cable)

Step #1 -- Planning

Step #2 –Download image (ISO)



or use Google

Select the distro to install

Choose 32 or 64 bit file

Download or torrent from a safe site

Save this ISO file to your HDD

(remember, ISO's must be unpacked before using)

Step #3 - Burn Image

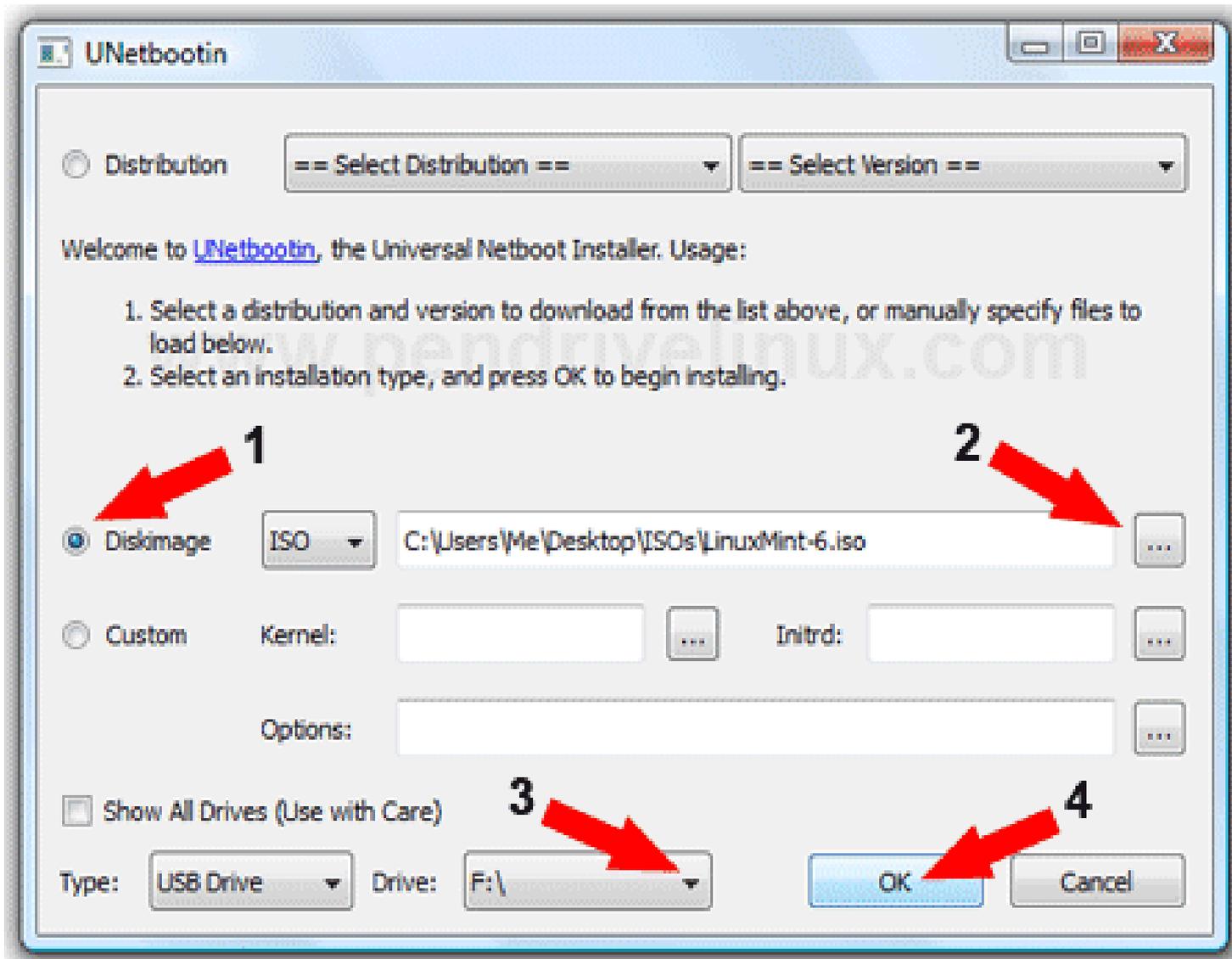
Tools for burning an ISO to an optical disk:

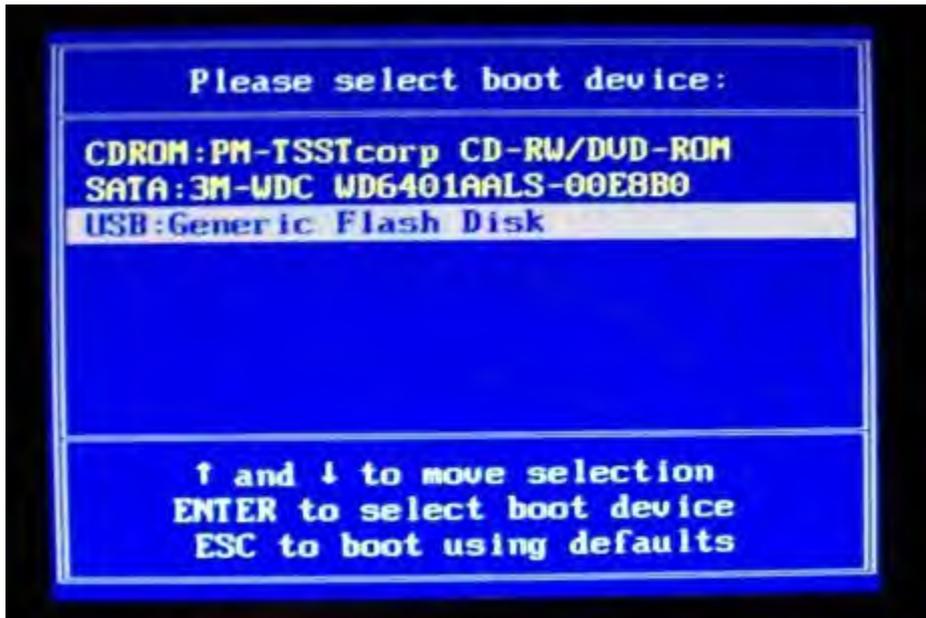
Windows® Vista, 7 and 8 (right click)
Nero, Image burn, K3b

Best tool for burning an ISO to USB stick:



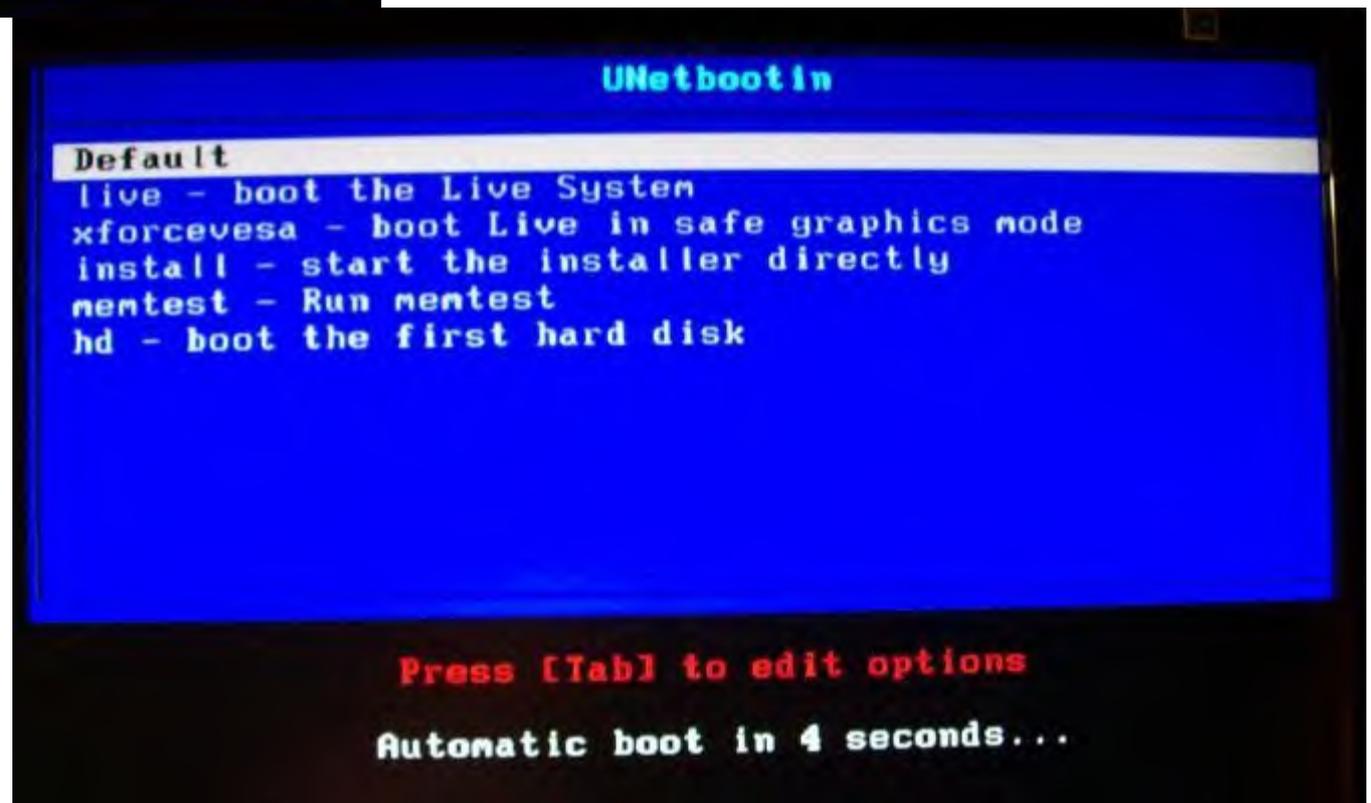
UNetbootin





BIOS

Unetbootin





Install LXLE 32-bit

1m 46s

cpu	3%
ram	11%
hdd	9%

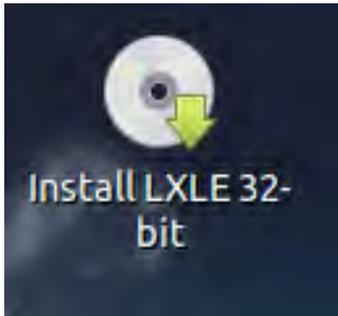
disk	0B
ldavg	1.29

upload	110B
download	119B

231K / 12.4K	

Step #4 – Install Linux

Most all distros now install via a **LIVE DISC**



Linux Install Required Selections

Language

Keyboard

Checks for Updates and Third-Party Apps.

Partitioning Scheme

Time Zone

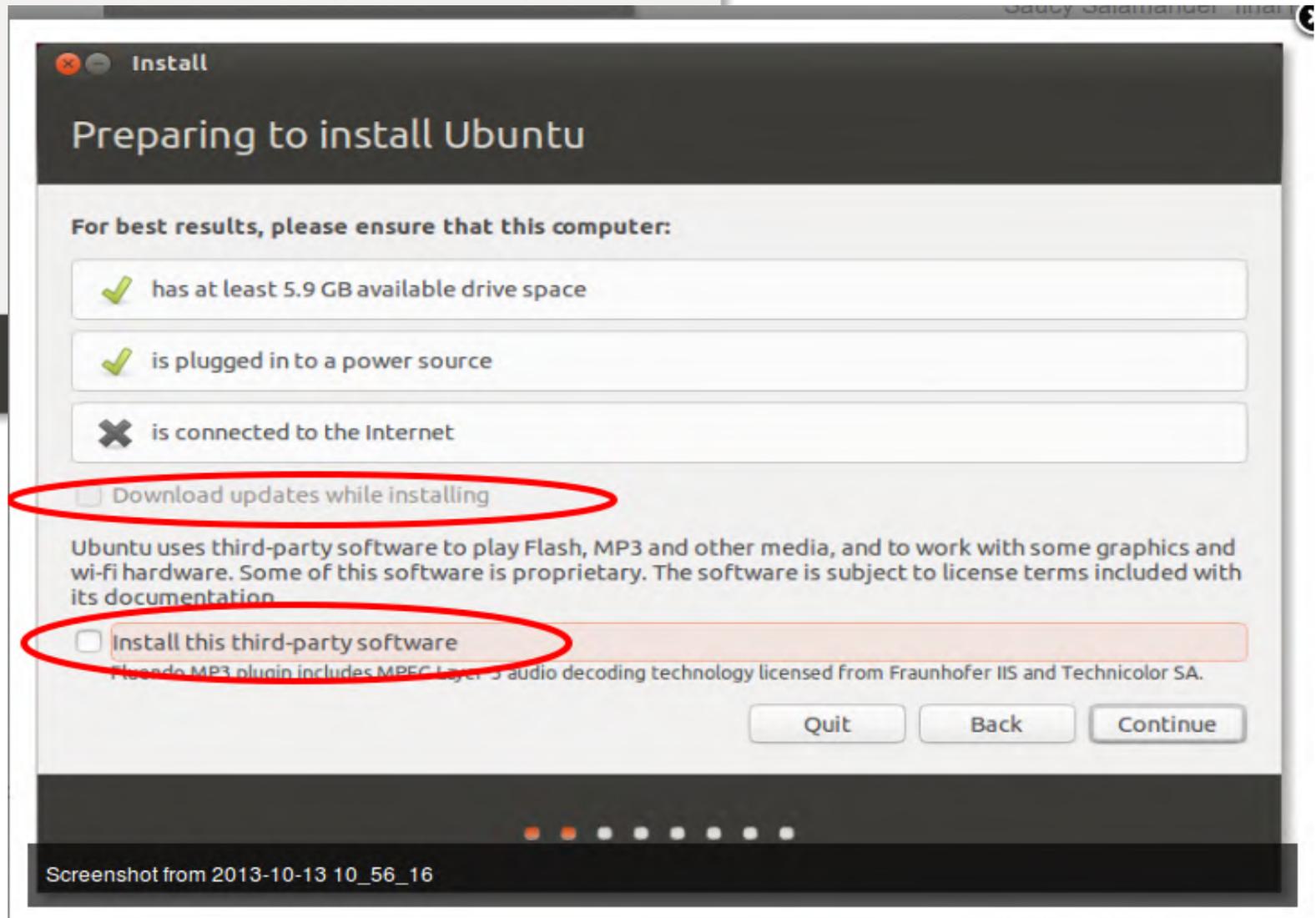
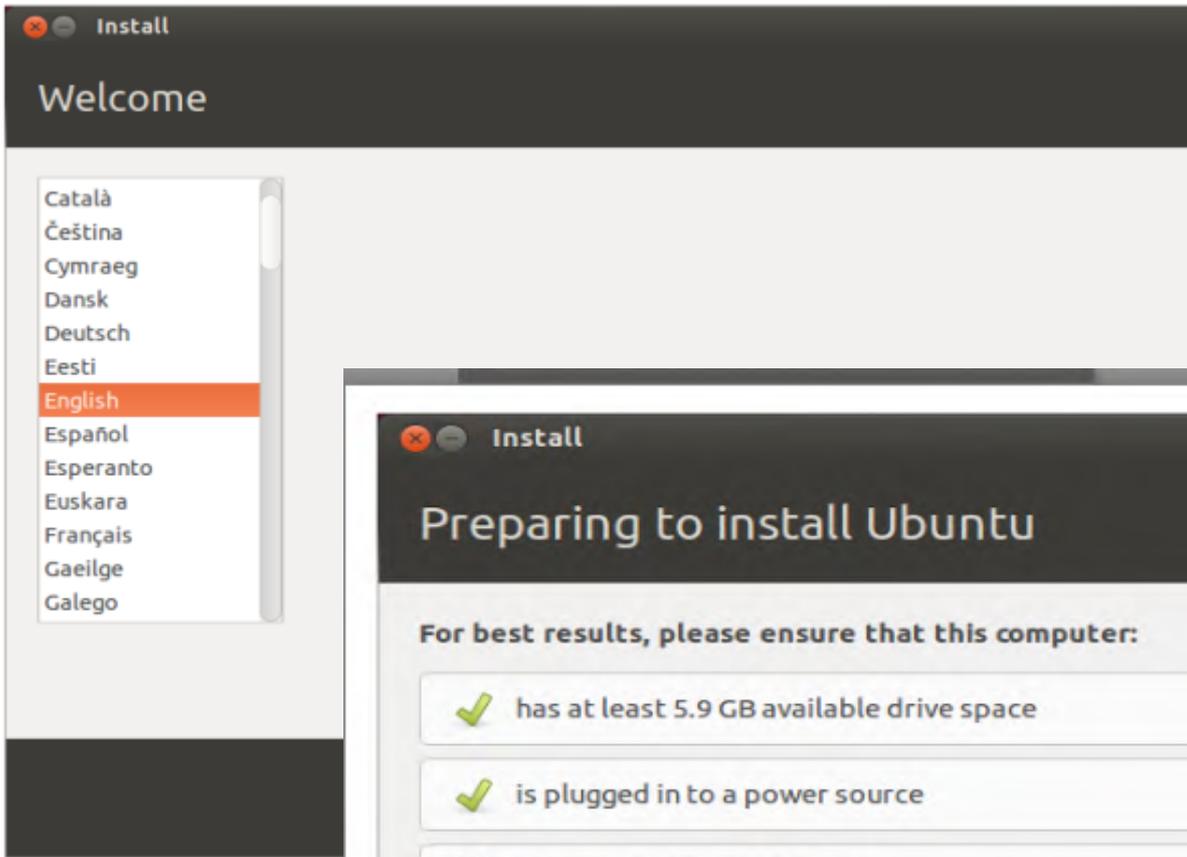
Computer name

User name

Password (write it down)

Autostart?





Install

Wireless

Connecting this computer to a wi-fi network allows you to install third-party software, download updates, automatically detect your timezone, and install full support for your language.

I don't want to connect to a wi-fi network right now

Connect to this network

- Intel Corporation Centrino Wireless-N 1000
 - Mooiweerhe
 - NCC1701E
 - Sitecom05B3F8
 - SitecomCA85D8
 - Thomson44BCB2
 - UPC0050029

Password:

Install

Installation type

This computer currently has multiple operating systems on it. What would you like to do?

Install Ubuntu alongside them
Documents, music, and other personal files will be kept. You can choose which operating system you want each time the computer starts up.

Erase disk and install Ubuntu
Warning: This will delete all your programs, documents, photos, music, and any other files in all operating systems.

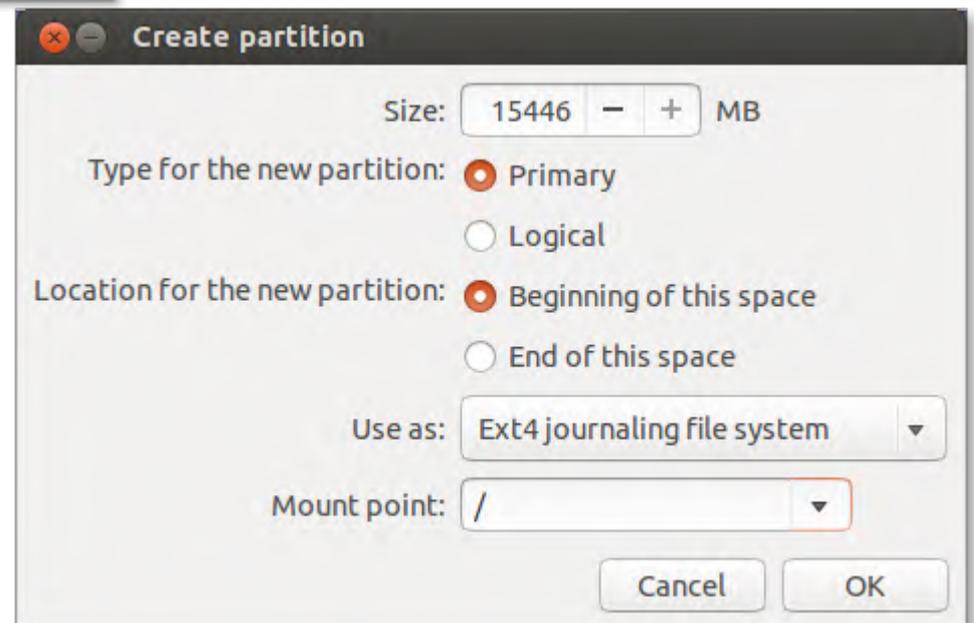
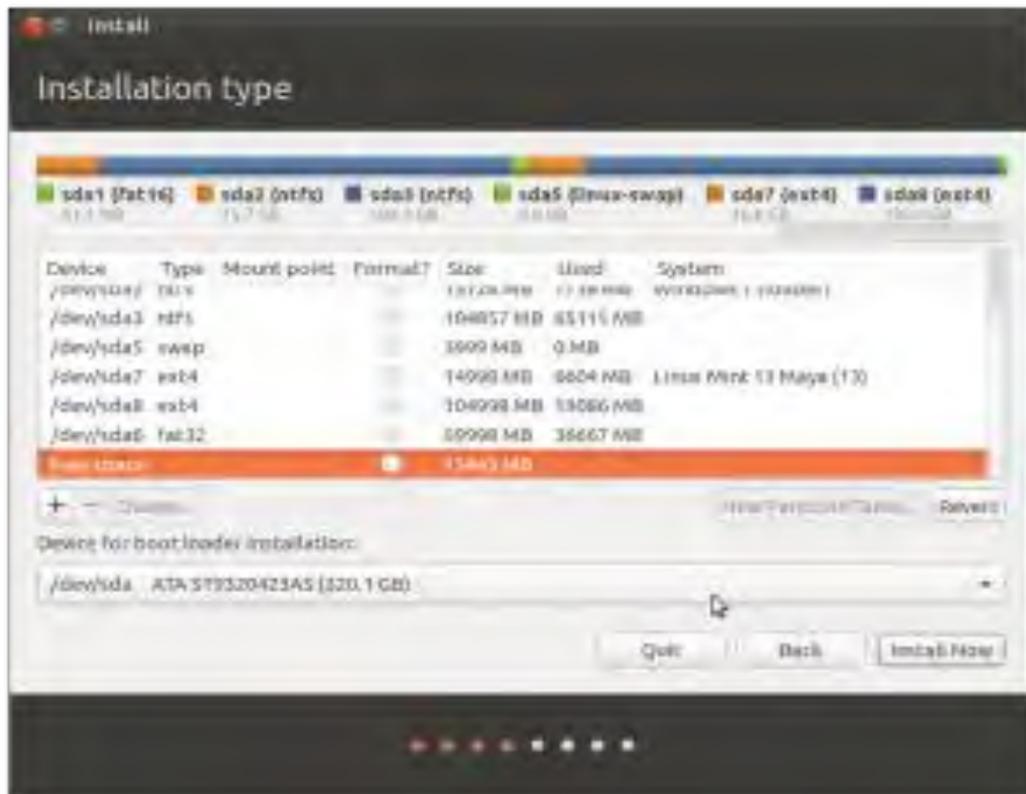
Encrypt the new Ubuntu installation for security
You will choose a security key in the next step.

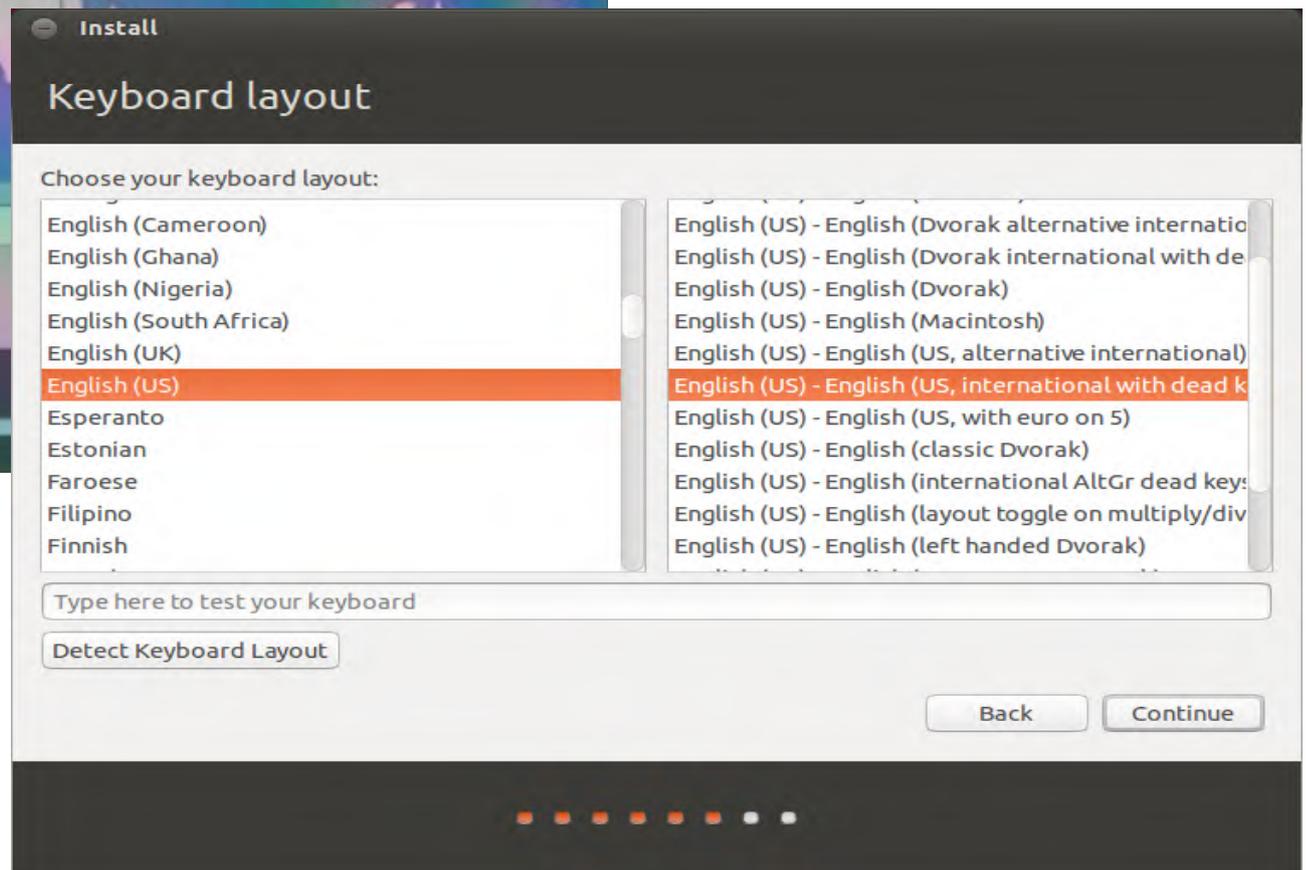
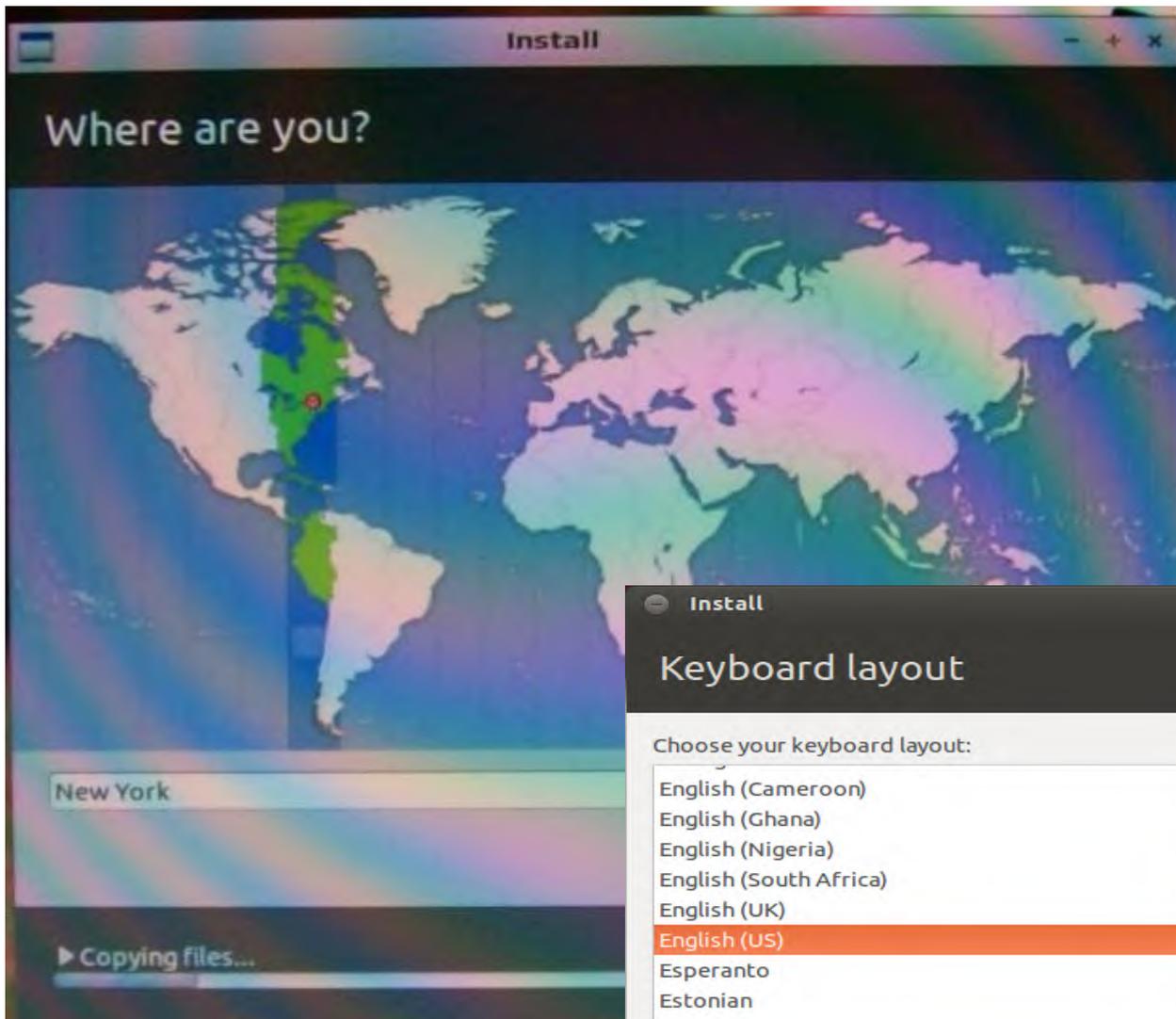
Use LVM with the new Ubuntu installation
This will set up Logical Volume Management. It allows taking snapshots and easier partition resizing.

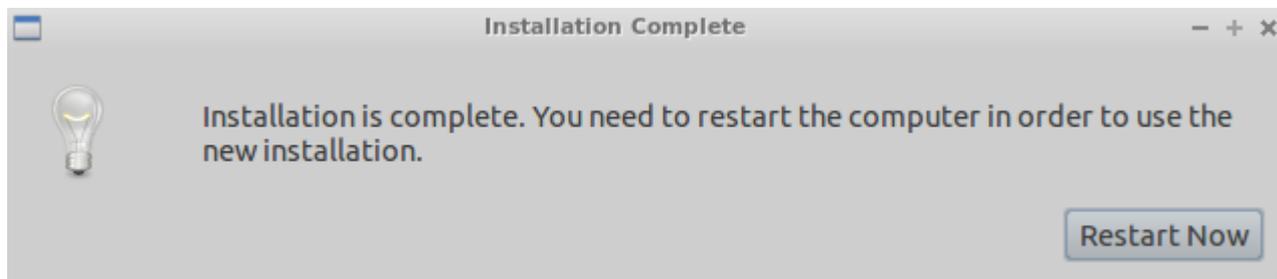
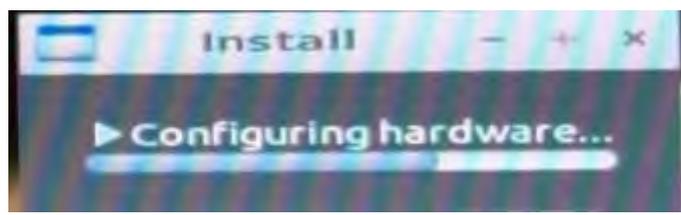
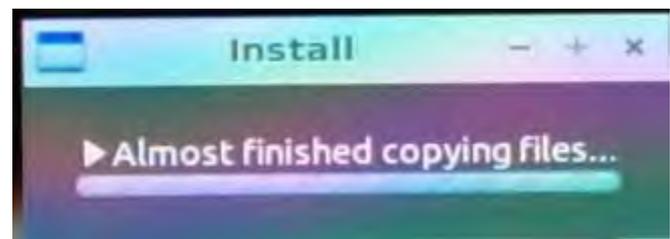
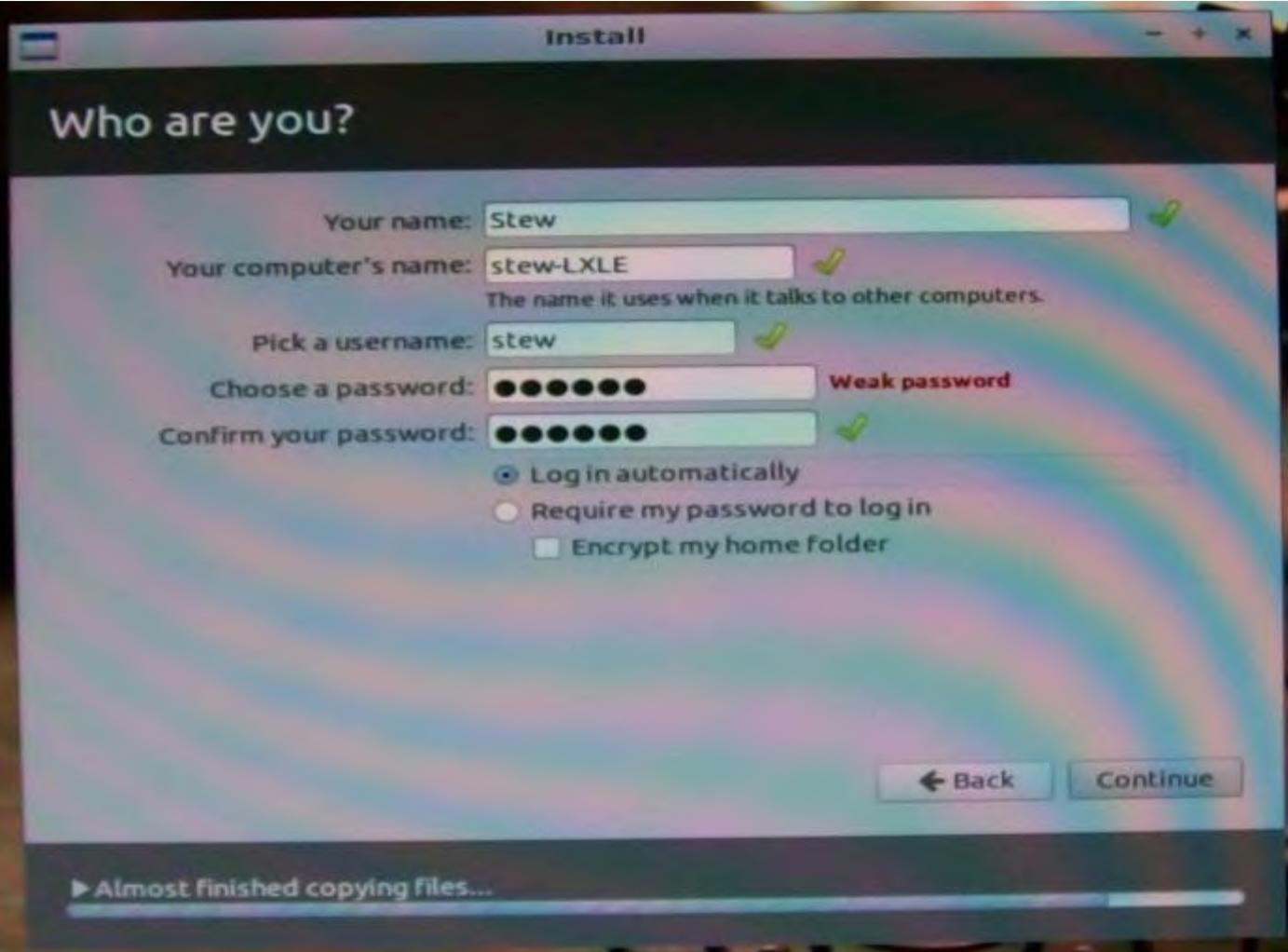
Something else
You can create or resize partitions yourself, or choose multiple partitions for Ubuntu.

Quit Back Continue

Progress indicator: 4 orange dots, 3 white dots









4h 54m	
cpu	3%
ram	12%
hdd	4%
<hr/>	
disk	0B
ldavg	0.25
<hr/>	
upload	0B
download	0B
<hr/>	
8.80M / 140M	

LXLE Included Applications Menu, Accessories, Graphics

- Accessories >
- Education >
- Games >
- Graphics >
- Internet >
- Office >
- Sound & Video >
- System Tools >
- Preferences >
- Terminal
- Run
- Search
- Logout

- Activity Log Manager
- Application Finder
- Archive Manager
- Catfish File Search
- Character Map
- ClamTk
- Disk Utility
- File Manager PCManFM
- Calculator
- gedit
- Image Viewer
- Leafpad
- LXLE Help
- Parcellite
- qshutdown
- Quick Launch (Alt+z)
- Random Wallpaper
- ROXTerm
- Screenshot
- Sunflower
- Weather
- Xpad

- Document Viewer
- Font Manager
- GIMP Image Editor
- LibreOffice Draw
- mtPaint graphic editor
- Shotwell
- Simple Image Reducer
- Simple Scan

LXLE Included Applications Internet, Office, A/V

- Dropbox
- FileZilla
- Firefox Web Browser
- Flush
- Google Chrome
- Linphone
- Pidgin Internet Messenger
- Remote Desktop Viewer
- Steam
- Sylpheed
- TeamViewer 9
- Thunderbird Mail
- Transmission
- uGet
- XChat IRC

- Dictionary
- Document Viewer
- FBReader
- HomeBank
- LibreOffice
- LibreOffice Base
- LibreOffice Calc
- LibreOffice Draw
- LibreOffice Impress
- LibreOffice Math
- LibreOffice Writer
- Osmo

- Asunder CD Ripper
- Audacious
- Audacity
- Brasero
- GNOME MPlayer
- Guayadeque Music Player
- gucvview
- Minitube
- Movie Player
- OpenShot Video Editor
- Pithos
- PulseAudio Volume Control
- vokoscreen
- WinFF
- Xfburn

Alternatives Configurator
Backup
Battery Info
BleachBit
BleachBit as Administrator
Control Center
Disk Usage Analyzer
Firewall Configuration
GDebi Package Installer
GParted
Hide/Show Info
IBus
LXTerminal
Menu Editor
Nepomuk Backup
Nepomuk File Indexing Controller
Printing
Samba
Scheduled tasks
Software Center
Startup Disk Creator
Synaptic Package Manager
System Profiler and Benchmark
Task Manager
Time and Date
UNetbootin
Update Manager
Users and Groups
UXTerm
XTerm
Y PPA Manager

Additional Drivers
Bluetooth Manager
Customize Look and Feel
Desktop Preferences
Desktop Session Settings
Disk Utility
IcedTea Web Control Panel
Input Method Switcher
Keyboard and Mouse
Keyboard Input Methods
Language Support
Lxkeymap
Monitor Settings
Network Connections
Obkey
Openbox Configuration Manager
OpenJDK Java 7 Policy Tool
Passwords and Keys
Power Manager
Preferred Applications
Screensaver
Ubuntu One

*LXLE Included
Applications
System & Prefs.*

*Education / Games
not shown*

To keep LXLE Running...

THE LXLE DESKTOP

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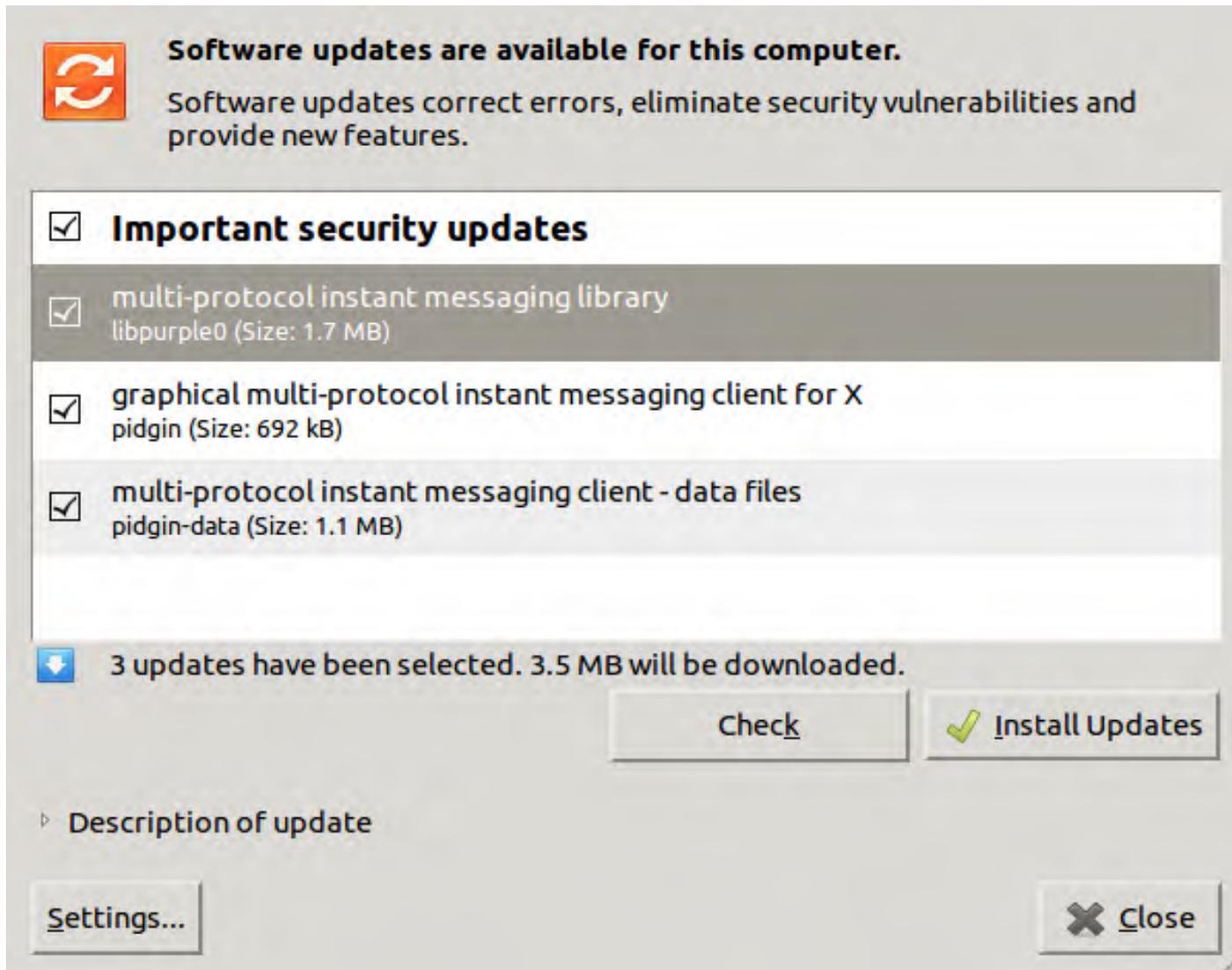
[What others are saying](#)

[Download Now](#)

"This is fabulous. I'll try this on a few old laptops I have." - B. De

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Run the Update Manager



WIFI woes often solved by a dongle



The screenshot shows the Newegg website interface. At the top, the Newegg logo is on the left, and navigation links for 'MY ACCOUNT', 'MY NEWEGG', 'LATEST EMAIL DEALS', 'GIFT CARDS', and 'NEWEGGFLASH' are in the center. A search bar with the placeholder 'Keywords, Model # or Item #' and a 'SEARCH' button is on the right. Below the navigation, a breadcrumb trail reads: 'Home > Computer Hardware > Networking > Wireless Networking > Wireless Adapters > EDIMAX > Item#: N82E16833315091'. The main product area features a large image of the EDIMAX EW-7811Un Wireless Nano Adapter, a small black USB device with a gold-colored base. To the right of the image, the product title is 'EDIMAX EW-7811Un Wireless Nano Adapter IEEE 802.11b/g/n USB 2.0 Up to 150Mbps Data Rates, with 16 languages EZmax setup wizard for easy installation'. Below the title, there is a promotional message: 'Extra savings w/ promo code EMCPWGW52, ends 2/6'. A star rating of 4.5 out of 5 is shown with '(883)' reviews and a 'Write a Review' link. The stock status is 'In stock. Limit 5 per customer.' A list of features includes: IEEE 802.11b/g/n, Up to 150Mbps Wireless Data Rates, 2.4GHz - 2.4835GHz, and WPA2. At the bottom of the product area is the 'IRON EGG PRICE GUARANTEE' badge. On the right side of the page, a shopping cart summary shows 'FREE SHIPPING AVAILABLE', a quantity of 1, a 'PREMIER' badge, and a price of '\$9.99' (down from '\$29.99'). It also indicates a 'Save: \$20.00 (67%)'. Below the price, it says 'Sold and Shipped by: Newegg'. There are two sections for protection: 'Protect Your Investment!' with a checkbox for '3 Year Extended Replacement Plan \$10.99 (more options)', and 'Send It As A Gift!' with a checkbox for 'Make this item a gift'.

newegg.com®

MY ACCOUNT MY NEWEGG LATEST EMAIL DEALS GIFT CARDS NEWEGGFLASH

[+1] Feedback

Shop All Stores ▼ Keywords, Model # or Item # Search all ▼ SEARCH Marketplace ▼

Home > Computer Hardware > Networking > Wireless Networking > Wireless Adapters > EDIMAX > Item#: N82E16833315091

EDIMAX
NETWORKING PEOPLE TOGETHER

EDIMAX EW-7811Un Wireless Nano Adapter IEEE 802.11b/g/n USB 2.0 Up to 150Mbps Data Rates, with 16 languages EZmax setup wizard for easy installation

Extra savings w/ promo code EMCPWGW52, ends 2/6

★★★★☆ (883) | [Write a Review](#)

In stock. Limit 5 per customer.

- IEEE 802.11b/g/n
- Up to 150Mbps Wireless Data Rates
- 2.4GHz - 2.4835GHz
- WPA2

IRON EGG
PRICE GUARANTEE

FREE SHIPPING AVAILABLE

QTY. 1 **PREMIER** ~~\$29.99~~ **\$9.99**
Save: \$20.00 (67%)

Sold and Shipped by:
Newegg

Protect Your Investment!

3 Year Extended Replacement Plan **\$10.99**
(more options) ?

Send It As A Gift!

Make this item a gift ?

Partitioning HDD

(most distros allow partitioning on the install)

Linux uses **EXT** format (not NTFS or FAT)

Root partition (/)

Swap partition

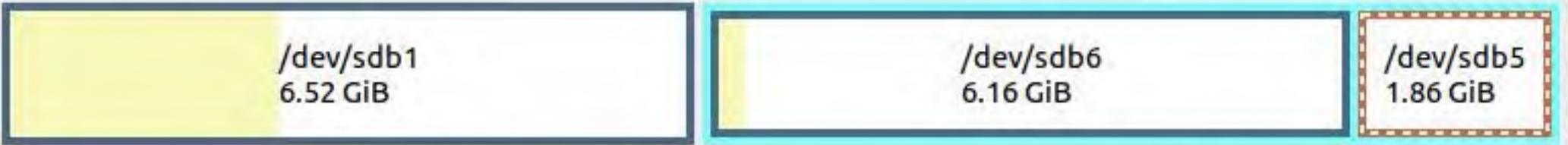
Notice: partitions are numbered, not lettered

LXLE's partitioning tool is: **Gparted**
a "Partition Magic" clone on steroids

/dev/sdb - GParted

GParted Edit View Device Partition Help

/dev/sdb (14.54 GiB)



Partition	File System	Mount Point	Size	Used	Unused
/dev/sdb1	ext4	/media/3f953109-49ef-4547-b3c1-08b8bda8ec33	6.52 GiB	2.60 GiB	3.92 GiB
▼ /dev/sdb2	extended		8.02 GiB	—	—
/dev/sdb6	ext4	/media/f054d46b-68d3-4f64-ba58-6c833eef659c	6.16 GiB	258.91 MiB	5.90 GiB
/dev/sdb5	linux-swap		1.86 GiB	—	—

0 operations pending

terminal running htop

```
File Edit View Preferences Tabs Help

1 [ ] Tasks: 83, 164 thr: 1 running
2 [ ] Load average: 0.39 0.40
Mem [|||||] 435/1753MB Uptime: 02:39:35
Swp [ ] 178/127MB

PID USER PRI NI VIRT RES SHR S CPU% MEM% TIME+ Command
2402 stew 20 0 84368 5076 3372 S 2.0 0.3 3:22.81 conky -p
1437 root 20 0 76368 29676 9700 S 1.0 1.6 7:22.78 /usr/bin/
9175 stew 20 0 5324 1724 1284 R 1.0 0.1 0:00.50 htop
9177 stew 20 0 266M 13552 9992 S 0.0 0.8 0:00.40 gnome-scr
2011 stew 20 0 320M 17080 11876 S 0.0 0.9 0:45.35 lxpanel -
2012 stew 20 0 7516 2464 1840 S 0.0 0.1 0:01.06 xscreensa
9041 stew 20 0 212M 77104 53256 S 0.0 4.3 1:32.21 /usr/lib/
2014 stew 20 0 385M 16936 12044 S 0.0 0.9 0:04.15 pcmanfm -
1 root 20 0 3660 2076 1284 S 0.0 0.1 0:00.63 /sbin/ini
519 root 20 0 2972 872 620 S 0.0 0.0 0:00.07 upstart-u
569 root 20 0 3492 1680 756 S 0.0 0.1 0:00.05 /sbin/ude
784 root 20 0 3460 1280 352 S 0.0 0.1 0:00.00 /sbin/ude
785 root 20 0 3460 1232 312 S 0.0 0.1 0:00.00 /sbin/ude
904 root 20 0 3852 600 440 S 0.0 0.0 0:00.01 upstart-s
991 root 20 0 21416 4828 4008 S 0.0 0.3 0:00.04 smbd -F

F1Help F2Setup F3SearchF4FilterF5Tree F6SortByF7Nice -F8Nice +F9Kill
```

grub

Recovery modes
may repair a
broken Linux

Windows is last

```
Ubuntu 8.04.1, kernel 2.6.24-19-generic
Ubuntu 8.04.1, kernel 2.6.24-19-generic (recovery mode)
Ubuntu 8.04.1, kernel 2.6.24-18-386
Ubuntu 8.04.1, kernel 2.6.24-18-386 (recovery mode)
Ubuntu 8.04.1, kernel 2.6.24-16-386
Ubuntu 8.04.1, kernel 2.6.24-16-386 (recovery mode)
Ubuntu 8.04.1, kernel 2.6.24-16-generic
Ubuntu 8.04.1, kernel 2.6.24-16-generic (recovery mode)
Ubuntu 8.04.1, memtest86+
Other operating systems:
Microsoft Windows XP Professional
```

Use the ↑ and ↓ keys to select which entry is highlighted.
Press enter to boot the selected OS, 'e' to edit the
commands before booting, or 'c' for a command-line.

Edit grub with caution!

“Resatux” may repair
a damaged grub



- OpenSUSE
- Gentoo Linux
- Ubuntu 8.04
- Ubuntu 8.04
- Linux Mint
- Sabayon
- Debian
- Windows XP
- Bitmap graphics test

The highlighted entry will be booted automatically in 10 seconds.

Press F4 to select alternative start-up and installation modes.

F1 Help F2 Language F3 Modes F5 Accessibility F6 Other Options



fossig.com – – sbottorf@gmail.com

FOSS & Linux SIGs

Special interest groups of Tampa Bay Computer Society

[Home](#) [FOSS Sig](#) [Linux SIG](#) [Linux 101 Class](#) [Online Learning Links](#) [Contact Us](#)



Home



The FOSS-SIG and Linux-SIG are TBCS special interest groups which encourage the use of **Free and Open Source Software** in place of expensive closed-source operating systems and applications.



Linux is a complete, attractive free open source operating system we recommend for home and small business desktops/ laptops. We also share information on free and open source Windows applications.

This website has **archives** of past meetings and posts



open source

Upcoming Events

Our next **Linux SIG** meeting is Monday February 17th at 7:00 pm. Our planned agenda will be posted soon.



I'm presenting "**What can I do with my old XP Computer**" at the next **APCUG** virtual conference February 22 at 2pm.

Linux / Open Source References:

FOSS SIG: <http://fossig.com>

TBCS: <http://tampa-bay.net>

Revolution OS:

<http://topdocumentaryfilms.com/revolution-os/>

Free Software Foundation: <https://www.fsf.org/>

BEST OF Open Source Software at MakeUseOf

<http://www.makeuseof.com/pages/the-best-of>

LXLE: <http://lxle.net>

Email Stew Bottorf: sbottorf@gmail.com



open source



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Stew Bortoff
Dunedin, FL
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“Linux for mostly Windows® users”



TARGET AUDIENCE:

- a Windows user who is considering using Linux
- an enthusiastic Windows power user at work or home
- build on their Windows skills
- someone new to Linux (maybe even reluctant to try)
- an adventurer



Yes, my XP computer is super-slow and Microsoft support ends April 8th...



But why would I want to learn Linux?

Windows XP home users should upgrade to Linux -- not Windows 8.1

The screenshot shows a blog post with a title, author information, and a small image of Tux the penguin. The text discusses the end of Microsoft support for Windows XP and suggests Linux as an alternative to Windows 8.1.

**Laptop
Nettop
Desktop**



- Atom or Pentium Processor
- 1 Gb RAM
- Wireless or wired Ethernet
- USB or CD/DVD Drive

Just about any computer made in the last 15 years!

Advantages of Windows

- Software standard (nearly everyone uses it)
- Better support (both paid and free)
- Better hardware support



Advantages of Linux

- Cost - Software and Licenses (it's hard to beat \$0)
- Install Linux on as many computers as you like
- No application costs
- Better stability (uptime)
- Better file organization on HDD (defrag never required)
- Anti-virus protection not needed



Operating System (OS)

The heart and soul of a computer.



Computer Operating Systems



Windows



OS X iOS (Mac)



Linux
BSD
Android
Chromium



UNIX is the Granddaddy OS

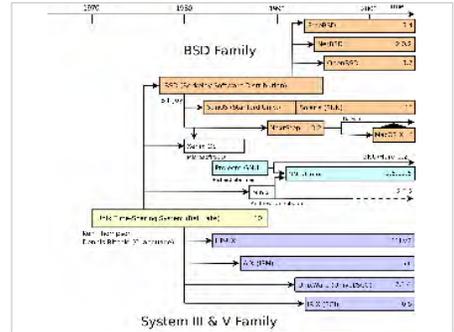
Developed by Bell Labs
1971

Still being sold









Open Source Heros

Richard Stallman
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open source




Watch Revolution OS

My Smörgåsbord of Linux Terms

Distribution (distro)

Packages dependencies

Program (software or application)

Desktop Environment (GUI)

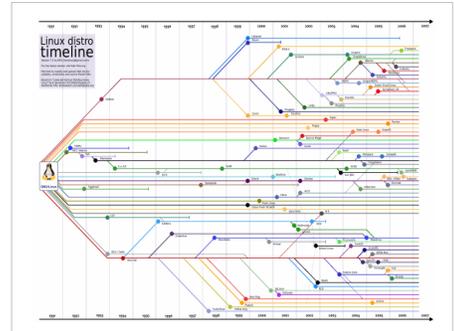




User
Memory (RAM)
Root (Z)

Web address (URL)

Operating System (OS)



THE LXLE DESKTOP

Revive that old PC!

Full featured OS for single PC

- Full featured desktop environment
- Full featured office suite
- Full featured internet browser
- Full featured email client
- Full featured music player
- Full featured video player
- Full featured image viewer
- Full featured file manager
- Full featured system tools
- Full featured system updates
- Full featured system backup
- Full featured system restore
- Full featured system recovery
- Full featured system maintenance
- Full featured system security
- Full featured system performance
- Full featured system stability
- Full featured system reliability
- Full featured system security
- Full featured system performance
- Full featured system stability
- Full featured system reliability

So, you're ready to try Linux !

Four Installation Steps:

1. Planning: where & how you will install Linux?
Alone? Alongside Windows? (Inside Windows?)
2. Download an ISO or image file
3. Burn ISO to DVD/CD or USB
4. Run the install program

(I always try to use a wired Ethernet cable)

Step #1 -- Planning

Step #2 --Download image (ISO)

 **DistroWatch.com**
Put the fun back into computing. Use Linux, BSD.

or use Google

Select the distro to install
Choose 32 or 64 bit file
Download or torrent from a safe site
Save this ISO file to your HDD

(remember, ISO's must be unpacked before using)

Step #3 - Burn Image

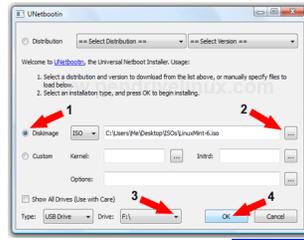
Tools for burning an ISO to an optical disk:

Windows® Vista, 7 and 8 (right click)
Nero, Image burn, K3b

Best tool for burning an ISO to USB stick:



UNetbootin



BIOS

Unetbootin



Step #4 - Install Linux

Most all distros now install via a LIVE DISC

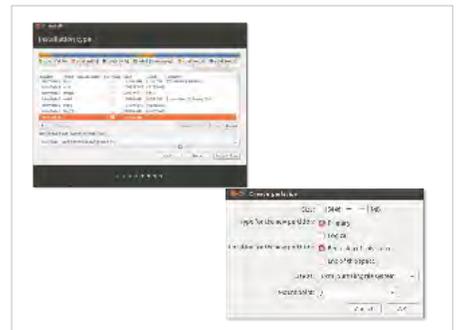
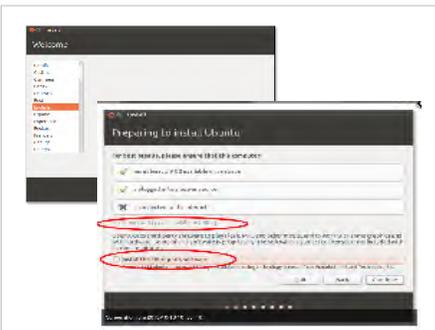
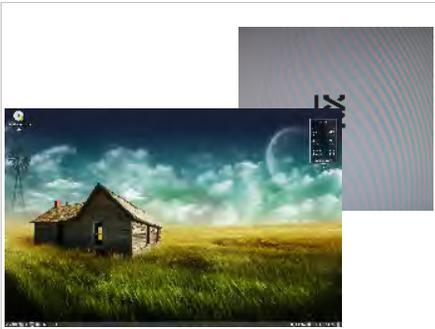


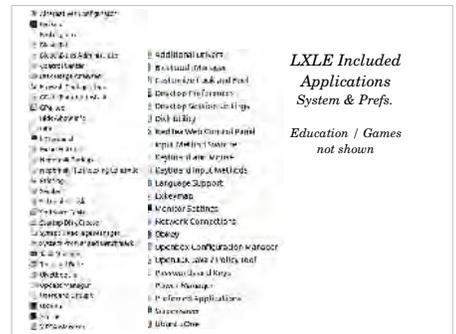
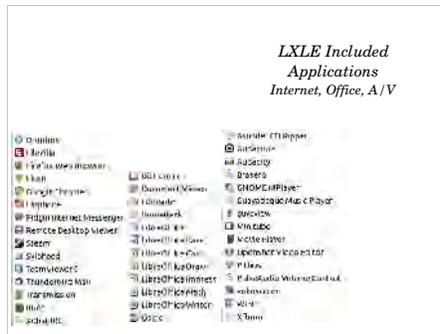
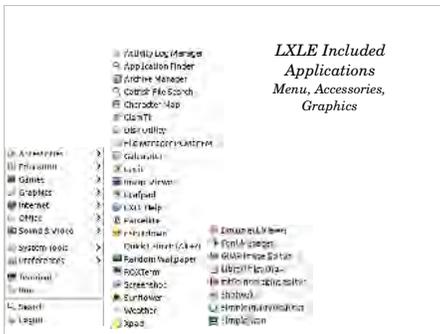
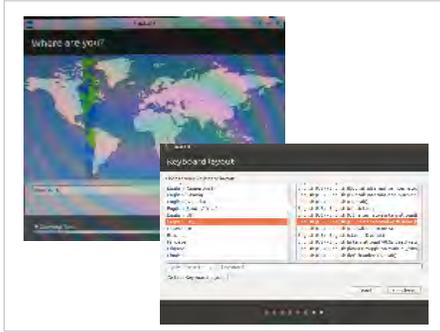
Linux Install Required Selections

Language
Keyboard
Checks for Updates and Third-Party Apps.

Partitioning Scheme

Time Zone
Computer name
User name
Password (write it down)
Autostart?





Partitioning HDD

(most distros allow partitioning on the install)

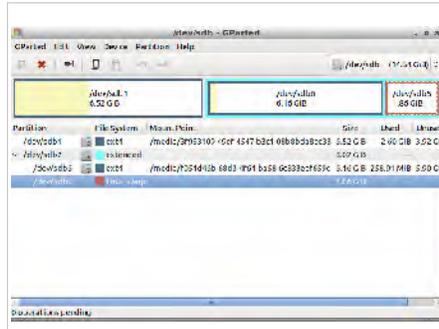
Linux uses EXT format (not NTFS or FAT)

Root partition (/)

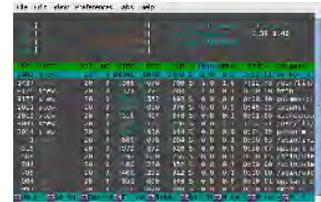
Swap partition

Notice: partitions are numbered, not lettered

LXLE's partitioning tool is: **Gparted**
a "Partition Magic" clone on steroids



terminal running htop



grub

Recovery modes
may repair a
broken Linux

Windows is last



Edit grub with caution!
"Resatux" may repair
a damaged grub



fossig.com -- sbottorf@gmail.com

FOSS & Linux SIGs

Several hundred groups of "free and open source" software



Linux / Open Source References:

FOSS SIG: <http://fossig.com>

TBCS: <http://tampa-bay.net>

Revolution OS:
<http://topdocumentaryfilms.com/revolution-os/>

Free Software Foundation: <https://www.fsf.org/>

BEST OF Open Source Software at MakeUseOf
<http://www.makeuseof.com/pages/the-best-of>

LXLE: <http://lxle.net>

Email Stew Bortorf: sbottorf@gmail.com



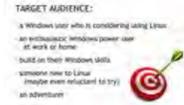
“Now what can I do with that old XP® computer?”



In these 50 minutes I was hoping to present a live Linux install to an existing XP computer like we often do in our local LinuxSIG meetings. The online presentation tool we use does not allow this so I'll do my best to simulate the situation with this presentation. BTW, this presentation was built in LibreOffice Impress and later saved as a ppt / pptx file.



I've been using Linux exclusively at home for 15 years. At one time Linux was just for geeks, but now it's become ridiculously easy to install and use, even for Grandmas and Grandpas in sunny Florida. Coming from a Windows background, I tend to speak “Linux for mostly Windows® users.” Believe me user groups, you're in my target audience!



Now why should you install Linux on your old XP computer?

The first fact is Microsoft withdraws XP support on April 8th.

Your XP machine has become slow, real slow as service packs and updates were applied over the years. Maybe antivirus software has lapsed, maybe something-else doesn't seem right... It's a shame to toss a working computer, but it's impossible to upgrade hardware and today schools no longer accept legacy computers as donations. XP was never designed to last 13 years.



Since this XP computer has no value to you, why not install Linux on the old box and renew it's life? Linux uses less system resource and works well on older hardware. Linux is free, it costs nothing and the conversion takes less than an hour. When complete you'll have a full software suite of Office, browsers, games, a/v... even a photoshop clone... and all for free!

Linux is an acceptable XP replacement for desktop, laptop and nettop computers. I have an old eeePC laptop with an Atom processor, 1Gb RAM, built in wireless and Windows XP Home that I'm converting... but just about any computer made in the last 15 years should work.

Advantages of Windows:

- it's software standard (nearly everyone uses it)
- better support (both paid and free)
- better hardware support



Advantages of Linux

- cost- software and licenses (it's hard to beat \$0)
- you may install Linux on as many computers as you like
- zero application costs
- better stability (uptime)
- better file organization on HDD (defrag never required)
- no anti-virus protection needed



The OS (Operating System) is the heart and soul of any computer. It sits between you (the user) and the computer's hardware and applications. It remembers where everything is located, does basic maintenance and acts as an interface



between computer and user. Many OS systems exist, most are related to UNIX, the granddaddy, developed by Bell Labs and still sold today.

UNIX is the Granddaddy OS
Developed by Bell Labs
1971
still being sold

IBM solaris

HP-UX

This relational chart is difficult to see but you may download from my references and study it. Notice Windows is the lone OS not listed and least closely related to UNIX. I want to highlight Richard Stallman who began the Free Software Foundation and Linus Torvalds who guided Linux into a working open source reality. Those interested in this history should watch "Revolution OS", a documentary made in 2001 now available free online (see my references).



Smörgåsbord of terms I use:

Distribution (distro) = Linux kernel with applications & GUI
 Packages = used to install application programs which include library dependencies



Programs = software / applications
 Desktop Environment (GUI)
 User = you, but you're not an administrator without sudo (more on this later)
 Memory (RAM)
 Root (2) = Linux administrator or the absolute bottom of the Linux HDD partition /
 Web address (URL)
 Operating System (OS)



The Linux timeline shows "forking" which is very acceptable in open source. Most Linux distros link back over 20 years to Debian, Red Hat, SuSE, or Slackware. LXLE derives from Ubuntu which derives from Debian, one of the most stable of all the Linuxes. Hundreds of distros exist today.

At this time LXLE appears to be the best of breed for Linux distros using minimal system resources. Others include Lubuntu, Peppermint and Zorin but I prefer this one. All these distros install the same if you wish to try others. Large resource Linuxes such as Linux Mint or Ubuntu function poorly on limited hardware. LXLE is what we'll install today.



So, you're ready to try Linux. Here are the four simple Install steps:

1. Planning:
 - Where & how you will install Linux?
 - Choose the computer and backup anything you wish to save to USB or DVD, not the HDD.
 - Will you install Linux alone on this computer?
 - Will you install Linux alongside Windows? (if there is space)
 - I don't recommend installing Linux inside Windows.
2. Download the Linux image or ISO file (32 or 64 bits)
3. Burn ISO file to DVD/CD or USB

4. Run the install program

(I always try to use a wired Ethernet cable)

Step #1 -- Planning
Step #2 -- Download image (ISO)



#1 We've already spoke about planning (above).

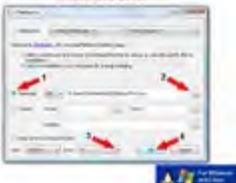
#2 Download. The best place to locate ISO images is distrowatch.com but Google works too. Select the distro, choose 32 or 64 bit and download. I find torrents quicker than normal FTP downloads usually getting full ISO's in less than 15 minutes. Save the image on your Linux or Windows HDD. The ISO is a single compressed archive made up of 1000's of files and directories.

Step #3 - Burn Image



#3 The image must be unarchived and burned to a DVD or USB memory. Windows® Vista, Windows 7 and Windows 8 can direct this with a right click on the ISO file. Windows XP requires a program such as Nero, Image burn, or K3b. The best free tool I've found for burning an ISO to USB stick is the open source: **Unetbootin**.

UNetbootin



Unetbootin looks exactly the same in Windows or Linux. First insert a USB stick, then start Unetbootin. We don't use the top downloading menus since these versions are always out of date. Click on the "DiskImage" radial button, then navigate to your downloaded ISO file by clicking "...". Then click "OK". It can take 10 minutes or so to unpack and write the image file. Never click the "show all drives" checkbox or you could possibly write the image unto your local HDD.



Now we're ready to install Linux on the target computer. Place the USB stick or DVD into the target computer and then turn its power switch on. If the computer is set to boot from external devices you'll see a menu later followed by the Linux desktop. Perhaps you need to press a special key to select a boot device or get into the BIOS and set the drive "boot order" so the internal HDD comes after CD/DVD and USB. See my boot drive selection and the Unetbootin LXDE boot menus. On these displays, only the up / down arrow keys and enter work, there is no mouse support (these same steps are required to install Windows).



The computer boots Linux from the DVD or USB. You first see the LXLE wallpaper and the activity icon spinning. When the desktop appears you can tryout LXLE. Remember things are a little slow running from a USB stick or DVD but all menu options do work. This is known as a **LIVE DISK** to allow you to know the distro really works. Nothing is installed at this point. The bottom left triangle icon displays the full application menu.

Linux Install Required Selections



Finally, when you are ready to install, double click the install icon. We supply this information during the GUI install:

Language = defaults English

Place check marks for Updates and Third-Party Apps.

Wireless Network = select here if not connected by cable

Partitioning Scheme = which you figured-out in planning (Step #1)

the simplest scheme is using the whole drive for Linux / detail for other

Time Zone = mine is New York

Keyboard = defaults US

Computer name = one is suggested or make up your own

User name = Stew becomes stew so its all lowercase

Password (see all dots / use one finger and write the password down)

Login Automatically? = I select this since I do not share a computer

Encrypt data = have a good reason to use it or risk it all!



In less than 30 minutes the install completes. Restart your computer and at the same time remove the install USB or DVD media. The computer HDD should boot into LXLE and everything should work. Connect to the wireless network if necessary. Notice in addition to the bottom-left menu you have several live program buttons on the task bar and a pop-out application menu when you move the mouse to the far left of the display.

If you ever slaved over a Windows XP install, even with an SP3 disc you had more than 150 updates, then add antivirus, and finally adding necessary application programs. You've invested hours into this task -- not minutes. On eight LXLE installs the install time ranged between 22 and 29 minutes (I assume difference was hardware and Internet download speeds for system updates and third party applications checked on the install).

LXLE applications include:



What you need to keep LXLE going...

LXLE is based on the long-term Ubuntu kernel so it is good through 2017. Linux updates are more frequent than Windows but this includes all the application program updates never covered by Windows. Updates install through a system utility and most times rebooting is unnecessary.

Run the Update Manager



LXLE community user support is available online through chat and forums. If you can define your question, replies are rapid and may come from all over the world. At this time LXLE has a small friendly and responsive user community.

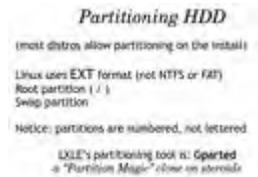
WIFI woes:

I mentioned earlier I usually install Linux with a wired Ethernet cable. I've had issues connecting to WIFI networks with some laptops, some will never work. My solution is to use a known good \$10 WIFI dongle by Edimax, sold online by NewEgg. So far this dongle solution has worked and well worth the cost.



A word about partitioning:

Linux uses reliable EXT4 partitioning. Linux also reads and writes to FAT32 and NTFS partitions but Windows cannot see or write to EXT. This might lead to confusion on dual boot systems so remember always to use Linux when moving files.



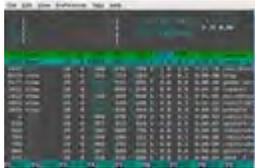
Partitioning is large subject but let me point out LXLE includes GParted an excellent Partition Magic clone that reads and can rearrange all partition types.

Linux always creates a swap file that is formatted as swap (swap size is generally 2x RAM),



The 16 Gb USB Linux installs we used for our Linux101 Class on the Windows computers were partitioned as shown using Gparted.

A word about terminal commands:



This presentation did not mention terminal commands. Some maintenance tasks may require using the command line or terminal emulator. Whenever copying commands, type them exactly as shown. Remember Linux knows the difference between upper and lower case.

A word about grub:

The grub menu displays when your computer is started and allows you to boot into different operating systems. After a few seconds the default highlighted OS is booted unless you press the down arrow keys to select another OS, then press enter selecting it. The default (or top) OS is always the last Linux installed on this computer.



Defaults and enhancements to the grub menu may be changed using a special utilities. Use care edit grubing, a broken grub is difficult to fix. Resatux is a specialty Linux which in some case can rescue a broken grub.

Running Windows programs on Linux



Unfortunately Windows programs don't natively work on Linux. People who cannot switch to Linux often have a favorite Windows application they cannot do without. It is possible to run some Windows programs under Wine but not everything works.

I have two “must-have programs” where I still use Windows. **QuickBooks Pro** does not work with Linux. I work around this issue using VNC or TeamViewer to log into a remote Windows computer where I maintain business records. QuickBooks now has an online solution where I might use a Linux browser but I'm not ready for ongoing monthly costs.

Adobe Connect presentation software used here today does not work with Linux. Unlike GoToMeeting, it's possible to flawlessly view Adobe Connect broadcasts with Linux Firefox, but not possible to host presentations. For this presentation I'm using a Windows7 computer running as a virtual machine between my Linux computer and the broadband Internet router (a Tomato Linux device flashed to an old LinkSys router).



This APCUG virtual presentation is my first venture outside TBCS, our local user group.

Hewie has been especially helpful getting my Linux box properly displayed in a “Windows or Mac only” medium. If there is interest I can make additional APCUG presentations on open source software and desktop Linux.

Feel free to email suggestions, questions or criticism.

And finally I ask,
Does your user group have FOSS and Linux SIGs?

Like most user groups our club is composed of mostly-Windows users. Tolerance for alternative operating systems began weak but has dramatically improved over the years. Last year I was asked to speak twice at our general monthly meetings once on Open Source and once on Linux and was well received by the larger audience. In November the club allowed us to setup and use their Windows7 / 8 classroom computers for a five week Linux101 class using USB thumb drives. I know my attitude toward the user group has become more positive.

I encourage all user groups to begin Linux and Open Source SIGs. We should encourage our members toward lightweight free and low-cost software and hardware, and not be another marketing tool for BestBuy, Microsoft or Apple.



Our Tampa Bay Computer Society's Free and Open Source SIG just turned 7 years old and our Linux SIG is beginning it's fourth year. We have a loyal small group of 15-20 members who often attend both monthly meetings.

I maintain a **WordPress** (another Free and Open Source quality application) website at fossig.com where SIG meeting agendas are posted, archived and may be searched. The curriculum for our Linux101 Class is also posted there. Please feel free to copy and use anything helpful.

I've recently posted this and other presentations to Google Drive as "shared to all". Feel free to view and use this material online or download.

See "Online Learning Links" at fossig.com

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Linux / Open Source References:

FOSS SIG: <http://fossig.com>

TBCS: <http://tampa-bay.net>

Revolution OS: <http://topdocumentaryfilms.com/revolution-os/>

Free Software Foundation: <https://www.fsf.org/>

[Find the "BEST OF" free and open source software at MakeUseOf](http://www.makeuseof.com/page/the-best-of)

LXLE: <http://lxle.net>

Email Stew Bottorf: sbottorf@gmail.com

