

# Debian: 19 anni di software libero, *“do-ocracy”* e democrazia

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23 Giugno 2012

ConfSL'12

6<sup>a</sup> Conferenza Italiana sul Software Libero  
Ancona, Italy

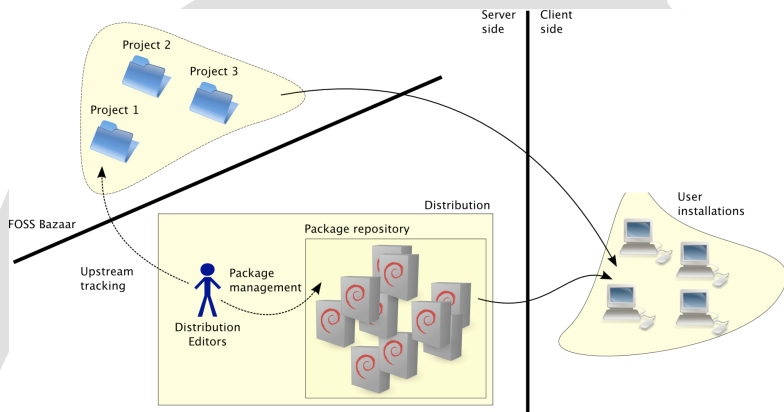
## Prelude — what problems distributions solve?

*foo* is cool, let's install it!

- 1 download `foo-1.0.tar.gz`
  - ▶ bonus point: verify checksums and GPG-sig
- 2 `./configure`
  - ▶ error: missing bar, baz, ...
- 3 `foreach (bar, baz, ...)` go to 1 until (recursive) success
- 4 `make`
  - ▶ error: symbol not found
- 5 `make install`
  - ▶ error: `cp: cannot create regular file /some/weird/path`

now try scale that up to 17'000 sources releasing **3'000 new versions/month**

# Prelude — the notion of “distribution”



- distributions are meant to ease **software management**
- key notion: the abstraction of **package**
- offer **coherent collections** of software
- killer application: **package managers**

# Outline

- 1 Debian and Wheezy
- 2 Specialties
- 3 Derivatives
- 4 Contribute

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1 Debian and Wheezy

2 Specialties

3 Derivatives

4 Contribute

# Debian: once upon a time

*Fellow Linuxers,*

*This is just to announce the imminent completion of a **brand-new Linux release**, which I'm calling the **Debian Linux Release**. [...]*

*Ian A Murdock, 16/08/1993  
comp.os.linux.development*

- make GNU/Linux **competitive** with commercial OS
- **easy** to install
- built **collaboratively** by software experts
- 1<sup>st</sup> major distro developed “**openly** in the spirit of GNU”  
FSF-supported for a while

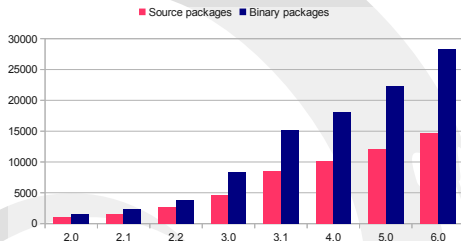
# Debian: the operating system

flagship product: **Debian stable**

- binary distribution
- completely Free (DFSG)
- released every 24 months ( $\approx$ )
- a dozen architectures
- archive-wide security support (3-3.5 years)

renowned for

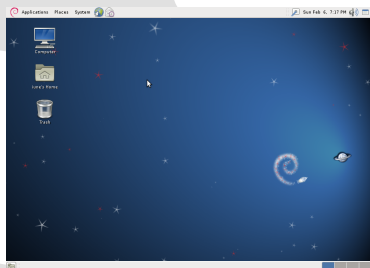
ports, stability, packaging system, old hardware support, documentation, smooth upgrades, i18n/l10n, the testing suite, runs anywhere, technical policy, package choice, ...



one of the largest GNU/Linux porting platforms

# Debian 6.0 “Squeeze” — looking back

- dependency-based boot system (faster, more robust)
  - ▶ completely **Free Linux kernel**, firmware included
- **GNU/kFreeBSD**
- improved **debian-installer**
  - ▶ ext4, btrfs
  - ▶ ZFS (on kFreeBSD)
  - ▶ ease complex setups e.g. LVM + RAID + encryption
- **Debian Pure Blends**
  - ▶ Debian Edu, Debian Med, ...
  - ▶ [blends.alioth.debian.org](http://blends.alioth.debian.org)



new services:

- [snapshot.debian.org](http://snapshot.debian.org)
- [backports.debian.org](http://backports.debian.org)
- [stable-updates](http://stable-updates)
- [screenshots.d.net](http://screenshots.d.net)
- [ask.debian.net](http://ask.debian.net)



# Debian 7.0 “Wheezy” — looking forward



<http://wiki.debian.org/DebianArt/Themes/Joy>



# Debian 7.0 “Wheezy” — looking forward (cont.)

- **multiarch**  
proper technical way of sharing packages across archs
  - ▶ 3rd party software, easily
  - ▶ cross-compilation
- **private cloud** deployment
  - ▶ OpenStack, Xen/XCP, ...
- new archs: **armhf, s390x**
- **desktop**: GNOME 3.4, KDE Plasma 4.8, XFCE, ...
- upgrades throughout the archive



## Timeline

- freeze: June 30th, 2012
- release: *when it's ready*<sup>TM</sup>  
ETA: Q4 2012 - Jan 2013

## Contribute, today

- install or upgrade to Wheezy
- report bugs (+ patches)

# Debian: the Project

Common goal:

**Create the best, Free operating system.**

Debian Social Contract

(1997)

- 100% Free Software
- don't hide problems
- give back
- priorities: users & Free Software

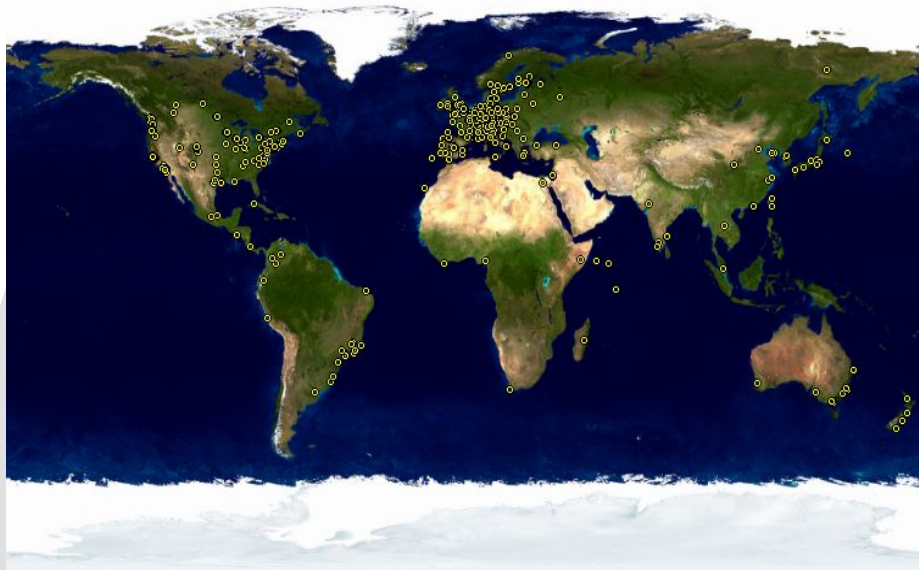
Debian Constitution

(1998)

Structures and rules of a Free-Software-compatible democracy

Strong motive to join:  $\approx$  1'000 **volunteers, world-wide**

## Debian: the Project (cont.)



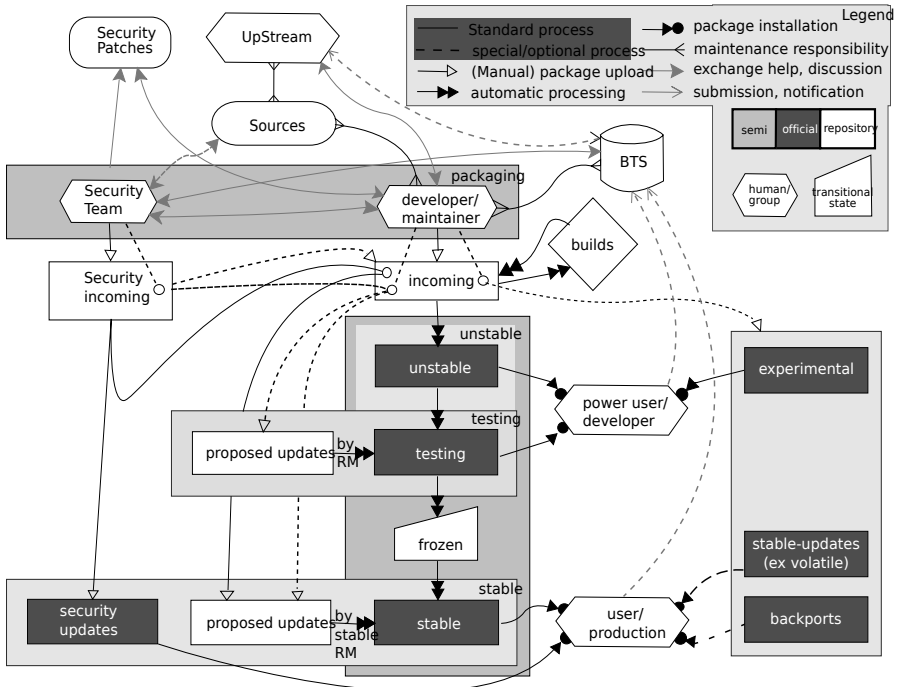
# Demography

## Developer's per country

2012 statistics:

[www.perrier.eu.org/weblog/2012/06/06#devel-countries-201206](http://www.perrier.eu.org/weblog/2012/06/06#devel-countries-201206)

Take a guess: Italy's position?



# Debian: the community

## Open development

- we don't hide problem
- easy to have an impact (just “show me the code!”)

## Large amounts of communication

- mailing lists
- IRC
- (a few) Web services(, growing)
  - ▶ social: @debian, !debian on identi.ca

## Large number of tech-savvy users

- users help each other, contribute patches, get involved

# Outline

1 Debian and Wheezy

**2 Specialties**

3 Derivatives

4 Contribute



# Debian: one of a kind?

1993 — not many distros back then

19 years later — *lots* of other distros

openSUSE, Linux Mint, PCLinuxOS, Slackware, Gentoo Linux, CentOS, FreeBSD, Arch, Sabayon, Puppy, Lubuntu, MEPIS, Ultimate, NetBSD, Tiny Core, Zenwalk, CrunchBang, Dreamlinux, Vector, Kubuntu, Maemo, Red Hat, aptosid, Peppermint, PC-BSD, Chakra, Salix, ClearOS, KNOPPIX, Xubuntu, Super OS, BackTrack, gOS, TinyMe, Zentyal, EasyPeasy, Frugalware, Clonezilla, Pardus, Meego, OpenBSD, Quirky, PC/OS, Zorin, **Debian**, SystemRescue, Element, Unity, SliTaz, Macpup, wattOS, Scientific, Mythbuntu, Slax, DragonFLY, Elive, linux-gamers, 64 Studio, Ubuntu, mageia, Nexenta, Parisx, NuTyX, GhostBSD, Kongoni, moonOS, LFS, Lunar, Imagineos, Untangle, Fedora, Yellow Dog, aLinux, Yoper, IPFire, BlankOn, Mandriva, PureOS, FreeNAS, Moblin, Linpus, TurboLinux, blackPanther, ...

with many **differences**:

- technical choices
- release management
- release schedule
- target user
- community
- support
- packaging system
- user base
- look & feel
- ...

## How is Debian different?

# Debian's special #1: package quality

## “ Culture of technical excellence ”

- package **design**: Policy  
i.e. “how a package should look like”
- package **testing**: lintian, piuparts,  
archive rebuilds (FTBFS), ...
- package maintainers are **software experts**
- **no 2<sup>nd</sup> class packages**, all are equal

## Debian release mantra

*we release when it's ready*

# Debian's special #2: freedom

Firm principles: developers and users bound by the *Social Contract*

- 1 promoting the “culture of Free Software” since 1993
- 2 **Free the bottom up**
  - ▶ in its software  
firmware included !
  - ▶ in its infrastructure  
no non-free web services (for users)  
no non-free services (for developers)

## Community awareness

- users know
- users trust Debian not to betray Free Software principles
- **high bar for software freedom** advocates

# Debian's special #3: independence

Debian is an **independent** project

- no (single) company babysitting us
- living up on:
  - 1 donations (money & hardware)
  - 2 gift-economy

... truly remarkable in today “big” distro world

people trust Debian choices not to be “profit-driven”

# Debian's special #4: decision making

## 1 do-ocracy

*An individual Developer may make any technical or nontechnical decision with regard to their own work;*

— Debian Constitution, §3.3.1.1

## 2 democracy

*Each decision in the Project is made by one or more of the following:*

*1. The Developers, by way of General Resolution [...]*

— Debian Constitution, §2

that means:

- reputation follows work
- no benevolent dictator, no oligarchy
- **no imposed decisions**  
by who has money, infrastructure, people, ...

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# Interlude — derivatives how to

## Free Software 101

Freedom #2, to **redistribute** copies

Freedom #3, to **improve** the program, and **release** improvements

When applied to distros: derived distributions, AKA **derivatives**

### How?

- 1 take existing packages and add your extras
- 2 patch & rebuild packages as needed
- 3 sync periodically

# Derivatives are game changers

Derivatives have changed the way in which distros are made

- derivatives' focus is on **customization**
- people power is needed “only” for that

**everybody wins** (if done properly)

- derivative: massive reuse of packaging work
- “mother” distro: reach out to new public
  - ▶ users *and* contributors



# Debian derivatives

Debian: a base for  $\approx 140$  active derivatives — distrowatch.com

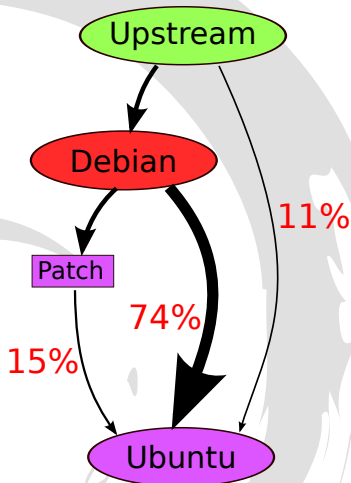
- Tucunare, LinEx, Inquisitor, Grml, UniventionCorporateServer, Vanillux, Emdebian, Crunchbang, PureOS, StormOS, Ubuntu, GNUSTEP, gNewSense, Debathena, Maemo, LMDE, SPACEflight, BCCD, Bayanihan, semplice, ArchivistaBox, Knoppix, Tails, BlankOn, AlienVault-OSSIM, DoudouLinux, Vyatta, Symbiosis, VoyageLinux, Lihuen, LinuxAdvanced, Aptosid, Canaima, siduction, ZevenOS-Neptune, BOSSlinux, Parsix, AstraLinux, ProgressLinux, Finnix, SprezzOS, CoreBiz, Epidemic-Linux, MetamorphoseLinux , ...

## Why?

- quality & licensing assurances
- solid base system
- huge package base
- the “*universal OS*”, perfect for customizations

# A Debian derivative example: Ubuntu

- started in 2004 by Canonical  
target: desktop
- **Debian derivative**
- very popular (15–20x Debian?)
- historical/past correlations
  - main ↔ corporate
  - universe ↔ community
  - ▶ heavily customized/forked in main
  - ▶ very close to Debian elsewhere
- sprouting its own derivatives (≈80)
  - ▶ ... as Debian *transitive derivatives*



Data for Oneiric Ocelot, main + universe

# Do you Debian?

- Ubuntu appears to be the most customized Debian derivative
- other derivs. ⇒ much larger amount of *pristine Debian packages*

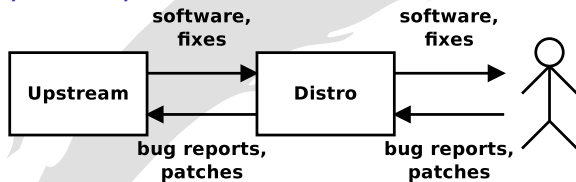
Tucunare, LinEx, Inquisitor, Grml, UniventionCorporateServer, Vanillux, Emdebian, Crunchbang, PureOS, StormOS, Ubuntu, GNUSTEP, gNewSense, Debathena, Maemo, LMDE, SPACEflight, BCCD, Bayanihan, semplice, ArchivistaBox, Knoppix, Tails, BlankOn, AlienVault-OSSIM, DoudouLinux, Vyatta, Symbiosis, VoyageLinux, Lihuen, LinuxAdvanced, Aptosid, Canaima, siduction, ZevenOS-Neptune, BOSSlinux, Parsix, AstraLinux, ProgressLinux, Finnix, SprezzOS, CoreBiz, Epidemic-Linux, MetamorphoseLinux, Debian, Xubuntu, Linux Mint, Ubuntu Studio, Mythbuntu, ArtistX, Asturix, Peppermint OS, TurnKey Linux, Kubuntu, Caixa Mágica, Lubuntu, ...

if you are running a Debian (transitive) derivative, chances are **you heavily depend on Debian** and on its well-being

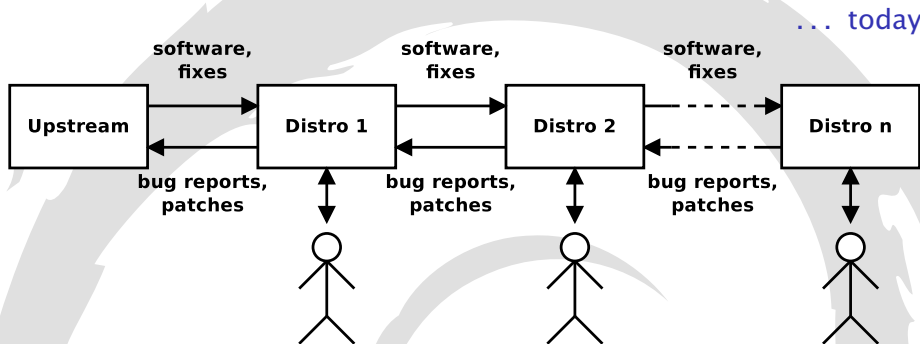
*even if your distro hasn't told you*

# The distribution pipeline

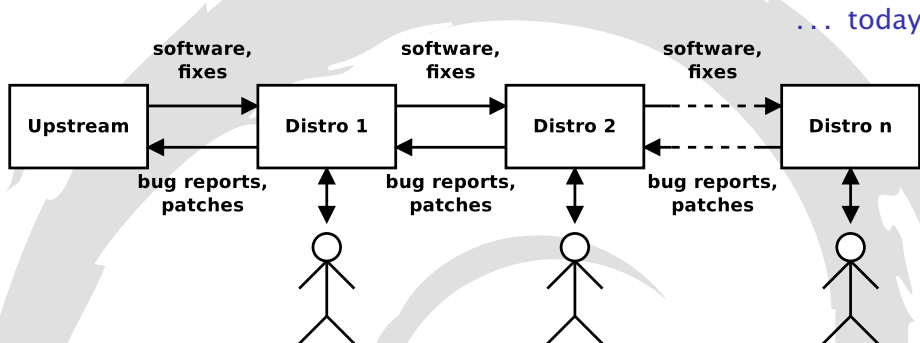
yesterday ...



# The *new* distribution pipeline



# The *new* distribution pipeline



That's wonderful!

- freedom spreads
- more eyeballs swallow more bugs
- more potential contributors

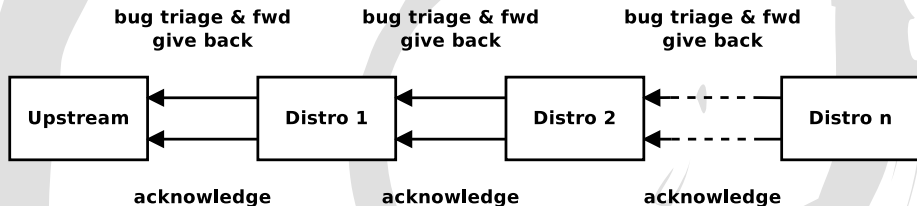
But.

- should be sustainable
- to everybody's benefit

# Free Software 101 — redux

Free Software is bigger and more important than Debian and any other distro or project

- 1 **give back**, i.e. reduce patch flow viscosity
- 2 **give credit** where credit is due



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# Contributing — donate to Debian

even if completely volunteer-driven, Debian uses **resources**

- **hardware** for essential services
  - ▶ archive, build servers, devel. machines, ...
- **money** for hw-related services
  - ▶ guarantees, shipments, hosting, ...
- money to **sponsor developer meetings**
  - ▶ strengthen the community
  - ▶ get work done

## Donations

- donations: <http://www.debian.org/donations>
- partners program: <http://www.debian.org/partners>

## Contributing — work with Debian

- test, report, triage, fix bugs
  - ▶ reportbug on your Debian
  - ▶ <http://bugs.debian.org>
- translation (it)
  - ▶ <http://wiki.debian.org/it/DebianWiki>
  - ▶ <http://wiki.debian.org/L10n/Italian>
  - ▶ <http://lists.debian.org/debian-l10n-italian/>
- documentation
- help with packaging

<http://wiki.debian.org/HelpDebian>

# Contributing — join Debian

choose your commitment:

**package maintainer** maintain packages, via **sponsoring Debian Maintainer (DM)** upload your own packages

- advocacies required

**Debian Project Member (DD)** become a Debian “citizen”

- <http://nm.debian.org>
- upload access to all the archive *for packagers*
- voting rights
- **all kinds of contributions are equally welcome!**

## Zack's tips for wannabe Debianers

- 1 choose a team: <http://wiki.debian.org/Teams>
- 2 stay on their mailing list and IRC channel
- 3 triage bugs, test patches, etc. *for packagers*
- 4 ... the rest will come!

# Want to know more?

- on the **web**
  - ▶ <http://www.debian.org>
  - ▶ <http://wiki.debian.org>
- **social media**: <http://identi.ca/debian>
- **mailing lists**: <http://lists.debian.org>
- **IRC**: #debian-\* channels on [irc.debian.org](http://irc.debian.org)
  
- **ask me!**

# Thanks!

## Questions?

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<http://identi.ca/zack>

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