

# Who the bloody hell cares about Debian?

Stefano Zacchioli

Debian Project Leader

28 January 2011

Linux Conference Australia  
Brisbane, Australia

# 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*

- **non-commercial** distro, competitive in the OS market
- **easy** to install
- built **collaboratively** by volunteer software experts
- 1st major distro developed “**openly** in the spirit of GNU”

# Debian: early history

1993 announcement

1994 Debian manifesto

1997 Debian **Social Contract** with the Free Software community

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

1998 Debian **Constitution**  
structure and rules of a Free-Software-compatible democracy

- ▶ default: do-crazy, consensus + working code
- ▶ democracy, when needed
- ▶ scaffolding: DPL, secretary, etc.

# Debian, 17 years later

- $\approx$  30'000 binary packages (amd64/sid/main)
- 11 releases
  - Squeeze due to release February 5th/6th 2011
- $\approx$  900 **DDs** + 120 **DMs** + thousands other **contributors**
- largest n. of **ports** among mainstream distros (12)
  - 2 non-Linux ports: GNU/kFreeBSD
- 120 “**derivatives**” distribution (source: distrowatch.com)
- ...

# Debian, 17 years later

- $\approx$  30'000 binary packages (amd64/sid/main)
- 11 releases
  - Squeeze due to release February 5th/6th 2011
- $\approx$  900 **DDs** + 120 **DMs** + thousands other **contributors**
- largest n. of **ports** among mainstream distros (12)
  - 2 non-Linux ports: GNU/kFreeBSD
- 120 “**derivatives**” distribution (source: distrowatch.com)
- ...



# On the relevance of Debian

1993 — not many distros back then

2011 — *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, ...

# On the relevance of Debian

1993 — not many distros back then

2011 — *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, ...

some of which:

- ... **release** more frequently
- ... have more **users**
- ... **innovate** more
- ... get more **credit**/press/...
- **\$YOUR\_FAVORITE\_DEBIAN\_FUD**

# On the relevance of Debian

1993 — not many distros back then

2011 — *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, ...

some of which:

- ... **release** more frequently
- ... have more **users**
- ... **innovate** more
- ... get more **credit**/press/...
- **\$YOUR\_FAVORITE\_DEBIAN\_FUD**

*Who the bloody hell cares about Debian anymore?  
Is Debian still relevant?*



# On the relevance of Debian

1993 — not many distros back then

2011 — *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, ...

some of which:

- ... **release** more frequently
- ... have more **users**
- ... **innovate** more
- ... get more **credit**/press/...
- \$YOUR\_FAVORITE\_DEBIAN\_FUD

*Who the bloody hell cares  
about Debian anymore?  
Is Debian still relevant?*

**YES**

# Outline

- 1 Debian does it better
- 2 Debian: the root of a derivatives ecosystem

# 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 **sw 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: devs 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
- trust Debian not to betray software freedom
- set a **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

... remarkable, among “big” distro players

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, easy to have an impact
- no benevolent dictator, no oligarchy
- **no imposed decisions**

by who has money, infrastructure, employees, ...

# Live long and prosper — take #1



Debian should live long and prosper, because:

- freedom and independence: good
- company-only distro market: bad
  - ▶ one day, their interests will clash with ours
- invite others to improve
  - ▶ e.g. companies enabling their babysit distros to drive their own boat (one day)

or, if you are of the more pragmatic type...

# Outline

- 1 Debian does it better
- 2 Debian: the root of a derivatives ecosystem**



# 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 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  $\approx 120$  derivatives

distrowatch.com

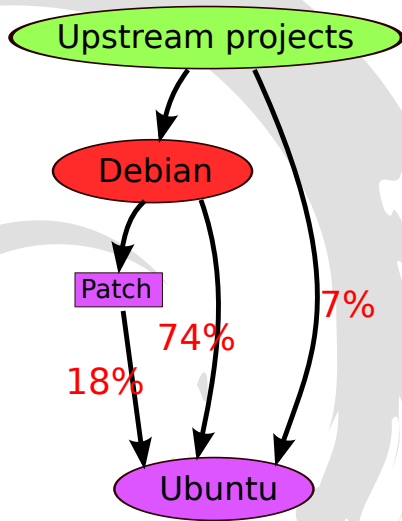
- Linspire, Skolelinux, Liurex, Mint, LiMux, Sidux, gnuLinEx, grml, MEPIS, Xandros, Ubuntu, Univention, Damn Small Linux, Collax, Euronode, Floppix, Gibraltar, Kanotix, Knoppix, PureOS, gNewSense, 64 Studio, Elive, Freespire, Jolicloud, Kurumin, Maemo, Neopwn, OpenZaurus, Parsix, Xebian, Hackable:1, aptosid, ...

Why?

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

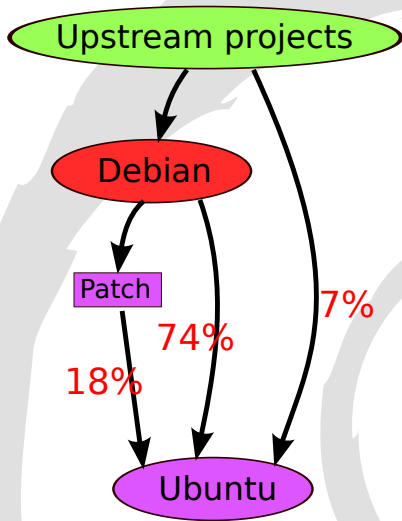
# A Debian derivative example: Ubuntu

- started in 2004 by Canonical  
target: desktop
- **Debian derivative**
- very popular (10x Debian?)
- historical correlations
  - main ↔ corporate
  - universe ↔ community
- heavily customized/forked in  
main; very close to Debian  
elsewhere



Data for Lucid Lynx, main + universe; picture is courtesy of Lucas Nussbaum

## Live long and prosper — take #2



- representative example
- other derivatives: higher no. of unmodified packages

if you are running a Debian derivatives, chances are **you heavily depend on Debian**

- (yes, even if your distro hasn't told you)

Data for Lucid Lynx, main + universe; picture is courtesy of Lucas Nussbaum

# Drowning in (Debian) derivatives

## Debian derivatives ( $\approx 120$ )

Linspire, Skolelinux, Liurex, Mint, LiMux, Sidux, gnuLinEx, grml, MEPIS, Xandros, Ubuntu, Univention, Damn Small Linux, Collax, Euronode, Floppix, Gibraltar, Kanotix, Knoppix, PureOS, gNewSense, 64 Studio, Elive, Freespire, Jolicloud, Kurumin, Maemo, Neopwn, OpenZaurus, Parsix, Xebian, Hackable:1, aptosid, ...

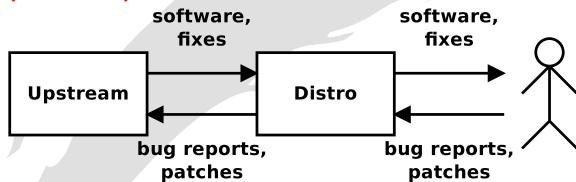
## Derivatives of derivatives of derivative of...

Ubuntu Studio, Mythbuntu, ArtistiX, Asturix, Goobuntu, LinuxMCE, nUbuntu, Peppermint, TurnKey Linux, Zenix, ...

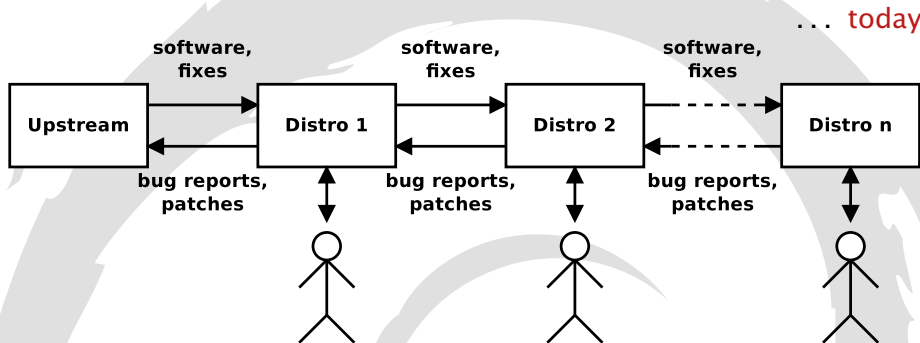
Debian ended up being at the root of a new **software distribution pipeline**, from upstream to users

# The distribution pipeline

yesterday ...

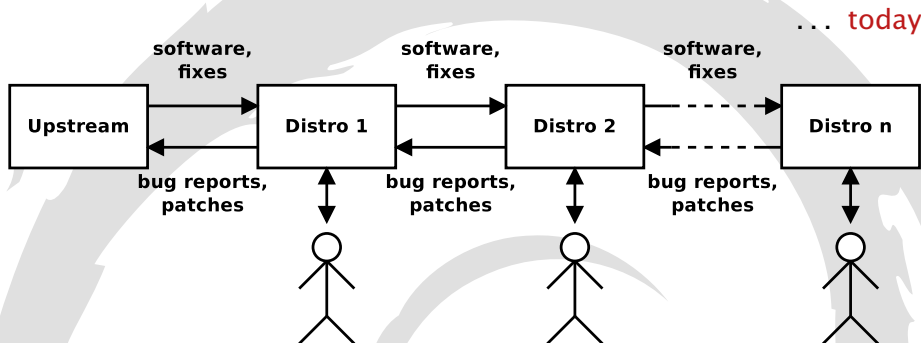


# The new distribution pipeline





# The new distribution pipeline



That's wonderful!

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

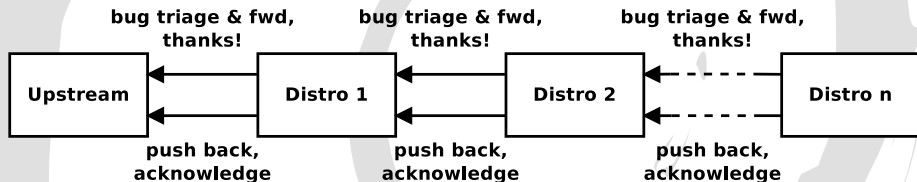
But.

- should be sustainable
- and benefit Free Software as a whole

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

golden rules to make the distro pipeline sustainable

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



# Who the bloody hell cares about Debian?

You should, because:

- 1 Debian offers a mixture of pretty **rare features**;
- 2 Debian is the root of a huge tree of **derivatives**;
- 3 ultimately, Free Software is better served by **collaboration**.

## Thanks!

Stefano Zacchioli  
Teader@debian.org  
<http://upsilon.cc/zack>

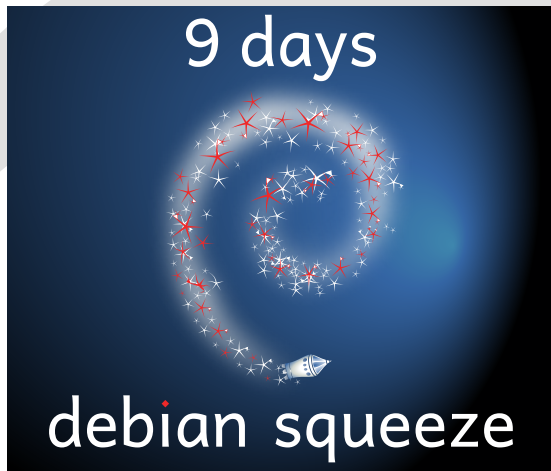
about the slides:  
available at  
copyright © 2010  
license

<https://gitorious.org/zacchiro/talks/trees/master/2011/201101-1ca>  
Stefano Zacchioli  
CC BY-SA 3.0 — Creative Commons Attribution-ShareAlike 3.0

# SPAM slide #1

Get your favorite Debian derivative into:

- <http://wiki.debian.org/DerivativesFrontDesk>  
discussion place for derivatives, to coordinate changes with Debian and get them “back home”
- <http://wiki.debian.org/Derivatives/Census>  
let us know your derivative exists, how to contact you, how to find your patches, etc.



<http://wiki.debian.org/ReleasePartySqueeze>  
a release party in Brisbane is still missing (hint, hint)