

Debian: 18 years of Free Software, do-ocracy, and democracy

with some thoughts on its communication challenges

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Outline

- 1 What is Debian?
- 2 Specialties
- 3 Derivatives
- 4 Communication challenges — thoughts

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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
- 1st major distro developed “**openly** in the spirit of GNU”
FSF-supported for a while

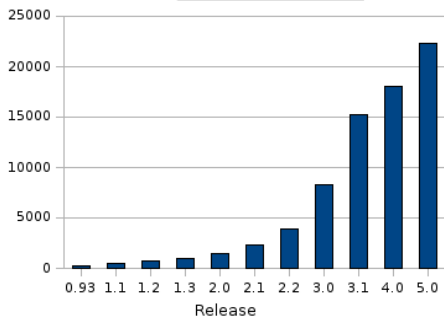
Debian: the operating system

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: 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

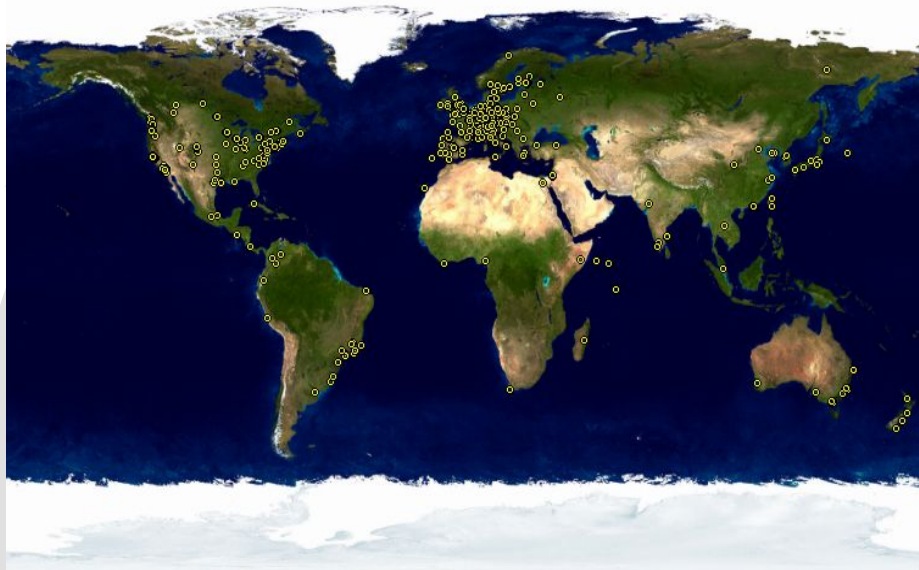
Debian Constitution

(1998)

Structures and rules of a Free-Software-compatible democracy

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

Debian: the Project (cont.)



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

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Debian: one of a kind?

1993 — not many distros back then

18 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 2nd 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 ≈ 130 active derivatives — distrowatch.com

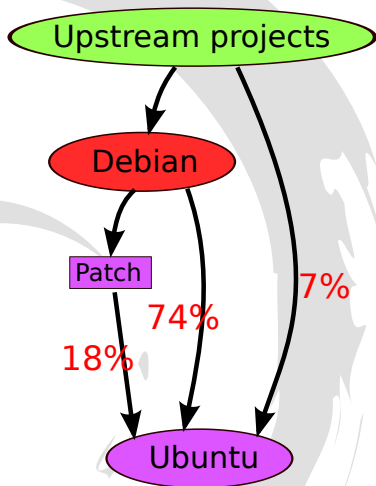
- Linspire, Liurex, Mint, LiMux, Sidux, gnuLinEx, Grml, MEPIS, Xandros, Ubuntu, Univention, Damn Small Linux, Collax, Euronode, Floppix, Gibraltar, Kanotix, Knoppix, PureOS, gNewSense, LMDE, 64 Studio, Elive, Freespire, Jolicloud, Kurumin, Maemo, Neopwn, OpenZaurus, Parsix, Xebian, Hackable:1, aptosid,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

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 (15–20x Debian?)
- historical/past correlations
 - main ↔ corporate
 - universe ↔ community
 - ▶ heavily customized/forked in main
 - ▶ very close to Debian elsewhere
- sprouting its own derivatives (≈70)
 - ▶ ... as Debian *transitive derivatives*



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

Do you Debian?

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

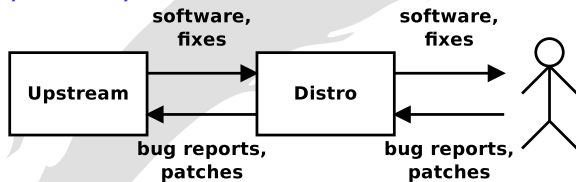
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if you are running a Debian (transitive) derivative, chances are **you heavily depend on Debian** and on its well-being

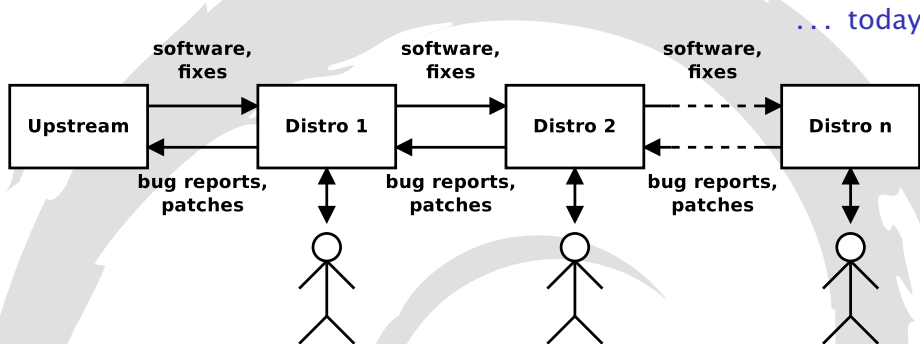
even if your distro hasn't told you

The distribution pipeline

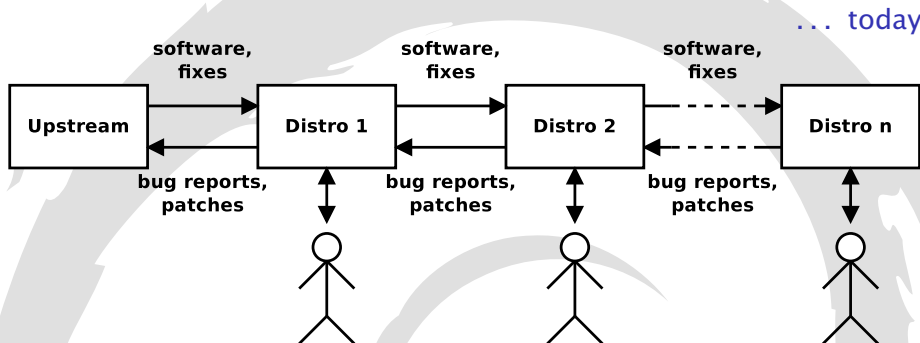
yesterday ...



The *new* distribution pipeline



The *new* distribution pipeline



That's wonderful!

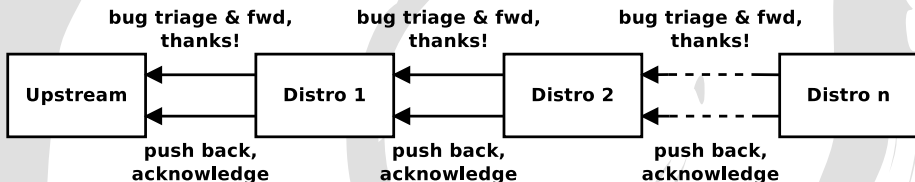
But.

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

- should be sustainable
- to everybody's benefit

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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Distribution activities

Maintaining a (Free) Software distribution comprises many **activities**/tasks:

- packaging
- software development
- bug triaging
- upstream relationship
- mentoring
- team work
- user documentation
- release management
- ...
- process documentation
- software testing
- downstream relationship
- artwork design
- training
- standardization
- technical documentation
- marketing

Problem

- 1 not all of the above activities are “**exciting**” tasks for geeks
- 2 (and it’s **enthusiasm** that makes volunteer communities work)

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Unpopular tasks

Some traditionally unpopular tasks in FOSS communities

- user documentation
- marketing
- technical documentation
(*use the code, Luke!*)
- ...
- artwork design
- training
- process documentation
(*have you missed mail foo?*)

These and similar communication tasks are generally at risk of being **left unattended** in volunteer geek communities.

Workarounds

- [in mixed non-/for-profit communities] pay people to work on unpopular tasks
- [in new communities] value unpopular tasks since day 1

Some research challenges ahead

Purely volunteer FOSS communities—like Debian—might face significant challenges in keeping up with communication and documentation tasks.

- Why is this the case? (in-depth analysis, metrics, compare/contrast)
- Are communication needs of geeks peculiar?
- How can we turn communication activities into something more “cool” for geeks? (both tools and social rewards matter)
- How can we affect existing geek communities so that they value communication tasks more? (is it just underestimation of their value?)
- Can we encourage communication experts to join geek communities? (with which incentives?)
- Can we create business models out of communication needs of geek communities?
- ...

Thanks!

Questions?

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