Debian, Ubuntu, and 101 other derivatives

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Outline

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Debian: once upon a time

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

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

not many other distros back then

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

Debian: the operating system

- completely Free Software
  - ▸ DFSG
  - ▸ ~~contrib, non-free~~
- a dozen architectures
  alpha, amd64, arm(el), hppa, i386,
  ia64, mips(el), powerpc, s390,
  sparc
- 2 non-Linux ports upcoming
- features miscellanea...
  ports, stability, packaging system,
  documentation, old hw support,
  smooth upgrades, i18n/l10n, the
  testing suite, runs anywhere,
  technical policy, *a lot* of packages,
  ...
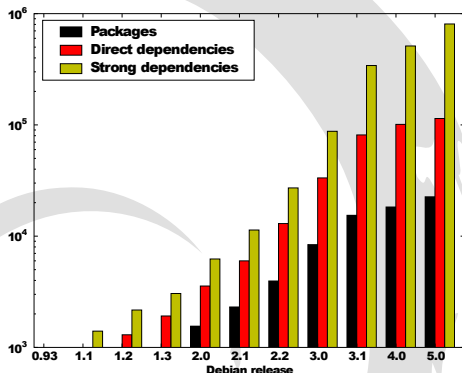
The largest GNU ~~/Linux distro~~
porting platform

- 29'000 packages (Squeeze)

Debian: the project

Common goal:

Create the best, Free operating system.

Debian Social Contract w/ the Free Software community   (1997)
- 100% Free Software
- give back
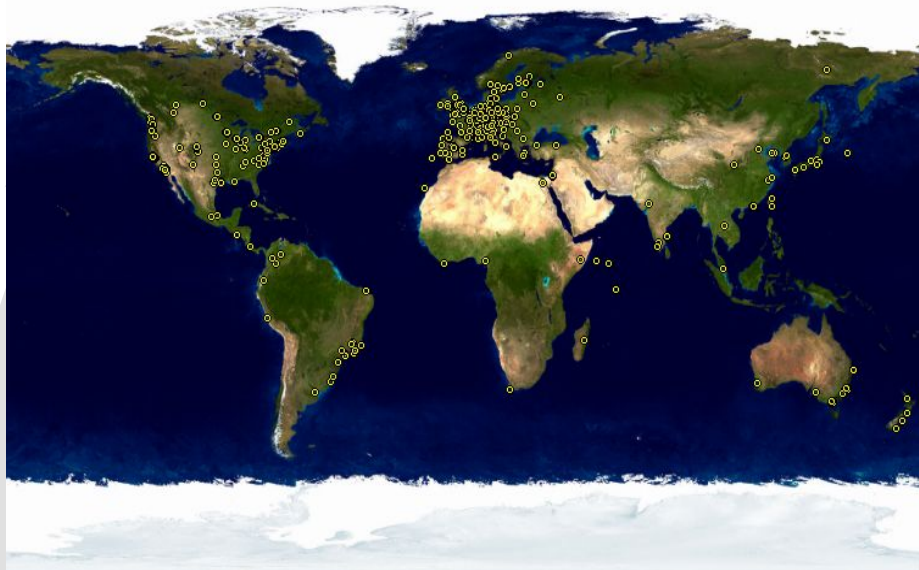- don't hide problems
- priorities: users & Free Software

Debian Constitution   (1998)
Structures and rules of a Free-Software-compatible democracy

Strong motive to join: ≈ 1'000 volunteers, world-wide
- ≈ 900 DDs + 120 DMs
- North America & Europe > Australia & Japan > Latin American

Debian: one of a kind?

17 years later, *lots* of other distros

with many differences:

- technical choices
- release management
- release schedule
- target user
- ...

- support
- packaging system
- user base
- look & feel
- community

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 sw experts
- no 2nd 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 <u>software</u>
     firmware included !

   - in its <u>infrastructure</u>
     no non-free web services   (for users)
     no non-free services   (for developers)

Community awareness, users:

- know
- trust Debian not to betray sw freedom
- set a high bar for sw freedom advocates

Debian's special #3: independence

Debian is an independent entity

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

... quite remarkable in today "big" distro world

people <u>trust</u> 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, . . .

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

Debian derivatives

Debian: a base for ≈120 derivatives   distrowatch.com

- Linspire, Skolelinux, Liurex, Mint, LiMux, Sidux, gnuLinEx, grml, MEPIS, Xandros, <u>Ubuntu</u>, 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
- reduce effort

Outline

Ubuntu: generalities

Disclaimer

Patches welcome!

- started in 2004 by Canonical
- *Linux for human beings*
- Debian derivative, periodic fork-merge release cycle
- original (technical) staff: mostly "hi-profile" DDs
- historical archive correlations

main	↔	corporate
universe	↔	community

- most popular Debian derivative, larger user base than Debian (most likely)
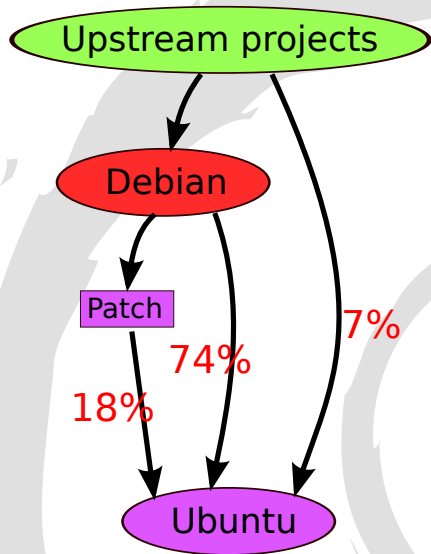
Ubuntu, Debian, and upstreams
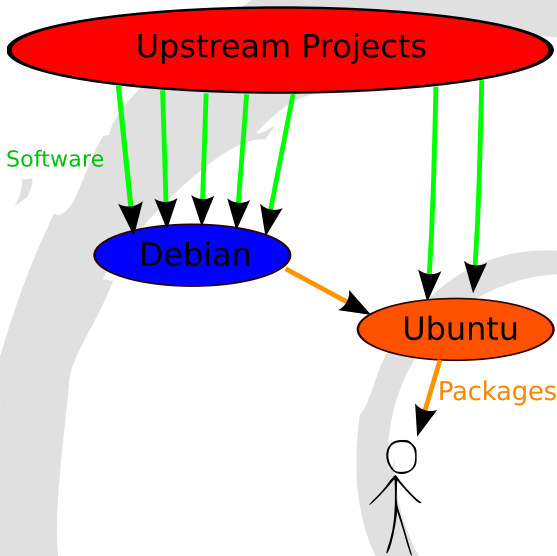
Debian: a "special" upstream

- off the shelf packages, not bare bone software
- quantitatively relevant. . .

picture is courtesy of Lucas Nussbaum

Ubuntu: work-flow & relationship with Debian

Upstream projects

Debian

Patch

74%

18%

7%

Ubuntu

data for Lucid Lynx
main + universe

- rationale: universe is a selling
  point

Debian → Ubuntu

- not just "pull"
- some "push" too: give back to
  Debian

picture is courtesy of Lucas Nussbaum

Debian ↔ Ubuntu: why collaborate?

Ubuntu interests
- pushing back changes eases merges
- Debian maintainers are field experts; (universe) quality improvements

Debian interests
- Ubuntu has more users, i.e. more feedback
  - ▸ Ubuntu reaches out (future) contributors we don't
- cooperate with derivatives

Mutual interests
- discuss big changes together
- improving Free Software is what matter most, right?

Debian ↔ Ubuntu: today

- some bug reports fed back to Debian
- some Ubuntu changes fed back to Debian
- some early testing of big changes (e.g. gcc, hardening)
- mixed teams: tons!

  - ‣ pkg-games
  - ‣ pkg-java
  - ‣ DPMT / PAPT
  - ‣ d-i
  - ‣ dpkg(-vendor)
  - ‣ X strike force

  - ‣ security
  - ‣ pkg-freevo, pkg-mono, pkg-perl
  - ‣ APT stack
  - ‣ live-helper, nginx
  - ‣ PAM
  - ‣ $your_team_here

- common trend: Ubuntu devs become DM/DD

Debian ↔ Ubuntu: (Ubuntu) pitfalls

Difficulties, as seen from the Debian side

- perceived reluctance in giving credit
- LP bugs/patches not triaged/forwarded
  - ▶ people don't want to special case Ubuntu: they *wait* for bugs
  - ▶ still, people do care about "their" packages in Ubuntu
- grudges with Canonical employees reflect on Ubuntu as a whole

(expected) golden rule: be a good downstream

Debian ↔ Ubuntu: (Debian) pitfalls

Difficulties, when interacting with Debian

- unresponsiveness → abandoned package
- unresponsiveness → no time (we're volunteers. . .)
- "go to hell" answers → bad heritage, not representative
  - 1'000 DDs, no one true "Debian-Ubuntu" perspective

What else?

Debian ↔ Ubuntu: getting better

Talking to each other is the first necessary step.

Derivatives Front Desk

```
http://wiki.debian.org/DerivativesFrontDesk
derivatives@debian.org
debian-derivatives@lists.debian.org
```

- *tremendous opportunity for cooperation*

  — Jorge Castro, DebConf10
- good participation from Debian and Ubuntu
  - other derivatives are joining the fun

- Debian ↔ Ubuntu as example to others   (good and bad)

Outline

Drowning in derivatives

Debian derivatives (≈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, . . .
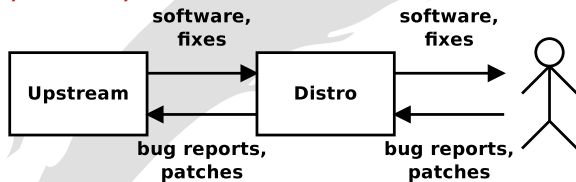
Ubuntu derivatives

Ubuntu Studio, Mythbuntu, ArtistiX, Asturix, Goobuntu, LinuxMCE, nUbuntu, Peppermint, TurnKey Linux, Zenix, . . .
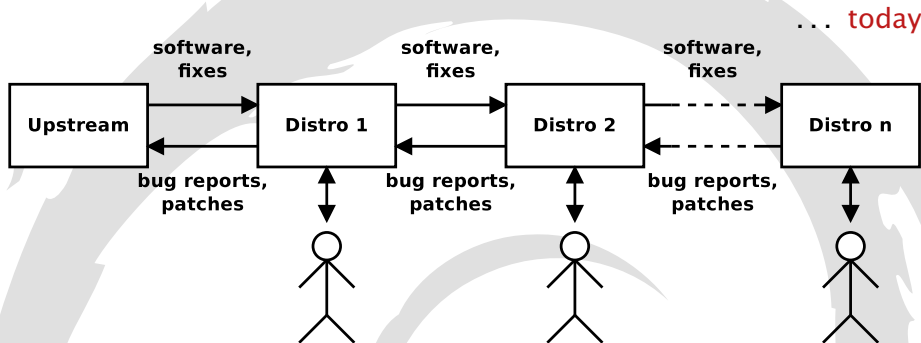
Nice song and dance, but all the above:

1. should be sustainable. . .
2. . . . to benefit Free Software as a whole
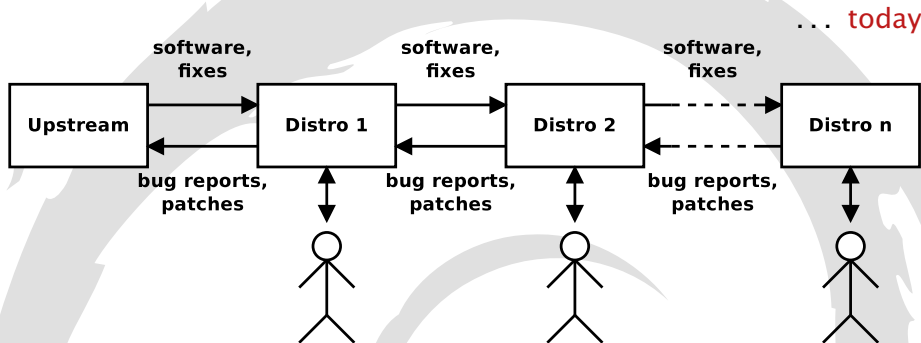
The distribution pipeline

yesterday . . .

The *new* distribution pipeline

The *new* distribution pipeline

... today

That's wonderful!

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

But.

Free Software 101—redux

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

Free Software golden rules and the distro pipeline

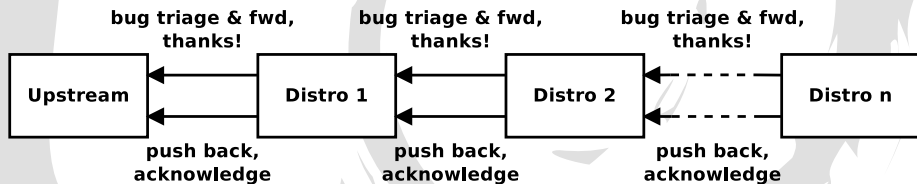1. **give back**, i.e. reduce patch flow viscosity
   - triage and forward bug report   upstream
   - push changes   upstream
2. **give credit** where credit is due
   - attribute & advertise   upstream
   - recognize & thank   downstream

Thanks!

Questions?

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