



- Debian - an Open Source {Project,OS,Community}

Creator:GNU Ghostscript 51
CreationDate:1999/12/10 21
LanguageLevel:2

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Agenda

- What is Debian?
- Project structure
- Processes & decision making
- Derivatives – Debian as a base
- How people get involved



History

- Project founded in 1993 by Ian Murdock
- Named after **DEB**ra and **IAN** Murdock
- The first major distribution developed
“openly in the spirit of Linux and GNU”
- Early work sponsored by the GNU project



Debian Project Leaders

- Ian Murdock (1993 - 1996)
- Bruce Perens (1996 - 1997)
- Ian Jackson (1997 - 1998)
- Wichert Akkerman (1999 - 2001)
- Ben Collins (2001 - 2002)
- Bdale Garbee (2002 - 2003)
- Martin Michlmayr (2003 - 2005)
- Branden Robinson (2005 - 2006)
- Anthony Towns (2006 - 2007)
- Sam Hocevar (2007-2008)
- Steve McIntyre (2008-2010)
- Stefano Zacchiroli (2010-present)



Debian – the Project

- Common goal
 - Create the best, free operating system*
- About 1,000 **volunteer** developers spread all over the world
 - Large numbers in North America & Europe
 - Smaller numbers in Australia & Asia
 - Growing Latin American development community
- Thousands more contributors
 - Bug report, documentation, translation, ...

Debian – the Project (2)





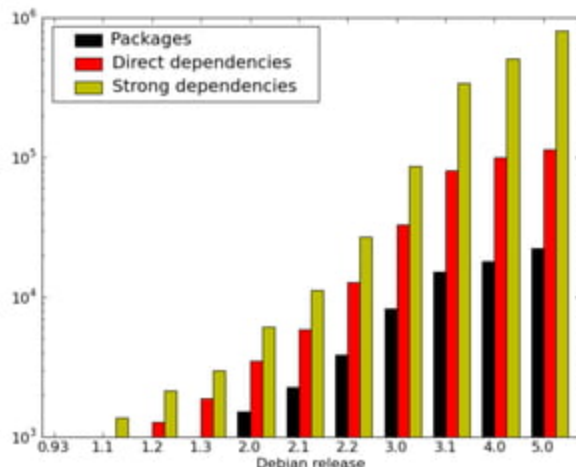
Debian – the OS

- **Completely** Free Software

- Debian Free Software Guidelines

- Support for 12 different hw architectures

- Alpha, amd64, arm, armel, hppa, i386, ia64, mips, mipsel, powerpc, s390, sparc



The largest GNU/Linux distro

- About 23,000 binary package in the latest release ("Lenny")

One of the largest component-based system

- unparalleled (?) in industry
- ... still growing!*

Debian – the Community



- Open development
 - We don't hide problems
- Large amounts of communication
 - Mailing lists, web sites and IRC channels
- Large number of active users
 - Users help each other, contribute packages, become developers

How is Debian different?



- Volunteer-driven
 - No company in charge
- Free Software
 - Social Contract
 - Debian Free Software Guidelines
- Size
- Packaging system
- Stability & support



Social Contract

- We declare that:
 - Debian will remain 100% free
 - We will give back to the free software community
 - We will not hide problems
 - Our priorities are our users and free software
 - Works that do not meet our free software standards
 - main, contrib & non-free

Debian Free Software Guidelines



- AKA “DFSG”
- **Guidelines** only – not hard rules
- Used to help decide what we will distribute in the Debian system
- Applies to the “license” of a given sw



DFSG (2)

- (must allow) Free Redistribution
- (must include) Source Code
- (must allow) Derived Works
- (may require) Integrity of The Author's Source Code
- (must not) Discriminate Against Persons or Groups
- (must not) Discriminate Against Fields of Endeavour



DFSG (3)

- Distribution of License (i.e., licenses apply by default)
- License (must not be) Specific To Debian
- License (must not) Contaminate Other Software (e.g., on the same medium)
- Basis for the “Open Source Definition”
- Sample “DFSG-free” licenses:
 - BSD, GPL, MIT/X11, AGPL, ...



Releases

- 1993: development snapshots
- 1994: v0.91
- Mar 1995: v0.93R5
- Nov 1995: v0.93R6
- ~~Dec 1995: v1.0~~
- Jun 1996: v1.1 (Buzz)
- Dec 1996: v1.2 (Rex)



Releases (2)

- Jun 1997: v1.3 (Bo)
- July 1998: v2.0 (Hamm)
- Mar 1999: v2.1 (Slink)
- Aug 2000: v2.2 (Potato)
- Jul 2002: v3.0 (Woody)
- Jun 2005: v3.1 (Sarge)
- Apr 2007: v4.0 (Etch)
- Feb 2009: v5.0 (Lenny)
- ?? 2010/2011: v6.0 (Squeeze)



Where do I fit in?

- Joined the project recently
- Package maintainer
 - Mainly hosting packages: MLMMJ, DKIMproxy, tumgreyspf, extplorer, nusoap, xen-qemu-dm
- Helps on the pkg-php
 - Lots of PEAR packages php-*
- Upstream for some packages:
 - DTC, DTC-Xen, mysqlmail



Project structure

- Started with limited structure
- Adopted a **constitution**
- Volunteers
- Minimal “people management”
- “do-ocracy”
 - Anybody can decide how to do his/her job
 - Nobody can impose to other what to do



Decision making

- Main rule: do-ocracy, no formal process
- DPL elected each year
 - Delegates key project positions
 - Represents Debian
 - Manage assets
- Software in the Public Interest (SPI)
 - Proxy between Debian and the “real” world



Decision making (2)

- Formally, project decisions are taken by:
 1. Developers as a whole (with GRs)
 2. The Project Leader
 3. The Technical Committee (CTTE)
 4. Individual developers working on some task
 5. Delegates appointed by the Project Leader
 6. The Project Secretary



General resolutions

- Initial proposal (post to -vote)
 - Requires “seconds”
 - Depend on the developer body, usually 5
- Discussion period → might lead to alternative proposal
 - Can put “on hold” delegate's decisions
- Vote with Condorcet-based method
- A single winner
 - super majority (3:1) to change foundation documents



Various teams

- Teams grow as jobs get bigger
- Some teams are “formal” entities (DPL delegates), most are not
- Examples:
 - ftpmaster
 - packaging teams for intertwined packages
 - debian-installer
 - debian-cd
 - release team



Process: from Chaos...

- A thousand Debian developers
- Thousands of packages (30k for Squeeze)
- Many thousand bugs
- Millions of users



... to Stability

- Debian policy
- Quality checking of packages
- Testing (^2)
- Release team coordination



Policy

- Comprehensive list of requirements for packages:
 - What goes in a package, and where
 - How to start & stop system services
 - Interactions with other packages
 - e.g.: inter-package relationships
 - Configuration files
 - Upgrades
 - etc.



Quality checking

- Lintian
 - Run by maintainer to check for packaging mistakes after packages are built
 - Simple framework; new tests are added easily
 - Automation work ongoing
- piuparts
 - Tests how well packages will upgrade from one version/release to the next



Testing – in Packages

- Developers run their own tests before upload
- Build-time test harnesses
- Other developers and users report bugs
- Bugs (hopefully!) are fixed, new uploads made

Testing – as a Distribution



- Uploads go to “unstable” distribution
- After some time without bugs, packages migrate to “testing”
- Archive maintenance scripts check for distribution “consistency”
- Testing should be (almost) ready to release as “stable” at any point
- CUT: Constantly Usable Testing



Release team

- Constantly monitor the state of the testing distribution
- Co-ordinate uploads with package maintainers to make transitions smooth
- Track large groups of packages as they work through the system (e.g. KDE, GNOME)
- Responsible for deciding release goals and release dates



Security team

- Work with maintainers where possible
- Security updates for “oldstable”
- Security updates for stable
- Security updates for testing
- Coordination with other distributions
- security.debian.org, DSAs



Stable point releases

- Organised by the stable release team
- Made every few months
- Collect together:
 - Current security updates
 - Highly-tested package updates to fix other **serious** bugs
- Update the archive
 - rebuild CDs, DVDs etc.



Collaboration

- Many different source code control systems in use; choice of which is made by the developers
 - CVS, Subversion, Git, BZR, Darcs, ...
- Discussions via mailing lists
- IRC for realtime discussion
- Real-life meetings becoming more common
 - DebConf, Extremadura, FOSDEM



Alioth

- Sourceforge-like system
 - Source code, mailing lists, web space, ...
- Used for collaborating on Debian work
 - Projects like debian-installer, debian-cd
 - Packaging work
- Also hosts a number of non-Debian projects



Derivatives

- Not just a distro, can be a base
- LOTS of derived distributions:
 - Ubuntu
 - Linspire/Xandros
 - Skolelinux
 - Lliurex
 - LiMux
 - *many* more



Derivatives (2)

- Why?
 - Licensing assurances
 - Solid, stable base system
 - Reduce effort
- How?
 - Take existing packages and add extras
 - Rebuild packages where desired
- No problem – everybody wins!



Commercial

- Debian is free – how do people make money?
 - Support, solutions
- Work with various companies
 - Large: HP, Google, Sun, Nokia
 - Small: Credativ, Univention, hands.com
- Local government
- Education
- Universities and research institutes



Working with Debian

- Technical collaboration
 - Help work on the features you need
- Sponsorship
 - Hosting, hardware, Debconf
- Experts in the field
 - Developers employed all over the industry



Getting involved

- Test, report (and ideally fix!) bugs
- Translation
- Documentation
- Help with packages
- Sponsoring
- New Maintainer Process



Want to know more?

- <http://www.debian.org>
- mailing lists
- IRC (debian-* channels on irc.debian.org)
- ask me or other DDs at FOSSASIA!