

Debian GNU/Linux, an overview

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- Corporation: SPI
 - Software in the Public Interest, Inc
 - Historical review, over a decade
- Core product: the Distribution
 - Availability and Pricing
 - Support and Service
- Core technology: the project
 - Scalability and flexibility
 - Synergy and Return on Investment
- Public partners
 - Some announced derivative products

Software in the Public Interest (SPI)

- Incorporated, 1997 in New York
 - Section 501(c)(3) Not-For-Profit
 - <http://www.spi-inc.org/>



- Offers several technologies
 - Debian, Open Source, LSB, GNUstep,
 - Fresco, OFTC, GNU TeXmacs, wxWidgets

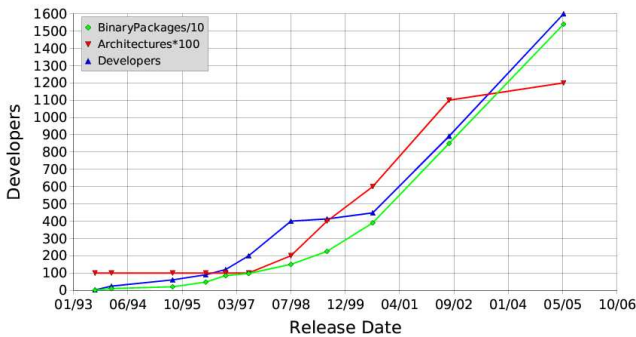
OpenSource.Org

- This talk will only discuss Debian ...
 - Founded in 1993 by Ian Murdock (went on to Progeny)
 - Has more code than Windows XP (~\$2 billion value)
 - Reliability and stability achieved by 1600 maintainers

Sustained growth at 50% per year

- Growth in software and types of hardware supported
 - Over 15000 packages run on 12 computer architectures (Arches)

Growth of the Debian project

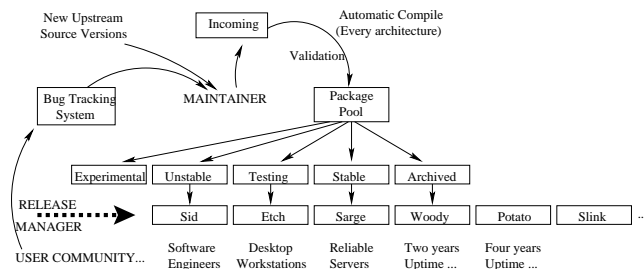


- Who else sustains such fast growth for over a decade?

Core Debian product

- The Debian GNU/Linux distribution
 - The Linux kernel and associated administrative programs
 - Various GNU tools, utilities and applications
 - Thousands of other applications and alternatives
 - Apache, MySQL, Perl, OpenOffice, KDE, Mozilla, LTSP, ...
- An automatic tool "lintian" validates packages
 - Nonconformant submissions are automatically rejected
 - Searchable public bug tracking, <http://bugs.debian.org/>
 - Program "reportbug" helps all users submit useful reports
- Validated dependency data between packages
 - Security and version upgrades are reliable and fast
 - Upgrades rarely need a reboot and can occur incrementally
 - Active users are not disturbed
- Aims to minimize LONG TERM administration effort
 - For the short term, consider the derivative "Knoppix"

Differentiator: Integration Quality

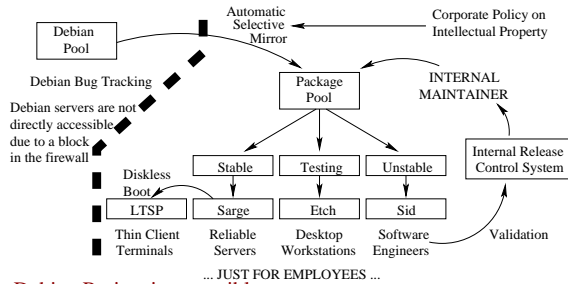


- Extensive documentation ensures consistency
 - Software vendor suggestions - 7 pages
 - Repository recommendations - 7 pages
 - Policy manuals (nine parts) - 143 pages
 - Maintainer guide, Developers reference - 103 pages
 - Menu, Internationalization support - 150 pages

Distribution Pricing / Availability

- Available for purchase as CDROMs
 - Under \$3 per CD, this is cheaper than salaries making them in-house
 - Useful for Document Control archives and mobile users
- Computers can install from the internet
 - This is free (plus your own bandwidth charges)
 - Eliminates searching for the stack of CDROMs
 - Avoids having old release versions in circulation
- Corporations generally mirror Debian internally
 - Reduces internet bandwidth for upgrade rollouts
 - Eliminates dependency on accessibility of public servers
- Mirrors can be selective ...

Selective mirror - customizes Debian



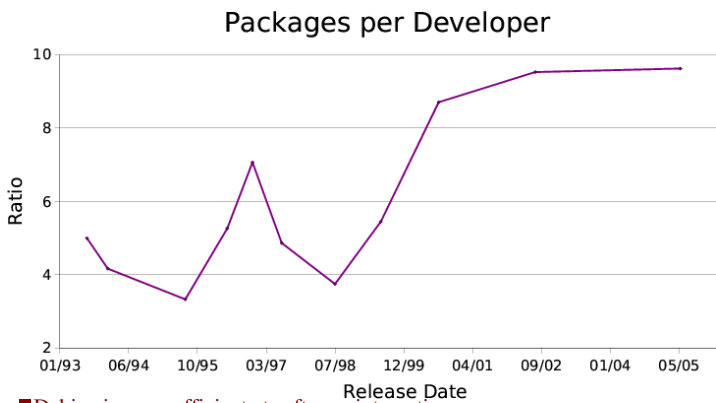
The Debian Project is extensible

- The entire engineering flow is exposed and accessible
- Corporations can inherit it selectively and brand it
- There is no need to expose internal software activities

Local enhancements are encouraged

- An enhancement could be simple
 - Changing a default to make a package easier to install
- Could also be an in-house application
 - Allowing controlled rollout of versions and upgrades
- Maintainers convert source into releases
 - Accept source from "upstream" authors (could be in-house)
 - Write control and dependency data needed by the installer
 - Determine which versions should be released to users
 - Monitor bug databases and raise issues with authors
- Accelerates the usual release-related work
 - It has to be done, irrespective of the target system
 - Debian integrates all the tools and heavily tests them
 - Eliminates issues of third party tool compatibility

Project wide average of maintainers



Debian is more efficient at software integration

- Package maintenance is usually a part time activity

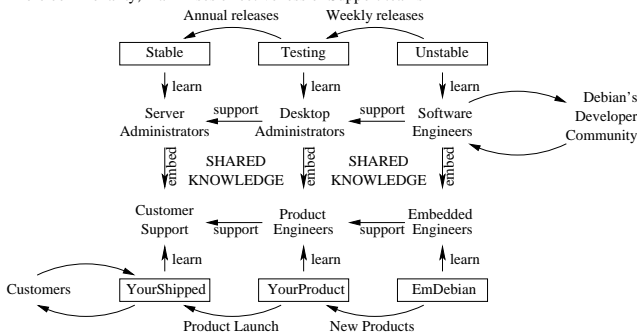
Debian Needs Less Support

- Each administrator can support 40 servers
 - Studies suggest, for other Operating Systems, 4 to 8 servers
 - Proportional reduction in need for external support
- Only small deployments use external consultants
 - Several companies offer per-call support services
 - But large installations tend to train in-house staff
- Unplanned onsite support is almost eliminated
 - Encrypted remote administration is a standard feature
 - Install defaults have full security and basic services ready
 - Accelerates initial system configuration, reduces workload
- There are only 90 listed consultants for the US
 - Over 600 in the worldwide listing, in 55 countries
 - Could be more, but there's not much demand for them

Synergy reduces training needs

The entire corporation only has one learning curve

- Distinct functional groups, same technology, learn once, reuse
- More commonality, maximises effectiveness of Support teams



Can restrict Points of Contact to Debian

Return on Investment

- No recurring required license costs
 - You control all expenditure, vendors compete for your business
 - Debian is an investment, not a loan, so don't make interest payments
- Never dependent on a non-responsive vendor
 - Your organization has access to the project data and archives
 - Consultants aim to accelerate work and reduce effort needed
- Build expertise only for strategic areas
 - For non-proprietary packages, recoup costs by offering support
 - Packages are not controlled by the distribution vendor
- The project's work is openly shared out
 - But the work is varied and the benefits are very different
 - Choose the shares, to maximize your dividends

Contributing back to the Project

- **Binary only software can be contributed**
 - Does user benefit outweigh inconvenience of closed source?
 - Closed source packages have higher maintenance workload
 - Your organization is likely to remain responsible for it
- **There is no obligation to contribute to Debian**
 - However, SPI gratefully accepts your charitable contributions
 - Follow corporate self interest to maximize the value received
- **Self interest drives most labor contributions**
 - Don't need to go looking for opportunities to help out
 - Corporate goals will identify future needs with high ROI
 - Assign resources to address those selfish needs and goals

Debian is conservative on Copyright

- **Software archives are partitioned**
 - By default, a new package would be placed into "non-free"
 - This name should encourage you to review the license carefully
 - Licensing is always located in /usr/share/doc/package/copyright
 - Reviews may trigger corporate filtering of the distribution
- **Does it meet all nine guidelines, without doubt ?**
 - If so, the package is moved into "main" or "contrib" partitions
 - If doubt later appears, the package is immediately moved back
 - The guidelines need to be studied for corporate relevance
- **Some upstream developers have disagreed**
 - Their new license terms were intended to meet the guidelines
 - But they were rejected by Debian, maybe because of ambiguity
- **You must comply with all the licensing terms ...**

Debian offers Choice

- **There is more than one way to present ...**
- **OpenOffice includes Presenter**
 - Very similar to, compatible with, MS PowerPoint
- **GhostView has a slideshow mode**
 - Works well if you have a print file of slides
- **Install Wine and run PowerPoint**
 - Don't expect it to be faster than under Windows
- **This talk is done using "mgp"**
 - This is MagicPoint, a simple text-based method
 - Works well with Configuration Management



Derivative Distributions

- **Debian has some specialist sub-projects**
 - For children, medicine, education, desktop, legal
- **In-house derivatives are unannounced**
 - Their efficiency contributes to a business edge, so don't tell
- **Public derivatives need not announce**
 - There is no requirement to notify Debian, but some do ...
 - Innominate mGuard security appliance
 - PePLink debian, firewall/gateway server
- **Some public projects do announce**
 - Knoppix, Gnoppix, Progeny, Libranet, LindowsOS, Xandros,
 - Intimate, OpenZaurus, Mephis, Morphix, BRLSPEAK,
 - Bonzai, Freeduc, BSLinux, Netserva Dlite, Linux/MNIS,
 - Good-Day, Omoikane, LinEx, Linuxin, PingOO, Timo's,
 - Adamantix, BlackRhino, Floppix, Gibraltar, TrX, ...

Debian Free Software Guidelines

- **http://www.debian.org/social_contract#guidelines**
 - Free Redistribution by recipient
 - Source Code available, distributable
 - Derived Works permitted under same license
 - Integrity of the Author's original source
 - No discrimination against Persons or Groups
 - No discrimination against Fields of Endeavor
 - Distribution of entire License with software
 - License must not be specific to Debian project
 - License must not contaminate in Aggregation
- **Similar to the Open Source Definition (OSD)**
 - Example Licenses: "GPL", "BSD", and "Artistic"
- **Remainder classified as NON-FREE software**
 - Special case of FREE that only works with some NON-FREE
 - It is placed into CONTRIB instead of MAIN, to avoid confusion

Debian Upgrades, a few hints

- **The package choices rarely go away completely,**
 - but may change name, upstream version, default, or ...
- **XFree86 was, for a long time, the default for graphics**
 - Etch uses X.org in the package "xserver-xorg"
- **Sarge uses "kernel-image-*" for Linux**
 - Etch renames this as "linux-image-#"
 - After all, Debian supports other kernels
- **The recommended kernel version usually changes**
 - Linux major releases are similarly slow to Debian
 - Often easier to add the new kernel earlier

Installing Debian, choosing a version

- Most people use the Debian Installer in Stable
- Stable's feature set may be too old for your needs
 - If necessary, upgrade to Testing or Unstable
 - Can do that later on, whenever you notice
- Suppose you know you need Testing before you start?
 - Using the Stable Debian Installer is suggested
 - Just add more APT sources to the default list
 - The "install" and "upgrade" occur in parallel
- Debian can be added to an existing Linux system
 - Mount the new partition and run "debootstrap"
 - An ordinary standalone open source program!
- Also a convenient way to add dual boot 64 bit support
 - `cdebootstrap --architecture amd64`

Thank you for your interest

- Any questions ?
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