

# Everything You Have Ever Wanted To Know About Debian GNU/Linux\*

\*but were afraid to ask

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# The Three Pillars of ~~Zen~~ Debian

- Freedom
- Technical Excellence
- Community

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## In The Beginning...

- Linus Torvalds Invents Linux (but you already knew that!)
- The Linux kernel + software from GNU, BSD etc. makes a complete Unix compatible operating system
- “Distros” start to appear but they all stink...

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## Ian Murdock To The Rescue!

- Ian is unhappy, so he builds his own distro which attracts like-minded people
- The name Debian comes from Debra (his wife) and Ian
- It stresses freedom, technical excellence, and community from the very beginning

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# Freedom

- Freedom of software and information is vital in this day and age.
- Debian Codifies its' philosophy on Freedom in 2 documents – The Social Contract and DFSG
- The DFSG is the basis for Open Source Definition

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# The Social Contract

- Debian will remain 100% free software
- We will give back to the Free Software community
- We will not hide problems

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## Social Contract (contd.)

- Our priorities are our users and free software
- But we will support software that doesn't meet our standards

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# Debian Free Software Guidelines

- Must allow unhindered redistribution
- Must include all source code
- Must allow derivation
- No discrimination against people or groups

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## DFSG (contd.)

- Must not discriminate against fields of endeavor
- License must not be Debian specific
- Must not be “viral”

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# Technical Excellence

- Debian has a sophisticated Package system.
- Strict policies mean the system is well integrated.
- Being non-commercial means Debian can take the time to do it right.

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# Debian Packages

- A .deb is a couple of tarballs wrapped up in an ar(1) archive.
- It contains metadata
- It can be arch specific or independent
- It contains all or part of a piece of software.

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# Source Packages

- Contain the pristine upstream source whenever possible.
- A diff of the changes the packager made.
- MD5sums for security

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# dpkg

- low-level command line tool.
- Lets you add, remove etc. packages
- Essential configuration handled via debconf (but it is not a registry!)
- More or less equivalent to rpm

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# apt-get

- Debian's “killer app”
- Adds dependency checking for system consistency
- Fetches packages from local media or over the network

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## apt Frontends

- aptitude is a text-mode frontend. It replaces the older dselect.
- synaptic, etc. are GUI frontends
- Debian installer is also a sort of apt frontend.

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# Debian Distributions

- unstable (“sid”)
- testing (“lenny”)
- stable (“etch”)
- oldstable (“sarge”)
- Names are from Pixar film “Toy Story”

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# Unstable

- Unstable means “in flux” not defective
- New and updated packages go here.
- First time uploads have to go through “NEW” processing.
- Suitable for power users only.

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# Testing

- Once a package is sufficiently bug-free, goes here.
- Security support available but still not rock solid
- Might be suitable for non-mission critical usage.

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# Stable

- Solid, dependable, boring – by design
- Once released no new packages added only security updates
- semi-official backports.org has newer stuff
- Official, supported Debian release

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# Release Management

- Release process overseen by a select team
- Testing frozen prior to release
- Must be free of major bugs and meet any special goals the project has set.

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## Experimental And Third-Party Archives

- Experimental – if it is too unstable for unstable!
- There are official and unofficial third-party source for Debian packages.
- Alioth is the Debian sourceforge

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# Architectures

- 11 architectures supported in Etch
- packages automatically built for all architectures
- Everything from mainframes to handhelds, non-Linux ports too
- Conclusion: Debian is BIG!

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# Community

- Around 1000 Debian Developers
- Volunteers, though some get paid to work on Debian
- We're not just smelly hippies!

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# Project Organization

- Sam Hocevar is Debian Project Leader
- Developers vote for DPL yearly and on General resolutions by democratic vote
- DPL appoints delegates to exercise particular powers/functions
- SPI umbrella org for legal stuff

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## Some Key Delegates

- Secretary
- Accounts Manager
- Archive administrators
- Release team

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# Debian Developers

- Pass through rigorous acceptance process
- Non-developers can contribute through sponsors.
- GPG web of trust

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## Debian Developers (contd.)

- Mostly conduct business via email
- Now there are face to face meetings too
- No fixed tasks or central direction, they choose what to work on

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# Maintaining A Package

- Keep up with policy changes and fix bugs
- Upload new versions
- Work with upstream by filtering user requests and passing along patches
- Team maintainership becoming popular

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## How A Package Enters Debian

- Special “package” Work Needed and Prospective Packages in Bug Tracking System
- “Intent to Package” provides opportunity to discuss merits of the new package.
- Package vetted by archive admins before entering unstable.

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## How Users Can Help

- File bug reports
- Write documentation, make translations, share knowledge
- Advocacy (but please don't be a zealot)
- Donate money/equipment

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# External Problems

- Low visibility
- Stupid laws
- Bad relations with upstream projects
- Ubuntu (or is it?)

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# Internal Problems

- S L O W releases
- Personality clashes
- Is money the UID 0 of all evil?
- How free does free have to be?
- Has Debian stopped being fun?

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# Thank you!

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Available from

<http://people.debian.org/~jaldhar/talks>

Etch-a-sketch provided by Shailaja J. Vyas

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