Introducing EdgeBSD

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Who am I

- Pierre Pronchery
- DeforaOS project since 2001
- NetBSD developer since May 2012 (khorben@)
- And now EdgeBSD as well
But what is EdgeBSD?

• It is a fork of NetBSD
  • A full copy of NetBSD's src and pkgsrc
  • Including history
  • New development branches

• It is not a fork of NetBSD
  • So far, barely any change to the code
  • Not different from your own checkout

(what is a fork anyway?)
NetBSD primer

- Project started in 1993
- Follow-up to the CSRG lab at Berkeley
- First modern Open Source project
- Gave birth to OpenBSD in 1995
- About 256 developers today
- Cathedral type of development
- Centralized repository (CVS)
NetBSD is great and beautiful

- Strong focus on quality
- Clean architecture ...hence portable
- Transparent cross-compilation
- Attracted lots of cool research
- Tons of awesome modern features
  - ASLR, CGD, Xen, RUMP, ZFS, Dtrace...

Thanks to...
NetBSD development model

- Only official developers can commit
- It takes a while to be accepted as one
- Commits need usually be reviewed
- Work on the code is always public
- Branches are allowed but stay forever
- Existing features not allowed to break

Don't get me wrong, this is all fine. But...
It harms development

- If you have occasional contributions
  - You can't easily become a developer
  - Someone has to be available to commit
- If such contributions are major
  - You can't easily let them be reviewed
  - Reviewers can't easily test and patch
- Even if you are an official developer
  - You can't tinker, commit, break, revert...
More potential harm

• NetBSD maintains its own versions of:
  • Gcc, Xorg, Bind, Postfix... in the base system
• It's fine as long as the manpower to maintain is there
• ...but I can't run NetBSD on my workstation (2008) or laptop (2009) anymore with an upstream Xorg

I want to run NetBSD as my main system!
Obvious issue: CVS

- I like CVS: simple and easy to fix
- I don't like Git: inconsistent and opaque

But it's just so good to be able to:
- Work offline with history and branches
- Branch almost for free
- Stash and stage and commit and combine and and and and...
Where EdgeBSD kicks in

• It is a staging area for NetBSD (then of course it might go its own path)
• Decentralized VCS: Git (for popularity)
• More open, more affordable, more fun
• Allow just about anyone to work in branches together
• Polish patches for inclusion in NetBSD

More research, more development
Development model

- Keep NetBSD's original code in a pristine Git mirror (netbsd-src, -pkgsrc)
- Track master and select branches in EdgeBSD's Git repositories
- Allow contributors to push branches
- Dedicate some branches for inclusion (to either edgebsd/master or NetBSD)
- master as EdgeBSD's tentative -current
Enable and test more features

- Many existing features are not enabled by default in NetBSD:
  - ASLR (known bugs)
  - SSP (imposes restrictions)
  - Securelevels (not always desirable)
  - Veriexec (fair enough)
  - Modular kernels (\textit{“might break”})
  - Modular Xorg from packages (broken)

Let them be tested and unbroken.
Push Open Source development

• Pioneer new approaches to OSS development:
  • Provide e-mail, calendar, secure IM, VoIP, conferencing... to contributors
  • Automated checks and procedures
  • “Build me this patch on XYZ architectures”
  • “Push this patch to master iff it built everywhere”

Not easy, lots of work and infrastructure, but I need and want to offer this
Release engineering

• Yes indeed, I want to work towards stable releases too:
  • Based on NetBSD's stable branch
  • With extra features enabled
  • With continuous security & bugfix updates
  • With stable, testing and new packages
  • With easier ways to install and deploy
What I want to see in a release

- Graphical and text-based installers
- Default environment with known hardware and software support
- Ready-to-flash images for range of devices
- Milestones and continuous updates
It's not vaporware

- On the web: http://www.edgebsd.org/
- Git repositories: http://git.edgebsd.org/
  - $ git clone http://git.edgebsd.org/EdgeBSD/
    edgebsd-src.git and edgebsd-pkgsrc.git
- We have a port to the lm32 CPU
- We have signed binary packages
- More to come hopefully
Special thanks

• Git community, of which gitweb and Gitolite in particular
• Joerg Sonnenberger for his work on converting NetBSD to different VCSes
• NetBSD for having such a high standard
• Everyone who joined already
Questions, Contact

• Sorry for the rough, rushed presentation
• Thanks for your patience and support
• Reminder: all of this is new, ambitious, but also open!
• Speak your mind now or later:
  • IRC #EdgeBSD on freenode
  • e-mail khorben@edgebsd.org (I'll setup mailing-lists ASAP)