

# Introducing EdgeBSD

FrOSCon 2013  
Bonn, Germany

Pierre Pronchery <[khorben@edgebsd.org](mailto:khorben@edgebsd.org)>  
August 24<sup>th</sup> 2013



# 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...



# Where EdgeBSD kicks in

- Meant as 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 (“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



# Politics

- I have to mention this and it's not fun
- I don't feel comfortable running a system primarily hosted in the USA anymore
- I want to host EdgeBSD in Germany
- Any help kicking off a legal structure is welcome

With this said...





# 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 Im32 CPU
- More to come hopefully



# Special thanks

- Bug Hunting for his passion and attention to details
  - 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
  - Yann Sionneau for joining already
- ...and of course the Lisp room for the slot



# 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](mailto:khorben@edgebsd.org) (I'll setup mailing-lists ASAP)

