

OpenBSD ports...what the heck?!

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Agenda

- 1 Introduction
- 2 Hackathons
- 3 `pkg_add(1)`
- 4 Recent developments
- 5 Differences with `pkgsrc`
- 6 Conclusion

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Who am I?

- Jasper Lievisse Adriaanse (jasper@).
- Developer since 2006.
- Code in all parts of the system.

Terminology

- Port
- Platform

OpenBSD...

- Unix-like, multi-platform operating system.
- Derived from 4.4BSD, NetBSD fork.
- Kernel + userland + documentation maintained together.
- 3rd party applications available via the ports system.
- Anoncvns, OpenSSH, strlcpy(3)/strlcat(3).
- One release every 6 months, regardless.

OpenBSD... (cont.)

- 16 platforms:
 - alpha, amd64, armish, hp300, hppa, i386, landisk, loongson, mvme68k, mvme88k, sgi, socppc, sparc, sparc64, vax, zaurus.

OpenBSD... (cont.)

- 13 binary architectures:
 - alpha, amd64, arm, hppa, i386, m68k, mips64, mips64el, powerpc, sh, sparc, sparc64, vax.

OpenBSD... (cont.)

- W.I.P. platforms
 - aviiion, hppa64, palm, solbourne.

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What is...a Heckethun?

- Hackathons do not have talks, or a specific schedule.
- People hack and discuss...
- ...and drink (Humppa!).

Hackathons

- General hackathon
- Mini hackathons
 - Hardware, network, ports, filesystem/uvm, routing.
- *Heckethuns ere-a fur sterteeng sumetheen oor feenishing sumetheeng, nut but. Su dun't bork zee tree-a! Bork bork bork!*

Adding Meat To OpenBSD Since 2004



Ports hackathons

- Yearly event.
- Very creative and productive atmosphere.
- No presentations.
- Just hacking, fun and beer...

...and wine!



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μ history

- Common ancestor; the FreeBSD ape.
- perl(1)
- Smaller than both {Free,Net}BSD.
- K.I.S.S.

pkg_add(1) (cont.)

- Power of combination.
 - Perl modules.
 - Generic make(1) targets.
 - Reuseable functions/code.

pkg_add(1) (cont.)

- Dependencies
 - BUILD_DEPENDS
 - RUN_DEPENDS
 - LIB_DEPENDS
 - REGRESS_DEPENDS
 - directory,[-multi],[flavor...]
 - WANTLIB

Everyone loves numbers, right?

- Ports tree size (in unzels):
 - 2001: 1016
 - 2003: 2095
 - 2005: 2855
 - 2007: 4084
 - 2009: 5440
 - 2010: 6303
- Fastest machine takes ~ 36 hours.
- Slowest machine takes several months; until someone aborts the build.

Snapshots

- Continuous building of packages.
- Machines should be building 24/7.
- Find and fix issues.
 - Yelling, but no bricking.
- Good testing for kernel and native toolchain

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- The name says it all:
 - Distributed Ports Builder.

dpb3(1)

- Reincarnation of original dpb tool.
- Build order
 - Blockers built first.
 - Large ports built first.

dpb3(1) (cont.)

- Priming (expected) build sizes.
- Fix broken port while build is running.

dpb3(1) (cont.)

- Parallel building on multiple hosts
 - SSH (duh..)
 - Sharing distfiles.
 - Build arch. independent packages once.
- Allows for twisted build clusters... (vax anyone?)

- Version 4.2.1
 - Last GPLv2 version.
- C++ horror
 - libstdc++ vs. libstdc++

GCC4 (cont.)

- Switched
 - amd64, sparc64.
- W.I.P.
 - alpha*, arm, hppa*, i386*, mips64(el), powerpc*, sh.

pkg_add(1) improvements

- Way more robust.
 - Incremental updates.
- Way faster.
 - Profiling.
 - Caching.
- Way better!

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OpenBSD ports doesn't...

- ...have meta-packages.
- ...have pkglint.

OpenBSD ports doesn't...

- ...use buildlink.
- ...need wrappers, shadow trees.

OpenBSD ports doesn't...

- ...have a WIP directory.
- ...have enough ports developers..

OpenBSD ports doesn't...

- ...track ports bugs, at all.
- ...have proper/finished pthreading.

OpenBSD ports doesn't...

- ...need bootstrapping.
 - 'cvs co' and build!

OpenBSD ports does...

- ...support one operating system.
- ...have Perl and X11 in the base system.

OpenBSD ports does...

- ...have Systrace protection.
-PLIST annotations.

OpenBSD ports does...

- ...have it's own libtool (almost).
 - < 25% of GNU libtool's size.
 - 1626 lines of readable Perl.
- ...have shared library control.
 - Stupid upstream is stupid.

OpenBSD ports does...

- ...have it's own pkg-config.
-have irregular, but continuous snapshots.

OpenBSD ports does...

- ...have flavors.
- ...have multipackages.

OpenBSD ports does...

- ...have a Fake target (staged installation).
- ...keep things simple.

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Conclusion

- Short overview of OpenBSD ports, with some history, improvements, and differences compared to pkgsrc.

Questions?

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