pkgsrc on MirBSD

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Introduction

What is MirOS / MirBSD?

- MirOS BSD or MirBSD: "a secure operating system from the BSD family", OpenBSD based

- The MirOS Project: Thorsten Glaser and me +contributors

  - other software: mksh (shell), jupp (editor), PaxMirabilis (archiver), MirMake (build system), MirCksum, MirNroff, KWalletCLI, etc.

What is pkgsrc?

- In GNU/Linux distributions, everything is a package.

- In BSD, the base system is a "single unit".

- pkgsrc provides a way to install additional software not contained in the base system.

  - over 11000 packages available

  - made by the NetBSD project, runs on 16 different OSes

Building from source

- Before first use: run /usr/pkgsrc/bootstrap/bootstrap

- Packages are organized in categories: /usr/pkgsrc/*category*/*pkgname*

- "bmake package-install" does everything:

  - download

  - extract, patch

  - build

  - create and install binary package

Stable branches

- four stable releases per year

  - most recent was pkgsrc-2011Q4

- security team deals with vulnerable packages, fixes are "pulled up"

  - automatically check for installed packages with known vulnerabilities

```
% pkg_admin fetch-pkg-vulnerabilities
% pkg_admin audit
```

Binary packages

- ftp.netbsd.org contains packages for many architectures and OSes

- set PKG_PATH: pkg_add automatically downloads packages for installation

```
% export PKG_PATH=ftp://ftp.netbsd.org/pub/pkgsrc/packages/
MirBSD/i386/10uAE_2011Q3/All
% pkg_add screen
```

- pkgin, nih: binary package managers provide apt-like functions

Getting involved

- Mailing lists: pkgsrc-users@netbsd.org, tech-pkg@netbsd.org

- Bug tracker: http://www.netbsd.org/support/query-pr.html

- low barrier to entry for new packages: pkgsrc-wip project on Sourceforge

  - entries are added to pkgsrc after review

- For commit access to pkgsrc, you need to become a NetBSD developer.

Back to MirBSD ...

MirPorts

- MirBSD also has MirPorts,
  with about the same goals as pkgsrc

  - 2852 entries (>11000 for pkgsrc)

  - many of the packages are in old versions
    due to lack of manpower

- But: several MirBSD-specific packages

- so we decided to join forces:
  pkgsrc as a complement / replacement (?)

Terminology differences

MirPorts	pkgsrc
port	package
package	binary package
package flavour	package option
"faking"	DESTDIR support

Interesting MirPorts features

- cpan2port: recursively create packages for Perl modules

- mpczar: "normalized" archive format for VCS checkouts

  - to allow checksumming

  - VCS checkout instead of distfile

- cvs-1.12 with extensions

How did we get MirBSD support?

Beginning

- tg wrote basic patches in 2006.
  They were never applied.

- I revived them at 26C3 (Dec 2010).
  Important: personal contact with
  developers (joerg, wiz)

- First parts committed in January 2011.

(cont.)

- Maintaining pkgsrc support is much easier as developer.

- At FOSDEM 2011: mbalmer proposes me to become a NetBSD developer, starts newdev process.

  - Sponsored by Alistair G. Crooks (agc) and Guillaume Lasmayous (gls) – thanks!

Becoming a NetBSD developer

1. A developer proposes you to be added.
   Two weeks for internal objections.

2. Two developers become your "sponsors".

3. You fill out a questionnaire,
   internal discussion.

4. Your GPG key needs to be signed by two developers.

5. If accepted, you need to sign a contract with The NetBSD Foundation.

Files touched

- bootstrap/bootstrap

- pkgtools/bootstrap-mk-files/files/mods/
  MirBSD.sys.mk

- mk/

  - bsd.prefs.mk, pthread.builtin.mk

  - platform/MirBSD.mk, tools/tools.MirBSD.mk

  - configure/gnu-configure.mk: workaround

More controversial changes

- It took about six more months for bootstrap without patches on MirBSD

  - fixes for libfetch

  - fix for incompatibilities between mksh and the bmake test suite

  - libtool support

- In all cases: need OK from maintainers / authors

Conclusion

pkgsrc and MirBSD

- pkgsrc works well on MirBSD.

  - last bulk build (2011Q3): 5850 packages.

- Some "important" packages still need fixes.

- pkgsrc cannot completely replace MirPorts at the moment (e.g. local ports).

  - But: MirPorts and pkgsrc can coexist!

Thank you for your attention

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Come to our booth (K building)!
We distribute DVDs with MirBSD + pkgsrc.