pkgsrc on MirBSD

Benny Siegert <bsiegert@{mir,net}bsd.org>
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Contents

1. Introduction
   a. MirBSD
   b. What is pkgsrc?

2. Comparison pkgsrc ↔ MirPorts

3. MirBSD as new pkgsrc platform

4. Conclusion
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

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

<table>
<thead>
<tr>
<th>MirPorts</th>
<th>pkgsrc</th>
</tr>
</thead>
<tbody>
<tr>
<td>port</td>
<td>package</td>
</tr>
<tr>
<td>package</td>
<td>binary package</td>
</tr>
<tr>
<td>package flavour</td>
<td>package option</td>
</tr>
<tr>
<td>“faking”</td>
<td>DESTDIR support</td>
</tr>
</tbody>
</table>
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?
• 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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Alistair G. Crooks   Guillaume Lasmayous
Jörg Sonnenberger   Thomas Klausner

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