



Introduction to pkgng

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Why PKGNG ?

usr.sbin/pkg_install/add/perform.c:

```
/*  
 * This is seriously ugly code following. Written very fast!  
 * [And subsequently made even worse.. Sigh! This code was just born  
 * to be hacked, I guess.. :) -jkh]  
 */
```

No safe upgrade support

Missing metadata

No repository support

No fine dependency tracking

No modern binary package management

Many others



What is pkgng?

- * New package format
- * New local package database
- * Simple and easy to use library libpkg(3)
- * Simple and easy to use pkg(1)
- * Binary repository(ies) support
- * Binary upgrade support
- * Current ports tree support
- * Ready to help improving the ports tree
- * Help modernising the package management on FreeBSD



New package format

- * Can be tar, tgz, tbz or txz (default to txz)
- * One single metadata file: +MANIFEST
- * New format for metadata: YAML
- * Able to package empty directories
- * New splitted pre/post (install/deinstall) scripts
- * New upgrade scripts
- * Architecture aware
- * System version aware



local package database

- * SQLite
- * Easy and fast reverse dependencies calculation
- * Easy to backup
- * Safe (heavy usage of sql transaction)
- * Contain all metadata
- * Extensible
- * Upgrade possible



libpkg(3)

- * Full featured
- * High level
- * C
- * Safe
- * Simple
- * The API is not yet consider as stable

```
usage: pkg help <command>
```

Where <command> can be:

```
add  
audit  
autoremove  
backup  
check  
clean  
create  
delete  
help  
info  
install  
query  
search  
register  
repo  
update  
updating  
upgrade  
version  
which
```



pkg info -f chromium

```
Name       : chromium
Version    : 16.0.912.75
Origin     : www/chromium
Prefix     : /usr/local
Categories : www
Licenses   : MPL | LGPL21 | BSD
Maintainer : chromium@FreeBSD.org
WWW        : http://www.chromium.org/Home
Comment    : A mostly BSD-licensed web browser based on WebKit and Gtk+
Options    :
  CLANG: off
  CODECS: on
  DEBUG: off
  GCC46: off
  GCONF: on
  PULSEAUDIO: off
Flat size  : 85 MB
Description :
Chromium is an open-source browser project that aims to build a safer,
faster, and more stable way for all users to experience the web.

The Chromium website contains design documents, architecture overviews,
testing information, and more to help you learn to build and work with
the Chromium source code.

WWW: http://www.chromium.org/Home
```




Repository(ies) support

- * SQLite
- * SSL signature
- * multiple possible
- * Contains most metadata
- * XZ compressed
- * searchable



Binary install/upgrade

- * both available on install and upgrade subcommand
- * fast (only remove files that are not present in the new script)
- * safe: internal integrity checking
- * safe: able to deal with package split
- * RCng support (not activated by default)

How to upgrade your system?

```
$ pkg update  
$ pkg upgrade -y
```



Ports Tree Support

21500 successful packages is the highest pkgng score so far

*

easy plist format extensions: yaml

*

example: /usr/ports/Keywords/fontdir.yaml

```
actions: [dirm]
post-install: |
  mkfontdir "%@"
  mkfontscale "%@"
  fc-cache
post-deinstall: |
  rm -f "$@"/fonts.cache
  rm -f "$@"/fonts.dir
```

* Real stage ready



Roadmap

For 1.0:

- * Ready for 10.0-RELEASE and 9.1-RELEASE
- * Improve documentation
- * Manage users/groups directly (avoid calling pw(8))
- * Improve user messages (error, warnings, etc.)

For Future:

- * capsicum (and security in general)
- * Better arch support (noarch etc)
- * abstract/alternative packages (e.g. "provide http_server")
- * incrementally updated packages



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Questions ?