Creating & Updating FreeBSD Ports

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Who Does What

- MAINTAINER: Responsible for the port
- Committers: Able to modify the ports collection
- portmgr: Look after the ports/packages infrastructure
- Everyone: Submits feedback, including problem reports, bug fixes and upgrades
Useful Resources: CVSWeb

- Visual interface to cvs(1)
Useful Resources: GNATS Problem Report Database

- Contains new/updated ports waiting to be committed

http://www.freebsd.org/support.html#gnats
Useful Resources: Bento Package Building Errors

- Lists ports that the package building cluster is having trouble with
- http://bento.FreeBSD.org/errorlogs/
Useful Resources: Ports distfiles Survey

- Lists distfiles that can't be retrieved
Useful Resources: freebsd-ports Mailing List

- List contains port submissions and discussion related to the ports collection
- Archived at http://docs.FreeBSD.org/mail/ and mailing.freebsd.ports at http://groups.google.com/
Useful Resources: bsd.port.mk

- Ports infrastructure in /usr/ports/Mk
- Think of it as a huge Makefile that individual ports can reuse

```bash
CHOWN?= /usr/sbin/chown
CP?=  /bin/cp
CUT?= /usr/bin/cut

.if defined(USE_GMAKE)
BUILD_DEPENDS+= gmake:~{PORTSDIR}/devel/gmake
CONFIGURE_ENV+= MAKE=$(GMAKE)
.endif

do-fetch:
  @${MKDIR} ${_DISTDIR}
  @(cd ${_DISTDIR}; \
    ${_MASTER_SITES_ENV} ; \
    for _file in ${DISTFILES}; do \
      file=`echo $_file | ${SED} -E -e 's/:\[^:\]+$$//'`; \n      select=`echo ${_file#$file} | ${SED} -e 's/^://' -e 's/,/ /g'`; \n      if [ ! -f $file -a ! -f `basename $file` ]; then \n        if [ -h $file -o -h `basename $file` ]; then \n          ${ECHO_MSG} ">> ${_DISTDIR}/$file is a broken symlink."
          ${ECHO_MSG} ">> Perhaps a filesystem (most likely a CD) isn't mounted?"
          ${ECHO_MSG} ">> Please correct this problem and try again."
          \n          return 1
        fi
      fi
    done
  )
```

Contents of a Port: Makefile

# New ports collection makefile for: mozilla
# Date created: 31 Mar 1998
# Whom: eivind/dima/jseger
#

PORTNAME= mozilla
PORTVERSION= 1.0
PORTEPOCH= 1
CATEGORIES= www
MASTER_SITES= ${MASTER_SITE_MOZILLA} \ 
http://people.FreeBSD.org/~sobomax/:local
MASTER_SITE_SUBDIR= mozilla/releases/${PORTNAME}${PORTVERSION:S/.rc/rc/}/src \ 
sobomax/:local
DISTFILES= ${PORTNAME}-source-${PORTVERSION:S/.rc/rc/}${EXTRACT_SUFX} \ 
libart_lgpl-${PORTVERSION}${EXTRACT_SUFX}:local
MAINTAINER= gnome@FreeBSD.org

BUILD_DEPENDS= zip:${PORTSDIR}/archivers/zip \ 
freetype-config:${PORTSDIR}/print/freetype2
LIB_DEPENDS= ORBit.2:${PORTSDIR}/devel/ORBit \ 
png.5:${PORTSDIR}/graphics/png \ 
freetype.9:${PORTSDIR}/print/freetype2

.include <bsd.port.mk>
Contents of a Port: distinfo

- distfile MD5 checksums

MD5 (mozilla-source-1.0.tar.bz2) = 033da936e48336aa2c5d8bf0aa039056
MD5 (libart_lgpl-1.0.tar.bz2) = f332c3c026adc1c2c0ceb3ac5847d5f5
Contents of a Port: pkg-comment

● One line comment about the port

The open source, standards compliant web browser
Contents of a Port: pkg-descr

- Longer description of the port

This is the open source web browser, which forms the basis for Netscape Navigator 6. It should be fully compliant with all W3C standards, including HTML, CSS, XML, XSL, JavaScript, MathML, SVG and RDF. This version also supports SSL encryption, but does not yet support Java.

While the code is officially still in pre-release, the browser is mostly stable, and does a good job displaying most pages on the web. Mail and News also work, and provide some interesting features, such as the ability to check multiple POP3 servers.

Testers are most welcome, but should submit bug reports about the browser itself to mozilla.org (http://bugzilla.mozilla.org/) rather than via FreeBSD.

WWW: http://www.mozilla.org/
Contents of a Port: pkg-plist

- Lists most of the files installed by the port

```
bin/mozilla
lib/mozilla/DocStream
lib/mozilla/HelloWorld
lib/mozilla/INSTALL.xmlterm
lib/mozilla/TestGtkEmbed
lib/mozilla/TestGtkEmbedChild
lib/mozilla/bloaturls.txt
lib/mozilla/chrome/US.jar
%%CHATZILLA%%lib/mozilla/chrome/chatzilla.jar
lib/mozilla/chrome/chrome.rdf
lib/mozilla/chrome/chromelist.txt
lib/mozilla/chrome/classic.jar
lib/mozilla/chrome/comm.jar
lib/mozilla/chrome/content-packs.jar
lib/mozilla/chrome/embed-sample.jar
lib/mozilla/chrome/en-US.jar
@unexec rm -f %D/lib/mozilla/chrome/chrome.rdf || true
@unexec rm -f %D/lib/mozilla/component.reg || true
@dirrm lib/mozilla/res/throbber
@dirrm lib/mozilla/res/rdf
@dirrm lib/mozilla/res
```
Contents of a Port: Other Files

- pkg-message: Display additional information after installing
- Patches applied after extracting distfiles into the work directory
- Scripts used to build the port that aren't part of any distfile
- Small files installed with the port (e.g. custom wrapper scripts)
- Anything else that's required
Porting Tools

- portlint(1) (/usr/ports/devel/portlint)
- portcheckout(1) (/usr/ports/devel/portcheckout)
- make package & pkg_add(1)
- /usr/ports/Tools/scripts: some are for committers only, but some are of use to anyone creating or updating a port
Submitting Your Work

Before submitting:
- Check the port using the *Porting Tools* just mentioned
- Check the port against *DO's and DON'Ts* in the Porter's Handbook

Use send-pr or contact the MAINTAINER
- send-pr(1) or http://www.FreeBSD.org/send-pr.html
- The MAINTAINER's email address is in the port's Makefile
Further Information

- FreeBSD Porter's Handbook
- These slides will be available from http://people.FreeBSD.org/~tom/