

# Mac OS X Port Project Status

This page outlines the status of high-level feature areas to bring from Apple's Java SE 6 to the Mac OS X port of JDK 7u4.

7u4 is now complete; 7u6 is in active development in jdk7u-dev.

A list of popular open issues is available at the [JIRA bug reporter](#).

## Features in the macosx-port src repository

- ✔ Build
  - ⚠ build using clang
  - ✔ build .jdk bundle (for CommandLine and embedded use only)
  - ✔ build embeddable .jre bundle
    - ✔ build JavaAppLauncher stub
- ✔ HotSpot
  - ⚠ remove ALWAYS\_PASS\_TEST\_GAMMA hack
  - ✔ register new threads as ObjC-GC capable
  - ✔ DTrace v2-style probes
- ✔ Core Libraries
  - ✔ Load .jniLib (in addition to .dylib) - fixed for 7u4!
- ✔ Precomposed/Decomposed File path translation
  - NIO
    - ✔ kqueue based Selectors
    - ⚠ WatchService implementation (kqueue-based)
    - ✔ WatchService implementation (polling-based)
    - ✔ Async I/O API
  - ✔ Proxy Server handling
  - ✔ Locale support
  - ✔ System properties fixup (vendor name, etc)
    - ✔ Resolve "Darwin" vs. "Mac OS X" checks
- ✔ JNI interface
- ✔ Networking
- ✔ X11
- ✔ Universal binaries
- ✔ JObjC
  - ⚠ get tests passing
  - ✔ self-generate BridgeSupport full files
- ⚠ Cocoa AWT
  - ✔ 2D drawing (OpenGL based)
    - ✔ OpenGL layer needs to be vended from an NSOpenGLLayer (10.6+)
  - ✔ Cocoa key/text events
    - ✔ cleanup to use JRSEvent API
  - ✔ merge JDK6 CWindow -> LWWindow changes and style flags
  - ✔ update CImage
  - ✔ Transparent window support
  - ✔ Headless
  - ✔ remove \$AWT\_TOOLKIT=CToolkit, switch to default
  - ⚠ threading cleanup
- ✔ Aqua LaF
  - ✔ Requires an image tile cache
  - ✔ Screen Menu Bar
    - ✔ Needs cleanup to use JRSMMenu API
  - ✔ Needs refresh from Apple trunk
- ✔ Fonts/Text drawing
  - ✔ Needs cleanup to use JRSFont API
- ✔ Accessibility
- ✔ Clipboard
- ✔ Drag & Drop
- ✔ InputMethod support
- ✔ AppleScript javax.script engine
- ✔ Sound
- ✔ Printing
- ✔ Keychain Provider
- ✔ JAWT (for SWT/3D embedding)
- ✔ Smartcard
- ✔ Fix Kerberos code to read config info from SCDynamicStore (needed on Lion) | [http://java.net/jira/browse/MACOSX\\_PORT-566](http://java.net/jira/browse/MACOSX_PORT-566)
- ✔ AWT Desktop API
- ✔ System Tray

## Features not yet ported from Apple's Java SE 6

- ⚠ Bundled app launching

- JavaApplicationStub replacement
  - Stub source now checked in. More tools for bundling an app are coming.
  - Stub and AWT reviewed for sandboxing
    - need to fix JavaSound, launcher stub, and remove dependency on X11 libfreetype.

## Features not in public macosx-port ("deploy" is private to Oracle). You'll have to trust us on these – deploy is not ready to be open-sourced.

- **Applets/Plugin2**
  - Need to create .plugin bundle
    - Need to embed slimmed JRE into .plugin bundle
  - Need NPAPI/Cocoa event -> Java event conversion
  - Need the LWAWT to render into NSOpenGLLayer (see above)
    - Need cross-process CALayer connection mechanism to be exposed
  - Need to determine update mechanism ([Sparkle.framework?](#))
  - JavaFx support
- **Web Start**
  - Need to determine delivery vehicle (inside Applet plug-in, or some other form) – Java Web Start.app will find javaws in the deployment bundle and execute that. Requires at least 10.7.3.
  - Shortcut support
- **Java Preferences**
  - UI cleanup: Look better on Mac OS X
  - Preference pane

## Non-feature tasks

- Merge BSDPort into mainline jdk so that Mac OS X Port can be inserted into mainline:
  - Merge BSDPort hotspot, patch and description at: [BSDPort](#), [Description of jdk7 changes](#)
- Move internal bugs to [http://java.net/jira/browse/MACOSX\\_PORT](http://java.net/jira/browse/MACOSX_PORT)
- Write up [development wiki pages](#) for
  - [Quickstart](#)
  - [Status](#)
  - [Compiler changes/issues](#)
  - [Cocoa & Java crash course](#)
  - [Threading manifesto](#)
  - [Memory management manifesto](#)
  - AppKit Threading & Cocoa Memory Management best practices examples
  - Internal "Adopt-an-app" testing workflows
- [Port private JUnit harness tests to jtrg](#)
  - [Detailed status](#)

## Non-Features

These features will not be ported to OpenJDK from the Apple Java SE 6 port

- **MacRoman default encoding**
  - UTF-8 only, for all locales/languages
- **NSView-based AWT heavyweight widgets**
  - LWAWT Swing-based widgets only
- **NSView-based JAWT embedding**
  - CALayer embedding instead
- **CocoaComponent**
  - Use CALayer-based JAWT embedding instead
- **SWT Carbon EventLoop support**
  - No 32-bit only technologies, Cocoa only
- **JNI instantiation through the JavaVM.framework**
  - Embed your own JRE instead
- **Apple JavaApplicationStub**
  - Use the new JavaAppLauncher, loads an embedded .jre, JavaApplicationStub compatible
- **Apple native crypto**
  - Use standard Java crypto
- **HotSpot Shared Archive Generation**
  - Automatic JSA creation is of limited use until HotSpot supports class sharing in 64-bit, and in all garbage collectors

Status icon meanings

- Done
- In progress
- Not done
- Unknown