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 Obj-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 -> LWCTWindow 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 JRSMenu 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]
- **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
- ✔ 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 jtreg
  - ✔ 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