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)
    - Asynchronous 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 JRSERevIEW API
  - merge JDK6 CWindow -> LWCPWindow changes and style flags
  - update Climage
  - 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**
- **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 SCynamicStore (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