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 -> LWCFWindow 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/issue
  - Cocoa & Java crash course
  - Threading manifesto
  - Memory management manifesto
  - AppKit Threading & Cocoa Memory Management best practices examples
  - "Adopt-an-app" testing workflows
- Port private JUnit harness tests to jtreg

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