



Ji GONG

Freedom

VS.

FUD



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Who are u?

Programmers

Computer exorcists

Users

.....

} *JogAmp Community*

<http://jogamp.org>

What do u do?



- Java Graphics, Audio, Media & Processing
High Performance Bindings
- One Stop Community Platform
 - SCM, Bugtracking, Build Server, Mailinglist/Forum,..
- Open & Vendor Independent
- BSD License

Our babies {
Gluegen
JOAL
JOGL
JOCL

Info



Slides and BOF Video
will be made available
on
jogamp.org.



What the heck is *Ji Gong*?



<http://art.newexpo.com>

The Buddhist monk Daoji (Ji Gong): openly ate meat & drank wine & wear tattered and dirty robes from traveling.

However, he was kind hearted & roamed the streets and helped people whenever he could.



What the heck is *Ji Gong*?

It does **not**:

- Implement a VM technology
- Create a new Ecosystem
- Involve Lawyers :)

It **does**:

- Build upon existing work (JamVM, Hotspot, ..)
- Ensure availability on ***all*** platforms and devices, for real.
- Enhance parts to enable them across devices (*IcedTea-Web* ..)
- Use alternative VM Tech (Dalvik, RoboVM, LLVM-IR ..)

Don't u know there's something called *OpenJDK* and *IcedTea*?



IcedTea – our freedom fighter:

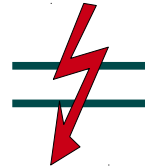
- Breathed life into the *code dump* by *Sun Microsystems*.
- Added missing parts
- Enabled building the beast on Unix platforms
- Supports ***mobile CPU*** architectures
- Merges ***alternative VM*** implementations [*usable for mobile*]
- Creates and supports a JNLP and Browser Plugin (***deployment***).

Don't u know there's something called *OpenJDK* and *IcedTea*?



However,

intent and *priorities*
in the corporate world



what users would like
to experience

Freedom-wise and *technology*-wise

But hey!

Isn't it a *free software*?

Can't we act ?

Why do u still create *Ji Gong*?



OpenJDK

IcedTea

Oracle ?

GPL

Ji Gong

4 Freedoms

- for any purpose ..
- change it .. as you wish ..
- redistribute copies
- distribute .. modified versions ..

Fear, **U**ncertainty, **D**oubt ?

Patent grant for desktop only

Mobile use *may* be prohibited?

No explicit nor official statement?

Freedom

vs.

FUD



Why do u still create *Ji Gong*?



OpenJDK

IcedTea

Oracle ?

GPL

Ji Gong

4 Freedoms

- of speech
 - of worship
 - from want
 - from fear
- Bill of Rights!

Free Software,
as in freedom!

Fear, **U**ncertainty, **D**oubt ?

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Why do u still create *Ji Gong*?



OpenJDK

IcedTea

Oracle ?

Ji Gong

4 Freedoms

VM technology across
platforms and devices

Fear, **U**ncertainty, **D**oubt ?

No OpenJDK builds

No IcedTea-Web builds

for

Windows?

OSX?

Android?

...



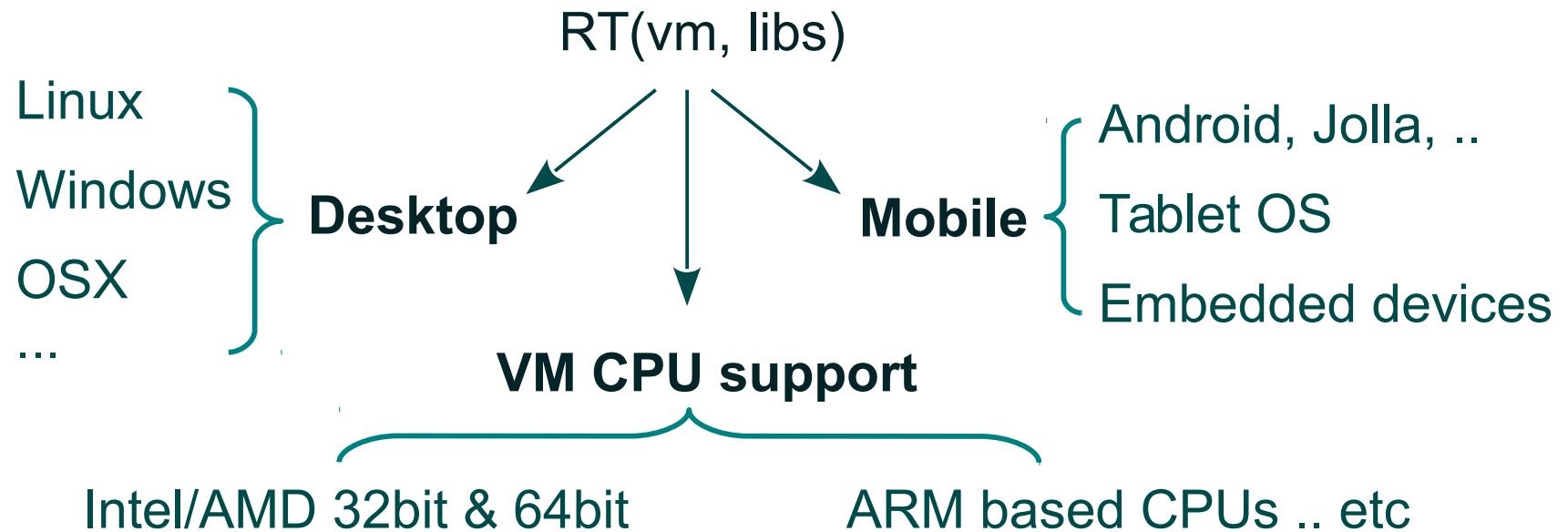
Technical enhancement?

- **Availability** of GPLv2 based OpenJDK / IcedTea Runtime Environment (RT)
- Web Plugin based on IcedTea-Web (JWeb)
- Source Certification Contract (SCC)



Technical enhancement?

- **Availability** of GPLv2 based OpenJDK / IcedTea Runtime Environment (RT)





Technical enhancement?

- Web Plugin based on IcedTea-Web (JWeb)
 - NativeWindow based plugin **without** AWT - **Applet3**
 - Allow utilization of any native Windowing Toolkit
 - Enable Applets on mobile devices

Browser

Plugin
• RT(vm, libs)
• Plugin-Code



User Applet
• NEWT / ... ?
• JOGL / .. ?

```
git clone git://jogamp.org/srv/scm/jigong/icedtea-web.git
```

Applet3



Implemented by user.

Applet3 Lifecycle

- `createNativeWindow(Applet3Context, NativeWindowUpstream)`
- `init(Applet3Context)`
- `start()`
- `stop()`
- `destroy()`

```
public interface Applet3 {  
  
    /**  
     * Implementation creates a native child window, allowing to be controlled by the plugin.  
     * <p>  
     * The applet's child window is destroyed by the plugin after it has called {@link #destroy()}.  
     * </p>  
     * @param context the {@link Applet3Context}  
     * @param parent the parent {@link NativeWindowUpstream}, reflecting the plugin's native applet window.  
     * @return {@link NativeWindowDownstream} users native child window.  
     */  
    NativeWindowDownstream createNativeWindow(Applet3Context context, NativeWindowUpstream parent);  
  
    void init(Applet3Context context);  
  
    void start();  
  
    void stop();  
  
    void destroy();  
}
```



Applet3

Provided by Plugin implementation.

```
/**
 * Representing the plugin window, i.e. the user applet's parent window.
 */
public interface NativeWindowUpstream {
    String getDisplayConnection();

    int getScreenIndex();

    long getWindowHandle();

    int getWidth();

    int getHeight();

    void notifySurfaceUpdated(NativeWindowDownstream swappedWin);
}
```


Applet3



Implemented by user.

Representing the user applet child window, which is controlled by the plugin.

```
public interface NativeWindowDownstream {
    void destroy();

    NativeWindowUpstream getParent();

    long getWindowHandle();

    void setSize(int width, int height);

    void requestFocus();

    void setVisible(boolean v);

    void display();

    void notifyPositionChanged(NativeWindowUpstream nw);
}
```

Applet3



Provided by Plugin implementation.

```
public interface Applet3Context {
    /**
     * Returns the {@link Applet3} bound to this context
     */
    Applet3 getApplet();

    String getAppletName();

    String getParameter(String name);
    URL getDocumentBase();
    URL getCodeBase();

    /**
     * Requests that this applet be resized.
     *
     * @param width    the new requested width for the applet.
     * @param height   the new requested height for the applet.
     */
    void resize(int width, int height);

    void showDocument(URL url);

    void showDocument(URL url, String target);

    void showStatus(String status);
}
```

Technical enhancement?



- Source Certification Contract (SCC)
 - Trust the **Source**, Users!
 - Not yet based solely on source code (**toolchain**)
 - Replace Certification Authority (CA) with Chain of Trust
 - ✓ Use gpg, pgp, ..
 - ✓ Why **trust** a company and force users to pay?
 - Store binary signatures inside public accessible source code repositories
 - Gracefully revoke binary builds with security flaws:
 - ✓ Revoke compromised binary signatures instead of author's Identity
 - ✓ Fine Grained Release Control
 - Ease access to the binary's source code



Who benefits from *Ji Gong*?

- Users
 - Unified Experience across Devices
 - Enhanced trust in the source code and its developers!
- Platform Designers (devices)
 - Clarify licensing issues
 - Confidence in choosing a VM technology
 - Enhanced collaboration with community
- Software Developer
 - Ease collaboration with the community
 - Revoke the binary instead of the author's identity

Thank You & Love You



OpenJDK

Xerxes Ranby

IcedTea-Web

IcedTea

Rami Santina

Sven Gothel

Julien Gouesse

Harvey Harrison

Mark Raynsford

Wade Walker

... all the many contributors & users

