



# COOL NEW DEVELOPMENTS FOR JAVA™ ON THE WEB

Kenneth Russell  
Java SE Deployment Team  
Sun Microsystems, Inc.



# Agenda

- Demos
- Discussion
- Repeat

# Conventional Wisdom

- “Java applets have sucked for the past ten years, and we're really excited about the prospects of that changing”
  - Ben Galbraith, *Ajaxian*

<http://ajaxian.com/archives/ken-russell-on-the-new-java-plugin>

- “We are talking about applets, and why they suck, and what doesn't suck about them...I just wanted to kick it off with an opinion, and that is that applets suck...the biggest thing is the plug-in”
  - Java Posse *Roundup 2007*

[http://javaposse.com/index.php?post\\_year=2007&post\\_month=12](http://javaposse.com/index.php?post_year=2007&post_month=12)

# Applets Reloaded

- Ground-up rewrite of the Java Plug-In
  - > Mostly in Java
- Advanced new architecture
  - > Out-of-process execution
- Major benefits
  - > Improved reliability
  - > Support for larger Java heap sizes for applets
  - > Better support for signed applets on Windows Vista
  - > Support for per-applet JVM command-line arguments
  - > Support for multiple simultaneous JRE versions

# Compatibility

- Better than 97% backward compatibility
  - > Based on runs of hundreds of applets from throughout the web
  - > Continuing to improve
- Applet lifecycle unchanged
  - > `init()`, `start()`, `stop()`, `destroy()`
- All services supported:

Browser proxy settings	Browser certificate store
Browser authenticator	Browser cookie store
<code>showDocument()</code> support	Modality handling
Java/JavaScript integration	Printing

# JNLP Support

- Most significant new feature
- Unifies deployment between Java Web Start and the Java Plug-In
  - > Simply choose the top-level container (Frame / Applet)
- Incorporate JNLP extensions trivially in applets
  - > JavaFX run-time libraries, JOGL, Java 3D, JAI
- Use JNLP APIs from applets
  - > PersistenceService, DownloadService, ...
- Full support for JVM command-line arguments, JRE version selection, JRE auto-download

# JNLP Support

```

<applet width="300" height="300">
  <param name="jnlp_href"
    value= "my_applet.jnlp">
</applet>

<jnlp>
  <resources>
    <j2se version="1.4+"
      max-heap-size="128m" />
    <property name="sun.java2d.noddraw"
      value="true"/>
    <jar href="my_applet.jar" main="true"/>
    <extension name= "jogl" href="...">
  </resources>
  <applet-desc name="My Applet"
    main-class="MyApplet" ... />
</jnlp>

```



**DEMO**





# Java / JavaScript Support

- Completely rewritten Java / JavaScript integration
- More complete, reliable and portable than before
- Formerly Mozilla-specific functionality now working in Internet Explorer
  - > Static method access
  - > Construction of new Java objects from JavaScript
- Opportunity to respecify and reintroduce “LiveConnect”
- Opportunity to change the nature of AJAX



**DEMO**



# JavaFX Content in Applets

- JavaFX Script compiles down to Java classes
- Trivially hosted in applets
- Pull in JavaFX run-time libraries and dependent libraries (scene graph, video, 3D) via JNLP extensions
  - > Identical to deployment in an application
- Higher-level abstractions accelerate GUI application development



**DEMO**



# Support for Advanced Applets

- Control over Java heap size
- Control over Java 2D acceleration parameters
- Ideal environment for running 3D content
- JOGL applet examples
  - > NASA World Wind Java
  - > Jake2 – Bytonic Software



**DEMO**



# Applets are Back

# Thanks

- Development team
  - > Calvin Cheung
  - > Hao Dong
  - > Sven Gothel
  - > Danielle Pham
- Key testers
  - > Jitender Singh
  - > Hung Nguyen
  - > Min-Chi Tien
  - > Sergei Sapozhnikov
- Valued Partners
  - > Johnny Stenback, Mozilla
  - > Pogo.com
  - > Tony Li, Evergreen
  - > Bora Ertung, NeuroDNA
  - > Jess Holle, PTC
  - > Andy Gullins, Entrust
  - > Lincoln Goldspink, speed-trap.com
  - > Raj Advani, UpNext
  - > Oracle

Manager: Gustavo Galimberti

Moral Support: James Gosling, Bob Brewin



# Resources

- <http://jdk6.dev.java.net/6uNea.html>
- <http://scenegraph.dev.java.net/>
- <http://openjfx.dev.java.net/>
- <http://jogl.dev.java.net/>
- <http://worldwind.arc.nasa.gov/java/>
- <http://bytonic.de/>



# Q&A





# COOL NEW DEVELOPMENTS FOR JAVA™ ON THE WEB

[kenneth.russell@sun.com](mailto:kenneth.russell@sun.com)

