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# Java Overview

Alan Samuel

Developer Support



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# Java Overview

Steve Naroff

Director, Java Technologies

# Java 101: Core Platform

- An OS independent platform for running Java applets and applications

## **Standard Java Packages**

lang, util, io, net, rmi, security, awt, beans

## **Standard Java Language**

## **Standard Java Virtual Machine**



# Java on Mac OS in '98

- Internet Explorer
  - Microsoft Java based on JDK 1.1.4
    - Feedback—fast and buggy
  - Apple Java (MRJ 2.0) based on JDK 1.1.3
    - Feedback—slow and buggy
- Navigator
  - Netscape Java based on JDK 1.0.2
    - Feedback—old, very slow, very buggy



Think Different in '99



# Unified with Java Tools



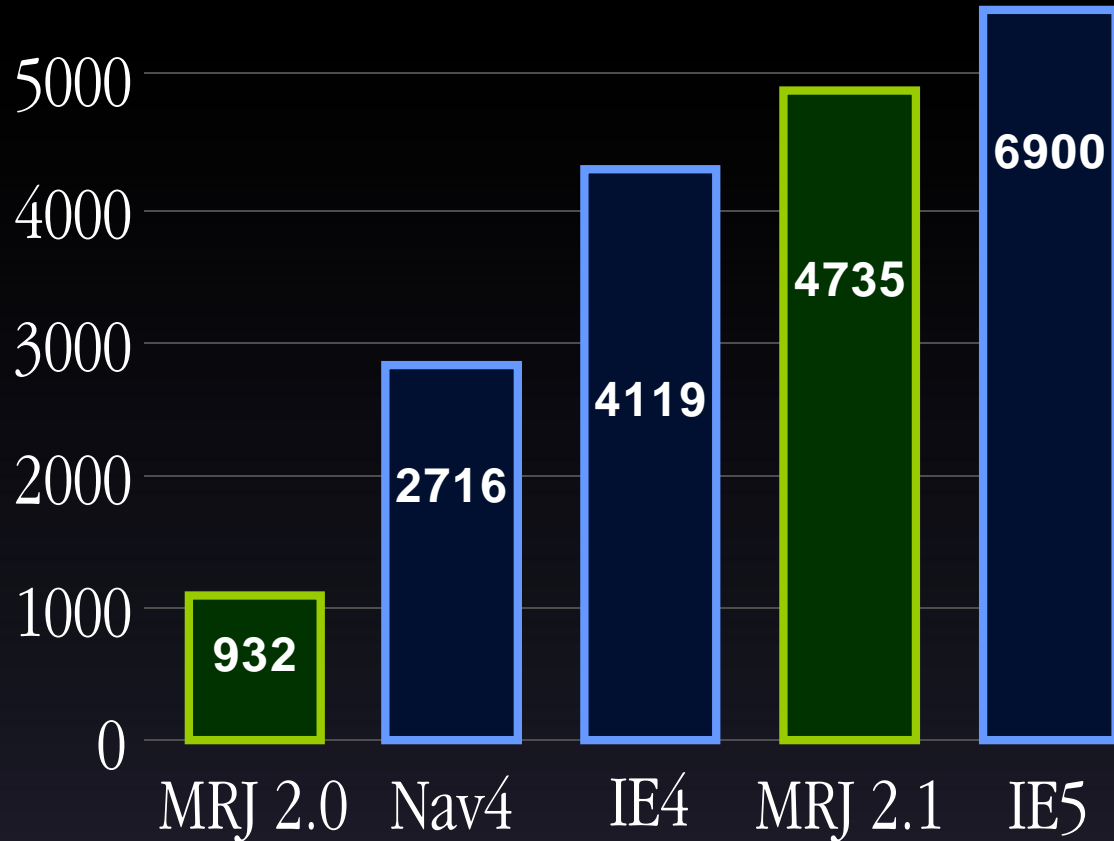
# Compatible

- Based on JDK 1.1.7+ +
- Supports Swing
- Passes 100% of Sun's Java Conformance Kit





# Competitive Performance



# Road Tested

ORACLE®

PEOPLE®  
*Soft*

YAHOO!®

excite



# Developer Email...

*“MRJ 2.1 is much faster than previous versions, indeed.*

*It is very good news that Apple is finally becoming serious about Java.”*



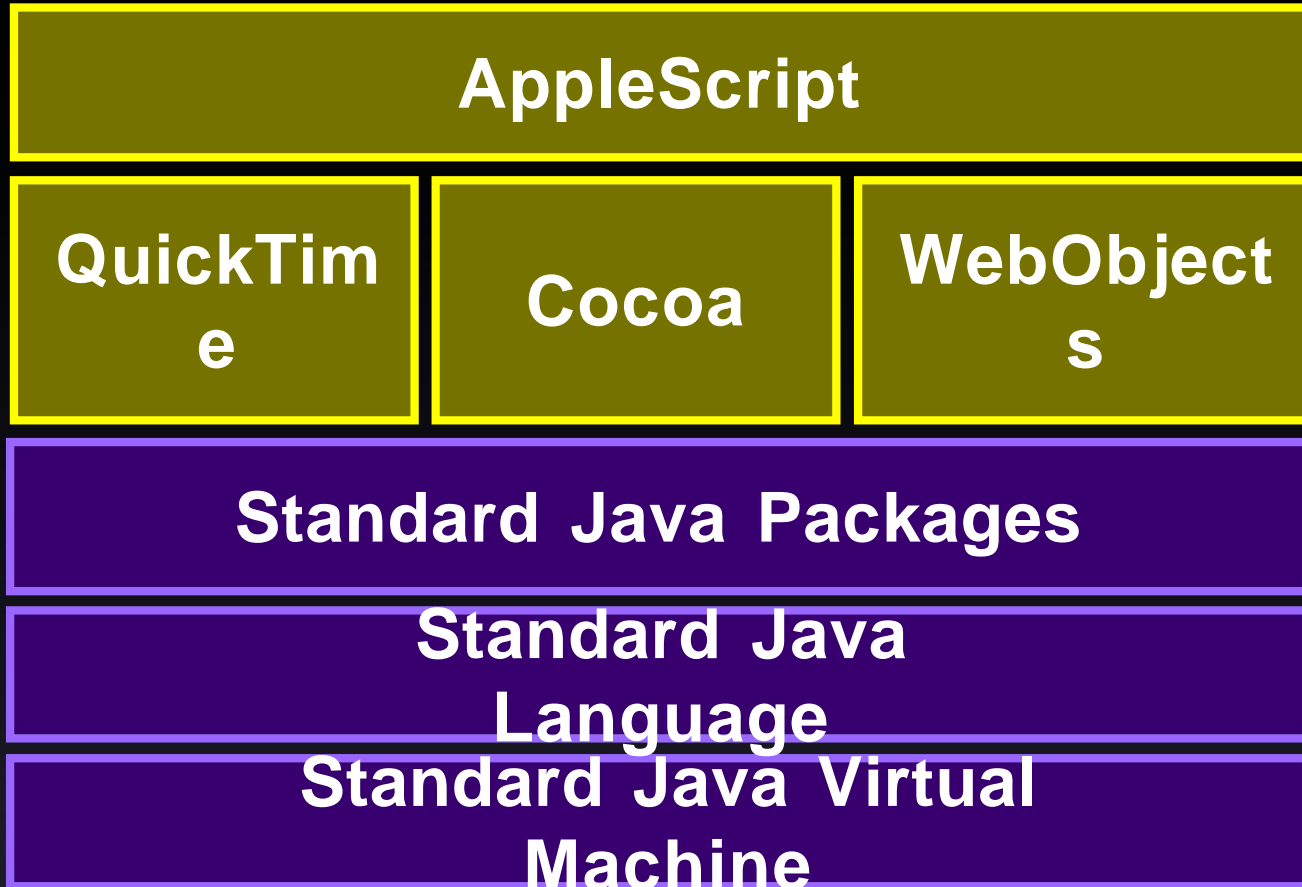
# Developer Email...

*“It is now possible to run Oracle  
Financials directly from the Mac!!!!*

*I am just very pleased with this!!! ;-) ;-)”*



# Java Enabled Services



# WebObjects



*“This year’s Software Product of the Year is Apple Computer’s WebObjects 4.0... Along with substantial power and flexibility, WebObjects brings an ease of development rarely seen in industrial-strength development environments.”*



# QuickTime for Java

- Advanced multimedia capabilities for Java
- Audio/Video playback, capture, editing
- Cross-platform framework
  - Mac OS, Mac OS X, Win 32
  - Java “.class” files run verbatim
- Full access to QuickTime feature set



# AppleScript for Java

- Java Applets, Applications, and Beans can now be scripted
- 100% Pure Java
- Dynamic
- Extensible







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# Demo

Chris Espinosa

Manager, AppleScript

# Product Roadmap

- Rapid Response Updates
- MRJ 2.2
- Mac OS X



# Rapid Response Updates

- MRJ 2.1.1 and 2.1.2 (shipped 3/99 and 5/99)
- Upgrade to JDK 1.1.7 + +
- Improved PowerBook battery life
- Fix to recently discovered security hole
- Many customer driven bug fixes



# MRJ 2.2

- Goals
  - Improve Applet support
  - Fix high impact bugs
  - Performance improvements
- Availability
  - Late summer—aligned with the next release of Internet Explorer



# MRJ 2.2—Key Features

- Integrate with IE networking stack
  - https/ssl (secure socket layer) support
  - Applet caching
  - “cookie” support
- Cabinet (“cab”) file support
- Support for long file names in Mac OS 8



# Mac OS X

- Developer Preview Release
  - Same JVM and JITC as Mac OS X Server
  - Supports Cocoa, WebObjects
  - AWT unsupported in this release
- Under development for the next release
  - Carbonized, MRJ 2.2-based AWT
  - JITC Performance Improvements



# Developer Feedback...

*“Recently we ran some benchmarks comparing Java performance on OS X to Linux and NT. Our tests show that our product runs significantly faster on OS X—35% faster than Linux, and 45% faster than NT.”*



# Development Tools

- Mac OS 8
  - Metrowerks CodeWarrior
  - Symantec Visual Café
  - NetBeans Developer 2.0
  - MRJ SDK—javac, javah, javadoc, JBindery, ...





# Development Tools

- Mac OS X
  - ProjectBuilder
  - InterfaceBuilder
  - WebObjects Builder
  - Unix-style SDK—java, javac, jdb, javah, javadoc, javakey, ...





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# Demo

Roman Stanek

CEO, NetBeans, Inc.

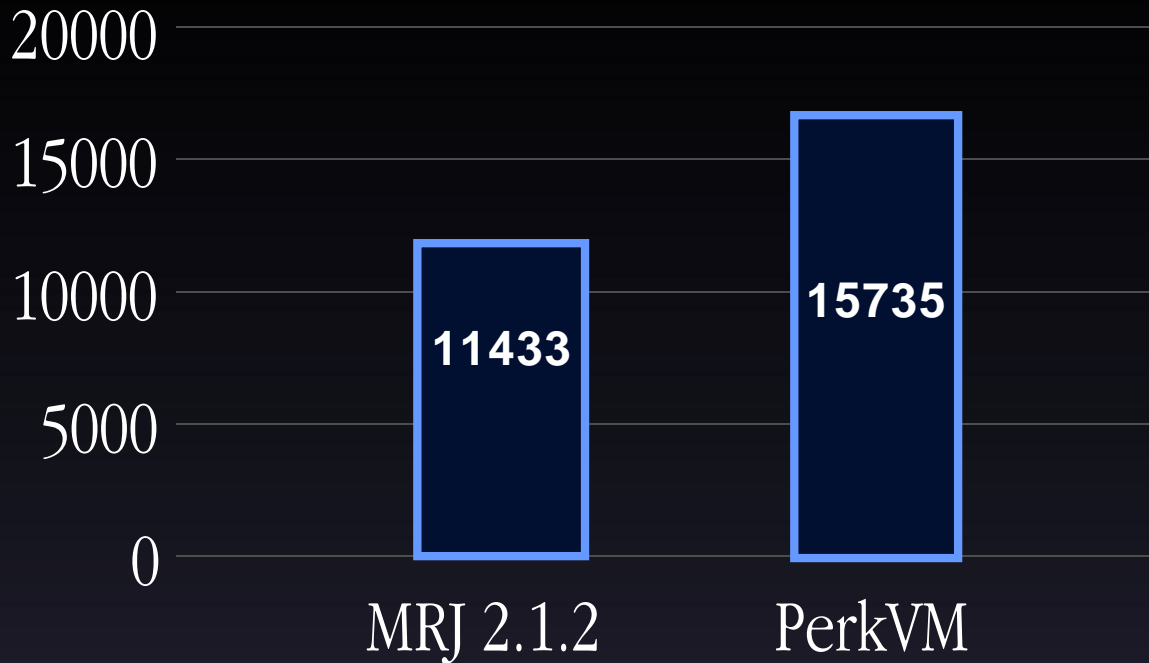
# Under Investigation...

- Adaptive Virtual Machines
  - PerkVM—Connectix, HotSpot—Sun
- Native compilation and caching
  - Code sharing across processes
- IBM JVM enhancements
  - JIT compiler, gc improvements, etc.
- Java 2



# PerkVM Java 2 Plug-in

38% boost for embedded CM3



# Java 2—Key Features

- “Swing” User Interface Objects
- Java 2D—advanced graphics support
- New Collection Classes
- Drag & Drop
- Print support
- Improved Font and International Text



# Java 2—Key Features

- Policy-based Security Model
  - Extensible, fine grain access to users, groups, and application elements
- CORBA support!
- Plug compatible JVM's
- Many other changes...



# Java 2

The “core” contains  
3x more stuff!

**Java 1.1.\***  
**23 packages**  
**504 classes**  
**5478 members**

**Java 2**  
**62 packages**  
**1592 classes**  
**18837 members**



# Java 2—Notes

- Focused on applications, not applets
- Existing “mission-critical” applications slow to move away from JDK 1.1
- Customer feedback still focused on performance and stability of JDK 1.1
- Product plan under active discussion







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# Closing Thoughts

# Contacting Us

- Apple Website

<http://www.apple.com/java/>

- Developer Information and Bug Reporting

<http://developer.apple.com/java/>

<http://developer.apple.com/bugreporter/>

- MRJ Feedback

[mrj\\_feedback@apple.com](mailto:mrj_feedback@apple.com)



# Roadmap

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**QuickTime for Java**

Hall A2  
**Tues., 4:00pm**

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**Java on Mac OS 8**

Hall A1  
**Wed., 2:30pm**

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**AppleScript for Java**

Hall B  
**Thur., 2:30pm**

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**Java on Mac OS X**

Hall 2  
**Thur., 1:00pm**

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**Feedback Forum:  
Java**

Hall B  
**Fri., 1:00pm**





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