Java™

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“Make the Future Java...Together”

Georges Saab
Vice President of Development, Java Platform
@gsaab

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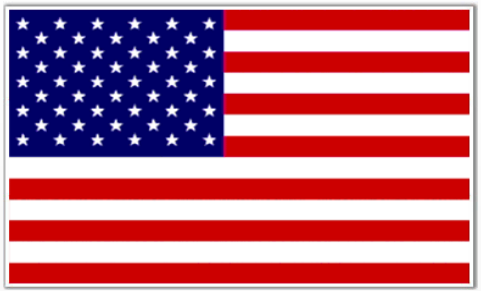
Simultaneous translation



- Java
- Yellow Jeans
- Awesome!

- Yava
- Jello Yeans
- Sådär…

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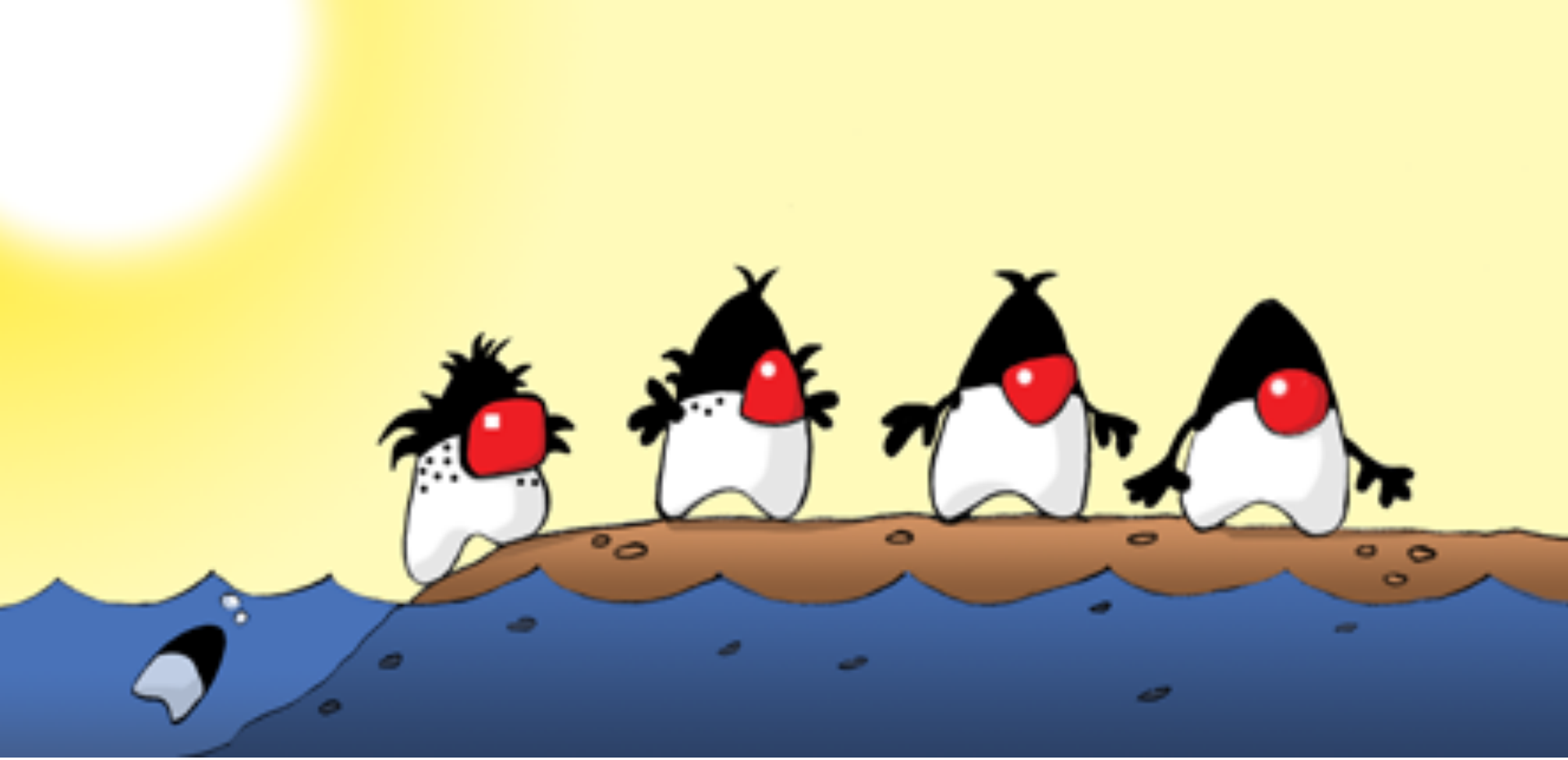
Jfokus 2013

Stockholm Waterfront Conference Centre, February 4-6



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Why Java became popular

- A combination of powerful features, presented in a consistent and accessible manner
- Small, tight (increasingly performant) runtime
- Rich class library
- Sun's approach to ubiquity (inclusive, encouraged implementation but required high degree of compatibility)
- Helped solve the porting problem

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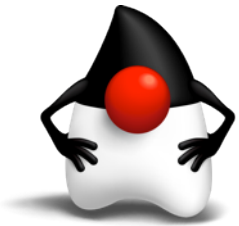
OpenJDK



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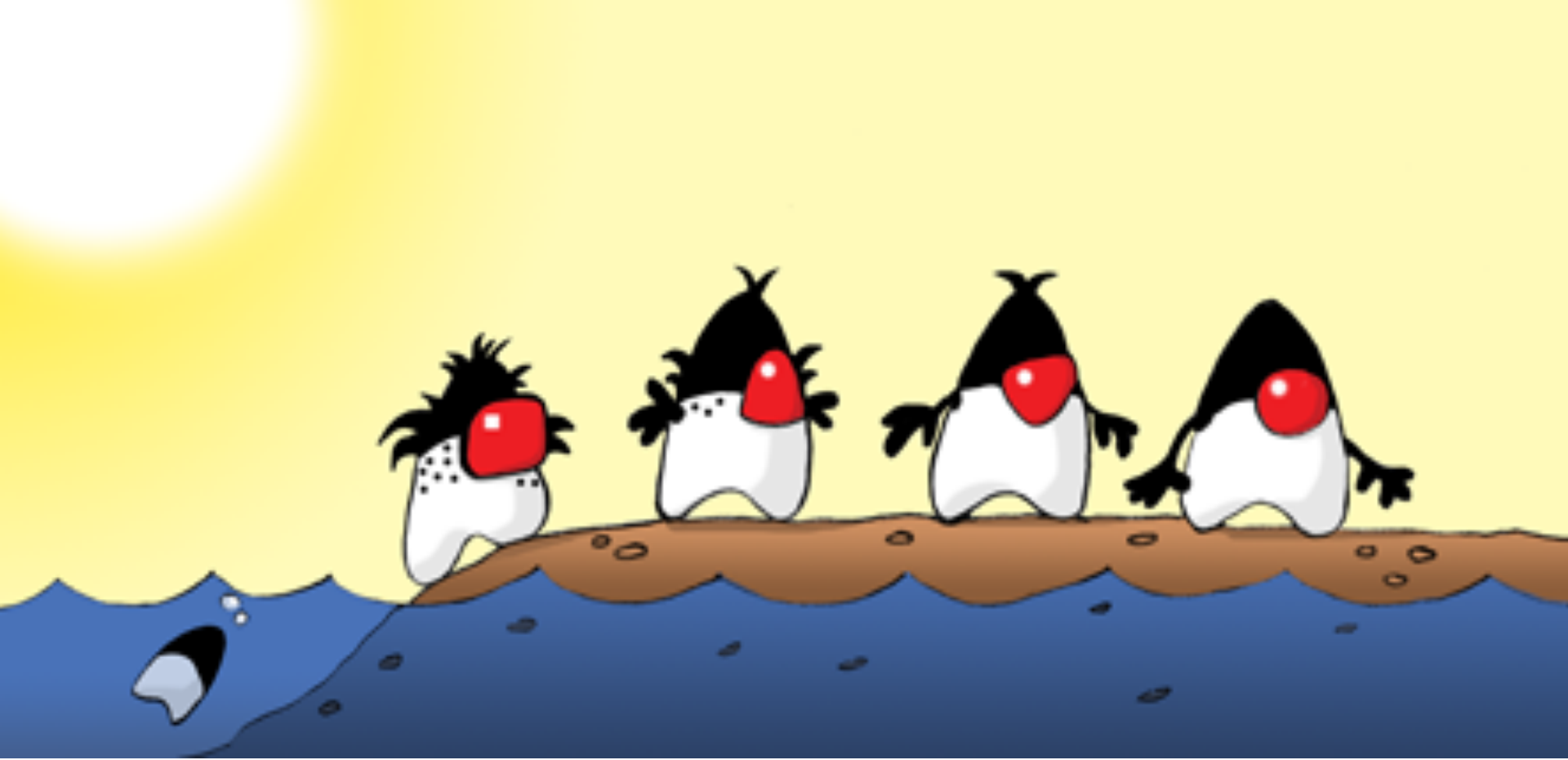

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PUMA
ORACLE TEAM USA
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Make the Future Java

- Platform Completeness
- Modernization and Innovation
- Developer Productivity
- Open and Transparent Evolution
- Active Community Involvement
- Quality and Security

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New Additions to the JCP

Cinterion

Credit Suisse

Fujitsu

HP

CloudBees

London Java Community

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Java User Groups

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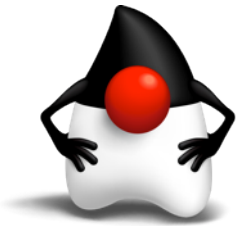
OpenJDK



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More. More. More.

- More commits going into JDK
- More active contributors to JDK
- More transparency on the lists
- More innovation through JEPs
- More organizations involved

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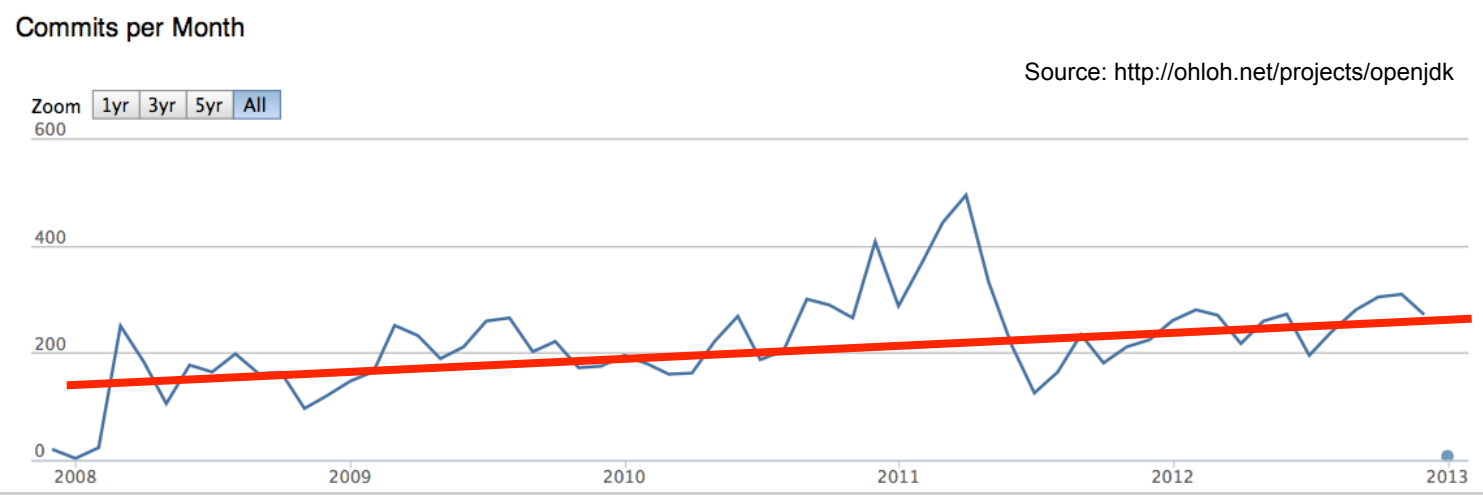
More Commits

- Increased pace of development
- 55% more commits per month



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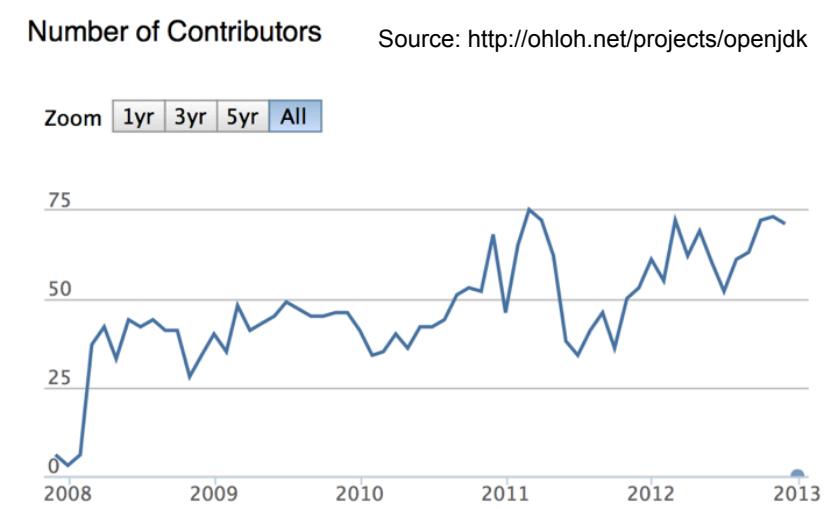
More Active Contributors

- 159 Contributors in last 12 months
- Up 32% from previous 12 months



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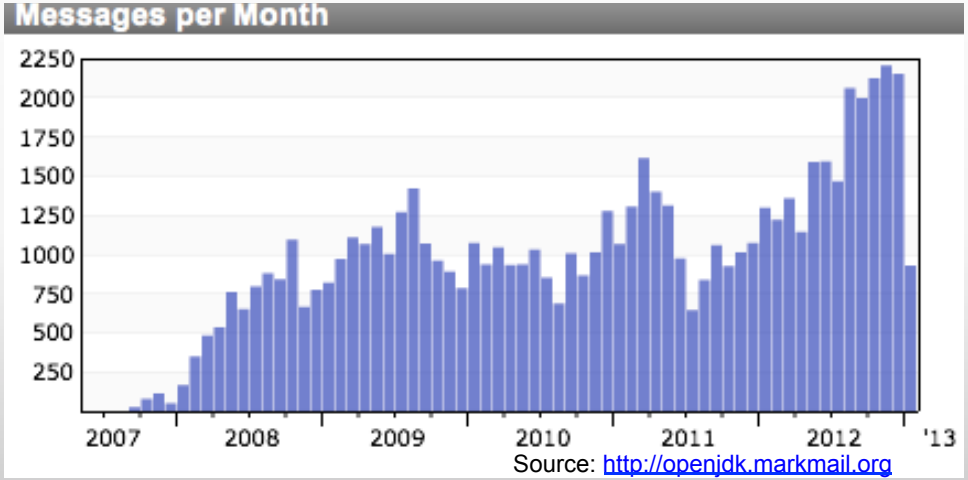
More Activity Overall

- 7 new Projects in last 12 months
- Commits up 53% in 2012 vs 2011



Source: http://openjdk.markmail.org

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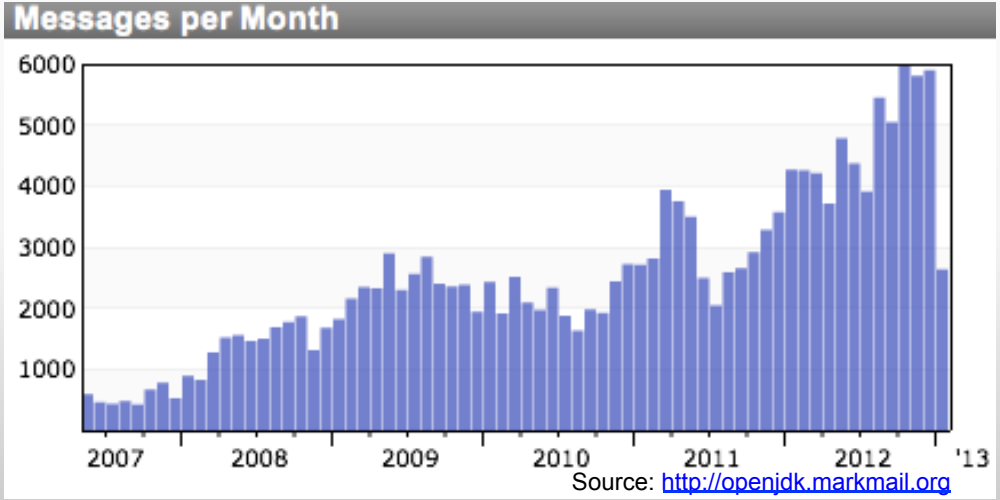
More Transparency

- Increased usage of mailing lists
- Used by JSR 308, 335 & 337 EGs



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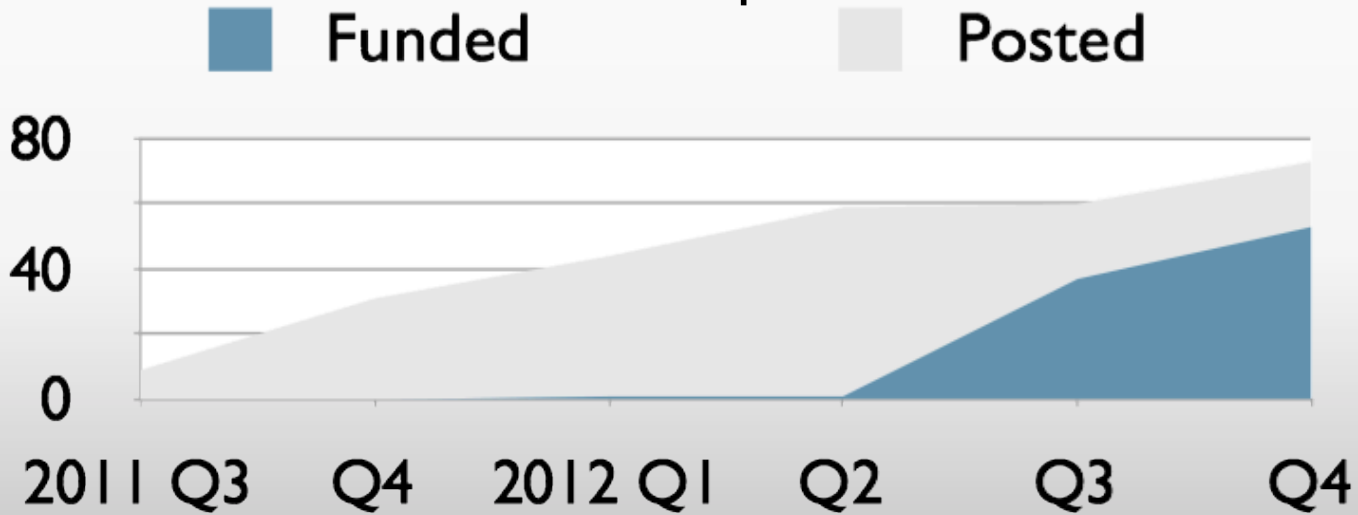
More Innovation

- JEP Process established mid-2011
- 73 JEPs drafted & posted since



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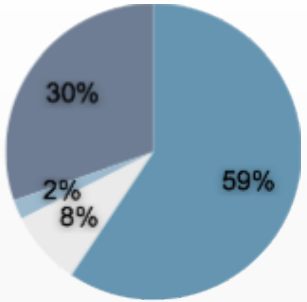
More Organizations

- Email Traffic Share Before 2010-01-27

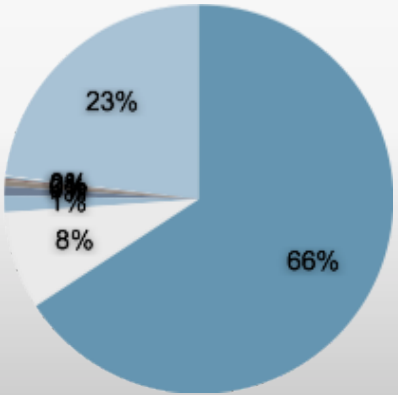
Sun Microsystems
Google
Red Hat
Others



Source: http://openjdk.markmail.org

- Email Traffic Share After 2010-01-27

Oracle
Apple
SAP
Red Hat
Google
AMD
IBM
Ubuntu
Others



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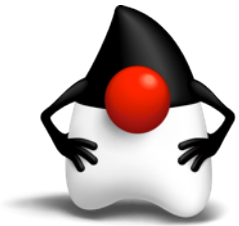
OpenJDK



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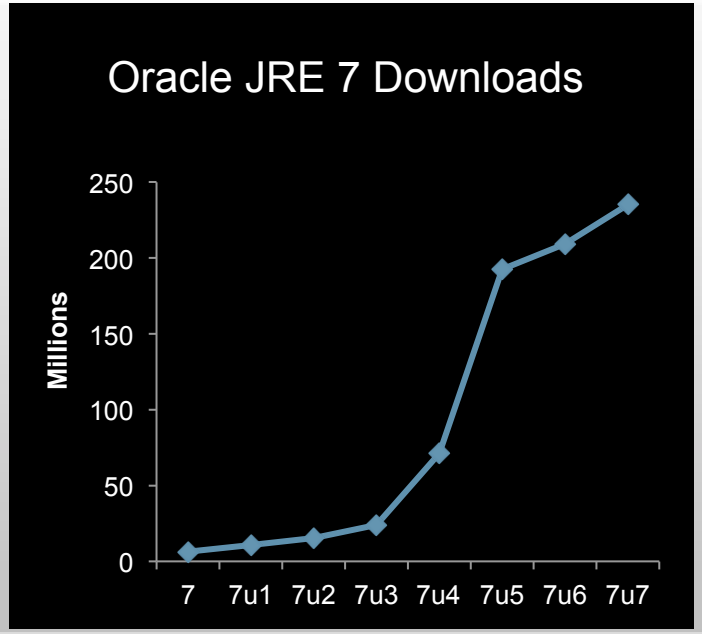
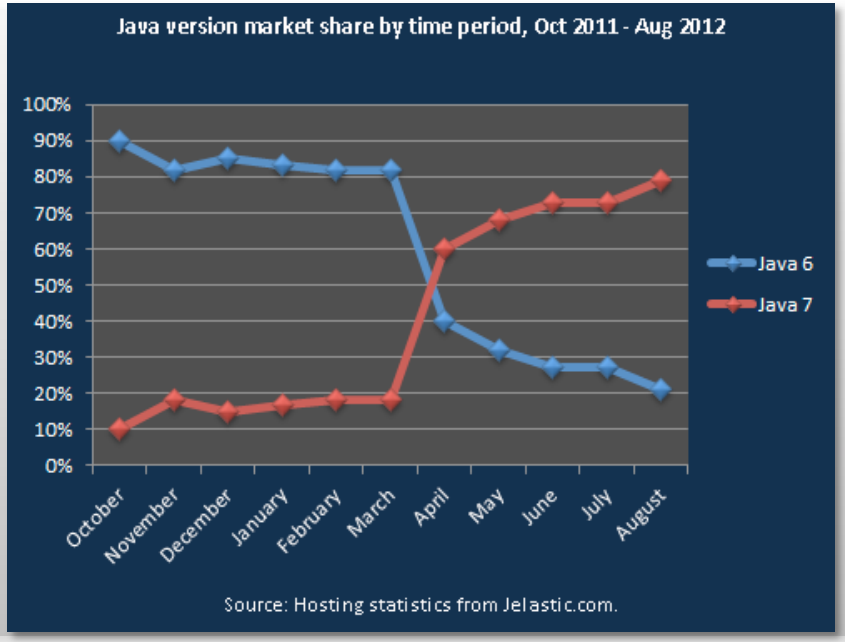
Java SE 7 Uptake





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JDK 7

Innovation

- Invokedynamic
- Small language enhancements

Java for Everyone

- Unicode 6.0
- Locale enhancements
- Separate user and user-interface locales

Client

- XRender pipeline for Java 2D
- Swing Nimbus LoF
- Swing JLayer component
- Gervill sound synthesizer
- JavaFX 2.0
  - Pure Java API
  - FXML UI markup
  - RSS styling
  - Extensive set of UI controls
  - Web integration

Core Libraries

- NIO.2 – file systems and async I/O
- Concurrency and collection updates
- SCTP and SDP support
- JDBC 4.1
- IPv6 support on all platforms
- Updated XML stack

General Goodness

- Class-loader updates
- Initial JRockit/Hotspot convergence

Tools

- Enhanced MBeans

Security

- TLS 1.2
- Elliptic-curve cryptography
- Strict class-file checking

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Updates to JDK 7 post-GA

Platform Support
- JDK, JRE and JavaFX for Mac OS X
- JavaFX for Linux/x86
- JDK for Linux/ARM
- Solaris 11
- Windows 8
- Windows 2012

Security
- Stricter security checks for applets
- Configurable policy for browser plugin

Servicability
- Diagnostic Commands
- Enhanced JMX agent
- Improved crash dumps
- Java Mission Control

Client
- Updated Java Access Bridge (improves accessibility)
- Numerous JavaFX updates
  - Canvas, Color Picker, Pagination, HTTP Live Streaming, Touch, Image manipulation, H.264 and AAC, Combo Bar, WebView, …

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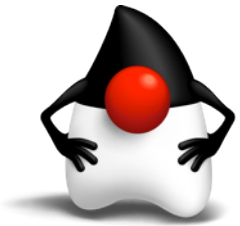
Coming trends!

Cloud

Multi-core

Polyglot programming

Internet of Things



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Java Embedded

Multi-function
Embedded Devices

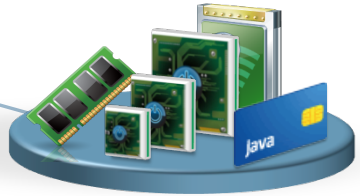
Personal Devices

Communications

Industrial controls &
Network Appliances

Smart Appliances &
Consumer Electronics

Smart Energy & mHealth



Sensors & Micro controllers

Connected Vehicles

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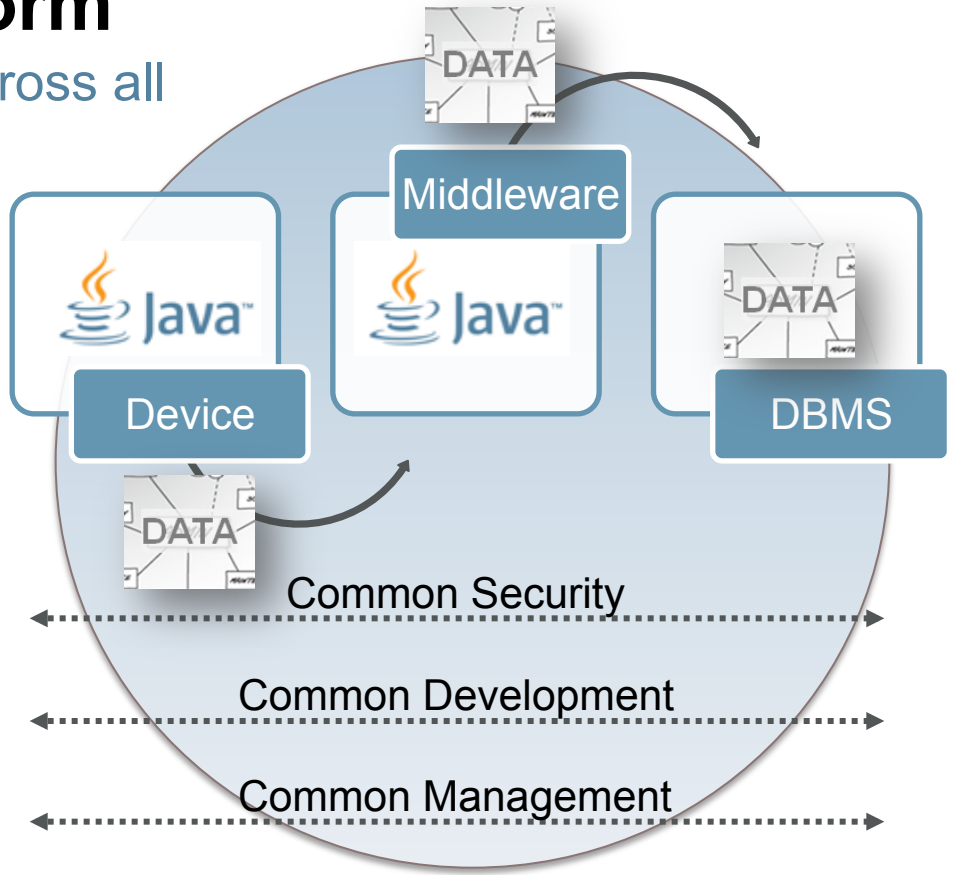
Java-based IoT Platform

Single development platform across all domains

- The Device is a key component for the Internet of Things revolution
- Java enables it to be more intelligent, scalable, and supportable
- It's ultimately about the Data



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Current Embedded Releases

Java ME Embedded 3.2

Runtime for small embedded devices: Microcontroller class platforms

EDGE DEVICES

Java Embedded Suite 7.0

Pre-integrated full featured Java Embedded Platform

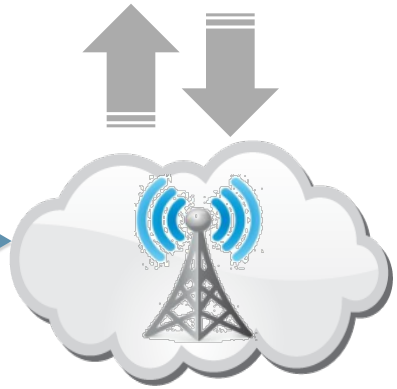
Java Embedded

3.1.1

Java DB

GATEWAYS/CONCENTRATORS

Enterprise Data & Applications



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Java Strategy and Vision

Java SE

- **JDK 7:** Adoption strong among ISVs, hosting providers, developers
- **JDK 8/9:** Lambda, JavaScript interop and JVM convergence in 8, Jigsaw in 9
- **JDK 9 and beyond:** Generic language interop, GPU programming, enhancements for cloud

JavaFX/Client

- Rich UI for tools, desktop and embedded applications
- Integration with Swing/ SWT/HTML5 content
- Enable App Stores and other bundled deployment models
- Move away from browser plugin over time

Java EE

- **Java EE 6:** Wide developer adoption; Available on all application servers
- **Java EE 7:** Target early 2013; Focus on HTML 5 and developer simplicity
- **Java EE 8:** Continued investment in Cloud capabilities and modularity

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Java Strategy and Vision

Java ME

- Move towards single platform JSR
- Subset of SE, merge ME/SE tool and API ecosystems
- Generic small footprint platform for small embedded devices
- Enable Java in the Internet of Things

Java Card

- Expand to generic security platform on any device
- Enable rich ecosystem of security applications
- Use as foundation for security in Internet of Things

NetBeans

- Day one support for new Java ME, SE and EE releases
- Support emerging technologies such as HTML 5
- Complete end-to-end development experience for web, desktop and embedded

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