Java Needs You!

Ben Evans

kathik

About Me

Java™ Champions

- Co-founder & Tech Fellow, jClarity
- Java Champion & JavaOne Rock Star Speaker
- Java Community Process Executive Committee
- London Java Community
  - Organising Team, Co-founder, AdoptAJSR & AdoptOpenJDK

JAVA COMMUNITY PROCESS · CELEBRATING 15 YEARS ·

LJC London Java Community

jClarity
Performance Tuning via Machine Learning

About Me

NEW BOOK (2015)

Java权威技术手册（第6版）

预计出版日期：**2015年6月**

- Java in a Nutshell (6th Edition)
- Introduction to Java 8
- The Well-Grounded Java Developer
- Practical Java Performance (forthcoming)

- Previously:
  - Deutsche Bank - Chief Architect (Listed Derivatives)
  - Morgan Stanley - MATRIX, Google IPO, Dodd-Frank
  - SportingBet - Chief Architect

TURING 图灵程序设计丛书
The Well-Grounded Java Developer
Vital Techniques of Java 7 and Polyglot Programming
Java
程序员修炼之道
[美] Benjamin J. Evans
[荷兰] Martijn Verburg 著
涵盖Java 7最新特性
全面解读Groovy、Scala和Clojure在JVM上的应用
透视函数式编程的优势
人民邮电出版社
POSTS & TELECOM PRESS

kathik

Happy Birthday, Duke!

Not Only That

- It’s almost 10 years since Java was released as open-source

- More reasons to celebrate…

What’s The Catch?

- Future of Java is in the hands of a relatively small group of developers
  - Mostly employed by vendors
    - Oracle
    - IBM
    - Red Hat
    - Other major vendors

Does It Matter?

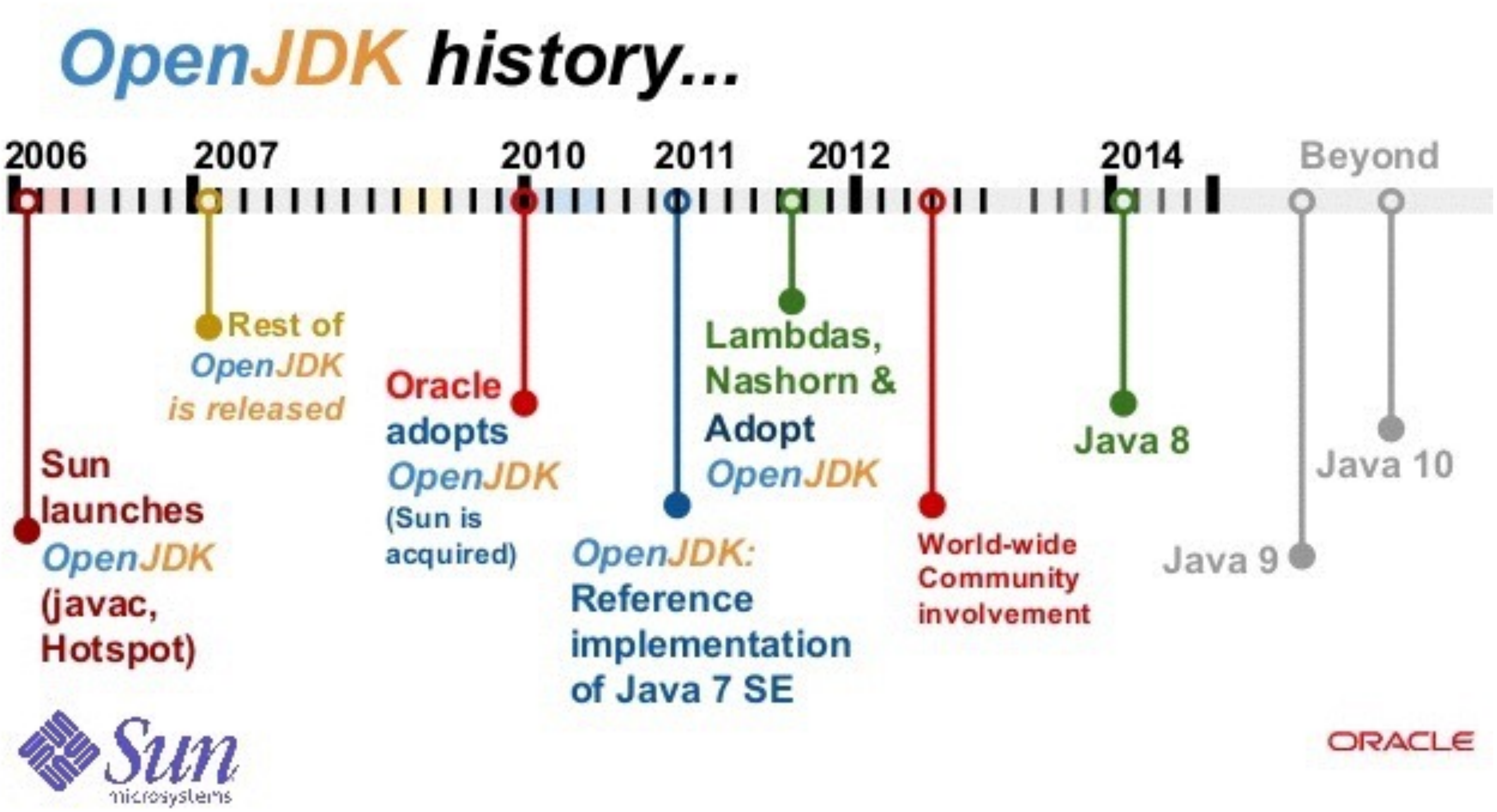
- Experience shows that standards that involve end user devs
    - Are a better fit to what’s needed
    - Are more widely adopted

- Ultimately - better standards for us all…

What Can We Do?

- A group of developers have started trying to help
- We have 3 projects
  - *AdoptOpenJDK* - work on the platform itself
  - AdoptAJSR - work on in-progress new Java standards
    - May or may not form part of the core platform
  - Adoption - Official OpenJDK group that aids OpenJDK projects
    - Lower barriers to contribution.

Some History



OpenJDK history...

2006

2007

2010

2011

2012

2014

Beyond

Sun launches OpenJDK (javac, Hotspot)

Rest of OpenJDK is released

Oracle adopts OpenJDK (Sun is acquired)

OpenJDK: Reference implementation of Java 7 SE

Lambdas, Nashorn & Adopt OpenJDK

World-wide Community involvement

Java 8

Java 9

Java 10

Adoption

- Dalibor Topic (Oracle) (Leader)
- Daniel Bryant (OpenCredo)
- Edward Wong (Deutsche Bank)
- Martijn Verburg (jClarity)
- Mani Sarkar (Independent)
- Mario Torre (Red Hat)
- Rory O’Donnell (Oracle)
- Steve Poole (IBM)

Initial Successes

- Java 8 Date & Time
- Lambdas Hackdays
- Cloudbees Testing
- 50 OSS Projects forward-tested on JDK 8

What’s Current?

- Java EE 8
- Java SE 9
  - Modularity Hackdays
  - REPL Hackdays
- Build Infrastructure
- Code Coverage for Java SE
  - JUGs & Adoption made this happen!
- New Tools - Betterrev, JITWatch

Java SE 9

- 102 Process API Updates
- 110 HTTP/2 Client
- 143 Improve Contended Locking
- 158 Unified JVM Logging
- 165 Compiler Control
- 199 Smart Java Compilation, Phase Two
- 212 Resolve Lint and Doclint Warnings
- 215 Tiered Attribution for javac
- 219 Datagram Transport Layer Security (DTLS)
- 221 Simplified Doclet API
- 222 jshell: The Java Shell (Read-Eval-Print Loop) - REPL

Java SE 9 (Continued)

- 223 New Version-String Scheme
- 226 UTF-8 Property Files
- 227 Unicode 7.0
- 228 Add More Diagnostic Commands
- 230 Microbenchmark Suite
- 232 Improve Secure Application Performance
- 235 Test Class-File Attributes Generated by javac
- 240 Remove the JVM TI hprof Agent
- 241 Remove the jhat Tool
- 243 Java-Level JVM Compiler Interface
- 245 Validate JVM Command-Line Flag Arguments

A New Initiative

- Announcing - a new initiative
  - Look at one of these JEPs more closely
  - Provide targeted feedback to project lead
  - Make better standards in a high impact area
  - Significant uplift to the core Java platform

HTTP / 2

- A new HTTP standard

Why is HTTP / 2 Important?

- HTTP/1.1 has significant problems
  - Head-of-line blocking
  - Restricted connections to a single site
  - Overhead of control headers

- HTTP / 2 is a re-imagining
  - Binary
  - Fast
  - Optimized for the needs of large, high-volume websites

Why does HTTP / 2 Matter for Java?

- Java’s support for HTTP clients comes from a different era
  - Protocol agnostic
  - Based on best ideas at the time
  - HTTPS is an afterthought

- But the world has changed
  - HTTPS is everything (with HTTP as legacy)

An Opportunity to Fix Things

- HTTP/2 is a core piece of Java functionality for next decade
- Revisit our old assumptions
    - “Second bite of the cherry”
- Also, produce test cases that can be used for interop
    - Not just Java
    - We all have to talk to each other
    - BDD?

Simple Sample

```
HttpResponse response = HttpRequest
        .create(new URI("http://www.google.com"))
  .body(noBody())
        .GET().send();
int responseCode = response.responseCode();
String responseBody = response.body(asString());

System.out.println(responseBody);
```

Current Status

- An initial cut of the API is in place

- Some Problems
  - No way to explode modules (currently .jimage files)
  - HTTP/2 support is limited

How Can We Help?

- Try out the API
- Run Hackdays
- Don’t be Afraid
  - Core developers want our feedback & perspectives
  - They are concerned about getting swamped
  - Let Adopt* help - we can be the first place that devs contact
- HTTP / 2 is a great place to make an impact
- Please join us…

THANK YOU

- Commercials
  - www.jclarity.com
  - @jclarity
  - jClarity Censum
  - jClarity Illuminate
- ben@jclarity.com

NEW BOOK (2015)
Java权威技术手册（第6版）
预计出版日期：**2015年6月**