

YES JAVASCRIPT IS FASTER THAN JAVA*!

*** WHEN YOU USE GRAALVM**

Paulo Lopes - @pml0pes

I'M A ... DEVELOPER!

- Polyglot
- Game
- Open Source

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- Polyglot Java (since 1.1.4)
- Game
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- **RedHat Principal Software Engineer**

JAVASCRIPT

PROPERTIES

FUNCTIONS

OBJECTS

JAVASCRIPT

PROPERTIES

Infinity

FUNCTIONS

OBJECTS

JAVASCRIPT

PROPERTIES

Infinity, NaN

FUNCTIONS

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JAVASCRIPT

PROPERTIES

Infinity, NaN, undefined

FUNCTIONS

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JAVASCRIPT

PROPERTIES

Infinity, NaN, undefined, null

FUNCTIONS

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JAVASCRIPT

PROPERTIES

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FUNCTIONS

`eval()`

OBJECTS

JAVASCRIPT

PROPERTIES

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FUNCTIONS

`eval()`, `isFinite()`

OBJECTS

JAVASCRIPT

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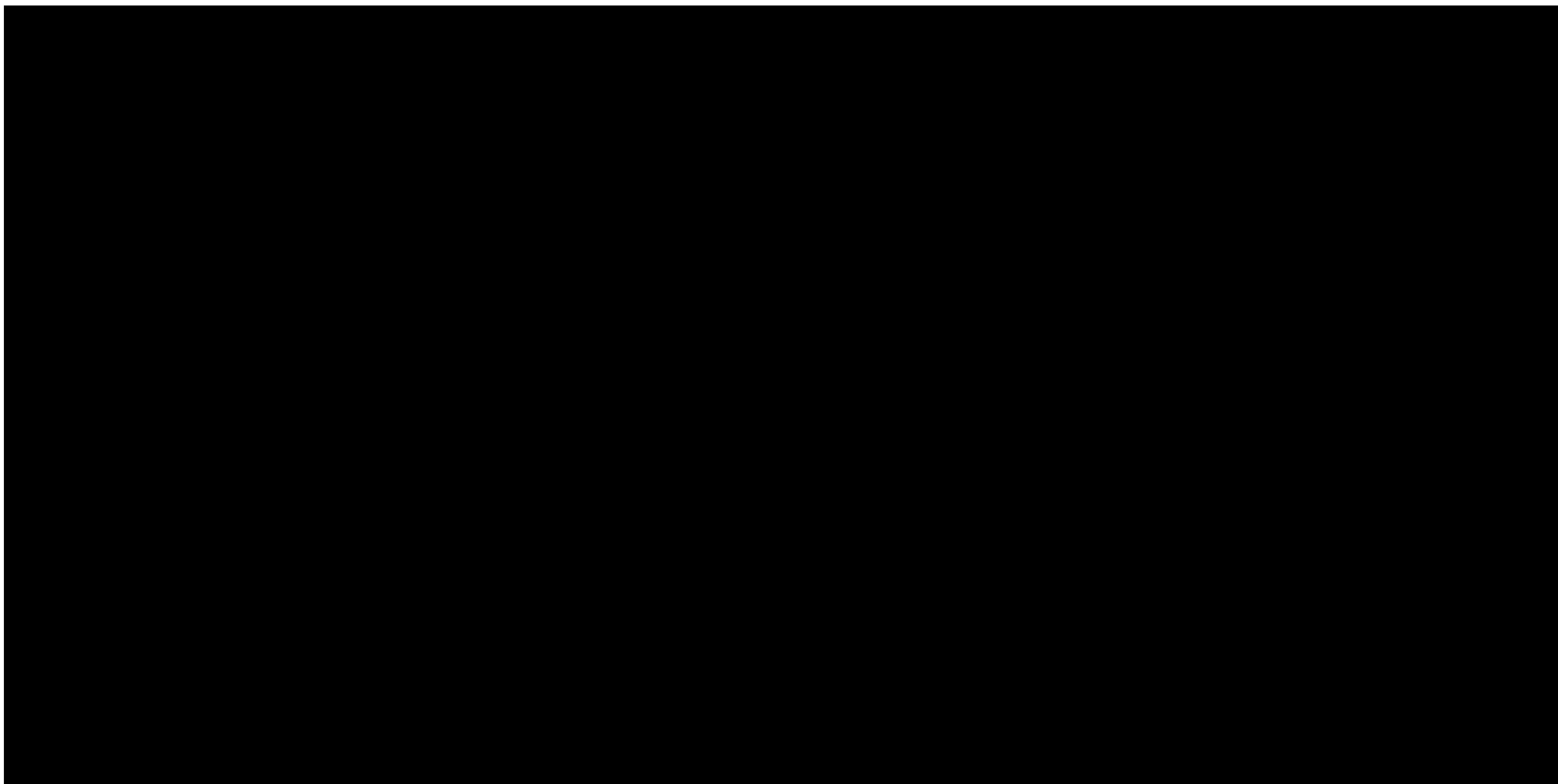
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I KNOW JAVASCRIPT!

JAVASCRIPT (AND THE JVM)

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- (Mar 2014) Nashorn is bundled with Java 8

WHY CARE ABOUT JAVASCRIPT?

- *Everyone* knows the language

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- *Everyone* knows the language
- Productive ^{write, (debug), run!}

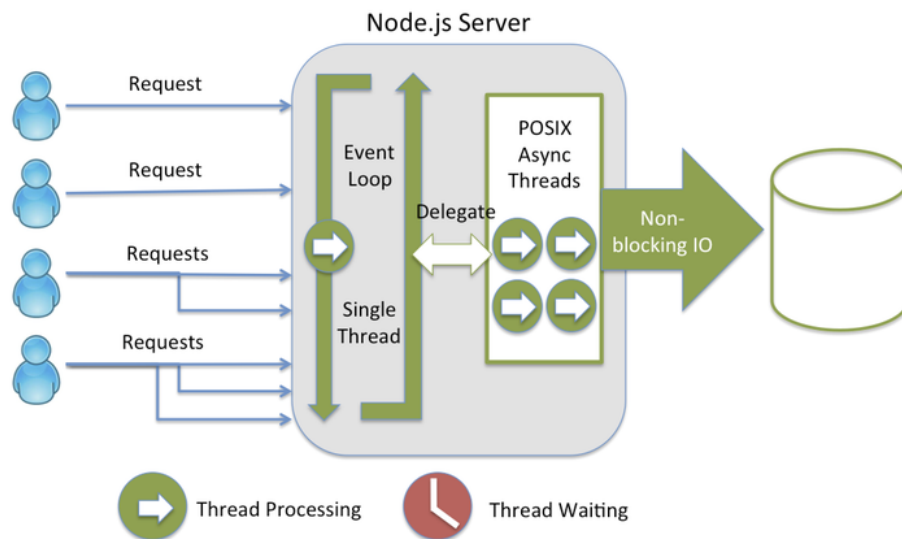
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- *Everyone* knows the language
- Productive write, (debug), run!
- Millions of libraries on NPM Yes I know leftpad!

WHY CARE ABOUT JAVASCRIPT?

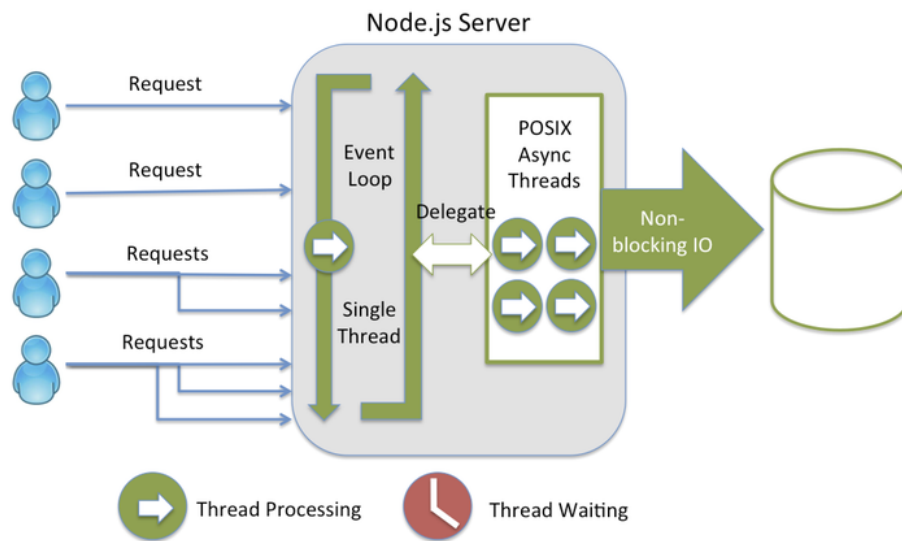
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- Fullstack

NODEJS IS FAST!



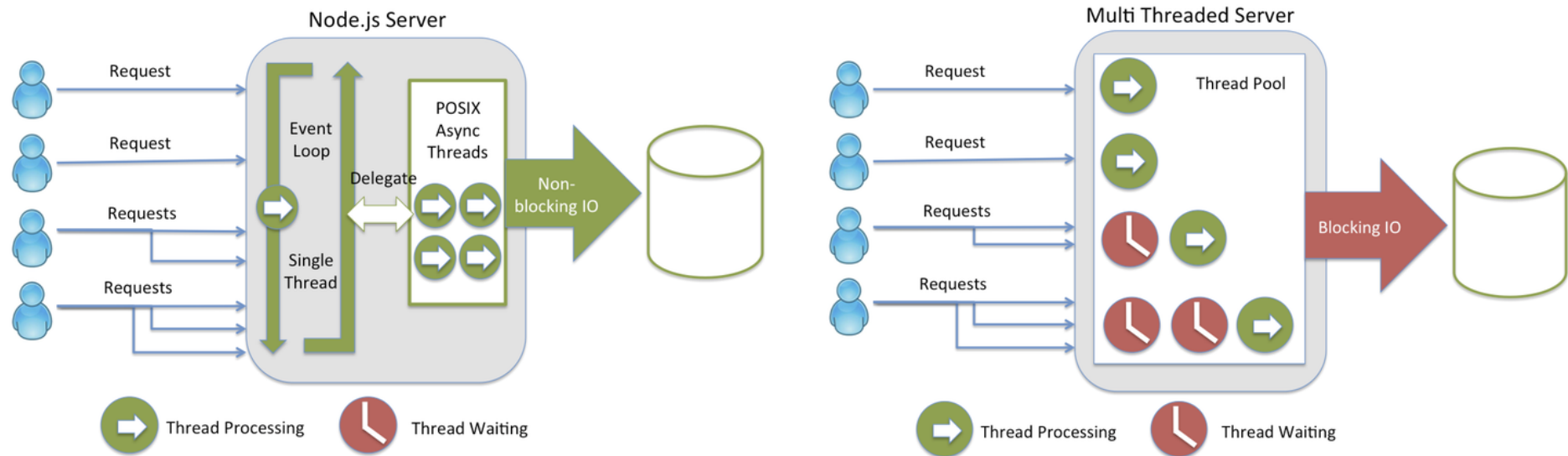
<https://strongloop.com/strongblog/node-js-is-faster-than-java/>

NODEJS IS FAST! (NOT REALLY!)

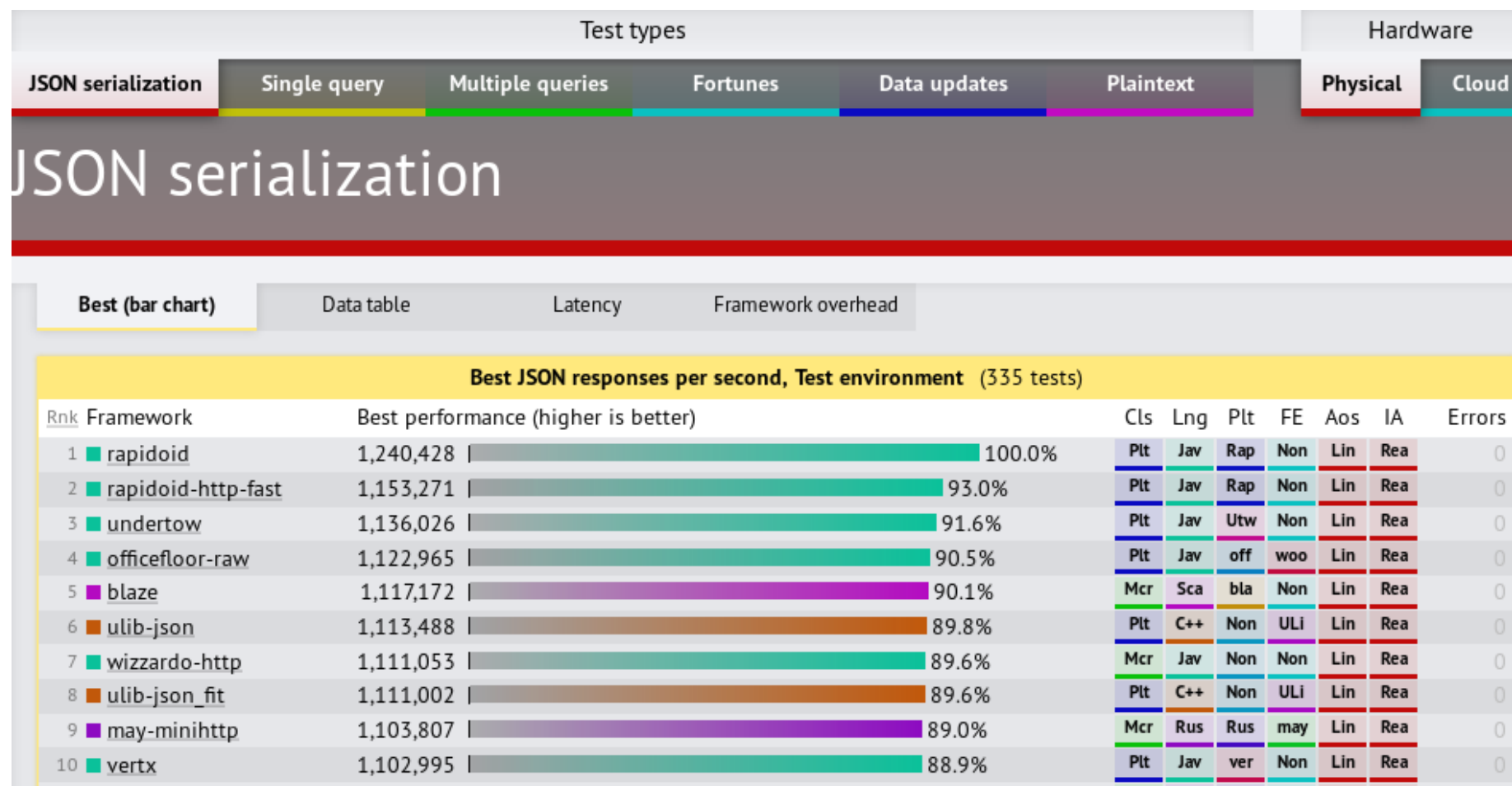


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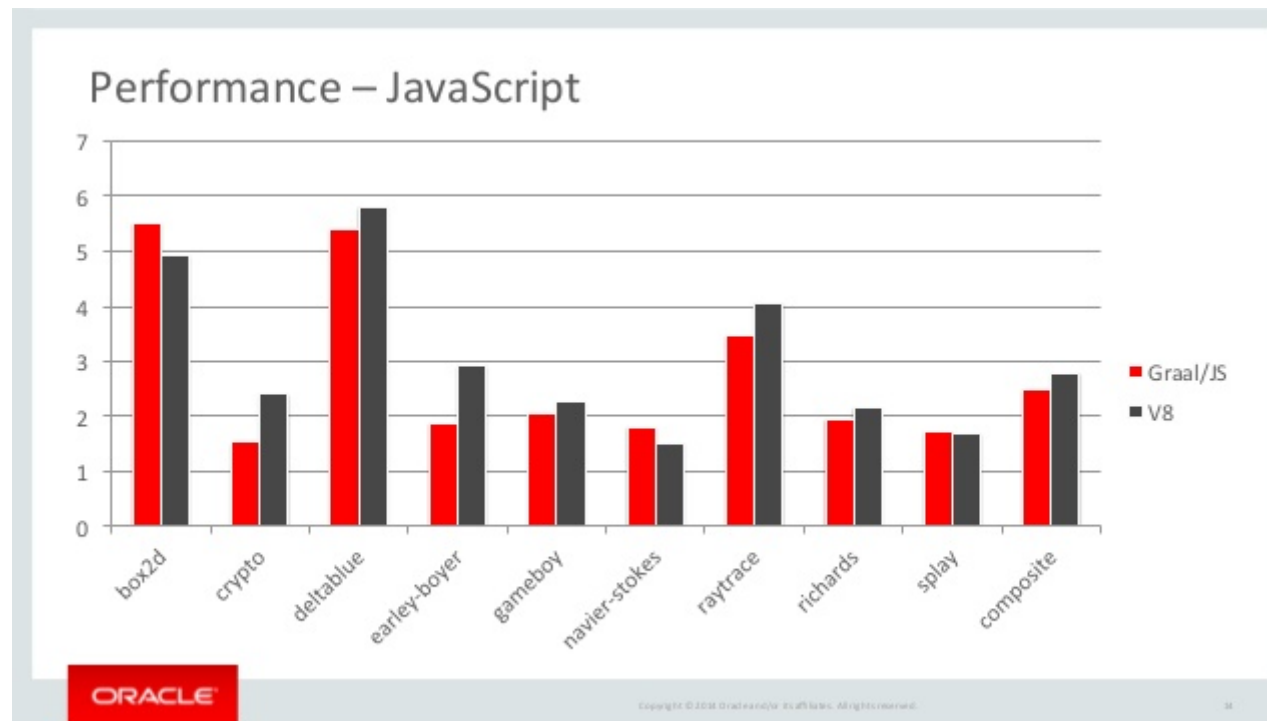


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<https://www.techempower.com/benchmarks/>

GRAALJS



<https://www.slideshare.net/ThomasWuerthinger/2015-cgo-graal>

THE NEED FOR SPEED

- Fast
- Faster
- Fastest

THE NEED FOR SPEED

- Fast ^{nashorn}
- Faster
- Fastest

THE NEED FOR SPEED

- Fast ^{nashorn}
- Faster ^{nodejs}
- Fastest

THE NEED FOR SPEED

- Fast ^{nashorn}
- Faster ^{nodejs}
- Fastest ^{graaljs}

PERFORMANCE

- Get closer to the Hardware
- Go Hybrid

CLOSE TO THE HARDWARE

```
.text
.global _start
_start:
    movl    $len,%edx
    movl    $msg,%ecx
    movl    $1,%ebx
    movl    $4,%eax
    int     $0x80
    movl    $0,%ebx
    movl    $1,%eax
    int     $0x80
...
```

HYBRID MODEL

- pick a good jvm framework
- make it polyglot
- profit

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- pick a good jvm framework ^{Vert.x}
- make it polyglot ^{JavaScript + Tooling}
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HYBRID MODEL

- pick a good jvm framework ^{Vert.x}
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- profit ^{ES4X}

ES4X

- latest JavaScript support *With GraalVM*
- `package.json` / "NPM" development style
- great tooling IntelliSense, Debugging
- insane performance!

WHY VERT.X?

- Toolkit

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- Unopiniated

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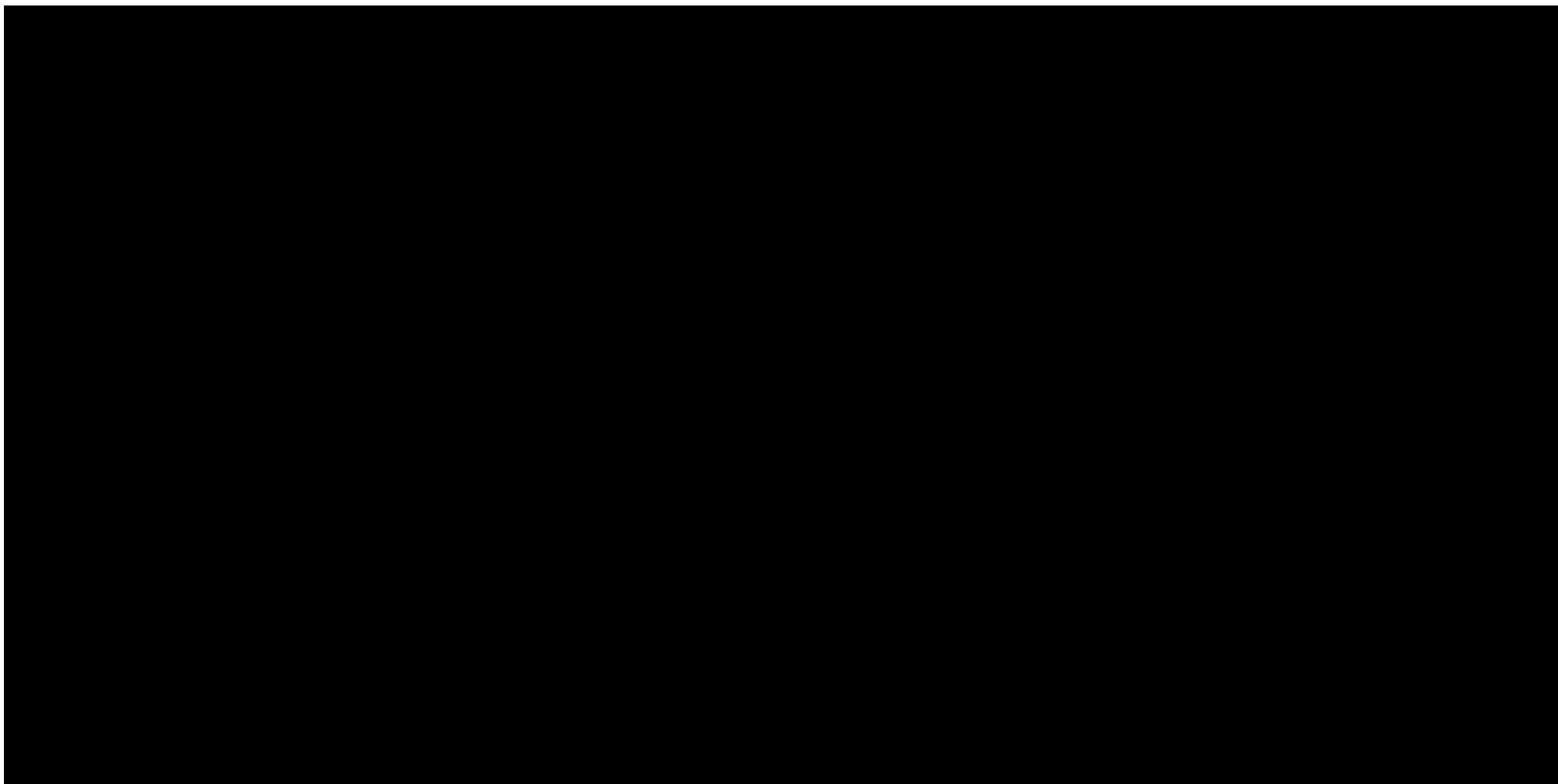
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WHY VERT.X?

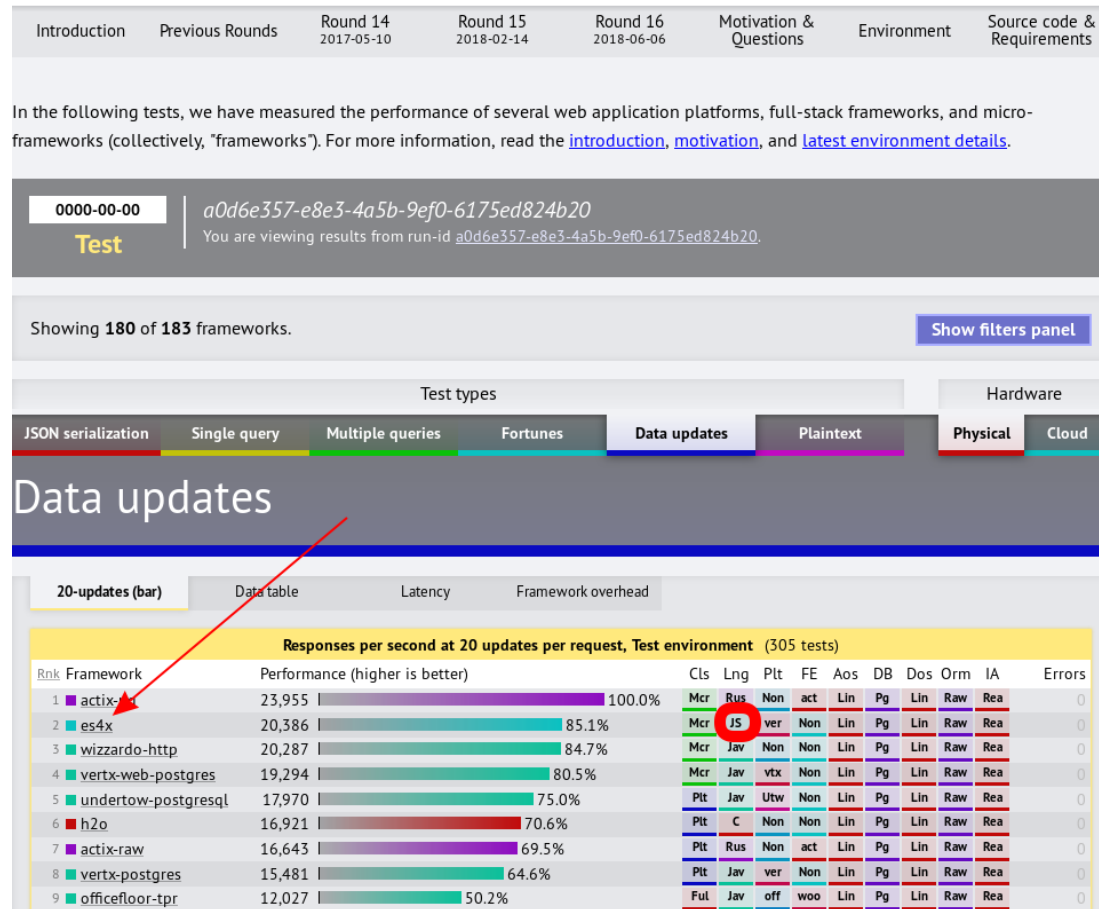
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- Distributed



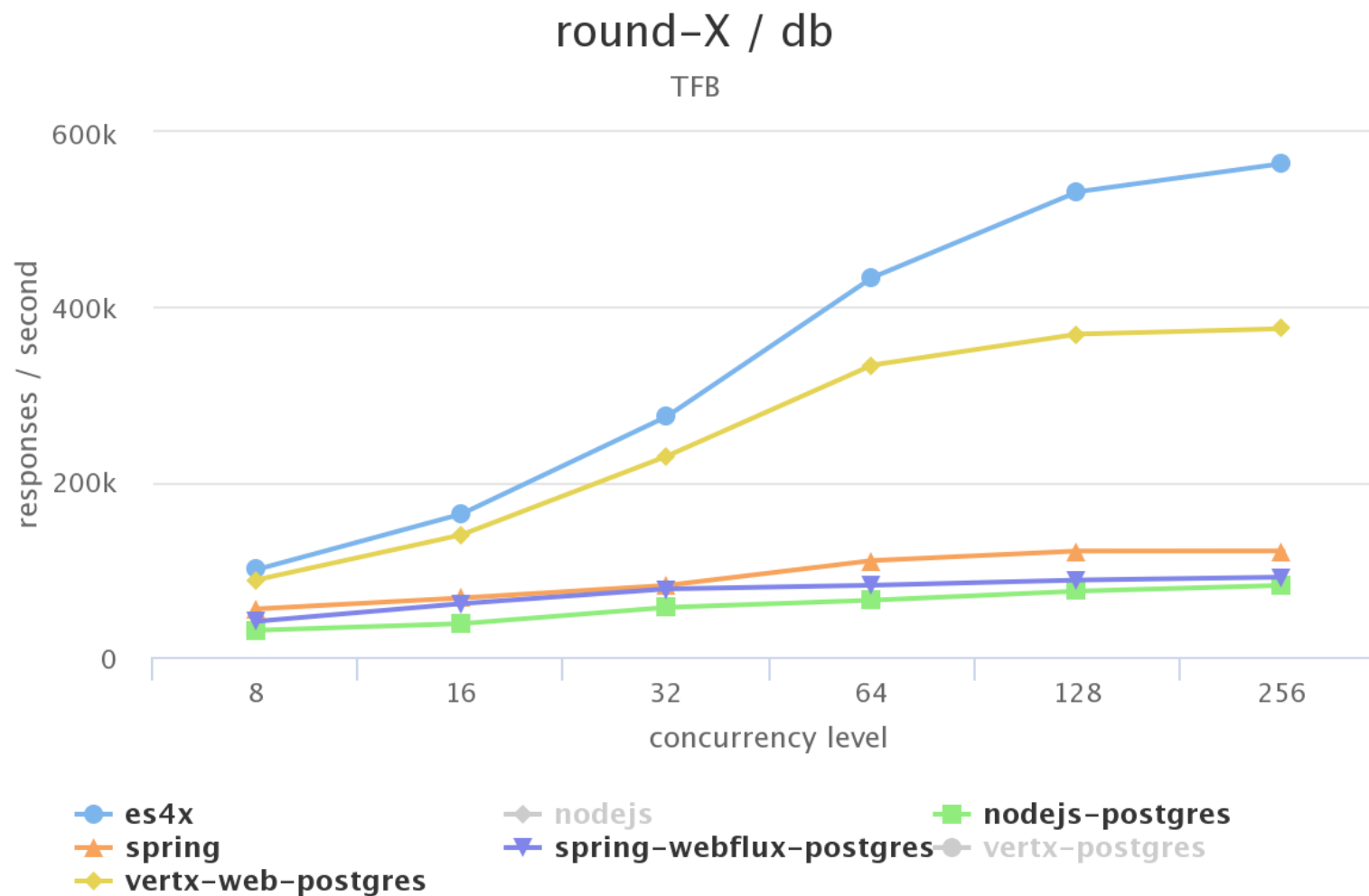
HOW FAST?



Web Framework Benchmarks



FASTER THAN JAVA



THE BASICS

- bootstrap project
- create simple app the code from the previous slide
 - code completion
 - debugging
- (bonus) async await

DEMO I

LETS INTEGRATE!

- server side rendering with `reactjs`
- integrate with drools `^-_(ツ)^_/^-`

DEMO II

VERT.X

VERT.X

+

VERT.X

+

GRAALVM

VERT.X

+

GRAALVM

= 

THANK YOU!

- <https://reactiverse.io/es4x>
- <https://www.graalvm.org>
- <https://vertx.io>
- <https://www.jetdrone.xyz>
- <https://twitter.com/pml0pes>