

Picking a JVM Language: which one is right for you?

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How it started

Java

Simple

JDK

Powerful

Versatile

JVM

Scalable
Multithreaded

Multi Platform
GC
Performance

How it started

Java

~~Simple~~
Simpler than C++

JDK

Powerful
Versatile

JVM

Scalable
Multithreaded

Multi Platform
GC
Performance

How it evolved

Java

Weakest link

JDK

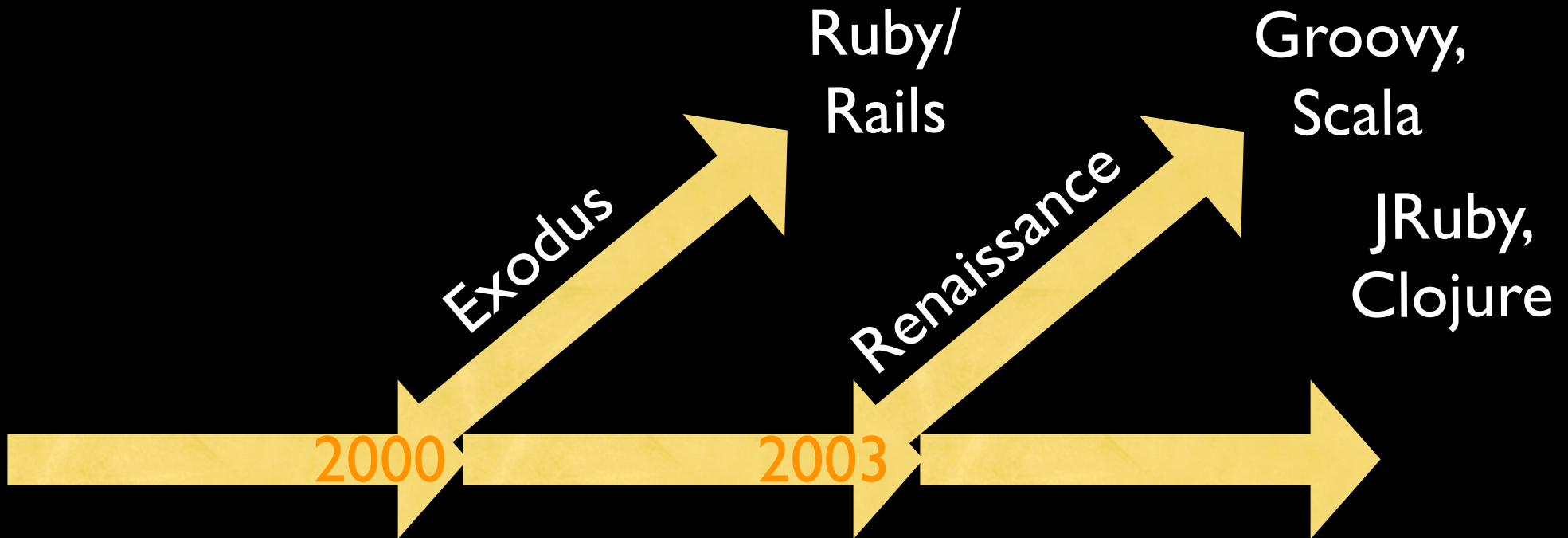
Powerful
Widely used
Versatile

Ubiquitous
Scalable
Multithreaded

JVM

Multi Platform
GC
Performance

Emergence



Where we're now

Java Scala Groovy JRuby Clojure ...

JDK

Powerful
Widely used
Versatile

Ubiquitous
Scalable
Multithreaded

JVM

Multi Platform
GC
Performance

What do these offer?

Productivity gain

Ease

Functional Style

Once we get past the
learning curve

Typing

Static

Scala

C++

Java

Strong

Weak

Groovy

JRuby
Clojure

Dynamic

Perl

Essence vs. Ceremony

Essence

Groovy JRuby Clojure
Scala

Java8

Java

Ceremony

Functional Style

Functional Purity and Style

Scala Clojure
JRuby Groovy Java8

Java

Non-Functional

Concurrency Facilitator

Immutable

Clojure

Scala

JRuby

Groovy

Java8

Java

Shared Mutable State

Metaprogramming

Metaprogramming

Groovy JRuby Clojure

Scala

Java

Reflection

Fluency

Fluent

Scala

JRuby

Groovy

Clojure

Java8

Java

Not so fluent

How does this matter?

Internal DSL == Metaprogramming + Fluency

Groovy and JRuby shine here

What Made Lisp Special

Paul Graham's list

1. Conditionals

2. A function type

3. Recursion

4. Concept of variables

5. Garbage-collection

6. Composed of Expressions

7. A symbol type

8. Notation for tree of symbols

9. Whole Program always available

Evaluating Suitability

	Java	Groovy	JRuby	Scala	Clojure	Weight	Java	Groovy	JRuby	Scala	Clojure
Static typing	9	5	0	10	0	5	45	25	0	50	0
Dynamic typing	0	9	10	0	10	5	0	45	50	0	50
Low Ceremony	3	10	10	10	10	5	15	50	50	50	50
Functional Style	1	10	10	10	10	5	5	50	50	50	50
Immutability	2	4	0	9	10	5	10	20	0	45	50
Metaprogramming	2	10	10	6	10	5	10	50	50	30	50
Fluency	5	10	10	10	10	5	25	50	50	50	50
							110	290	250	275	300

Sample only, don't use these numbers literally