

Swift **r**evolution

Kostiantyn Koval



@KostiaKoval

Swift

Modern and Powerful
strives for Simplicity and Safety
with "C-like" Performance

The Beginning -?

rEvolution start

Jul 2010

initial swift test

Swift SVN r3

master → **swift-DEVELOPMENT-SNAPSHOT-2016-10-18-a** ... osx-passed

 lattner committed on Jul 18, 2010

0 parents commit 18844bc65229786b96b89a9fc7739c0fc897905e

Showing 0 changed files with 0 additions and 0 deletions.

Browse files

Unified Split

rEvolution start

- "Sat Jul 17 23:50:59 2010 +0000"
- September 9, 2014 - 🐥 Swift 1.0
- September 21, 2015 - 💪🐥 Swift 2.0

rEvolution start

- "Sat Jul 17 23:50:59 2010 +0000"
- September 9, 2014 - 🐥 Swift 1.0
- September 21, 2015 - 💪🐔 Swift 2.0

December 3, 2015

Big Bang •   

Swift - Open Source

Open

1. Source at GitHub, not ~~opensource.apple.com~~
2. Full commit history ~~43,429~~ **43,898 commits**
3. Commit access
4. New open source projects: swift-protobuf
5. Workflow
6. Evolution and discussions

Syntax: simple - clean - nice

```
let swift = "🐥"
```

Learning & **Teaching** & Coding

- simple - clean - nice **Syntax**
- Swift Playgrounds
- Xcode Playground

Learning & **Teaching** & Coding

- simple - clean - nice **Syntax**
- Swift Playgrounds
- Xcode Playground

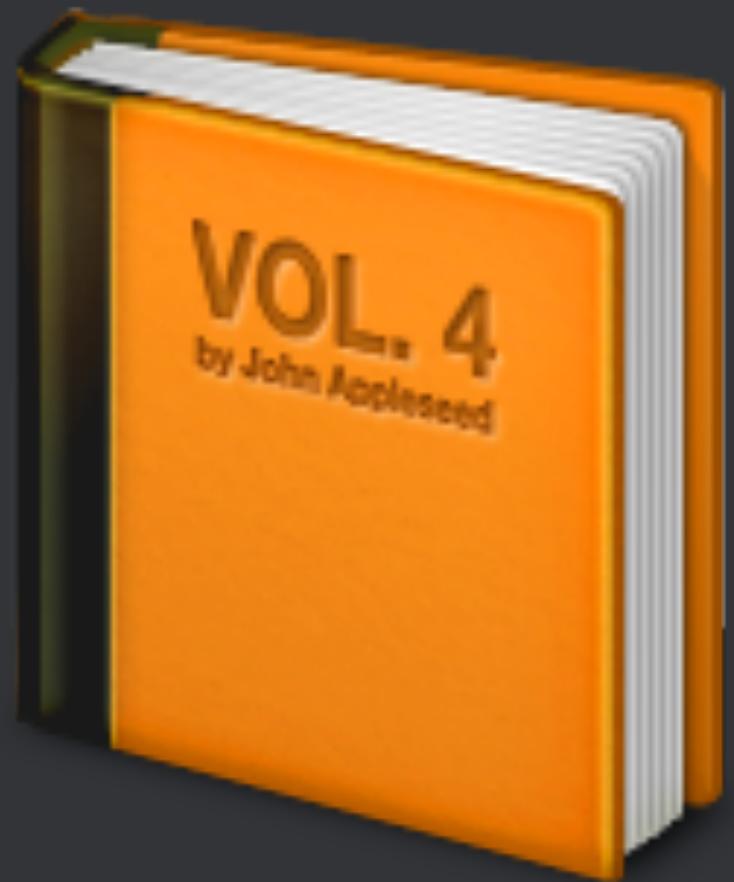
Great as first programming language!

Tools



- Swift compiler + stdlib
- foundation, libdispatch
- XCTest
- Swift Package Manager, llbuild
- CI, , Benchmark
- **More:** playgrounds, protobuf

Community - People



Platforms

Mobile | Desktop

Server | Web

Embedded

Platforms

- iOS and macOS - 
- Linux - 
- Web - **IBM** +  + **Server APIs**
- Android - **Community** + "Brian Gesiak"

Other

- Raspberrypi, Windows, FreeBSD, PS4,

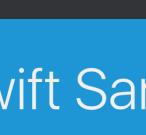
```
static const StringRef OSs[] = {  
    "OSX",  
    "tvOS",  
    "watchOS",  
    "iOS",  
    "Linux",  
    "FreeBSD",  
    "Windows",  
    "Android",  
    "PS4",  
};
```

```
static const StringRef Arches[] = {  
    "arm",  
    "arm64",  
    "i386",  
    "x86_64",  
    "powerpc64",  
    "powerpc64le",  
    "s390x"  
};
```

```
static const StringRef Endianness[] = {  
    "little",  
    "big"  
};
```

Web



- Swift@IBM:
     Swift Sandbox
- Frameworks: Kitura, Vapor, Perfect, Zewo
- Hosting: Heroku, AWS, Digital Ocean, Azure
- Performance: > nodeJS, java, ruby

Web

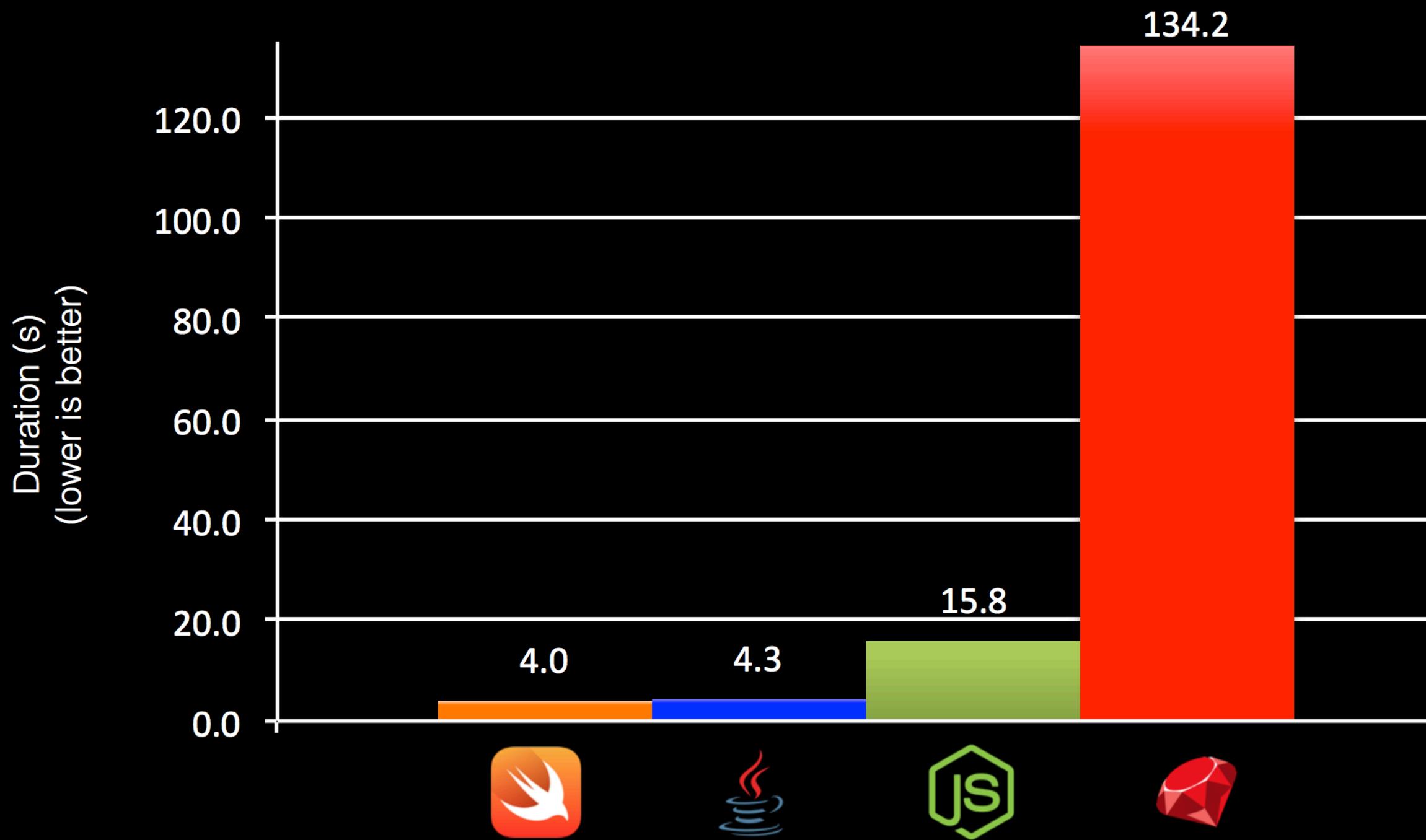


- Swift@IBM:
- Frameworks: Kitura, Vapor, Perfect, Zewo
- Hosting: Heroku, AWS, Digital Ocean, Azure
- Performance: > nodeJS, java, ruby



Server APIs Project

Performant Applications



<http://benchmarksgame.alioth.debian.org/u64q/performance.php?test=spectralnorm>

Swift @ IBM

Android

- apple/swift - 
- stdlib + Foundation
- swift-corelibs-libdispatch open PR "#162"
- 🍬🍪/android SwiftAndroid 

Android

Requirements: NDK, libiconv-libicu,

- swift repo: 100% swift
- SwiftAndroid: android app + swift lib

"How we put an app in the Android Play Store using Swift"

Android limitations

- Hard to setup
- No java interoperability
- Community driven

Not production ready, Yet

evolution

Swift is Young and
Moves fast

**It is not the strongest that
survive, but the one who are
willing to adapt**

— Evolution

Hottest News!!



Swift 2.3 is Deprecated

Xcode 8.2 release notes

Swift 2.3 Deprecation

- Xcode 8.2 is the last release that will support Swift 2.3. Please migrate your projects to Swift 2.3 code to Swift 3 syntax by opening the project and choosing Edit > Convert > To Current Swift Syntax.

Yessssssssss!

Evolution

apple/swift-evolution -> apple.github.io/swift-evolution

- 3 major release in 2 years
- 144 Accepted proposals. 1,591 commits
- hundred thousand of emails in mailing list

Swift 3.0

- 90+ proposals
- Syntax, Syntax, (if let - where, open, fileprivate, ...)
- Swifty Foundation, GCD and API
- Removed automatic objc-swift bridging
- C and UnsafePointer
- Swift Package Manager release 

But 🤔 where is ABI ?

Not there yet.

We were busy breaking the language 😊

Swift 4.0



- 🤷 No Source breaking changes (unless impacts ABI)
*hopefully, maybe
- ABI
- Stabilization, Resilience
- Generics, String
- Memory ownership

Stay up to date with Swift

- **try? Swift**
- Beta
- Newsletters
- Evolutions
- Mailing List  - lists.swift.org

One More Thing

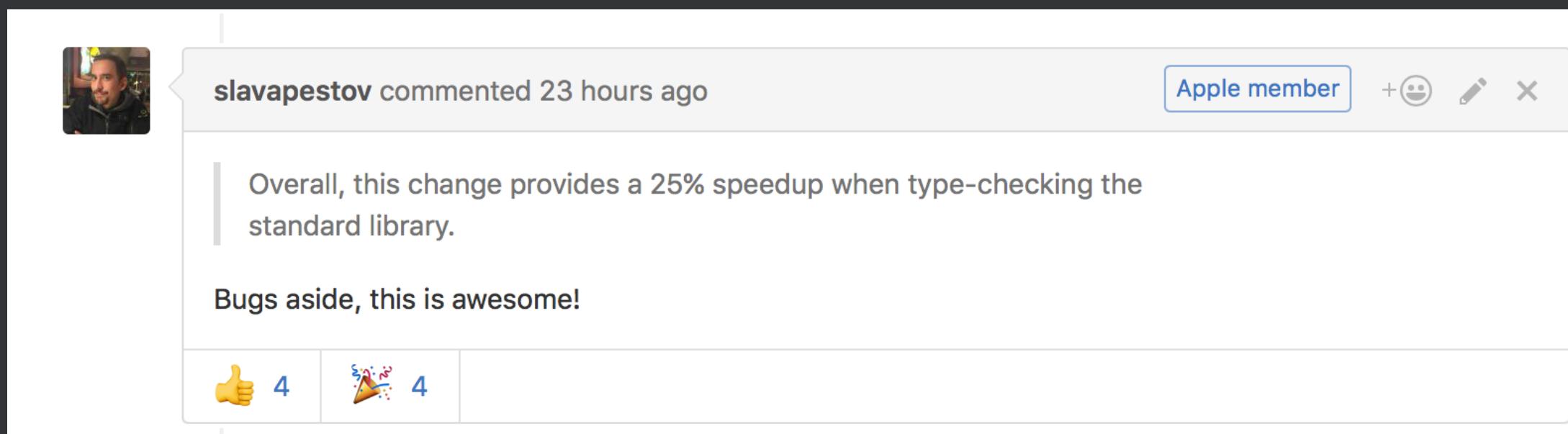
Compile time

- Compilation performance
- Debugging Slow Swift Compile

Compile time

- Compilation performance
- Debugging Slow Swift Compile

25% speedup



Thanks

Questions?

@KostiaKoval