Developer Tools #WWDC16

Going Server-side with Swift Open Source

Session 415

Philippe Hausler Frameworks Engineer
John Ponzo IBM MobileFirst CTO
Patrick Bohrer Swift Technical Lead, IBM

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Agenda

Why Server-side Swift

Architecture

What's Included

Examples

Contribution

Server-side Swift

Benefits

Server-side Swift

Benefits

Same code runs in both places

Server-side Swift

Benefits

Same code runs in both places

Reduce development time by sharing code

Server-side Swift

Benefits

Same code runs in both places

Reduce development time by sharing code

Leverage great APIs on the serve

Architecture

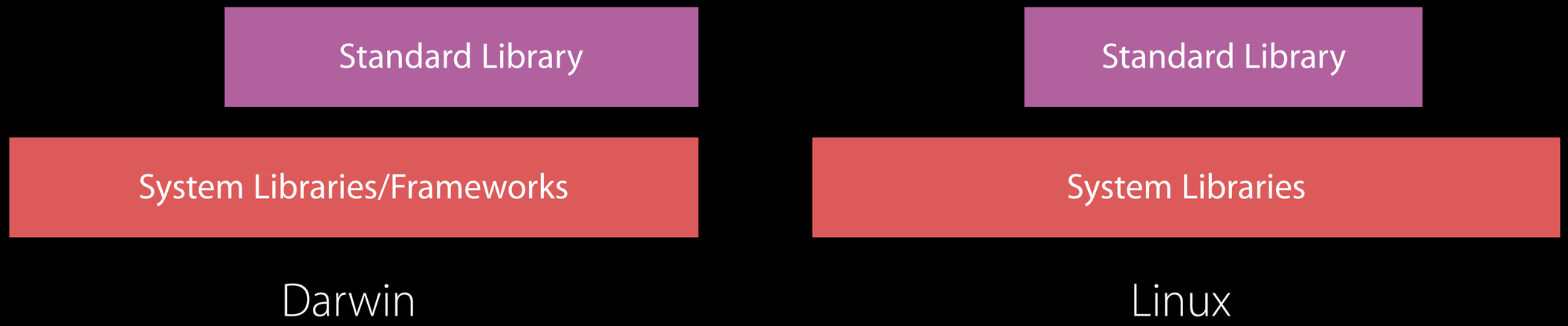
System Libraries/Frameworks

Darwin

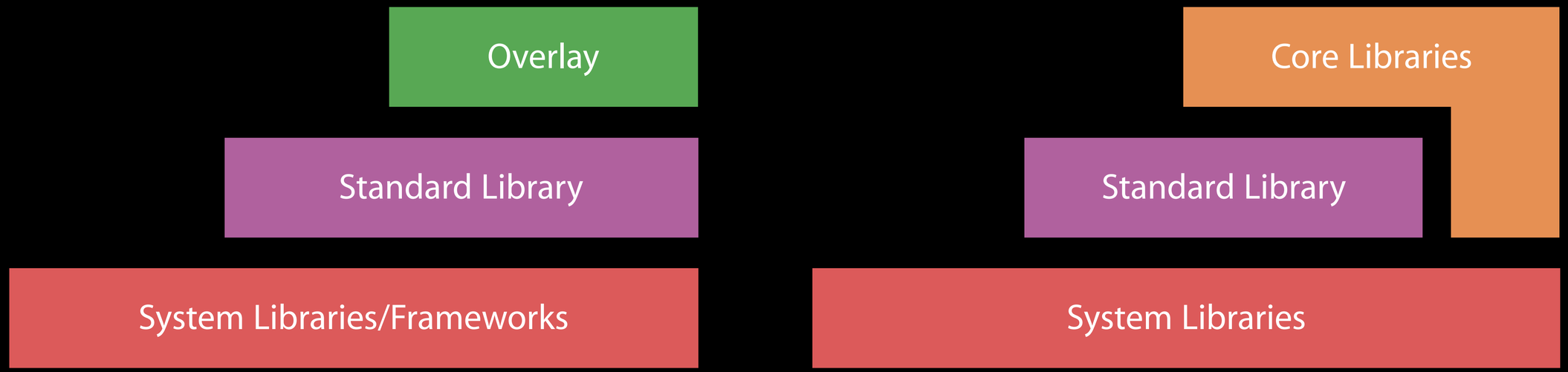
System Libraries

Linux

Architecture



Architecture



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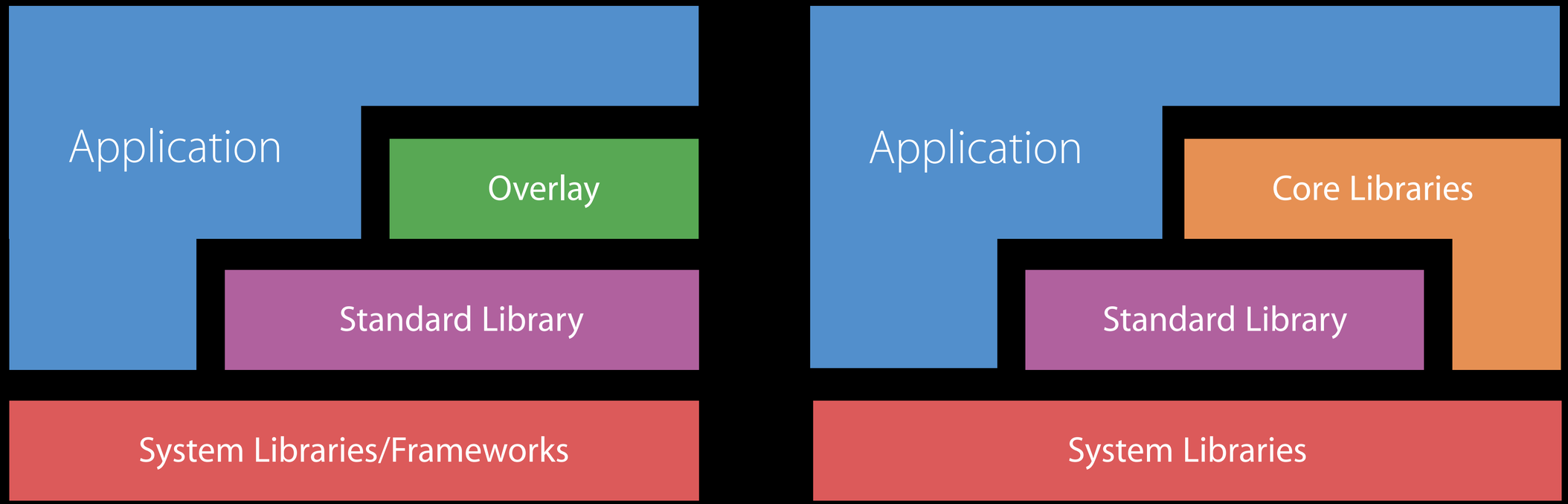
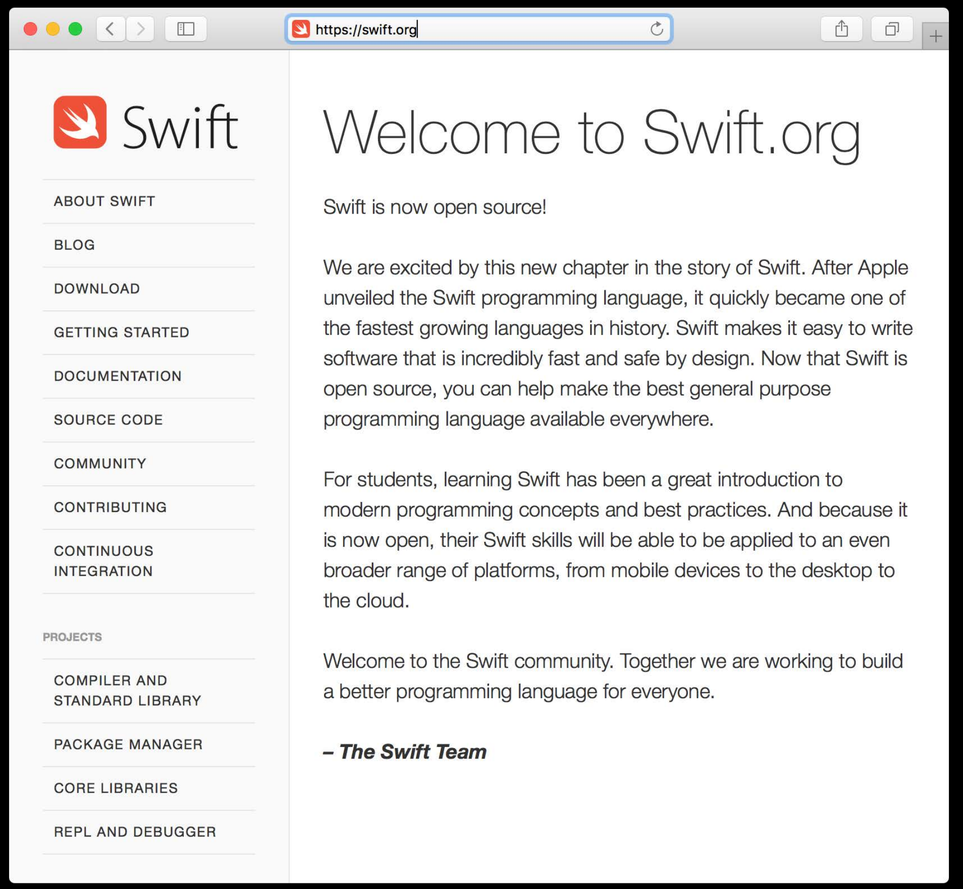


Darwin

Linux

What's In

Included projects



What's In

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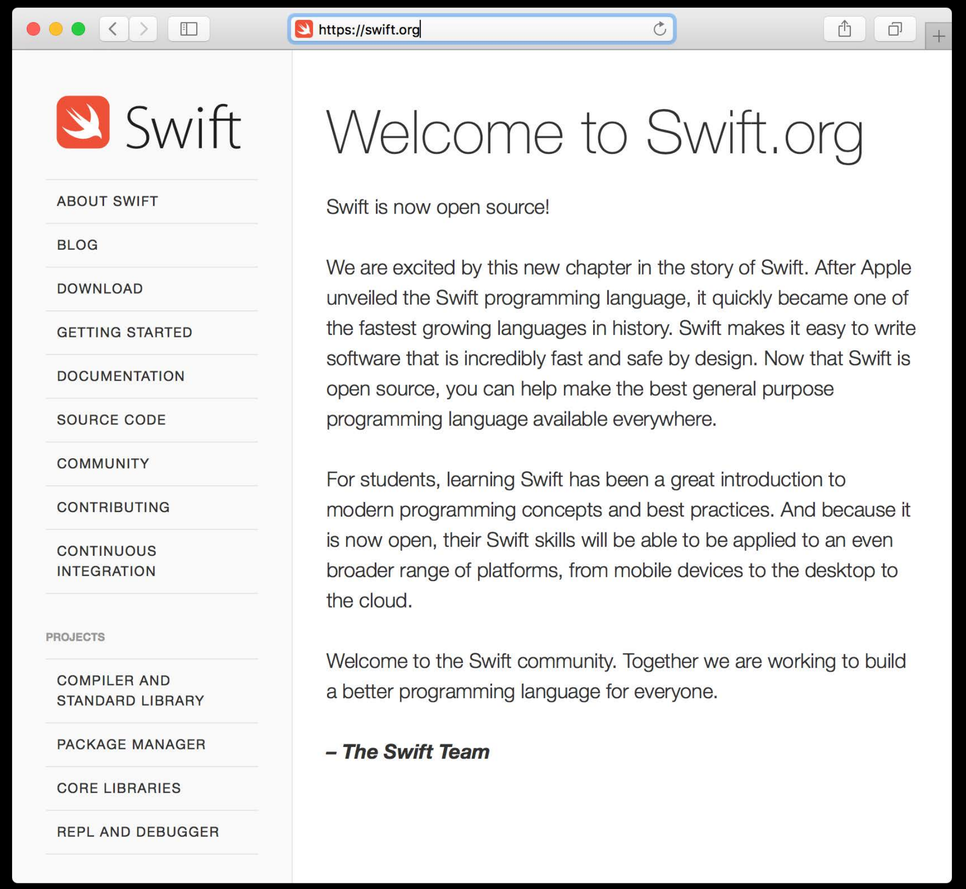
Linux and Mac Platform support



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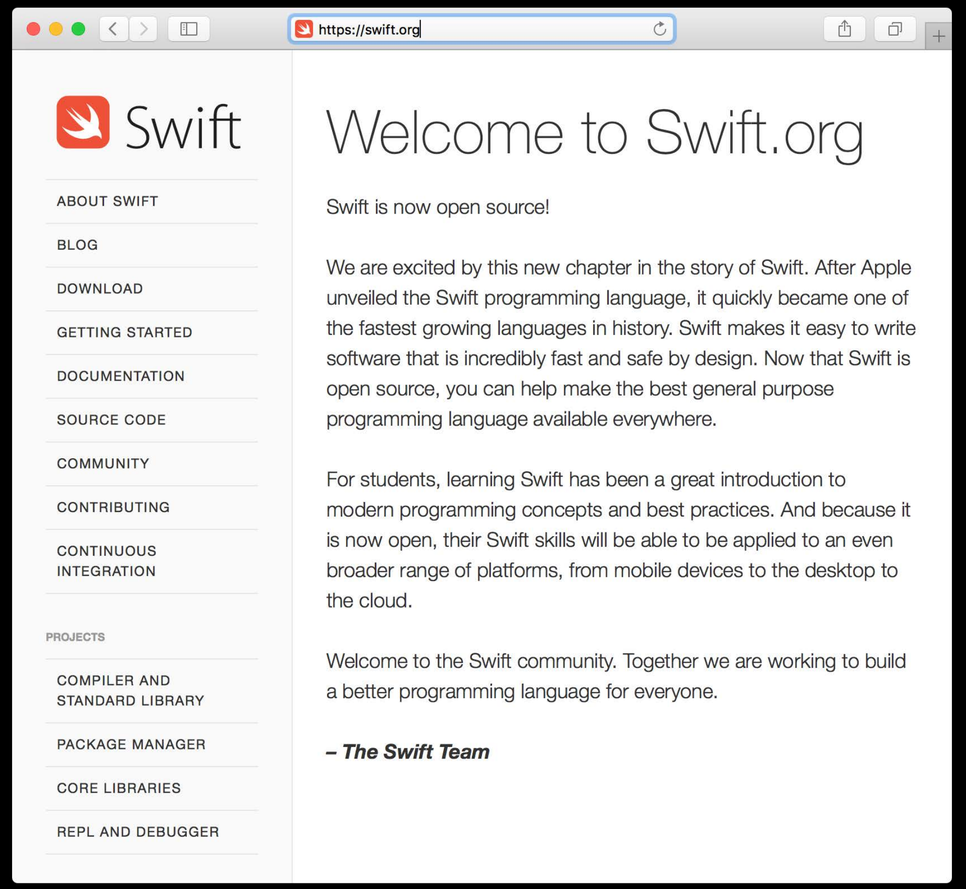
Standard Library



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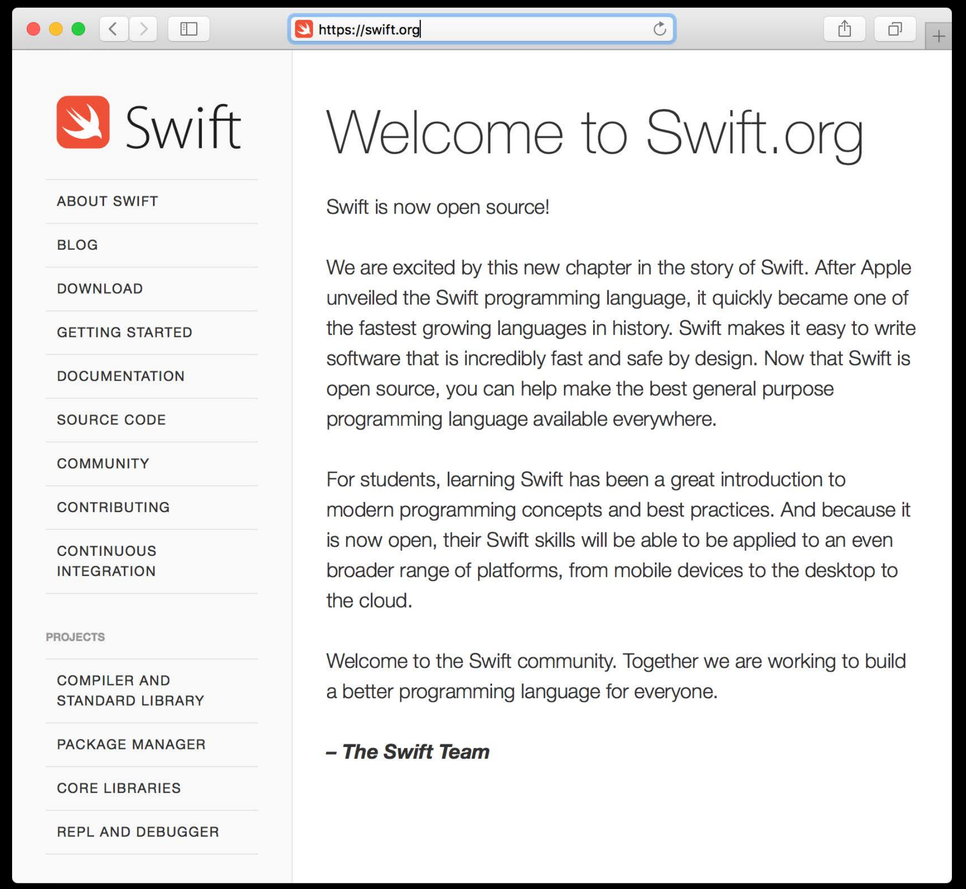
Linux and Mac Platform support

Standard Library

Foundation, Dispatch, and XCTest



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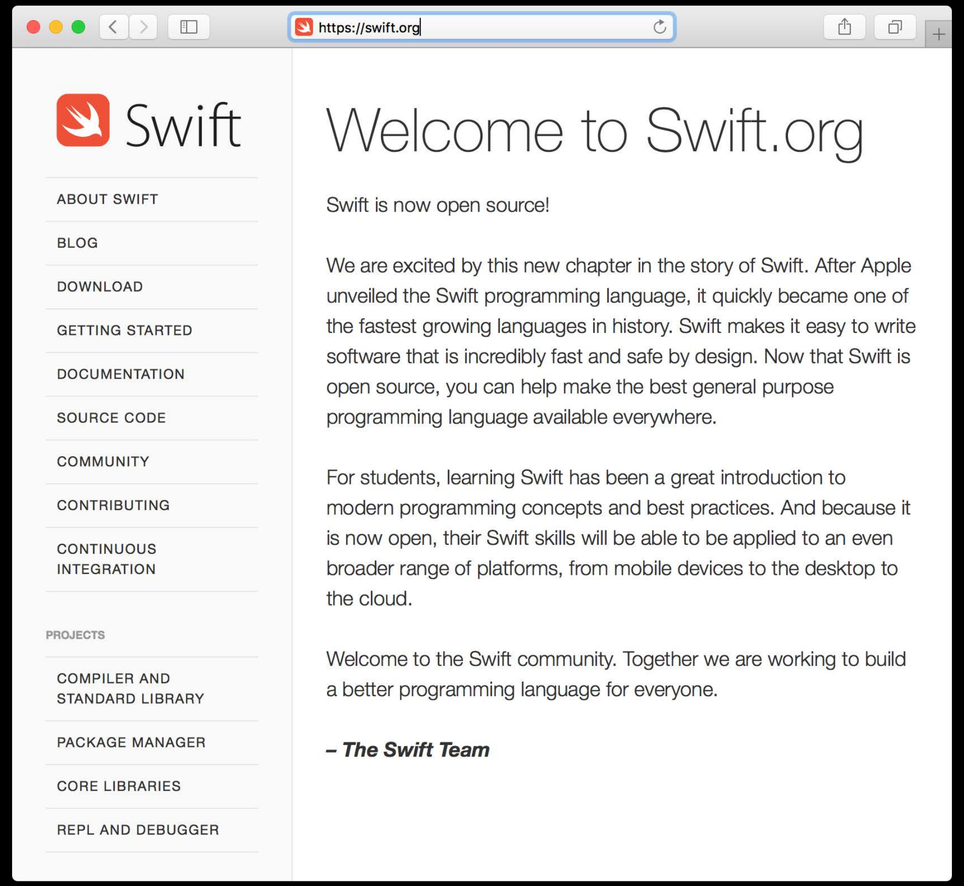
Compiler Command Line Tools



Your Code Goes Here

Developer opportunities

Your Code Goes Here

Developer opportunities

New platforms

Your Code Goes Here

Developer opportunities

New platforms

User interface

Your Code Goes Here

Developer opportunities

New platforms

User interface

Deployment

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Developer opportunities

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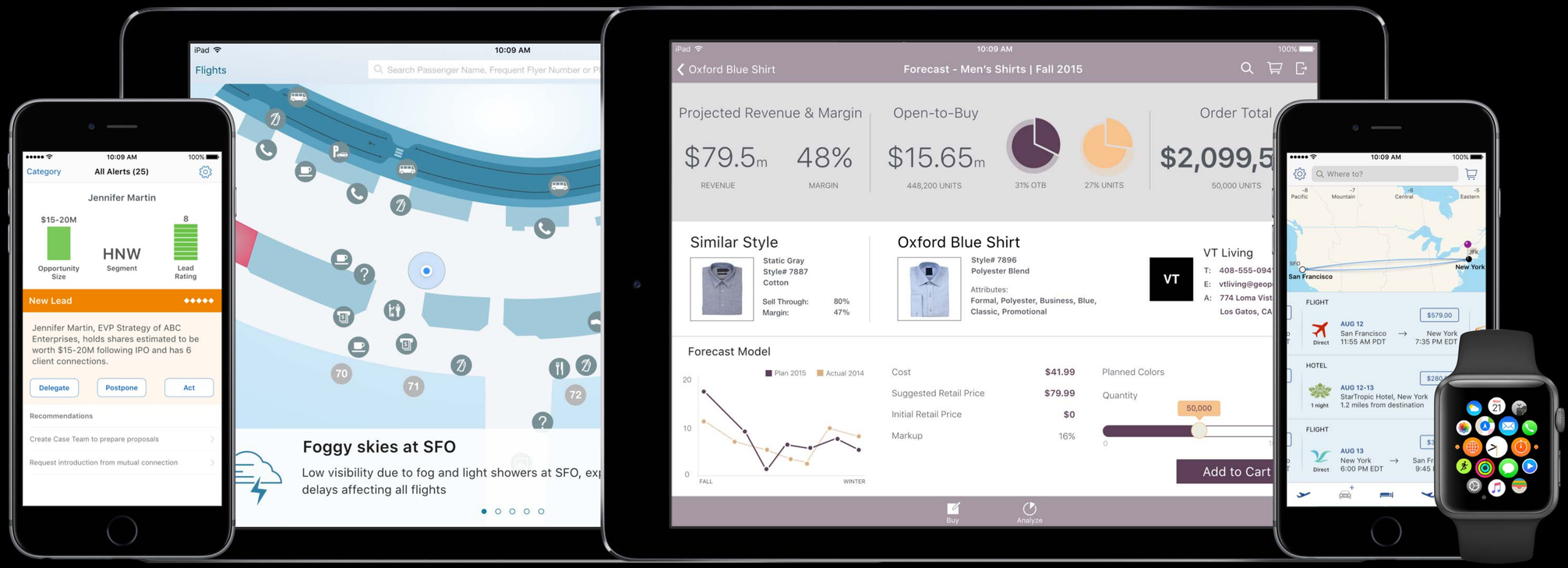
Your applications

Real-world Server-side Swift

John Ponzo
IBM MobileFirst CTO

Swift @ IBM



IBM **MobileFirst** *for* iOS

Swift @ IBM

Bringing Swift to the server

Swift @ IBM

Bringing Swift to the server

Community enablement

- Swift Sandbox
- Swift Package Catalog

Swift @ IBM

Bringing Swift to the server

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Consistent developer experience

- Kitura Web Framework
- Core swift.org contributions

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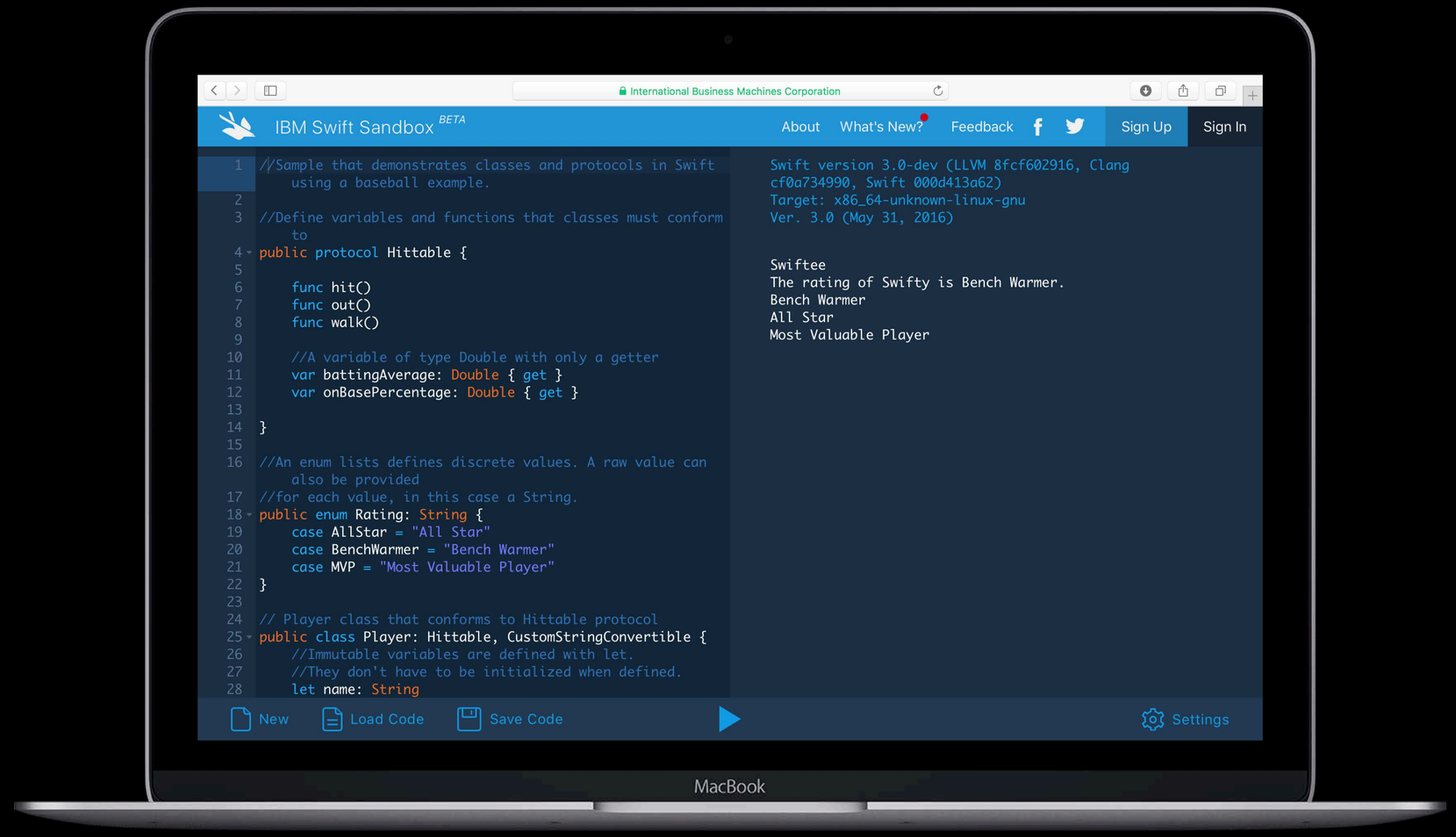
Cloud enablement

- IBM Cloud Deployment
- IBM Cloud Tools for Swift

Community Enablement

IBM Swift Sandbox



http://swiftlang.ng.bluemix.net

Community Enablement

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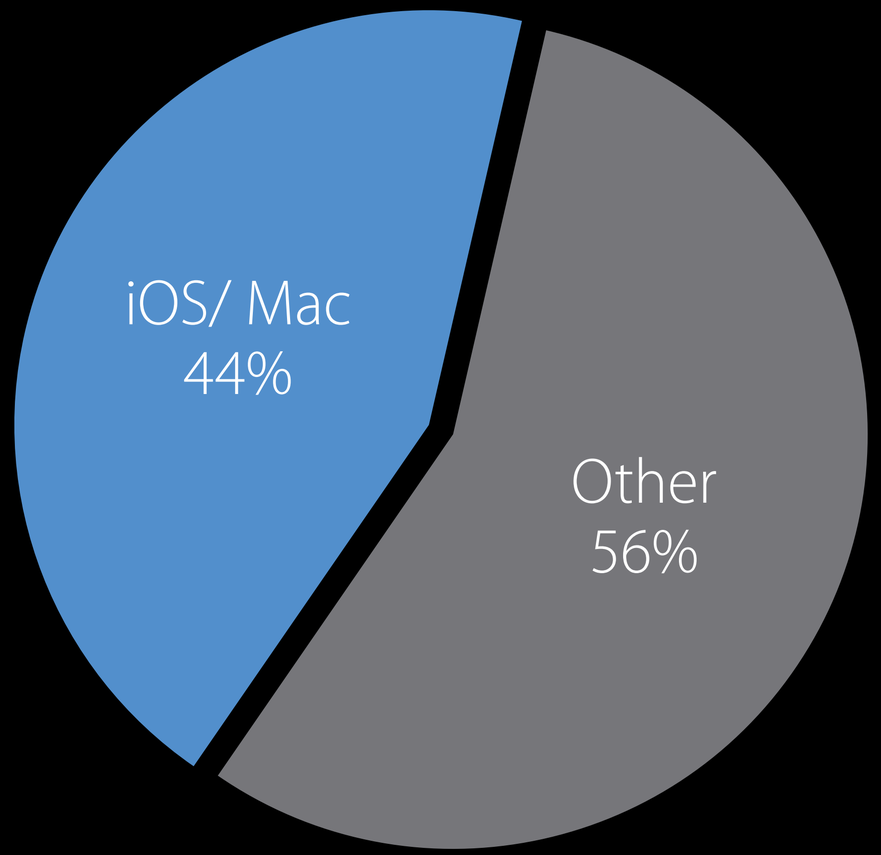
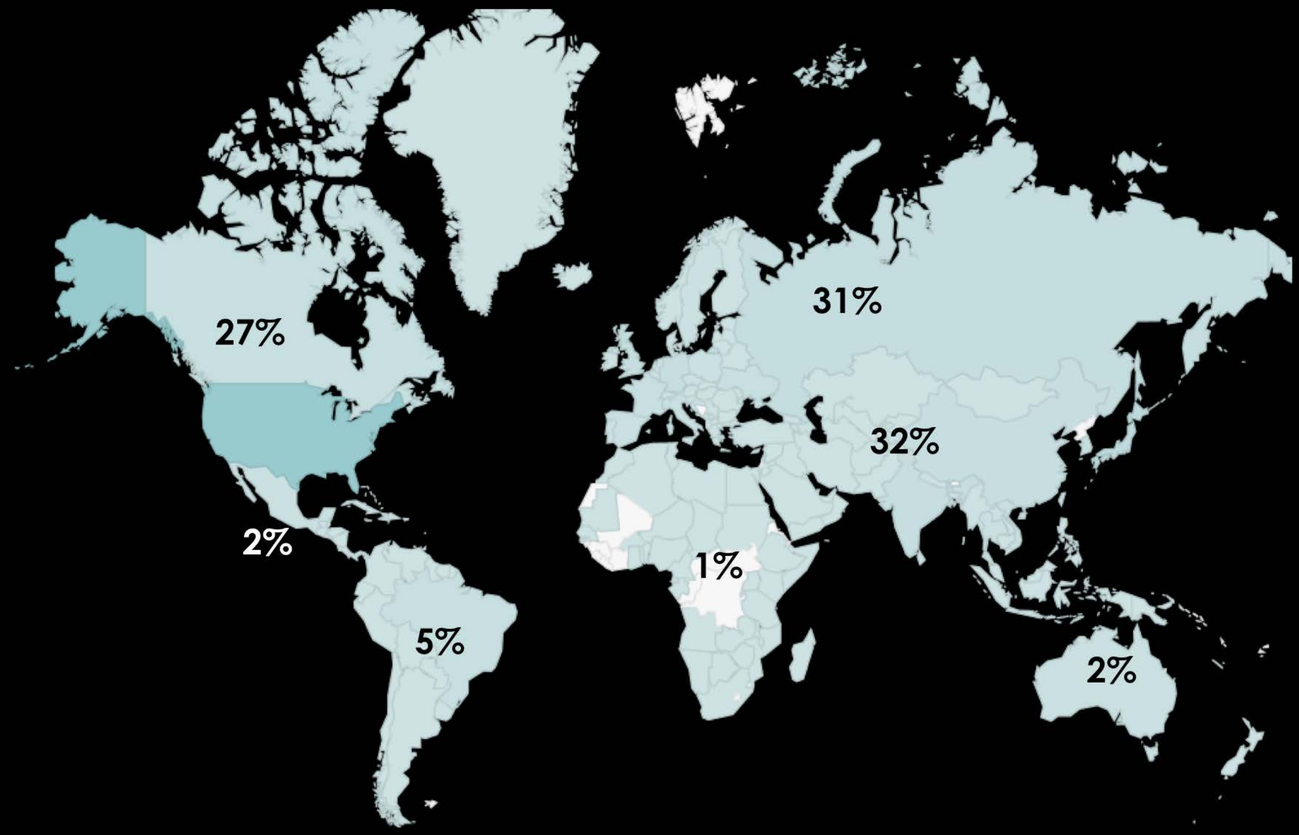


Cross-platform Interest

http://swiftlang.ng.bluemix.net

Community Enablement

IBM Swift Sandbox



Community Enablement

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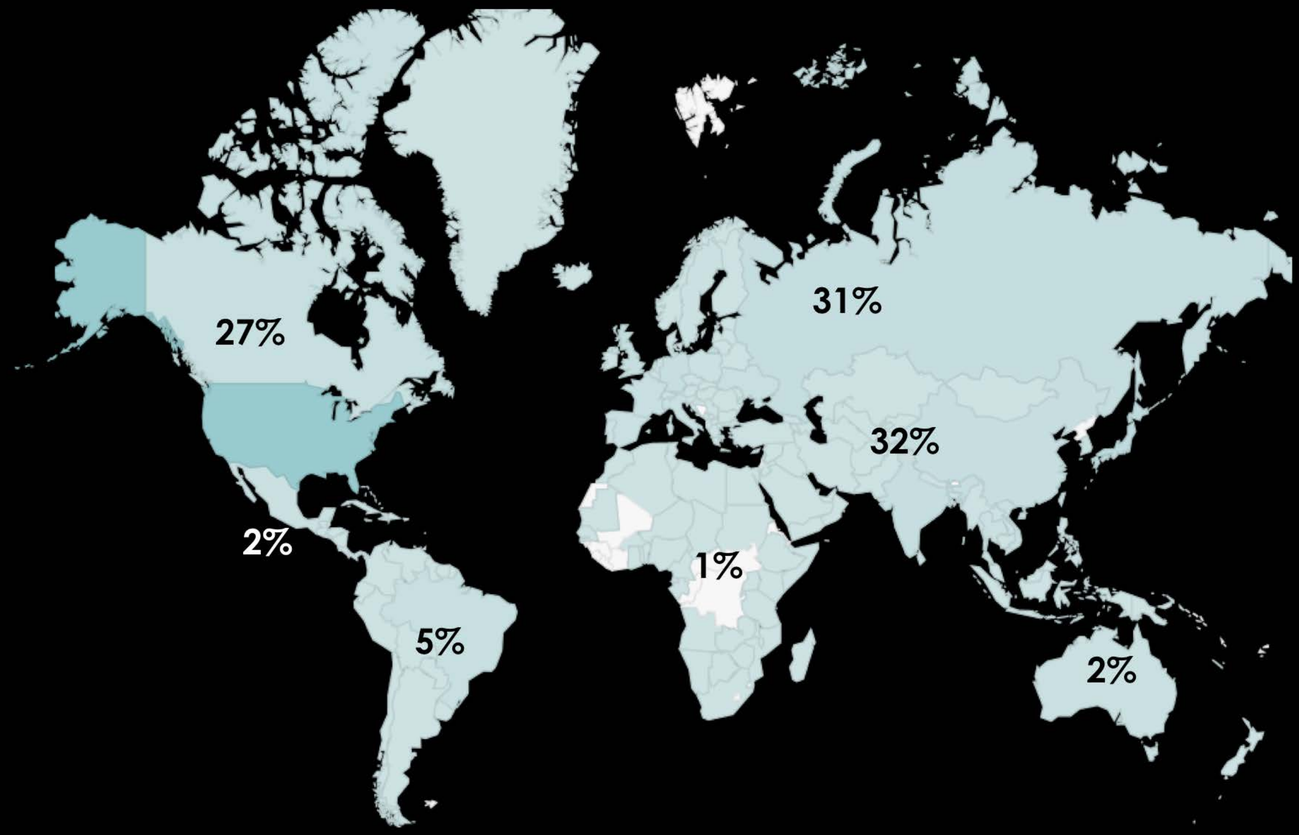
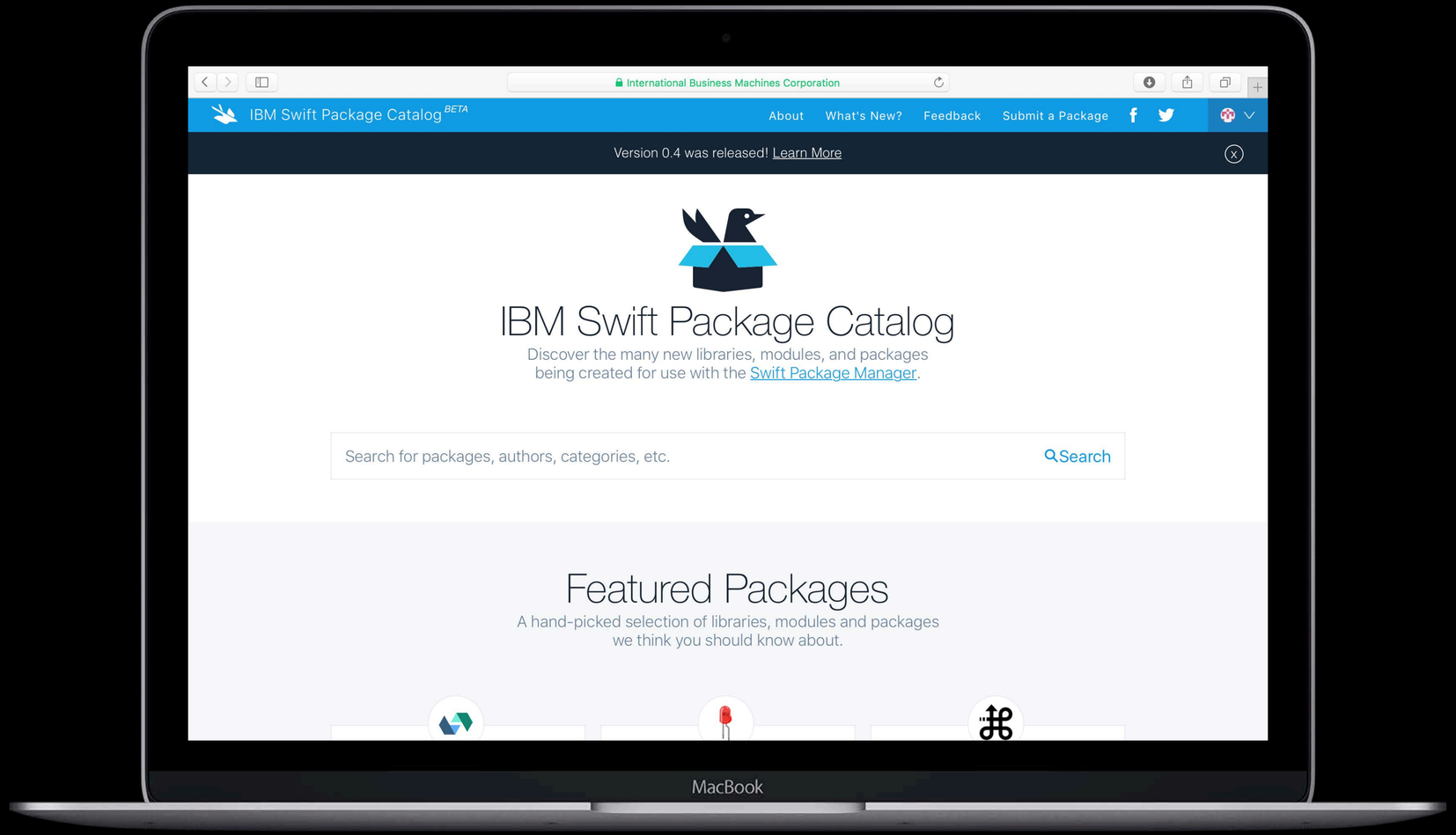


Worldwide Interest

Community Enablement

IBM Swift Package Catalog



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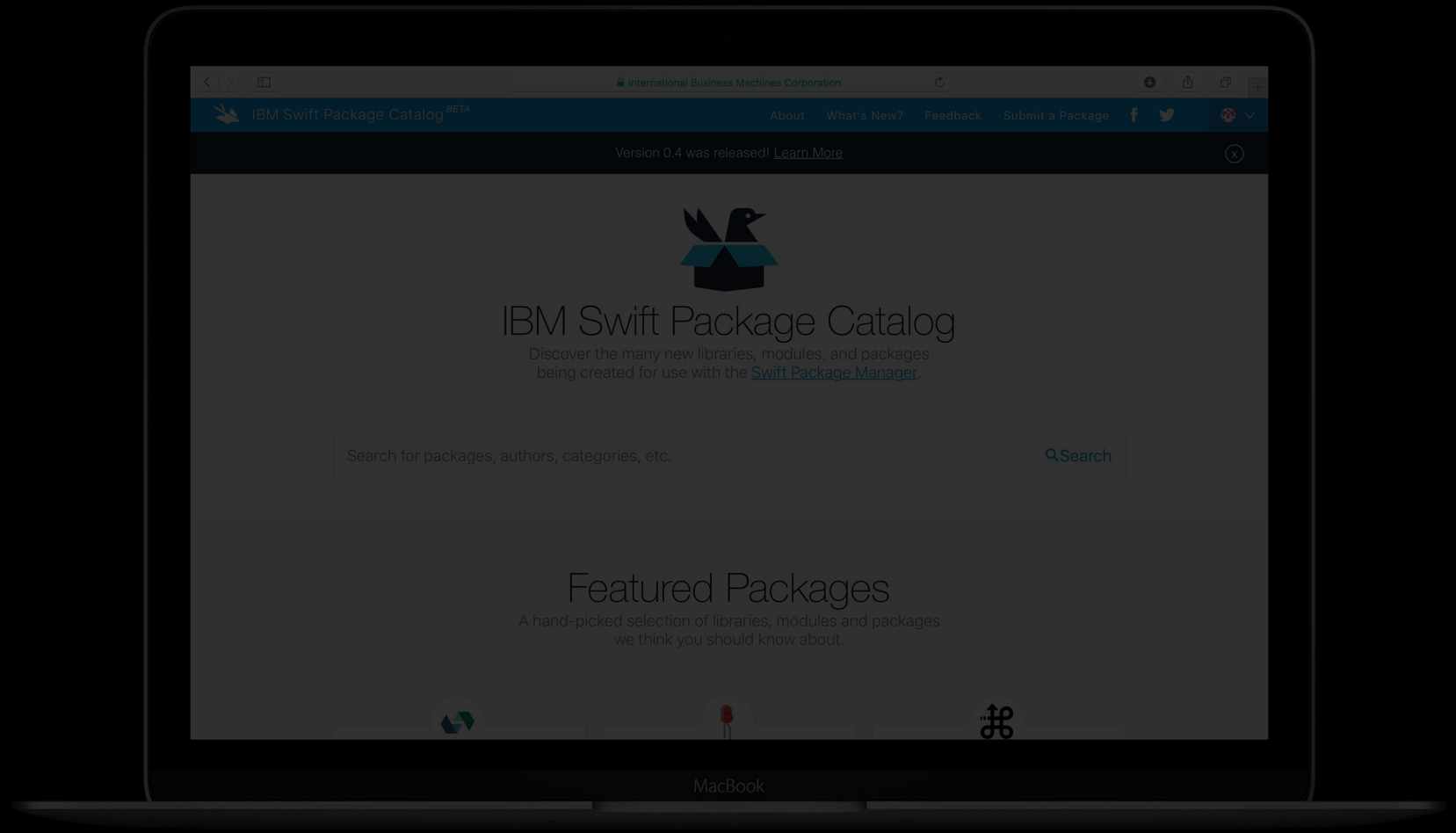
Community Enablement

IBM Swift Package Catalog



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Community Enablement

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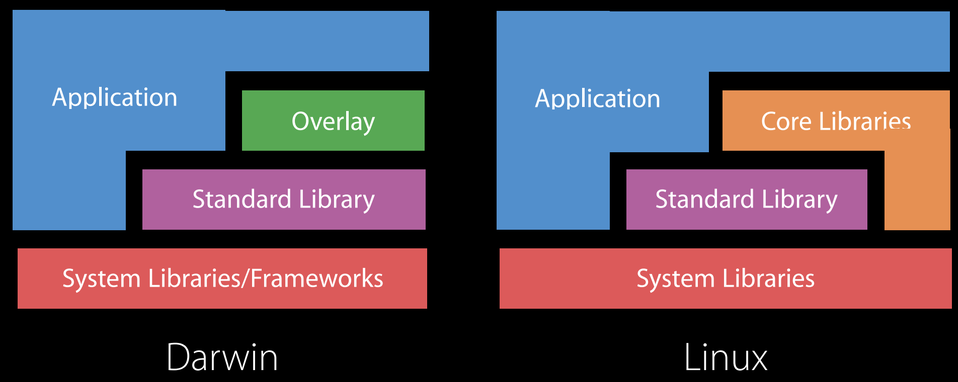
Consistent Developer Experience

Kitura web framework

KITURA™



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Open sourced in February 2016

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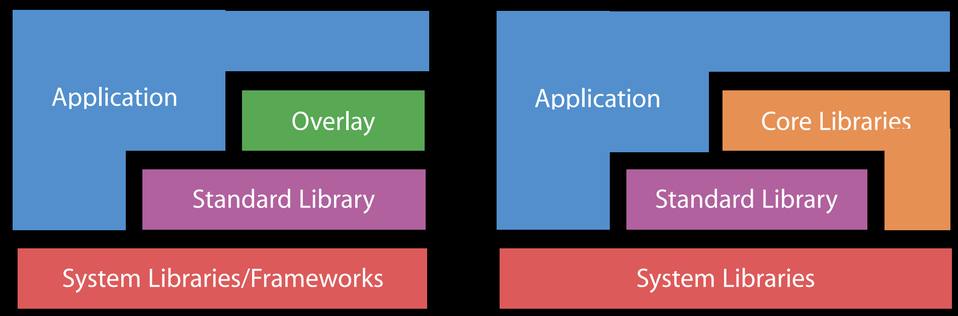

Darwin

Linux

Consistent Developer Experience

Kitura web framework

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Modular package-based web framework

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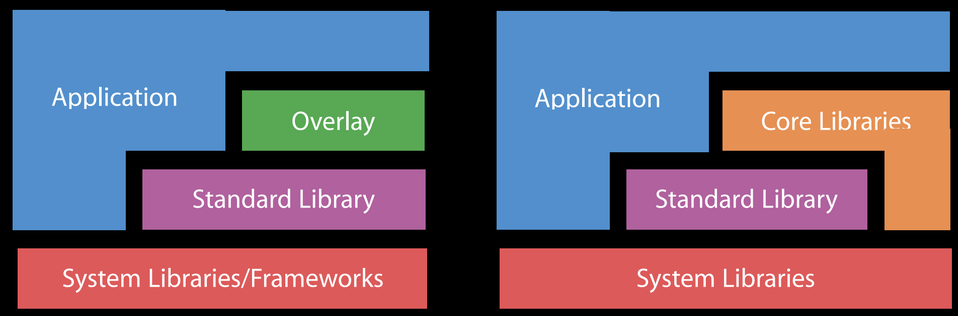

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Leverages libdispatch and Foundation

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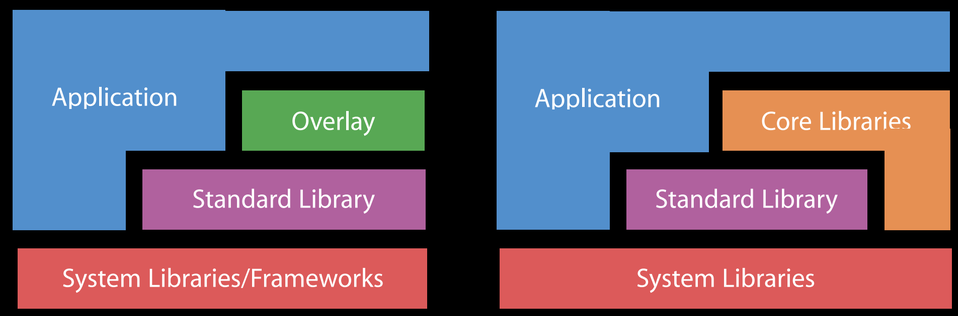

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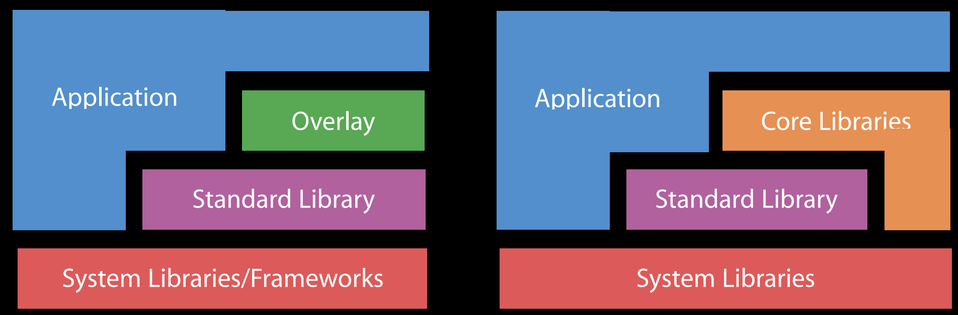

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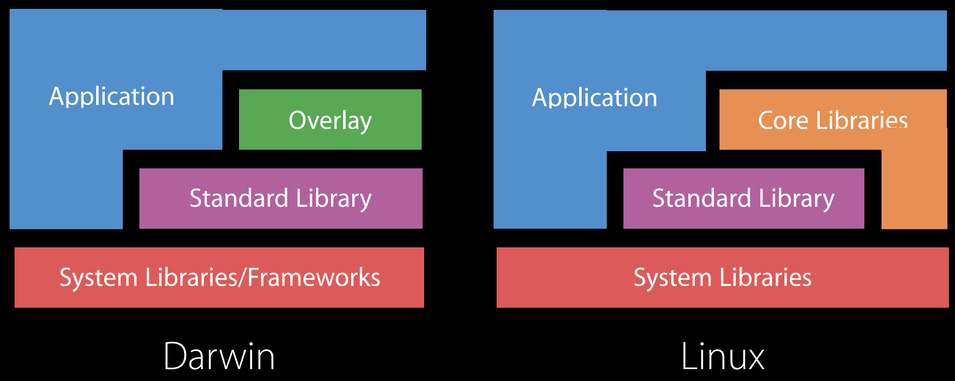
Used at IBM for Swift server-side applications



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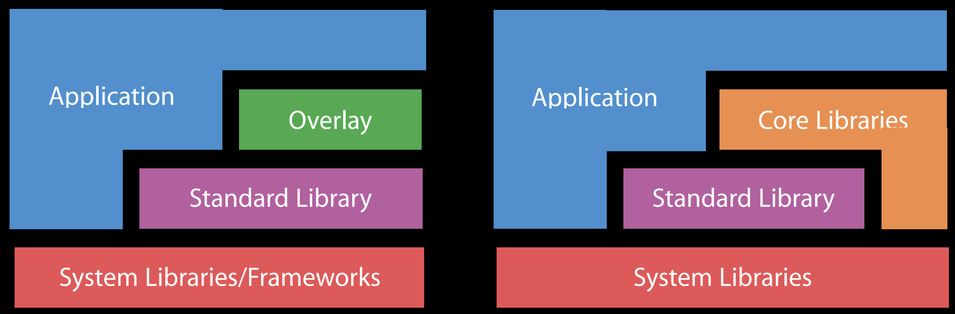
Available at github.com/ibm-swift/kitura



Cloud Enablement

IBM Cloud Deployment

Cloud Enablement

IBM Cloud Deployment

+

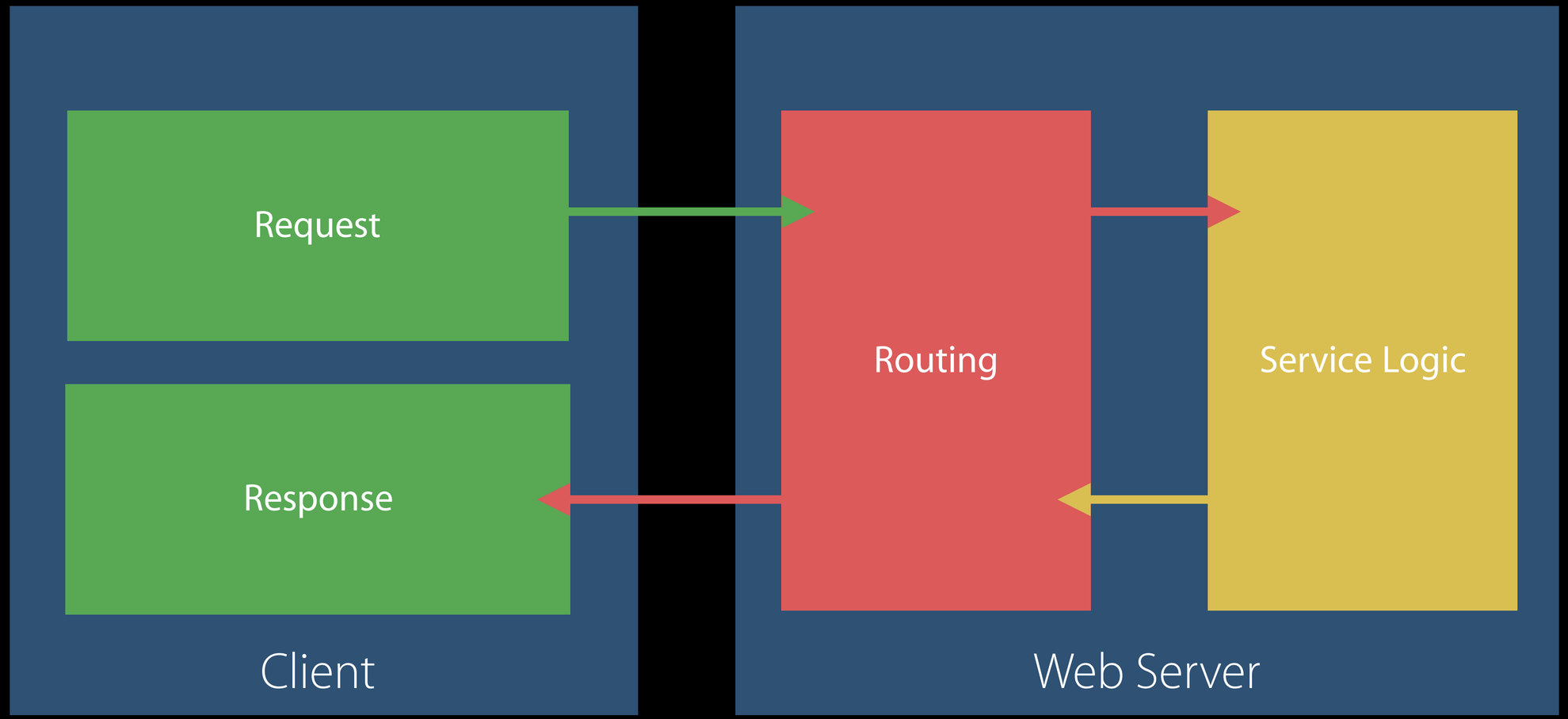
Cloud Enablement

IBM Cloud Tools for Swift

http://cloudtools.bluemix.net

Let’s Jump In!

Patrick Bohrer
Swift Technical Lead, IBM



Safari

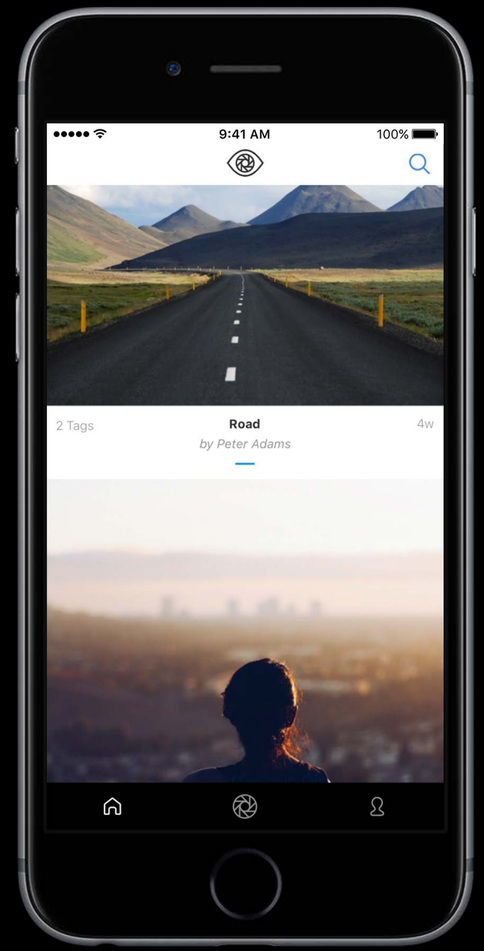
Linux / Docker

Demo

Simple, Swift Web Server running on Linux

End-to-end Swift

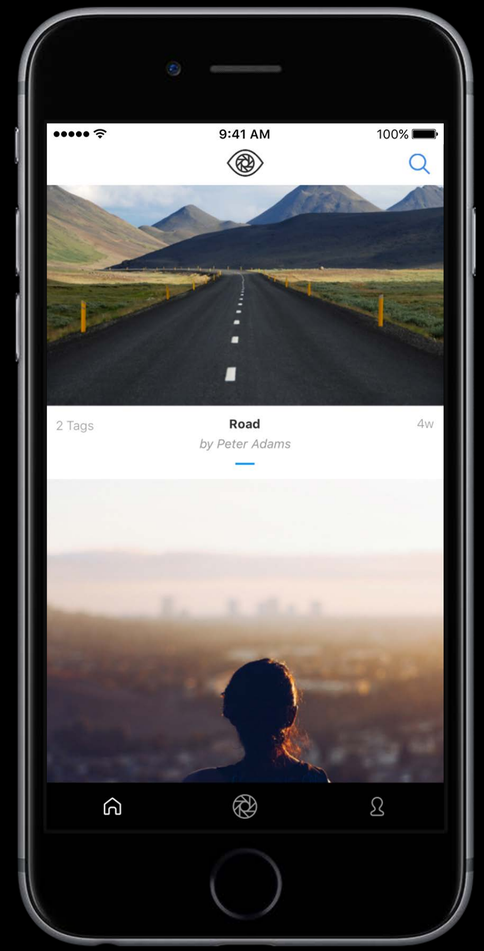
BluePic



End-to-end Swift

BluePic

Sample photo sharing app

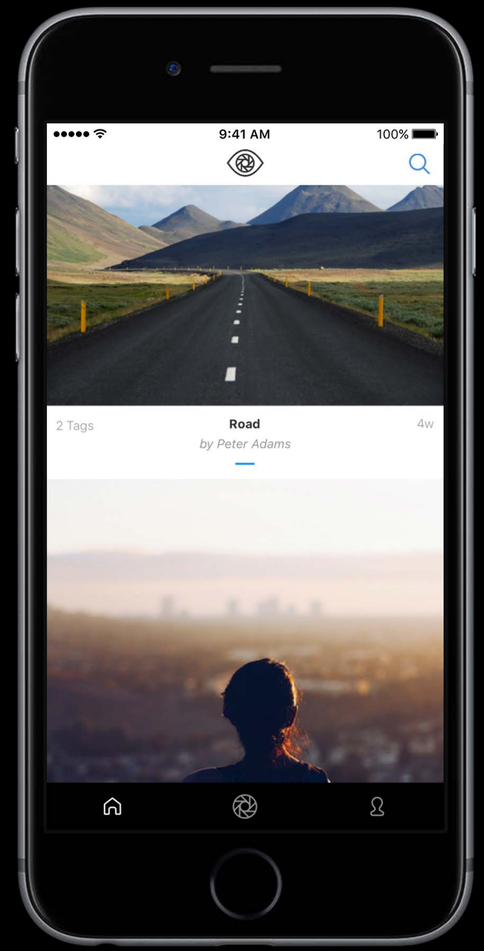


End-to-end Swift

BluePic

Sample photo sharing app

Rich client interface written in Swift



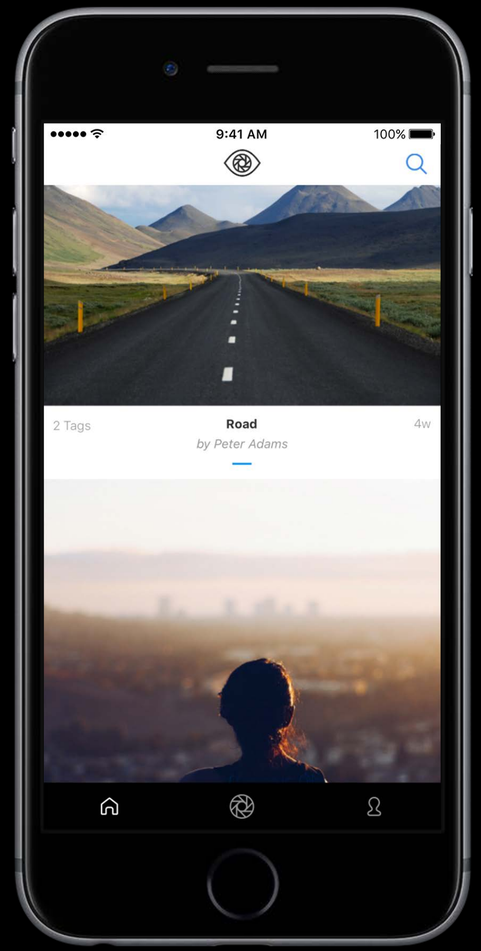
End-to-end Swift

BluePic

Sample photo sharing app

Rich client interface written in Swift

Swift Server built with Kitura, IBM Cloud, Watson,



End-to-end Swift

BluePic

Sample photo sharing app

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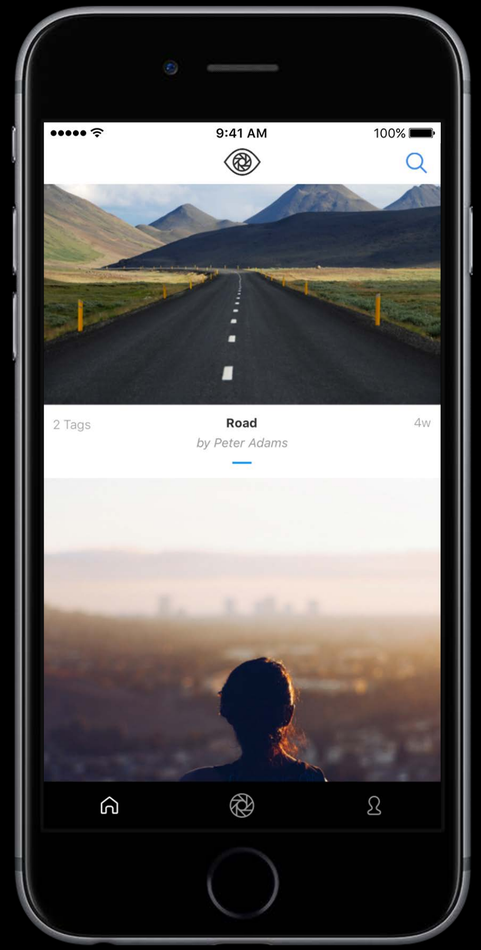

End-to-end Swift

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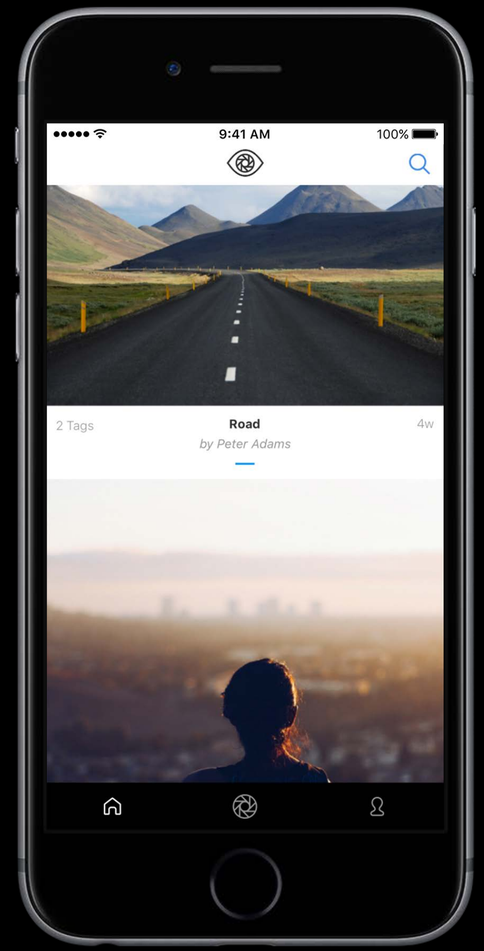

End-to-end Swift

BluePic design pattern

End-to-end Swift

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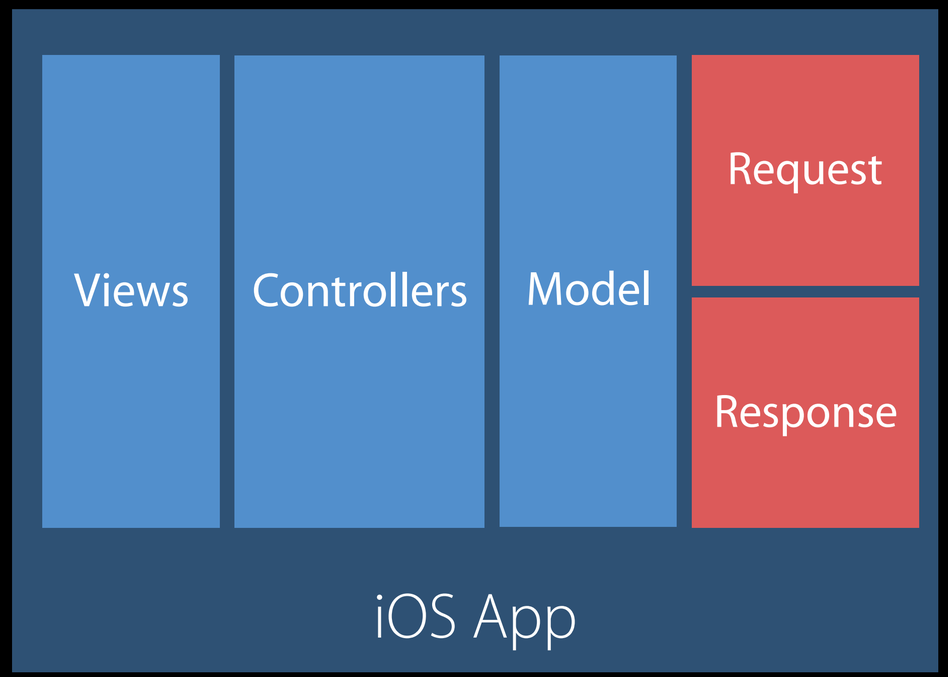
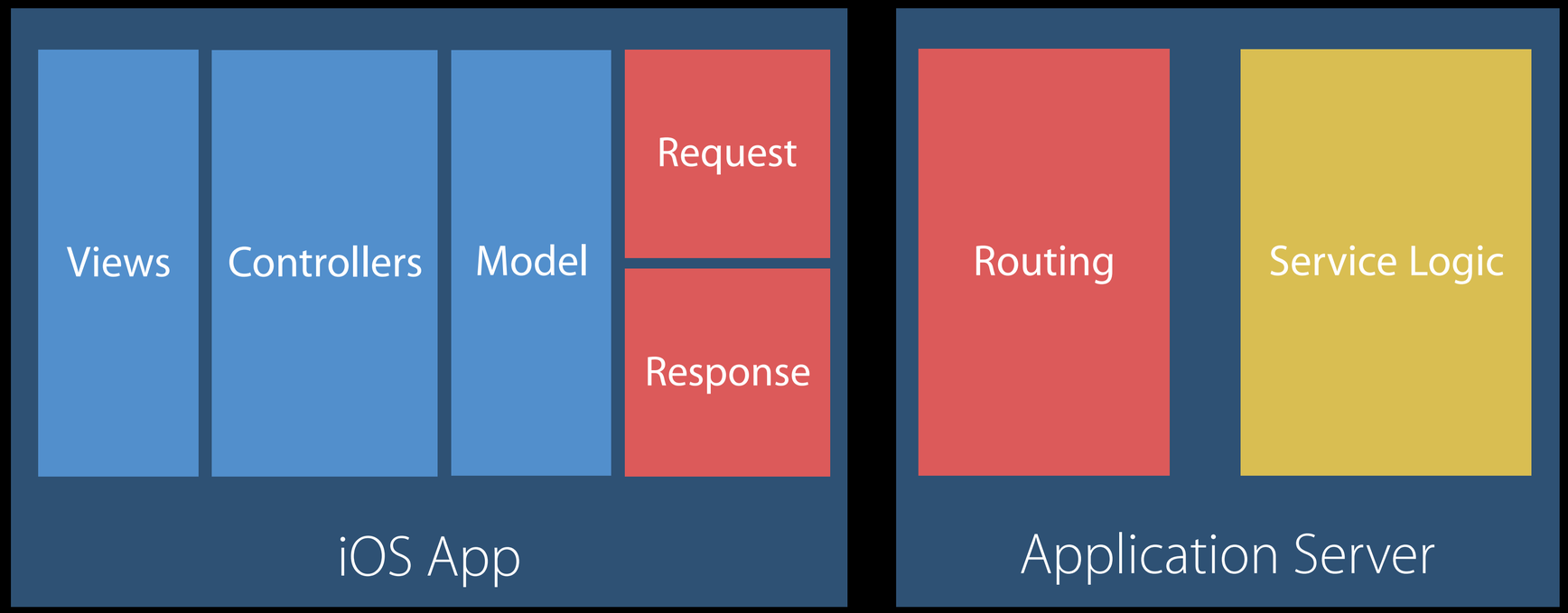


User Interaction

End-to-end Swift

BluePic design pattern

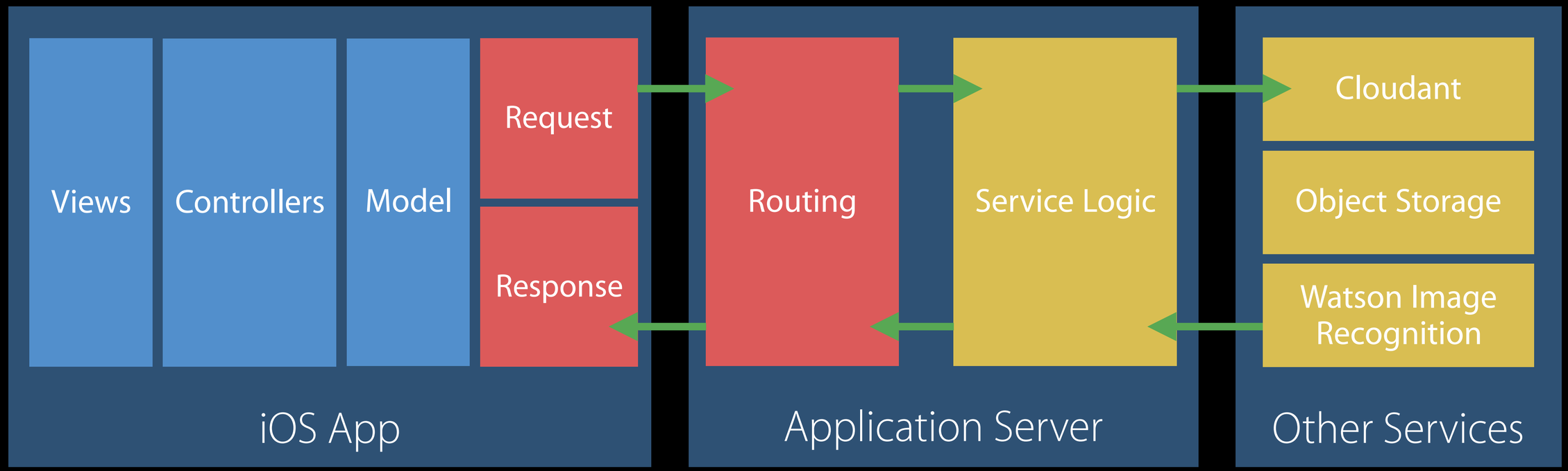


User Interaction

Client and Service Integration

End-to-end Swift

BluePic design pattern



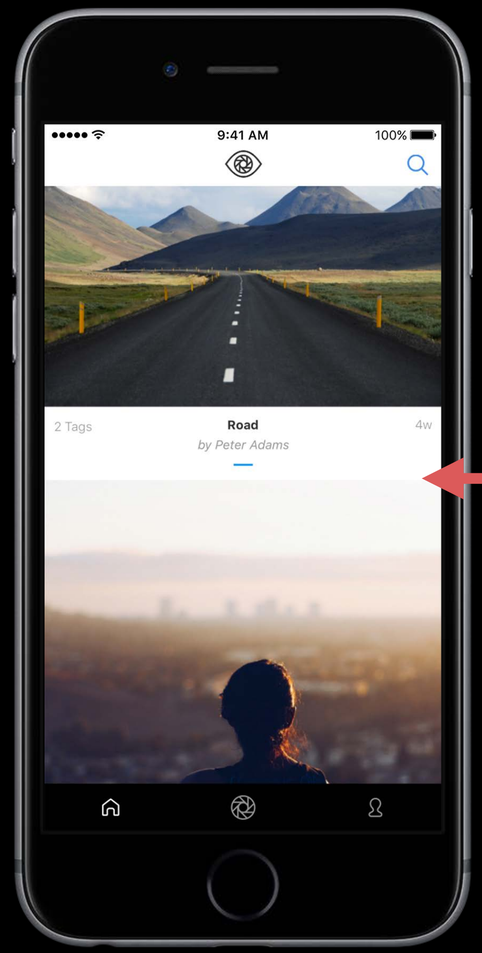
User Interaction

Client and Service Integration

Core Cloud Services

End-to-end Swift

BluePic design pattern



Users

Photos

Image Insights = Tags

Push Notifications

Application Server

Client and Service Integration

Meta Data

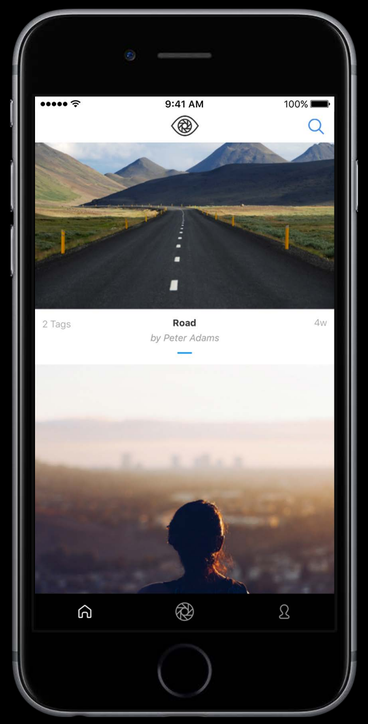
Mountain, Sunset, River

Other Services

Core Cloud Services

End-to-end Swift

Application tiers



Clients

Application Server

Meta Data

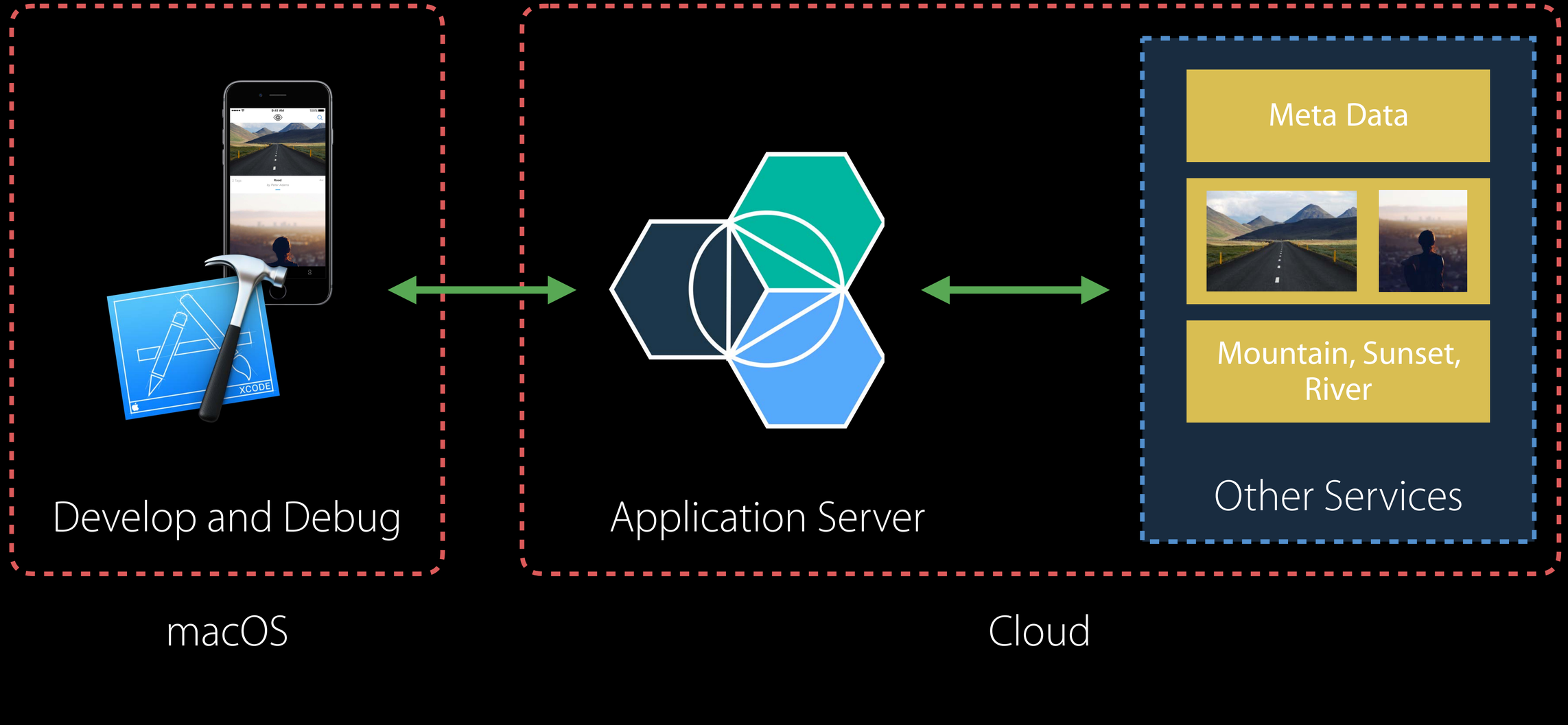
Mountain, Sunset, River

Other Services

Cloud

End-to-end Swift

BluePic development setup



End-to-end Swift

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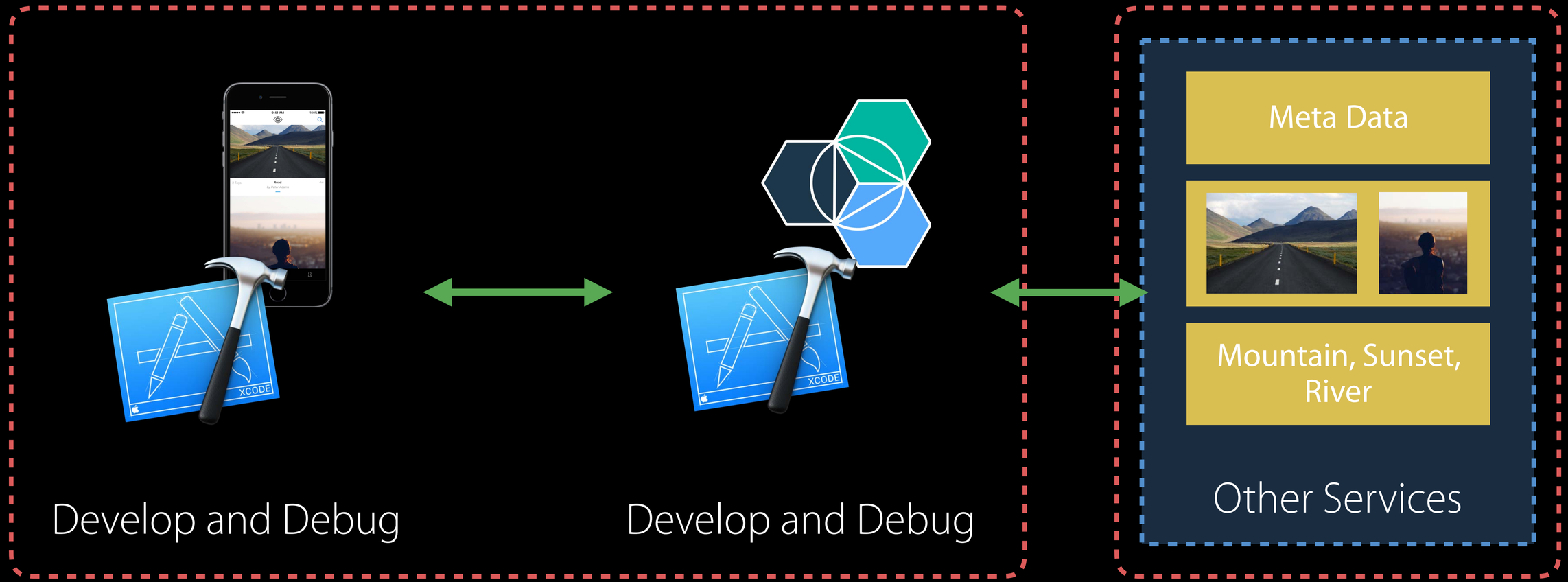


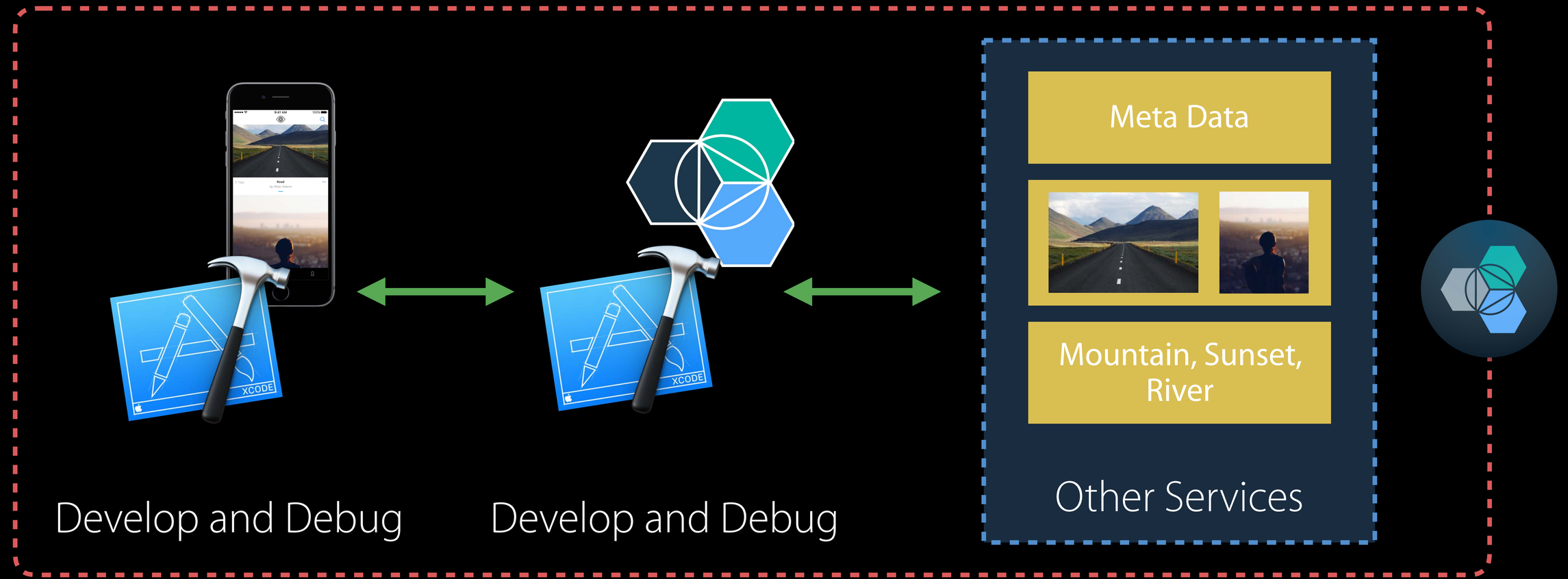
End-to-end Swift

BluePic development setup

IBM Cloud Tools for Swift (Mac App)

IBM Cloud Tools for Swift

End-to-end Swift Development

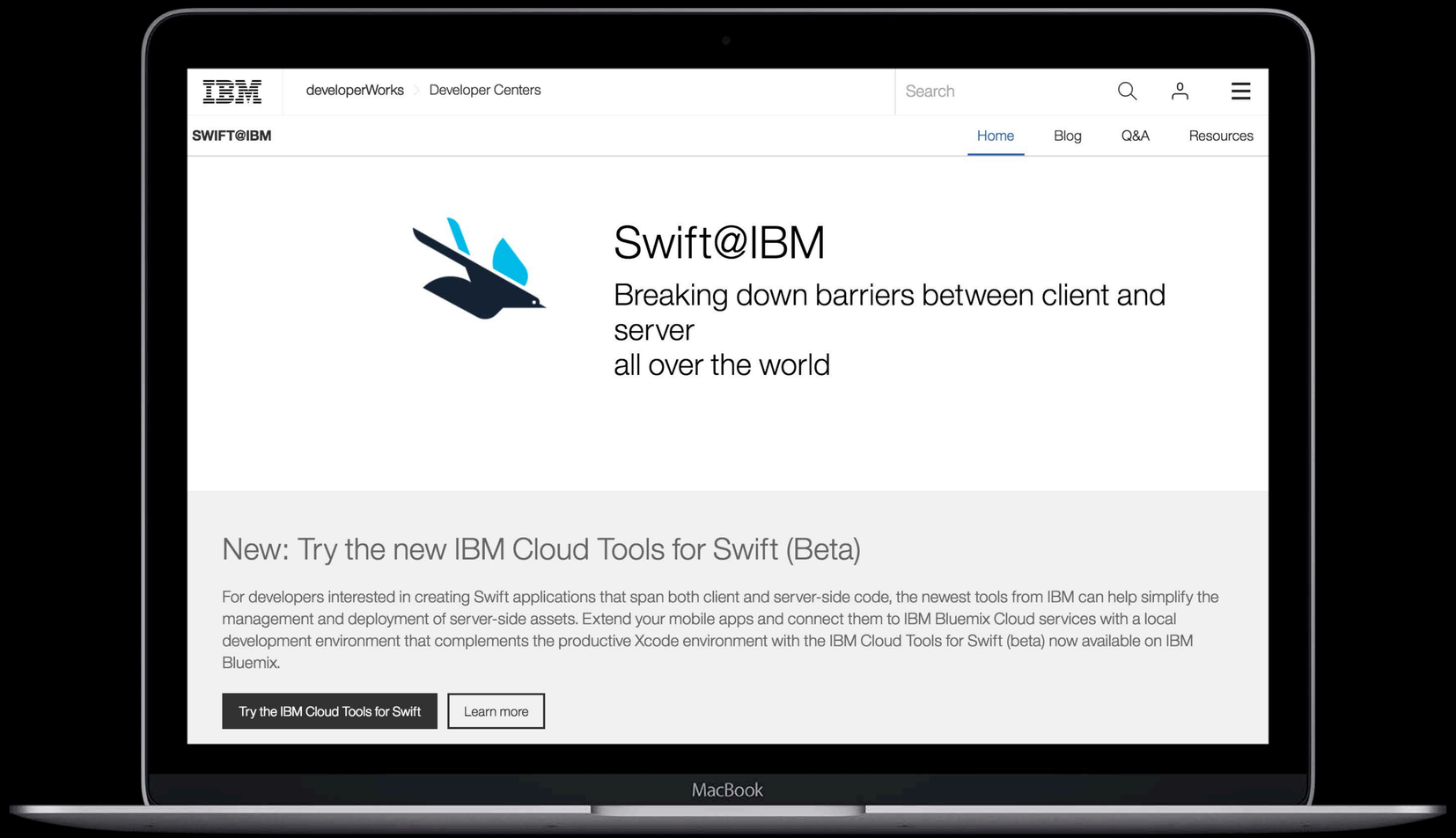


Demo

End-to-end Swift Application

Get Started Today

IBM Swift tools and tech



http://developer.ibm.com/swift

Real-world Server-side Swift

IBM review

Open source contributions

Helping to grow the community

Building tools for a consistent world

Contribution

Chipping in

Implementations

API Design, guidelines and language Features

Your Packages

More Information

https://developer.apple.com/wwdc16/415

Related Sessions

Swift API Design Guidelines	Presidio	Tuesday 10:00AM
What's New in Foundation for Swift	Mission	Tuesday 4:00PM
Understanding Swift Performance	Mission	Friday 11:00AM
Concurrent Programming with GCD in Swift 3	Pacific Heights	Friday 4:00PM

Labs

Swift Open Hours	Developer Tools Lab A	Friday 9:00AM
Cocoa Lab	Frameworks Lab A	Friday 1:00PM
GCD Lab	Frameworks Lab D	Friday 5:00PM

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