



Cross Platform App Development with .NET, C# & Xamarin



Mike James
@micjames6

Technical Summit 2014
Pure Technology.

Die Microsoft Konferenz
für Entwickler und IT Pros vom
11.-13. November in Berlin



Cardiff, Wales

Cross Platform Developer





London Eye



Floor



Warm White

Cool White

Blush

Amber

Pink

Rose

Magenta

Red

Warm Lavender

Cool Lavender

Medium Blue

Coast Blue

Teal

Green

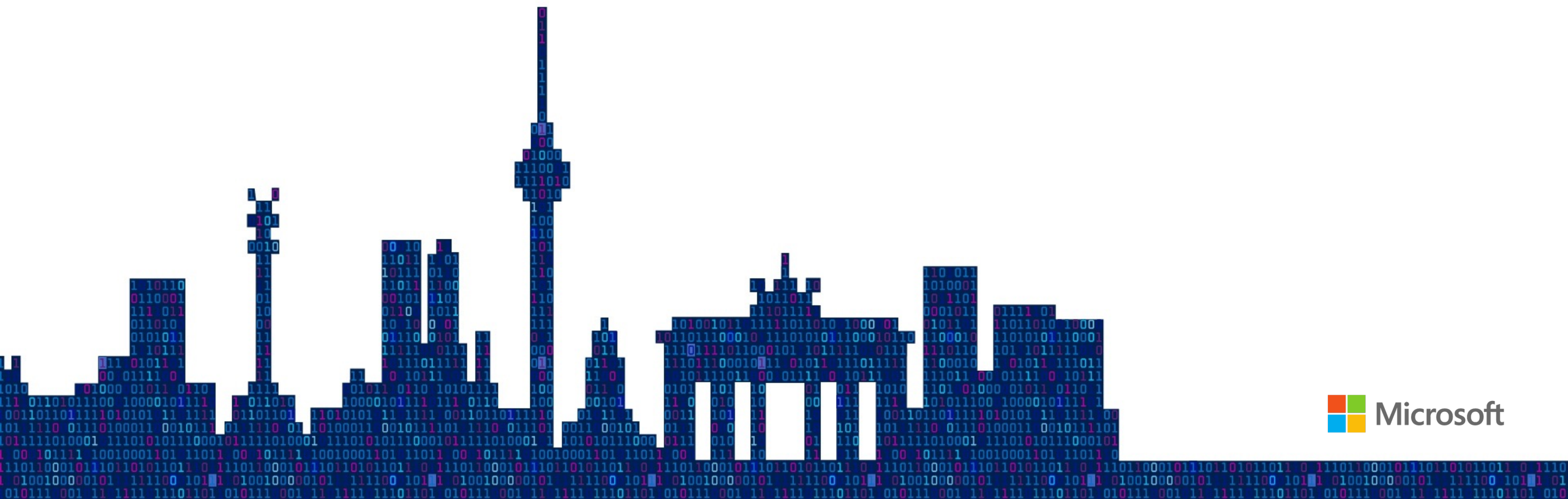
MGM Orange

MGM Gold

Activate

Reset All Floor

I had an opportunity





Productive Environment



Shared Code



High Performance





accenture



BOSCH



GitHub



McKESSON

CONDÉ NAST



WebMD

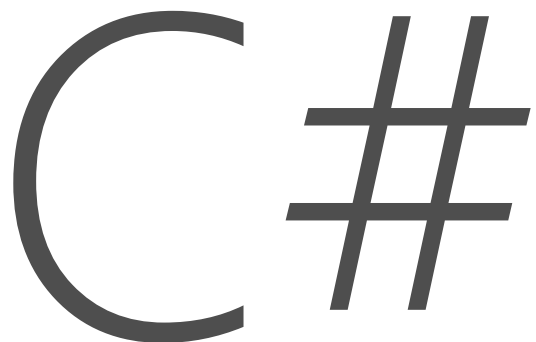


rdio

THX

HALLIBURTON

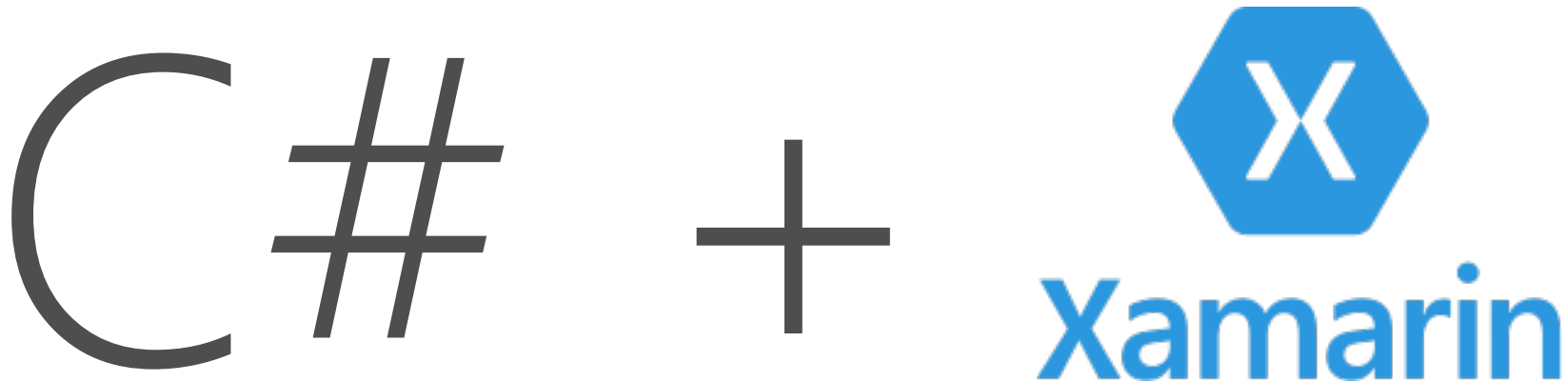




The best language for Windows development.

Modern Features • Advanced Tools • Proven Libraries • Large Community • Statically Typed





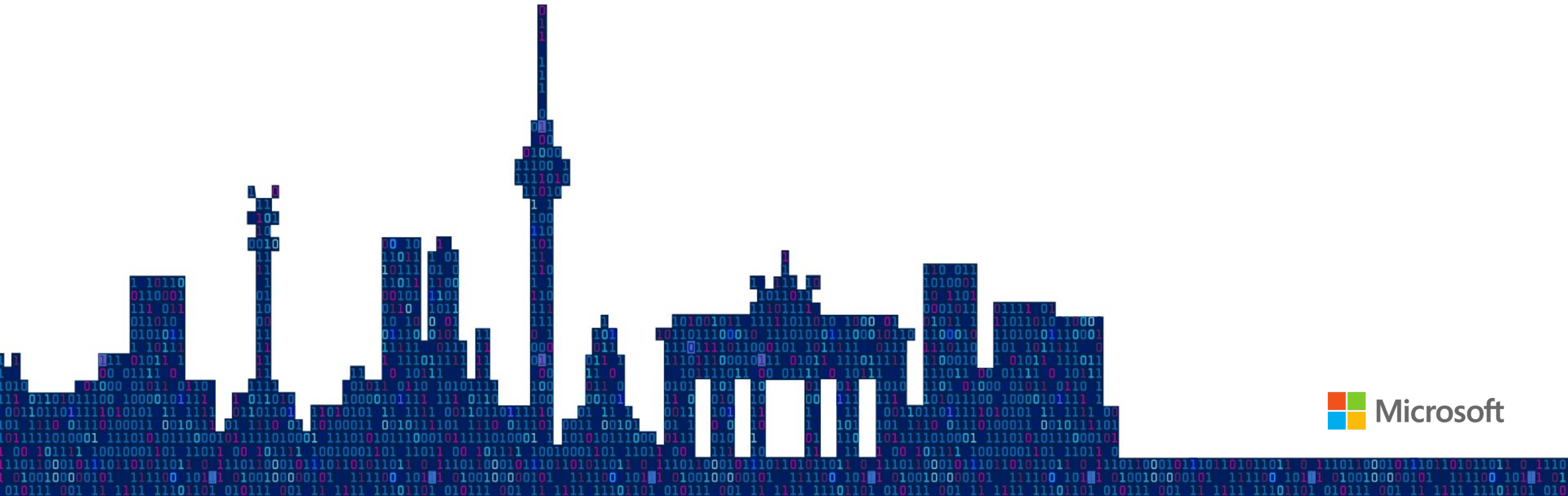
Xamarin makes C# the best language for mobile development

Native Code Generation • Platform API Bindings • Code Sharing • Visual Studio



Xamarin embraced and extended' .Net

Its not magic!

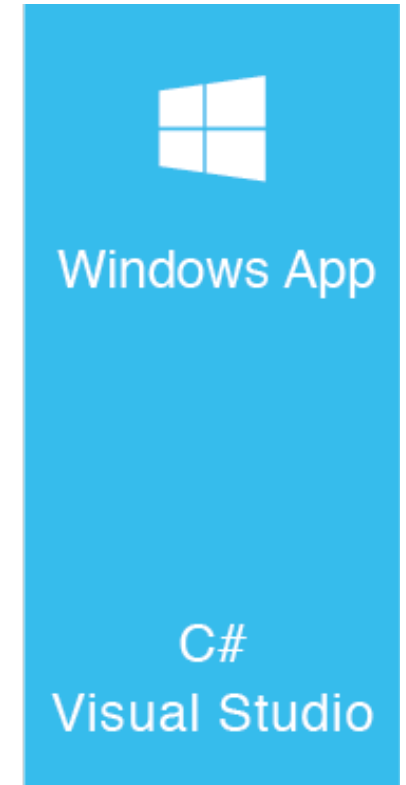
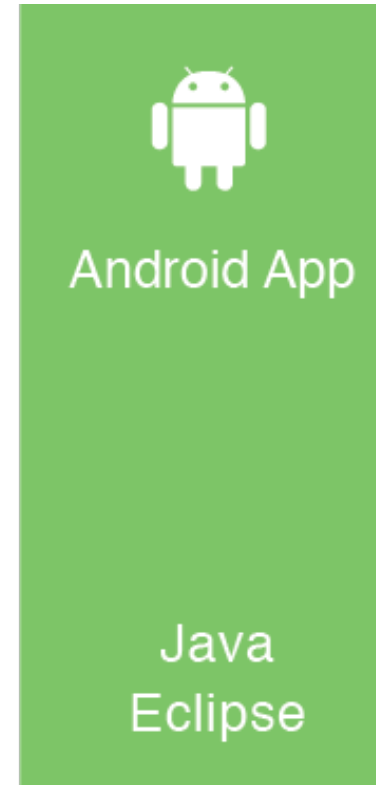
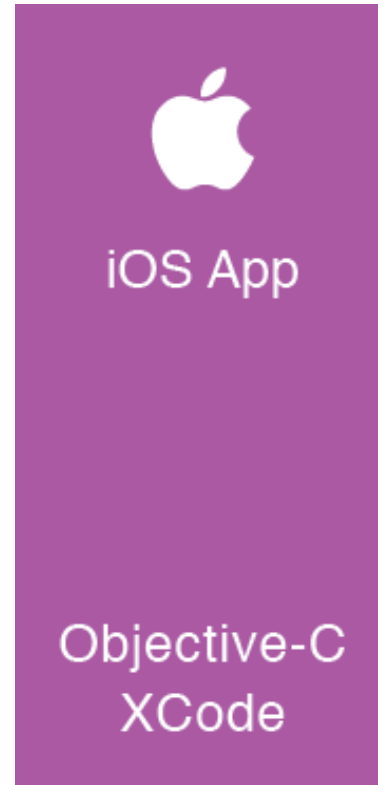




Architecting mobile apps

Silo Approach

Build your Apps
Multiple times



A warm-toned photograph of a dense crowd at a concert. Many people have their arms raised, with hands clapping or holding each other. The lighting is soft and golden, creating a hazy atmosphere. The 'rdio' logo is superimposed in the center-left, with a 'TM' symbol to its right.

rdio™

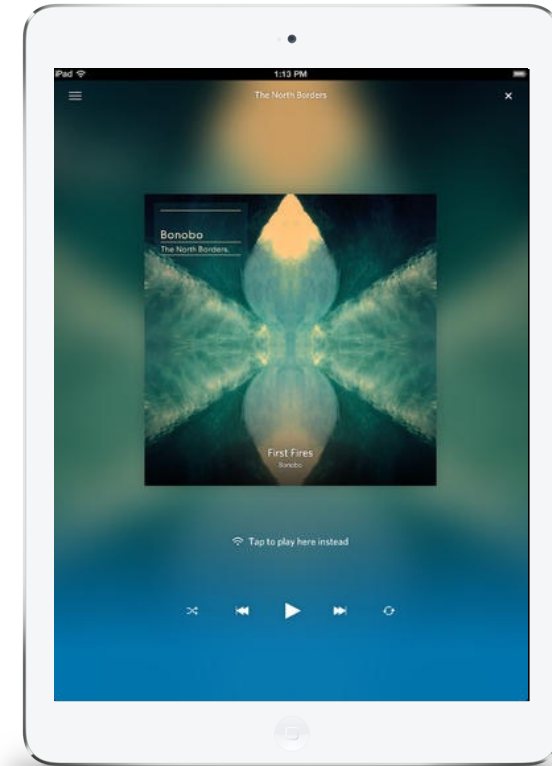
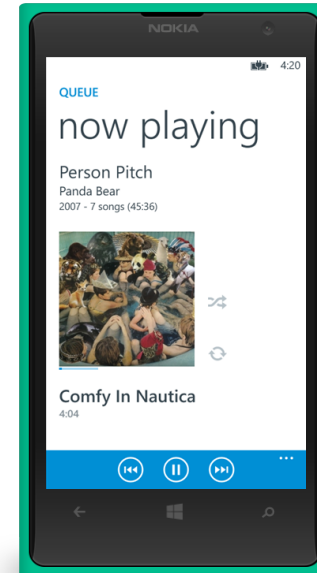
Sharing 50,000+ Lines of Code

Focus on Feature-parity

Focus on User Experiance

Focus on Award Winning

Mobile Apps





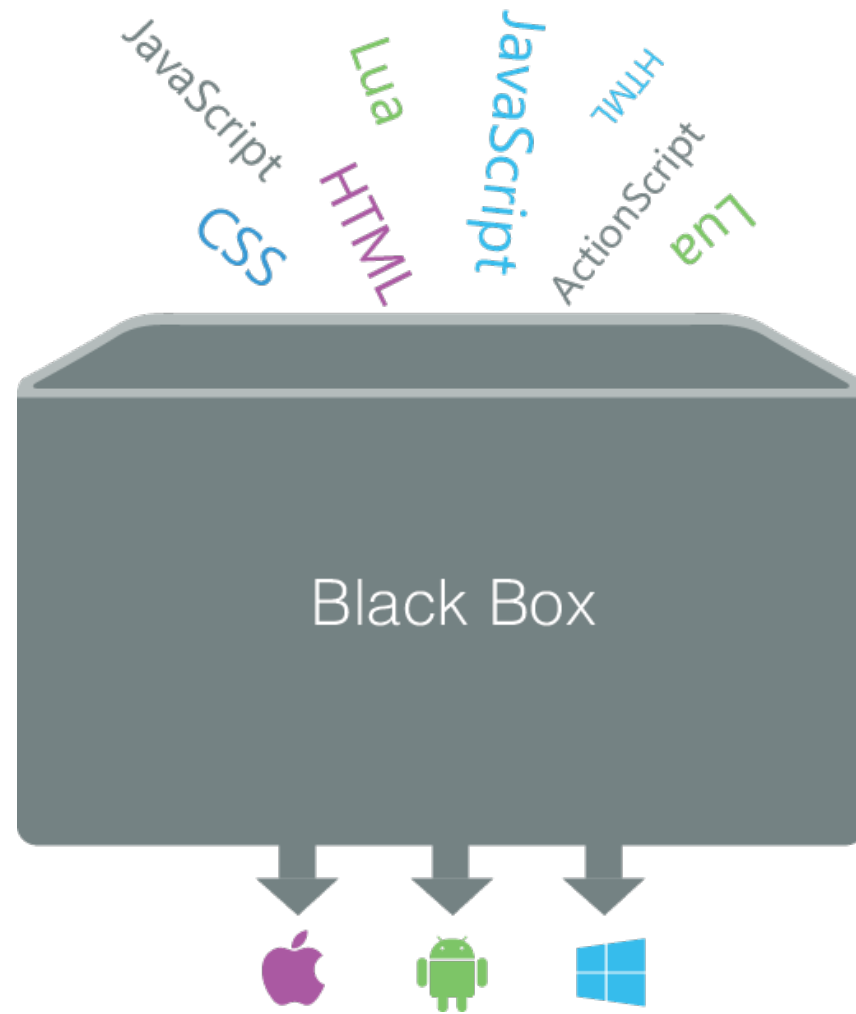
"Xamarin offers the best of all worlds. We deliver high performance, native apps that, until Xamarin, were only possible with Objective-C and Java. Sharing over 50,000 lines of code across platforms gives us more time to spend on great user experiences."

Matt Crocker

Director of Client Engineering, Rdio

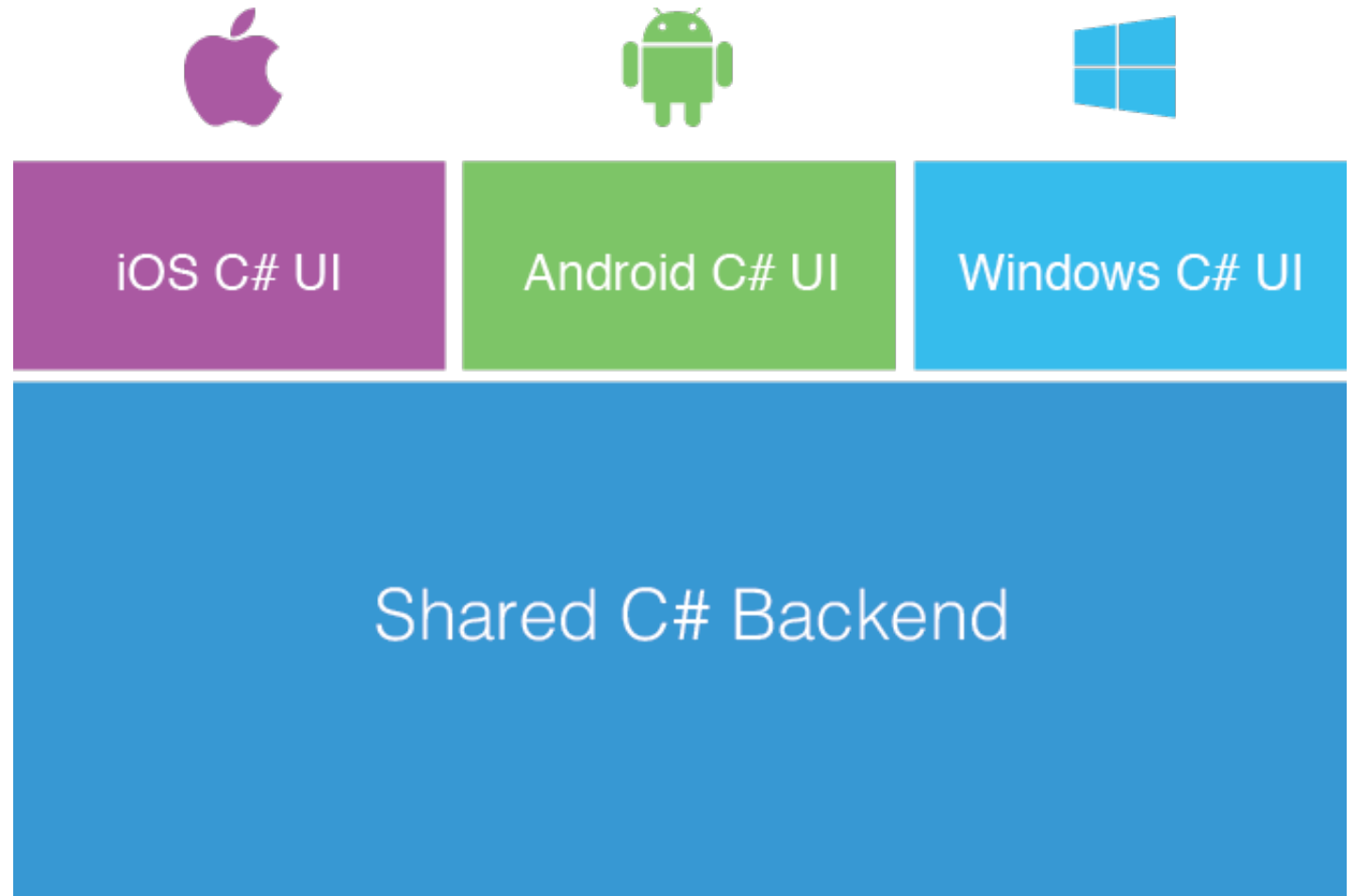
Write once
Run anywhere

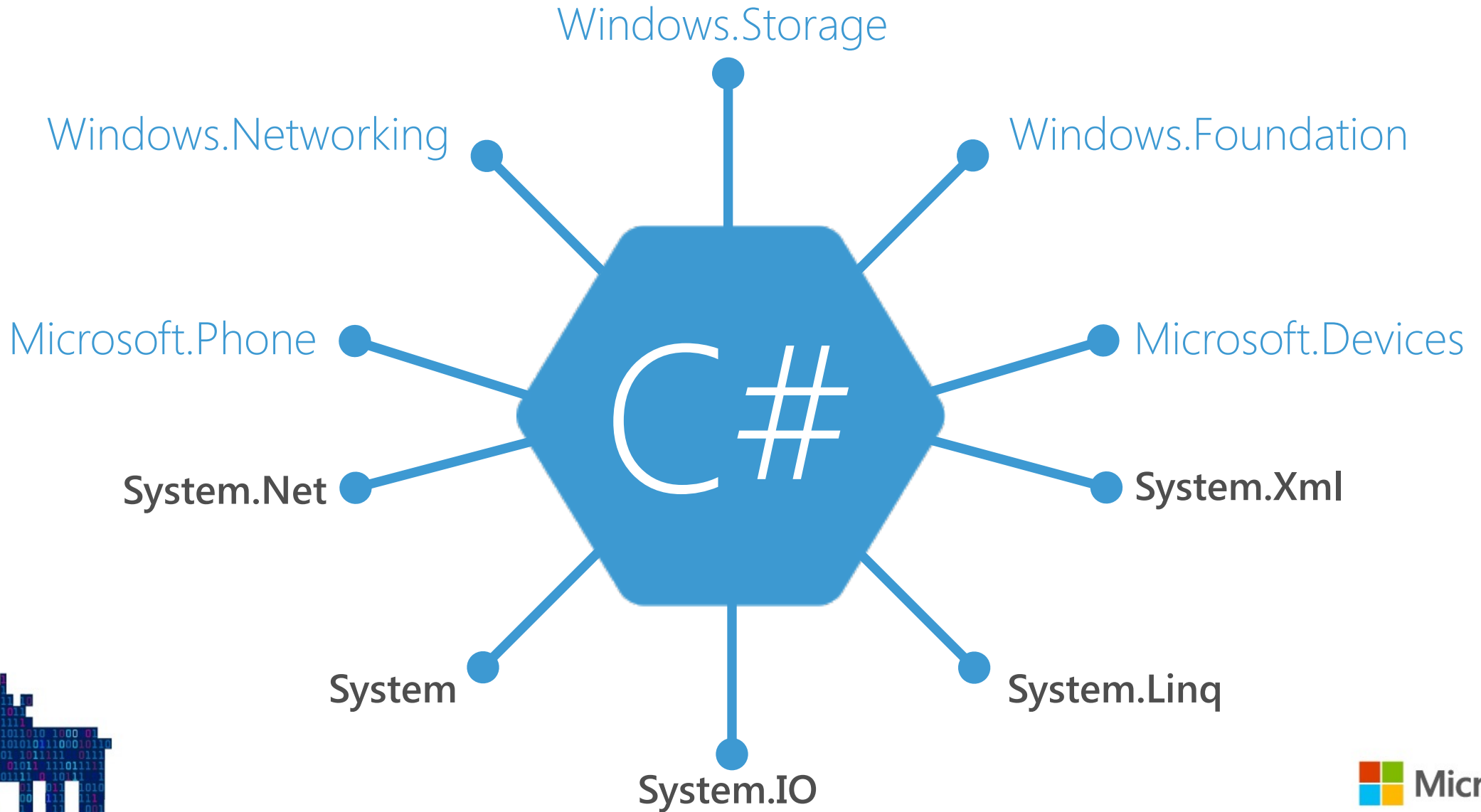
Lowest common
denominator.

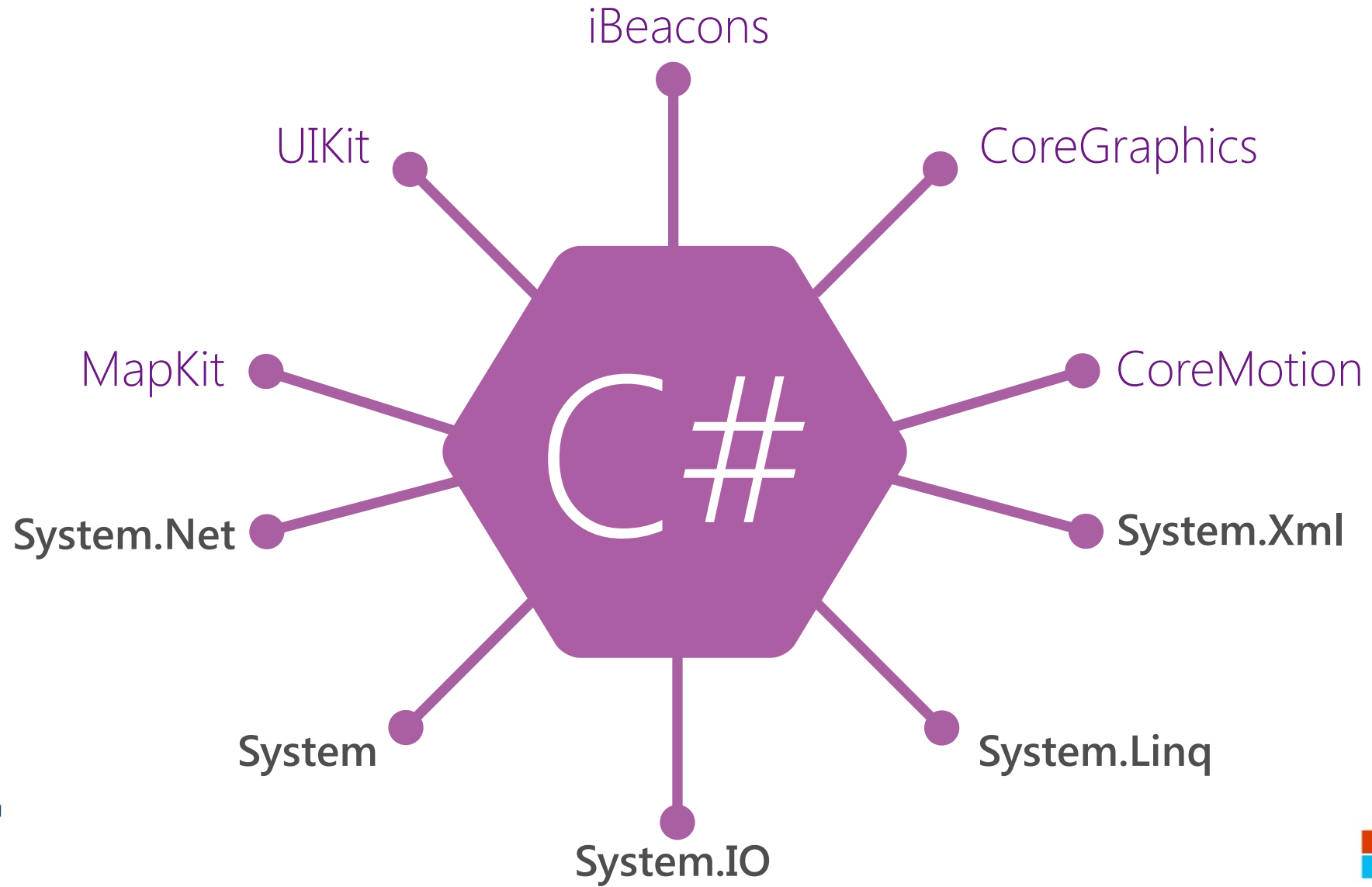


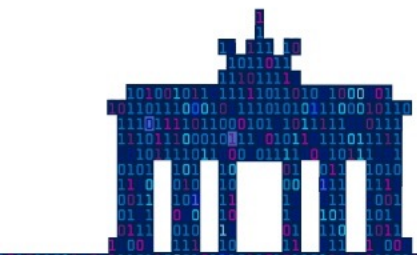
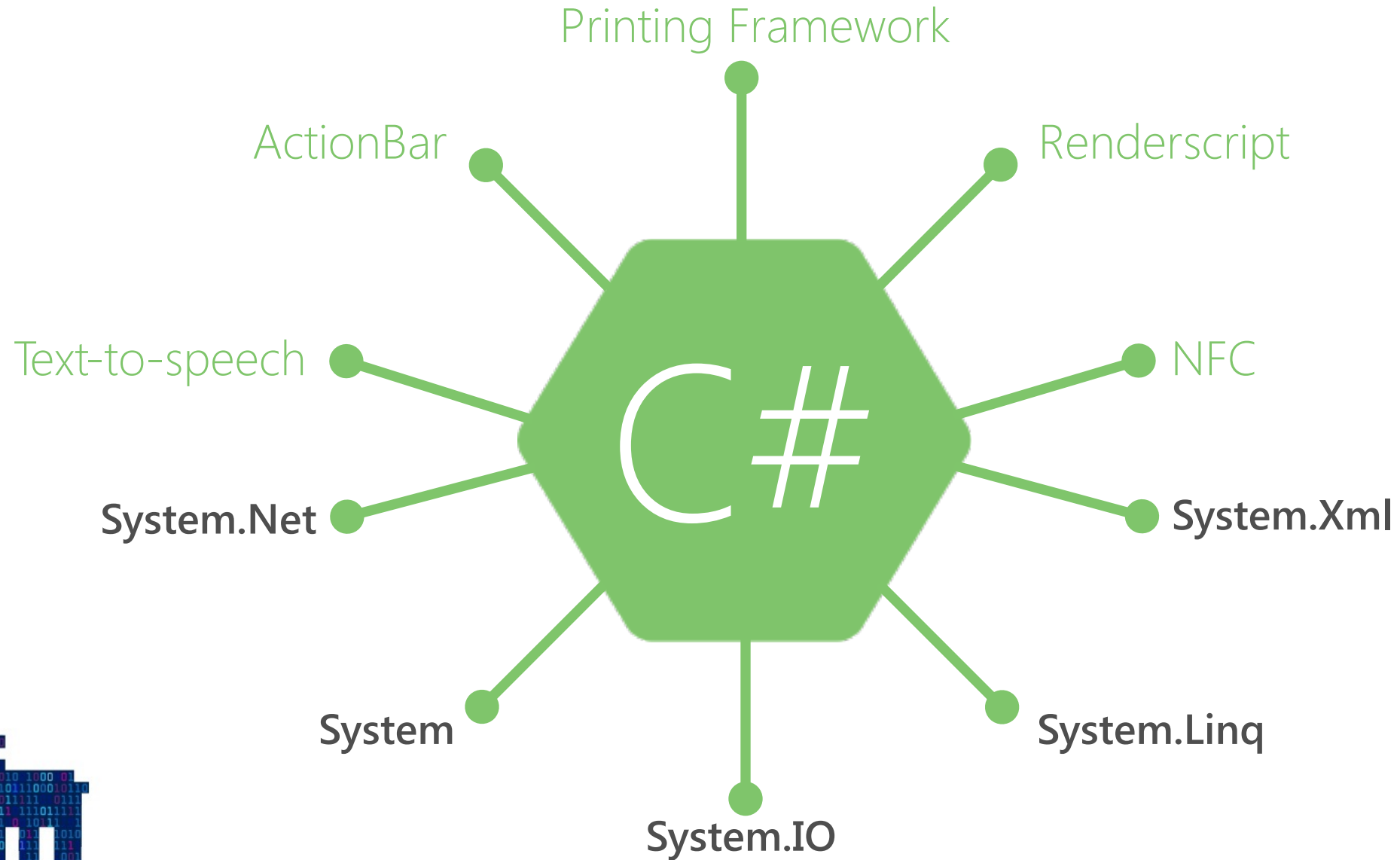
Xamarin's Approach

Native with
code sharing









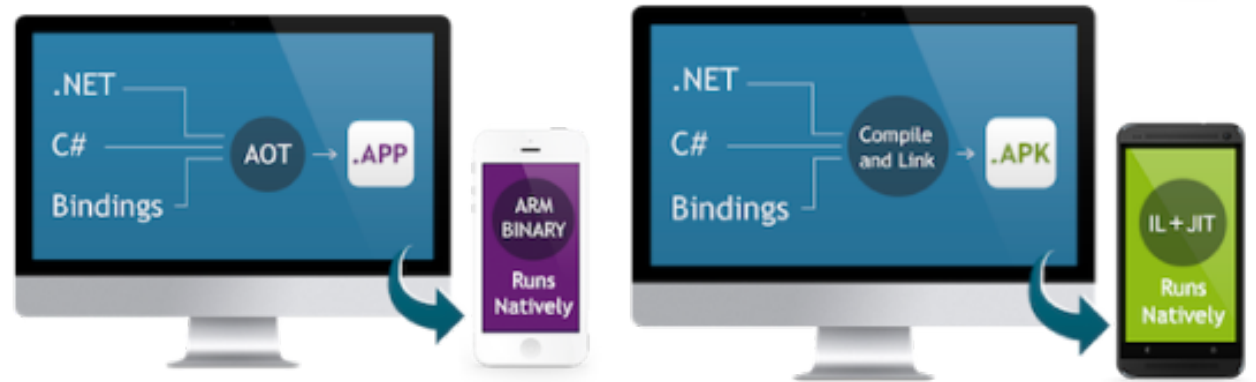
Anything you can do in Objective-C, Swift or Java can
be done in C# with Xamarin using Visual Studio



C# runs on 2.6 Billion Devices

How it works

- C# + .Net Runtime
- Native UI
- Native Performance





Build



Test



Monitor



Build



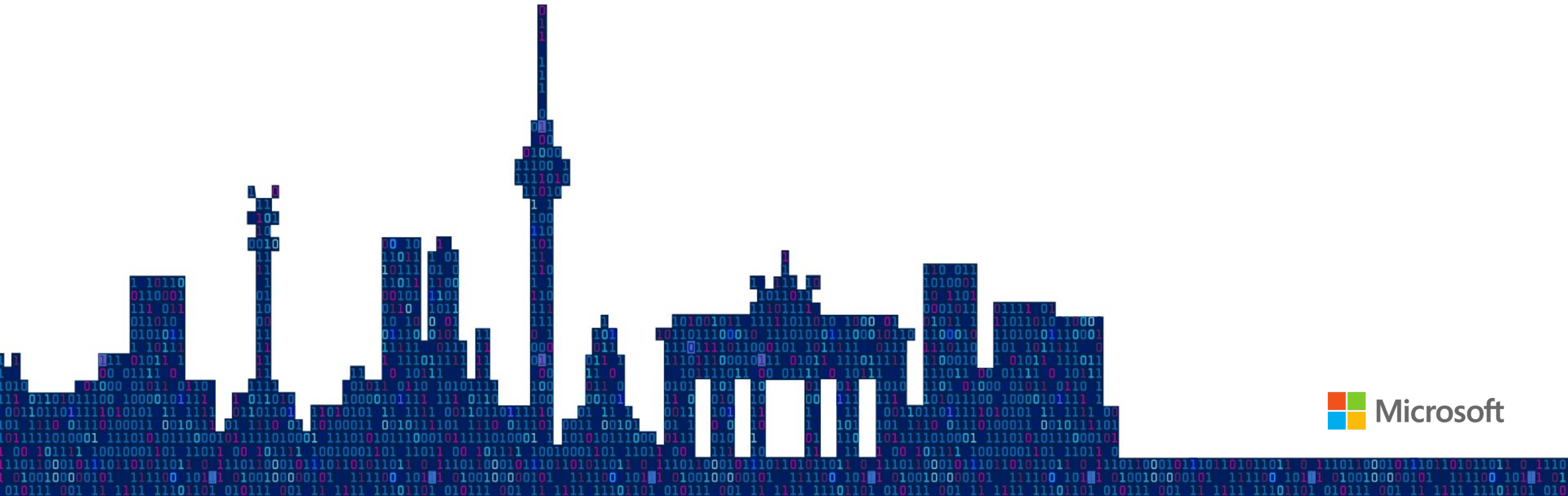
Test



Monitor

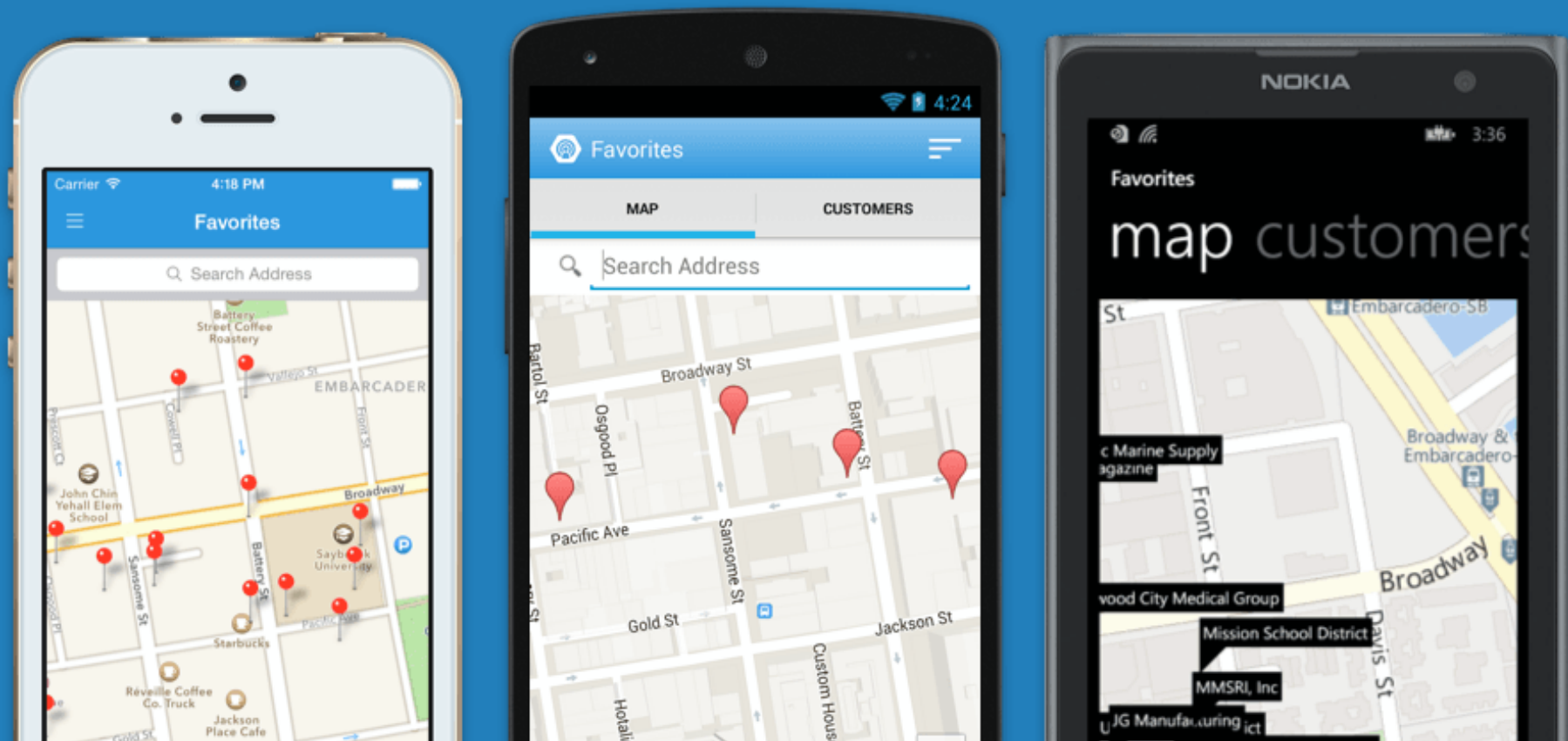
Technical Demo

C# iOS & Android App

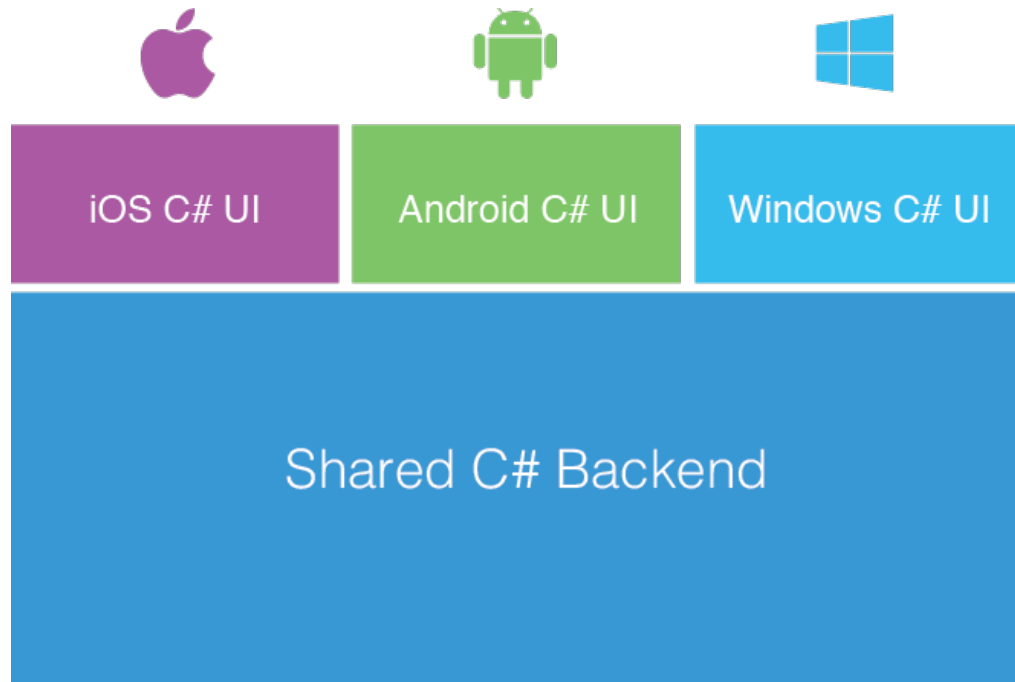


Meet Xamarin.Forms

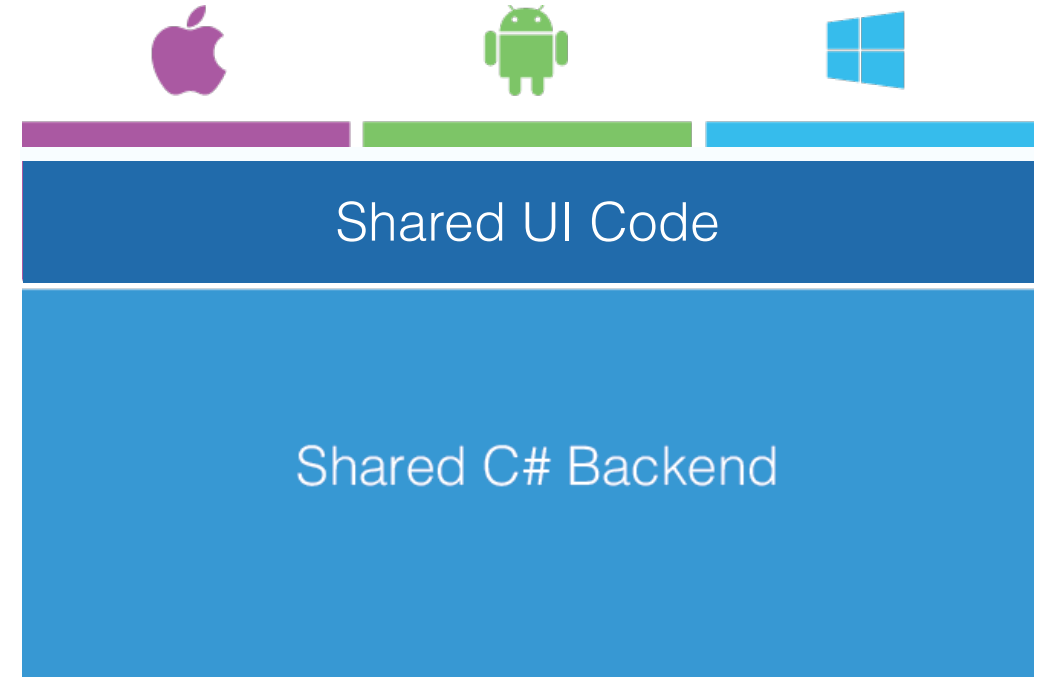
Build native UIs for iOS, Android and Windows Phone from a single, shared C# codebase.



Xamarin.Forms



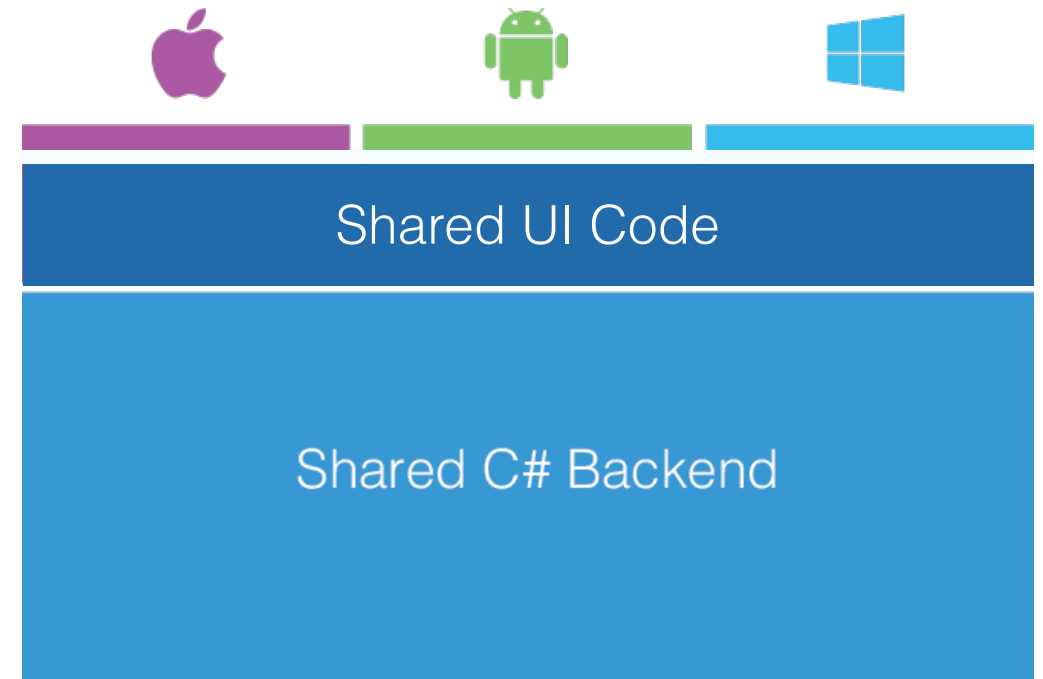
Traditional approach



99% code reuse with native controls

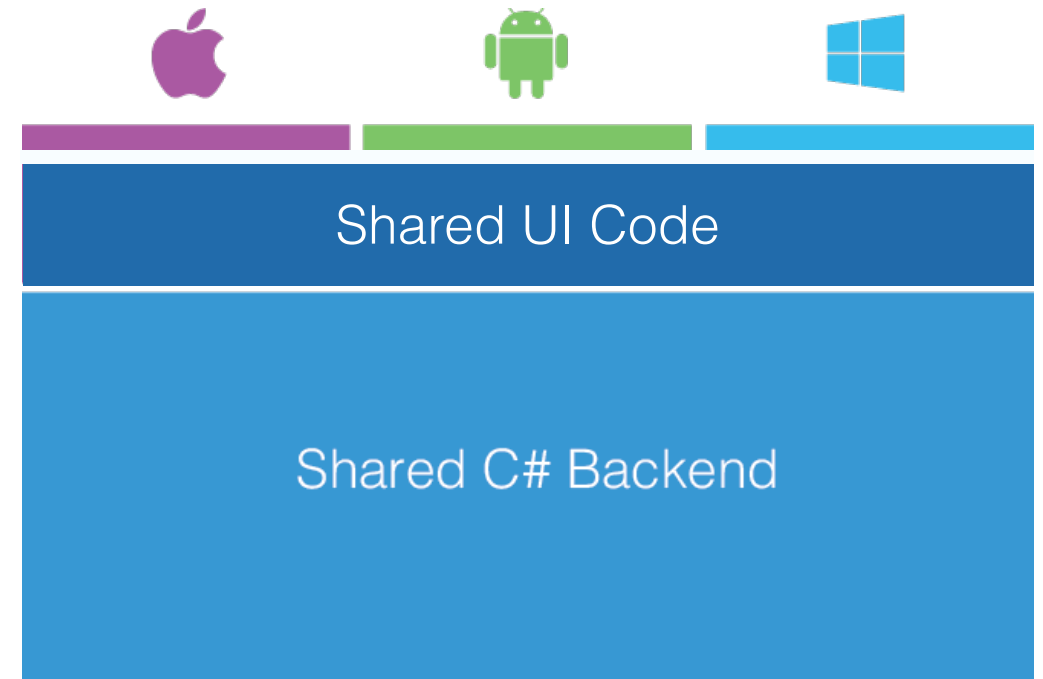
Xamarin Forms

- Quickly and easily build native user interface using shared code
- Xamarin.Forms elements map to native controls and behaviours
- Mix-and-match Xamarin.Forms with native APIs

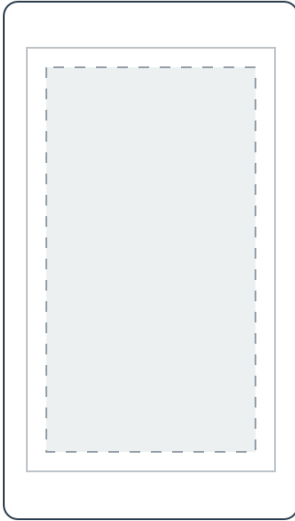


Xamarin Forms

- 40+ Pages, Layouts and Controls
- Build with C# or XAML
- Two-way Data Binding
- Navigation
- Animation API
- Dependency Service
- Messaging Center



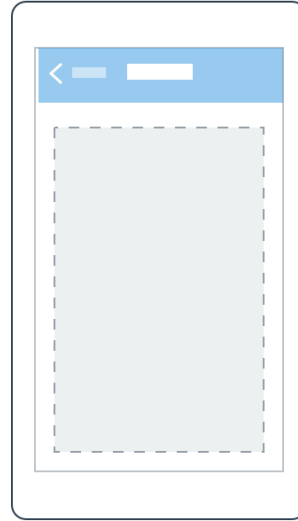
Pages



Content



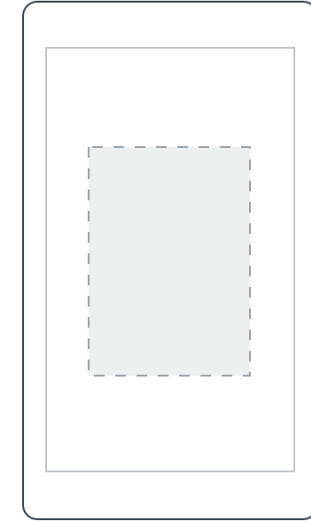
Master Detail



Navigation

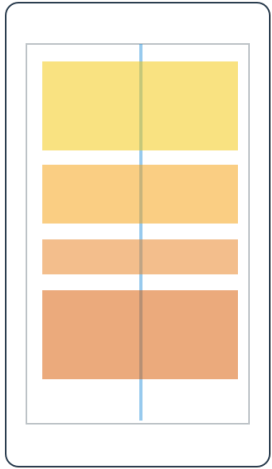


Tabbed

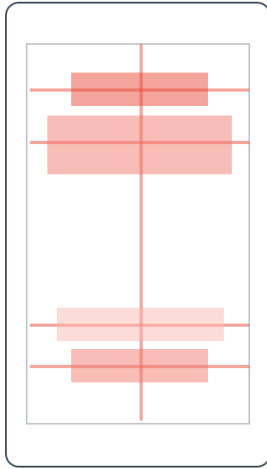


Carousel

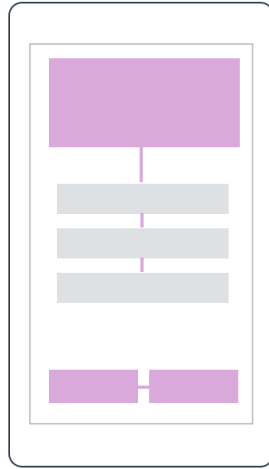
Layouts



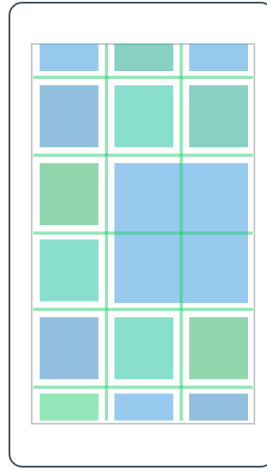
Stack



Absolute



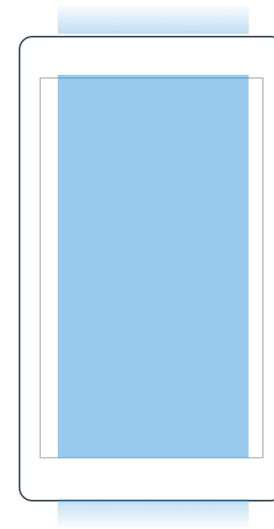
Relative



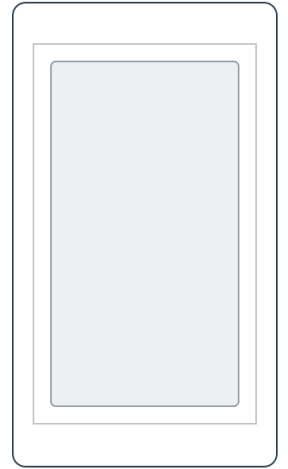
Grid



ContentView



ScrollView



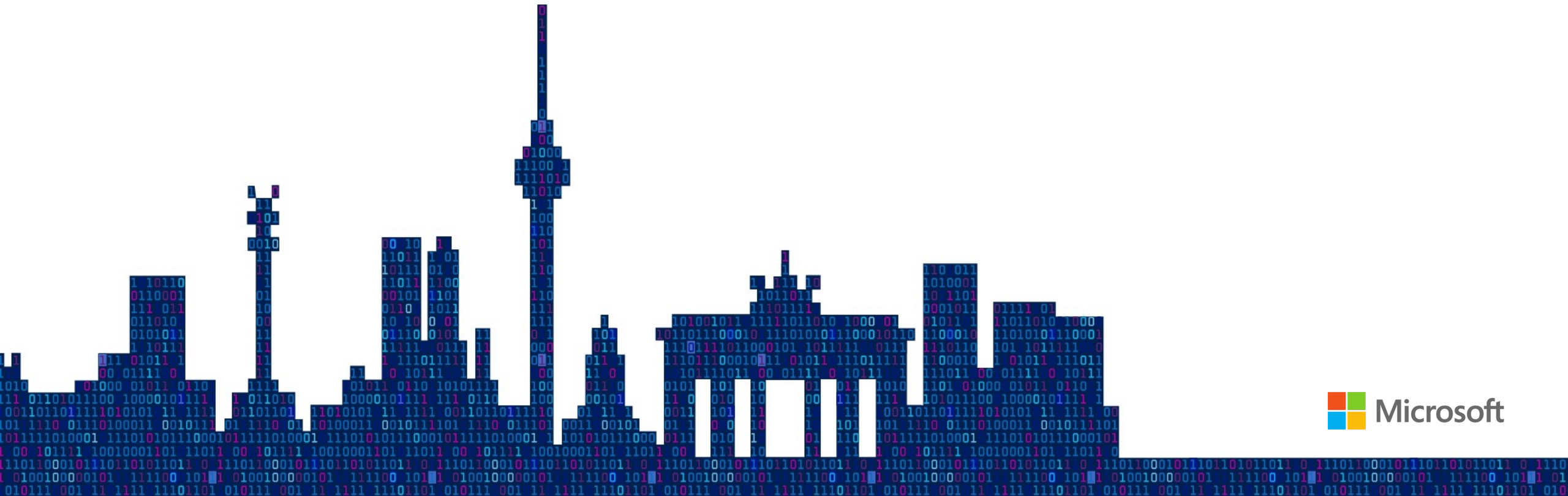
Frame

Controls

ActivityIndicator	BoxView	Button	DatePicker	Editor
Entry	Image	Label	ListView	Map
OpenGLView	Picker	ProgressBar	SearchBar	Slider
Stepper	TableView	TimePicker	WebView	EntryCell
ImageCell	SwitchCell	TextCell	ViewCell	

Technical Demo

Xamarin.Forms



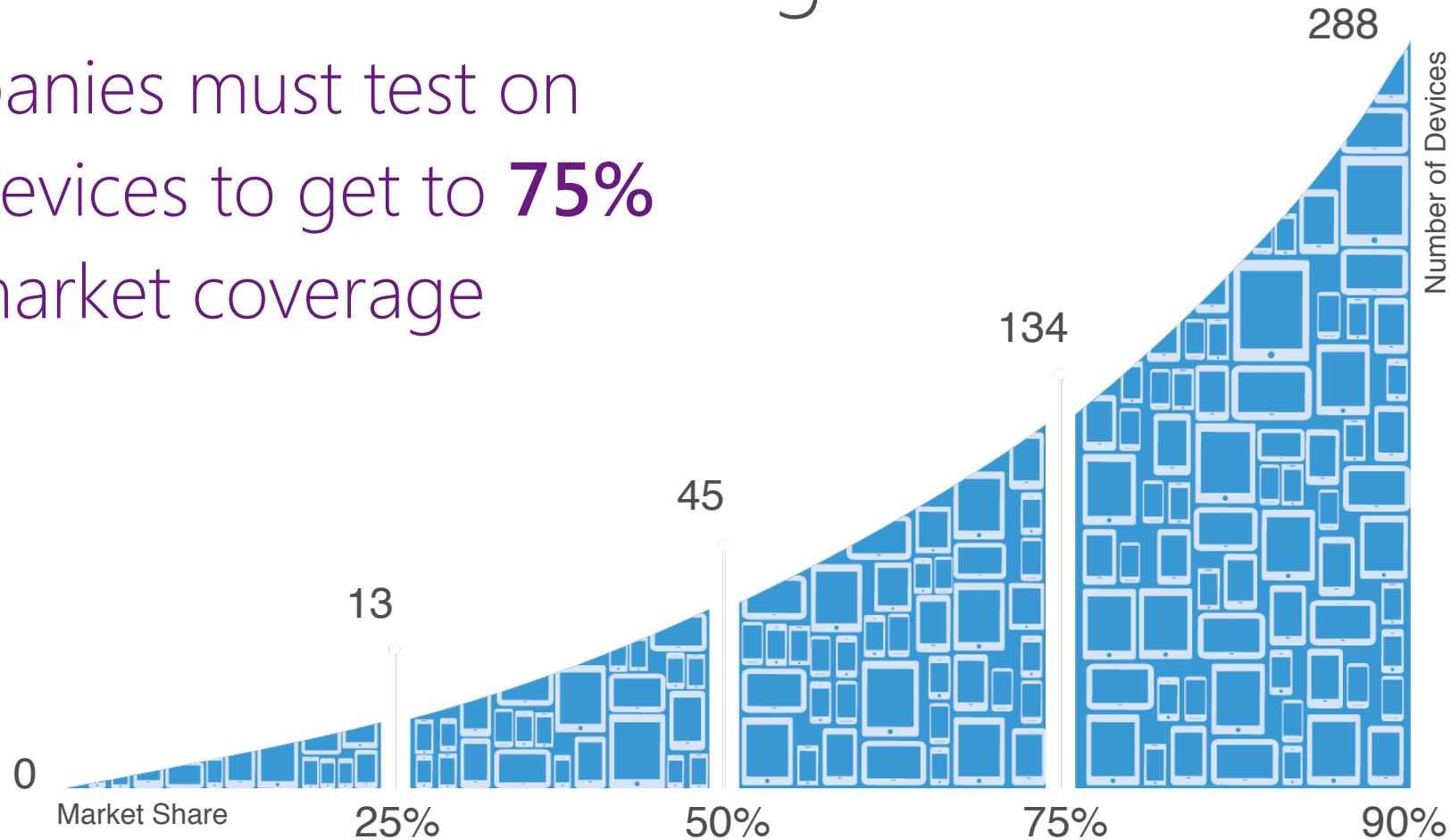


Xamarin Test Cloud

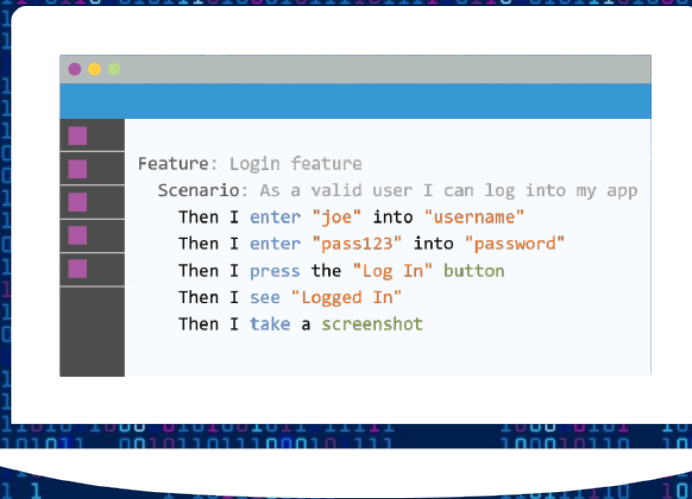
Automatically test your app on thousands of
real devices in the cloud

US Device Market Coverage Data

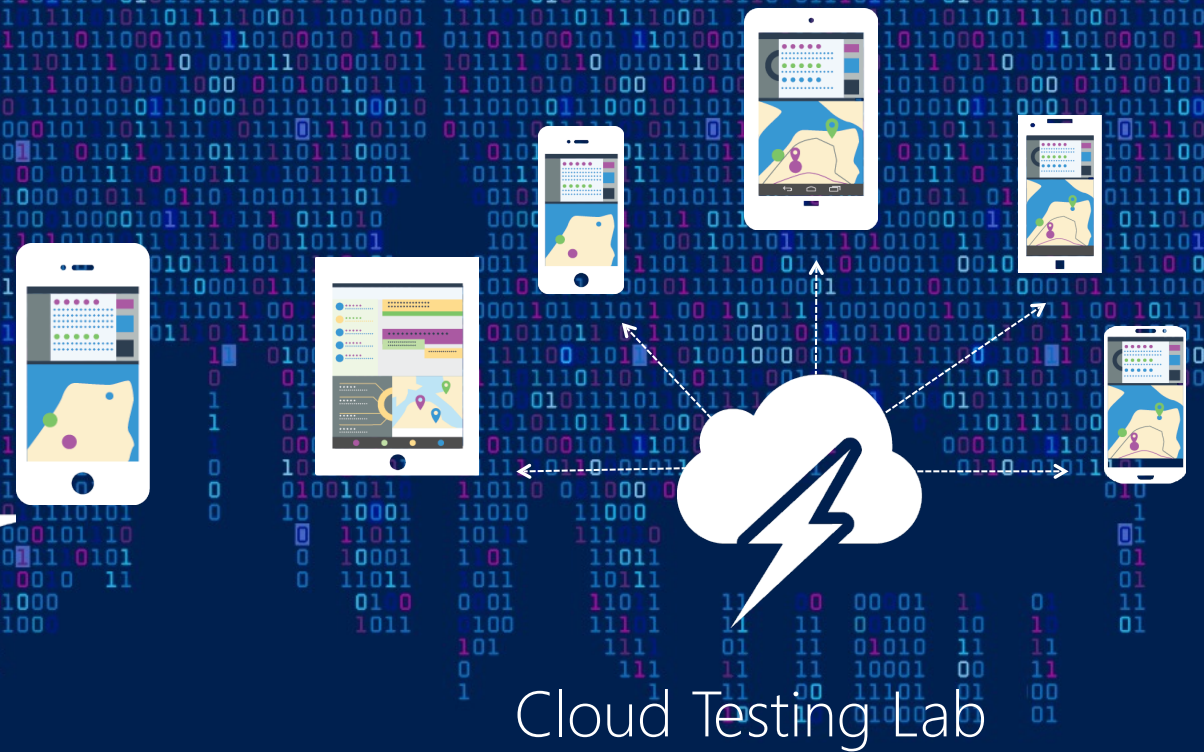
Companies must test on
134 devices to get to **75%**
U.S. market coverage



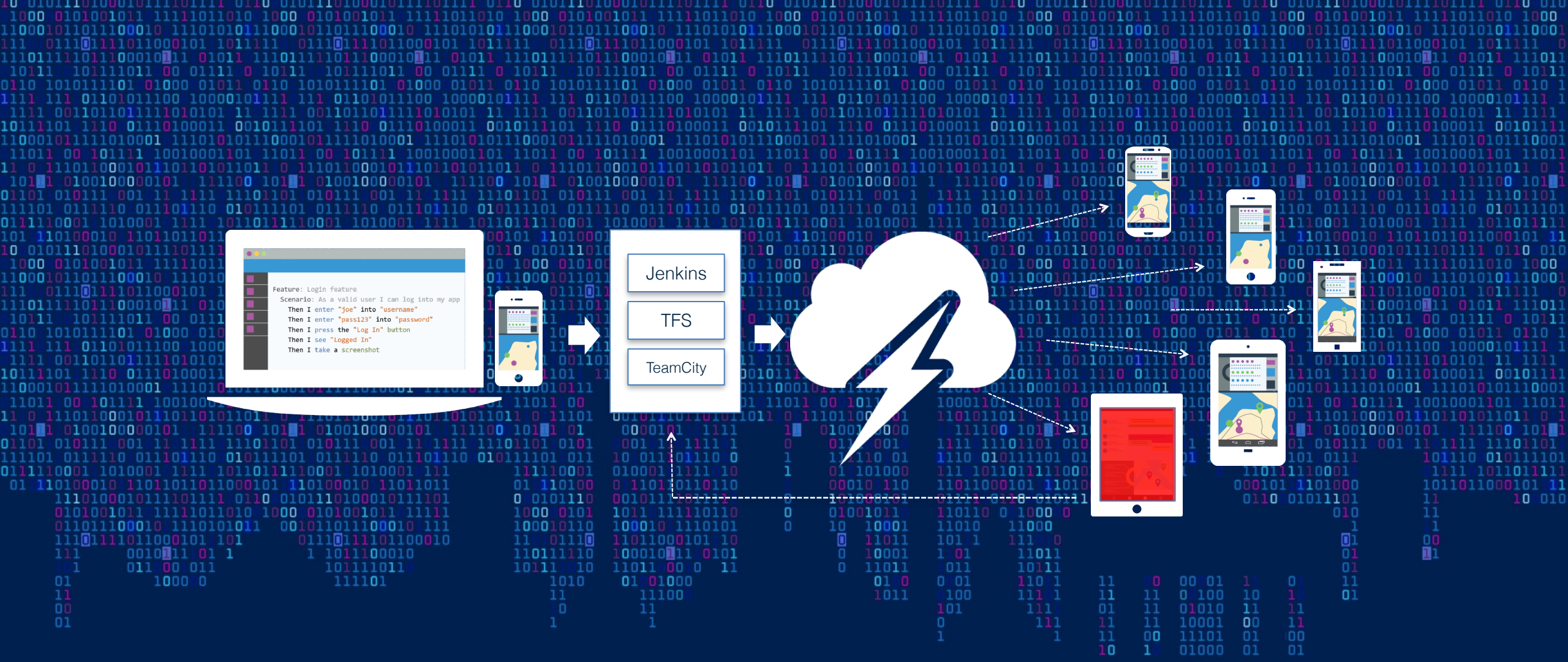
Test any native or hybrid app



Local UI Test Authoring



Cloud Testing Lab

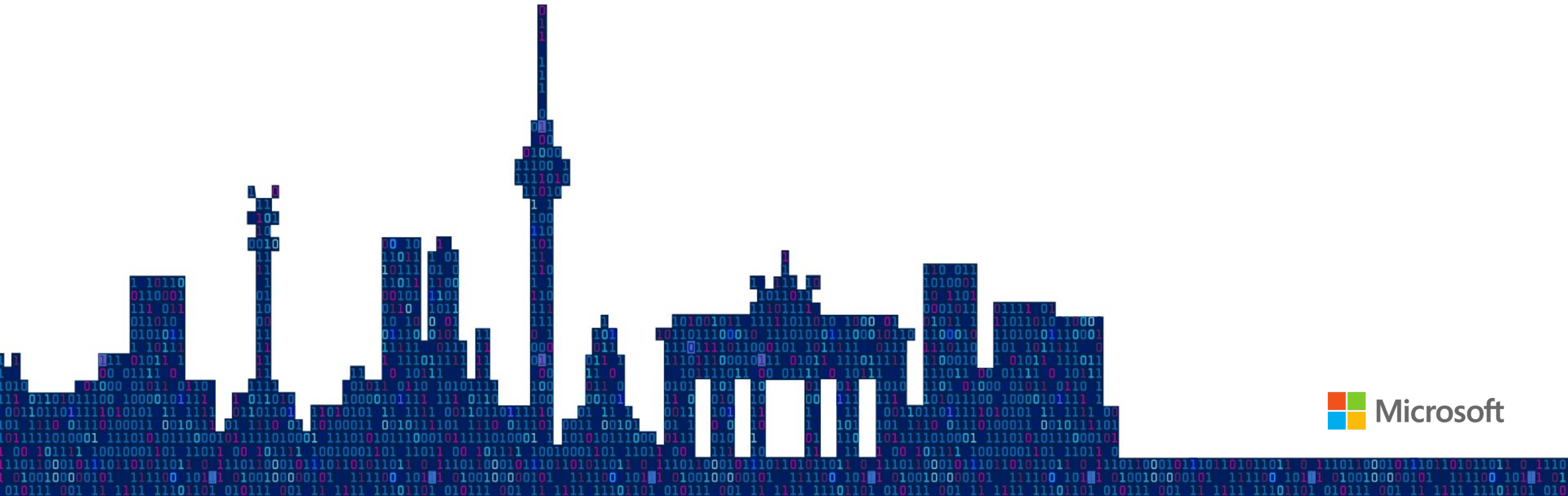


Incorporate Xamarin Test Cloud into your continuous integration environment to shorten the feedback cycle and prevent users from finding regressions



Technical Demo

Test Cloud



Technical Previews

Whats new in Xamarin

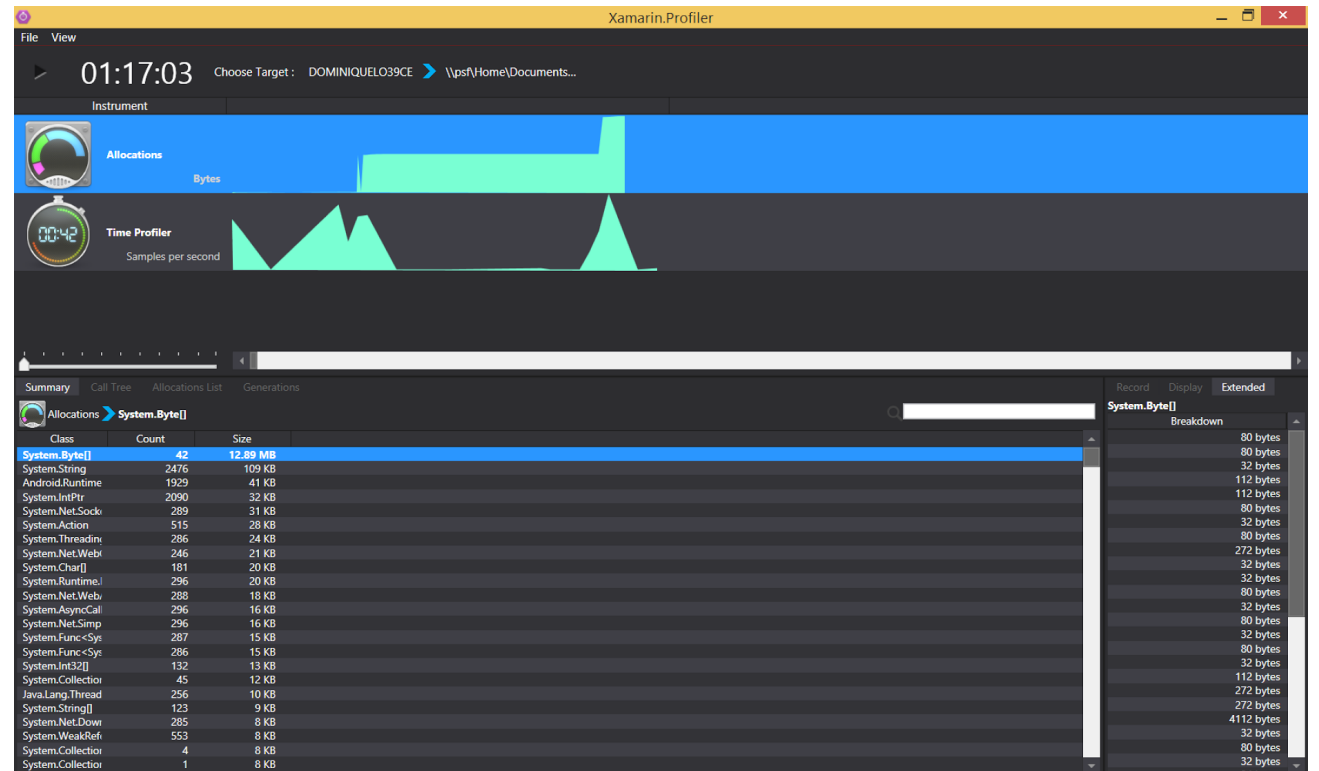
Performance & Optimisation

Xamarin Profiler

Analyse & Polish your C#
Mobile Apps.

iOS, Android &
Xamarin.Forms
Windows or Mac

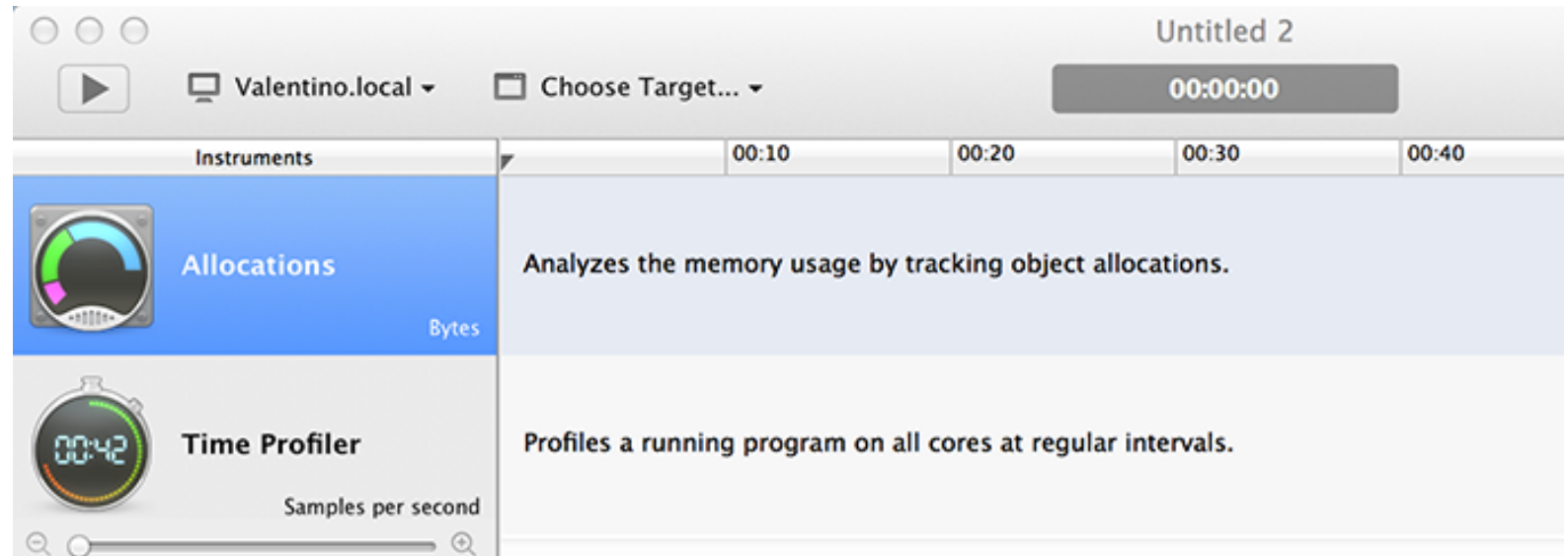
xamarin.com/profiler



Two Key Instruments

Allocations

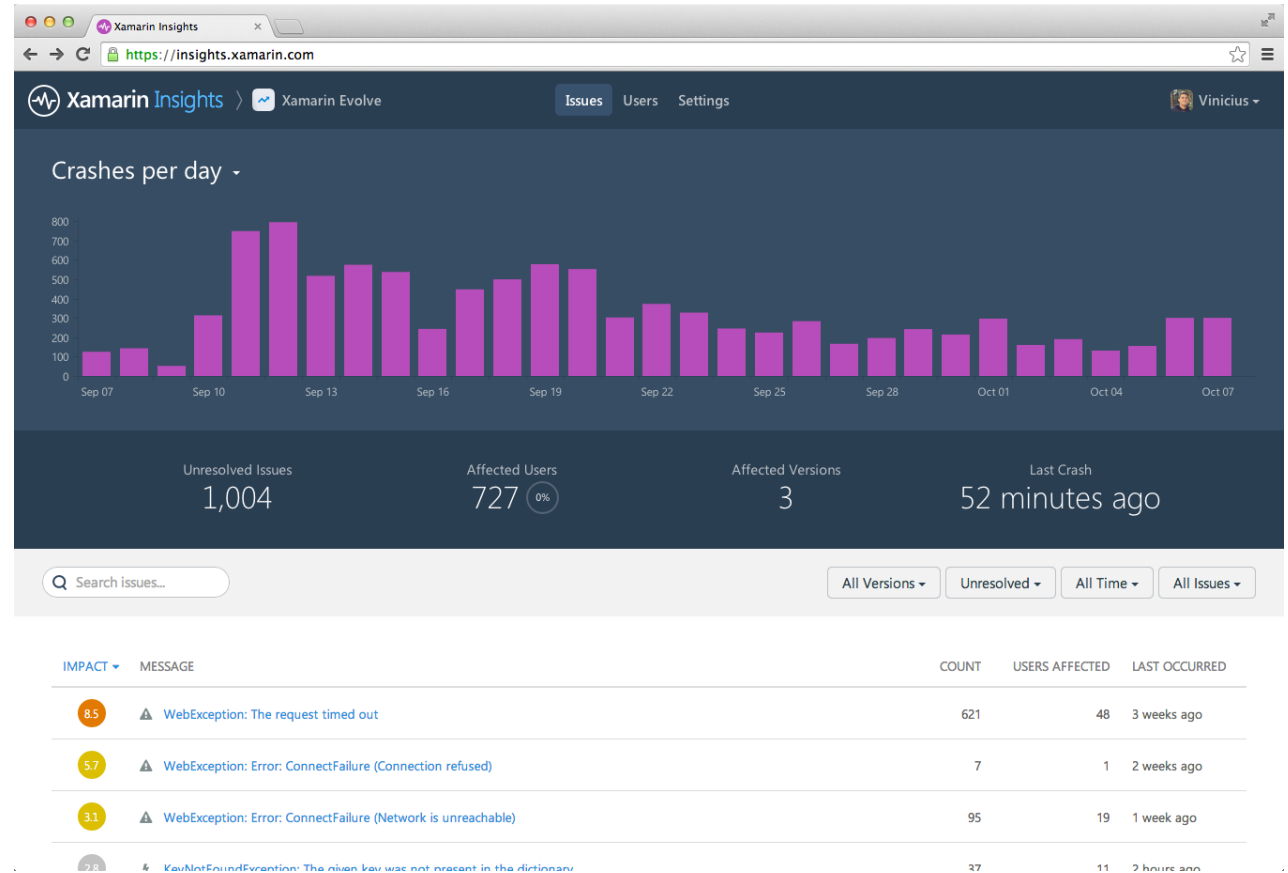
Time Profiler



Analytics & Crash Reporting

Xamarin Insights

- Real-Time Monitoring for your Apps
- IOS, Android, Mac & Windows

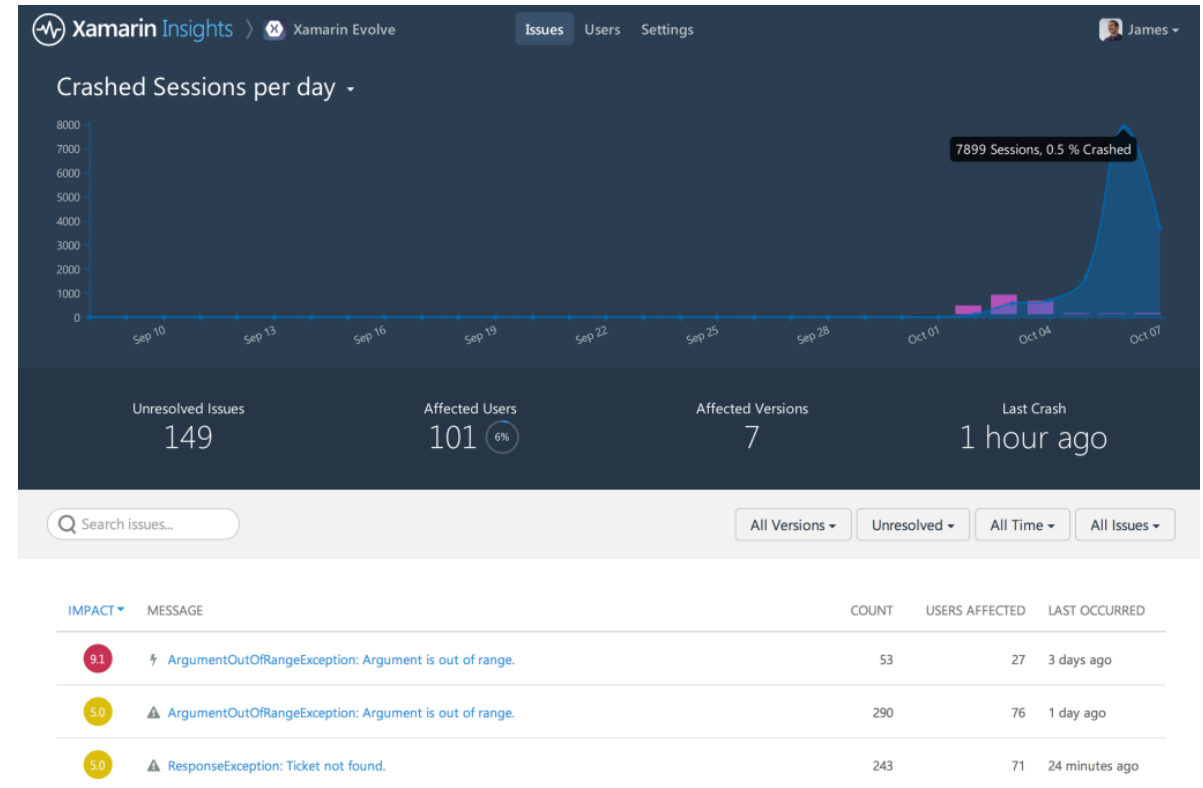


xamarin.com/Insights

Report

- Automatically report any uncaught managed or native exception
- Report your own caught exception with a simple API

xamarin.com/Insights



Track

- Track any event that occurs in your application.
- Even track performance of how long an operation takes.

xamarin.com/Insights



Carmen Sandiego

carmen.sandiego@xamarin.com

San Francisco, California

last seen 3 m

OVERVIEW

TRAITS

EVENTS

ISSUES

NOTIFY TH

○ Pressed pause

○ Pressed play

○ Page view

○ Pressed next

○ Page view

○ Page view

○ Open app

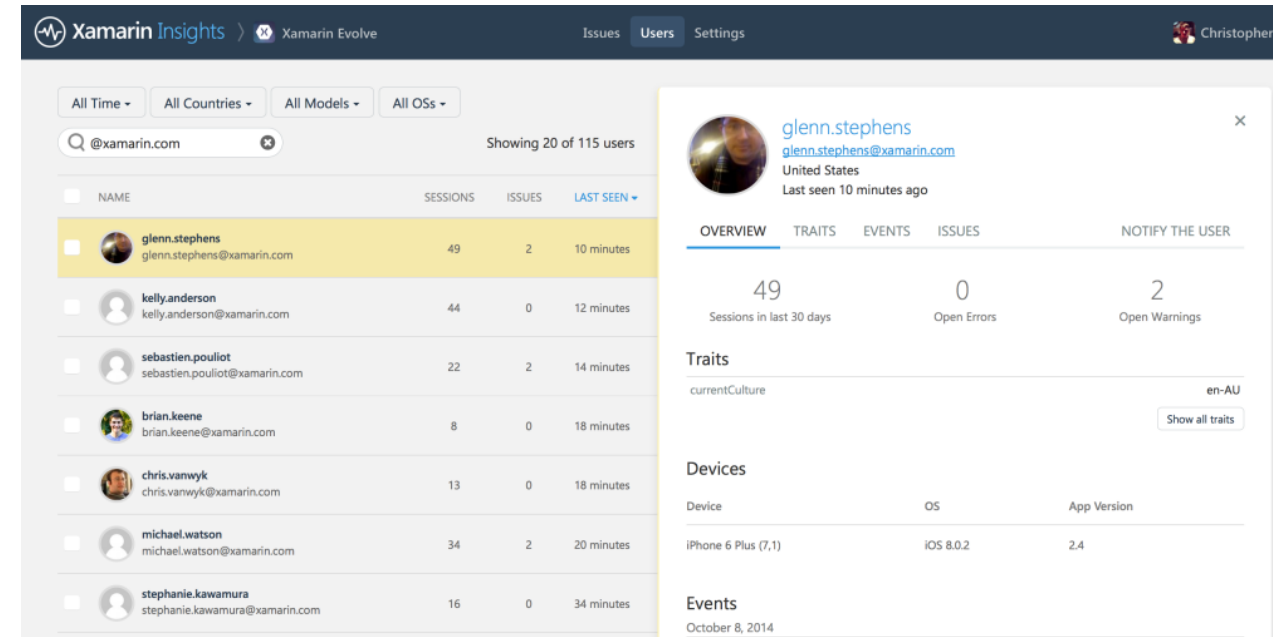
○ Close app

○ Page view

○ Page view

Identify

- Combine event tracking with user identification to resolve issue faster.



The screenshot displays the Xamarin Insights web application interface. The top navigation bar includes the Xamarin Insights logo, a breadcrumb for 'Xamarin Evolve', and tabs for 'Issues', 'Users', and 'Settings'. A user profile icon for 'Christopher' is in the top right.

The main content area features a search bar with '@xamarin.com' and filters for 'All Time', 'All Countries', 'All Models', and 'All OSs'. Below the search bar is a table of users:

NAME	SESSIONS	ISSUES	LAST SEEN
glenn.stephens glenn.stephens@xamarin.com	49	2	10 minutes
kelly.anderson kelly.anderson@xamarin.com	44	0	12 minutes
sebastien.pouliot sebastien.pouliot@xamarin.com	22	2	14 minutes
brian.keene brian.keene@xamarin.com	8	0	18 minutes
chris.vanwyk chris.vanwyk@xamarin.com	13	0	18 minutes
michael.watson michael.watson@xamarin.com	34	2	20 minutes
stephanie.kawamura stephanie.kawamura@xamarin.com	16	0	34 minutes

The right sidebar shows a detailed view for 'glenn.stephens', including their profile picture, name, email, location (United States), and last seen time (10 minutes ago). Below this are tabs for 'OVERVIEW', 'TRAITS', 'EVENTS', and 'ISSUES'. The 'OVERVIEW' tab displays summary statistics: 49 sessions in the last 30 days, 0 open errors, and 2 open warnings. The 'TRAITS' section shows 'currentCulture' as 'en-AU'. The 'DEVICES' section lists a device as 'iPhone 6 Plus (7,1)' with OS 'iOS 8.0.2' and App Version '2.4'. The 'EVENTS' section shows a date of 'October 8, 2014'.

xamarin.com/Insights

Identify

Simple integrations into popular services for mission critical notifications



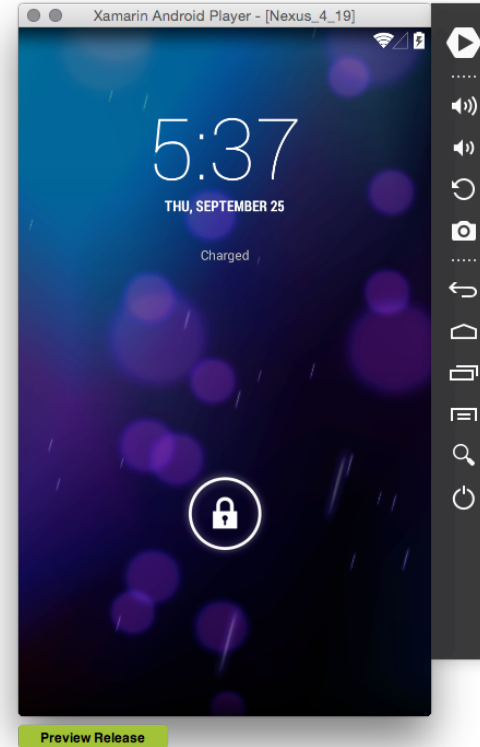
xamarin.com/Insights



Xamarin Android Player

Android Player

- x86 Virtual Machine
- Hardware Accelerated
- Windows & Mac



xamarin.com/android-player

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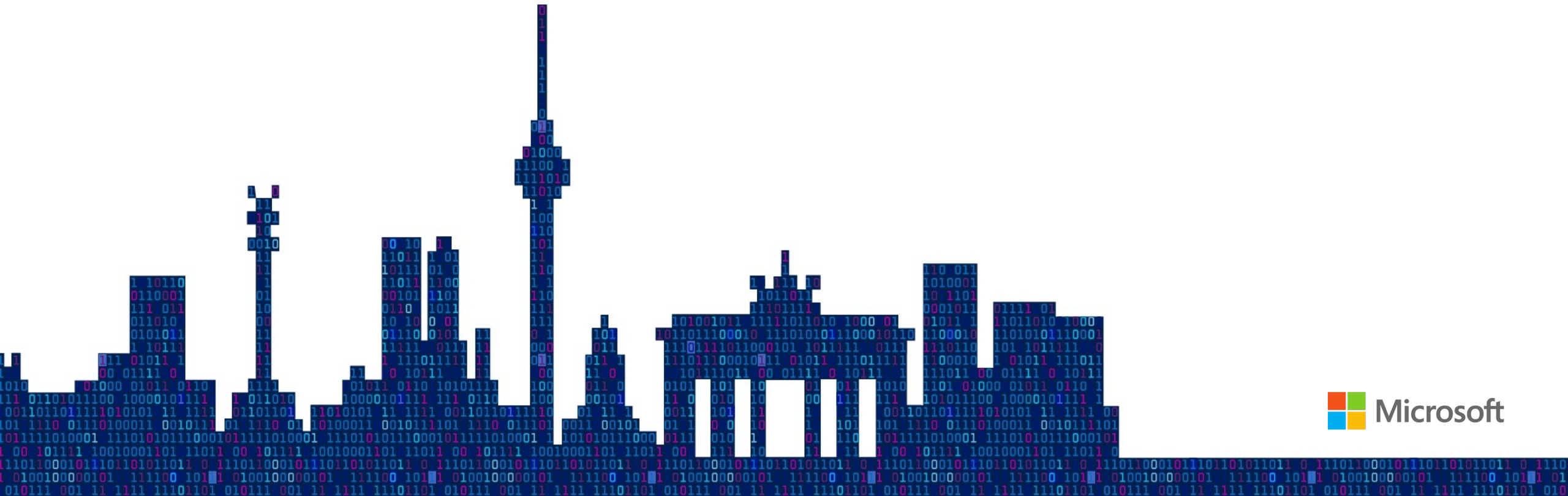
Download now



Contact me

Email: mike@xamarin.com

Twitter: micjames6



Many Thanks