

# Xamarin University Presents: Ship better apps with Visual Studio App Center

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Principal Program Manager  
Xamarin University



# Mark Smith

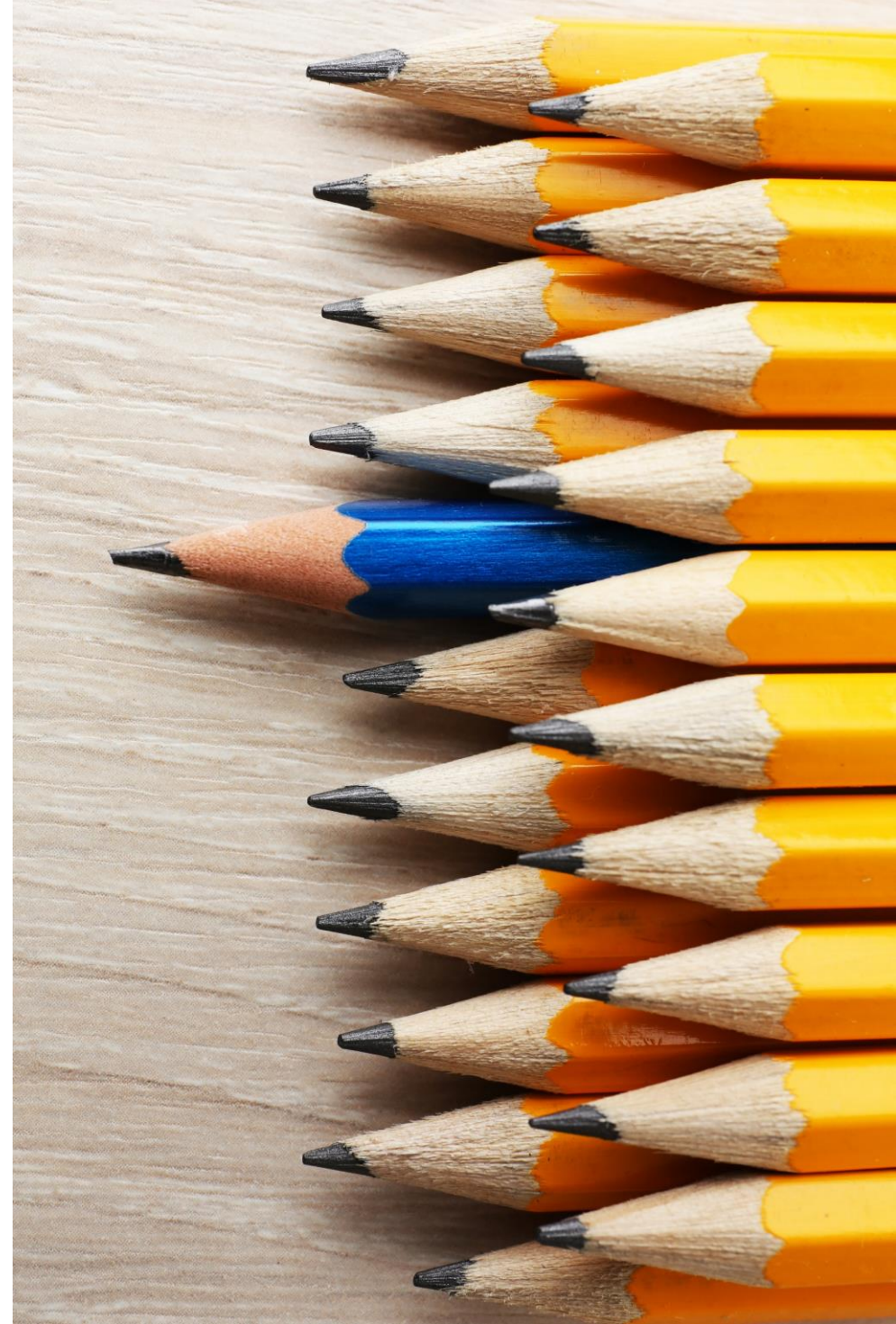
Principal Program Manager  
Xamarin University

@marksm  
[github.com/markjulmar](https://github.com/markjulmar)



# Agenda

- Common app development challenges
- Visual Studio App Center overview
- Deep dive: Visual Studio App Center services [\[demo\]](#)
- Resources
- Q & A



# Have Questions?

Ask your questions in the discussion box at any time

Our team of experts is here to help!

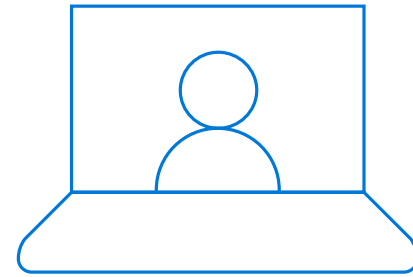




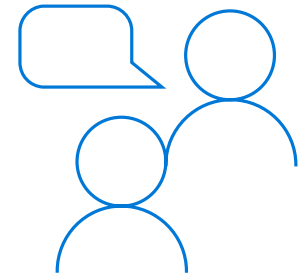
**Xamarin** University



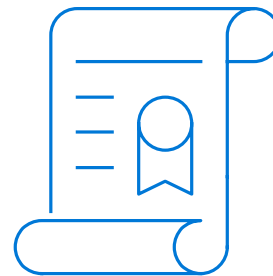
[university.xamarin.com](https://university.xamarin.com)



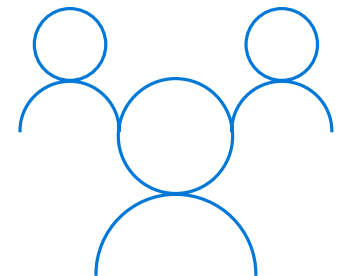
Live, expert-led  
online classes



1:1 Office Hours



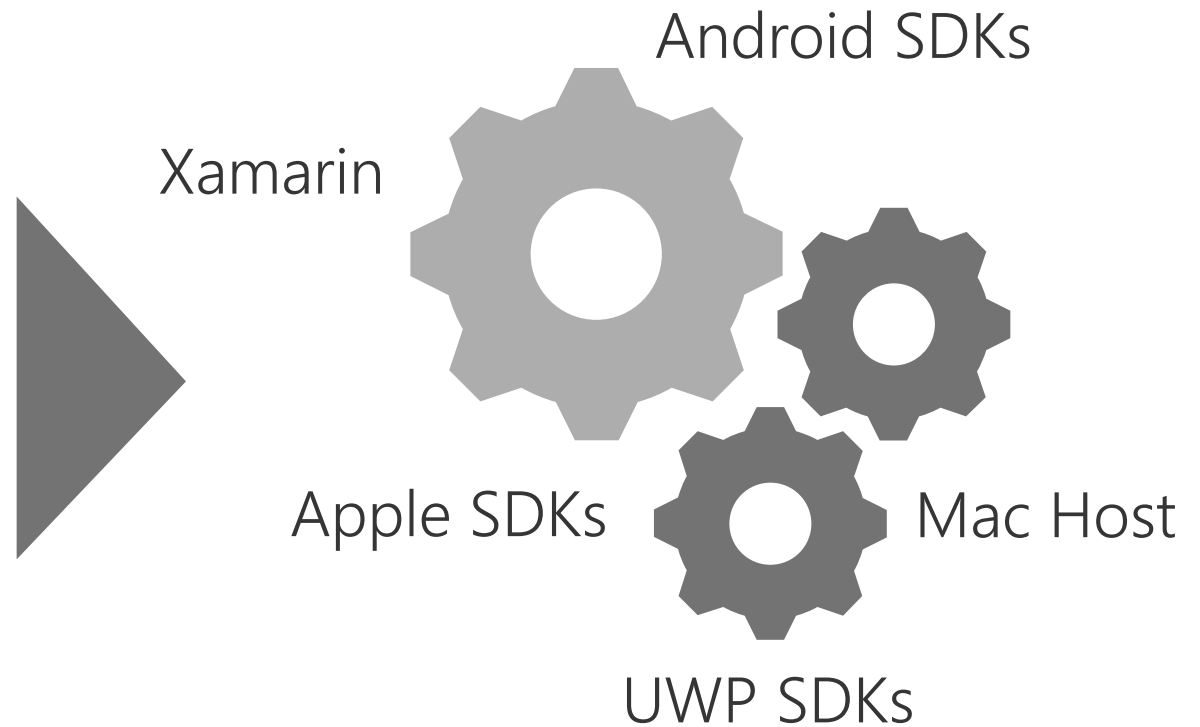
Get Certified



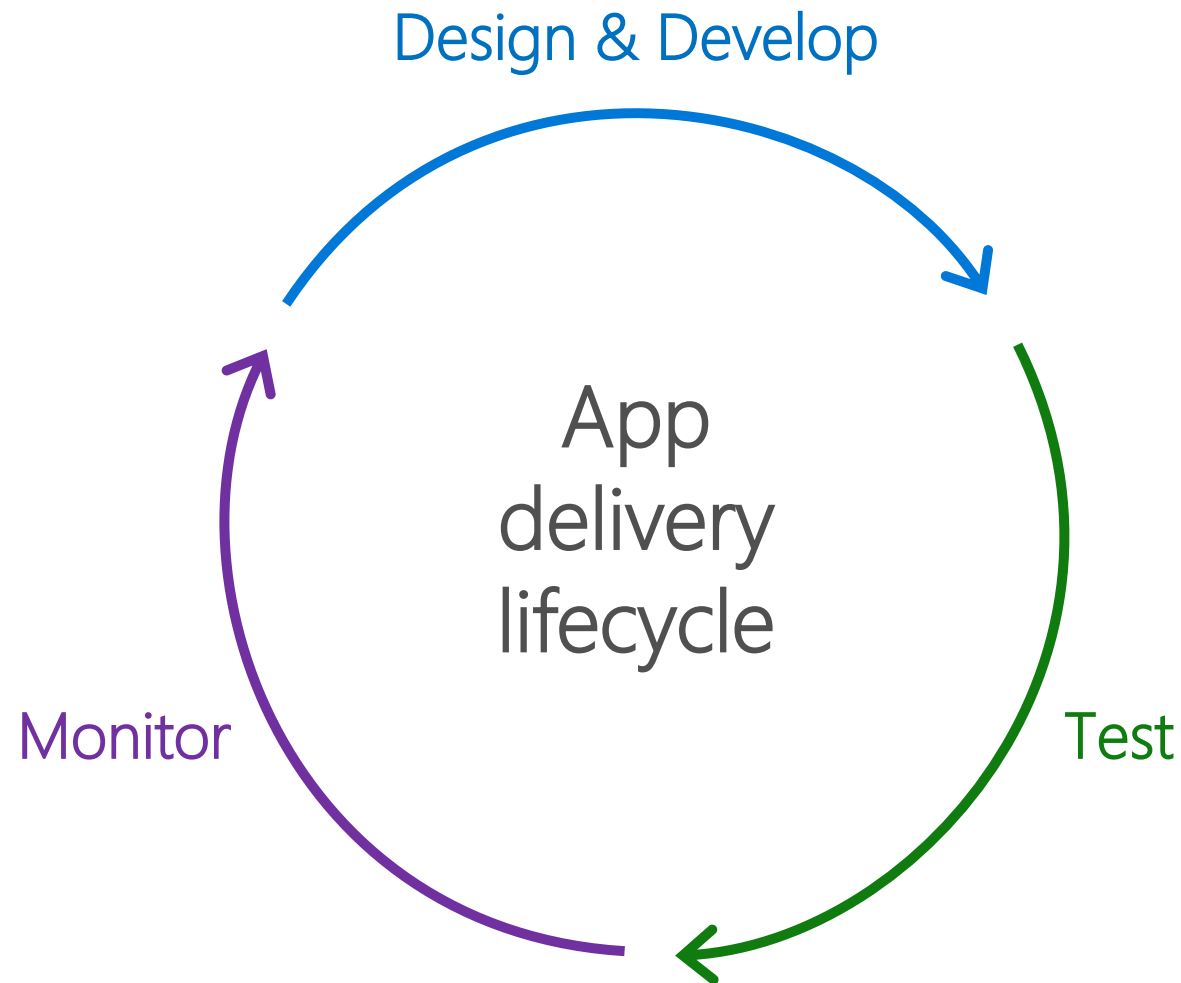
DevConnect

# App development challenges

# Apps + tool chain

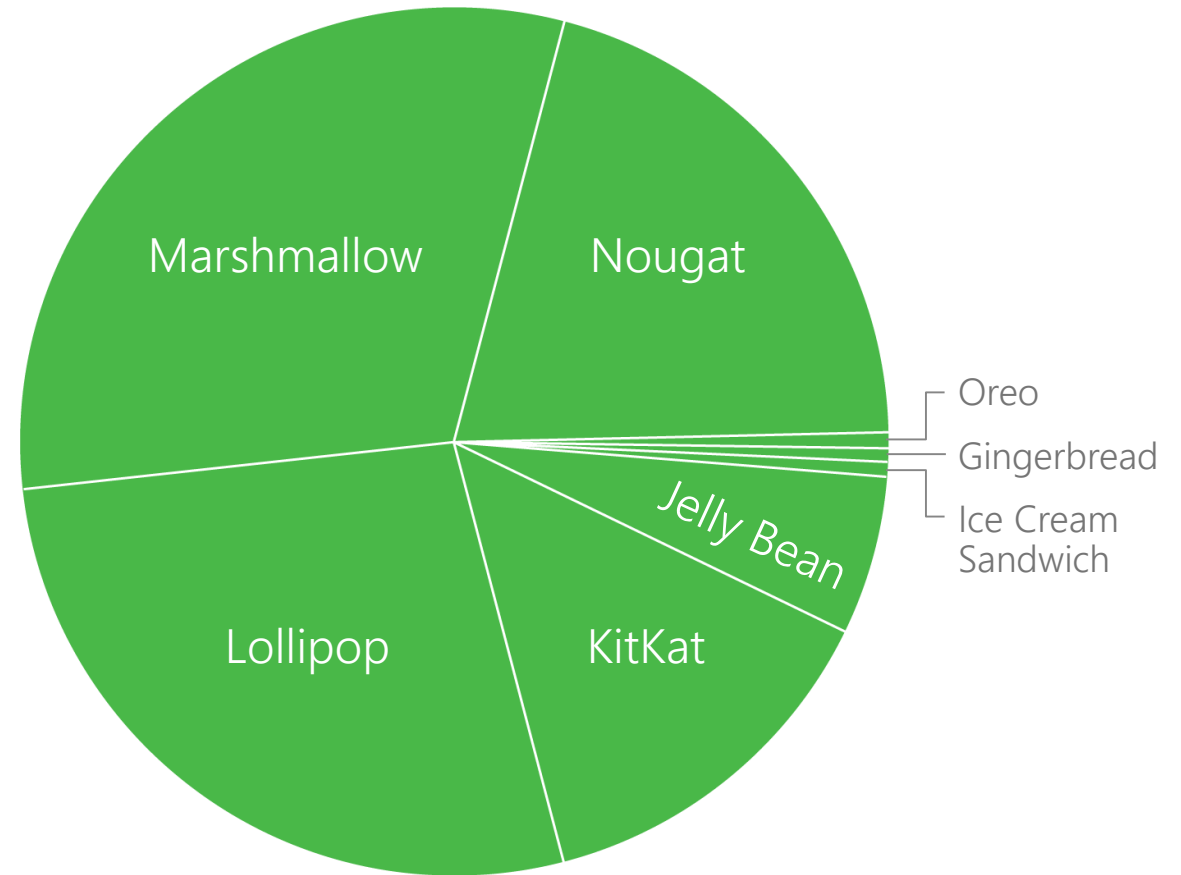


# Rapid app innovation and release cadence



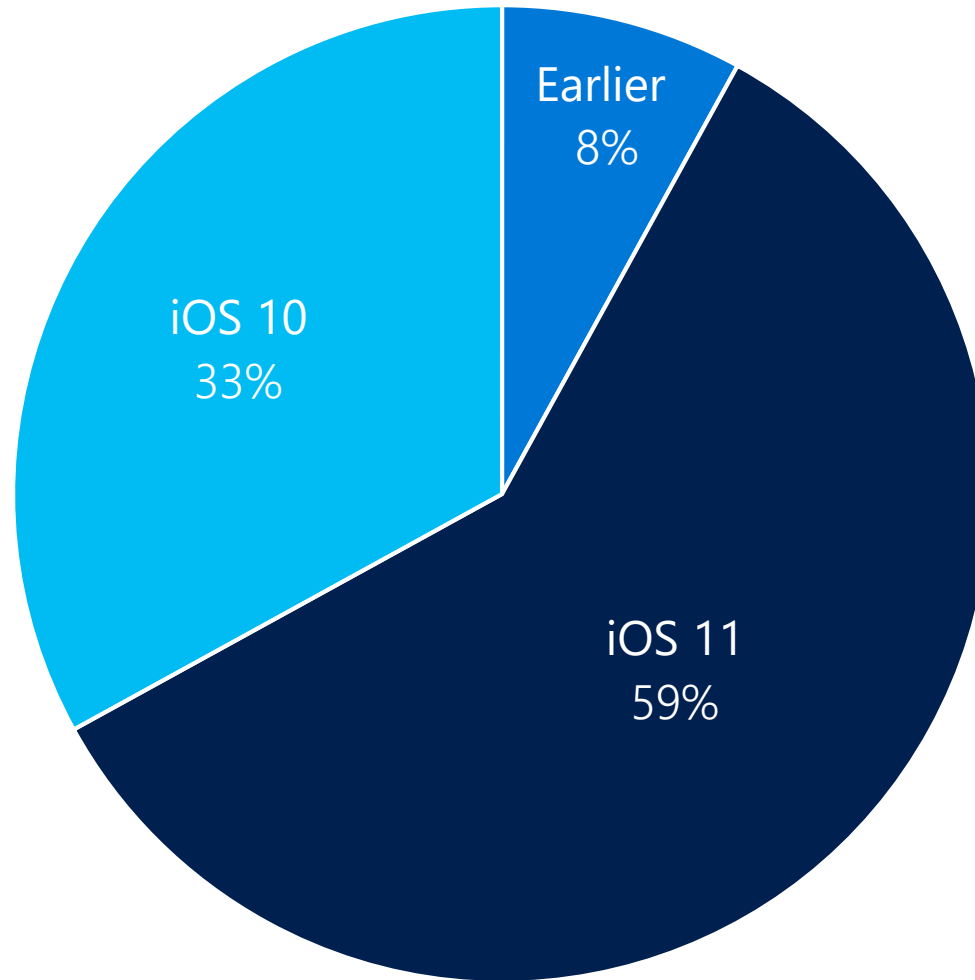
# Testing on different OS versions

Version	Codename	API	Distribution
2.3.3–2.3.7	Gingerbread	10	0.5%
4.0.3–4.0.4	Ice Cream Sandwich	15	0.5%
4.1x	Jelly Bean	16	2.2%
4.2x		17	3.1%
4.3		18	0.9%
4.4	KitKat	19	13.8%
5.0	Lollipop	21	6.4%
5.1		22	20.8%
6.0	Marshmallow	23	30.9%
7.0	Nougat	24	17.6%
7.1		25	3.0%
8.0	Oreo	26	0.3%



## 59% of devices are using iOS 11

As measured by the App Store on December 4, 2017





Devices come in all shapes and sizes now!

# Introducing Visual Studio App Center



HockeyApp

Distribution • Crashes • Analytics



Xamarin Test Cloud

Device Tests



Xamarin Insights

Crashes • Analytics



Visual Studio App Center



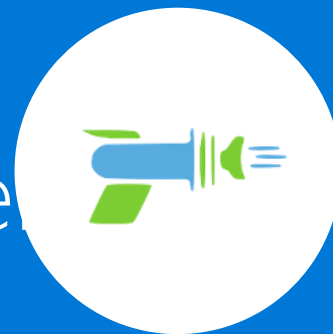
Azure Mobile Engagement

Analytics • Push



Azure App Service

Tables • Auth • Push



CodePush

Distribution

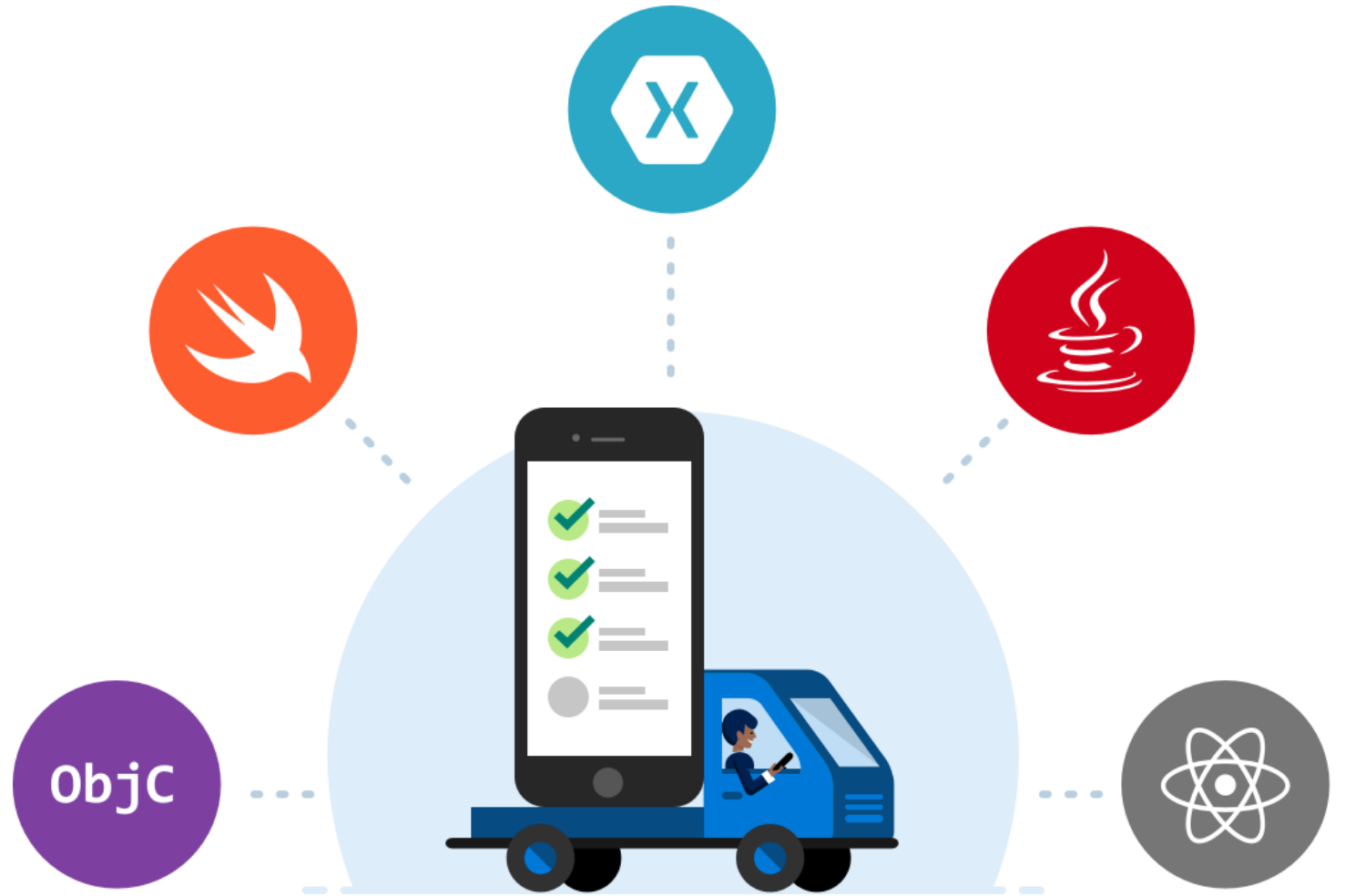
# App Center = something for everyone

## The Platforms you need

- ✓ Android
- ✓ iOS
- ✓ UWP
- ✓ macOS (Preview)

## The Frameworks you love

- ✓ Xamarin
- ✓ Java
- ✓ Obj-C/Swift
- ✓ React Native



What can I do  
with App Center?

# Cloud-hosted services: available today



Build



Test



Distribute



Crashes



Analytics



Push

Services can be used together or independently: use only what you need!

# Integrating your CI/CD pipeline: REST APIs



Secure | <https://openapi.appcenter.ms>

## App Center Client preview

[ Base URL: [api.appcenter.ms/](https://api.appcenter.ms/) ]

<https://api.appcenter.ms/preview/swagger.json>

Microsoft Visual Studio App Center API

**account** >

**build** ∨

GET

/v0.1/apps/{owner\_name}/{app\_name}/xcode\_versions

GET

/v0.1/apps/{owner\_name}/{app\_name}/xamarin\_sdk\_bundles

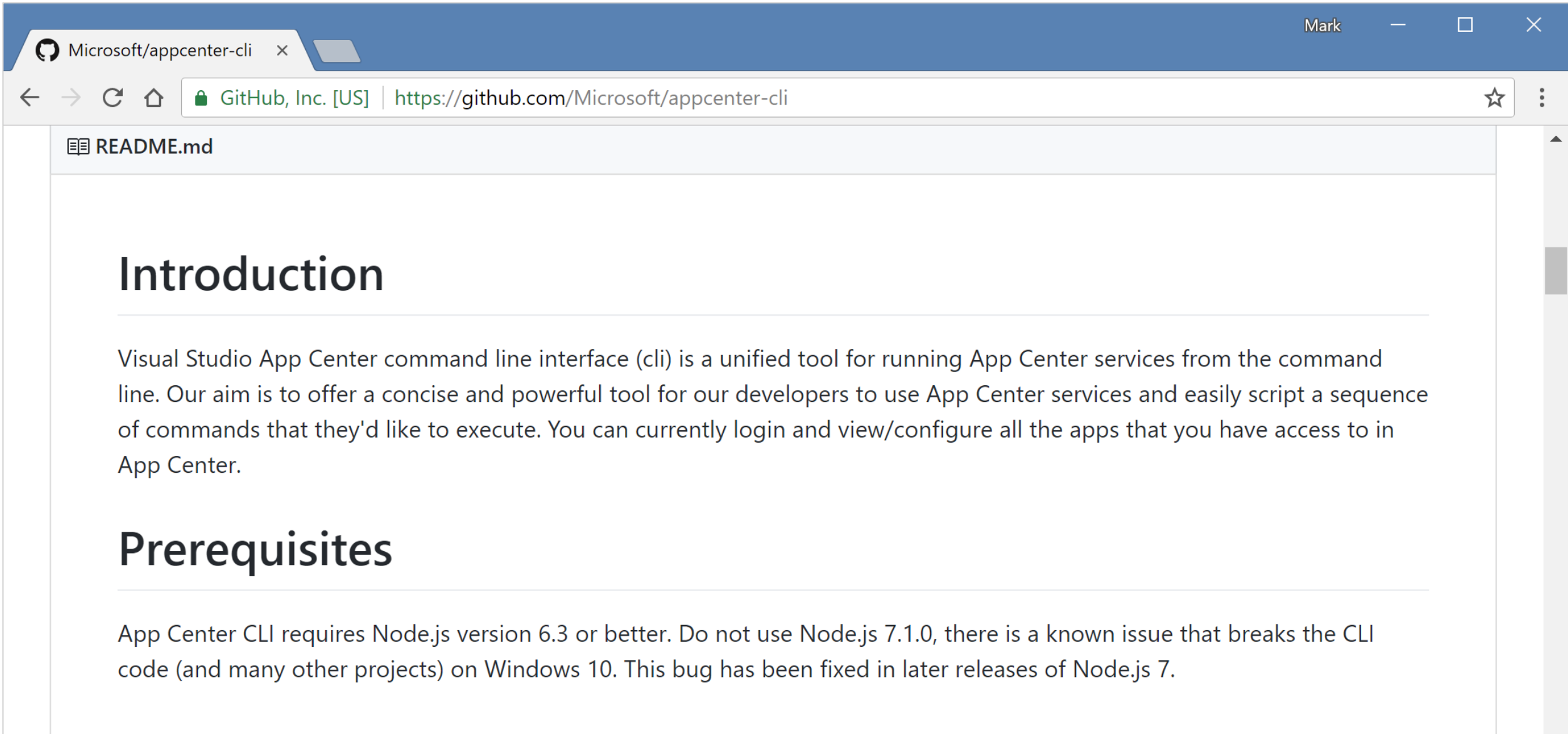
GET

/v0.1/apps/{owner\_name}/{app\_name}/source\_hosts/{source\_host}/repositories

GET

/v0.1/apps/{owner\_name}/{app\_name}/repo\_config

# Integrating into your CI/CD pipeline: CLI



Microsoft/appcenter-cli x

GitHub, Inc. [US] | <https://github.com/Microsoft/appcenter-cli>

README.md

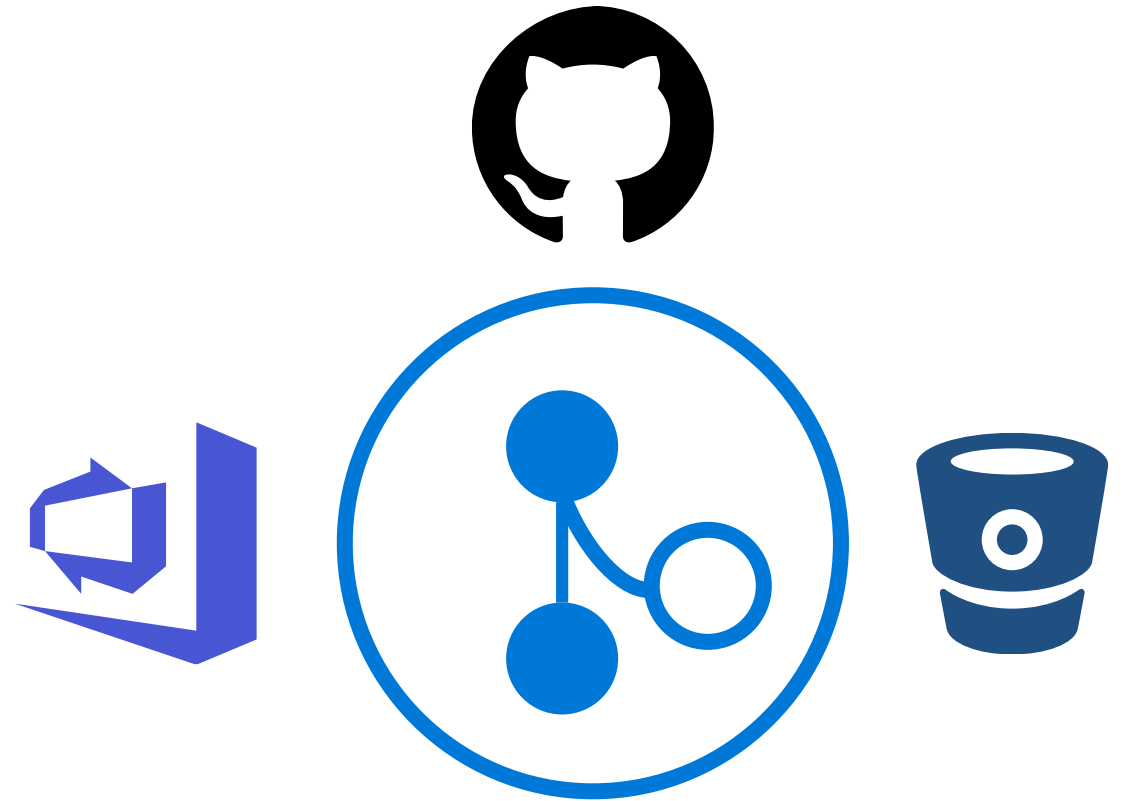
## Introduction

Visual Studio App Center command line interface (cli) is a unified tool for running App Center services from the command line. Our aim is to offer a concise and powerful tool for our developers to use App Center services and easily script a sequence of commands that they'd like to execute. You can currently login and view/configure all the apps that you have access to in App Center.

## Prerequisites

App Center CLI requires Node.js version 6.3 or better. Do not use Node.js 7.1.0, there is a known issue that breaks the CLI code (and many other projects) on Windows 10. This bug has been fixed in later releases of Node.js 7.

Easily connect your  
source code to the  
build service.



Xamarin

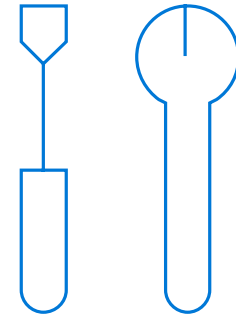
Android SDKs



Apple SDKs

Mac Host

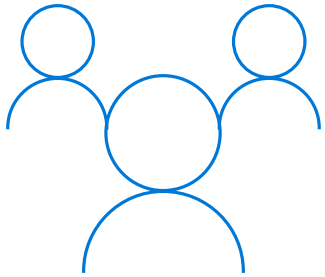
UWP SDKs



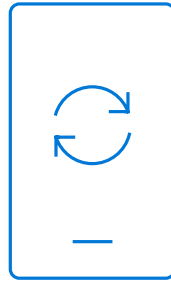
Build on Push



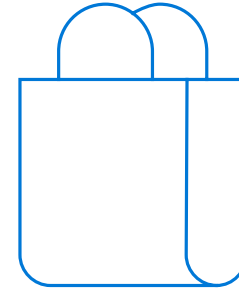
Build in the cloud



Distribute builds  
to specific users  
or groups



Send in-app  
updates



Publish directly  
to the app store



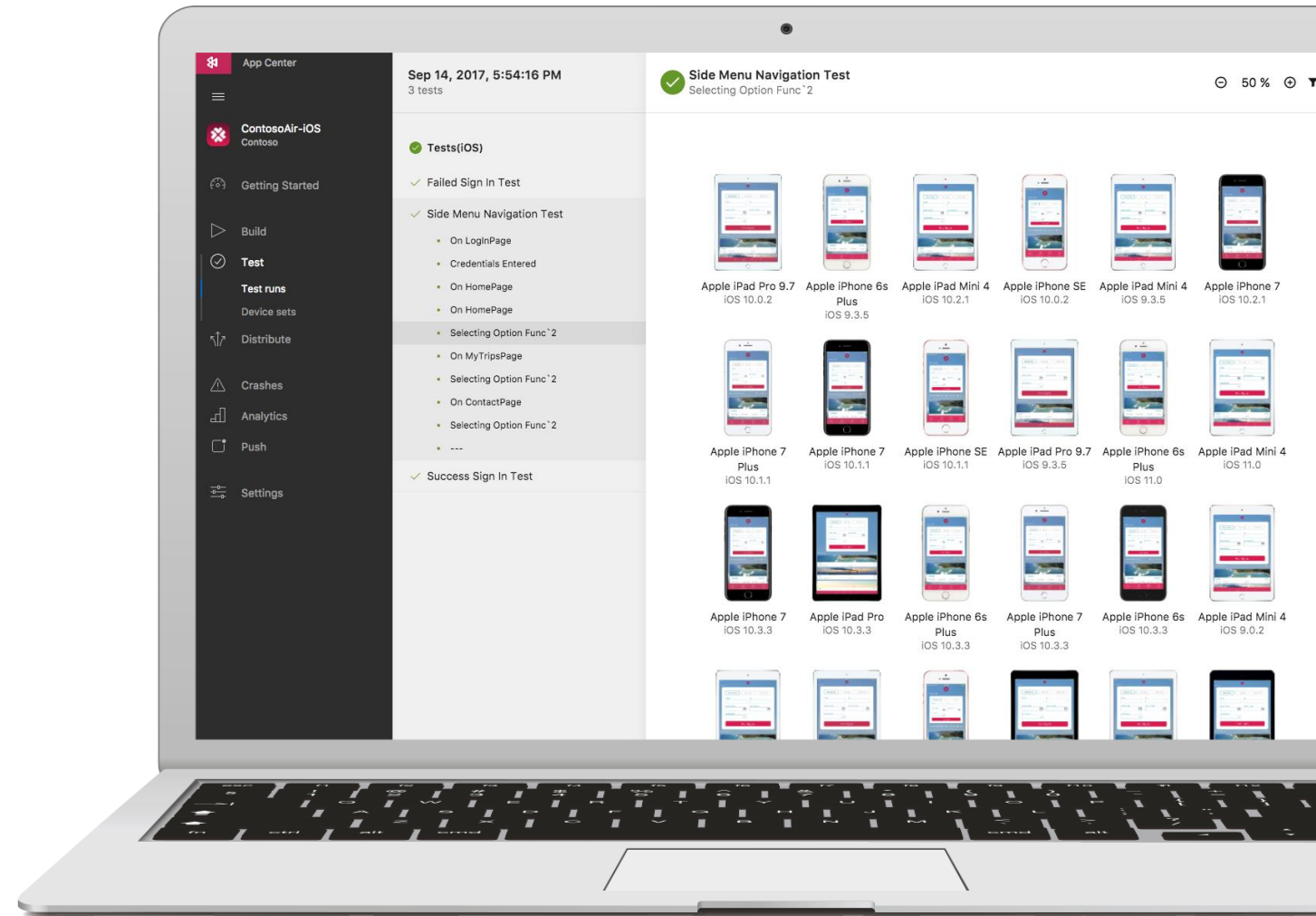
Distribute

Demo

Build + Distribute service

Validate your code and  
release better apps,  
faster.

Verify your app works  
properly on the devices  
your users will have



Write tests with the framework of your choice.



**XCUITest**

# Running your tests against your app

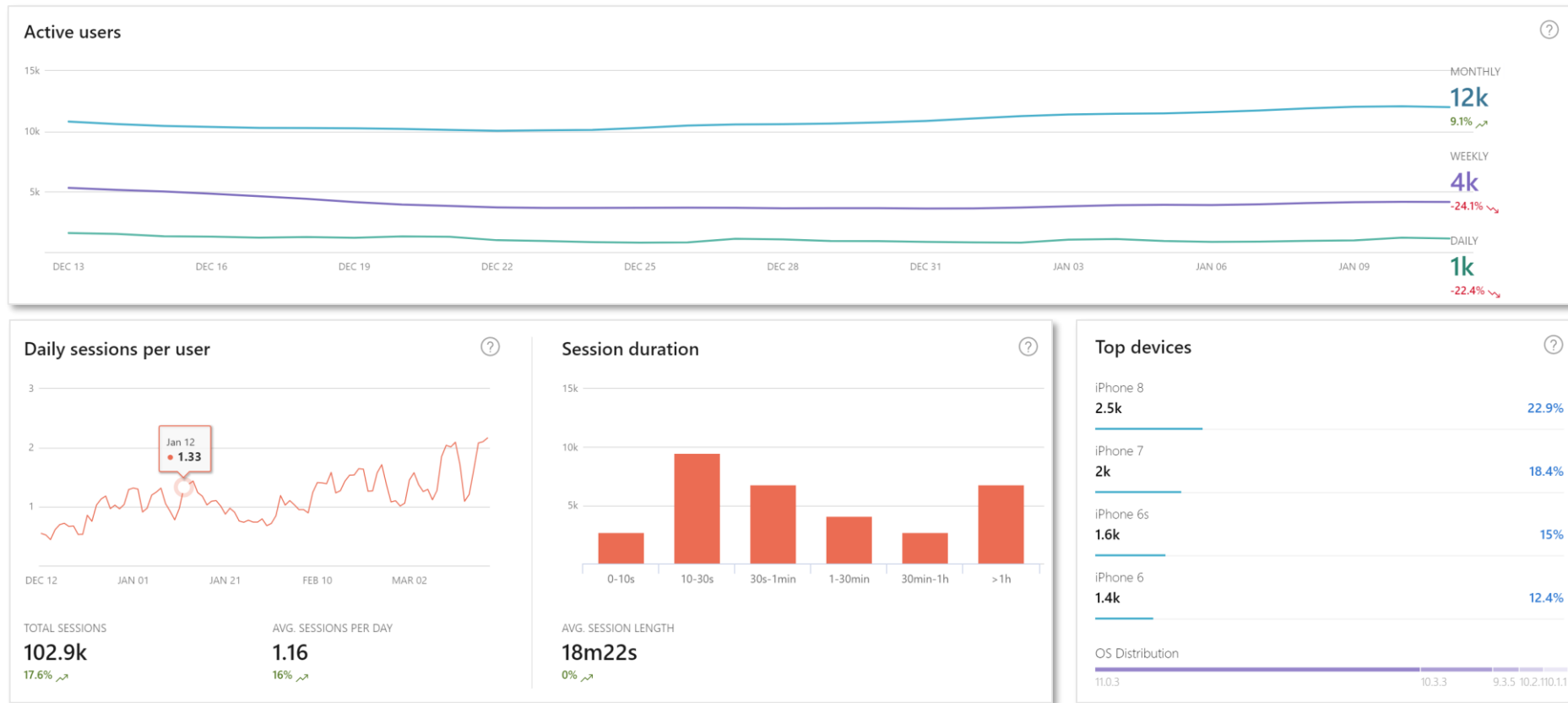
```
C:> appcenter test run uitest --app "xamarin-university-mobile---android" --devices d9986e03 --app-path
C:\Users\Mark\Downloads\com.xamarin.university.apk --test-series "master" --locale "en_US" --build-dir
..\XamarinUniversityMobile.Tests.UI\bin\Debug
Preparing tests... done.
Validating arguments... done.
Creating new test run... done.
Validating application file... done.
Uploading files... done.
Starting test run... done.
Test run id: "65134d8b-f742-4a33-ac44-b2be1aeb8cdd"
Accepted devices:
- Google Pixel 2 (8.1.0)
- Google Pixel 2 XL (8.1.0)
- Samsung Galaxy S5 (6.0.1)
- Sony Xperia z5 Compact (5.1.1)

Current test status: Validating
```

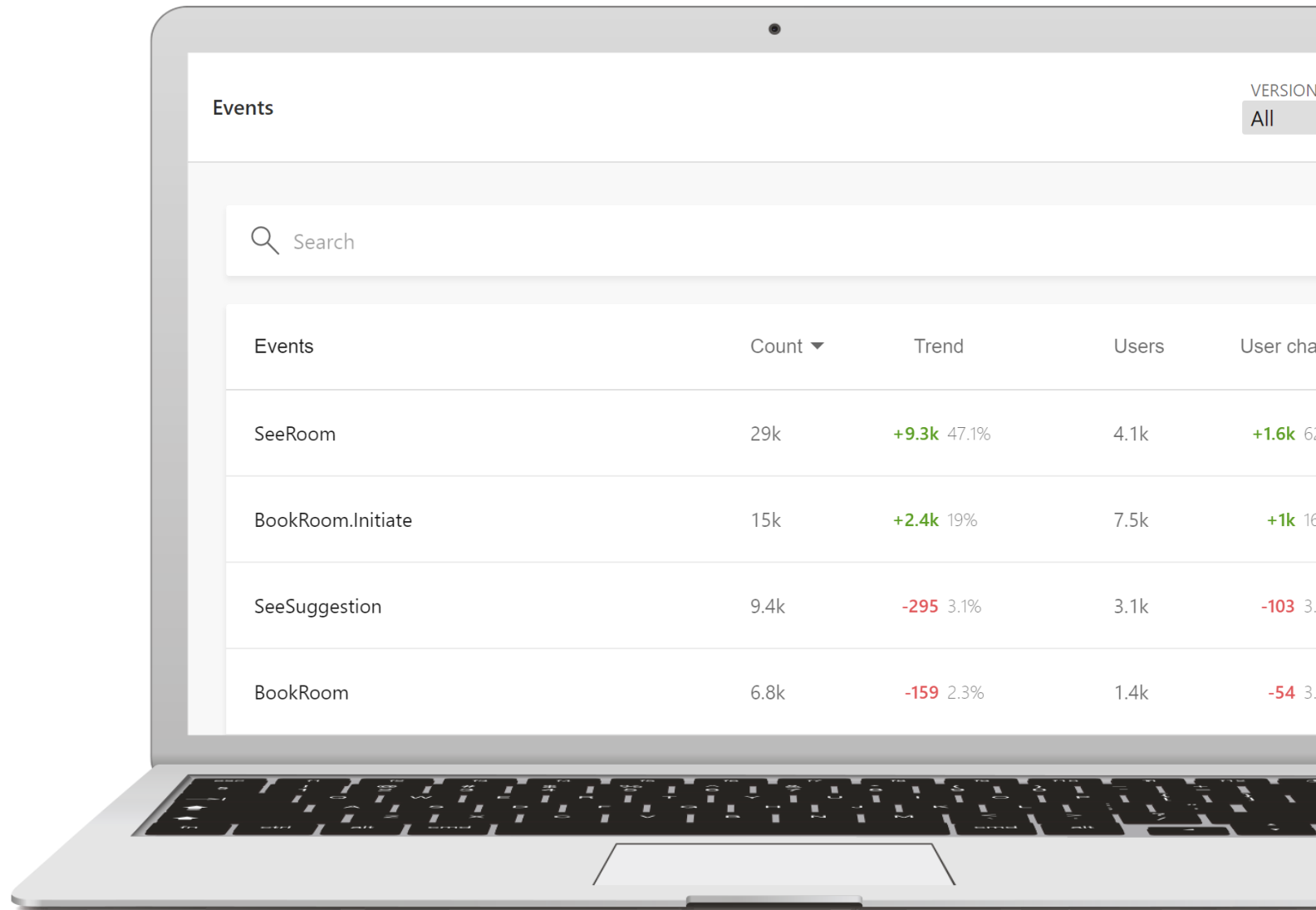
# Demo

## UI Test service

# Understand your users – including active users, popular devices, activity, and more.



Use custom events  
to dive deeper and  
improve *your* UX.



The image shows a laptop screen displaying an analytics dashboard. The dashboard has a header with the title 'Events' and a 'VERSION' dropdown menu set to 'All'. Below the header is a search bar with a magnifying glass icon and the text 'Search'. The main content area contains a table with five columns: 'Events', 'Count', 'Trend', 'Users', and 'User change'. The table lists four events: 'SeeRoom', 'BookRoom.Initiate', 'SeeSuggestion', and 'BookRoom'. Each row shows the event name, its count, a trend indicator (green for positive, red for negative), the percentage change, the number of users, and the user change (green for positive, red for negative).

Events	Count ▼	Trend	Users	User change
SeeRoom	29k	+9.3k 47.1%	4.1k	+1.6k 62.5%
BookRoom.Initiate	15k	+2.4k 19%	7.5k	+1k 16.7%
SeeSuggestion	9.4k	-295 3.1%	3.1k	-103 3.3%
BookRoom	6.8k	-159 2.3%	1.4k	-54 3.9%

IS	TIME
▼	Last 30 days ▼
ange	Per user
2.6%	7
5.2%	2
2%	3
8%	5

## Events

SeeRoom

BookRoom.Initiate

SeeSuggestion

BookRoom

TipAdded

BookConferenceRoom.Initiate

BookConferenceRoom

Signup.Initiate

Signup.Type

Signup.Complete

## BookRoom

VERSIONS

All ▼

TIME

Last 30 days ▼



NOV 12 NOV 16 NOV 20 NOV 24 NOV 28 DEC 02 DEC 06 DEC 10

LAST 30 DAYS

5

2% ↗

Count per session



1

NOV 12 NOV 16 NOV 20 NOV 24 NOV 28 DEC 02 DEC 06 DEC 10

LAST 30 DAYS

< 1

-14.3% ↘

## BookFrom

Count

Trend

Organic

4.6k 68.4%

+730 18.7%

EventModel

1.5k 22.1%

-103 6.4%

Suggest

643 9.5%

-115 15.2%



Analytics

# Analyze your data with continuous export

## Data export

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Export to:



### **Blob Storage**

Store your data in a blob format for extended retention.



### **Application Insights**

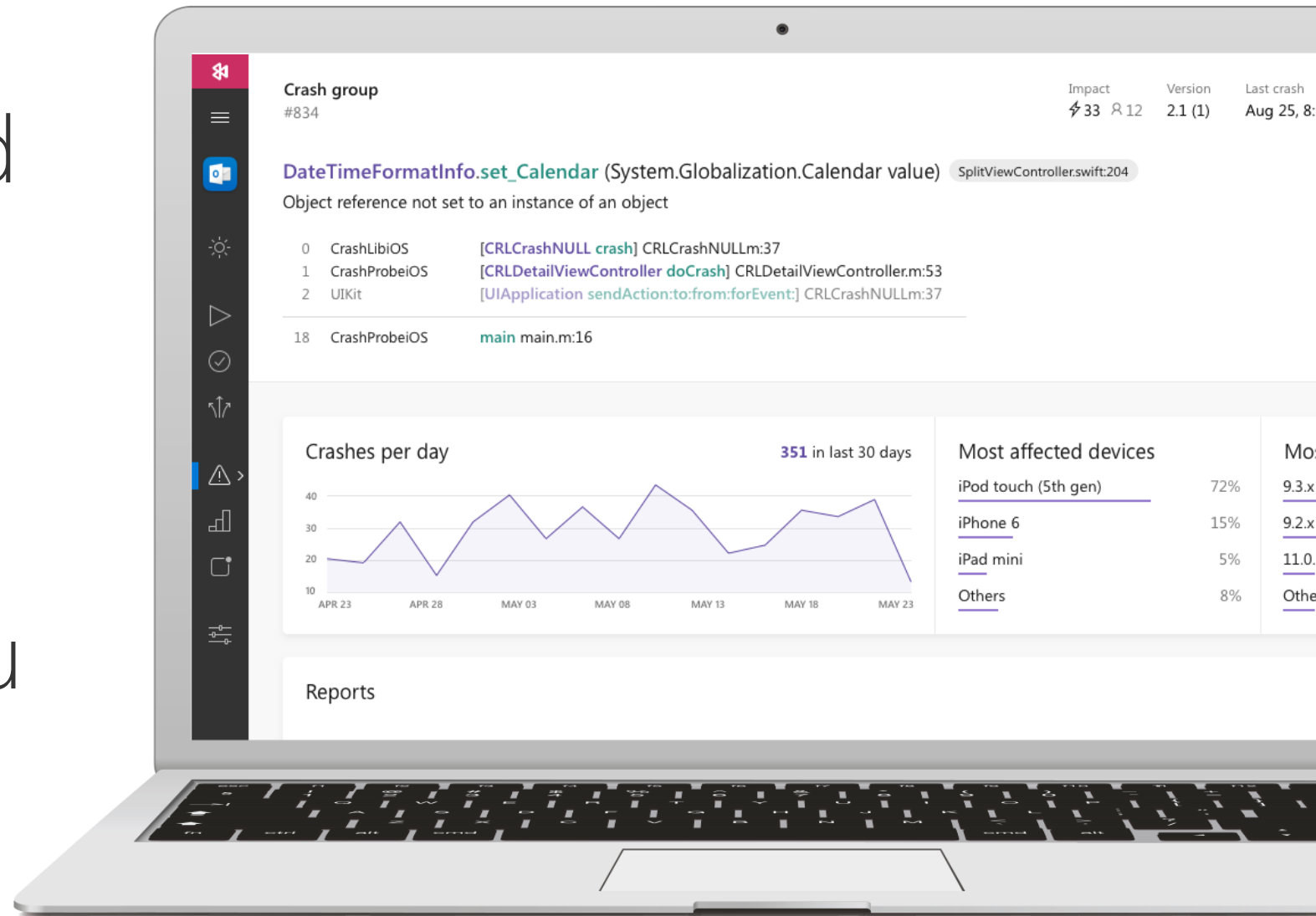
Analyze all your data with powerful queries and further analysis.

# Demo

Capturing data with Analytics service

Identify, prioritize, and triage issues with grouped crash reports.

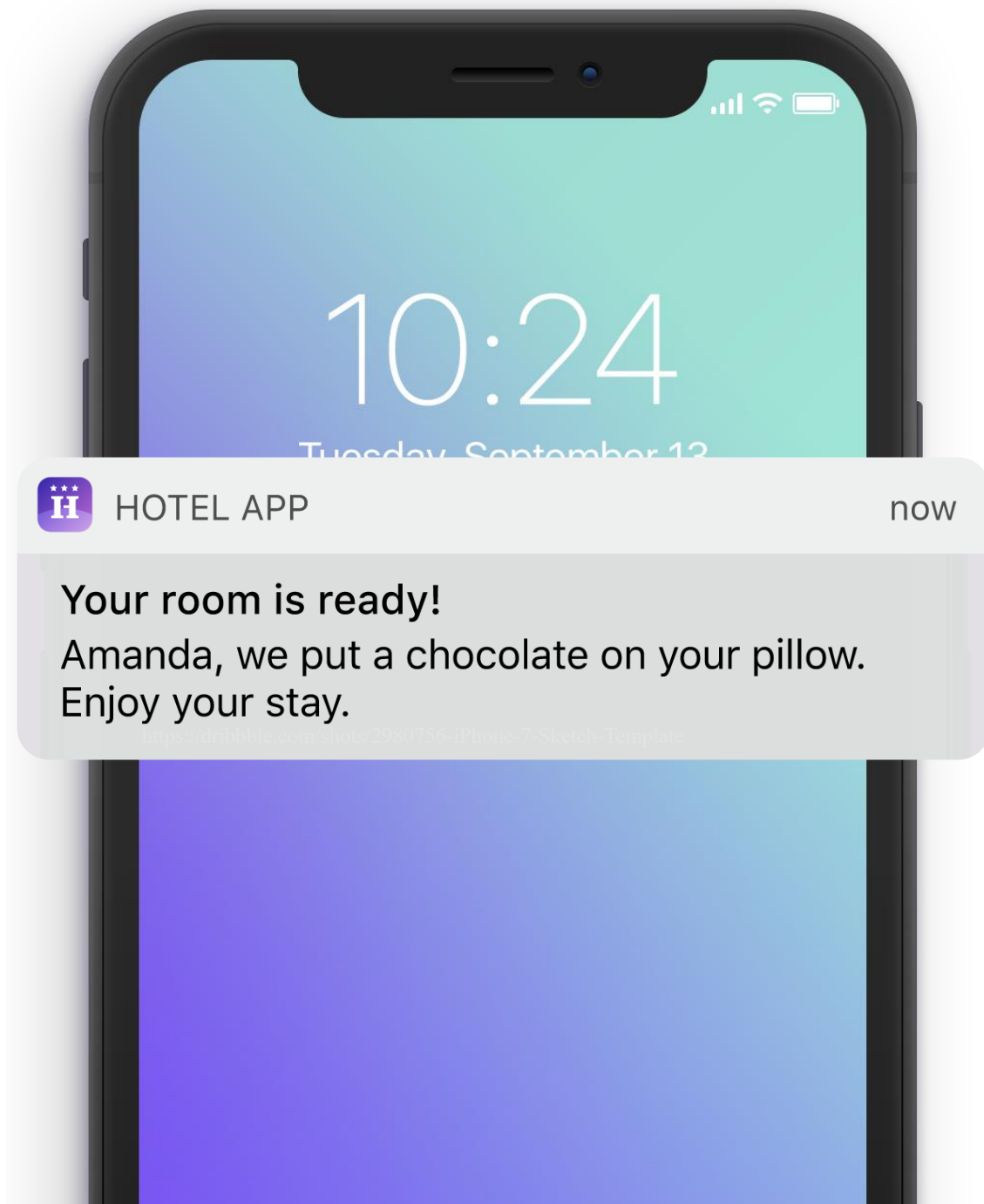
Symbol files helps you fix problems quickly.



Crashes

# Demo

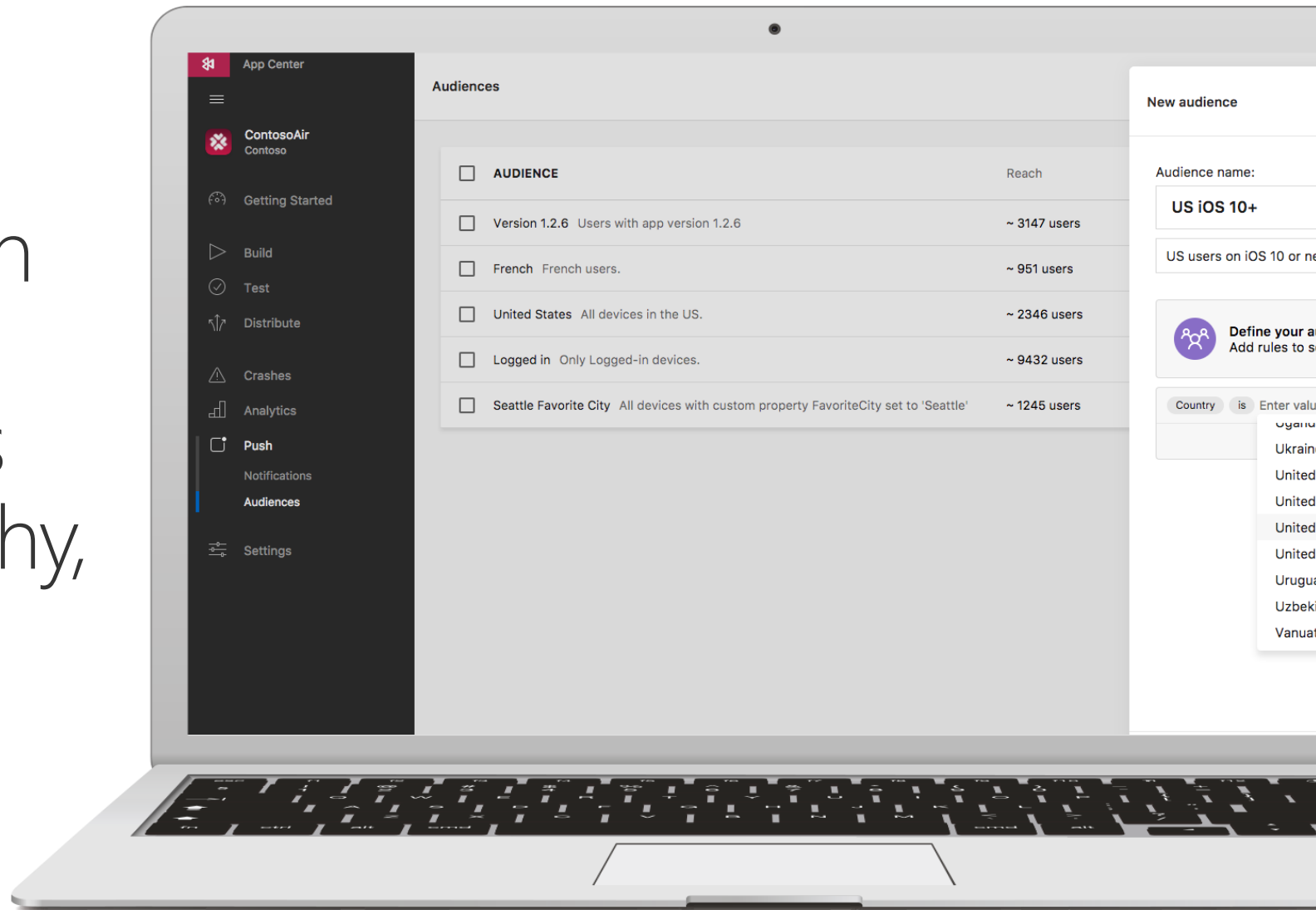
Collecting crash data with Crashes service



Reach your users across devices

Send fully native push messages

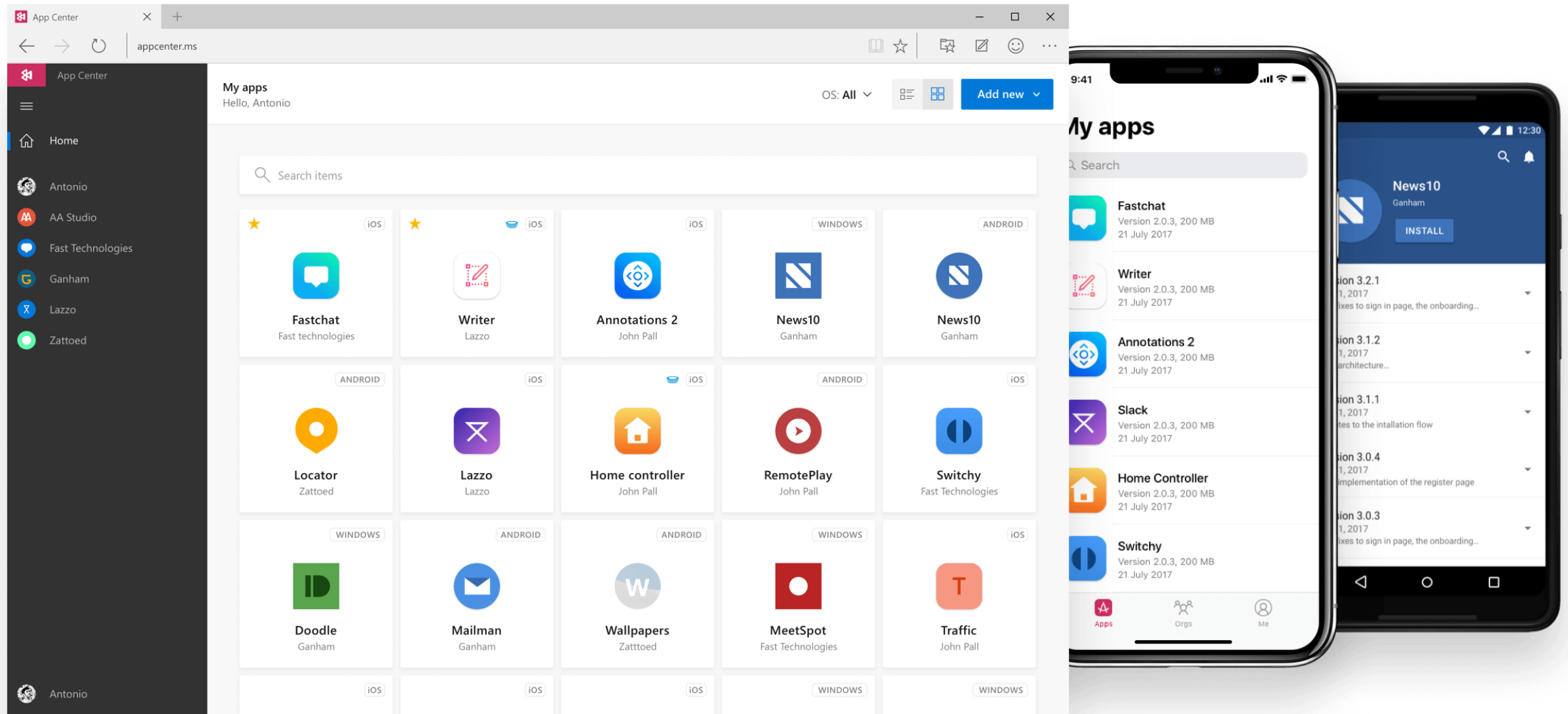
Engage your users with tailored messages – segmenting audiences by language, geography, device, and more.



# Demo

Sending notifications with Push service

# Get started for free: <https://appcenter.ms>



# Resources

## Docs

[docs.microsoft.com/en-us/appcenter/](https://docs.microsoft.com/en-us/appcenter/)

## Source code

[github.com/markjulmar/appcenter-webinar](https://github.com/markjulmar/appcenter-webinar)

## Blog

[blogs.msdn.microsoft.com/vsappcenter/](https://blogs.msdn.microsoft.com/vsappcenter/)

## Xamarin University

[university.xamarin.com](https://university.xamarin.com)

# Thank you. Questions?

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