Introduction to Visual Studio App Center

RYAN DAVIS
Queensland C# Mobile Developers Meetup
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whoami

- Ryan Davis
- Hobby Developer, .NET and mobile
- Xamarin Microsoft MVP

ryandavis.io  rdavis-au  rdavisau
Overview of App Center
Walkthrough & Demos
Resources
what is it?
a hub for mobile app lifecycle automation

“Ship iOS, Android, Windows, and macOS apps faster and with greater confidence by automating their lifecycles.”

Build
Continuous integration and builds on each push

Test
Automated UI Testing on across more than 400 real device configurations

Distribute
Manual or automated distribution of builds to test groups and app stores

Crash Reports & Analytics
Automated collection of crash and session data and custom event logging

Push
No-fuss* push campaign functionality with support for user segmentation

Released in preview as “Azure Mobile Center” in 2016, GA as “Visual Studio App Center” late 2017
meticulously merged myriad of mobile muses

- App Center is the integration of a long history of products in the mobile analytics, test and engagement spaces.
An integrated, centralised, “api-first” offering

- The portal is very user-friendly and enough for the casual user, but App Center has been designed from the outset to be integrated, automated and scripted, with many interaction points.
not just a microsoft affair

- App Center has broad and growing coverage of platforms, source providers and frameworks.

Platforms
- Android
  - Java, Xamarin, React Native, Cordova
- iOS
  - ObjC/Swift, Xamarin, React Native, Cordova
- macOS
  - ObjC/Swift
- Windows
  - UWP

Source Repositories
- GitHub
- BitBucket
- VSTS

UI Test Frameworks
- Xamarin
  - UITest
- Appium
- XCode
- Espresso
- Calabash

Distribution Targets
- Your beta testers
- App Store
- InTune Portal
a pricing model that’s hard to argue with

- Almost all of the core App Center functionality is available to you for free. You can increase limits and extend functionality using a combination of paid addons.

<table>
<thead>
<tr>
<th>Free Tier</th>
<th>Paid addons</th>
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<tbody>
<tr>
<td><strong>Build</strong></td>
<td>Run unlimited, faster builds</td>
</tr>
<tr>
<td>Build Objective-C, Swift, Java, Xamarin (C#), and React Native in the cloud</td>
<td>✔️</td>
</tr>
<tr>
<td><strong>Test</strong></td>
<td>Test your app in the cloud</td>
</tr>
<tr>
<td>Automate UI tests on thousands of real devices</td>
<td>✔️</td>
</tr>
<tr>
<td><strong>Distribute</strong></td>
<td>Target additional segments</td>
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<tr>
<td>Send your apps to your beta testers and app stores instantly</td>
<td>✔️</td>
</tr>
<tr>
<td><strong>Analytics</strong></td>
<td>✔️</td>
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<tr>
<td>Gain insights into your audience and app usage</td>
<td>✔️</td>
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<tr>
<td><strong>Crash reporting</strong></td>
<td>✔️</td>
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<tr>
<td>Monitor your app health with real-time crash reports</td>
<td>✔️</td>
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<tr>
<td><strong>Push notifications</strong></td>
<td>✔️</td>
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<tr>
<td>Engage your users by sending targeted messages</td>
<td>✔️</td>
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</table>

240 build minutes per month
Up to 30-min per build

Free 30 day trial

Unlimited distributions
Unlimited users

All features included

All features included

Up to 5 audience segments
walkthrough
introduction to mood, our demo app

- Probably going to make me a trillionaire, nice knowing you all
getting started is ez pz

- Create an **app** in the App Center portal
  - You'll create one app per OS you support (e.g. iOS, Android, UWP), even if you build your app with Xamarin Forms
  - Make sure you choose the “Xamarin” platform

- Install the **App Center SDKs** by following the instructions
  - App Center helpfully gives you platform-specific instructions

- With no additional work, you'll now get **basic analytics** (sessions/technicals) and **crash reports**. Awesome!
App Center connects to your app's repository so that it can build your app when you push changes.

Once connected, you can create build definitions on a per-branch basis. These can run manually or after each push.

App Center supports post-clone, pre-build and post-build scripts to assist in automating build activities.
- e.g. a pre-build script to alter the app icon of a UAT build, or a post-build script to run unit or UI tests.

Builds can be automatically released to distribution groups.

Very easy to get going, but trades off against configurability.
App Center succeeds Xamarin Test Cloud in providing a real device testing capability, with more than 400 configurations.

You define “device sets” that consist of combinations of device/OS pairs against which you can run your tests, e.g.:
- “top devices” - the five most popular devices in your userbase
- “small devices” - smaller screens than you normally develop on
- “old devices” - configurations on low SDK versions.

You invoke tests runs using the API or CLI, and can view detailed information on progress and outcomes through the portal.

Using the post-build script feature, you can automatically run tests after each build.
App Center builds on the distribution feature of HockeyApp and adds a clean, user-friendly interface.

It handles distribution group management, user invitations, UDID collection, release notifications, adoption and build hosting.
Crash Reporting in App Center is built on the HockeyApp offering and provides comprehensive collection and grouping of application crashes.

The Crashes SDK allows you to customise of crash reporting behaviour and add crash attachments.

The App Center portal allows you to drill into the detail of any individual crash and view event breadcrumbs for the session and device logs.

The report of a crash is submitted on the next launch of the app; it is possible that some crashes may go unreported.

There’s no way to log handled exceptions 😡
With the SDK installed, App Center tracks session, demographic and technicals automatically.

Custom events can be logged by using the `Analytics.TrackEvent` method, and an event can include up to five custom properties. These properties will segment data when viewed in the portal.

With an active Azure Subscription, all analytics data can be shipped to Application Insights and/or Blob Store for in depth analysis.
App Center contains a pared down version of the Azure Mobile Engagement push offering, with basic segmentation and push campaign functionality.

Push is in preview and is likely to include more sophisticated features in the future.
resources
useful resources

- **App Center Docs**
  https://docs.microsoft.com/en-us/appcenter/

- **The ultimate roundup**

- **How to Run Automated UI Tests from a VS App Center Build**
  https://tomsoderling.github.io/AppCenter-Automated-UI-tests-on-build/

- **Continuous Integration with App Center** [The Xamarin Show 15/02/2018]

- **All About CI & CD on App Center** [Fragmented Podcasts 19/02/2018]
  http://fragmentedpodcast.com/episodes/114/
questions / thanks