Feature Flags

Experiment, release on demand, and limit your blast radius by progressive exposure



WORK SAFE BC

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l work

I was **born** here



NET Enterprise

Solutions

Software Engineers



Managing Agile Open-Source Software Projects with Microsoft Visual Studio Online

Best Practices for the Connoisseur, 2004 Interoperability for the Connoisseur, 2006 Software Engineers on their way to Pluto, 2007 Managing Agile OSS Projects with MS VSO, 2015 Navigating DevOps through Waterfalls, 2020



I grew up here

Willy Schaub Cloud Systems Engineer, Cloud CeS











Hawaii

Truk Lagoon

Semiahmoo Bay

Our backyard (Port Guichon)



This session is based on willy's views, not the feature flag working group or common engineering system.

COUNTRY FLAGS



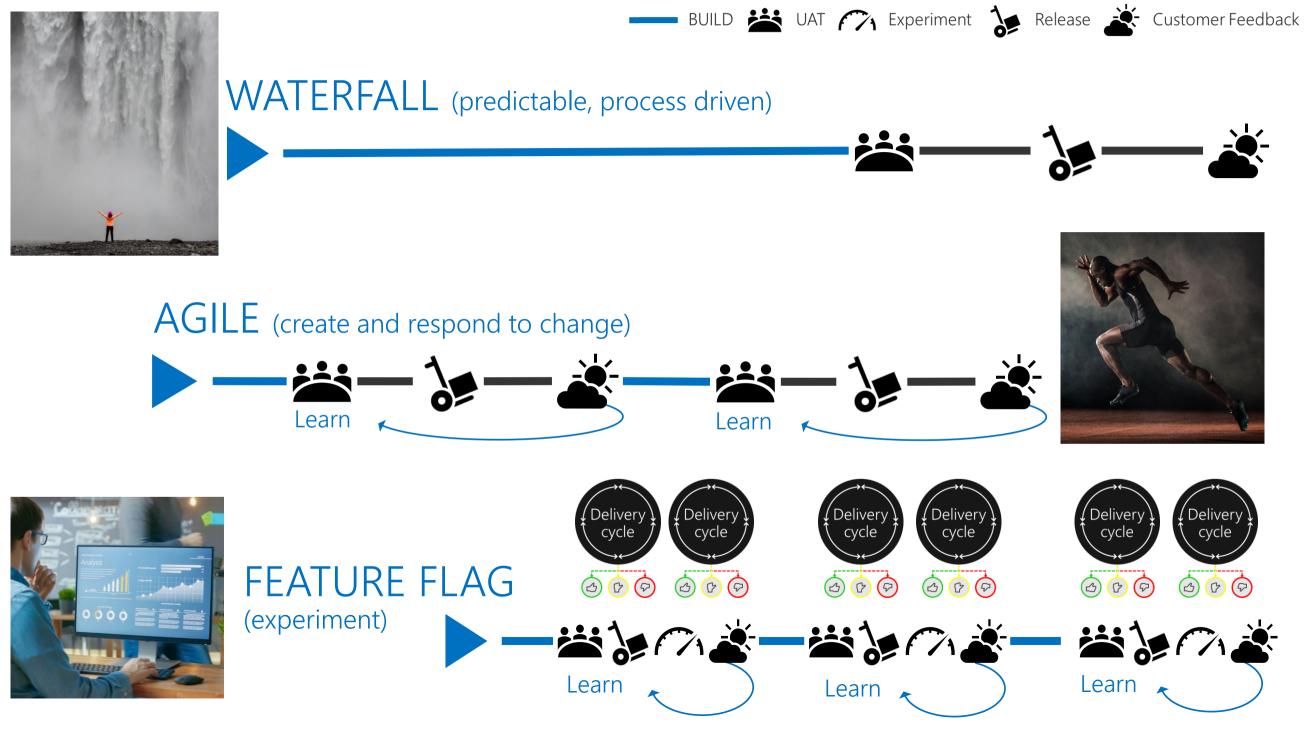
WHY?



DevOps is the union of people, process, and products to enable continuous delivery of value to our customers.

Donovan Brown, donovanbrown.com/post/what-is-devops





A way to decouple feature deployment from release, and fine-tune feature exposure, down to the individual user



DARK LAUNCH





CLIENT-SIDE PREVIEW EXAMPLES

⊥ Experiments — □			
C A € Edge edge://flags	\star 🗶 순 진 庙 👵 …		Preview features
AFe 🎽 InnoFest 🎽 MSFT 🎽 O365 🎽 SDP 🎽 WSBC	Contraction of the second s	Azure DevOps 🕨	The following preview features are available for your evaluation. Help us make them better!
Q Search flags	Reset all		for me [Willy Schaub]
Experiments	89.0.774.63	 Edge 	Analytics Views
WARNING: EXPERIMENTAL FEATURES AHEAD! By enabling th compromise your security or privacy. Enabled features apply to			Enable a hub for creating data sets to use for custom reportin
Available	Unavailable		Dependency Tracker Preview Features
			Enable Dependency Tracker preview features
Customize browser. – Mac, Windows, Linux <u>#edge-ask-before-closing-multiple-tabs</u> Enable sleeping tabs Automatically puts idle background tabs to sleep to save resources <u>#edge-sleeping-tabs</u>	s. – Mac, Windows, Linux Enabled 🗸		Adds an early preview of various themes to the Theme management panel. Historical graph for agent pools Turn on the new historical graph for pools feature. Learn more
Temporarily unexpire M87 flags. Temporarily unexpire flags that expired as of M87. These flags will Windows, Linux	be removed soon. – Mac, Default 🗸		New account manager
<u>#temporary-unexpire-flags-m87</u>			Enables the new account manager which allows users to swite accounts easily and have quicker access to help menu options from the top navigation bar
Temporarily unexpire M88 flags. Temporarily unexpire flags that expired as of M88. These flags will	be removed soon. – Mac, Default 🗸		
Windows, Linux <u>#temporary-unexpire-flags-m88</u>	- Delauk		New boards reports
Override software rendering list			Turn on interactive reports in boards pages, replacing CFD, Velocity and Burndown charts in boards headers.
Overrides the built-in software rendering list and enables GPU-acce	eleration on unsupported		

X

 \sim

On On

On On

On

Off

On On

On

WHAT?



PRODUCT OWNER



 $\underline{\mbox{This Photo}}$ by Unknown Author is licensed under $\underline{\mbox{CC BY-SA}}$



if

else

DEVELOPERS

CODE EXAMPLE

```
using LaunchDarkly.Client;
LdClient ldClient = new LdClient("YOUR_SDK_KEY");
User user = User.WithKey(username);
```

```
bool featureOn = ldClient.BoolVariation("your.feature.key",
user, false);
```

```
if ( featureOn ) {
```

// application code to show the feature

```
else {
```

...

// the code to run if the feature is off

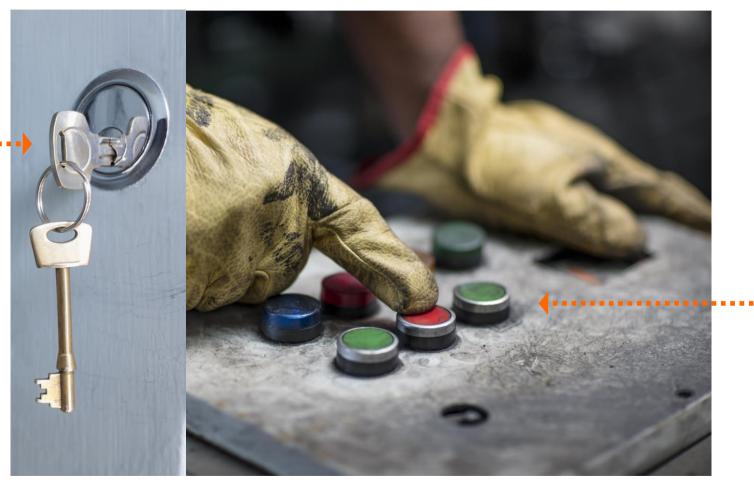
HOW?



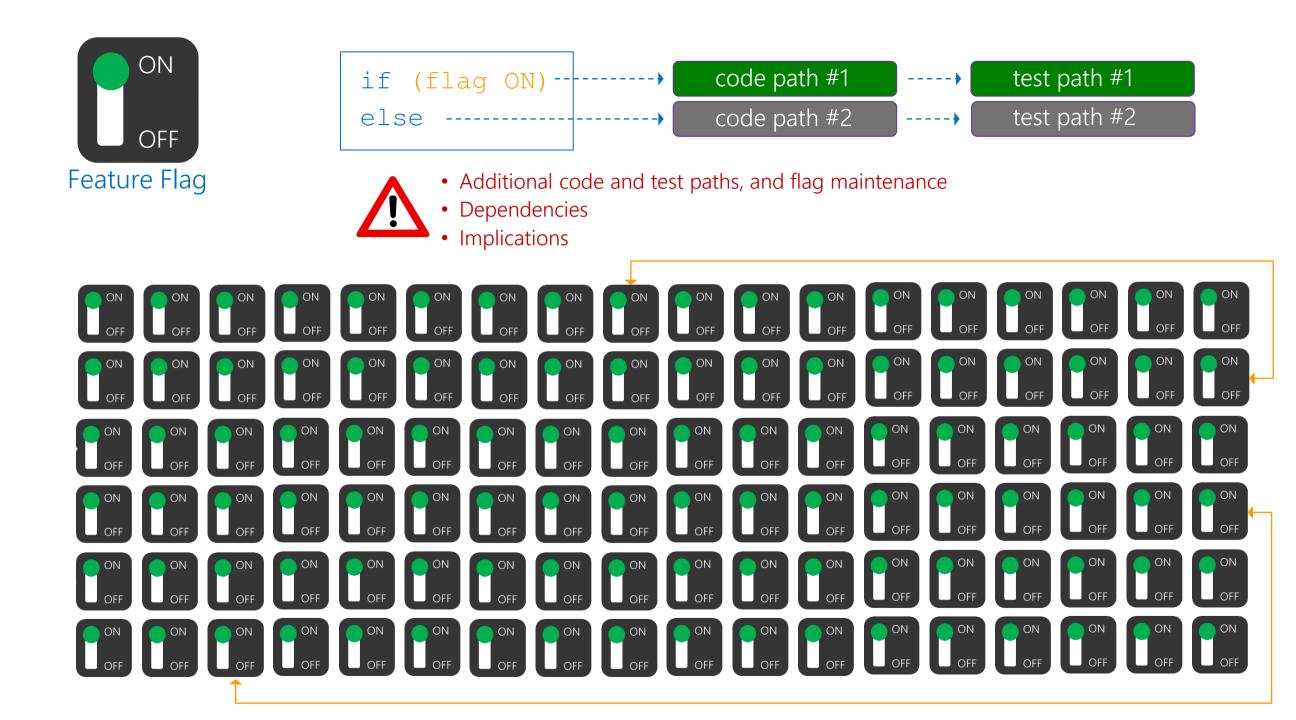
Don't just flip the feature flag

GOVERNANCE

- Usage
- Ownership
- Maintenance







Understand the impact of flipping a flag!

Server & Tools Blogs > Developer Tools Blogs > Brian Harrys blog



Brian Harrys blog

Everything you want to know about Visual Studio ALM and Farming

A Rough Patch

11/25/2013 by Brian Harry MS // 10 Comments



Either I'm going to get increasingly good at apologizing to fewer and fewer ${\ensuremath{\mathsf{p}}}$

We've had some issues with the service over the past week and a half. I feel cident we've had since the instability created by our service refactoring in the can assure you that we have taken the issue very seriously and there are a fai recently.

The incident started the morning of the Visual Studio 2013 launch when we i we made. You may not have noticed it by my presentation but for the couple

ALM | DevOps Rangers

Providing practical guidance, experience, and gap-filling solutions to the developer community.

How we checked and fixed the 503 error and Performance issue in our Azure Function

mikaelkrief April 3, 2018

f Share 4 🍠 40 in 0 💻 1

How we checked and fixed the 503 error and Performance issue in our Azure Function

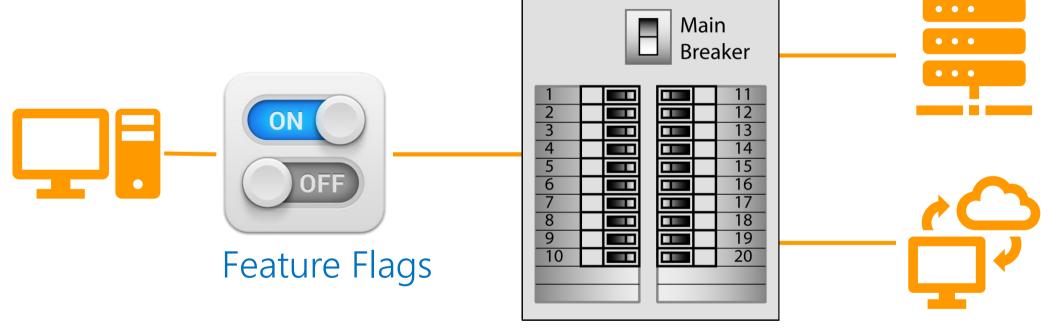
Since we released our Azure Function that allows you to use LaunchDarkly services with our VSTS Roll Up Board widget extension, we have recently evolved it further by adding an Azure Function that allows you to retrieve the flags of the user connected to Visual Studio Team Services (VSTS).

The goal of this evolution was to centralize all the business software of the features flags in Azure Function and thus leave it free of the code of the VSTS extension. This allows it to plug other extensions with the features flags in a much more simplified way thus requiring the least possible development.

Shortly after release, a user reported an issue loading the extension.



Feature Flag != Circuit Breaker



Circuit Breakers



.NET <u>Feature Toggle</u> , <u>NFeature</u> , <u>FeatureSwitcher</u>

Java <u>Togglz</u>, <u>FF4J</u>

JavaScript front-end frameworks <u>JavaScript Feature Flags</u>, <u>Angular Feature Flags</u>, <u>Ember</u> <u>Feature Flags</u>, <u>React feature flags</u>

SaaS solution for all stacks <u>FeatureOps</u>, <u>LaunchDarkly</u>



All feature flags must support the kill switch

enable us to toggle a feature in case of an emergency

FFs managed by Business, Security, & QA

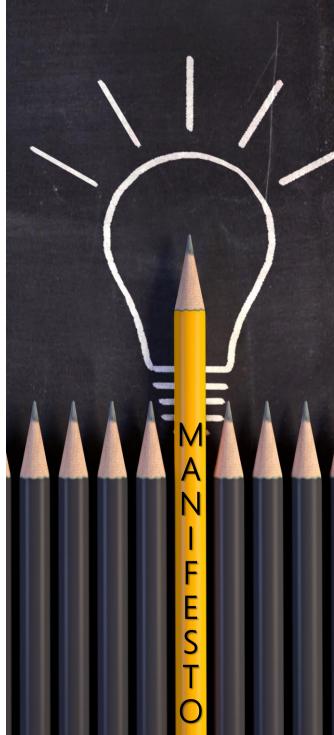
ensure we satisfy governance and customers with continuous delivery of value

FFs protect only production ready code

reduce risk of deploying accidental release of fragile or insecure code to customers

Favour software as a service over custom code

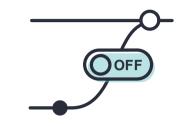
avoid long-term ownership, support, and maintenance of feature flag frameworks







Test in Production





Control Your User's Experience

C Experiment & Get Feedback Easier



If you need to rebuild or redeploy your solution you are not using feature flags

Feature flags are not a solution to hide nonproduction ready code





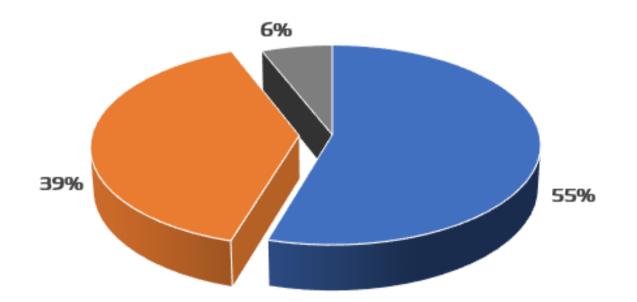
Knowing IF and WHAT A|B test experiments to use

WHY do you need x5 feature flags?

WHO owns and grooms your (custom) F/F service?

COMMUNITY POLL

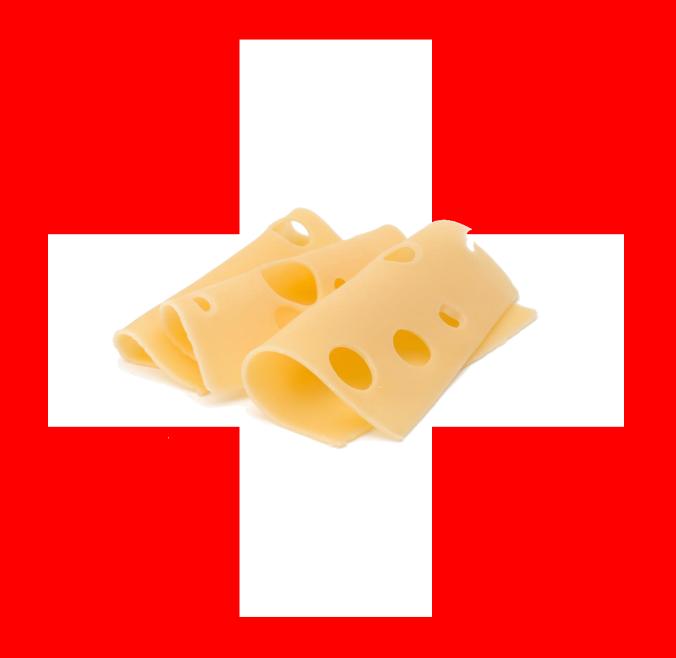
Have you or are you using feature flags (FF) to enable release on demand? If yes, what strategy are you using?



- Custom feature flag solution
- SaaS feature flag solution
- Other

Raw, unedited feedback:

- I've only used short-lived feature flags so there was never any need for a beefier solution. A simple hand-cranked conditional logic almost always suffices for short-lived toggles.
- Love using Launch Darkly! Dark launching is the way forward for so many teams! Next week Launch Darkly's Galaxy conference is gonna be awesome!
- Launch Darkly all day.
- We've been using rollout, but also switched to AAC, recently for a few apps. From config management perspective, it's been a dream for production support issues.





You have

WorkSafeBC Technical Blog

Questions

we (hopefully) have

Answers

- <u>A Rough Patch | Brian Harry's Blog (microsoft.com)</u>
- Deploying new releases: Feature flags or rings? | Opensource.com
- <u>How we checked and fixed the 503 error and Performance issue in our</u> <u>Azure Function Microsoft Docs</u>

REFERENCES

- <u>3 ways to handle transient faults for DevOps Opensource.com</u>
- <u>Use Feature Flagging with LaunchDarkly SaaS [Ces</u>
- Why hypothesis-driven development is key to DevOps | Opensource.com
- What's the cost of feature flags? | Opensource.com
- <u>Summary of my publications | Linkedin</u>

Thank you!

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