



Lean & Agile DevOps with VSTS and TFS 2015

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Founded in 2008

Certified Agile
Coaches

Microsoft Gold
ALM Partner

Founding Partner
Microsoft ALM
Inner Circle

Pragmatic ALM
Approach

Polaris Solutions is an **Application Lifecycle Management** consulting firm, specializing in helping teams deliver high value software through technical leadership, process improvement, and software development expertise.

Microsoft Partner

Gold Silver Application Lifecycle Management
Application Development

WE BELIEVE...



IT *will* be a predictable Engineering discipline



Technology *is* an enabler



People make the greatest difference



Lean and Agile are the best approach today

“DevOps is development and operations **collaboration**”

“DevOps is using **automation**”

“DevOps is **small** deployments”

It's DevOps!

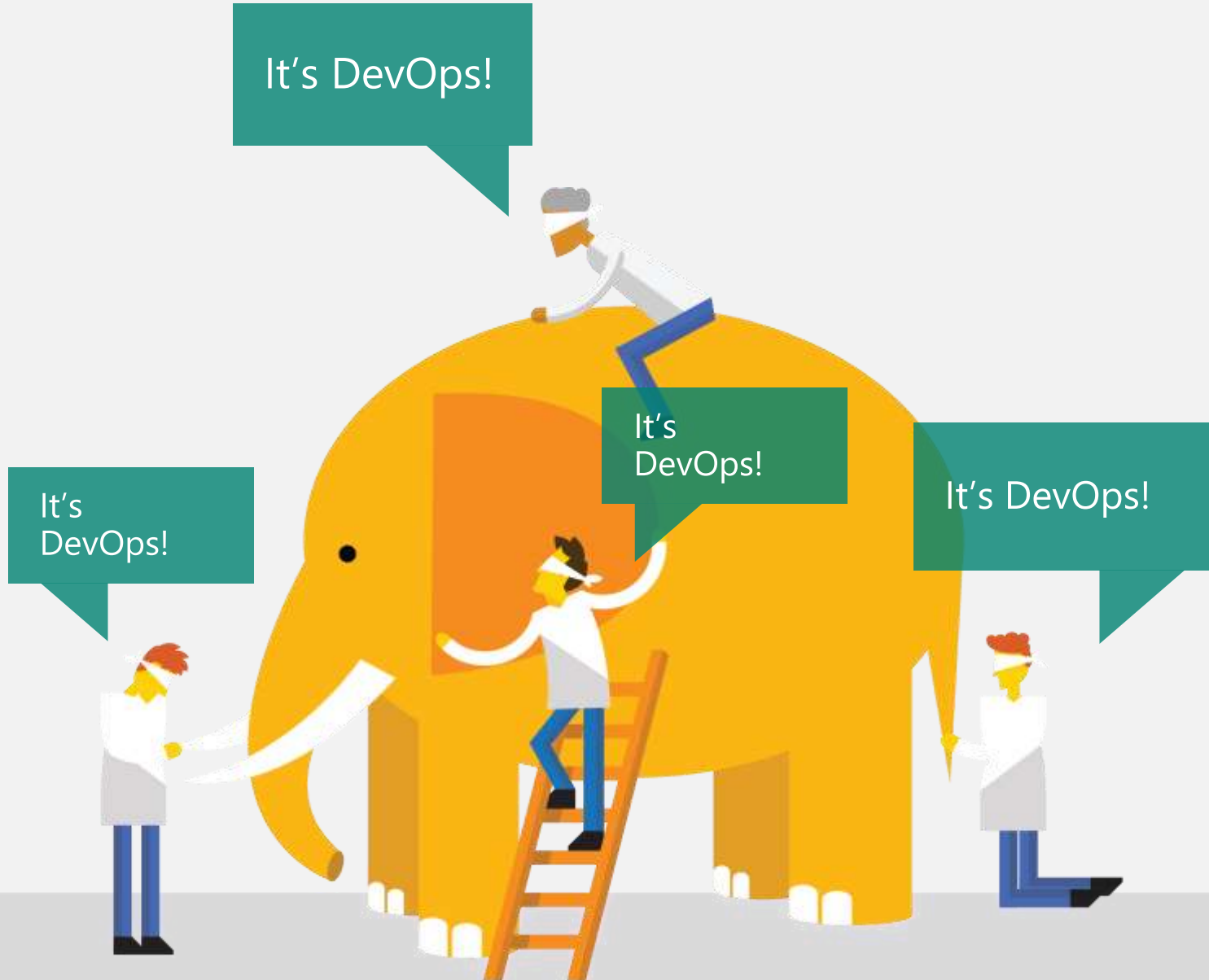
It's DevOps!

It's DevOps!

“DevOps is treating your **infrastructure as code**”

“DevOps is feature **switches**”

“**Kanban** for Ops?”



List of DevOps Practices

- Infrastructure as Code (IaC)
- Continuous Integration
- Automated Testing
- Continuous Deployment
- Release Management
- App Performance Monitoring
- Load Testing & Auto-Scale
- Availability Monitoring
- Change/Configuration Management
- Automated Environment De-Provisioning
- Self Service Environments
- Automated Recovery
- Feature Toggles
- Hypothesis Driven Development

How DevOps Can Help

Outcome Focused

- Speed
- Agility
- Quality
- Security

DevOps Benefits

Strong IT Performance is a competitive advantage

Firms with high-performing IT organizations were 2x as likely to exceed their profitability, market share, and productivity goals

DevOps Practices improve IT performance



Deploy code 30x faster

and with 200x shorter lead time as compared to their lower-performing peers

Have 60x fewer failures

and recover from failure 168x faster as compared to their lower-performing peers



Visual Studio
Team Services

The top section of the graphic features a bright blue sky background with several white cloud icons. In the center, there are four white icons: the Windows logo, the Linux penguin, the Android robot, and the text 'iOS'.



Team Foundation
Server

The bottom section of the graphic features a dark purple background with a stylized city skyline of purple and pink buildings. In the center, there are four purple icons: the Windows logo, the Linux penguin, the Android robot, and the text 'iOS'.

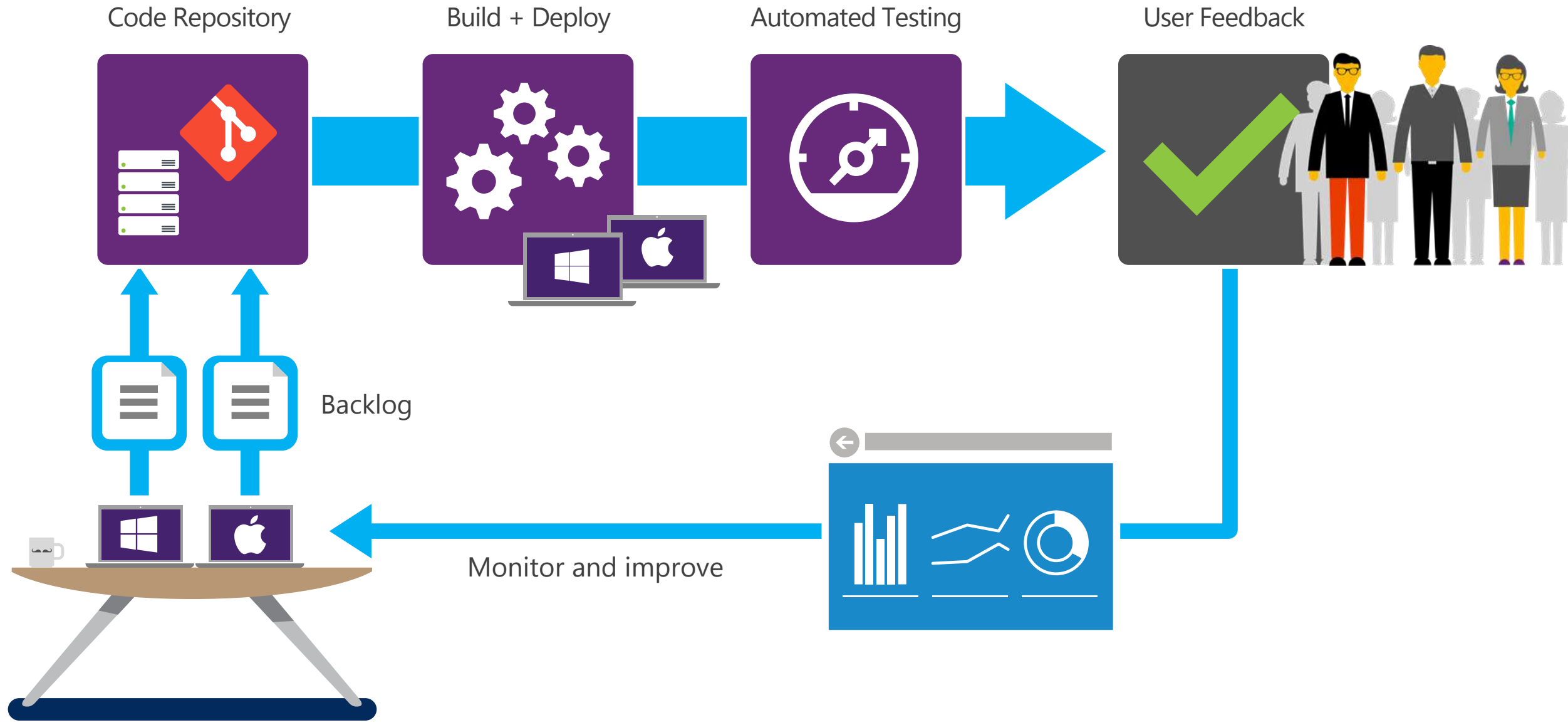


Open, flexible, and extensible
cross-platform DevOps tools

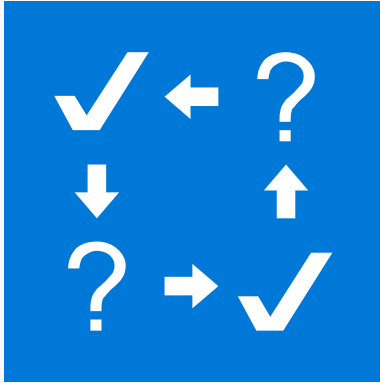
Unlocks a greater ecosystem and
works with what you already use

More agility and flexibility for
continuous value delivery

Visual Studio Team Services



Visual Studio Team Services is Enterprise Ready



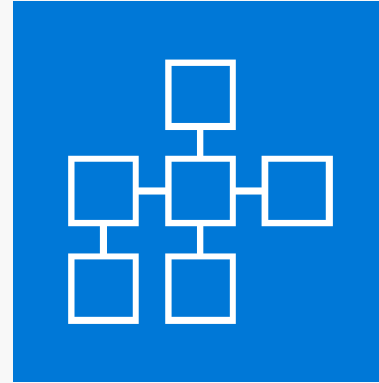
Compliance



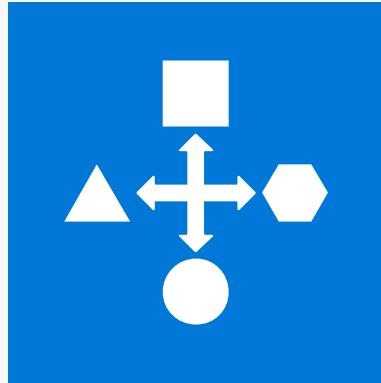
Data
Sovereignty



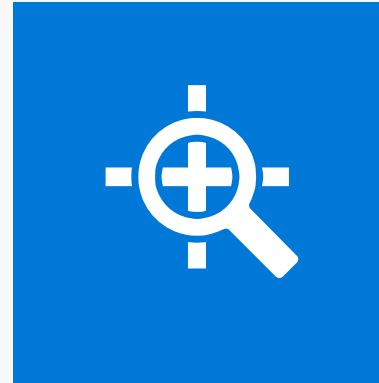
Data Import



Active
Directory



Process
Customization

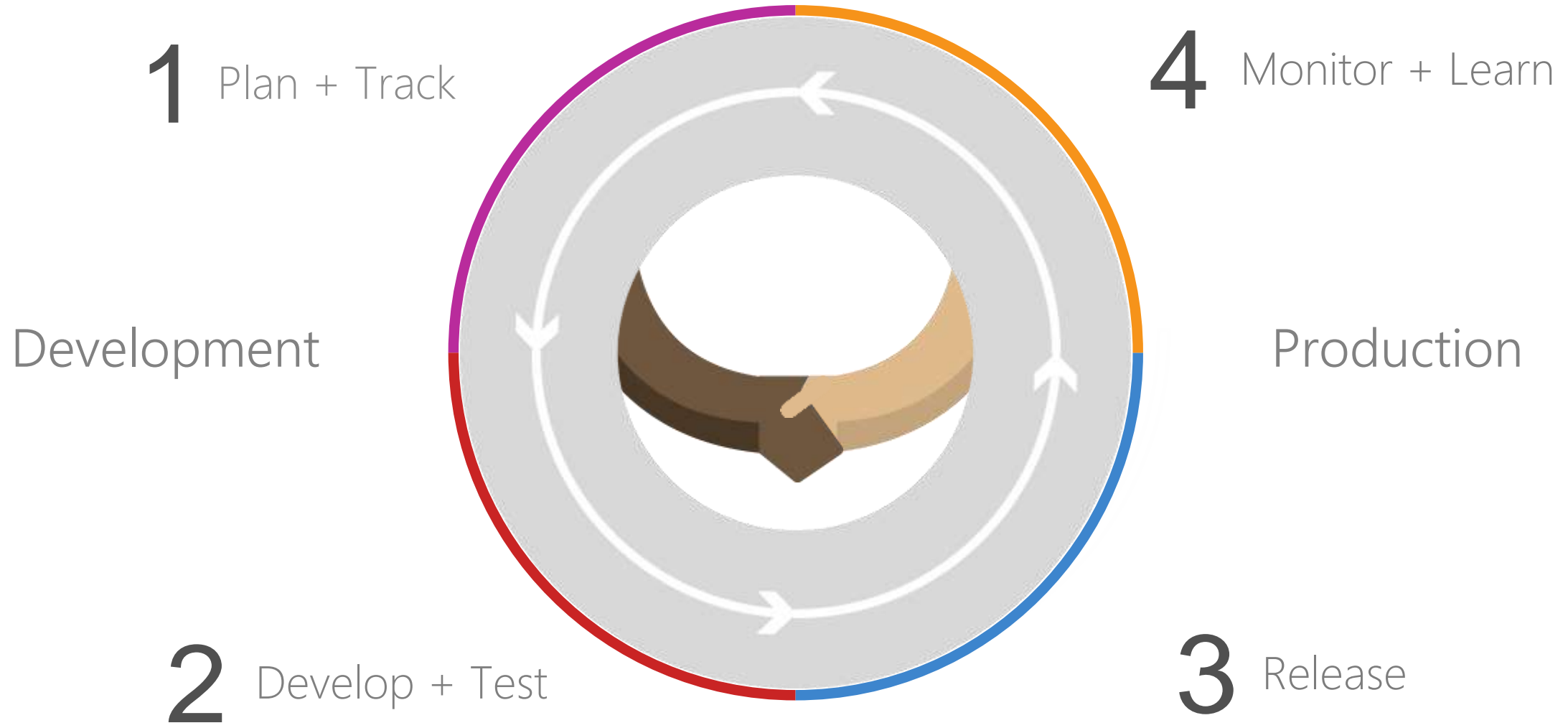


Code Search



Reporting

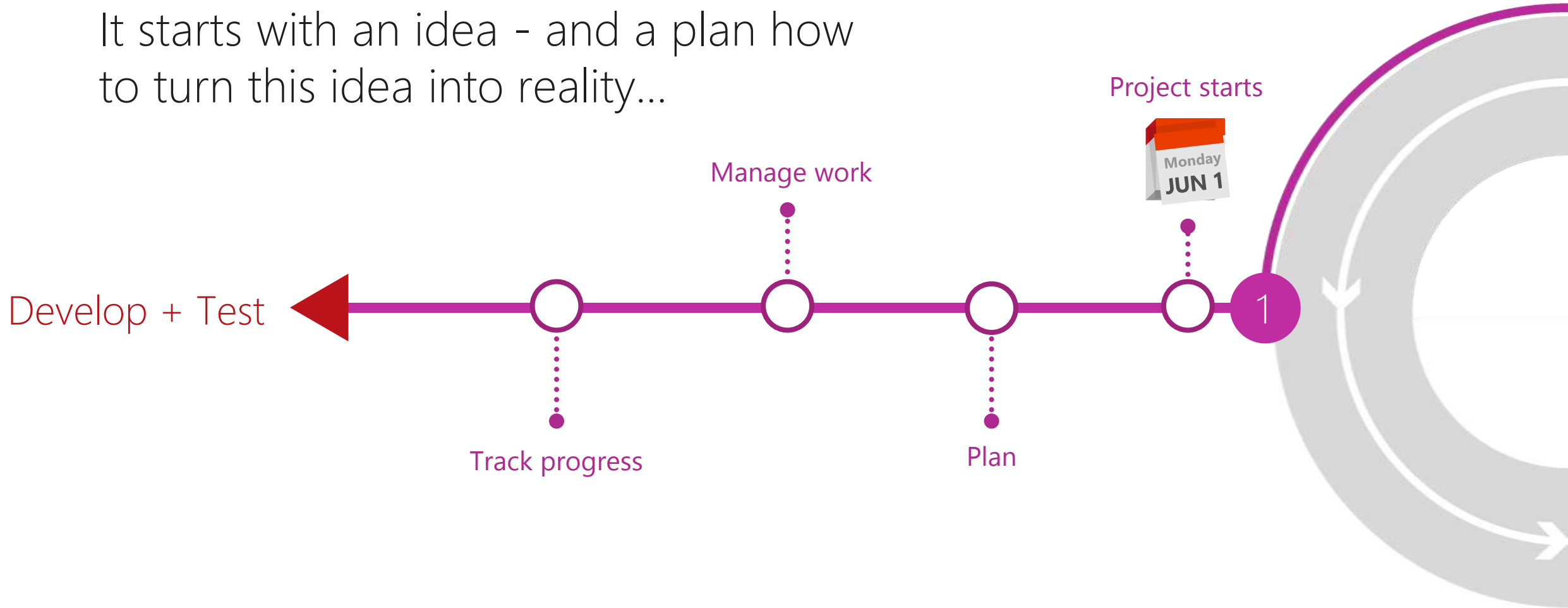
End-to-end DevOps





Plan + Track

It starts with an idea - and a plan how to turn this idea into reality...



Lean & Agile

Dashboards & Charts

Work Items

Customizable Agile Processes

Backlog & Kanban Board customization

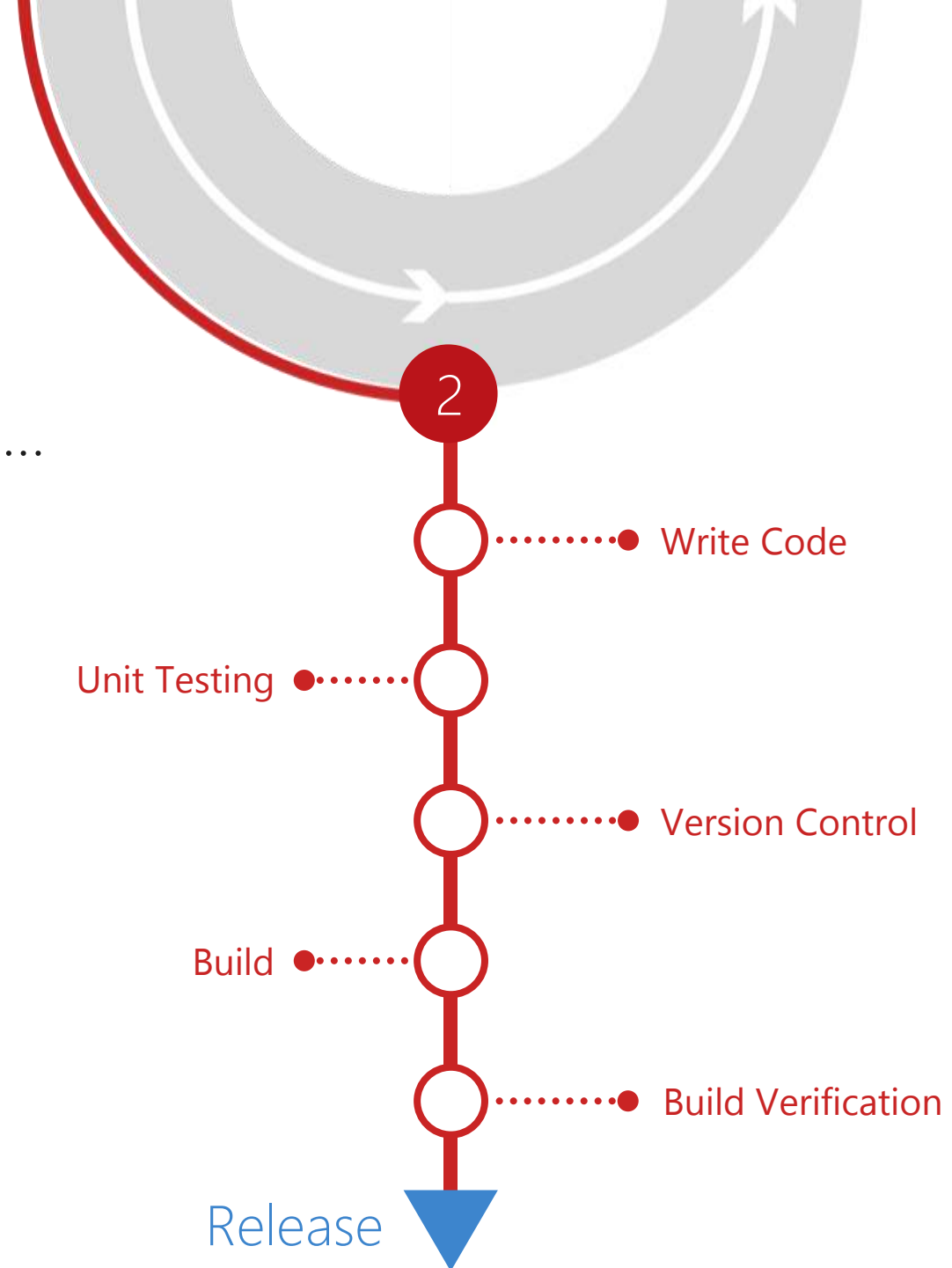
Demo

Lean & Agile



Develop + Test

After the iteration starts, developers turn great ideas into features and functionality ...



Version Control

First class GIT support

Cross-platform with IDE plug-ins

Social Code Reviews

Semantic Code Search

Seamless Integration with Visual Studio

Testing

Full integration with Build and Release Management

Parallel Execution

Exploratory Extension

Code Coverage support for Java

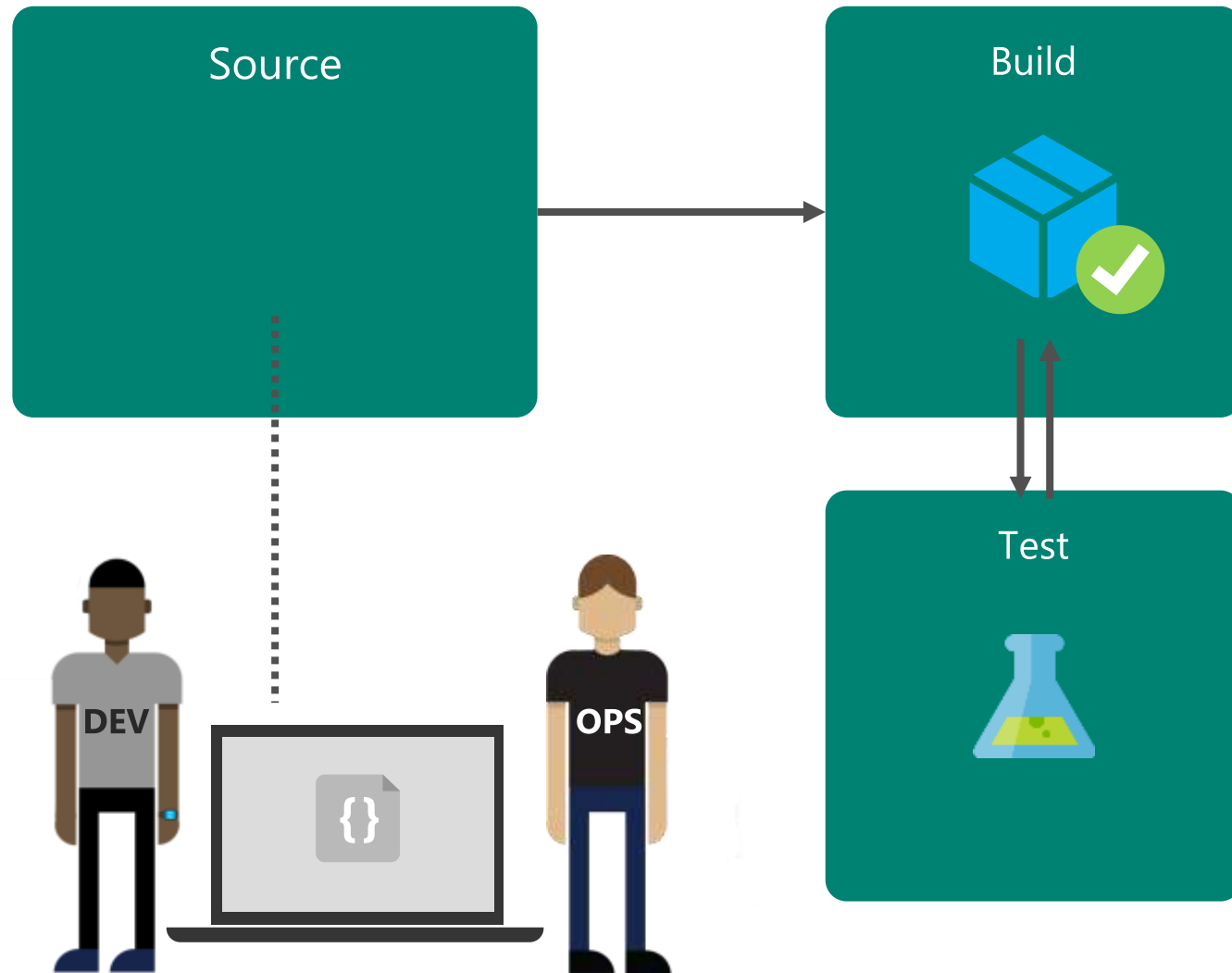
Continuous Integration

Cross-platform

Open Source

Extensible

Continuous Integration



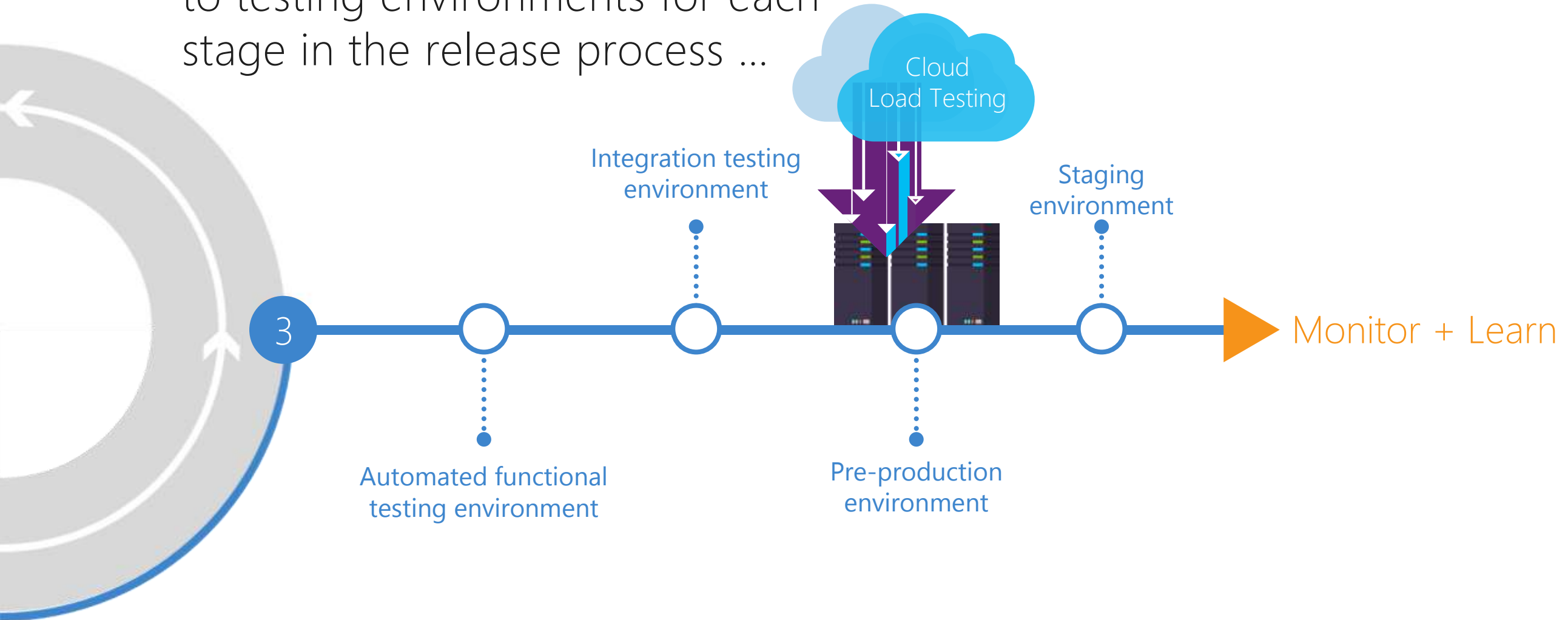
Demo

Automated Testing
Continuous Integration

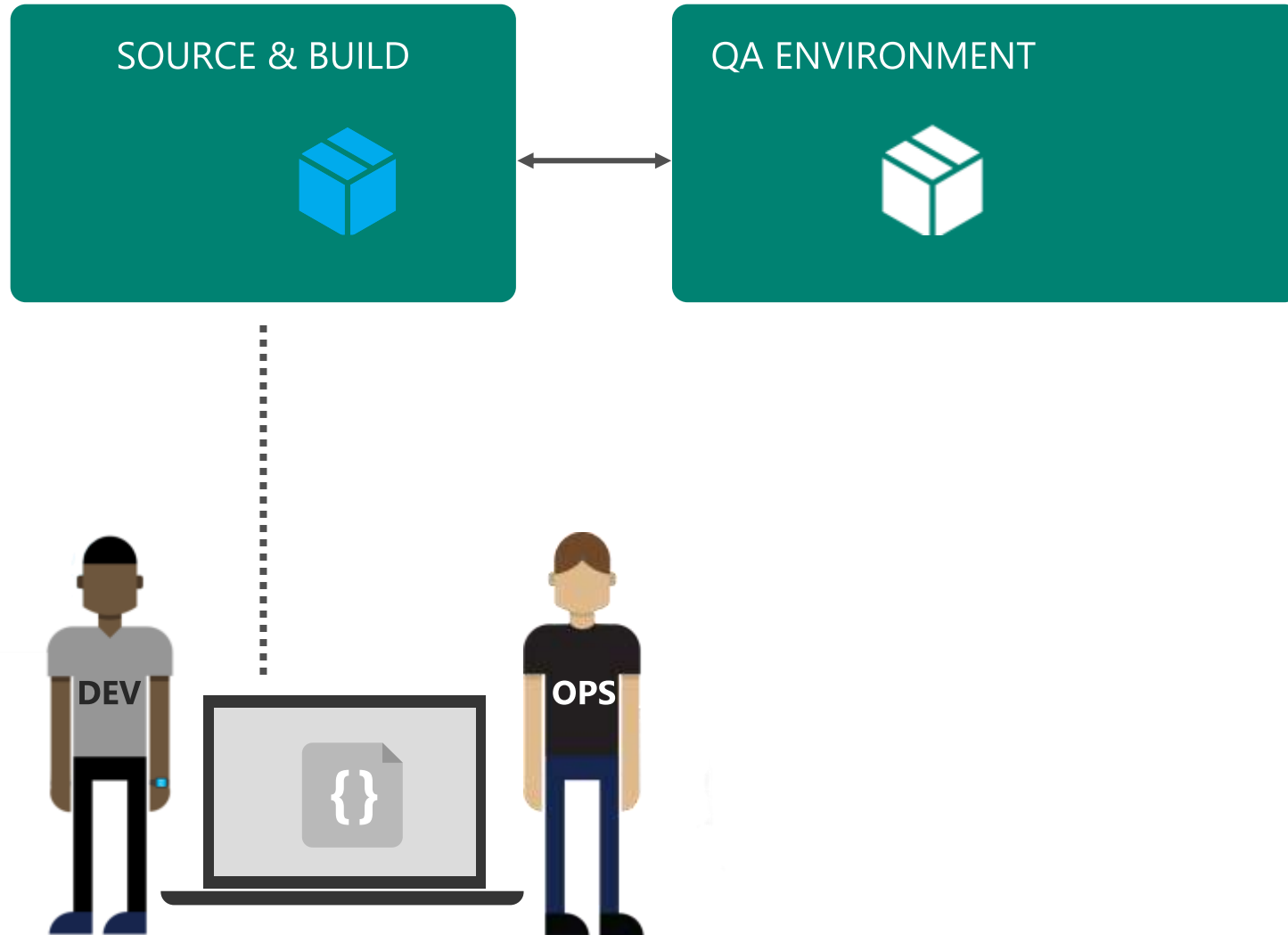


Release

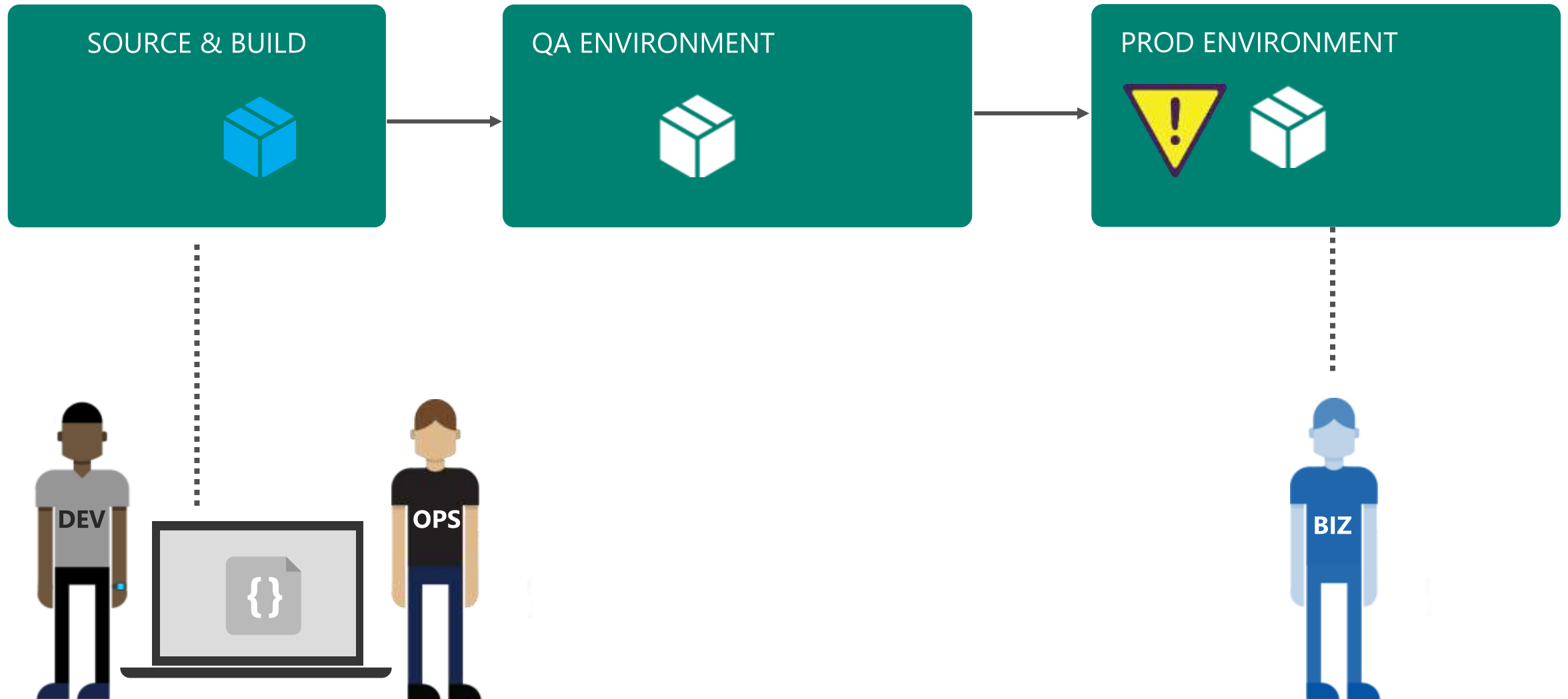
When all tests pass, the build is deployed to testing environments for each stage in the release process ...



Continuous Deployment



Release Management



Release Management

Enables Continuous Delivery

Parallel deployments

Deploy to Cloud, On-premises data centers

Available on-premises with TFS Update 2

Demo

Continuous Deployment
Release Management

Package Management

Enterprise authentication

Private hosted feeds for your enterprise

Discover and search for packages across an enterprise

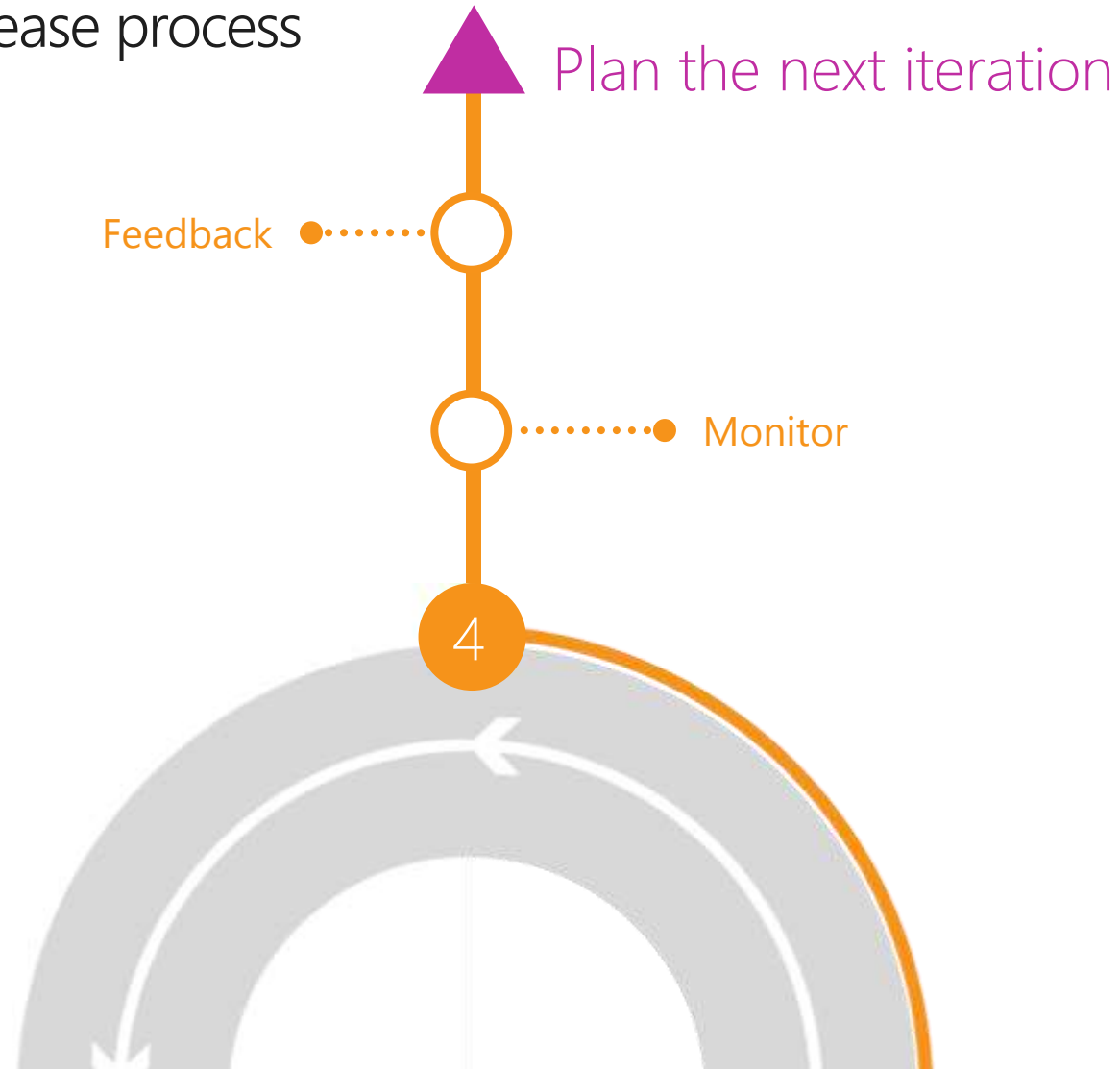
Seamless integration with Build and Release
Management

Plans to support additional package types

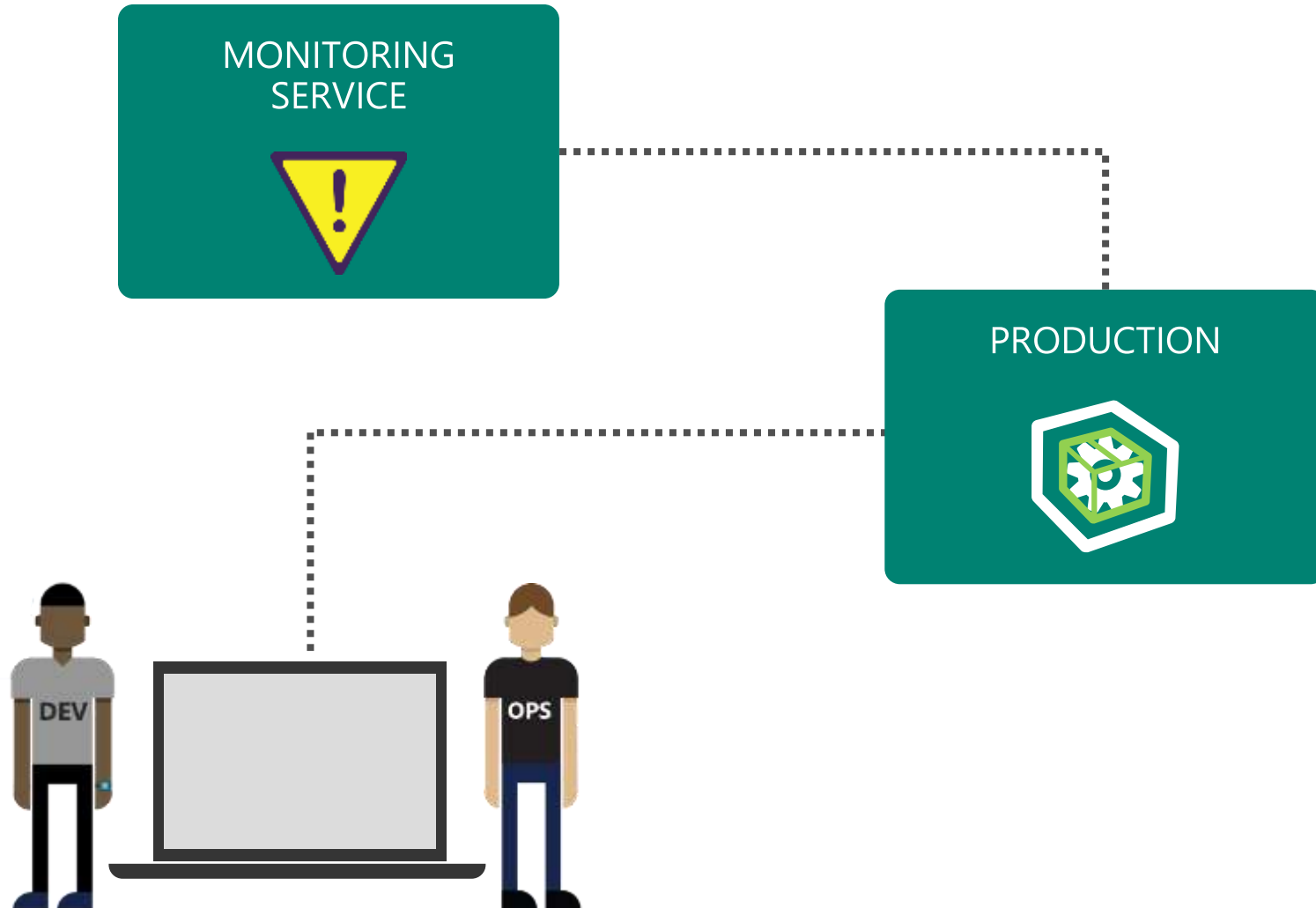


Monitor + Learn

When all tests pass, the build is deployed to testing environments for each stage in the release process



Application Performance Monitoring



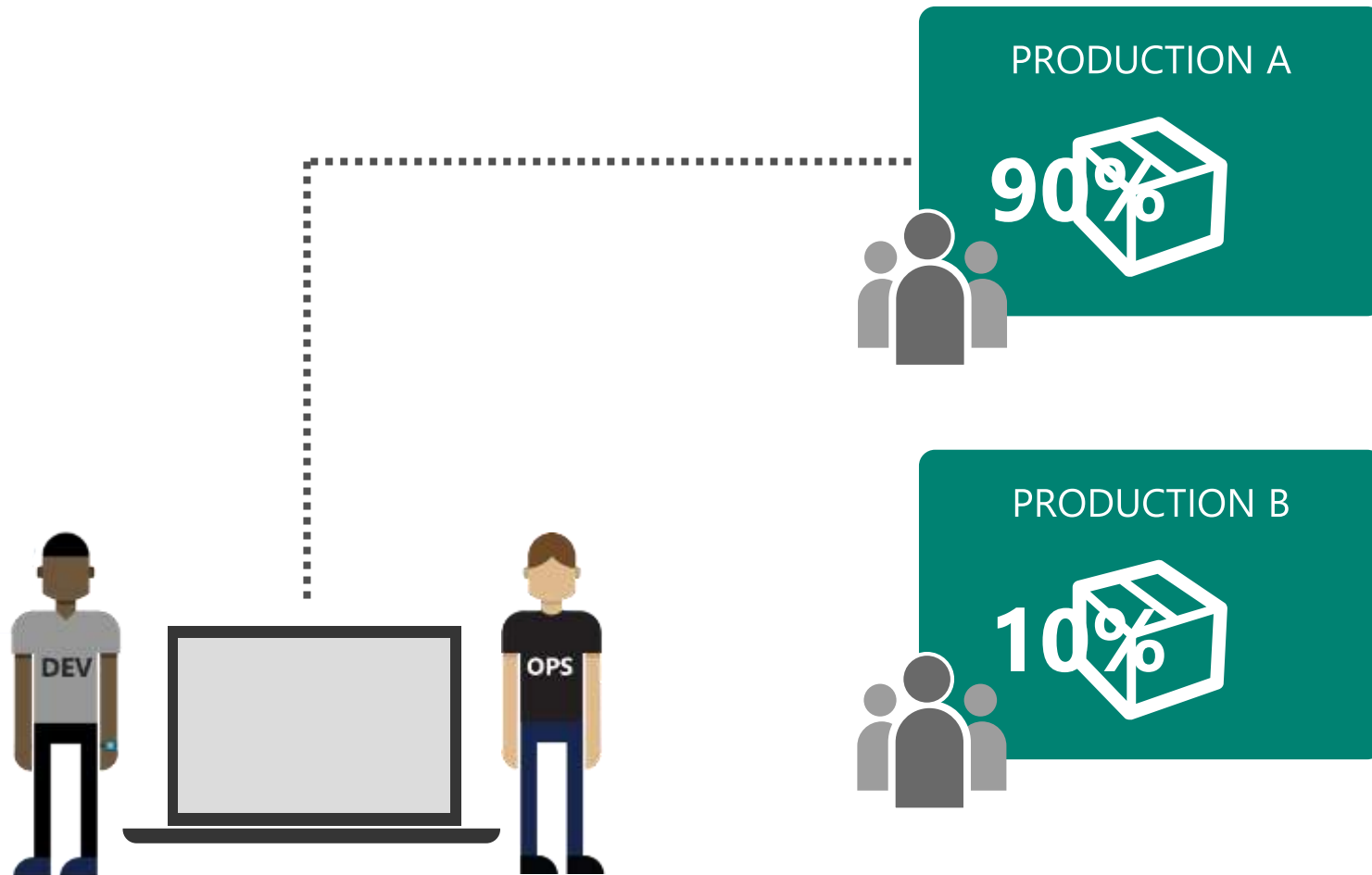
Value

- Faster Detection & Remediation
- Optimized Resources
- More Resilience

Measure

- MTTD
- MTTR
- Availability

Monitoring in Production



Value

- Experimentation
- More Resilience
- Accelerate Delivery

Measure

- Deployment Rate
- MTTR
- Availability
- Change Lead Time

Demo

Application Insights

AppInsights – Database Query

Query Performance Insight

dbinstance-staging - Past week - Aggregation type: avg

Settings Refresh Index Advisor Feedback

CPU consumption: overall and top 10 queries



AVERAGE DTU ⓘ 45.16 %

AVERAGE CPU FOR 91 ⓘ 0 %

AVERAGE CPU FOR 94 ⓘ 0 %

AVERAGE CPU FOR 186 ⓘ 0 %

AVERAGE CPU FOR 192 ⓘ 0 %

Performance of top queries - Past week - Aggregation type: avg

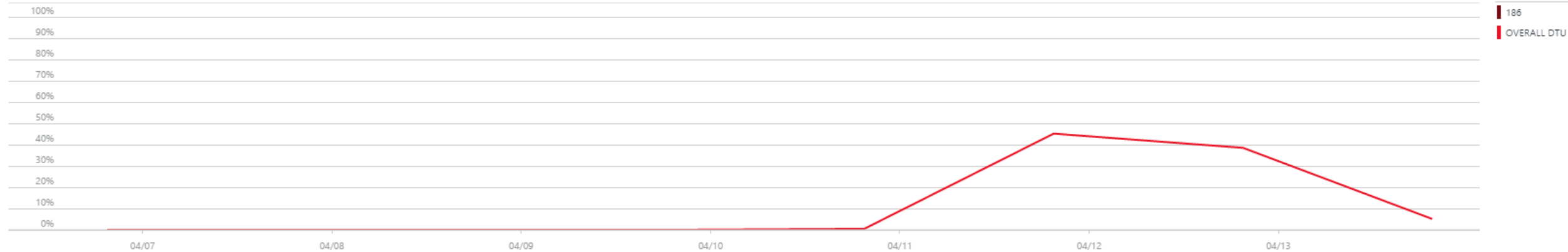
QUERY ID	CPU[%]	DURATION[HH:MM:SS]	EXECUTIONS COUNT	#
91	0	00:00:00.130	72	✓
94	0	00:00:00.360	30	✓
186	0	00:00:01.100	1	✓

AppInsights – Query Details

Query text:


```
1 SELECT
2   [Distinct1].[C1] AS [C1],
3   [Distinct1].[C2] AS [C2],
4   [Distinct1].[C3] AS [C3],
5   [Distinct1].[C4] AS [C4],
6   [Distinct1].[C5] AS [C5],
7   [Distinct1].[C6] AS [C6],
8   [Distinct1].[C7] AS [C7],
9   [Distinct1].[C8] AS [C8],
10  [Distinct1].[C9] AS [C9],
11  [Join18].[WorkflowStepId] AS [WorkflowStepId],
```


CPU consumption: overall and 186




OVERALL DTU ⓘ
11.15 %

AppInsights – Index Advisor

**Index recommendations**
dbinstance-staging

Advisor settings

Feedback

Recommended indexes

IMPACT	RECOMMENDED ACTION	TARGET OBJECT	INDEXED COLUMNS
We analyzed your database and found that your database was created recently. At this time, we don't have any recommendations.			

[View discarded index recommendations \(0\)](#)

Index operations

STATUS	RECOMMENDED ACTION	TARGET OBJECT	INDEXED COLUMNS	LAST UPDATED
There are currently no index operations to display. Once you apply a recommendation, its status will be displayed here.				


Advisor settings

AUTOMATION








Automatically execute recommendations for

Create index ☐ ON ☒ OFF

Drop index ☐ ON ☒ OFF

 Drop index recommendations are currently in preview [Learn more](#)

Available for Team Foundation Server with Update 2

 Code Search Microsoft Code Search provides fast, flexible and accurate search across all your code. 7035 FREE	 Exploratory Testing Microsoft Track and manage working time on work items, with rich features and reports. 1870 PREVIEW	 Folder Management Microsoft DevLabs Quickly create a folder in your Visual Studio Team Services source repositories from the 1541 FREE	 Work Item Visualization Microsoft DevLabs Visualize relationships between work items from within the work item form. 1369 FREE	 Codenvy Agile Plugin for Codenvy Codenvy Codenvy's team workspaces allow developers, stakeholders and users 22 FREE	 GitHub Integration Microsoft Continuous integration and deployment for your .NET, Java, Node.js, Android, iOS, FREE	 Slack Integration Microsoft Team communication for the 21st century integrated with your software development FREE
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Visual Studio Marketplace

920










Visual Studio Code Extensions

5,910

Visual Studio Extensions

100

Visual Studio Team Services Extensions

 HockeyApp Microsoft Distribute your builds, collect crash reports, and get feedback from your users. 847 FREE	 Octopus Deploy Build and Deploy Octopus Deploy Build and Release tasks for integrating with Octopus Deploy 410 FREE	 Perfecto Perfecto Mobile Extend your CI and execute your tests on real devices. 169 FREE	 GitHub Widget Gordon Beeming An unofficial GitHub widget to show some general information for your GitHub 81 PREVIEW	 GitHub Stats Widget Yod Labs Dashboard widget to show stats from a GitHub public repository. 42 FREE	 Azure Service Bus Integration Microsoft Make events happening in Visual Studio Team Services projects instantly available to FREE	 Tasktop Sync Tasktop Connect Microsoft TFS and Visual Studio Online to JIRA, HP ALM and QC, IBM RTC, FREE	 Azuqua Integration Microsoft Connect the services your teams and customers use, automating business FREE	 Zapier Integration Microsoft Connect and automate tasks between Visual Studio Team Services and hundreds of FREE
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Demo

VSTS Extensions Gallery

Futures

The Future of DevOps

Containers

Infrastructure as Code

Desired State Configuration

PERIODIC TABLE OF DEVOPS TOOLS (V1)

XebiaLabs
Deliver Faster

- Os Open Source
- Fr Free
- Fm Freemium
- Pd Paid
- En Enterprise

Database	SCM	Build
CI	Repo Mgmt	Testing
Deployment	Config / Provisioning	Containerization
Cloud / IaaS / PaaS	Release Mgmt	Collaboration
BI / Monitoring	Logging	Security

1 En O 12c	2 Fm Aws Amazon Web	3 Os My MySQL	4 Os Gt Git	5 En Ch Chef	6 En Pu Puppet	7 Os An Ansible	8 En Sl Salt	9 Os Dk Docker	10 Fm Azure
11 Os SQL	12 Os Sv Subversion	13 Fr Ssh SSH	14 Os Bl BladeLogic	15 Os DSC	16 Fr Tf Terraform	17 Os Rk rkt	18 Os Hk Heroku	19 Fm Pq PostgreSQL	20 Fm Mc Mercurial
21 Os Mv Maven	22 Os Gr Gradle	23 En Mr Meister	24 Os Jn Jenkins	25 Pd Bb Bamboo	26 Os Tr Travis CI	27 Fr Ar Archiva	28 Os Fn FitNesse	29 Fr Se Selenium	30 Os Gn Gatling
31 Pd Gd Deployment Manager	32 Os Sf SmartFrog	33 Os Cb Cobbler	34 Os Bc Bcf2	35 Os Kb Kubernetes	36 En Rs Rackspace	37 Os Mg MongoDB	38 Fm Gh Github	39 Os Br Buildr	40 Os At ANT
41 Fm Bm BuildMaster	42 Fm Cs Codeship	43 Fm Sn Snap CI	44 Fm Cr CircleCI	45 Os Nx Nexus	46 Fr Cu Cucumber	47 Os Cj Cucumber.js	48 Fr Qu Qunit	49 Fr Cp Capistrano	50 Fr Ju JuJu
51 Os Rd Rundeck	52 Os Cf CFEngine	53 Fr Pk Packer	54 Fm Bx Bluemix	55 En Db DB2	56 Fm VSO	57 Fm Qb QuickBuild	58 Fm Ub UrbanCode Build	59 Fm Tc TeamCity	60 Os Cc CruiseControl
61 Os Ay Artifactory	62 Os Ju JUnit	63 Os Tn TestNG	64 Fr Rd RapidDeploy	65 Fr Cy CodeDeploy	66 Os No CA Nolio	67 En Go Go	68 Fr Ef ElectricFlow	69 Os Xld XL Deploy	70 Os Ud UrbanCode Deploy
71 Os Mo Mesos	72 En Ad Apprenda	73 Fr Cs Cassandra	74 Fr Hx Helix	75 Os Msb MSBuild	76 Os Rk Rake	77 Os Lb LuntBuild	78 Os Cu Continuum	79 Os Ca Continua CI	80 Os Gu Gump
81 Os Ng NuGet	82 Os Ap Applum	83 Os Xltv XL TestView	84 En Tc TestComplete	85 Os Go Go	86 Os Ef ElectricFlow	87 Os Xld XL Deploy	88 Os Ud UrbanCode Deploy	89 Os Mo Mesos	90 Os Cf Cloud Foundry

Share



Embed



Become Excellent!

Subscribe here!

91 En Xlr XL Release	92 En Ur UrbanCode Release	93 En Ls Lunox	94 En Bm Bamboo	95 Os Hp HP Codar	96 Os Pl Pivotal Tracker	97 En Sr Snyk	98 En Tr Travis CI	99 Fm Jr Jenkins	100 Pd Rf Rundeck	101 Fm Fd Flowdock	102 Fm Pv Pivotal Tracker	103 Fm Sn Snort	104 Pd Tr Tripwire	105 En Cf Cloud Foundry
106 Os Sp Splunk	107 Os Nr New Relic	108 Fm Ni Nagios	109 Os Gg Ganglia	110 Os Ct Cacti	111 Os Gr Graphite	112 Os Ic Icinga	113 Os Ls Logstash	114 Os Lg Loggly	115 Os Gr Graylog	116 Os Sn Snort	117 Os Tr Tripwire	118 Os Cf Cloud Foundry	119 Os Ad Apprenda	120 Os Cf Cloud Foundry

VS Release
Managem

SPS
Skype

Azure

Azure

Azure
AD

Resources for DevOps Practices

Optimize your DevOps practices and tools:

Get started on your DevOps journey: aka.ms/devops

Download the Forrester Infrastructure-as-Code whitepaper:

Complexity kills. Automate with Infra as code: [aka.ms/iac tlp](https://aka.ms/iac_tlp)

Technical resources for Practitioners:

Get access to free online training: aka.ms/devopsmva

DevOps Maturity Self-Assessment

See where your organization is at across 7 areas: <http://devopsassessment.azurewebsites.net/>

Q&A

THANK YOU!