Brian.About();
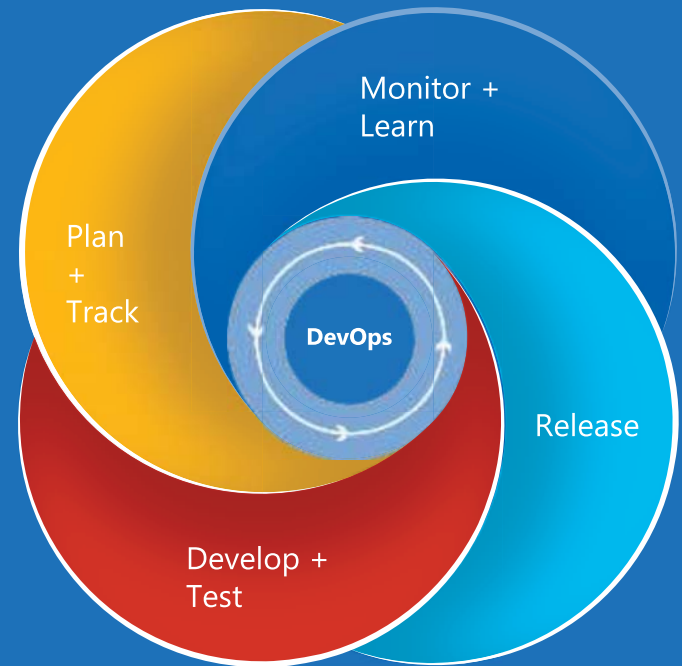
- Co-founder DuoMyth
- Partner with MCW Technologies
- Member of Pluralsight's Technical Staff
- Co-author Pro ALM 2013 from Wrox (`http://bri.gd/bcazba01`)
- Microsoft MVP for Visual Studio and Development Technologies

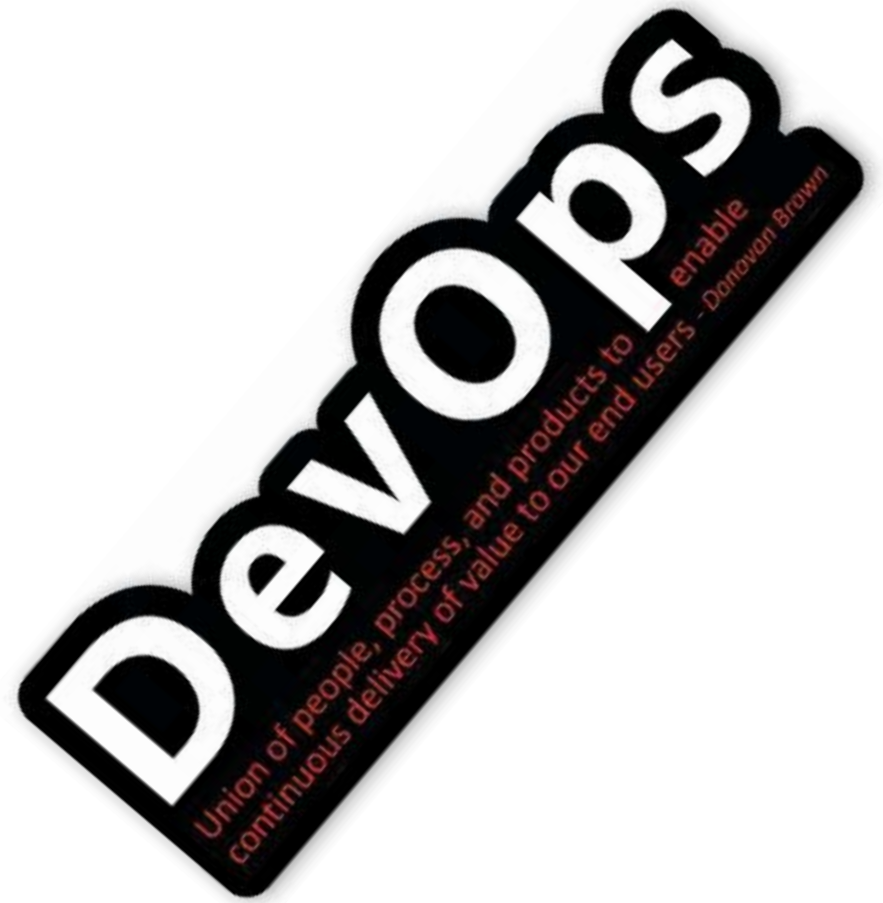brianr@mcwtech.com | @brianrandell | blog.brianrandell.com

Agenda

- Level Set
- Plan & Track
- Develop & Test
- Release
- Monitor & Learn

LEVEL SET

What is DevOps?

DevOps is the union of people, process, and product to enable continuous delivery of value for our end users.

"**High-performing organizations** are decisively outperforming their lower-performing peers in terms of throughput. High performers **deploy 200 times more frequently** than low performers, **with 2,555 times faster lead times**."
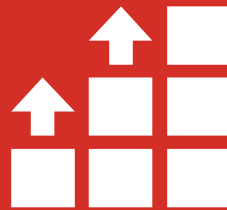
What's DevOps?

DevOps is a full lifecycle investment

App Lifecycle

DevOps is a team undertaking

DevOps enables better software development and delivery practices

DevOps accelerates the last mile of continuous delivery

DevOps flavors

WebOps
Google, Amazon, Twitter,
Facebook, Xbox Live, etc.

NoOps
Small web teams,
start-ups

Enterprise DevOps
Cross-functional
organizations

DevOps goals and success metrics

| Increase deployment frequency | Reduce change lead-time (react faster to dynamic business needs) | Reduce change fail rate | Reduce mean-time-to-detect & repair (MTTD, MTTR) |

Agility performance indicators   **Reliability** performance indicators
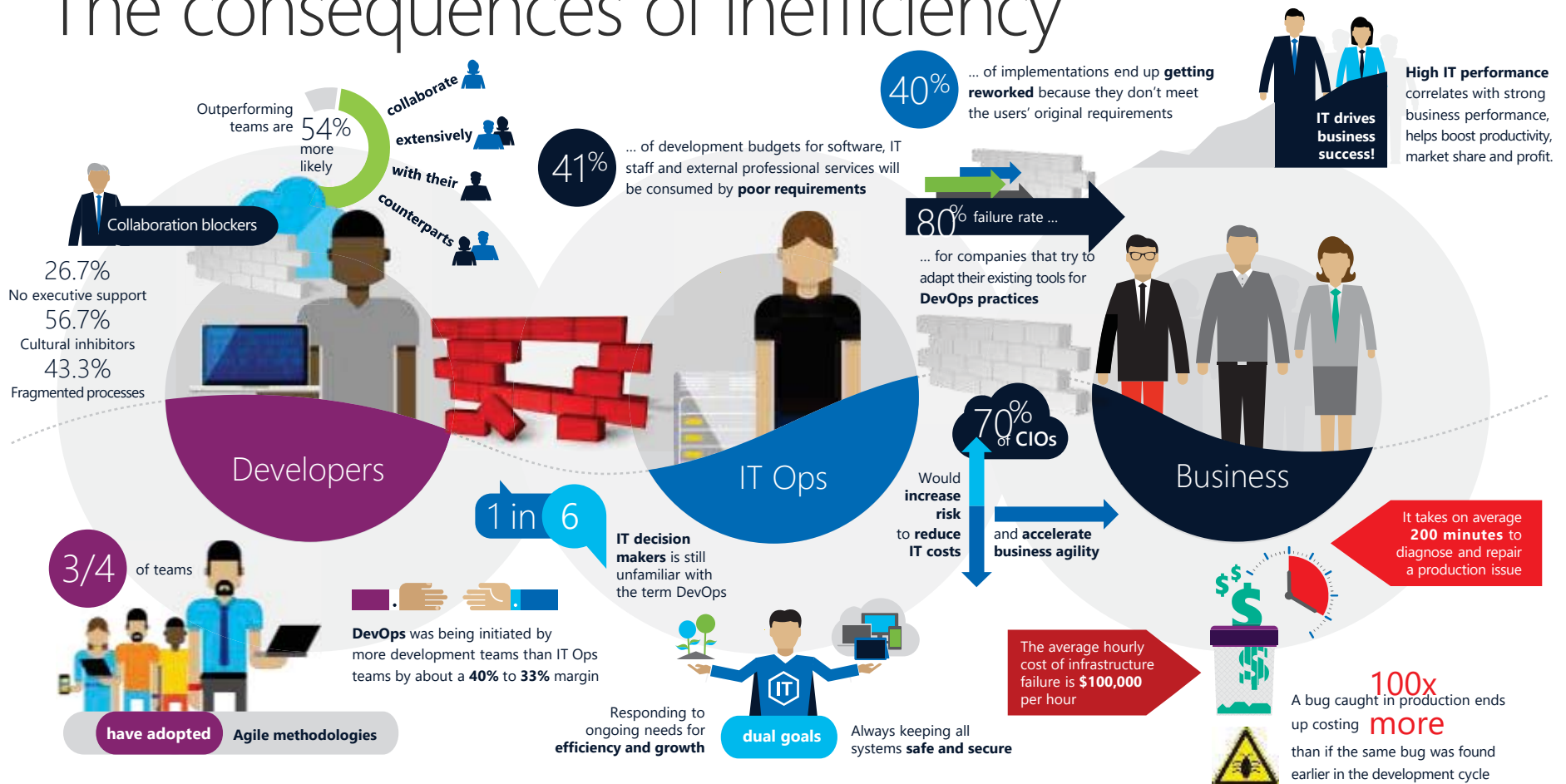
Why DevOps?

The consequences of inefficiency

Outperforming teams are **54%** more likely **collaborate extensively** **with their counterparts**

Collaboration blockers

26.7% No executive support
56.7% Cultural inhibitors
43.3% Fragmented processes

3/4 of teams **have adopted** **Agile methodologies**

41% ... of development budgets for software, IT staff and external professional services will be consumed by **poor requirements**

Developers

1 in 6 **IT decision makers** is still unfamiliar with the term DevOps

DevOps was being initiated by more development teams than IT Ops teams by about a **40%** to **33%** margin

IT Ops

dual goals Responding to ongoing needs for **efficiency and growth** Always keeping all systems **safe and secure**

40% ... of implementations end up **getting reworked** because they don't meet the users' original requirements

80% failure rate ... ... for companies that try to adapt their existing tools for **DevOps practices**

High IT performance correlates with strong business performance, helps boost productivity, market share and profit.

IT drives business success!

70% of CIOs Would **increase risk** to **reduce IT costs** and **accelerate business agility**

Business

It takes on average **200 minutes** to diagnose and repair a production issue

The average hourly cost of infrastructure failure is **$100,000** per hour

100x A bug caught in production ends up costing **more** than if the same bug was found earlier in the development cycle

Tell me more ...

This is the story of how a company with nearly $400 million in assets went bankrupt in 45-minutes because of a failed deployment.

Knight Capital Group

Knight Capital

- Financial services firm on NYSE
- New order handling feature – create child orders
- Replaced old code with new code
- 9 year old unused code in the system
- Repurposed a flag to activate new code
- At deployment, technician copied on 7/8 servers

Then they went live...

They started loosing **$172,222** per minute.

Then they tried to fix it…

Ended losing **$460 million** and went under bankruptcy protection.

What would be the impact in your organization?

How do we know so much?

Post mortem

During the deployment of the new code, however, one of Knight's technicians did not copy the new code to one of the eight SMARS computer servers. Knight did not have a second technician review this deployment and no one at Knight realized that the Power Peg code had not been removed from the eighth server, nor the new RLP code added. Knight had no written procedures that required such a review.
SEC Filing | Release No. 70694 | October 16, 2013

Maybe something happier?

Microsoft's journey

How they used to work

Microsoft did ask for feedback after each milestone – but they could not really react to it
For the most part, they would tell everybody "sorry" - and push things to the next release
They did find & fix bugs, without really knowing if they built the right thing in the first place
They had closed silos of information across different organizations, hurting collaboration

Planning	Code	Test & Stabilize	Code	Test & Stabilize

? **Beta**

? **RTM**

2.5 years!

Where they are today

How they work now

They ship frequently with minimum friction

Build>Deploy>Test reliably, hundreds of times a day

They continue to meet a rigorous on-premises quality bar

They build confidence through staging, exposure control & rich telemetry

Sprint	Planning Chat	Season	Vision
3 week sprints **3**	Every 3 sprints **3**	6 month season **6**	18 month vision **18**

Visit http://stories.visualstudio.com to get the full story!

How do you get started?

Learn from others

10+ Deploys Per Day

- Automated Infrastructure
- Shared Version Control
- One Step Build and Deploy
- Feature Flags / Branches
- Shared Metrics
- Communication

John Allspaw & Paul Hammond
10+ Deploys Per Day: Dev and Ops Cooperation at Flickr
http://bri.gd/tenplusdeploy

People
Process
Products

People

Can't we all get along?

- Break down barriers
- Break down organizations
- Yes, start with a virtual team
- Move to "real" DevOps teams
- Convince management: can you afford to be another "Knight"?
- Embrace Kaizen

Kaizen is a system of continuous improvement in quality, technology, processes, company culture, productivity, safety and leadership.

Process

Shorten Cycle Times and Focus on the Flow

- Continuous Integration
- Continuous Testing
- Continuous Deployment
- Continuous Feedback
- Continuous Improvement

Product

One codebase, two delivery streams

One Codebase

Visual Studio
Team Services

Update 1

Update 2

Update 3

Team Foundation
Server

Ready Today

Your on-ramp to the cloud: VSTS
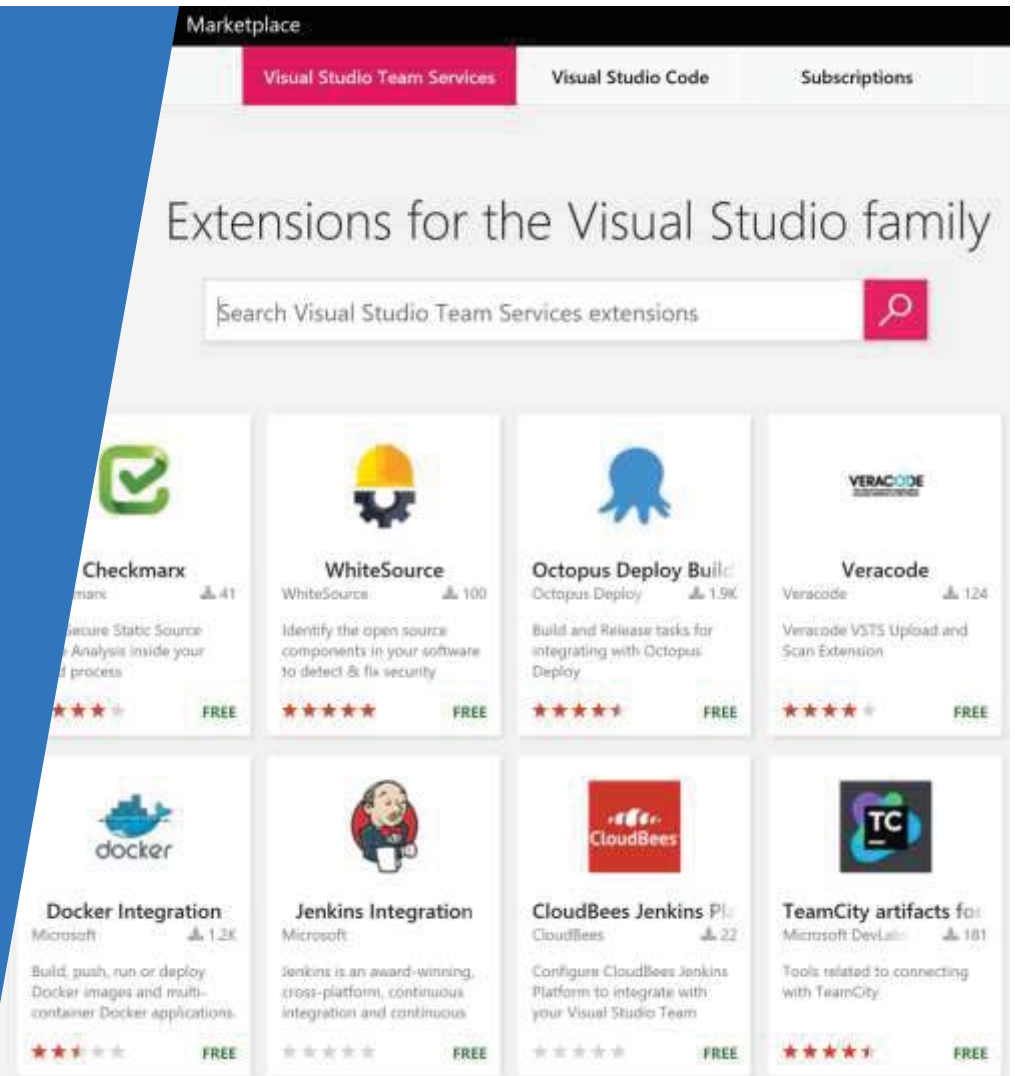
https://aka.ms/tfsimportdata

Evolving DevOps

Any app, any code, any platform

DevOps for all

Extensibility **+** ecosystem **=**
a flexible DevOps toolchain
for any target environment

http://marketplace.visualstudio.com

190,000

Visual Studio Team Services
extension installations

38,000

Visual Studio Team Services
Accounts using Extensions

293

Visual Studio Team Services
extensions published

Ecosystem Momentum

12.3 Million
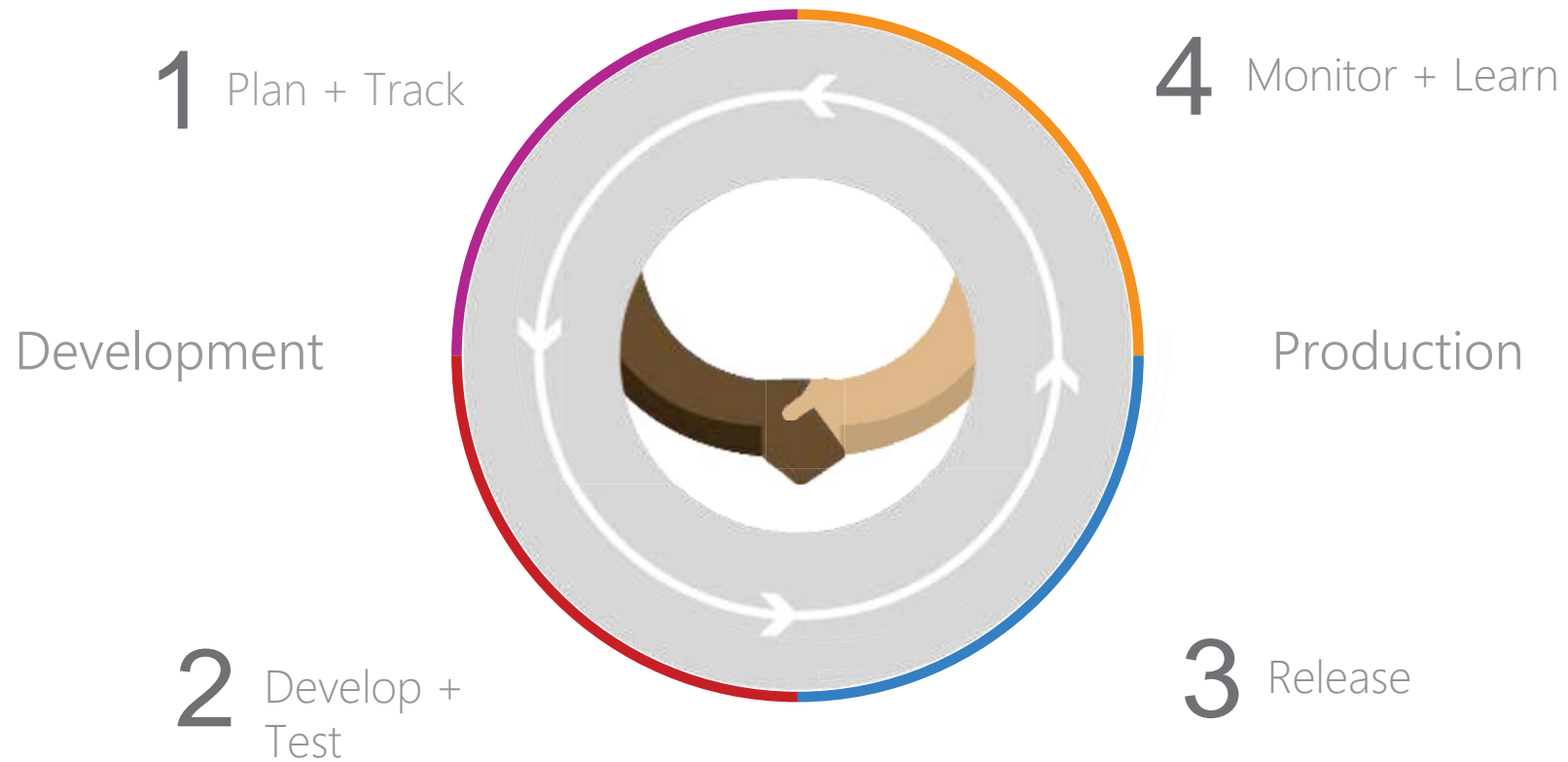
Total Visual Studio
Marketplace acquisitions

4800

Publishers
in the Marketplace

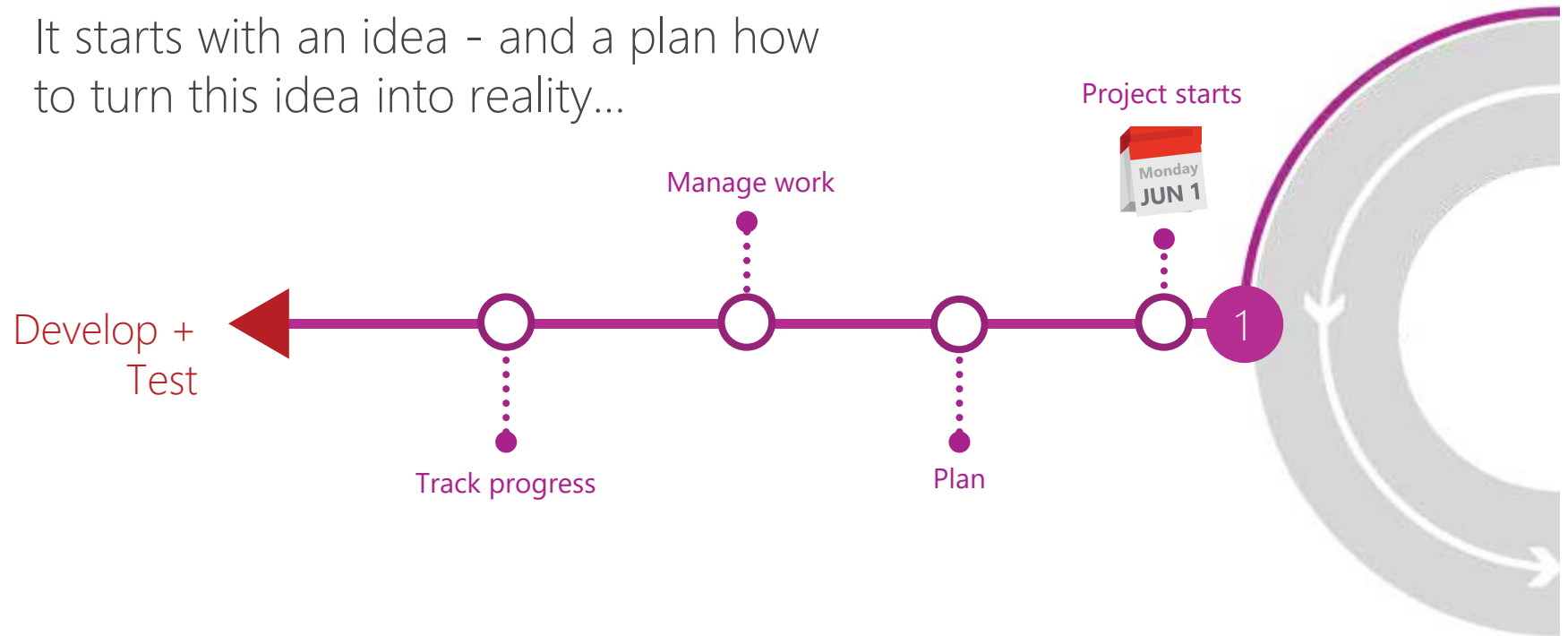**2.6** Million

Marketplace
Unique Users

End-to-end DevOps

1 Plan + Track

Development

2 Develop + Test

4 Monitor + Learn

Production

3 Release

PLAN & TRACK

Plan & Track

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

Project starts
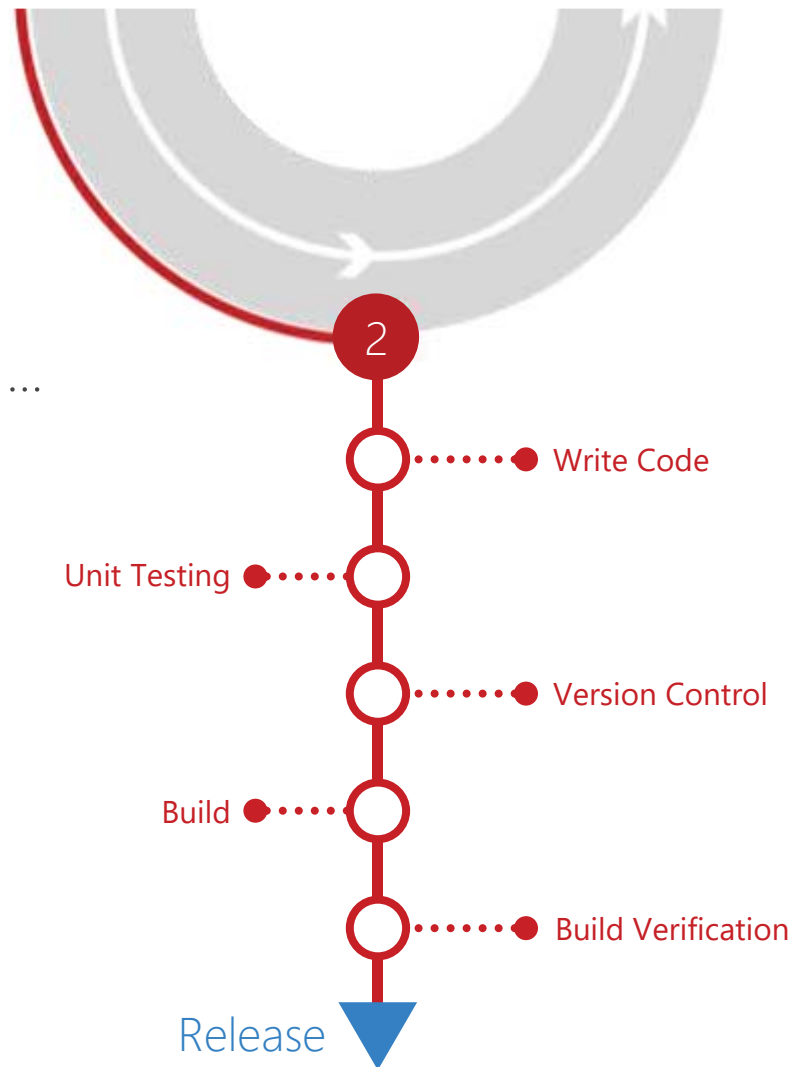
Manage work

Monday
JUN 1

Develop +
Test

1

Track progress

Plan

DEVELOP & TEST

Develop & Test

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

2

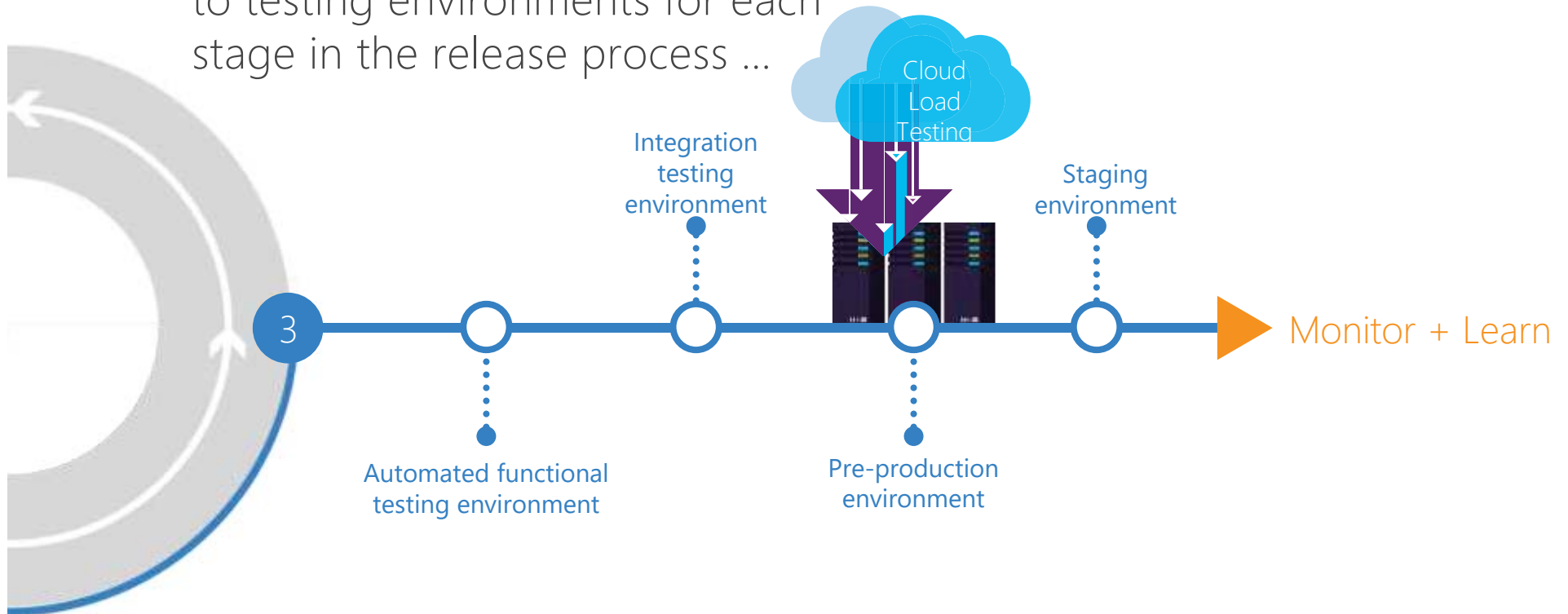Write Code

Unit Testing

Version Control

Build

Build Verification

Release

RELEASE

Release

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

Cloud Load Testing

Integration testing environment

Staging environment

3

Monitor + Learn

Automated functional testing environment

Pre-production environment

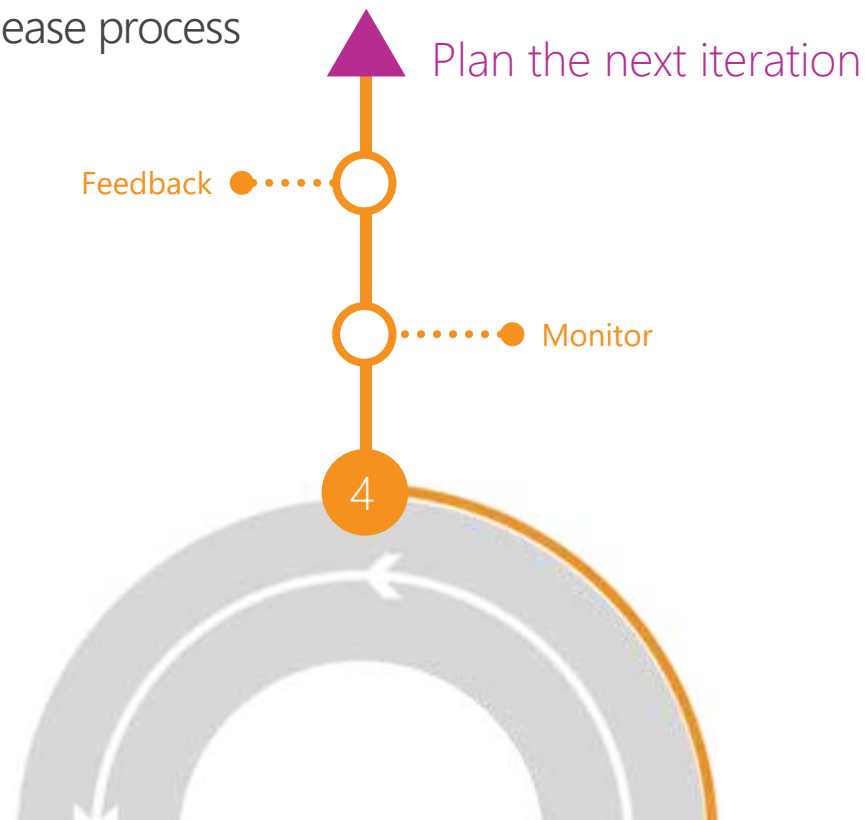# MONITOR & LEARN

Monitor & Learn

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

Plan the next iteration

Feedback

Monitor

4

A final thought …

Don't let your experience be an impediment to your ability to learn and grow.

thank you

evops

n a day

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