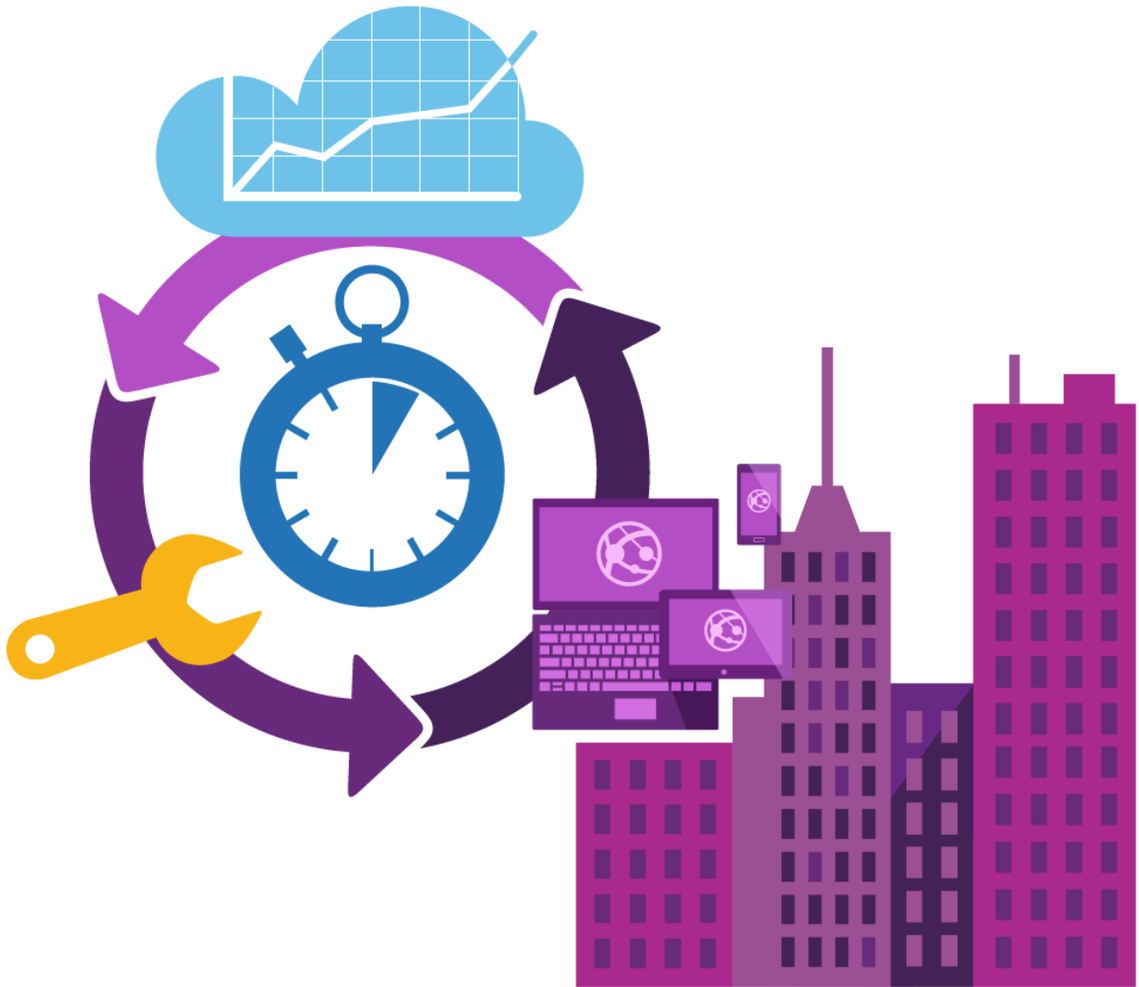
The Microsoft DevOps Solution

Features & Benefits

Jordan Radkov
Cloud Solution Architect

Jordan.Radkov@microsoft.com

Microsoft



Value delivery challenges

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

Collaboration blockers

26.7%
No executive support

56.7%
Cultural inhibitors

43.3%
Fragmented processes

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

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

Developers

IT Ops

Business

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

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

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

Responding to ongoing needs for **efficiency and growth**

dual goals

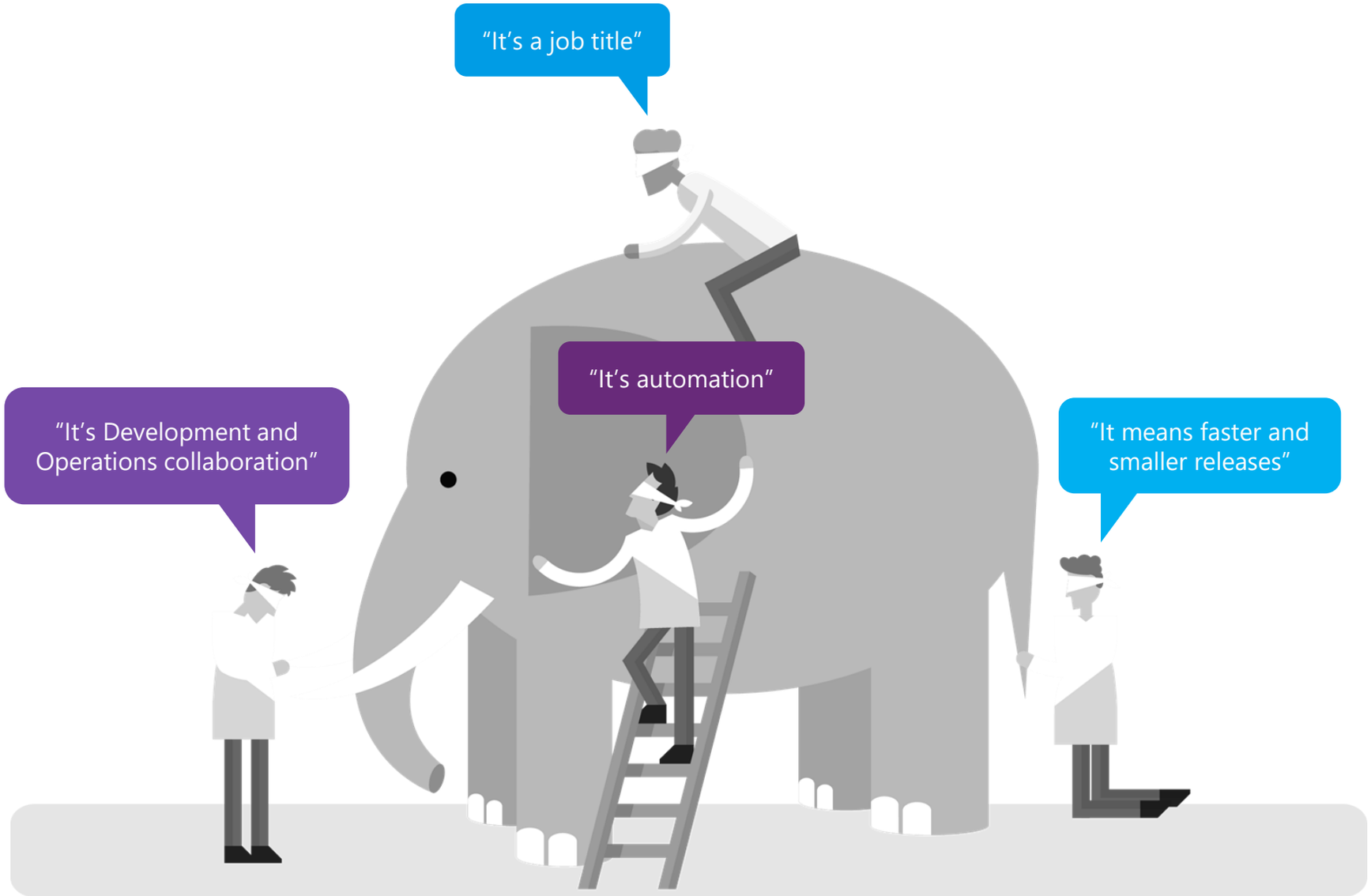
Always keeping all systems **safe and secure**

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

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

What is DevOps?



The converged DevOps lifecycle

Plan + Track

Release

Development

Production

Develop + Test

Monitor + Learn

DevOps habits and practices

FLOW OF CUSTOMER VALUE

PRACTICES
Automated Testing
Continuous Integration
Continuous Deployment
Release Management

TEAM AUTONOMY & ENTERPRISE ALIGNMENT

PRACTICES
Enterprise Agile
Continuous Integration
Continuous Deployment
Release Management

BACKLOG refined with LEARNING

PRACTICES
Usage Monitoring
Telemetry Collection
Testing in Production
Stakeholder Feedback

EVIDENCE gathered in PRODUCTION

PRACTICES
Testing in Production
Usage Monitoring
User Telemetry
Stakeholder feedback
Feature flags

MANAGED TECHNICAL DEBT

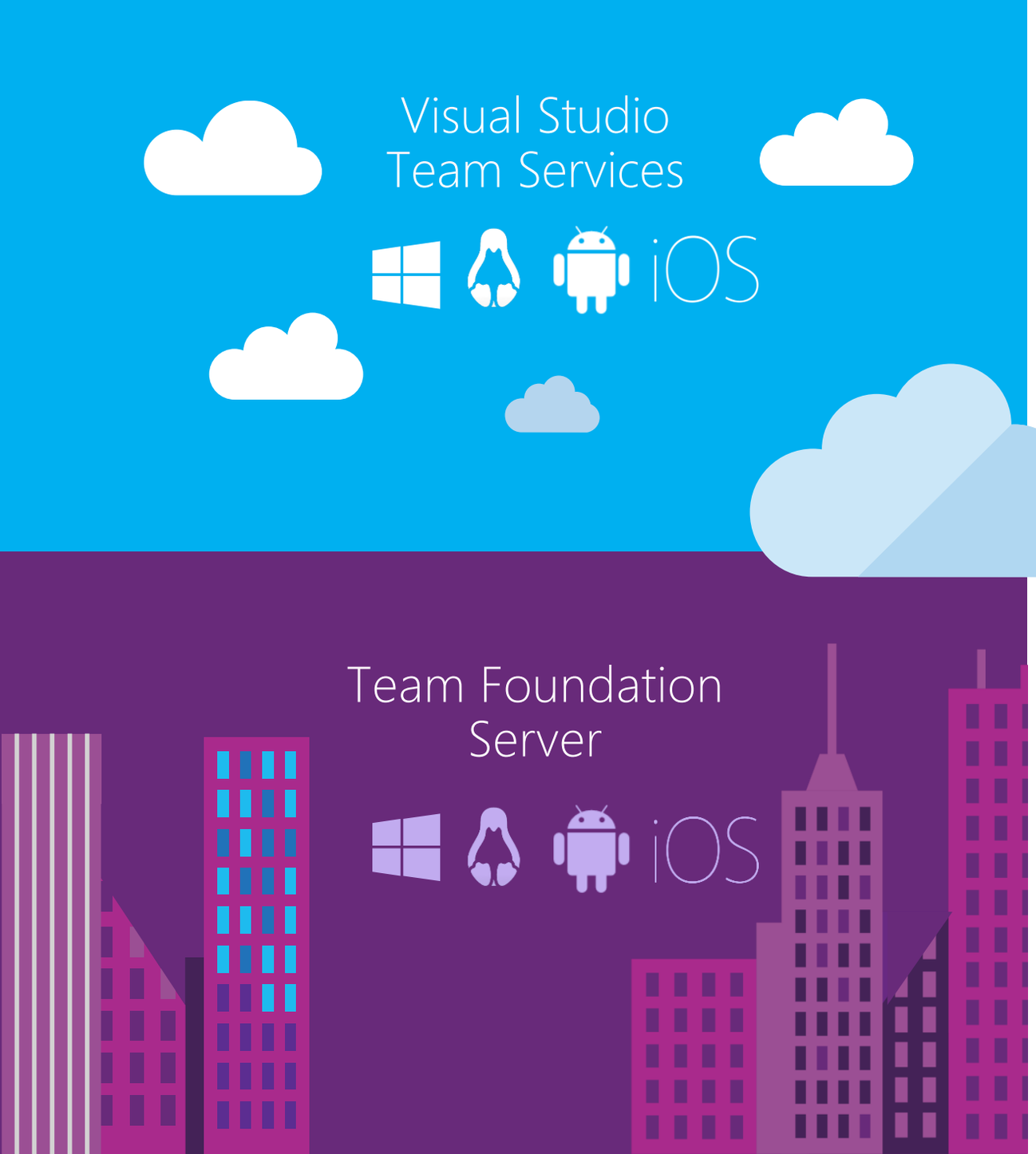
PRACTICES
Code Reviews
Automated Testing
Continuous Measurement

PRODUCTION FIRST MINDSET

PRACTICES
Application Performance Management
Infrastructure as Code
Continuous Delivery
Release Management
Configuration Management
Automated Recovery

INFRASTRUCTURE is a FLEXIBLE RESOURCE

PRACTICES
Application Performance Management
Infrastructure as Code
Continuous Deployment
Release Management
Configuration Management
Automated Recovery



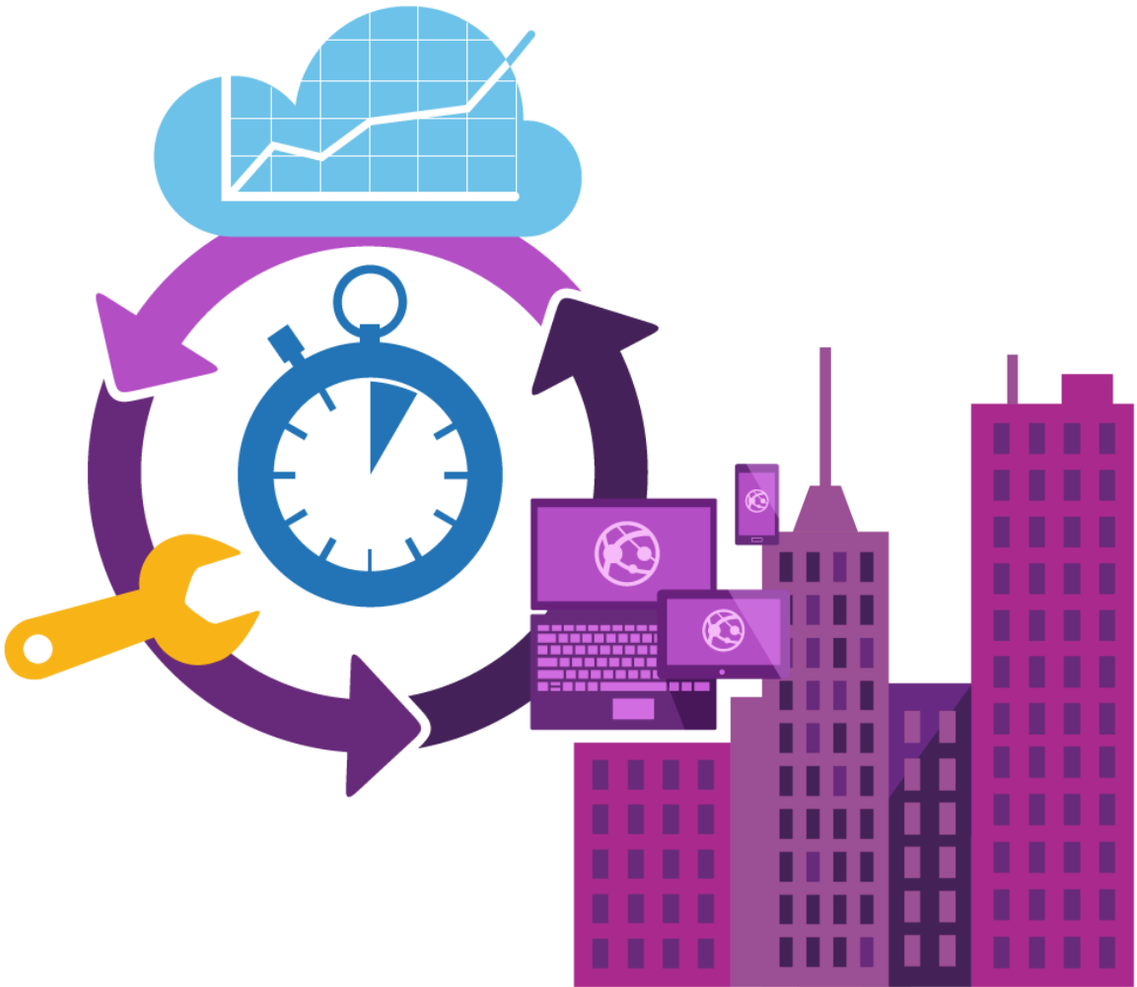
Open, flexible and extensible cross-platform DevOps tools

Unlocks a greater ecosystem and works with what you already use

More agility and flexibility for continuous value delivery

The Microsoft DevOps solution

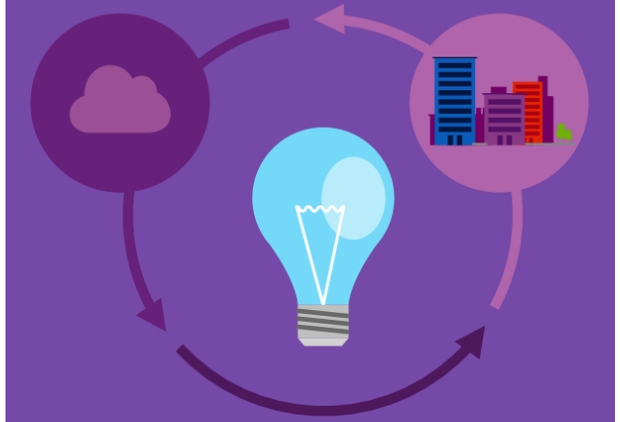
Overview



The Microsoft DevOps solution

An integrated, end-to-end solution for teams of any size to design, build and manage enterprise solutions and cross-platform mobile business apps.

Shorten cycle times and deliver value faster



Improve quality and availability

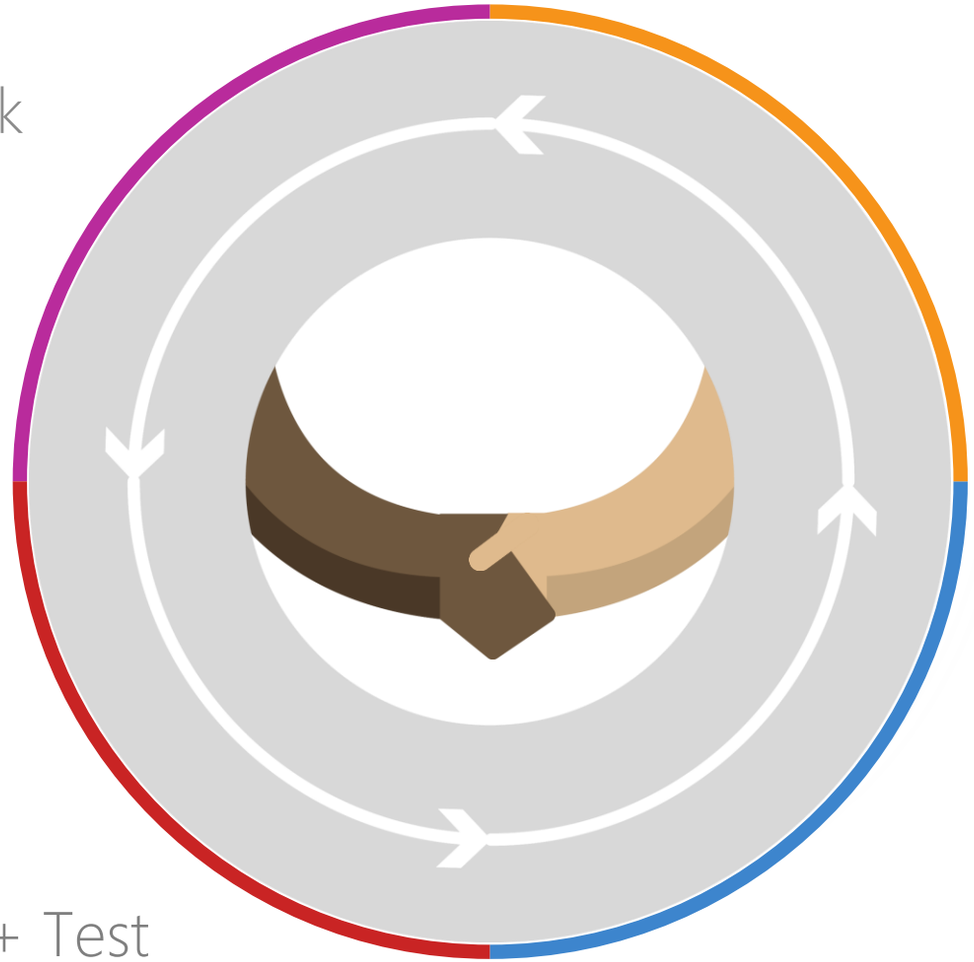
Optimize resources and eliminate waste

Deliver mobile apps with digital-era velocity

End-to-end DevOps

1 Plan + Track

4 Monitor + Learn



Development

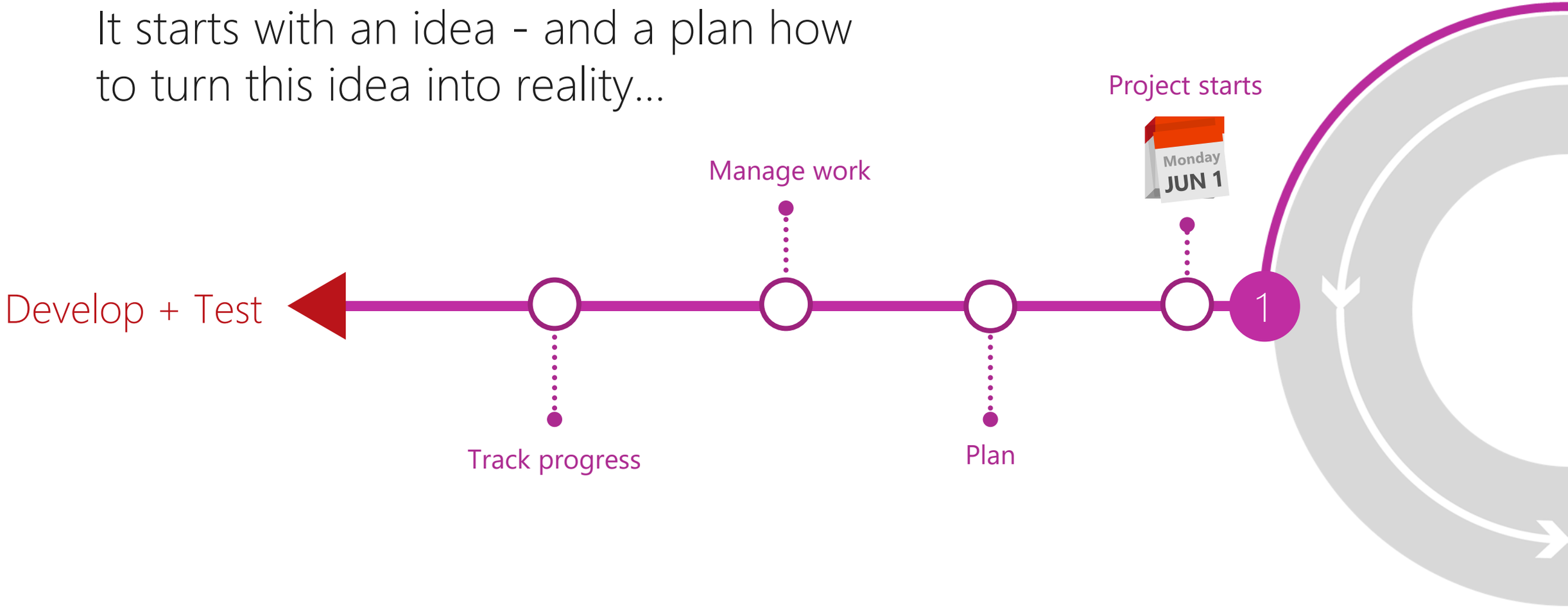
Production

2 Develop + Test

3 Release

Plan + Track

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



Plan & Track

Visual Studio Team Services and Team Foundation Server give you the tools you need to effectively create, manage and deliver against your backlog.

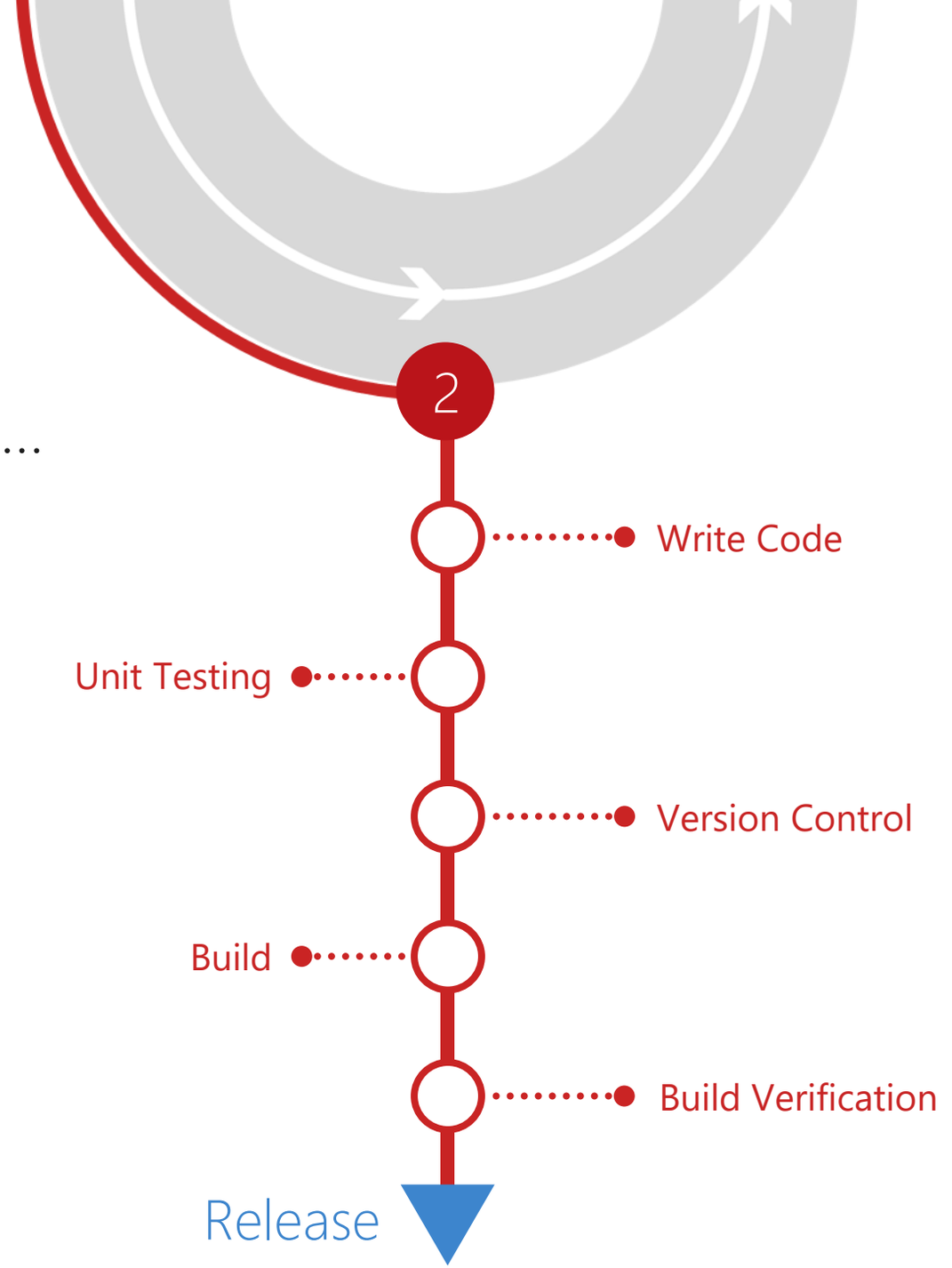
Enterprise collaboration

Agile planning tools

Dashboards & charts

Develop + Test

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



Source Code Management

VSTS and TFS provide unparalleled flexibility for your evolving codebase.

All your code is linked directly to the story, bug, or task driving the work.

Flexible version control

Collaborate on code

Any IDE, any code

Test Management

A toolset optimized for QA professionals, giving them flexibility in how they work while at the same time keeping them in sync with the rest of the team.

Test planning and tracking

Developer testing

Manual and exploratory testing

Cross-platform Build

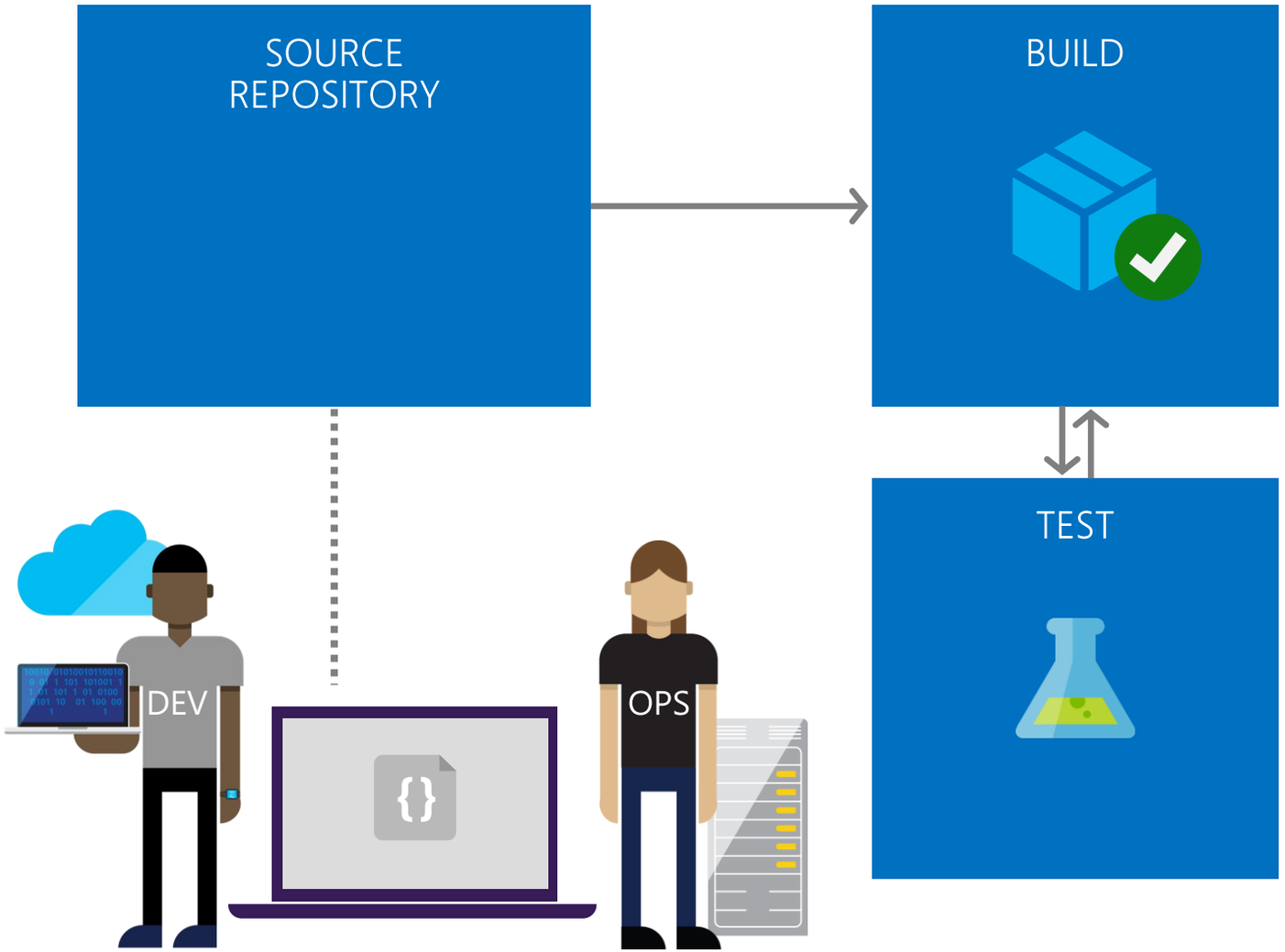
No matter what tools you use or what language you prefer - Team Foundation Build builds your app your way, for your platforms. Just open your browser!

Cross-platform build for iOS, Java and Android

Flexible, extensible and customizable builds

Cloud, hybrid or on-premises infrastructure

Continuous Integration (CI) – a DevOps practice



Issues

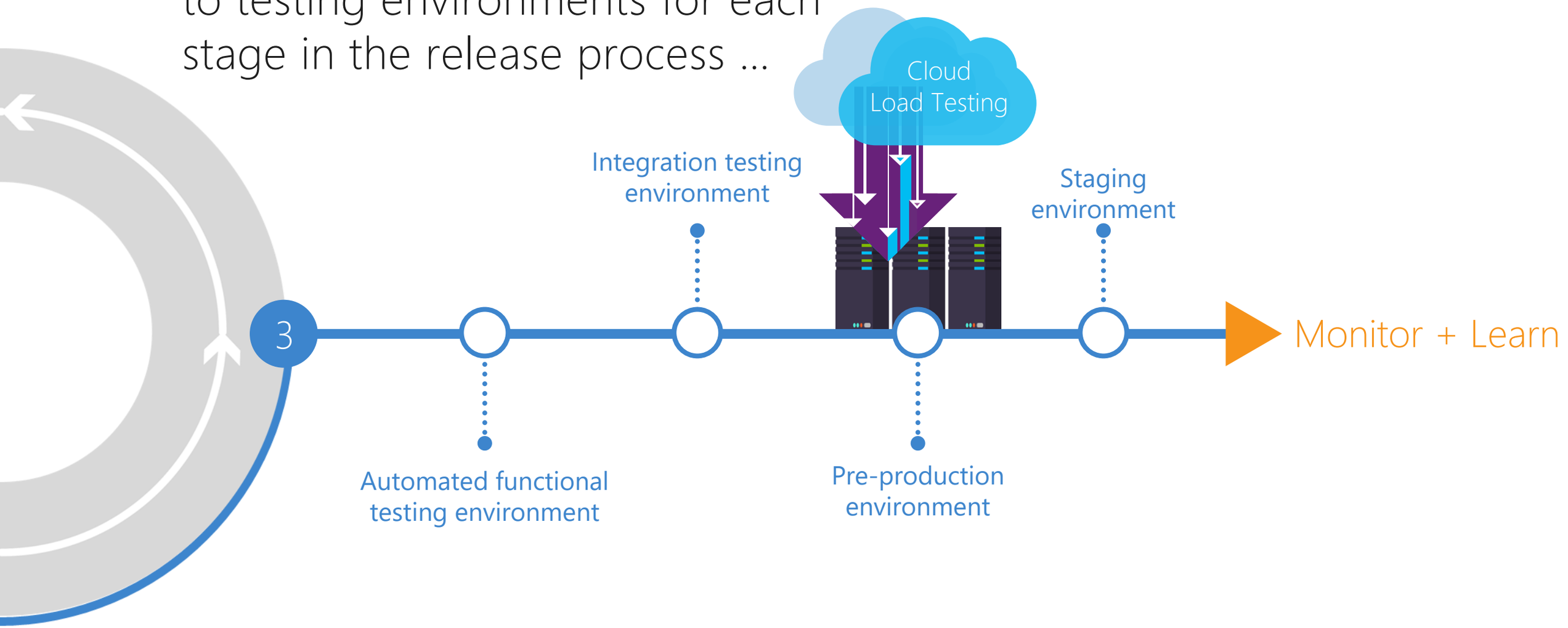
- Delivery delays
- Non-working/low-quality code
- Incomplete solutions
- Rework

Value

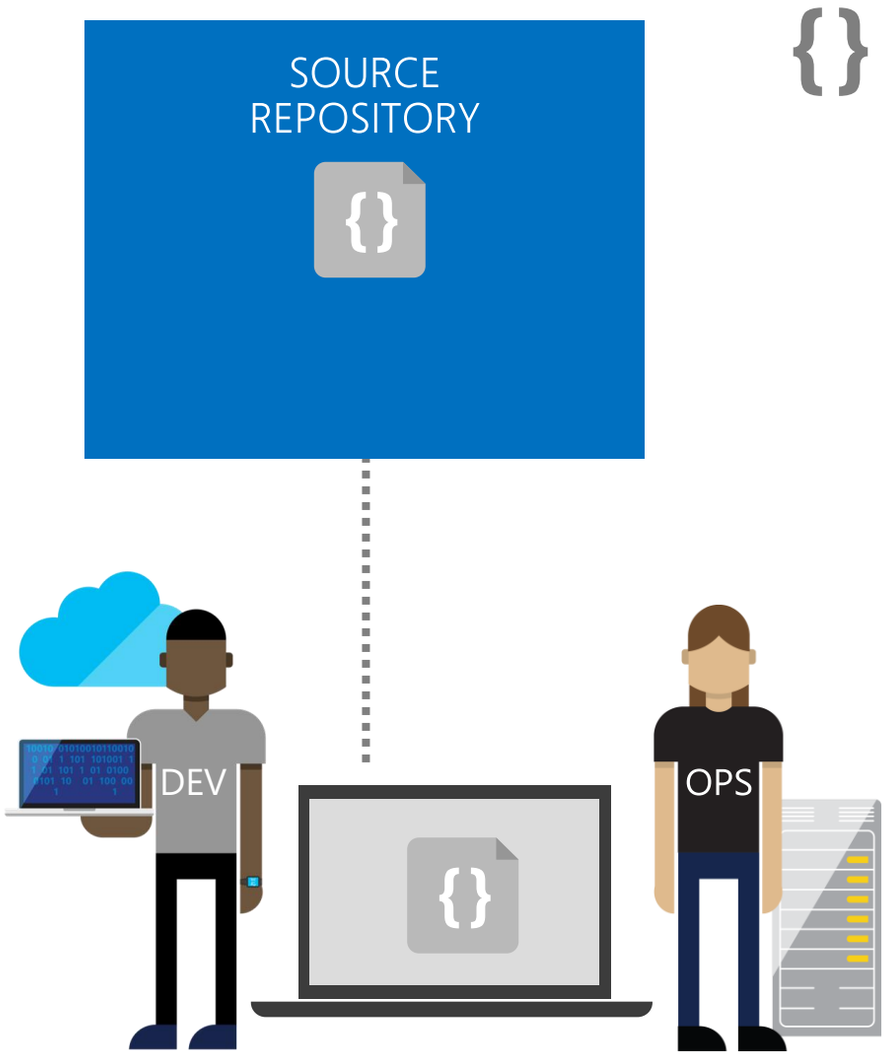
- Frequent integration
- Higher quality
- Repeatability

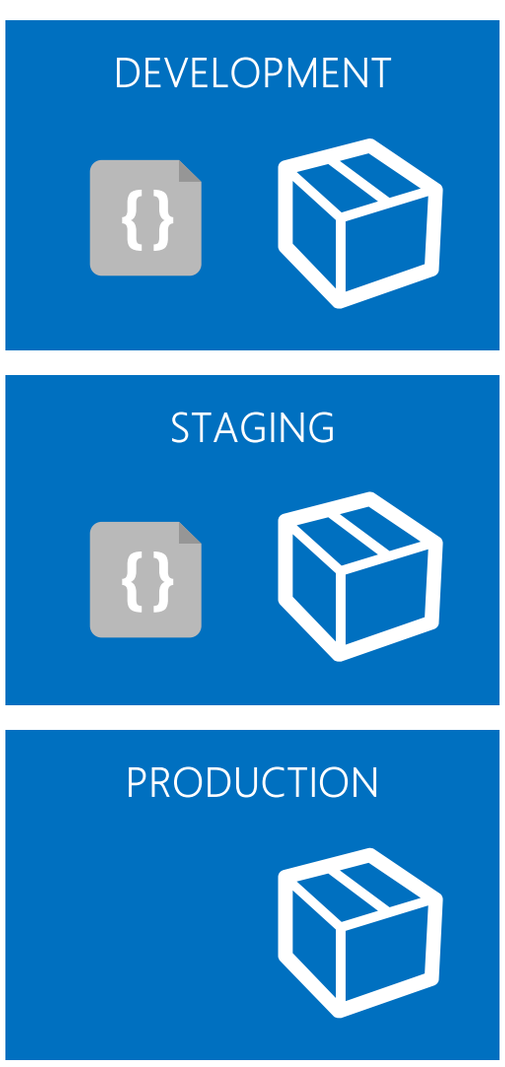
Release

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



Continuous Delivery (CD) – a DevOps practice





Issues

- Slow delivery cadence
- Limited predictability when deploying
- Complexity when deploying

Value

- Consistency
- Accelerated deployment
- Repeatability
- Human error reduction

Continuous Delivery

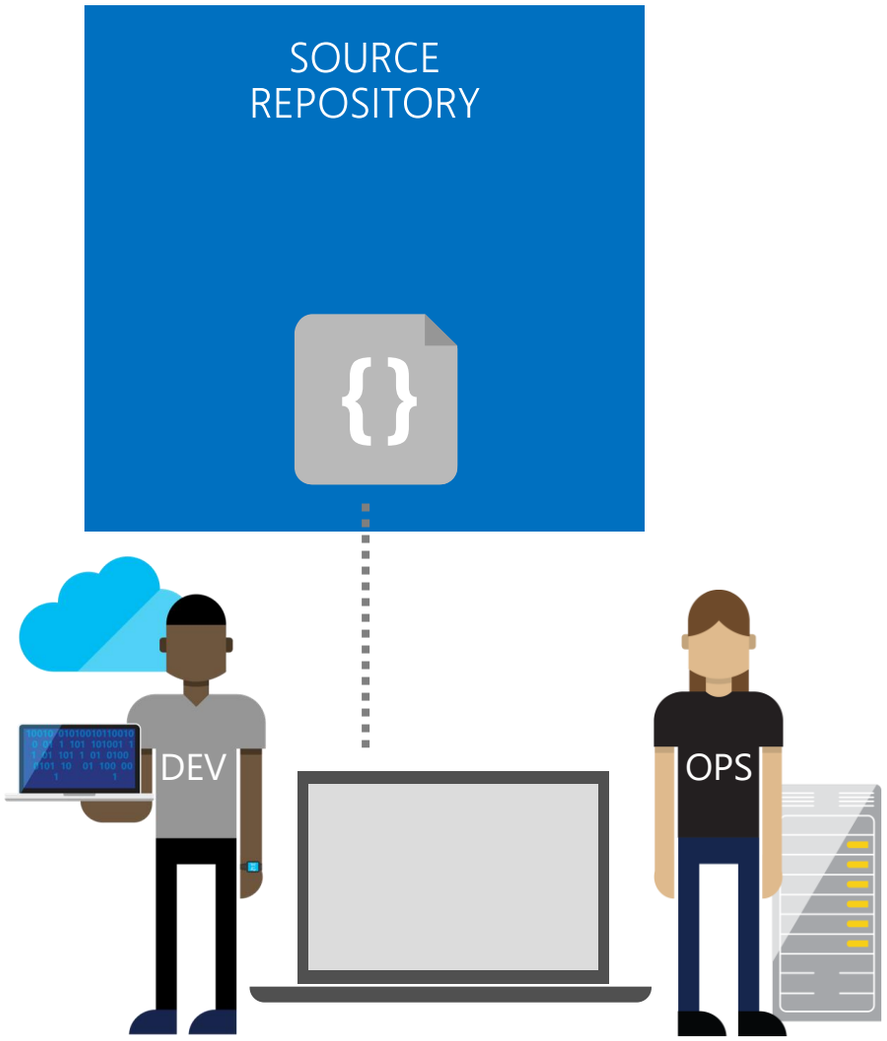
Streamline and automate the workflow between development and IT ops and deliver higher quality software more frequently with less risk.

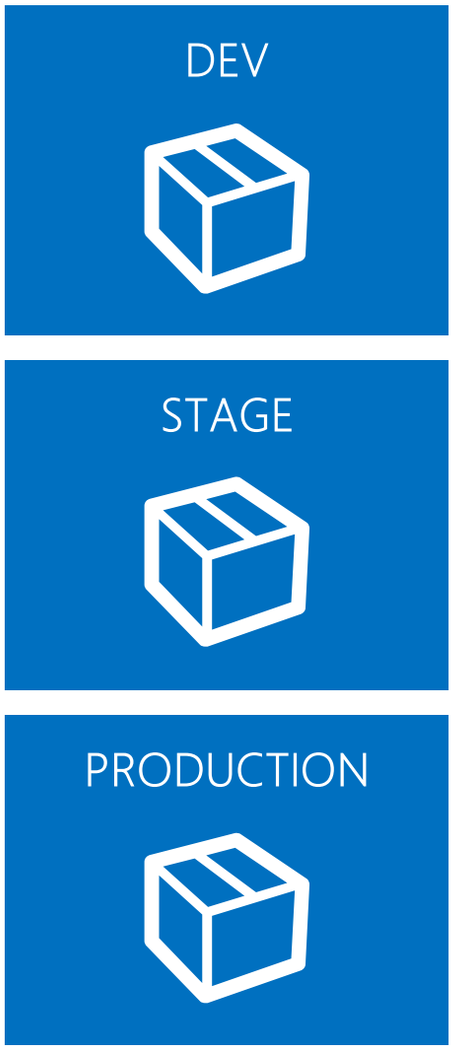
Continuous Integration

Release Management

Continuous Quality

Infrastructure as code (IAC) – a DevOps practice





Value

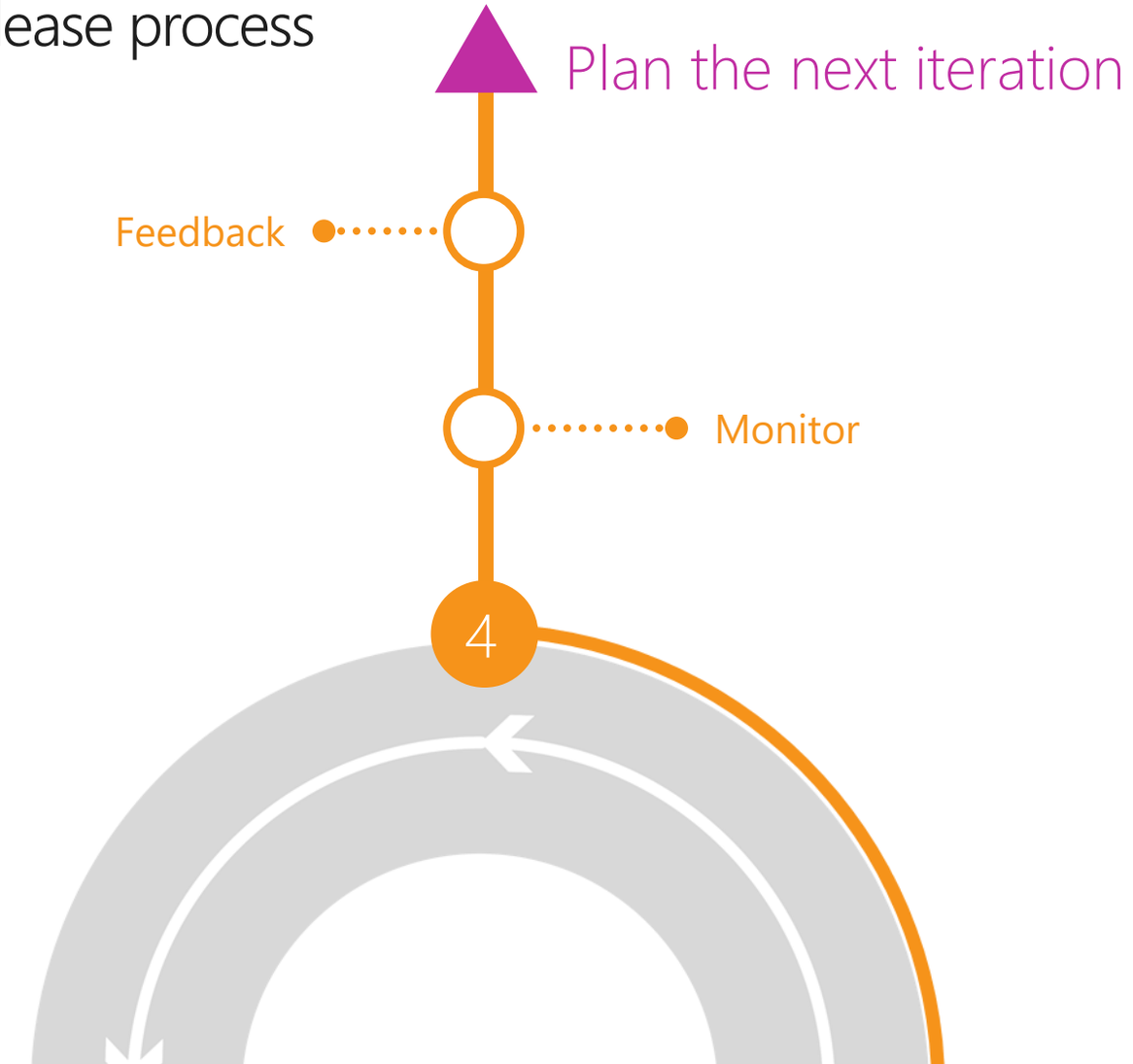
- Optimize resources
- Accelerate delivery

Measure

- Deployment rate
- MTTR

Monitor + Learn

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



Monitor + Learn

Streamline and automate the workflow between development and IT ops and deliver higher quality software more frequently with less risk.

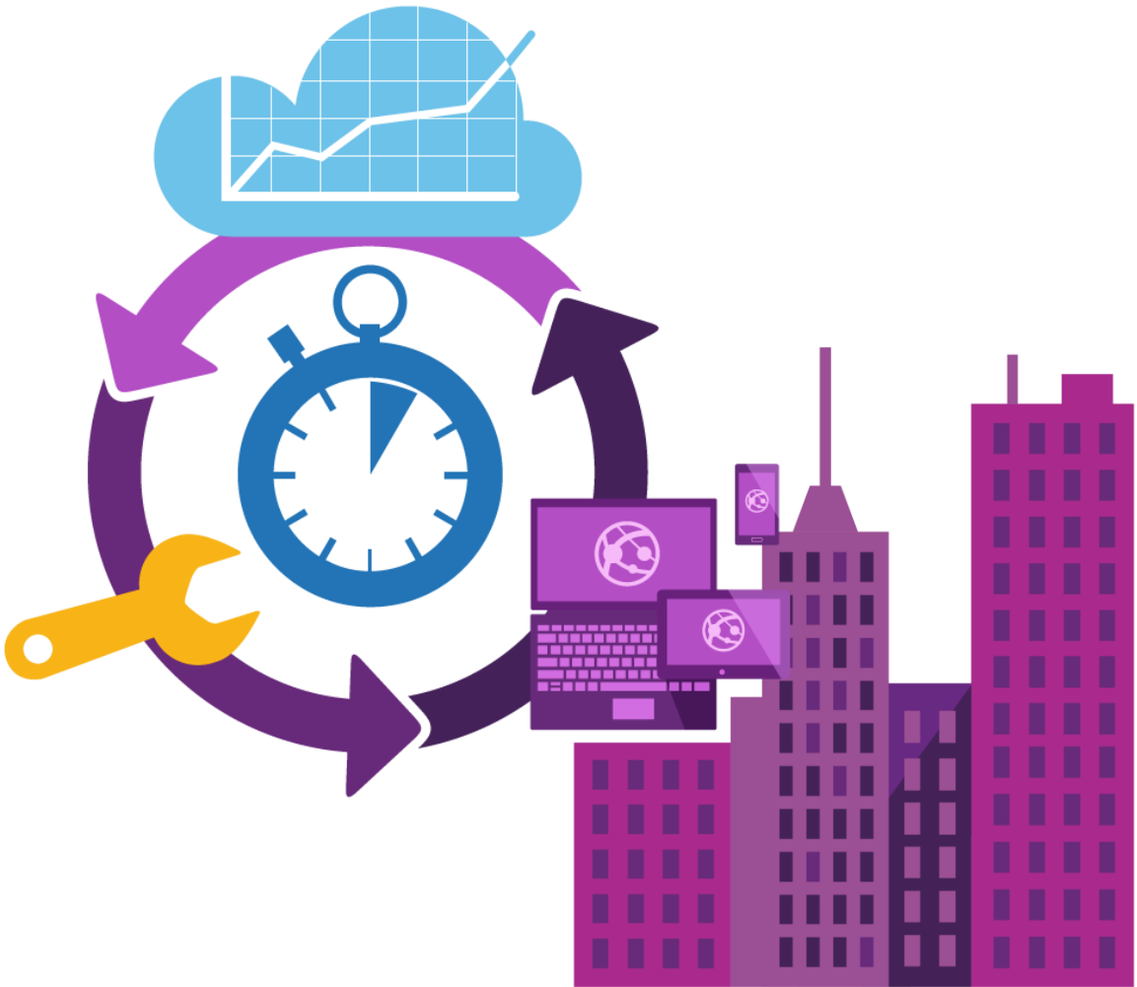
Stakeholder Feedback Management

Application Telemetry

Performance and Load Testing

The Microsoft DevOps solution

Open and extensible



Extend, Customize & Integrate

Customize and extend the Microsoft DevOps platform and create the perfect development environment that you'll love as much as your code.

Open platform

Extensions

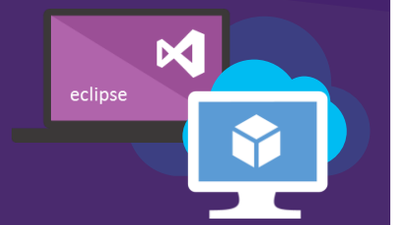
Visual Studio Marketplace

Microsoft Tooling

People | Process | Tools

Develop

Developer IDE



Team Collaboration

- Visual Studio Team Services
- Visual Studio Team Foundation Server

Build + Test

Build/CI

- Visual Studio Team Services
- Visual Studio Team Foundation Server

Test

- Visual Studio Team Services
- Visual Studio Team Foundation Server
- Microsoft Test Manager

Deploy

Release/CD

Microsoft System Center

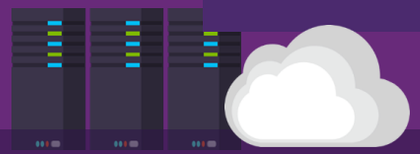
Release Management for Visual Studio

Automation Service

PowerShell | WAML

Azure Resource Management

xPlat Command Line



Monitor + Learn

Monitor

Microsoft System Center

- Visual Studio Team Services
- Visual Studio Team Foundation Server

Application Insights

On-Premises | Hybrid | Cloud

OSS Tooling

People | Process | Tools

Develop

Developer IDE

Team Collaboration

GitHub

CodePlex

Build + Test

Build/CI

gradle

GRUNT

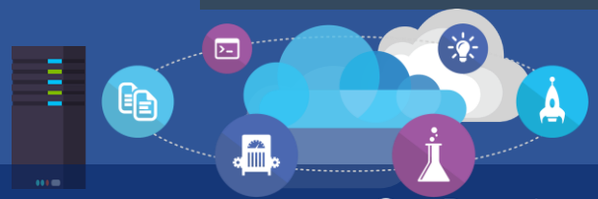
Jenkins

Hudson

Test

gradle

GRUNT



Deploy

Configuration

puppet labs

CHEF

Release

gradle

GRUNT

Jenkins

Hudson

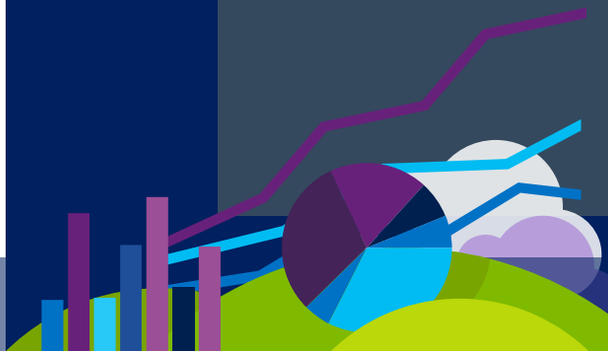
VAGRANT

Monitor + Learn

Monitor

Nagios

ZABBIX



On-Premises | Hybrid | Cloud

The shift to DevOps

OLD WORLD	NEW WORLD
Focus on planning	Focus on delivering
Compete, not collaborate	Collaborate to win
Static hierarchies	Fluent and flexible teams
Individual productivity	Collective value creation
Efficiency of process	Effectiveness of outcomes
Assumptions, not data	Experiment, learn and respond