What is DevOps?

Crystal Tenn
Crystal.Tenn@microsoft.com
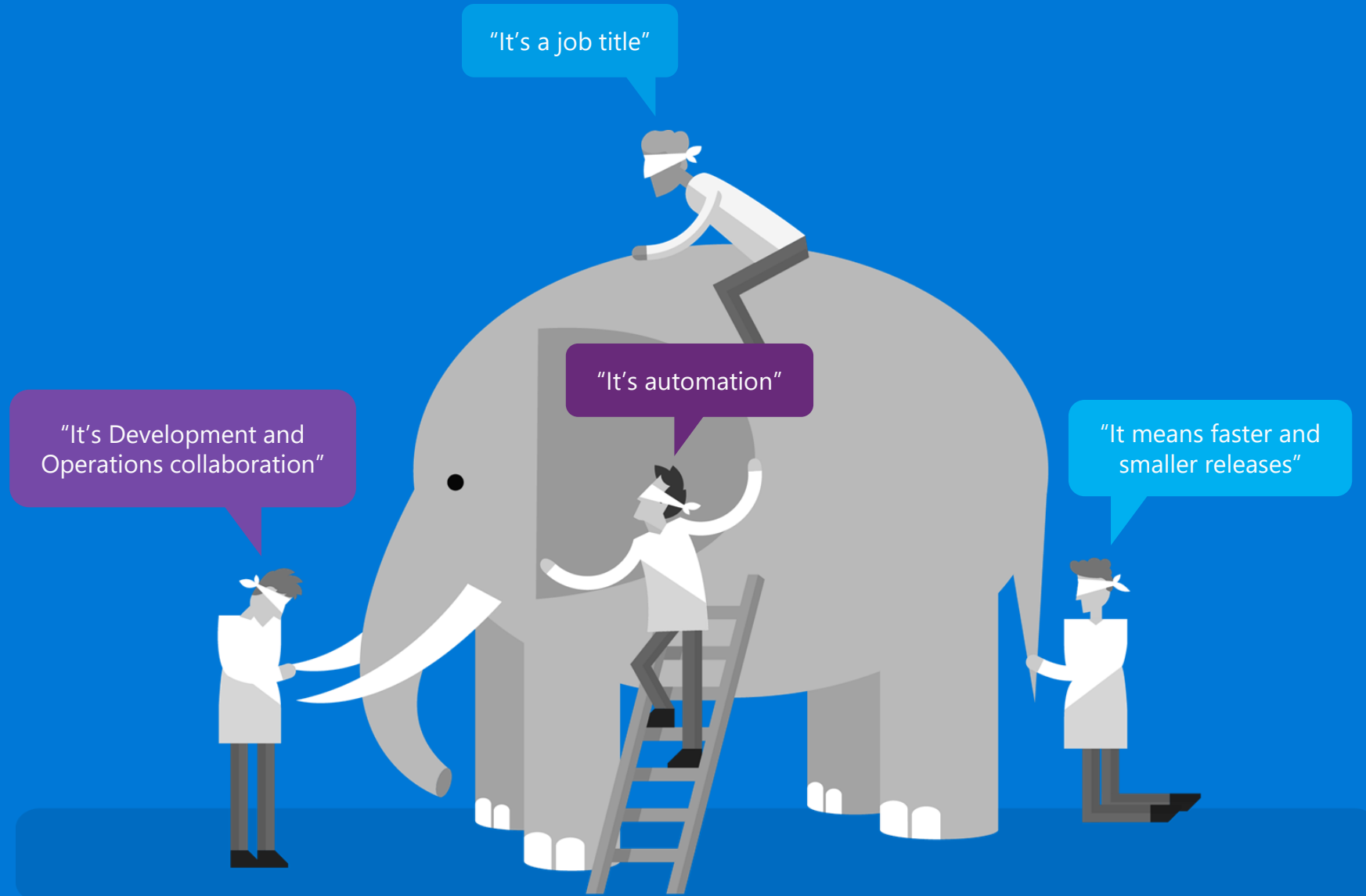
Traditional Development and Operations

DEV
+
TEST

WALL OF CONFUSION

OPS

Microsoft
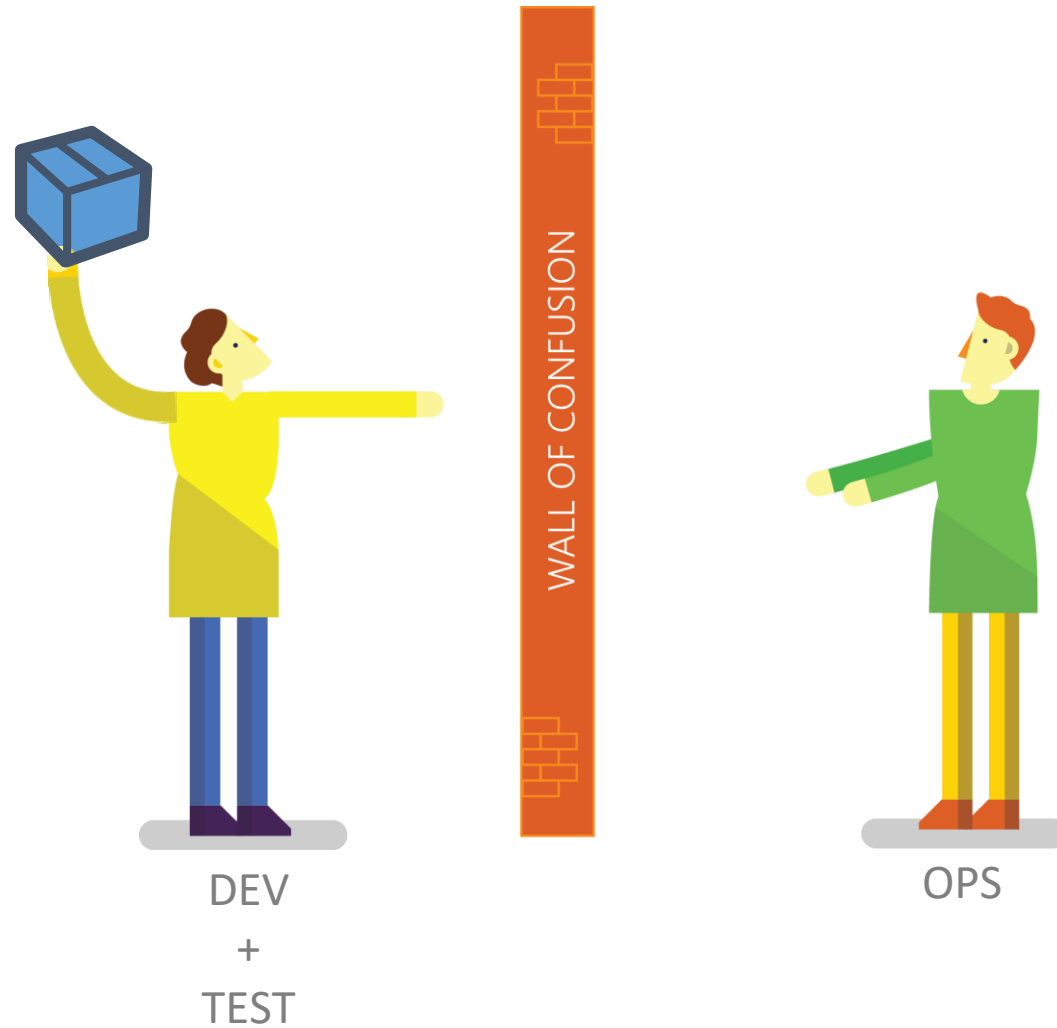
What's the ~~problem~~ Opportunity?

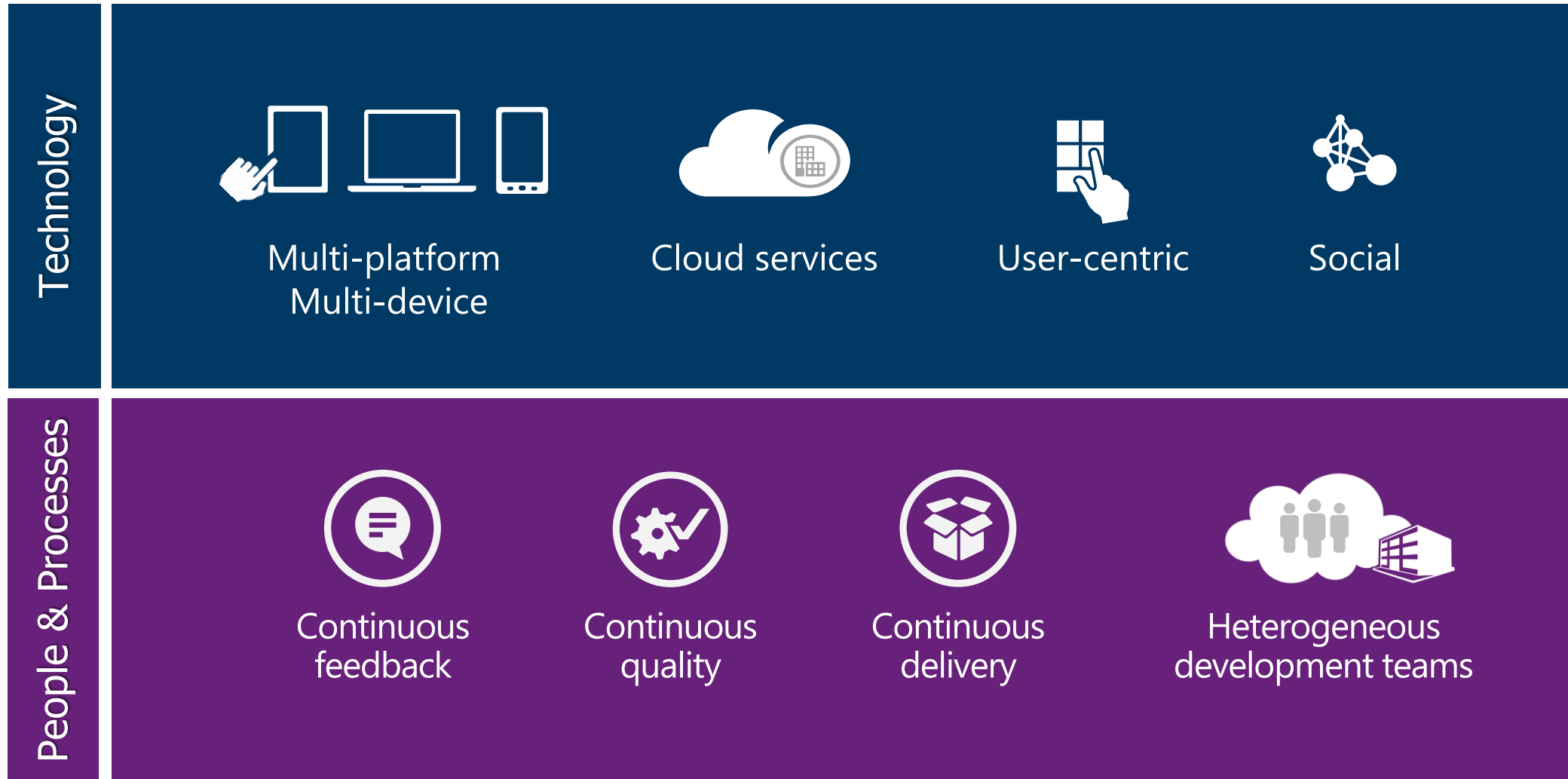| 60%	70%	5
apps get to market late	apps go to market missing functionality	months on average to create a new app. Only 28% of companies worldwide create an app in less than 3 months
Arriving to market too late	Poor quality	Lengthy lifecycles

Solution: Deliver Value Faster

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

IT drives business success!

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

80% **failure rate** ...

... for companies that try to adapt their existing tools for **DevOps practices**

Developers

IT Ops

Business

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

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

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

dual goals

Always keeping all systems **safe and secure**

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

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

Industry trends

Technology

Multi-platform Multi-device

Cloud services

User-centric

Social

People & Processes

Continuous feedback

Continuous quality

Continuous delivery

Heterogeneous development teams

Microsoft

DevOps

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

- The contraction of "Dev" and "Ops" refers to replacing siloed Development and Operations to create multidisciplinary teams that work together with shared and efficient practices and tools.

Why Implement DevOps?

- Deliver more secure, higher quality
  solutions <u>faster</u> and <u>cheaper.</u>

- Dynamic and reliable experience

- Teams must rapidly iterate on updates to their project

- Remove traditional bottlenecks

Why do DevOps?.

- Competitive Advantage – Productivity

The Phoenix Project

Company	Deploy Freq.	Lead Time	Reliability	Cust. Responsiveness
Amazon	23,000/ day	Minutes	High	High
Google	5,500/ day	Minutes	High	High
Netflix	500/ day	Minutes	High	High
Facebook	1/ day	Hours	High	High
Twitter	3/ wk	Hours	High	High
Traditional Enterprise	1/ 9 months	Months or Quarters	Low/ Med	Low/ Med

How much high performance DevOps organizations are outperforming the traditional enterprise counter parts.
*Note - from *The Phoenix Project*

The Phoenix Project by Gene Kim, Kevin Behr and George Spafford

The Phoenix Project frames in the impact of chronic friction between Dev and IT Ops.

This is a fantastic illustration of relatable scenarios that we all have experienced.

The Three Ways
1. Maximize Flow
2. Amplify Feedback loops
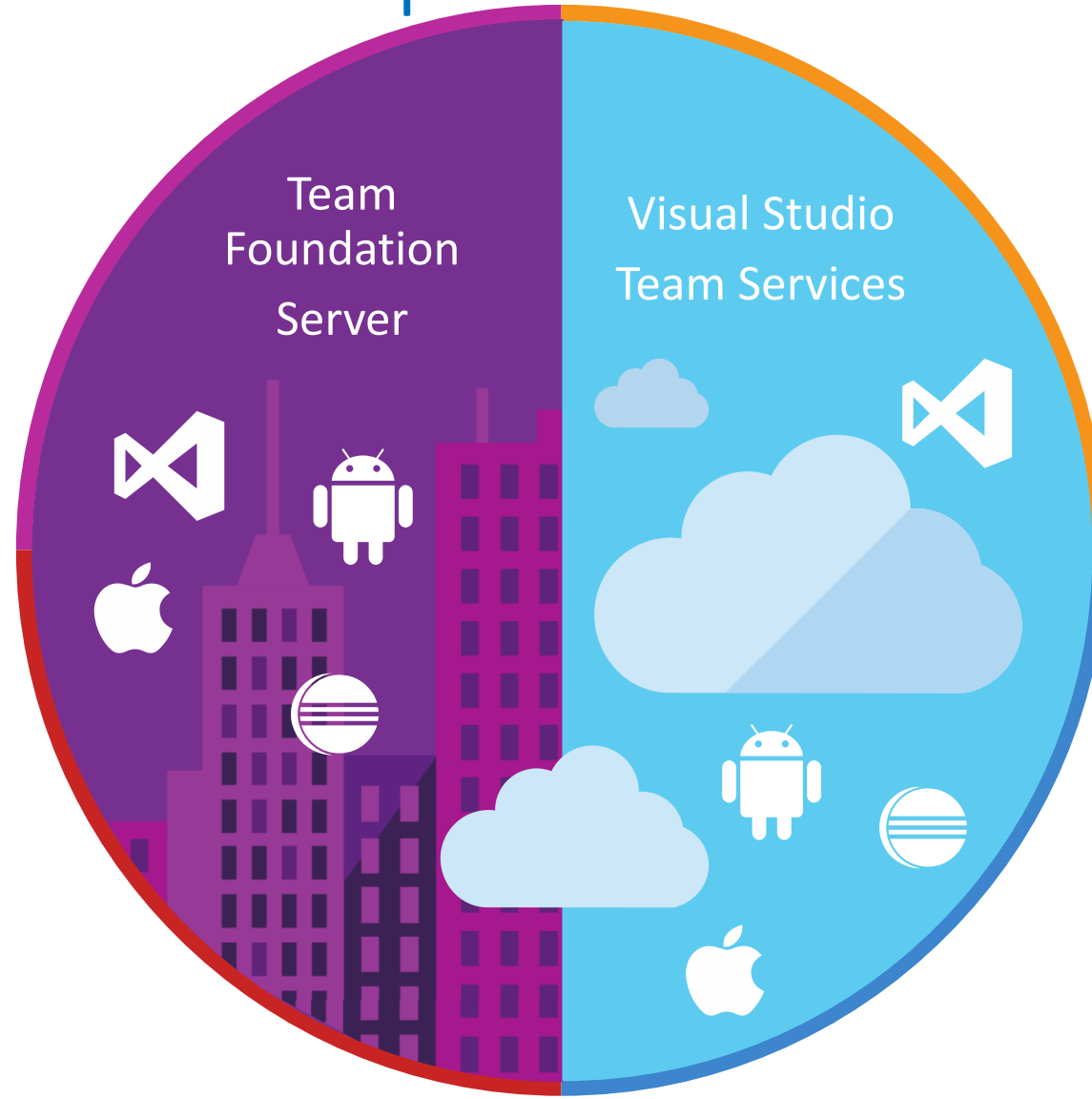3. Continual improvement

Four Types of Work
1. Business Projects
2. Internal IT Projects
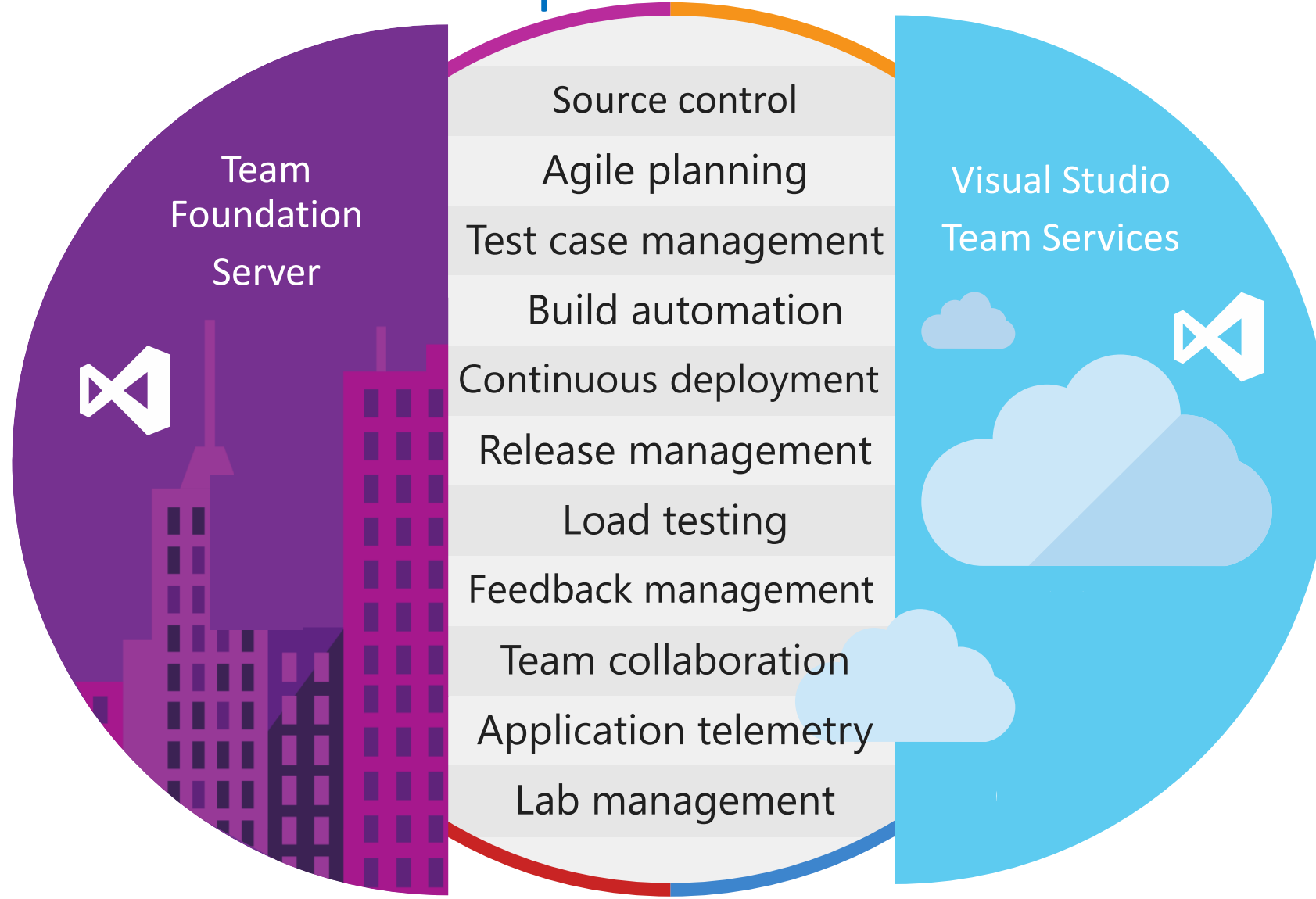3. Changes
4. Unplanned / Recovery work

From the authors of *The Visible Ops Handbook*

The Phoenix Project

A Novel About IT, DevOps, and Helping Your Business Win

Gene Kim, Kevin Behr, and George Spafford

How to implement DevOps?

| Involve people | Agile planning and project management | Version control | Continuous Integration | Continuous Development |
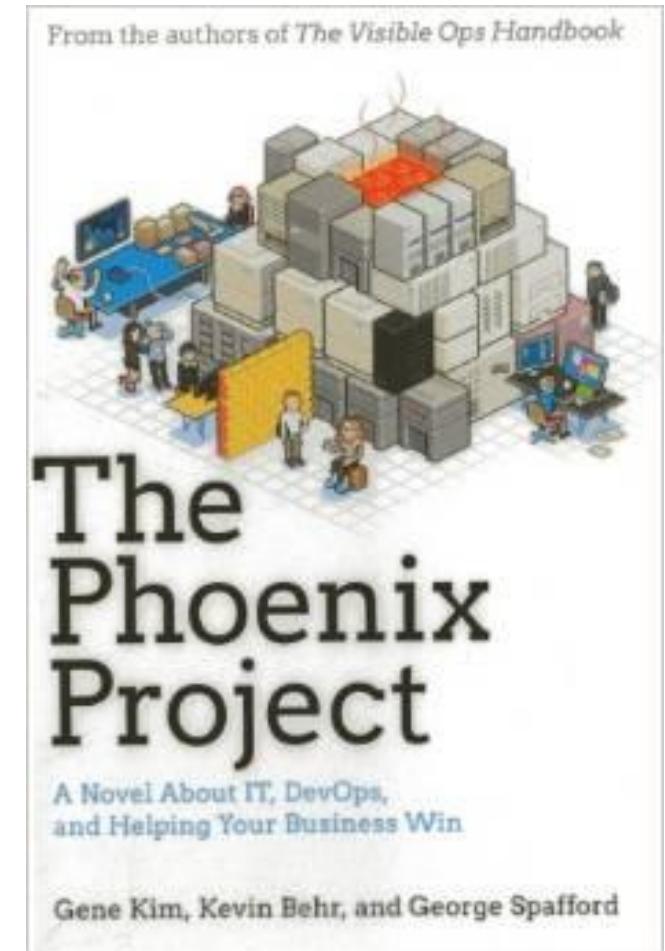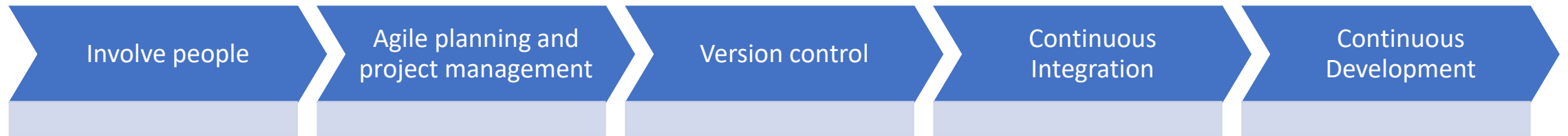
Microsoft ALM & DevOps Tools

Team Foundation Server
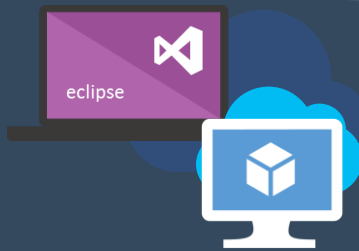
Visual Studio Team Services

Office   Project Server   Microsoft System Center   Microsoft Azure   SharePoint

Microsoft

Any Language, Any Platform

- ## Program in <u>any</u> language
  - .NET
  - Java
  - Python
  - Ruby
  - Nodejs
  - …

- ## Develop on <u>any</u> OS
  - Linux
  - Mac
  - Windows

- ## Deploy to <u>any</u> Platform
  - Android
  - iOS
  - Windows Phone
  - Docker
  - Azure
  - AWS
  - Linux
  - Mac
  - …

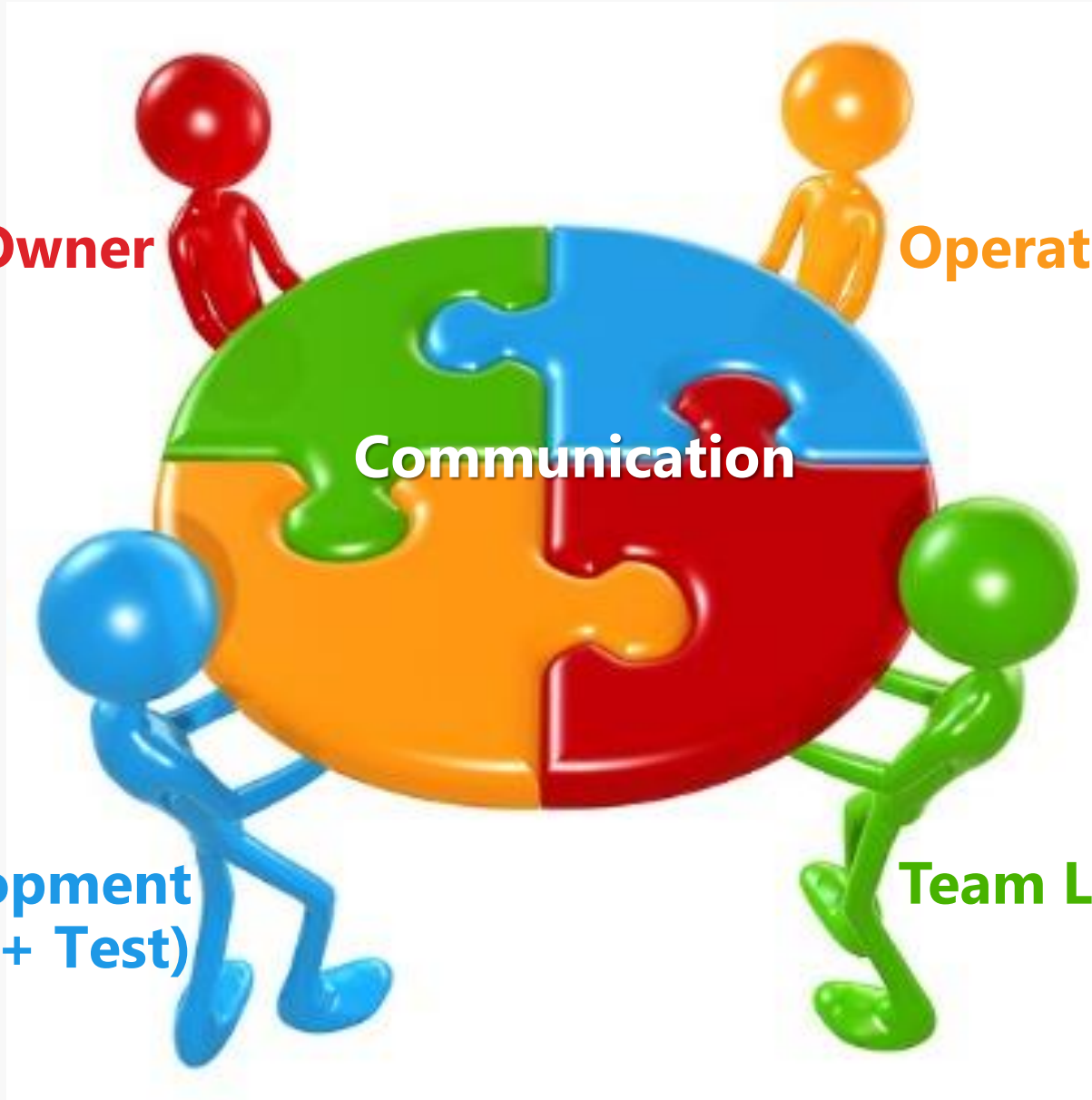Microsoft

What's Missing......

Culture

The Team

Product Owner

Operations

Communication

Development (Dev + Test)

Team Lead

Microsoft

The DevOps conversation

PEOPLE
- Collaborate more
- Share common goals
- Focus on improvement

BRINGING PEOPLE TOGETHER

PROCESS
- Eliminate waste
- Increase efficiency
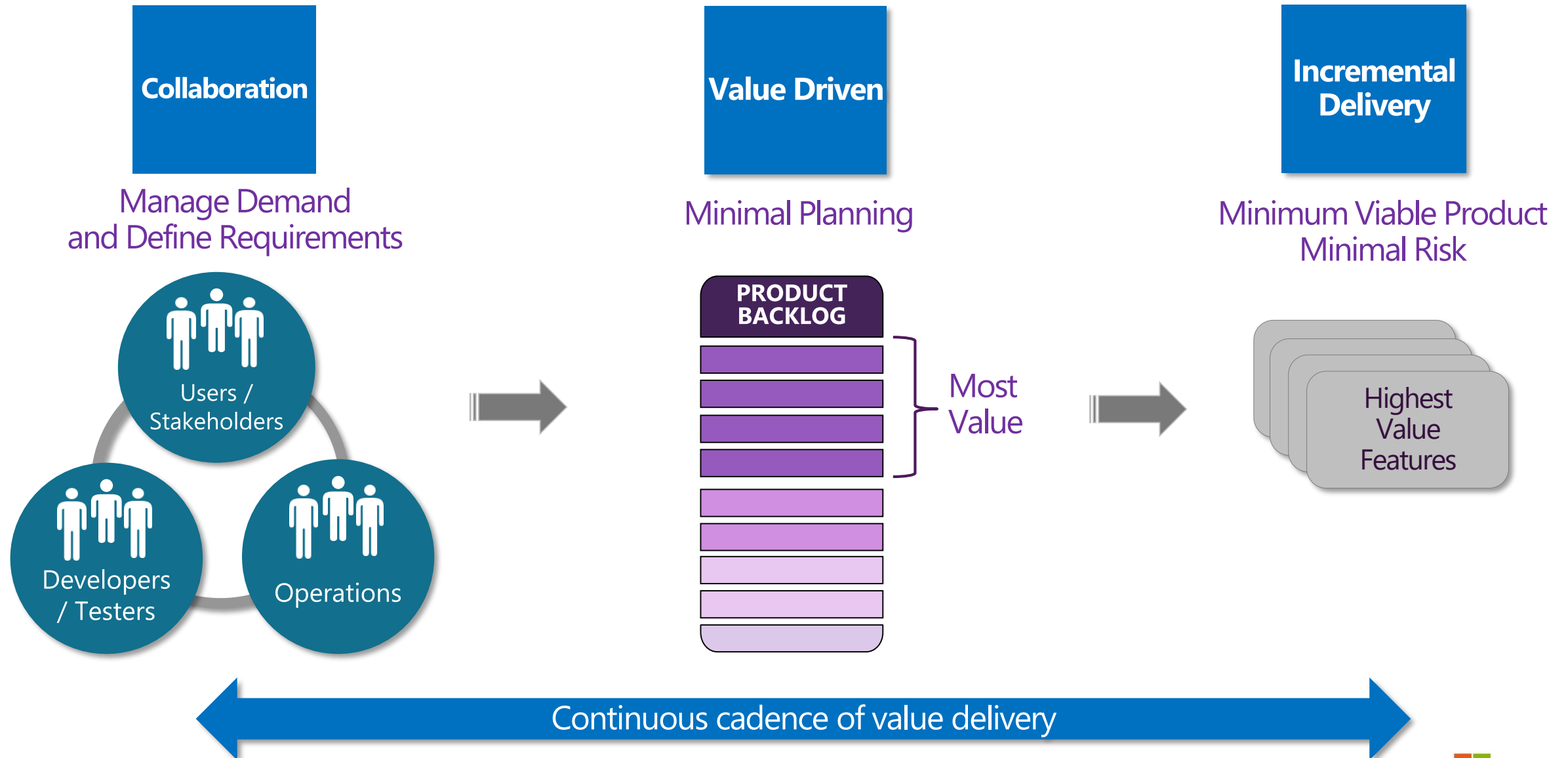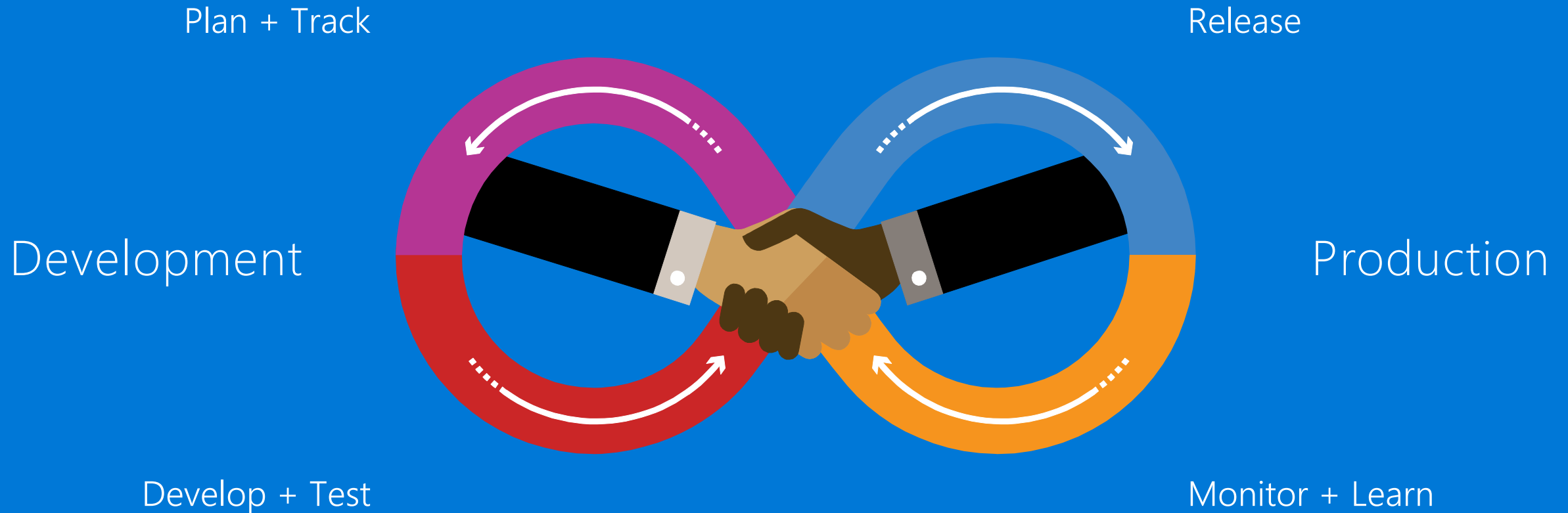- Streamline feedback

DELIVERING VALUE FASTER

TOOLS
- Enhance productivity
- Enable collaboration
- Facilitate experimentation

EXECUTING A DEVOPS STRATEGY

Planning for continuous delivery of value

Collaboration

Manage Demand and Define Requirements

Users / Stakeholders

Developers / Testers

Operations

Value Driven

Minimal Planning

PRODUCT BACKLOG

Most Value

Incremental Delivery

Minimum Viable Product
Minimal Risk

Highest Value Features

Continuous cadence of value delivery

Microsoft

The converged DevOps lifecycle

Plan + Track

Release

Development

Production

Develop + Test

Monitor + Learn

Microsoft

Thank you!