Activate Microsoft Azure with Azure Application Insights

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Module Overview

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Agenda

- The Basics
- Azure Capabilities
- DevOps

Module Overview

Section 1: Monitoring and diagnostics in Cloud Hosted App

Lesson: The Basics

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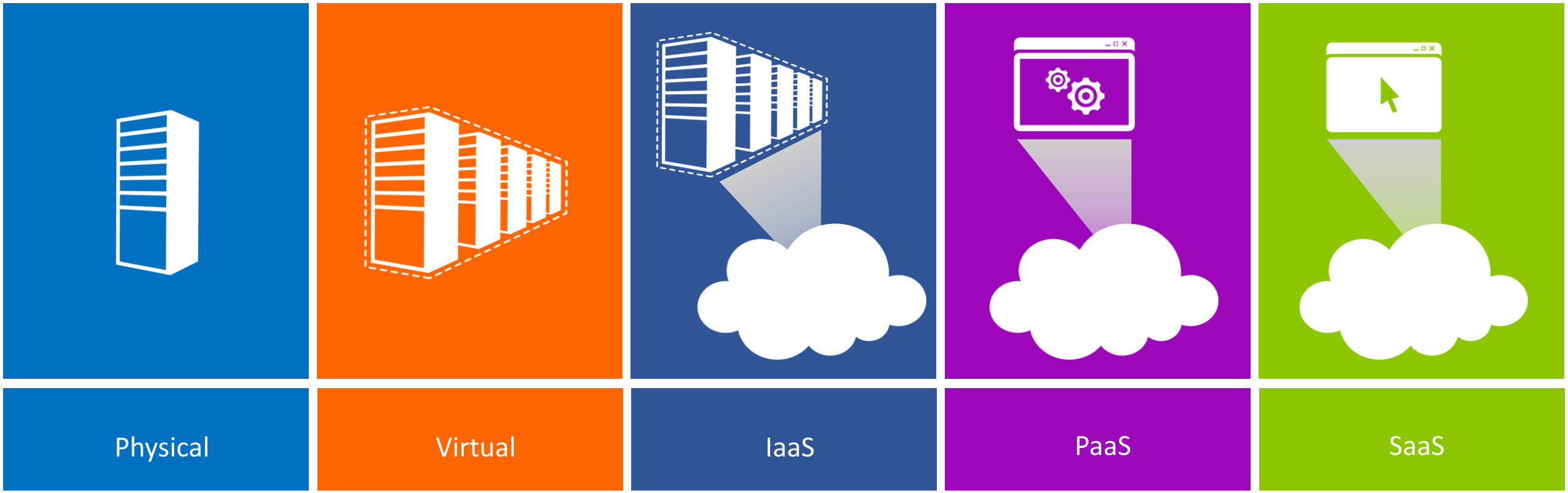
IT Continuum



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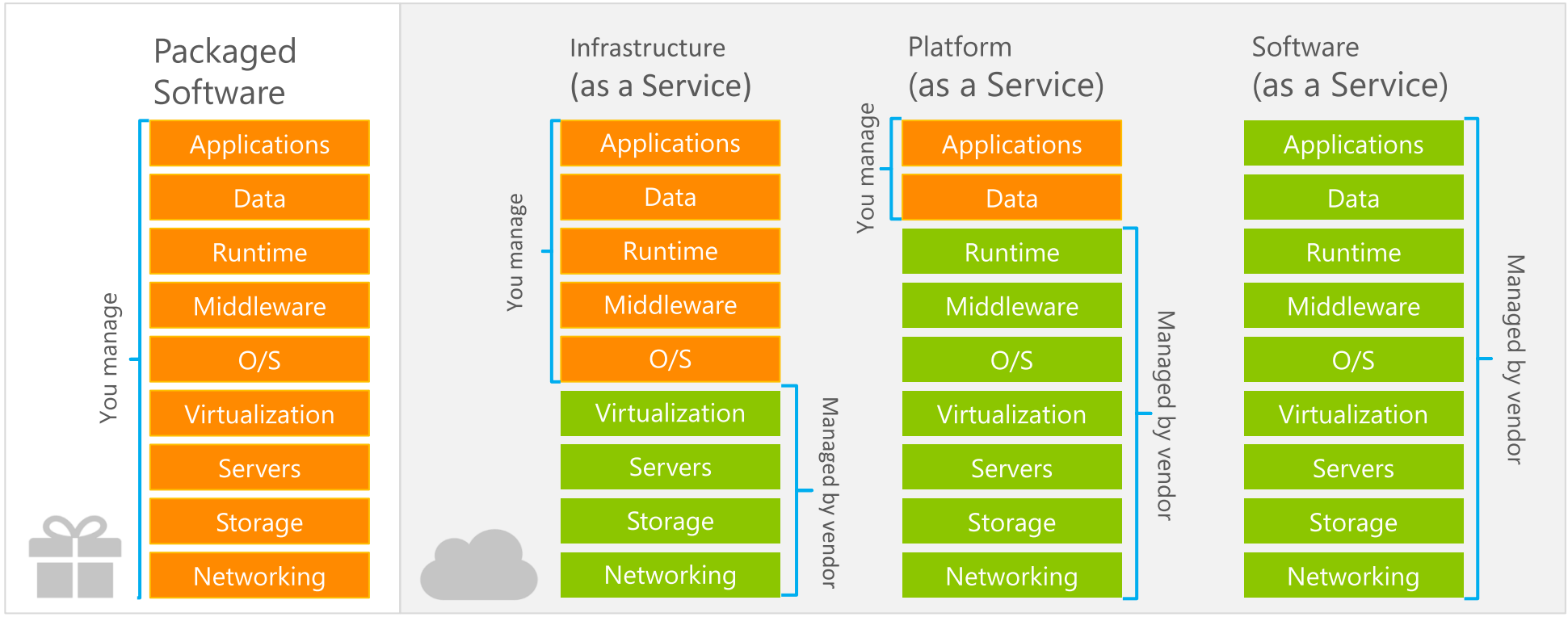
Cloud Computing



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What does monitoring mean to you?

Diagnose problems across my app, VMs, networks, and PaaS services

Show exec dashboards of application SLAs & KPIs

Understand & optimize performance of my app

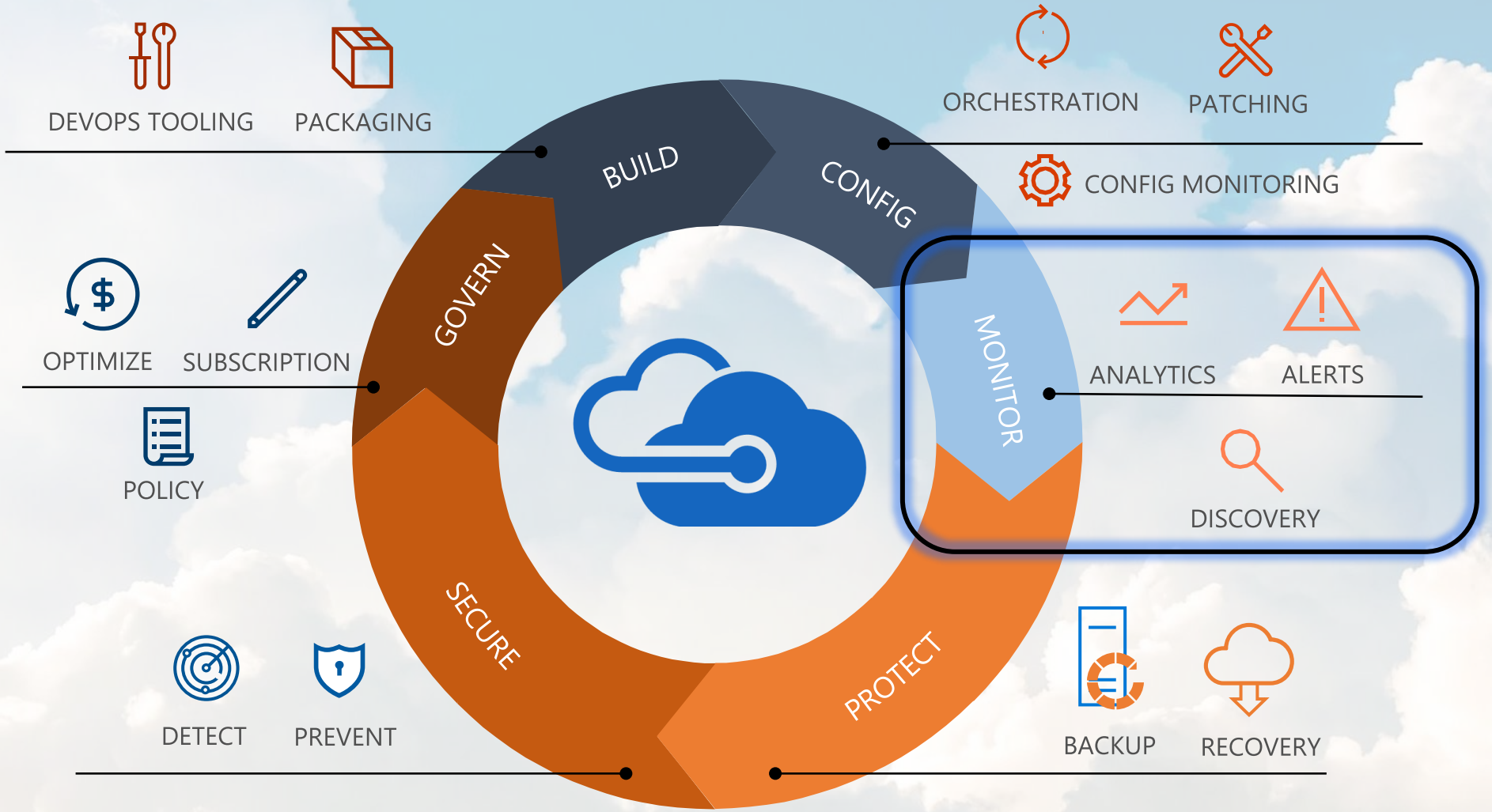
Track usage, engagement & retention of my app

Detect & debug the errors in my apps

Is there is a security threat!!!!!

Continuous Monitoring in your DevOps Lifecycle

Modern Cloud Management



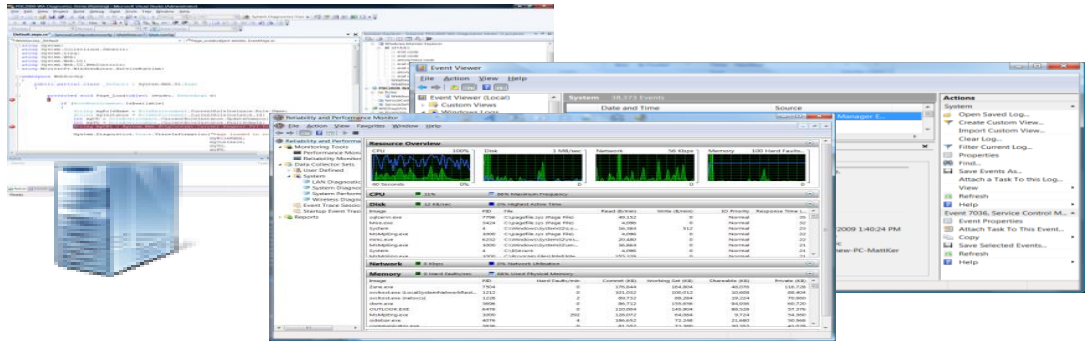
Monitoring and Diagnostics Comparison

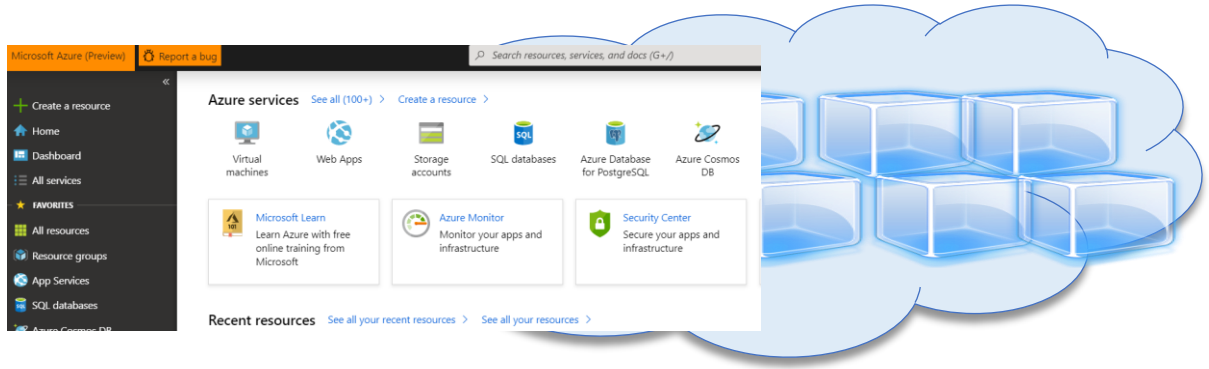
On-Premises

- Static environment
  - Single, well-known instance
  - Traceable, local transactions
- Local access is feasible
  - Connect through a single Terminal Services session
  - Co-located data and tools
  - In-place changes

Cloud

- Dynamic environment
  - Multi-instance, elastic capacity
  - Distributed transactions
- Local access is not feasible
  - Many nodes
  - Distributed, scaled-out data
  - Service upgrades





Monitoring and diagnostic experience

Traditional Troubleshooting

- Customer complains app is broken
- Sys admins / DBAs log onto machine
- Manually looks at perf counters, DMVs, etc.
- Find the problem and manually fix it

Assumptions

- You can wait for the expert to look at the issue
- You don’t have too many issues to examine at once
- The system can be understood by a human (not too complicated)

Conclusion

- Most of these assumptions prove false in the cloud

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Section 2: Platform Capabilities

Lesson 1: What Azure Provides

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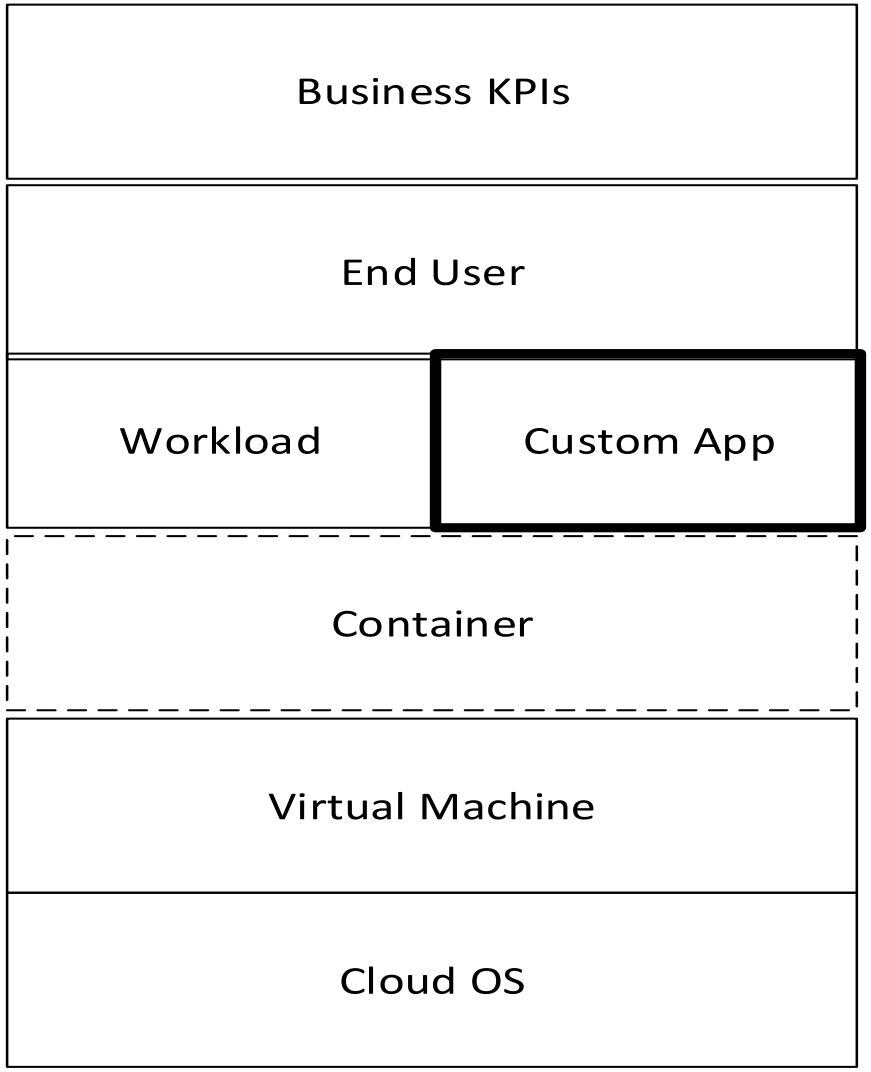
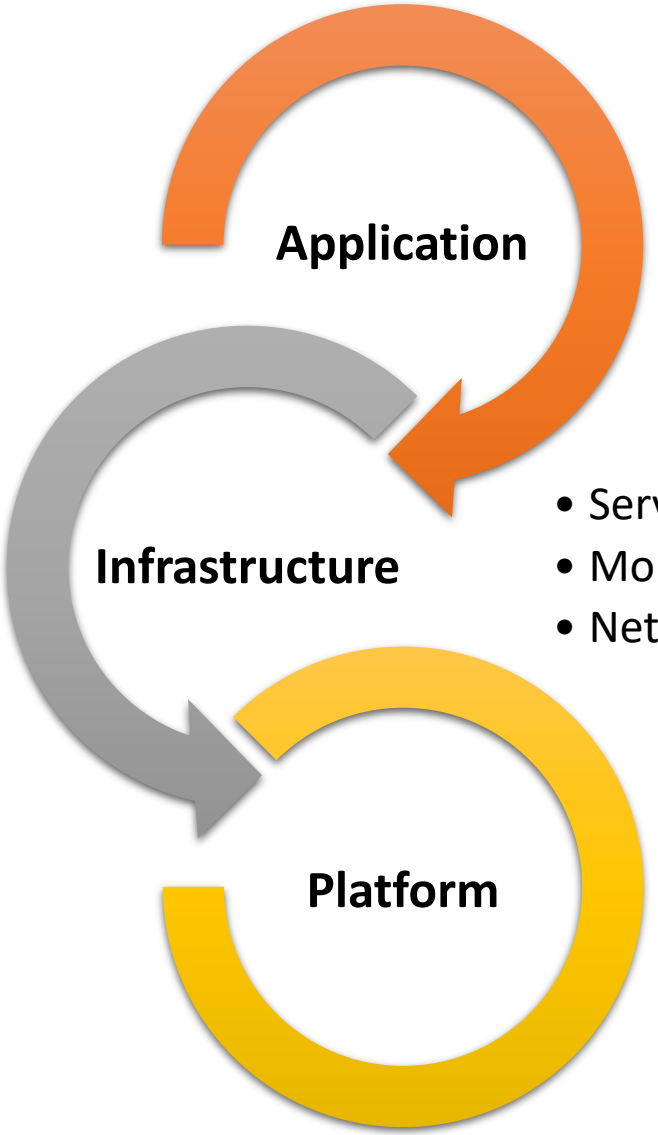
Bridging the Gap Between App and Infra





- Azure Monitor Application Insights
- Service Map
- Monitor Logs
- Network Watcher
- Azure Monitor
- Azure Advisor

Platform Capabilities

Azure Health Check

- Azure Status
- Azure Service Health
- Azure Resource Health

Audit

- Activity Log

Infrastructure Monitoring Drill Down

- Service Map
- Monitor Logs

Application Monitoring Drill Down

- Application Insights – Smart Detection
- Application Insights – Application Map
- Application Insights – Profiler
- Application Insights – Diagnostic search for instance data
- Application Insights – Metrics explorer for aggregated data
- Application Insights – Live Metrics Stream
- Application Insights – Usage Analysis & User monitoring
- Application Insights – Snapshot Debugger
- Application Insights – Custom Events

Network Monitoring Drill Down

- Network Watcher – IP flow verify
- Network Watcher – next hop
- Network Watcher – VPN troubleshoot
- Network Watcher – Packet Capture
- Network Watcher – Connection troubleshoot
- Network Watcher – NSG flow logs
- Network Watcher – Traffic Analytics

Take Actions

- Azure Monitor – Metrics, Autoscaling
- Alerts – SMS, Emails, Webhooks, Teams or Azure mobile App

Recommendations

- Azure Advisor – Cost, Security, Availability & Performance

Getting Started

- Visual Studio
- Azure Portal

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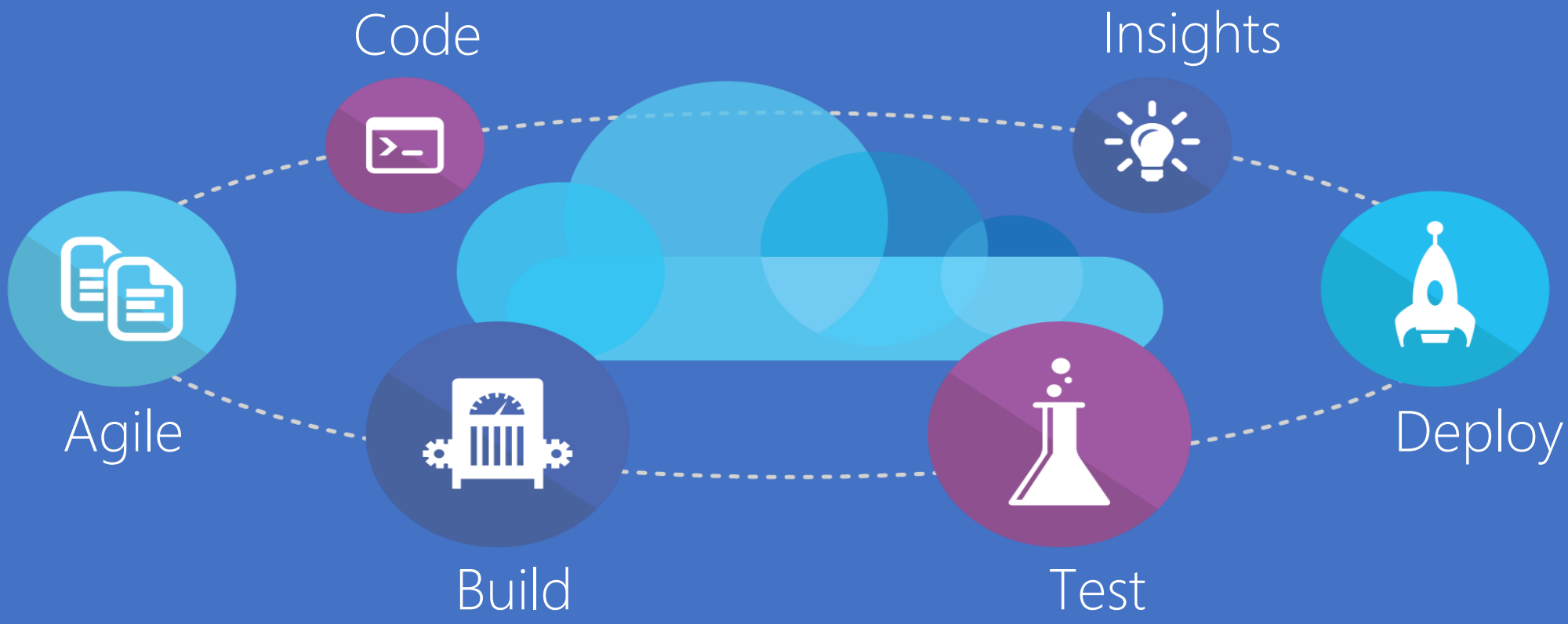
Section 3: DevOps in Azure

Lesson 1: DevOps Integration

Azure DevOps

- Full Portal Integration
- Not just for Microsoft shops



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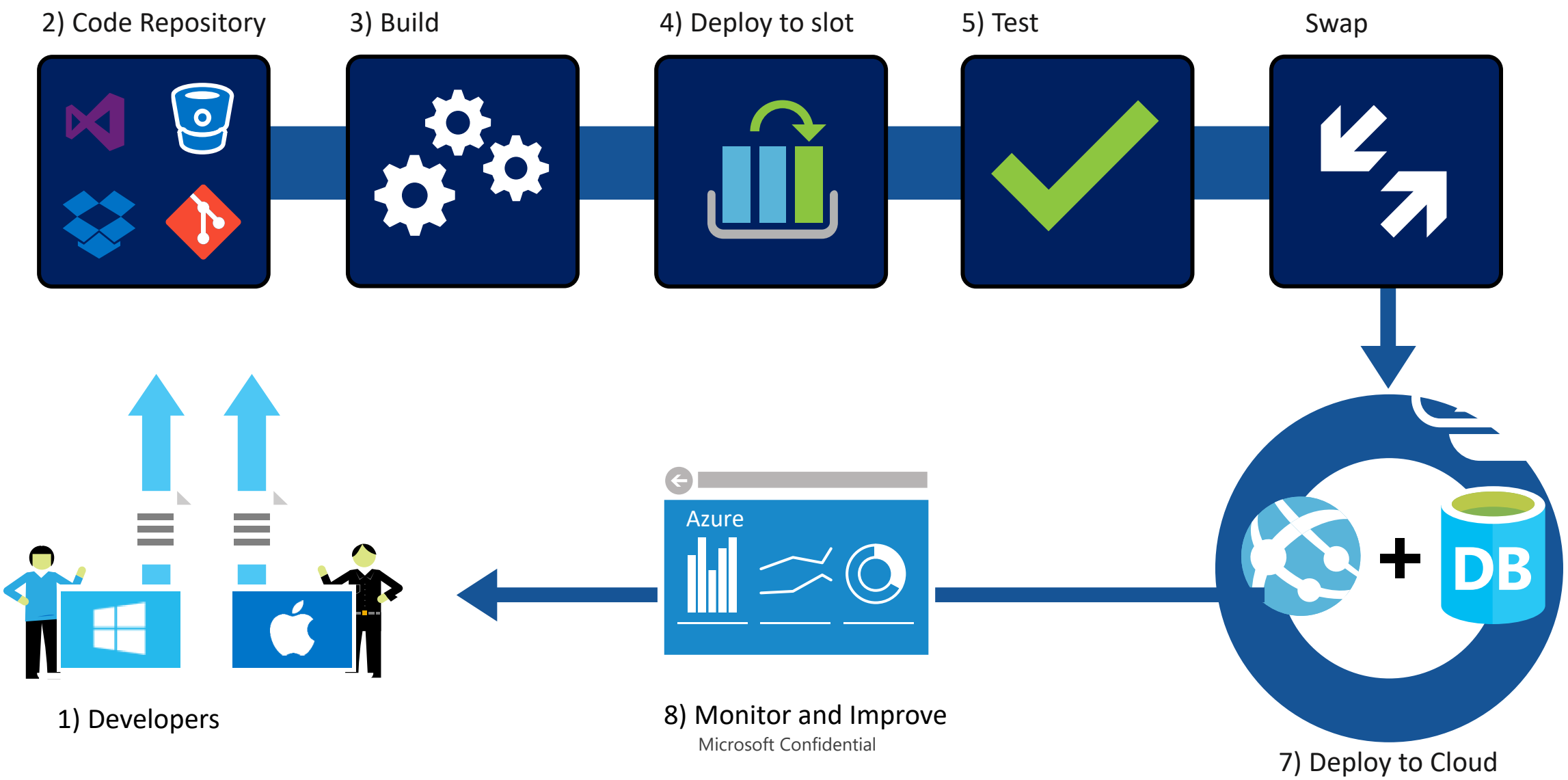
DevOps Agility



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Review

- The Basics
- Platform Capabilities
- DevOps

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