Businesses **modernize** for different reasons

- Competitive disruption
- Industry regulation
- New business opportunities
- Reduce technical debt
- Optimize Costs

and why many do not achieve targeted outcomes

Cloud-native skillset

50% of software developers are outside tech industry [1]

Fragmented security

68% YoY increase in data breaches [2]

Conflicting priorities

7x Faster release cycles vs. 10 years ago [3]

Limited global resources

90% of current enterprise applications will still be in use by 2025 [4]

Reduced IT budget

7% decline in IT spend in 2020 [5]

[1] McKinsey & Company: Driving business outcomes through Developer Velocity 2020

[2] https://www.idtheftcenter.org/post/identity-theft-resource-center-2021-annual-data-breach-report-sets-new-record-for-number-of-compromises

[3] https://www.techrepublic.com/article/devops-is-getting-code-released-faster-than-ever-but-security-is-lagging-behind/

[4] Gartner, Application Modernization Should Be Business-Centric, Continuous and Multiplatform, Thomas Klinect, Stefan Van Der Zijden, 15 August 2019

[5] https://www.gartner.com/en/newsroom/press-releases/2020-07-13-gartner-says-worldwide-it-spending-to-decline-7-point-3-percent-in-2020

Azure processes and solutions help deliver desired outcomes

Productivity

Managed services free-up dev time

Build, deploy, and scale on your terms

Scalability

Azure enables you to deliver your services on scale and on a global level

Security

Integrated security with Microsoft Defender, compliance support with Azure Policy

[1] Azure Sustainability—Sustainable Technologies | Microsoft Azure

Focus on your business - let Azure do the rest

Fully managed PaaS offering to help you quickly create and deploy modern apps

PaaS, or platform-as-a-service, is a cloud computing model in which a cloud provider offers a platform that allows customers to develop, run, and manage applications without the need to worry about configuring and managing the underlying infrastructure.

Auto-scaling and automatic patching reduce administrative burdens and improve efficiency

Multi-tenant and single-tenant options to meet different budget, scale, and security needs

Save up to 54% compared to running on-premises with Windows Server[1]

[1] Costs & Benefits of .NET Application Modernization

Get benefits quickly with app specialized services

Built-in continuous integration and continuous delivery (CI/CD)

Deployment slots eliminate downtime associated with updating production environments

GitHub, GitHub Actions, Azure DevOps, Bitbucket, and more

Supports tools and workflows that developers already use, including Visual Studio, VS Code

Right-size your infrastructure and increase availability

Optimize resources to fulfill business objectives and ensure zero-downtime deployments

Set thresholds to scale out (and back) automatically

Multiple pricing tiers to allow you to scale up/down to meet business needs

Built-in Load Balancing, SSL uploading, and Availability Zones ensure availability, redundancy and reliability—99.95% SLA

Build compliant, secure web applications

Security in depth

Easy authentication and authorization capabilities, including Azure Active Directory

Workload isolation to meet high security and compliance requirements

Ability to control both internal and external web app traffic as needed

Extend applications to interact with any system and evolve quickly

Drive agility by integrating apps, workflows, and APIs

Create workflows and orchestrate business processes

Publish your APIs securely to connect systems hosted anywhere

Highly secure messaging workflows to connect on-prem and cloud

Demo

How does Microsoft **modernize apps** on Azure?

Application modernization is a journey

Some lessons from Microsoft's core services engineering (MSIT) own journey

2000+

Line-of-business applications

>2K enterprise LOB applications including complex and customized LOB applications, CRM, Office servers, Portals and SPS

8

On-prem datacenters worldwide

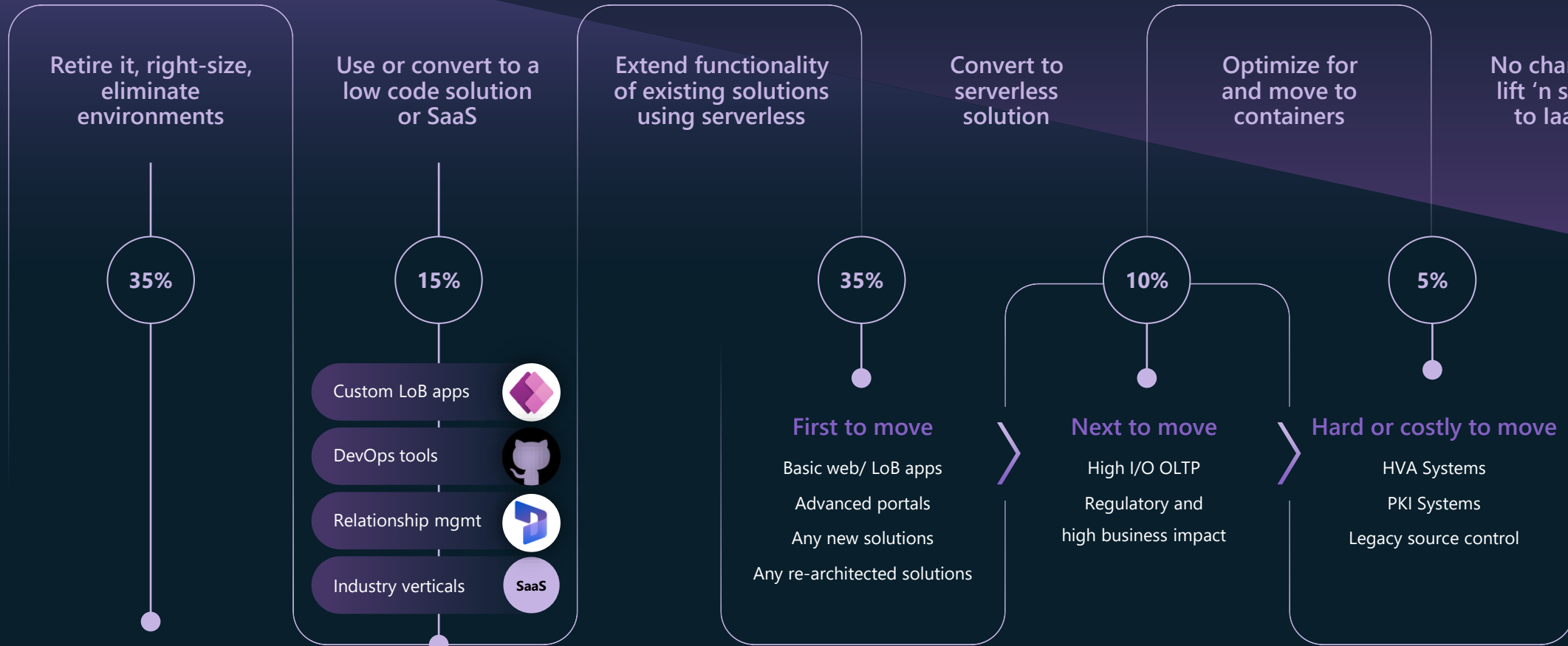Applications spread across eight on-prem datacenters worldwide

40K

Distinct operating system instances

Applications consisting on a combined 40,000 distinct operating system instances

Not all applications will follow the same path

PRODUCTIVITIY

CONTROL

Retire it, right-size, eliminate environments

Use or convert to a low code solution or SaaS

Extend functionality of existing solutions using serverless

Convert to serverless solution

Optimize for and move to containers

No change, lift 'n shift to IaaS

35%

15%

35%

10%

5%

Custom LoB apps

DevOps tools

Relationship mgmt

Industry verticals

SaaS

First to move

Basic web/ LoB apps

Advanced portals

Any new solutions

Any re-architected solutions

Next to move

High I/O OLTP

Regulatory and high business impact

Hard or costly to move

HVA Systems

PKI Systems

Legacy source control

Note: This slide leverages inputs from app mod journey of Microsoft IT. Percentage stats would vary from one customer to another.

Ready – Set – GO !

1 Ideation

2 Preparation
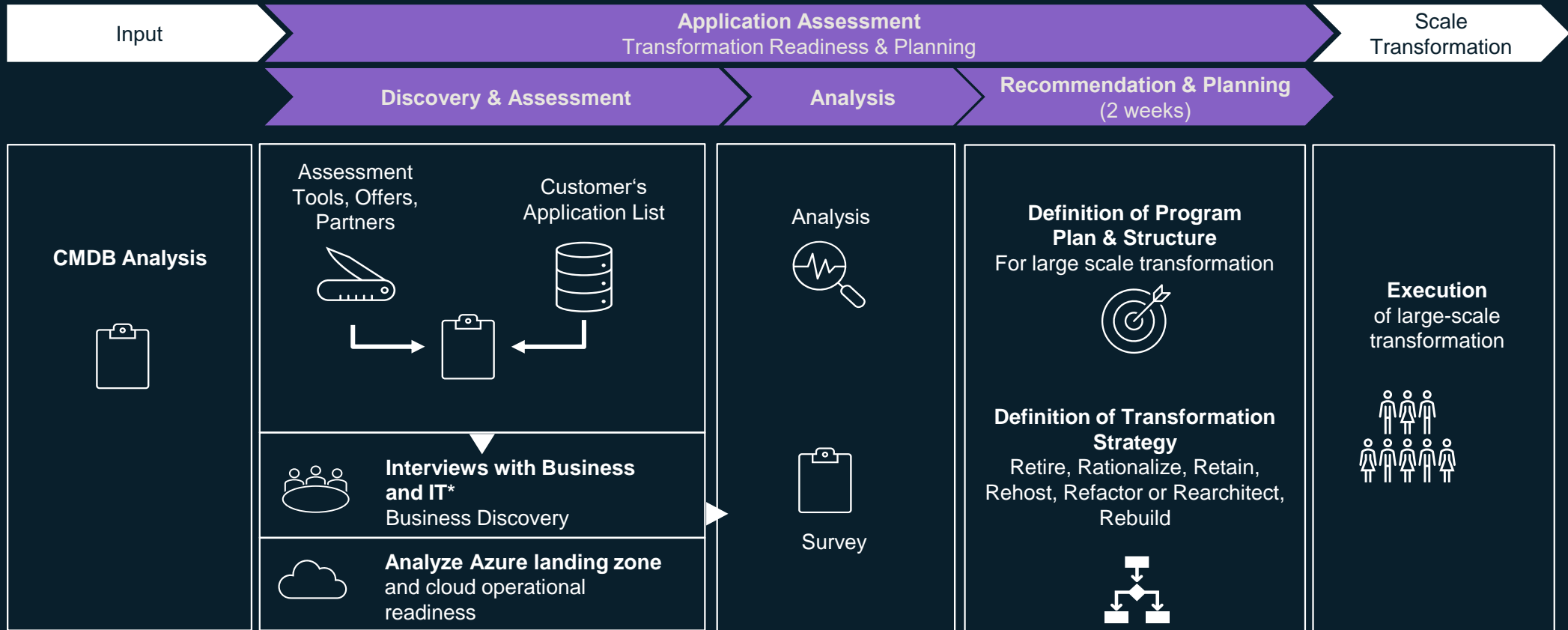
3 Execution
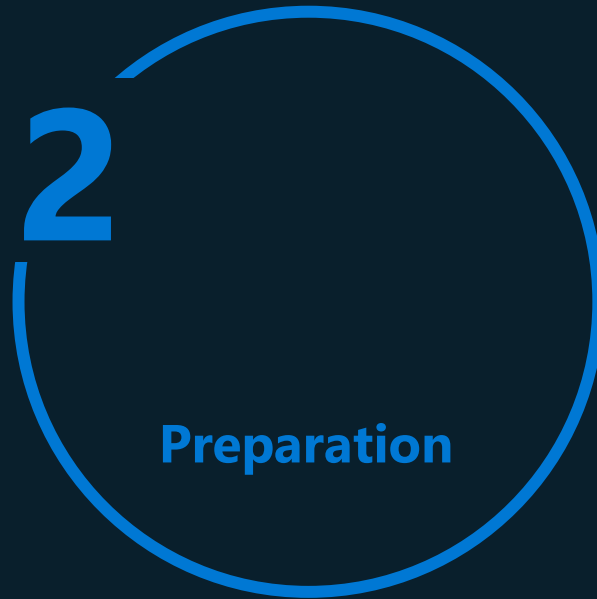
Ideation

- ❑ Definition of Cloud Strategy

- ❑ Definition of Migration Approach

- ❑ Definition of Decision Criteria regarding Target Platform

- ❑ Knowledge Sharing Structure, Process, Technology

- ❑ High-level Scoping, incl. CMDB

Preparation

Input	Application Assessment — Transformation Readiness & Planning			Scale Transformation
	Discovery & Assessment	**Analysis**	**Recommendation & Planning** (2 weeks)	
CMDB Analysis	Assessment Tools, Offers, Partners — Customer's Application List	Analysis	**Definition of Program Plan & Structure** For large scale transformation	**Execution** of large-scale transformation
	Interviews with Business and IT* Business Discovery	Survey	**Definition of Transformation Strategy** Retire, Rationalize, Retain, Rehost, Refactor or Rearchitect, Rebuild	
	Analyze Azure landing zone and cloud operational readiness			

* The embedded Excel file contains interview questions for business and IT

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Azure

Interview Questions

Execution: High-level categorization of applications

Strategic Applications

- High number of users *or*
- High degree of interconnection *or*
- High usage of storage / processing

Perform individual assessment

These applications need individual assessment and are possible candidates for Lighthouse projects

Standard Applications

- Average number of users *or*
- Standalone or with only few connections *or*
- Average usage of storage / processing

Perform Long-Tail assessment

To come to a rough estimate and provide a direction based on generated business value

Out of Scope Applications

- COTS without significant customization *or*
- Standalone / without connections *or*
- Potentially decommissioned in the future

Assess Lift + Shift, Decommission or Replacement

To keep efforts for small COTS applications at a minimum, allowing focus on larger applications

Execution: Migration Funnel to cover 5k applications

Application Landscape

~5.000 Applications

Strategic Applications
~10 Applications

Individual Assessment

Standard Applications
~3.000 Applications

Long-Tail Assessment

Application Archetypes

~10 Archetypes

Refactor

Rearchitect

Rebuild

~30
Cloud Architectures to be designed to cover Long-Tail Assessment of 3.000 Applications

~40
Cloud Application Architectures to be designed

Out of Scope Applications
~1.000 – 2.000 Applications

Lift + Shift (Rehost), Decommission or Replace

Modernize...

.NET

"We use App Service to run our latest .NET6 apps which saves us 30% ...."

KUKA

Java

"We modernize our legacy Java App and move onto Azure within 6 days....."

FEDEX

Integration

"We build our APIs for our customers and partners and roll them out within 48 hours....."

CARGOLUX

Azure PaaS gives you a clear advantage

Azure PaaS and other services

Application migration	Modernize .NET apps	Modernize Java apps	Streamline apps workflow	Integrate all apps with APIs
Azure Migrate	Azure App Service	Azure Spring Apps	Azure Logic Apps	Azure API Management
	Azure Container Apps	Azure App Service		
	Azure Kubernetes Service	Azure Container Apps		
		Azure Kubernetes Service		

Azure PostgreSQL   Azure Cosmos DB   Azure SQL

Microsoft Azure

Platform Engineering to accelerate cloud migration

Development Team

Consumes

Engineering Platform

Reusable Components

Developer Tools

Self-Service Dev. Experience

Automation

Complex Infrastructure

All icons are created with Bing Image Creator
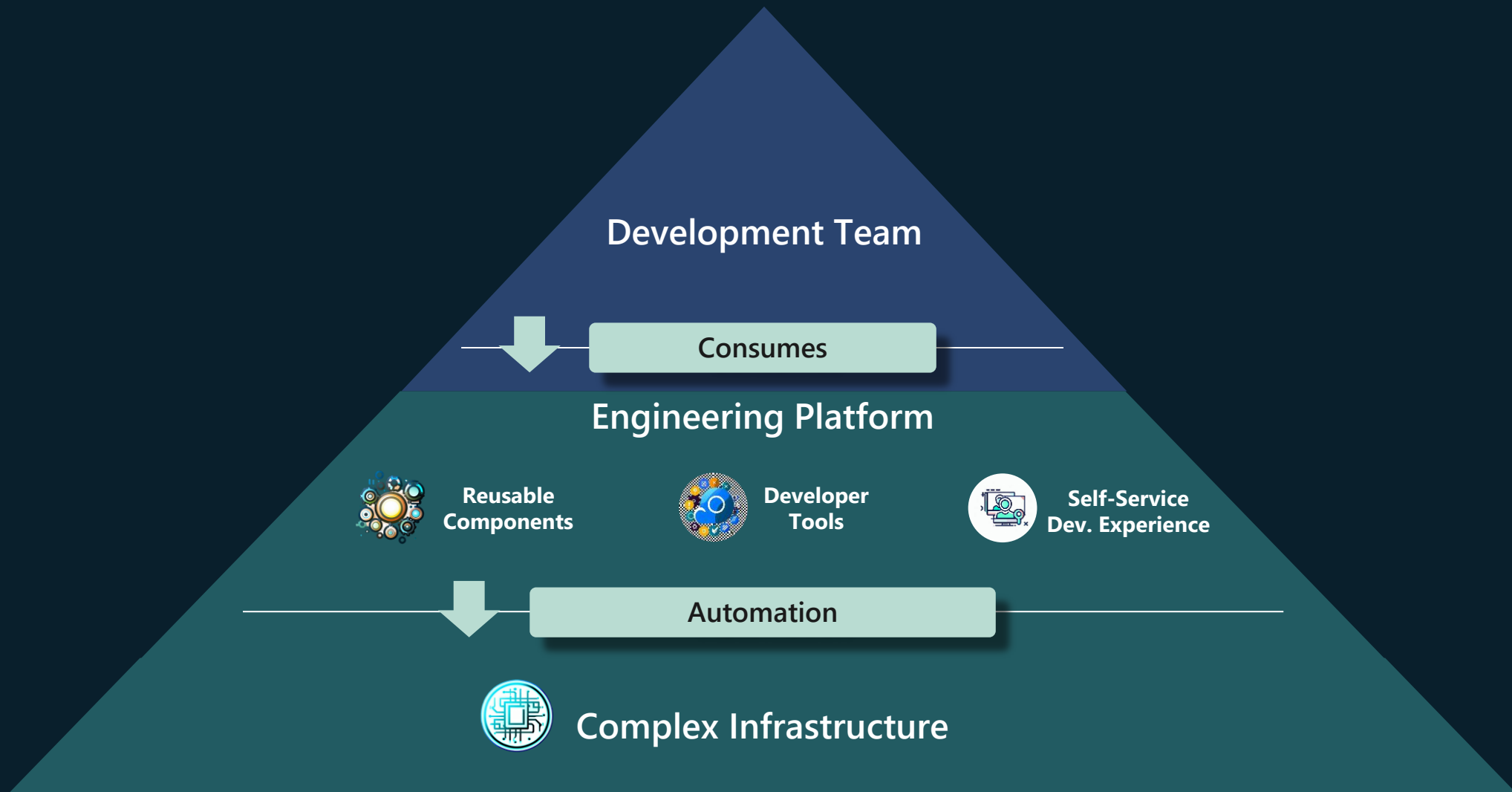
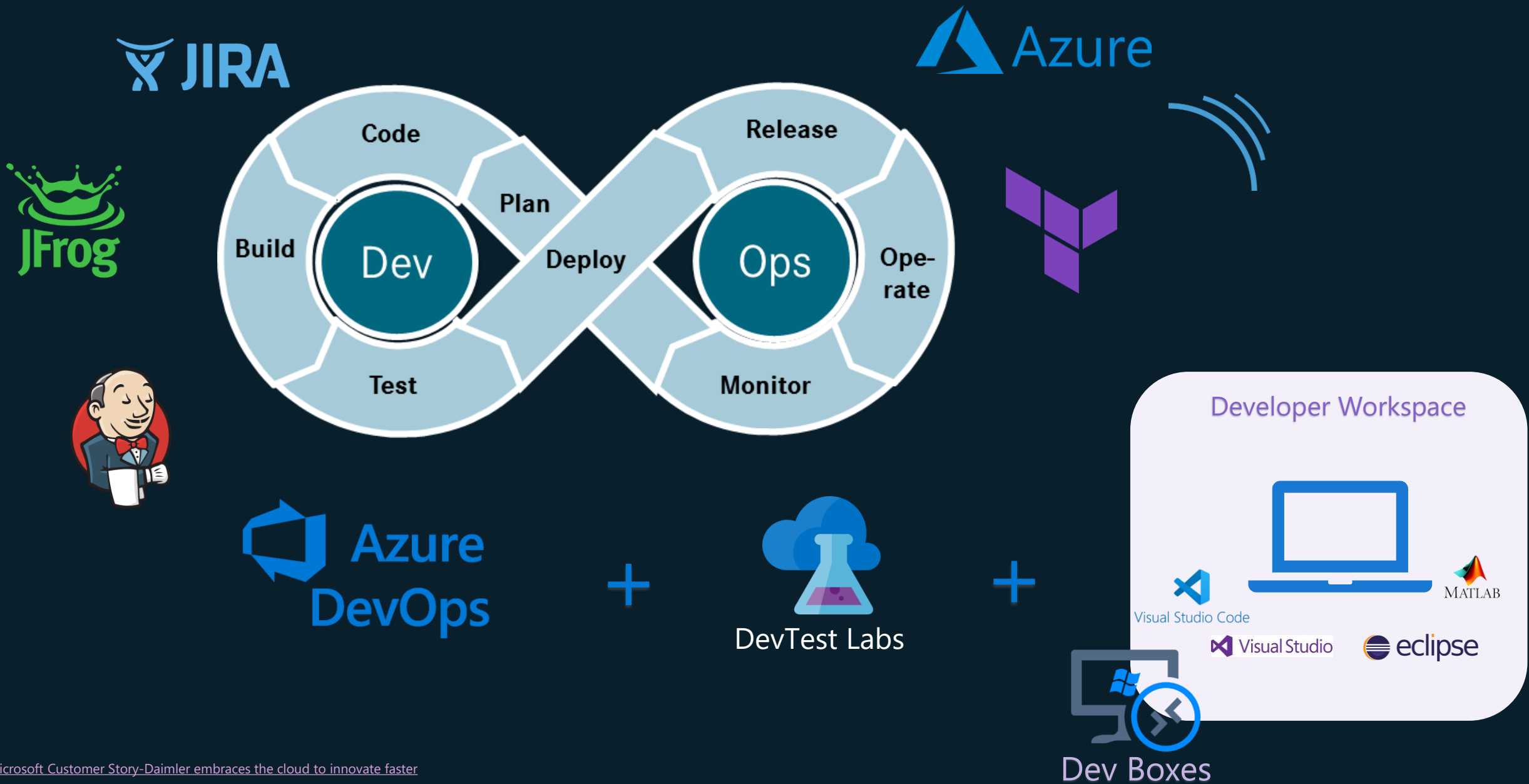# Empowering developers through Platform Engineering
with Azure Dev Centers, Deployment Environments, Microsoft Dev Box, and Azure

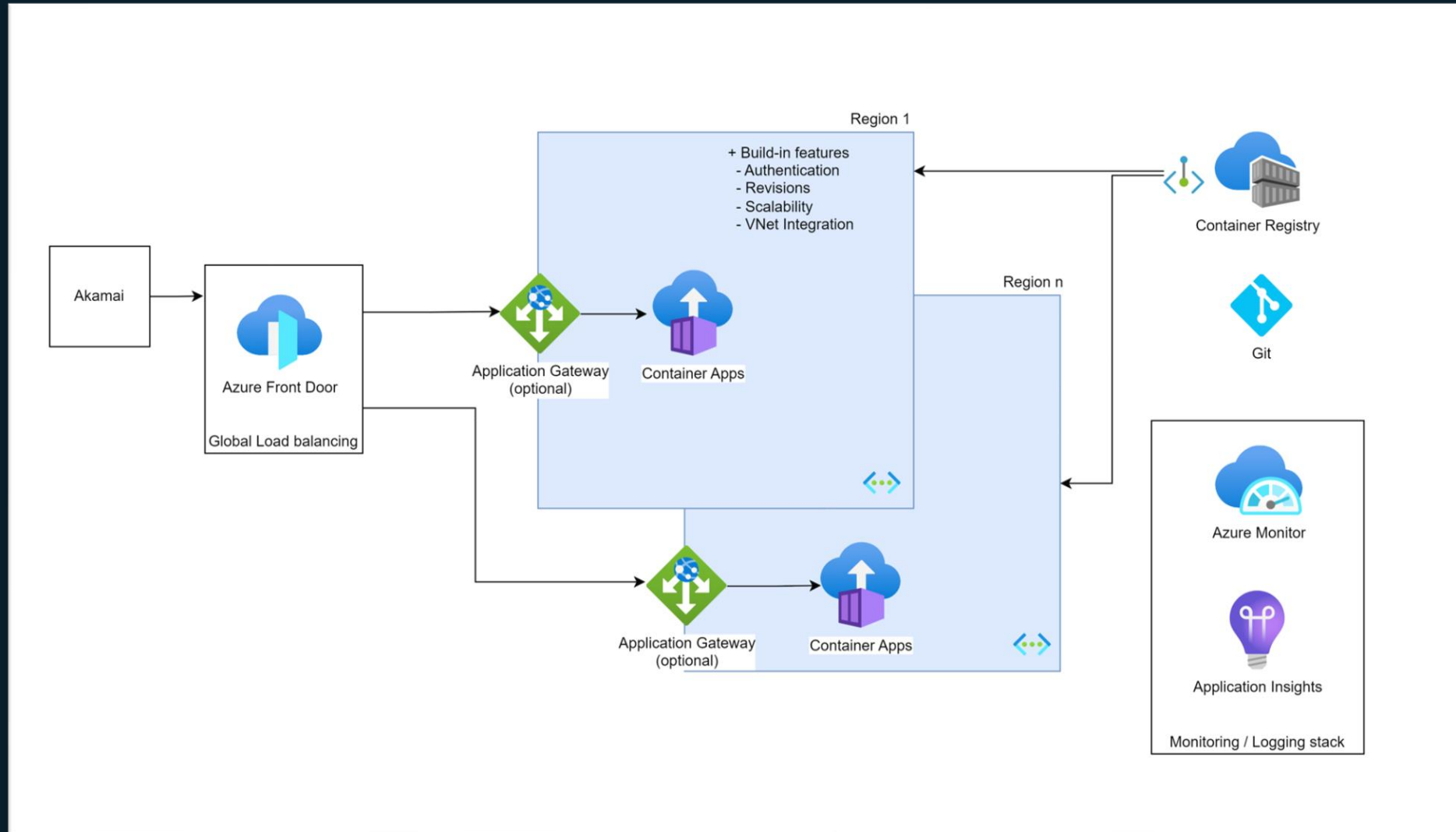**Platform, API catalog**

Project + IaC templates, scripts, APIs, samples

Development or Test subscription

Portal/CLI

Sandbox, demo, perf, other environments

Build

Developers
Continuity between inner and outer loops

Code

Debug

Environment type mappings

Subscription
Identity
Permissions
Secrets

Platform Engineers
Curate templates and map environment settings by type

Automated Deployment Pipelines

Dev Env	Test Env	Prod Env
Dev Sub	Test Sub	Prod Sub

Git push

Daimler embraces cloud to innovate faster

JIRA

Azure

JFrog

Code
Plan
Build
Dev
Deploy
Test

Release
Ops
Ope-rate
Monitor

Azure DevOps

+

DevTest Labs

+

Developer Workspace

Visual Studio Code

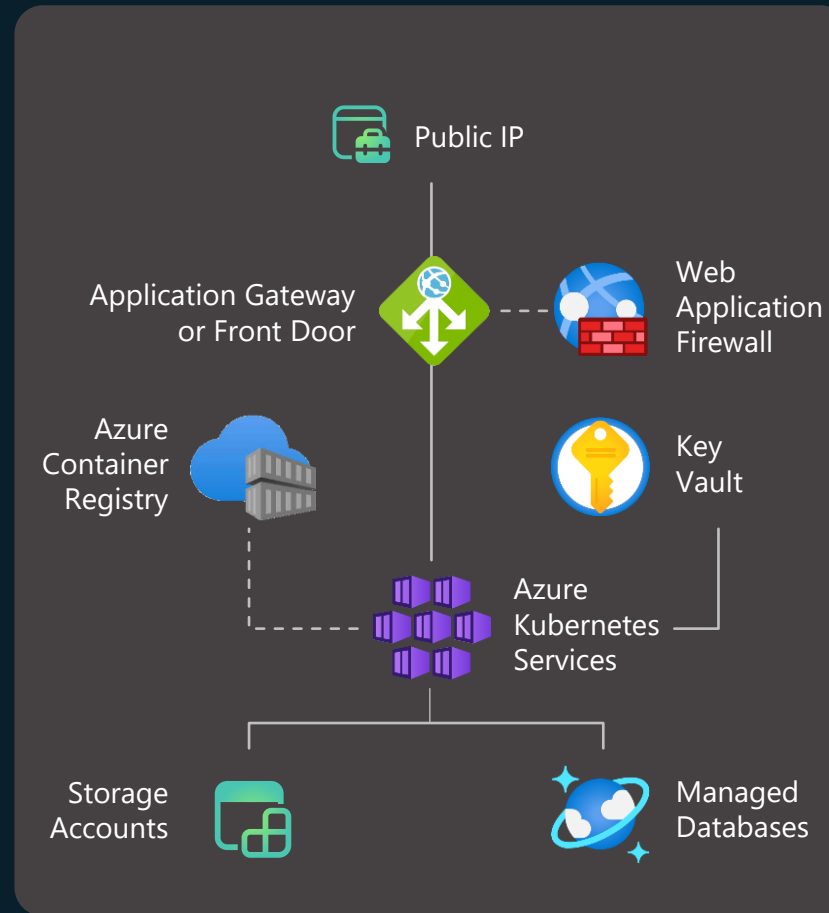Visual Studio

MATLAB

eclipse

Dev Boxes

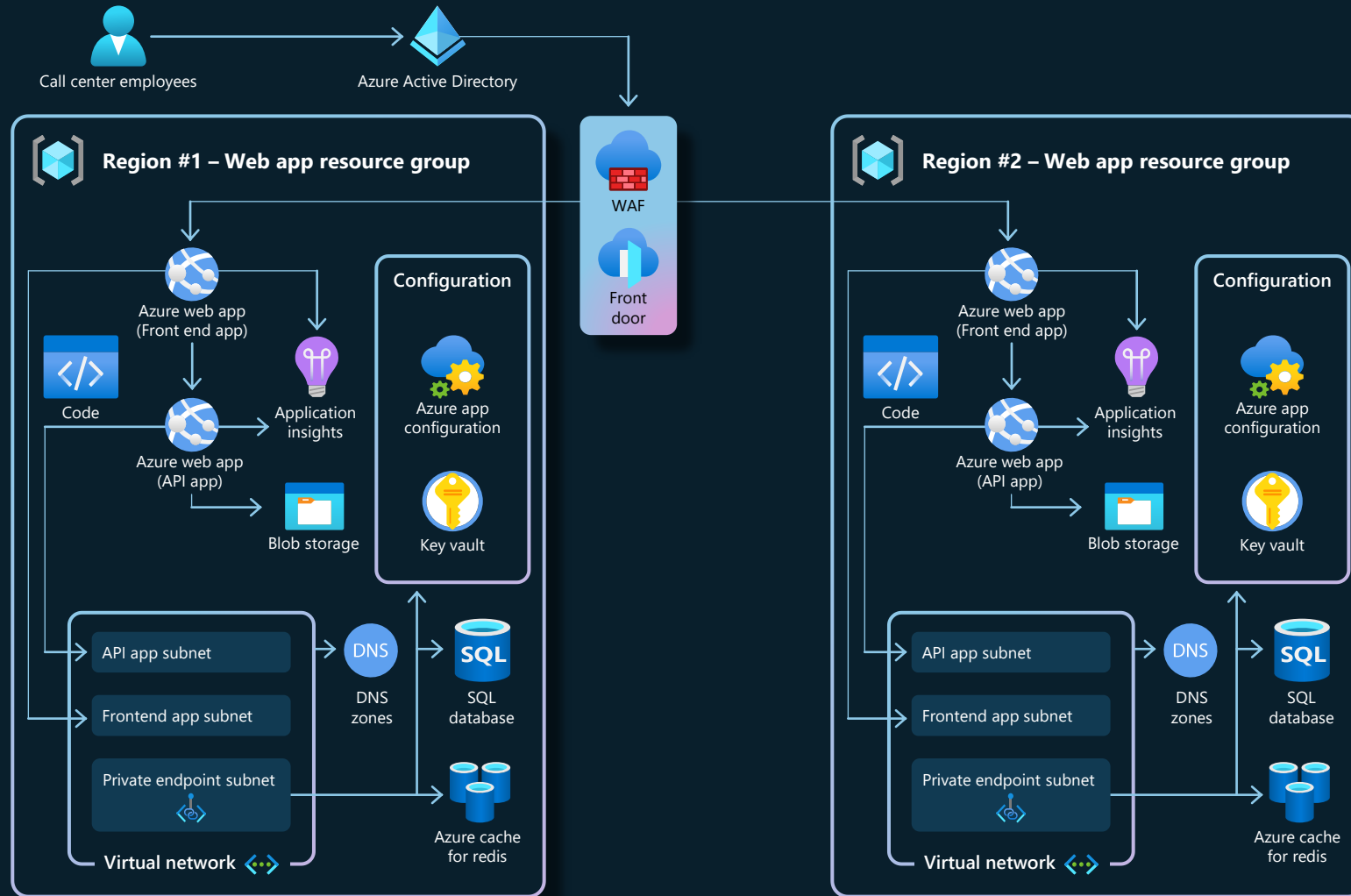# MACH Architecture with Azure Container Apps powering E-Commerce and public website content

Bosch delivers supply chain efficiencies using Java on Azure
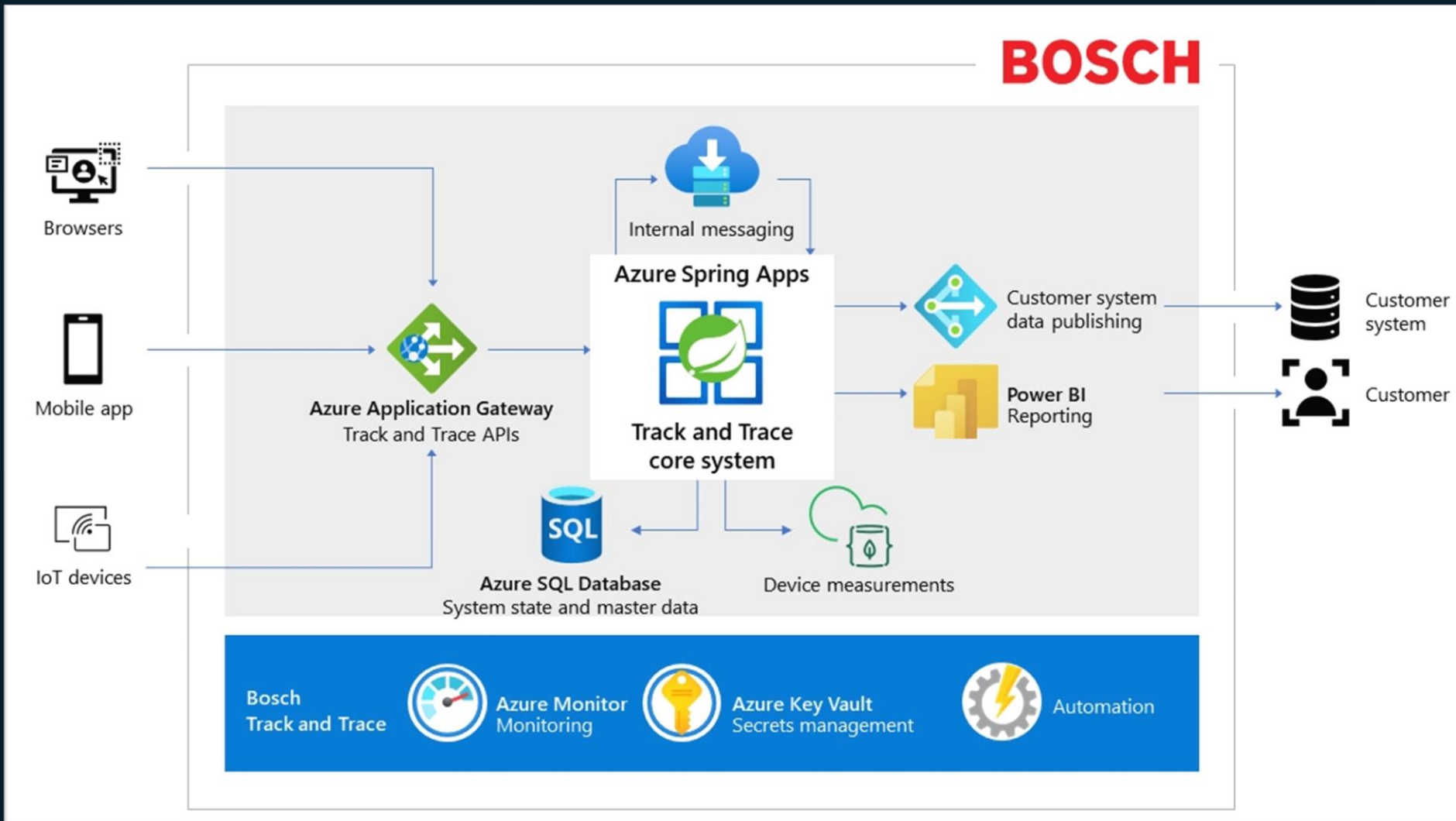
Archetypes: Container hosting

Archetypes: Reliable Web App

aka.ms/eap/rwa/java

aka.ms/eap/rwa/dotnet

Azure Container Apps in Action

Demo

Q&A

Thank You!