Microsoft

Cloud-native Pathways for the start-ups: *Discovery to Deployment*

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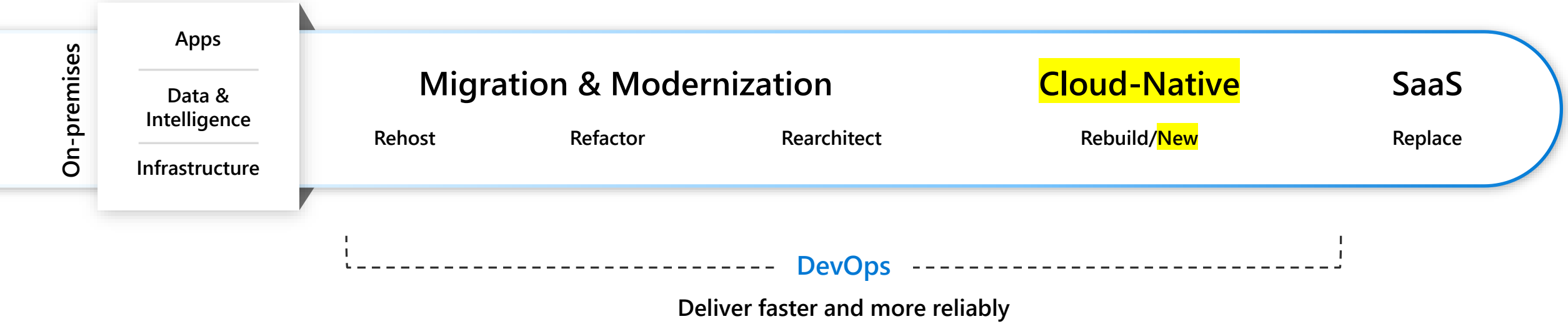
The **journey** to the cloud



The Cloud Native Computing Foundation provides the official definition:

Cloud-native technologies empower organizations to build and run scalable applications in modern, dynamic environments such as public, private, and hybrid clouds. Containers, service meshes, microservices, immutable infrastructure, and declarative APIs exemplify this approach.

These techniques enable loosely coupled systems that are resilient, manageable, and observable. Combined with robust automation, they allow engineers to make high-impact changes frequently and predictably with minimal toil.

Company	Experience
Netflix	Has 600+ services in production. Deploys 100 times per day.
Uber	Has 1,000+ services in production. Deploys several thousand times each week.
WeChat	Has 3,000+ services in production. Deploys 1,000 times a day.

Test your Kubernetes adoption knowledge

How many of you are using Kubernetes for container orchestration?

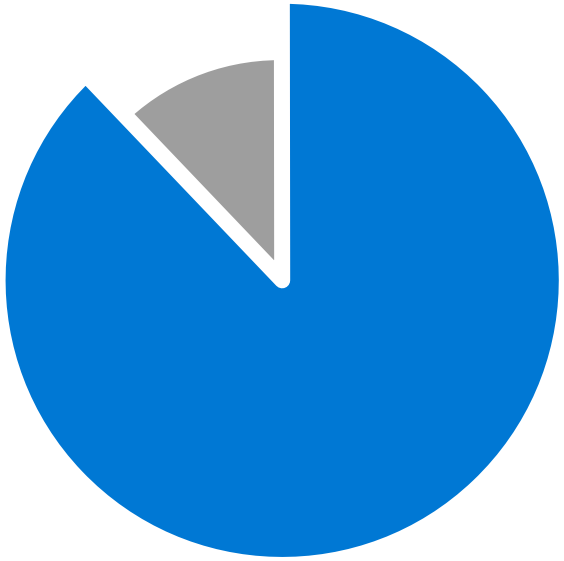
A. 42%

B. 66%

C. 73%

D. 88%

E. 95%



Of those of you using Kubernetes, how many are running workloads in production?

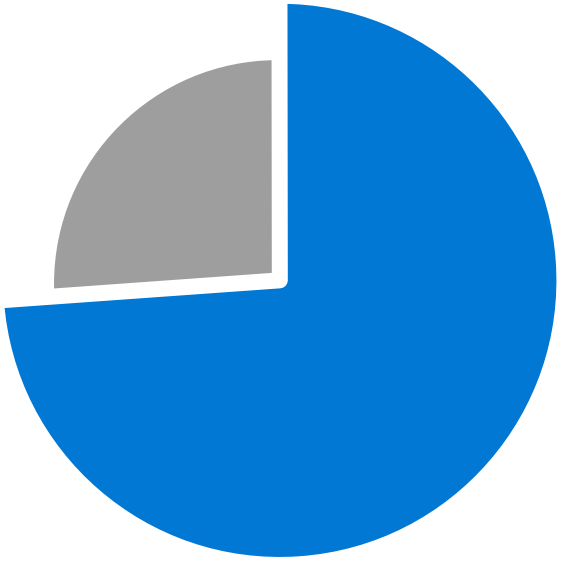
A. 45%

B. 55%

C. 74%

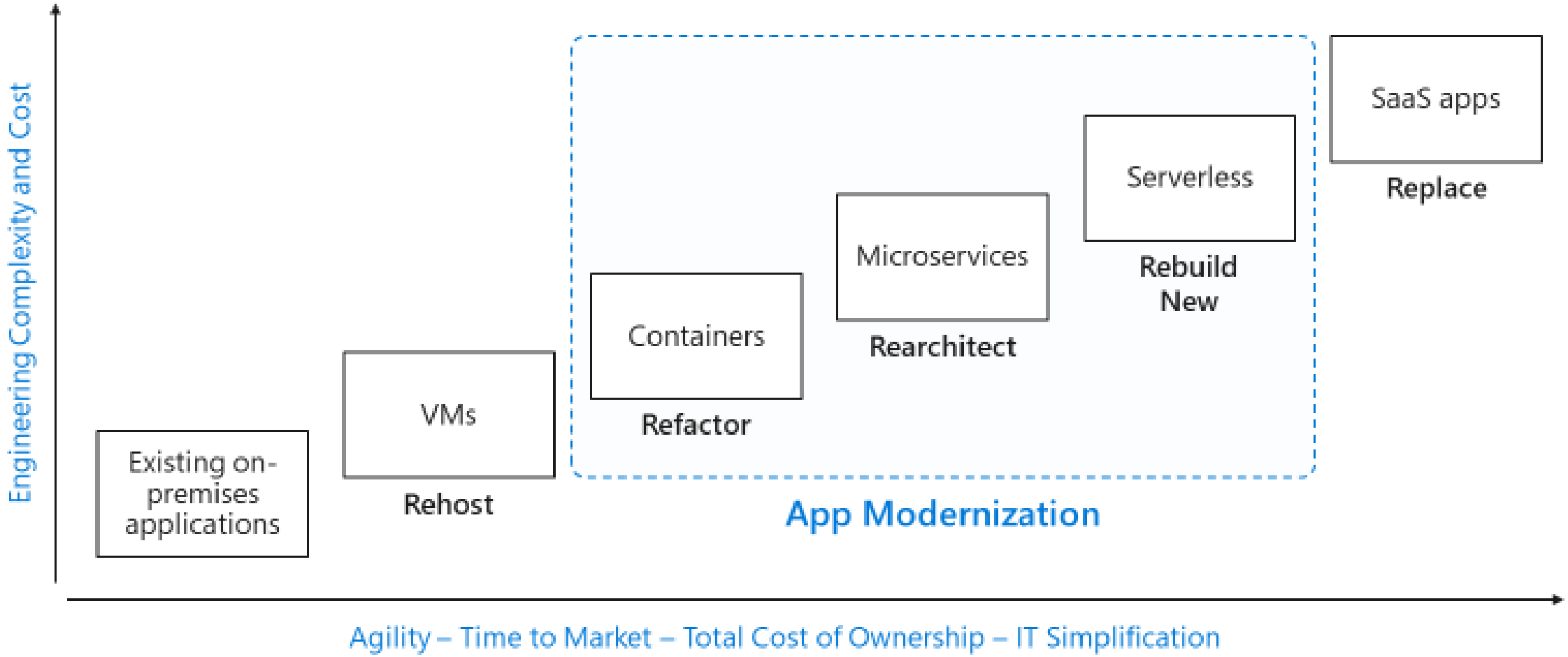
D. 85%

E. 100%



All statistics from Red Hat. "Kubernetes adoption, security, and market trends report 2021." July 14, 2021. Report.

Cloud app **continuum**



Kubernetes: the de facto container orchestrator

Microsoft investing in Kubernetes

88%
of enterprises using or adopting Kubernetes

- 74% of enterprises that use Kubernetes are running workloads in production
- 74% of survey respondents have a DevSecOps initiative underway
- At least 20% of enterprises that use Kubernetes leverage six different open-source security tools

Portable

Public, private, hybrid, multi-cloud

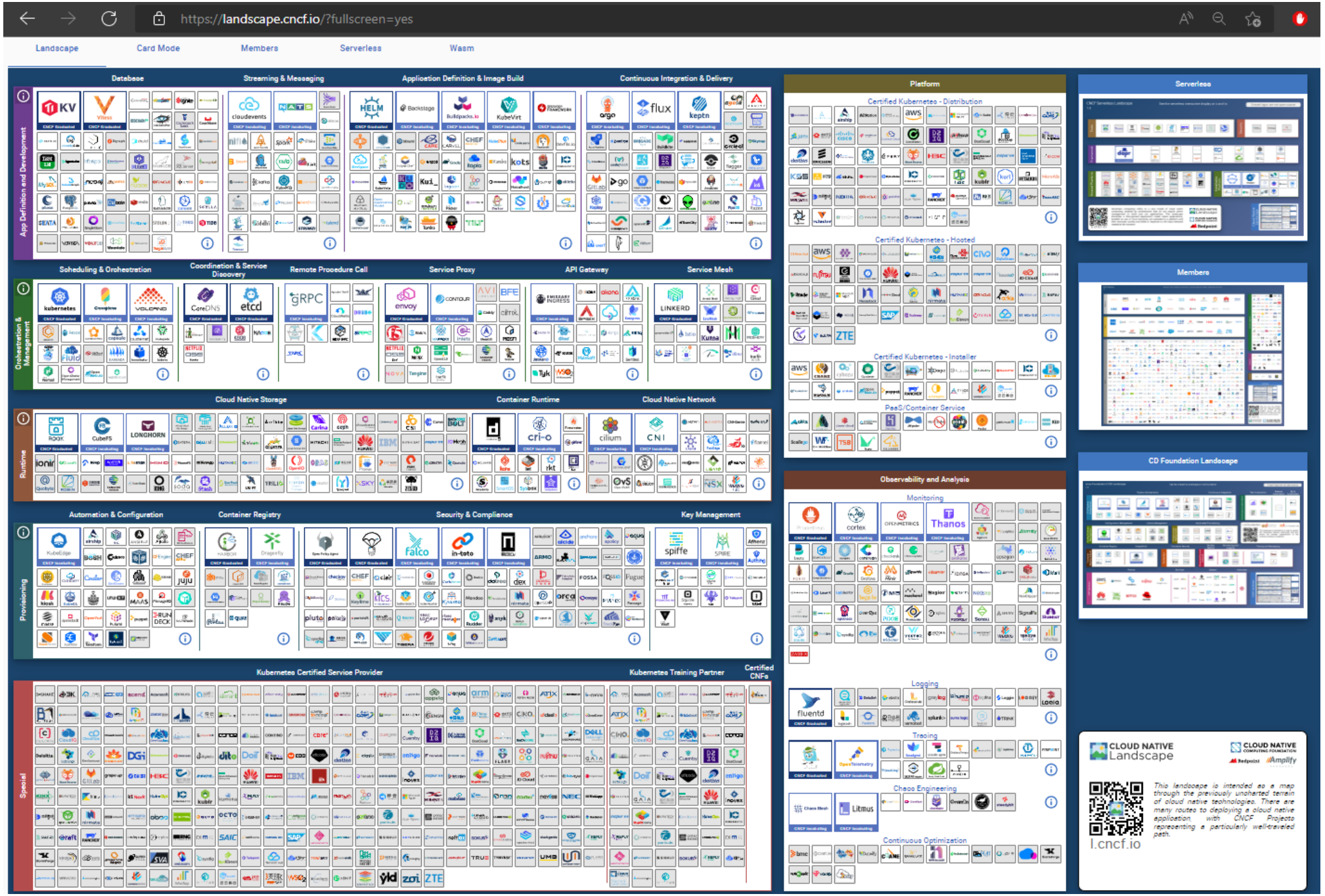
Extensible

Modular, pluggable, hookable, composable

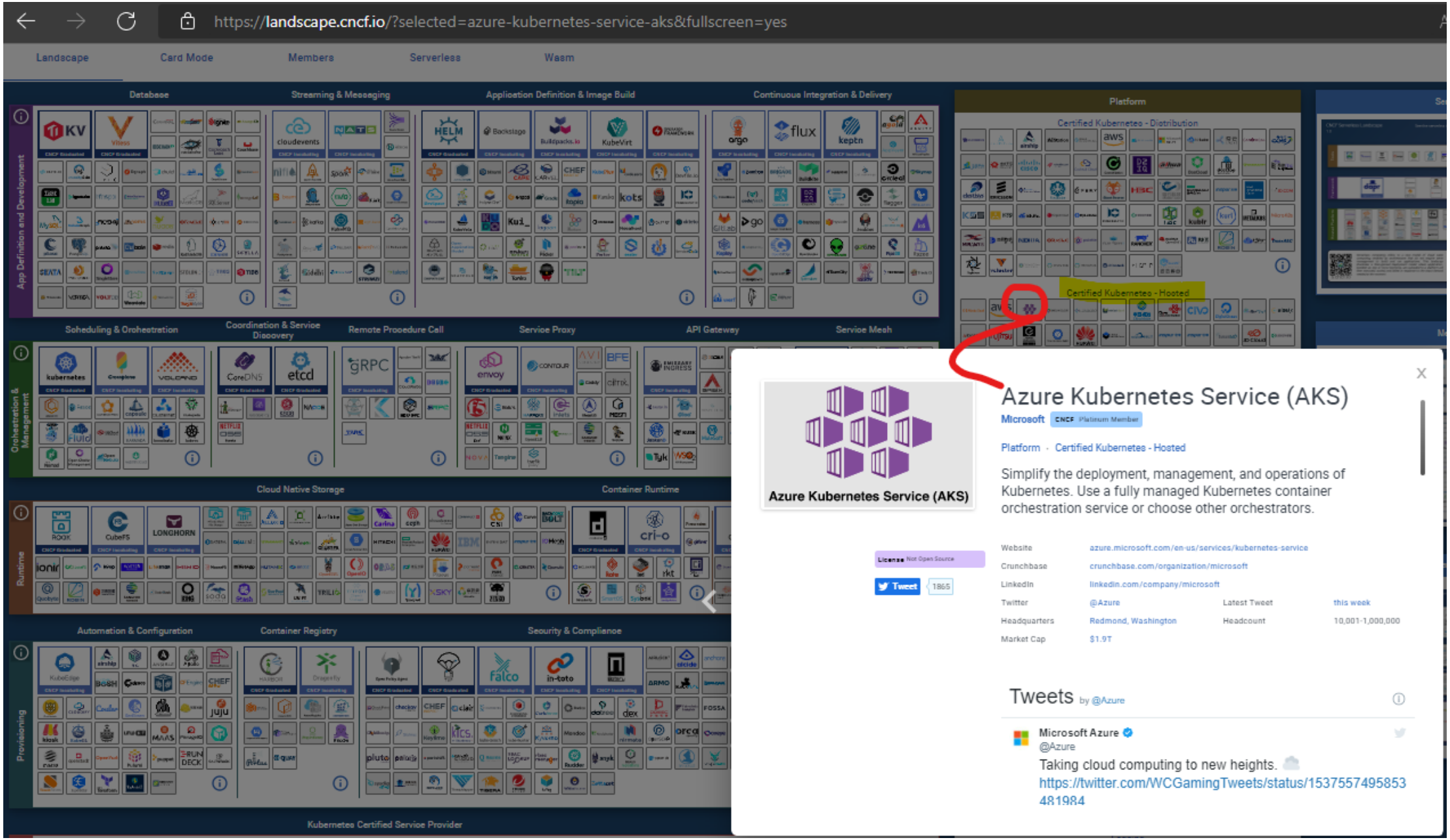
Self-healing

Auto-placement, auto-restart, auto-replication, auto-scaling

All statistics from Red Hat. "Kubernetes adoption, security, and market trends report 2021." July 14, 2021. Report.



https://landscape.cncf.io



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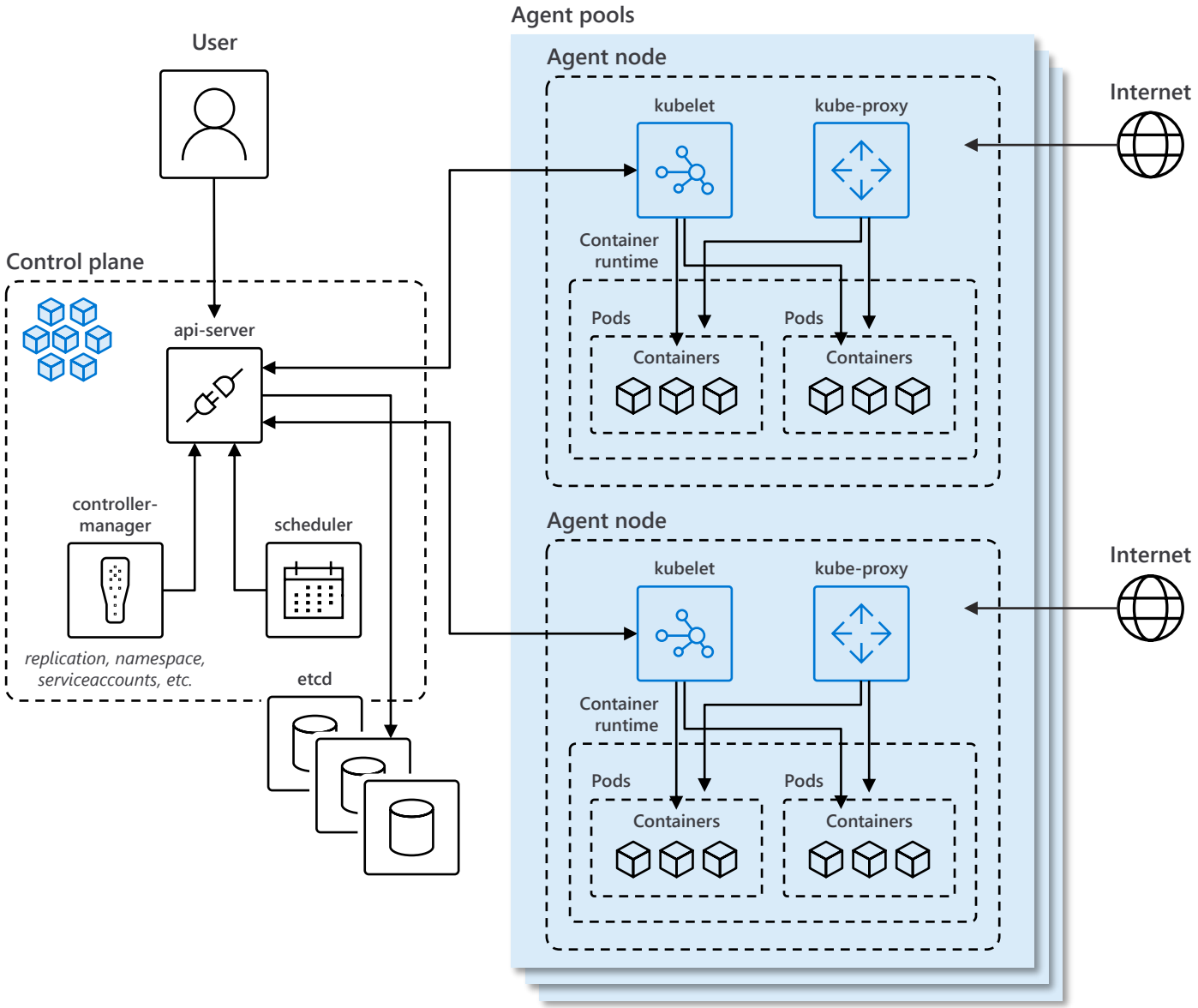
What's Your Kubernetes Maturity?

https://www.cncf.io/blog/2021/01/12/whats-your-kubernetes-maturity/

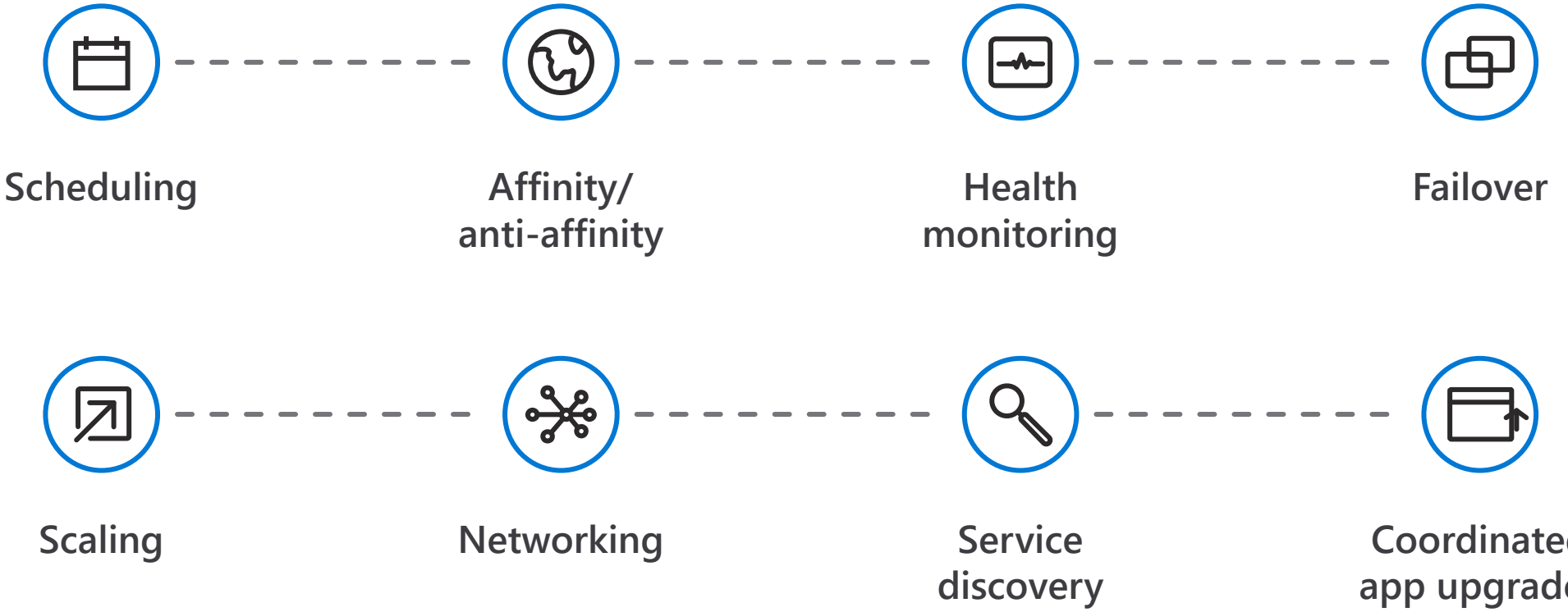
Why Managed Kubernetes?

Kubernetes is complex

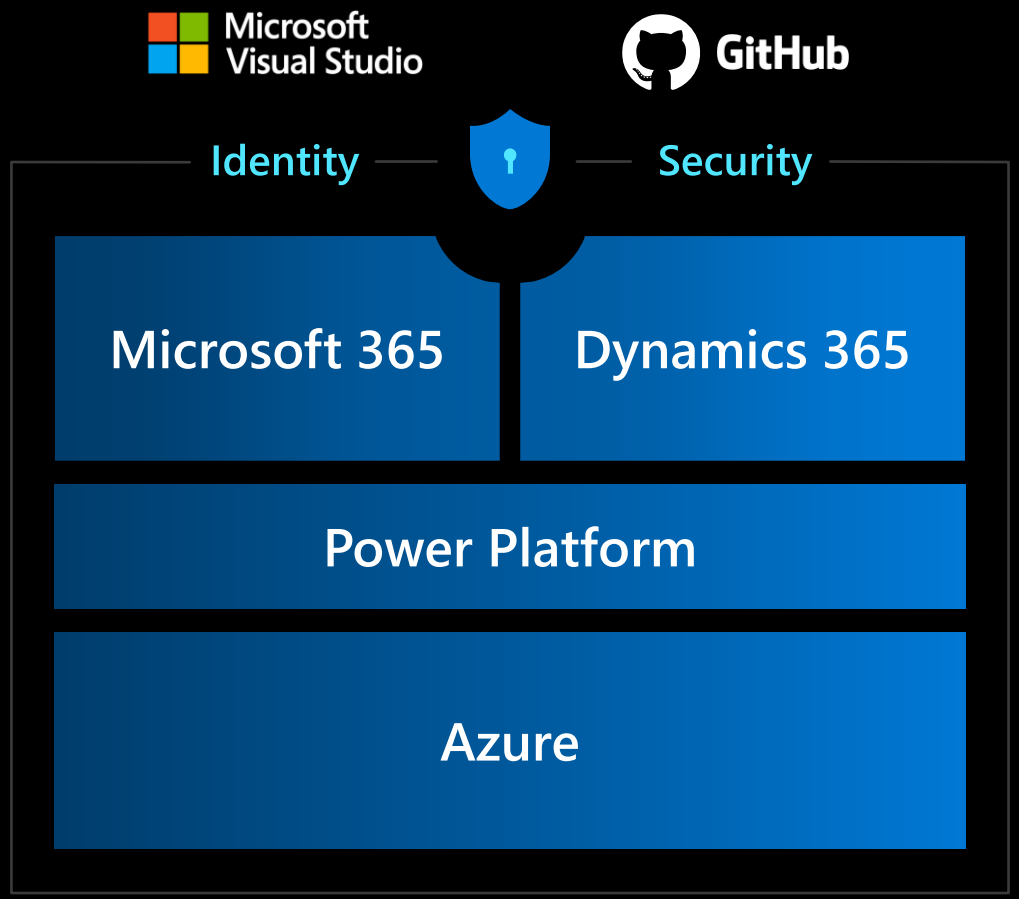
1. Kubernetes users communicate with API server and apply desired state
2. Control plane actively enforces desired state on agent nodes
3. Agent nodes support communication between containers
4. Agent nodes support communication from the Internet
5. Agent pools keep multiple agent nodes organized



The elements of high-performing Kubernetes



Microsoft Cloud



Changing landscape

Application innovation trends for 2021 and beyond…

Move to the public cloud

Accelerate and scale innovation

Democratize technology development

Allow non-technical users to build low-code apps

Shorten time to market

Innovate with speed to adapt to digital urgency

Harness rapidly growing data volumes

Make apps smarter with data insights

Reassess investments

Optimize for a new macro environment

Infuse intelligence

Create real-time personalization with AI and ML

Enable remote development

Collaborate globally and remotely

Prioritize reliability and security

Invest in business continuity and security

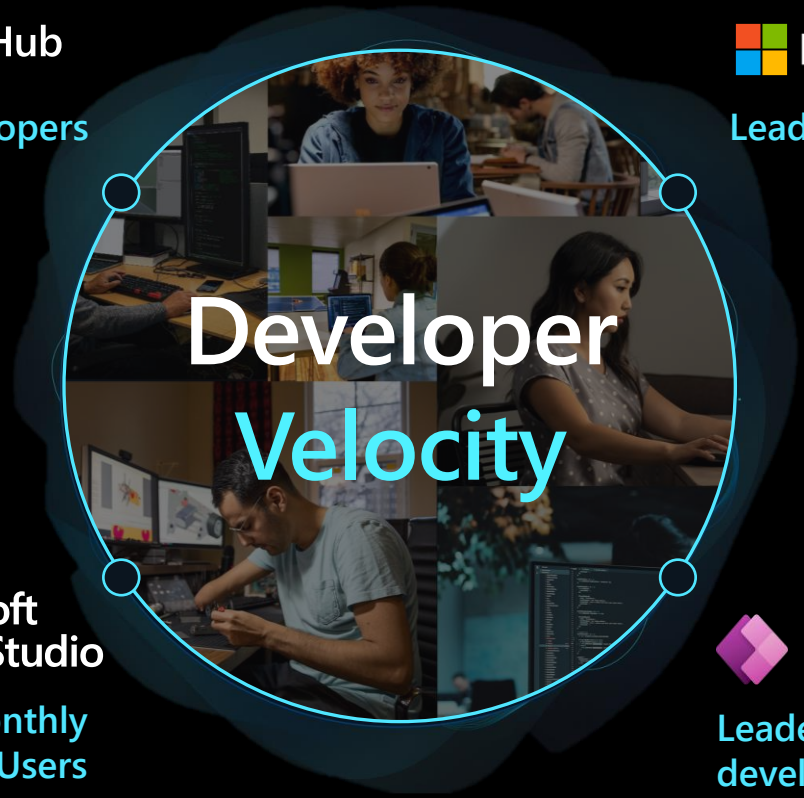
Most comprehensive developer tools and cloud

GitHub

65M+ developers

Microsoft Azure

Leaders in developer platform[1]



Microsoft Visual Studio

25M+ Monthly Active Users

Power Apps

Leaders in low-code development platforms[2]

1. Forrester: Forrester Wave for Public Cloud Development and Infrastructure Platforms, and, Public Cloud Development Platforms, Q1 2020
2. Forrester Wave for Low-Code Development Platforms, 2019

How our products enable app innovation

Control

Productivity

VMs

Azure Virtual Machines

Containers

Azure Kubernetes Service | Azure Red Hat OpenShift | AI services

PaaS/Serverless

App Service | Functions | Logic Apps Spring Cloud | AI Services

Low code

Power Apps | AI Builder Azure Services

Managed databases

Azure SQL Database | PostgreSQL | MySQL | Cosmos DB

DevOps

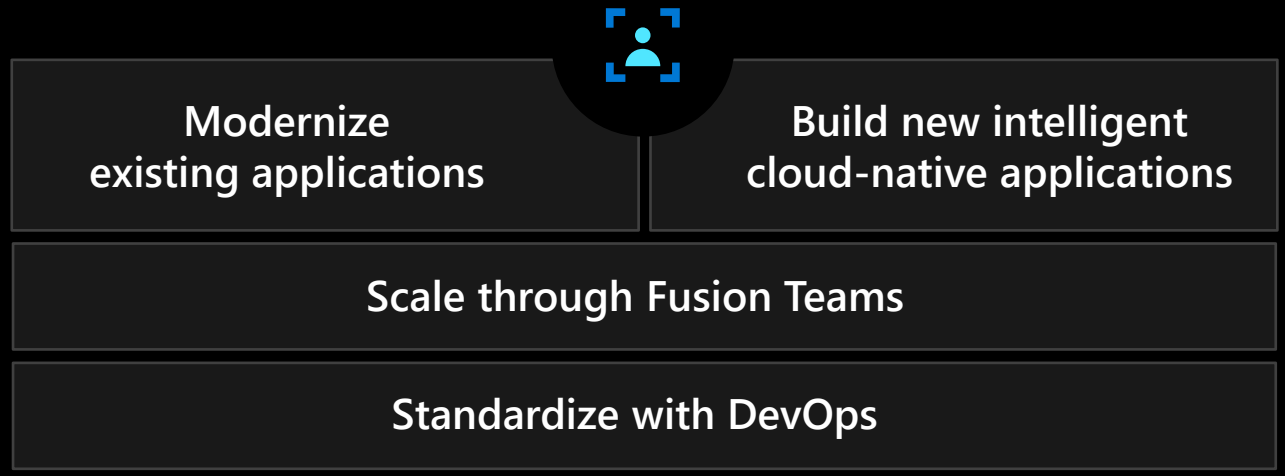
GitHub | VS Code

Azure Arc | Azure Stack

Cloud

Edge

Our application innovation vision



74%
Reduction in app development cost[1]

4–5x
Higher revenue growth[2]

55%
Higher innovation[2]

1. The Total Economic Impact of Power Apps by Forrester Consulting, March 2020
2. McKinsey Developer Velocity Research

Build new intelligent cloud-native applications

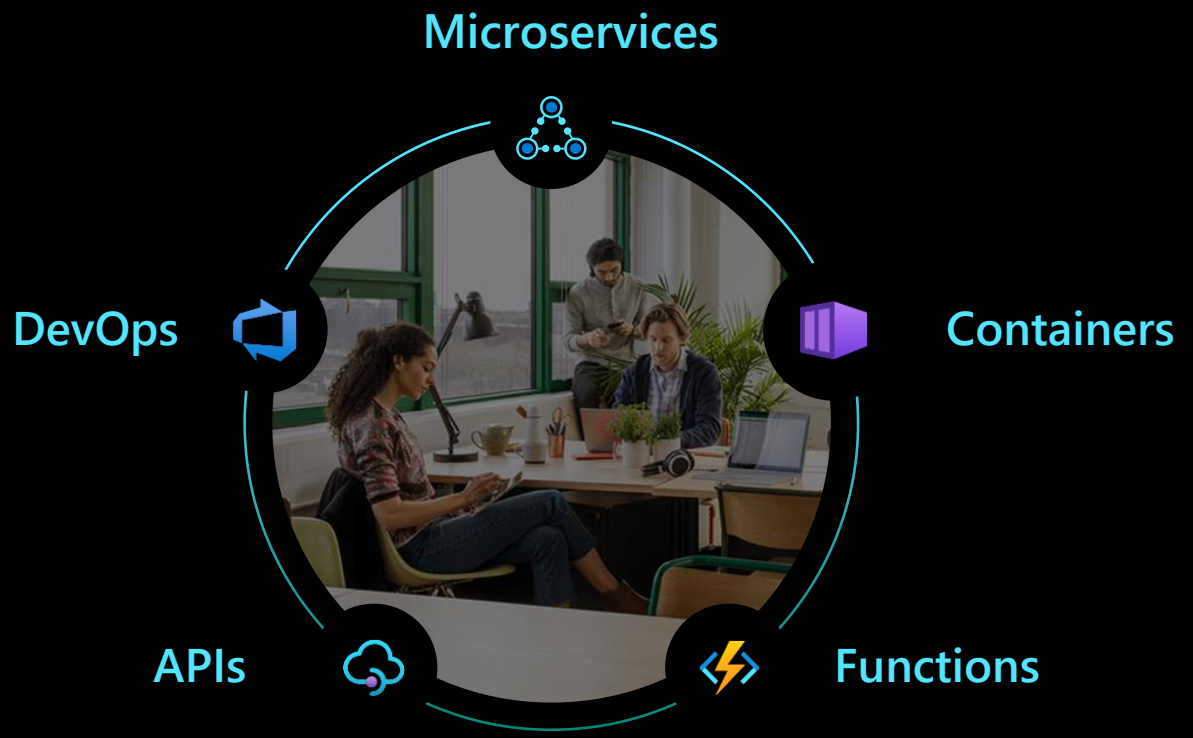
90% of all production apps will be cloud-native by 2025[1]

Increase speed of innovation without compromising reliability and security

Azure offers the strongest developer experience with the most comprehensive toolchain and AI portfolio for your applications

1. IDC, "IDC FutureScape"

Build new intelligent cloud-native applications



AI-powered UI and application logic

Fully managed data, analytics and insights

Develop collaboratively and securely for the cloud

79% of organizations that claim to do DevOps are leveraging the cloud[1]

Collaboration and security remain top of mind as companies have been adapting to a remote work or hybrid work environment

Azure helps your teams to build apps from anywhere with cloud-powered development environments, collaborate smoothly from anywhere with tools that enable distributed teamwork, and securely ship from anywhere, with fully integrated services and tools that enable teams to maintain confidence in security despite being remote

1. Forrester: The State of Modern Technology Operations

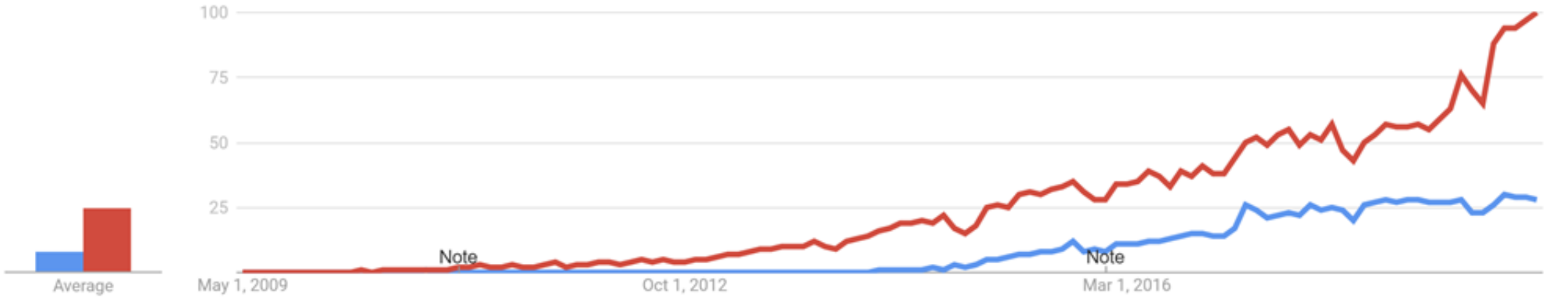
microservices
Search term

DevOps
Search term

+ Add comparison

United States | 4/28/09 - 5/28/19 | All categories | Web Search

Interest over time



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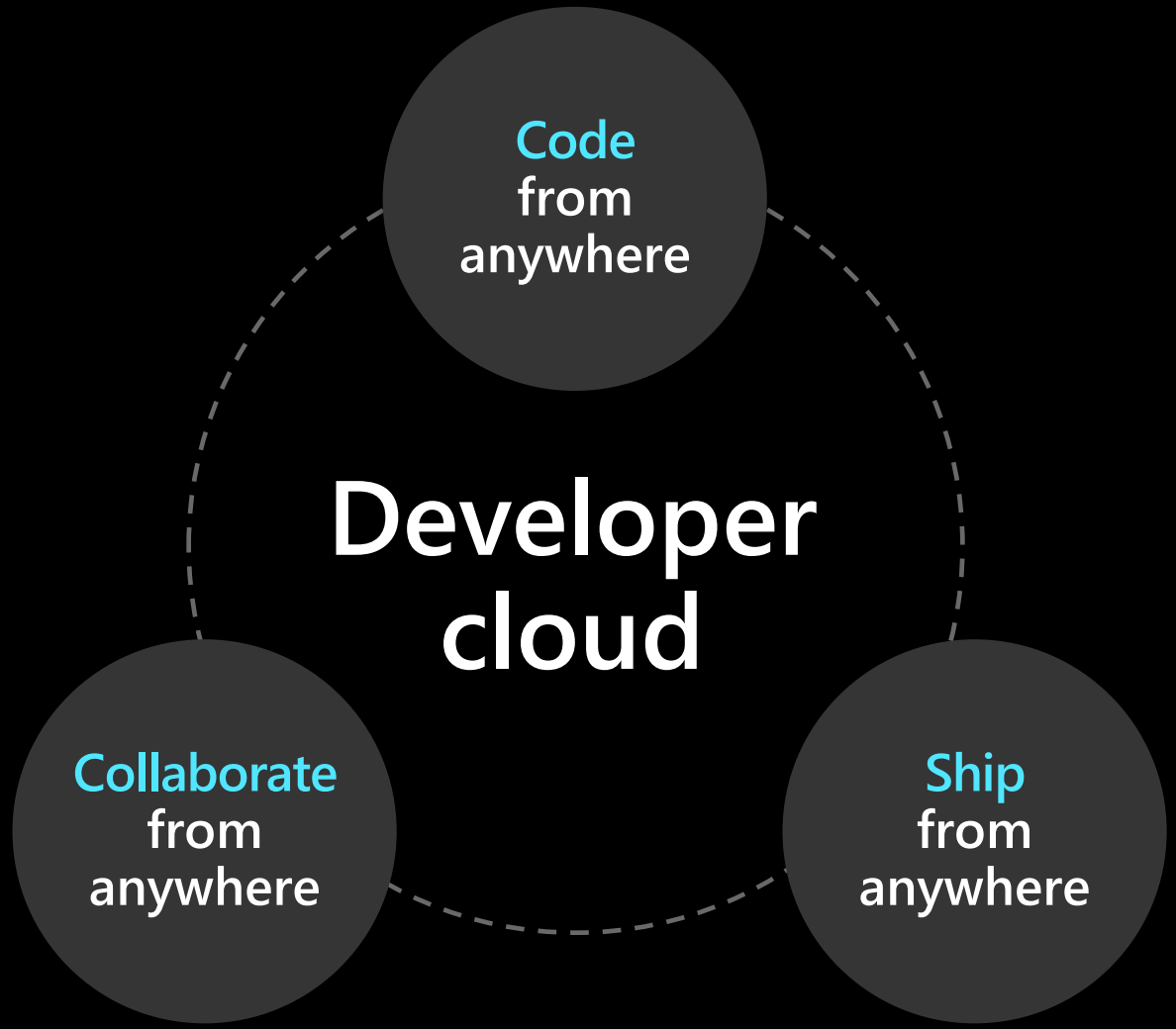

Microsoft provides a unified solution

to help you accelerate and secure code-to-cloud development

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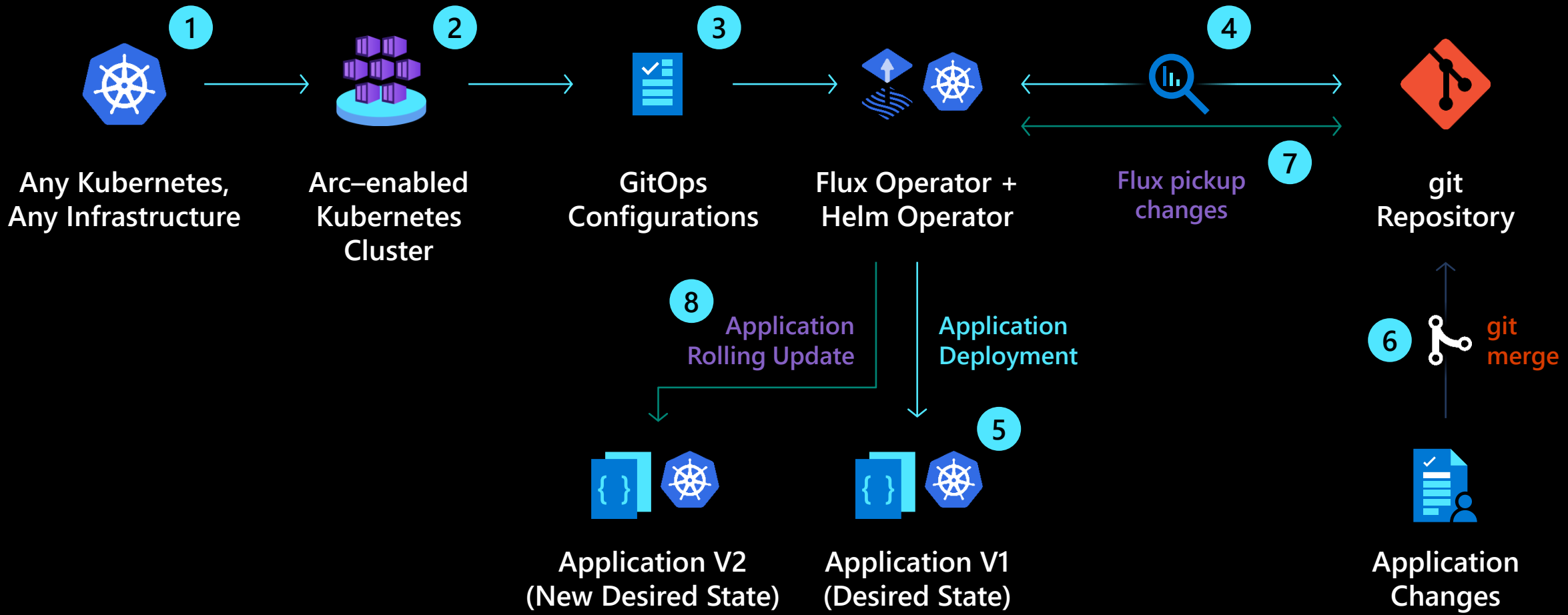
GitOps workflow



Demo

Microsoft

Q&A

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YOUR STORY