

# EXPERTS LIVE KENYA

26TH JULY 2024  
NAIROBI, KENYA






# Cloud Native in Azure with a sprinkle of AI

Margaret Kamau  
Microsoft Cloud Security MVP



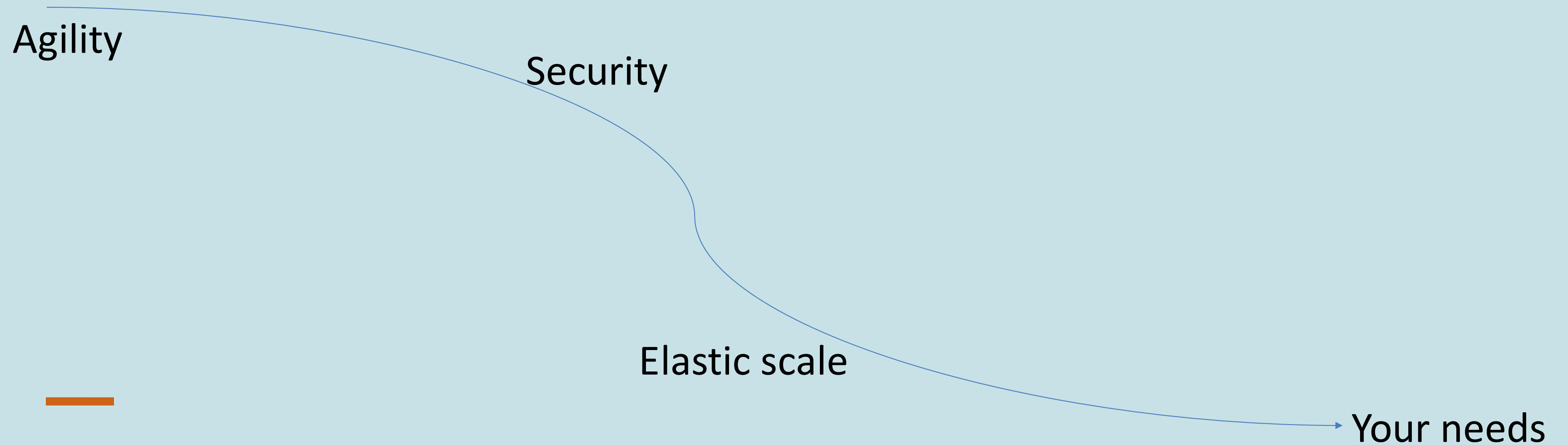


---

# Agenda

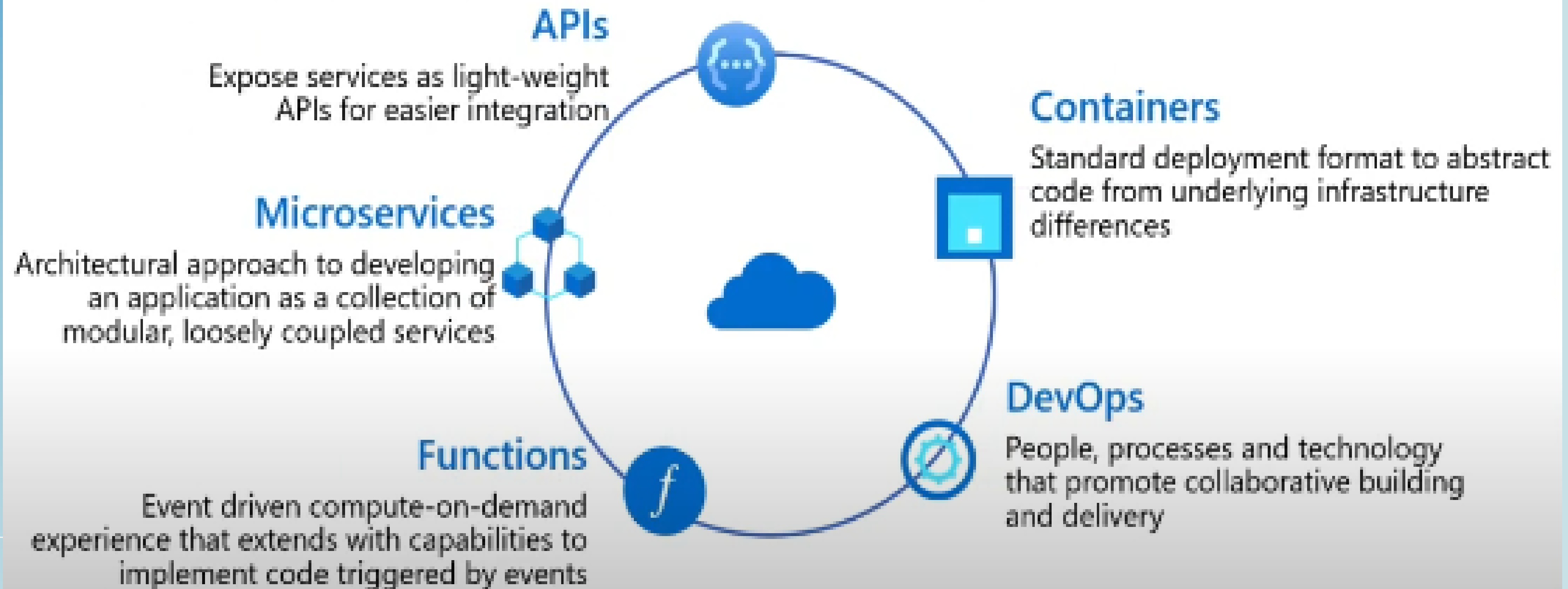
- 
- Cloud Native
  - AI development and operations
  - Code with serverless development
  - Takeaways
  - Q&A

# Why Cloud Native?



# Elements of Cloud Native

Package application code & dependencies in containers, deploy as microservices and manage them using DevOps processes & tools

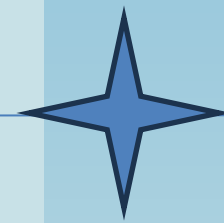




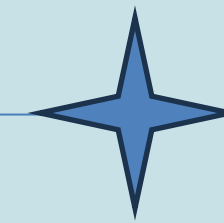
# Empower devs with cloud and AI



Streamlined  
dev experience for  
speed, scale and  
safety



Scalable high  
performance  
managed  
databases



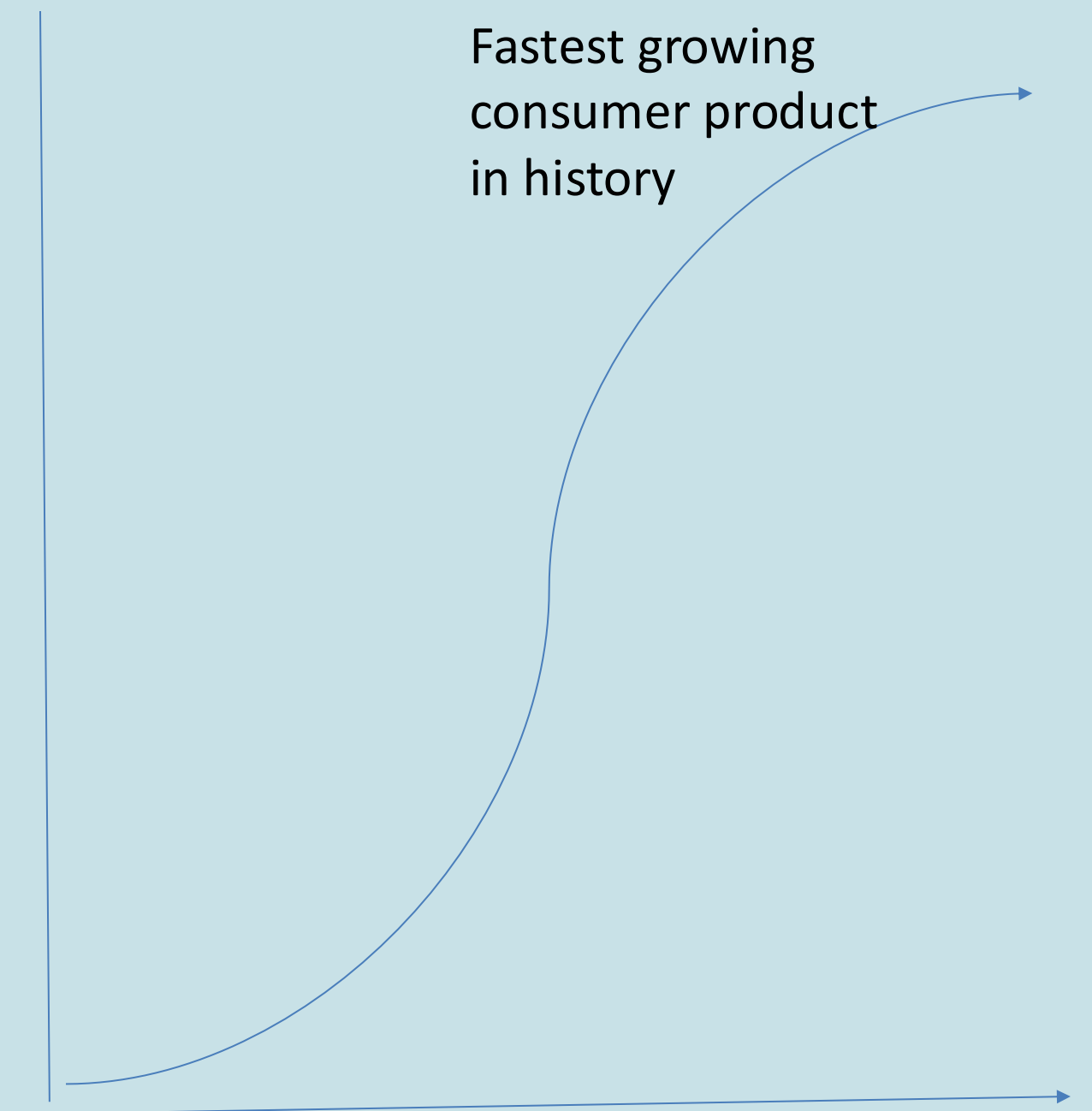
Hosted models and  
platform services to  
accelerate AI  
adoption



# Azure powers ChatGPT and OpenAI

## ChatGPT

- Runs on Azure Kubernetes Service (AKS)
- Backed by Azure Cosmos DB
- Developed on GitHub



# Cloud native platform in Azure



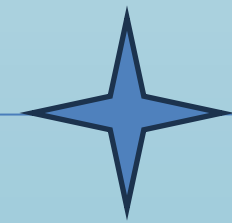
Azure  
Kubernetes  
Services



Fleet  
Manager



Azure  
Container  
Apps



Azure  
Functions



# AKS provides a modern platform for intelligent apps

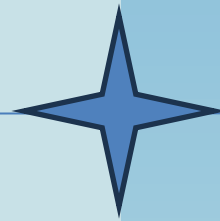
- Choice </> - integrate with IDEs
- Reliability and scale - autoscale, continued backups, high availability with SLA-backed uptimes
- Patching/upgrades - rolling updates w/o downtime, automatic platform maintenance and security patching
- Integrated CI/CD delivery with GitHub as GitHub Actions, Azure DevOps etc
- Security – RBAC, authN, authZ, secrete management, policy enforcement
- Self healing and resilience – health checks and self healing of unhealthy apps, harden using chaos engineering prinicples and load testing tools
- Managed operations - simplified operations through fully managed service, managed addons, nodes and lifecycle
- Observability – system insights for faster issue resolution, health checks

# Deliver outcomes that matter to you



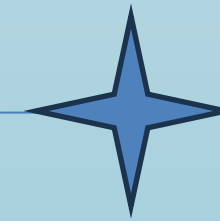
Scale your business and reduce risk with future-ready technology

Revenue growth due to the agility, scalability and reliability given by AKS, over previous environment



Rapidly deliver new products that deepen customer engagement

Focus resources on shipping new apps faster increasing user growth and satisfaction

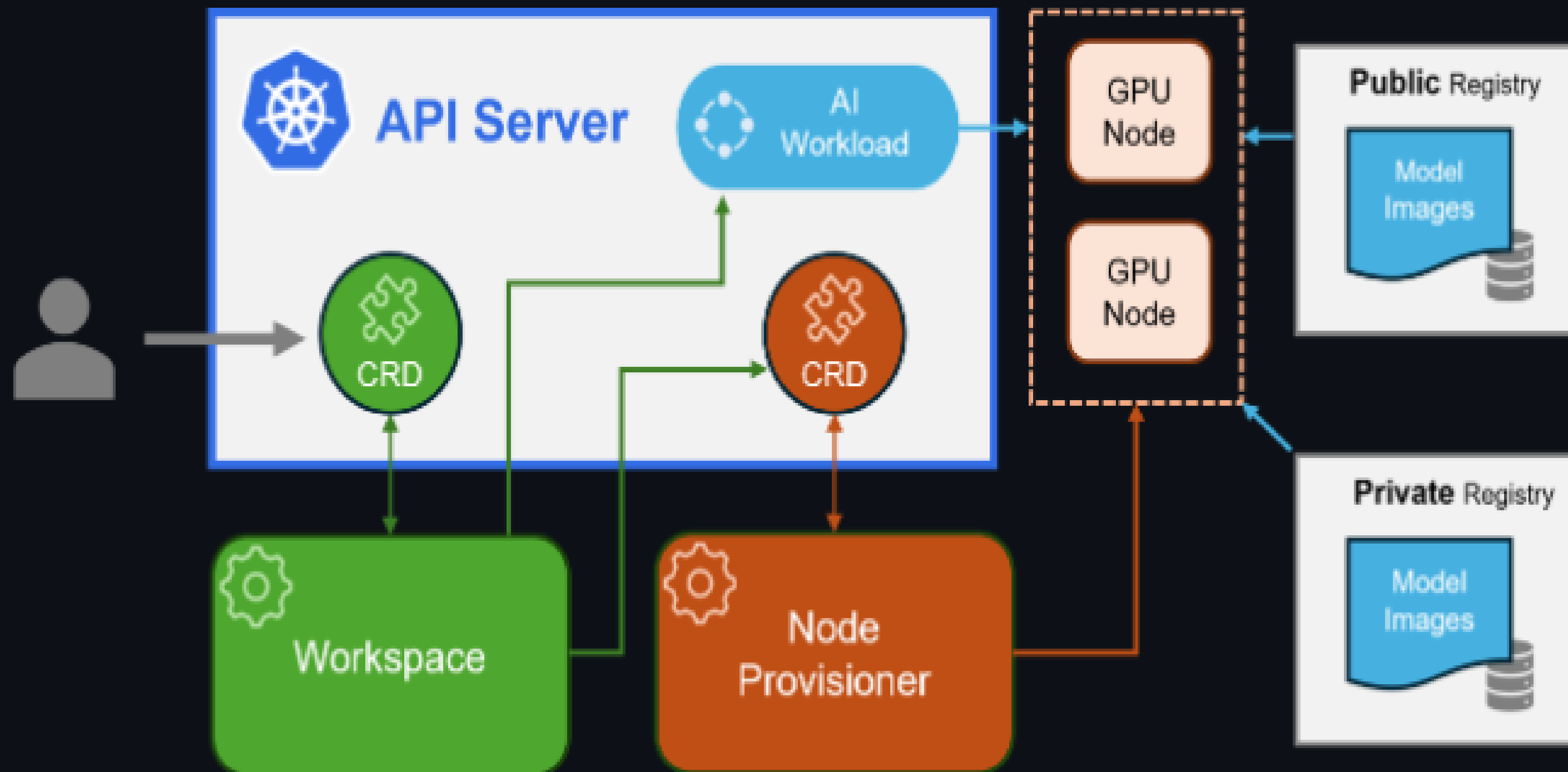


Amplify employee capabilities and empower devs to innovate

Accelerate developer productivity. Attract the best talent. Reduce repetitive, costly work

# AI toolchain operator add-on for AKS

Kaito follows the classic Kubernetes Custom Resource Definition(CRD)/controller design pattern. User manages a **workspace** custom resource which describes the GPU requirements and the inference specification. Kaito controllers will automate the deployment by reconciling the **workspace** custom resource.



## Build Intelligent Apps with Azure Functions

- Chatbots/AI powered assistants
- Bring your own data for RAG
- Build actionsfunctions for OpenAI
- Parse data for model training



## Resources

Kaito on GitHub - <https://github.com/Azure/kaito>

Microsoft Learn - <https://learn.microsoft.com/en-us/azure/aks/ai-toolchain-operator>

**CODE**

Q&A...

## Connect on socials:

Twitter / X - shikotheitechgirl

LinkedIn - shikotheitechgirl

Community – **Experts Live Kenya**



# Session Feedback

Session Track: Azure

Session Name: Cloud Native in Azure with  
a sprinkle of AI

Experts Live KE 2024 Attendee  
Feedback





# THANK YOU TO OUR SPONSORS!

