Tailwind Traders - Solution 2: Containerized Microservices (AKS)

Customers

VNet
(Pod Network CNI)

Azure Front Door
(Global LB, DDoS, WAF)

Application Gateway
(SSL/TLS, Layer 7)

Image Scanner

DevOps/GitHub
(CI/CD, GitOps)

Ingress Controller
(Route, SSL/TLS)

Azure Container Registry
(ACR - Image Storage)

Container 1
(Auto-scale)

Container 2
(Auto-scale)

Container N
(Auto-scale)

Azure Monitor
App Insights

Prometheus/Grafana

Key Vault

AKS Cluster
(Kubernetes Management)

AKS CONFIGURATION:
System Nodes: 2-3
User Nodes: 1-10 (auto)
VM Size: D2s_v3
Scale Time: 30 seconds

Help Desk Service
(Min:2, Max:20 pods)

Email Service
(Min:1, Max:5 pods)

Order Service
(Min:2, Max:15 pods)

SERVICE SCALING:
Help Desk: 2-20 pods
Email: 1-5 pods
Order: 2-15 pods

Service Bus
Event Grid

SQL Database
(HA Replica)

HA CONFIGURATION:
Primary: RW
Secondary: RO (Sync)
Same Region Failover
RPO: Near-zero

KEDA Autoscaler
(30 sec scale time)