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Azure Kubernetes Service

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Karl Ots

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- Cloud & cybersecurity expert
- Professional experience with Azure since 2011
- Patented inventor
- Worked with 100+ Azure projects, with clients ranging from startups to Fortune 500 enterprises
- zure.ly/karl/slides



Container orchestrator features

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Cluster
Management:
deploy and
manage cluster
resources

Scheduling: where containers run

Lifecycle & Health: keep containers running despite failure

& Load Balancing: where are my containers and how to connect

Security: control access to cluster resources and protect secrets

Scaling: make sets of containers elastic in number Image repository: centralized, secure Docker container images

Continuous Delivery: CI/CD pipeline and workflow Logging & Monitoring: track what's happening in containers and cluster

Storage volumes: persistent data for containers







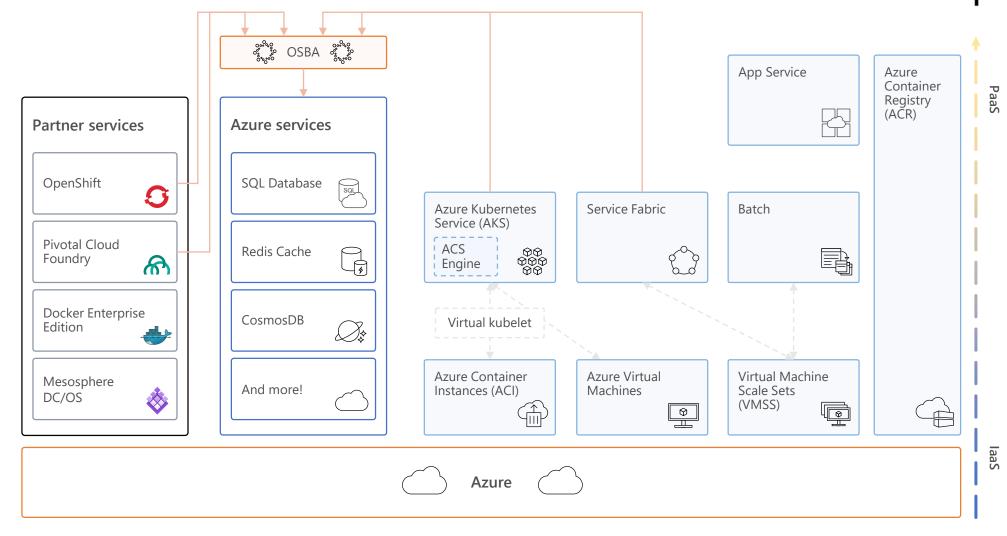
Embrace containers as ubiquitous

Support containers across the compute portfolio

Democratize container technology

Azure container ecosystem

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Azure Container Instances (ACI)

```
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```

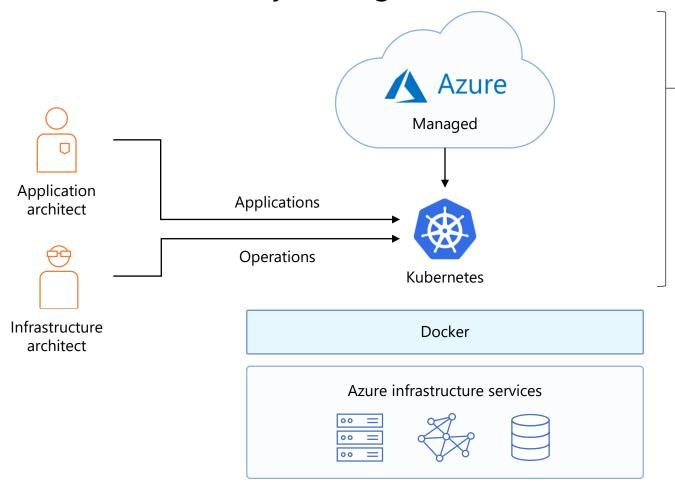
\$ az container create --resource-group myResourceGroup --name
mycontainer --image microsoft/aci-helloworld --cpu 1 --memory 1 --ipaddress public --ports 80

```
"ipAddress": {
    "ip": "52.168.86.133",
    "ports": [...]
},
"location": "westeurope",
"name": "mycontainer",
"osType": "Linux",
"provisioningState": "Succeeded",
```

Azure Kubernetes Service

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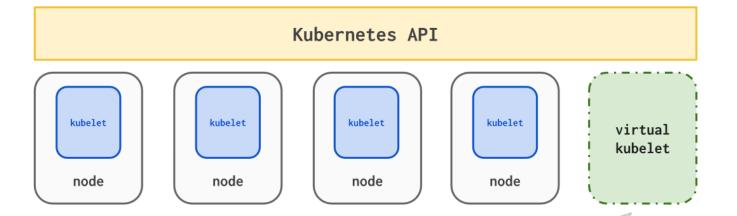
A fully managed Kubernetes cluster



Managed Kubernetes control pane

"Serverless" Kubernetes





Typical kubelets implement the pod and container

operations for each node as usual.

Virtual kubelet registers itself as a "node" and allows developers to deploy pods and containers with their own APIs.

Capacity | NodeConditions

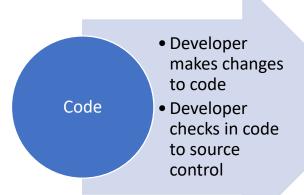
Virtual | kubelet | GetPods

CreatePod | GetPodStatus

UpdatePod | GetPod

DevOps with containers

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zure.ly/karl/kubevideo

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