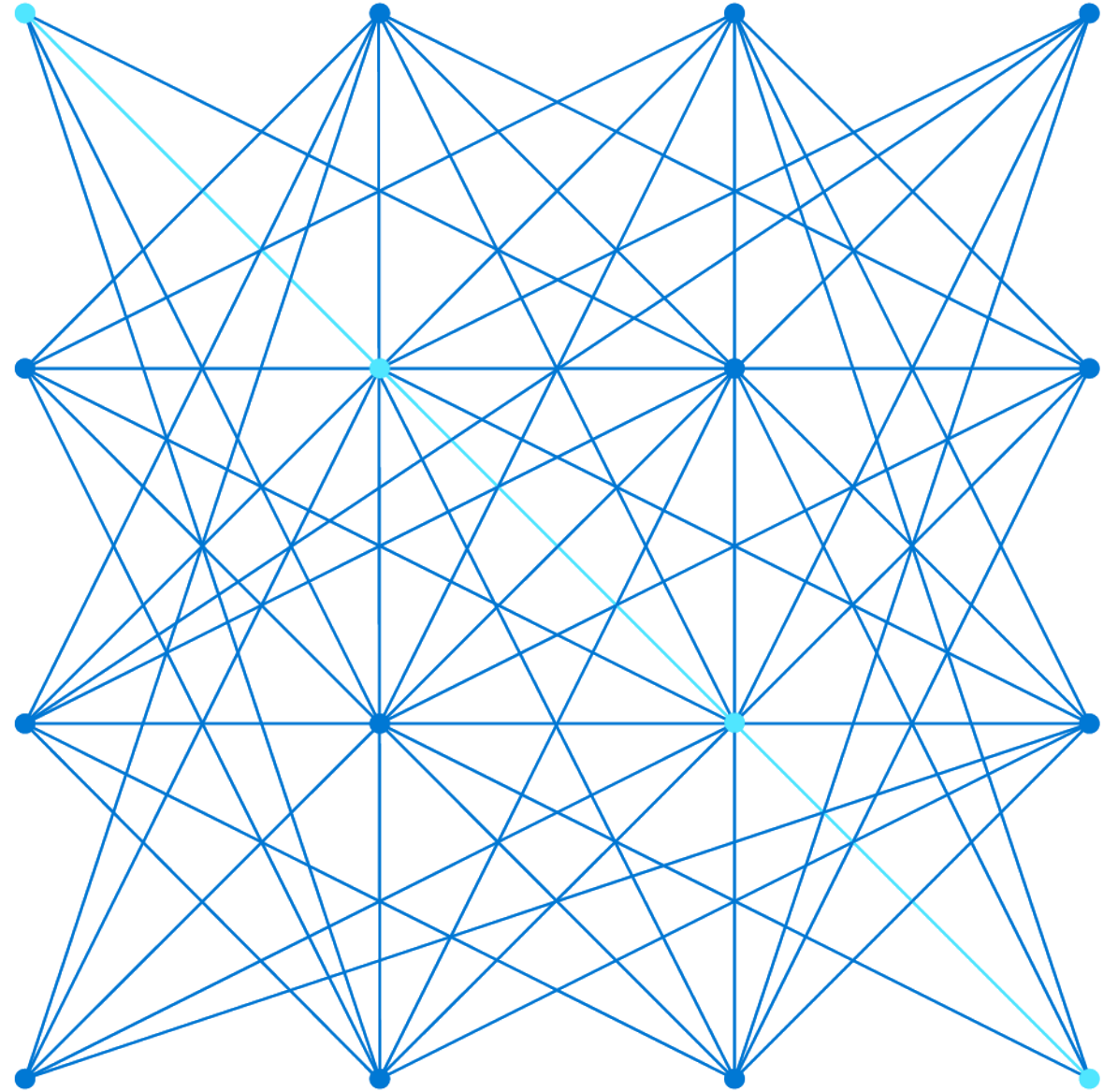


End-to-end AKS / K8S deployments

Geek Ready 2021
Dan Radu
22 Sep 2021

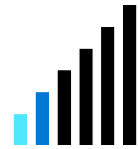


AKS & K8S deployments



Container image management

Deploy images into Azure Container Registry;
Manage repositories, namespaces and tags;
Scan images



Cluster deployment using Bicep / ARM

Deploy Azure Kubernetes Services clusters using Bicep / ARM templates



K8S manifests deployment

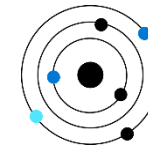
Deploy Kubernetes workloads using manifest files:

- deployments, pods, replica sets
- services
- jobs



Azure DevOps pipelines for infra & workloads

Deploy infrastructure and workloads using Azure DevOps pipelines;
Control configuration;
Manage environments



Auto-scaling

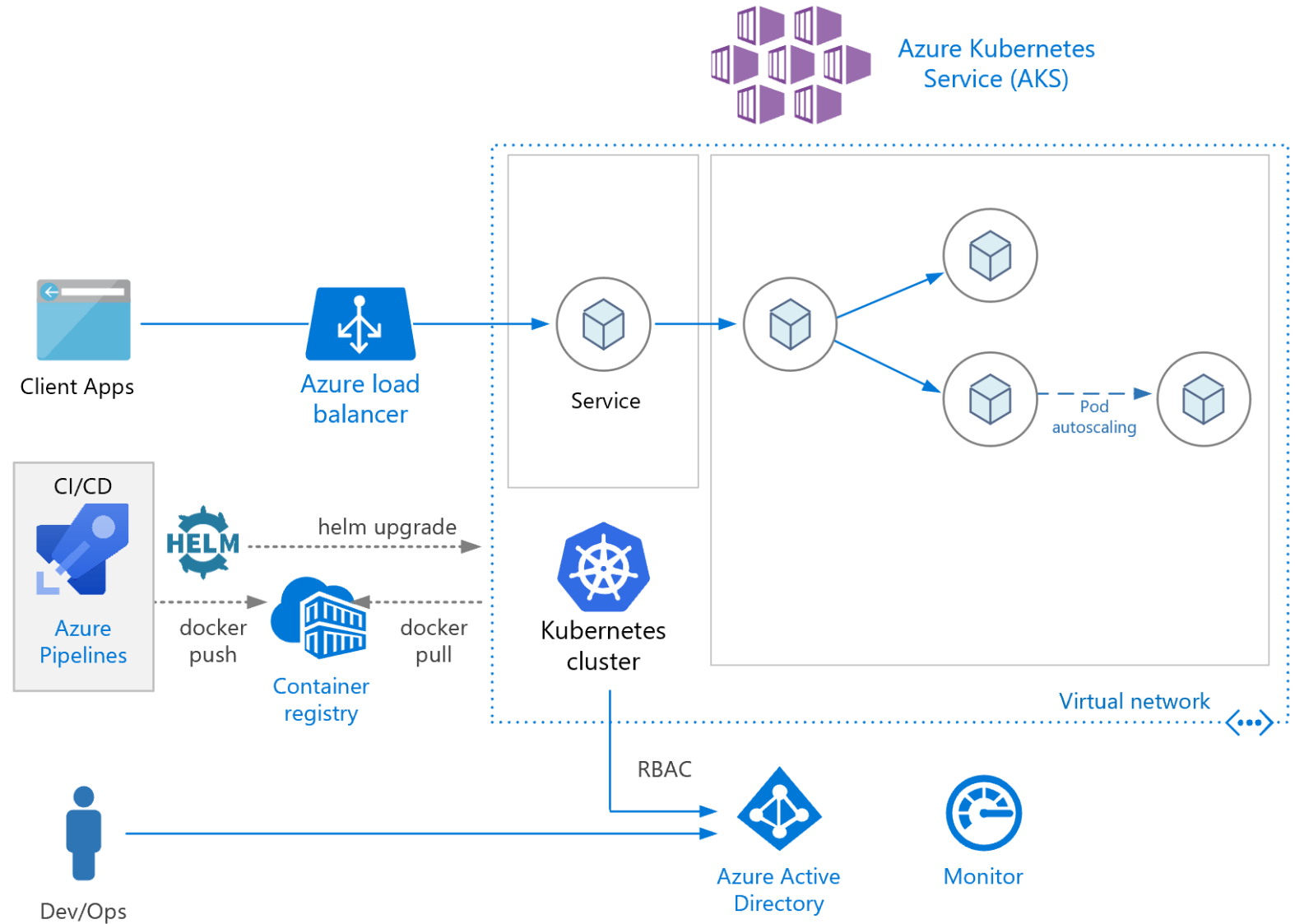
Use Horizontal Pod Autoscaler and Cluster Autoscaler to manage high demand



Load testing

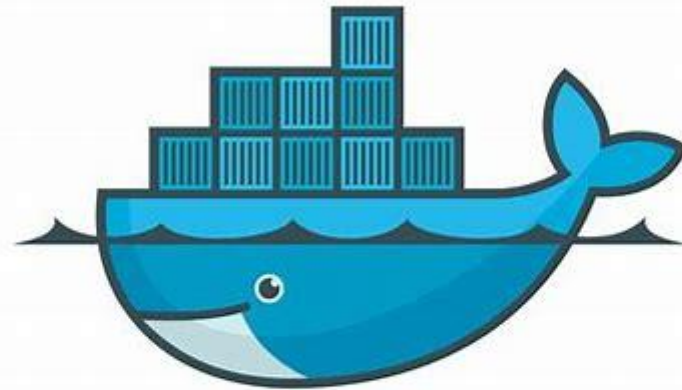
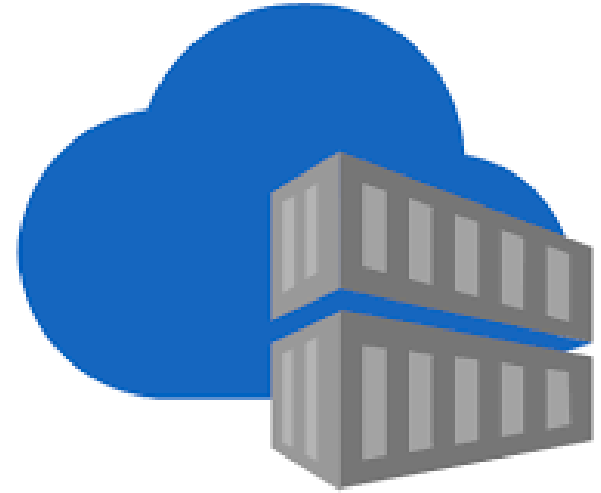
Ensure application scalability and performance via load testing tools

Application Architecture



Container image management

Deploy images into Azure Container Registry;
Manage repositories, namespaces and tags;
Scan images



docker

Cluster deployment using Bicep / ARM

Deploy Azure Kubernetes Services clusters using Bicep
/ ARM templates



K8S manifests deployment

Deploy Kubernetes workloads using manifest files:

- deployments, pods, replica sets
- services
- jobs



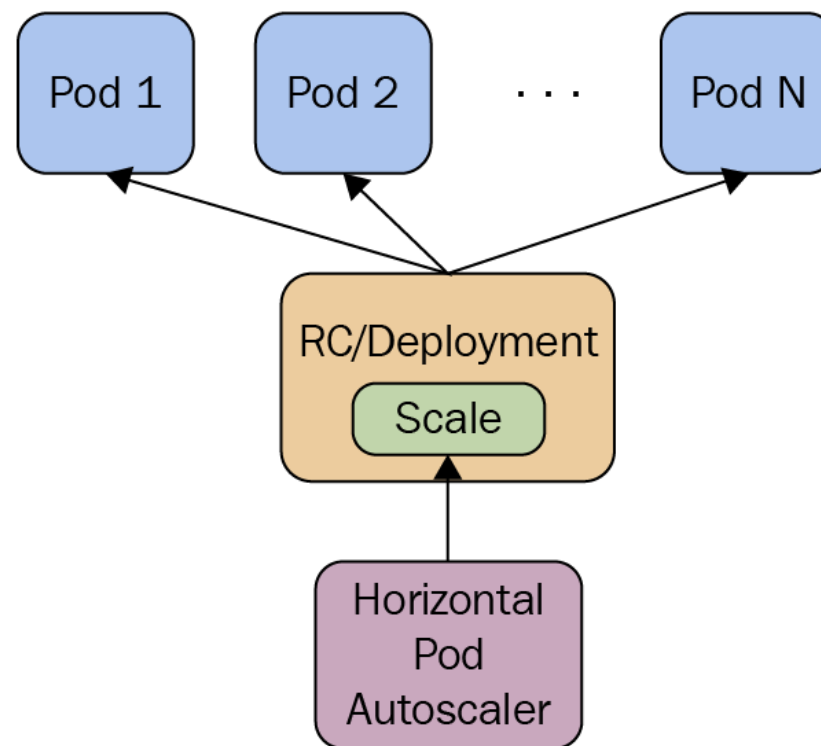
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Auto-scaling

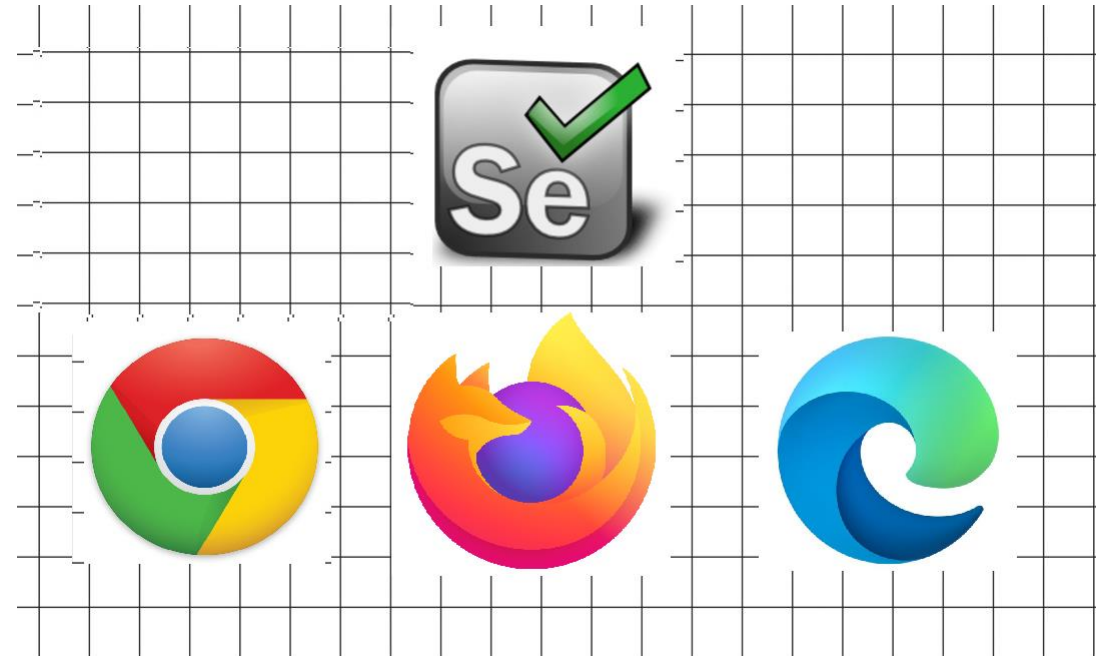
Use Horizontal Pod Autoscaler and Cluster Autoscaler to manage high demand



```
$desiredReplicas = ceil($currentReplicas * ($currentMetricValue / $desiredMetricValue))
```


Load testing

Ensure application scalability and performance via load testing tools



Resources

Code:

<https://github.com/ivee-tech/geekready2021>

Pipelines:

<https://dev.azure.com/ivee/Demos/build>

Docker documentation:

<https://docs.docker.com/>

ACR documentation:

<https://docs.microsoft.com/en-us/azure/container-registry/>

AKS documentation:

<https://docs.microsoft.com/en-us/azure/aks/>

K8S documentation:

<https://kubernetes.io/docs/home/>

Thank you.