



# KUBERMATIC

KCD İstanbul - 14.06.2023

# Captain's Log: Day-2 Operations for Managed Kubernetes Clusters

```
    former coreinformers.PodIn-
  cord.NewBroadcaster()
  Logging(klog.Infof)
  itRecordingToSink(&v1core.Ev-
1 && kubeClient.CoreV1().REST
gisterMetricAndTrackRateLimit
```

```
oller{
    kubeClient,
    : controller.RealPodControl{
        client: kubeClient,
        rder: eventBroadcaster.NewRecord(
            tions: controller.NewControllerExp(
                workqueue.NewNamedRateLimiter(
                    er: eventBroadcaster.NewRecord(
```

```
    Informer.Informer().AddEventHandler(cache
        AddFunc: func(obj interface{}) {
            jm.enqueueController(obj, true)
        },
        UpdateFunc: jm.updateJob,
        DeleteFunc: func(obj interface{}) {
            jm.enqueueController(obj, true)
        },
    },
```

# | Captain's Log: Stardate 2





koray@kubernatic.com



@korayoksay



linkedin.com/in/korayoksay/



koksay

## | Who am I?

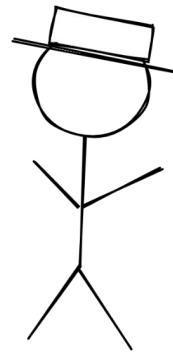
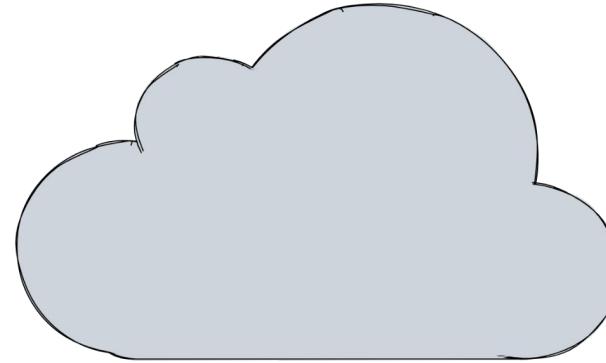
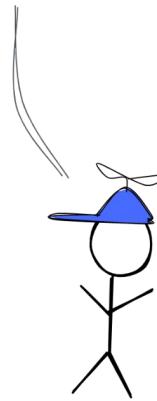
- Kubernetes Consultant & Instructor
- Working remotely from Istanbul
- Interested in Linux, Kubernetes, and cloud technologies
- CKA | CKAD | CKS | RHCE
- Linux Foundation Instructor for CK.\*

# | Recap: What Those Days Stand for on k8s?

- DAY 0: Design  
Which K8s platform, on which provider, security,  
GitOps, CI/CD, network setup, ...
- DAY 1: Deploy  
First day the product is running on Production
- DAY 2: Operate  
Maintain infra, onboard new users, monitor applications, ...  
Keep your systems healthy over time!

# | Cloud & Linux

Daddy, what are  
clouds made of?

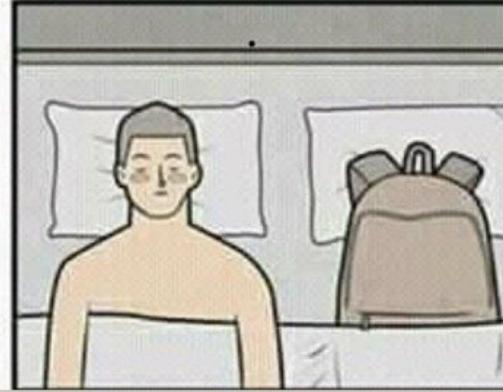
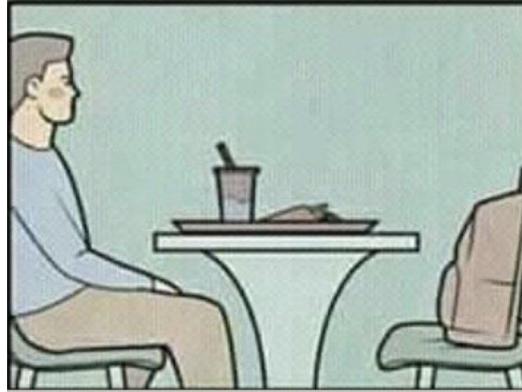
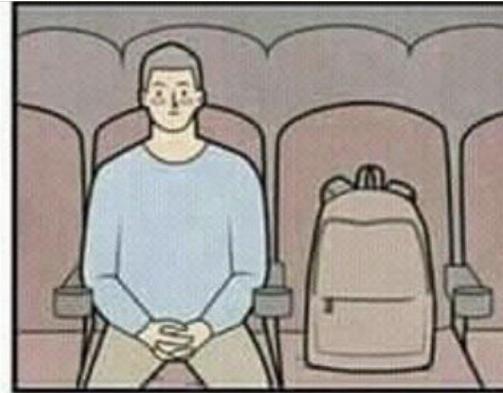


Linux Servers,  
mostly

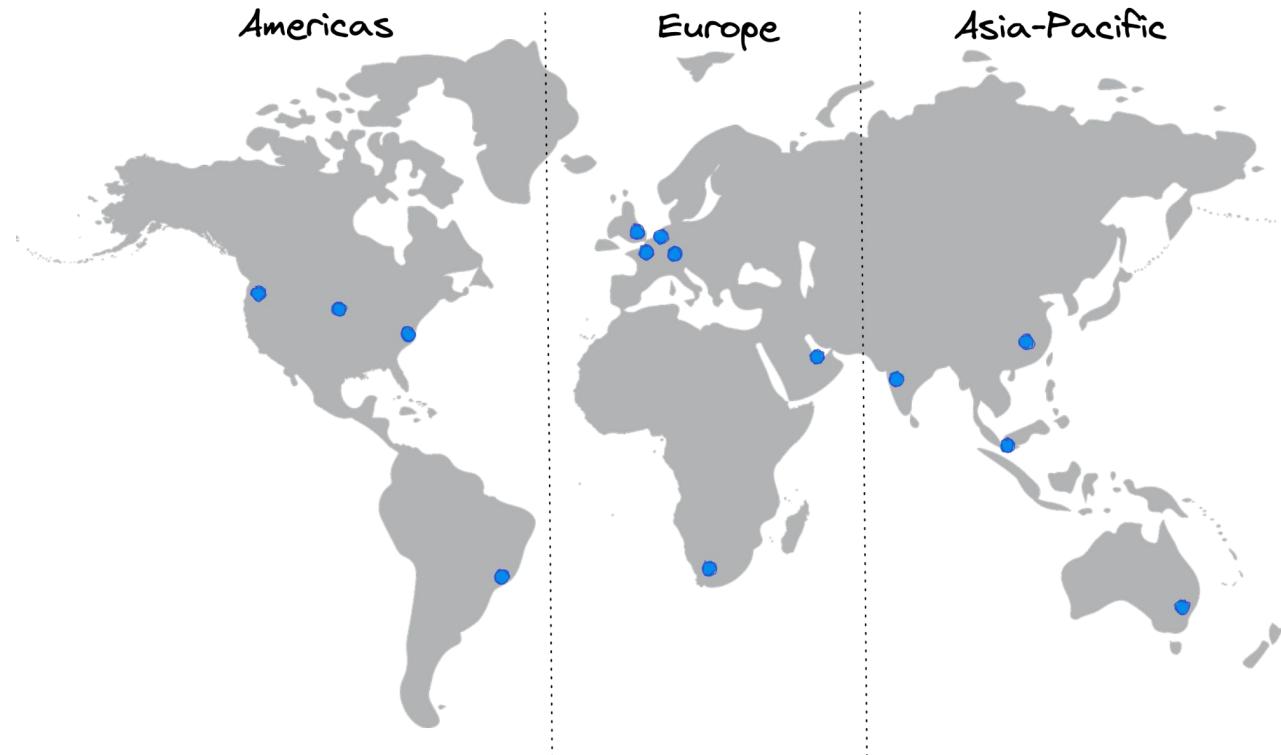
# | Do I need Linux SysAdmin Knowledge for k8s?

- Dockerfile demo

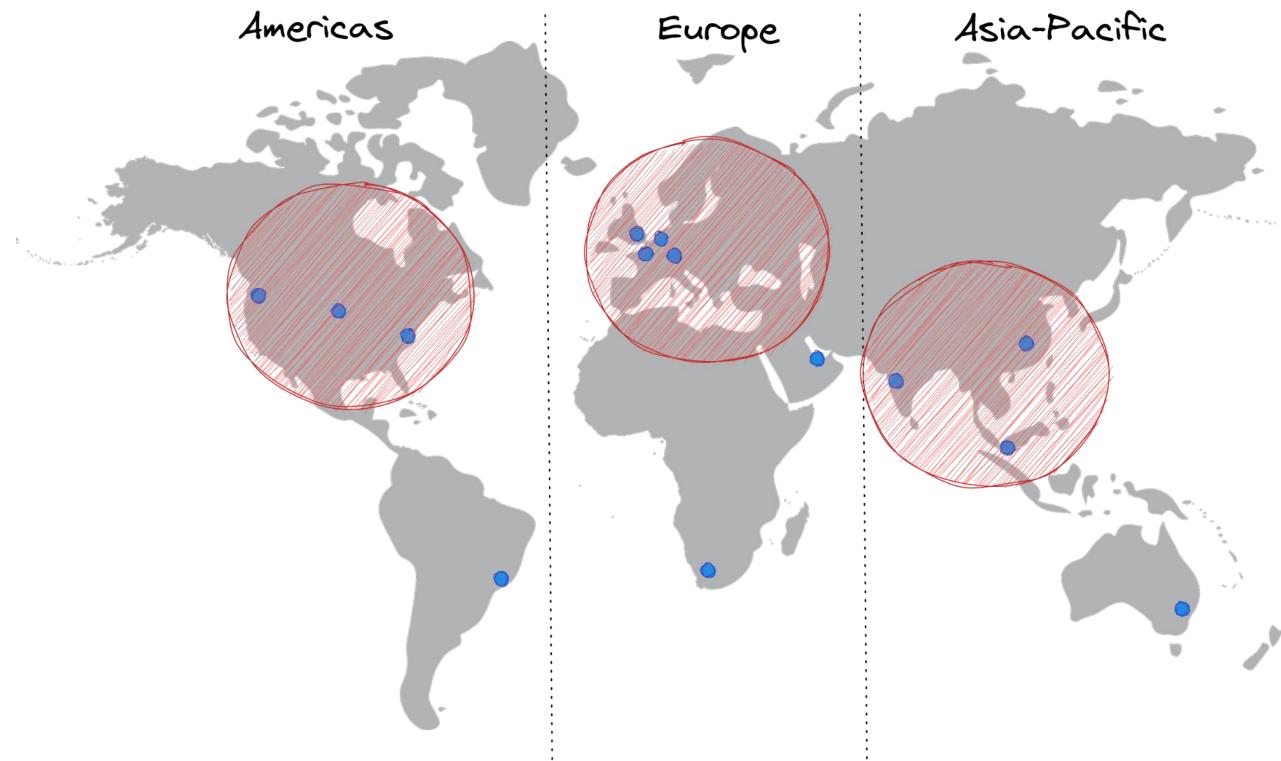
| That was me, for 10+ years



# | Cloud Computing and Regions



# | SRE Team (or Operations?)



# | Pros & Cons of Multi-Region SRE team

- "Follow the sun"
- A diverse team with different perspectives
- Sync up - New projects, changes, technical knowledge
- Socializing

# Maintenance Windows

- Having proper notification channel(s) for upcoming maintenance activities is crucial
- Users should select their maintenance windows and also manually schedule new updates/upgrades when they need
- Selecting the maintenance window on behalf of the customer is risky (except for the emergency activities)
- Weekend night time would suit best for most customers, but this may not suit everyone (e.g. for a betting company)

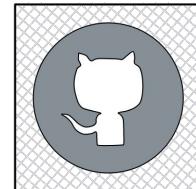
# | Responsibilities for a Managed K8S Service

## ● Who is supposed to solve these problems?

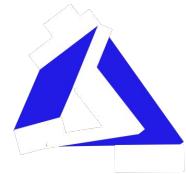
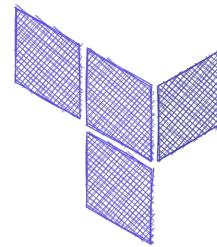
- "I deleted a namespace but it's in terminating state for 2 days"
- Did you check the finalizers?
  
- "Hey, after you upgraded Kubernetes version at the weekend, we lost all data in our PostgreSQL instance"
- You did not use HostPath, did you?

# | Issues with 3rd Parties

- Hardcoded timeout value in terraform AWS provider caused provisioning failures.
- Quotas on the cloud provider side  
--> (Day 0 issue).  
Quota: 5 VPC per region,  
effectively 4 clusters per region  
due to default VPC.



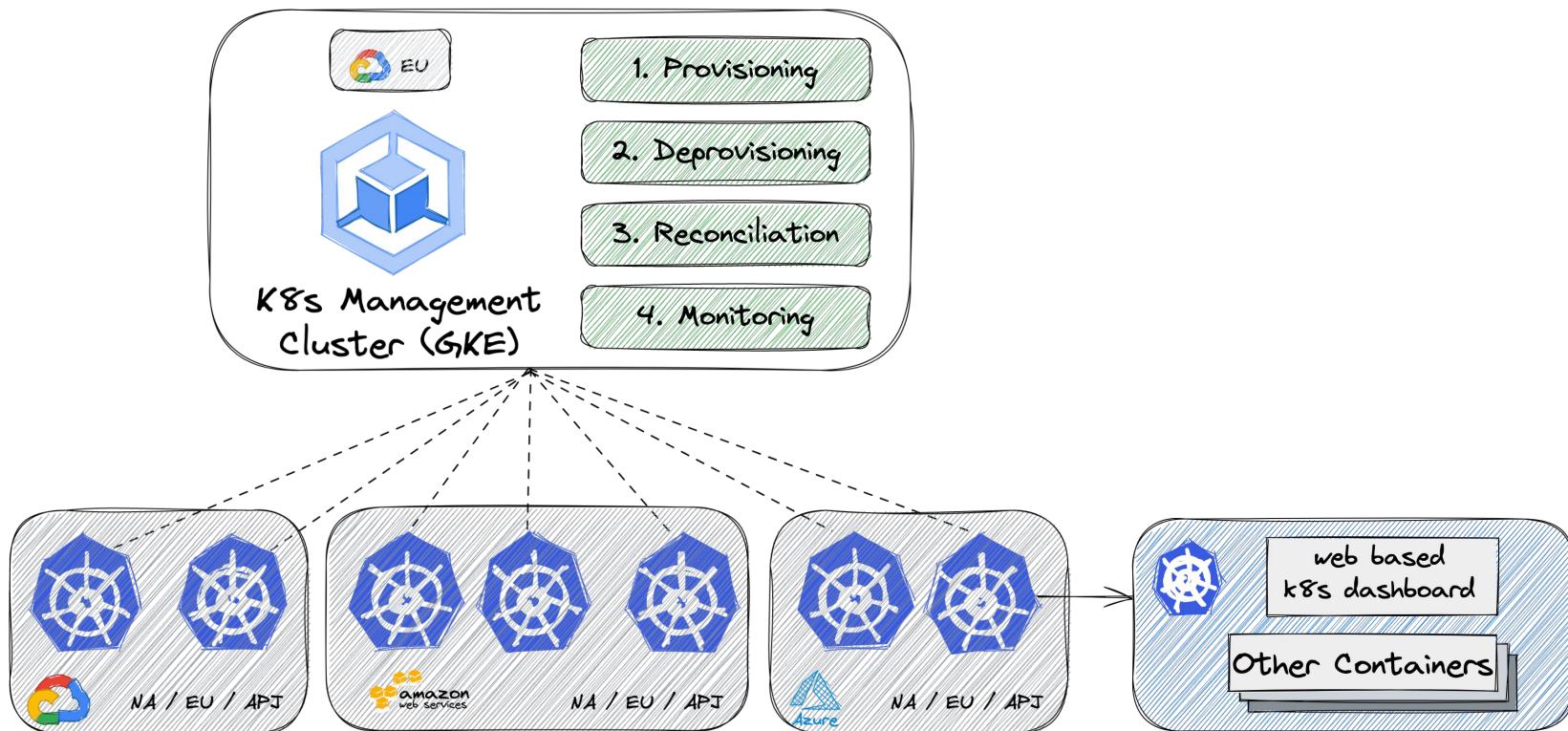
GitHub



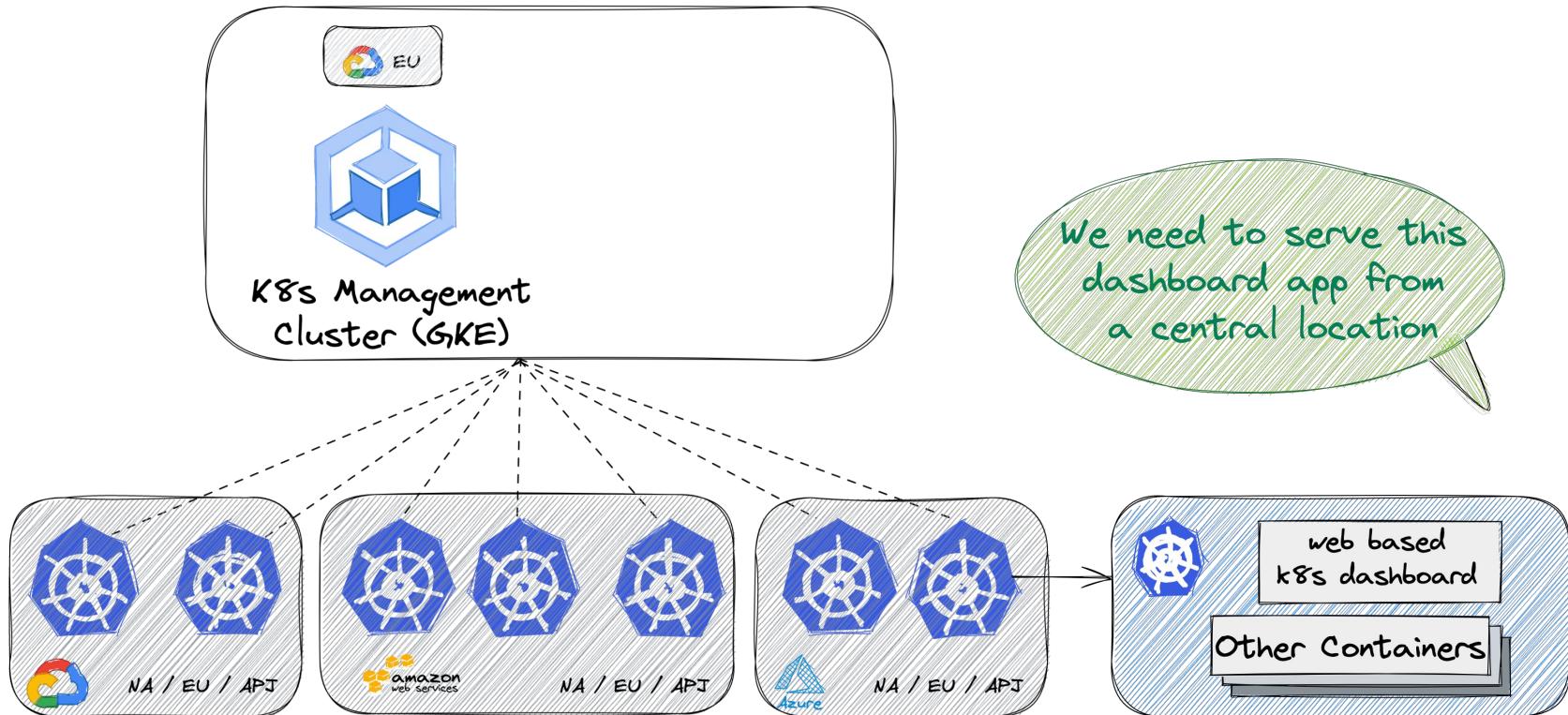
# | Free Tier, Trial Clusters, ...

- Monitoring, monitoring, monitoring, ...  
You need a central monitoring system for all tiers!
- You need to balance the effort spent on the free tier with others. User experience is important but not more than production!
- Be careful with crypto miners! (monitor CPU usage)

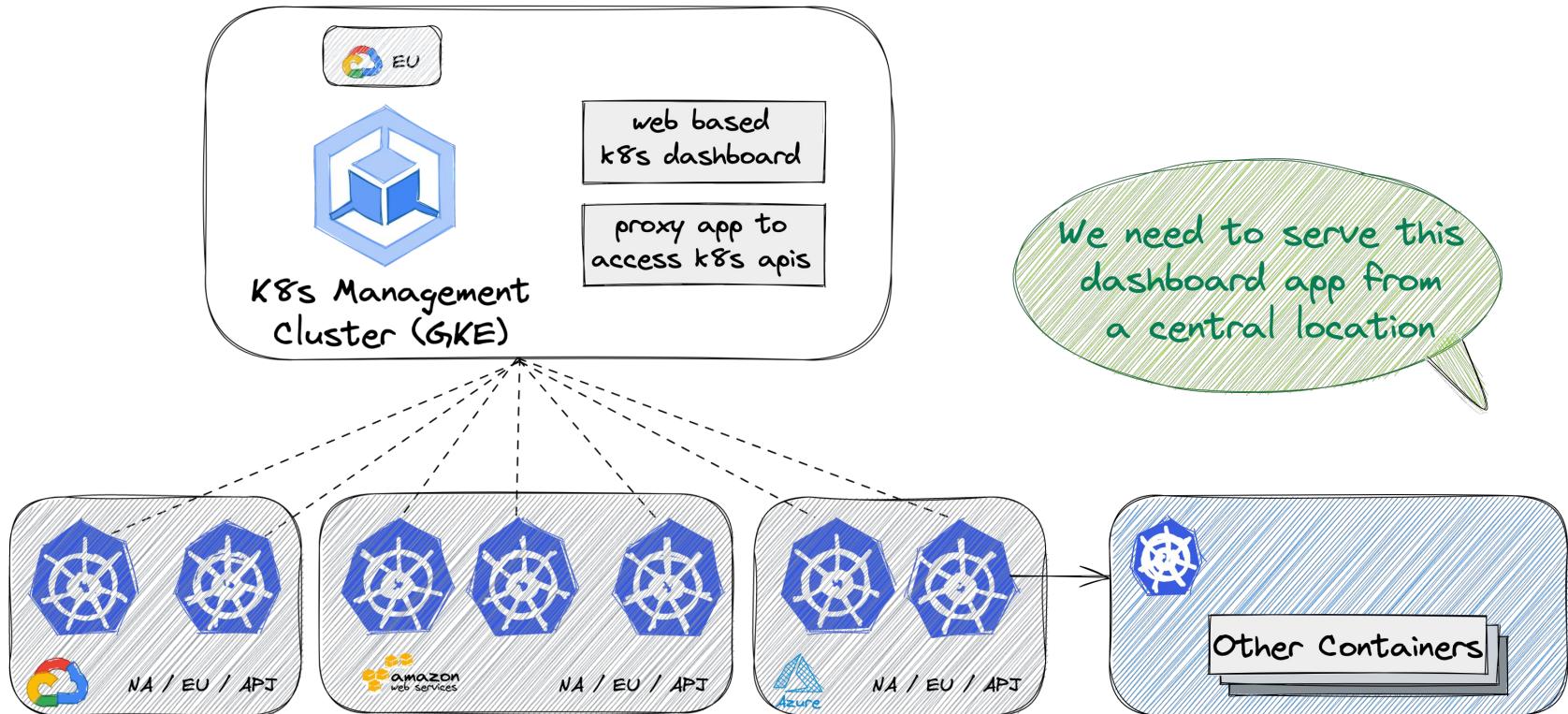
# | Considering Other Cloud Services



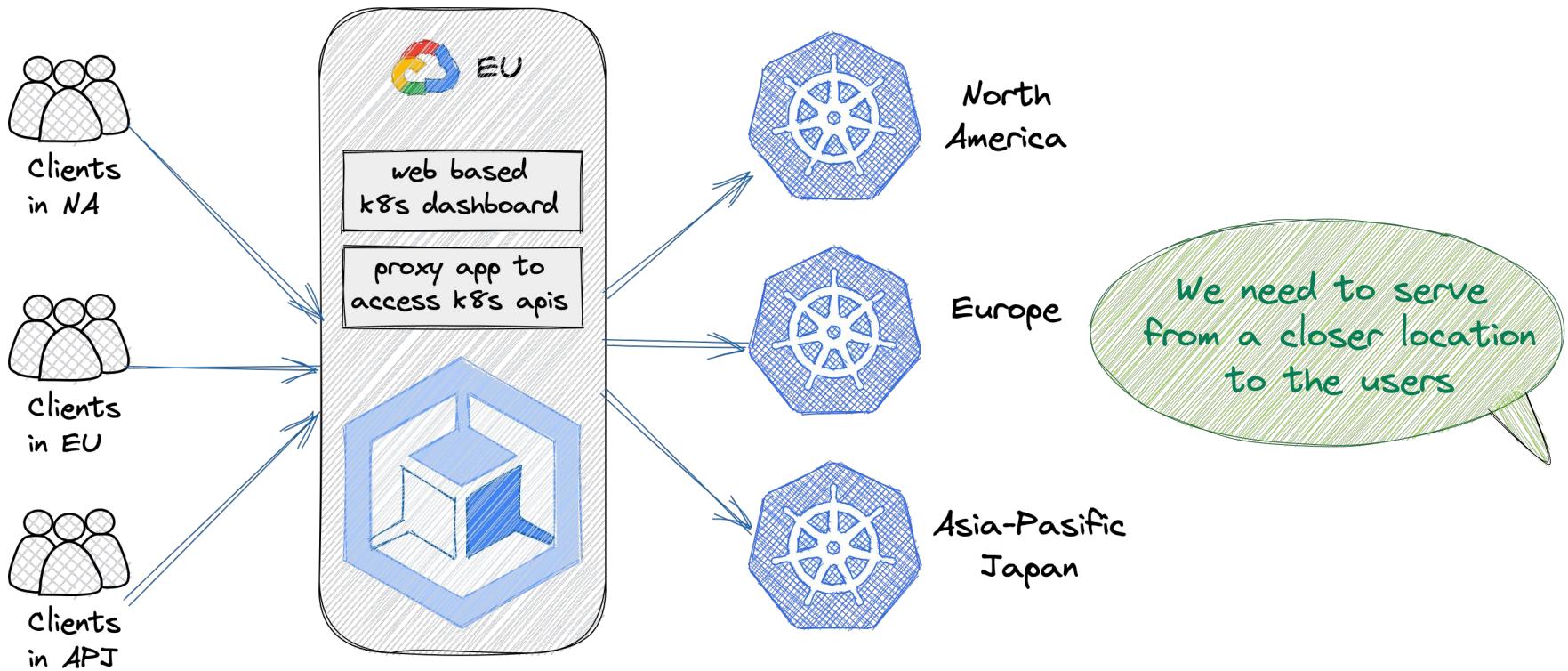
# | A New Requirement



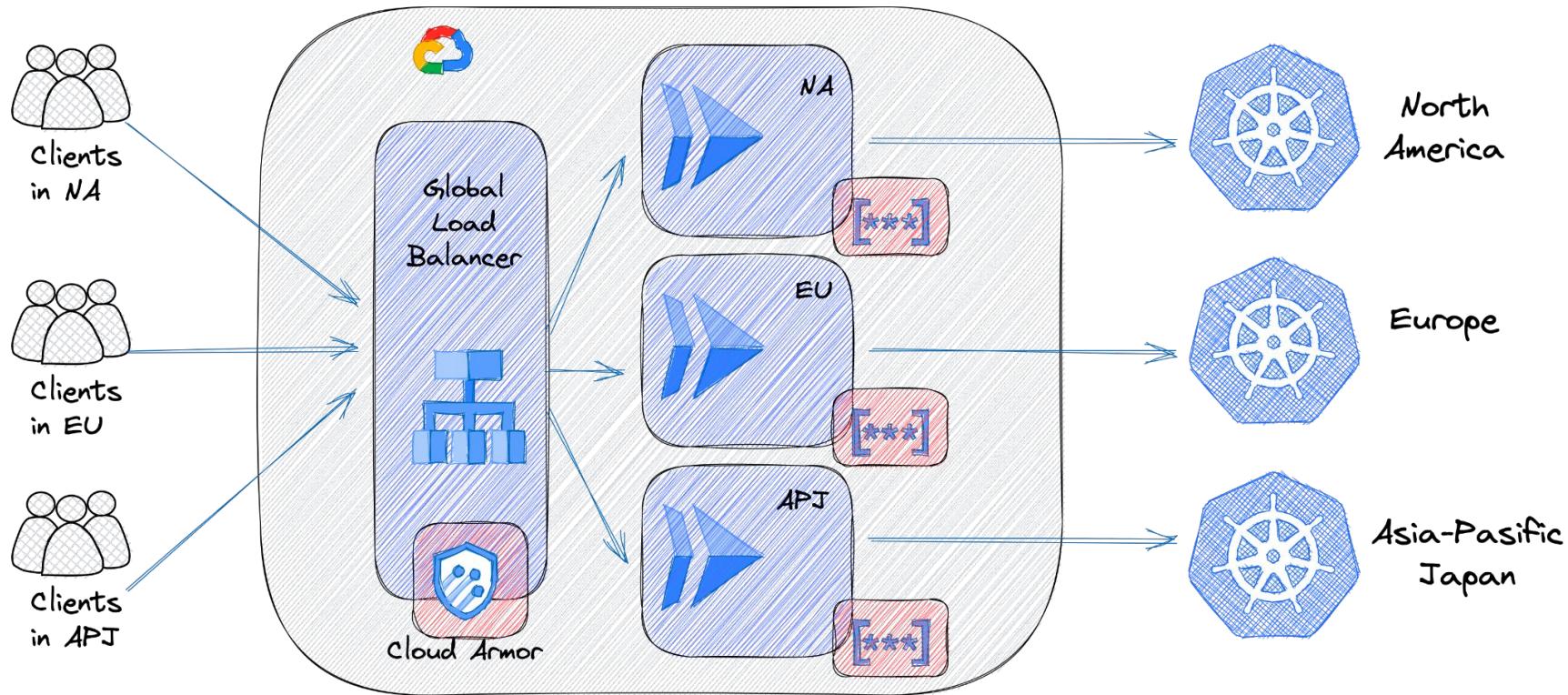
# I A New Requirement



# | YET Another Requirement

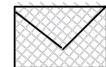


# | Move from k8s to Serverless



| QUESTIONS?

# I THANK YOU!



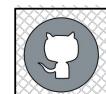
koray@kubernetes.com



@korayoksay



linkedin.com/in/korayoksay/



koksay