

# Meet Anthos

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# Anthos

Atos

# Agenda

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- **Running Cloud Native workloads**
- **What is Anthos?**
- **Anthos components**
- **Demos**

# Let's go Cloud Native!

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cortuasy of <https://gcaptain.com/>

# Lets face it!

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Kelsey Hightower

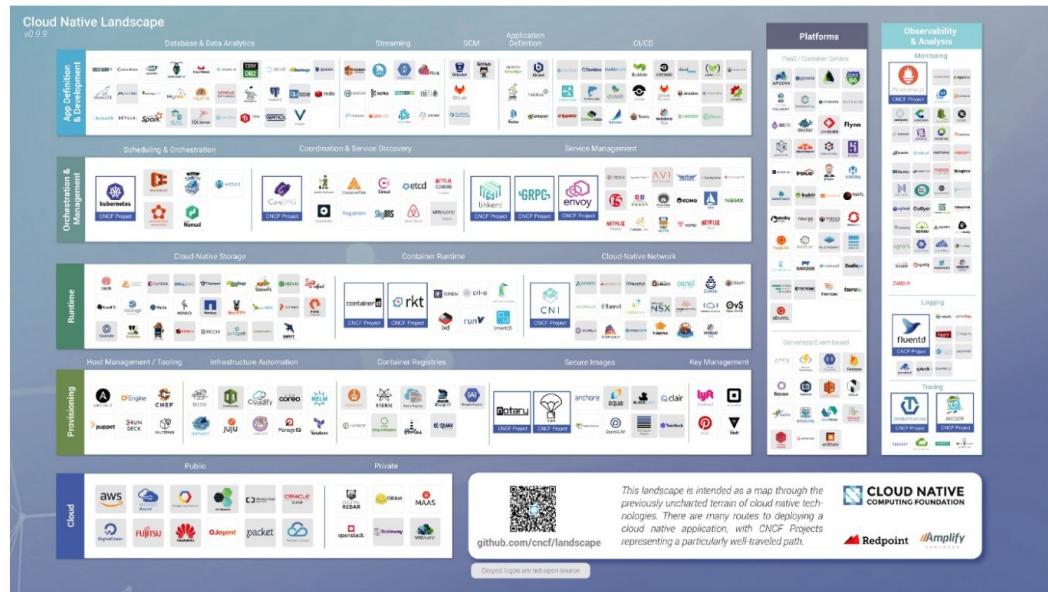
@kelseyhightower

Follow

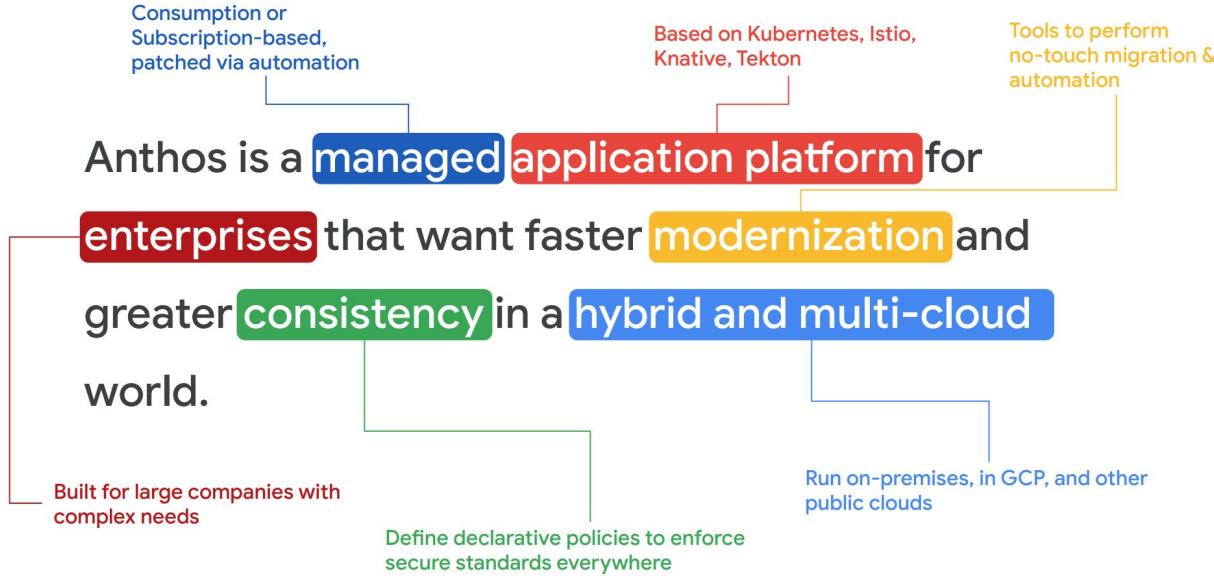


Kubernetes is a platform for building platforms. It's a better place to start; not the endgame.

**Come on Bob the Builder let's do it!**

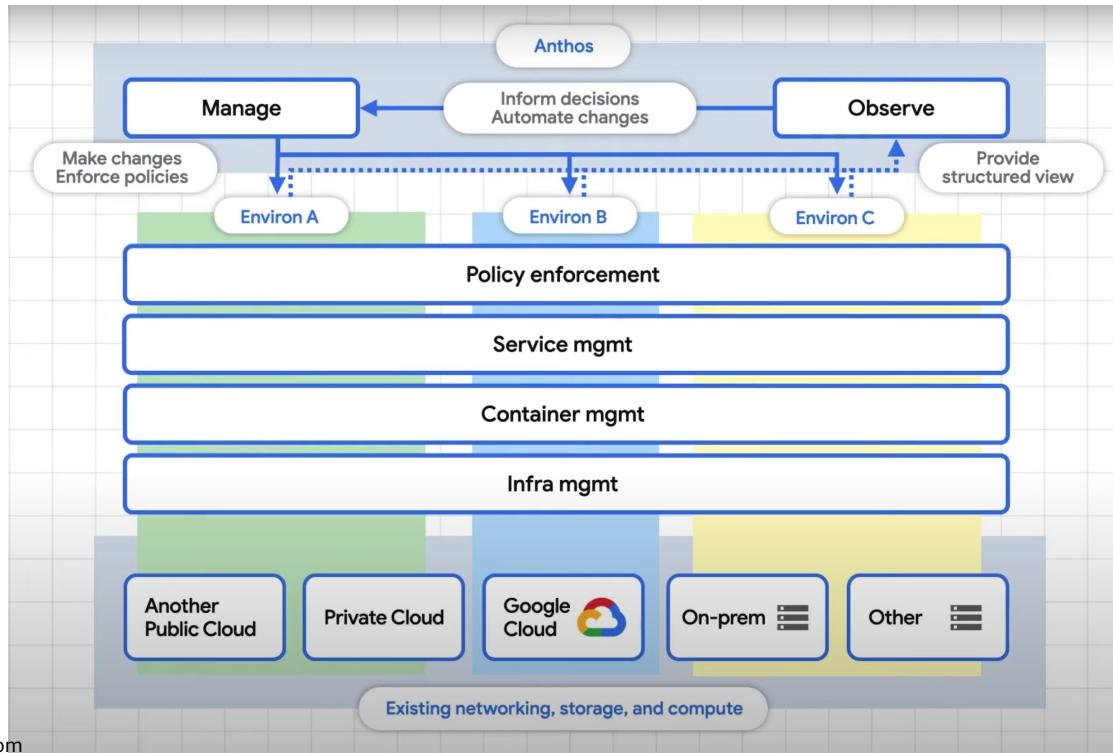


# What is Anthos?



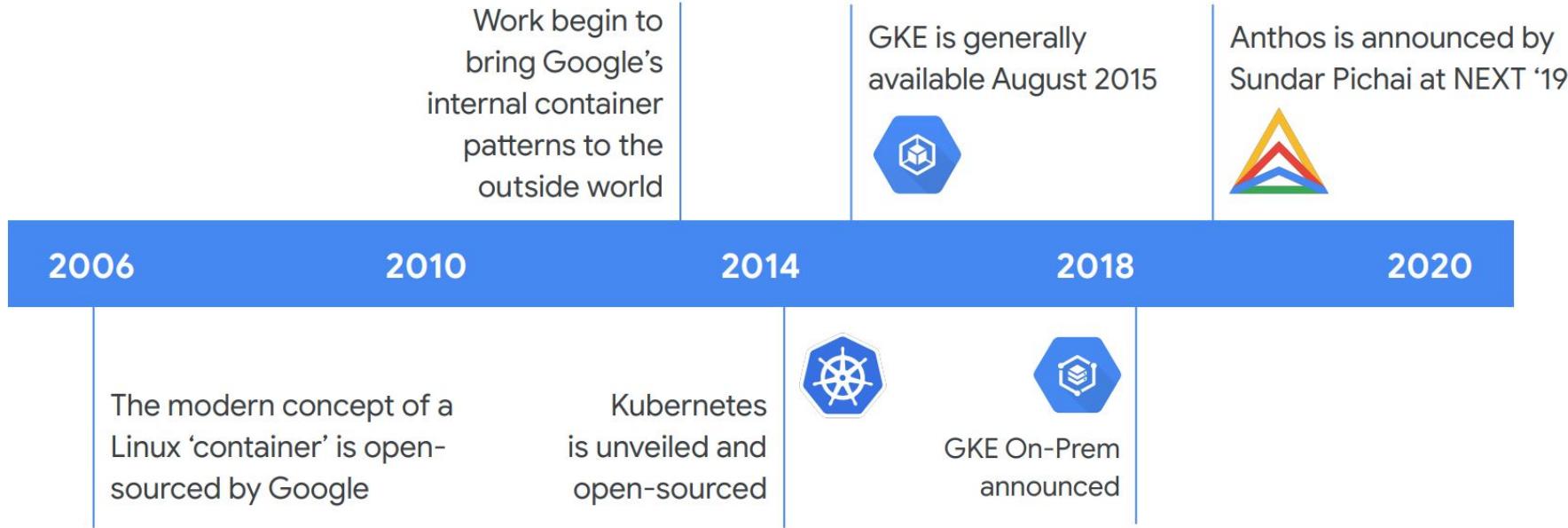
courtesy of <https://cloud.google.com>

# Anthos architecture



cortuasy of <https://cloud.google.com>

# History of Anthos



courtesy of <https://cloud.google.com>

# Where do I run Anthos

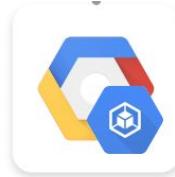
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On-prem  
hypervisor



Bare metal



Google Cloud



AWS EC2,  
Azure VMs



Other K8s  
environments

courtesy of <https://cloud.google.com>

# What is Anthos?

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Cloud Run



Anthos Service Mesh



Anthos Marketplace



Kubernetes  
Engine



Anthos Configuration  
Management

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# JAREK - START

# Let's have a look at GKE

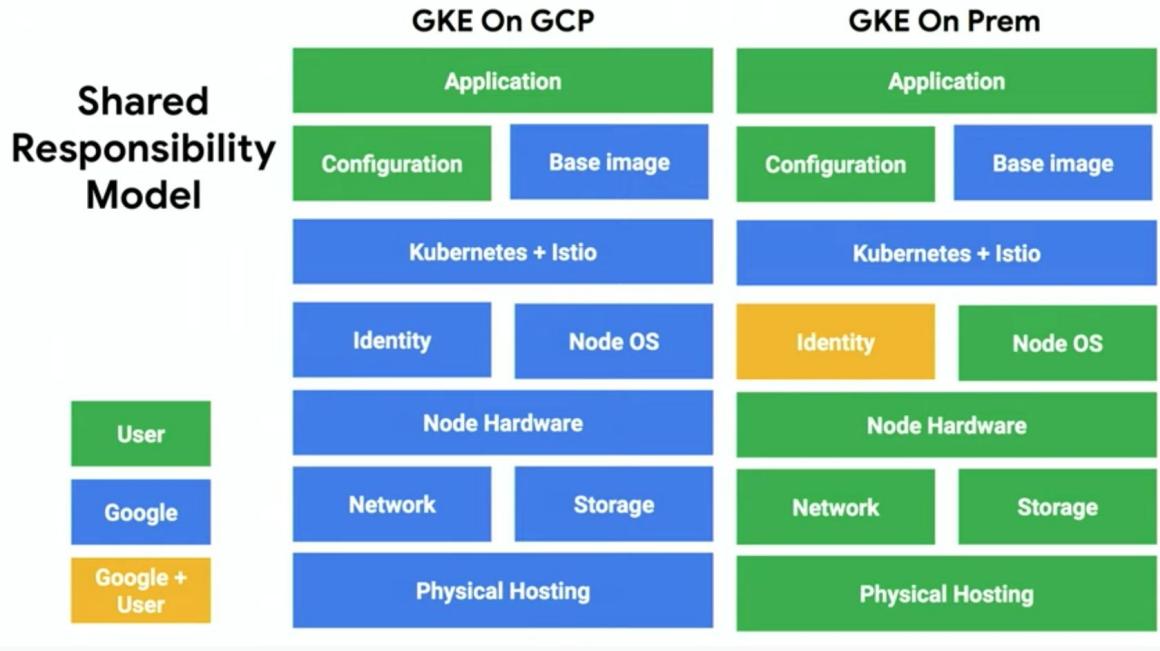
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**Google Kubernetes Engine**

**DEMO**

# Compare GKE-OP vs GKE on GCP



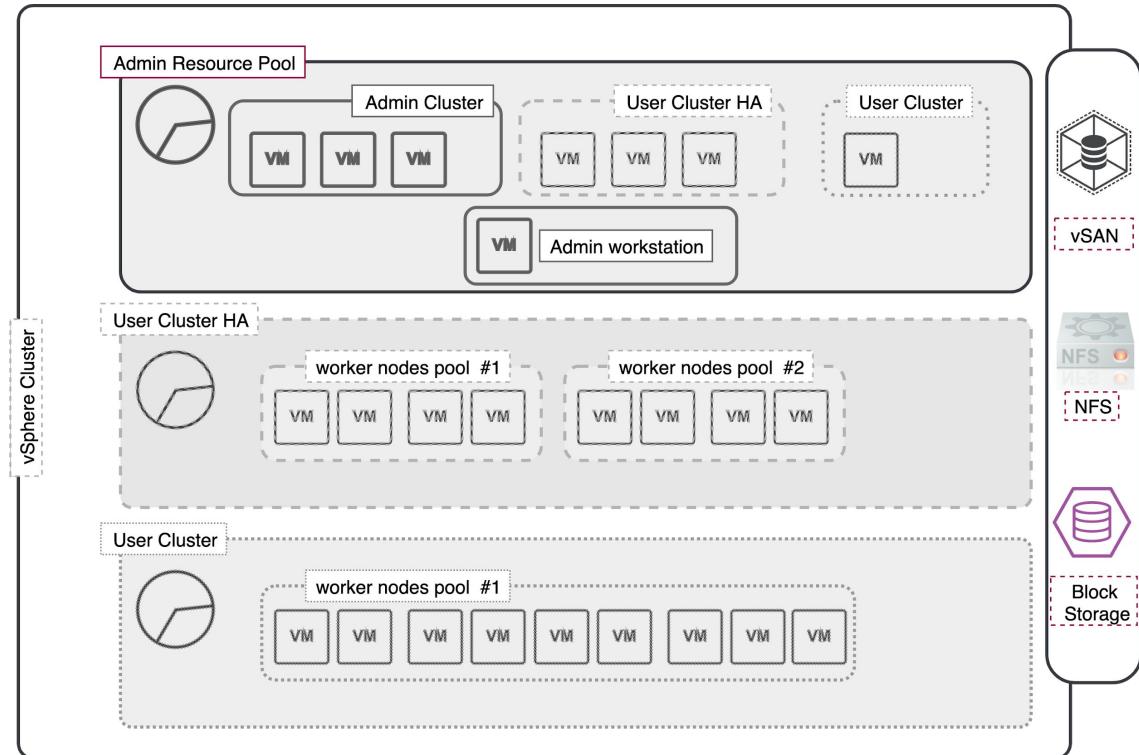
cortuasy of <https://cloud.google.com>

# What is GKE on-prem

Admin control plane for LCM of components, Kubernetes API, certificate management

User Cluster(s) to host workload

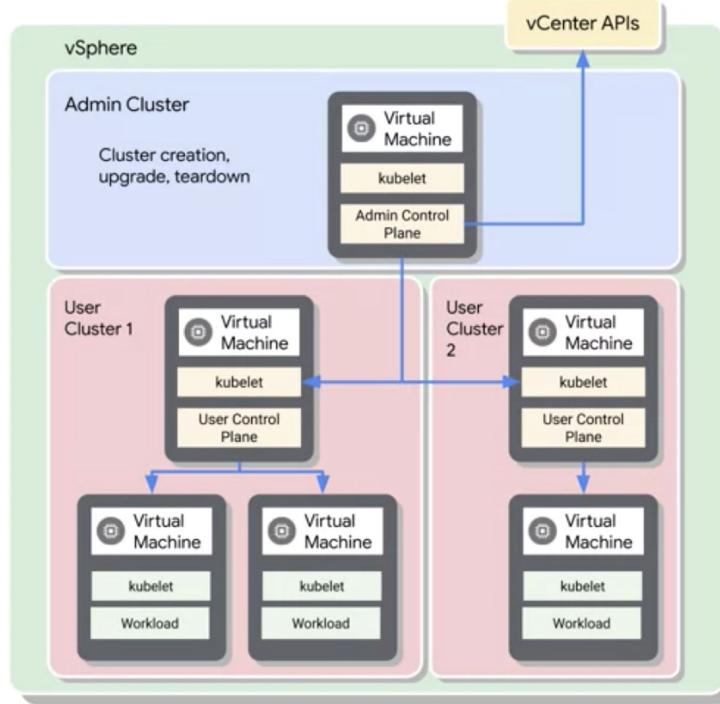
Compute, Storage and Network separation



# What is GKE OP

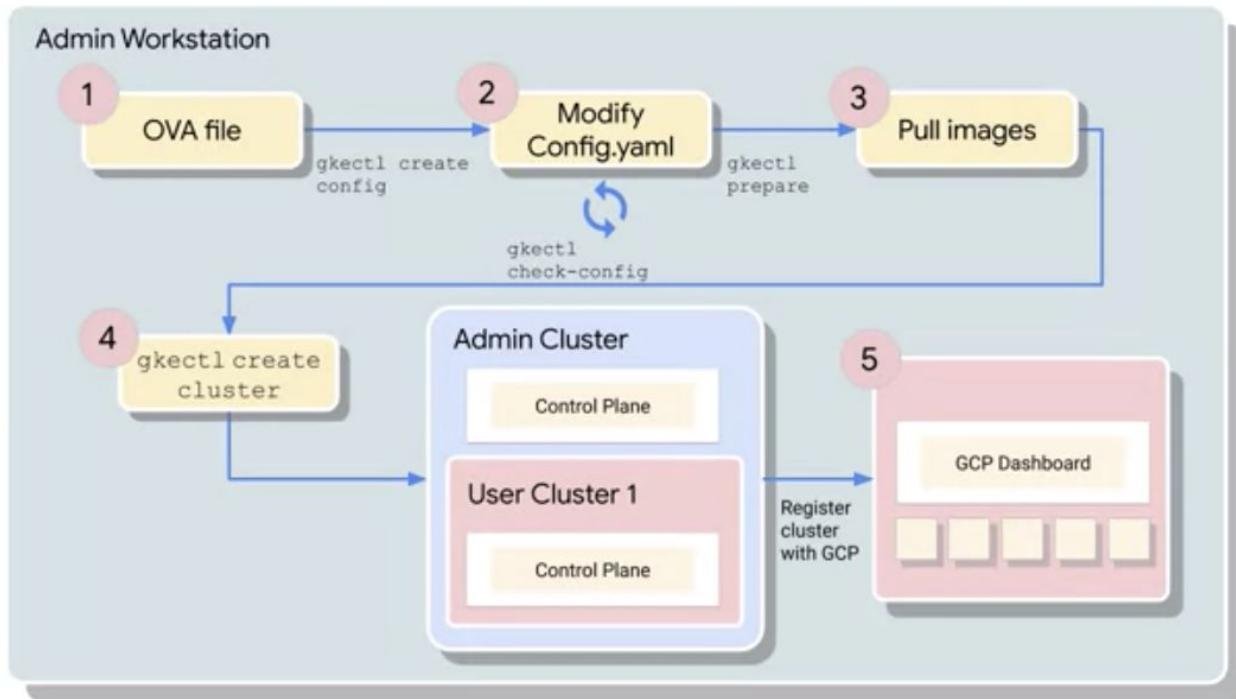
## GKE On-Prem Components

- User Cluster
- One or more Kubernetes clusters running on premise on vSphere
- Control plane is part of and fully managed by the Admin Cluster which
  - Manage the machines that run the user cluster control planes
  - Create, update, and delete the control plane components
  - Expose the Kubernetes API server to the user cluster
  - Manage cluster certificates



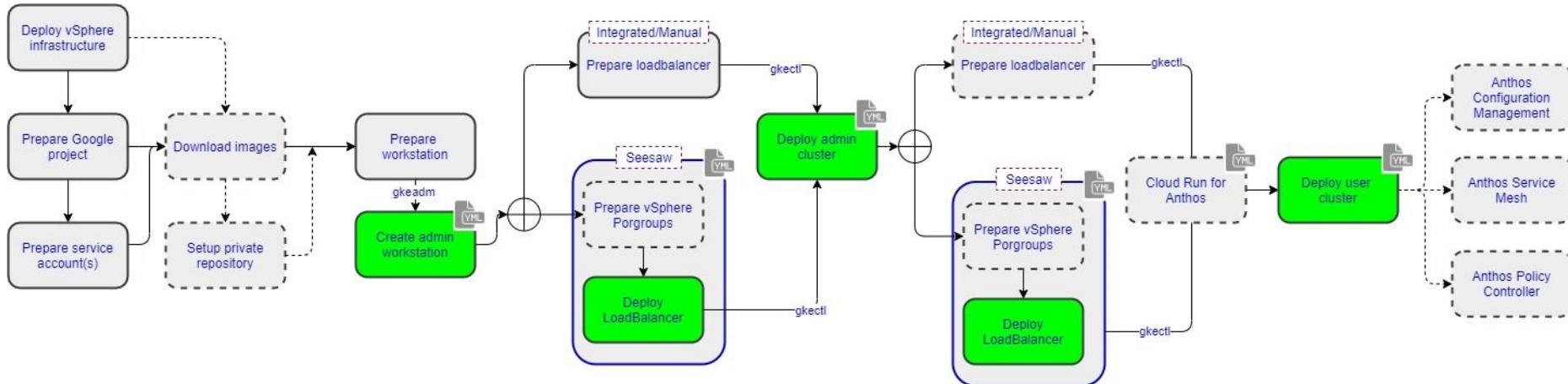
# GKE On-Prem Installation

- Automated deployment on top of vSphere shipped as a virtual appliance
- Simple CLI installation with local masters
- DHCP or Static IP allocation support
- Integration with existing private or public container registry



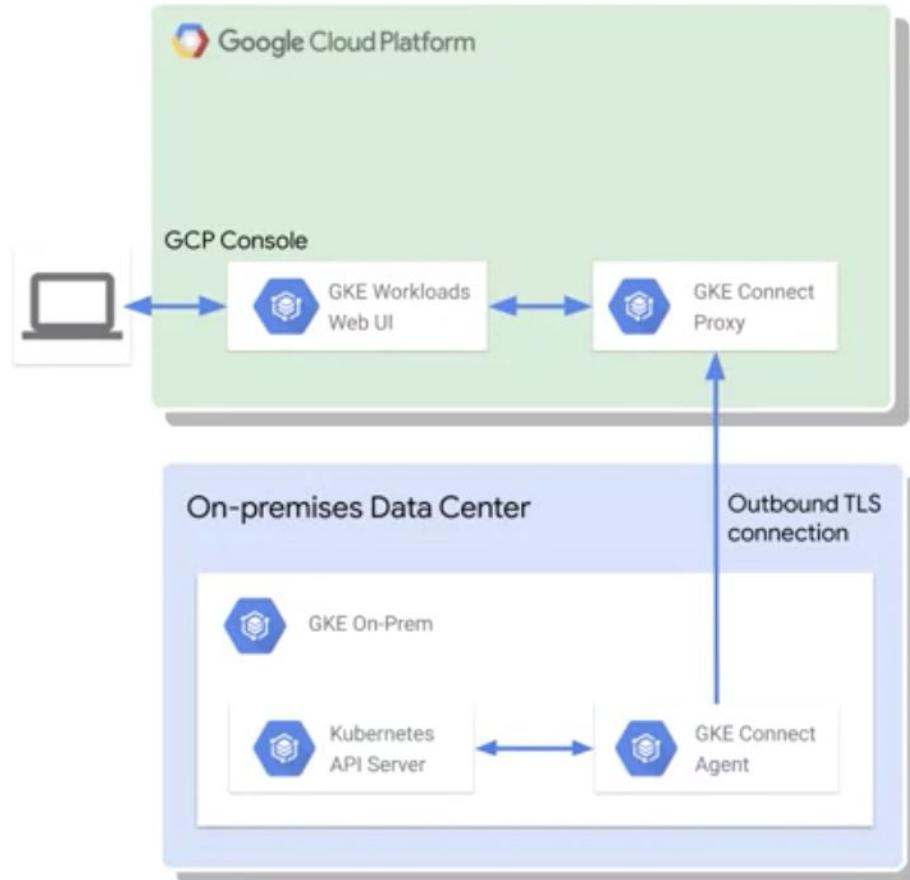
# Install flow

**DEMO**



# Control Plane Hybrid Connection

- GKE Connect Agent installed in your cluster
- No public IP required for your cluster
- Authenticated and encrypted connection from the Kubernetes cluster to GCP using TLS
- Can traverse NATs and firewalls
- User interactions with clusters are visible in Kubernetes Audit Logs



**DEMO**

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# JAREK - END

# Anthos Service Mesh



Fully managed, full stop



Security without complexity

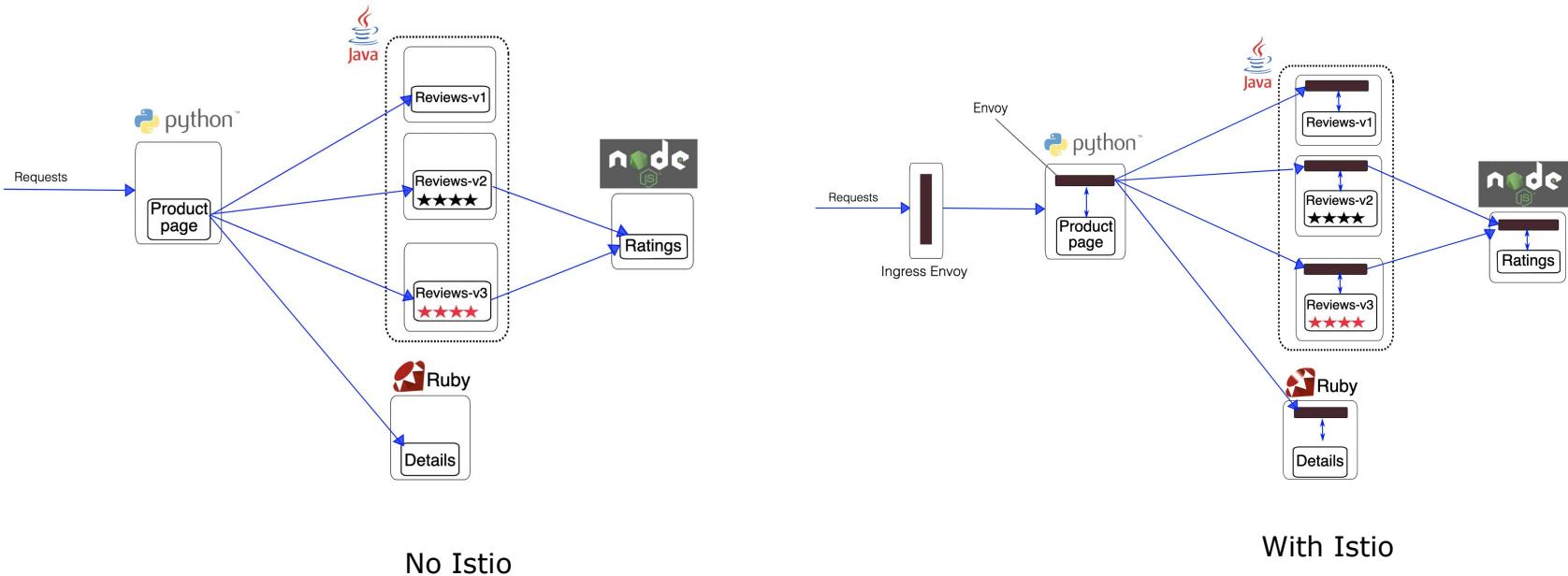


Deep insights into your mesh



Traffic management made simple

# DEMO – Traffic Management with Istio



No Istio

With Istio

**DEMO**

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# JAREK - START

# Anthos Config Manager

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Define and enforce policies  
across hybrid Kubernetes  
deployments



Put security guardrails in place



Maintain control over cluster  
sprawl



Branch

Validate

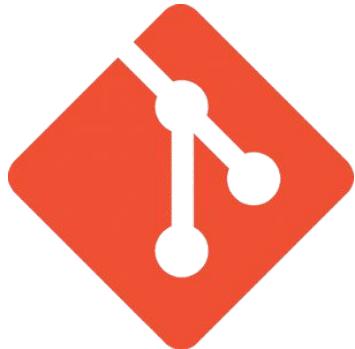
Review

Merge

Deploy

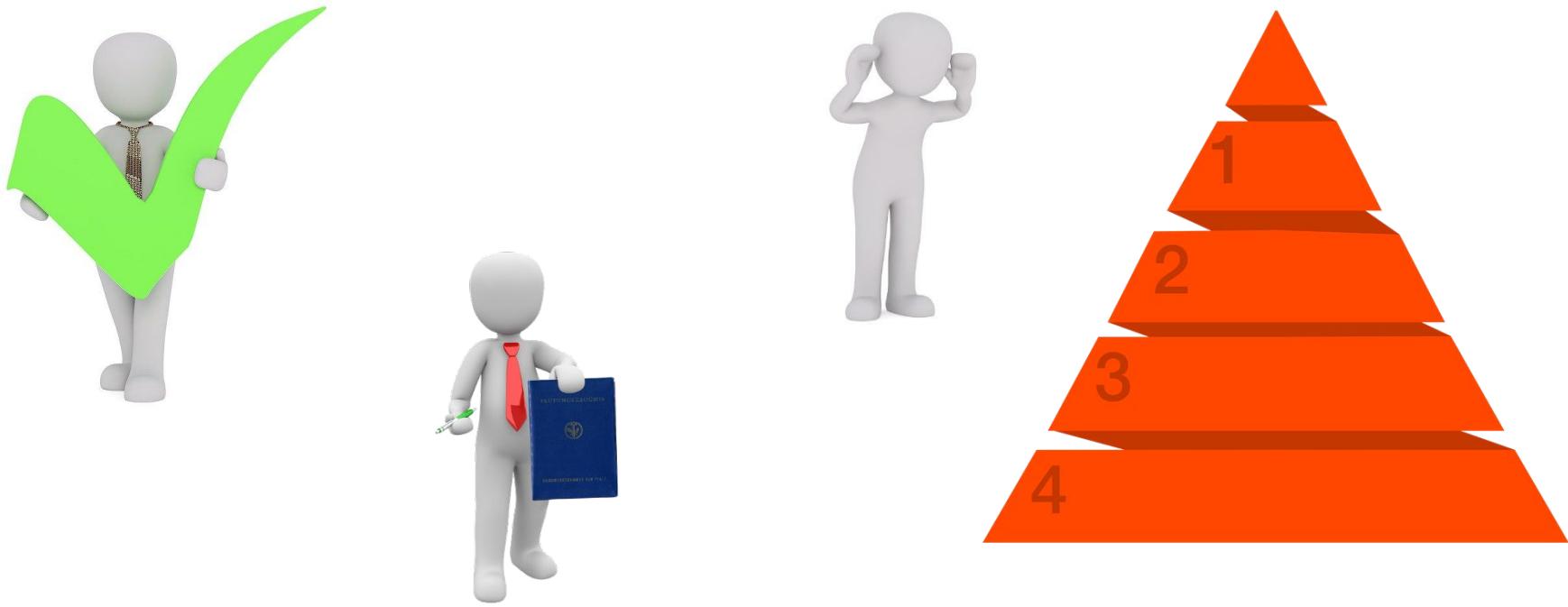
# Why it matters?

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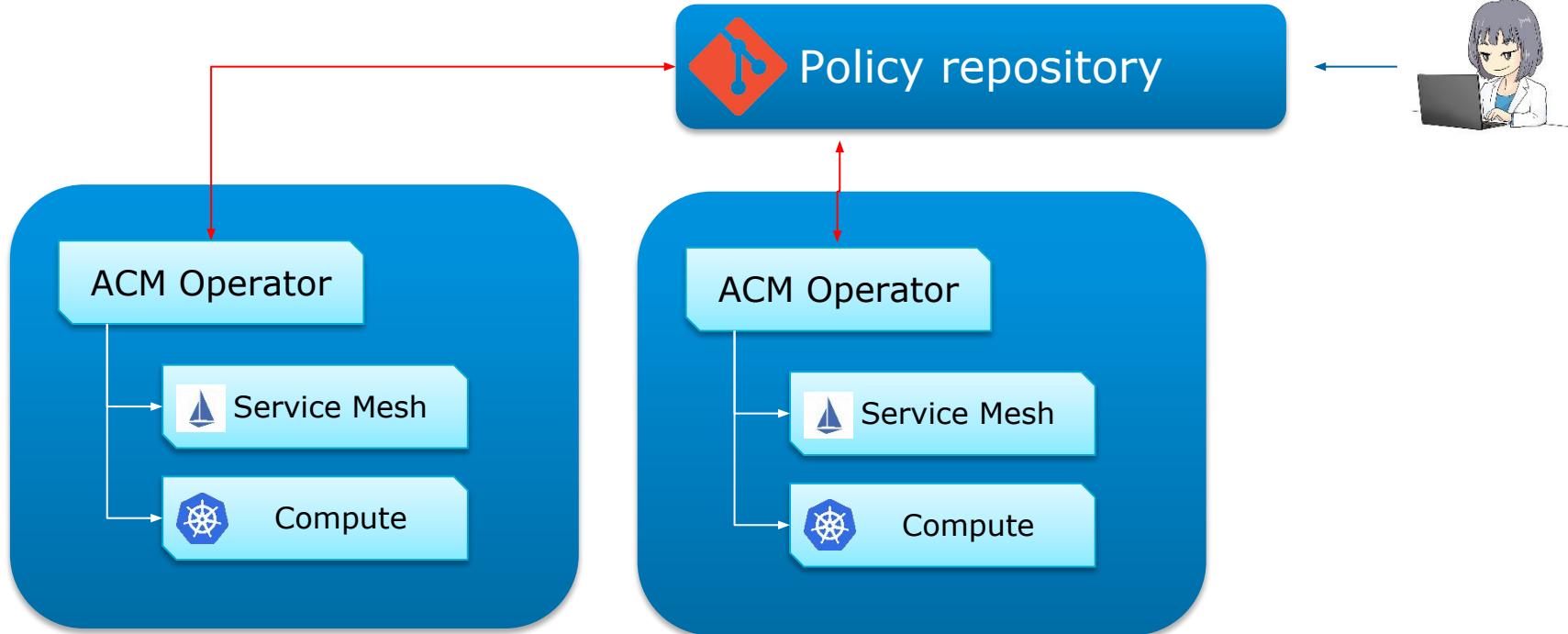


# Configuration as Code

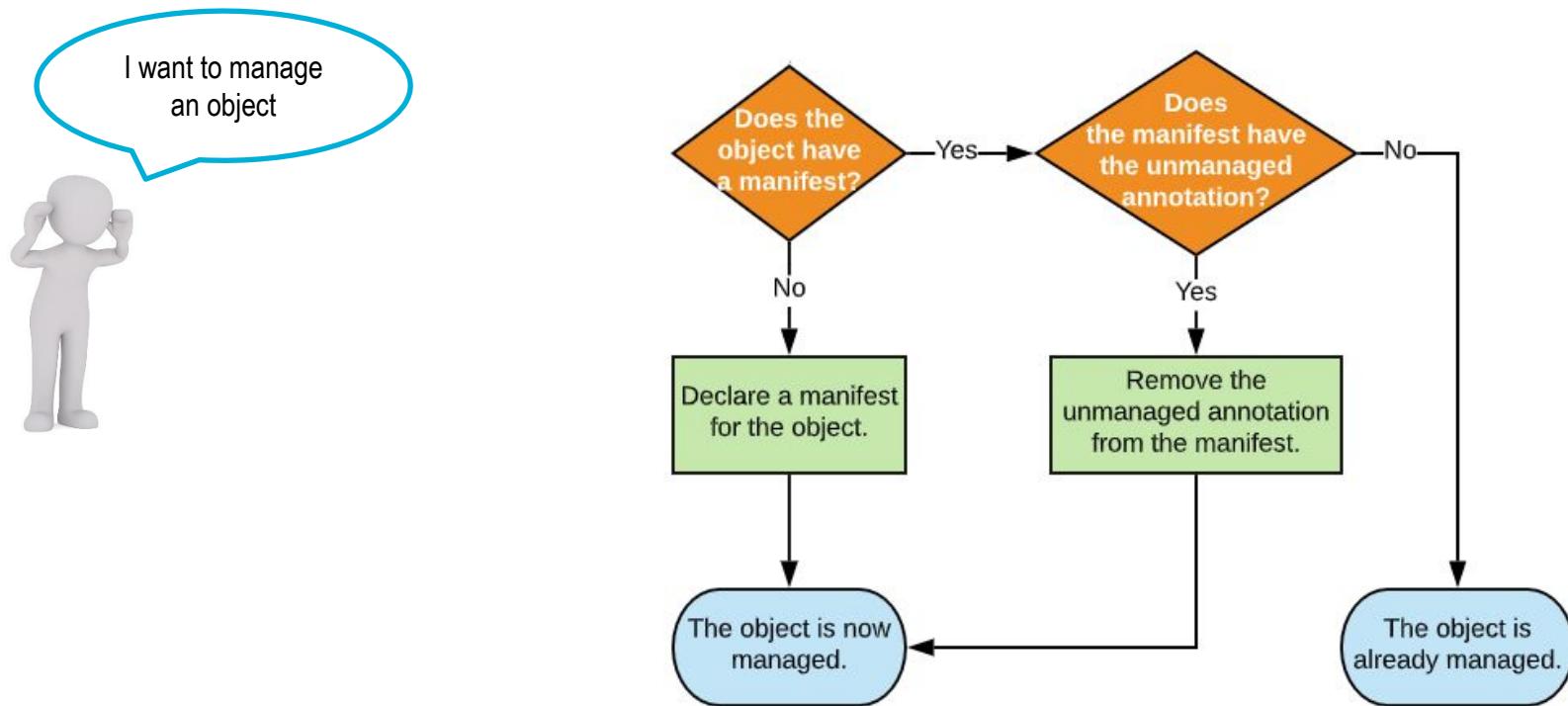
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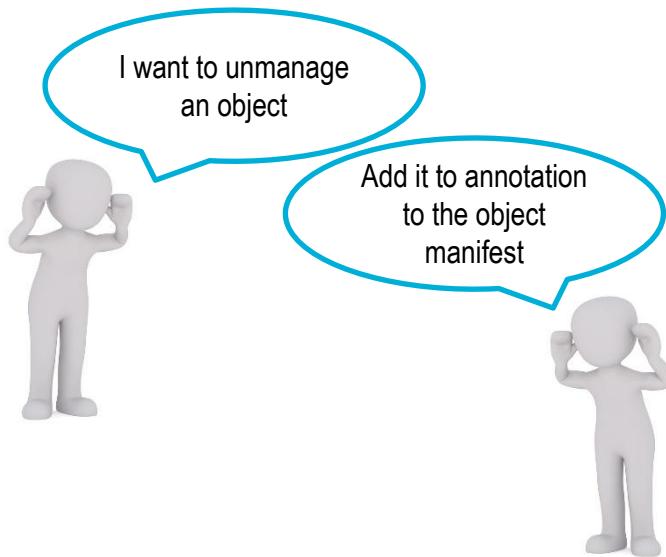
# How it Works



# Object management



# Object management



```
kind: RoleBinding
apiVersion: rbac.authorization.k8s.io/v1
metadata:
  name: job-creators
subjects:
- kind: User
  name: sam@foo-corp.com
  apiGroup: rbac.authorization.k8s.io
roleRef:
  kind: Role
  name: job-creator
  apiGroup: rbac.authorization.k8s.io
annotations:
  configmanagement.gke.io/managed: disabled
```

# Object management

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( Install ACM Operator )

( Enable Config Management )

( Validate configuration )

( Use Case: Remove namespace )

( Use Case: Manage roles )



# Good, Bad and Ugly

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## Good

- Support
- GCP Integration
- Cloud Run
- Contact with Google



## Bad

- High Availability
- Recovery procedures
- DR
- Proxies
- Support building



## Ugly

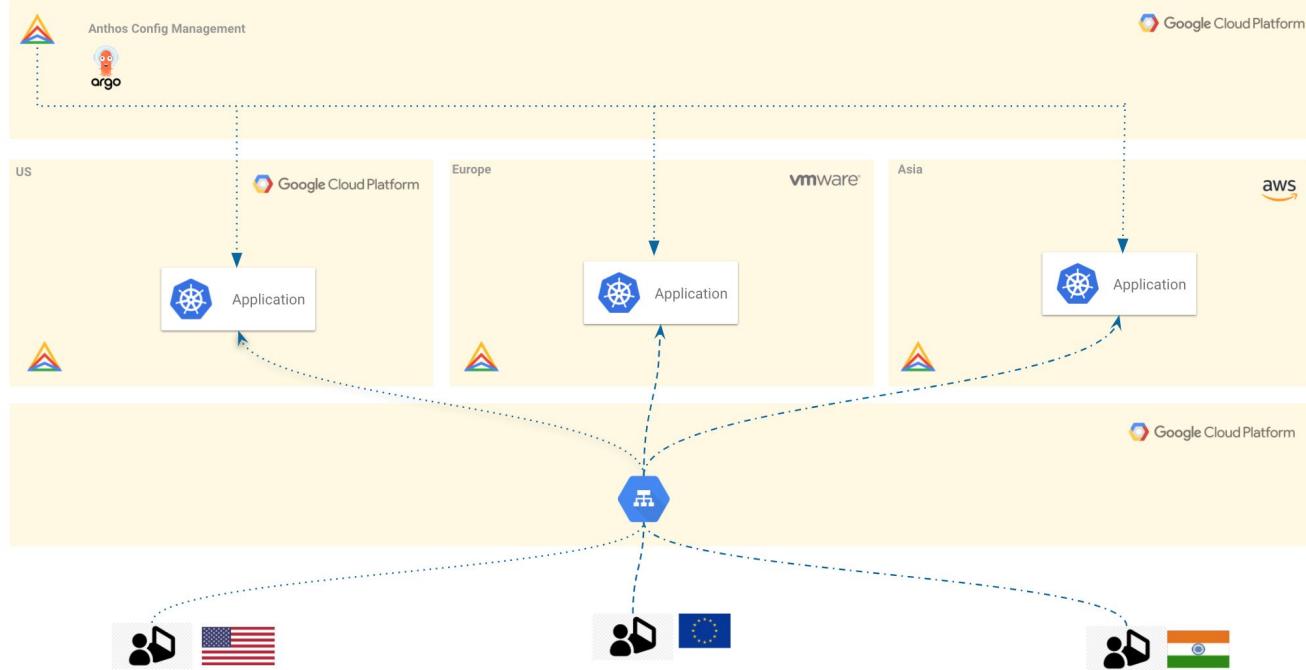
- No data plane recovery
- Documentation
- Installation process

**DEMO**

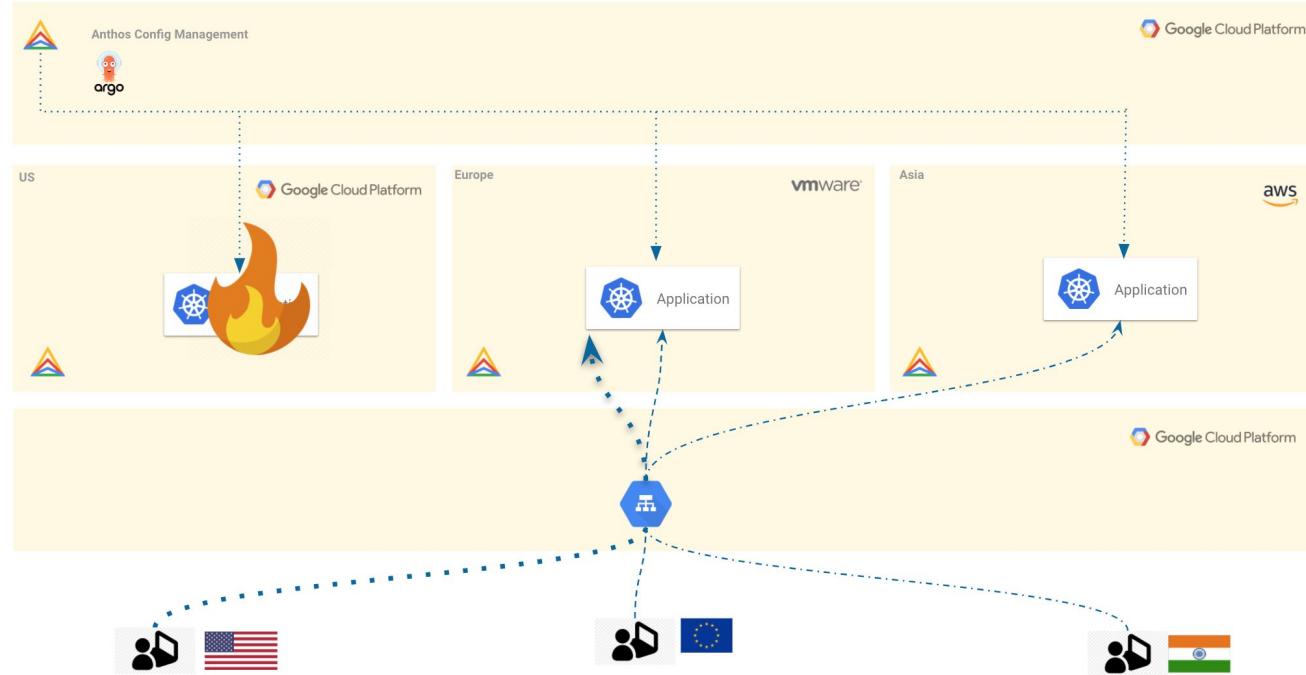
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# JAREK - END

# Multi-Cloud Load Balancing



# Multi-Cloud DR



**DEMO**

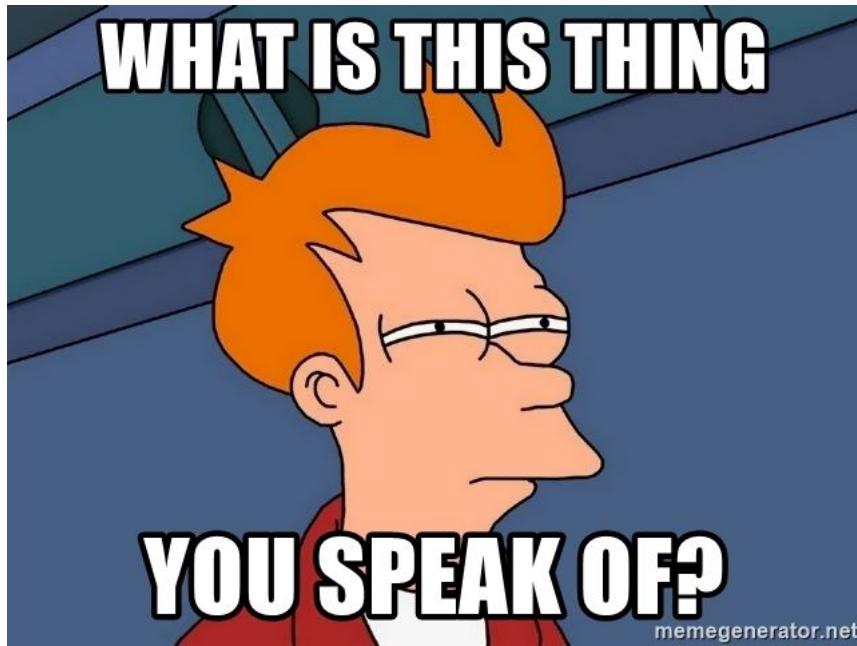
# Serverless Kubernetes

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# Serverless Kubernetes???

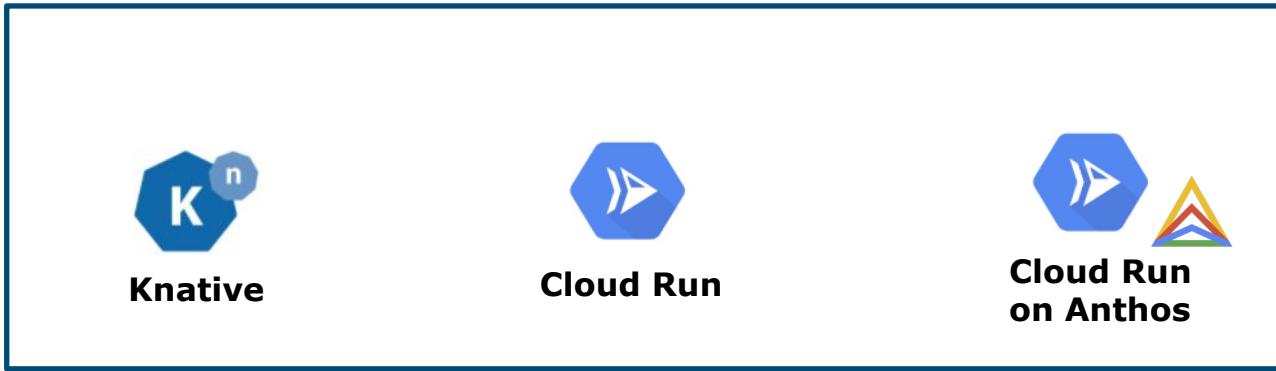
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- **No server**
- **Multi-Language**
- **Event-driven**
- **Autoscaling**
- **Portability**

# Serverless Kubernetes

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# Introduction to Knative

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**Build**

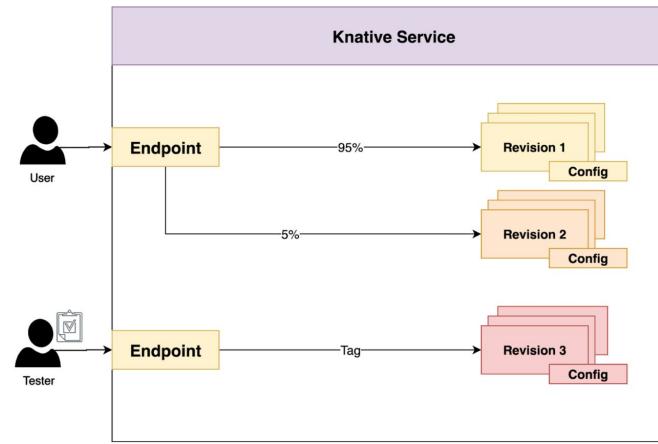
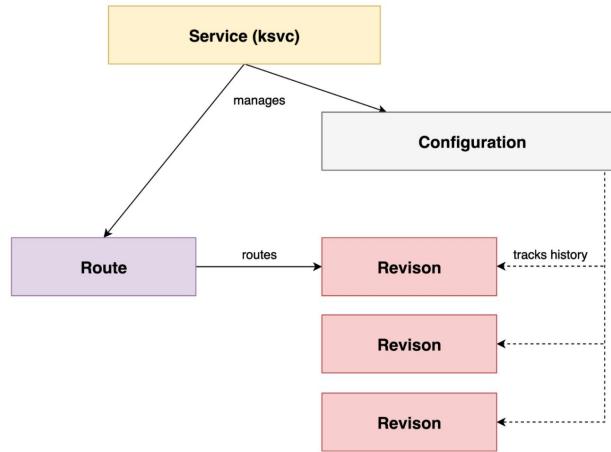


**Serving**

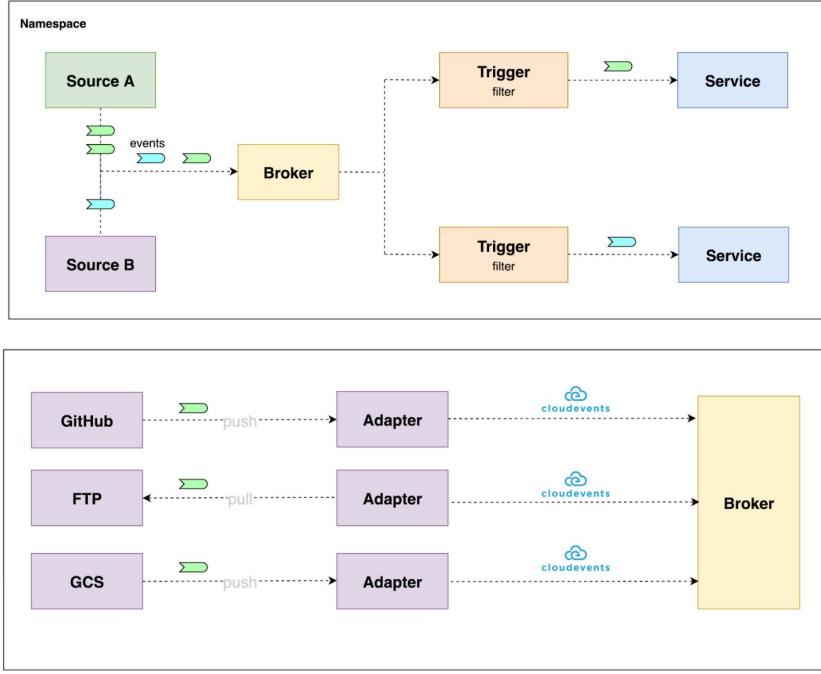


**Eventing**

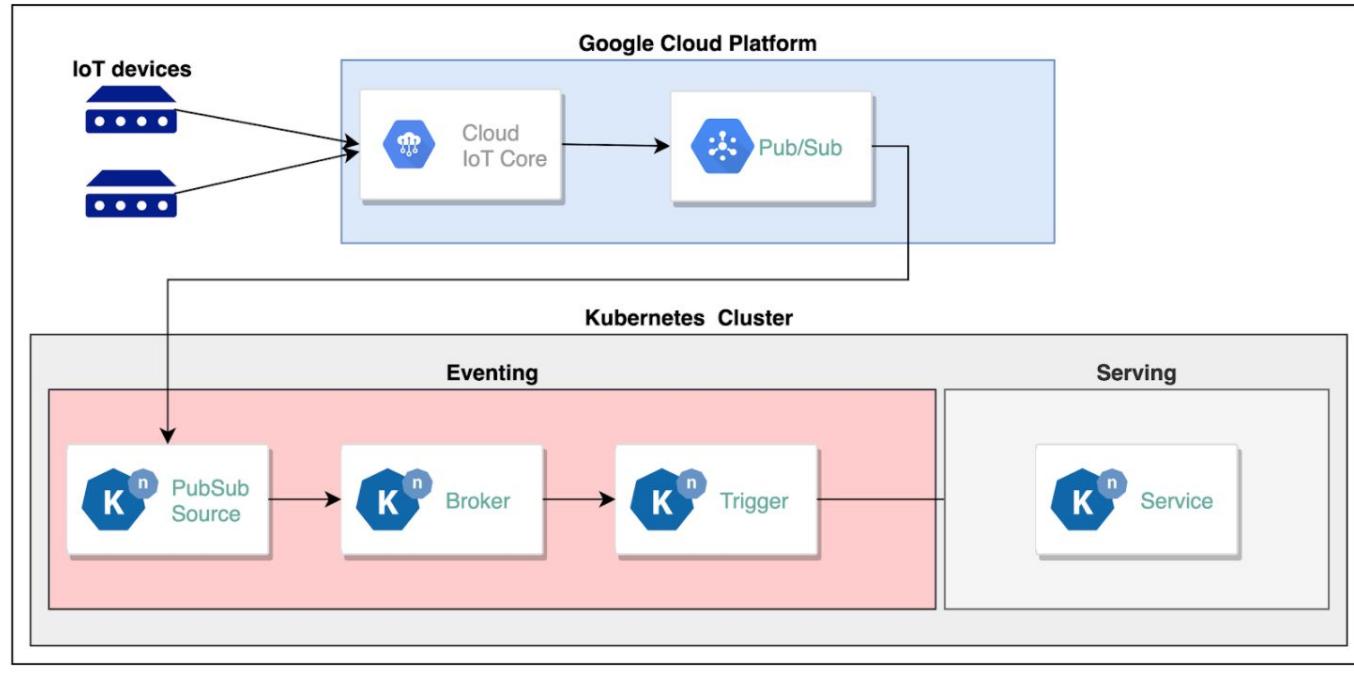
# Knative Serving



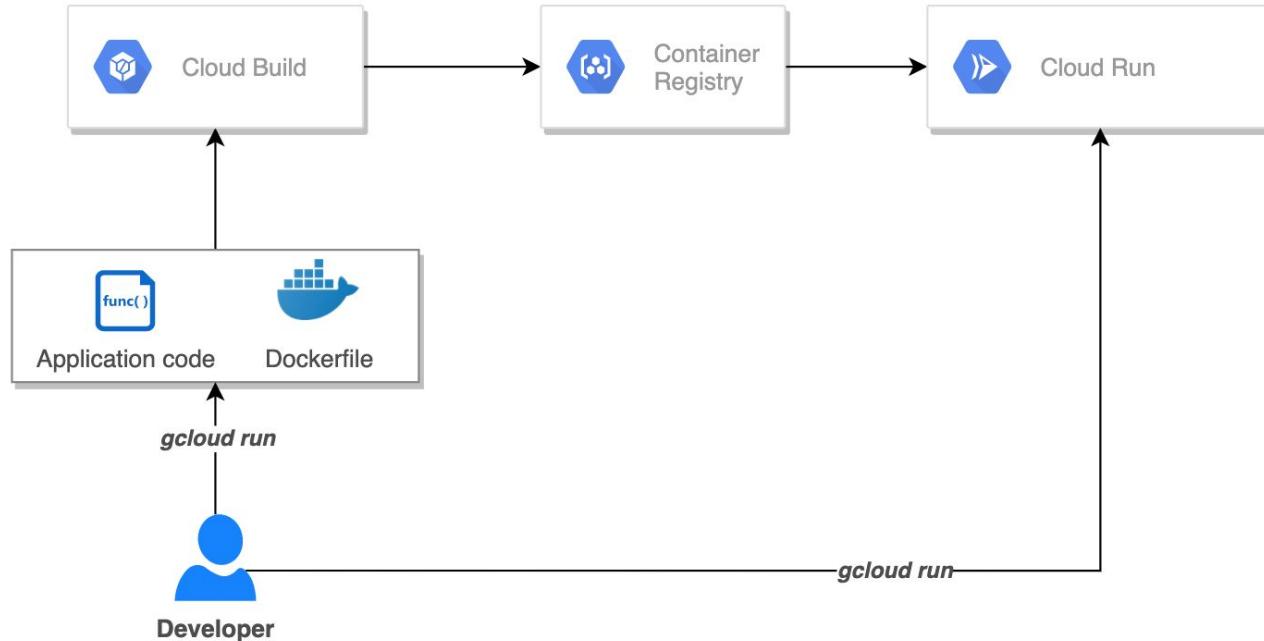
# Knative Eventing



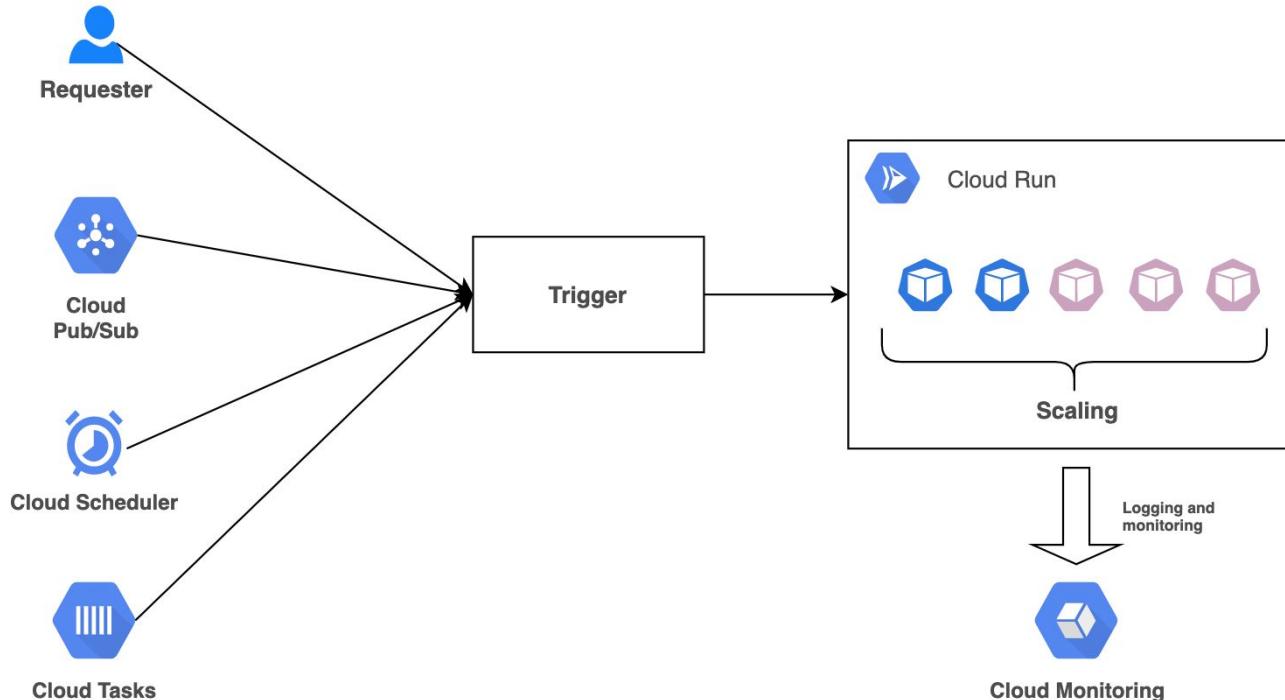
# Use case - IoT



# Cloud Run - develop and deploy

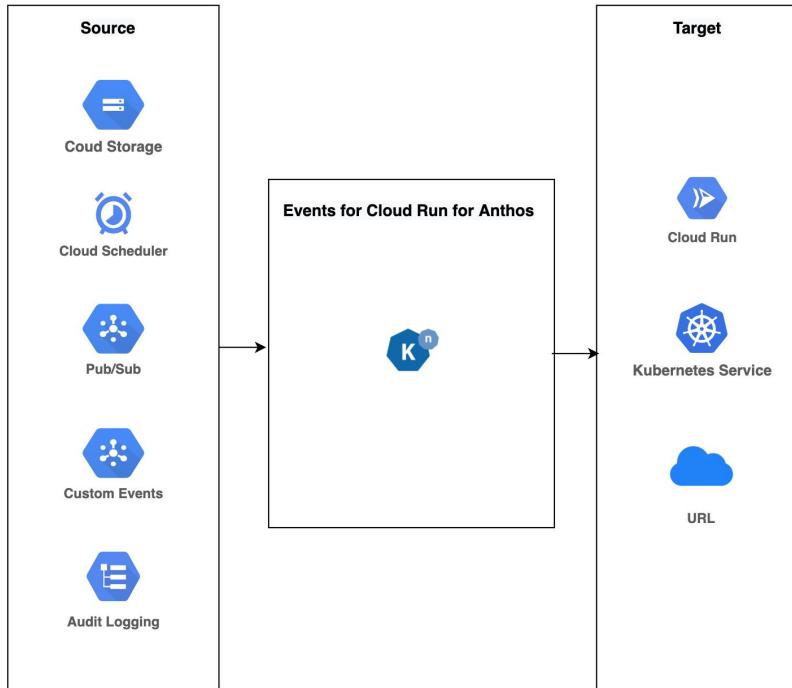


# Cloud Run - run

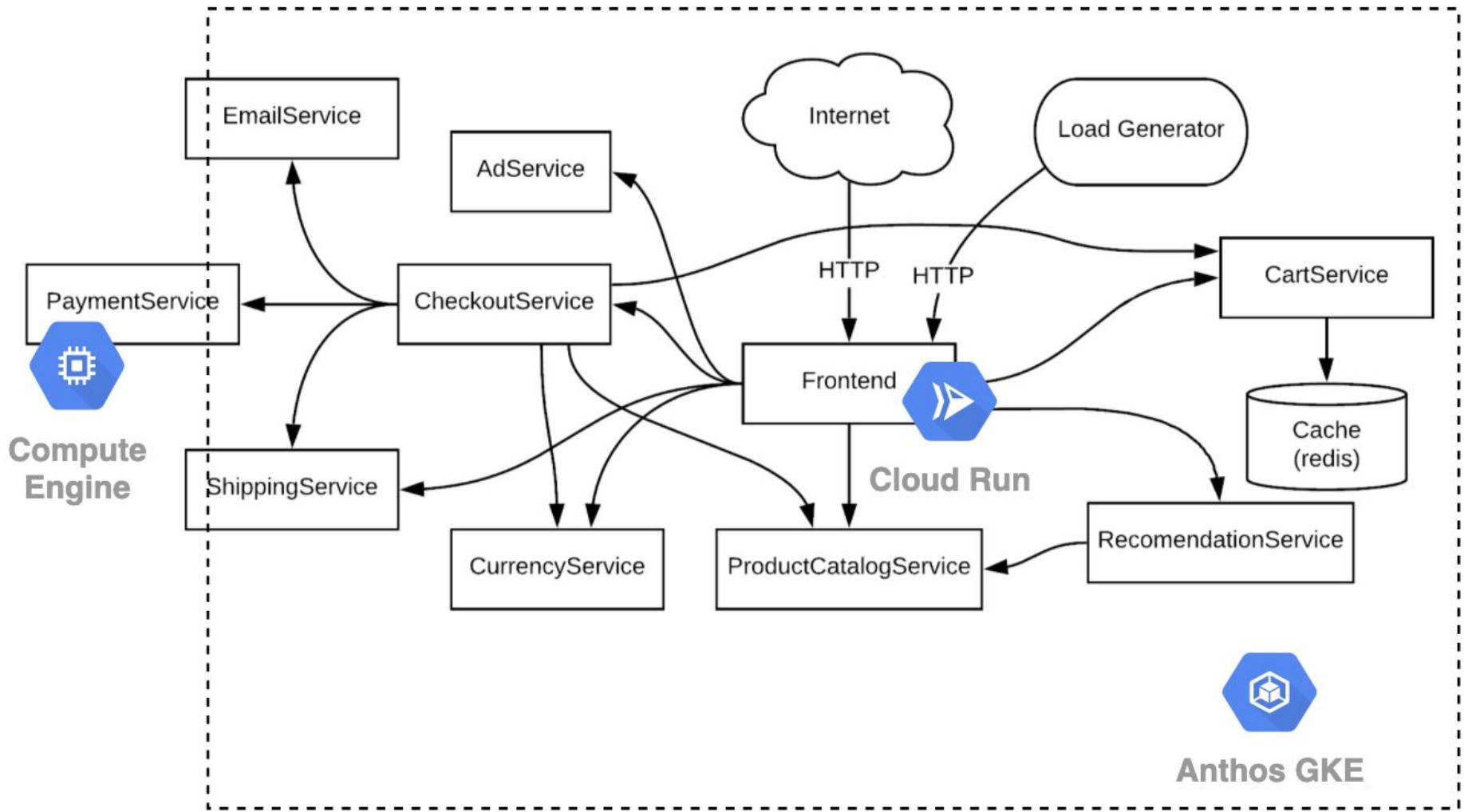


# Events for Cloud Run

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**DEMO**



# Thank you

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