



Cloud and Kubernetes:

The Introduction

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Building Automation on top of Kubernetes

- **Go, Kotlin and Cloud Native Enthusiast**
- **@Jasoet**



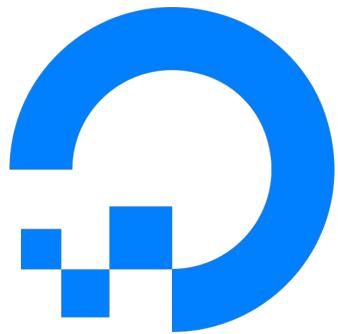
Google Cloud



Azure



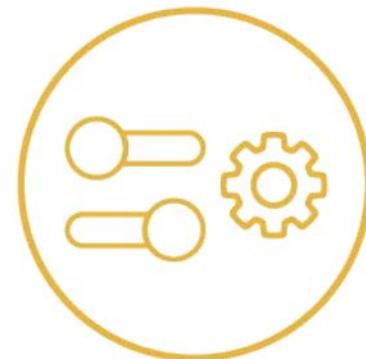
Alibaba Cloud



DigitalOcean

CLOUDKILAT

Cloud computing has five fundamental attributes



On-demand self-service

No human intervention needed to get resources



Broad network access

Access from anywhere



Resource pooling

Provider shares resources to customers



Rapid elasticity

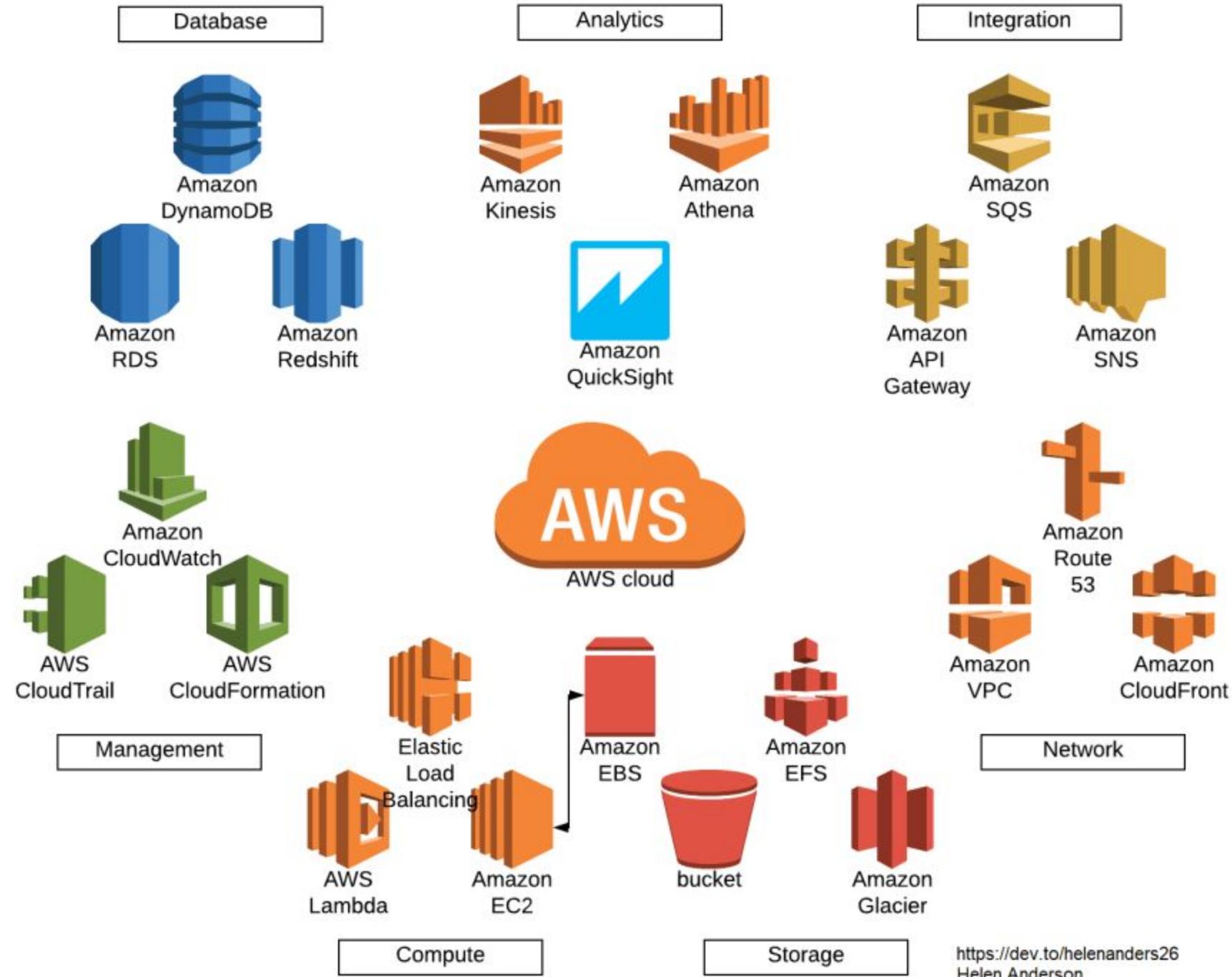
Get more resources quickly as needed



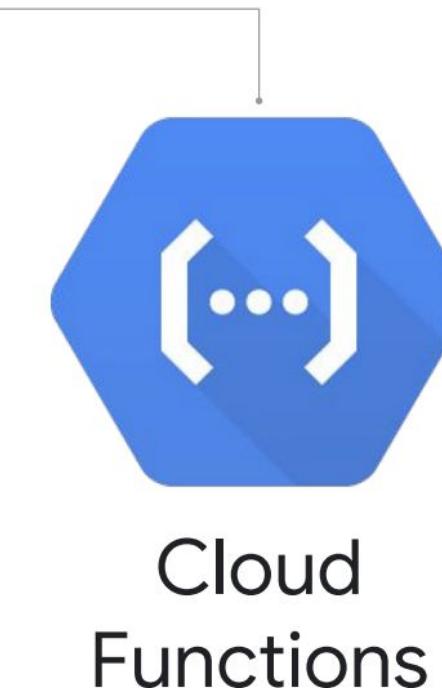
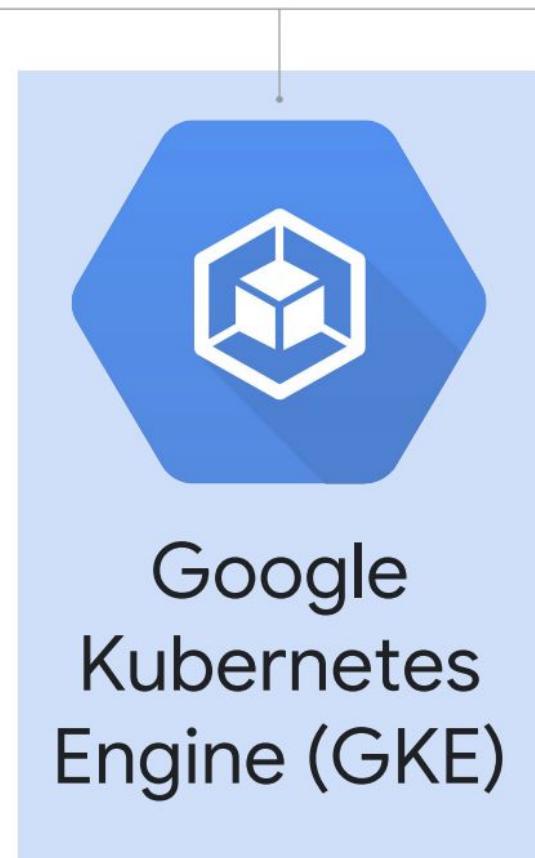
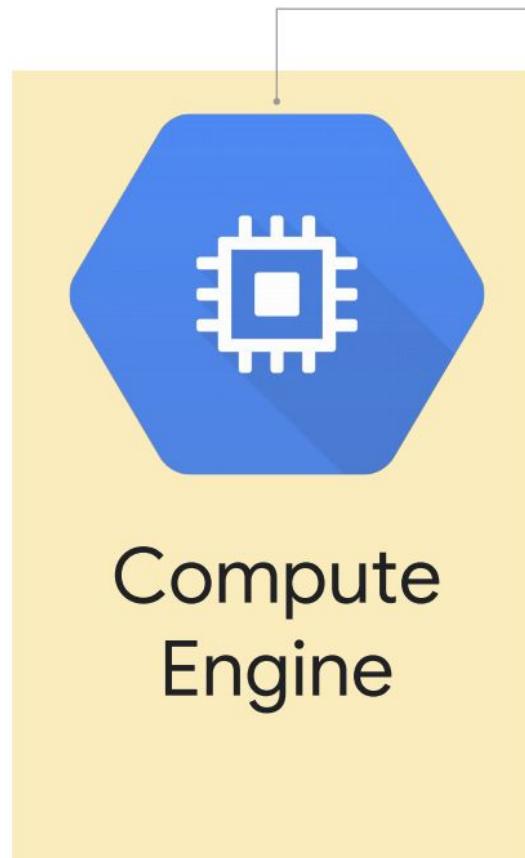
Measured service

Pay only for what you consume



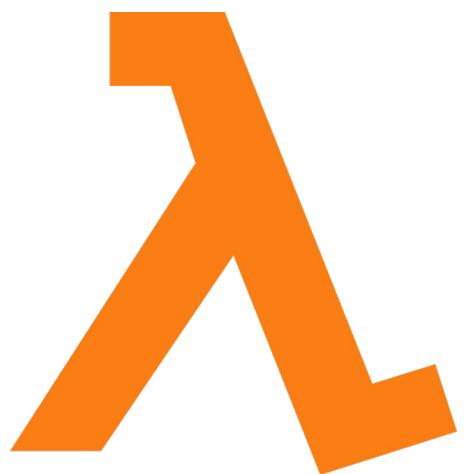


Compute

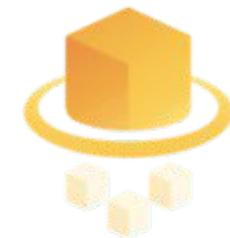




EC2



Lambda



AWS Fargate



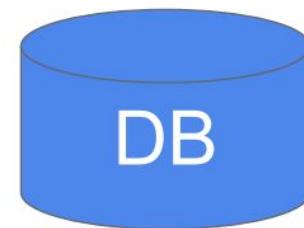
Amazon ECS



Amazon EKS



Compute
Engine



Google
Kubernetes
Engine (GKE)

Storage



Cloud
Bigtable



Cloud
Storage



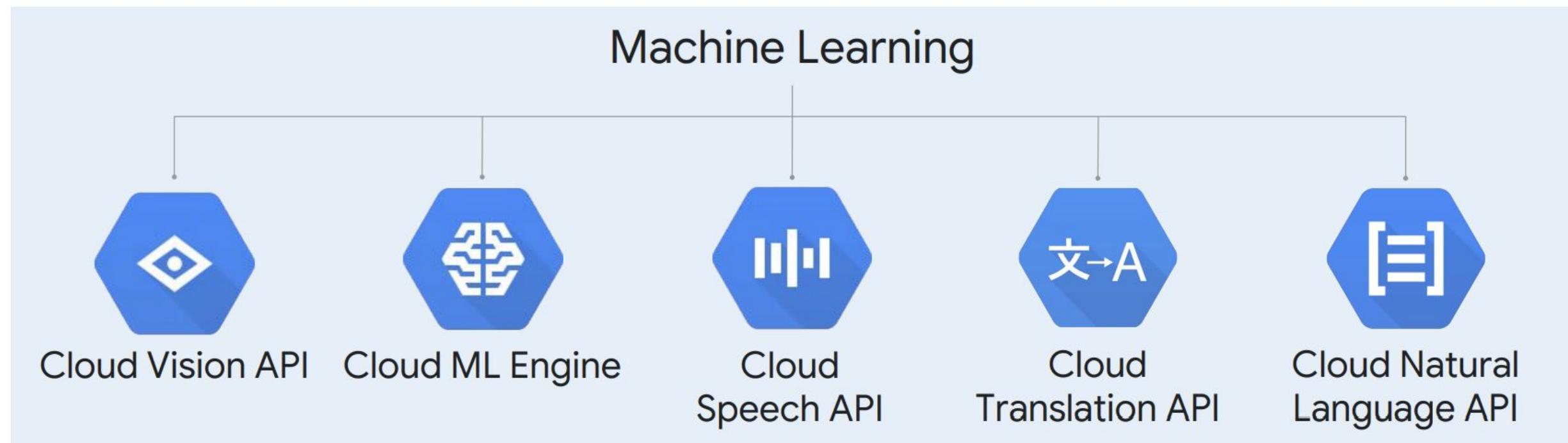
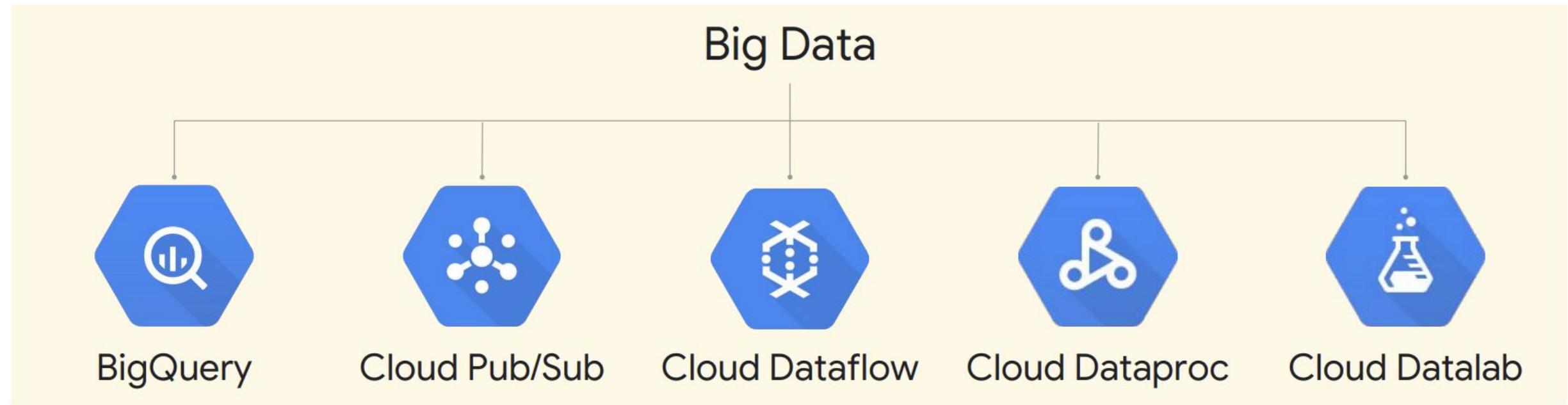
Cloud
SQL



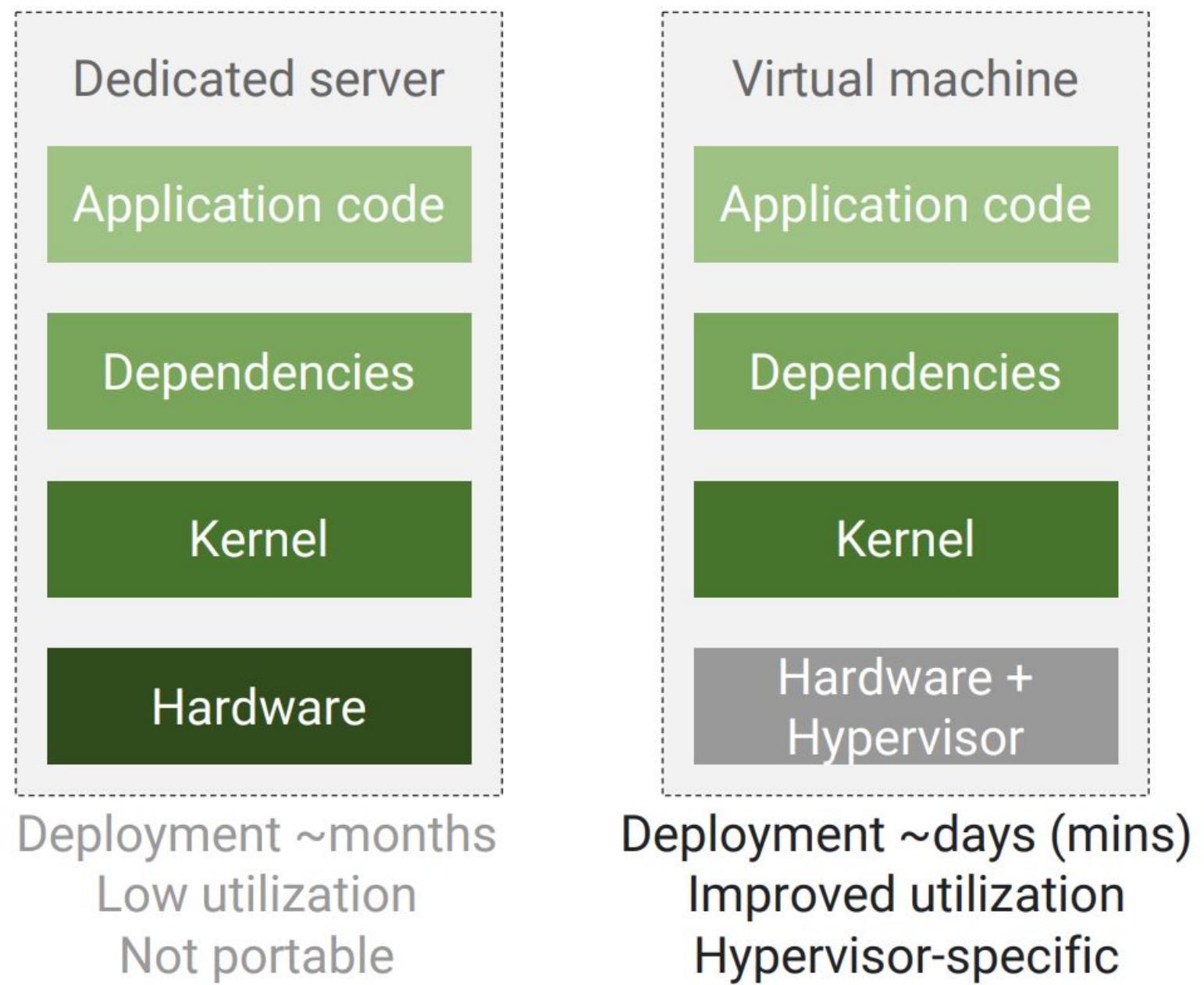
Cloud
Spanner



Cloud
Datastor
e



Virtual Machine



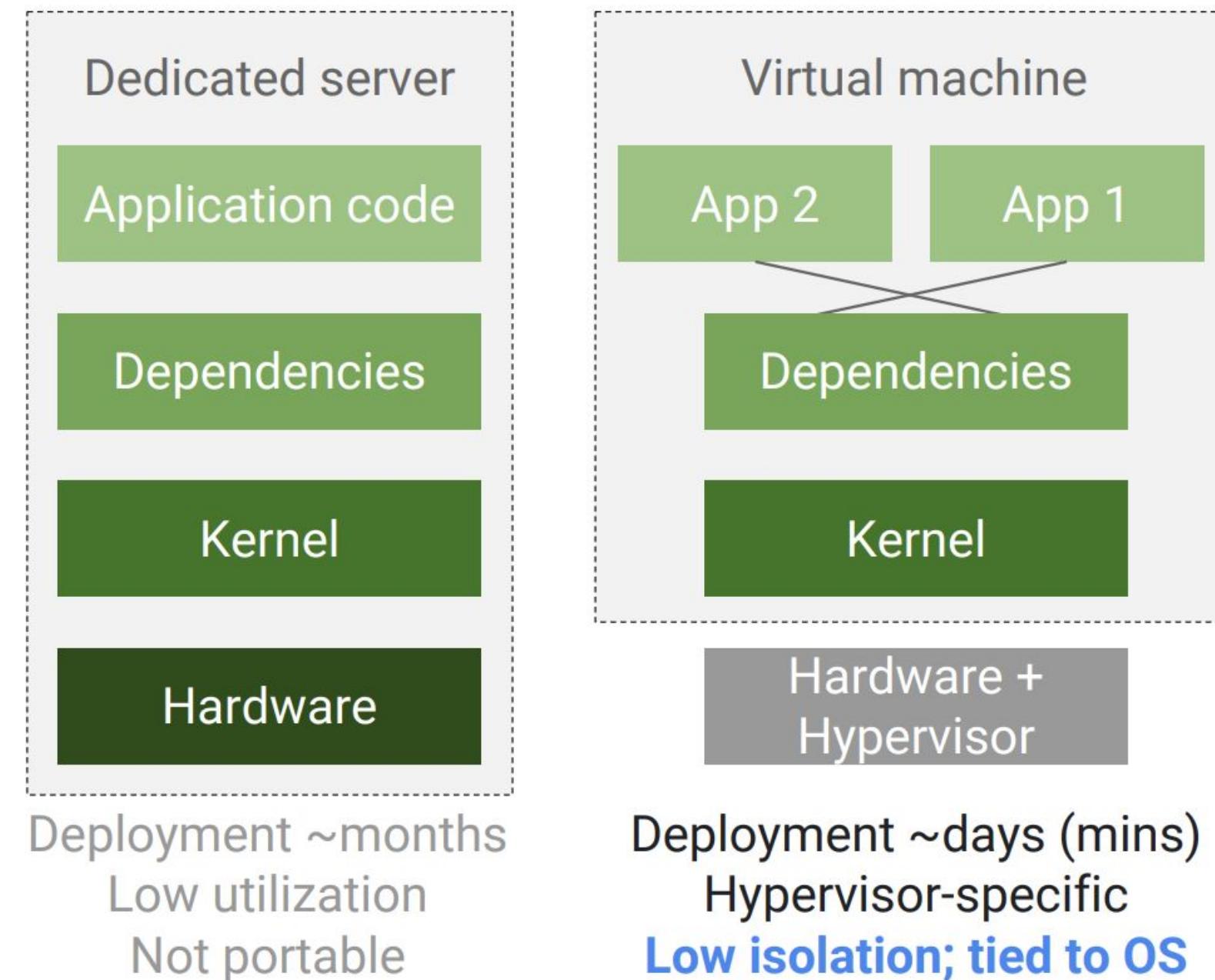


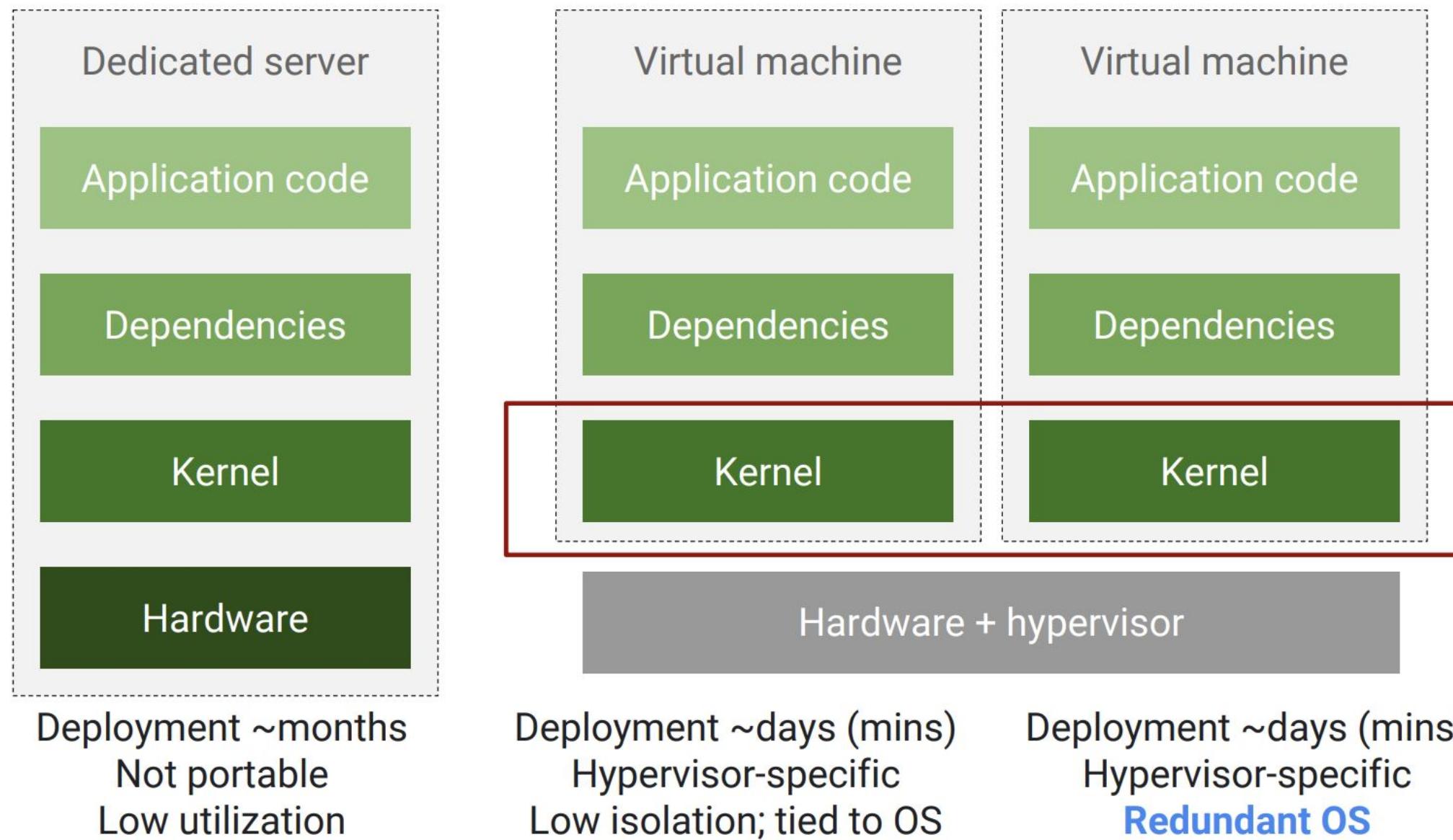
Monolith

An epic drama of adventure and exploration

Space Station One: your first step in an Odyssey that will take you to the Moon, the planets and the distant stars.



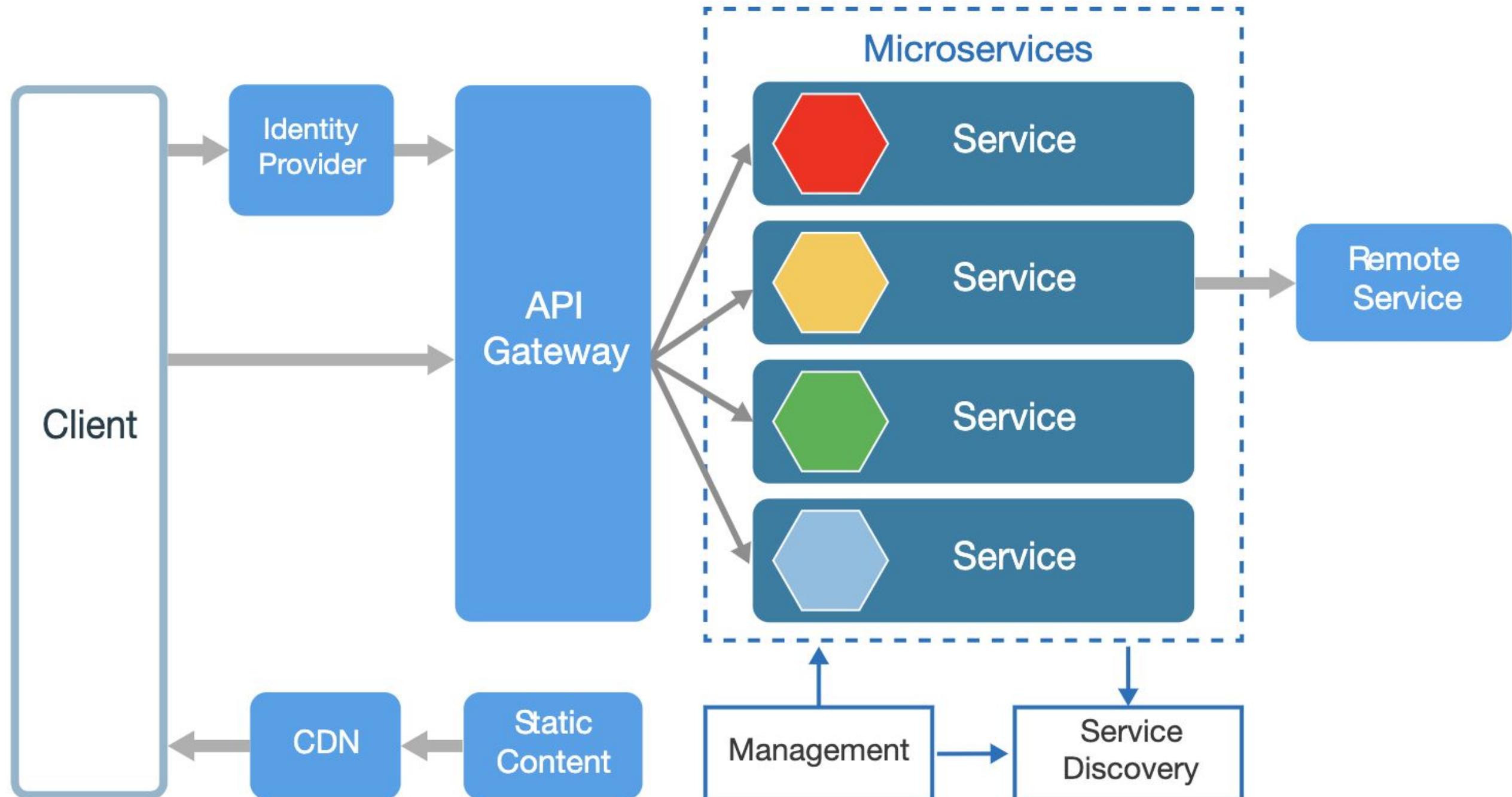


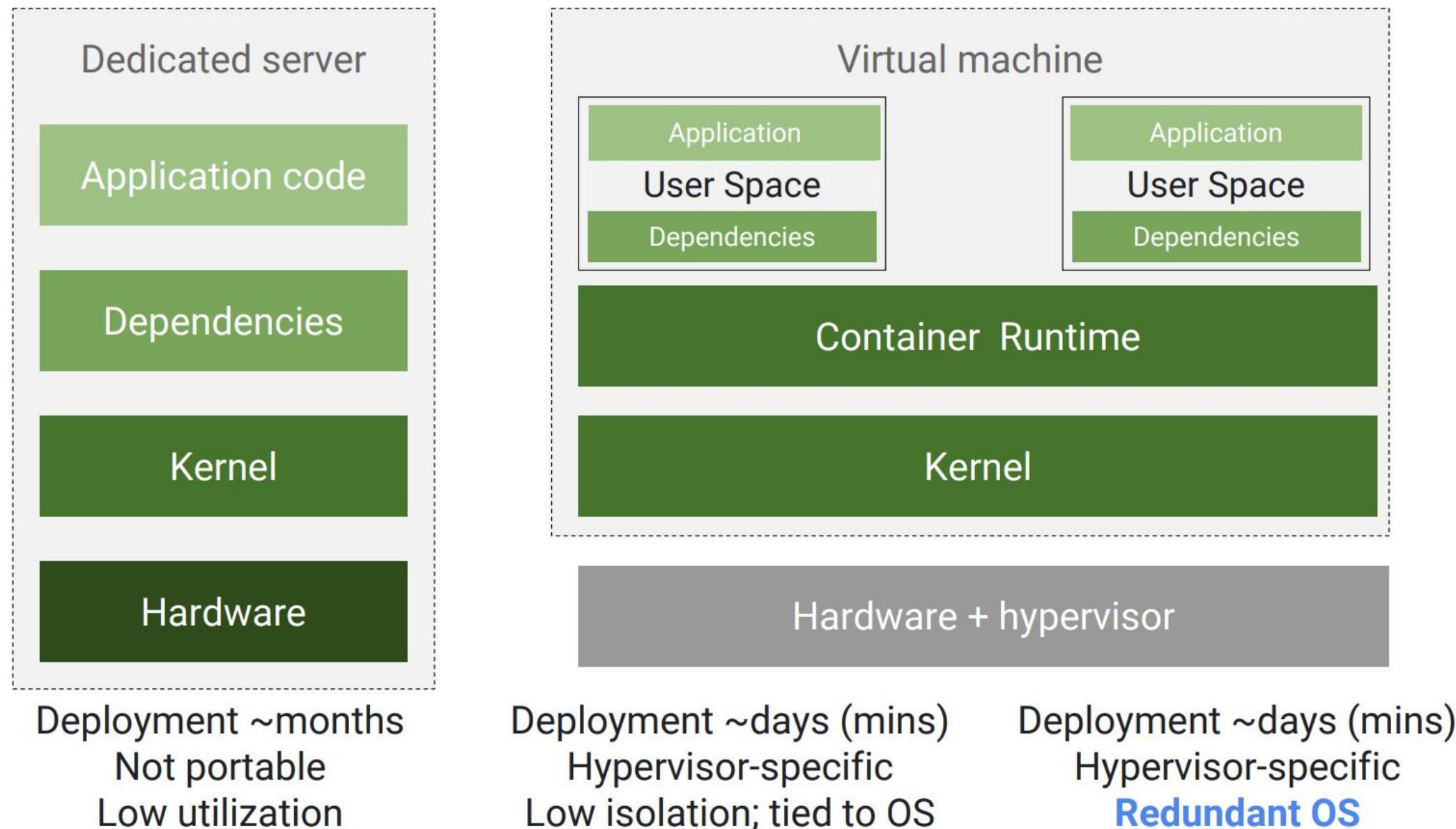




Microservices

Architecture





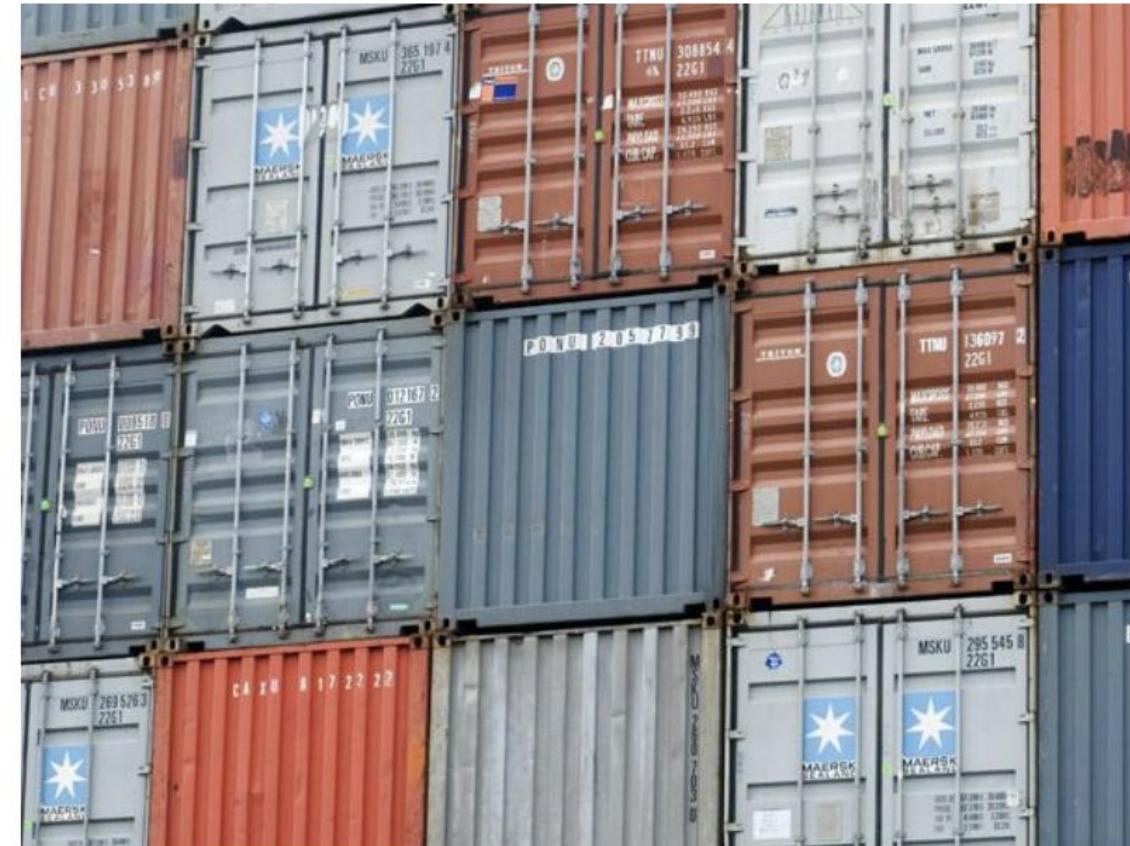
Container

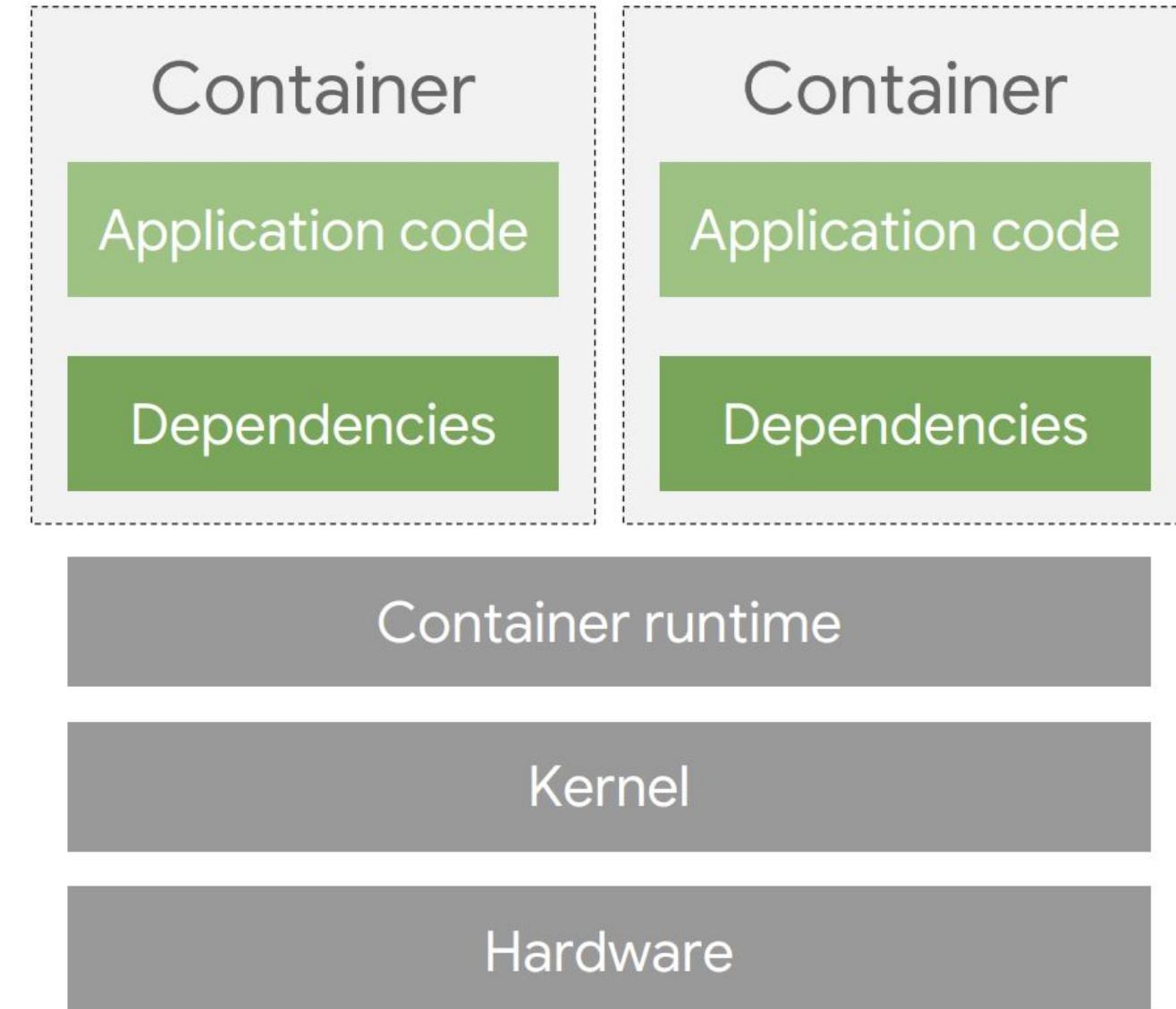


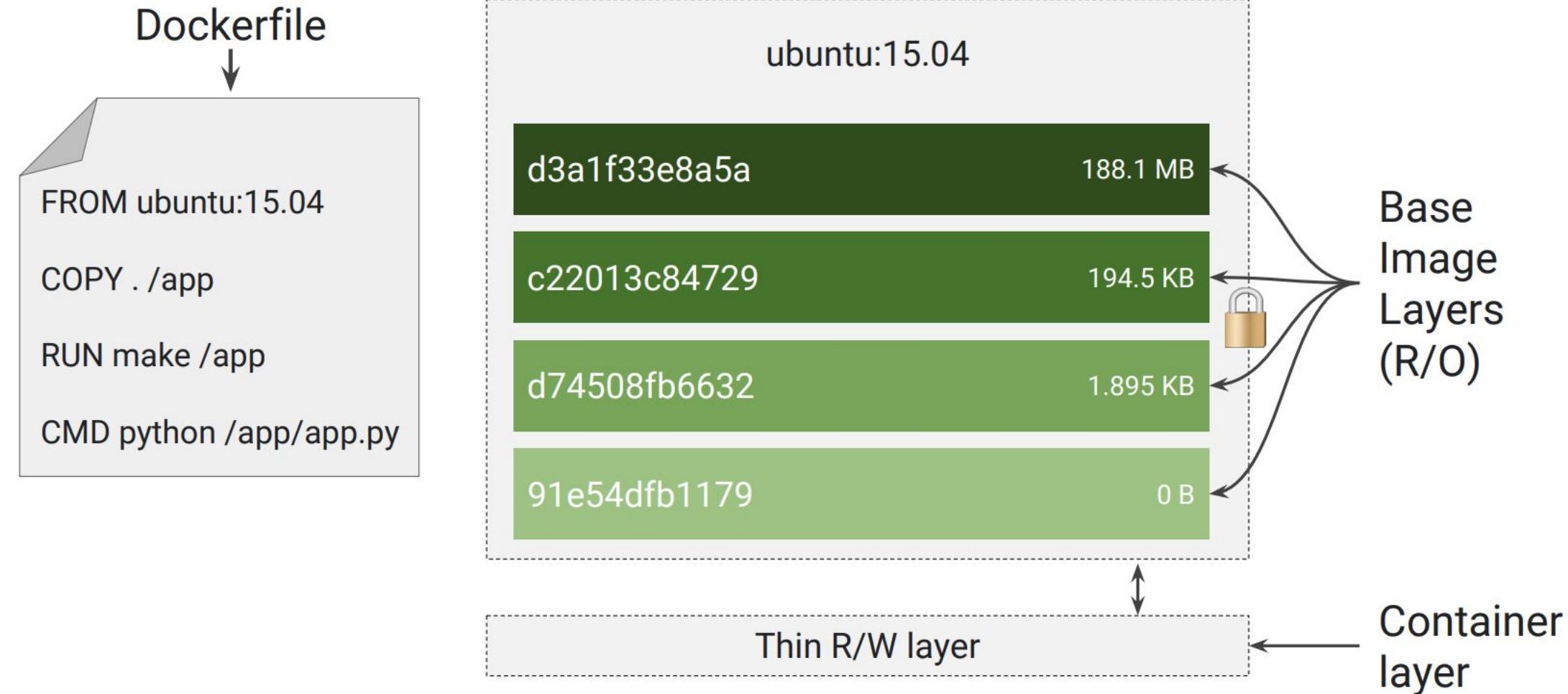
Container

Application code

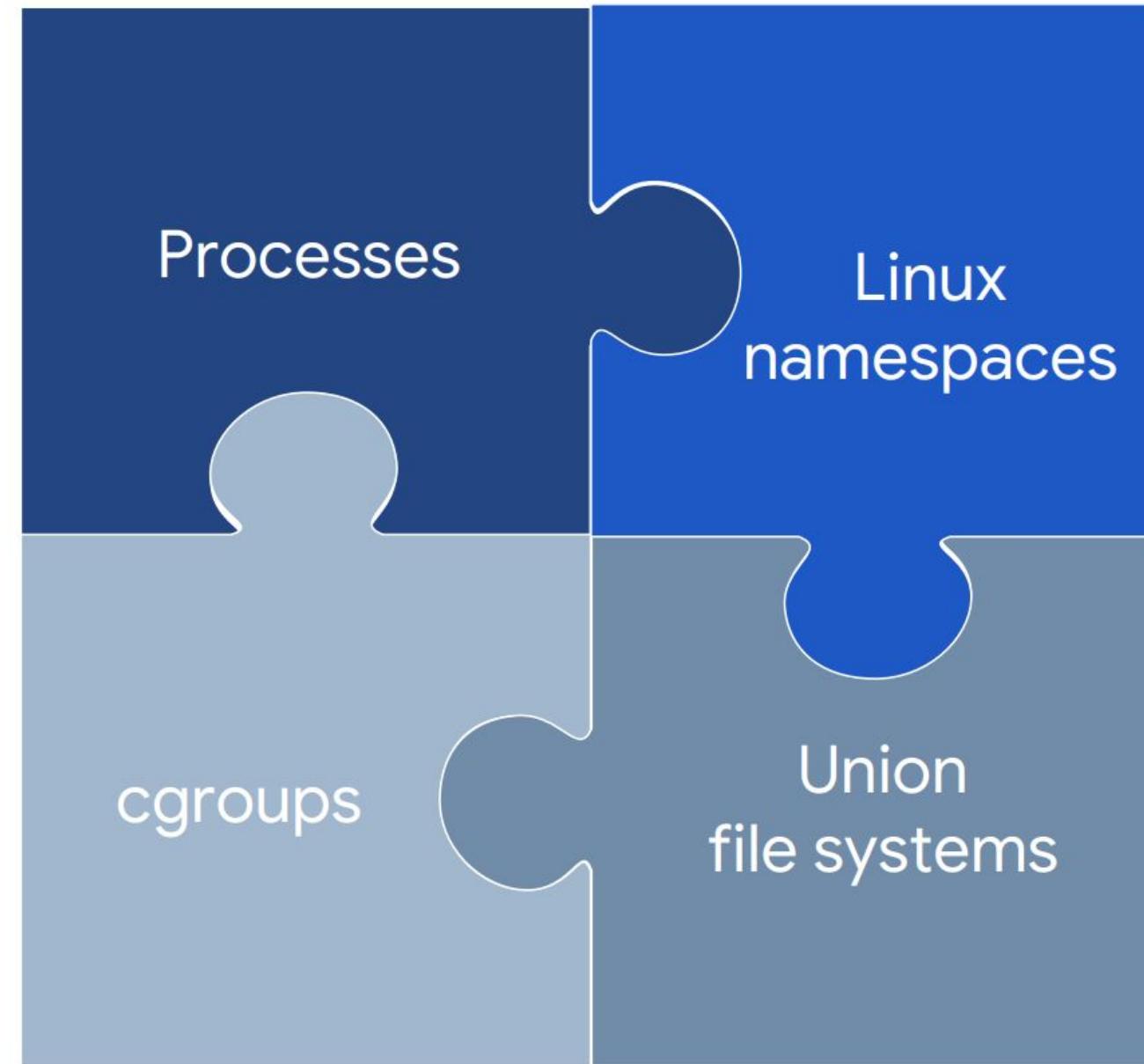
Dependencies







Origin

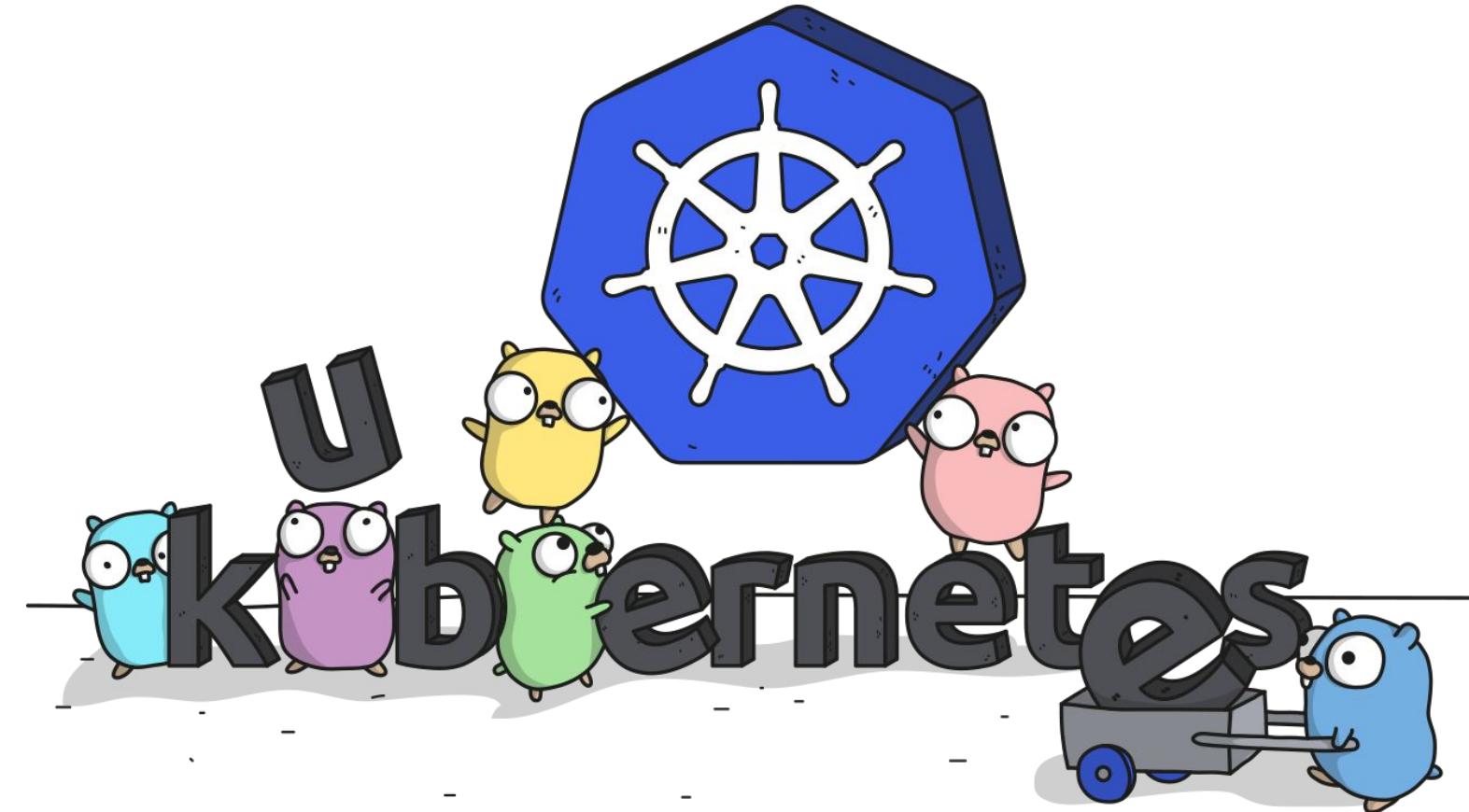






THE
LINUX
FOUNDATION

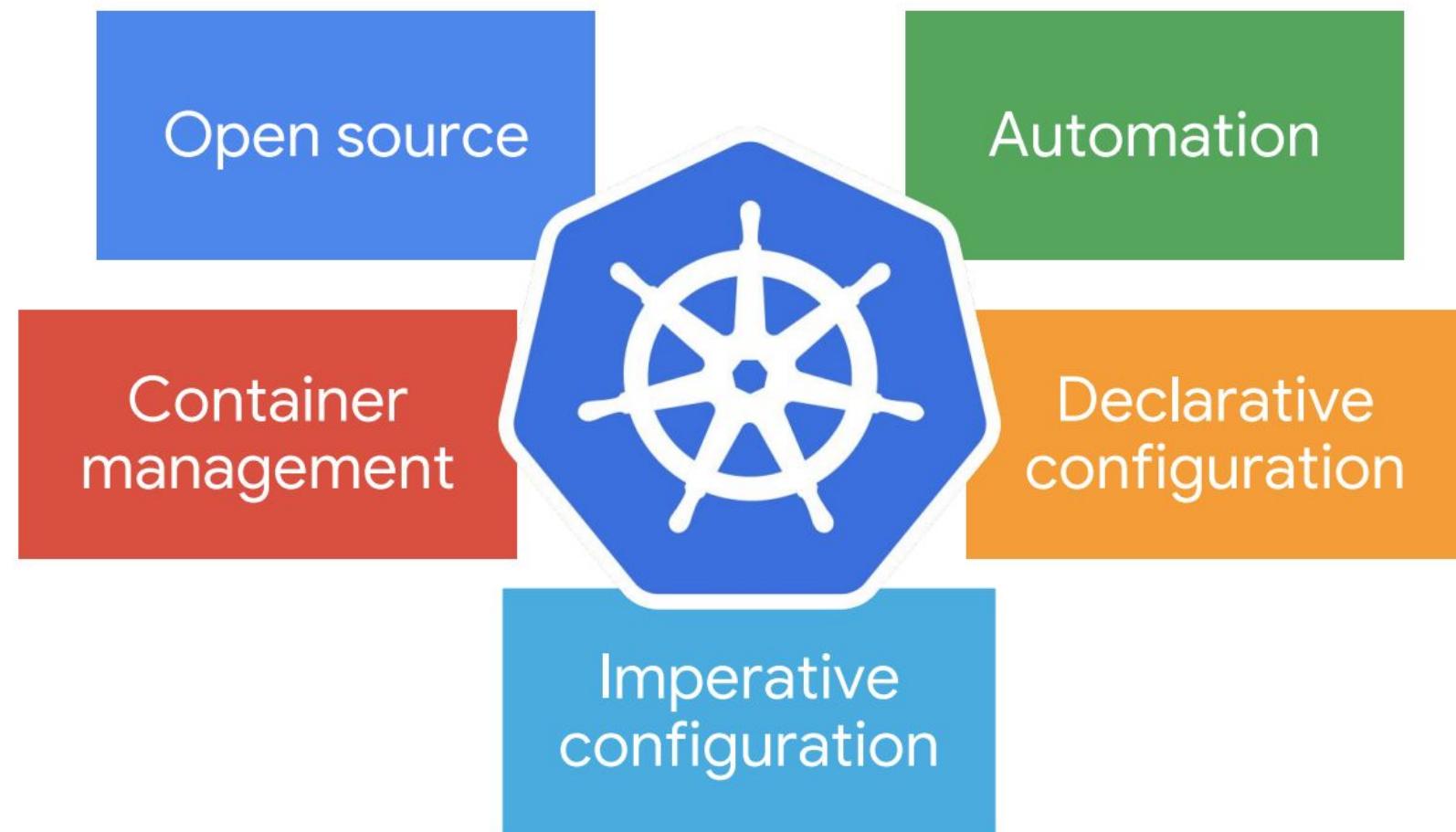


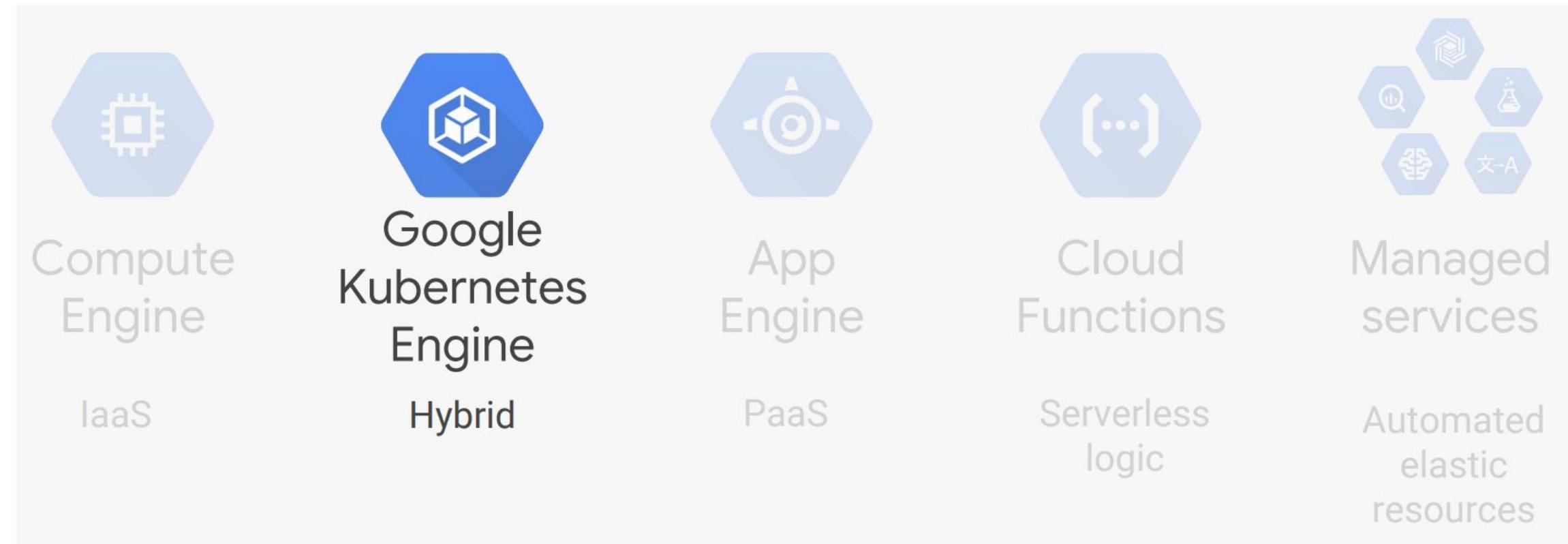


Cloud Native Computing Foundation



What is Kubernetes?

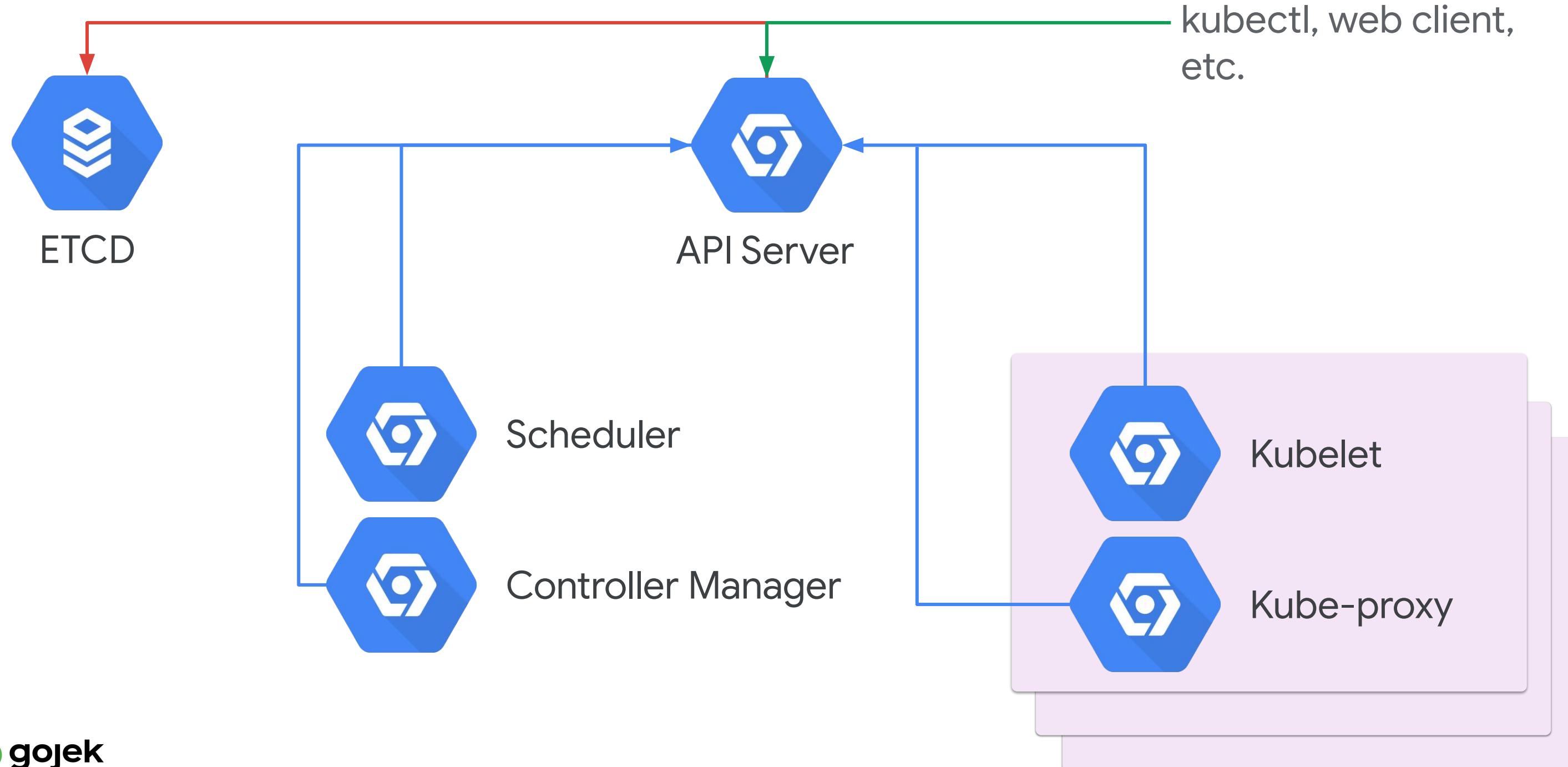


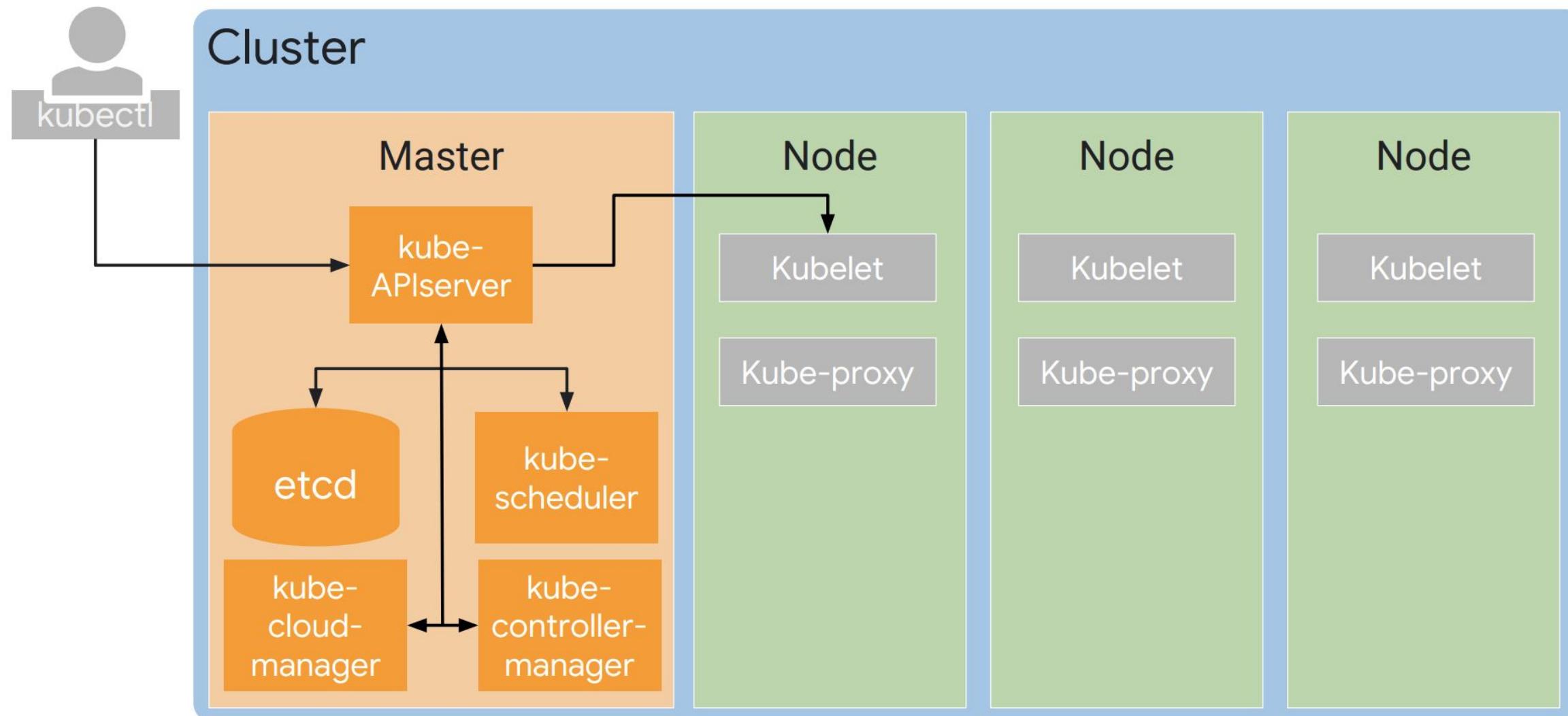


Toward managed infrastructure

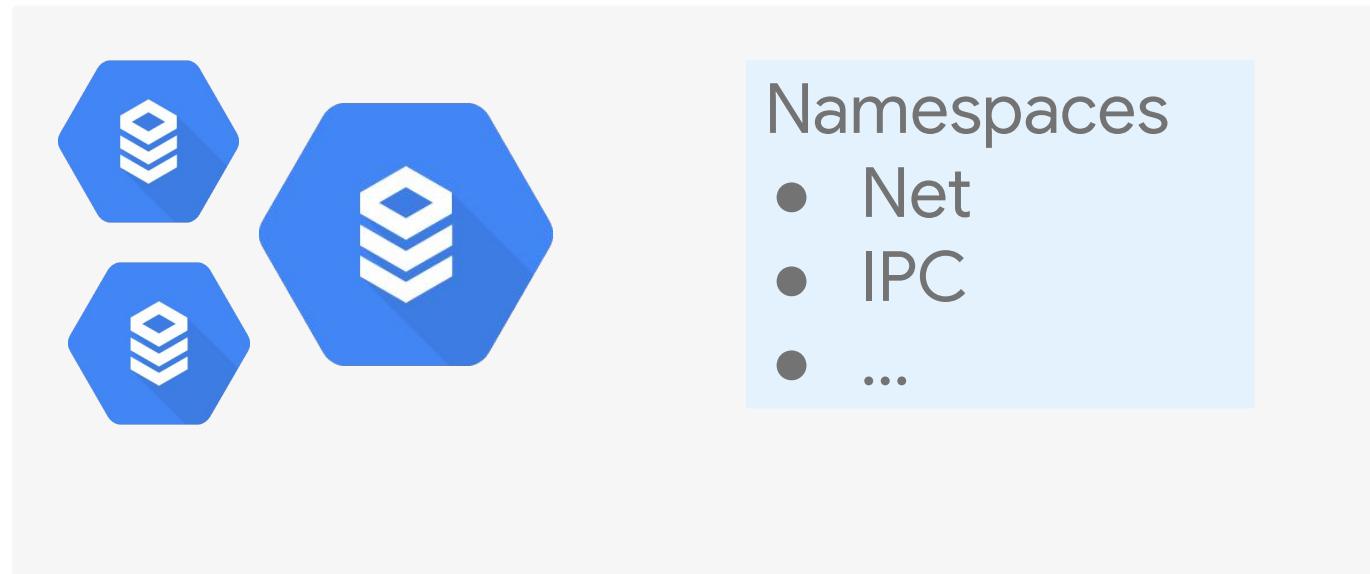
Toward dynamic infrastructure

Kubernetes Architecture

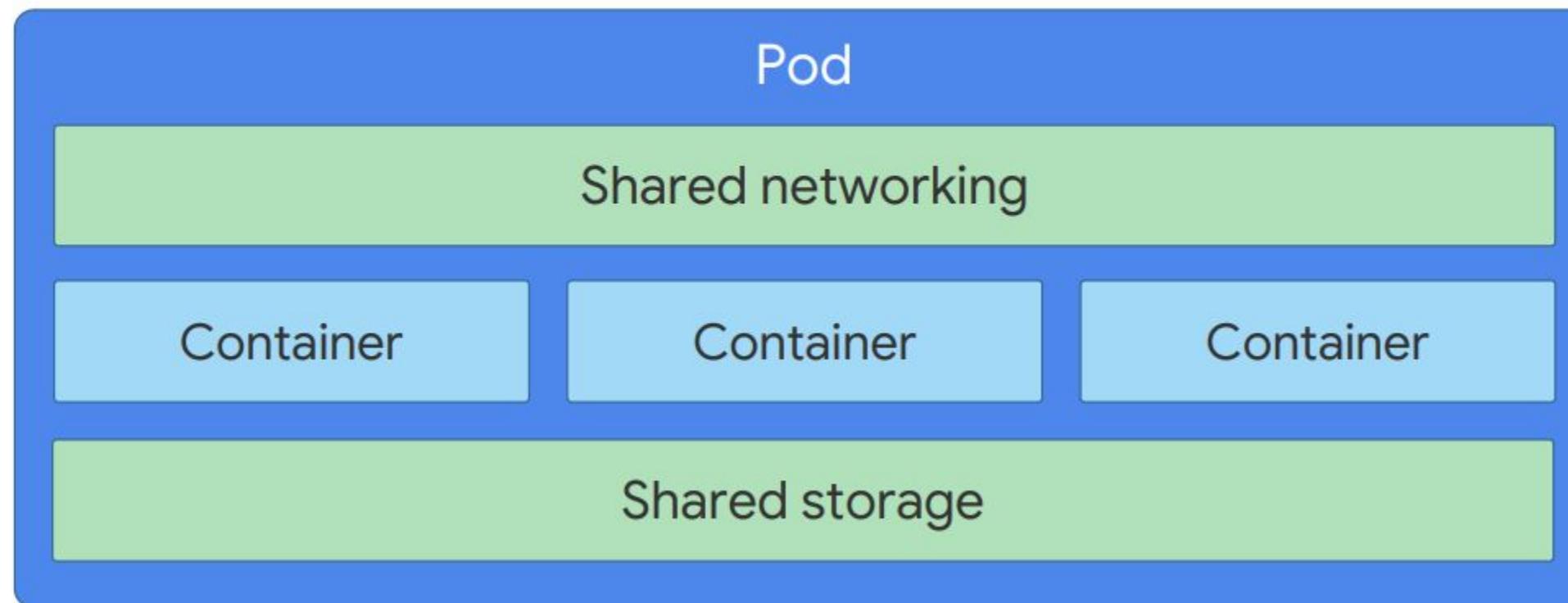




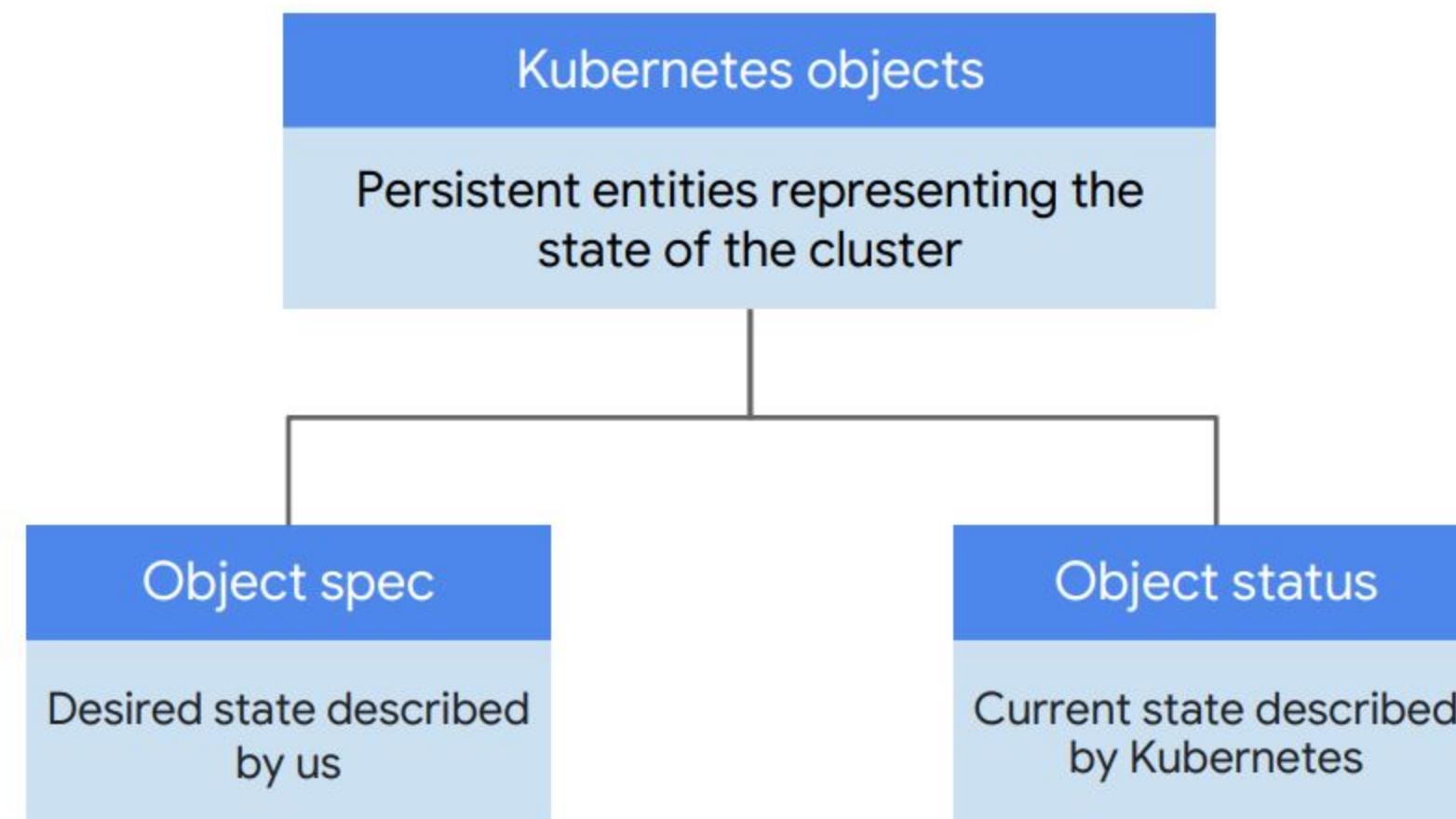
Kubernetes Concepts: Pods



Containers in a Pod share resources

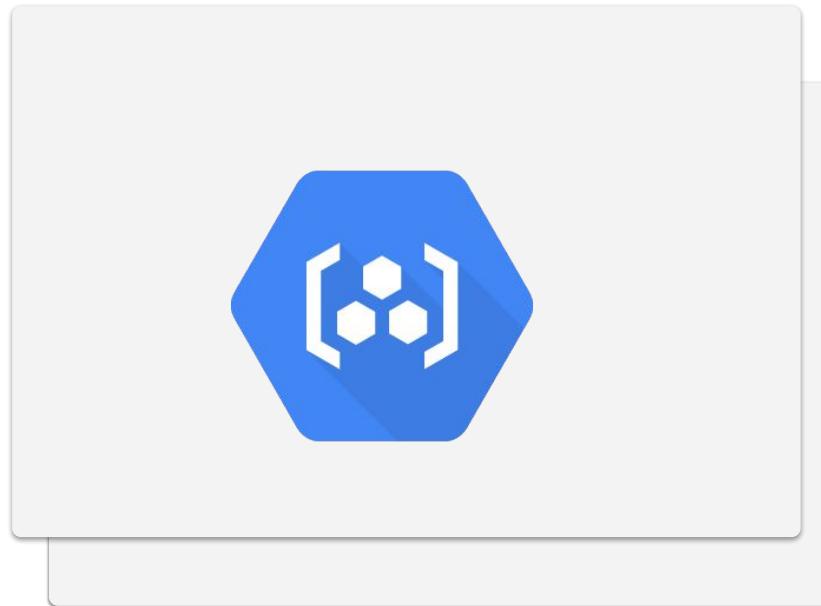


There are two elements to Kubernetes objects

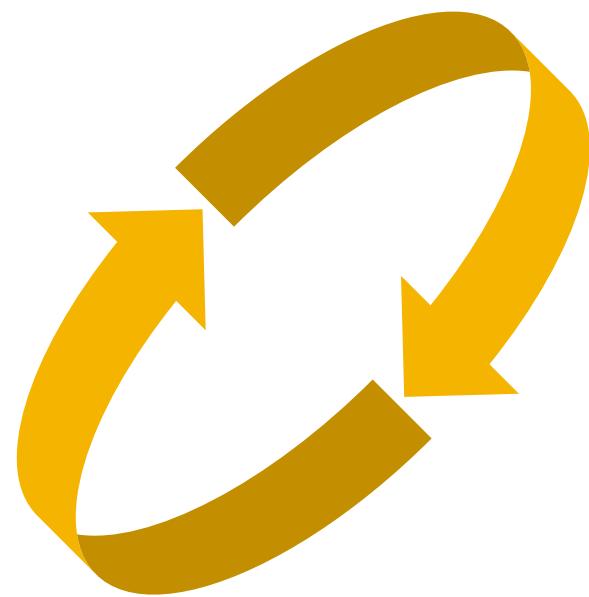


Reconciliation

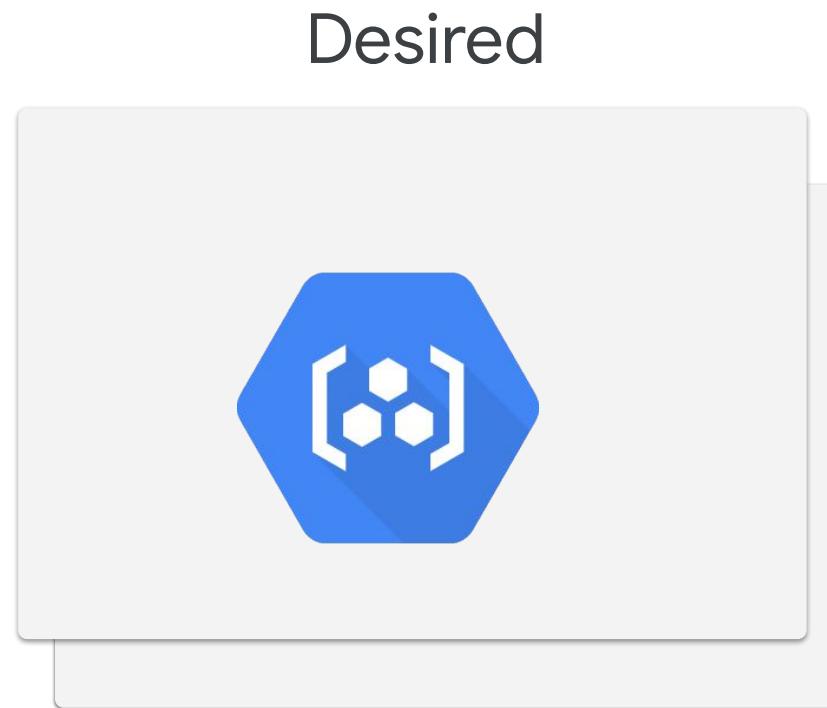
Desired



Actual

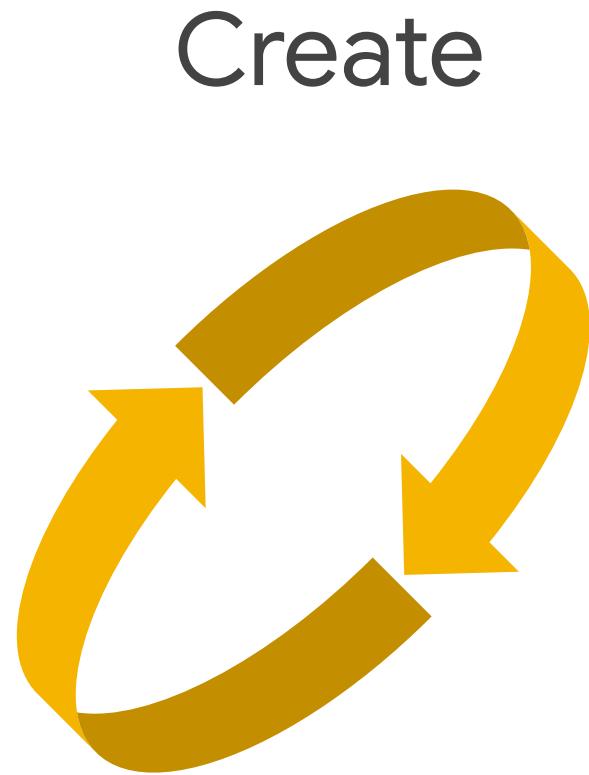


Reconciliation



Pods:

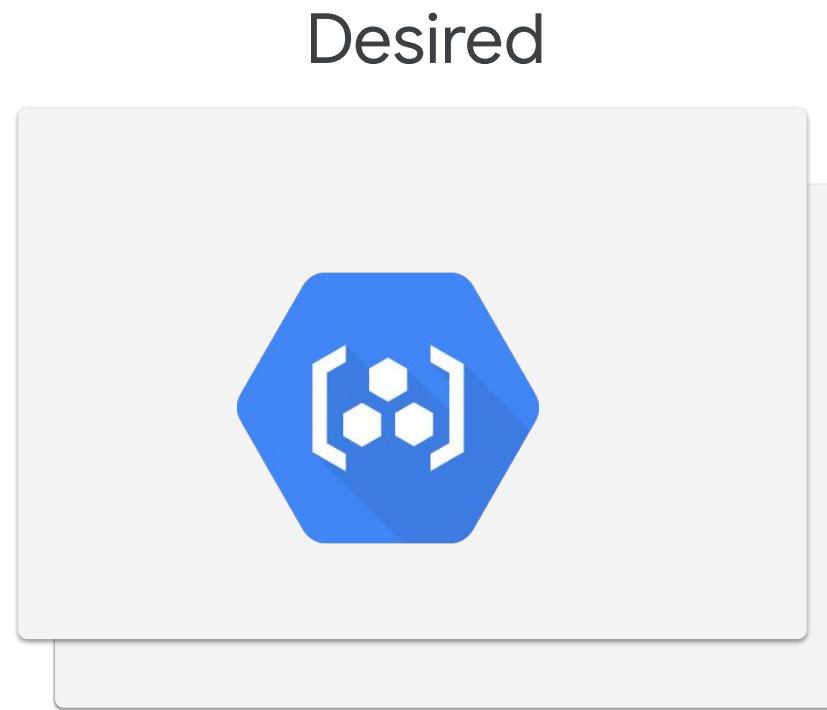
- Foo
- Bar



Pods:

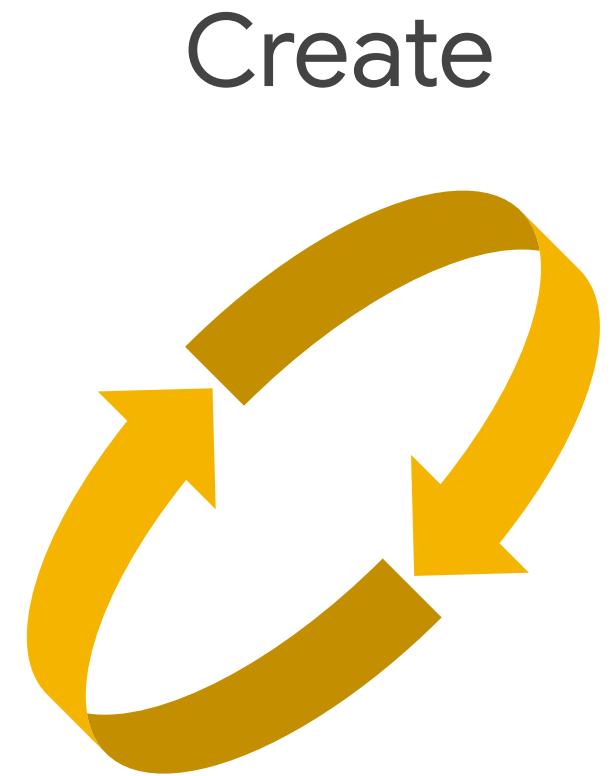
- Foo

Reconciliation

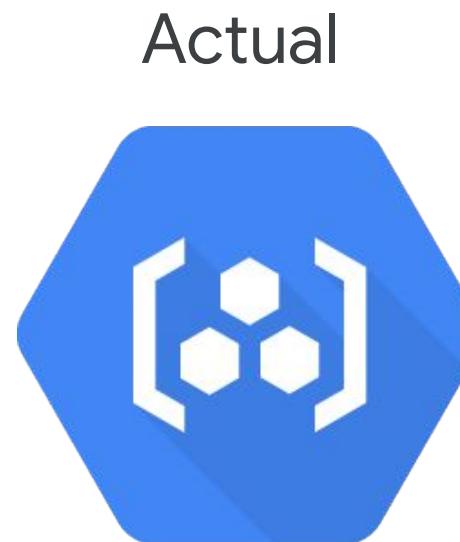


Pods:

- Foo
- Bar



Create “bar”

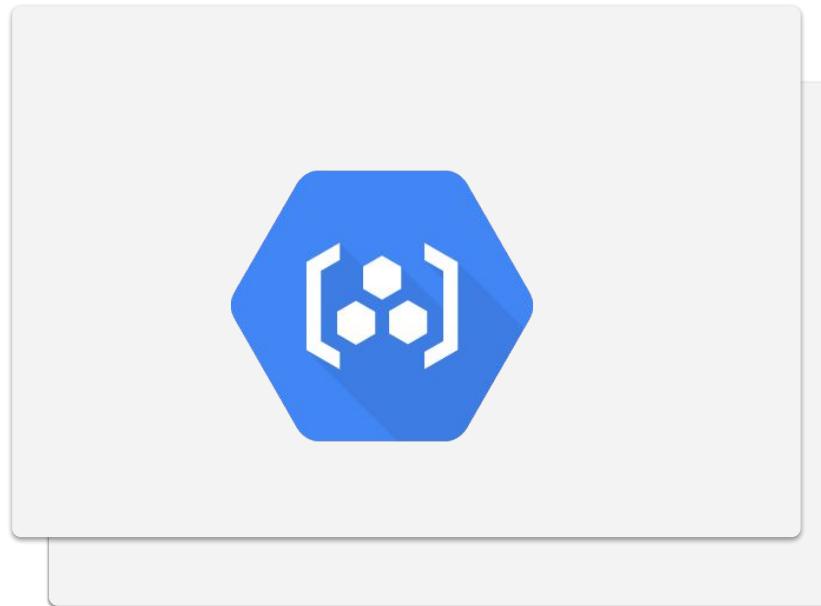


Pods:

- Foo

Reconciliation

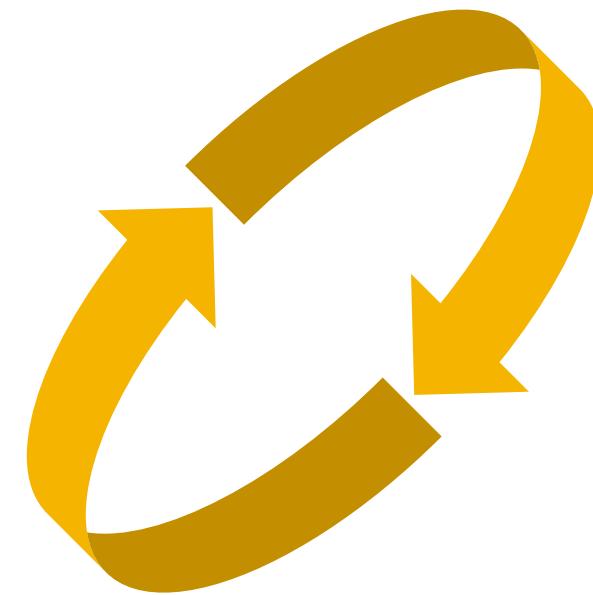
Desired



Pods:

- Foo
- Bar

Health Check



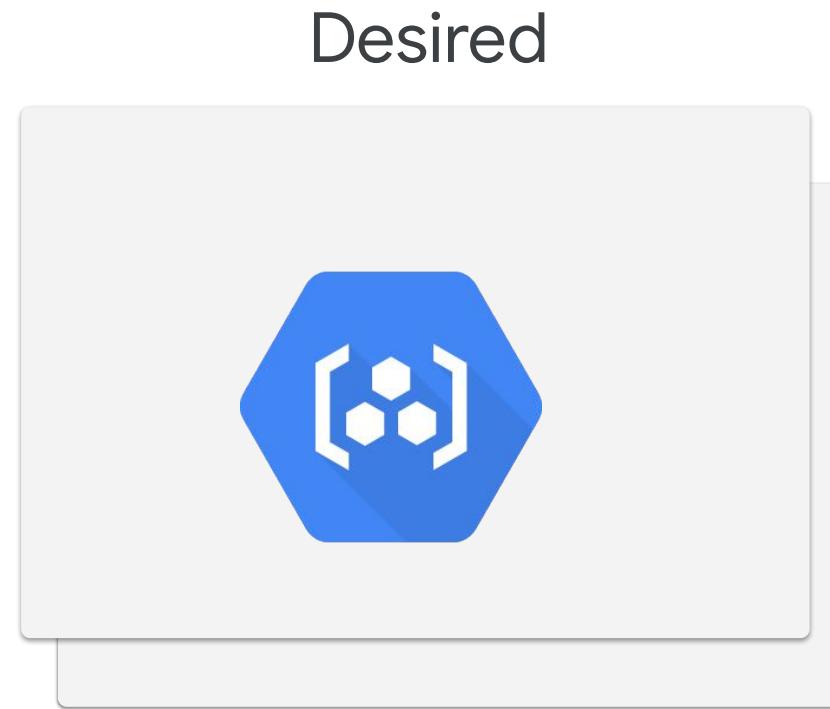
Actual



Pods:

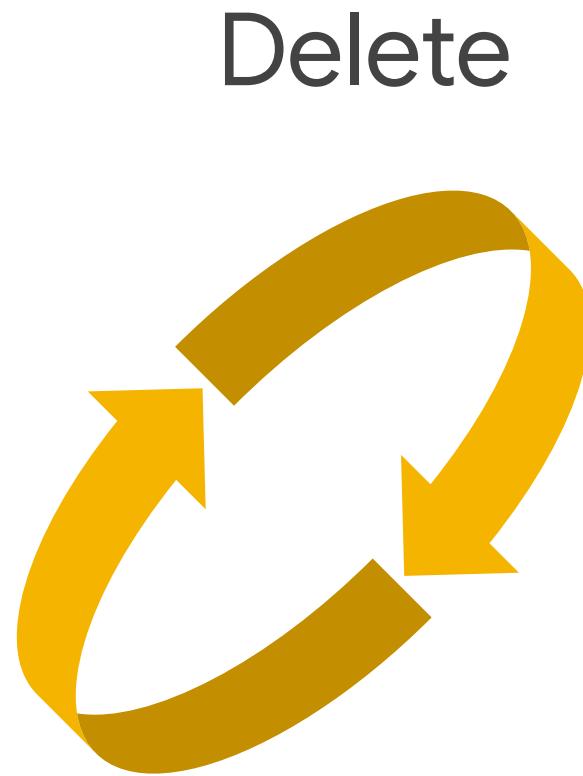
- Foo

Reconciliation



Pods:

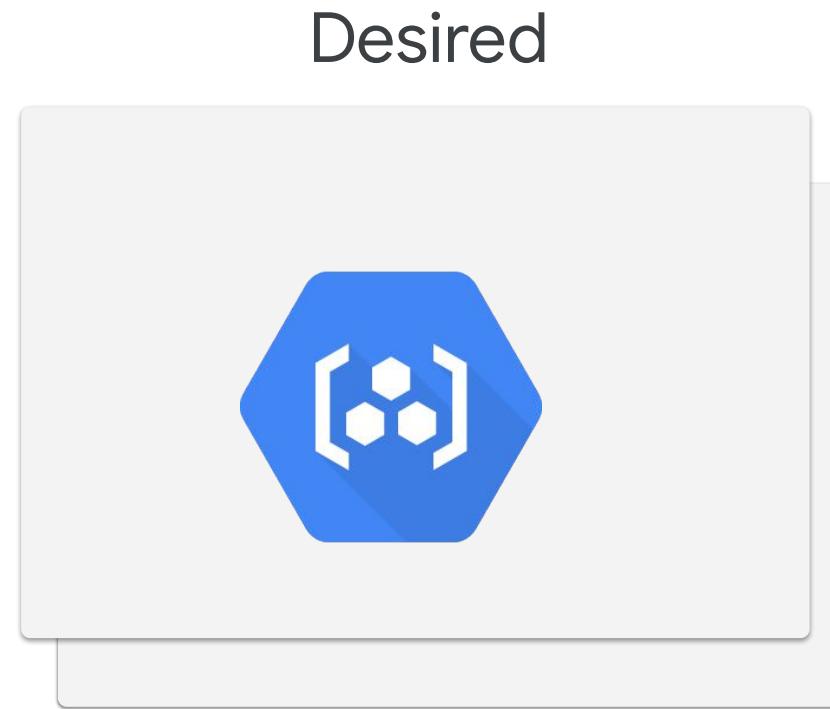
- Foo



Pods:

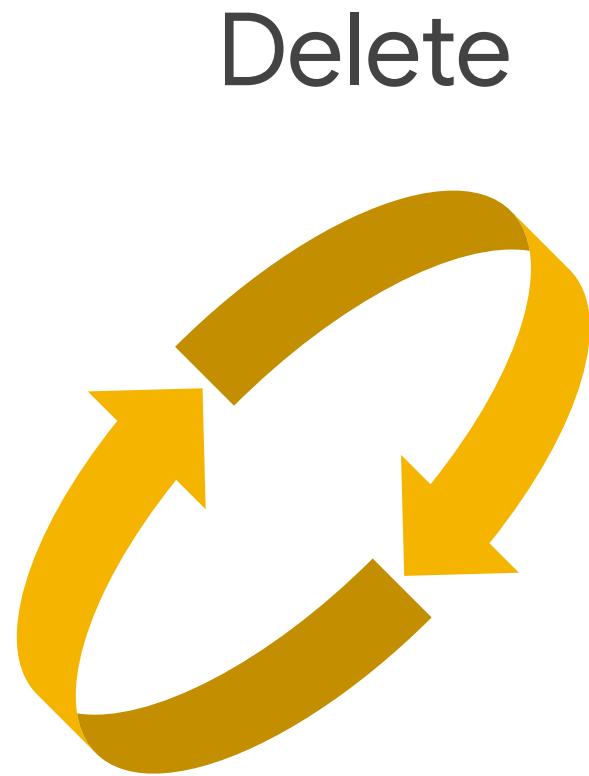
- Foo
- Bar

Reconciliation



Pods:

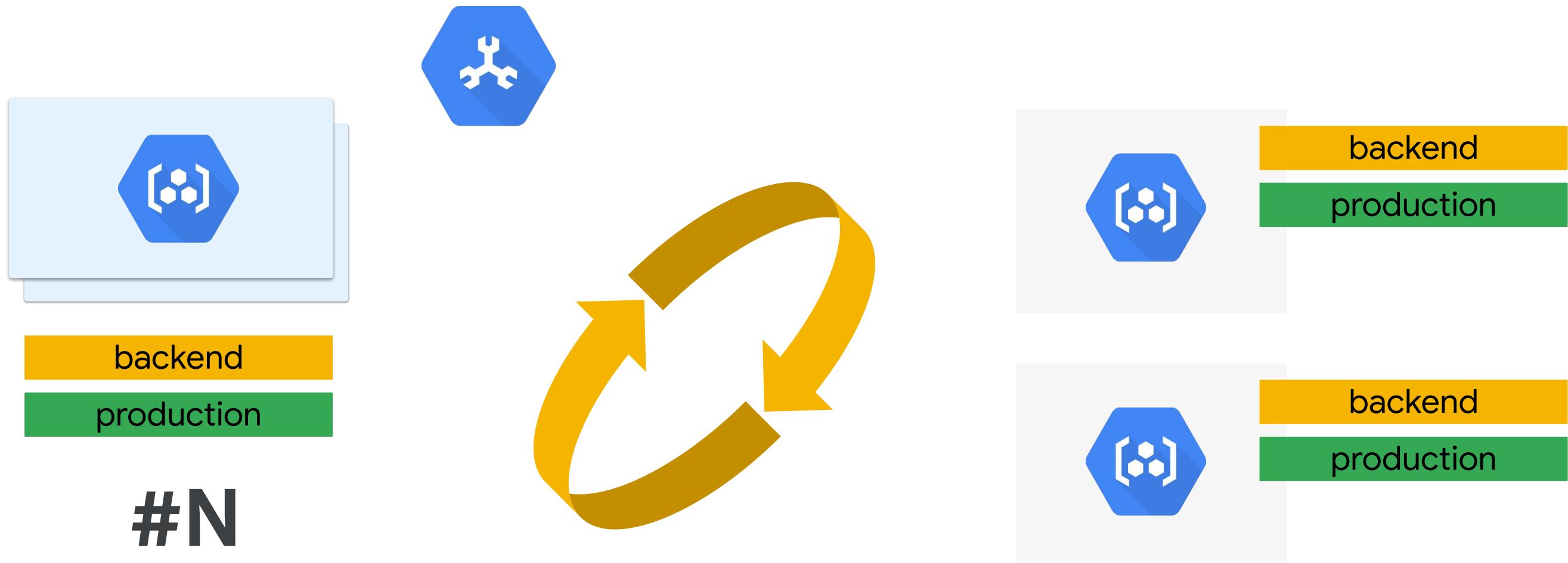
- Foo



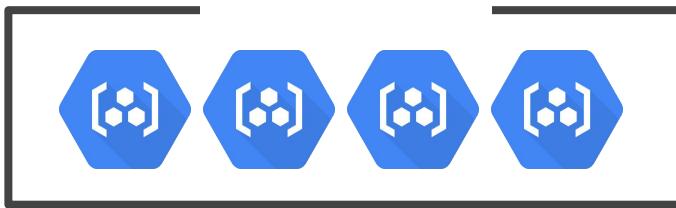
Pods:

- Foo
- Bar

Kubernetes Concepts: Replication Controller



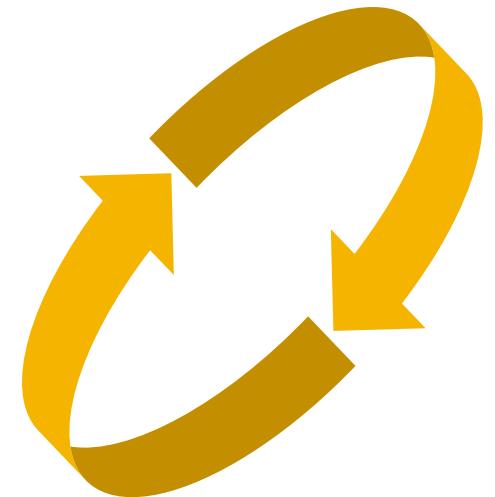
Kubernetes Concepts: Services



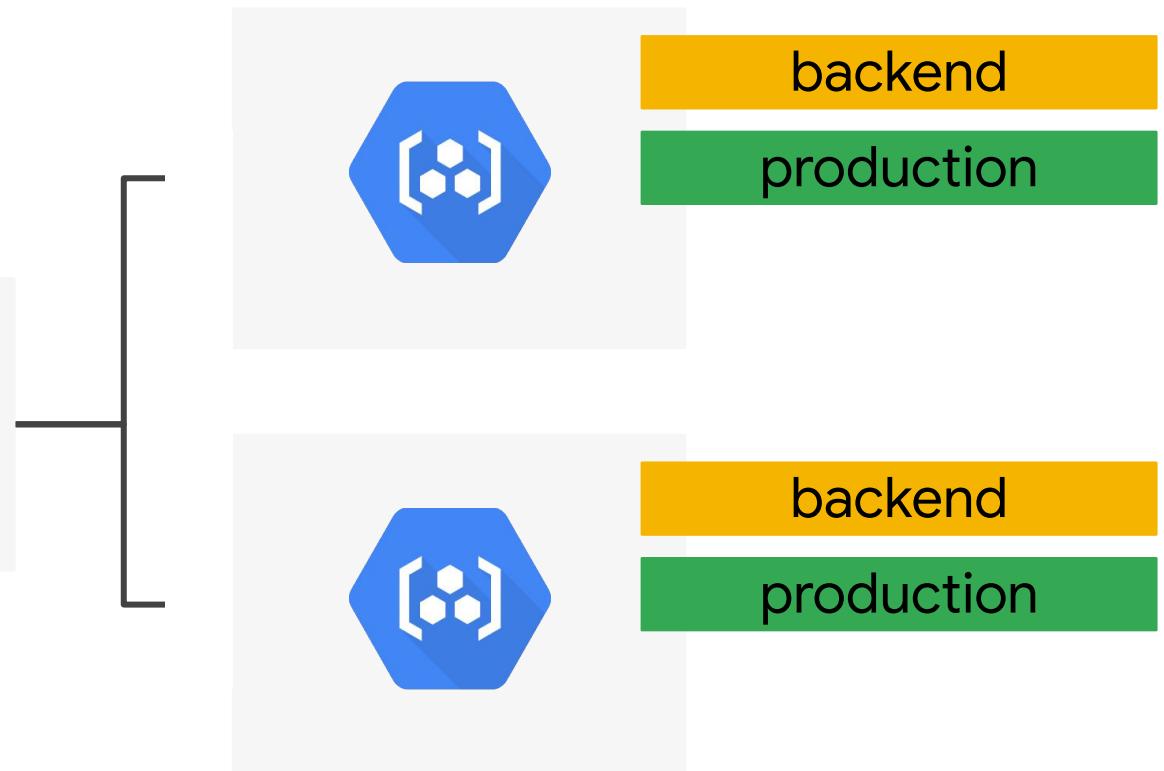
name

backend
production

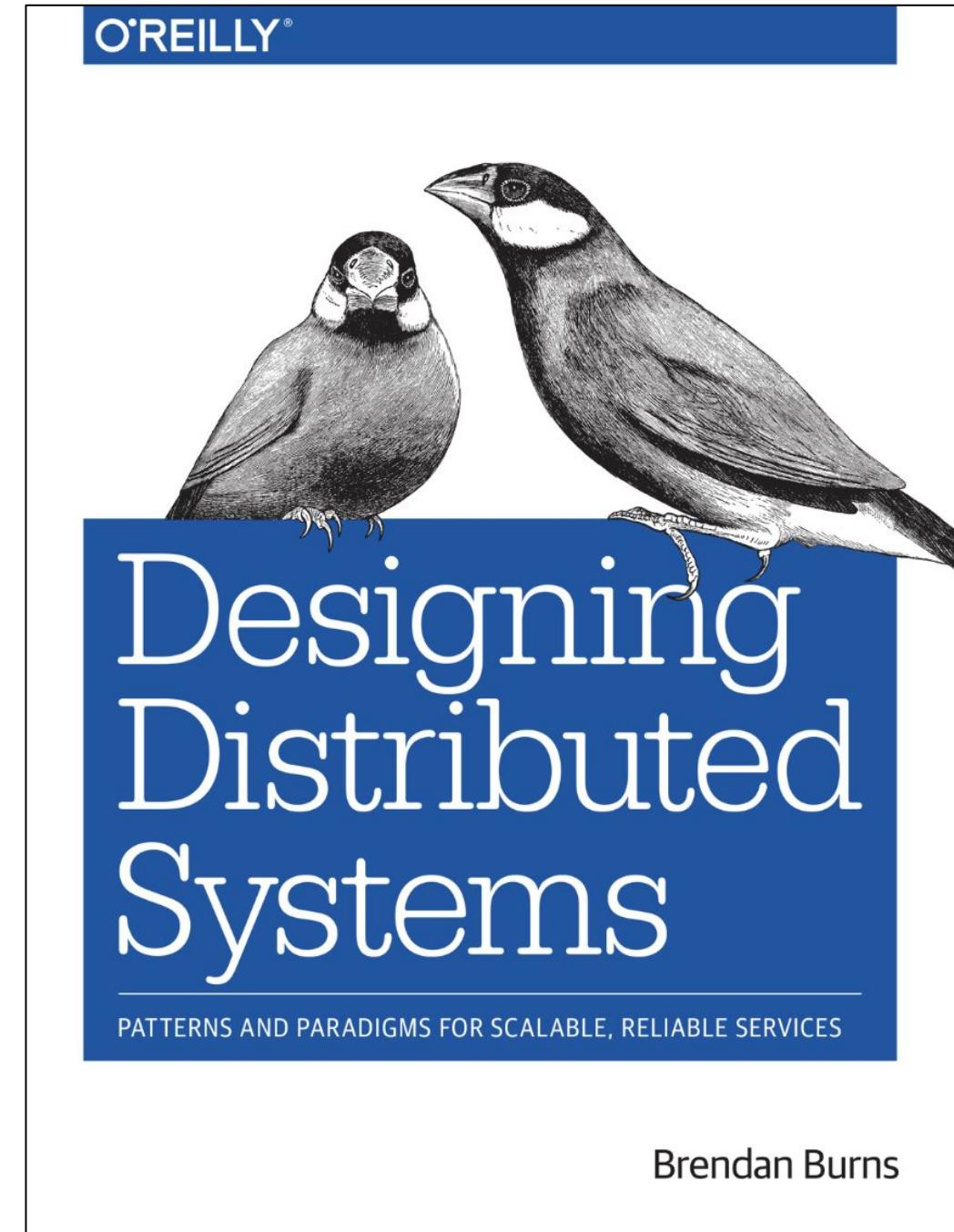
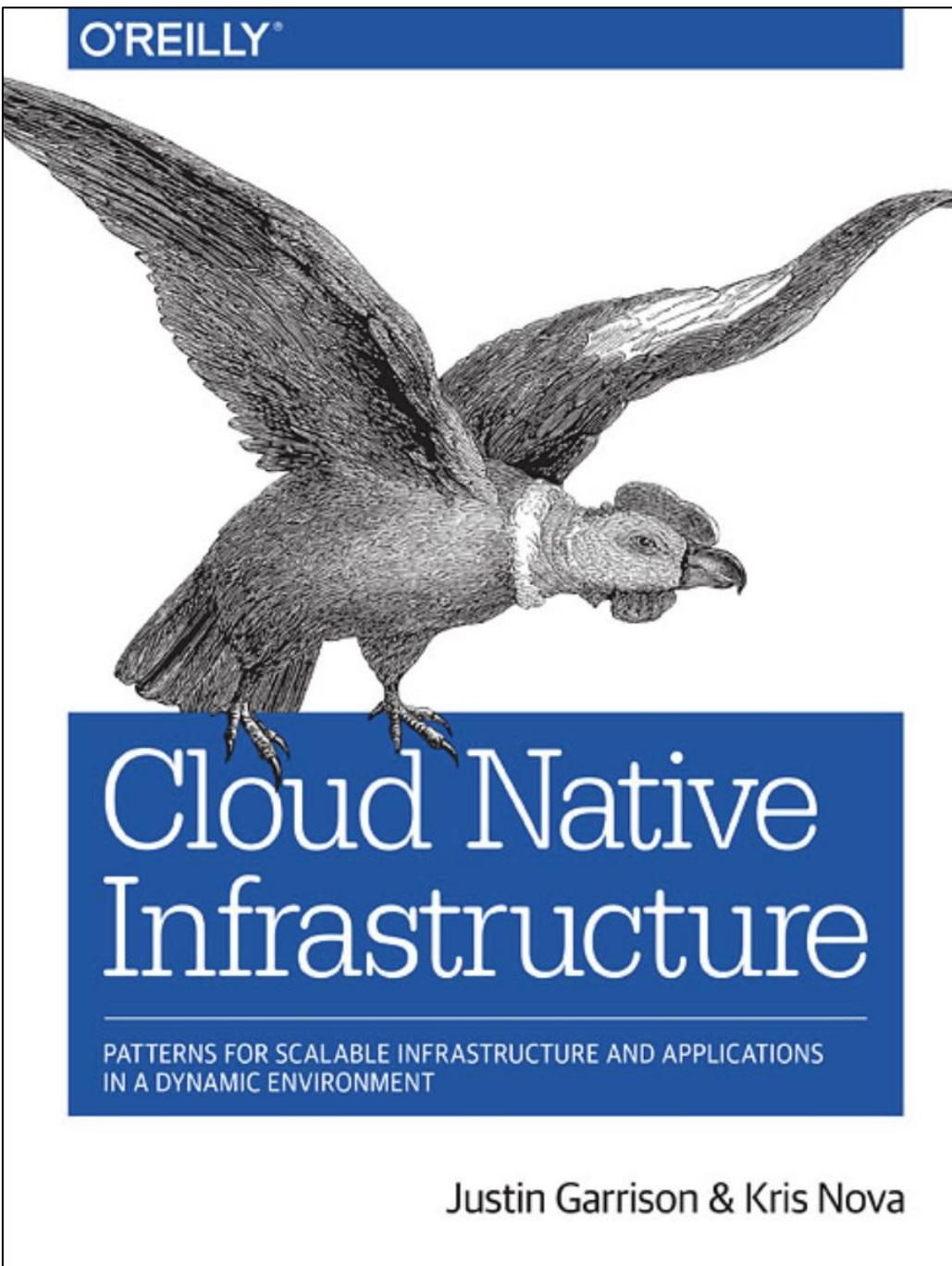
port[s]



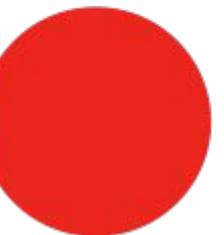
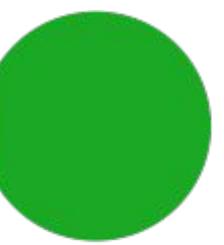
1.2.3.4
“name”



Further Resources



Demo time!





We are hiring!
deny.prasetyo [at] go-pay.co.id

Thank you!

Deny Prasetyo from  gojek
@Jasoet