

Kubernetes Konekt

THE GOODFELLAS



Pivotal™

Kubernetes Konekt

THE GOODFELLAS



Jesmar Castillo



Marco Chavez



Kindy Tan



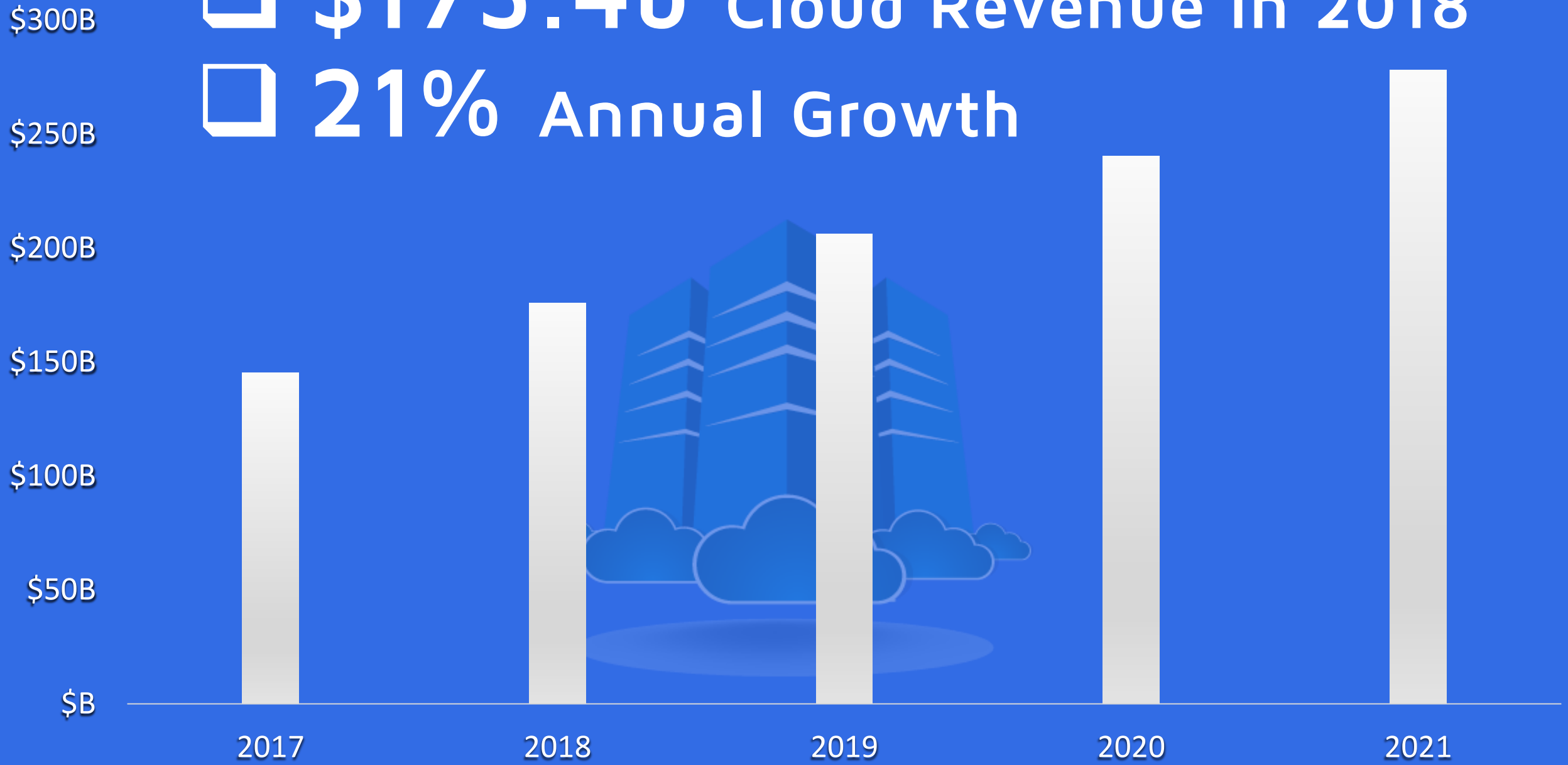
Durva Kapadne



Jack Liu

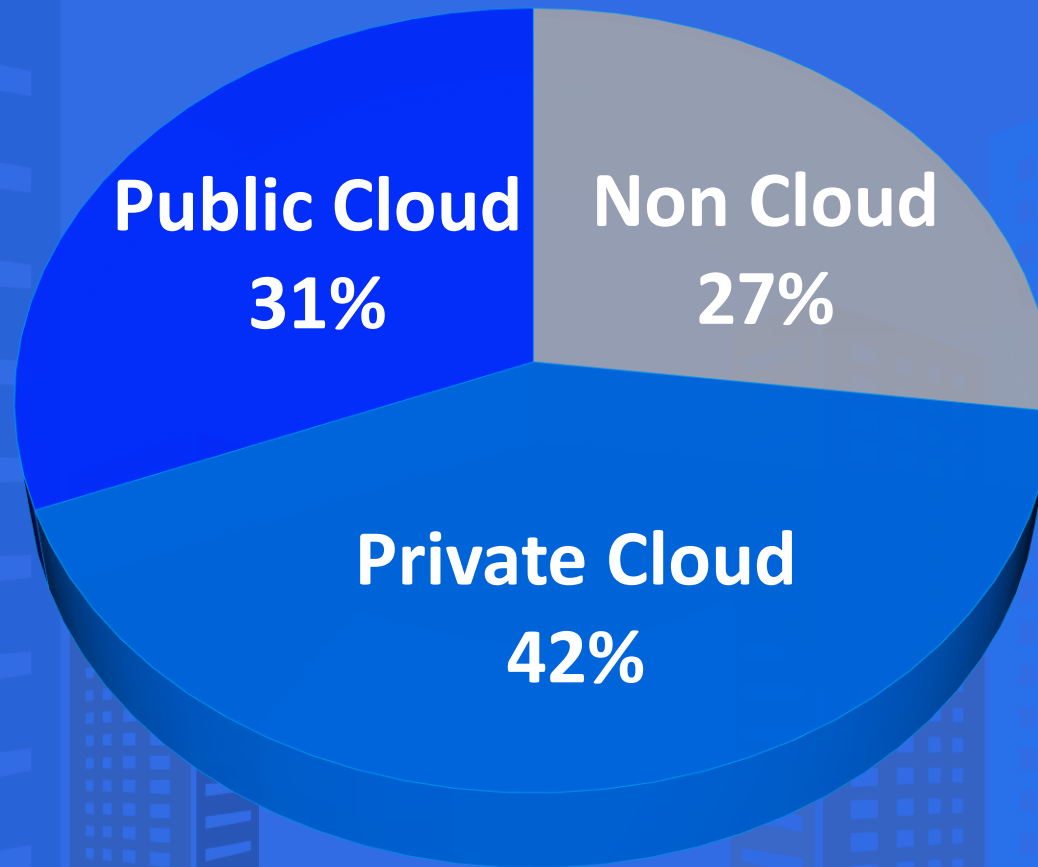
☐ **\$175.4b** Cloud Revenue in 2018

☐ **21%** Annual Growth



Used by 73% of all organizations

ENTERPRISE WORKLOAD DISTRIBUTION



Why Cloud Computing?



- ❑ **Abstract Infrastructure**
- ❑ **On demand compute power**
- ❑ **Scale and run applications**

- ❑ Learning Curve
- ❑ Company Specific Interfacing
- ❑ Creating and Managing Clusters

A decorative graphic on the right side of the slide. It features a blue background with a large, stylized cloud at the top right and a smaller cloud at the bottom right. A gear with a blue top, red bottom, and grey center is positioned on the left side of the blue area, partially overlapping the white background. The text 'Accessing Providers' is written in large, white, sans-serif font in the center of the blue area.

Accessing Providers

Kubernetes Konekt

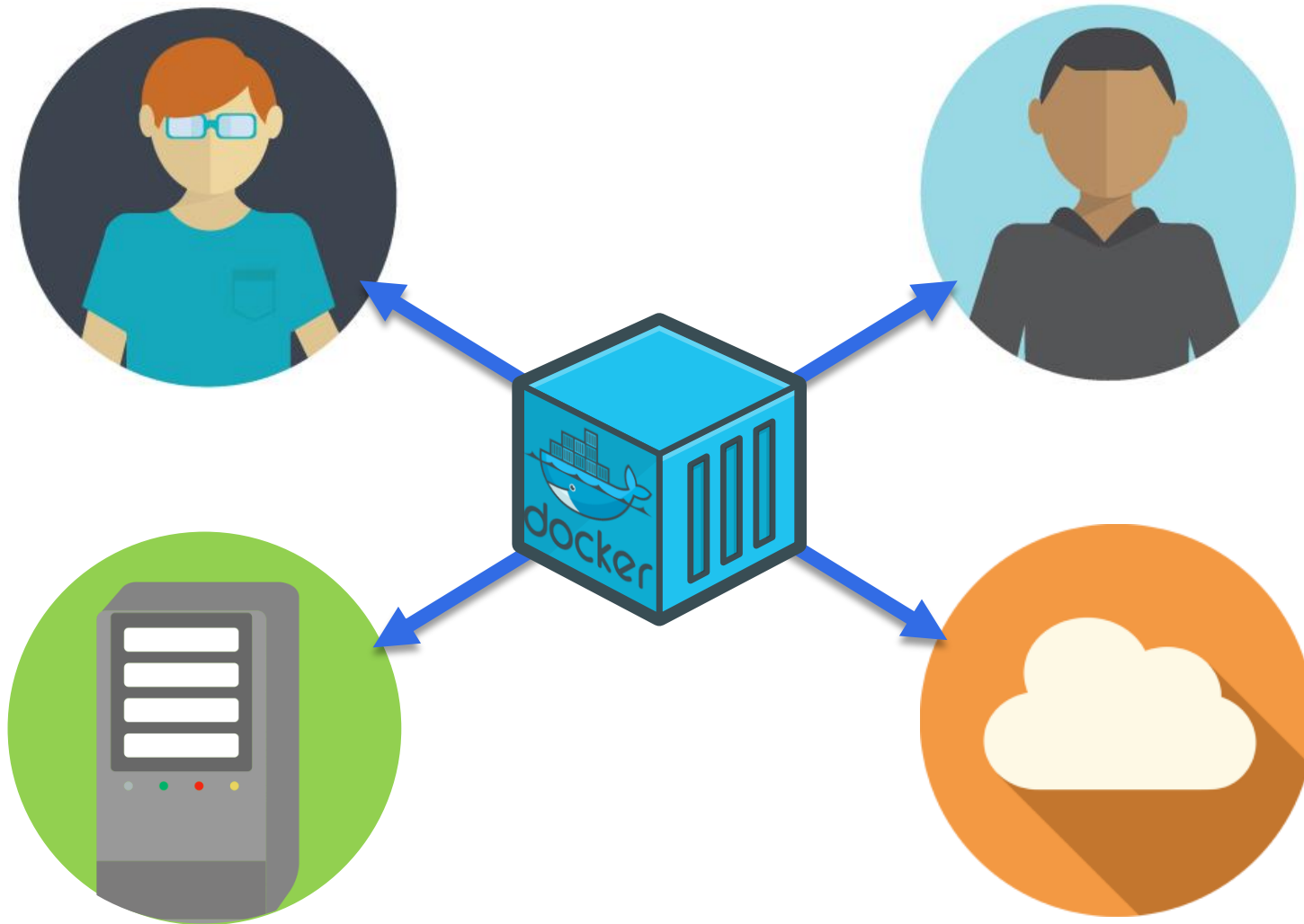
Access Clusters

Manage Containers

Performance Metrics



Containers



Kubernetes



- ❑ **System for management of containerized applications**
- ❑ **Automates deployment and scaling of these applications**

Our Solution

You



Cloud Services

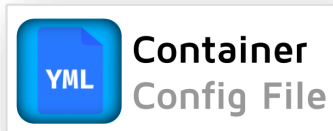


Google Cloud

Demo

User

Provider



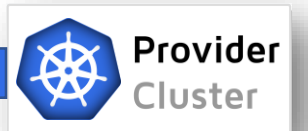
←

ID	NAME	KIND	CLUSTER URL	STATUS	ACTION
581	nginx-service	Service	https://35.204.138.127	Running	Delete Container Get Status
	my-app-service	Service	https://35.204.138.127	Running	Delete Container Get Status
611	mario-game	Deployment	https://35.204.138.127	Running	Delete Container Get Status
621	mario-game-ip	Service	https://35.204.138.127	Running	Delete Container Get Status
611	mario-game	Deployment	https://35.204.138.127	Running	Delete Container Get Status
621	mario-game-ip	Service	https://35.204.138.127	Running	Delete Container Get Status

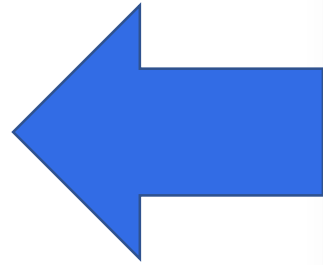


←

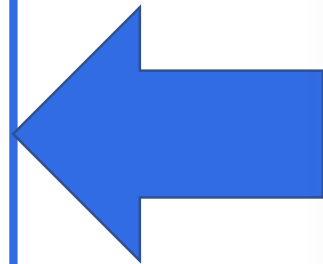
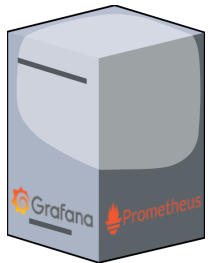




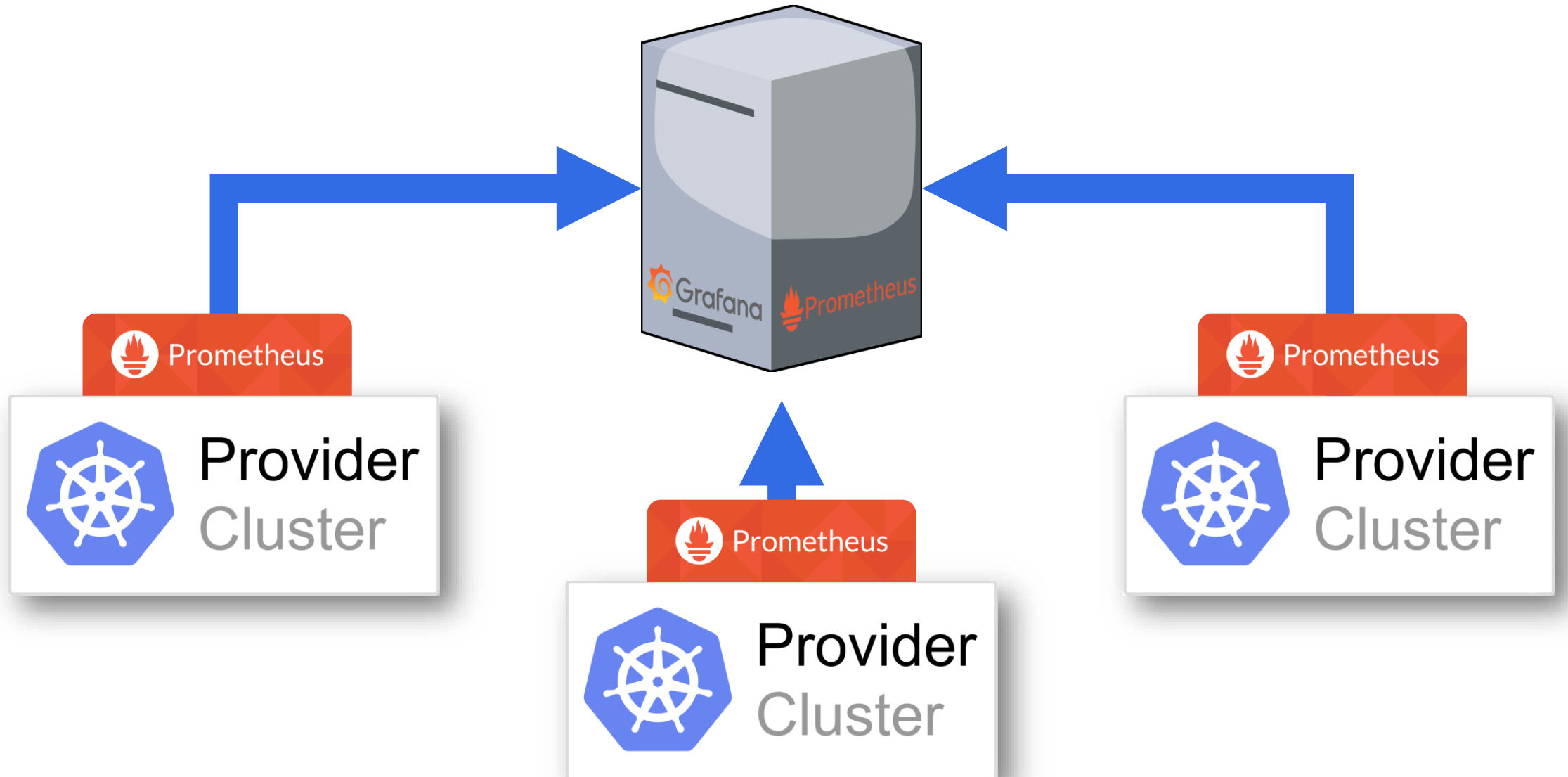
Provider



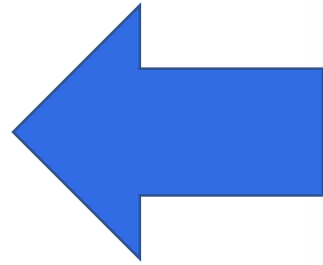
Metrics Cluster



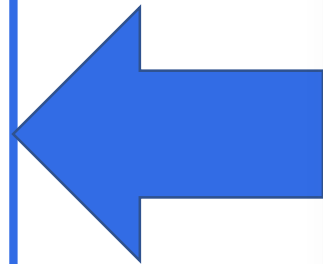
Metrics Cluster



Provider

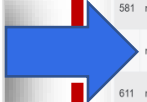
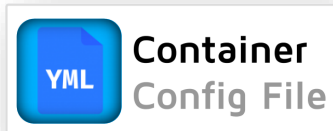


Metrics Cluster



User

Provider



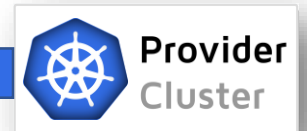
←

ID	NAME	KIND	CLUSTER URL	STATUS	ACTION
581	nginx-service	Service	https://35.204.138.127	Running	Delete Container Get Status
	my-app-service	Service	https://35.204.138.127	Running	Delete Container Get Status
611	mario-game	Deployment	https://35.204.138.127	Running	Delete Container Get Status
621	mario-game-ip	Service	https://35.204.138.127	Running	Delete Container Get Status
611	mario-game	Deployment	https://35.204.138.127	Running	Delete Container Get Status
621	mario-game-ip	Service	https://35.204.138.127	Running	Delete Container Get Status



←





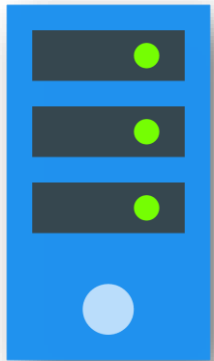
User

ID	NAME	KIND	CLUSTER URL	STATUS	ACTION
581	nginx-service	Service	https://35.204.138.127	Running	Delete Container Get Status
601	my-app-service	Service	https://35.204.138.127	Running	Delete Container Get Status
611	mario-game	Deployment	https://35.204.138.127	Running	Delete Container Get Status
621	mario-game-ip	Service	https://35.204.138.127	Running	Delete Container Get Status
611	mario-game	Deployment	https://35.204.138.127	Running	Delete Container Get Status
621	mario-game-ip	Service	https://35.204.138.127	Running	Delete Container Get Status

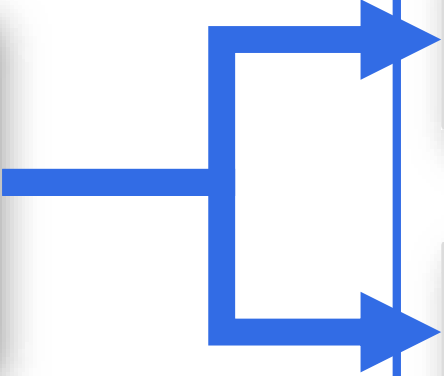
Container Config File



Metrics Cluster



Load Balancer



Provider Cluster

Provider Cluster

YAML File

apiVersion: apps/v1

kind: Deployment

metadata:

name: mario-app

spec:

replicas: 1

template:

metadata:

labels:

app: mario

spec:

containers:

 - **name:** mario

image: pengbai/docker-supermario

ports:

 - **containerPort:** 8080

apiVersion: v1

kind: Service

metadata:

name: mario-ip-addr

spec:

selector:

app: mario

ports:

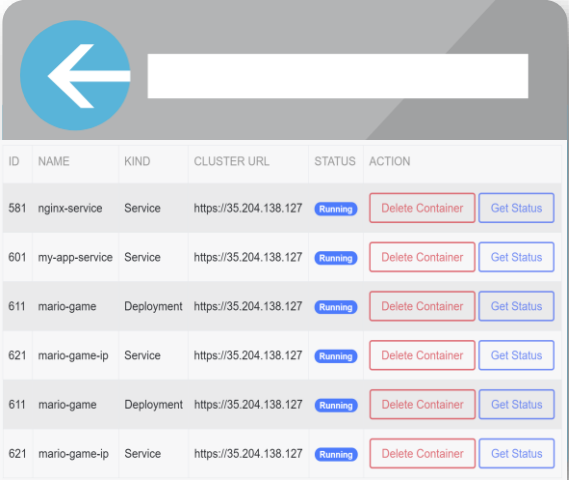
 - **protocol:** "TCP"

port: 8600

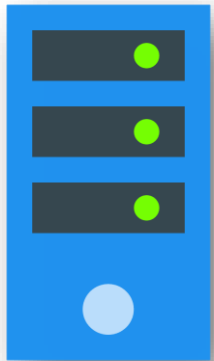
targetPort: 8080

type: LoadBalancer

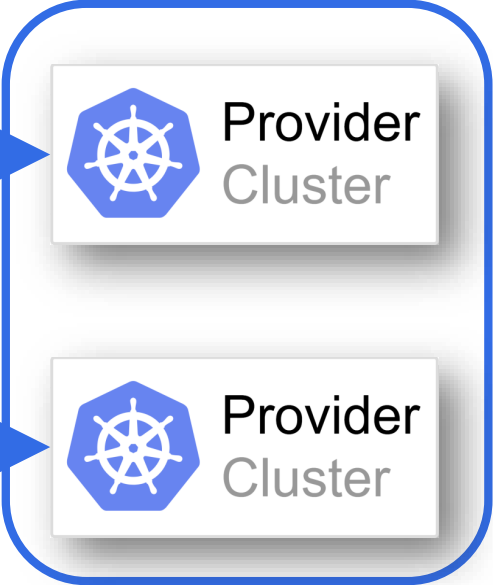
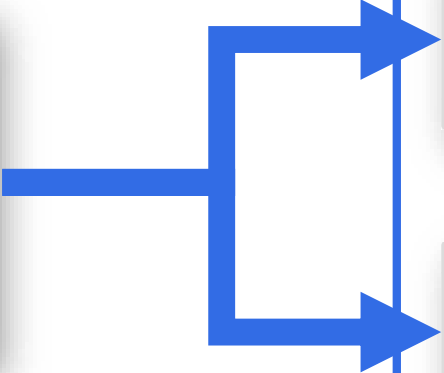
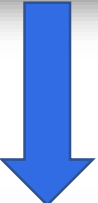
User



ID	NAME	KIND	CLUSTER URL	STATUS	ACTION
581	nginx-service	Service	https://35.204.138.127	Running	Delete Container Get Status
601	my-app-service	Service	https://35.204.138.127	Running	Delete Container Get Status
611	mario-game	Deployment	https://35.204.138.127	Running	Delete Container Get Status
621	mario-game-ip	Service	https://35.204.138.127	Running	Delete Container Get Status
611	mario-game	Deployment	https://35.204.138.127	Running	Delete Container Get Status
621	mario-game-ip	Service	https://35.204.138.127	Running	Delete Container Get Status

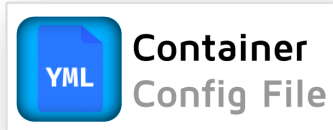


Load Balancer



User

Provider



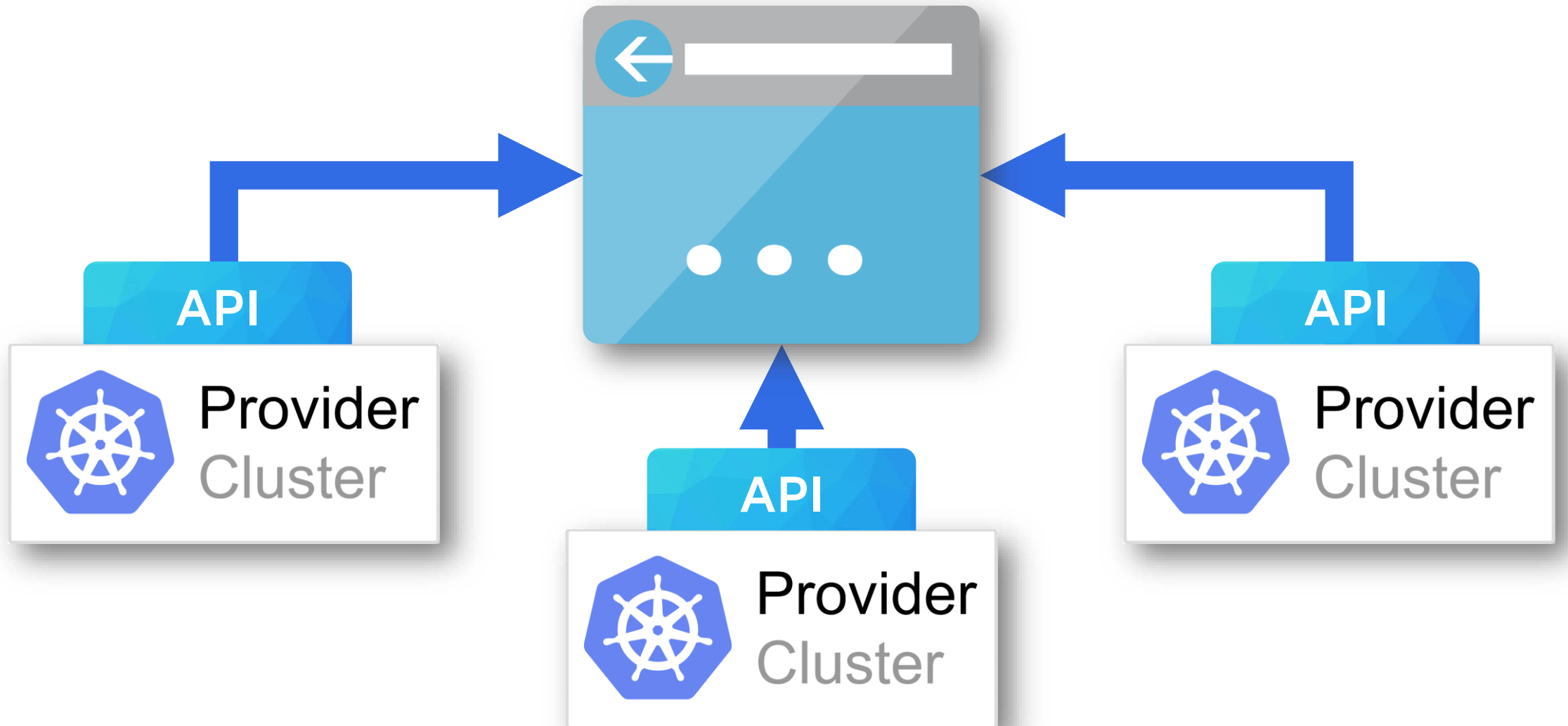
ID	NAME	KIND	CLUSTER URL	STATUS	ACTION
581	nginx-service	Service	https://35.204.138.127	Running	Delete Container Get Status
	my-app-service	Service	https://35.204.138.127	Running	Delete Container Get Status
611	mario-game	Deployment	https://35.204.138.127	Running	Delete Container Get Status
621	mario-game-ip	Service	https://35.204.138.127	Running	Delete Container Get Status
611	mario-game	Deployment	https://35.204.138.127	Running	Delete Container Get Status
621	mario-game-ip	Service	https://35.204.138.127	Running	Delete Container Get Status



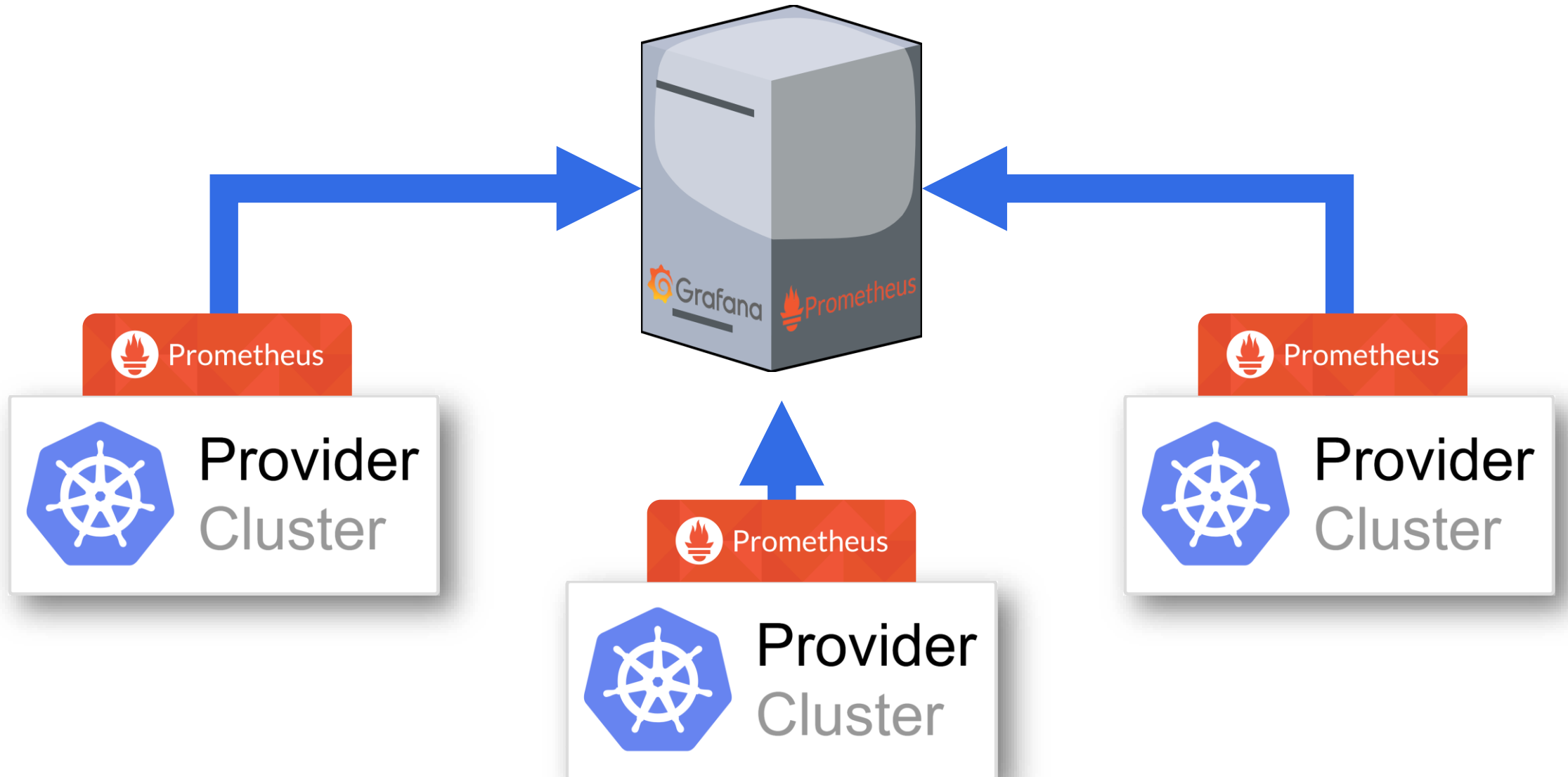
Demo

Technical Challenges

Kubernetes API



Metrics Cluster



Technologies



Pivotal **Cloud Foundry**®



Google Cloud Platform



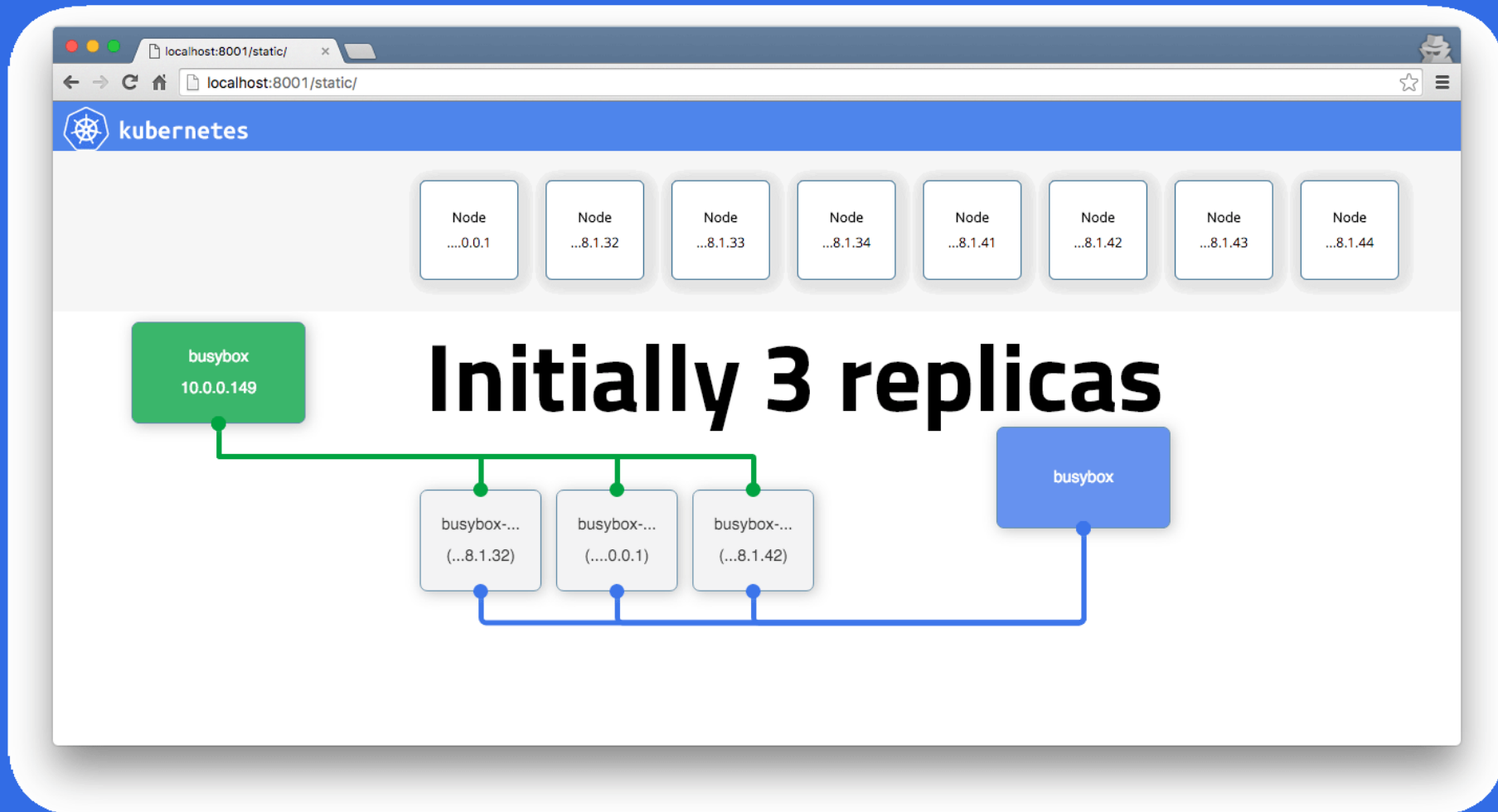
Prometheus



Grafana

Future Development

Cluster Visualization



Dynamic Redeployment



Questions?