Working with Pods

Nigel Poulton

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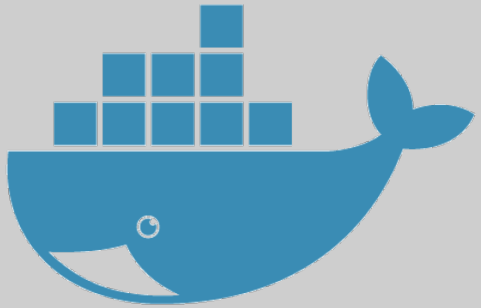
Theory

Hands-on

Hyperv
Virtualiz



VM Container

Theory

Hypervisor
Virtualization

VM

Contair

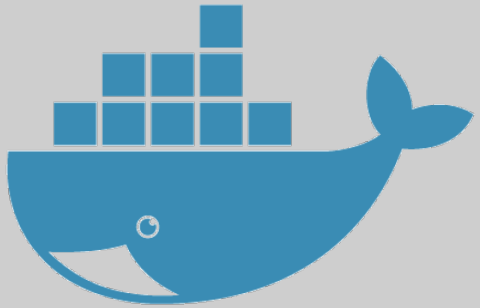
Pod

Theory

Hypervisor Virtualization

VM

Atomic unit of scheduling



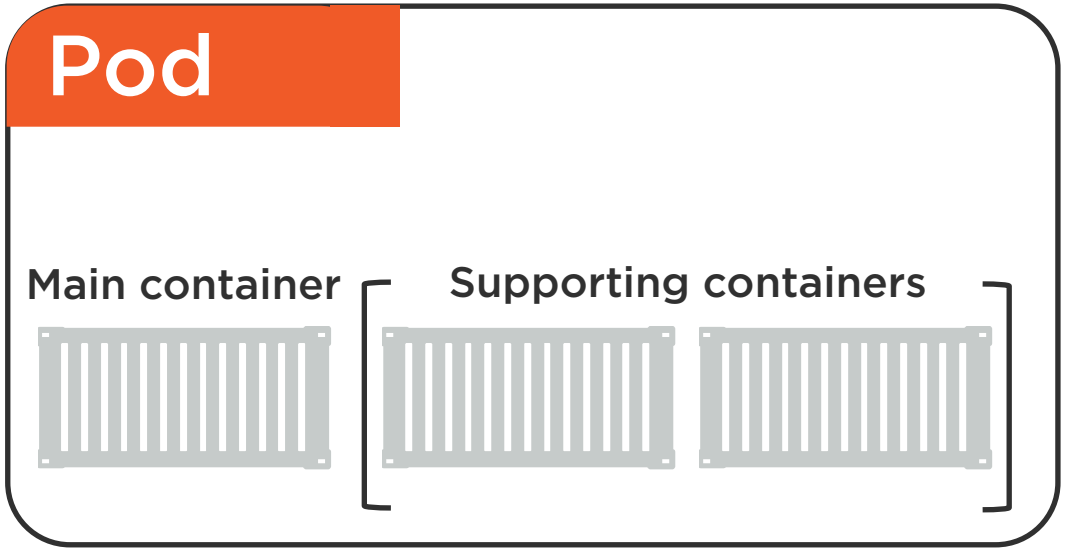
Container

Atomic unit of scheduling

Pod

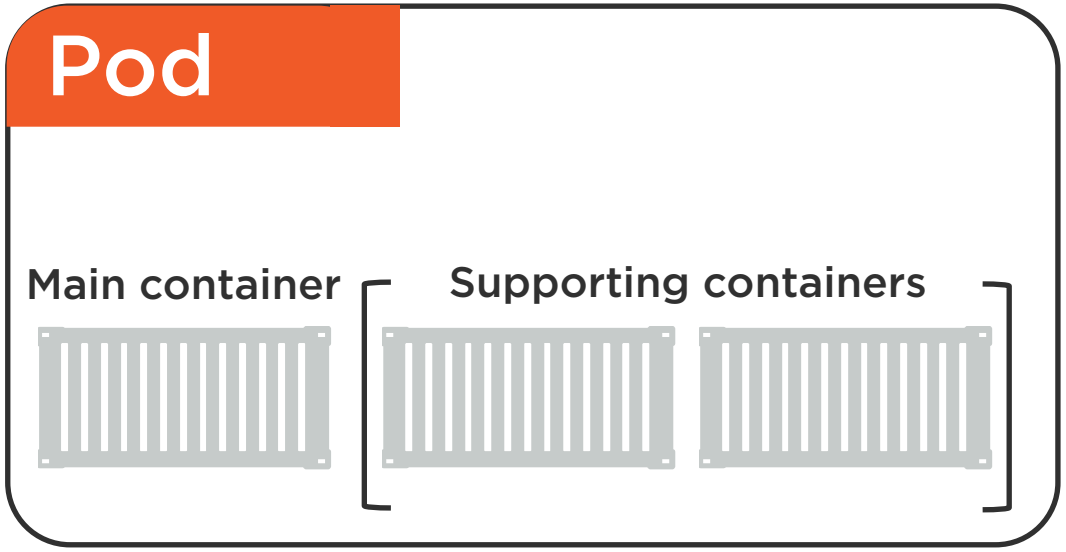
Atomic unit of scheduling

Theory



```
apiVersion: v1
kind: Pod
metadata:
  name: hello-pod
spec:
  containers:
  - name: hello-ctr
    image:…
    ports:
    - containerPort: 8080
```

Theory



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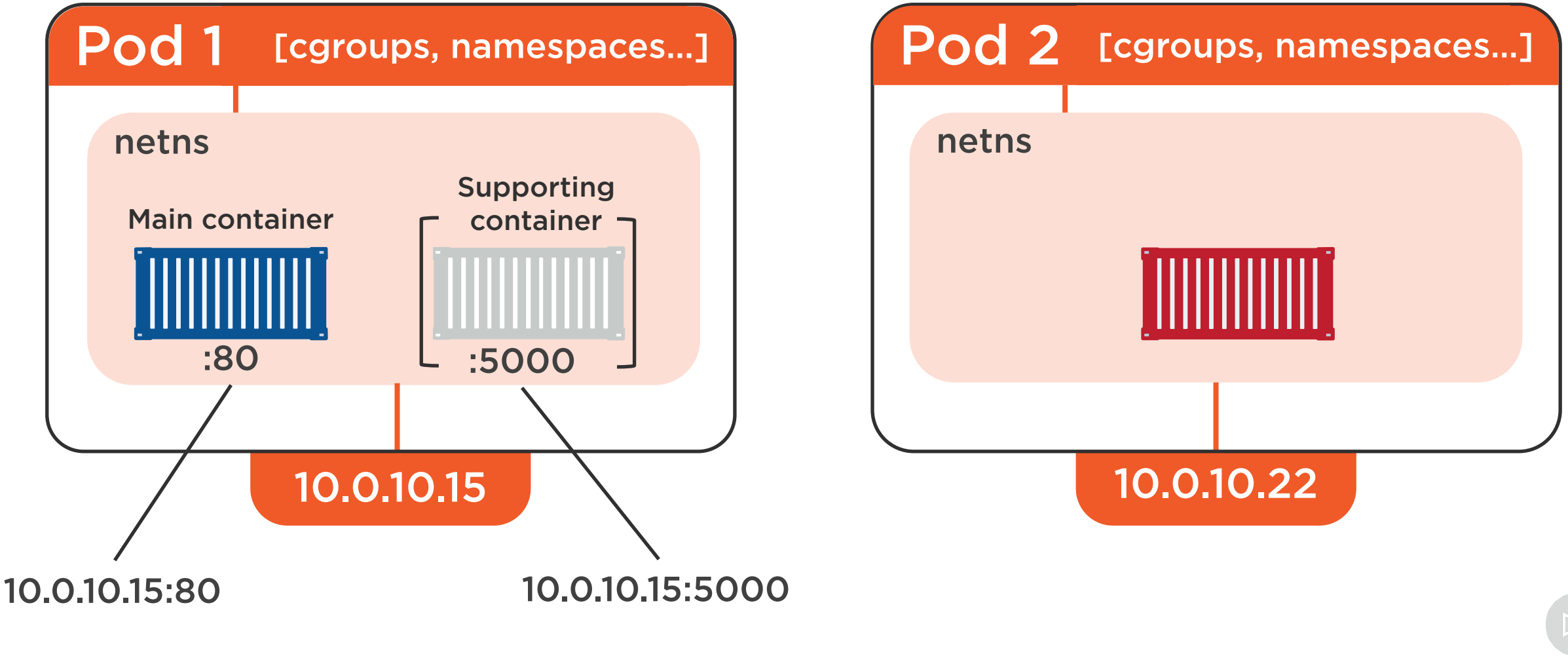
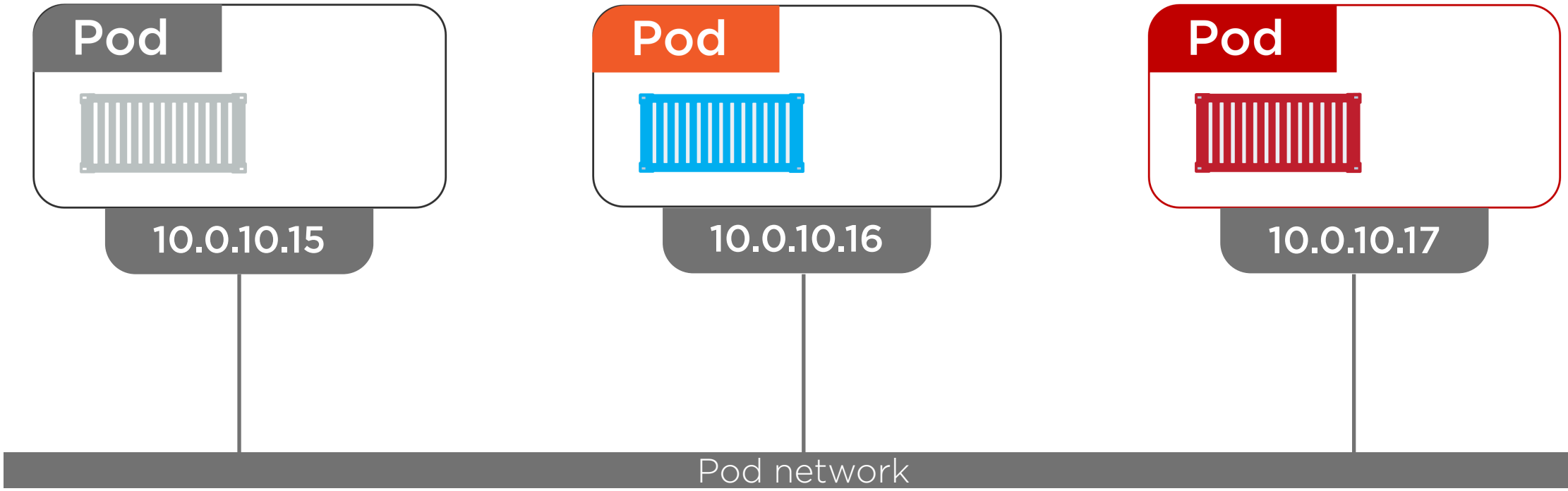
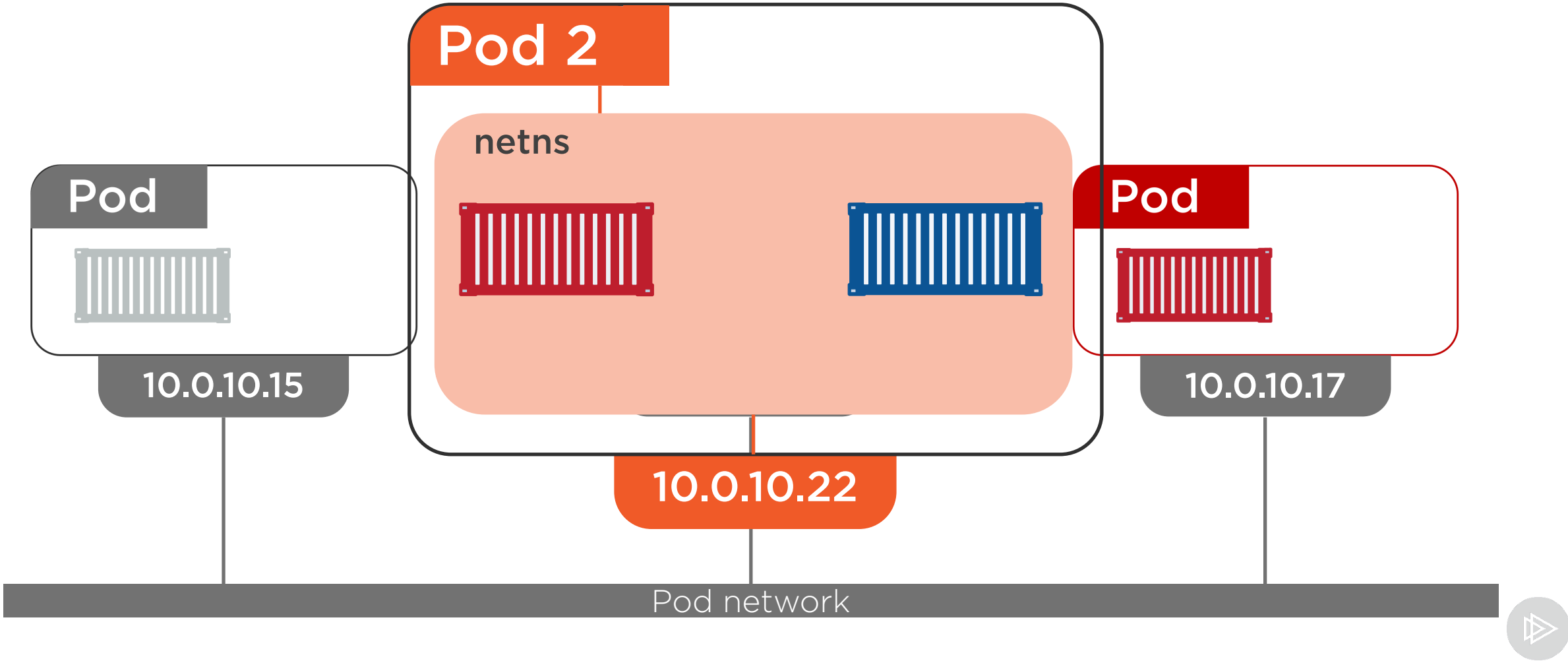
Theory


Pod 1
[cgroups, namespaces...]
netns
Main container
:80
Supporting container
:5000
10.0.10.15
10.0.10.15:80
10.0.10.15:5000
Pod 2
[cgroups, namespaces...]
netns
10.0.10.22

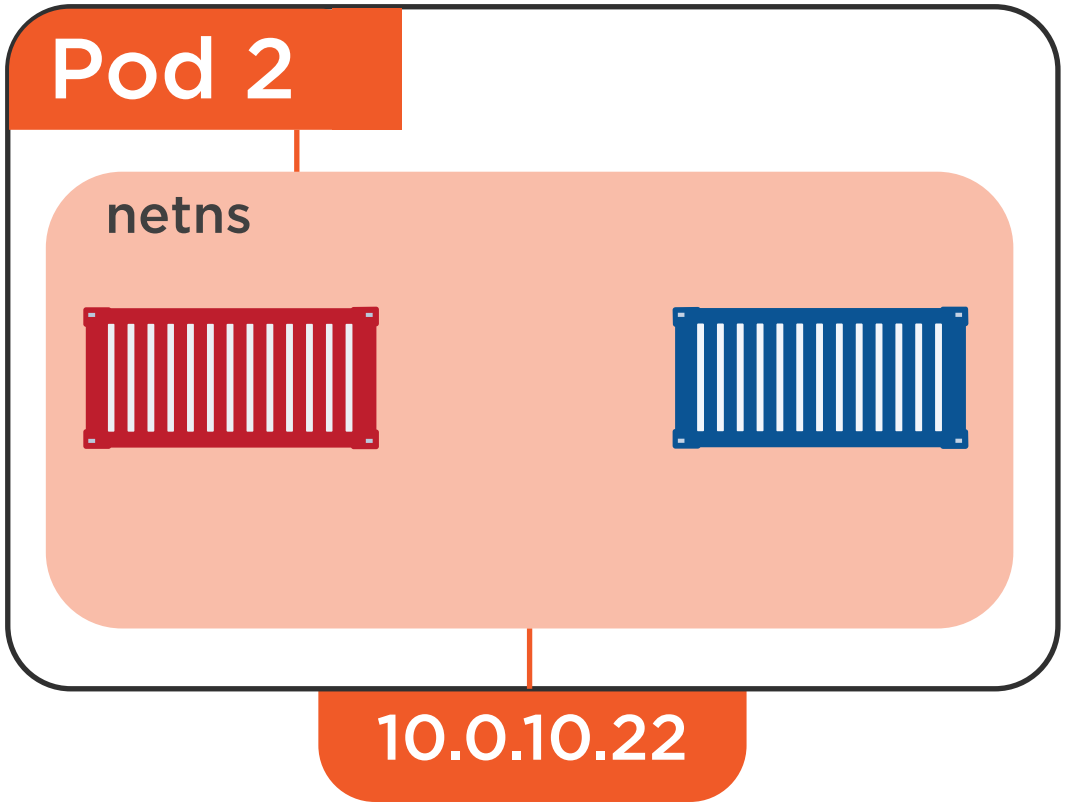
Inter-pod Communication



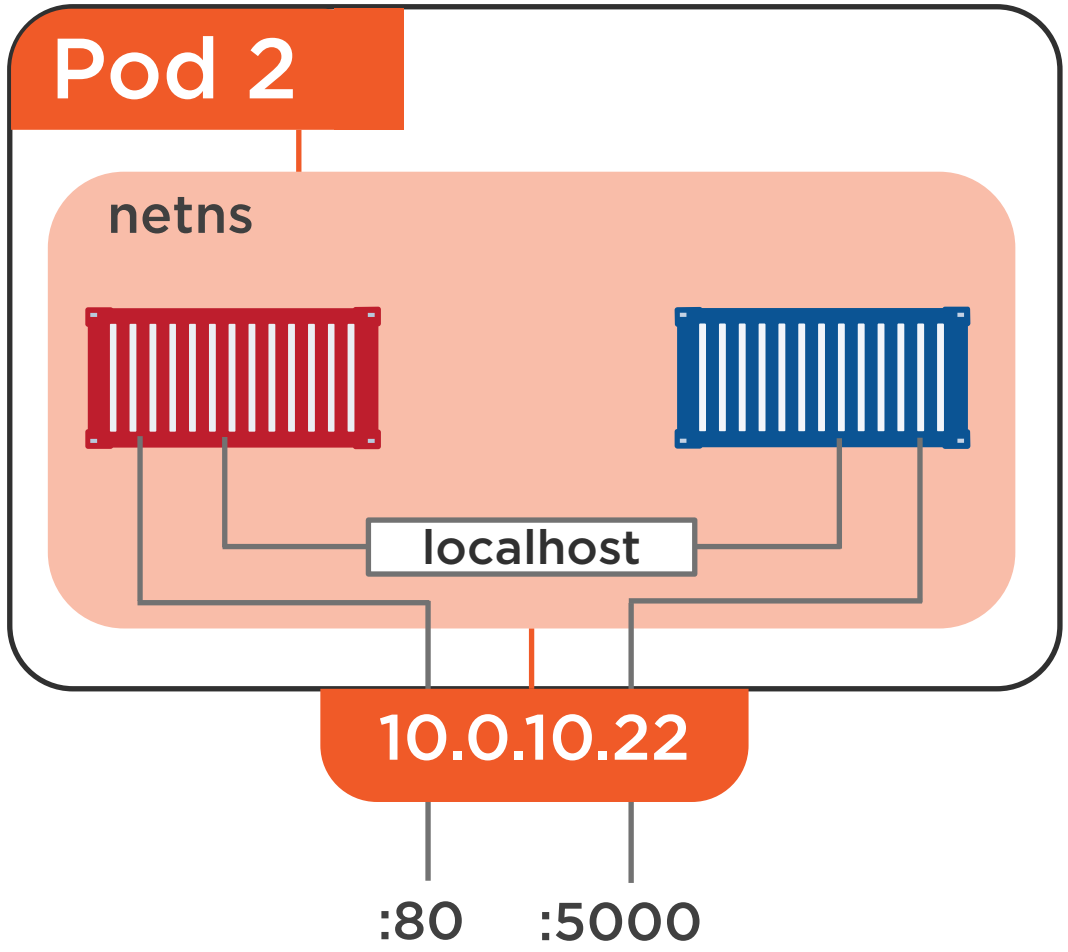
Inter-pod Communication



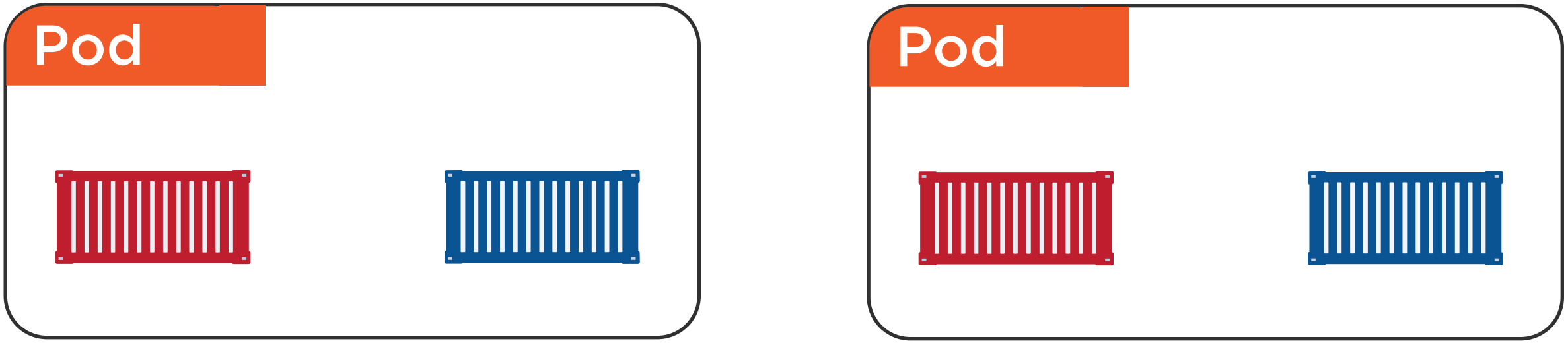
Intra-pod Communication



Intra-pod Communication



Pods: Atomic Deployments



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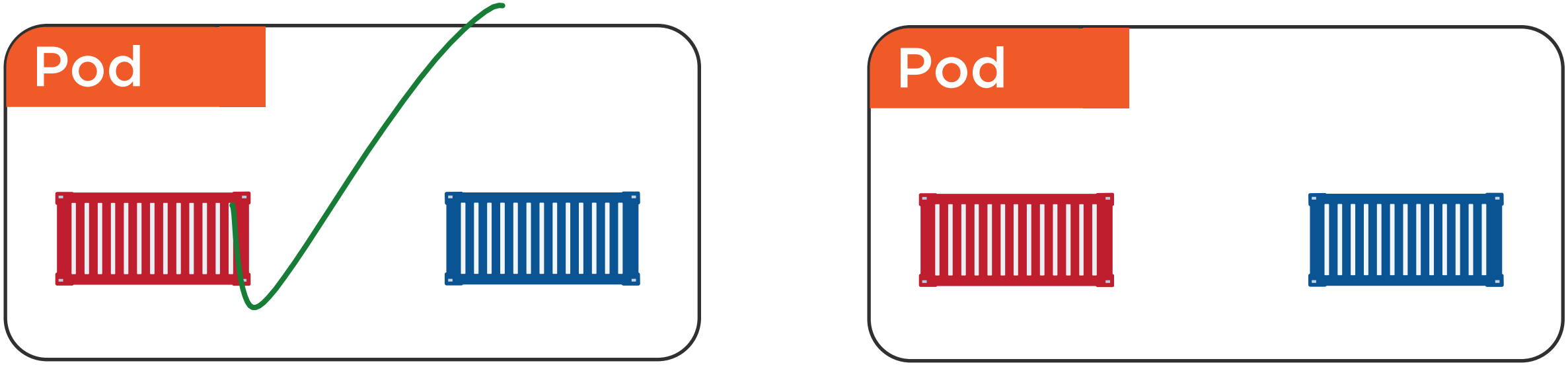

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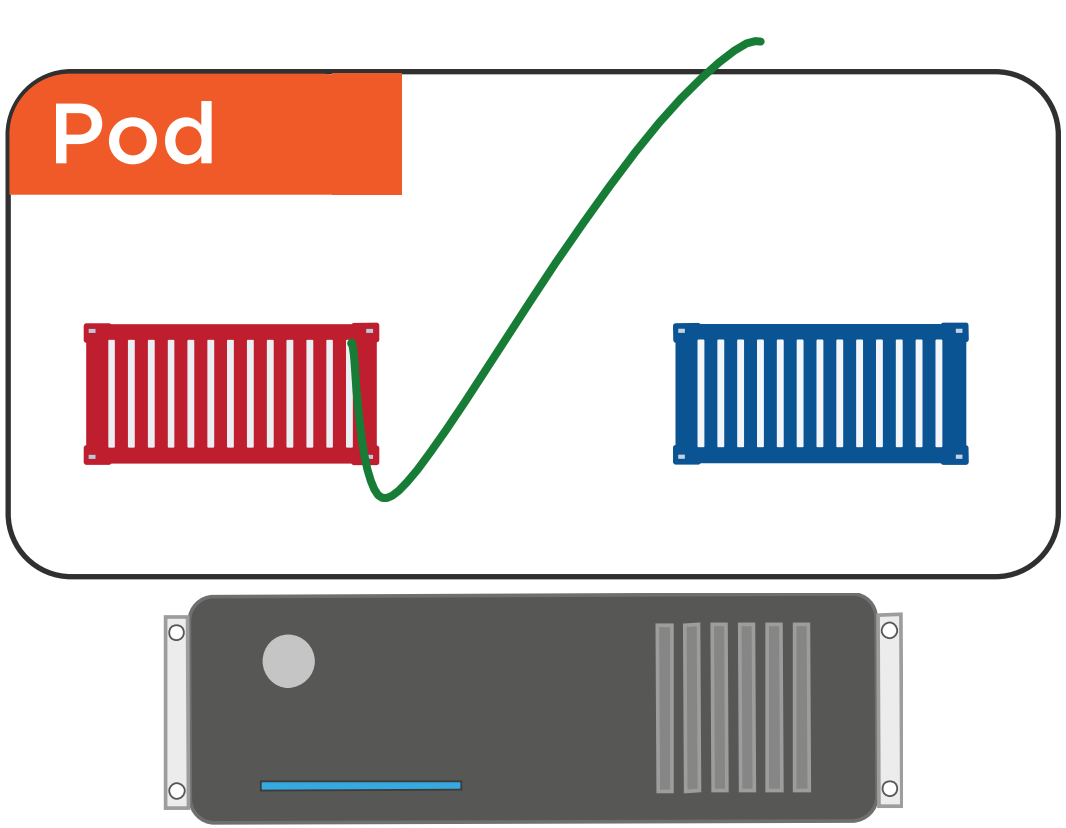
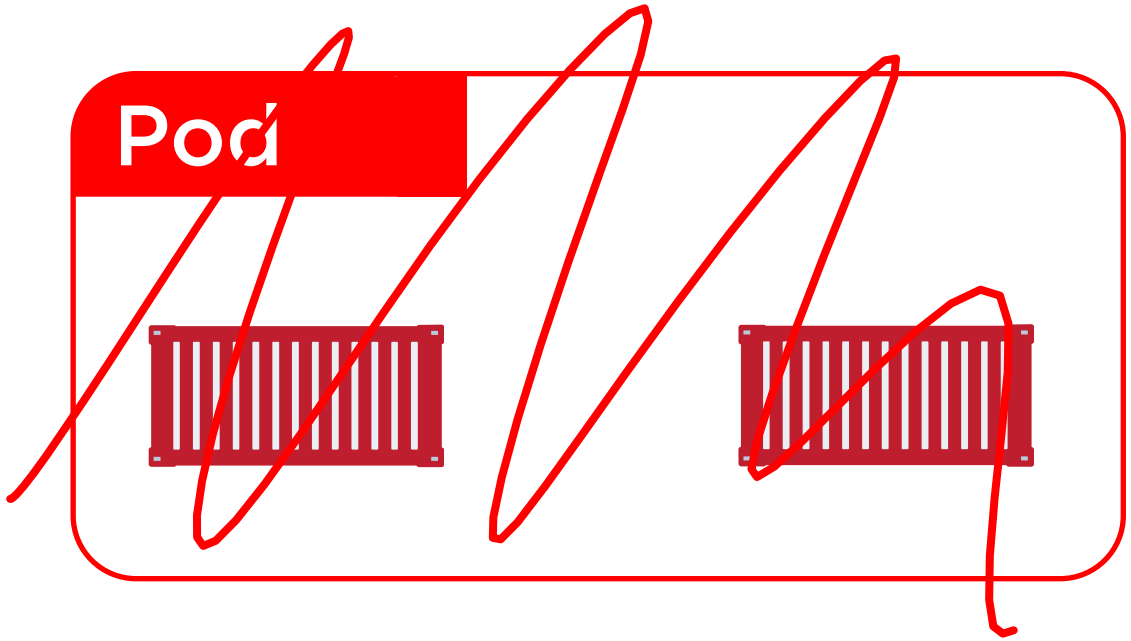
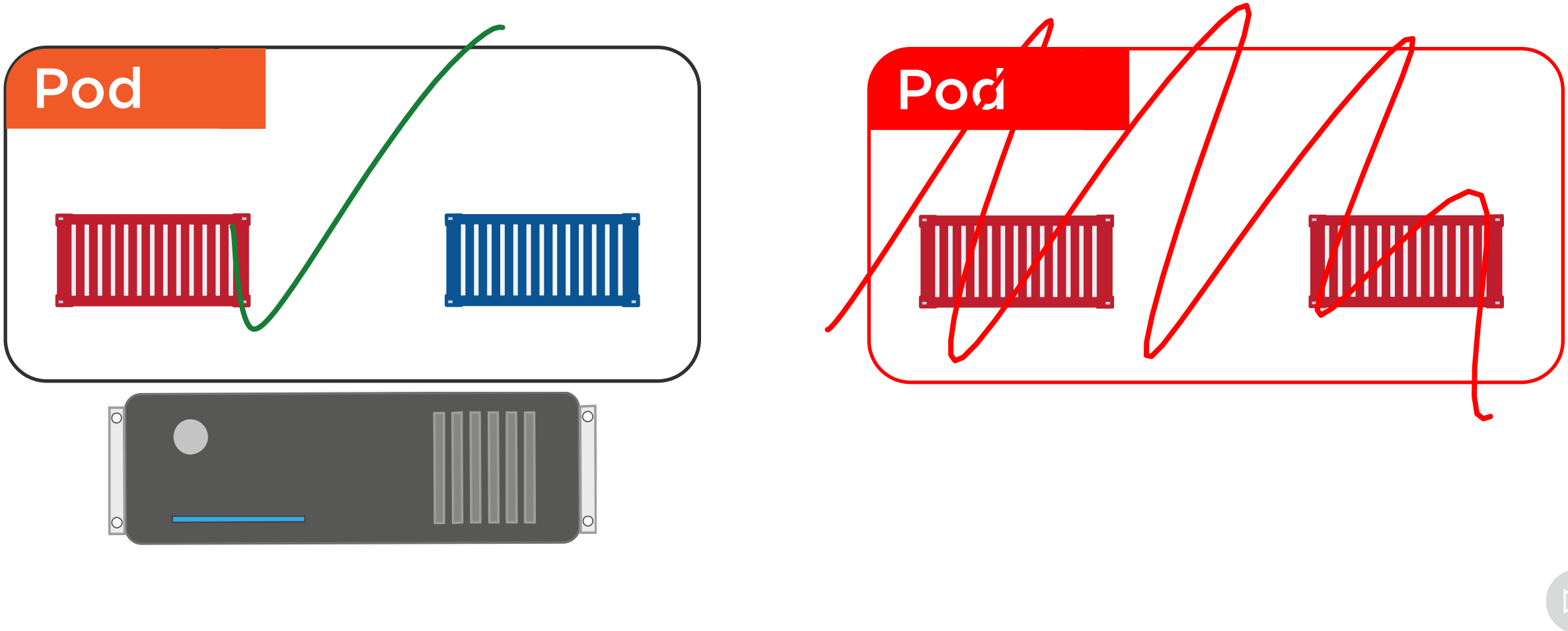
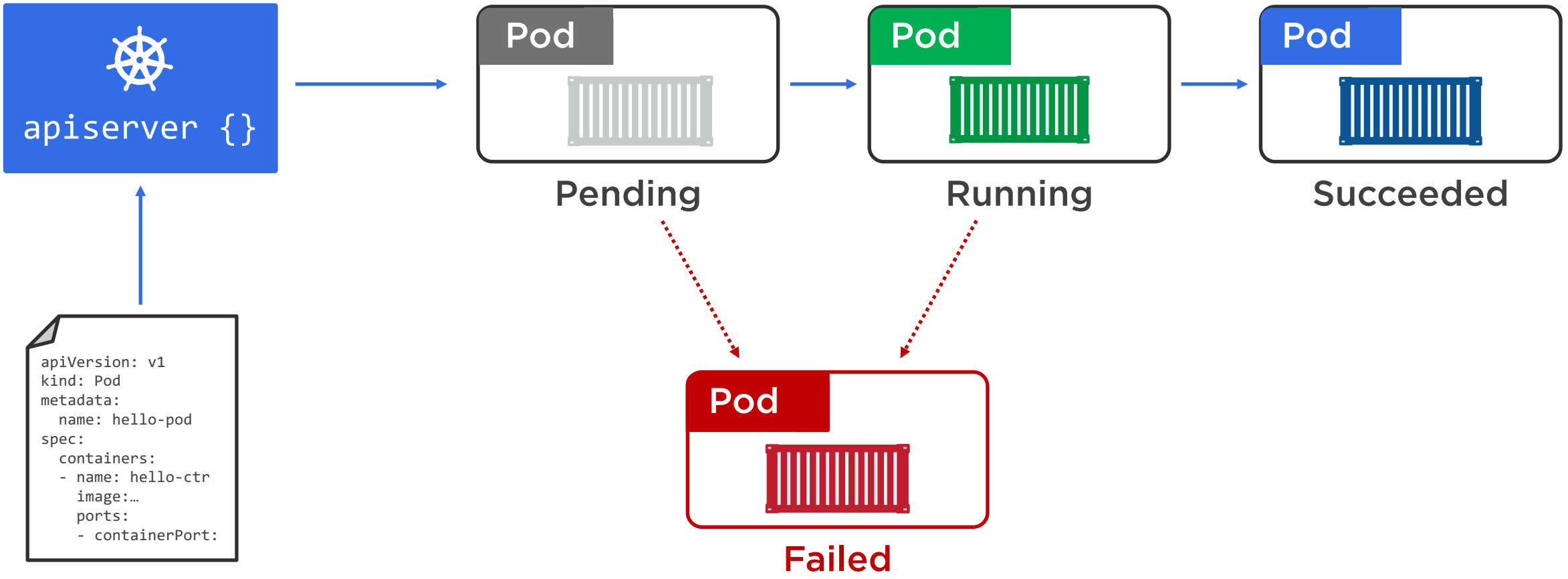




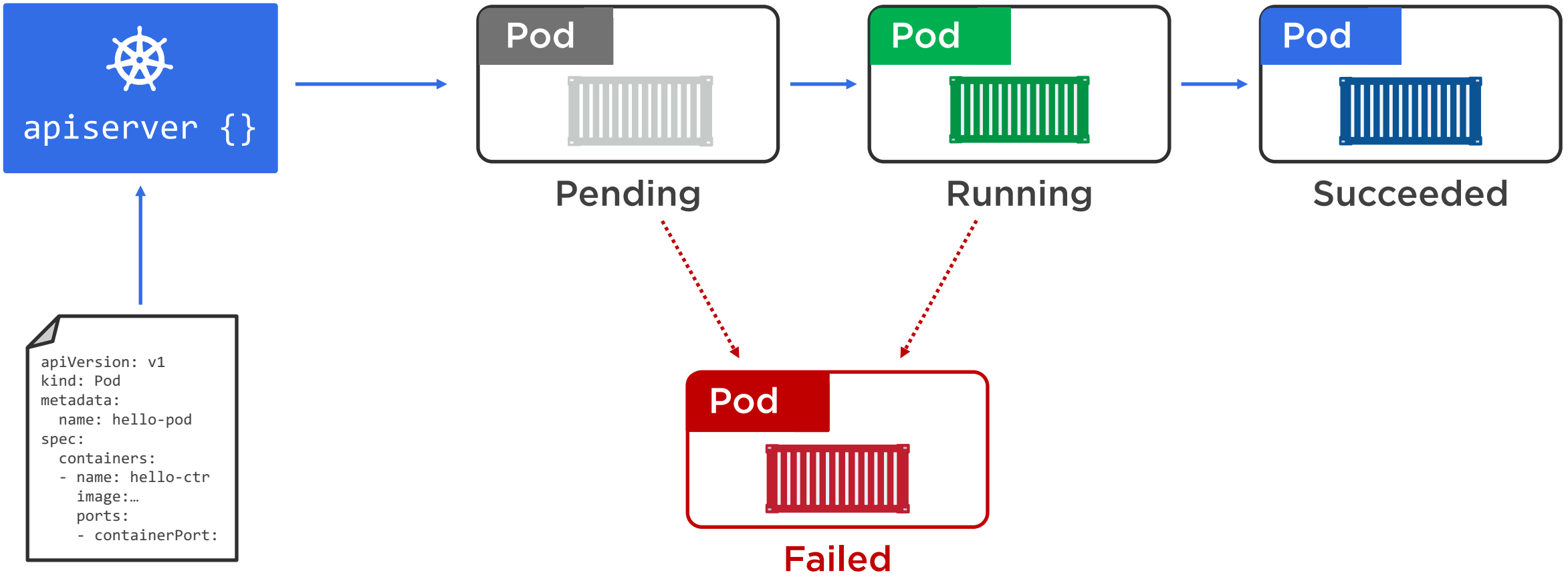
Pods:



Pods:


apiserver {}
apiVersion: v1
kind: Pod
metadata:
name: hello-pod
spec:
containers:
- name: hello-ctr
image:…
ports:
- containerPort:
Pod
Pending
Pod
Running
Pod
Succeeded
Pod
Failed

Pods: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- containerPort:
Pod
Pending
Pod
Running
Pod
Succeeded
Pod
Failed

Pods:

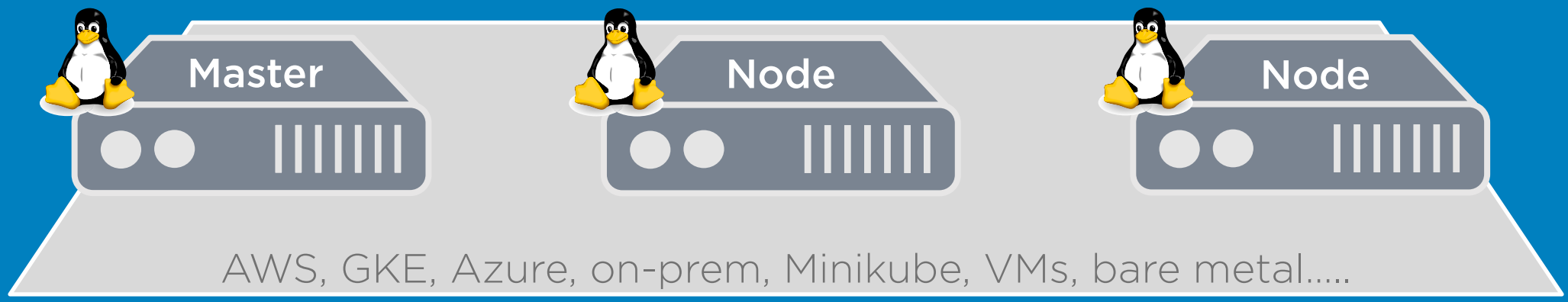
Smallest/atomic unit of scheduling

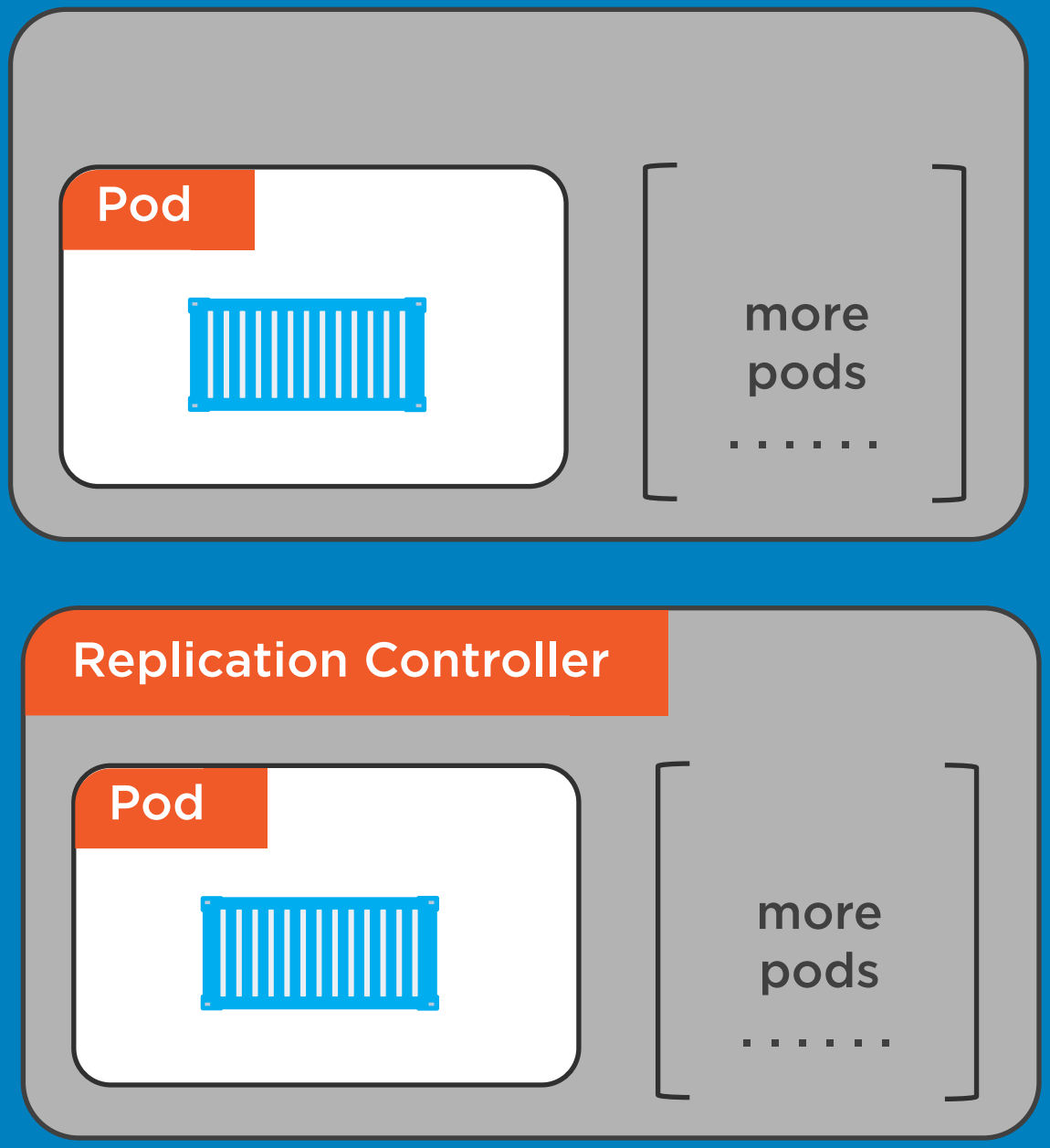
Have one or more containers

Scheduled on nodes (minions)

Declarative via manifest files

$ kubectl


Master
Node
Node
AWS, GKE, Azure, on-prem, Minikube, VMs, bare metal.....


Pod
more
pods
Replication Controller
Pod
more
pods

Summary

Smallest unit of scheduling

(Atomic)

Pod manifests

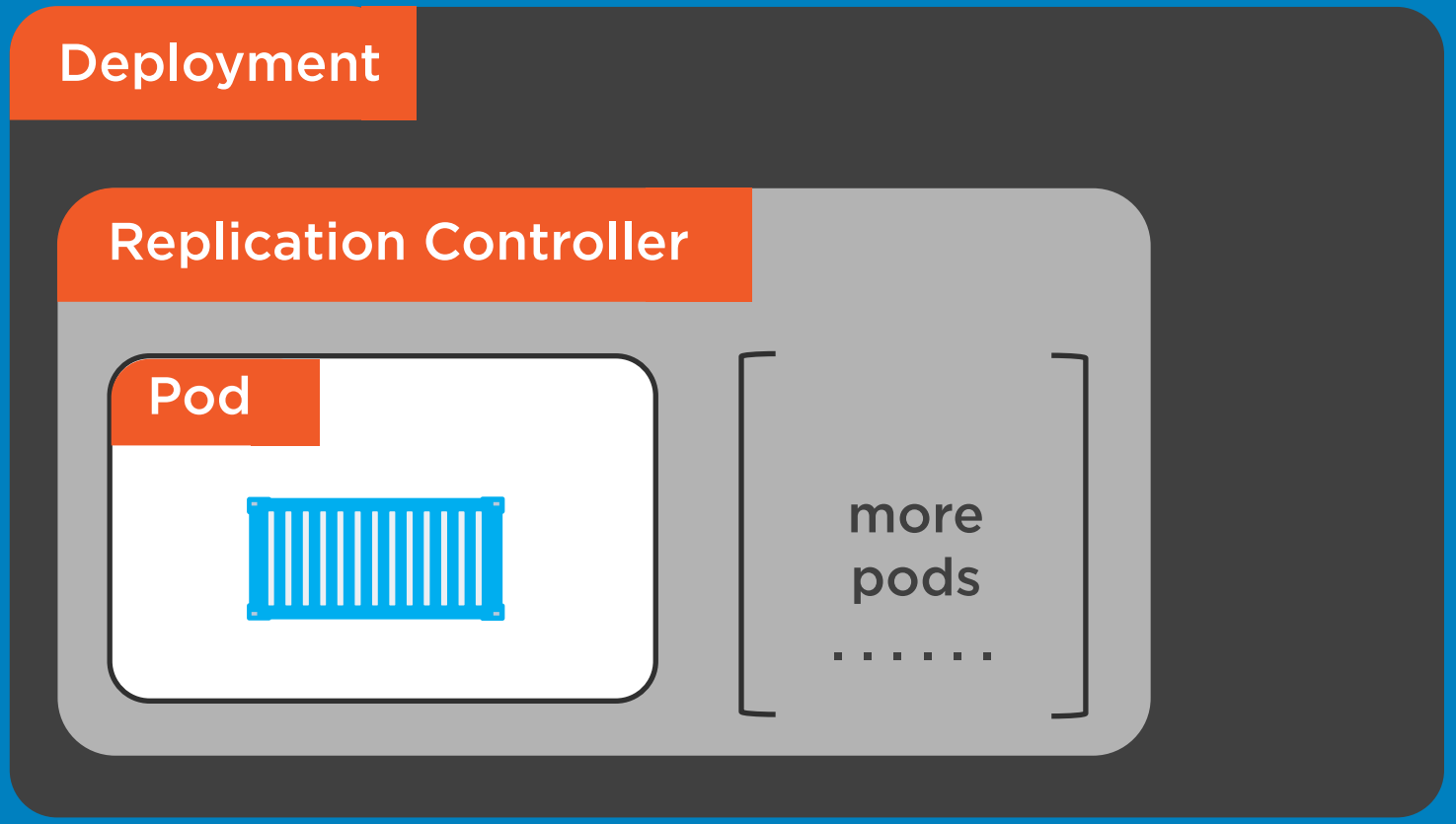
(YAML or JSON)

Deployed via other objects

(Replication Controllers etc...)

Replication Controllers

(Implement desired state)


Deployment
Replication Controller
Pod
more
pods
. . . . . .