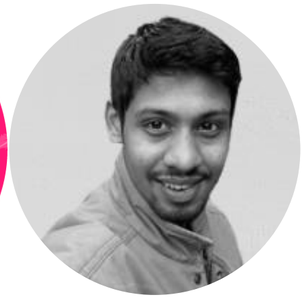
Installing Spinnaker



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Overview

Install a production-grade Spinnaker

Module structure

- Explore ways to install a Spinnaker
- Use Halyard to install Spinnaker
- Distributed vs standalone architecture
- Expose Spinnaker outside

Production ready Spinnaker

Installing a Spinnaker

Ways to Install Spinnaker

Minnaker

A 2 core 8GB k3s or Minikube cluster

Operators

OpsMx & Armory operator

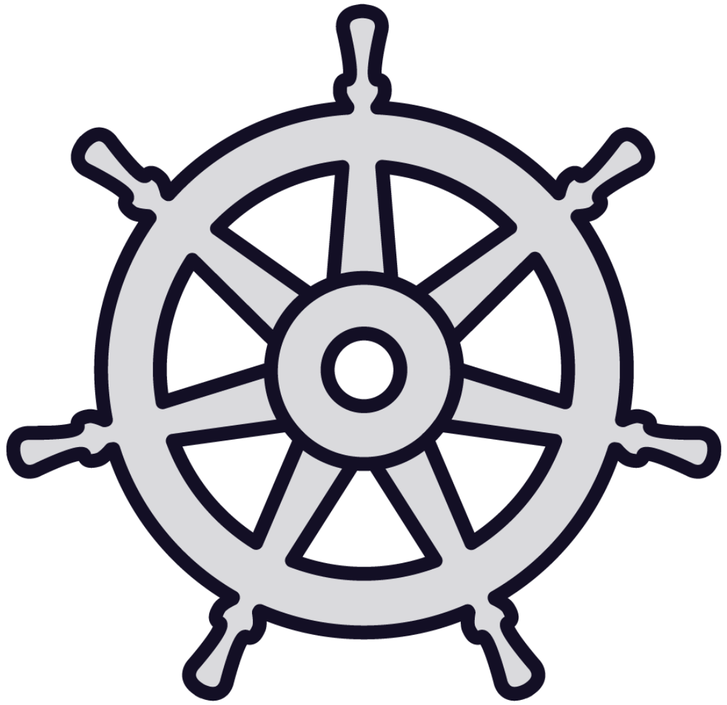
Helm chart

Deprecated and no longer supported

Halyard

Official recommendation method

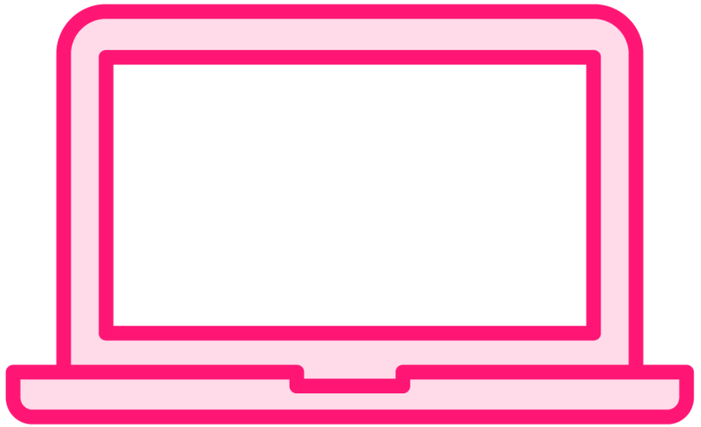
Halyard



Manages the lifecycle of the Spinnaker deployment

- Writing & validating configuration
- Deploying
- Updating the deployment

Needs at least a 12GB machine



Run on a PC

Run on a cloud VM

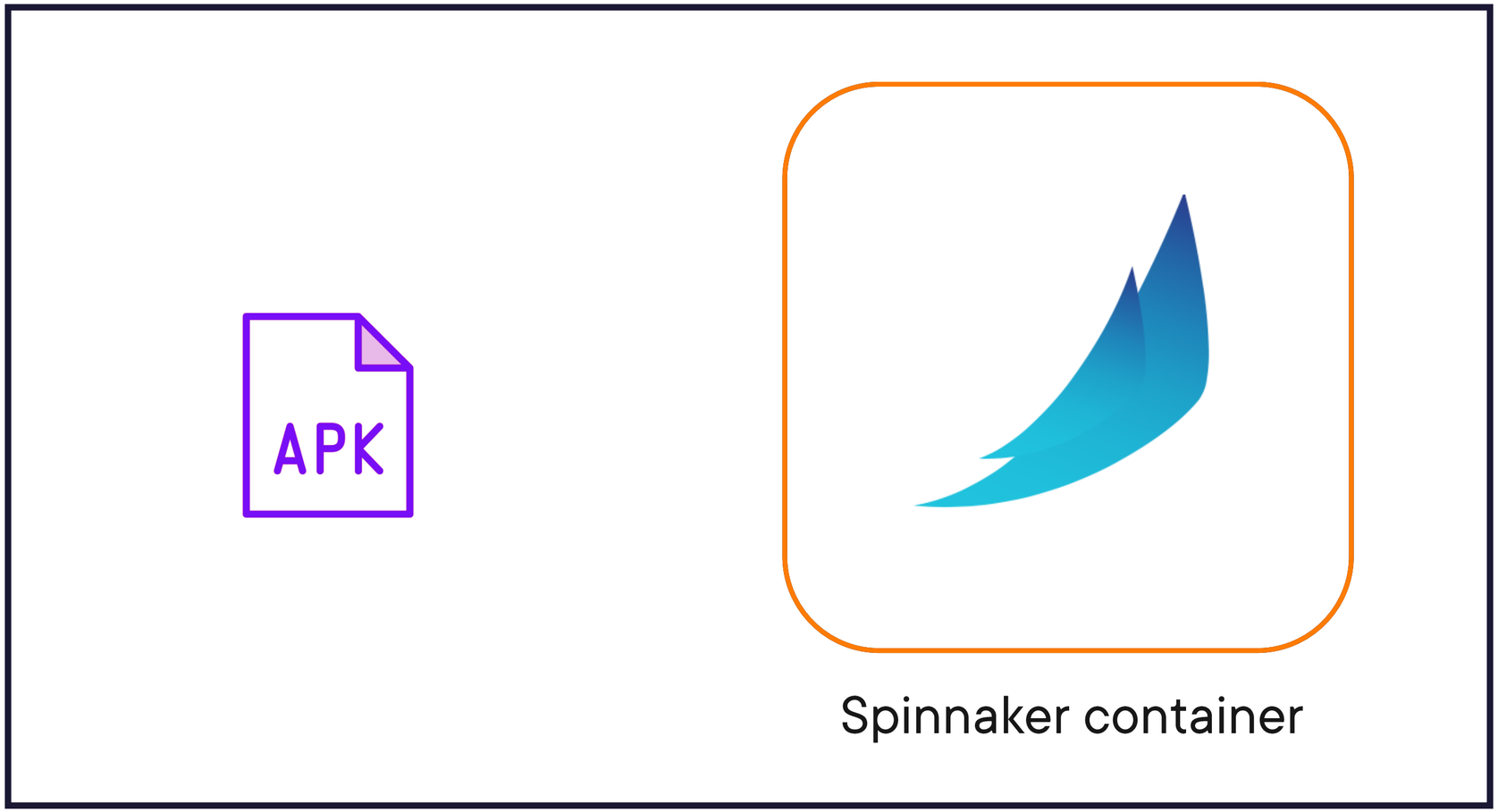
How to Install Halyard?

Use a package manager

(apt, apk, yum)

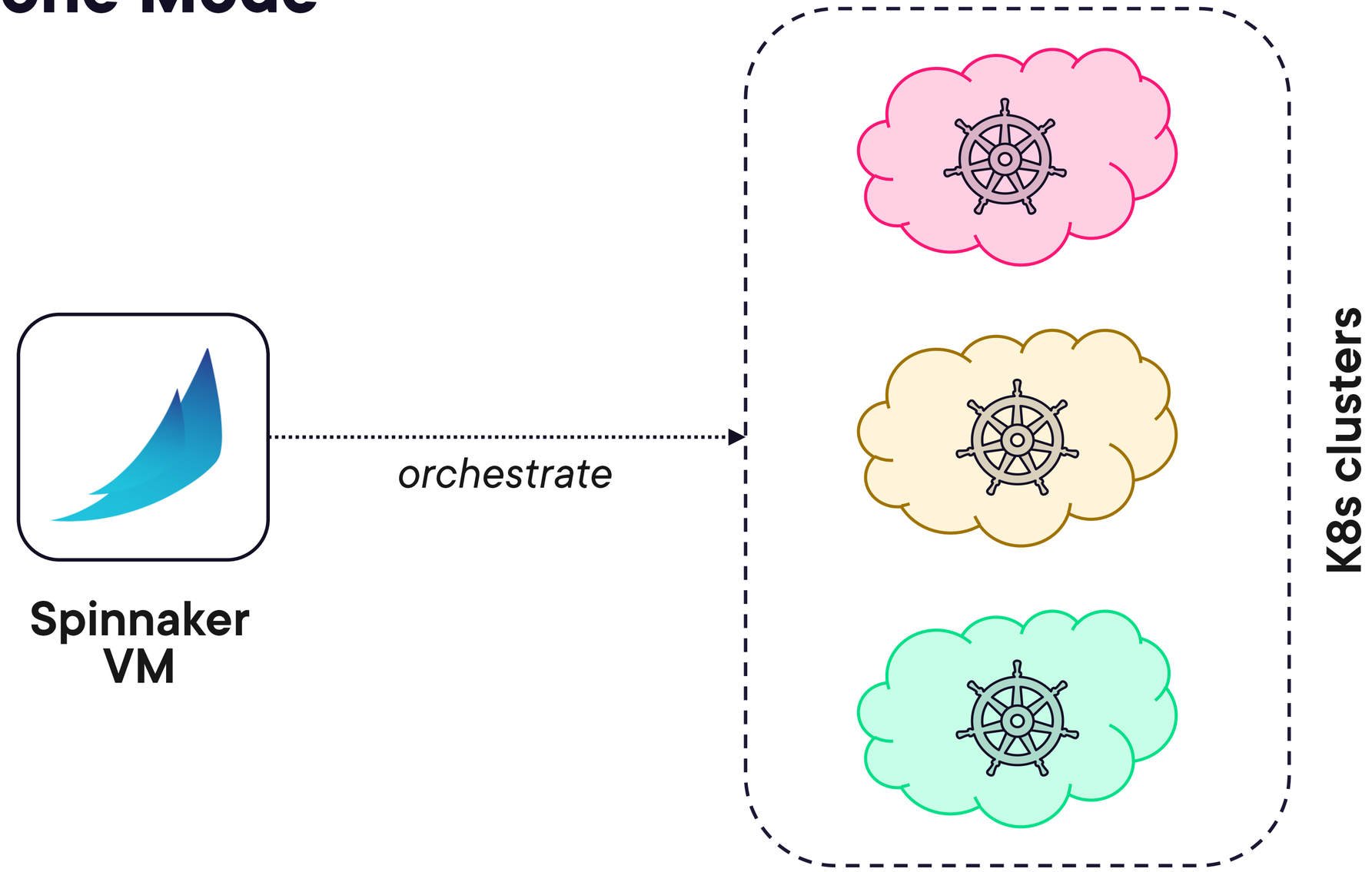
Run a docker container

Benefits of Running Docker Container...

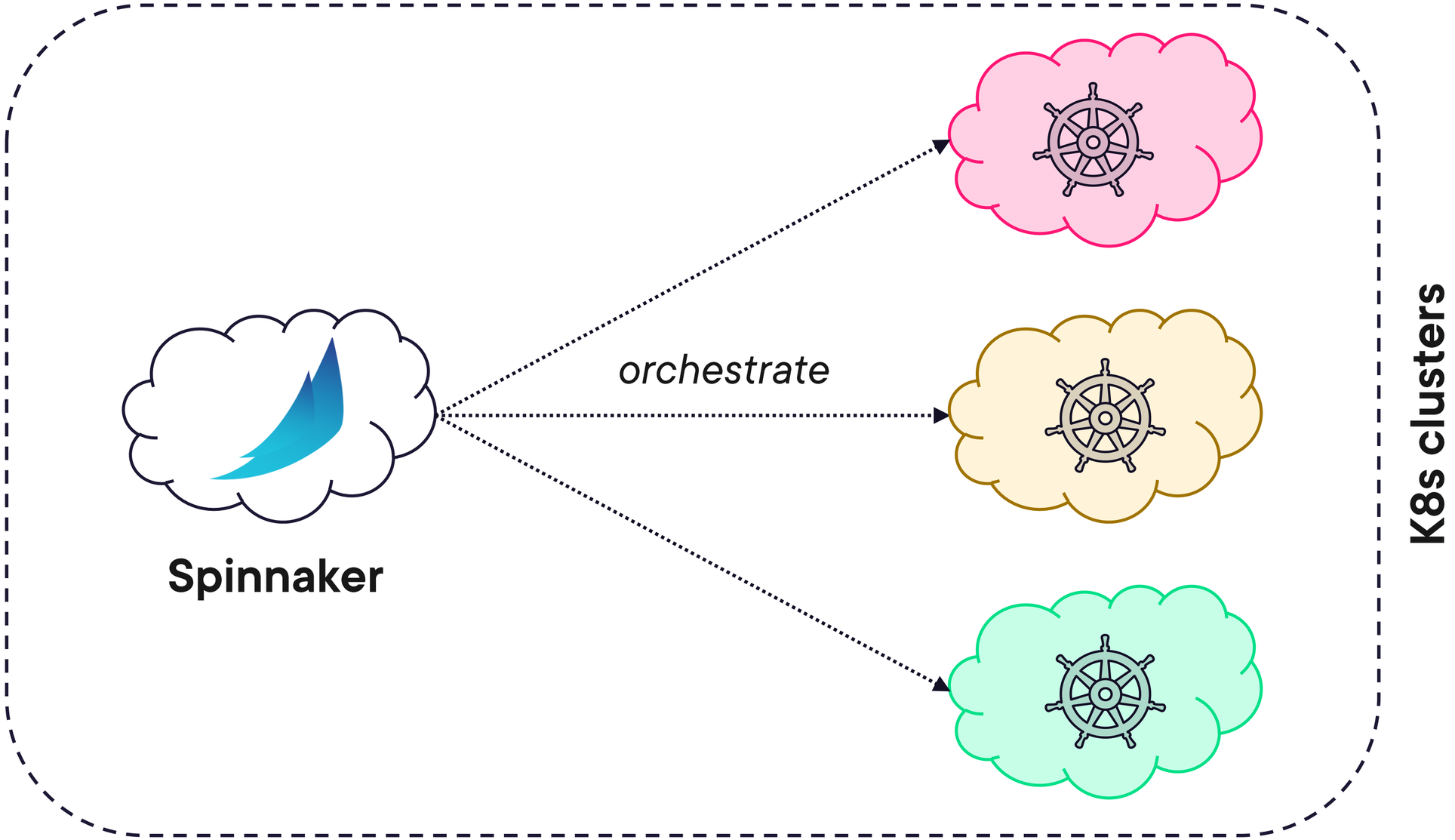


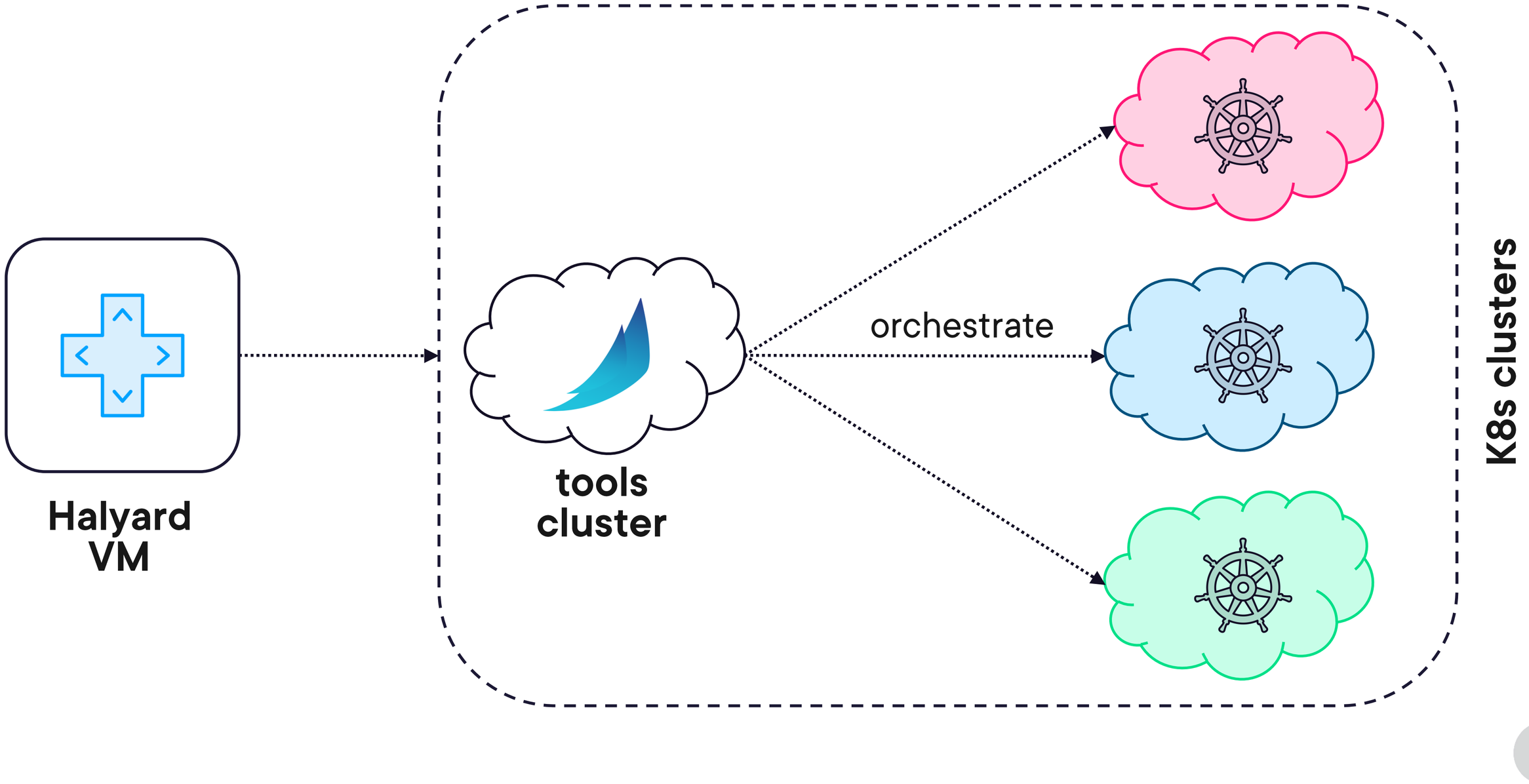
Spinnaker Deployment Architecture

Standalone Mode



Distributed Mode



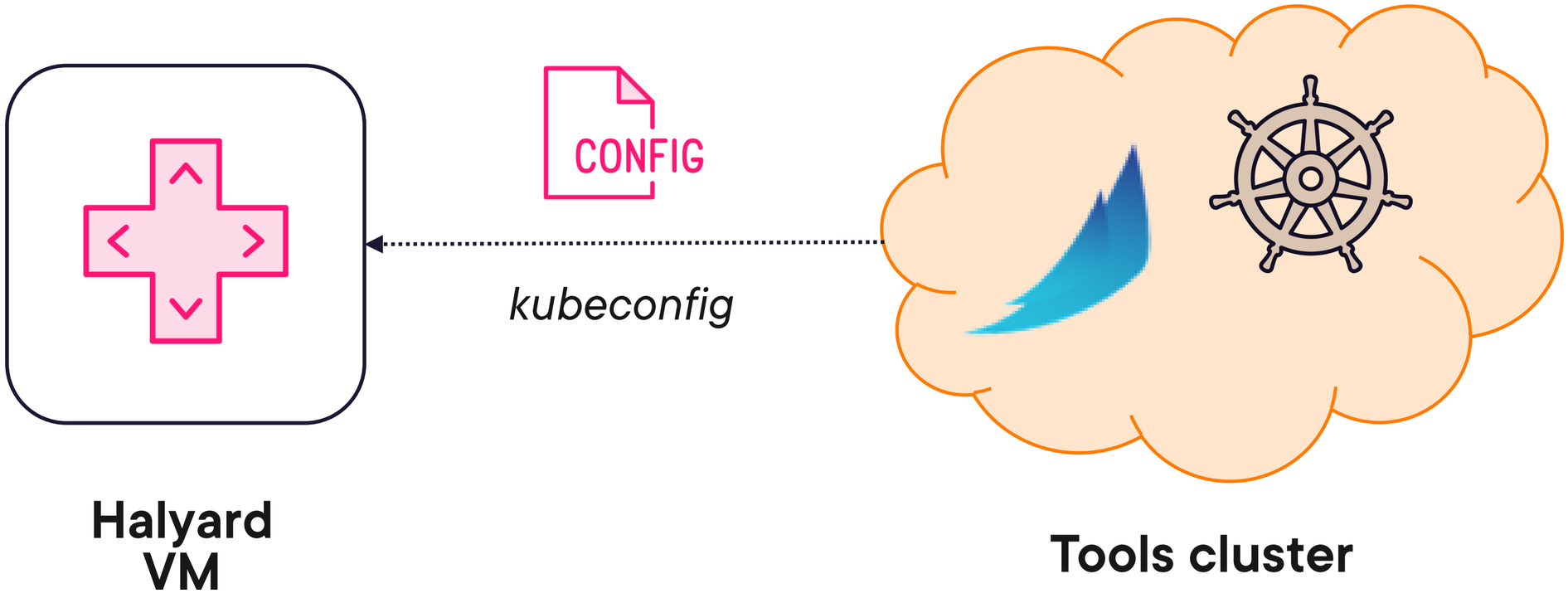

Halyard
VM
tools
cluster
orchestrate
K8s clusters

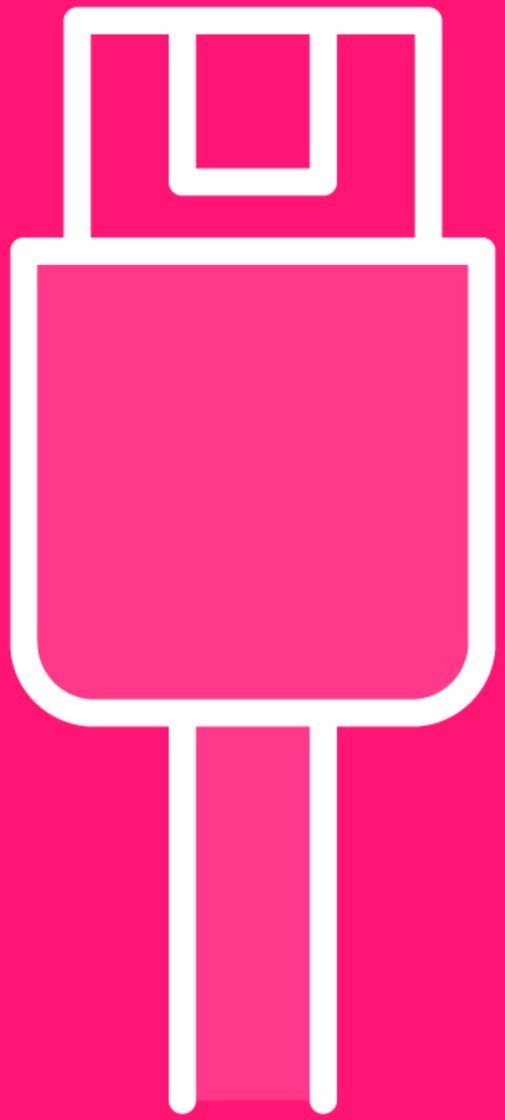
To dos:

- Install Halyard
- Add tools cluster configuration
- Deploy Spinnaker
- Expose Spinnaker

Ingredients:

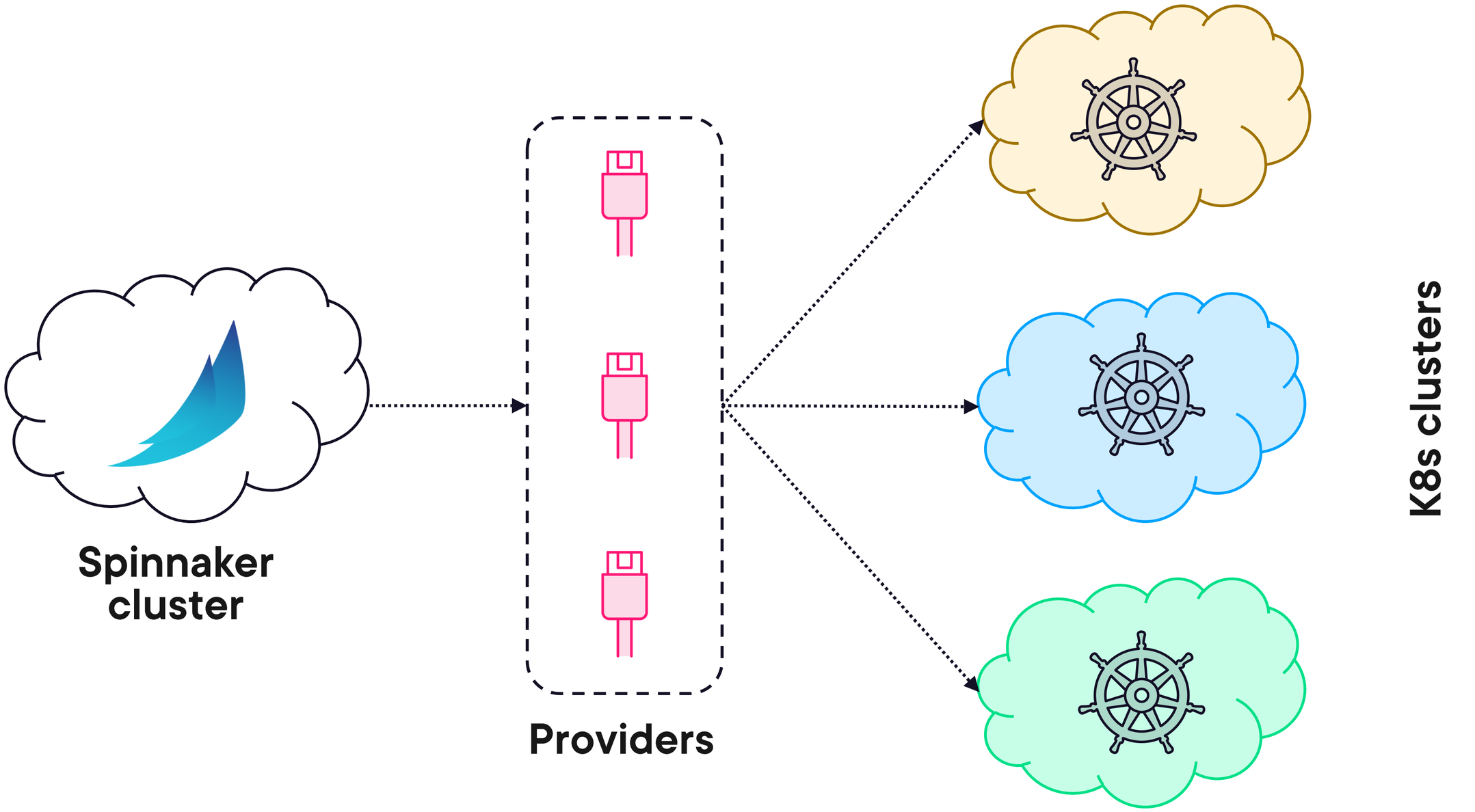
- AWS cloud
  - t3.xlarge instance for Halyard
  - EKS cluster for Spinnaker


CONFIG
kubeconfig
Halyard
VM
Tools cluster

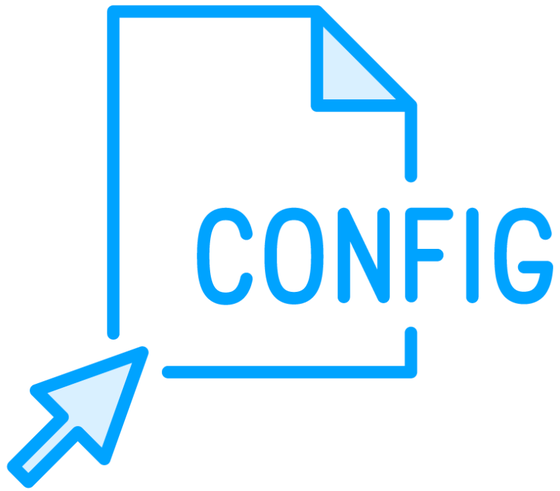


Cloud Providers

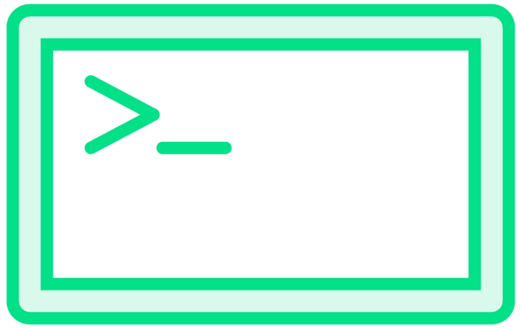
Spinnaker's integrations to different cloud platforms


Spinnaker cluster
Providers
K8s clusters

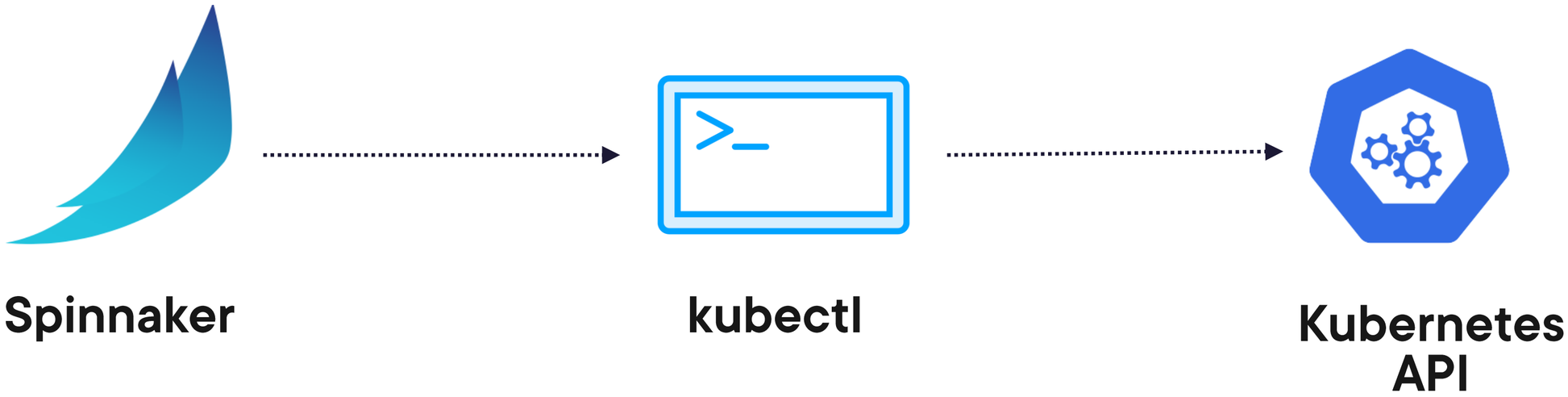
Kubernetes Provider's Requirement

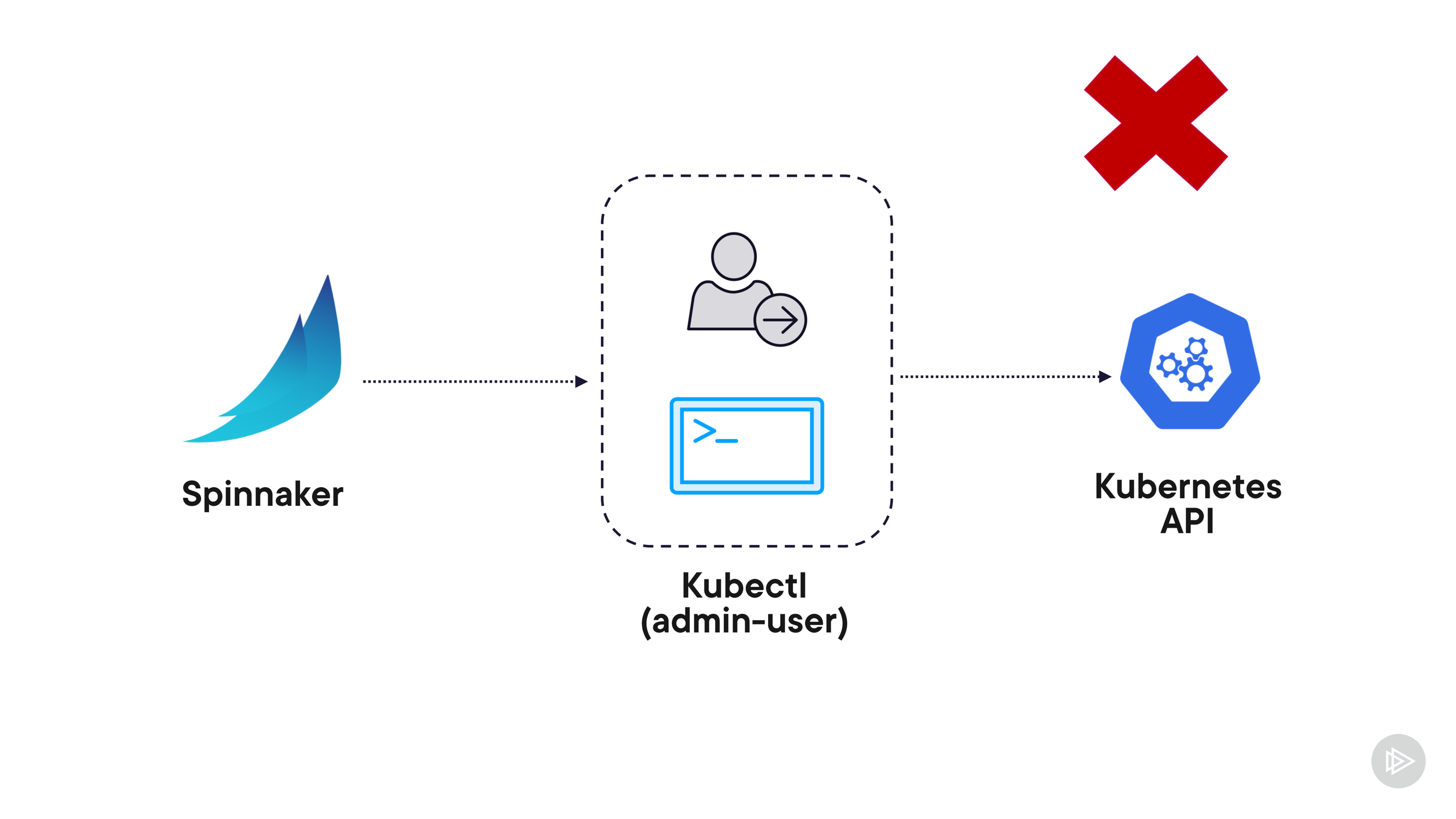


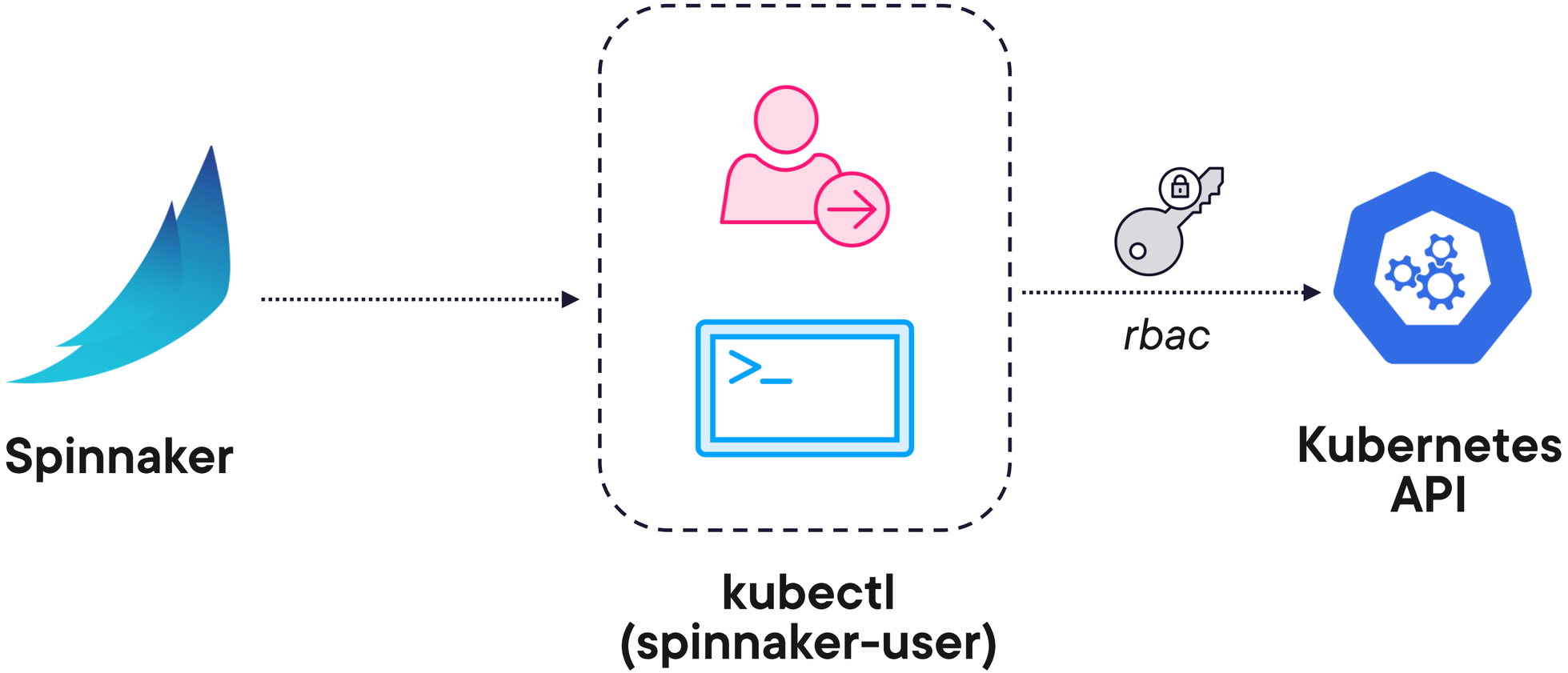
kube-config file



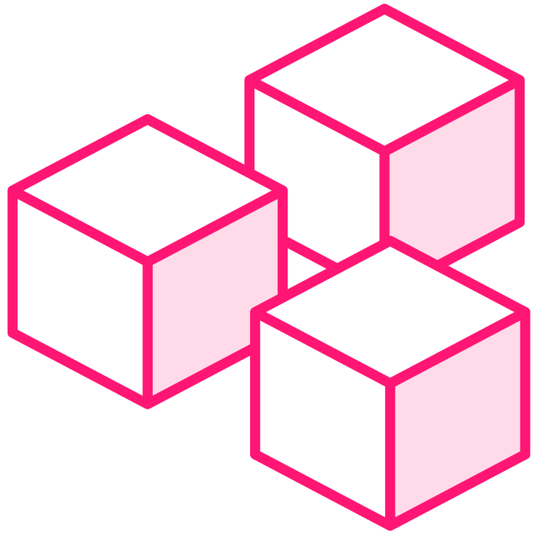
kubectl CLI


Spinnaker
kubectl
Kubernetes API


Spinnaker
Kubectl
(admin-user)
Kubernetes
API

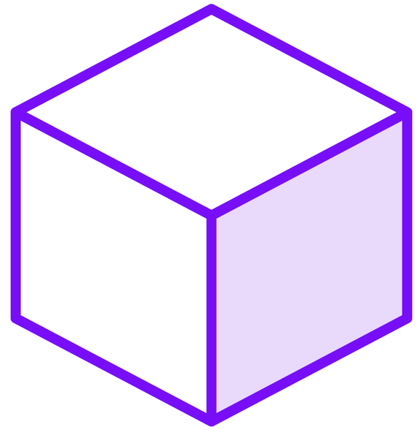

Spinnaker
kubectl
(spinnaker-user)
rbac
Kubernetes
API

Spinnaker’s Installation Mode



Distributed installation

Halyard install Spinnaker as collection of microservices

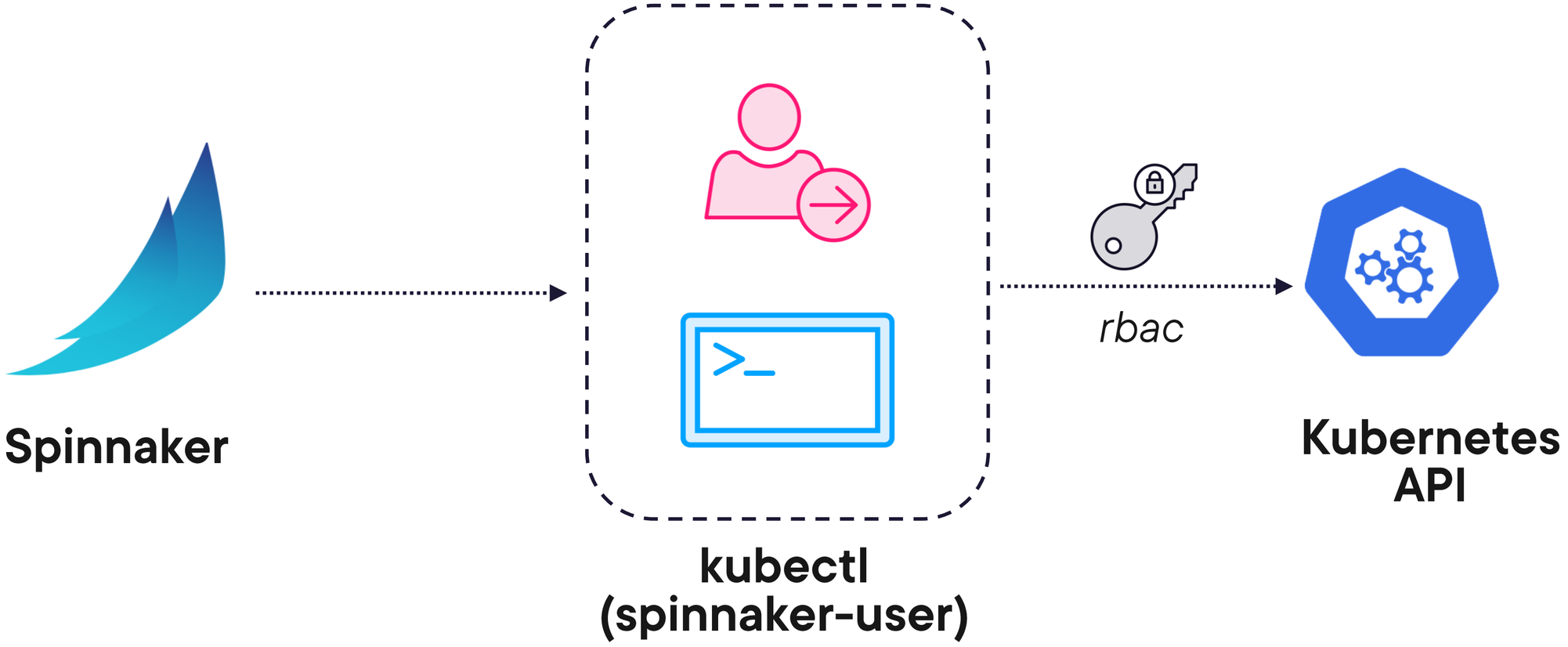


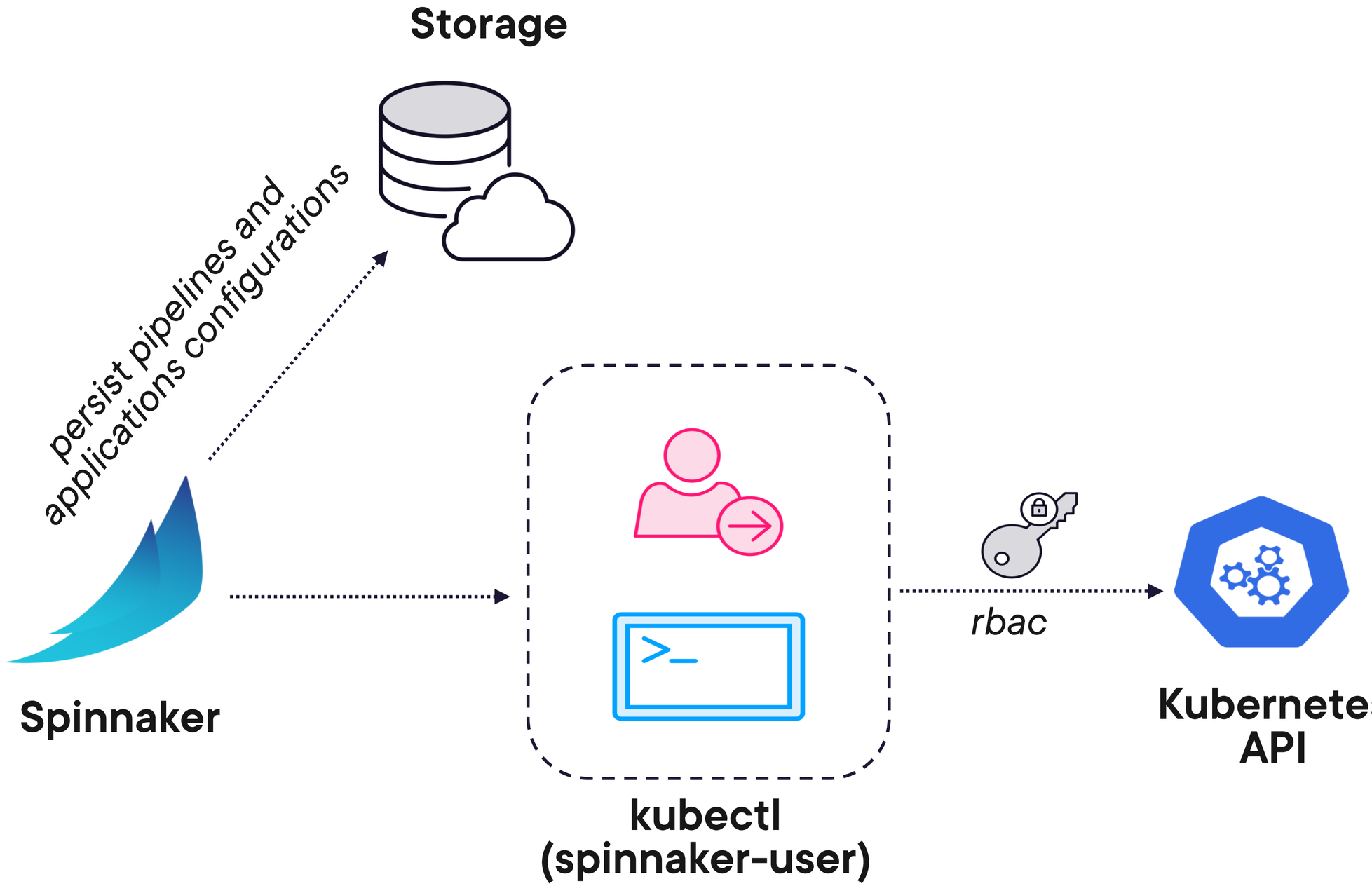
Local installation

Halyard install Spinnaker as a single microservice

Distributed vs Local Installation

Distributed	vs	Local
Scalable and fault-tolerant		Non-scalable and error prone
Preferred in production environment		Preferred in development & testing environment


Spinnaker
kubectl
(spinnaker-user)
rbac
Kubernetes
API


Storage
persist pipelines and
applications configurations
Spinnaker
kubectl
(spinnaker-user)
rbac
Kubernetes
API


IAM user
Storage

Spinnaker

Many microservices working together to function as an unit

https://spinnaker.io/docs/reference/architecture/microservices-overview/

Spinnaker Microservices

Deck

Browser based UI that user interacts with

Spinnaker Microservices

Deck

Gate

Gate

This is an API gateway between the backend and frontend.

Spinnaker Microservices

Deck

Gate

Orca

Orca

Orchestration engine.
Handles ad-hoc
operations

Spinnaker Microservices

Deck

Gate

Orca

Cloud driver

Cloud-driver

Responsible for all mutating calls to cloud providers.

Spinnaker Microservices

Deck

Gate

Orca

Cloud driver

Front50

Front50

Persists the metadata of applications, pipelines, projects, etc

Spinnaker Microservices

Deck

Front50

Gate

Rosco

Orca

Cloud driver

Rosco

Produces VM images for cloud providers. Currently wraps Packer.

Spinnaker Microservices

Deck

Gate

Orca

Cloud driver

Front50

Rosco

Echo

Echo

Spinnaker's event bus. Supports sending notifications to slack & email.

Spinnaker Microservices

Deck

Gate

Orca

Cloud driver

Front50

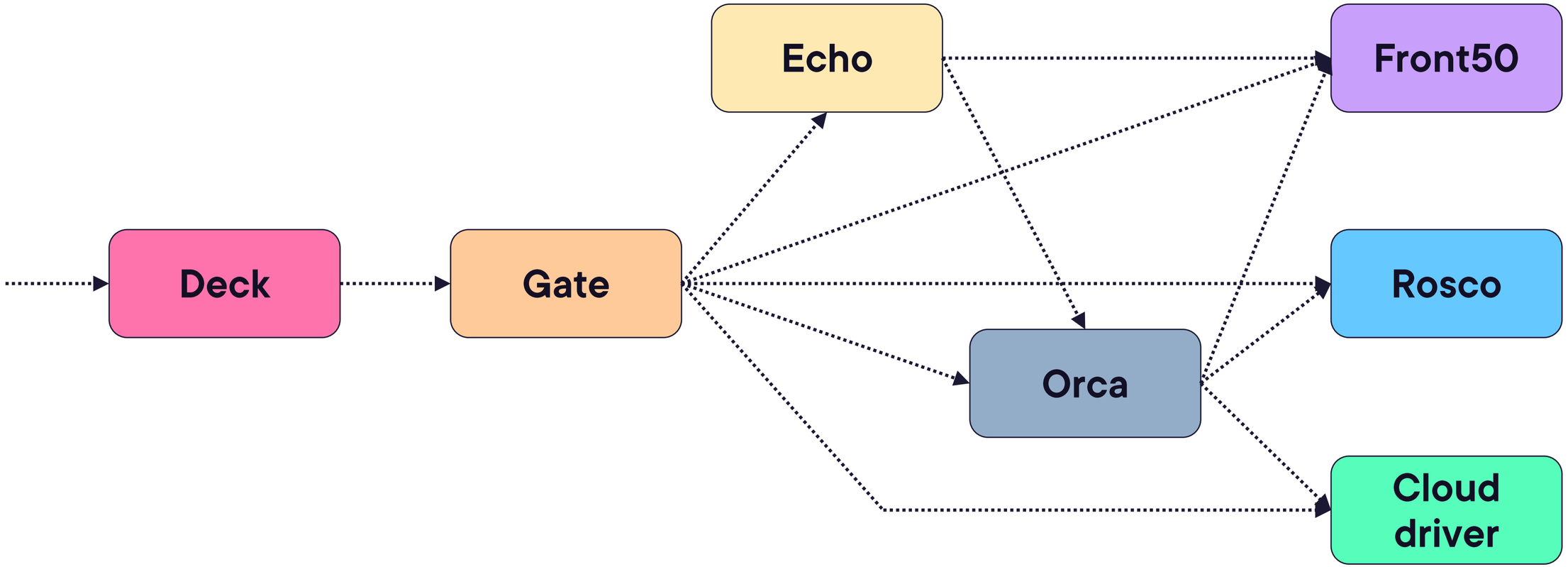
Rosco

Echo

Echo

Spinnaker's event bus. Supports sending notifications to slack & email.

Spinnaker Microservices



Summary

How to install Spinnaker

Pros & cons of each installation method

How to use Halyard

Expose Spinnaker publicly

Up Next:

Configuring Spinnaker