# WHAT
# KUBERNETES
# AND
# VOLDEMORT
# HAVE IN COMMON

# THE VILLAIN'S DILEMMA

x Count Dooku

x Marisa Coulter

x Supreme Leader Snoke          x Voldemort          x Pennywise          x Cthulhu

x Tom Ripley
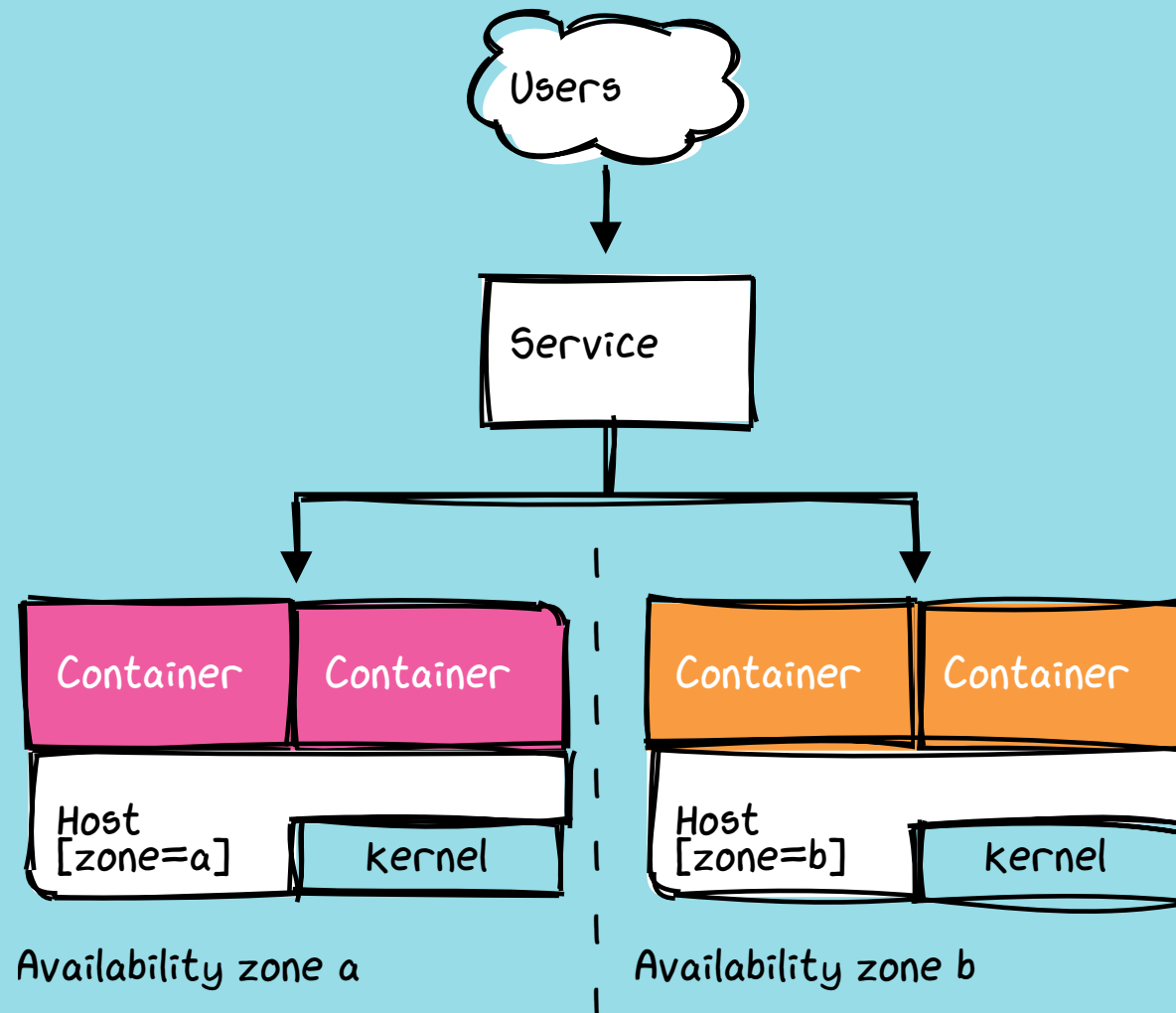
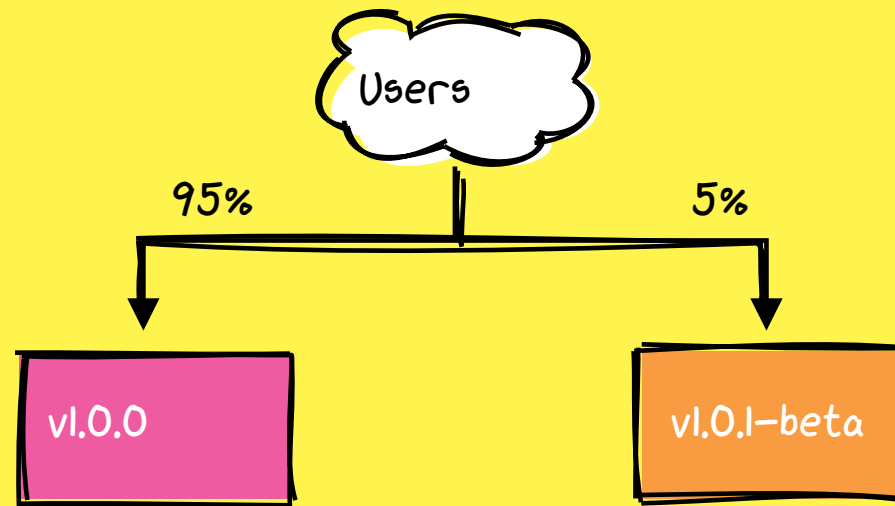pathetic ←————————————————————————————→ terrifying
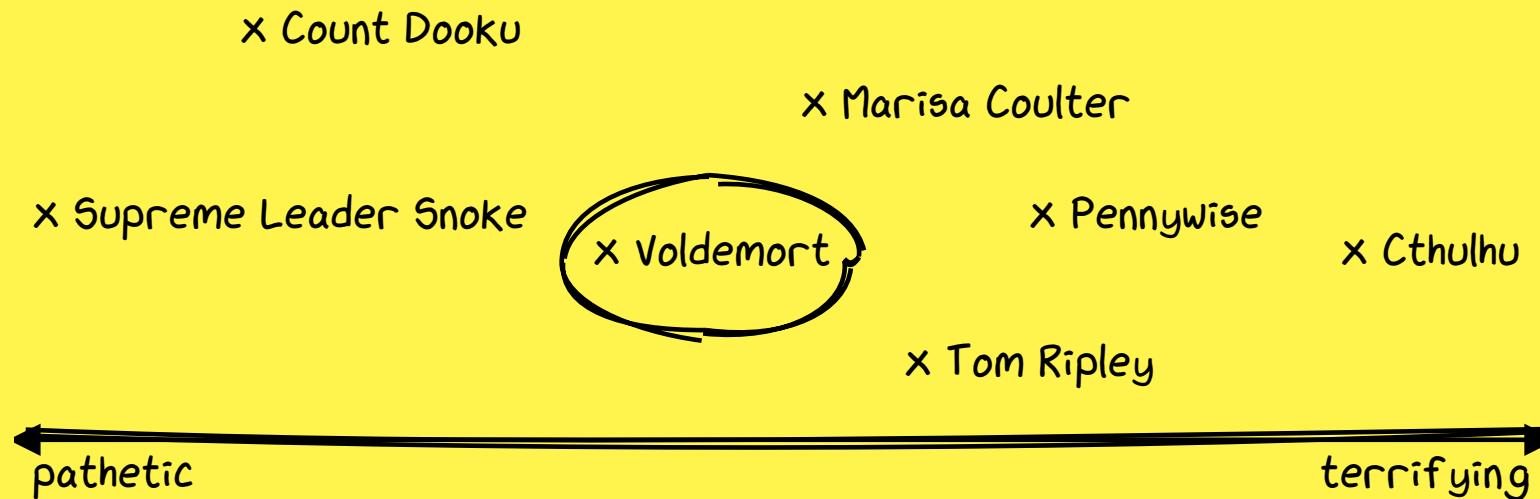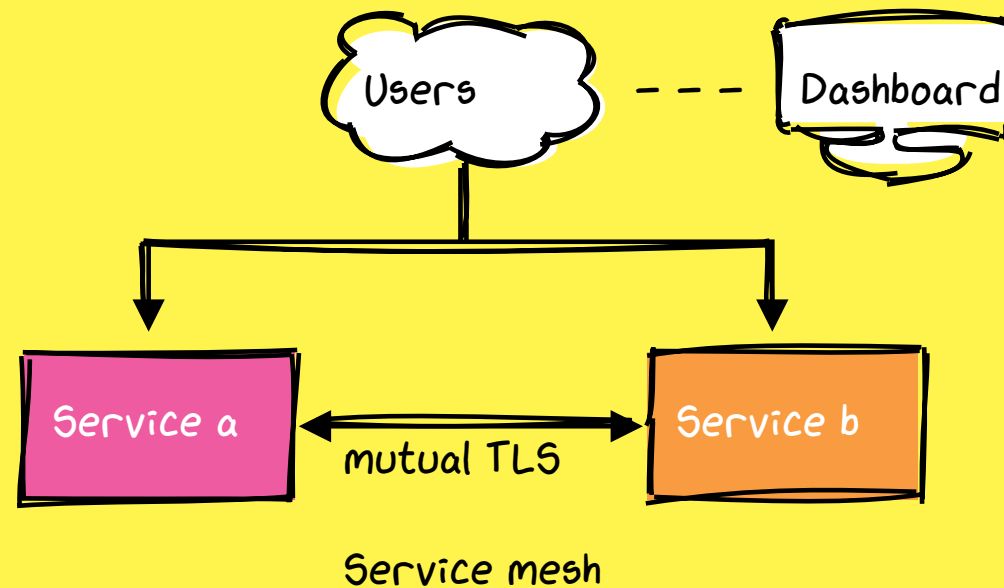
# THE HORCRUX STRATEGY
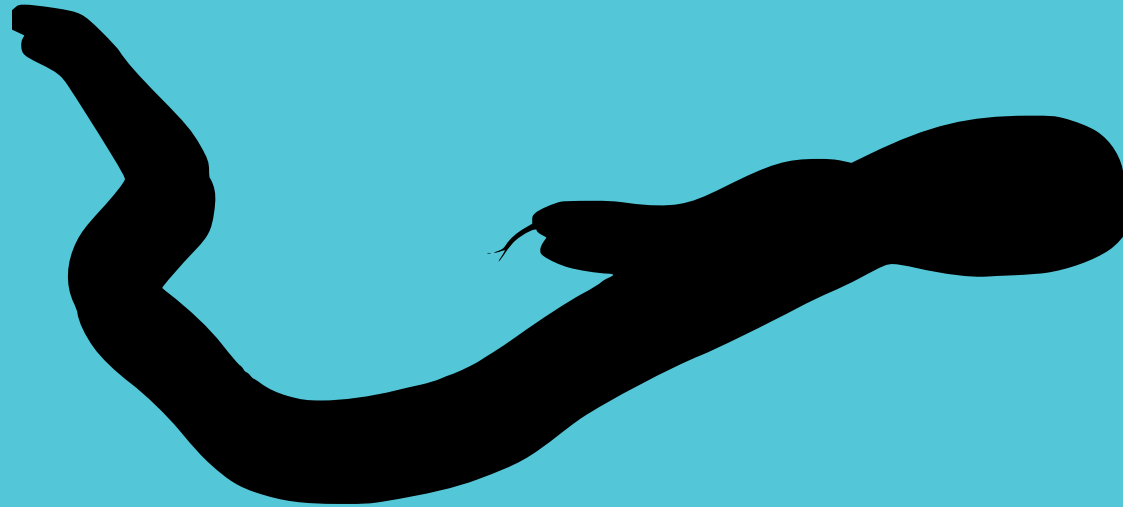


Source: Pixabay

# ORCHESTRATION "WARS"

# DISTRIBUTED DEPLOYMENT

# CANARY DEPLOYMENT

# ZERO TRUST DEPLOYMENT

# THE COMPETITIVE ENVIRONMENT

# ALL HAPPY FAMILIES

Fleet

Docker Swarm

OpenShift (1-2)

Kubernetes

Apache Mesos

Elastic Container Service

Heroku

Cloud Foundry

Panamax

Shipyard

Portainer
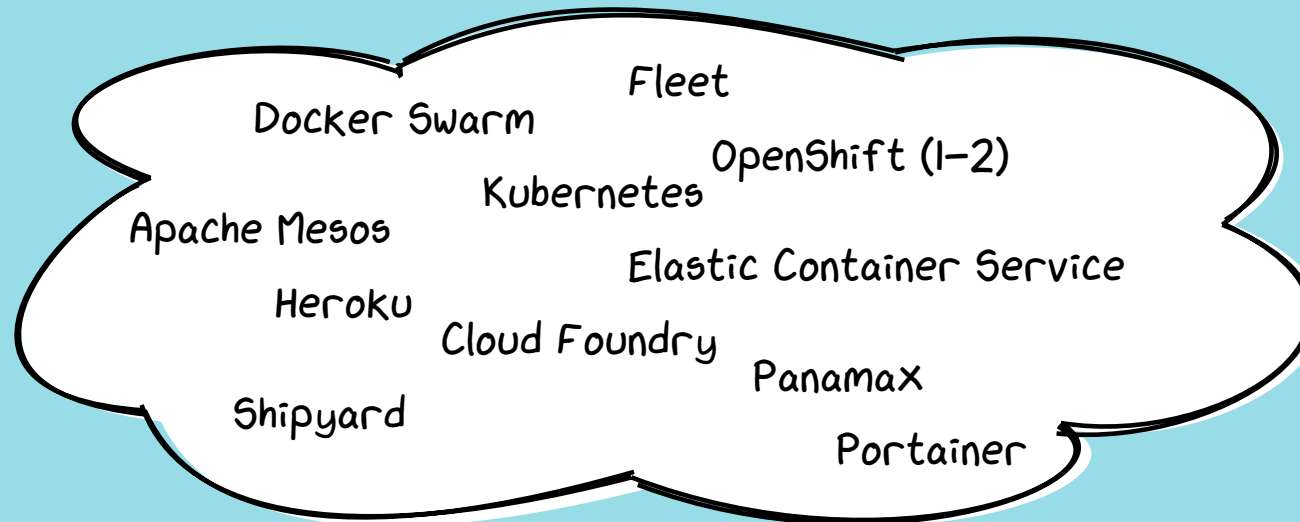
# SPLENDID ISOLATION

Kubernetes

# THE HORCRUX STRATEGY

# VENDOR SHARDING

Microsoft

IBM
Red Hat
CoreOS

Google

VMware

Alibaba

Cloud Native Computing Foundation (CNCF)

# PRECONDITIONS

open source

neutral IP ownership

extensibility

# PRECONDITIONS

open source – MIT

neutral IP ownership

extensibility

A suitably permissive license is a necessary but not sufficient precondition.

# PRECONDITIONS

open source – MIT

neutral IP ownership – CNCF

extensibility

K8s would *not* be what it is today without neutral IP ownership… K8s has spawned an entire ecosystem *because* it can be used by consuming projects/products without fear.

– Matt Klein

Source: @mattklein123 on Twitter, 17 February 2020.

# PRECONDITIONS

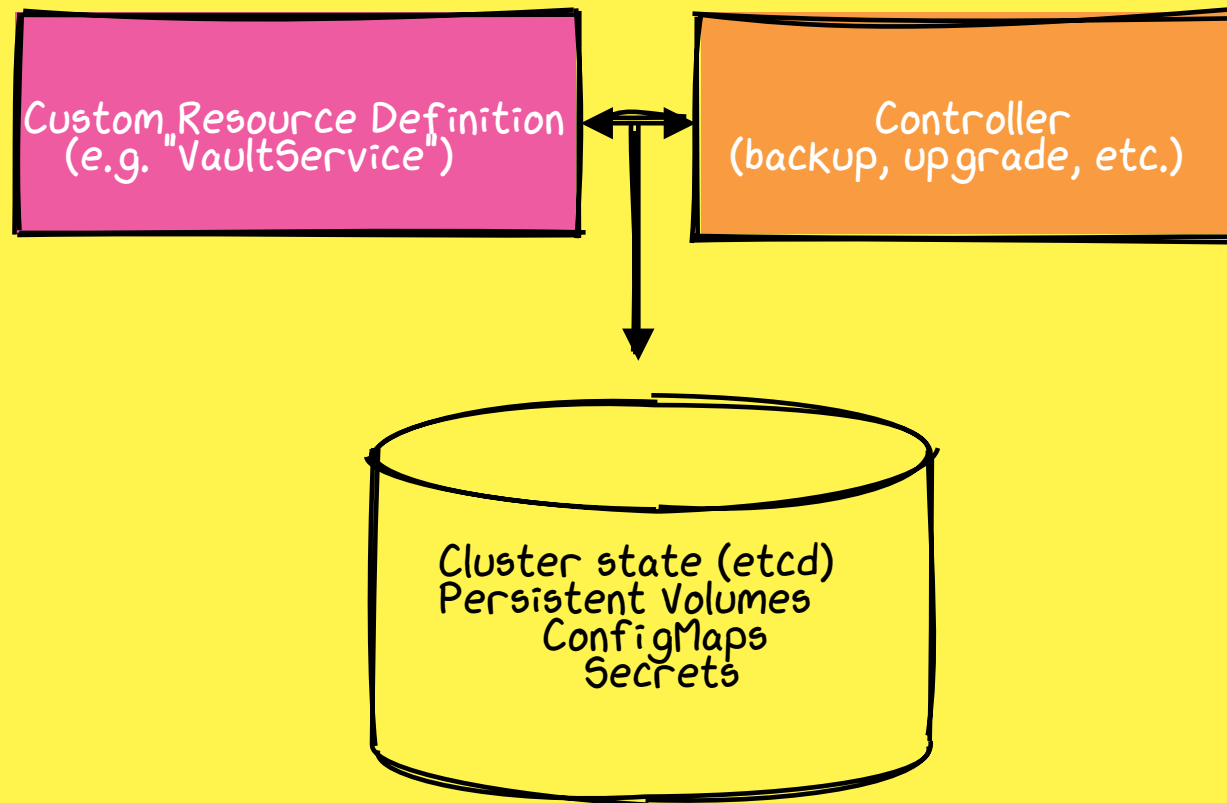open source – MIT

neutral IP ownership – CNCF

extensibility – controllers and operators

**Controllers** add custom processing to the core reconciliation loop.

When paired with custom resource definitions, they are known as **operators**.
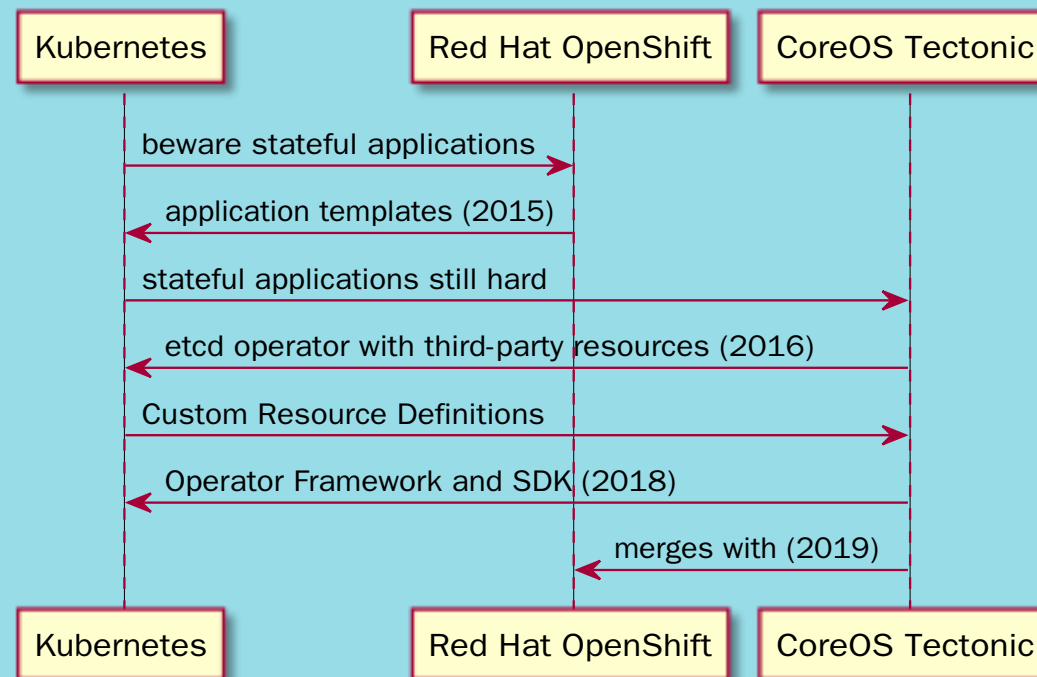
# OPERATORS

Custom Resource Definition (e.g. "VaultService") ↔ Controller (backup, upgrade, etc.)

Cluster state (etcd)
Persistent Volumes
ConfigMaps
Secrets

# STATEFUL WORKLOADS

Stateless is Easy, Stateful is Hard.

— Brandon Philips (2016)

Source: coreos.com/blog/introducing-operators.html

# PIZZA EFFECTS



**Kubernetes**      **Red Hat OpenShift**      **CoreOS Tectonic**

beware stateful applications →

← application templates (2015)

stateful applications still hard →

← etcd operator with third-party resources (2016)

Custom Resource Definitions →

← Operator Framework and SDK (2018)

merges with (2019) ←

**Kubernetes**      **Red Hat OpenShift**      **CoreOS Tectonic**

# CORPORATE SPONSORS

## Vault operator



## MySQL operator



## PostgreSQL operator

# MEANWHILE IN THE CLOUD

# FIRST MOVER ADVANTAGE

# A VERY PUBLIC BREAKUP

Secrets Manager

RDS

EKS

CodePipeline

SQS

Amazon Web Services
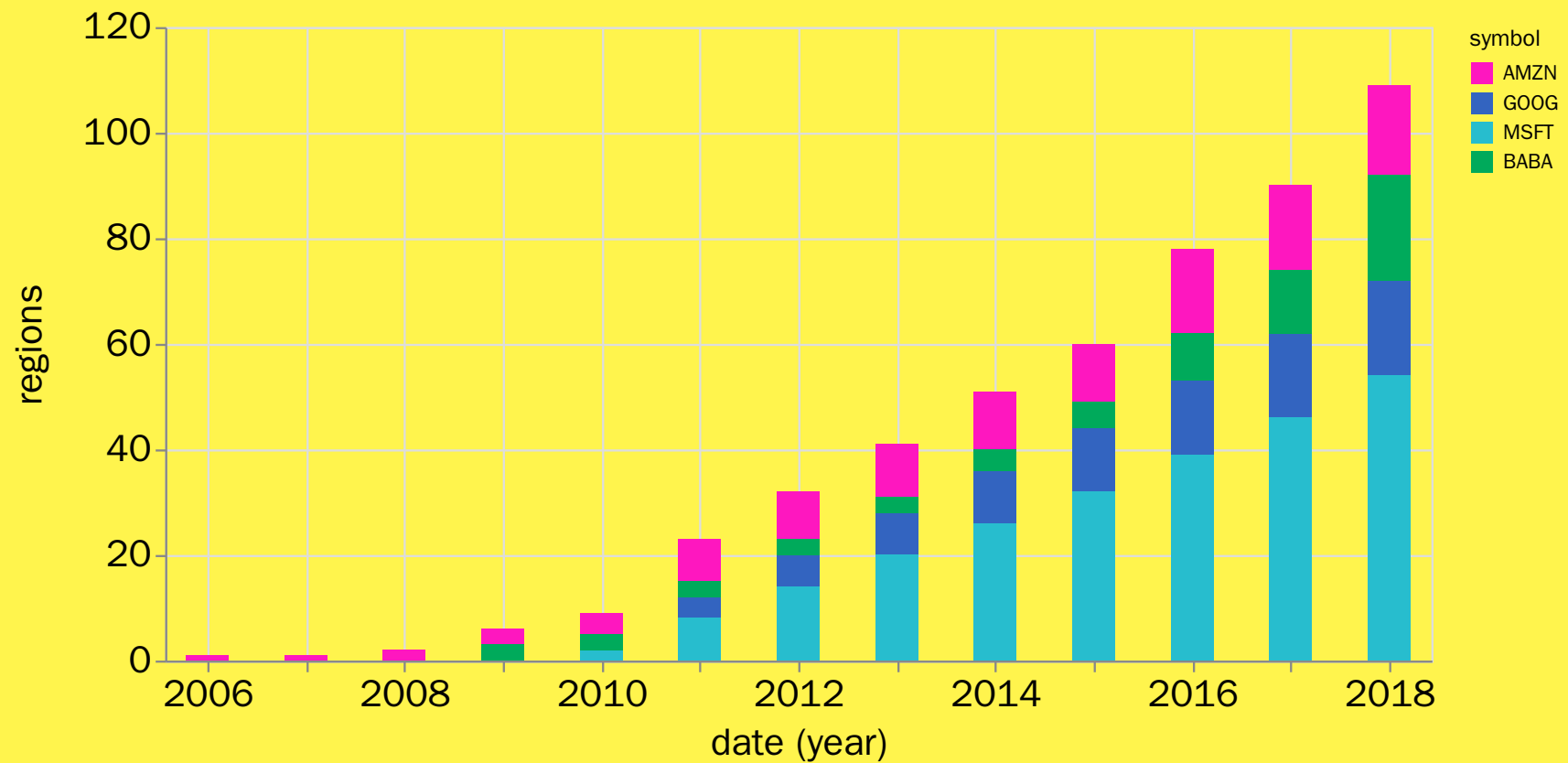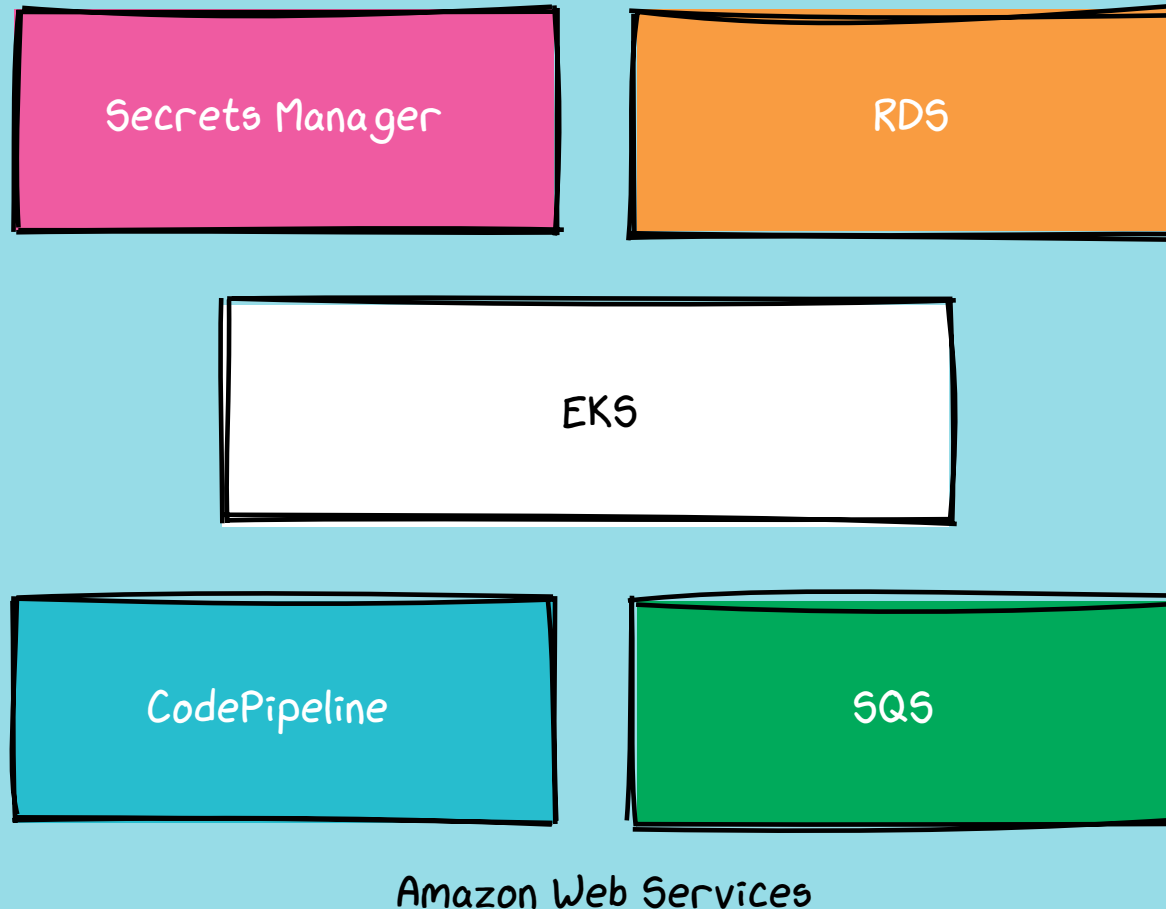
AWS perfected the use of services based on open source products.

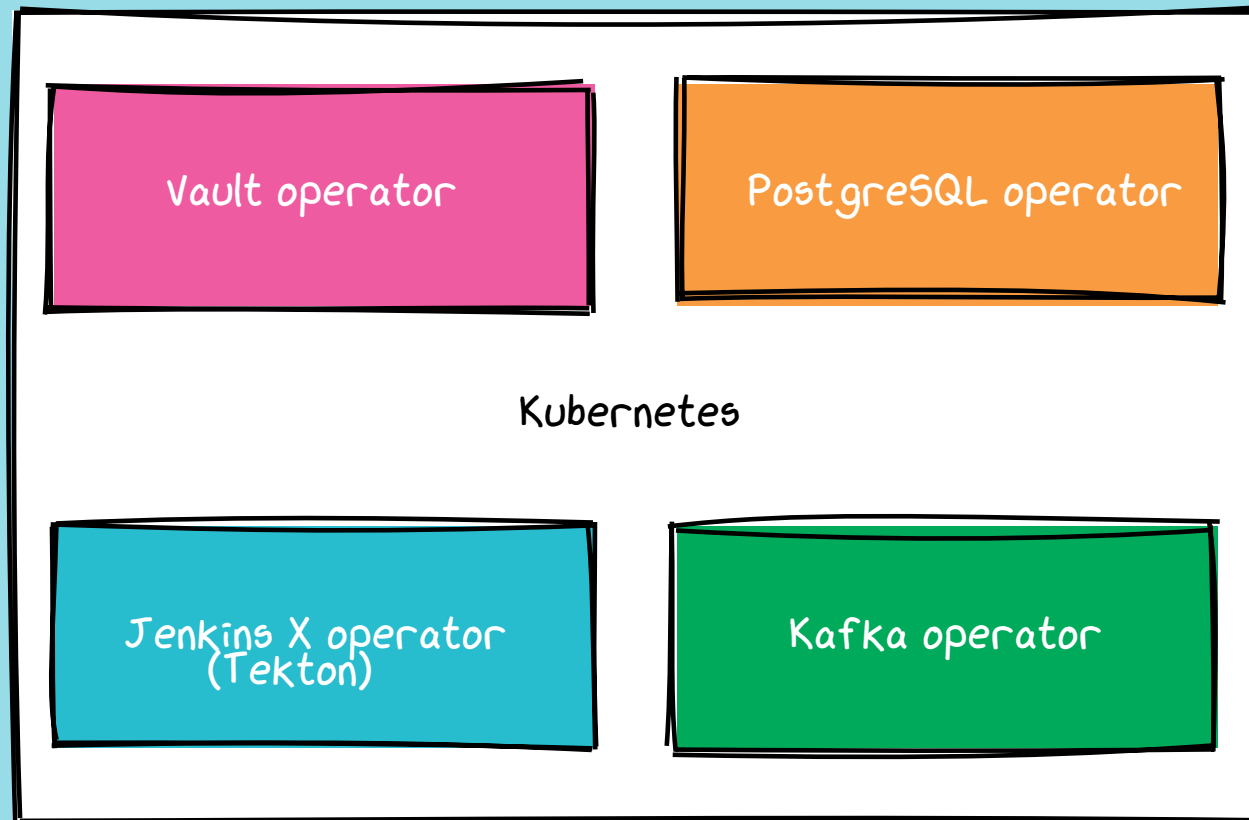In 2016 MongoDB responded with the Server Side Public License.

# TRADE WAR

Alibaba Cloud became a CNCF Gold Member and upgraded to Platinum in 2017.

Alibaba affiliate Ant Financial, Baidu and Tencent also became Gold Members.

# HORCRUX LIFE

Vault operator

PostgreSQL operator

Kubernetes

Jenkins X operator
(Tekton)

Kafka operator
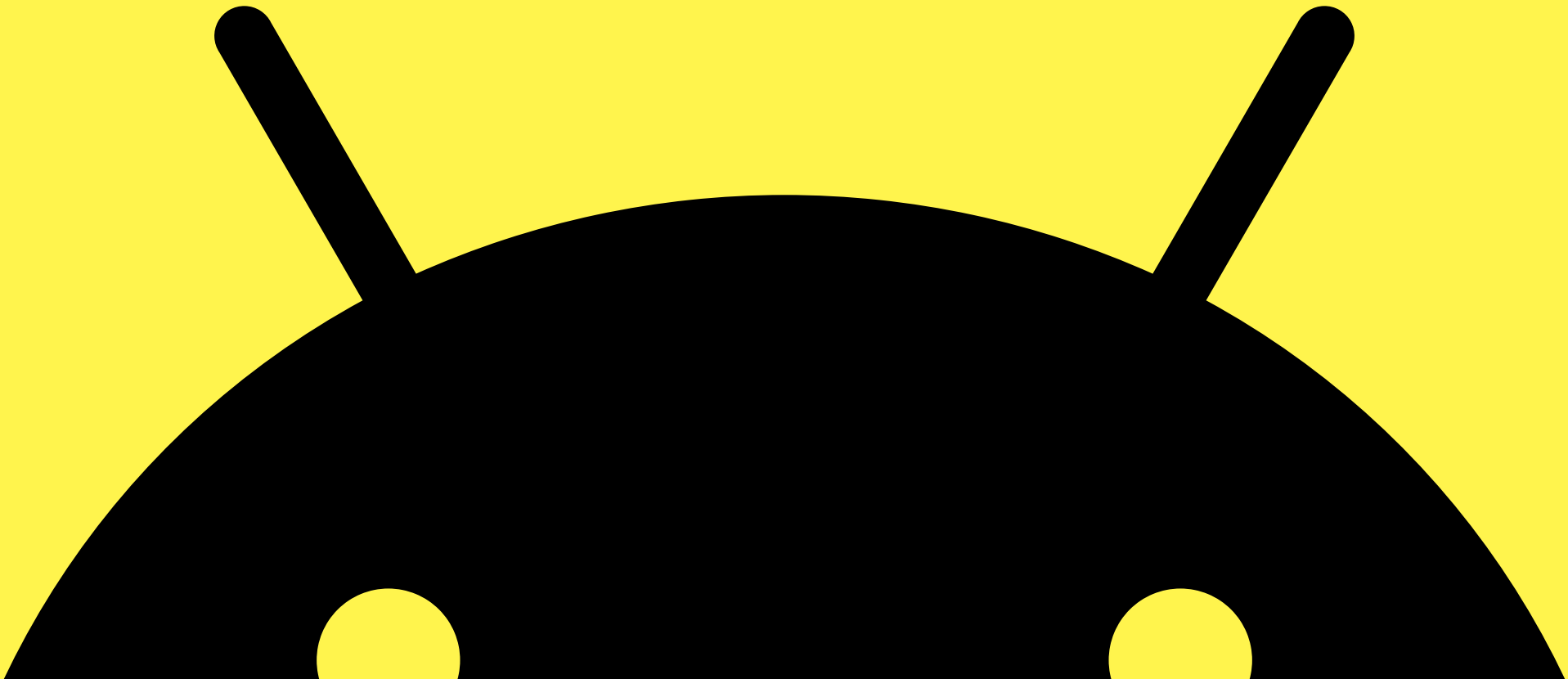
Any cloud offering a managed Kubernetes service

# ASPIRING CLOUD VENDORS

IS THE HORCRUX LIFE FOR ME?

Did AWS steal a multi-year march on you?

Are you at risk of US trade sanctions?

Are you a bazaar kind of company?

| YES! | NOPE |
|:---:|:---:|
| ✓ | ✗ |
| ✓ | ? |
| ✓ | ? |

# THANK YOU

Slides built with Markdeck
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