Why look for something else when Kubernetes does exist?

Anton Vorobiev
Infrastructure tech lead @Showmax
Swiss army knife @vorobiev.cloud

What is Showmax?

A world-scalable platform, delivering the best SVOD experience on the African continent and beyond.

- Built on microservice architecture (we love containers)
- We are distributed (EU + Africa)
- Engineering in Prague and Beroun

https://kinkyrhino.co.za/product/showmax-and-chill

I'm Anton.

- In Showmax:
  - I work as an infrastructure tech lead
- In vorobiev.cloud:
  - I help companies to adopt k8s and automate stuff

Past

- CoreOS fleet
  - a distributed init system
  - systemd-like unitfiles
  - custom tooling
  - rollout integration
- https://12factor.net/
- https://content.pivotal.io/blog/beyond-the-twelve-factor-app
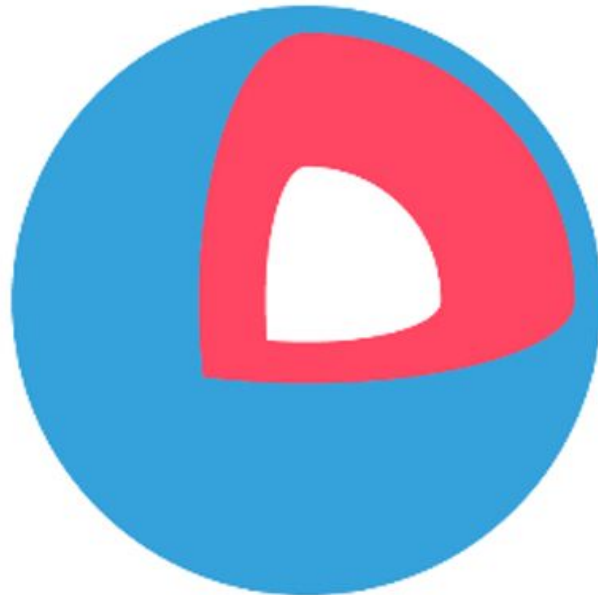
Present

⚠️⚠️⚠️ **Deprecation warning** ⚠️⚠️⚠️

fleet is no longer developed or maintained by CoreOS. After February 1, 2018, a
available from the CoreOS Quay registry, but will not be shipped as part of Conta

https://github.com/coreos/fleet

Future ???

Almost any k8s howto *

How to ~~draw an owl~~
set up a k8s cluster

1.

2.

set up some etcds **do** **kubernetes**

1. ~~Draw some circles~~

2. ~~Draw~~ the rest of the ~~fucking owl~~

https://knowyourmeme.com/photos/572078-how-to-draw-an-owl

* "k8s the hard way" is just an
exception that proves the rule

Almost any k8s howto

How to ~~draw an owl~~
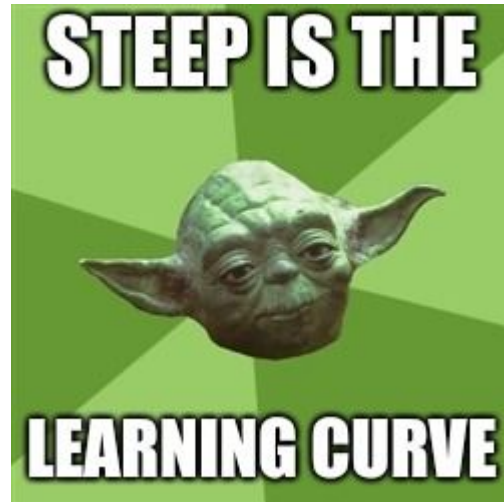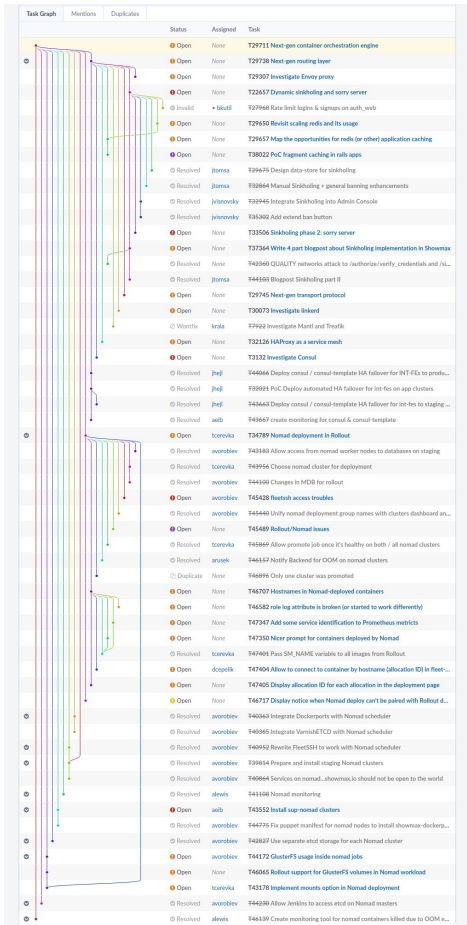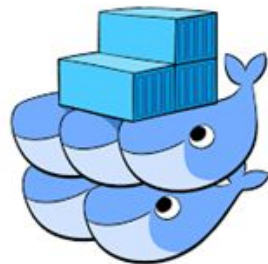**set up a k8s cluster**

1.

2.

set up some etcds   **do**   **kubernetes**

1. ~~Draw some circles~~   2. ~~Draw~~ the rest of the ~~fucking owl~~

https://knowyourmeme.com/photos/572078-how-to-draw-an-owl

STEEP IS THE LEARNING CURVE

Future

Consul

Nomad

Vault

Terraform

Networking
Connect infrastructure
and applications

Development
Run applications

Security
Secure infrastructure
and applications

Operations
Provision infrastructure

HashiCorp

@ShowmaxDevs

https://tech.showmax.com

{show/max}
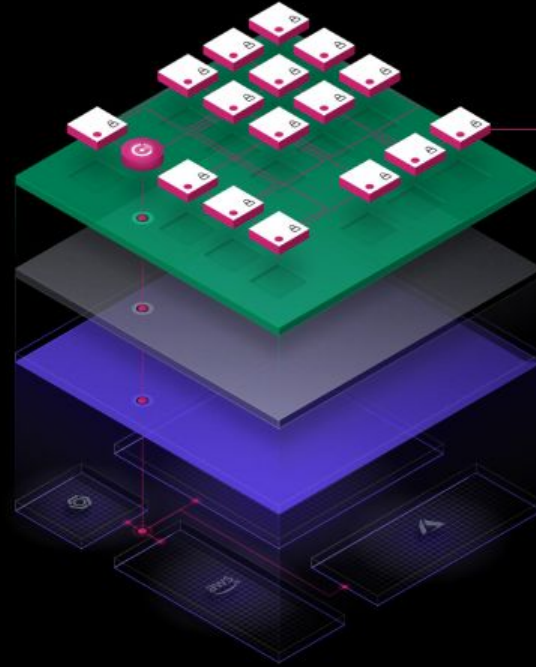
Consul

Nomad
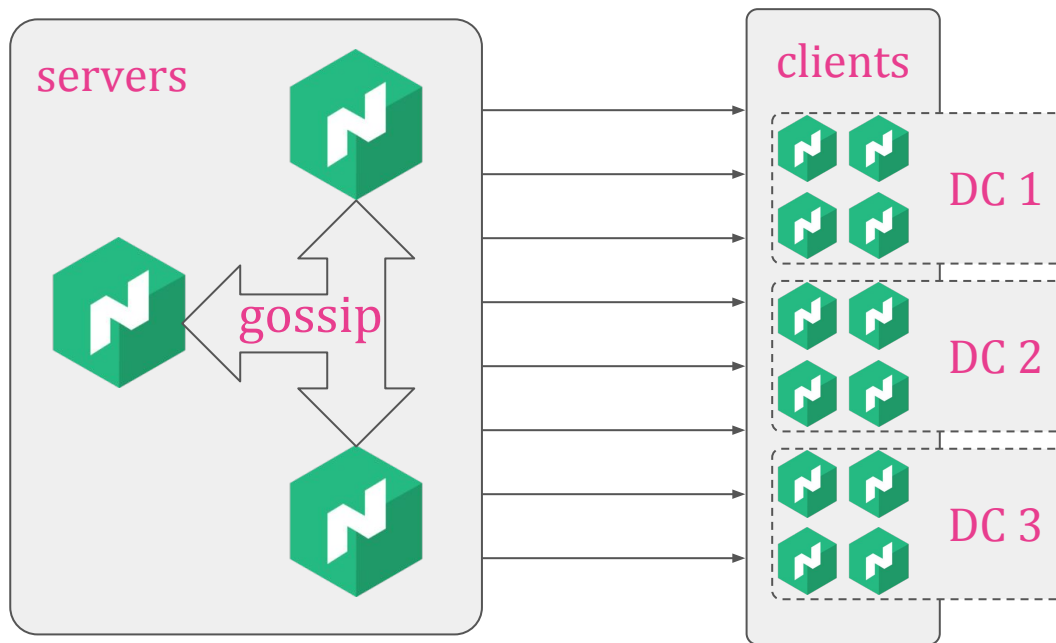
Vault

Terraform

Networking
Connect infrastructure
and applications

Development
Run applications

Security
Secure infrastructure
and applications

Operations
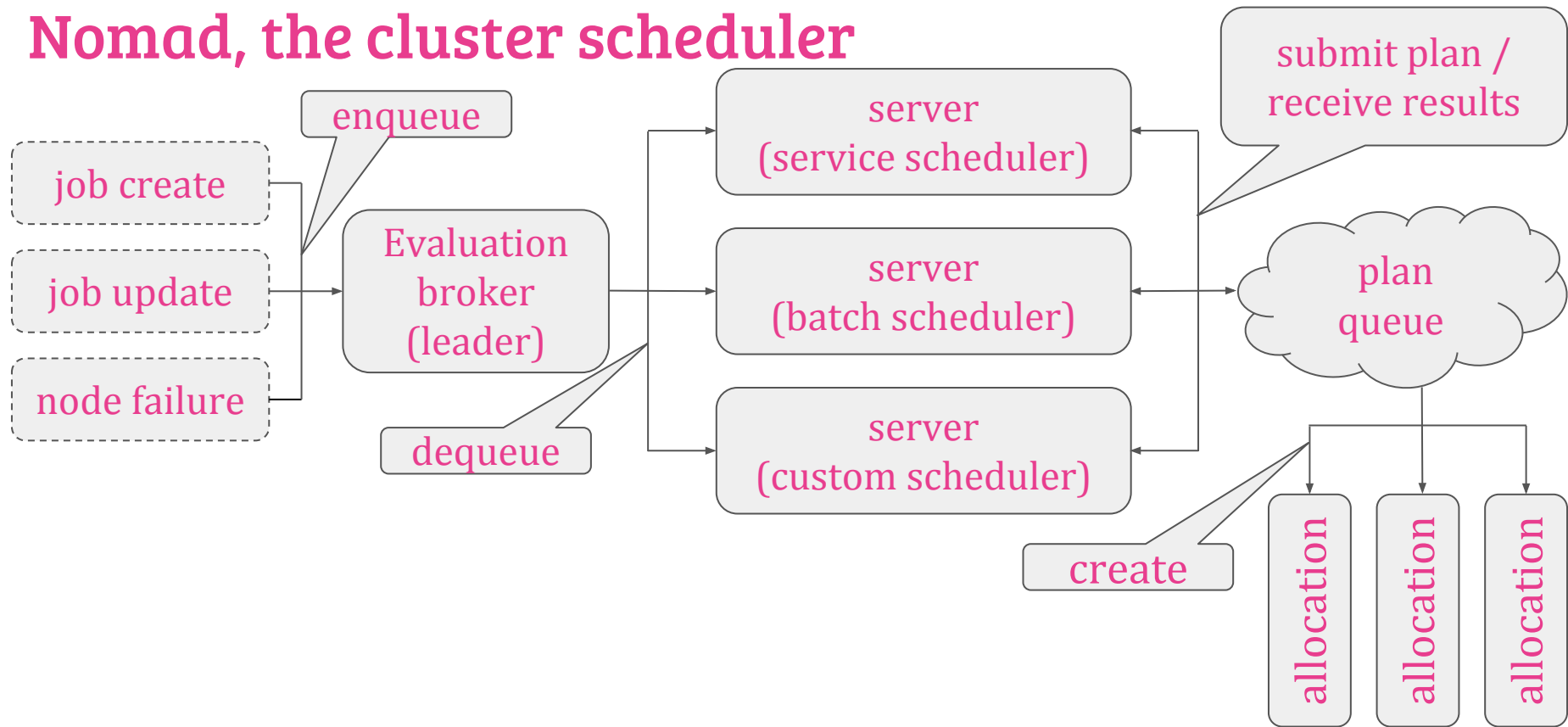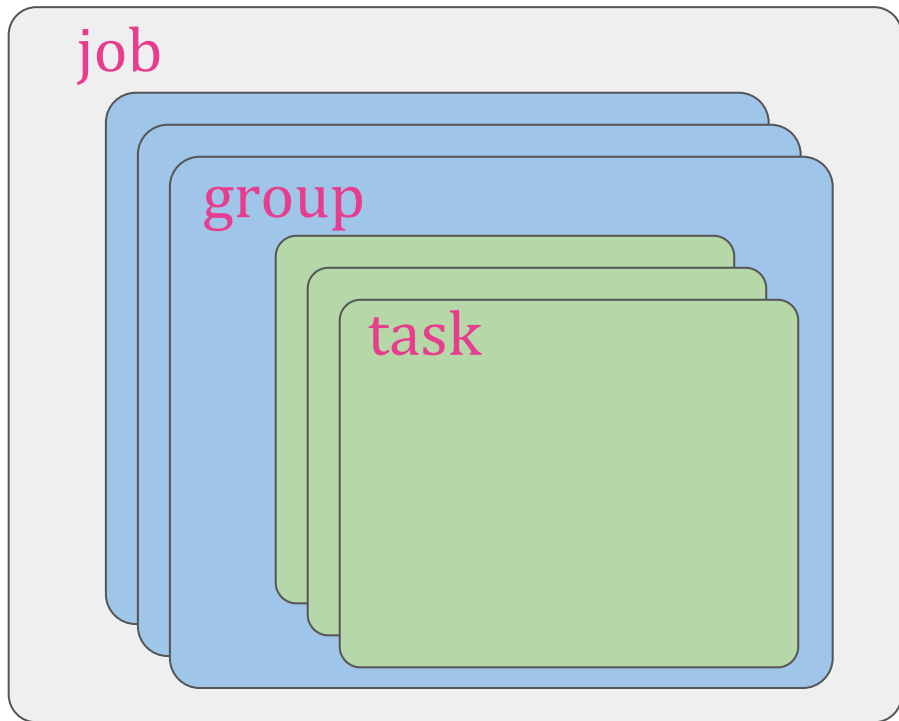Provision infrastructure

HashiCorp

@ShowmaxDevs   https://tech.showmax.com   {showmax}

Nomad, the cluster scheduler

Nomad, the cluster scheduler

@ShowmaxDevs   https://tech.showmax.com   {show/max}

Nomad, the cluster scheduler


```
job "docs" {
  datacenters = ["dc1"]

  group "example" {
    task "server" {
      driver = "docker"

      config {
        image = "hashicorp/http-echo"
        args = [
          "-listen", ":5678",
          "-text", "hello world",
        ]
      }

      resources {
        network {
          mbits = 10
          port "http" {
            static = "5678"
          }
        }
      }
    }
  }
}
```

Nomad, the cluster scheduler

- Flexible (enough) deployments
  - service
  - batch
  - system
- Schedules apps that can't easily be containerized
- Device plugins
- Resource limits

1 million containers challenge

- Cluster of 5 Nomad servers
- 5000 Nomad clients
- 1 000 000 containers under 5 minutes
- rate of 3,750 containers per second

https://www.hashicorp.com/c1m

Things that hurt

- Lack of kubectl exec - solved with custom tools
- ${NOMAD_ALLOC_INDEX} / ${NOMAD_ALLOC_ID} - worked around
- localhost bind() - WIP

    (https://github.com/hashicorp/nomad/issues/2615)

The point is

THANK YOU!

Get in touch!

Anton Vorobiev
🐦 @vorobiev_cloud
anton.vorobiev@showmax.com
anton@vorobiev.cloud