



**CLOUD NATIVE
COMPUTING
FOUNDATION**

Enhancing your control over Kubernetes with Spinnaker and Continuous Delivery

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Who am I?

Nick Chase



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Special Bonus

<http://mirantis.com/beta>

Agenda

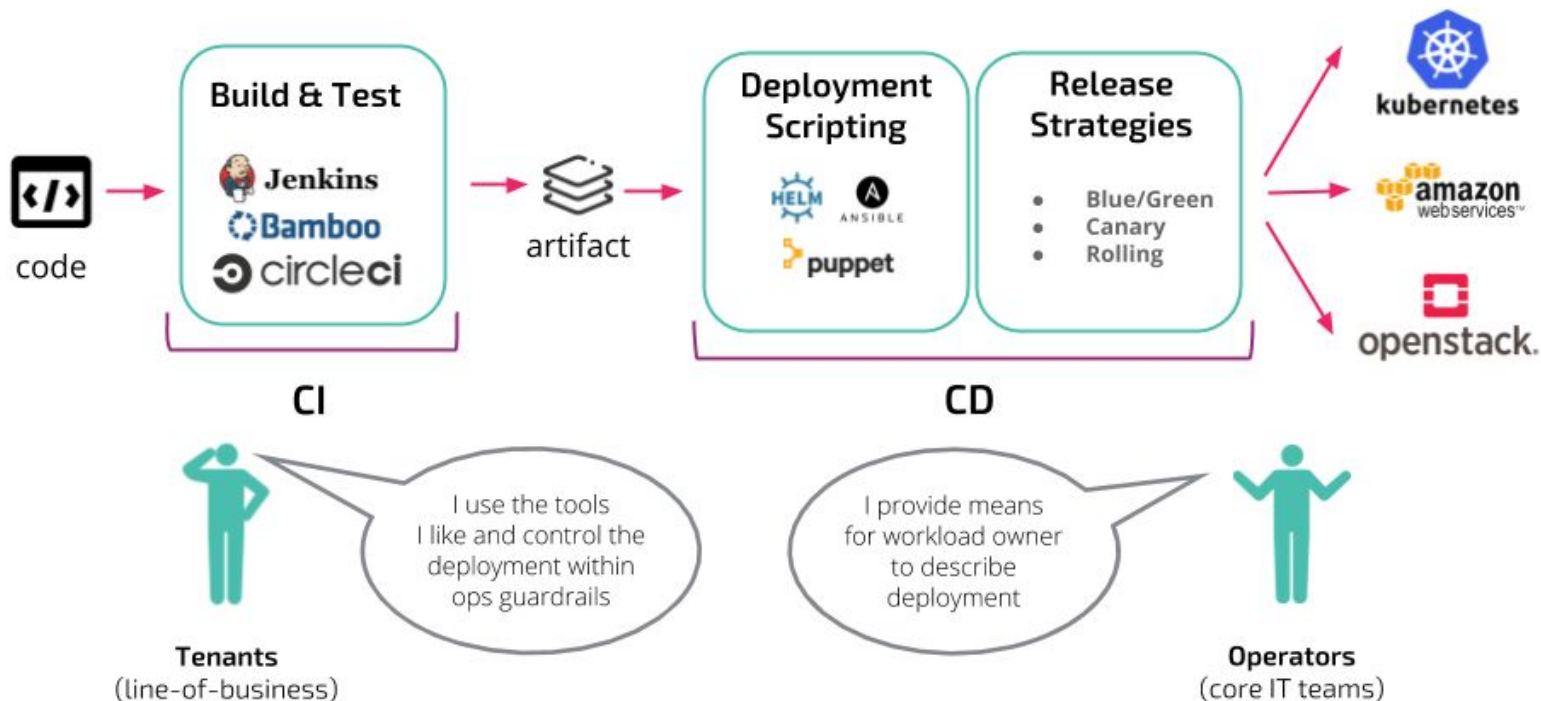
- Spinnaker for Kubernetes speakers
- How Spinnaker deployment on Kubernetes works
- Integration with additional tools
- Pipelines: Deploying Kubernetes resources
- Automated and manual approvals
- Deployment strategies and multi-cloud deployments
- Q&A



Getting Started

The lay of the land

A quick CI/CD refresher



What does this have to do with Kubernetes?

- Apps are complex
- Microservices moreso
- Infrastructure as code

Problems with ad-hoc CI/CD

- Security
 - Pre-existing vulnerabilities
 - Golden images

Problems with ad-hoc CI/CD

- Compliance
 - GDPR, SOX, HIPAA
 - What?
 - Where?
 - Who?

Problems with ad-hoc CI/CD

- Coordination
 - Who?
 - What?
 - When?
 - Where?
 - How?

What is Spinnaker?

- Continuous Delivery tool
- Open Source
- Google/Netflix

Quick tour

How Spinnaker helps

- Single source of truth for deployments
- Auditability
- Verified code/images



Spinnaker for Kubernetes speakers

Just what is Spinnaker,
anyway?

Instance == Pod

Server group == Replica Set

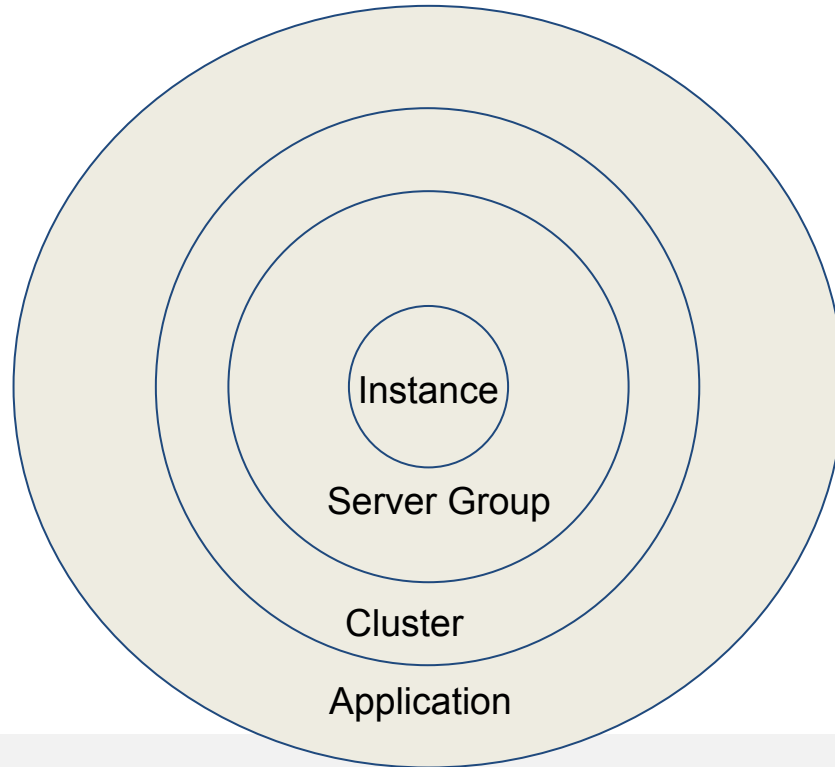
Cluster == Deployment

Application == Cluster

Load Balancer == Service

Security Group == Network Policy

Putting it together



Deployment Management

- Pipeline
- Stage
- Deployment strategy



Deploying Spinnaker on Kubernetes

How the beast works

Overview

Install Halyard

Configure
environment

Configure
Spinnaker

Deploy

Environment

- LocalDebian
- Distributed
- LocalGit

Provider

- App Engine
- Amazon Web Services
- Amazon Web Services - ECS
- Azure
- DC/OS
- Docker Registry
- Google Compute Engine
- Kubernetes (legacy)
- Kubernetes V2 (manifest based)
- Openstack
- Oracle

Storage

- Azure Storage
- Google Cloud Storage
- Minio
- Redis
- S3

Deployment

```
hal version list
```

```
hal config version edit -- version=<VERSION>
```

```
hal deploy apply
```

Demo deployment

Quick deployment

```
kubectl apply -f https://spinnaker.io/downloads/kubernetes/quick-install.yml
```



Integration with additional tools

What else can you do?

CI/CD

- Jenkins
- Travis

Artifacts

- Google Cloud Storage
- Github
- HTTP

Monitoring and metrics

- Prometheus
- Stackdriver
- Datadog

Notifications

- Slack
- Email
- HipChat
- SMS

Security

- Google Groups
- Github Teams
- LDAP
- SAML

Bakery

- Packer templates
- Configure provider bakery

Triggers

- Pub/Sub
- Github Webhook

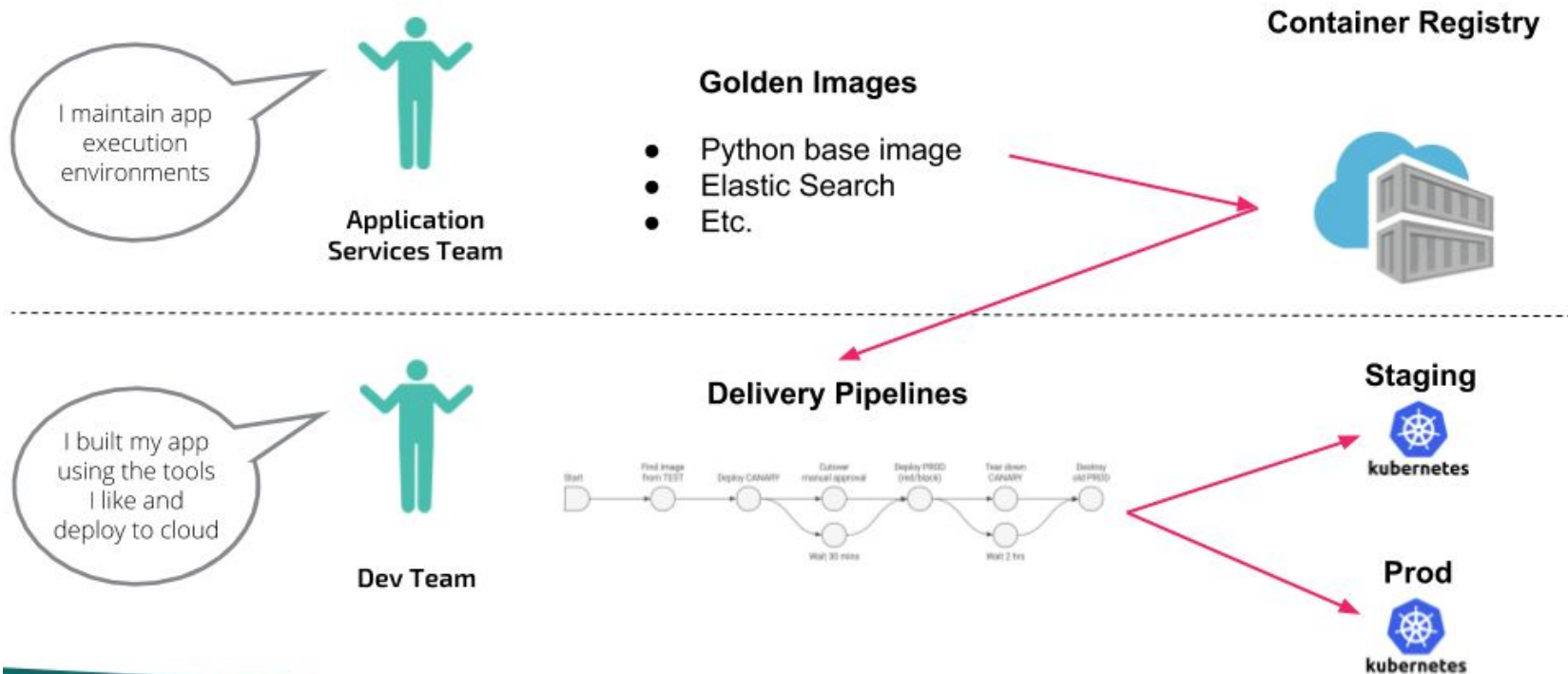
Canary

- Scope
- Judge
- Metrics



Demo

Organizational Context





Q&A

<http://mirantis.com/beta>

<http://mirantis.com/demo>

Next demo: Wed 5/16



Thank You