KENZAN

Digital Consulting + Software Engineering

Workshop: Zero-to-Canary with Spinnaker

Transforming businesses that use technology
into technology organizations that do business.

Agenda

1. Welcome
2. What is Spinnaker?
3. What is Enterprise Observability?
4. What is Canary?
5. What are we going to do today?

Welcome

Who are we?

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Welcome

This Workshop

In today's workshop we are going to do a couple exercises around Spinnaker and canary releases.

This session focuses on a few things:

1) Getting Spinnaker up and running
2) Build and triggered Pipeline
3) Doing Canary with Spinnaker

Session is partitioned this way

- This presentation (10 minutes)
- Environment creation (45 Minutes)
- Break (5 minutes)
- Build and Deploy Pipeline (60 Minutes)
- Break (5 Minutes)
- Canary and Closing Remarks

What is Spinnaker?

Continuous Delivery of Artifacts

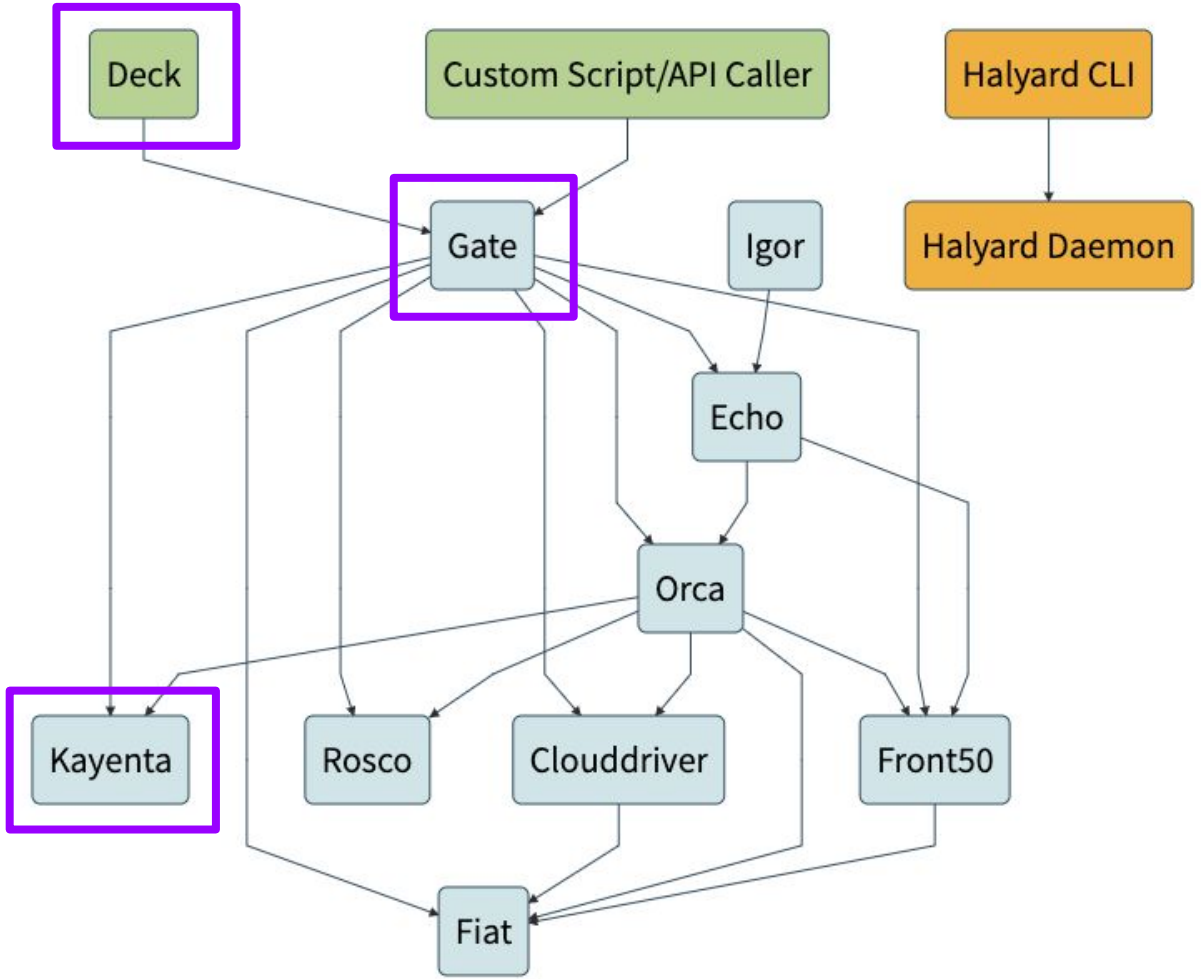
- Thanks Netflix!
- Spinnaker is advertised as a **Continuous Delivery** solution
- Born on the cloud for the cloud
- It is for the organization that wants to **RUN** software as opposed to just building software
  - What does that mean?
- Multi-cloud Capable
- Various CI integration options
  - Jenkins, Concourse, **Google Cloud Build**
- First Class Kubernetes Support
  - The Spinnaker-Kubernetes Sig includes Google FTE's
  - Spinnaker Featured in GCP's Continuous Delivery Story
- Enterprise product variant from Armory

Spinnaker Architecture

For this Workshop...

We will be port forwarding for Deck and Gate at port 9000, 8084 Respectively.

Kayenta in action with Canary pipeline.



What is Enterprise Observability?

I can see without looking (err searching)

- Observability

  “In control theory, observability is a measure of how well internal states of a system can be inferred from knowledge of its external outputs. The observability and controllability of a system are mathematical duals. ” - Wikipedia

- AKA: You can’t manage what you can’t measure
- Sadly, Robust observability is often fought against within an enterprise
  - “Don’t create as many log messages”
  - “We don’t have time to create custom metrics”
  - “Why trace, we have logs?”
- Robust measuring enables effective management
  - Mean-time-to-Repair
  - Time lost discovering is time you are not repairing
  - Burn-out your team?
    - Do I need five tabs open to figure out what happened?
- Developer Enablement
  - Can you naturally communicate what is happening?

What is Canary?

Canary is a software release pattern.

Release with Confidence

To perform a *canary release* is to introduce a production change with a minimal amount of risk. This is often performed by exposing the new change to a small slice of the production environment (often a percentage of user traffic).

Canary is not Blue/Green

Blue/green refers to complete stack transitions while canary is gradual introduction.

Canary is not A/B

A/B testing are about experiments between two alternatives and results may never yield a move forward. Canary is about moving forward.

Automated Canary Analysis (ACA)

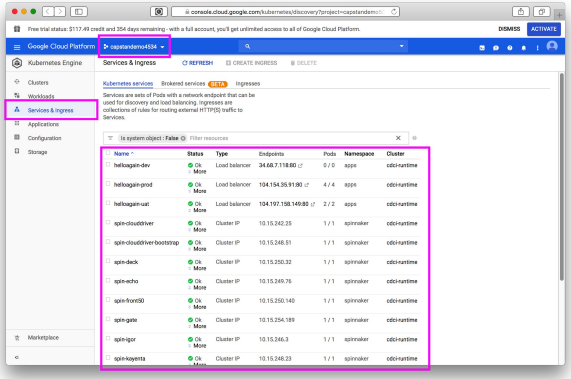
Today canary processes are manual, but ACA is public although it needs robust instrumentation to function.

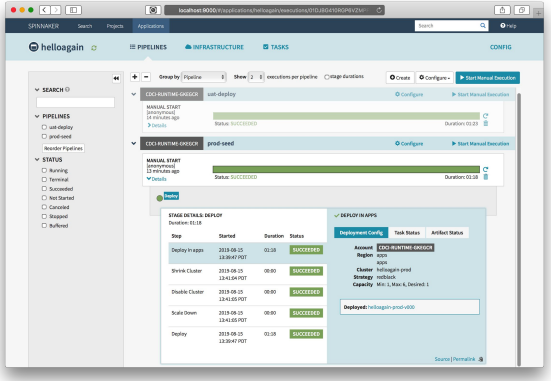
Canary do not Replace Quality Tests

But they most definitely expose the quality of your tests!

What are We going to do today?

1. Install Spinnaker on GCP
2. Discover the provisioned environment
3. Manipulate some pipelines
4. Discuss observability and Canary
5. Explore Spinnaker's Canary solution





Setup Your Spinnaker Environment

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An Amdocs Company

WKB-CD-SPINNAKER-INSTALL-GCP-2019 v3 (DRAFT)

08.21.2019
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Introduction

Use this workbook to bootstrap Capstan into a Google Cloud Platform (GCP) Account that you administer. Time needed is estimated to be approximately 40 mins.

What is Capstan?

Capstan, provides platform automation. At its heart, it is a Terraform application. It provisions all the necessary infrastructure and tools to provide a Spinnaker based continuous delivery environment in Kubernetes.

What is Capstan-Bootstrap?

Capstan-Bootstrap provides a containerized runtime environment for Capstan. It captures and automates as many setup steps as possible based on the Capstan ReadMes.

Let’s Begin

Open the first workbook