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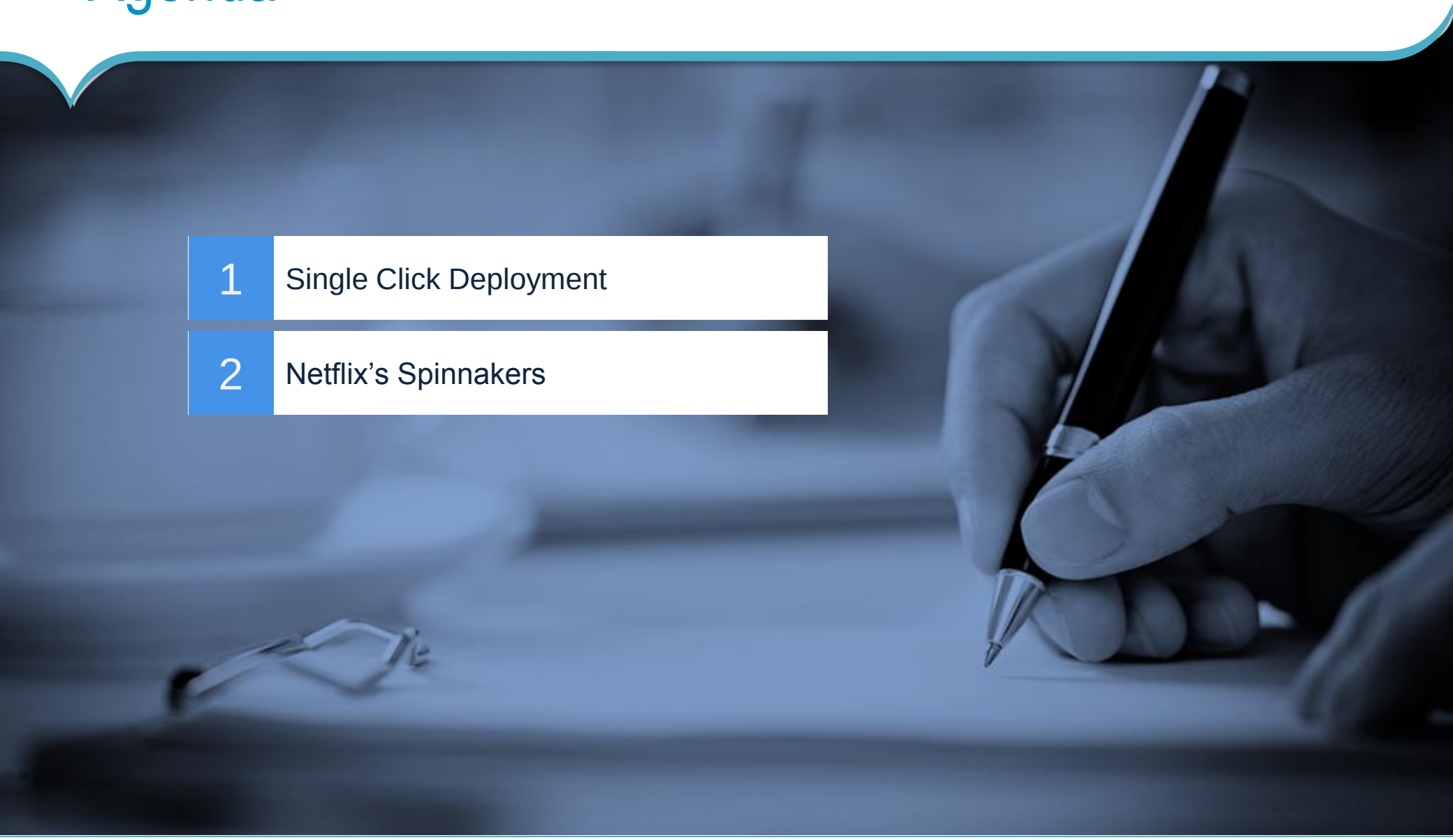
Cloud-Native Continuous Delivery With Netflix Spinnaker

2017

People matter, results count.

Agenda



1. Single Click Deployment
2. Netflix's Spinnakers

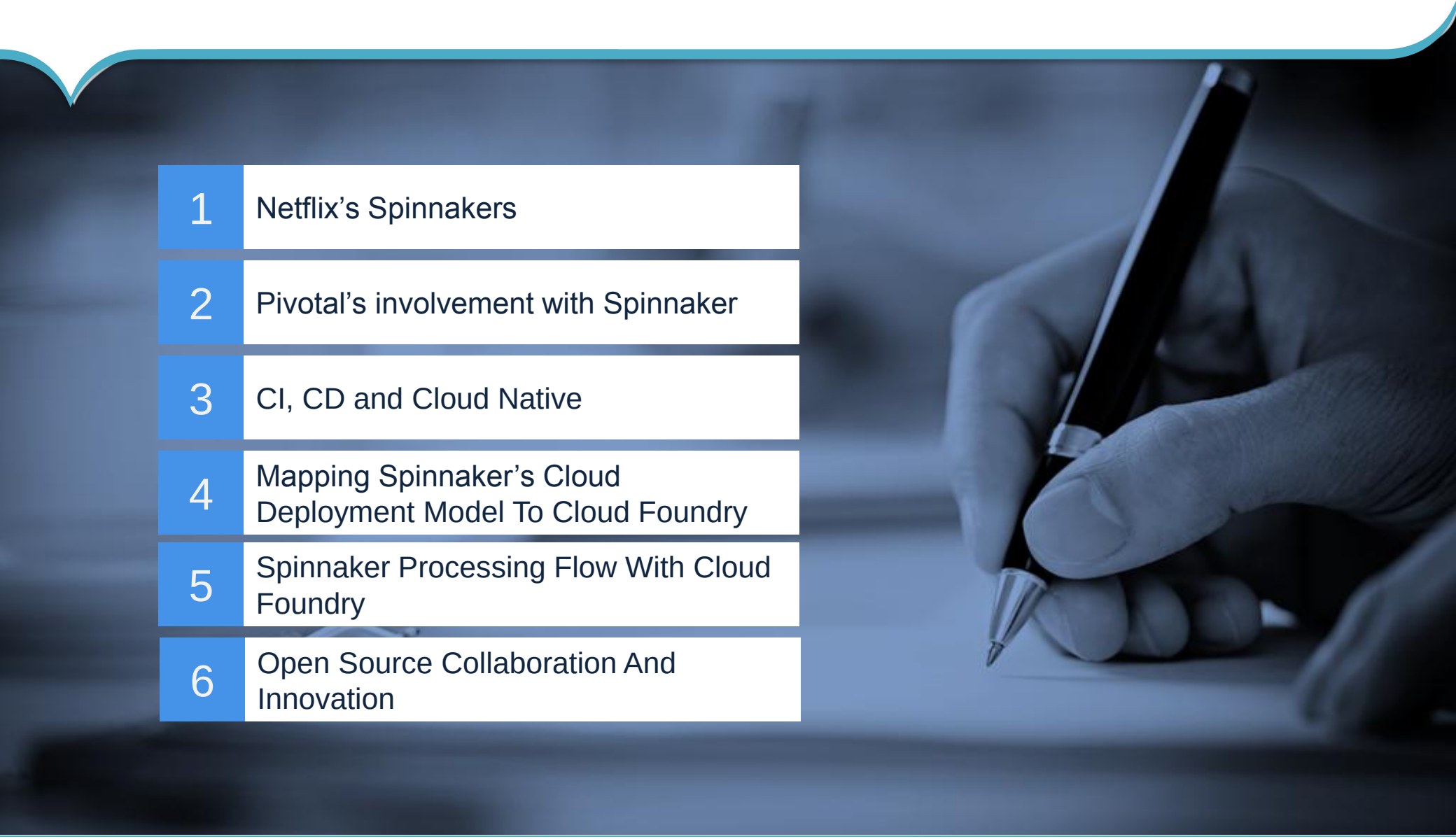
Single Click Deployment

Single Click Deployment

- Trigger deployment from single point of contact
- Importance of Single Click Deployment
- Microsoft – Single Click Deployment Concept

Netflix Spinnakers

Outline



1. Netflix's Spinnakers
2. Pivotal's involvement with Spinnaker
3. CI, CD and Cloud Native
4. Mapping Spinnaker's Cloud Deployment Model To Cloud Foundry
5. Spinnaker Processing Flow With Cloud Foundry
6. Open Source Collaboration And Innovation

Netflix's Spinnaker

- Spinnaker is Netflix's Cloud-Native, **continuous delivery platform—built from the ground up to intelligently deploy software releases to cloud platforms.**
- Ship code rapidly, with increased confidence and greater visibility.
- Open source project with additional cloud provider support contributed by Pivotal, Google, and Microsoft.
- The platform supports polyglot deployments and provides a cloud agnostic deployment model which supports AWS, Pivotal Cloud Foundry® (PCF), Google Compute Engine, and Microsoft Azure (forthcoming).

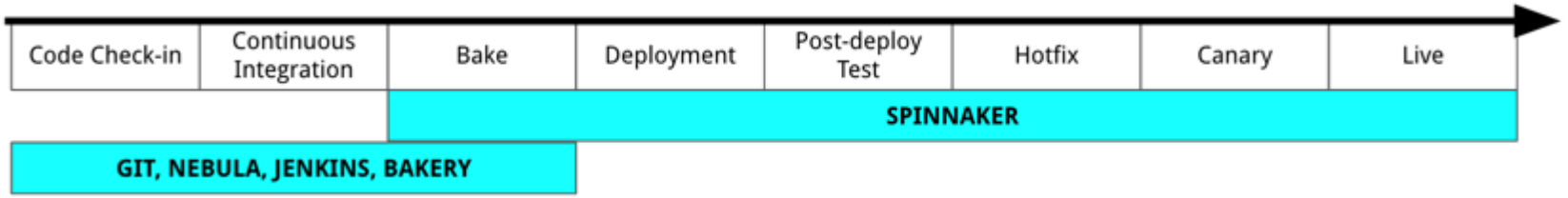
Netflix's Spinnaker - Goals

- Spinnaker incorporates the deployment patterns and lessons learned at Netflix over the past six years of **work with Asgard** and achieves the following goals:
  - Enables repeatable automated deployments captured as flexible pipelines and configurable pipeline stages
  - Provides a global view across all the environments that an application passes through in a deployment pipeline
  - Offers programmatic configuration and execution via a consistent and reliable API
  - Is easy to configure, maintain, and extend
  - Is operationally resilient
  - Addresses a breadth of pipelines

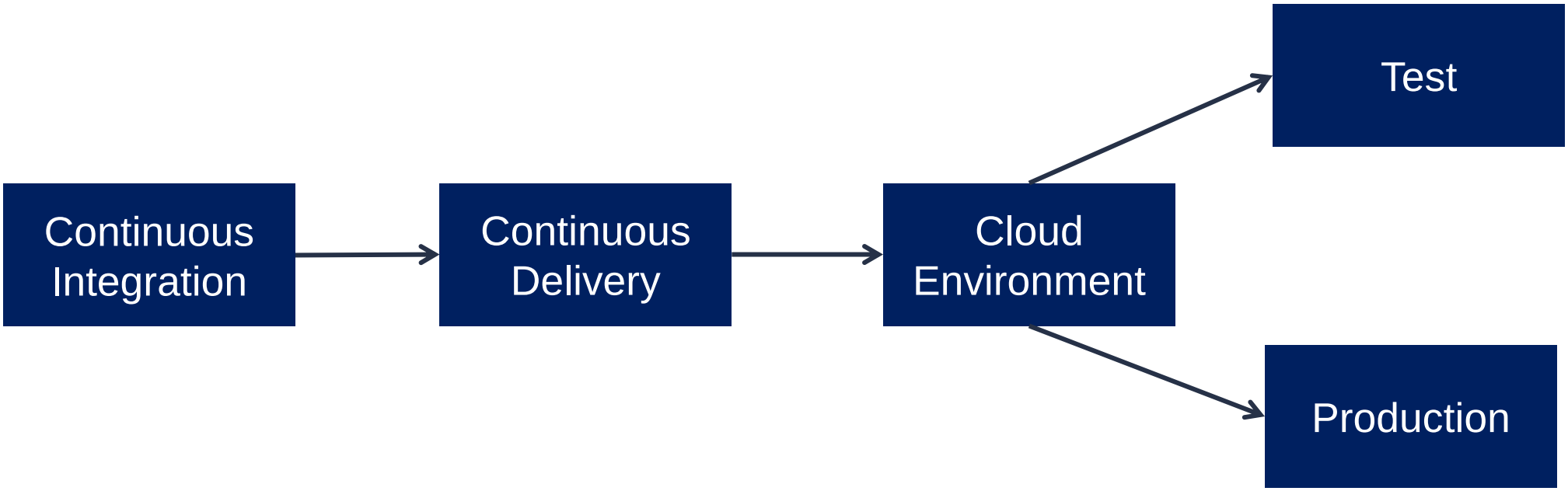
Pivotal's involvement with Spinnaker

- Spinnaker planned to provide an open and pluggable system, enabling the open source community to easily extend the platform and support additional cloud platforms.
- Netflix is collaborating with industry leaders like Pivotal, Google, and Microsoft to ensure Spinnaker's adoption and advance the technology.
- Pivotal has contributed Cloud Foundry support, ensuring our enterprise customers and community can easily take advantage of Spinnaker for their Cloud-Native deployments.
- **Spinnaker itself can be deployed to PCF just like any other application.**
- Additionally, a Cloud Foundry driver has been contributed.
- It maps Spinnaker's deployment model to Cloud Foundry APIs, making it simple to deploy user applications.

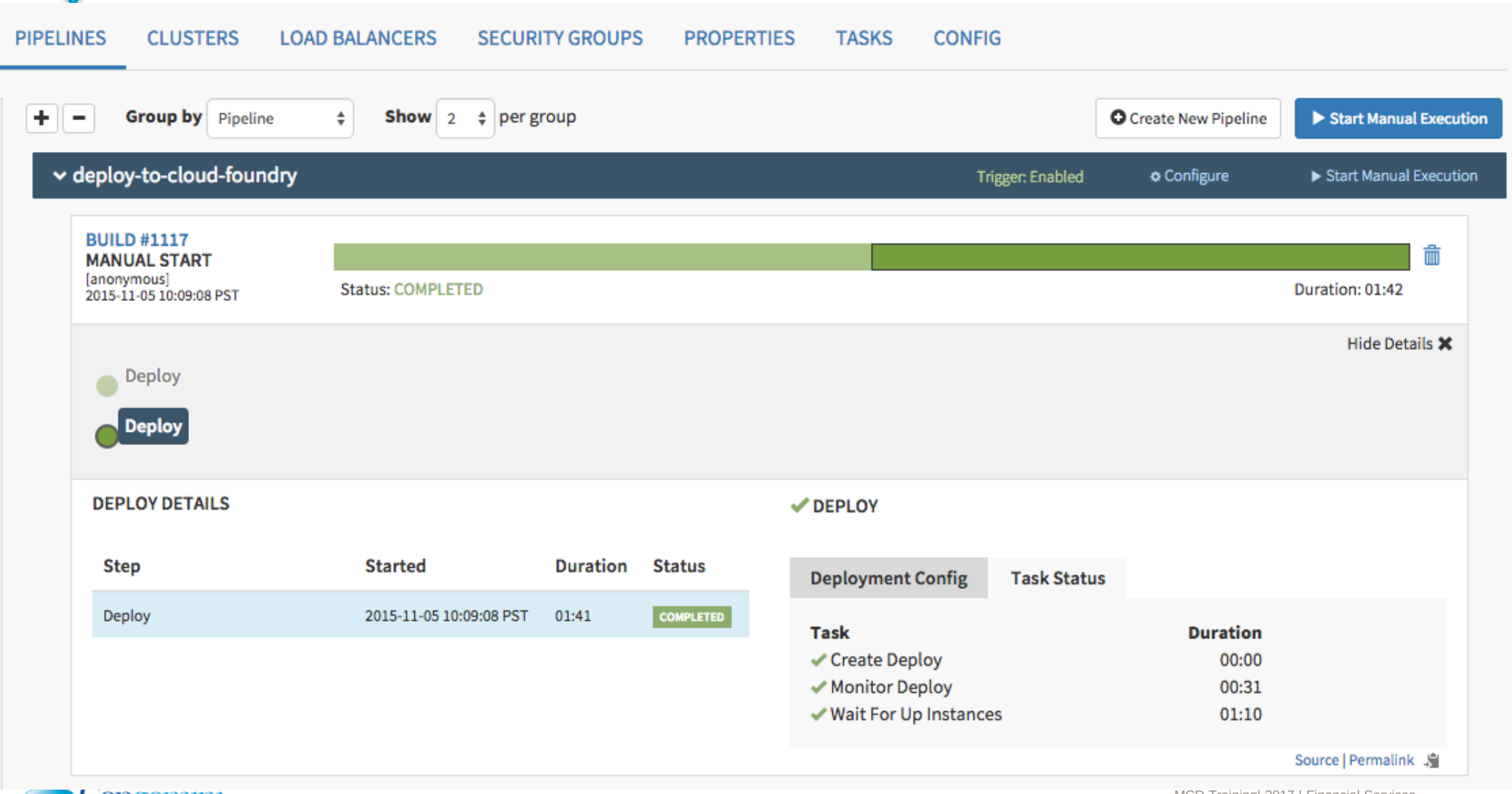
How we build Code at Netflix



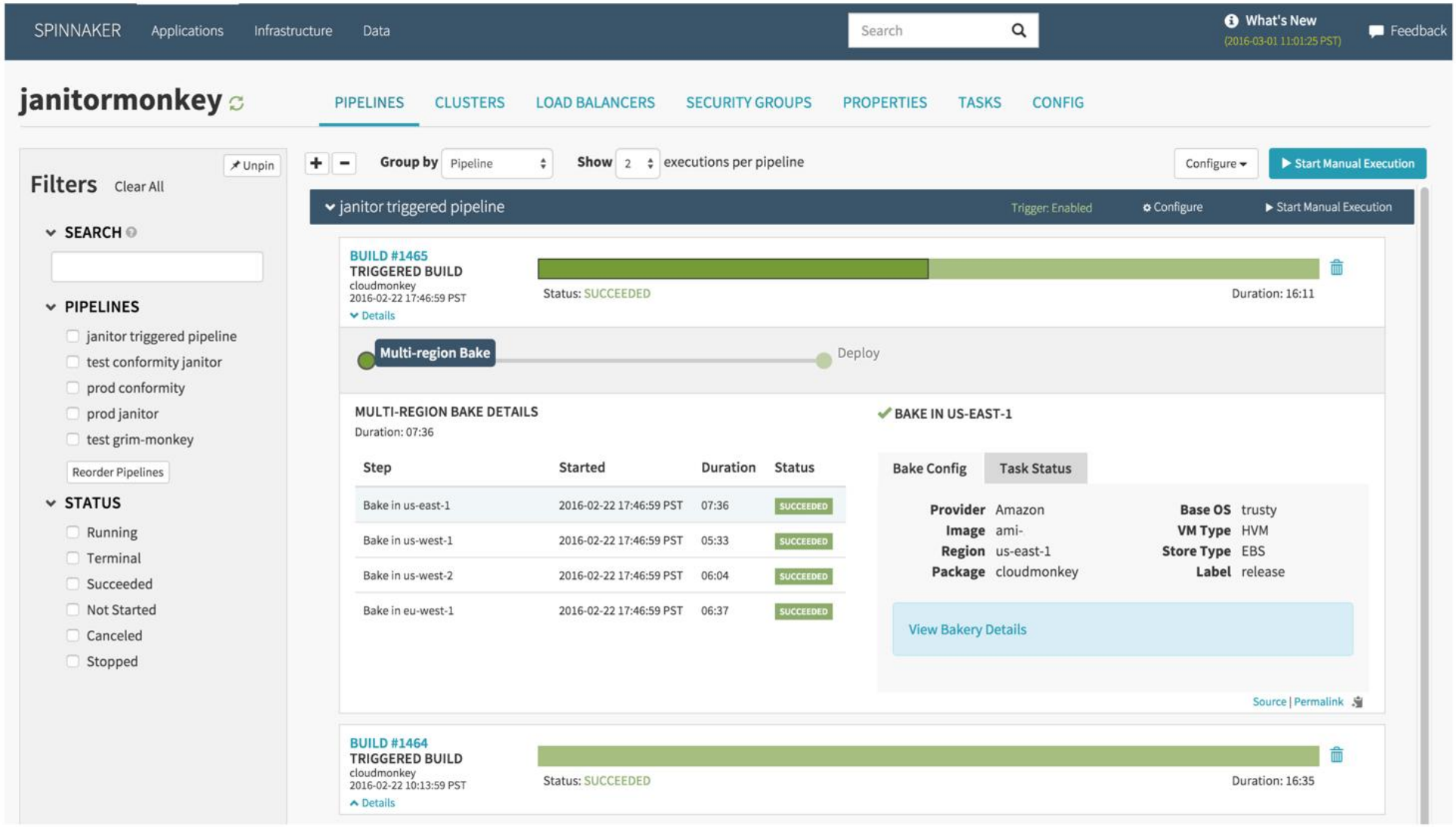
Continuous Integration, Continuous Delivery and Cloud Native



Continuous Integration, Continuous Delivery and Cloud Native



Continuous Integration, Continuous Delivery and Cloud Native



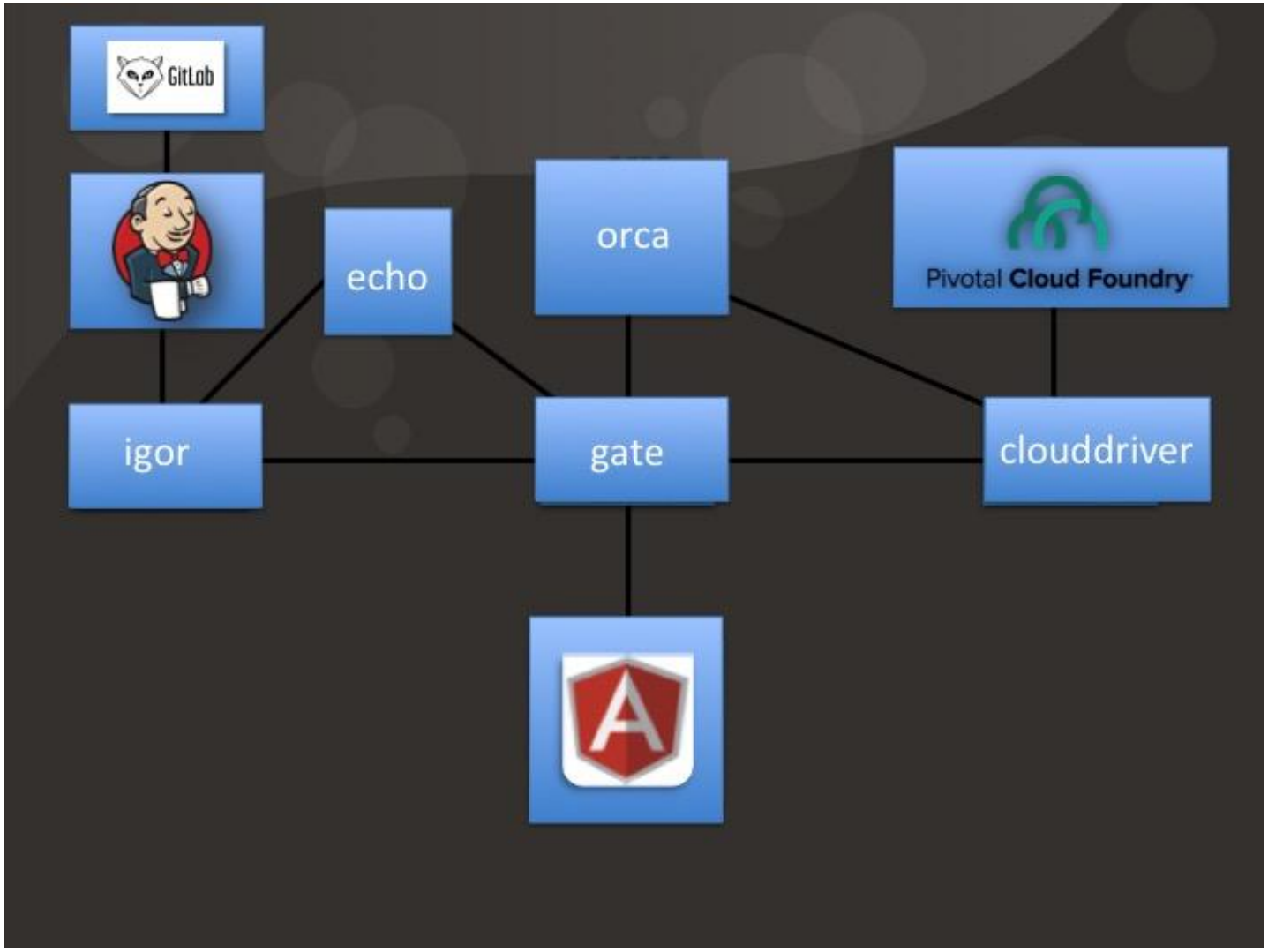
Mapping Spinnaker's Cloud Deployment Model To Cloud Foundry

- Cloud Foundry's Spinnaker modules have adopted Spinnaker terminology, where possible, to make the integration simpler. A few examples are given below to illustrate the mapping of Spinnaker concepts to Cloud Foundry concepts:
  - Application
  - Cluster
  - Server Group
  - Instance
  - Load Balancer

Spinnaker Processing Flow With Cloud Foundry

- Spinnaker consists of a series of microservices, allowing the system to be scaled and managed independently in production. The primary components of the Spinnaker system are:
  - Igor
  - Echo
  - Orca
  - Cloud Driver
  - Deck

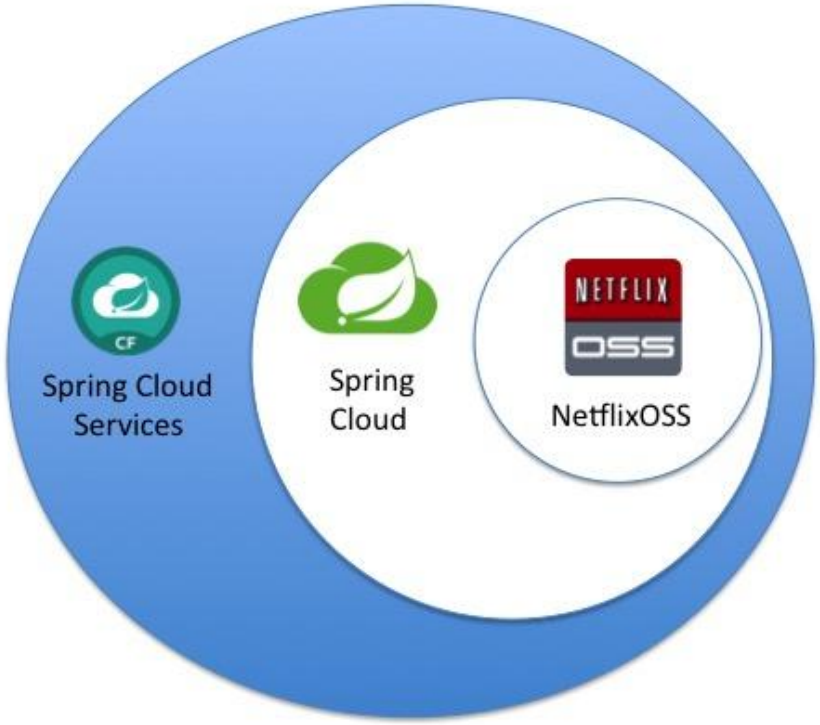
Spinnaker Processing Flow With Cloud Foundry



Spinnaker Processing Flow With Cloud Foundry

- How does it works:
  - Step 1: A developer commits code, which kicks off a Jenkins build
  - Step 2: The Jenkins build completes and an application deployment artifact is created
  - Step 3: Igor reacts to the build's completion and posts an event to Echo
  - Step 4: Echo routes the event to Orca, which and starts the delivery pipeline instance and sends a request to the Cloud Driver
  - Step 5: Cloud Driver pulls the artifact from Jenkins and deploys it to PCF
  - Step 6: The Orca pipeline completes when Cloud Driver detects a new server group up and running on PCF

Open Source Collaboration And Innovation



THANK YOU

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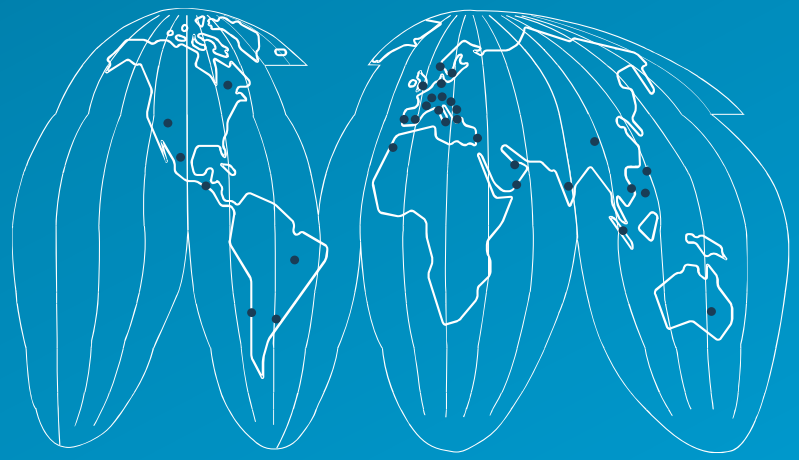

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