The modern CD landscape

A peek into the future of pipelines

Your Presenters

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AMBASSADOR DevOps INSTITUTE Human of DevOps

CD.FOUNDATION

The Continuous Delivery Foundation seeks to improve the world's capacity to deliver software with security and speed.

- *Establish best practices*
- *Propel the education and adoption of Continuous Delivery tools*
- *Facilitate cross-pollination*

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Takeaways

- **Less need for branching and merging code.**
- **Builds are shrinking.**
- **Releases are incremental.**
- **SCM is lost.**
- **New Landscape will be developed.**

Microservices Vs. Monolithic

We are taking our applications and breaking them into smaller pieces that are built and released independent of the “whole.”

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Less Branching and Merging

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The role of version control

- Code is no longer thousands of lines long
- A microservice is more like an API, or smaller function of code. Many developers working on a single API is not as common as monolithic.
- Branching and Merging will not be as critical.

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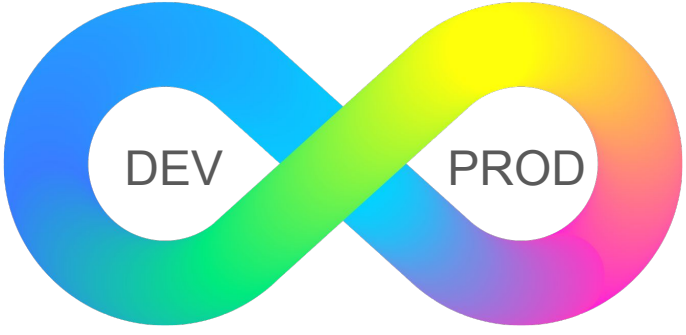
Shifting Builds

- Builds are Different
- Smaller code means smaller builds, if at all. Python is interpreted.
- Linking is done at runtime, not at compile/link time.
- Builds will focus on creating a container.

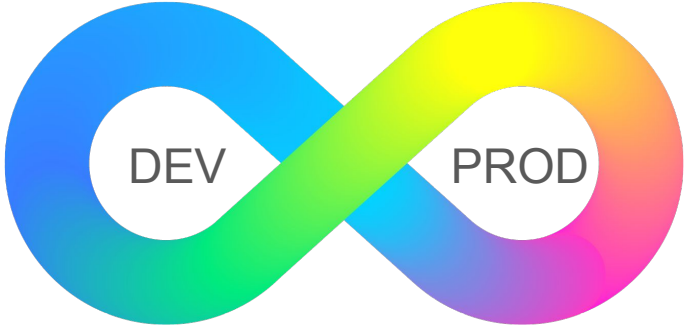
The Build Disappears

Traditional

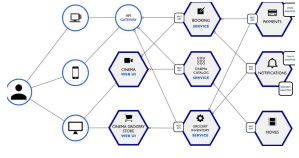


The compile/link step assembles the complete ‘application’ package to pass to Test and Prod. Library configuration management decision making is done here. This is the heart of CI.

Modern



Microservices are loosely coupled and linked at runtime via APIs. The concept of an application is only ‘logical.’

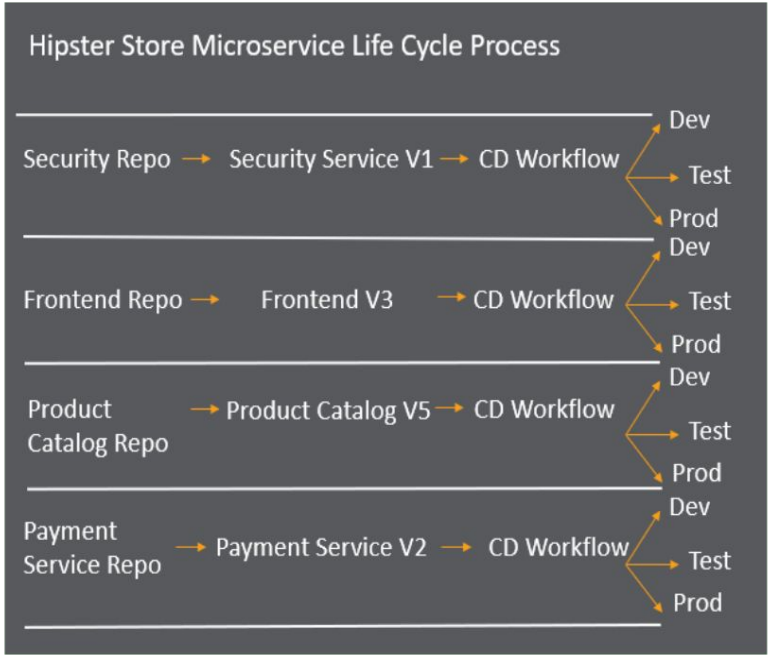


The Shift in Release

- Microservices are released independently.
- Smaller updates means more frequent updates.
- Smaller independent updates creates lots of workflows.

Reality of Workflows

Multiple Workflows for a Single Application



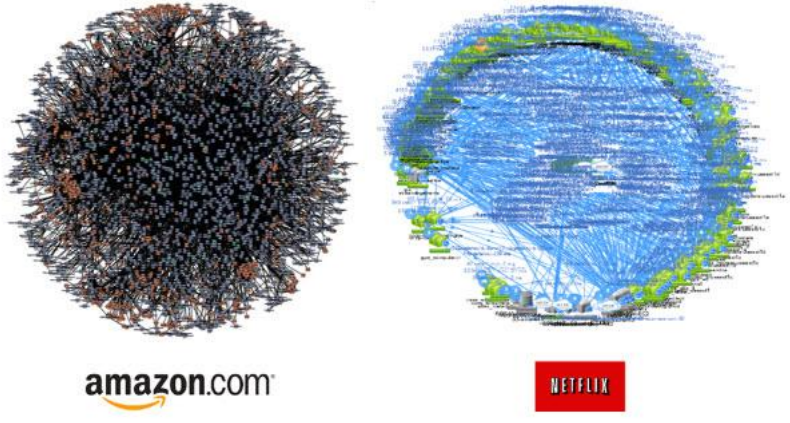
Multiple Workflows

To manage many moving parts, each microservice will have their own repository and CD Workflow. Orchestration of the CD process will become increasingly critical.

Think Templates!

Reality of Configuration

Navigating the Deathstar



Software Configuration Management

- BOM Reports – tracking what went into a build, or version of an application.
- Difference Reports – what changed between two application versions.
- Impact Analysis – how to we predict the impact a single microservice will have on other Applications running in the cluster

Finding and Sharing Microservices

Disorganization of services can make it impossible to find and reuse them.

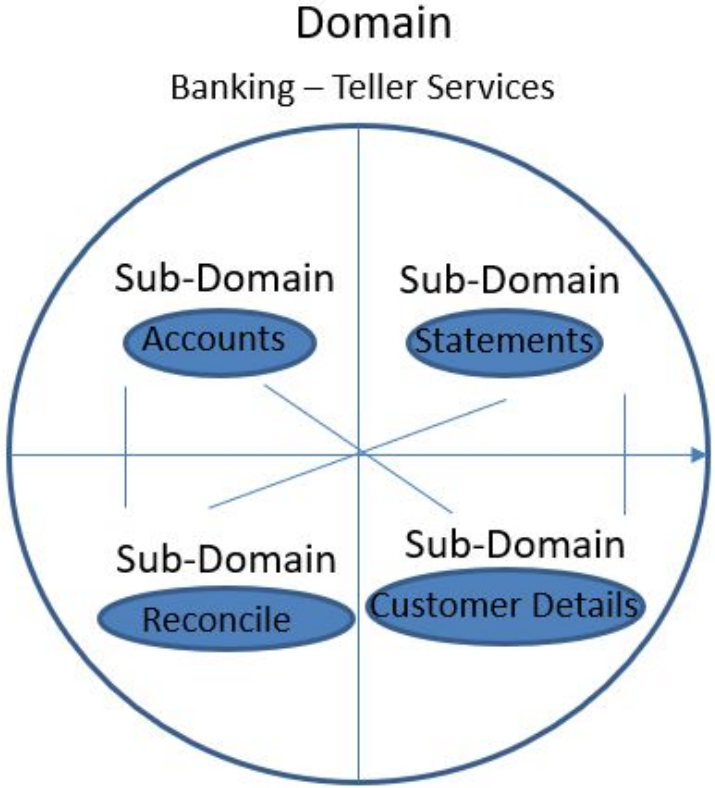
Think Domain Driven Design and organization.

Domain Driven Design

Organizing Your Microservices

- Domain Driven Design is where you are managing an architecture based on the microservice ‘problem space.’

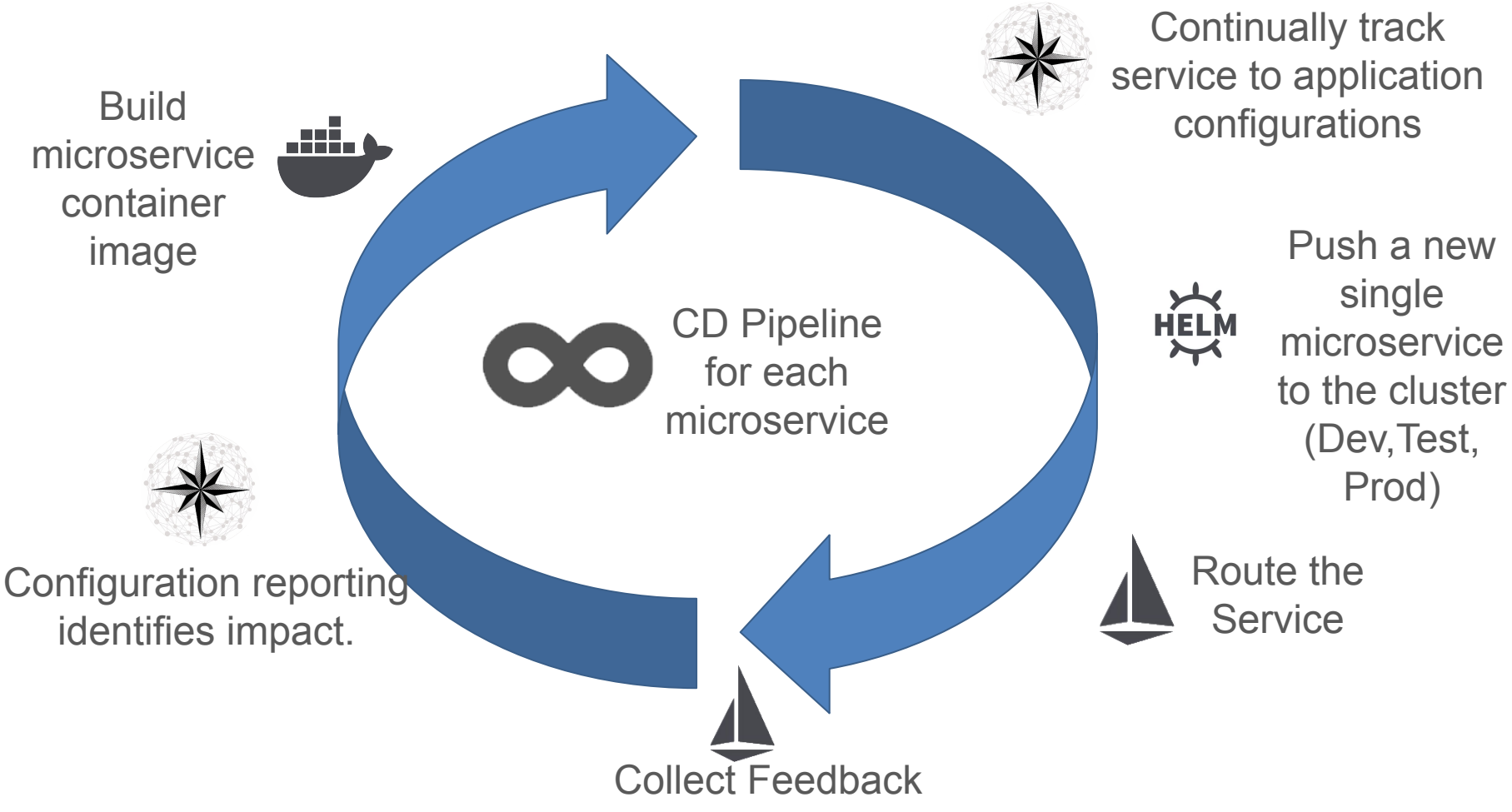
- To find and share microservices they must be organized in a way that meets the needs of your ENTIRE organization, and allows for them to be found and shared.




Think of Applications in a “logical” view.
There still there.


Pipeline Orchestration
Continuous Integration
Test Automation
Release Automation
Build Automation
CI & Pipeline Orchestration
JENKINS X
CDF Graduated
Spinnaker
CDF Graduated
Screwdriver.cd
CDF Incubating
agola
GitLab
armory
harness
circleci
keptn
cloudbees
OpsMx
Jenkins
CDF Graduated
TEKTON
CDF Graduated
Continuous Automation
Selenium
OpenMake
Configuration Management
Library Management
Cloud Native
Traditional
Config & Library Management
ANSIBLE
FOSSA
JFrog
WhiteSource
Infrastructure Deployments
cycloid
Boomi
RANCHER
puppet
CD.FOUNDATION Landscape
CD.FOUNDATION
This landscape is intended as a map to explore the Continuous Delivery community, and also shows the member organizations of the Continous Delivery Foundation.
l.cd.foundation
Container Registry
Image Build
Container Security
Analytics & Monitoring
Version Control
Issue Tracking
Messaging
Container Registry and Image Build
QUAY
HELM
DevSecOps & Monitoring
anchore
snyk
sysdig
DATADOG
dynatrace
sumo logic
Change and Defect Management
GitHub
Protocols and Messaging
Eiffel
Platinum
General
End User Supporter
CDF Members
Capital One
circleci
cloudbees
FUJITSU
Google Cloud
HUAWEI
IBM Cloud
JFrog
NETFLIX
salesforce
anchore
armory
cycloid
Boomi
GitLab
harness
OpsMx
puppet
RANCHER
reltio
SAP
snyk
sumo logic
sysdig
WhiteSource
ebay

New Microservice Pipeline



Talk to me…

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Thank You