

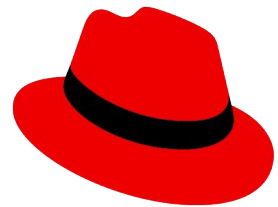
Red Hat
Summit

Connect

Progressive Application Delivery with GitOps

Jak automatycznie i bezpiecznie wdrażać nowe wersje aplikacji

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Progressive Application Delivery with GitOps

Agenda

1. Open Source (Argo)
2. Application Deployment
3. Progressive Delivery (Argo Rollouts)
 - a. Blue-Green
 - b. Canary



The landscape is organized into several main categories:

- App Definition and Development:** Database, Messaging, Application Definition & Image Build, Continuous Integration & Delivery.
- Orchestration & Management:** Scheduling & Orchestration, Coordination & Service Discovery, Remote Procedure Call, Service Proxy, API Gateway, Service Mesh.
- Runtime:** Cloud-Native Storage, Container Runtime, Cloud-Native Network.
- Provisioning:** Automation & Configuration, Container Registry, Security & Compliance, Key Management.
- Cloud:** Public, Special.
- Platform:** Certified Kubernetes - Distribution, Certified Kubernetes - Hosted, Certified Kubernetes - Installer, PaaS/Container Service.
- Observability and Analysis:** Monitoring, Logging, Tracing, Chaos Engineering, Serverless.
- Kubernetes Certified Service Provider** and **Kubernetes Training Partner**.

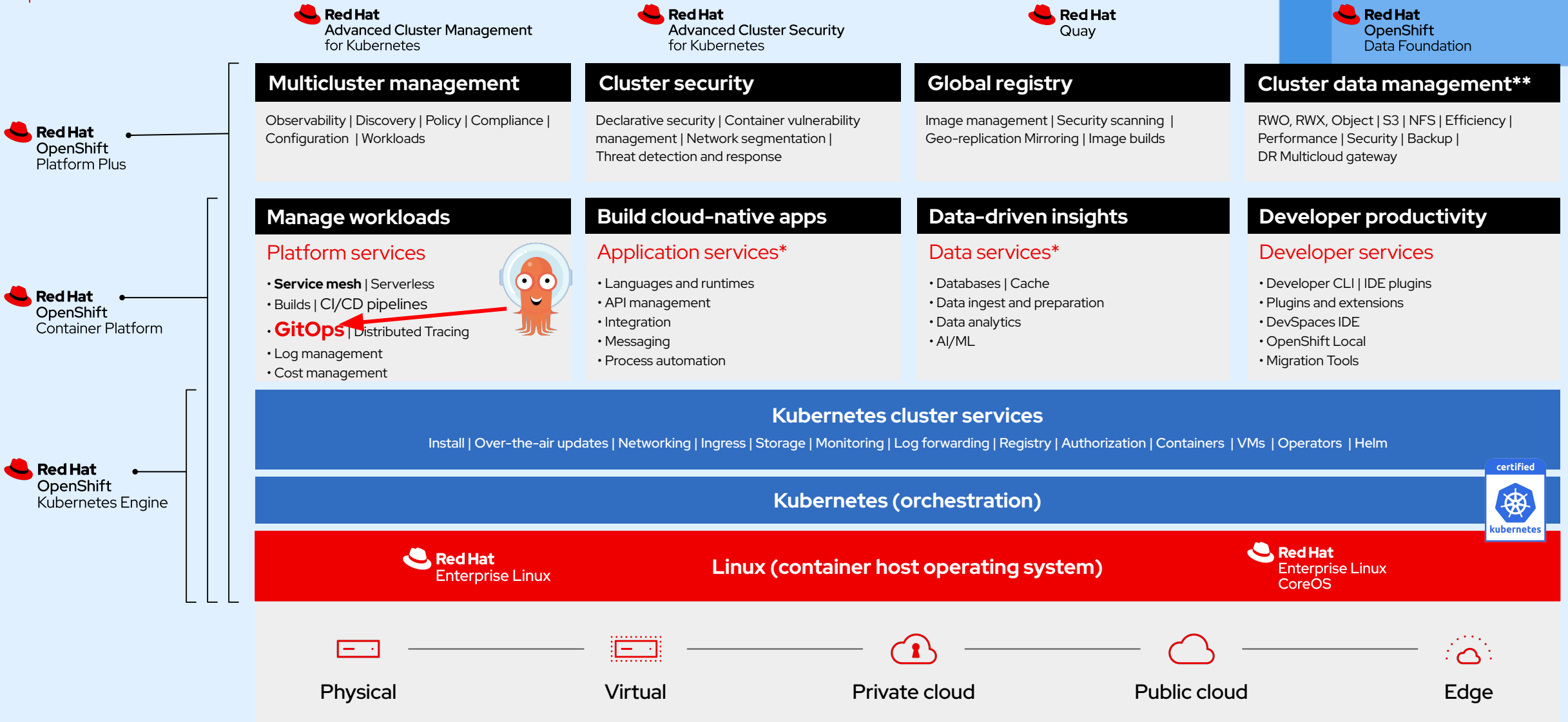
A red arrow points from the top header to the 'Application Definition & Image Build' section, which includes tools like HELM, KUBERNETES, and others.

This landscape is intended as a map through the previously uncharted terrain of cloud native technologies. There are many routes to deploying a cloud native application, with CNCF Projects representing a particularly well-traveled path.

CLOUD NATIVE COMPUTING FOUNDATION
CLOUD NATIVE Landscape
 Redpoint // Amplify

[I.cncf.io](https://landscape.cncf.io)

Red Hat Hybrid Cloud Platform



* Red Hat OpenShift® includes supported runtimes for popular languages/frameworks/databases. Additional capabilities listed are from the Red Hat Application Services and Red Hat Data Services portfolios.

** Disaster recovery, volume and multicloud encryption, key management service, and support for multiple clusters and off-cluster workloads requires OpenShift Data Foundation Advanced

How to Deploy your application to Production ?

Friday | 4:45 PM



Dev



Wall of confusion



Ops

Delivery Techniques

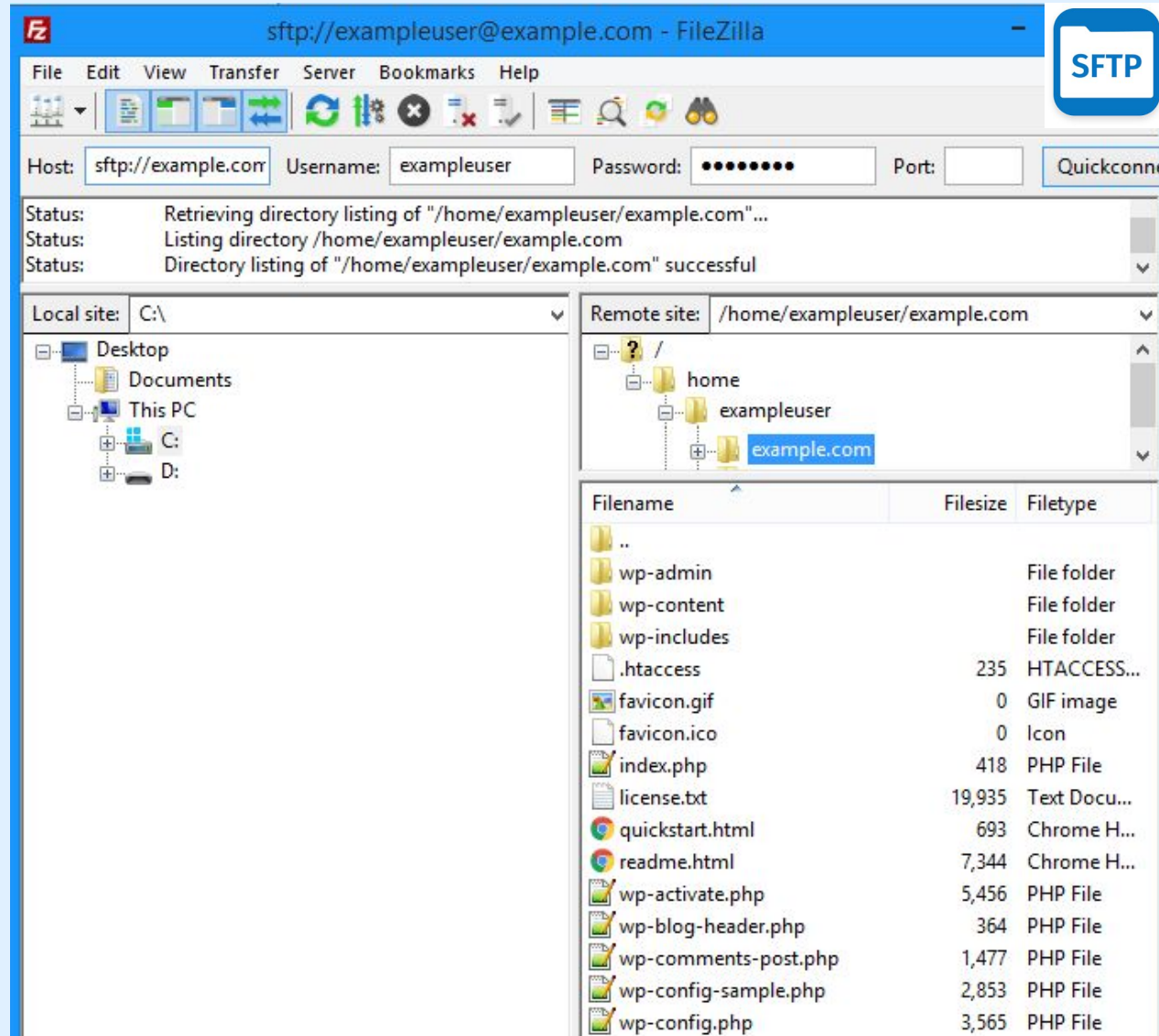


**WHEN YOU IMPLEMENTED A NEW
FEATURE IN YOUR SYSTEM**



makeameme.org

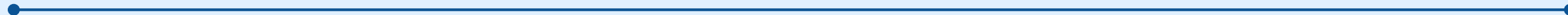
How it started...



CI / CD



CI / CD - CD



GitOps



What is GitOps?



Git is the
single source
of truth

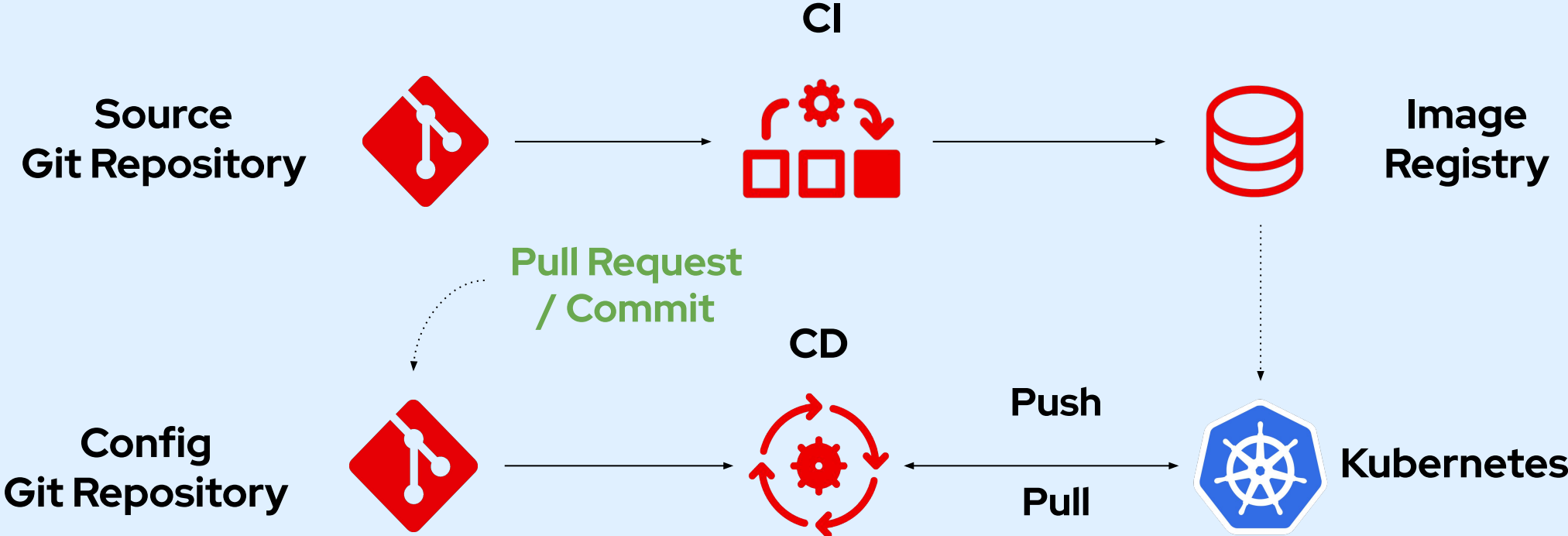


Treat
everything as
code



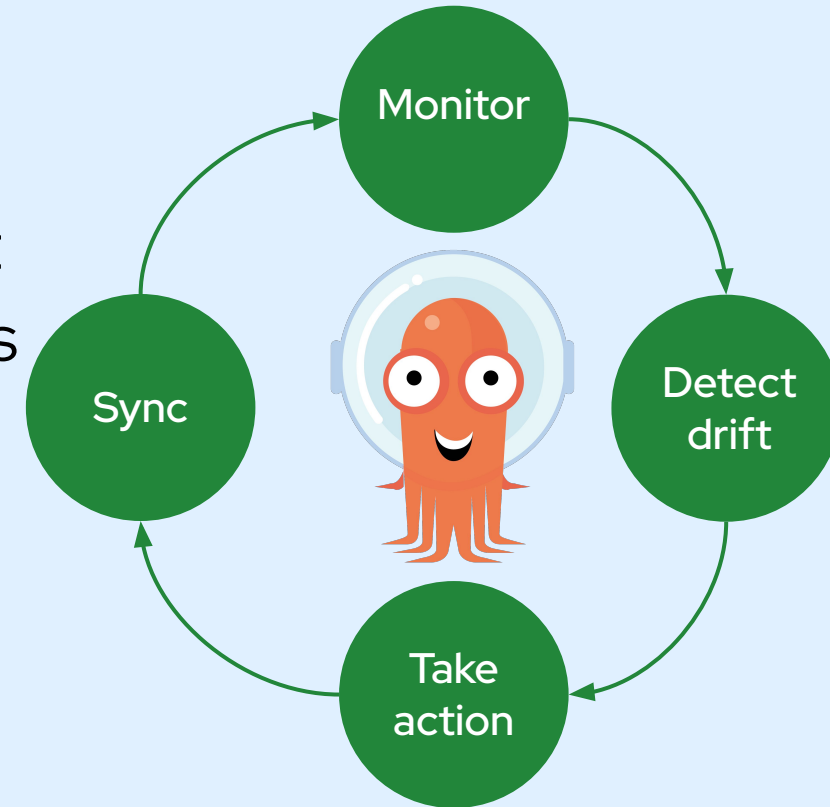
Operations
through Git
workflows

GitOps Application Delivery Model

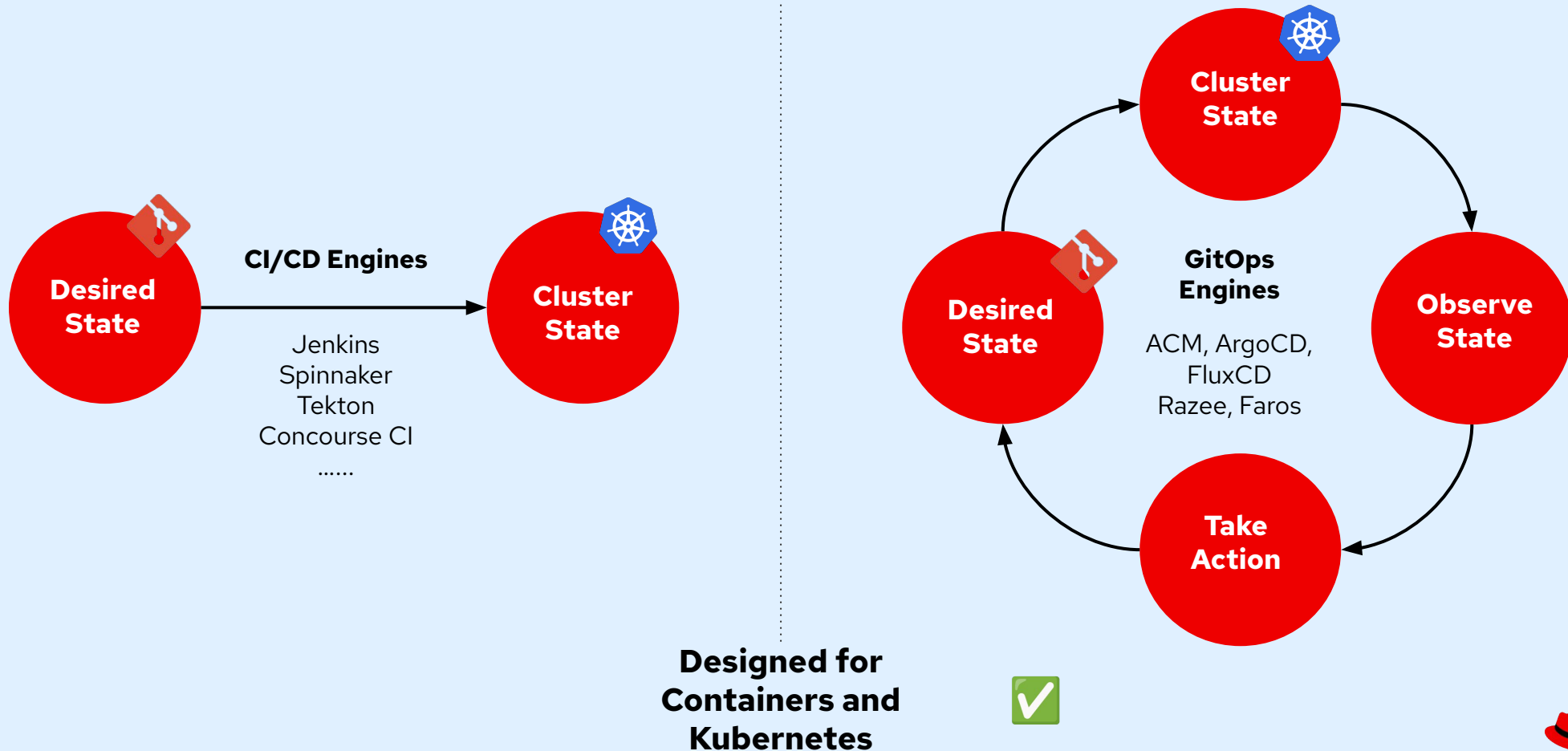


ArgoCD

- declarative, GitOps continuous delivery tool for Kubernetes.
- Cluster and application configuration versioned in Git
- Automatically syncs configuration from Git to clusters
- Drift detection, visualization and correction



CI/CD versus GitOps



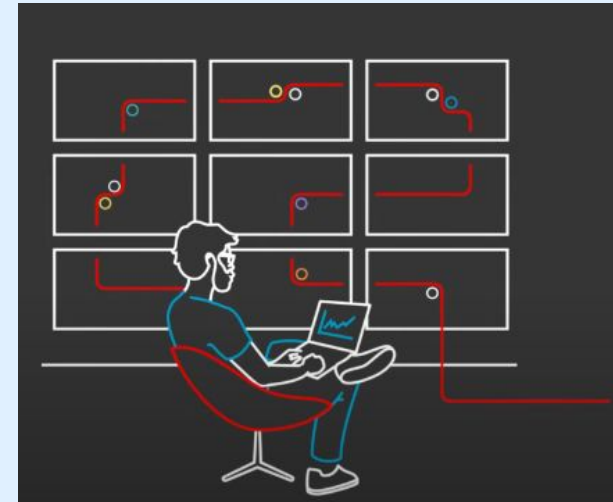
What is Progressive Delivery?

- Step By Step (No Big Bang)
- Deploy != Release
- Metrics
- Subset of Users



Why Progressive Delivery?

- Decreases Downtime
- Limits the Tragedy
- Deploy & Release to Production faster
- Less mocking or setting up unreliable 'fake' services



How to accomplish Progressive Delivery ?

Argo Rollouts

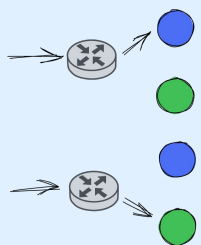
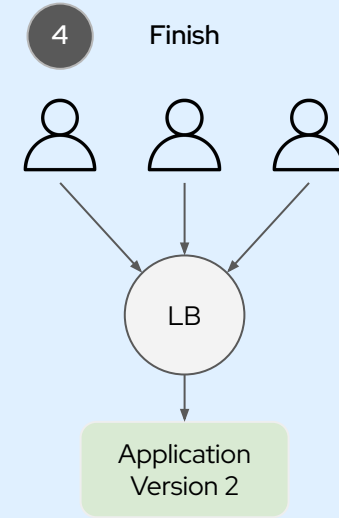
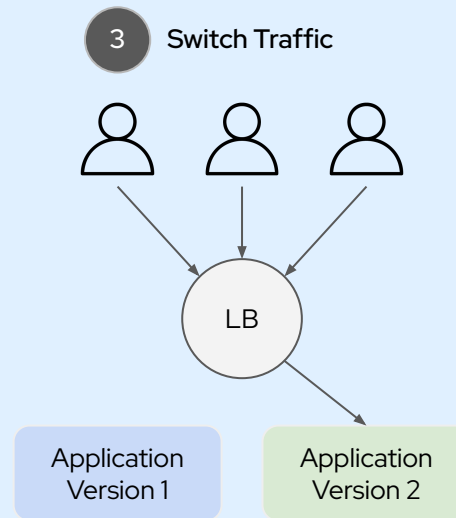
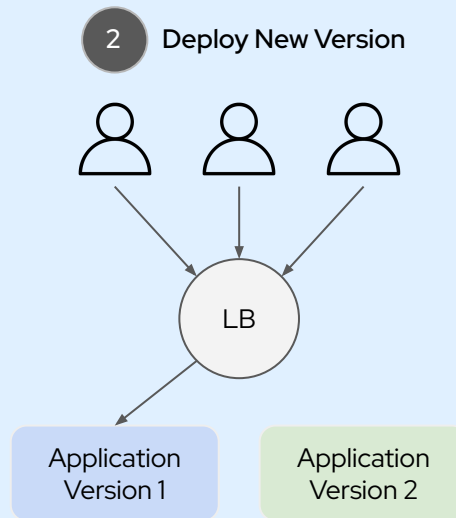
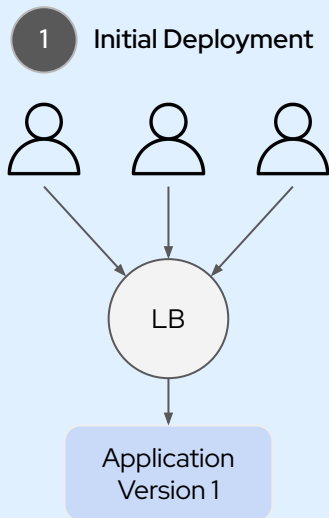
- **Rollouts** is a drop-in **replacement** for Kubernetes **Deployment** with advanced capabilities for **Progressive Delivery**
- Supports two types of deployment strategies:
 - Blue-Green
 - Canary
- Integrates with a variety of **traffic management** solutions to shape traffic
- Automates **deployment** and **rollbacks** with advanced analysis capabilities
 - i.e. smoke tests



Deployment Strategies

Blue-Green

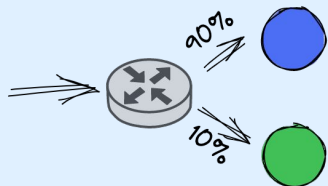
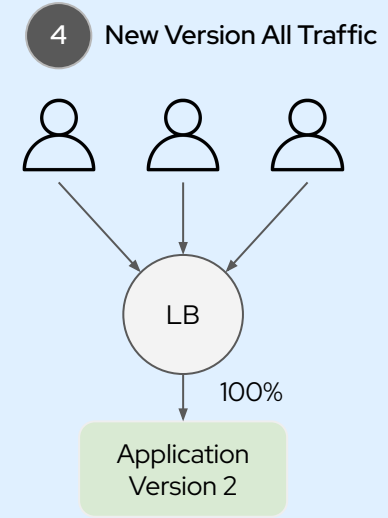
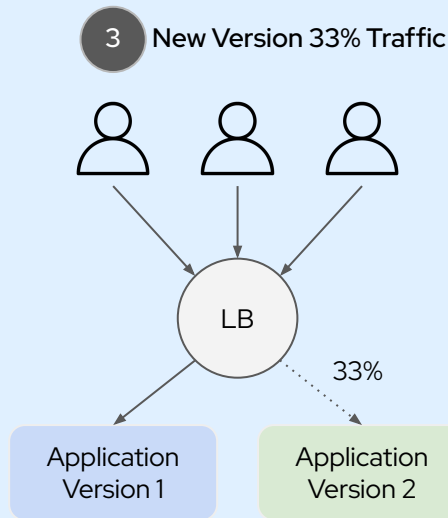
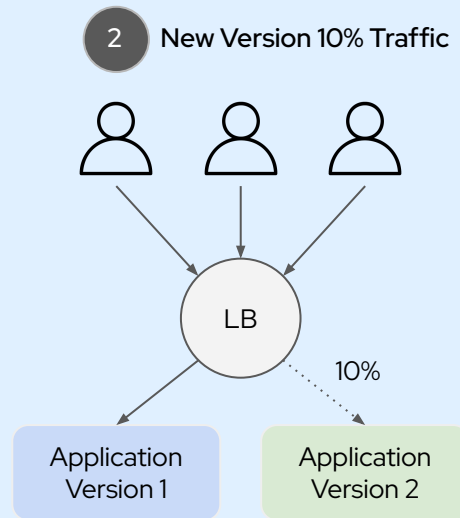
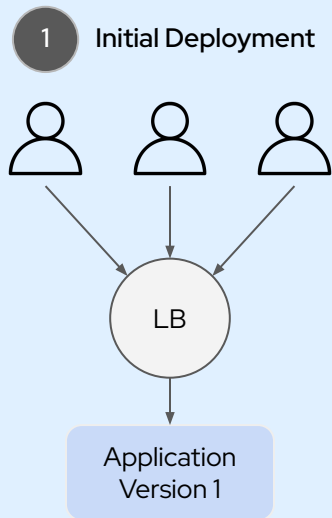
- All Or Nothing
- Quick Rollback



Deployment Strategies

Canary

- Small Percentage
- Increase depending on success metrics





Connect

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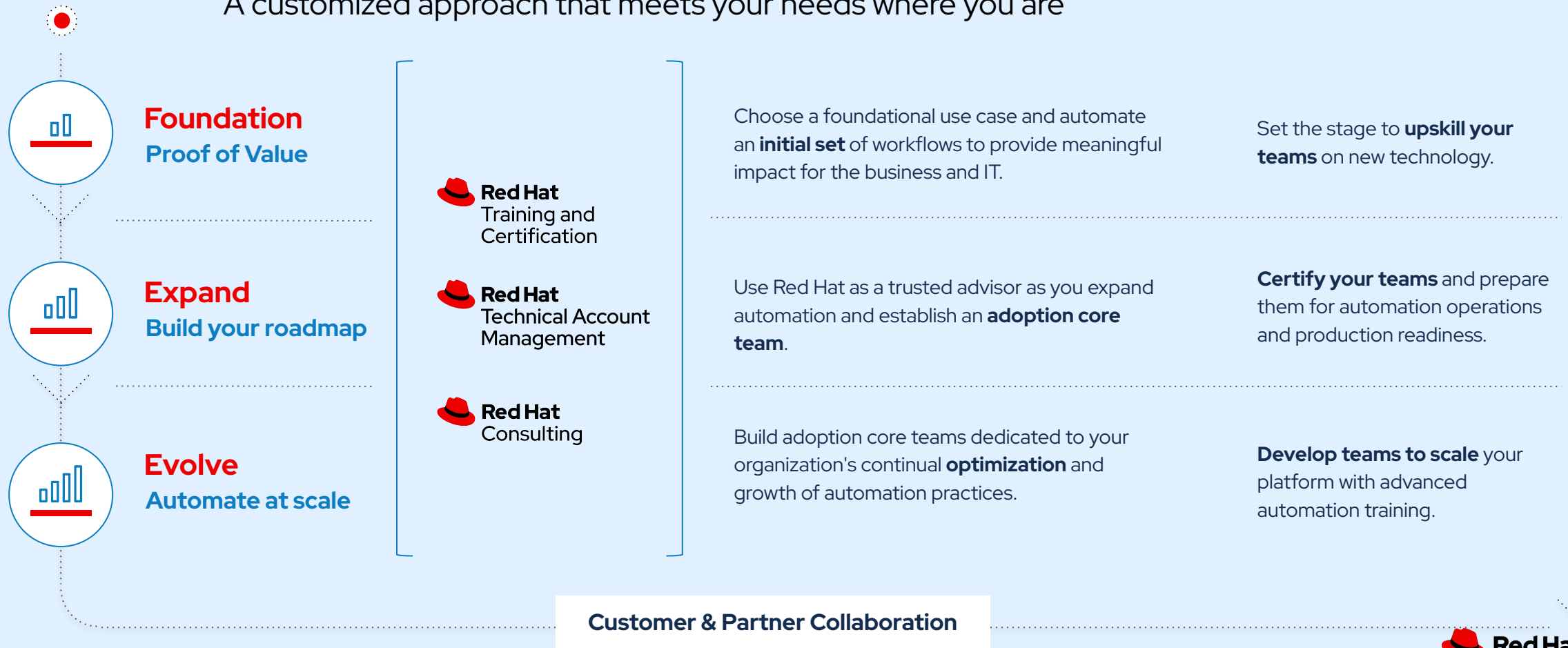
DEMO

Canary Deployment with Smoke Test



Your automation journey with Red Hat Services

A customized approach that meets your needs where you are



Customer & Partner Collaboration



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Thank you!

