GitOps @ Enterprise Scale

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Who we are:

- Founded: 1983
- IPO: 1993
- Employees: 9,000
- Locations: 20
- Revenue: ~$6.8B (FY19)
- Customers: 50M
Intuit’s Cloud Journey

• Fully in public cloud (AWS) by July FY20

• Leverage cloud native technologies
  ○ 10X developer productivity
  ○ Increase rate of innovation
  ○ Dramatically decrease MTTR and MTTD

• Early 2018, Intuit acquired Applatix
  ○ Accelerate cloud-native technology adoption
  ○ Build a self-service “Modern SaaS” platform

and that started Intuit’s AWS Container journey...
Intuit Kubernetes Adoption

- 4 business units
- 30 business segments
- 1,200+ developers using Kubernetes

- 160+ clusters (Intuit managed)
- 6,600 nodes
- 5,400 namespaces
- 62,000 pods
- 1,300 deploys a day
Intuit Kubernetes Adoption

By 2019 160+ k8s Clusters | 6K+ Nodes | 3 AWS Regions

MTTR
45 to 5 minutes

DEPLOYMENT CYCLE
Days to minutes

SERVICE CREATION
Less than 10 minutes

CNCF PROJECTS USED
Intuit Development Platform - “Modern SaaS”

Modern SaaS - User Experience
- IDS
- Mobile SDK & frameworks
- Plugin Tools
- Apollo GraphQL client
- Shell Service
- App Exp Registry
- Plugin Registry

Modern SaaS - Services & Platforms
- Intuit API-GraphQL/IEDM
- Onboarding/Service Lifecycle
- Service Components - Config/Msging/Registry
- Argo Workflows
- Streaming/Data
- AI/ML

Dev Portal (Asset Lifecycle)
- GitHub (Apps as Code)
- IBP (Build & Test - CI/CD)
- TES (Test Engineering Services)
- JFrog Artifactory (CPD)
- Argo CD/Experiments (GitOps)

Observability - Logging, Monitoring, Tracing
- Apollo
- GraphQL client
- Mobile SDK & frameworks
- Envoy
- AWS App Mesh

Multi-Cluster Service Mesh and Gateway
- envoy

Intuit Kubernetes Service
(Core Kubernetes with Intuit Network & Security policies & best practices)
- Security & Compliance
- MPA/ODL
- KOPS & EKS

AWS Infrastructure
- VPC, ALB/NLB, S3, RDS, DynamoDB, Elasticache, ...

AWS

Plan & Design | Develop | Build & Test | Deploy & Scale | Operate
Create a new service on Intuit Modern SaaS Platform

- Three code repositories - code, configuration, deployment
- Default, customizable deployment pipeline in Intuit Build Platform
- Artifactory folder
- Two default Pre-Prod environments (QA & E2E)
  - Isolated Namespaces on Intuit managed k8s clusters
- Out of the box monitoring with Wavefront
- Out of the box logging with Splunk
- Argo CD app deployments
Demo
Argo - Get stuff done with Kubernetes!

• Argo is a Kubernetes-native Application Delivery Platform for running and managing jobs and applications on Kubernetes

• Argo makes it easy to combine workflows, events and deployments to declaratively create jobs and applications on Kubernetes

• Argo Workflows - Container-native Workflow Engine

• Argo CD - Declarative GitOps Continuous Delivery

• Argo Rollouts - Declarative Progressive Delivery and Experimentation

• Argo Events - Event-based Dependency Manager
Argo Community Contributions

6000+ Stars, 900+ forks, 240 contributors, 1700 slack members
60% of contributions to Argo are from the community
147 releases
Contributions include major features, complete with GUI

Argo CD 1.3
24 out of 29 are external contributors

https://github.com/argoproj/argo-cd/releases
Argo Community (Public References)
Unify a set of projects and communities and house in CNCF