



# Platform Engineering for SaaS on Amazon EKS

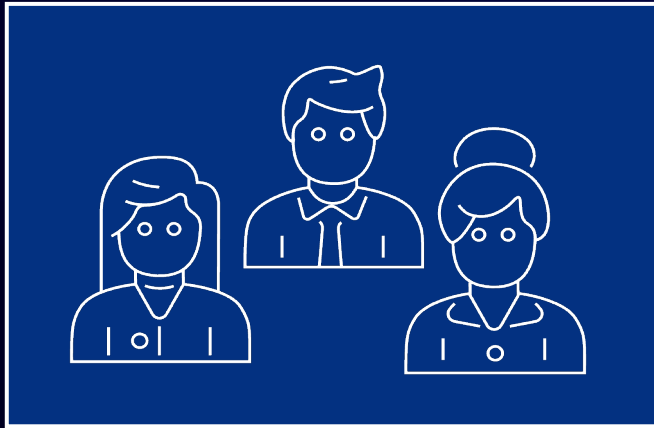
**Lucas Duarte**

Sr. Specialist Container SA

**Rodrigo Bersa**

Sr. Specialist Container SA

# The operational model evolution

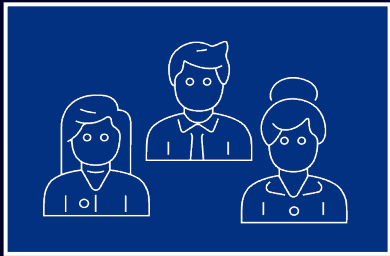


**Application  
development team**



**Infrastructure/ops team**

# The operational model evolution



**Application  
development team**  
CI/CD tools  
and processes

## The Application Layer



## The Infrastructure Layer



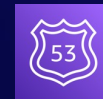
Amazon EKS



Amazon S3



Amazon EBS



Amazon Route 53



Amazon EMR



Amazon RDS



ElastiCache



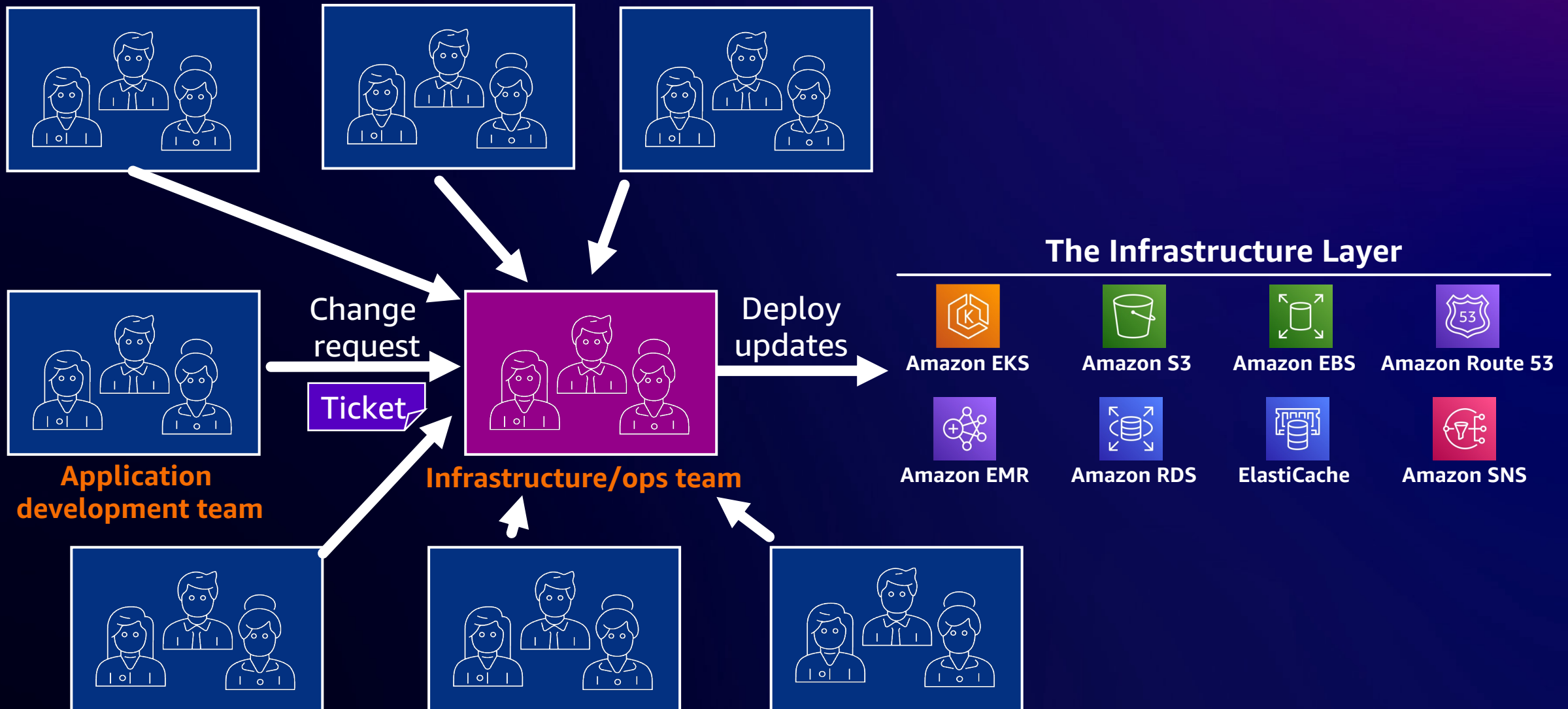
Amazon SNS

IaC tools and  
processes



**Infrastructure/ops team**

# The operational model evolution



# Why this is even more complex in SaaS environments?

# What is SaaS?

**SOFTWARE AS A SERVICE (SAAS) IS A CLOUD-BASED SOFTWARE MODEL THAT DELIVERS APPLICATIONS TO END-USERS ON-DEMAND**



Deployment and  
Infra management



Scalability and Elasticity

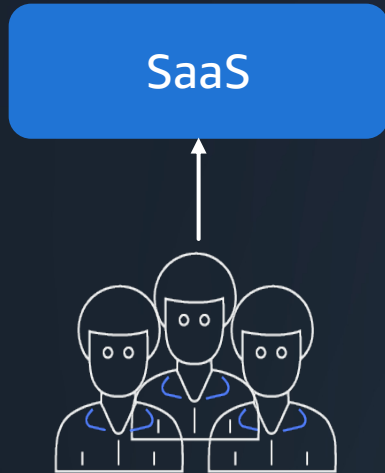


Revenue Model

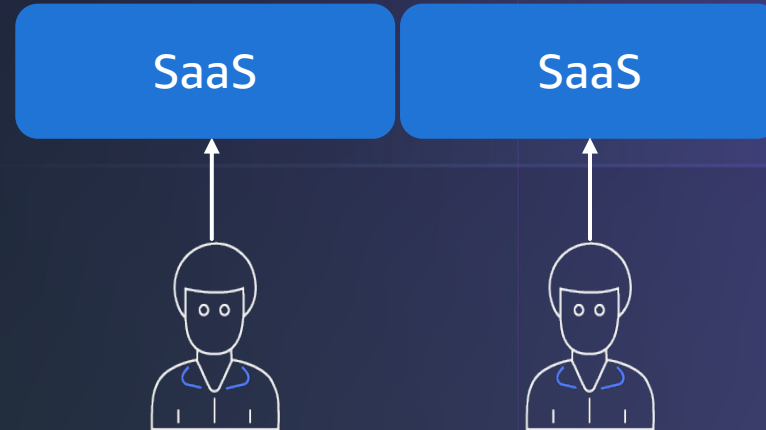


# Different Tenant Models

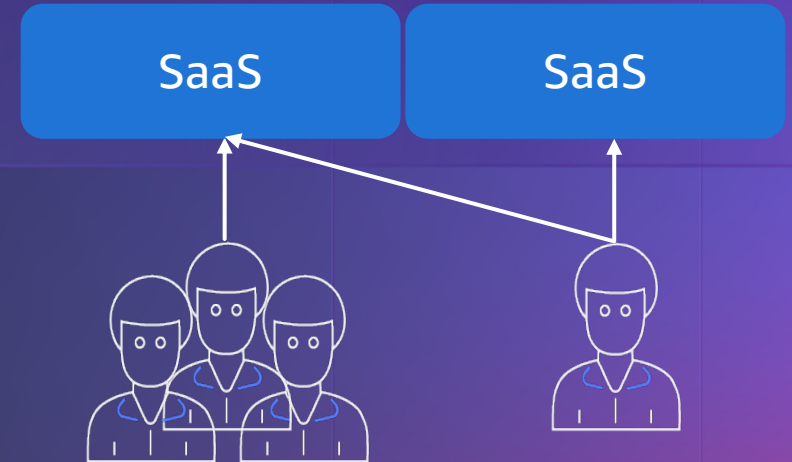
Basic Tenants



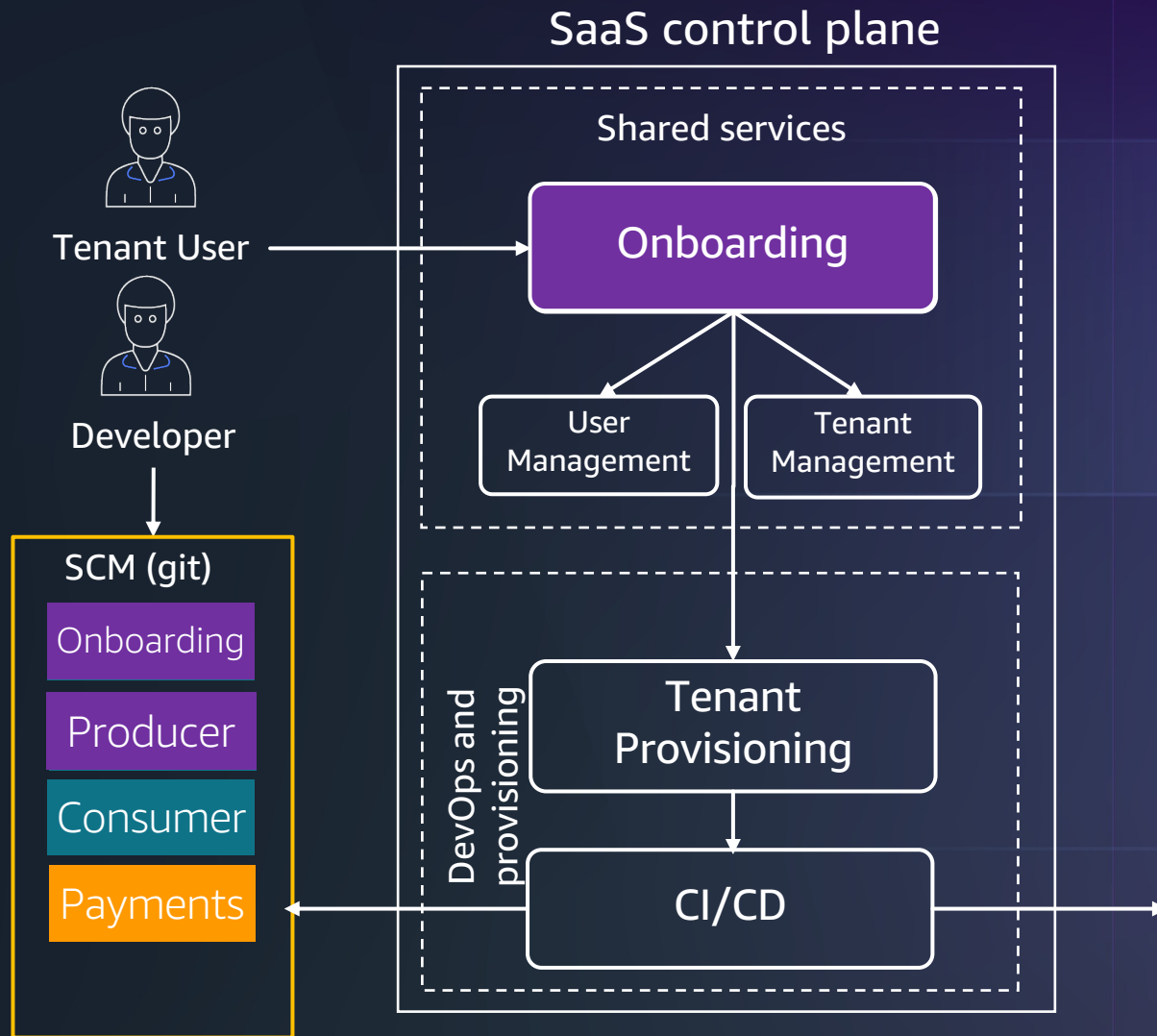
Premium Tenants



Advanced Tenants



# SaaS Platform challenge

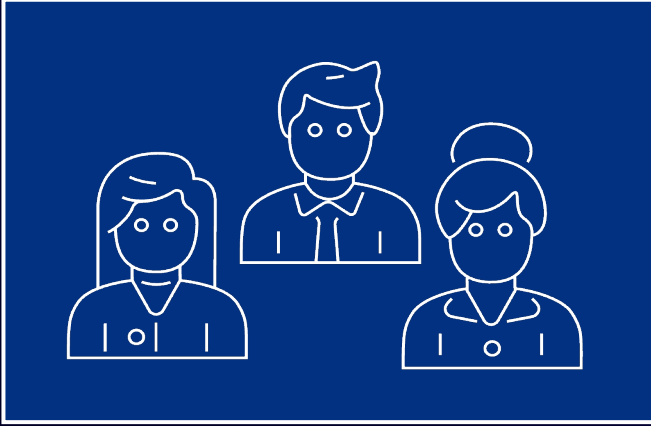


## SaaS application plane





# How to overcome this challenges?



AppDev teams



Infra/ops teams

**Autonomy**

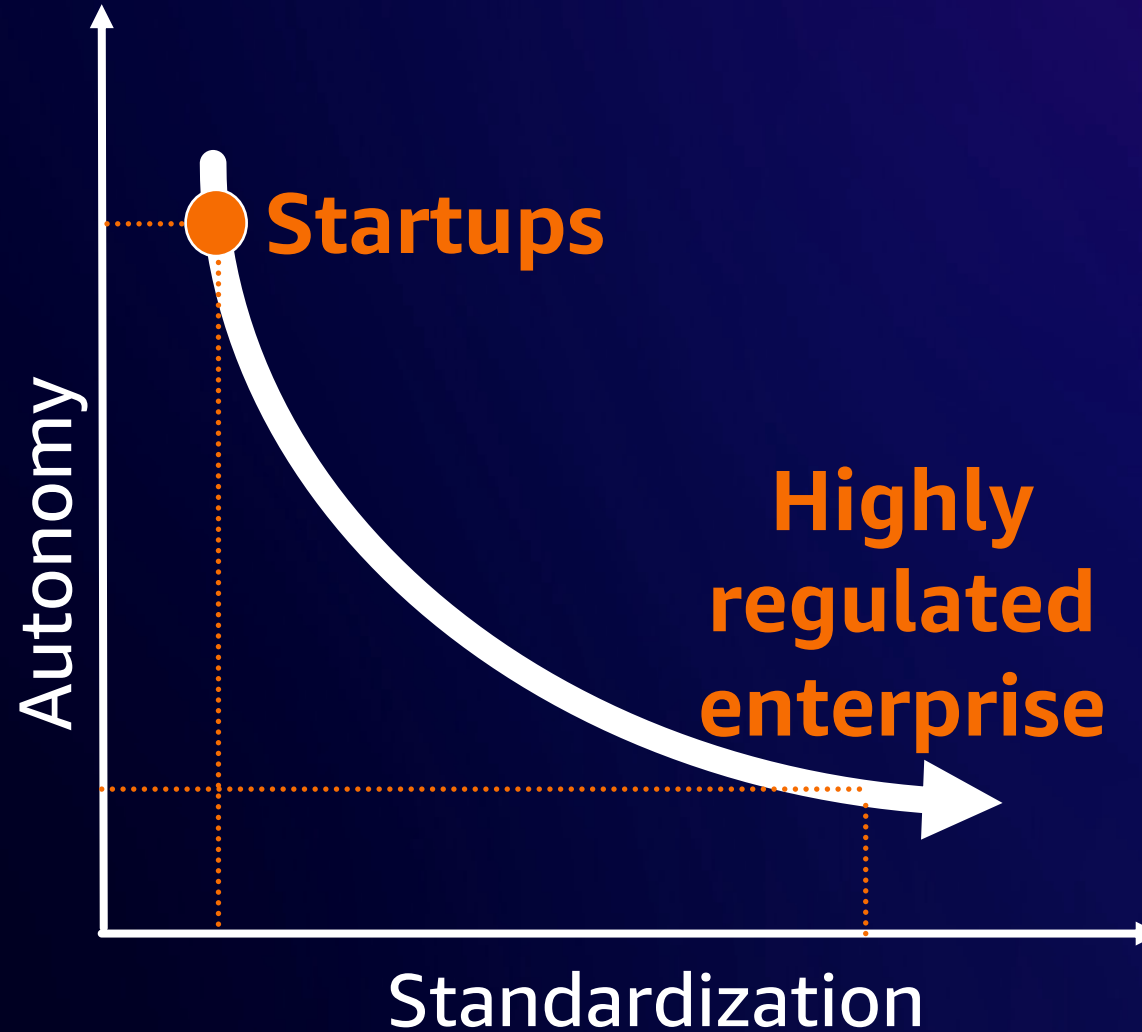


**Standardization**

# Striking the balance

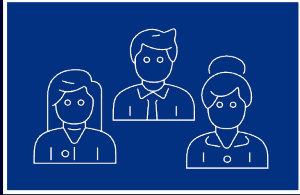


AppDev teams

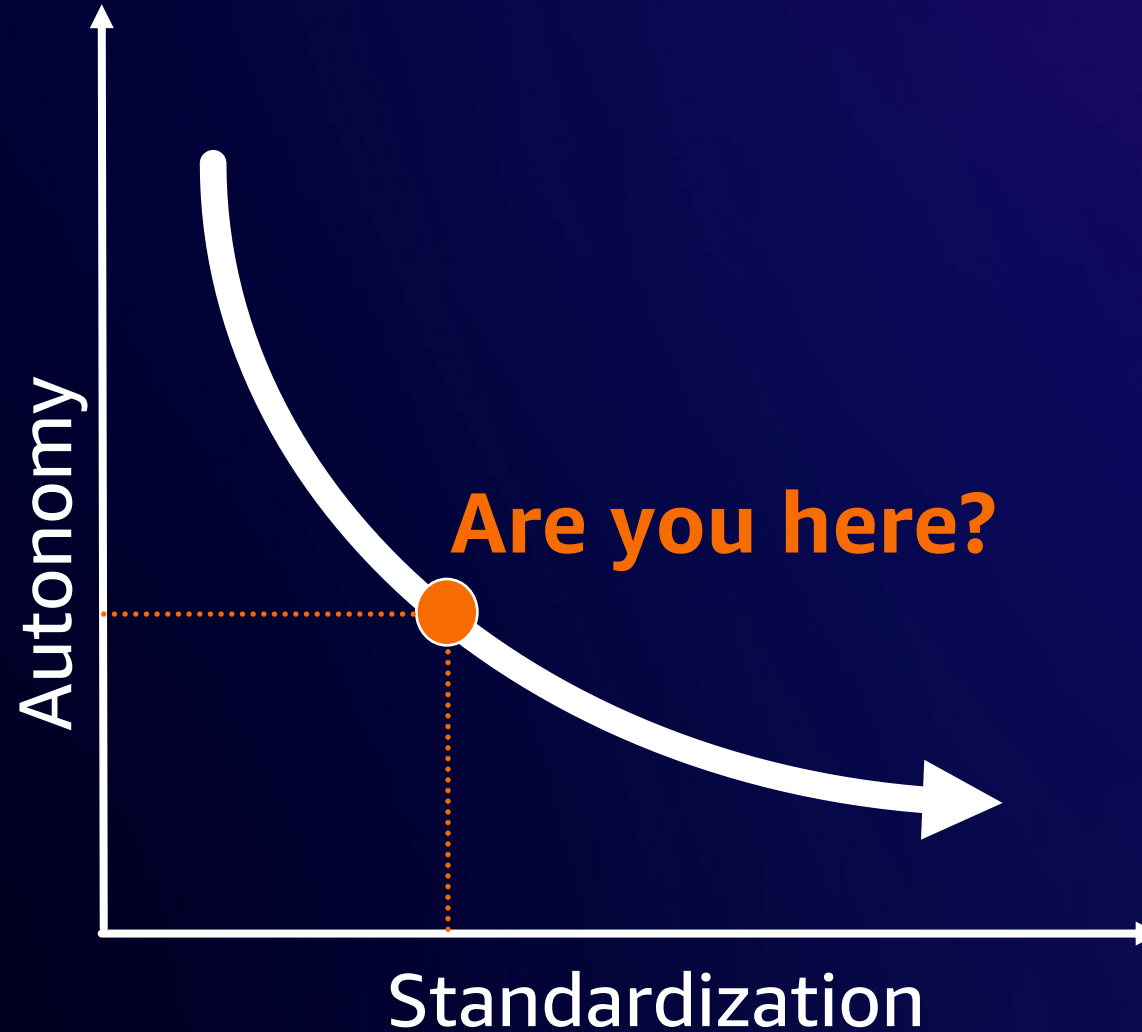


Infra/ops teams

# Striking the balance



AppDev teams

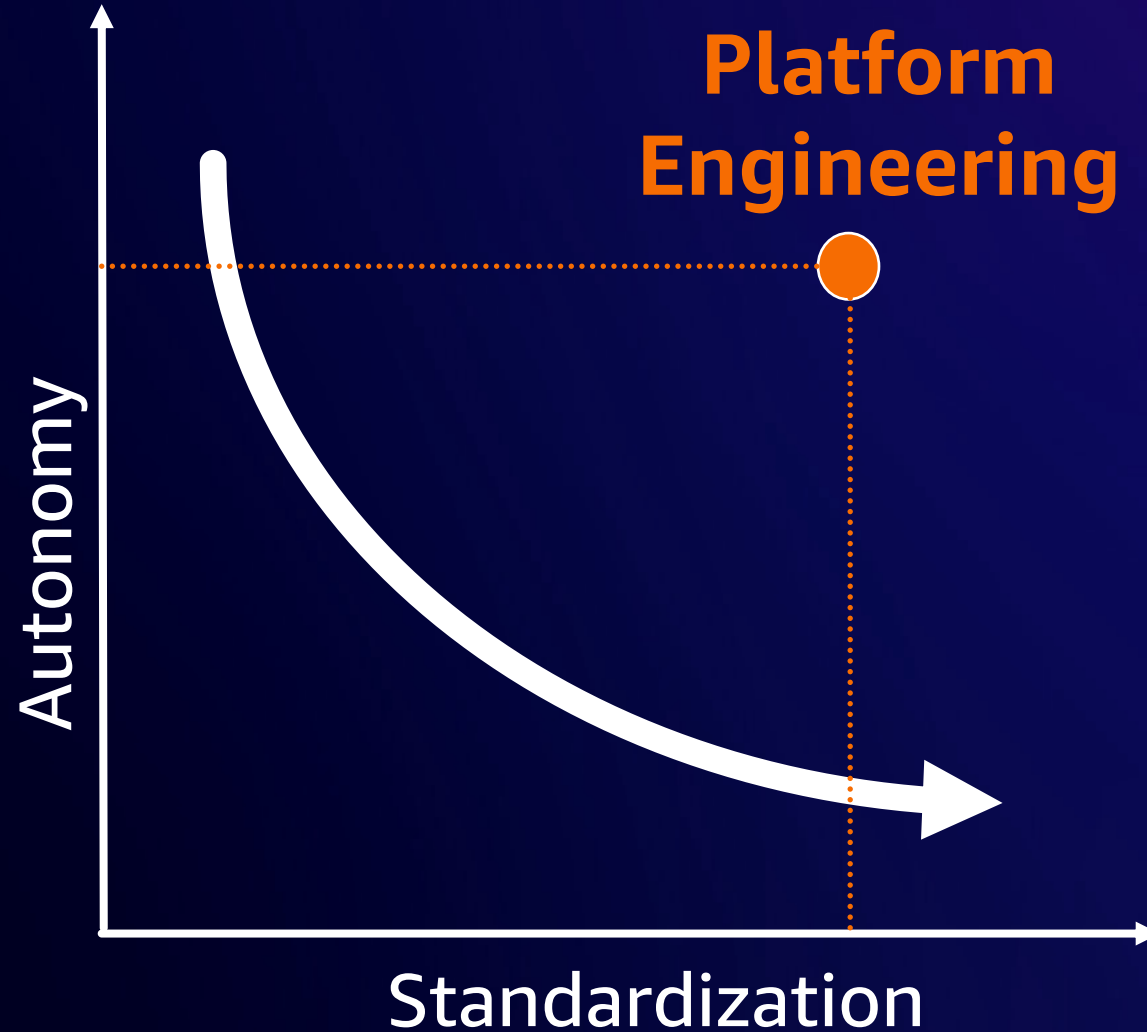


Infra/ops teams

# Striking the balance

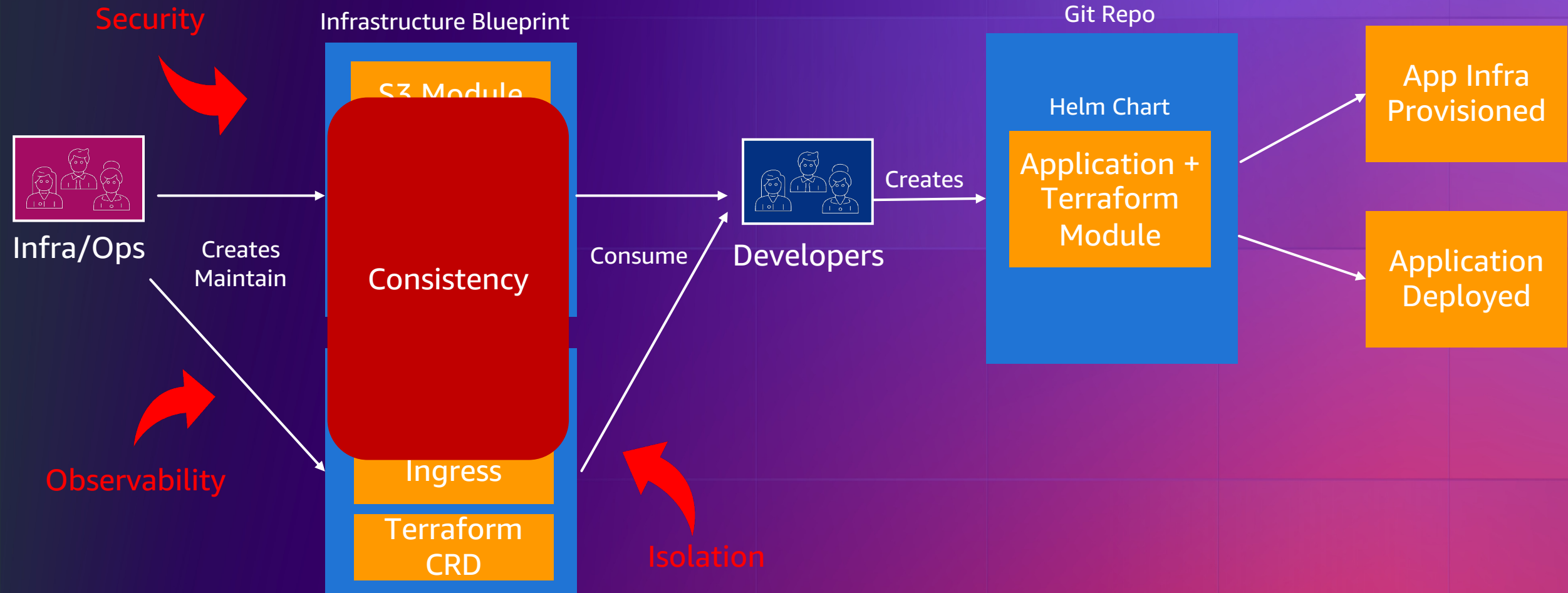


AppDev teams



Infra/ops teams

# Transition to Developer-Driven Infrastructure

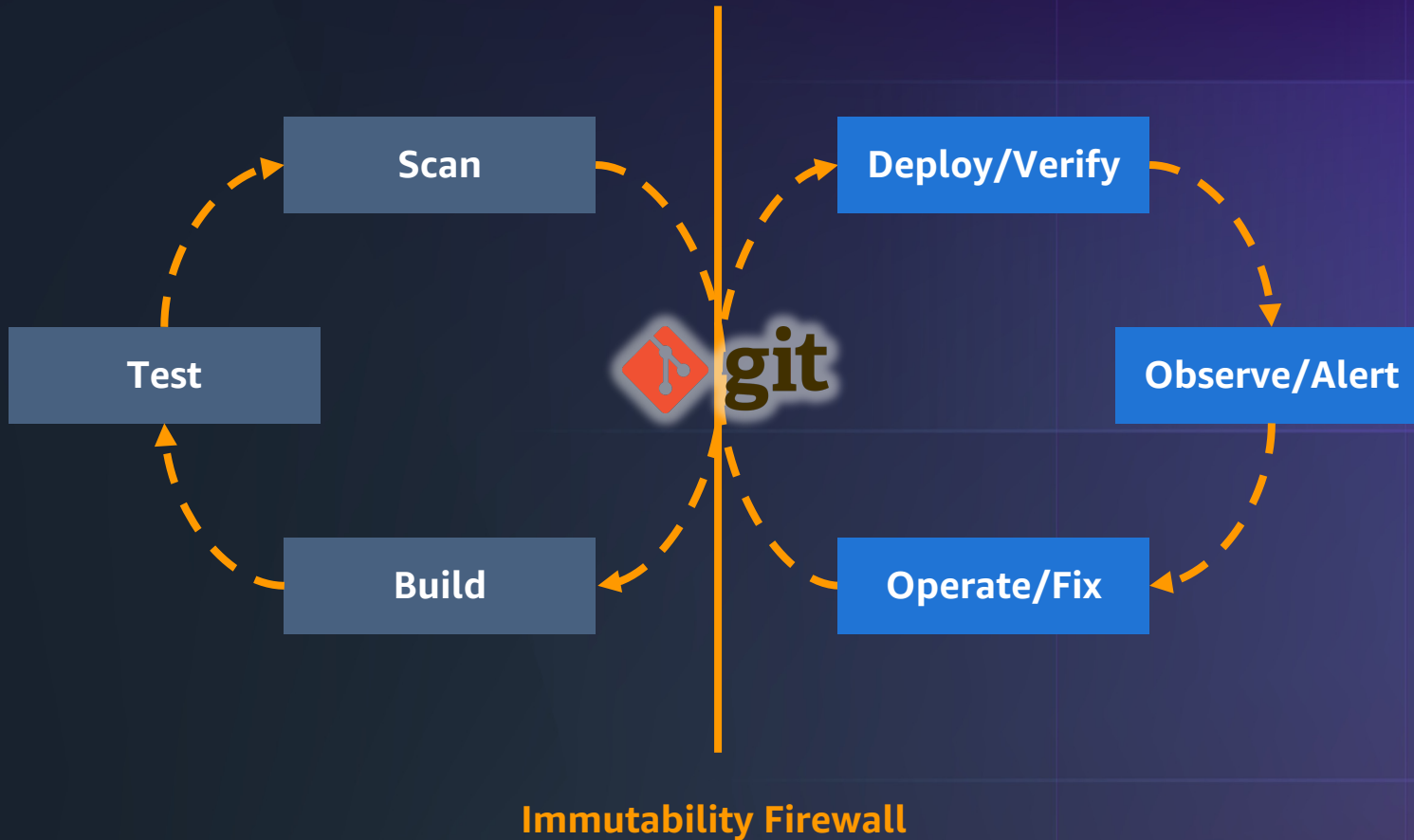


# Managing SaaS environments: A Platform Engineering Approach



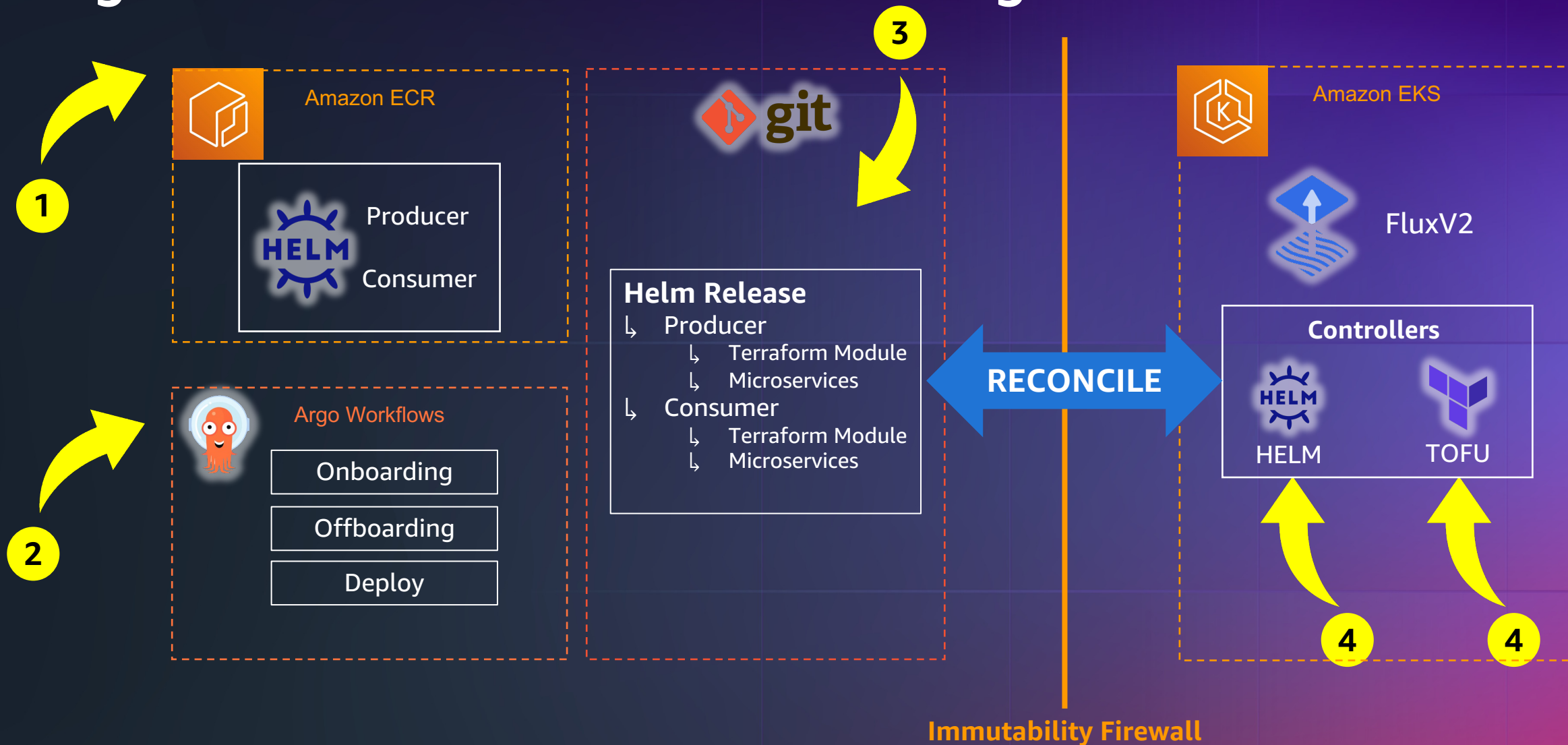


# GitOps?

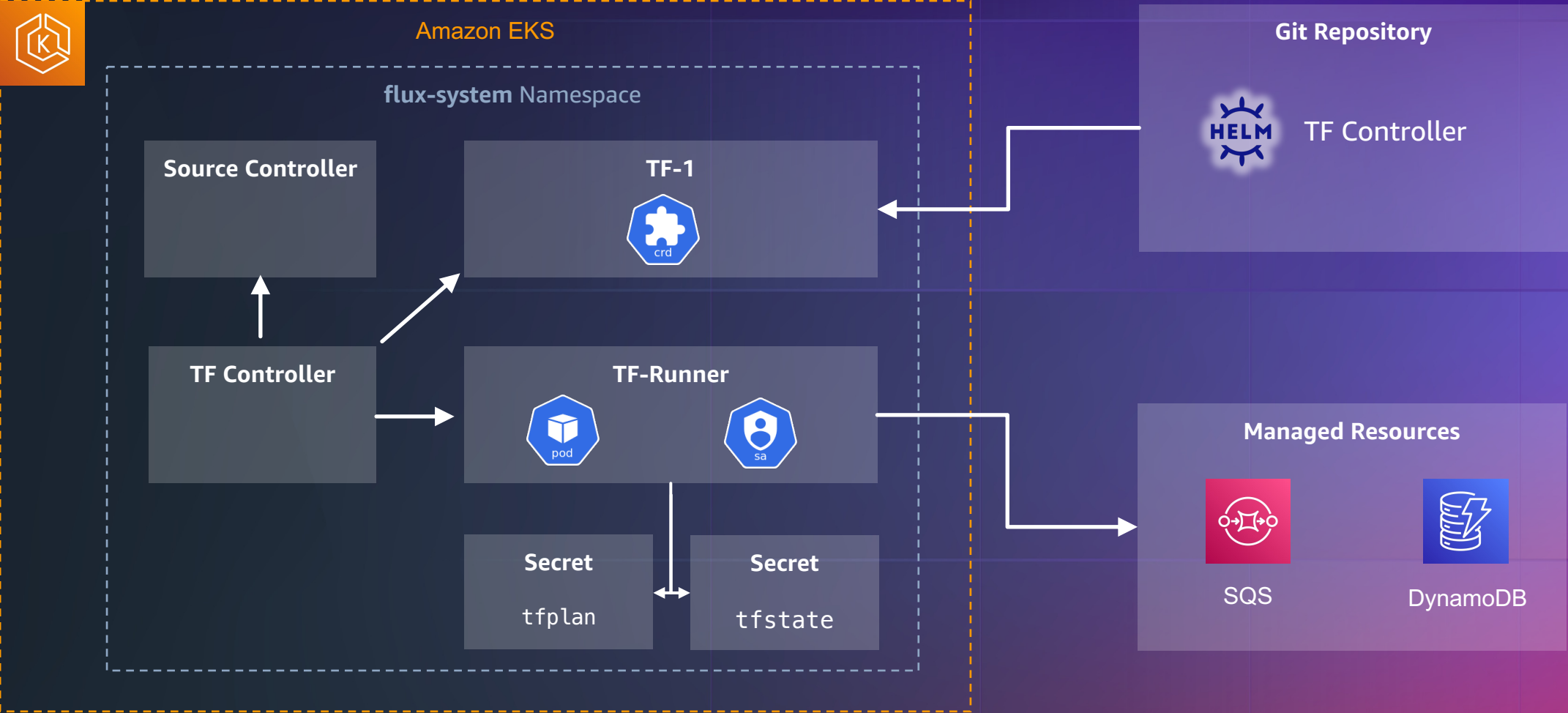


Git becomes the **single source of truth** for the desired system state, **allowing for reproducible automated deployments**, cluster management, and monitoring.

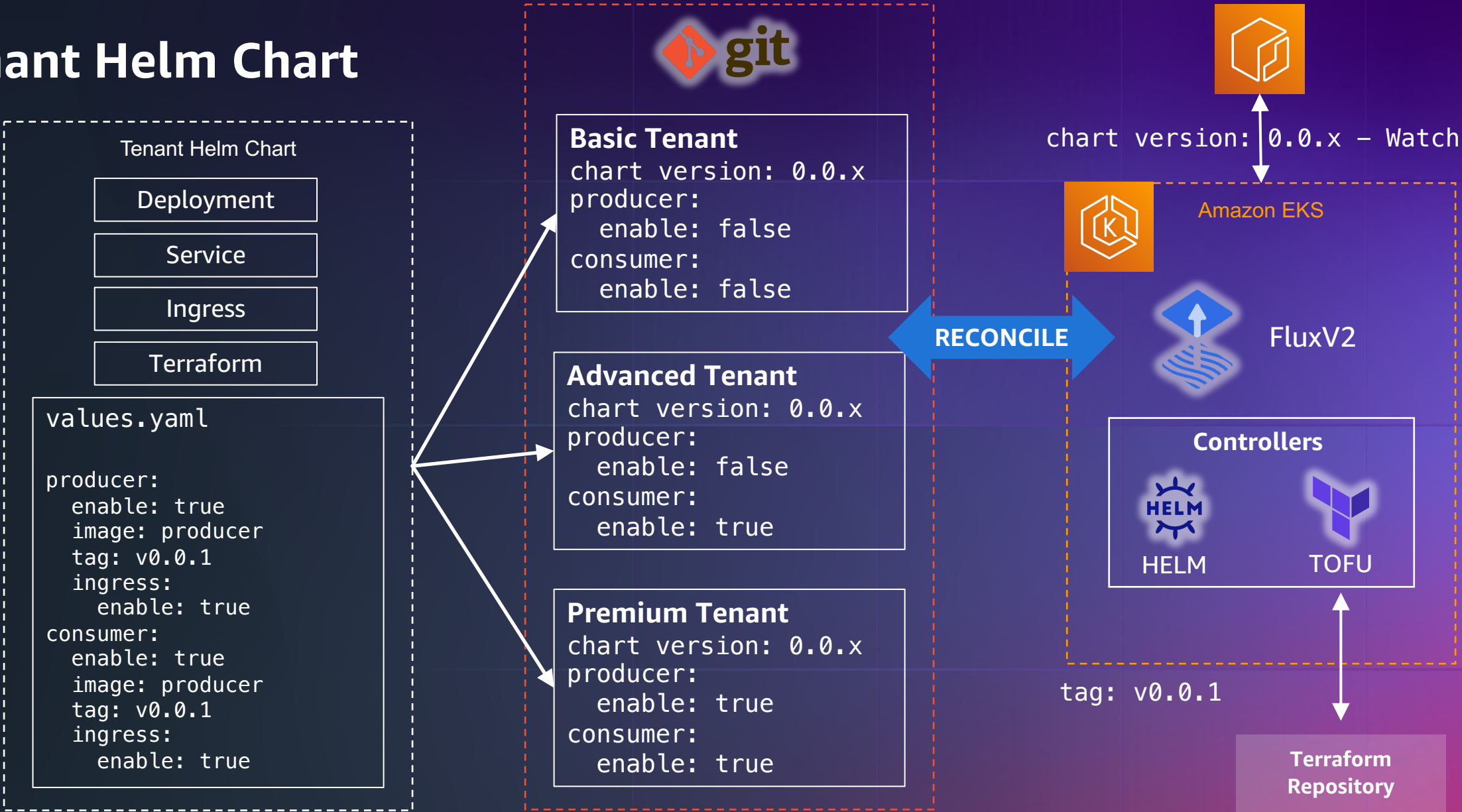
# High-level solution architecture diagram



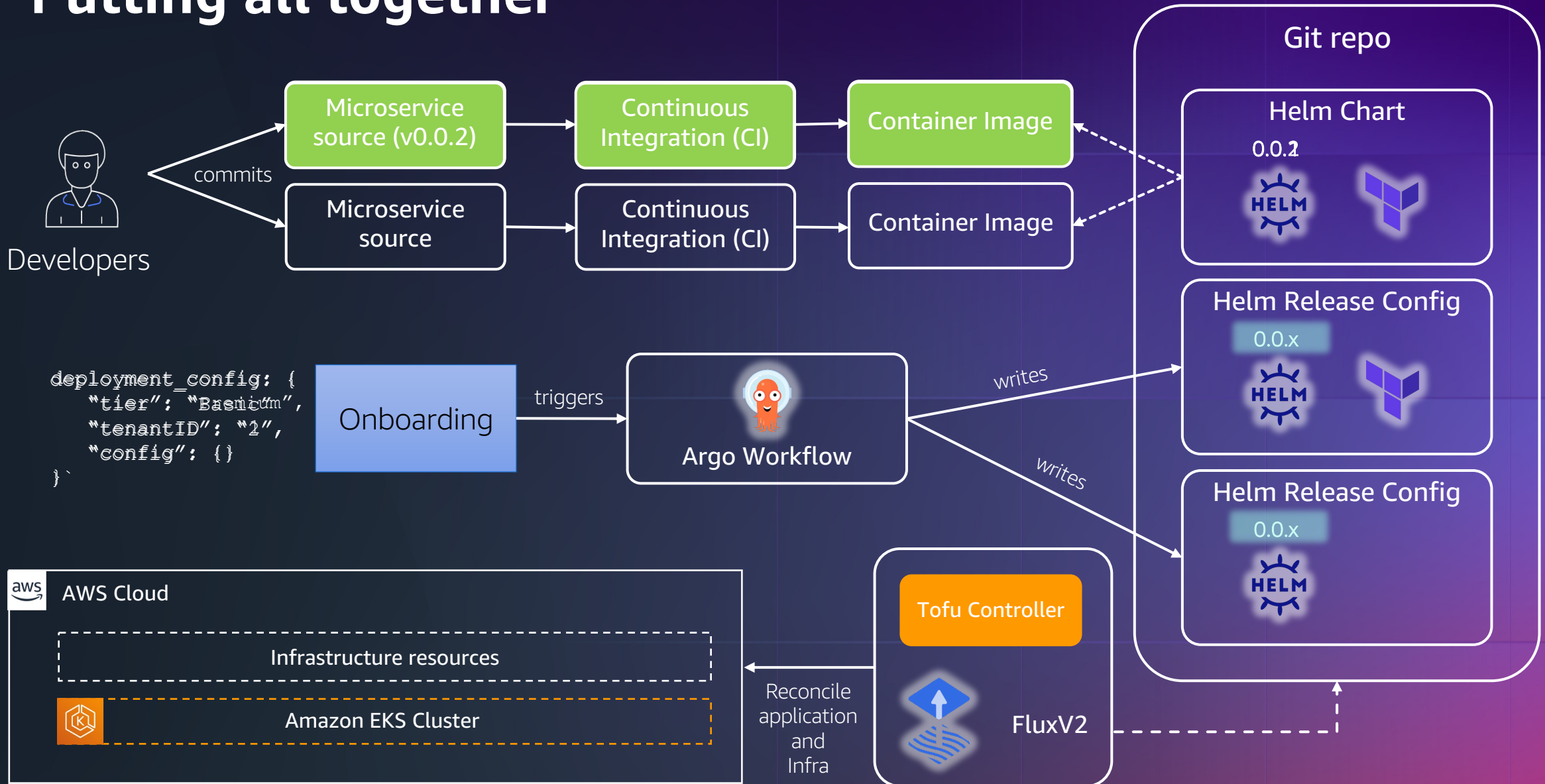
# Tofu Controller



# Tenant Helm Chart

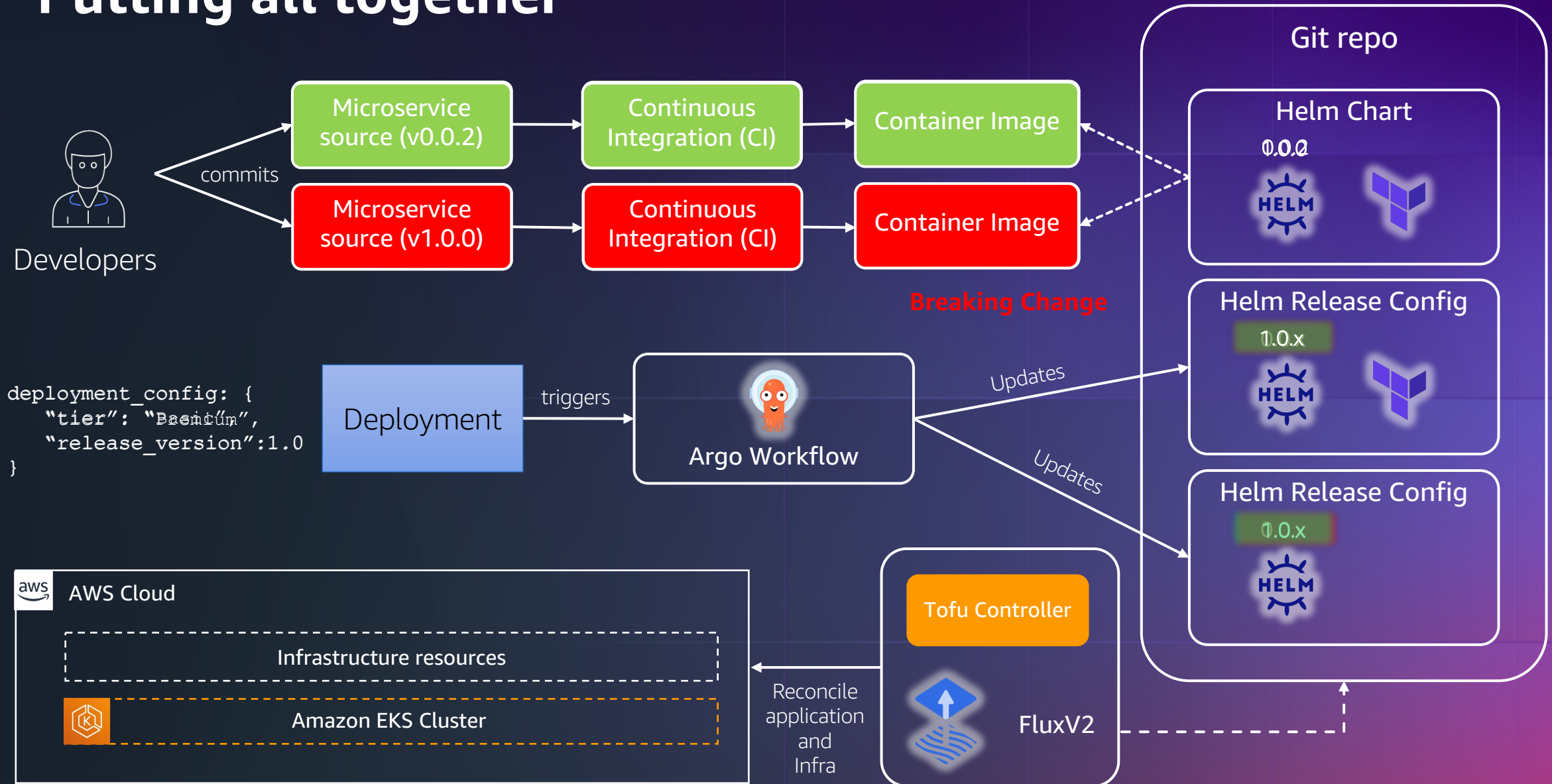


# Putting all together





# Putting all together





# Demo



Repository

# Key takeaways



Package tenant  
deployment definitions



Consider options that are  
immutable/versioned



Frequent releases &  
consistent environments



**Successful SaaS applications require frequent releases  
and consistent environments**



# Thank you!

**Lucas Duarte**



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**Rodrigo Bersa**



bersa