DO-01

Supercharge your DevOps Practice

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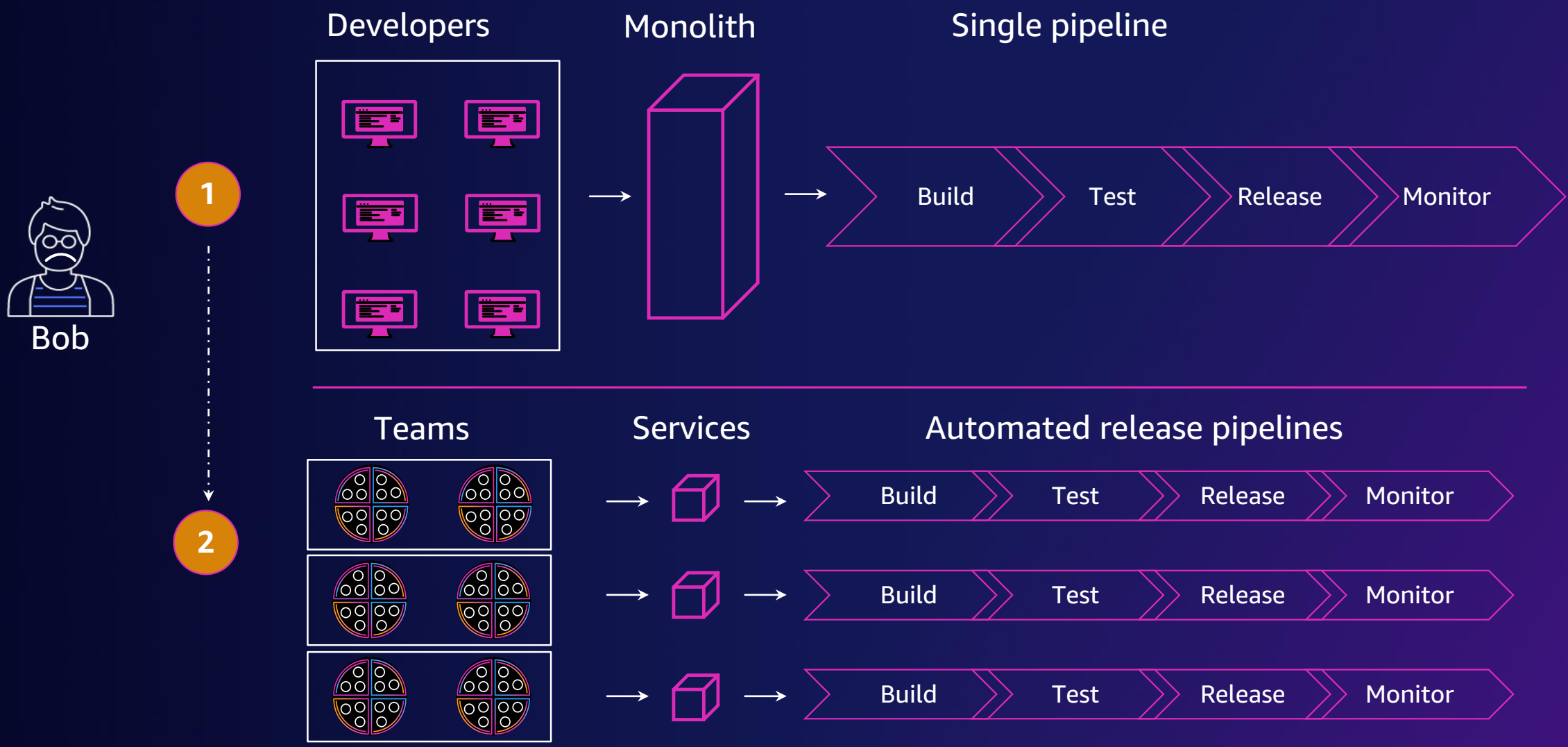
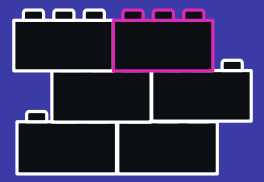
Bob's Challenge



What is the best way to build a modern application?

Modular Services



Architectural Patterns

Serverless First

Operating Efficiency

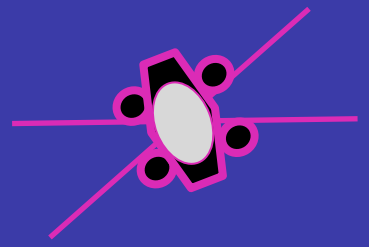
Deployable, Automated, abstracted

Developer Agility

Programmatic Guardrails & Standardised Services

Management & governance

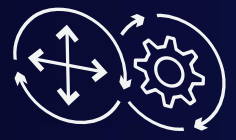
Decoupled & purpose build



Data Management

DevOps

Good DevOps Technical Practices



CI/CD

Observability

Infrastructure as code

Source/artifact management

Resiliency and security

aws

If you do it well....

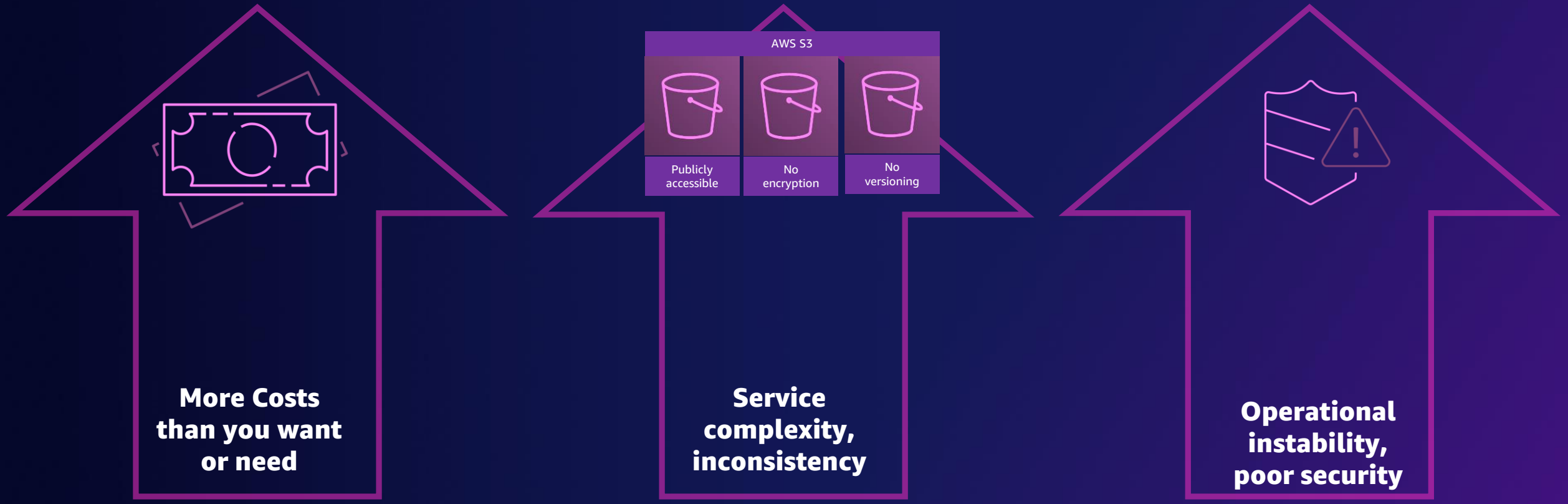
3x
lower change failure rate

6,750x
lower lead time for changes

6,750x
shorter service recovery time

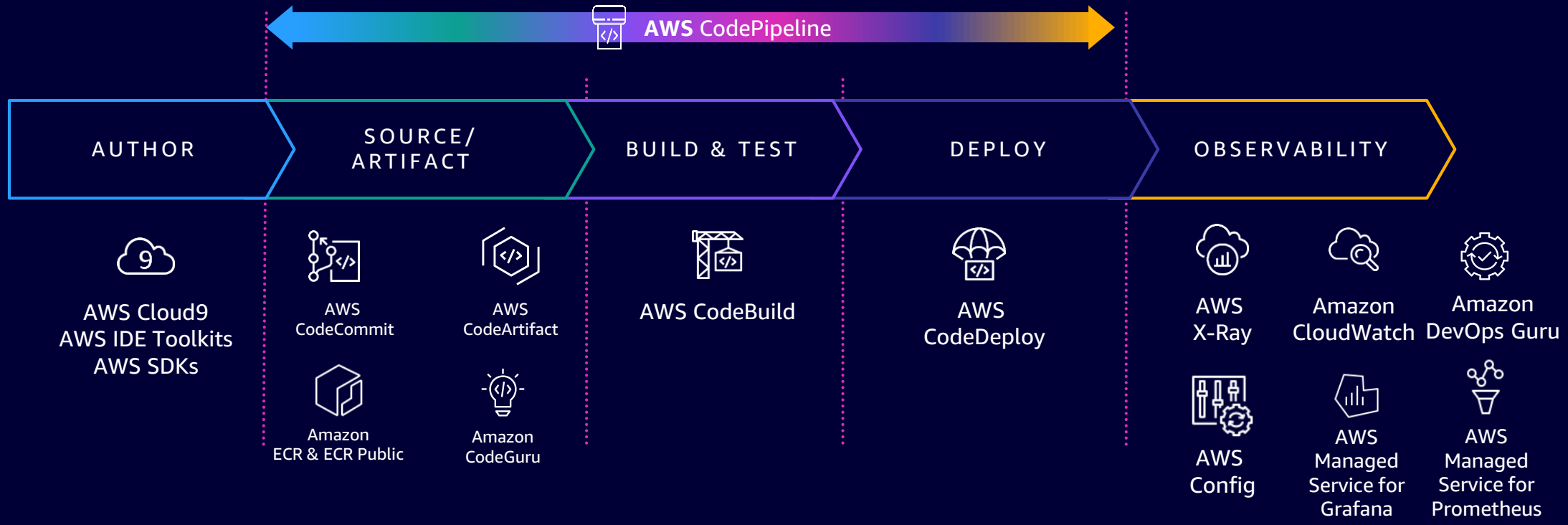
Source: DORA 2021 Accelerate State of DevOps report

If you don’t …….



Source: DORA 2021 Accelerate State of DevOps report

End-to-end solution helps development organizations go faster

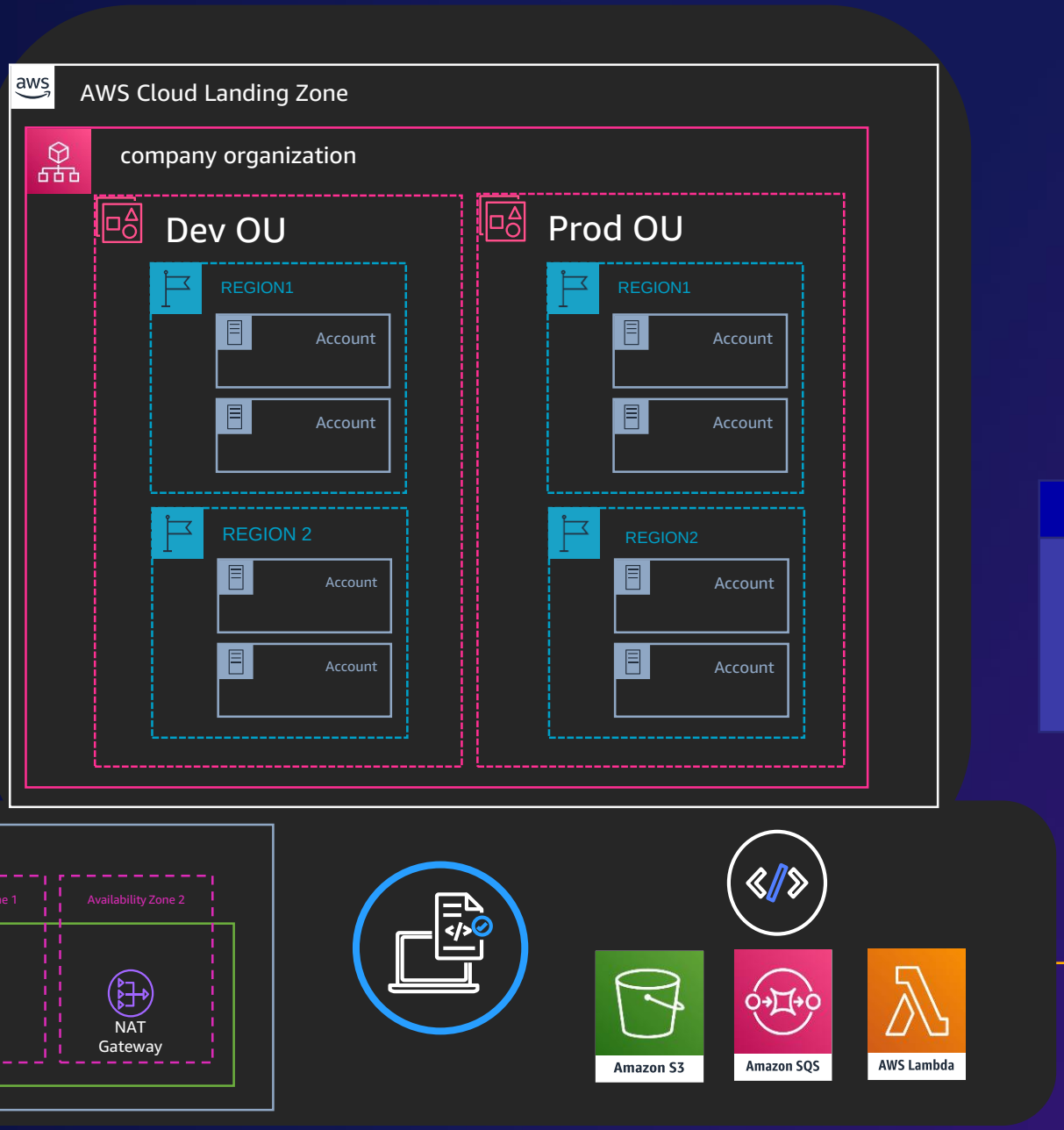


Frameworks

CloudOps, Platform Operators/ Engineering SRE's

Building the "Paved Road"

FRAMEWORKS to **deploy code and Infastructure elements** (accounts, networks & **guardrails**) and any common services

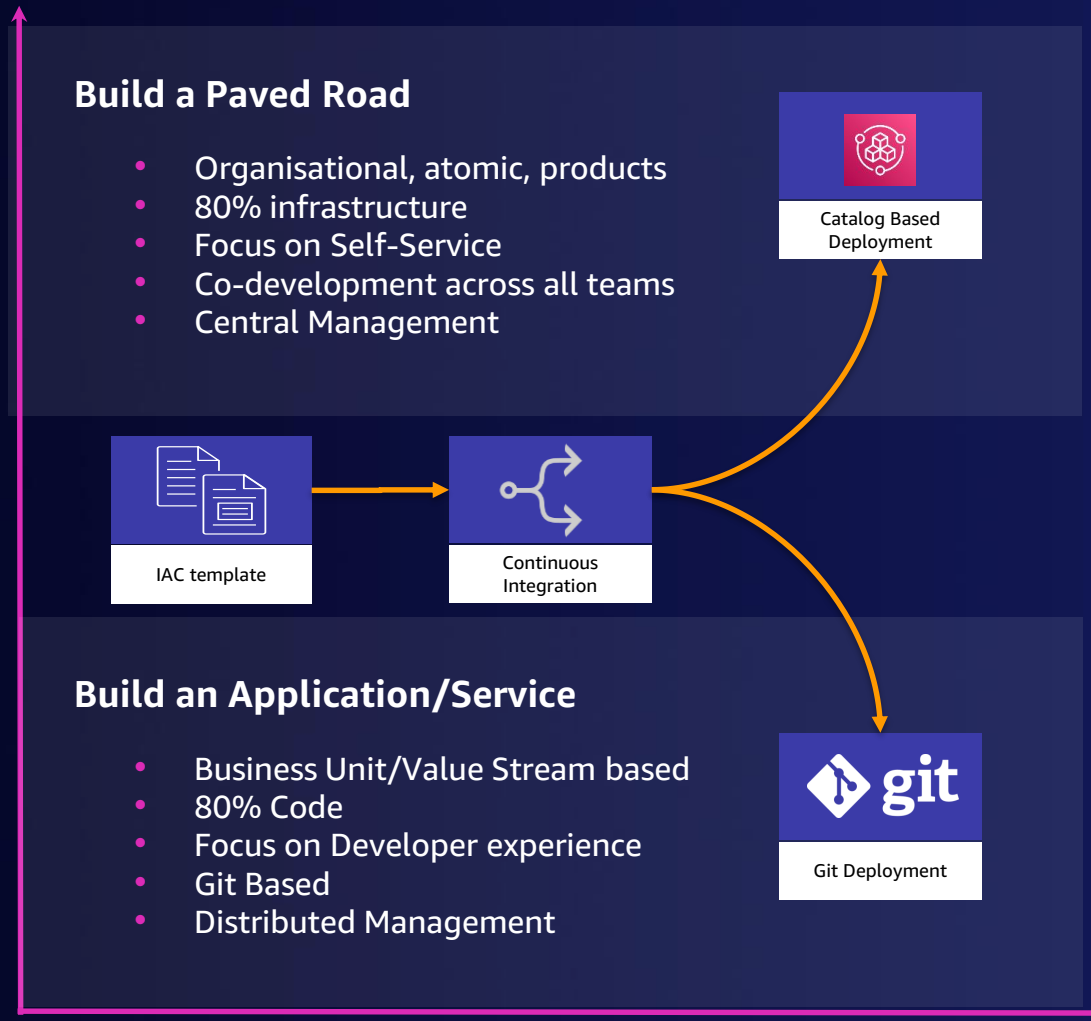


Platform Engineering, Development Teams, Devops , SRE's, Application Operators

You Build it, you run it!

FRAMEWORKS to **deploy code and Infrastructure** to accounts to support an application runtime, operations and optimisation

The IaC Supercharger



Catalog Based Workflows

Catalog based products
Leverage AWS service Catalog or 3rd party (ServiceNow)
Pull from account
Integrated with org approval process
Products are normally singular although can be made up of multiple sub-products

Deployable, Automated, abstracted & Standardised Services

Programmatic Guardrails

Git Based Workflows

Git based
Leverage AWS Codepipeline or 3rd party (GitLab etc.)
Push/Pull to account
Needs to cope with multiple accounts, regions and resources
Integrated into git commit/PR, merge process
Can be collocated in the app code repo to reduce dependencies

IaC Evolution

- Wikis,
- Playbooks
- Ask-Bob-he-knows

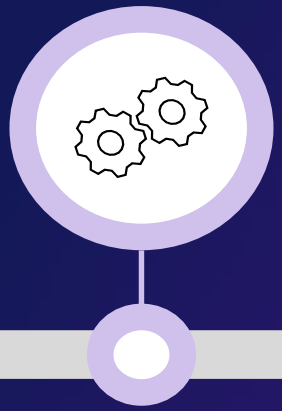
MANUAL

SCRIPTED

- #!/bin/bash

- CloudFormation (2011)
- Terraform (2014)

DECLARATIVE



GENERATORS

- Troposphere (2014)
- GoFormation

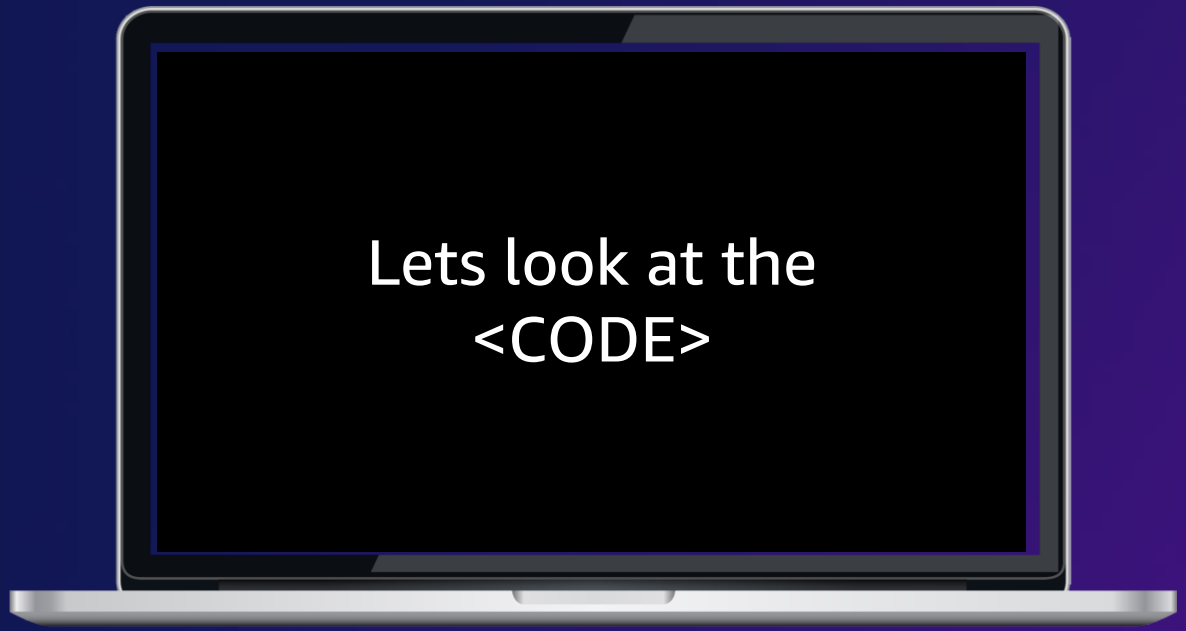
- eksctl
- K8 YAML/HELM
- Kustomize
- Pulumi (2018)
- AWS CDK (2019)

ABSTRACTIONS

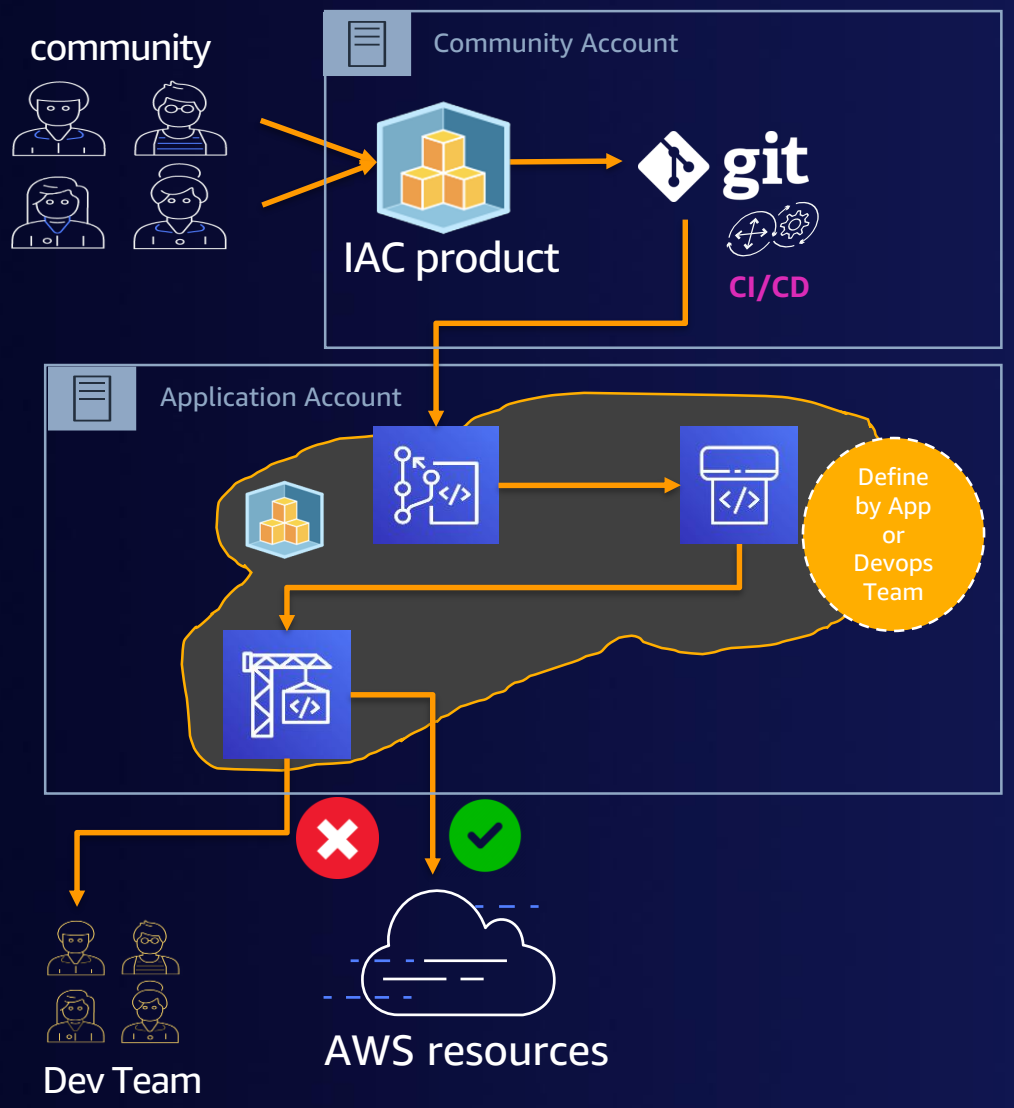
Where does bob start?

Configuration is code

- Your favorite programming language and linting standards
- Reusable components/constructs
- Synthesizes infrastructure as code templates
  - No debates over what good CF looks like
- Template deployed by hand/by person

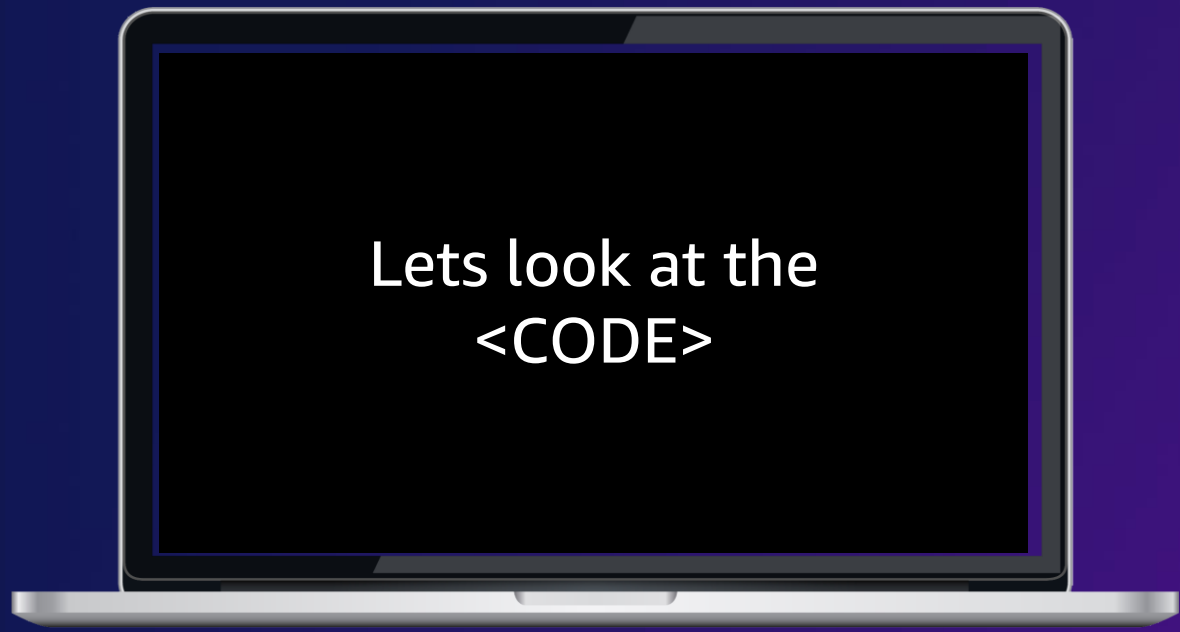


Inner-source + Continuous Integration

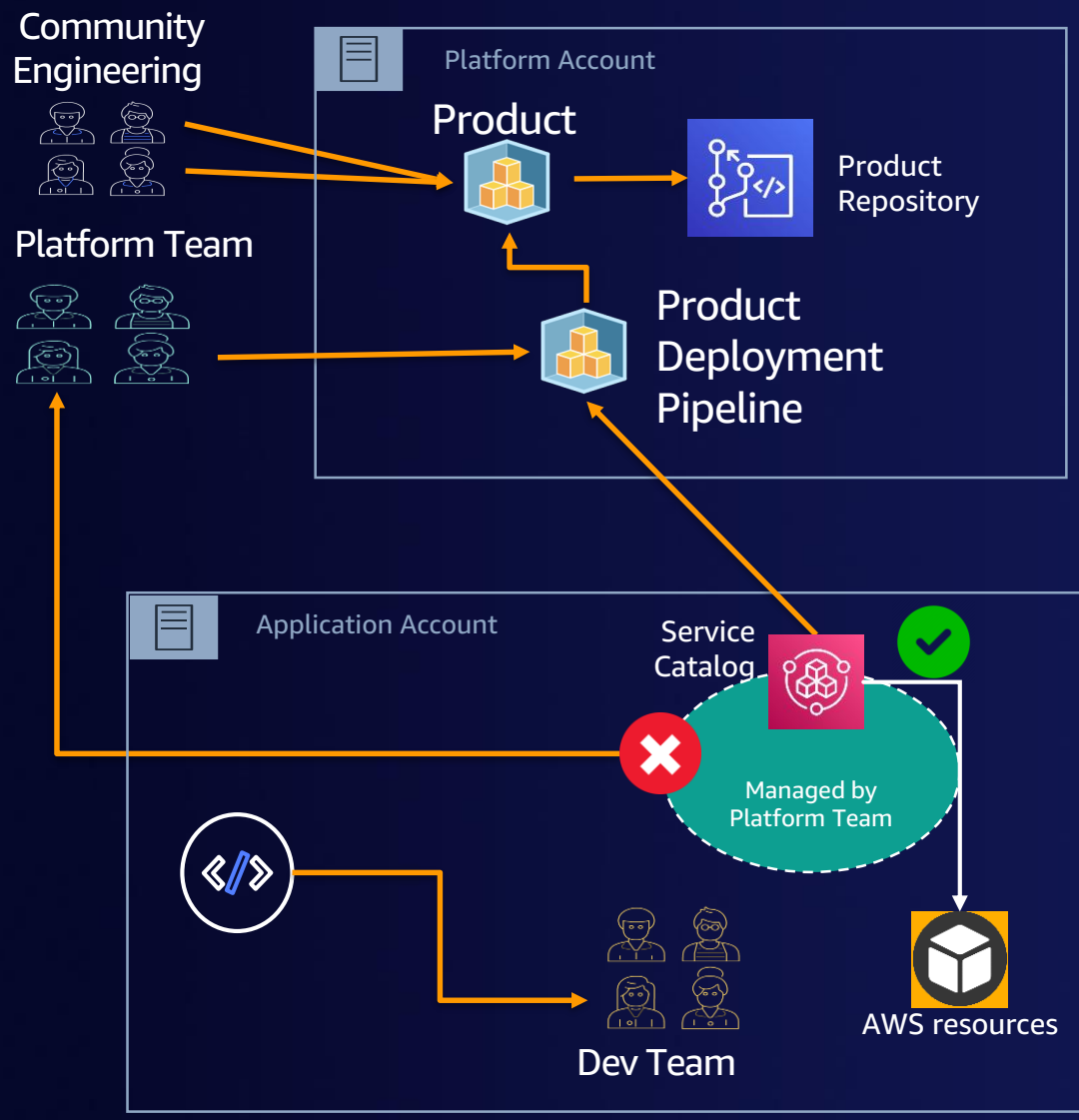


They build it YOU run it

- Community Development Model
  - Tested/validated IaC products
- Teams can
  - Clone/Configure the code
  - Setup their own pipeline (can use CDK)
- Lots of pipeline choice/variation

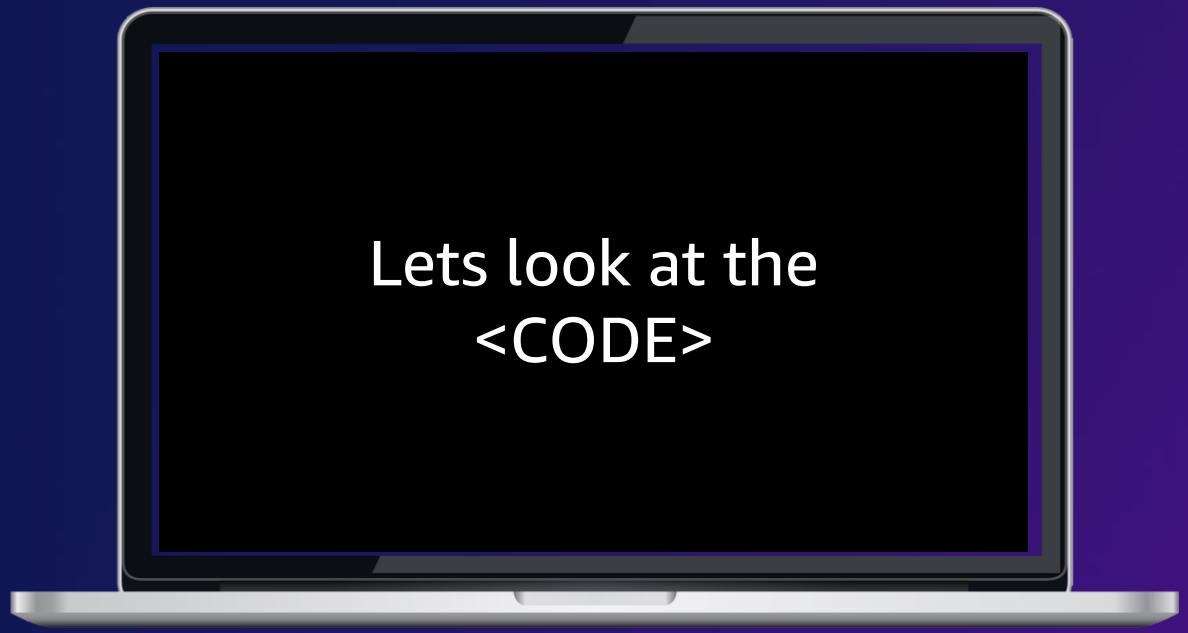


Paved Road Approach

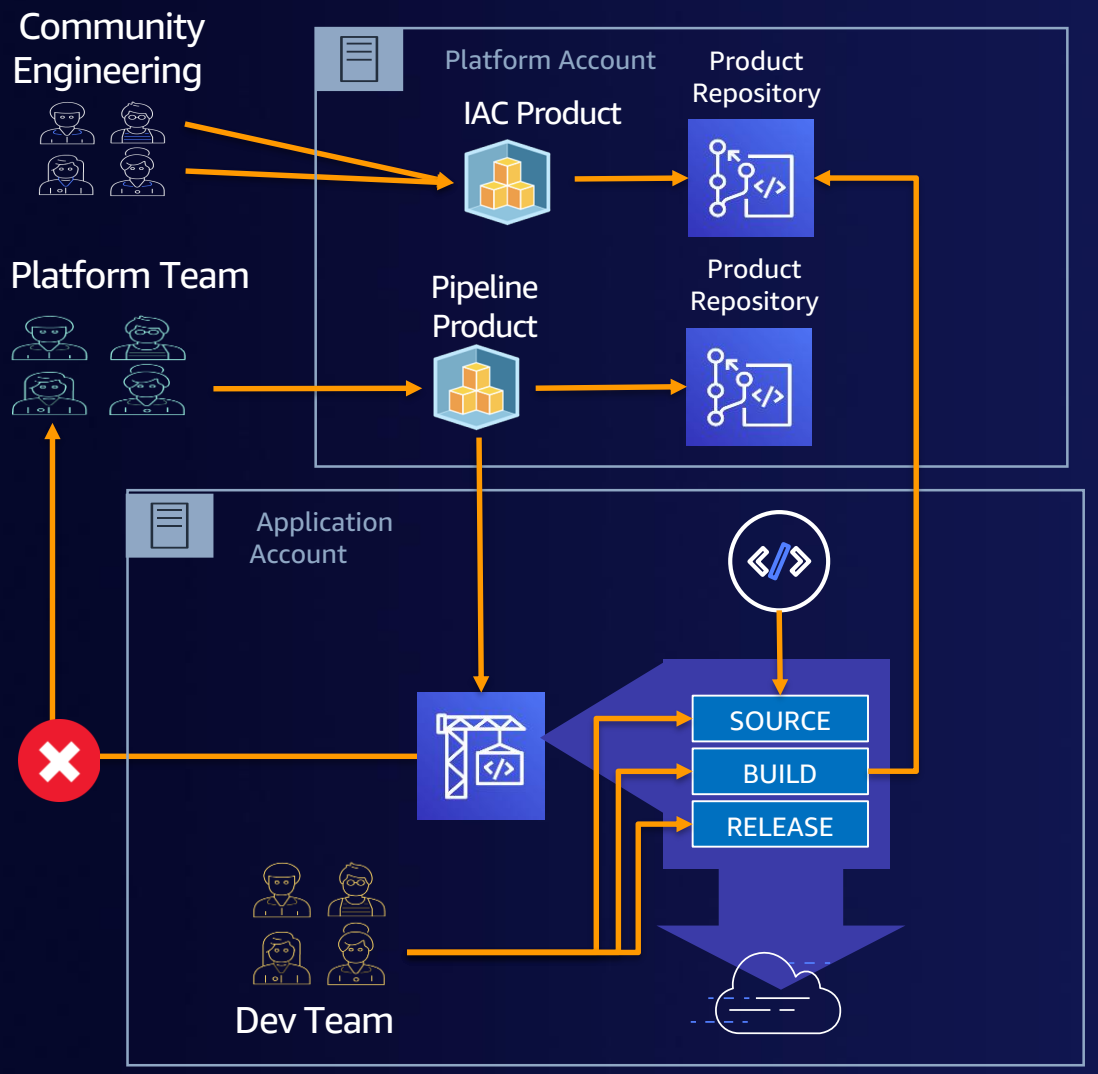


They build it THEY run it

- Platform Engineering
  - govern services
  - standardize pipeline
- Pipeline exposed as a product and linked to IAC template
- Dev teams use products through Service catalog



Pipeline Product



The Pipeline is the Product

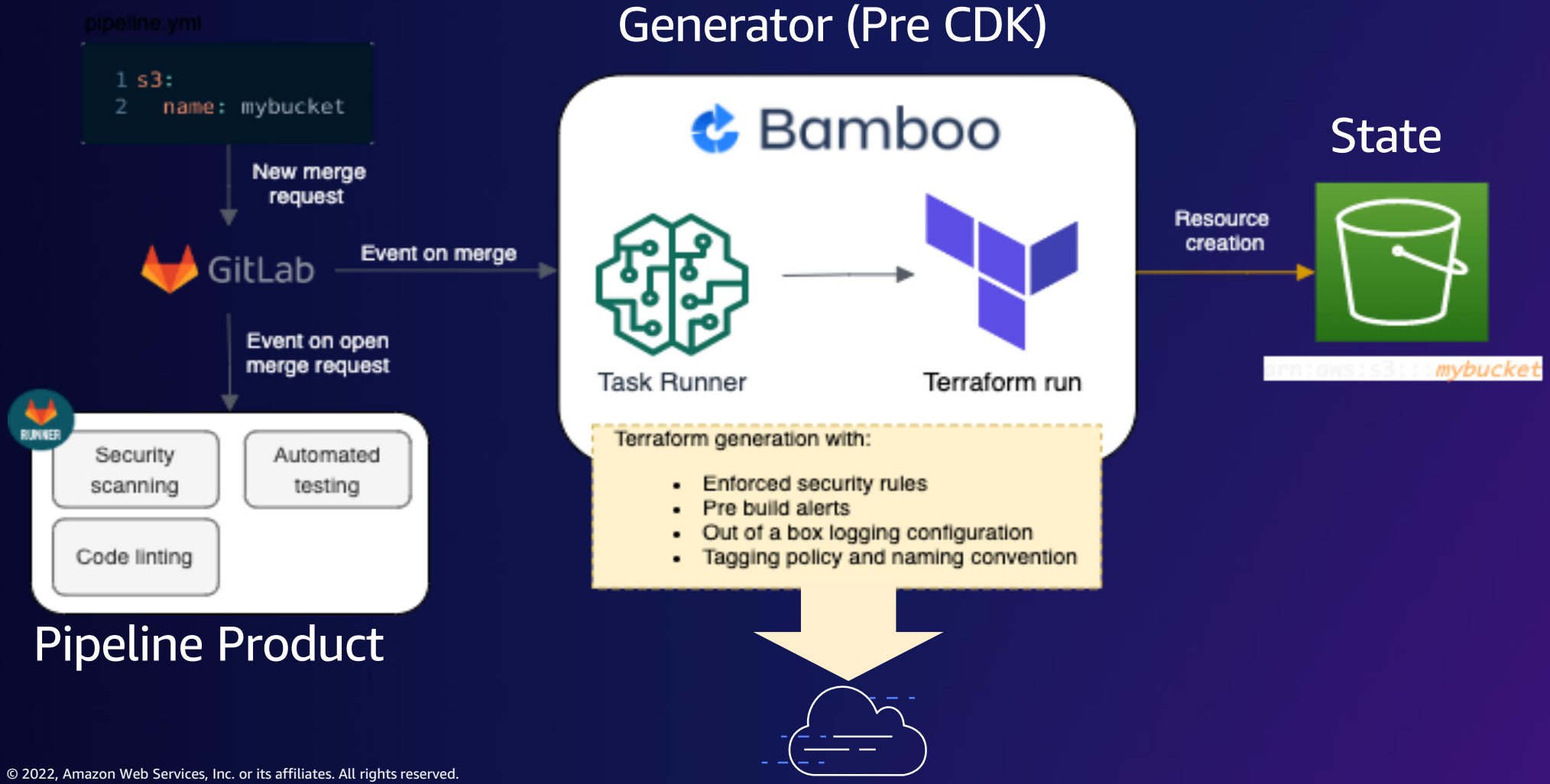
- Generic pipeline product
- Pipeline tech/deployment handled by Platform team
- Pipeline stages configured by development/SRE teams
- Code added by the Team

Developer Agility

Management & Governance

Bob

How does BT do it?



Summary

SUPERCHARGING YOUR DEVOPS PRACTICE

- Get the foundations of Infrastructure As Code (IaC) and Continuous Integration (CI) Right
  - Start with the highest abstraction of IaC you can (CDK)
  - Use an extensible CI framework to support linting, testing and guardrails
- Understand if your focused on
  - Building a paved road
  - Building applications or Services
  - Both
- Focus on balancing developer agility with platform management/governance

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Thank you!

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