
AWS
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COP303

How Global Payments scales on AWS with governance and controls

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Agenda

Challenges around governance and controls in regulated industries

Global Payments cloud journey, cloud platform vision, and goals

Implementing governance with AWS Service Catalog and AWS Organizations

Results/outcomes and future plans

Takeaways and Q&A

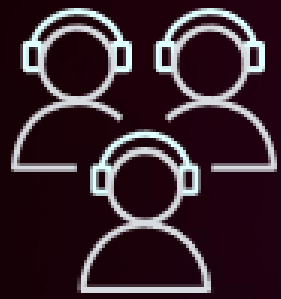
Challenges in regulatory industries

Constantly evolving regulatory requirements

Requirements that vary significantly across regions

Highly dynamic security threat landscape

Stringent reporting and documentation requirements



Limited cloud security and compliance specialists

The challenge … balancing the needs

Builders
Stay agile

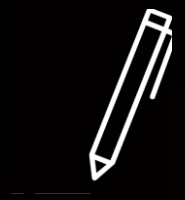
Innovate with the speed and agility of AWS

Cloud IT
Establish governance

Govern at scale with central controls

Enabling cloud-ready environment at scale using AWS Cloud Operations

1) Set up



Establish a secure foundation for governance and compliance

Multi-account strategy

2) Build and migrate

Migrate applications to the cloud or build new applications

AWS Service Catalog

3) Operate

Monitor application performance; detect and remediate noncompliance or operational risks quickly

AWS Organizations

About Global Payments/TSYS

LARGEST PURE PLAY PAYMENTS COMPANY IN THE WORLD

Leading issuer processor
US, Canada, UK, Ireland, China

#2 issuer processor
Western Europe

170+ countries

1,500 institutions

696M+ accounts

~59B transactions
Annually

15,000+ TPS
Real-time event processing

1M+ throughput
High-volume batch workloads

100+ industries
Banks, fintech, retail, restaurants

140+ integrations
Major payment networks and channels globally

Current landscape and cloud journey

Worldwide presence

US

EU

South America

Asia Pacific

Complex structure

6 AWS organizations

116 accounts

Multiple account structure implementations

Modernization approach

Cloud-native microservice architecture

Lift and shift

Standardize on Terraform as IaC

Challenges and opportunities

Adhering to compliance and regulatory requirements

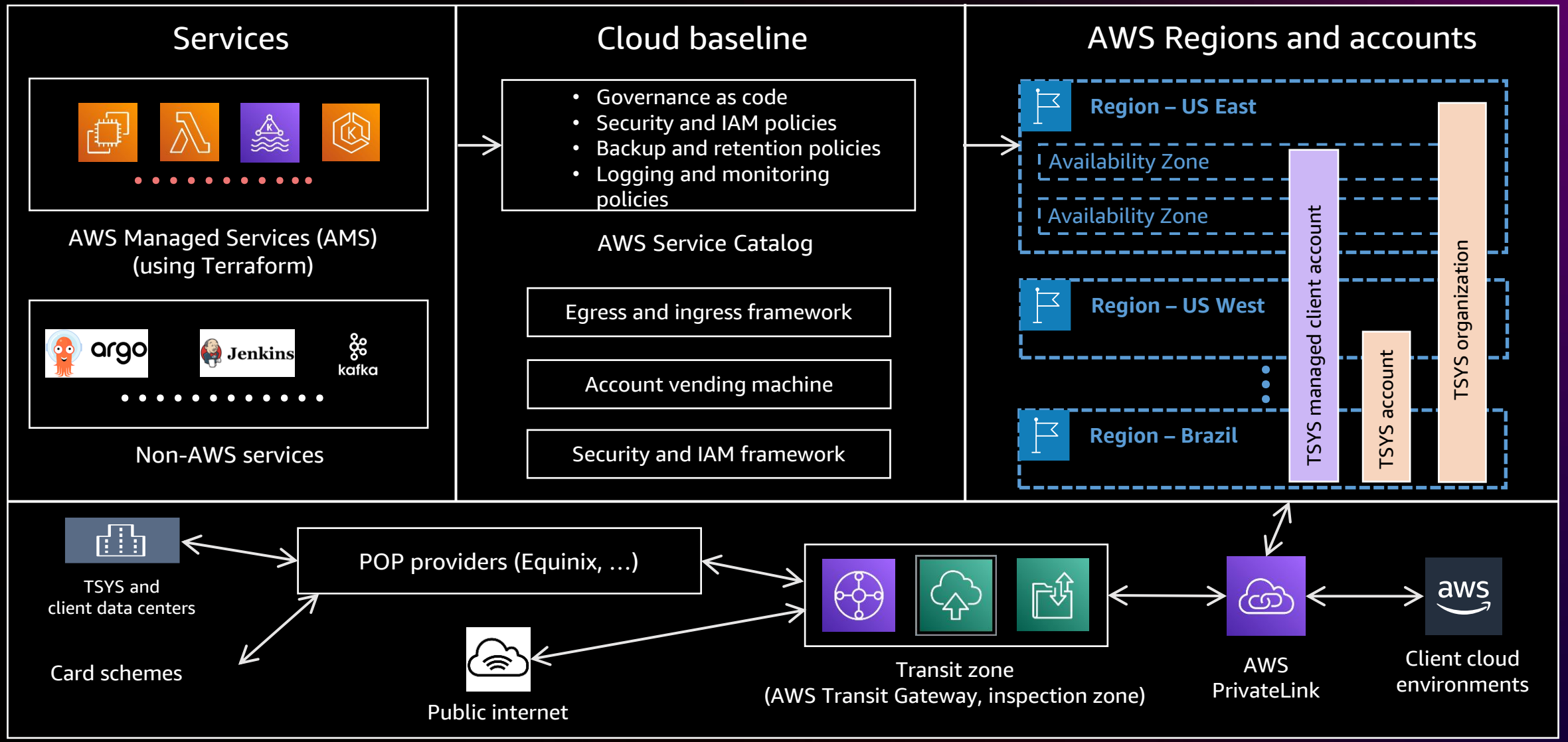
Deploying services globally every day at a large scale (5,000+ engineers)

Implementing standardized deployment approach

Providing shift-left approach

Allow only approved products and services

Cloud platform vision



Why multiple accounts strategy

- Create isolation and limit scope of impact from adverse events
- Avoid resource crunch and distribute Service Quotas and API request rate limits
- Better financial reporting and management
- Group workloads based on business purpose and apply policies and guardrails collectively

Organizations enabled central governance and management across AWS accounts

Centrally provision accounts

Secure and audit your environment for compliance

Share resources and control access to accounts, regions, and services

Optimize costs and identify cost-saving measures

A comprehensive multi-account AWS environment

Why GPN used AWS Service Catalog

1. Provides the base framework

- Provision with governed access
- Share products
- Scale

2. Choice and ease of use

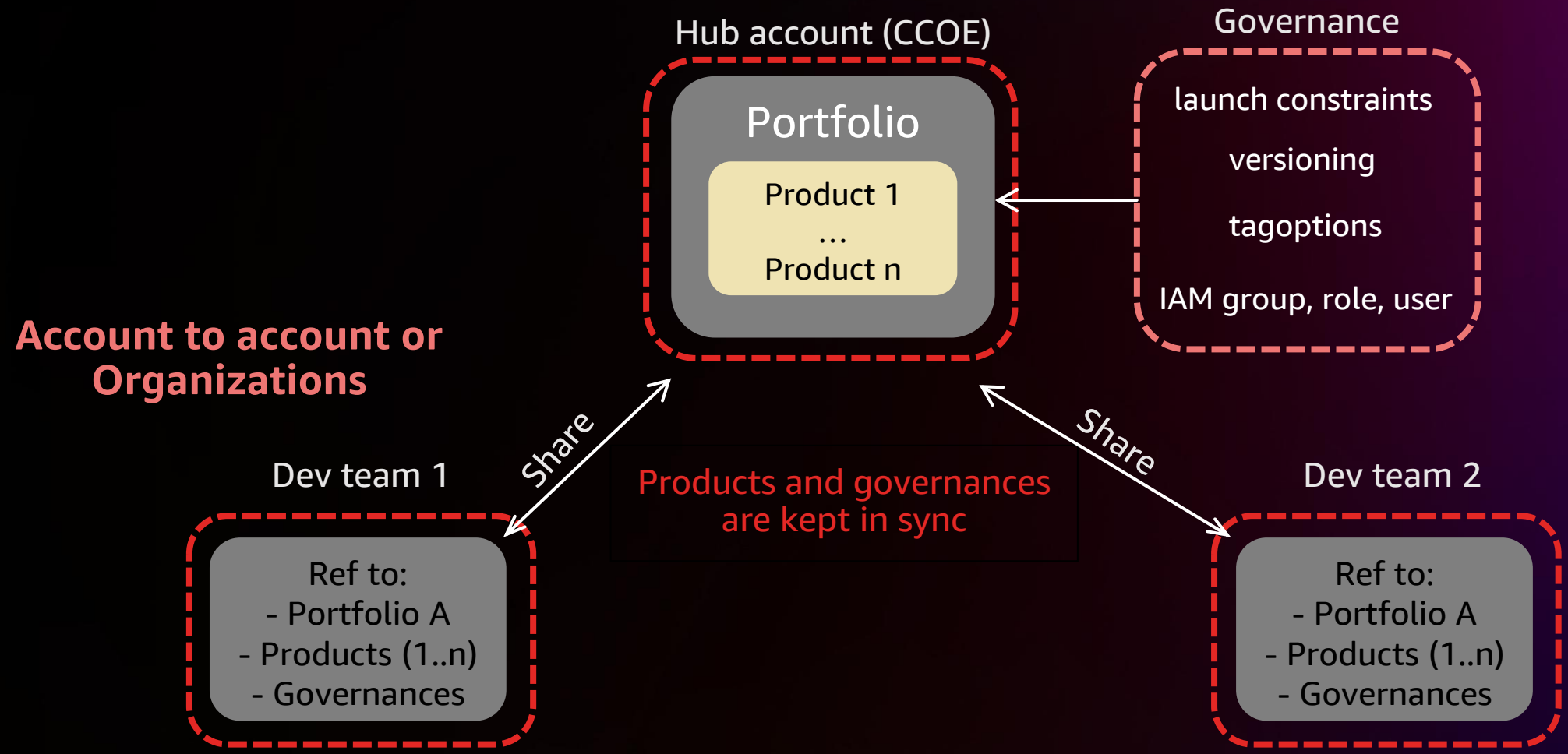
- API, CLI, UI

- Ability to customize

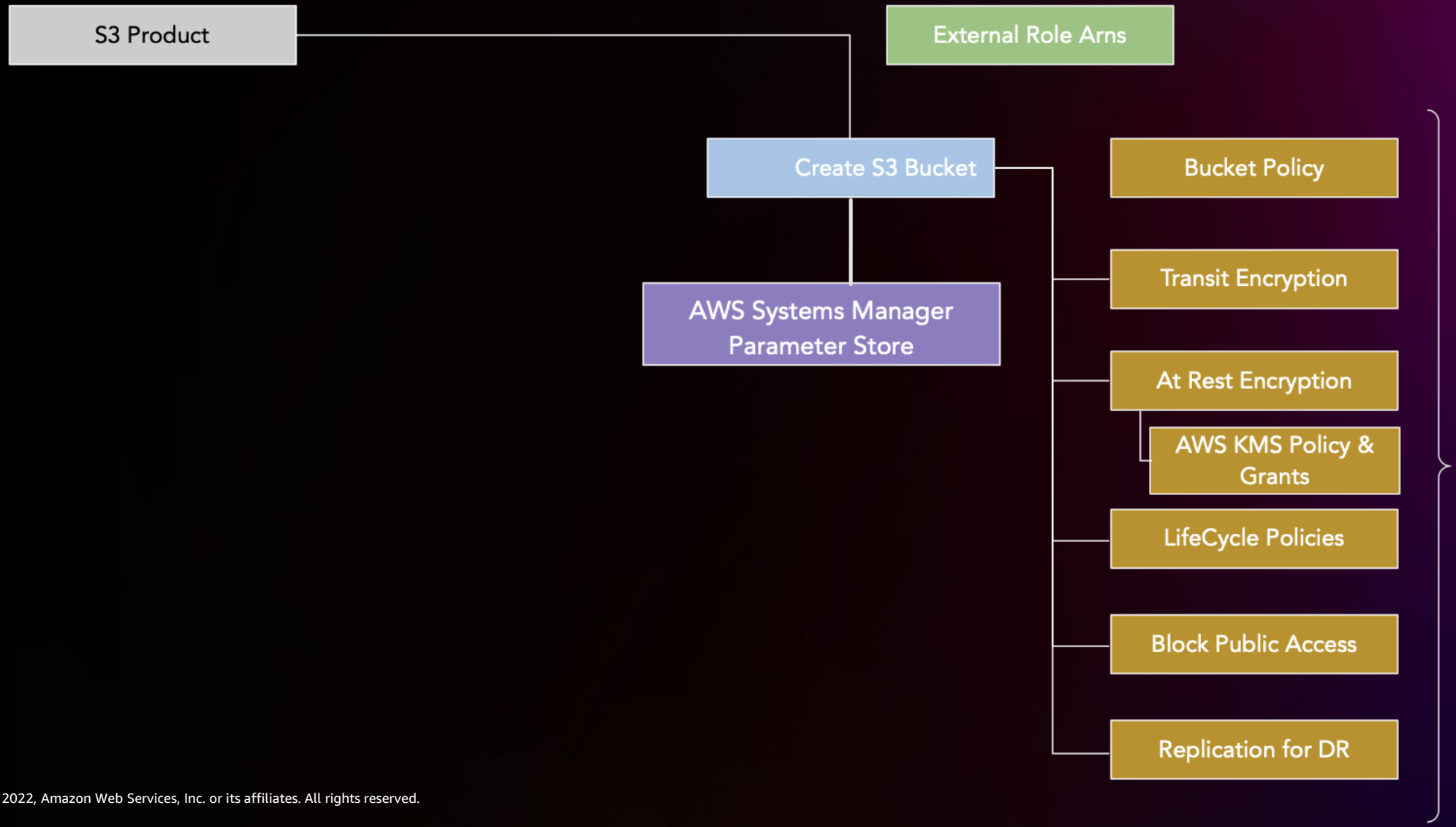
3. Speed to delivery

- Teams self-serve

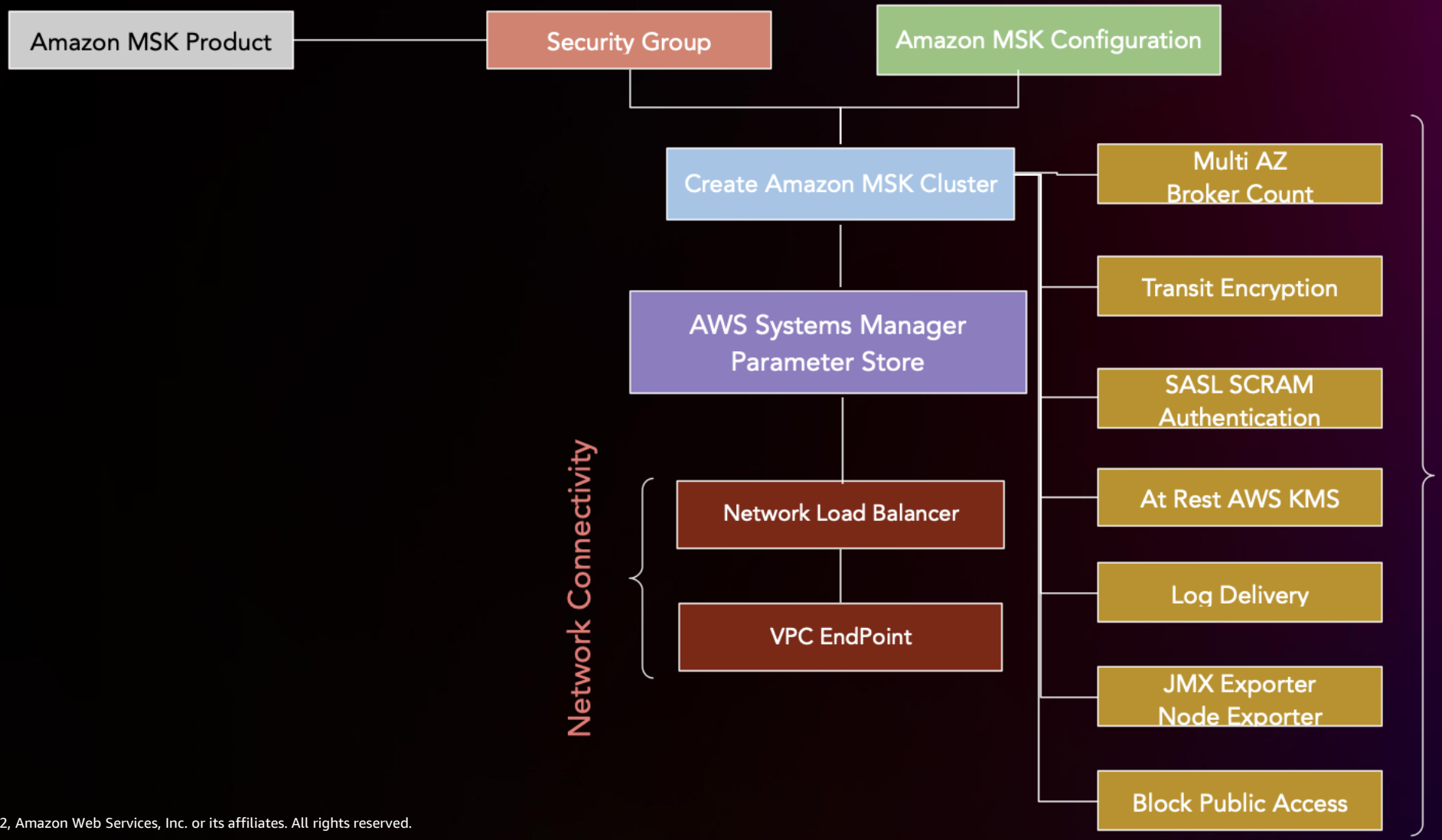
Scaling through sharing a curated catalog across Organizations



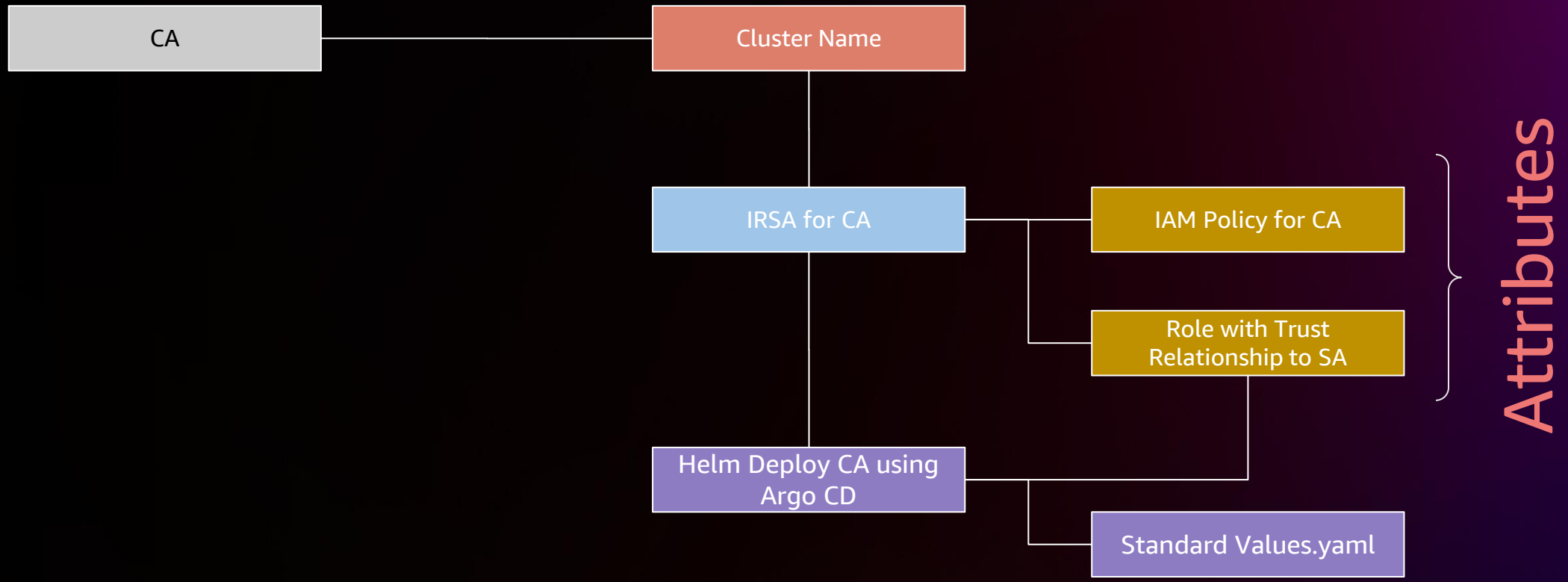
Product development strategy: Amazon S3



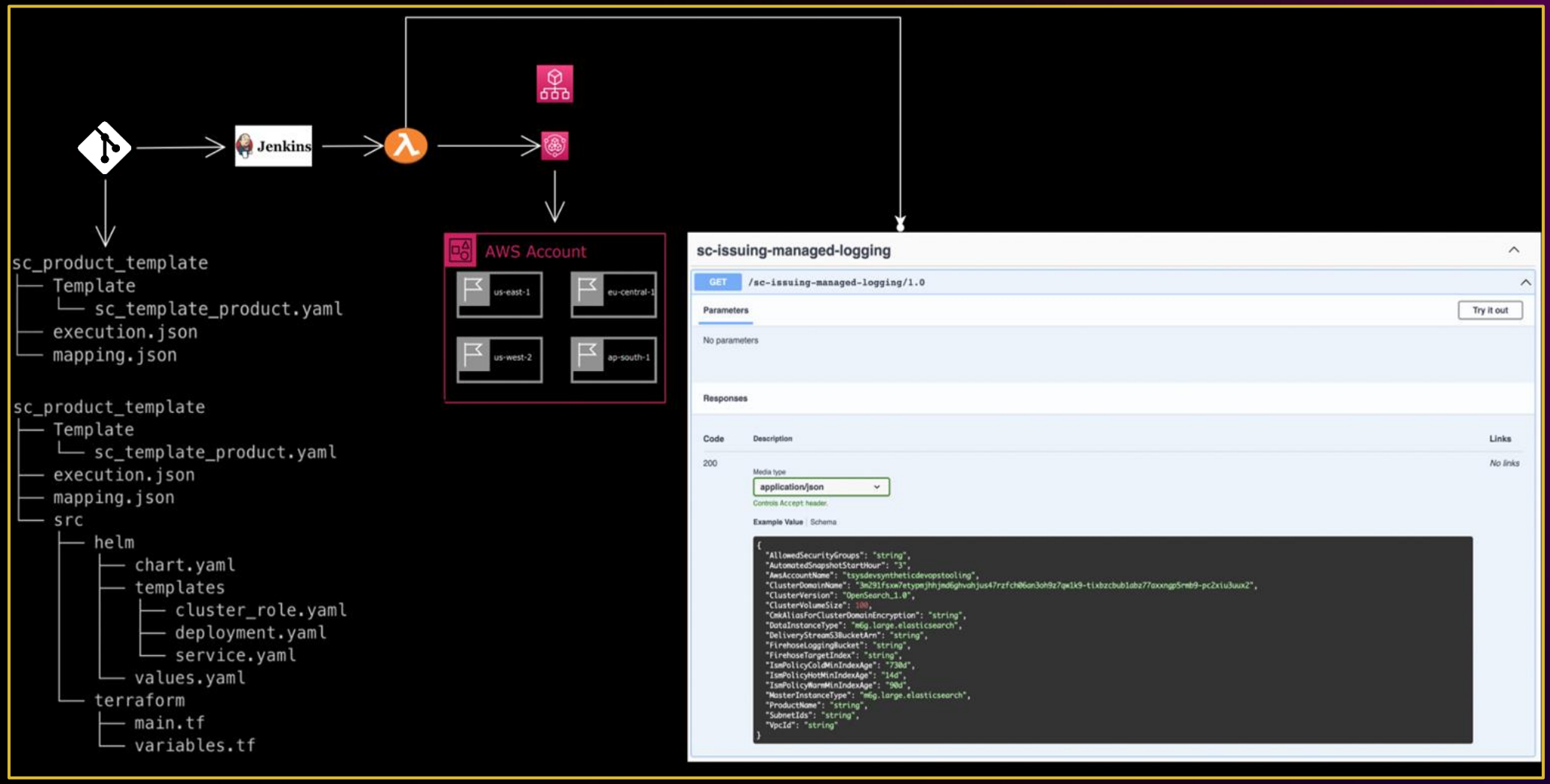
Product development strategy: Amazon MSK (Amazon Managed Streaming for Apache Kafka)



Product development strategy: Amazon EKS (Cluster Autoscaler)



AWS Service Catalog sync process



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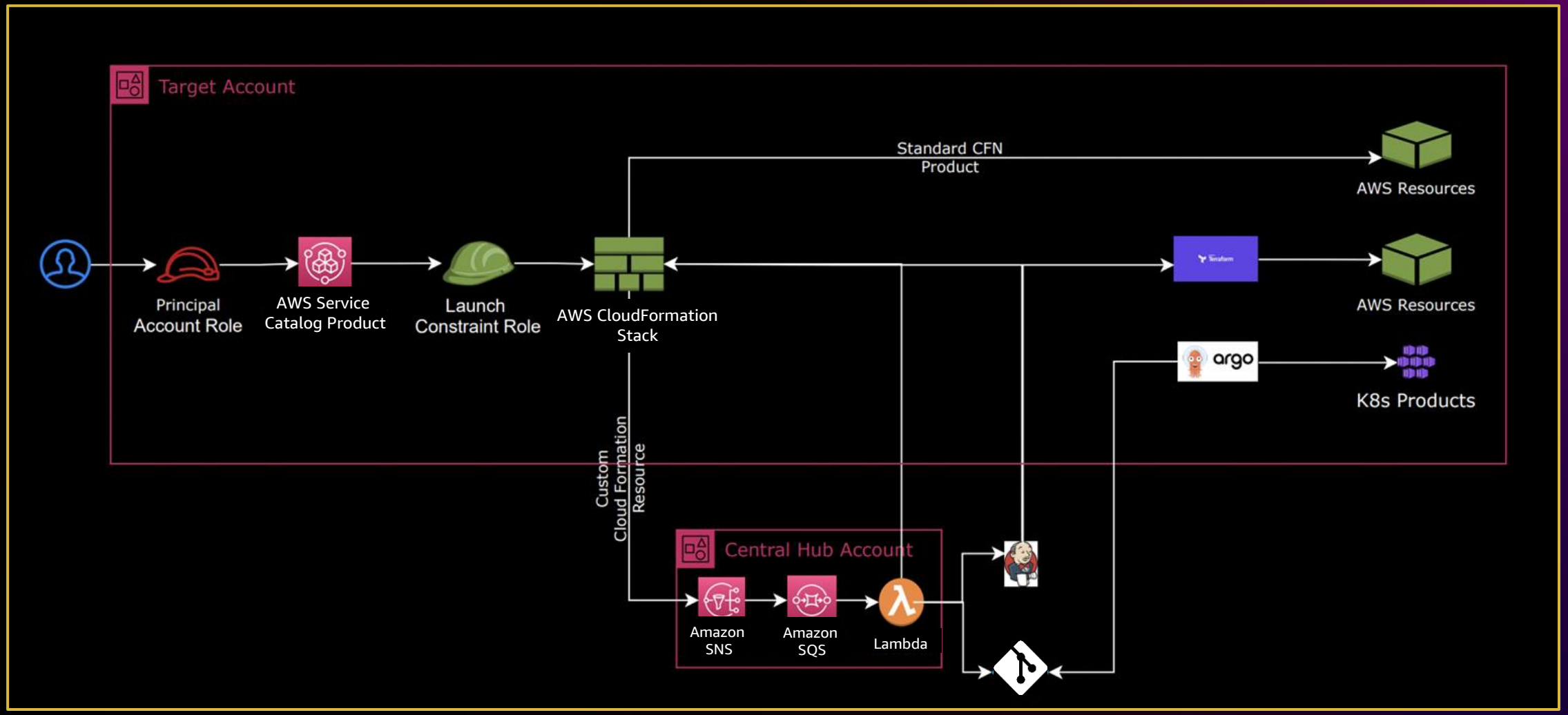
AWS Service Catalog deployment framework



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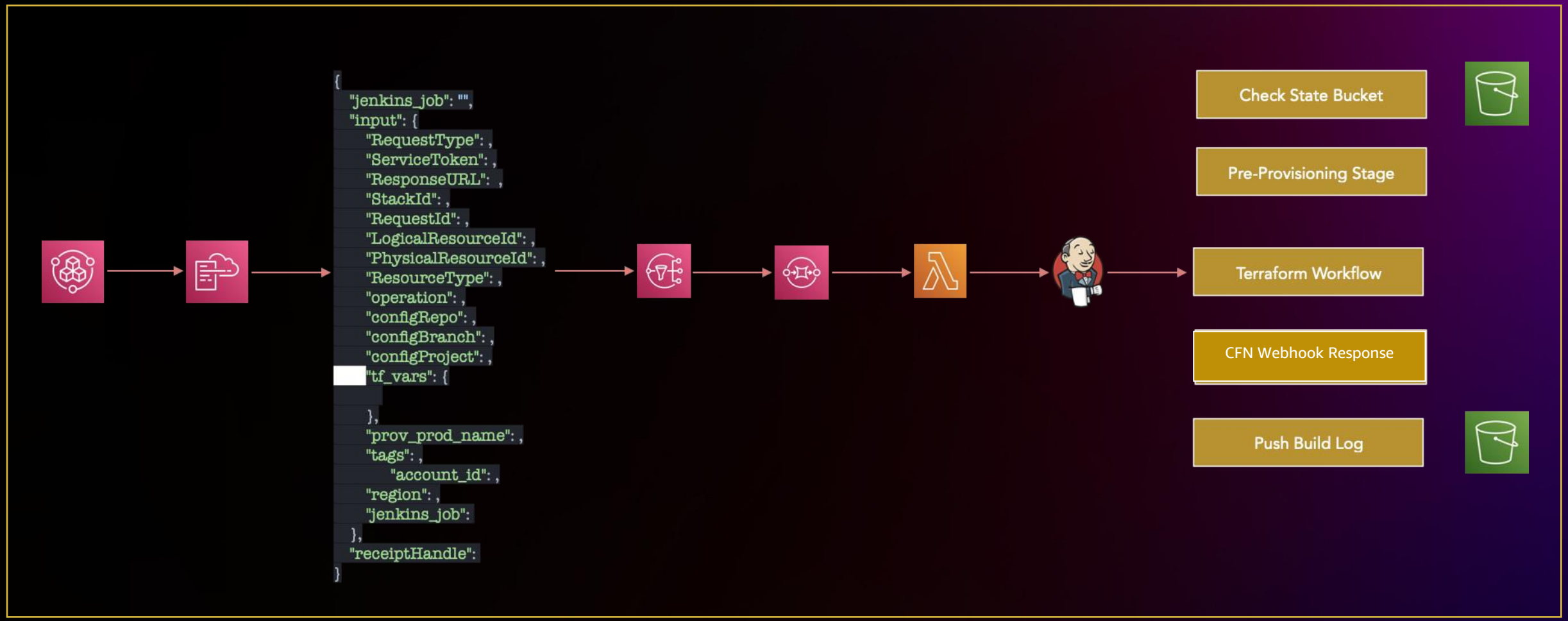
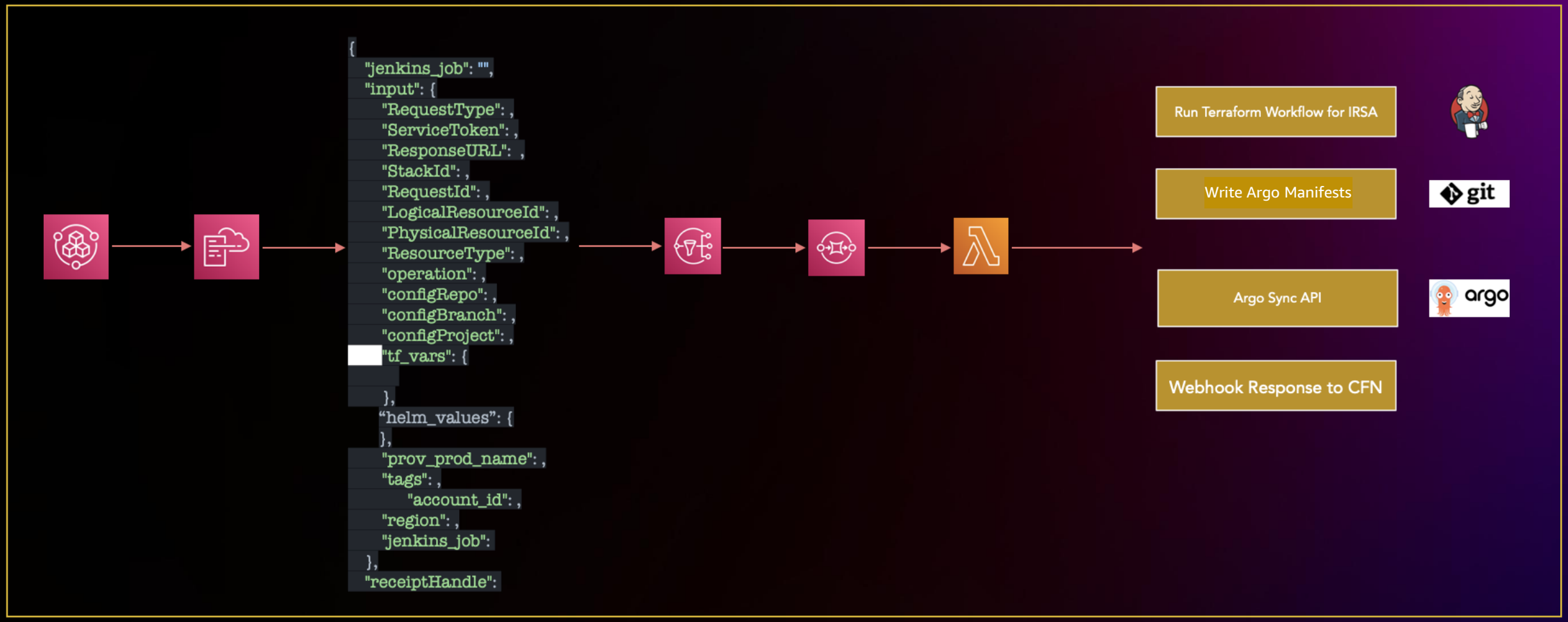
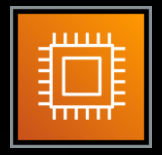
Terraform integration



Kubernetes integration



60+ AWS Service Catalog products as building blocks



Compute

Amazon EKS

Lambda

ASG-based Amazon EC2

Networking

Network Load Balancer, Application Load Balancer, Classic Load Balancer

HAProxy

Amazon API Gateway

Istio Service Mesh

Storage

Amazon EBS

Amazon EFS/NFS

Amazon S3

Databases

Amazon RDS for Oracle, Amazon RDS for MySQL, Amazon RDS for PostgreSQL

Amazon DocumentDB

Amazon MemoryDB for Redis

Amazon DynamoDB

Amazon ElastiCache

Amazon MSK

Monitoring

Prometheus, Thanos

Amazon OpenSearch Service, Amazon CloudWatch Logs Insights, FluentD

Amazon CloudWatch, Grafana

Alert Manager

Amazon SES, Amazon SNS

Kubernetes products

NGINX

Cluster Autoscaler

CoreDNS

Sidecar injector

KEDA

Kubernetes Dashboard

Logging Operator

Prometheus Operator

Building applications infrastructure

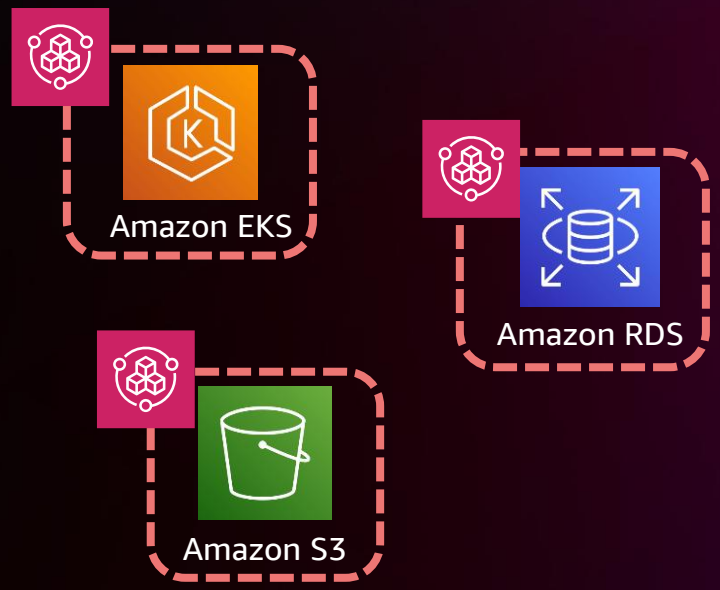
Governance features like resiliency and monitoring baked into the products as configuration

Implement products as building blocks for underlying infrastructure

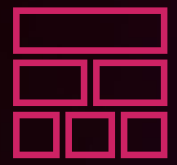
Product-based approach allows to implement for multiple architectures

- Active-Active
- Active-Standby

1 **Select governed products from the catalog**



2 **Build and provision the underlying infrastructure using those products**



Achievements/results

Increased governance through centrally managed products/ resources

Ability to scale across globe with standardized infrastructure

Increased pace of innovation using products with in-built governance

Flexibility in implementing different architecture

Improved productivity with shortened operations timelines

Vulnerability management
Upgrade strategy
Product feature availability
Release maintenance

Takeaways

- **Have a cloud vision/strategy/plan based on your cloud operating model**
- **Identify products/services and leverage native functionality**
  Customize as per your need
- **Standardize the process**
  Start small and expand
- **Create governed building blocks to provide more flexibility**

Why AWS Cloud Operations?

Return on investment (ROI)

241% ROI over 3 years*

Staff productivity

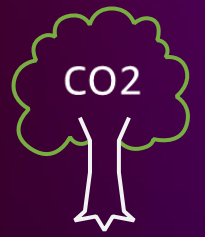
62% more efficient IT infrastructure staff

Operational resilience

57% decrease in downtime

Business agility

37% decrease in time to market



Carbon savings

88% reduction in carbon footprint of IT operations

Based on independent research of 1,500 AWS enterprise customers
*Source: "The Total Economic Impact of AWS Cloud Operations: Cost Savings And Business Benefits Enabled By Operation on AWS. May 2022. A commissioned study conducted by Forrester Consulting on behalf of Amazon Web Services."

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Thank you!

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