



Pluralistic deployment pipelining

One pipeline to rule them all

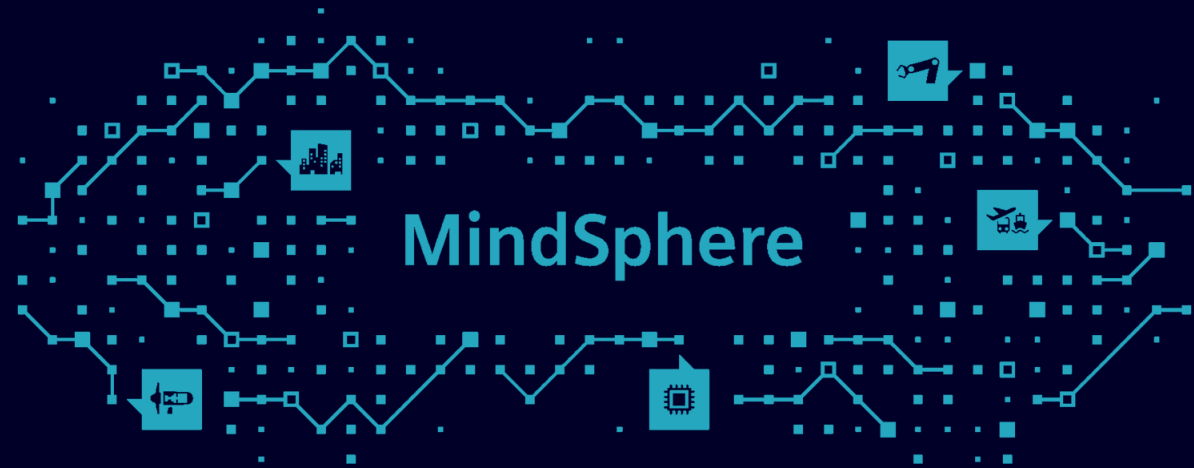
Who/What/Why?



Tobi

MindSphere Operations

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MindSphere

Industrial IoT platform

<https://www.mindsphere.io>

Explore now with a free starter tenant

<https://siemens.mindsphere.io/en/start>

What are we even deploying?

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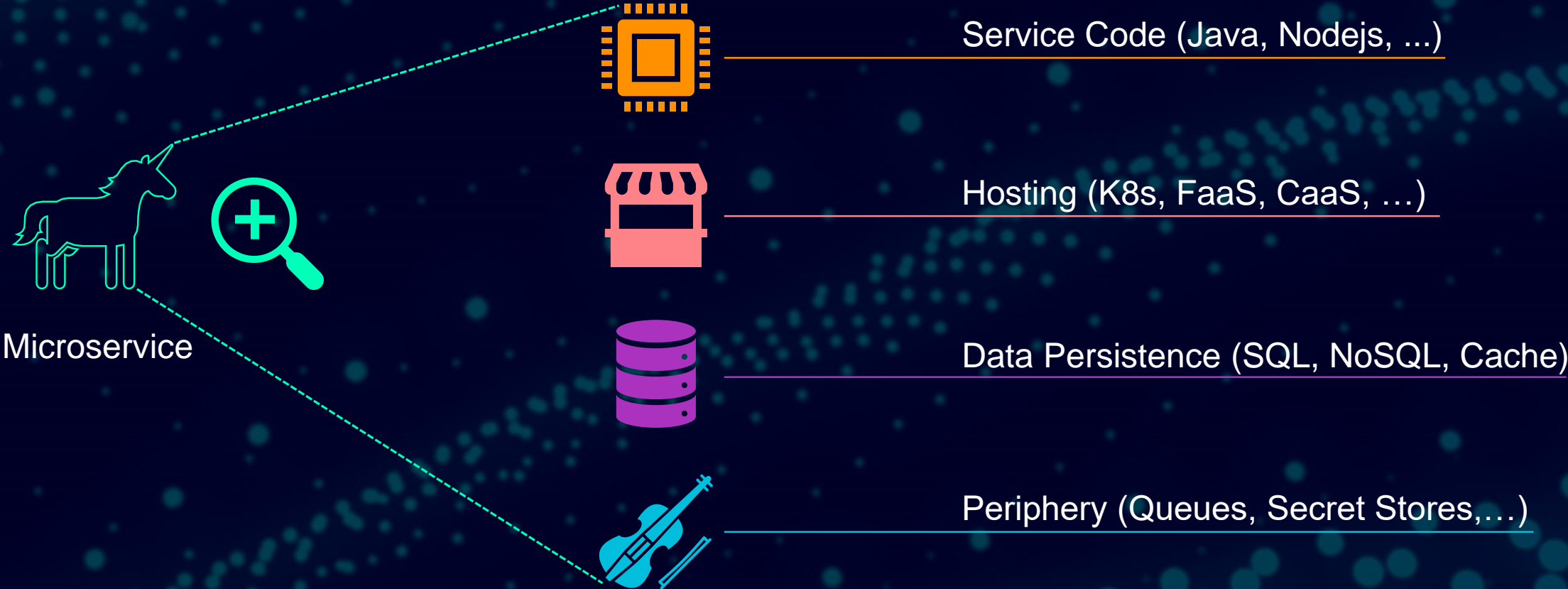
Microservices!



The long journey towards glory

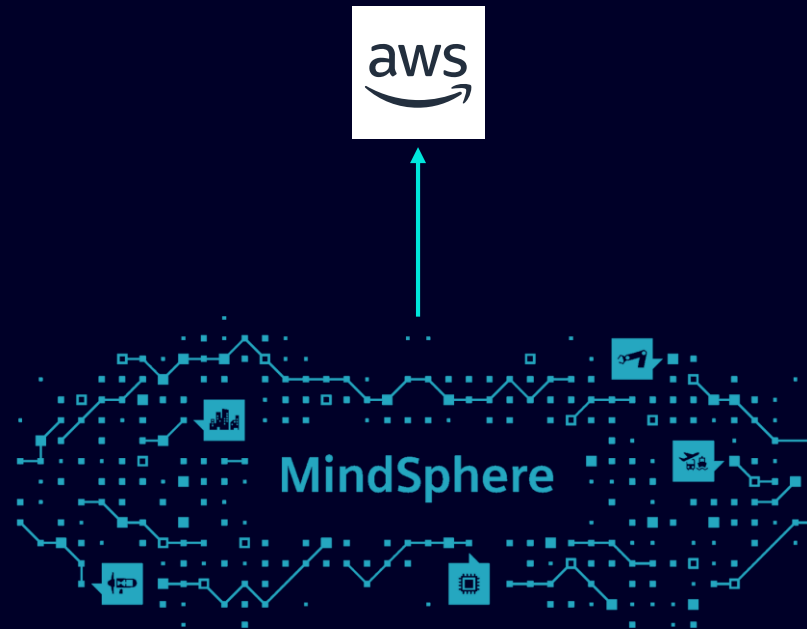


Microservice anatomy

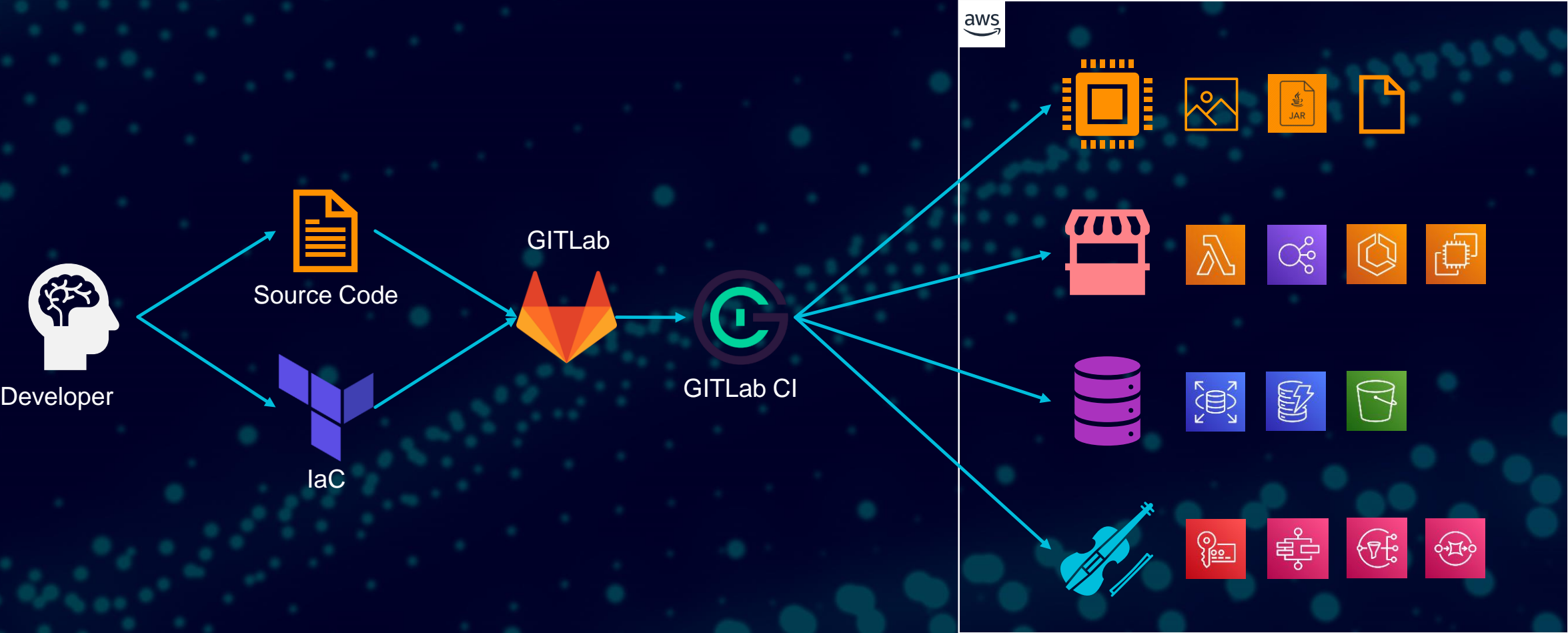


Hardware (IaaS, Baremetal, VMWare,...)

Let's talk target system



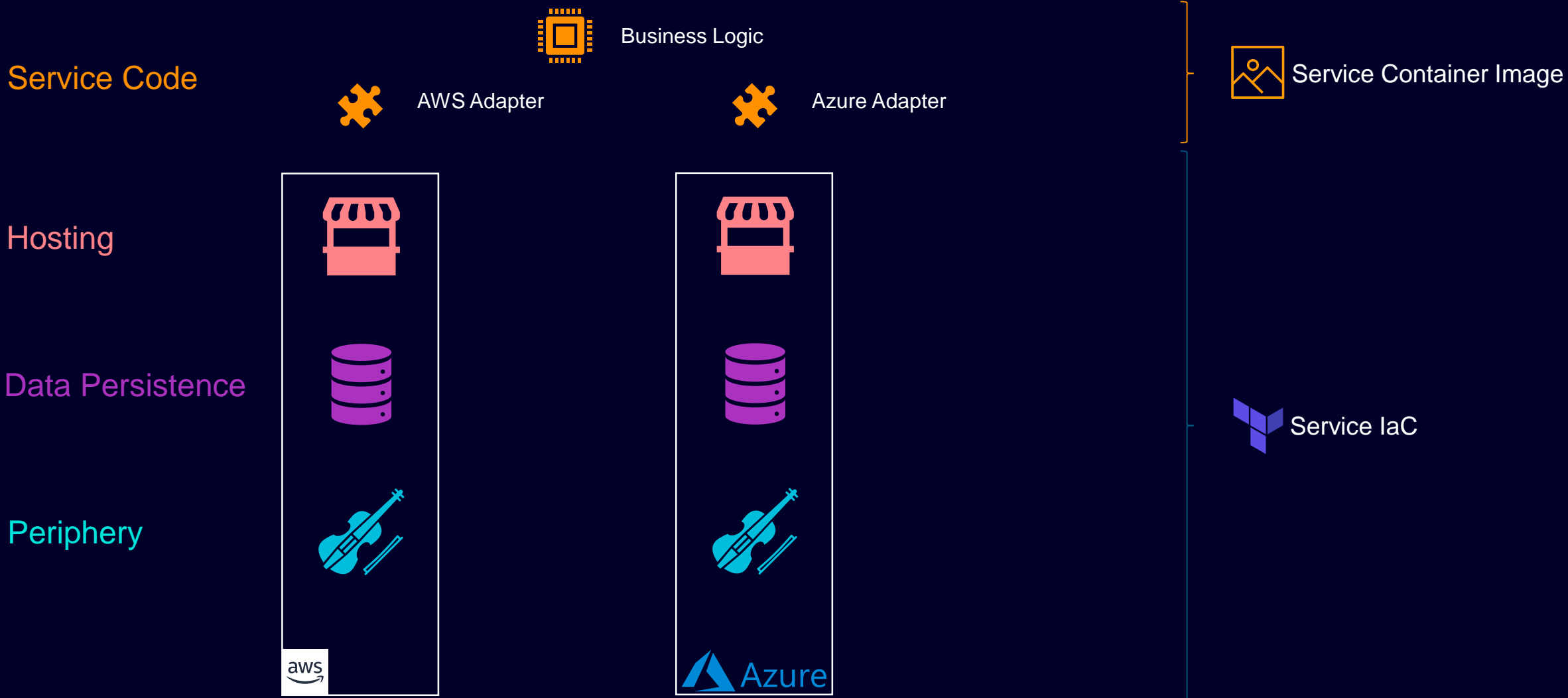
What do I do with all this code?



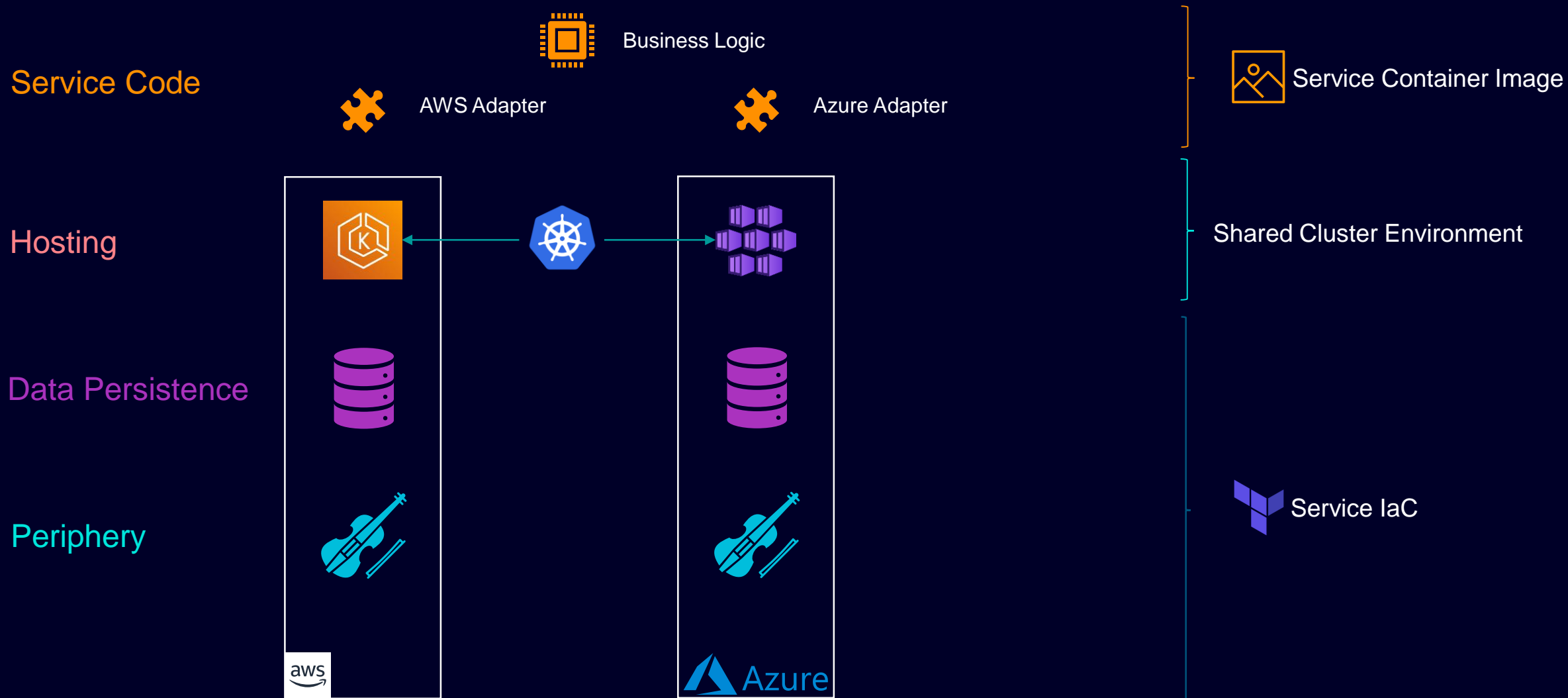
More hyper scalers!



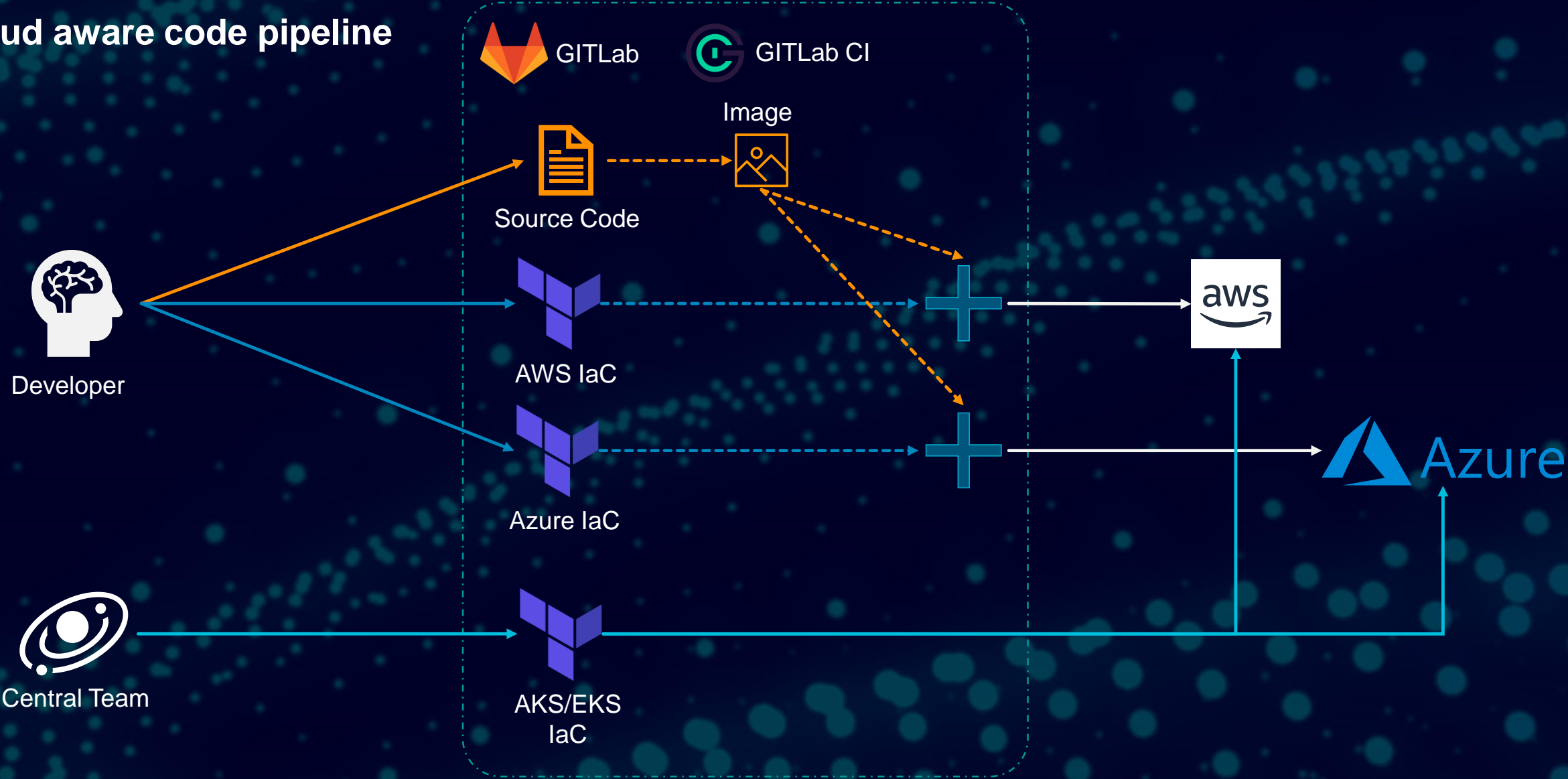
The cloud aware service pattern



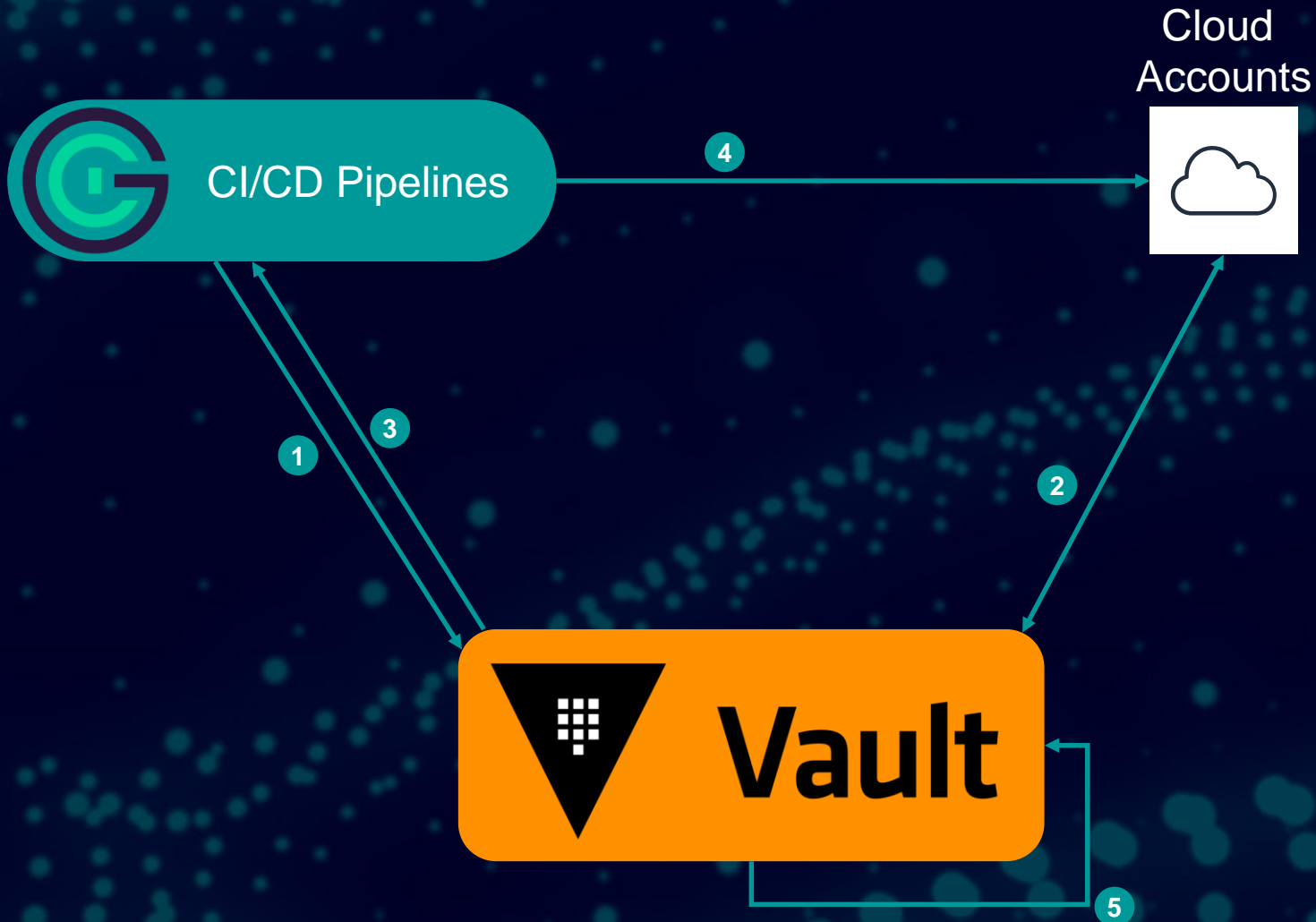
The cloud aware service pattern – simplified by K8s



Cloud aware code pipeline



Cloud account access management



1. Pipeline requests account access with pipeline specific credentials
2. Vault creates cloud access credentials for target account (e.g. AWS Access Key pairs)
3. Access credentials are returned to the pipeline
4. The pipeline accesses hyper scaler APIs with the cloud access credentials
5. Credentials are revoked after 30 minutes

Why not sprinkle over one more target system?



The cloud aware service pattern – extended

Service Code



AWS Adapter



Business Logic



Azure Adapter



LPC Adapter

Hosting



OPENSIFT



Data Persistence

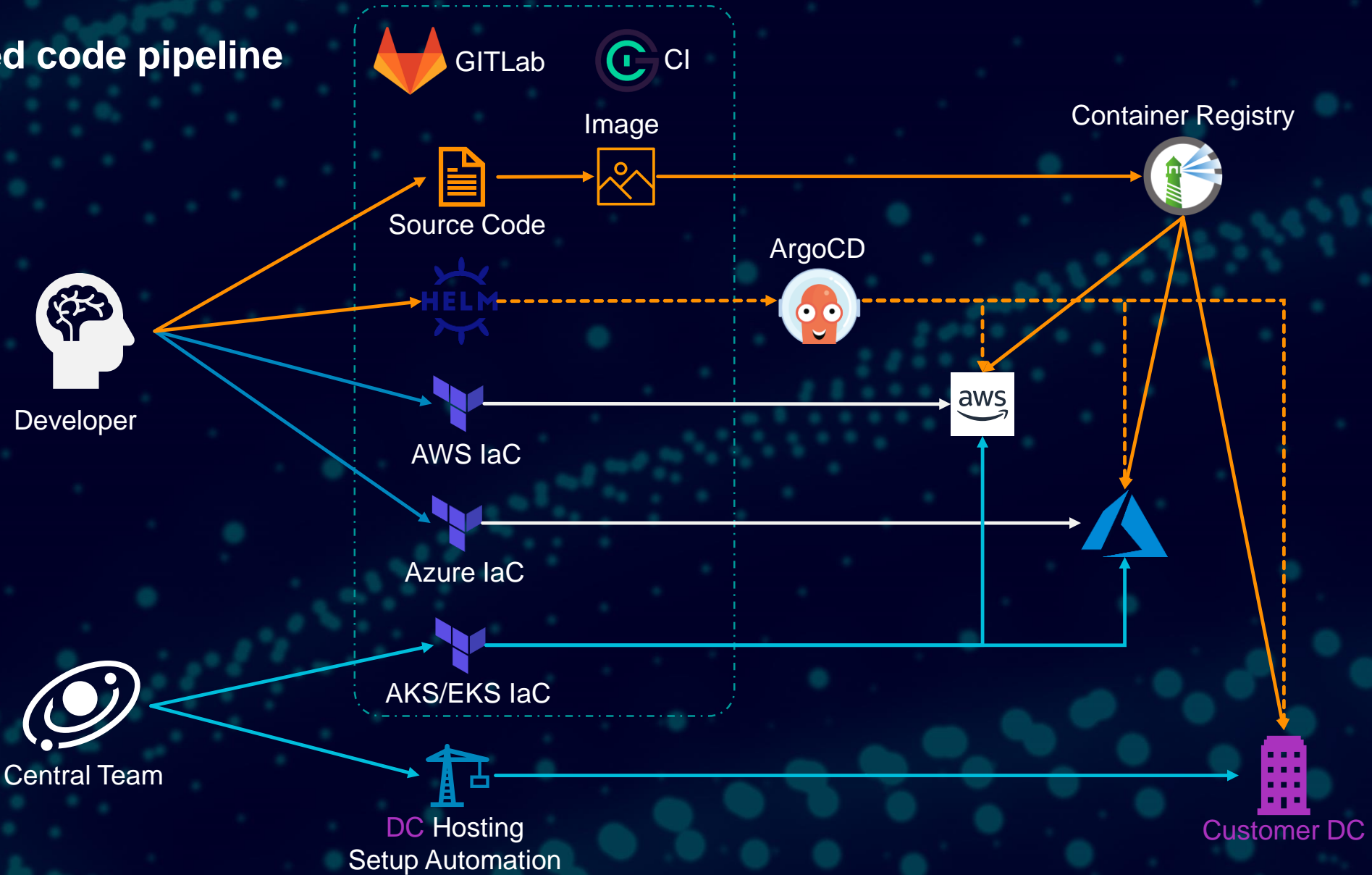


Periphery

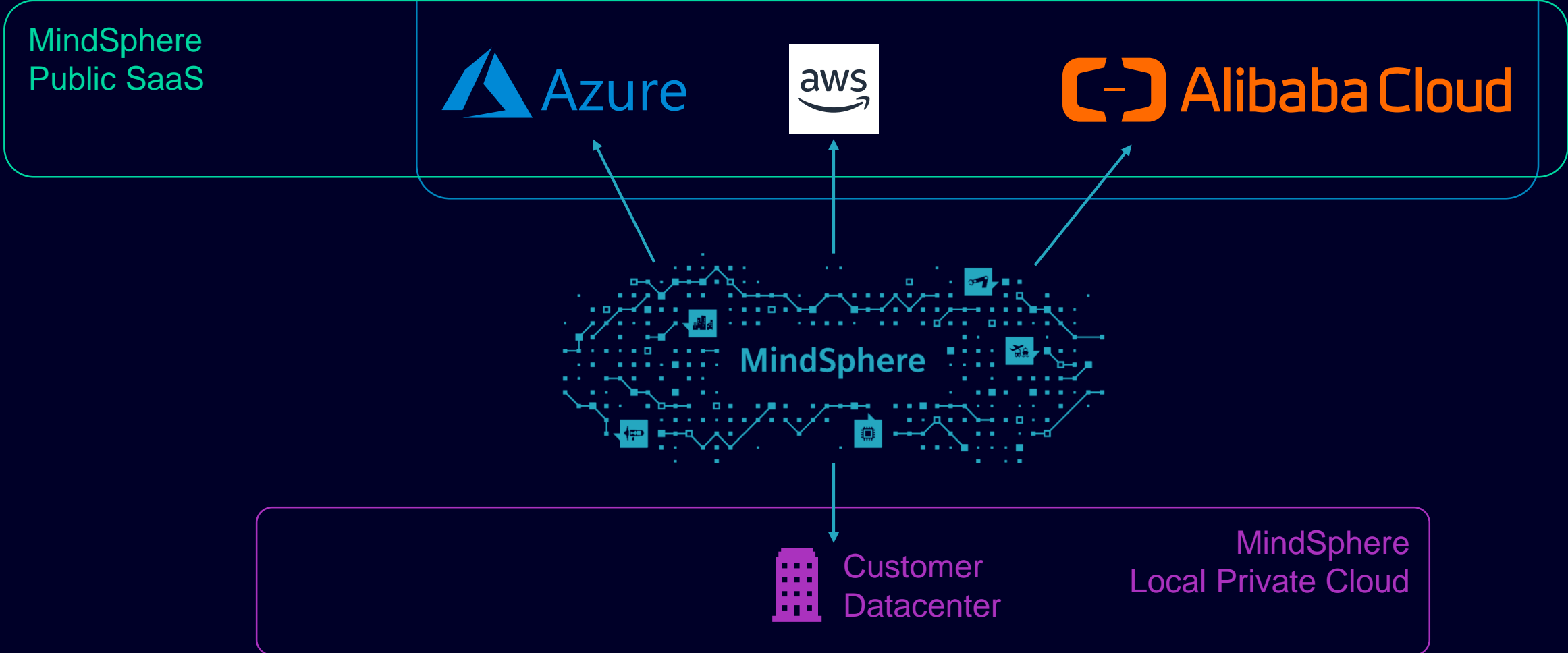


Customer DC

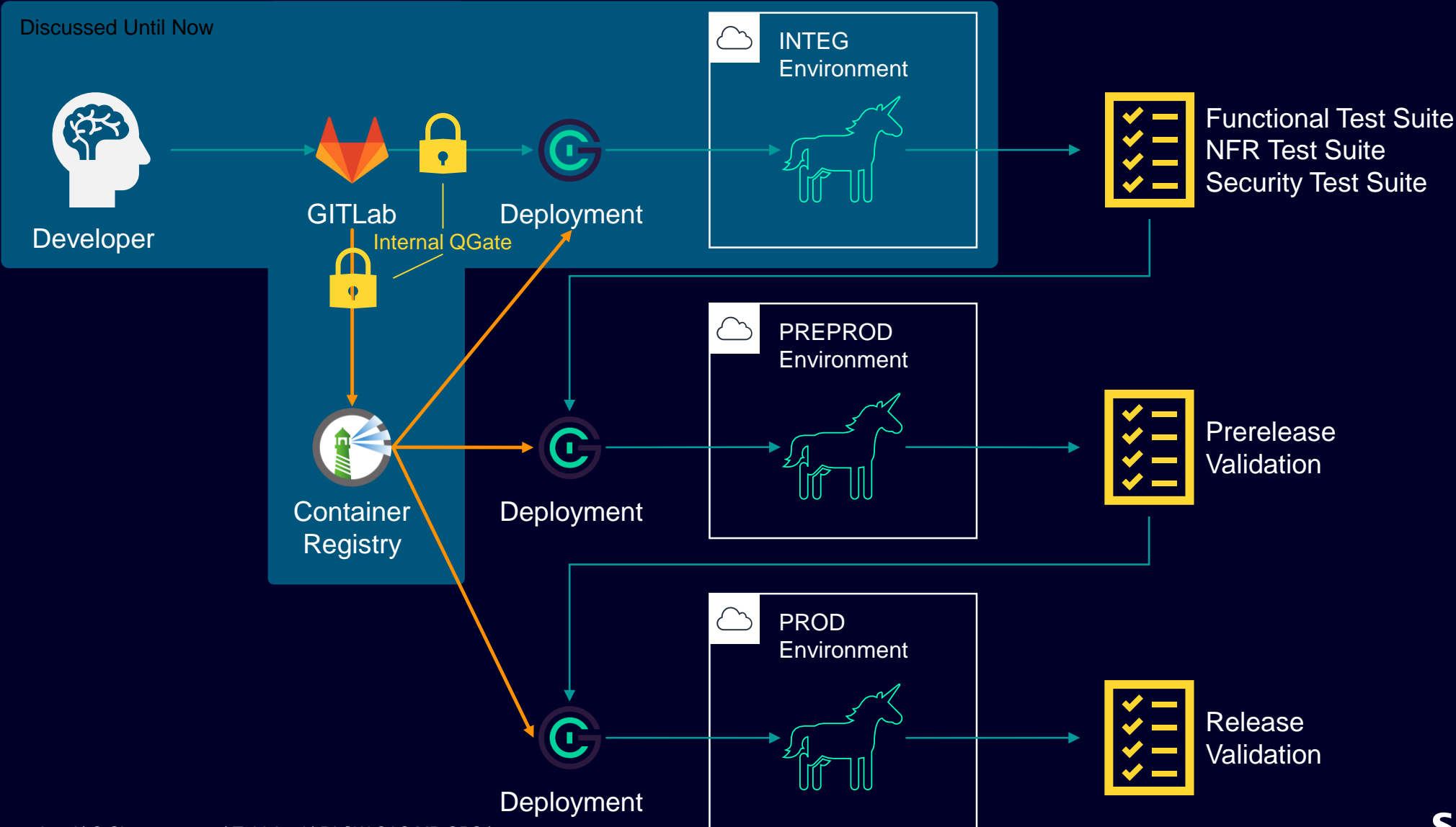
Extended code pipeline



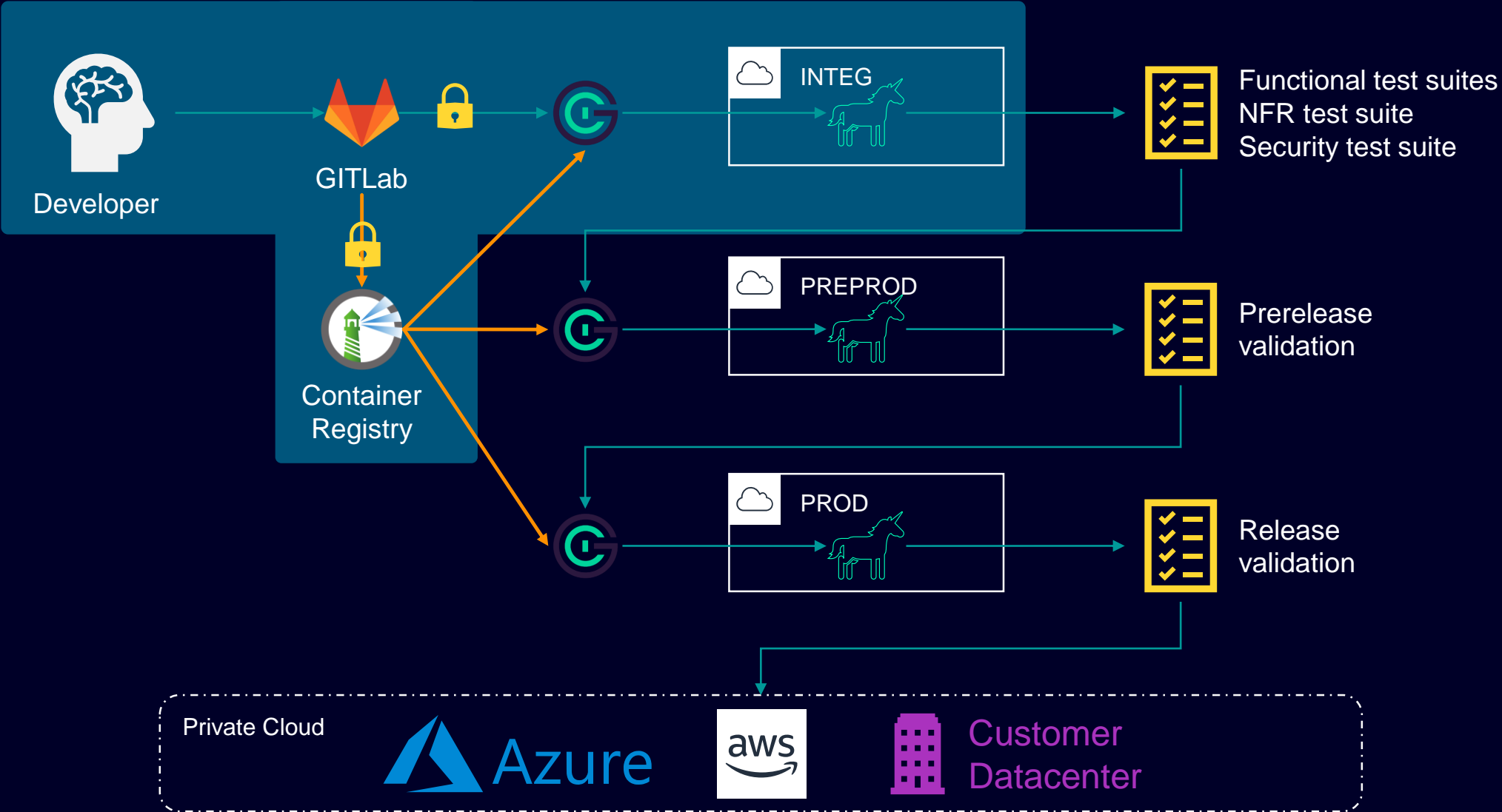
MindSphere Offerings



Perspective



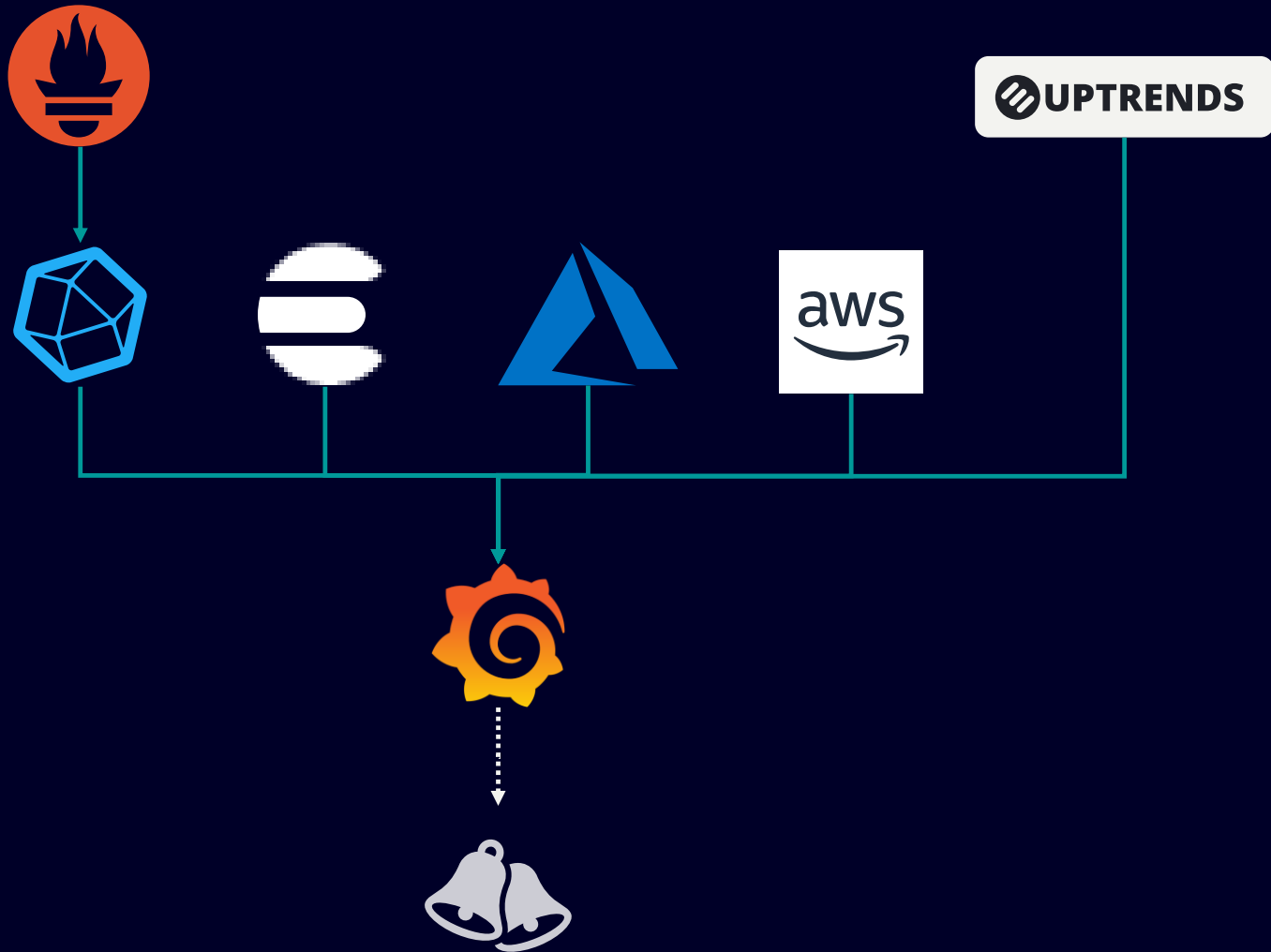
Perspective





| Operations tooling

Monitoring



Grafana

- Visualization
- Alarming source
 - Threshold definition
 - Ops team trigger

Data Sources

- Hyperscaler native
- External
 - Uptrends
 - InfluxDB (K8s)
 - Elasticsearch

Logging

Gathering

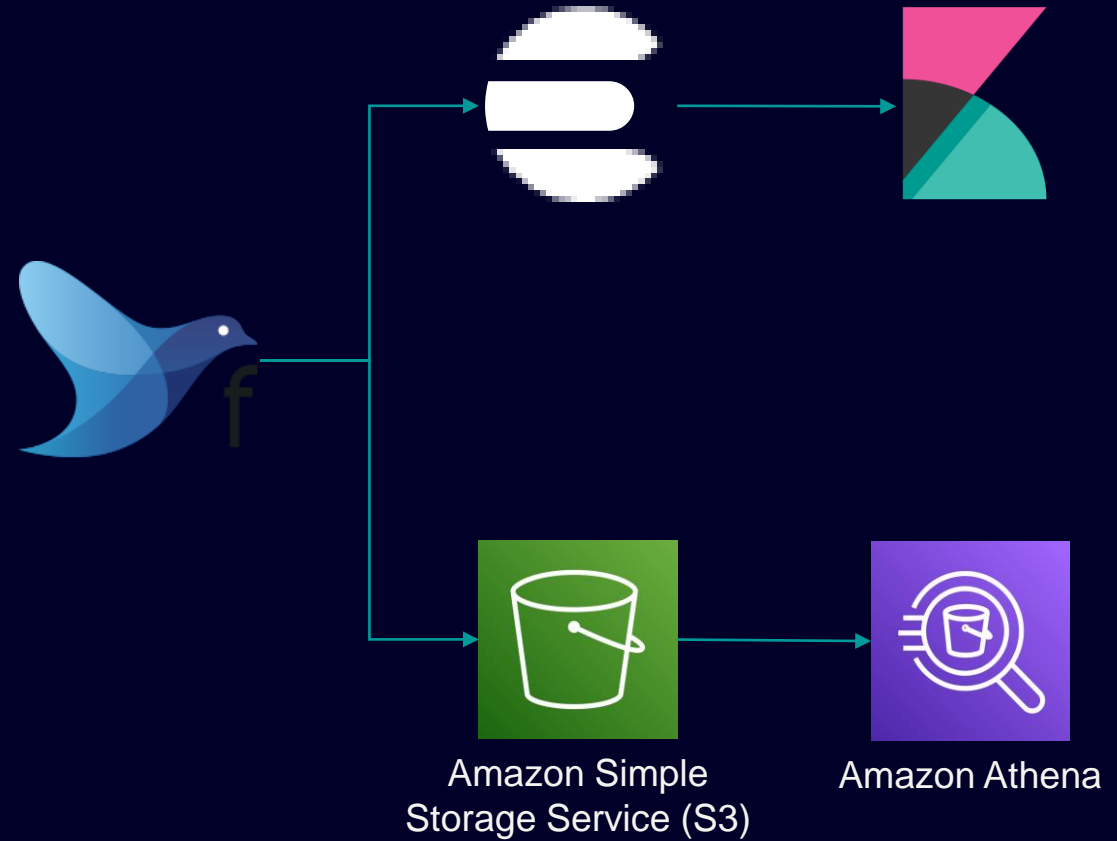
- FluentD

Storage

- Elasticsearch (Customer DC)
- S3 (AWS)

Query

- Kibana (Customer DC)
- Athena (AWS)



| Contact

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