



AWS
re:Invent

CON216-R

Getting started on AWS App Mesh

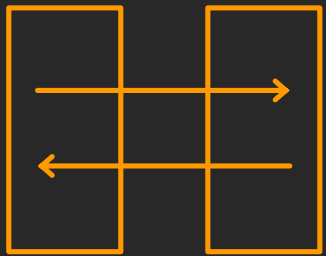
Shubha Rao

Principal Product Manager
AWS

Bruce Wong

Director of Engineering
StitchFix

Why App Mesh?



Consistency across
teams



Failure visibility and
isolation



Fine-grained
deployment controls



Authentication and
authorization controls

Why did we built App Mesh?



**Security, reliability,
availability, and scale**

Managed by AWS



**Application
focus**

Declarative model for
application communication

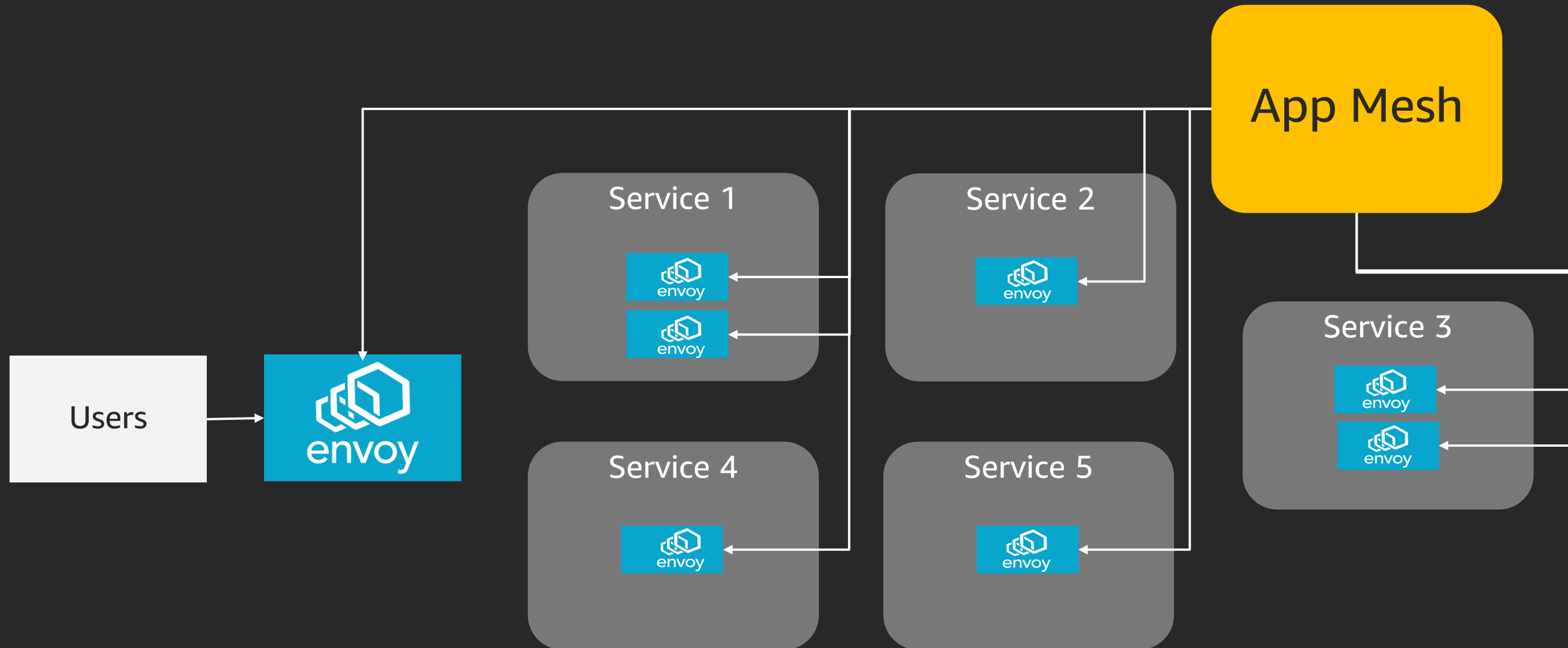


**Choice: Picking the
best tool for the job**

Works with multiple
compute options

AWS App Mesh is our first step in building an application-aware network

App Mesh manages your proxy configuration



Getting started with App Mesh



Represent your app in
App Mesh

Integrate with
your workflows
and tools

Deploy proxies

Getting started with App Mesh



Represent your app in
App Mesh

App Mesh configuration



Mesh

Application

Virtual gateway

Ingress rules

Virtual service

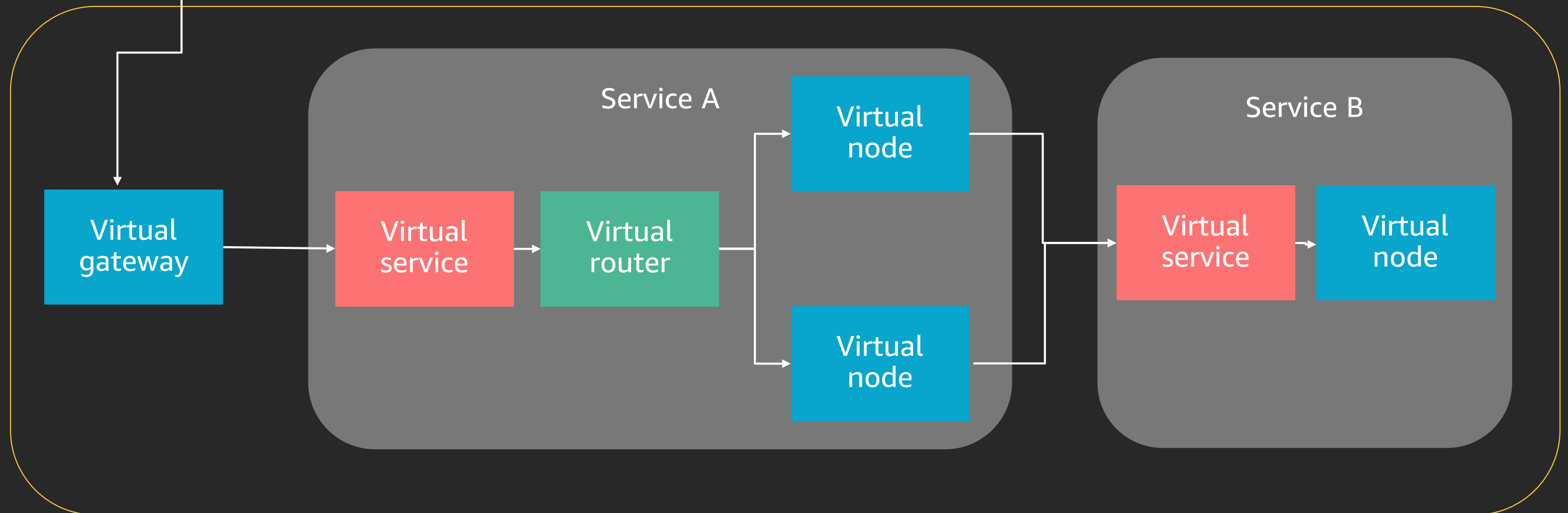
Logical name/
service discovery

Virtual router

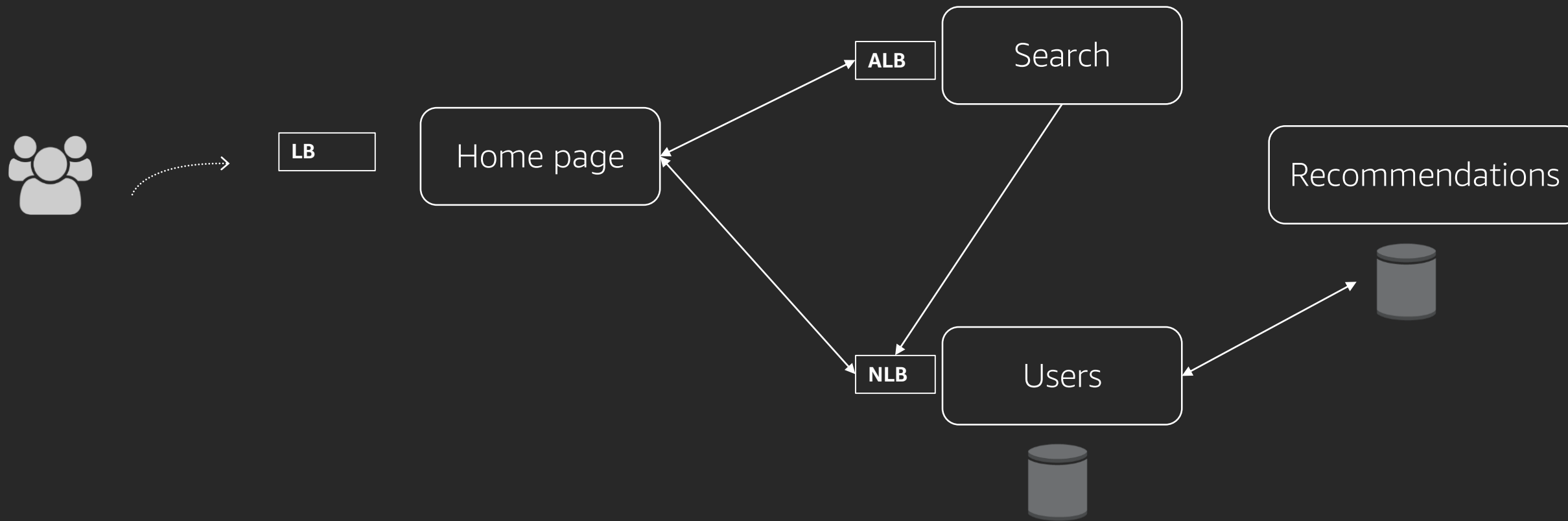
Routing match
conditions

Virtual node

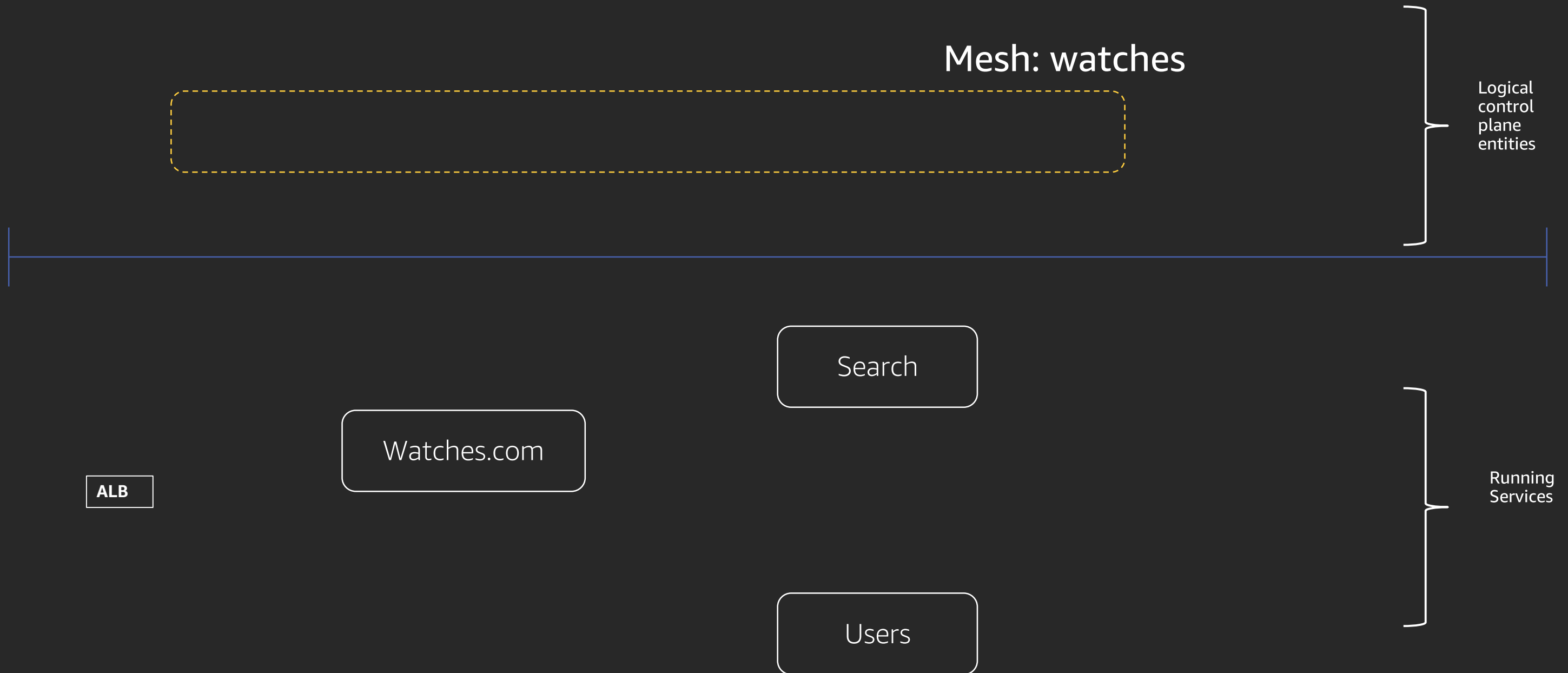
Group of service
endpoints



Mesh-ify your application with App Mesh

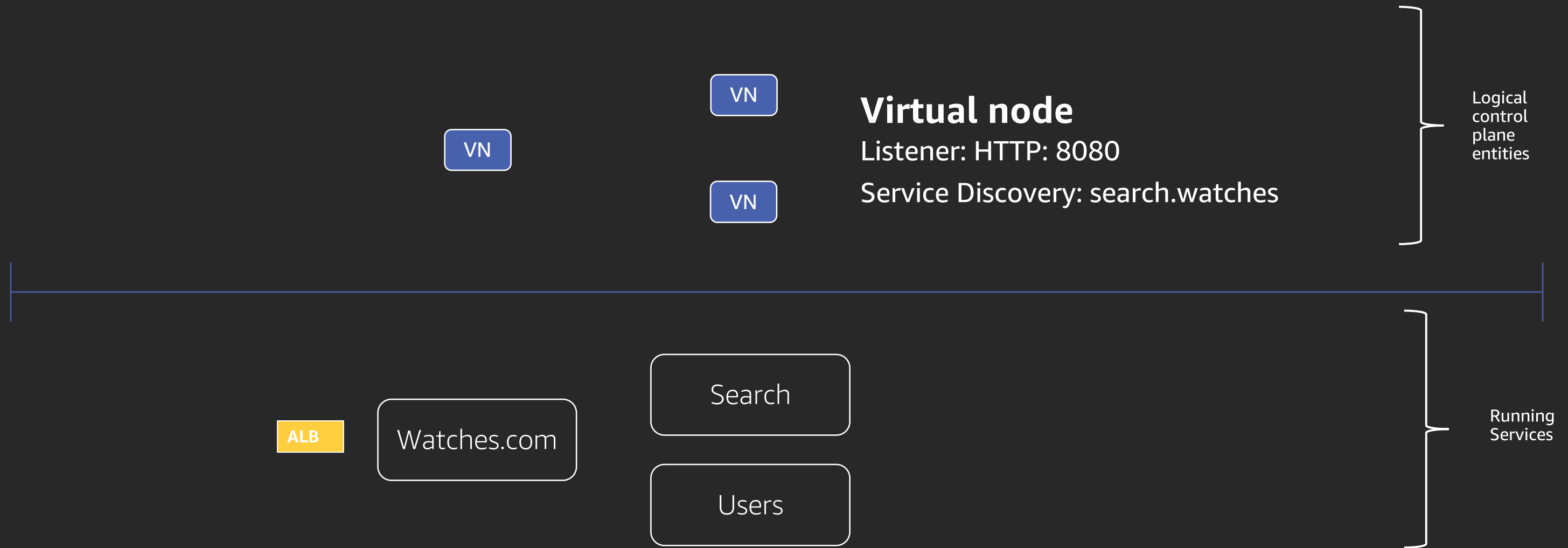


Map your application to a "mesh"



Identify services that need to participate

Virtual node is a logical group of tasks/pods. It maps to a service, a deployment, or a taskset.



Define mesh nodes using DNS or AWS Cloud Map

OR

VN

Virtual node

Listener: HTTP: 8080

Service discovery: **DNS: search.watches**

VN

Virtual node

Listener: HTTP: 8080

Service discovery: **DNS:fastersearch.watches**

VN

Virtual node

Listener: HTTP: 8080

Service discovery: **Cloudmap: search.watches
deploymentID:30494**

VN

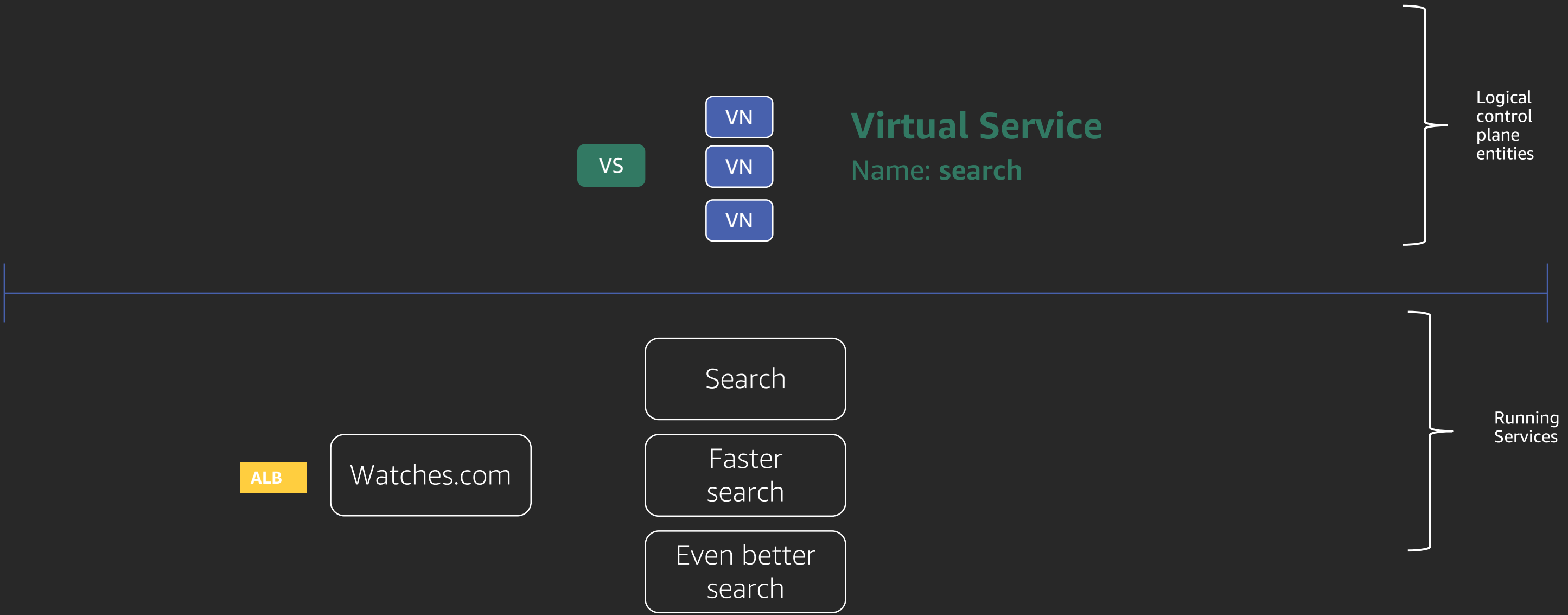
Virtual node

Listener: HTTP: 8080

Service discovery: **Cloudmap: search.watches
deploymentID:30495**

Define a client interface to the mesh service

Virtual Service is a client-facing abstraction of a set of targets.

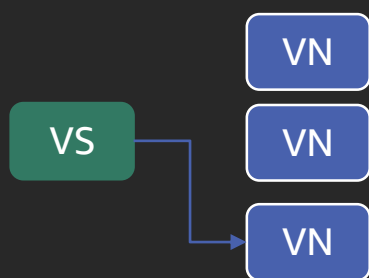


Map your interface to a specific service

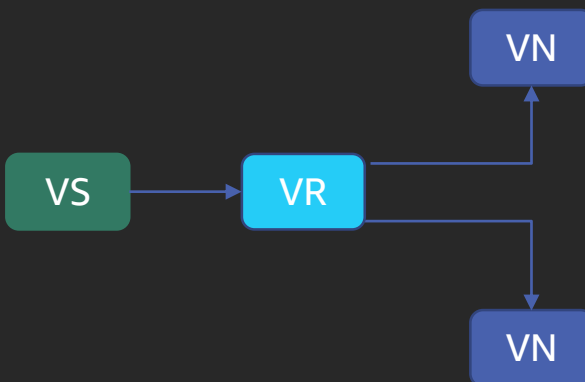
Define interfaces for dependencies outside the mesh

Virtual Router specifies how to handle traffic to targets

OR



Virtual Service
Name: search.watches
Provider: **Virtual Node**



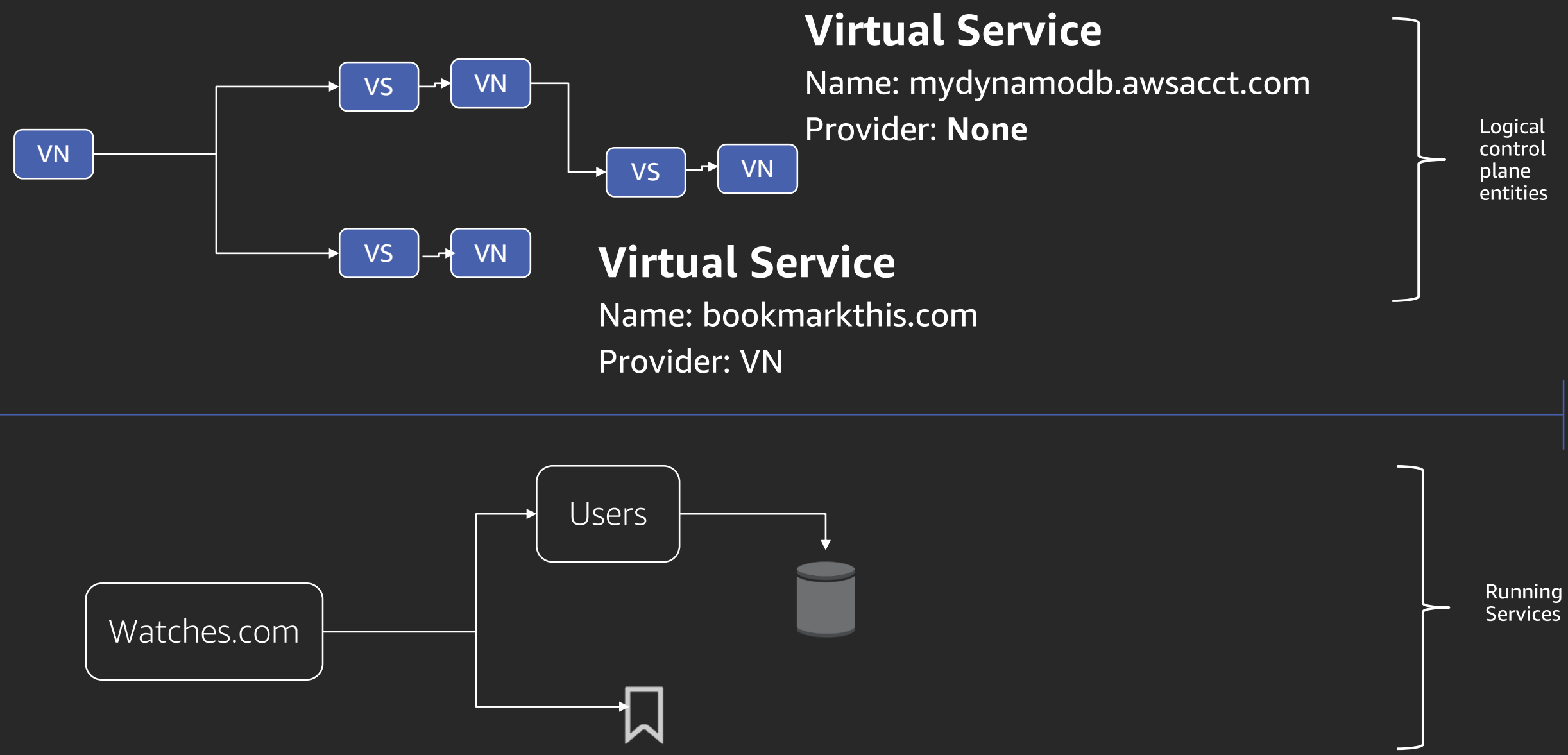
Virtual Service
Name: search.watches
Provider: Virtual Router VR

Virtual Router
Method: **Header**
Scheme: **Match prefix "canary"**
Targets: **VN1 90% VN2 10%**

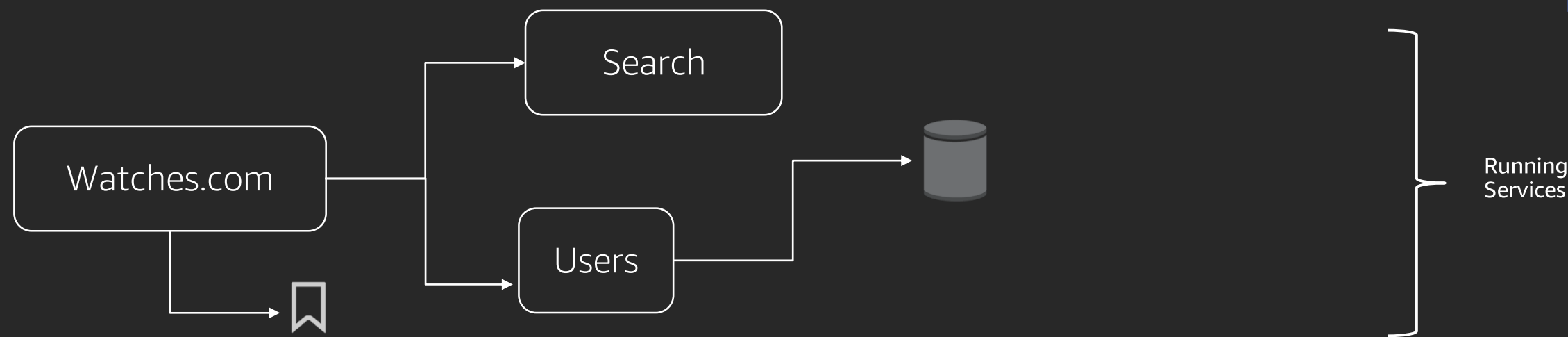
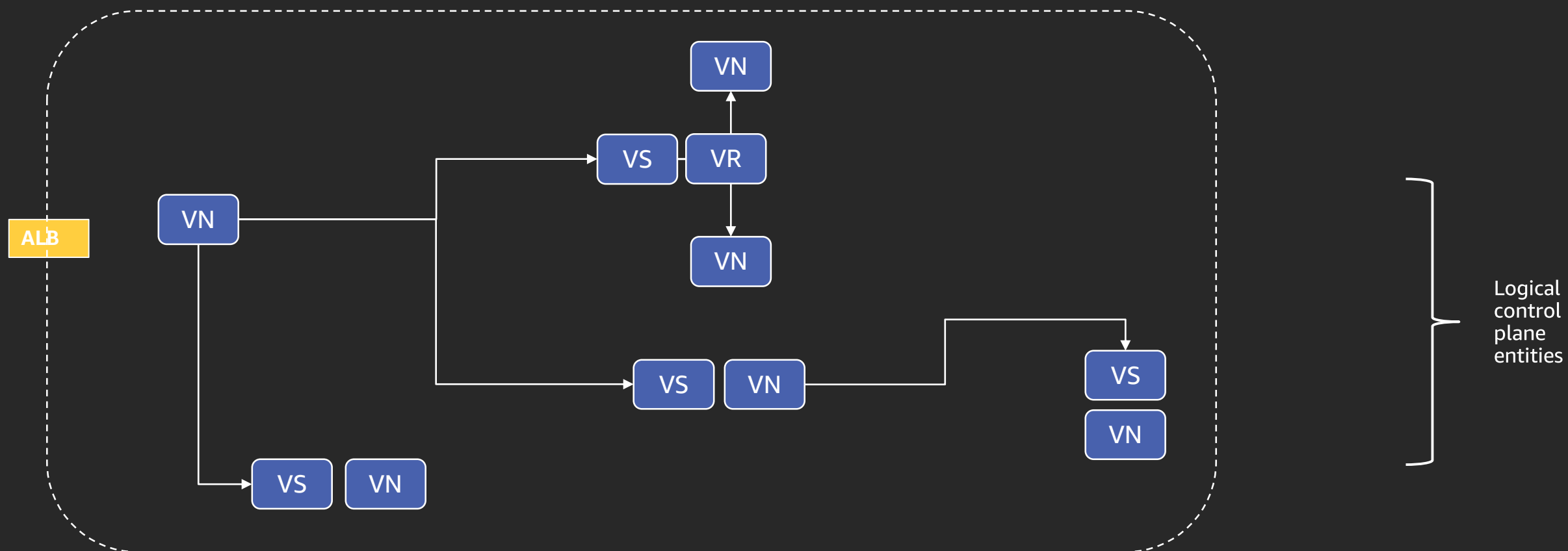
Logical control plane entities

Define interfaces for dependencies outside the mesh

Use Virtual Services to map anything outside the mesh that a service needs.



Recap: Summary of all mesh config



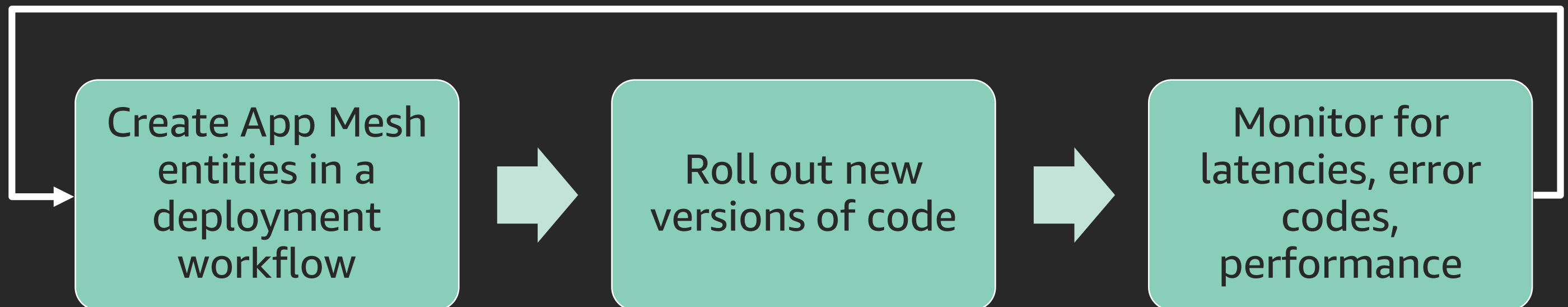
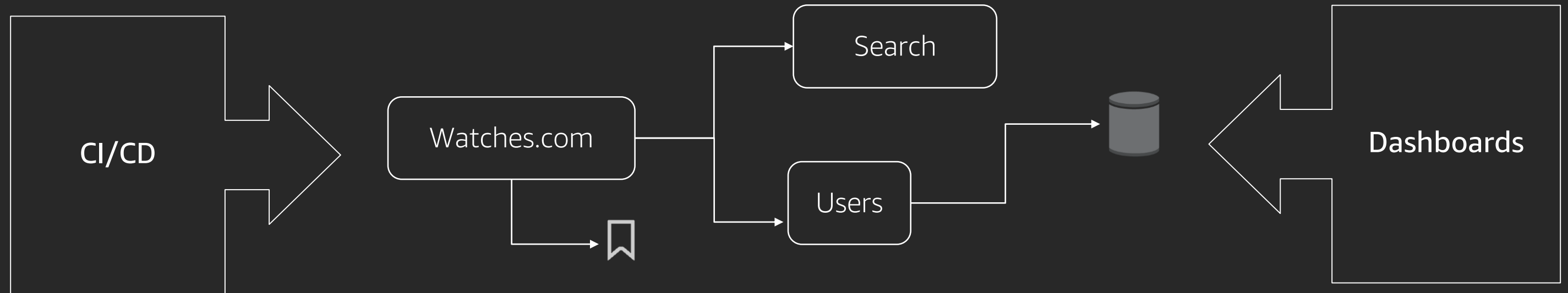
Getting started with App Mesh



Represent your app in
App Mesh

Integrate with
your workflows
and tools

Integrate with CI/CD pipelines and observability tools



Getting started with App Mesh

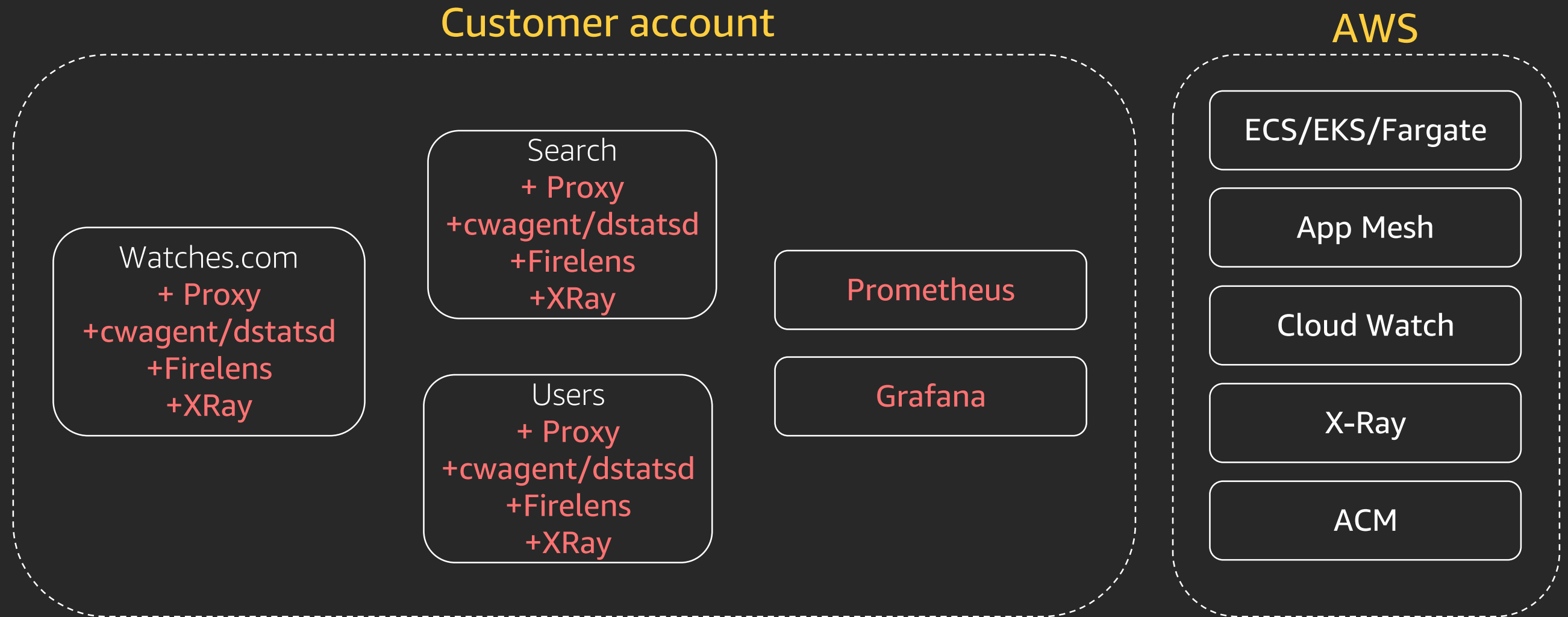


Represent your app in
App Mesh

Integrate with
your workflows
and tools

Deploy proxies

Configure observability and deployment workflows



Follow updates on Github App Mesh roadmap

github.com/aws/aws-app-mesh-roadmap/projects/1

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aws / aws-app-mesh-roadmap

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Code Issues 65 Pull requests 0 Projects 1 Security Insights

aws-app-mesh-roadmap
Updated 11 days ago

Filter cards Fullscreen

6 Researching

Open Source the App Mesh Envoy Image build, release, and validation tools

#5 opened by dastbe

Priority: Medium Roadmap: Accepted

HIPAA eligibility

#66 opened by shubharao

Phase: Researching Roadmap: Accepted

Circuit Breaker Policy

#6 opened by jamsajones

Phase: Researching Roadmap: Accepted

Integration with AWS Lambda

#33 opened by akahen

Roadmap: Accepted

8 We're Working On It

authN based on mTLS

#34 opened by jamsajones

Phase: Working on it Roadmap: Accepted

Support SPIFFE/SPIRE for mTLS

#68 opened by paavan98pm

Phase: Working on it Roadmap: Accepted

Use App Mesh for ingress routing

#37 opened by jamsajones

Phase: Working on it Roadmap: Accepted

Region expansion

14 of 23

#1 opened by jamsajones

1 Coming Soon

End to end encryption of traffic with customer provided certs

#38 opened by jamsajones

Phase: Coming Soon Roadmap: Accepted

1 Available in Preview Channel

End to end encryption of traffic with ACM managed certs

#39 opened by jamsajones

Phase: In Preview Roadmap: Accepted

StitchFix journey to using AWS App Mesh with Amazon ECS



STITCH FIX





Scaling up

- Millions of customers
- 10,000s of deploys per quarter
- 1000s of containers
- 100s of apps
- 100s of developers
- **1 platform team**



Feature velocity

vs.

Uptime



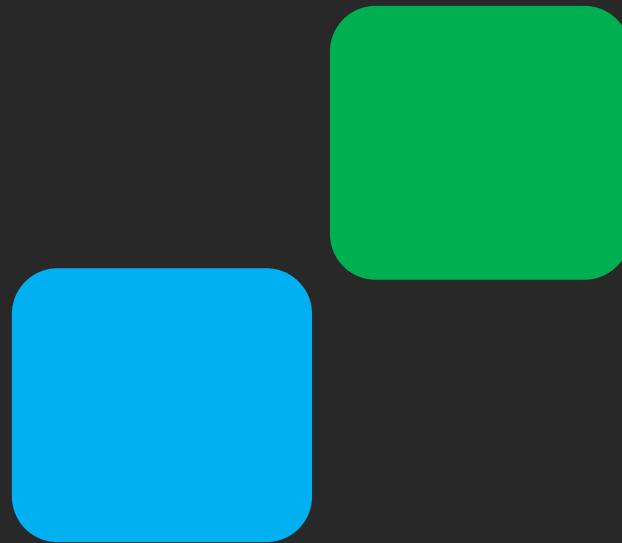


Faster + safer

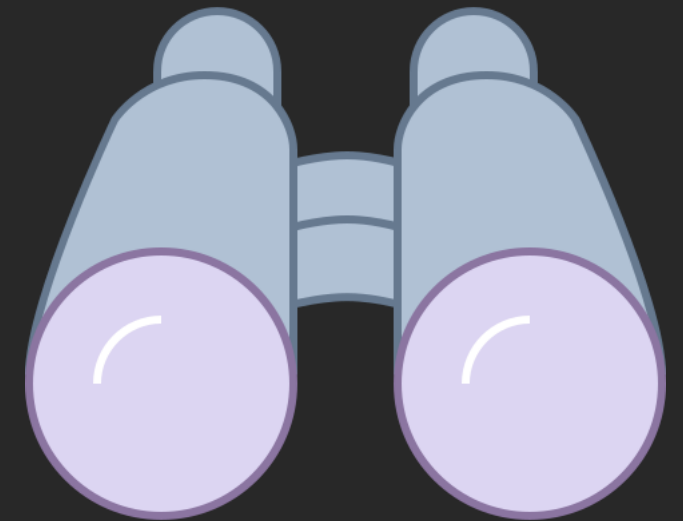
App Mesh thoughts

1%

Fail smaller
Test smaller



Fast rollback



See more

Thank you!

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Bruce.wong@stitchfix.com



Please complete the session
survey in the mobile app.