

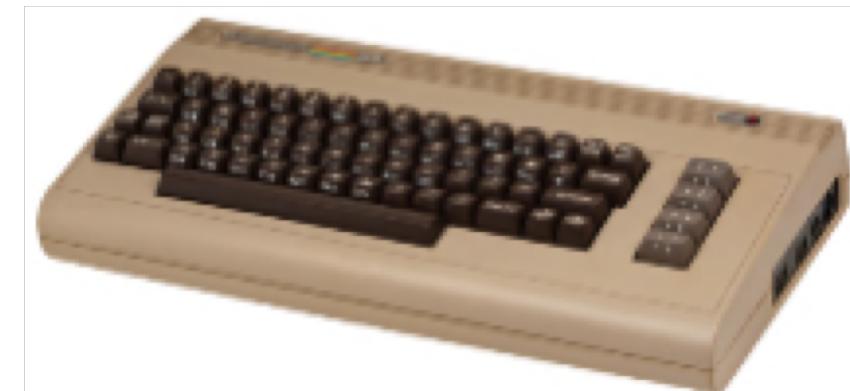
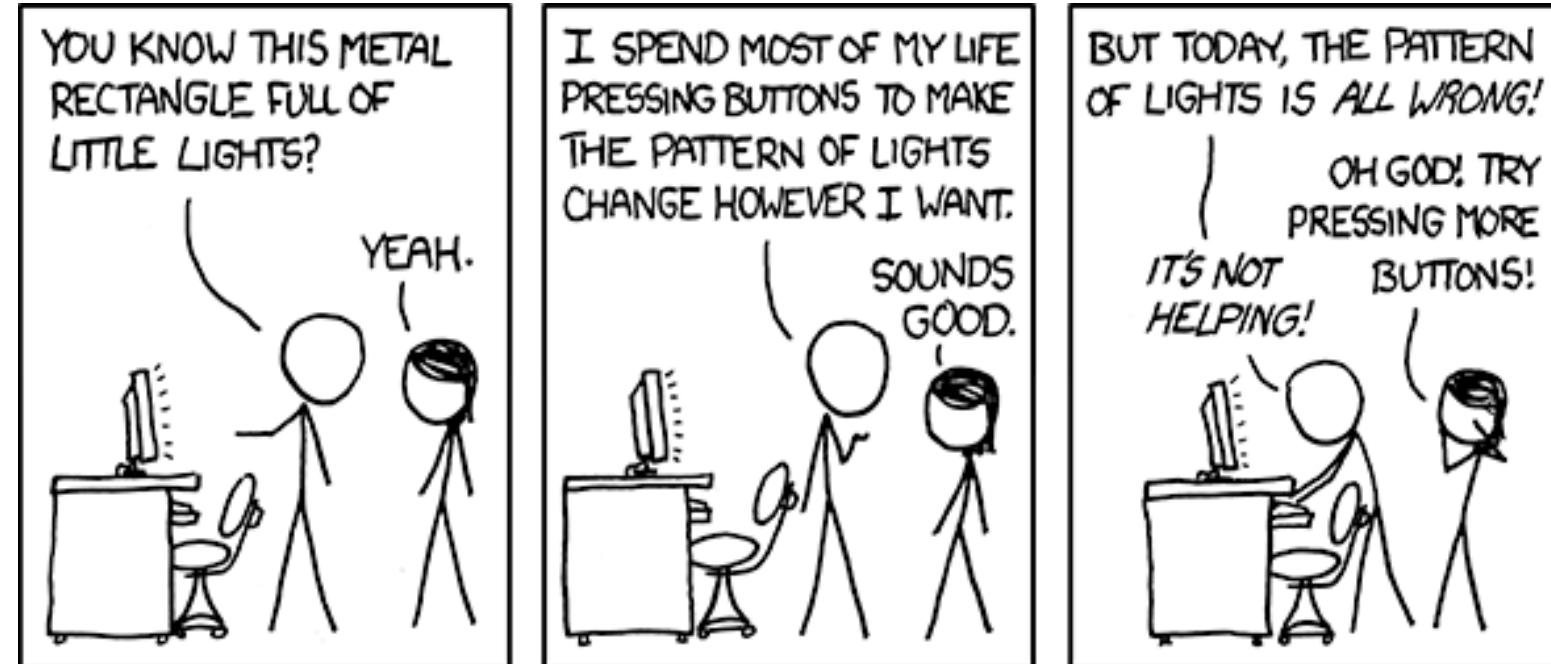
Blue/Green and Canary Deployments with Azure DevOps, Istio and AKS

@bongo



\$whoami

- CNCF ambassador
- Community guy
- Open source ops guy
- Ex-chemist
- Clearly sucks at Powerpoint
- Ah, yes. Work at Microsoft



Cloud Native Computing Foundation

CNCF serves as the vendor-neutral home for many of the fastest-growing projects on GitHub, including Kubernetes, Prometheus and Envoy, fostering collaboration between the industry's top developers, end users, and vendors.



41,143

of contributors to
CNCF projects



44,771

Registered for free
Kubernetes EdX
course



70

Certified
Kubernetes
Distributions and
Platforms



79,798

CNCF Meetup
members

Cloud Native Computing Foundation (CNCF)

- Founded December 2015: <https://www.cncf.io/>
- Non-profit, part of the Linux Foundation
- Initial projects are Kubernetes, donated by Google, and Prometheus, originally from SoundCloud
- Platinum members:



- Plus 40 additional members

Cloud Native Computing Foundation

- Non-profit, part of the Linux Foundation
 - Founded December 2015
- Current projects:



Kubernetes

Prometheus

OpenTracing

Fluentd

Linkerd

gRPC

CoreDNS

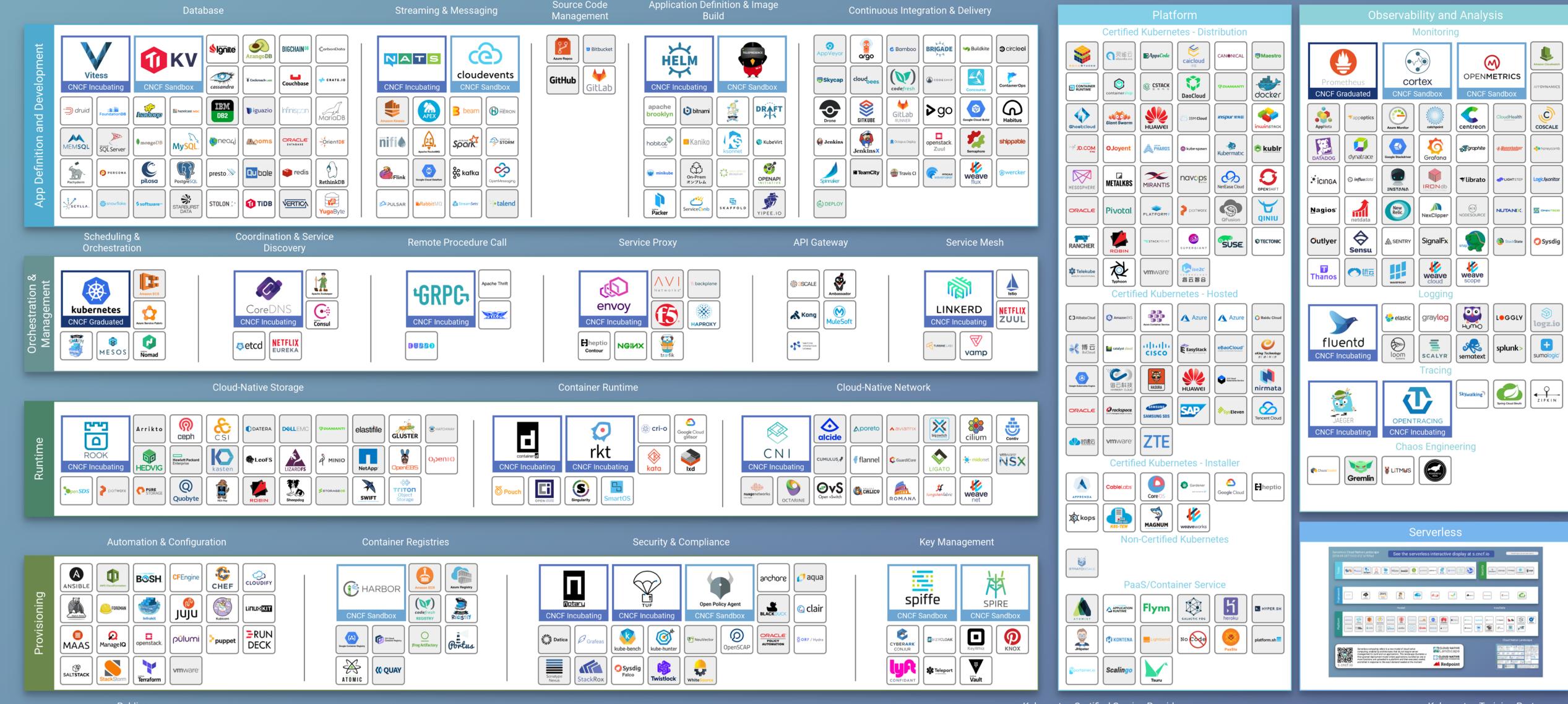
containerd

rkt

CNI

- Platinum members:





This landscape is intended as a map through the previously uncharted terrain of cloud native technologies. There are many routes to deploying a cloud native application, with CNCF Projects representing a particularly well-traveled path

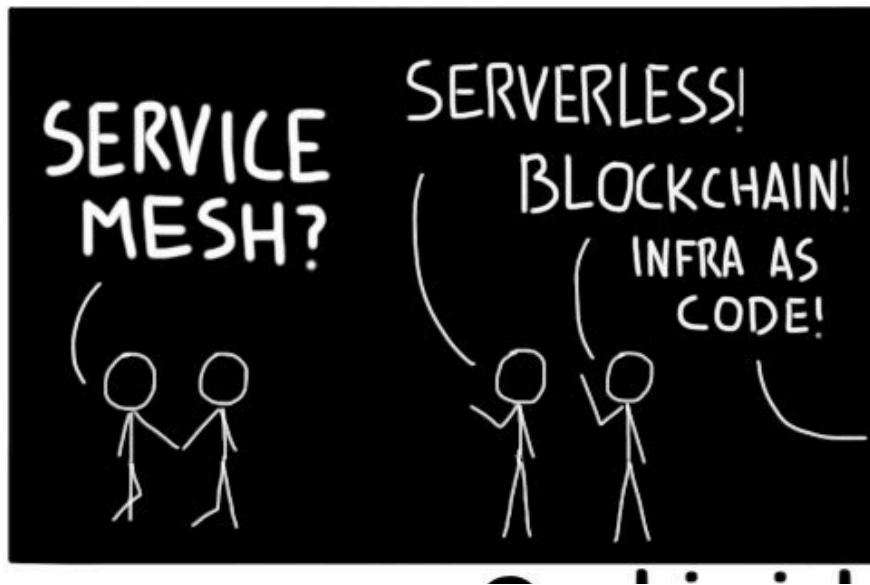
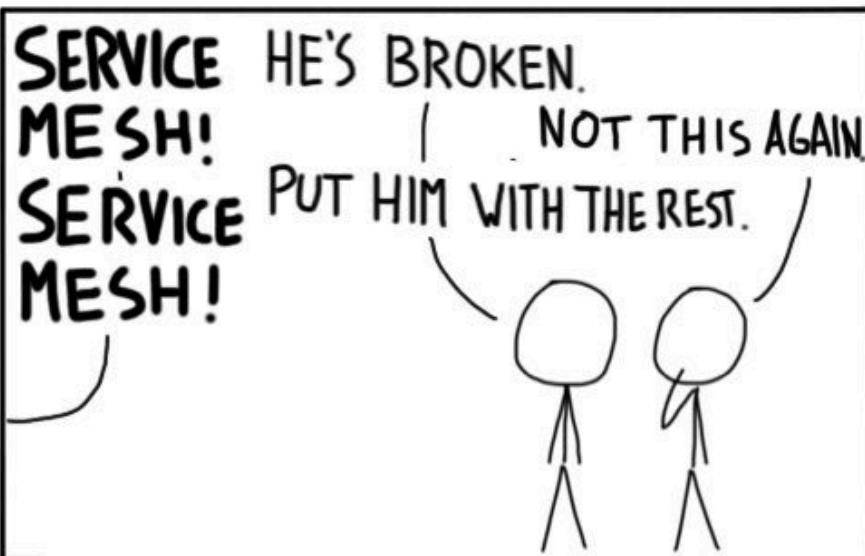
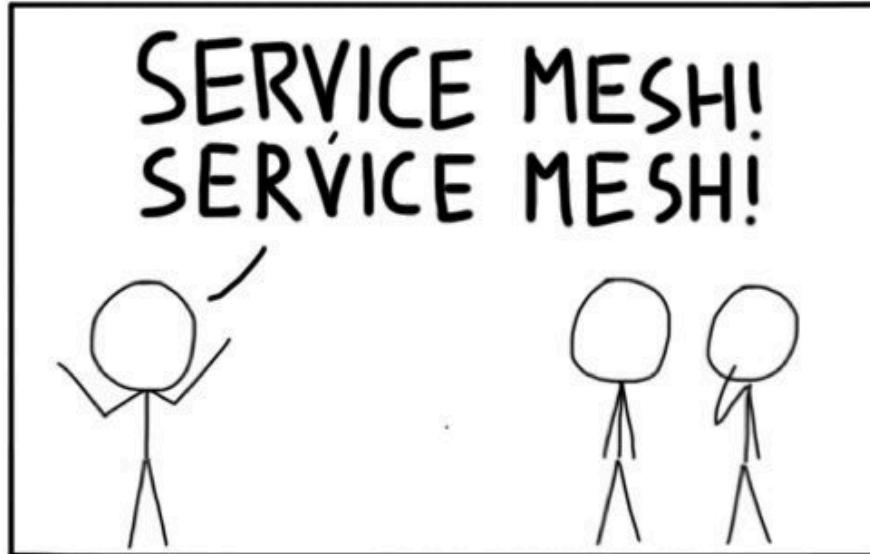
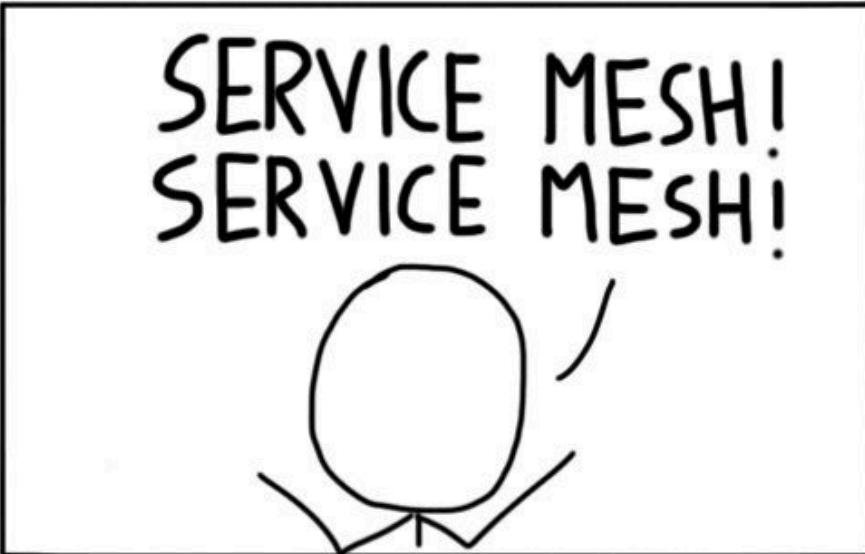


l.cnfc.io



Special



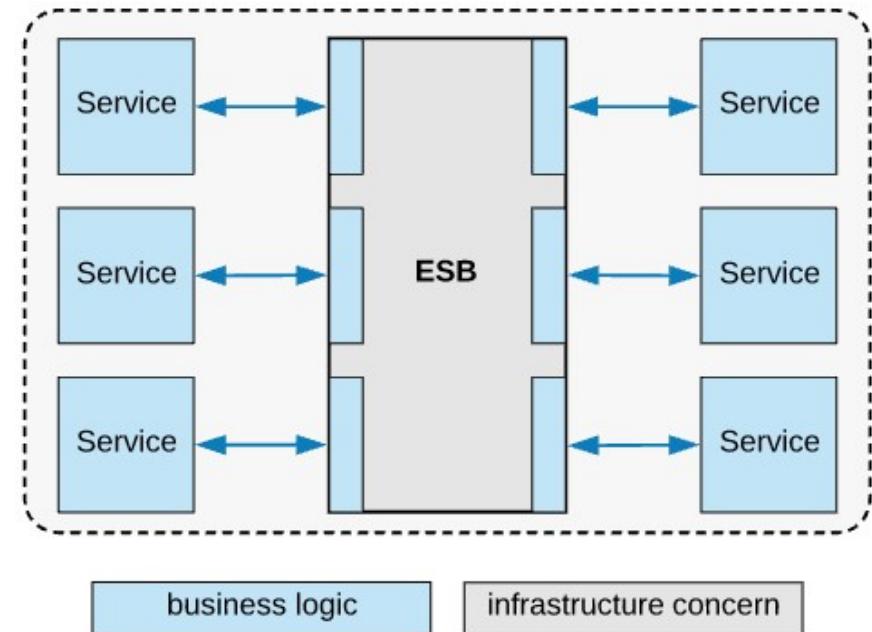


**SAY SERVICE MESH
ONE MORE TIME**

I DARE YOU

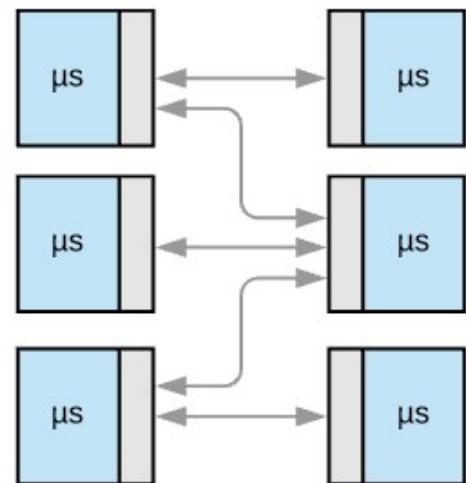
Service Oriented Architecture

(Smart pipes, dumb endpoints)



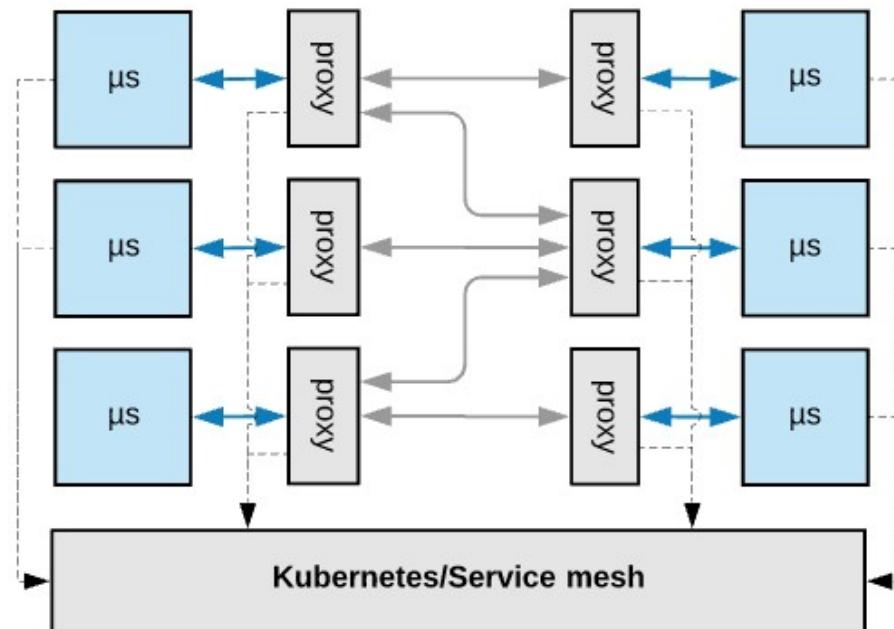
Microservices Architecture

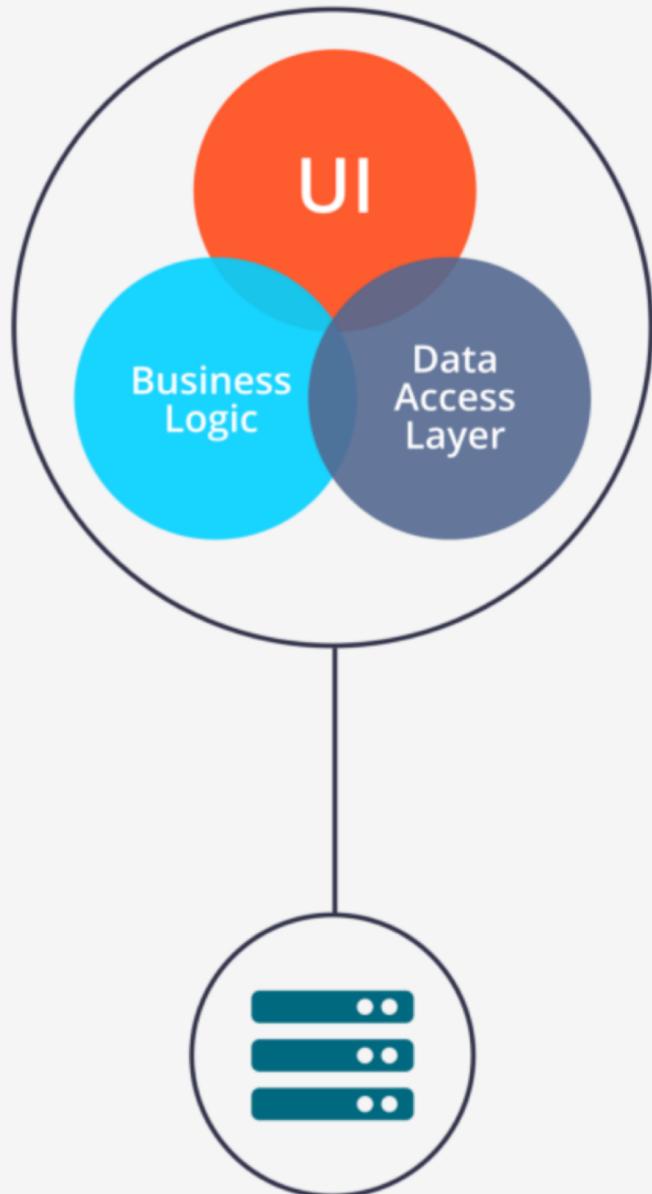
(Smart endpoints, dumb pipes)



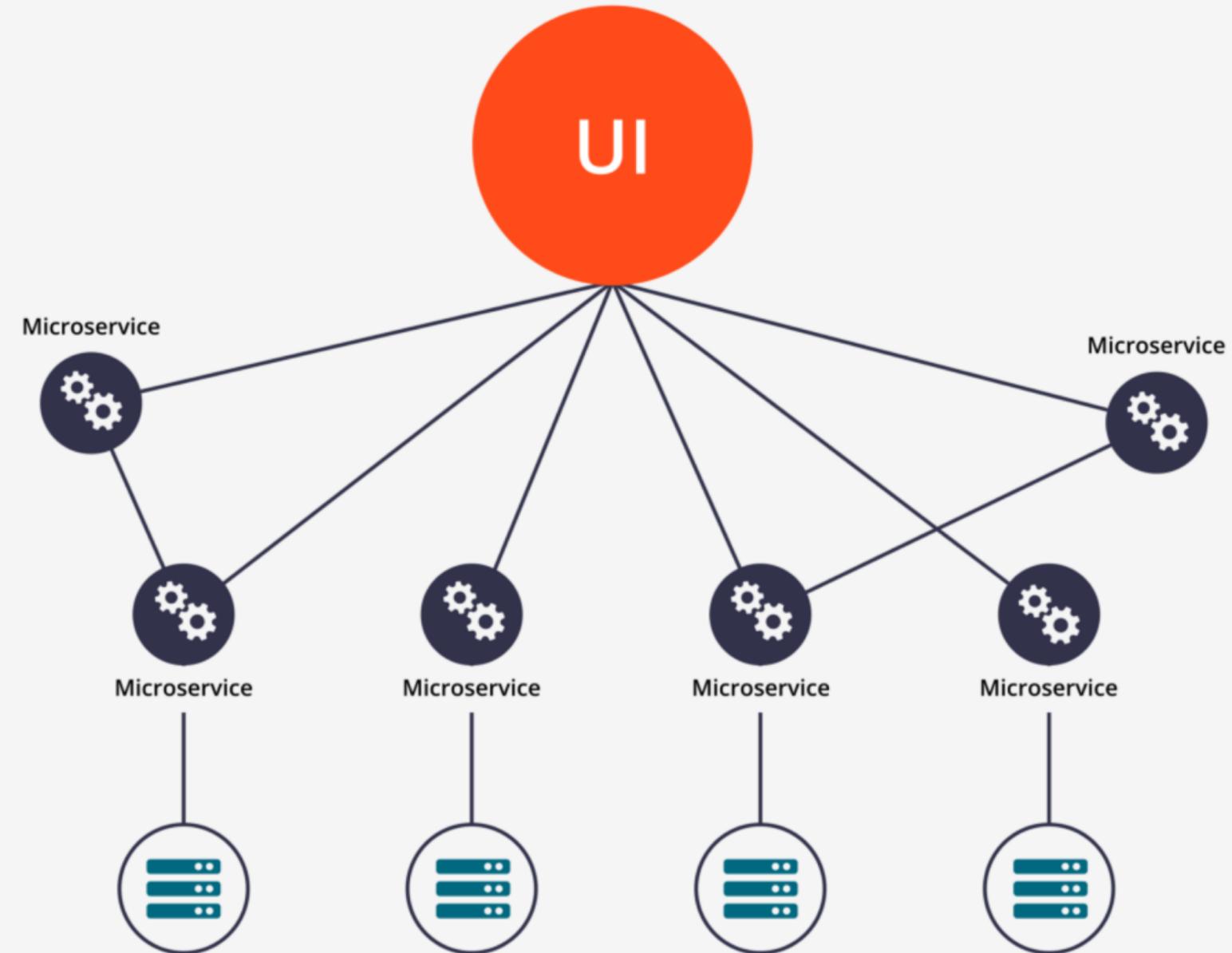
Cloud Native Architecture

(Infrastructure focused smart platform, business logic focused smart services)

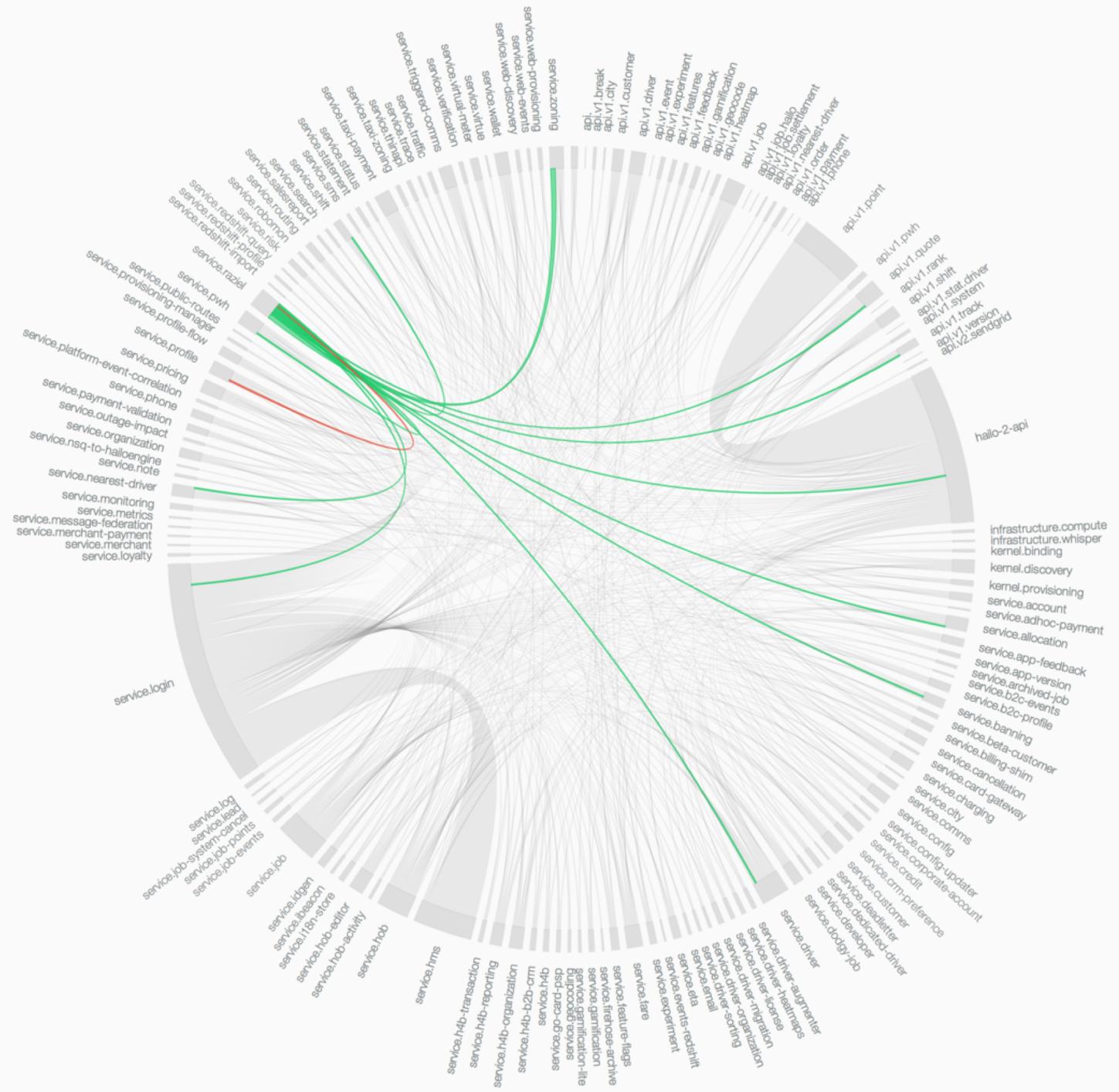




Monolithic Architecture



Microservice Architecture

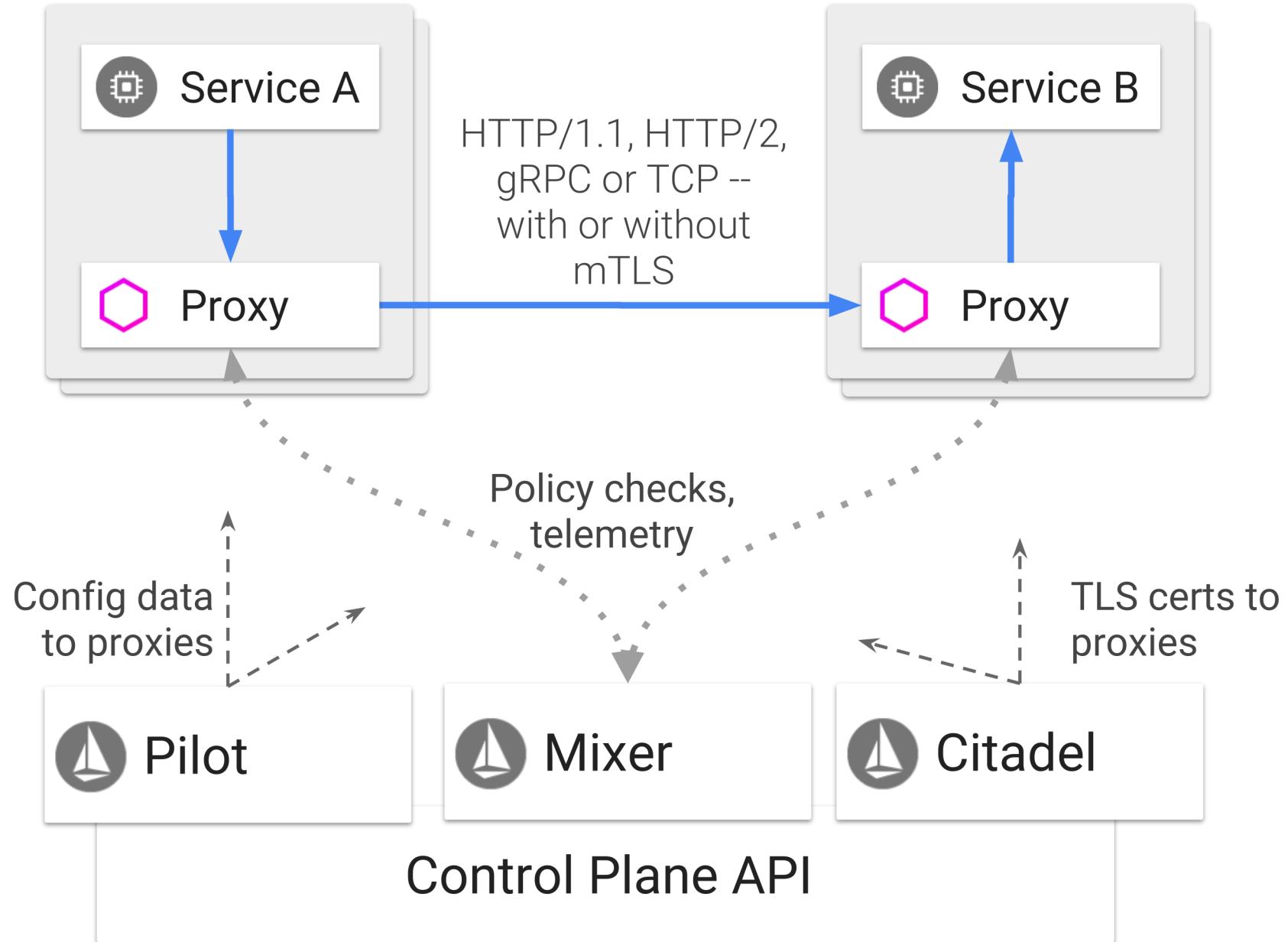




This service mesh really ties this
cluster together

What is Istio?

- NOT a CNCF project, but backed by IBM, RedHat, Google, Microsoft..
- Leverages Envoy to connect, secure and manage microservices
- Brings observability, traffic shaping, resilience and intelligent routing to your cluster
- Current 1.0.3 is production ready



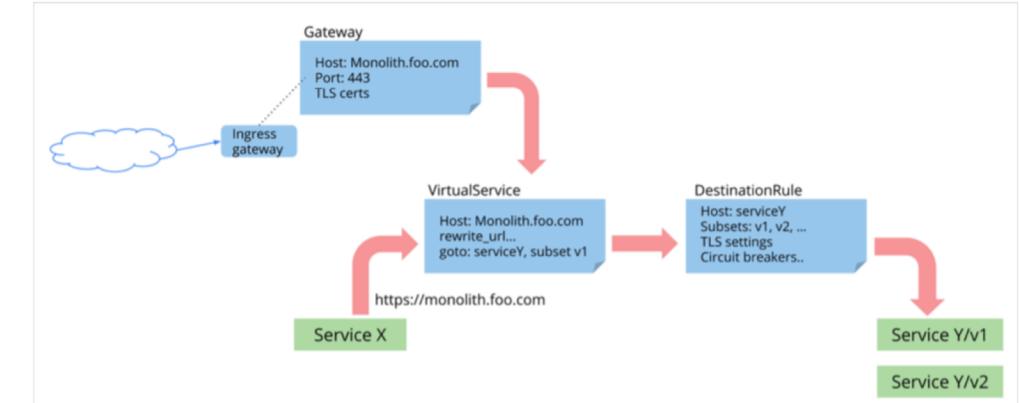
```
kind: Gateway
metadata:
  name: helloworld-gateway
spec:
  selector:
    istio: ingressgateway
  servers:
    - hosts:
        - "*"
      port:
        name: http
        number: 80
      protocol: HTTP
```

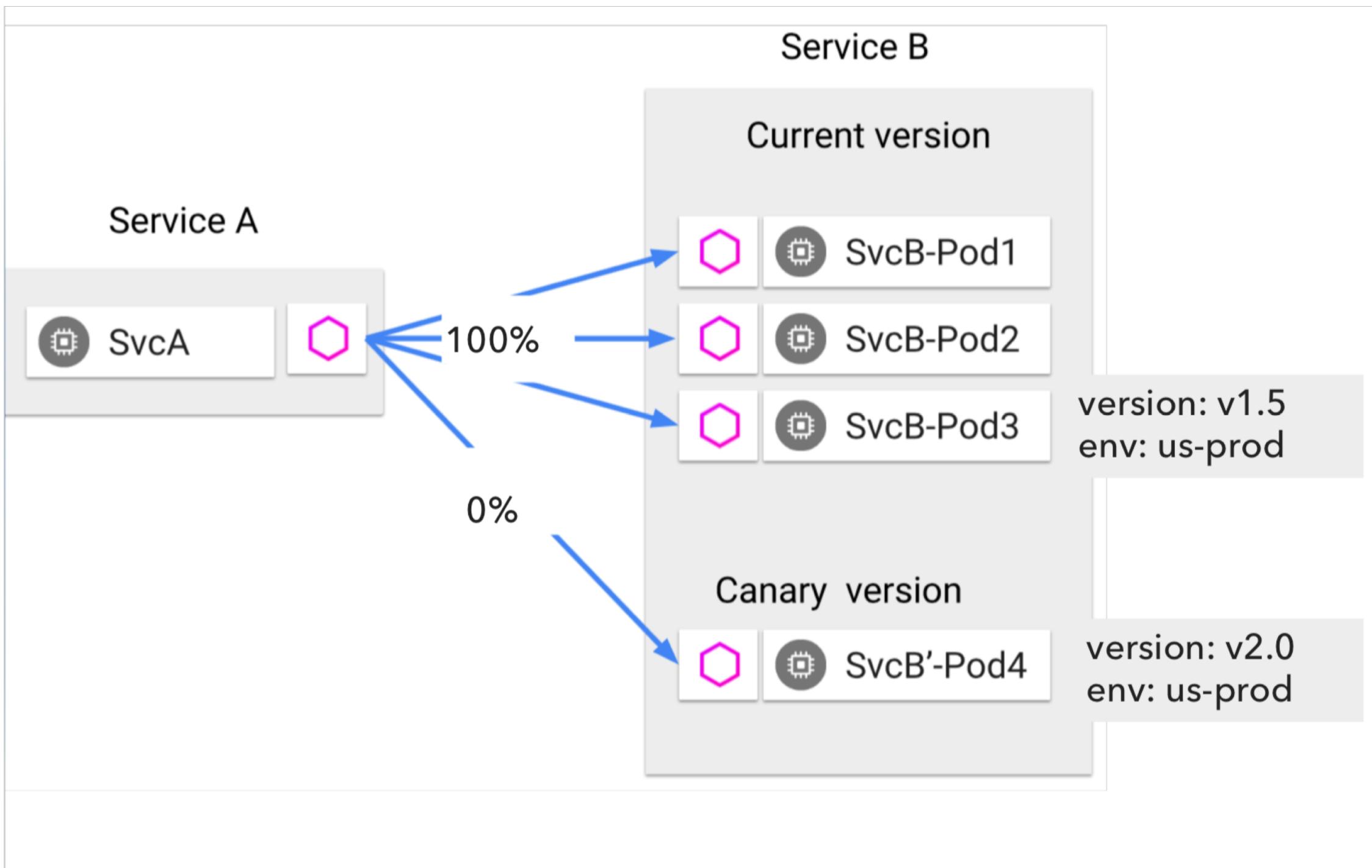
```
kind: VirtualService
metadata:
  name: helloworld
spec:
  hosts:
    - "*"
  gateways:
    - helloworld-gateway
  http:
    - match:
        - uri:
            exact: /hello
      route:
        - destination:
            host: helloworld
            subset: v1
            weight: 90
        - destination:
            host: helloworld
            subset: v2
            weight: 10
```

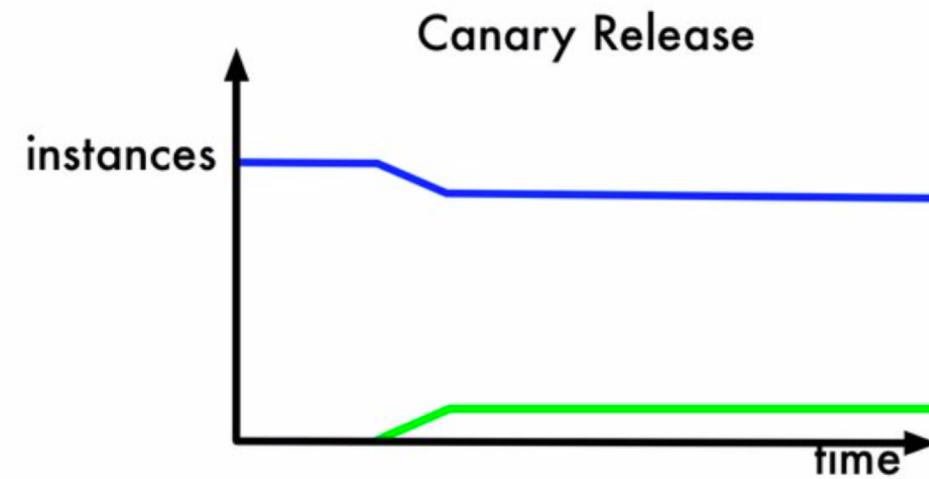
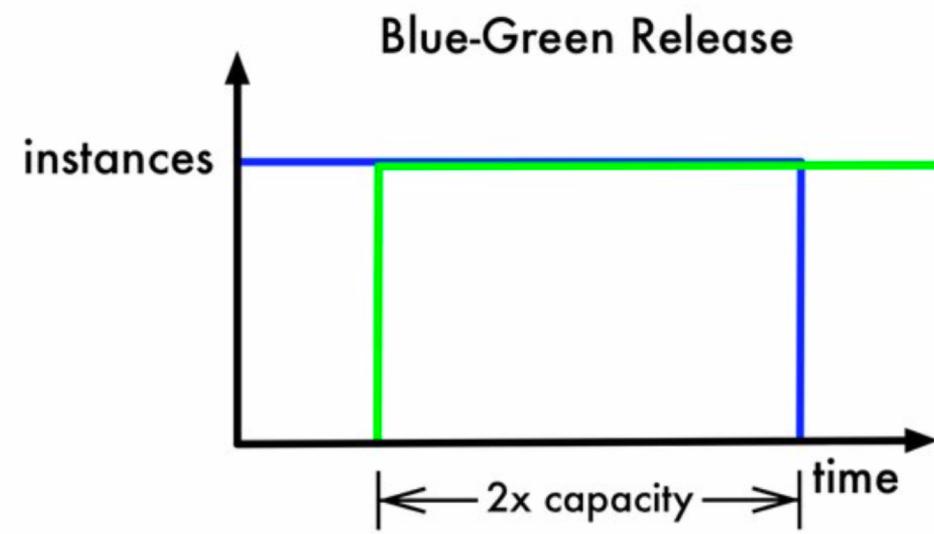
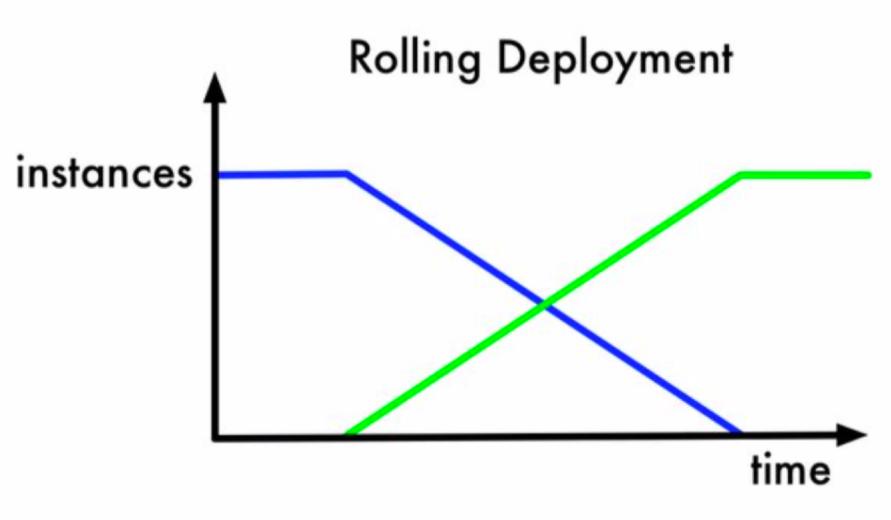
```
kind: DestinationRule
metadata:
  name: helloworld-destination
spec:
  host: helloworld
  subsets:
    - name: v1
      labels:
        version: v1
    - name: v2
      labels:
        version: v2
```

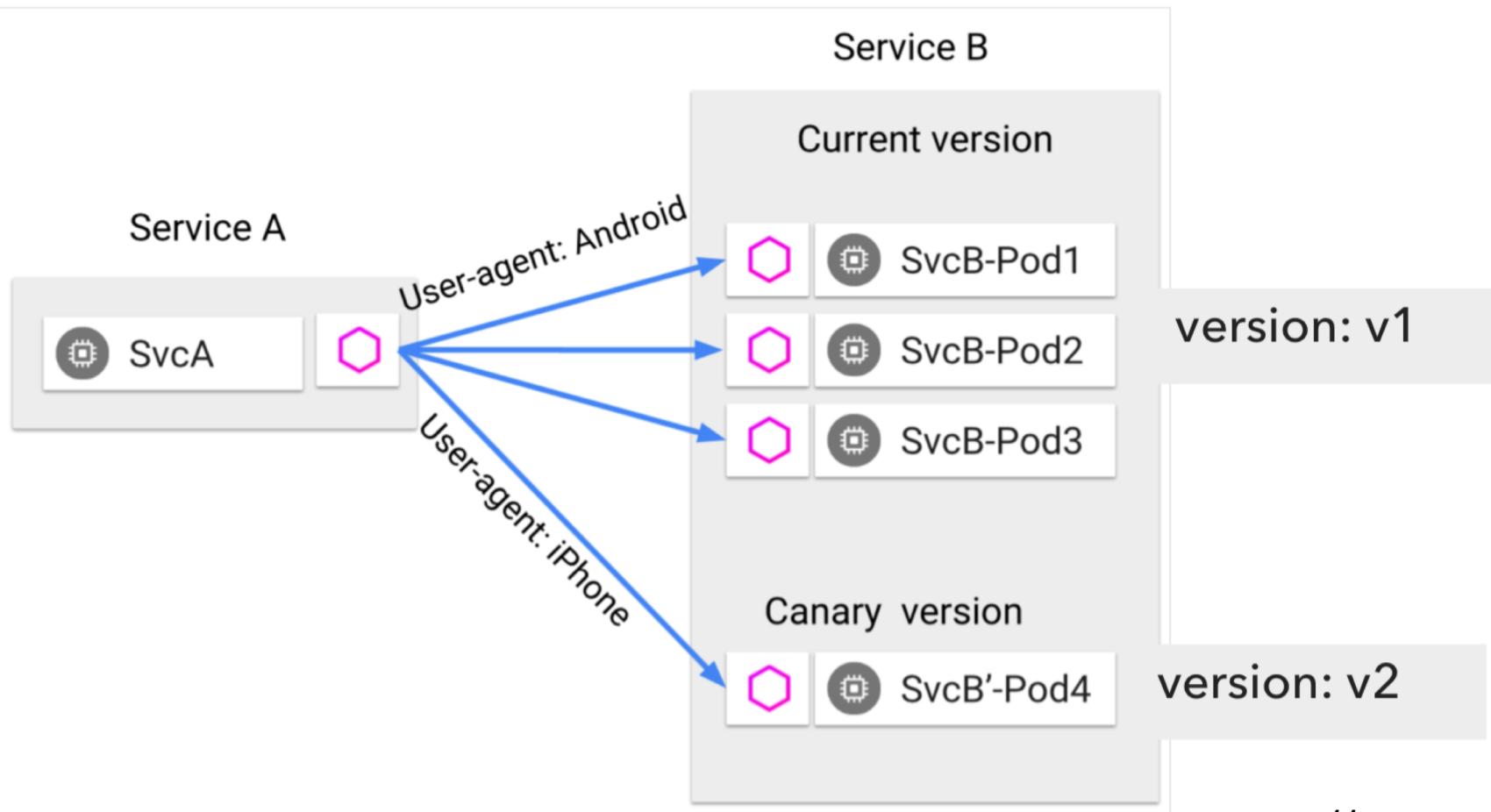
POD
HelloWorld
version = v1

POD
HelloWorld
version = v2



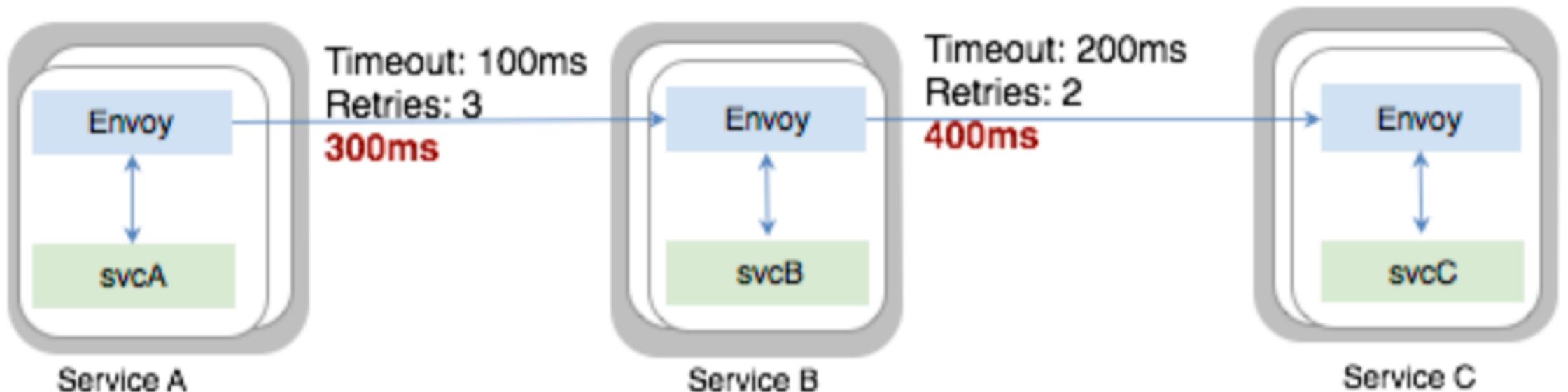






```
// Content-based traffic steering
destination: serviceB.example.cluster.local
match: httpHeaders:
user-agent:
regex: ^(.*)?;(iPhone)(;.*)?$
precedence: 2 route:
- labels:
version: v2
```

Resiliency, chaos testing and circuit-breakers, mTLS, Network Policies and more



Pipelines





<https://github.com/ams0/winops-london>

Quaestiones?

Find me @bongo / alessandro.vozza@microsoft.com /in/alessandrovozza
<https://meetup.com/Amsterdam-Kubernetes-meetup/> (next one, 6th December)

aka.ms/aztrialsuk

