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Take It to the Edge: Creating a Globally Distributed Ingress with Istio & K8gb

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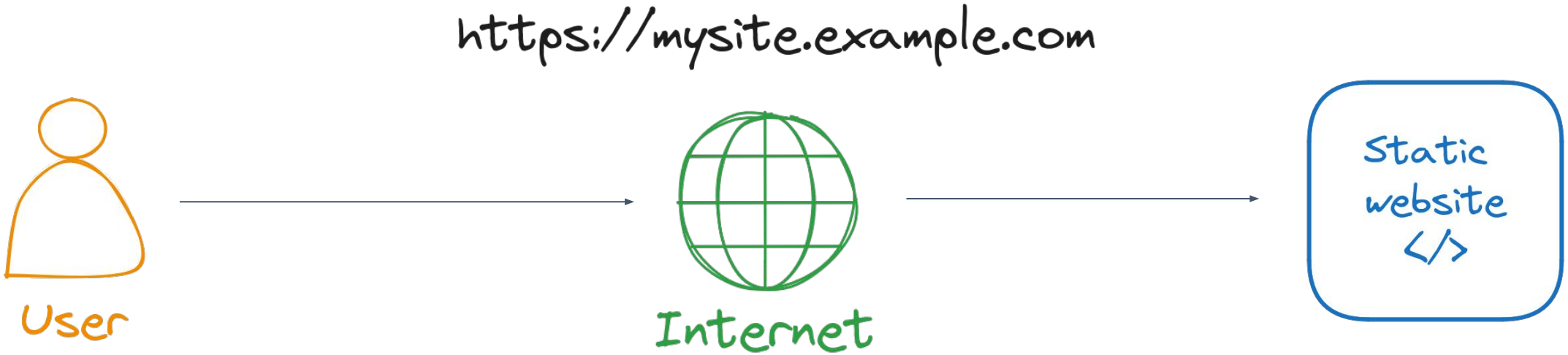
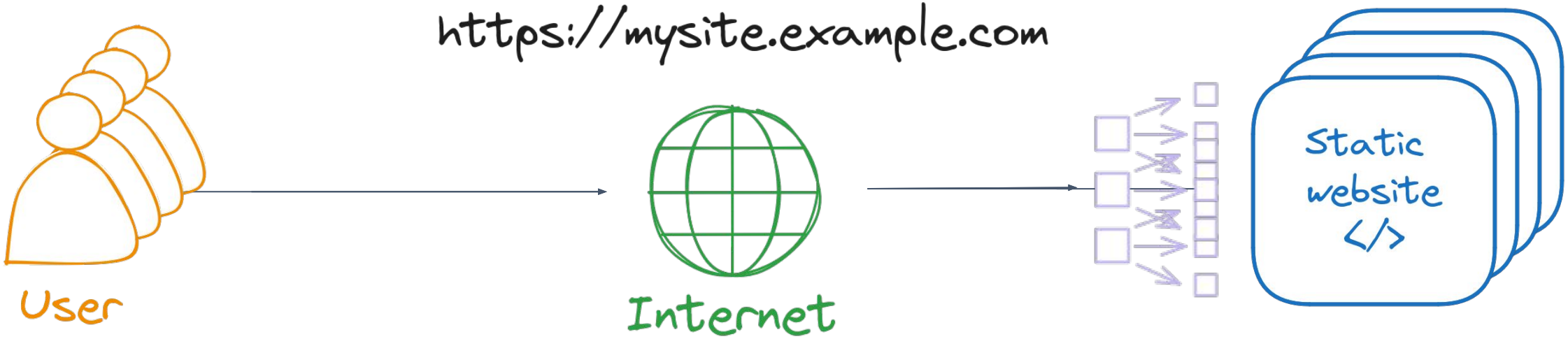
In the beginning there was one…




```
$ dig +short podinfo.example.com

10.0.0.1
```

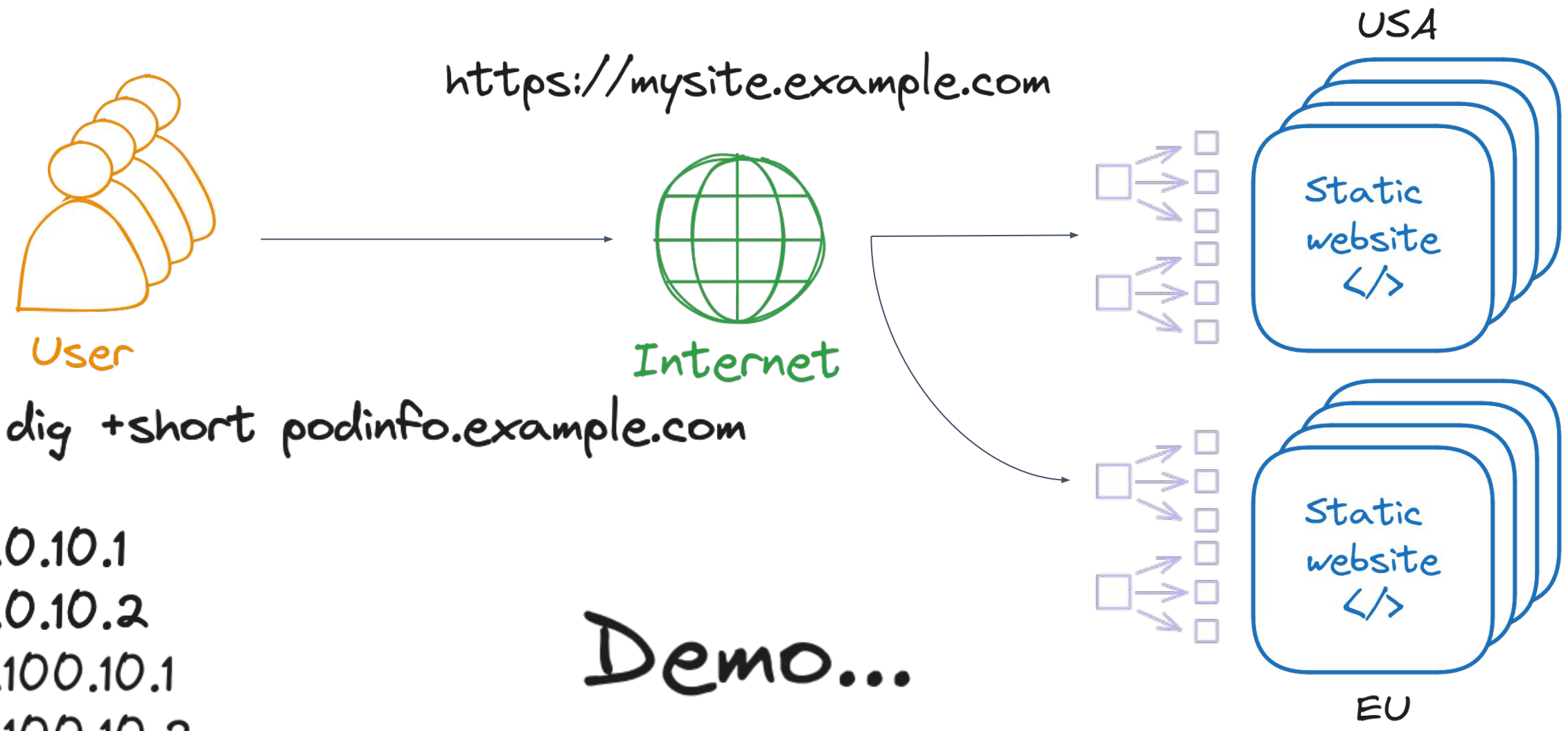
But then it got popular…



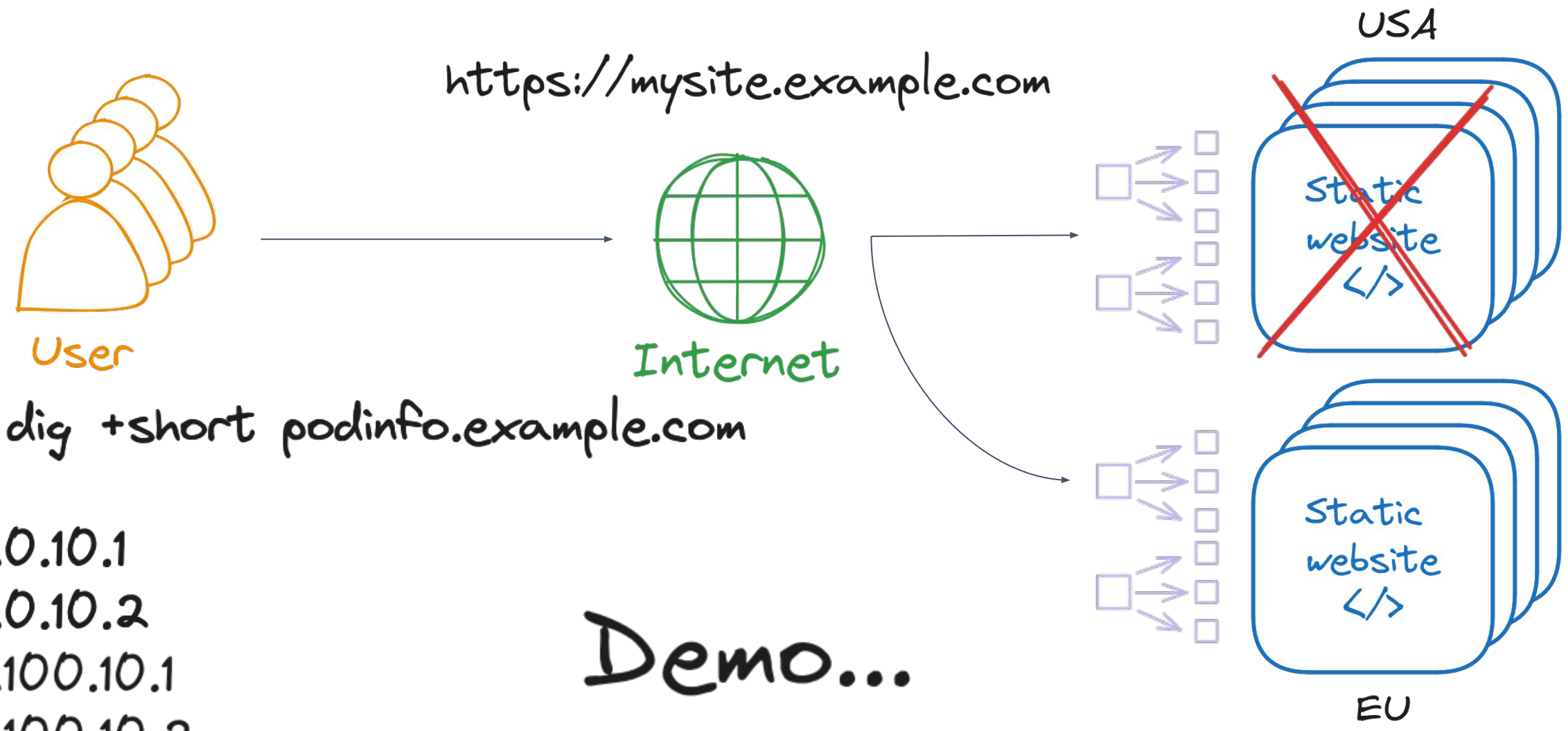

```
$ dig +short podinfo.example.com

10.0.10.11
10.0.10.2
```

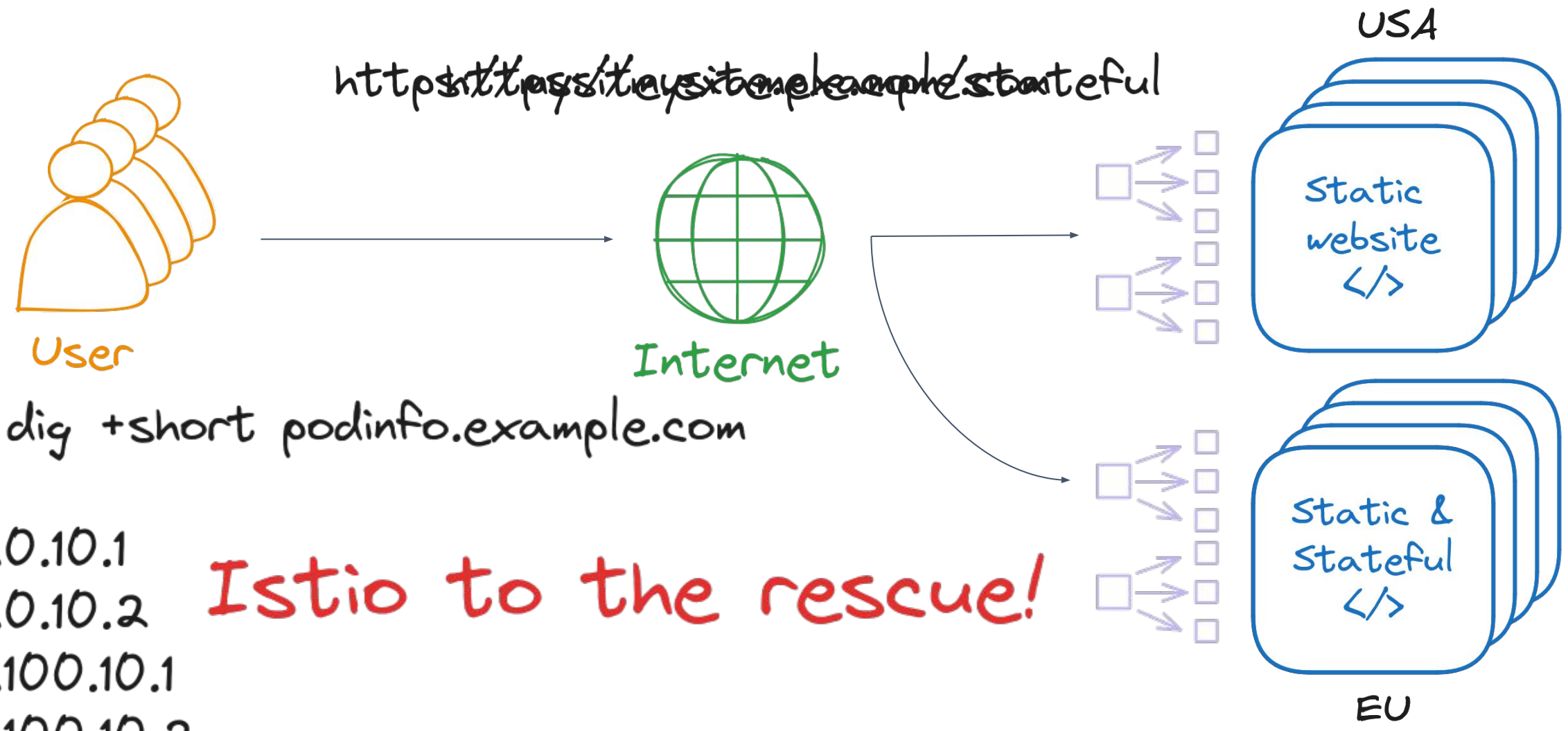
Going global!



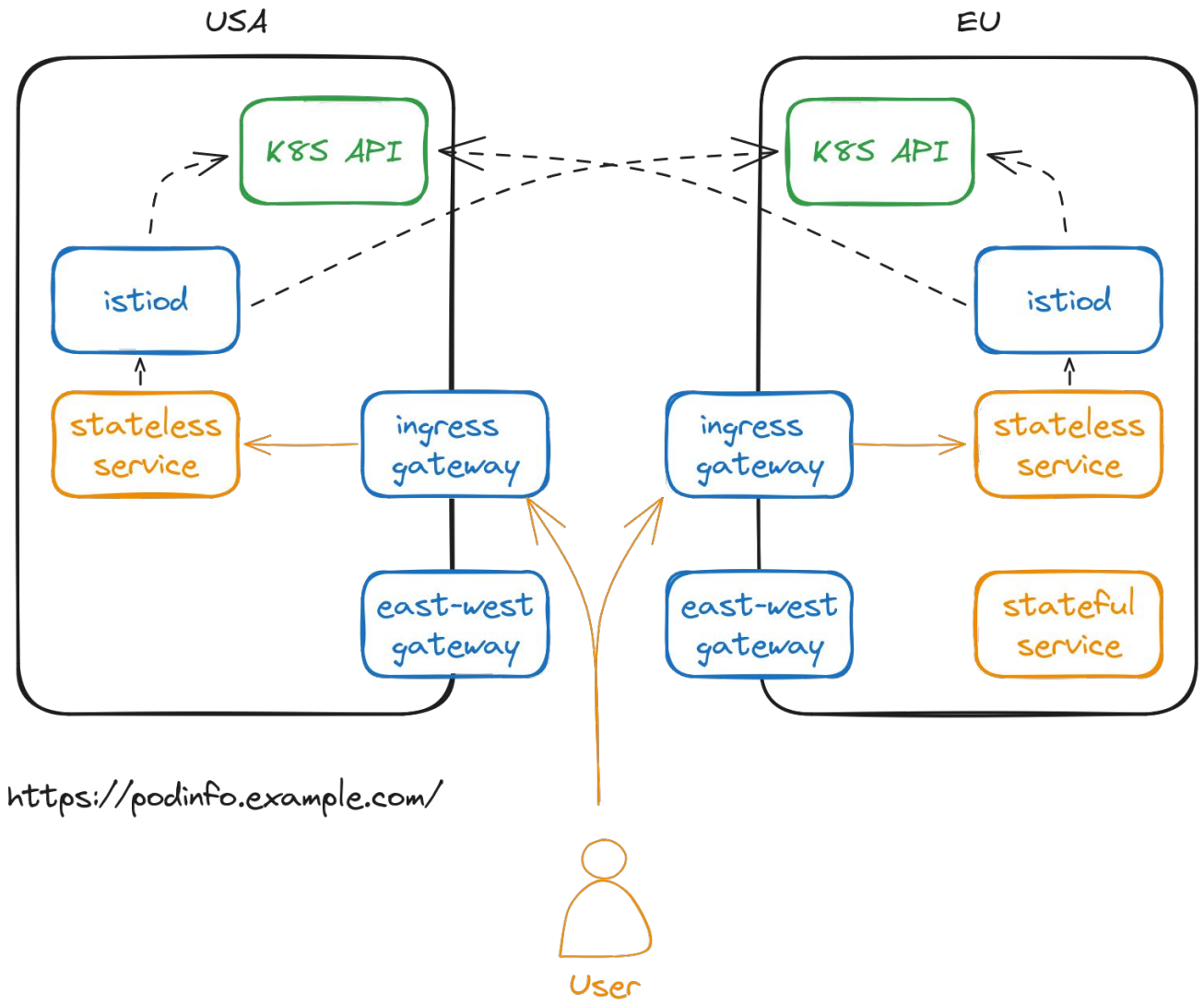
Failure! Failure!



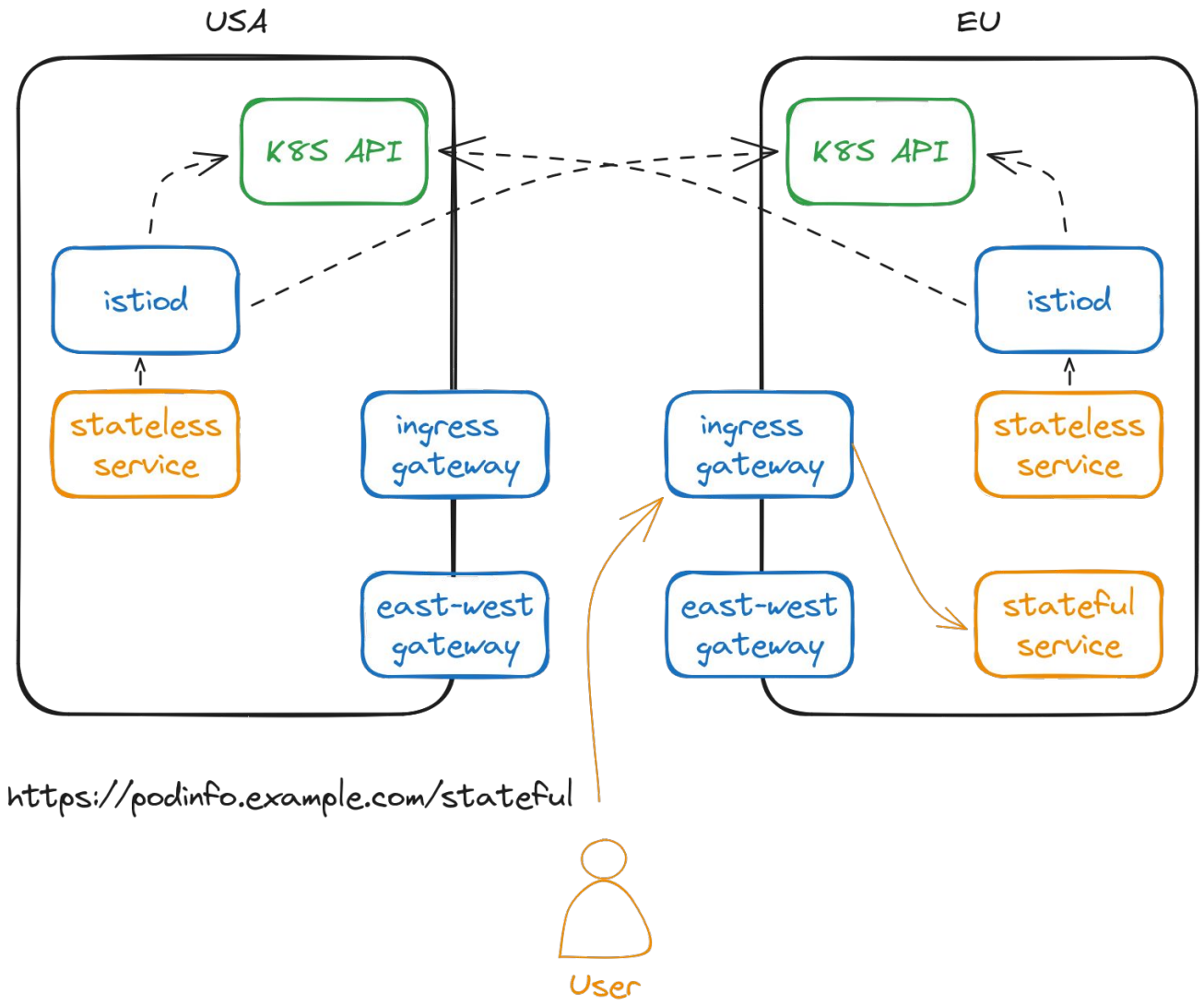
Stateful workloads



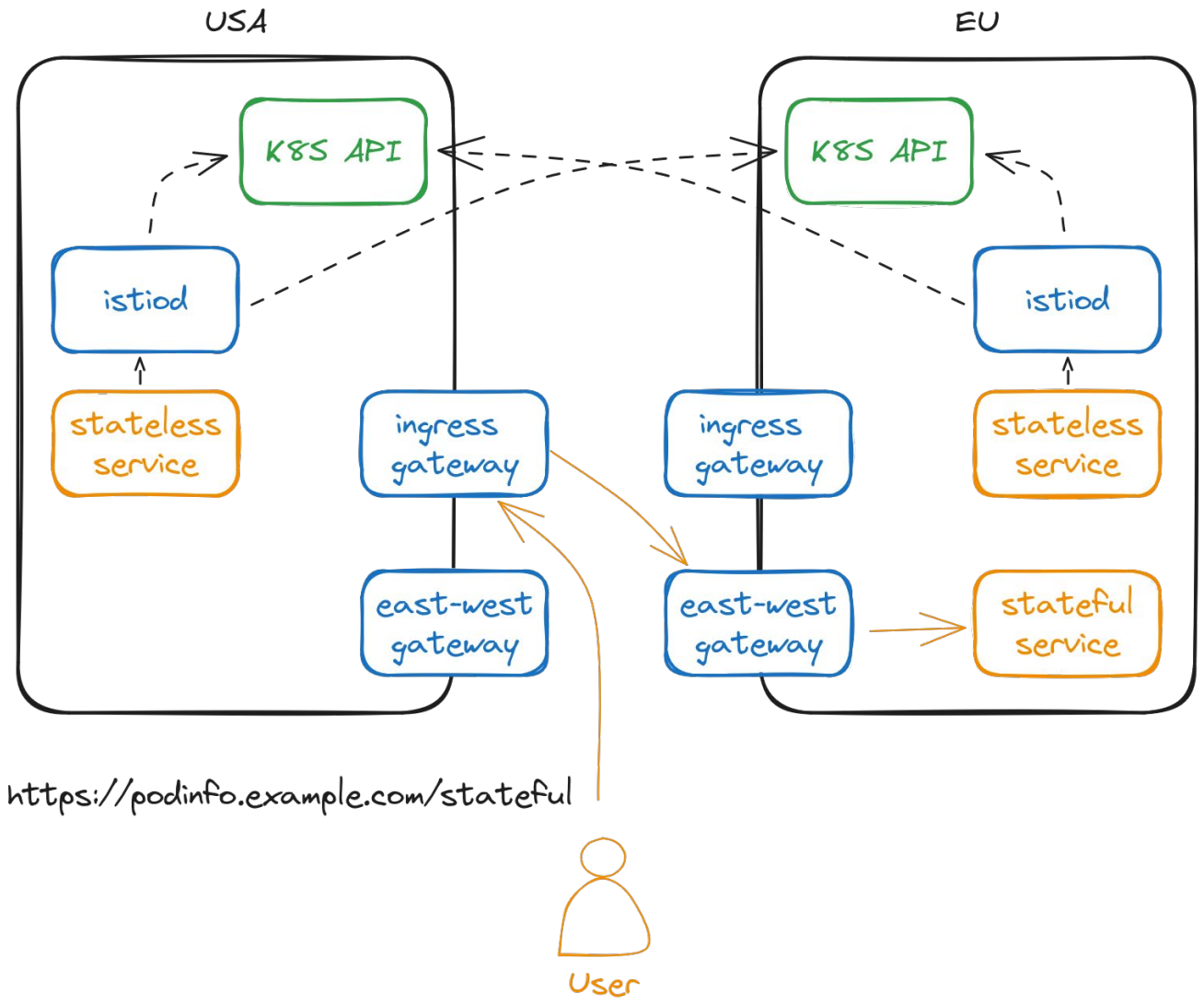
Stateless workloads



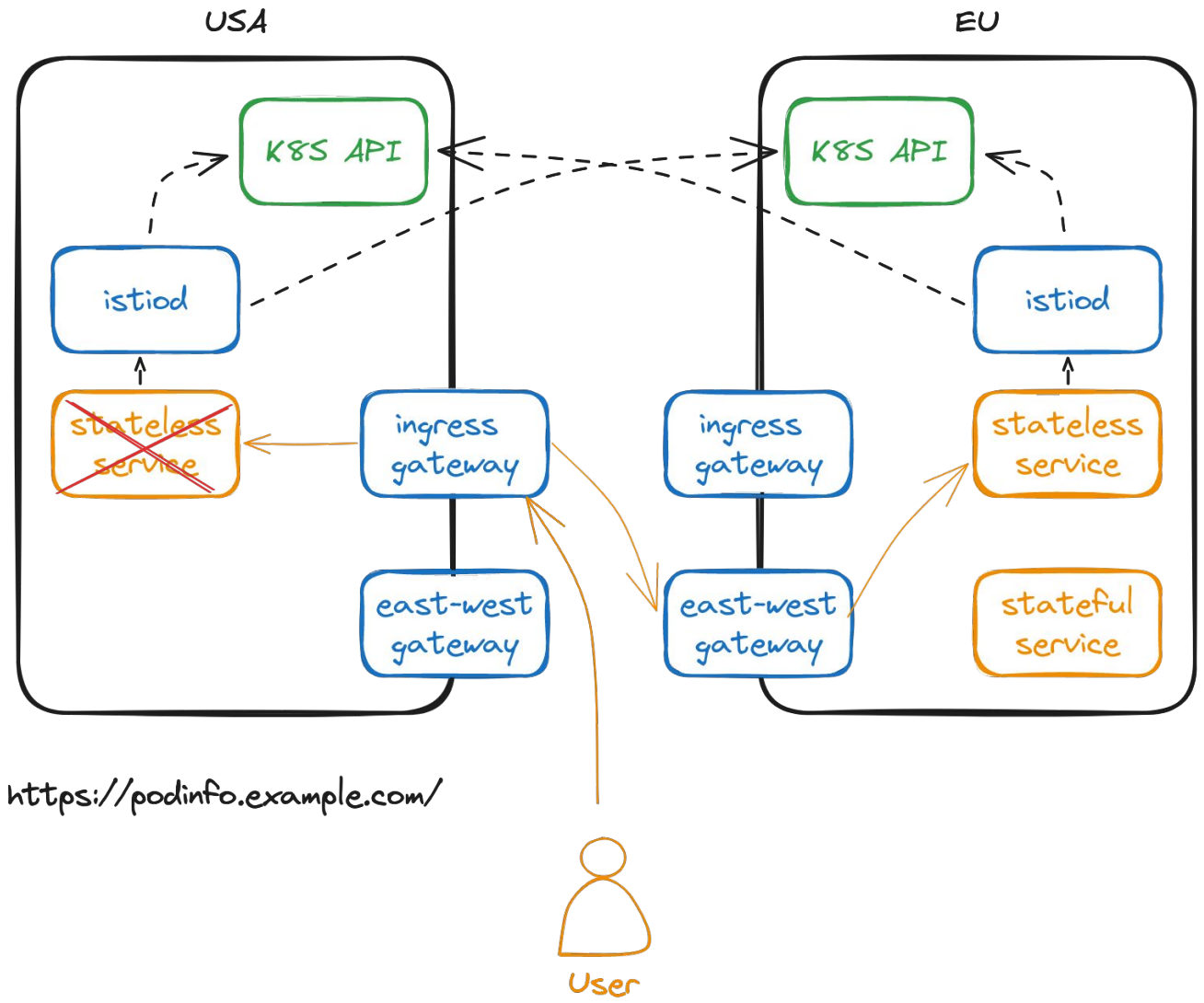
Stateful workloads via EU



Stateful workloads via USA

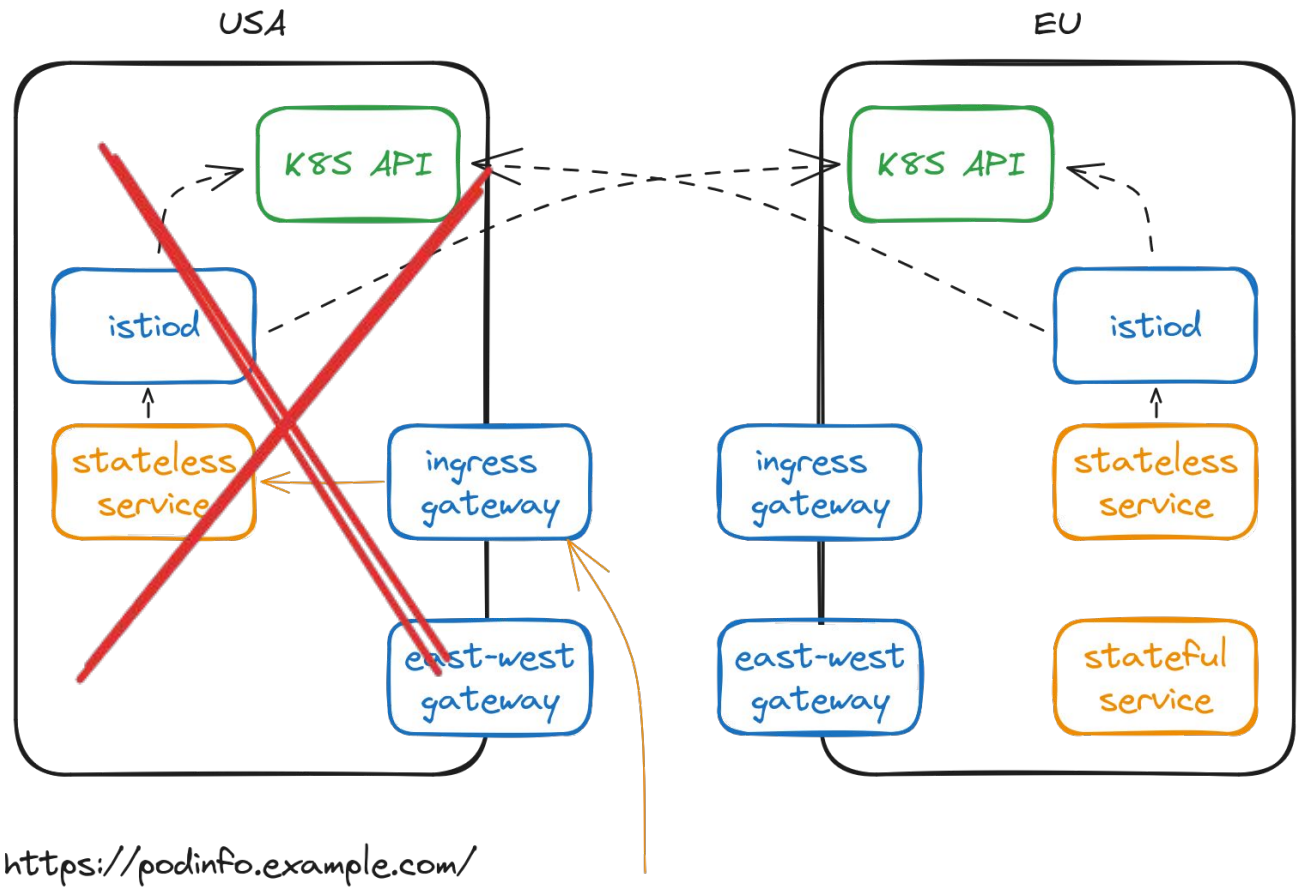


Failure! Failure!




```
apiVersion: networking.istio.io/v1beta1
kind: DestinationRule
metadata:
  name: podinfo
spec:
  host: podinfo.default.svc.cluster.local
  trafficPolicy:
    connectionPool:
      http:
        maxRequestsPerConnection: 1
    loadBalancer:
      localityLbSetting:
        enabled: true
        failover:
        - from: eu-west-1
          to: us-west-2
        - from: us-west-2
          to: eu-west-1
      simple: ROUND_ROBIN
    outlierDetection:
      baseEjectionTime: 1m
      consecutive5xxErrors: 1
      interval: 1s
```

Or even worse!



K8gb to the rescue!

What is K8gb?

DNS Load Balancing

A cloud native Kubernetes

No single point of failure

Kubernetes health checks

Global Balancing

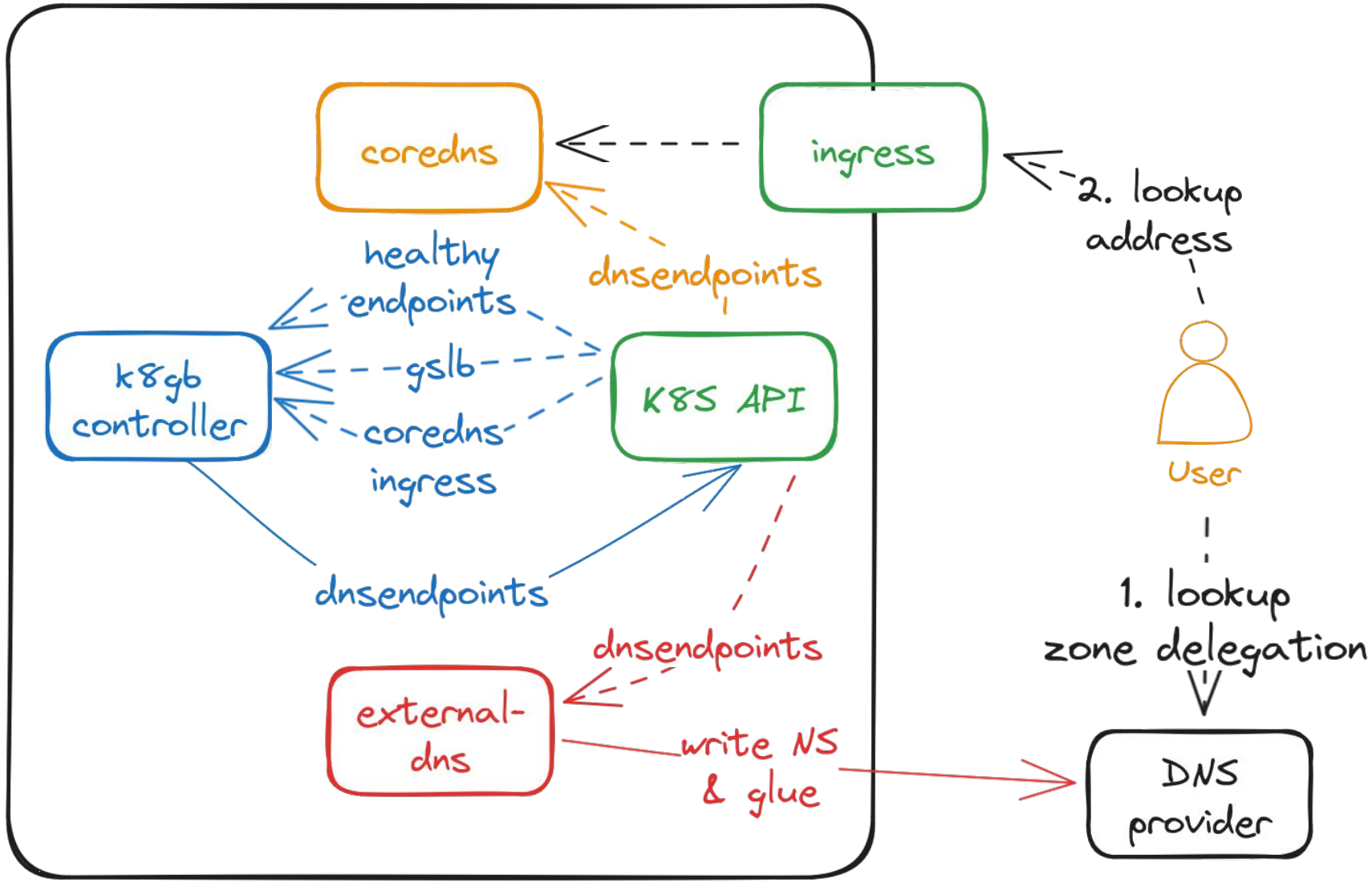
Easy configuration

How does it work?


```yaml
apiVersion: k8gb.absa.oss/v1beta1
kind: Gslb
metadata:
  name: podinfo
  namespace: default
spec:
  ingress:
    ingressClassName: istio
    rules:
      - host: podinfo.k8gb.example.com
        http:
          paths:
            - backend:
                service:
                  name: podinfo
                  port:
                    number: 9898
              path: /
              pathType: Prefix
  strategy:
    dnsTtlSeconds: 5
    splitBrainThresholdSeconds: 60
    type: roundRobin
```

or annotations on ingress...

The secret sauce



Thank you!

https://github.com/jimmidyson/k8gb-istio-demo

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