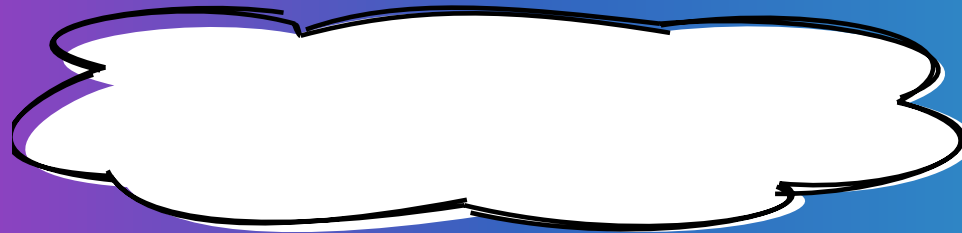


WHO NEEDS USERS
IN THIS BRAVE CLOUD NATIVE WORLD?



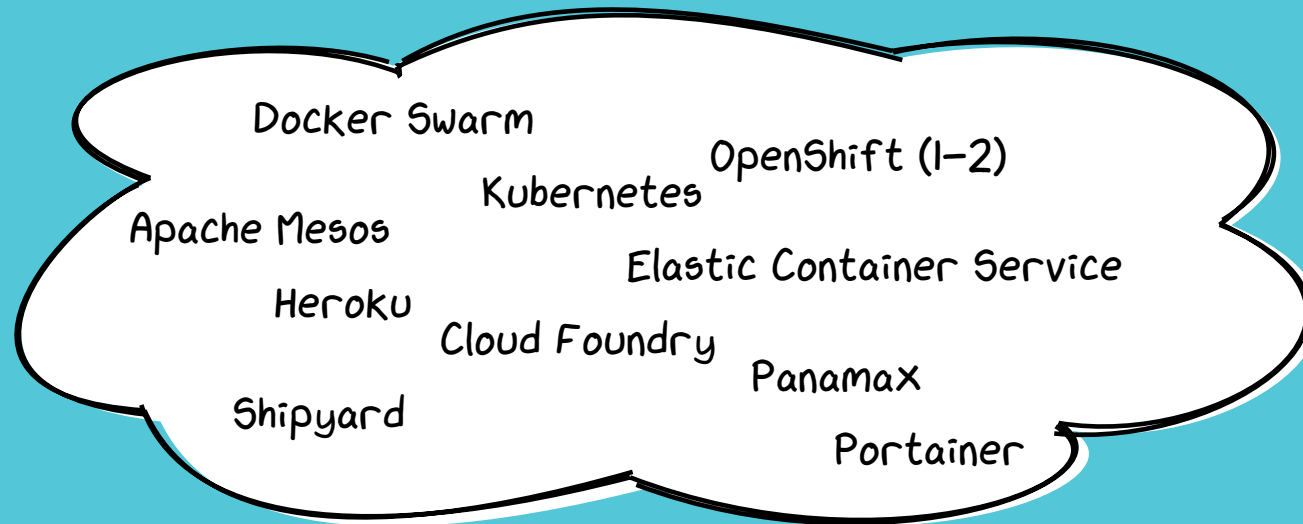
END USERS BEWARE

Kubernetes is for people building platforms. If you are a developer building your own platform (AppEngine, Cloud Foundry, Heroku clone), then Kubernetes is for you.

– Kelsey Hightower

Source: [@kelseyhightower](#) on 24 Feb 2019.

ALL HAPPY FAMILIES

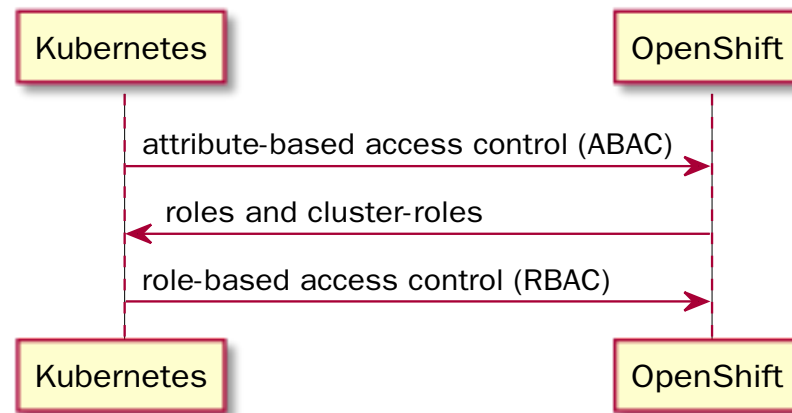


SPLENDID ISOLATION

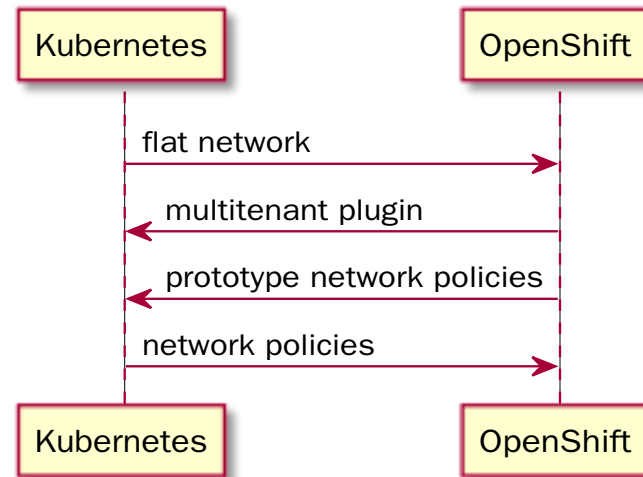


Kubernetes

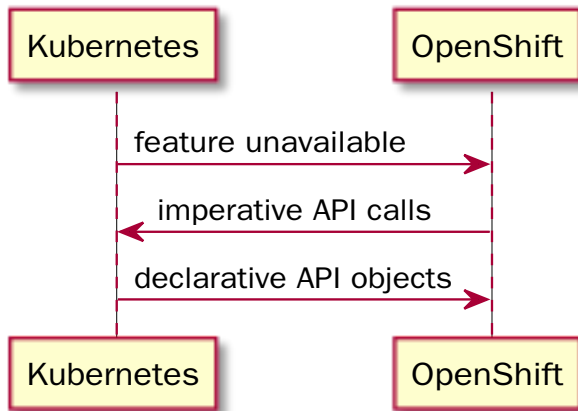
PIZZA EFFECTS: IDENTITY



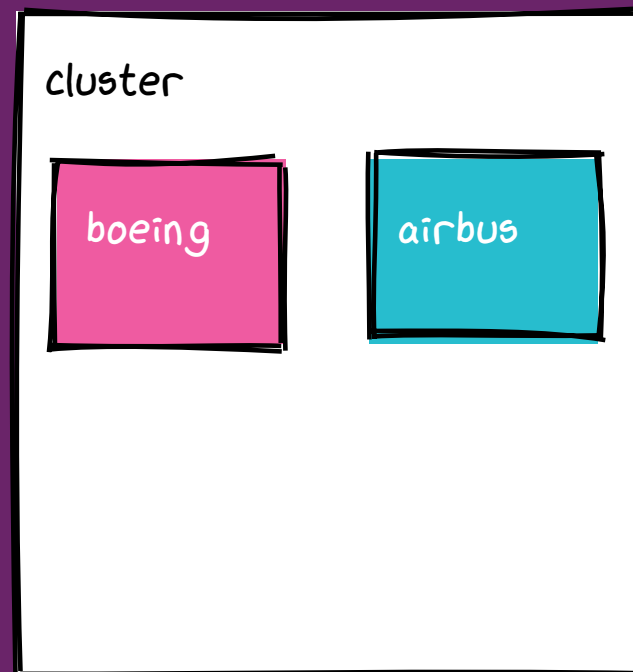
PIZZA EFFECTS: NETWORKING



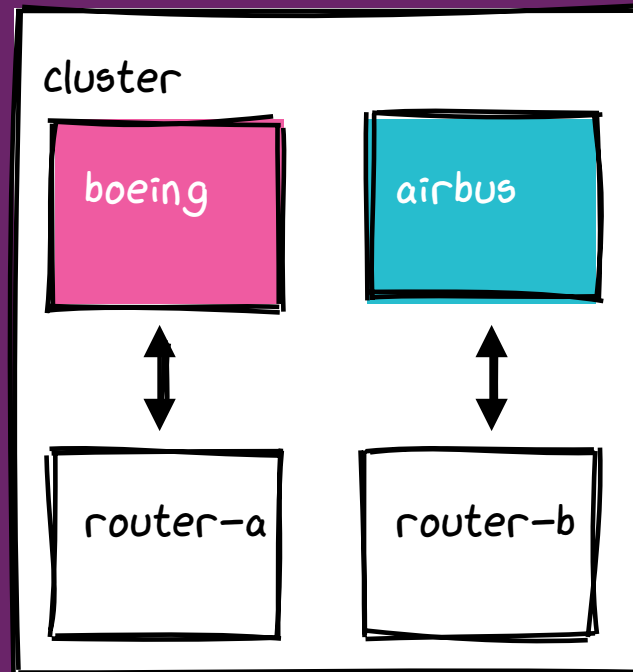
PIZZA EFFECTS: GENERIC



MULTITENANCY



ENABLE ROUTER ACCESS



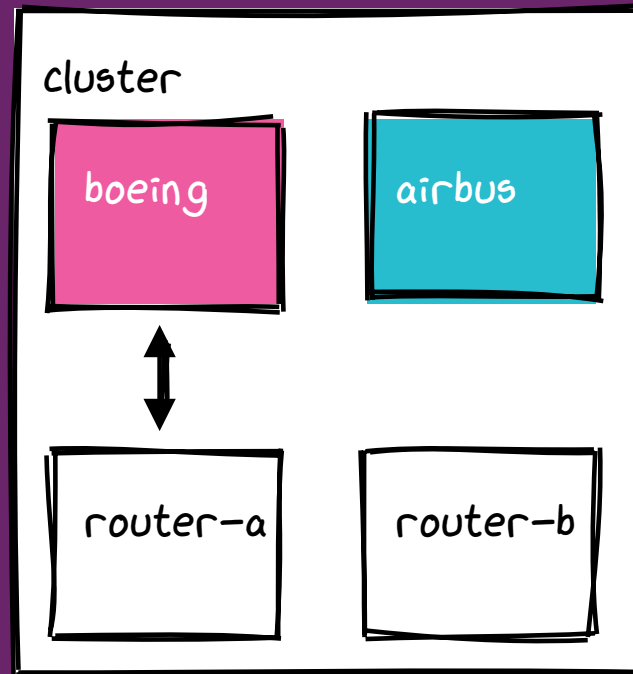
```
$ oc adm pod-network join-projects --to router-a boeing
```

```
$ oc adm pod-network join-projects --to router-b airbus
```

```
$ oc get netnamespace airbus boeing router-a router-b
```

| NAME | NETID |
|----------|---------|
| airbus | 1064346 |
| boeing | 1086658 |
| router-a | 1064346 |
| router-b | 1086658 |

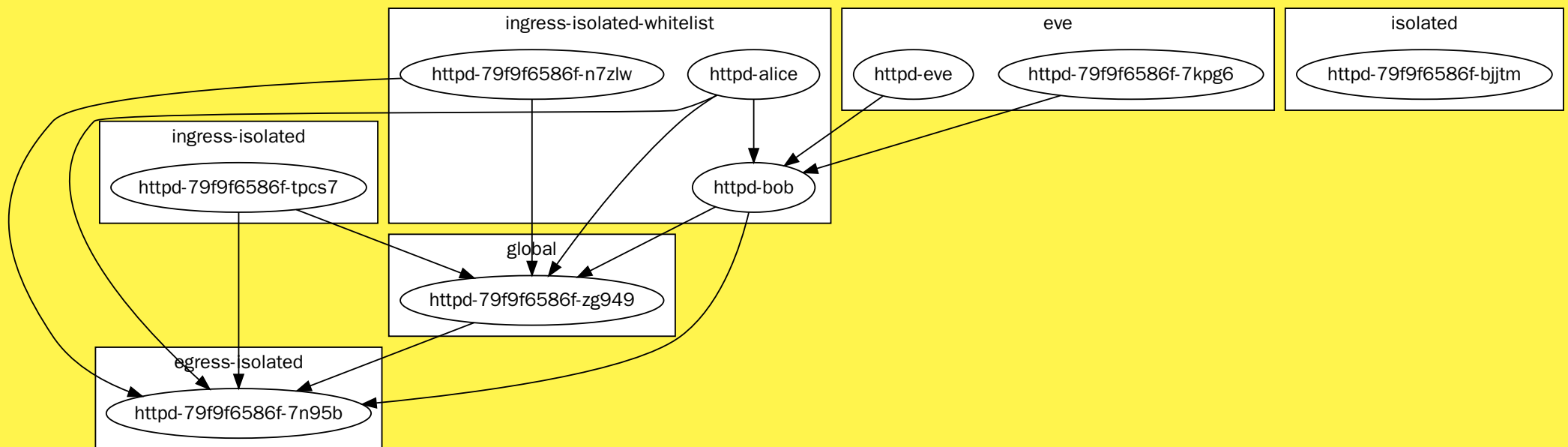
SELECTIVE ISOLATION



```
$ oc adm pod-network isolate-projects airbus
$ oc get netnamespace airbus boeing router-a router-b
```

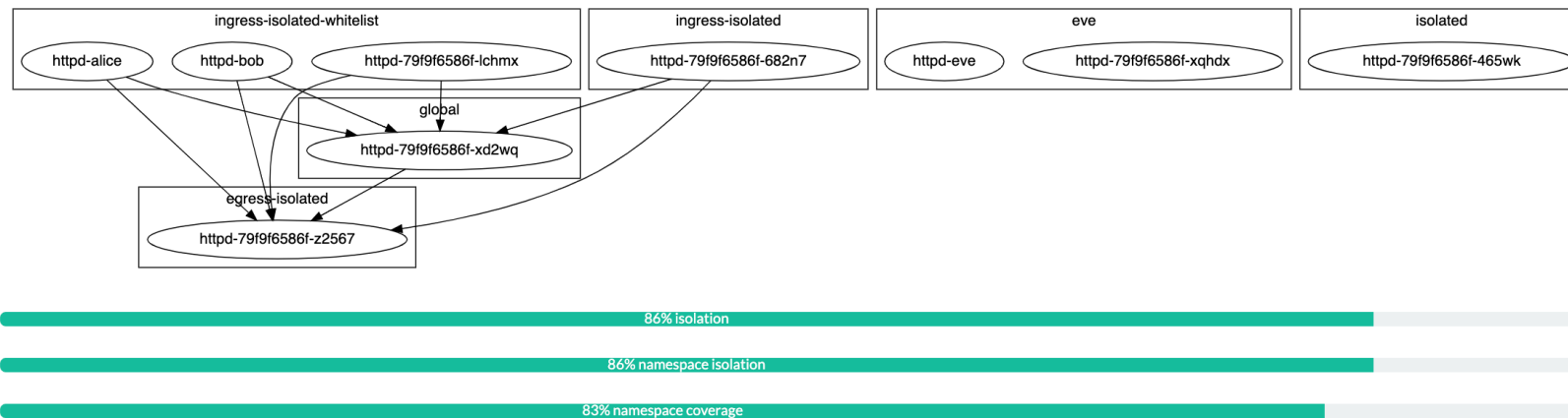
| NAME | NETID |
|----------|---------|
| airbus | 1020181 |
| boeing | 1086658 |
| router-a | 1086658 |
| router-b | 1064346 |

NETWORK POLICIES



AUDIT

minikube network policies



Source: github.com/gerald1248/k8s-network-policy-viewer

IMPLEMENTATION



Somebody else's problem

WHAT THE USER SAW

```
apiVersion: networking.k8s.io/v1
kind: NetworkPolicy
metadata:
  name: ingress-whitelist-pod
spec:
  podSelector:
    matchLabels:
      app: httpd-bob
  policyTypes:
    - Ingress
  ingress:
    - from:
      - podSelector:
          matchLabels:
            app: httpd-alice
```

USER ALL AT SEA (1)

podSelector: {}

is the opposite of:

podSelector: []

USER ALL AT SEA (2)

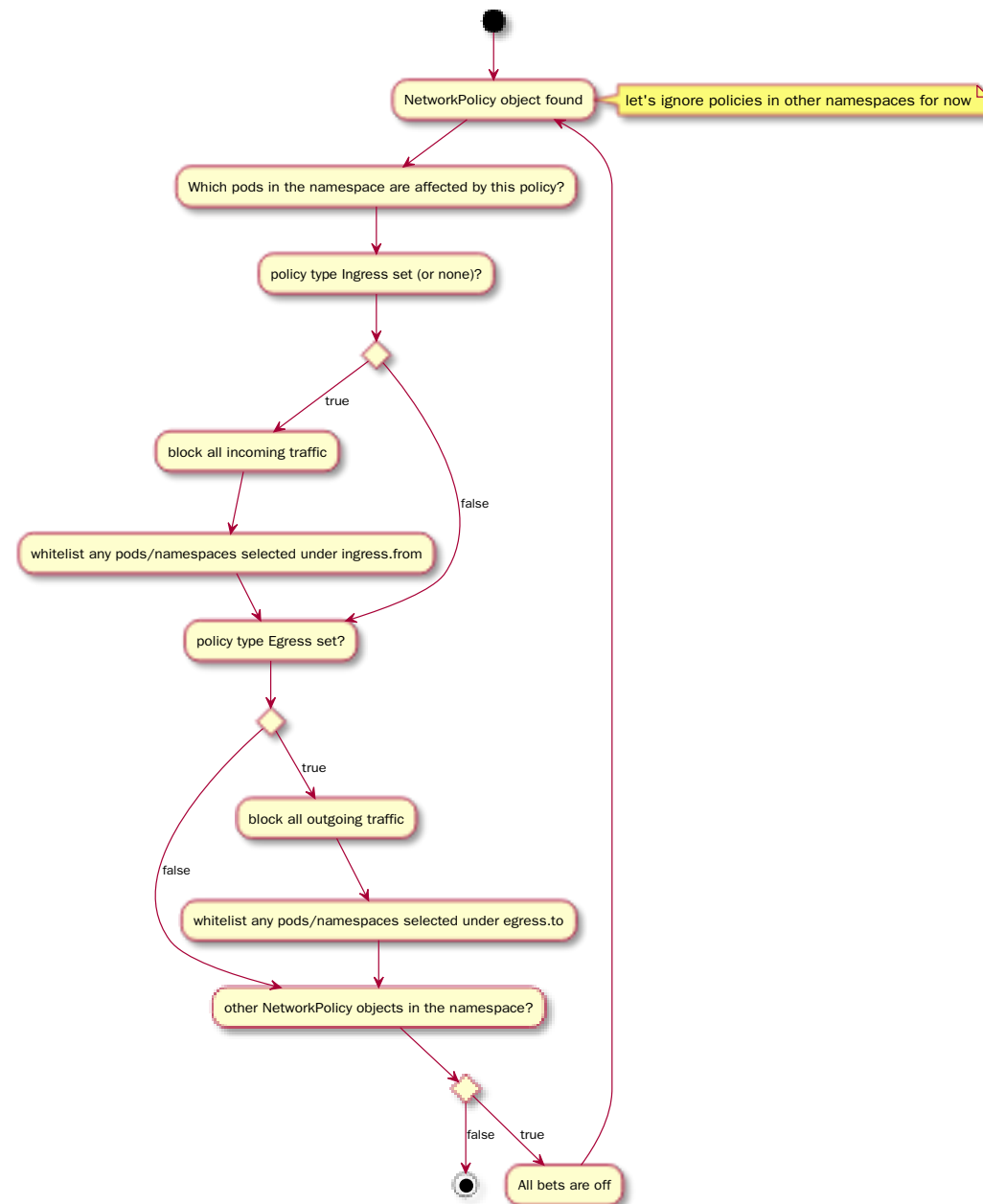
```
ingress:  
- from:  
  - namespaceSelector:  
      matchLabels:  
        user: alice  
  podSelector:  
    matchLabels:  
      role: client
```

is not at all the same as:

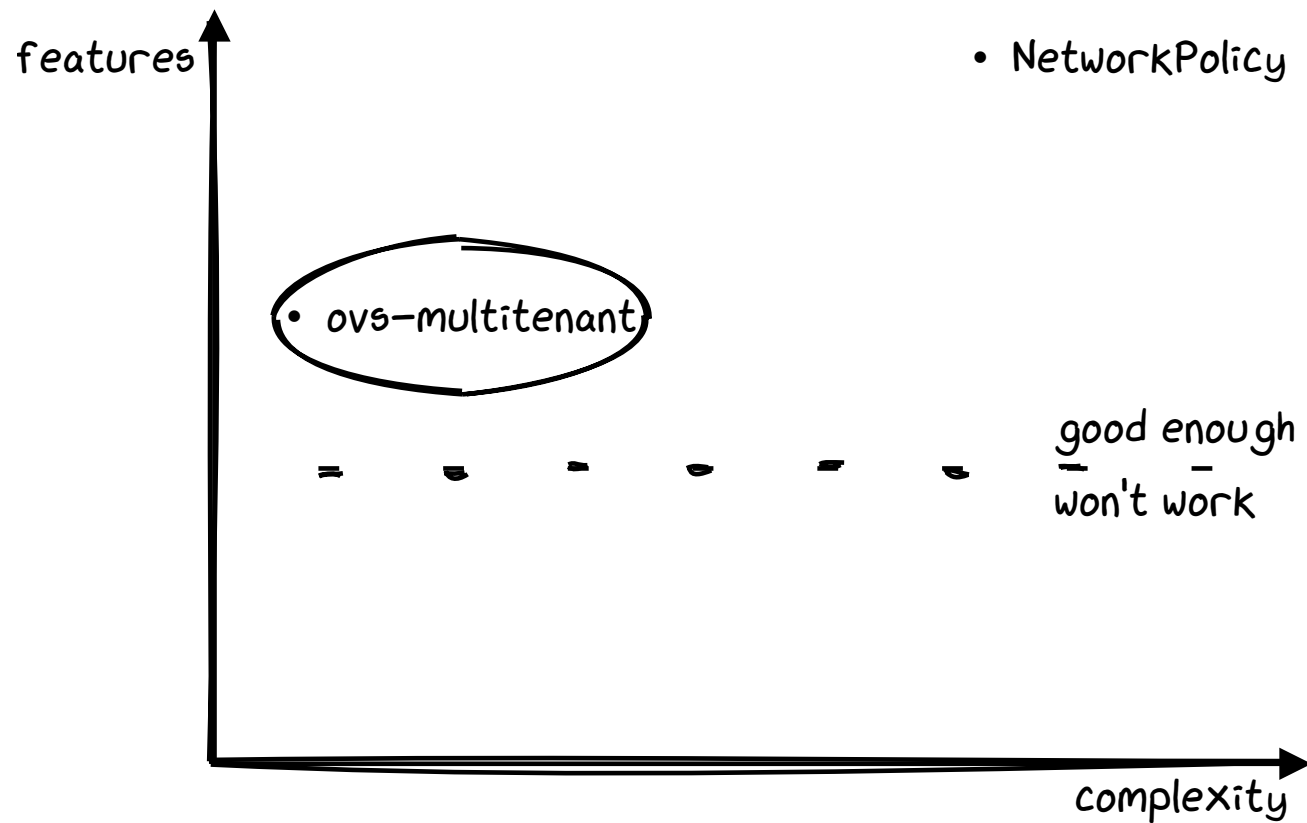
```
ingress:  
- from:  
  - namespaceSelector:  
      matchLabels:  
        user: alice  
  - podSelector:  
      matchLabels:  
        role: client
```

Source: kubernetes.io/docs.

WHAT THE PARSER DID



USER PREFERENCE



ENTER OPERATOR

```
apiVersion: v1
kind: Namespace
metadata:
  name: ingress-isolated-whitelist
  labels:
    app: ingress-isolated-whitelist
  annotations:
    networking.k8s.io/netnamespace-id: "100"
```

BEWARE ROUGH EDGES

I'm a little bit sad how complex Kubernetes is right now.
In some sense Kubernetes is not for end users, it's for
people who set up clusters and clusters are for end users.

– Wojtek Cichoń

Source: Cichoń, W. 2018. [What's real and what's not.](#)

THANK YOU

Slides built with [Markdeck](#)

 [gerald1248/who-needs-users-slides](#)

 [03spirit](#)

ThoughtWorks®