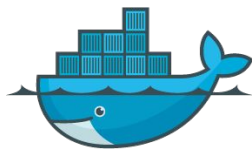


# What impact has CloudNative on kernel networking?



GRPC



docker

Watch ▾

1,701

★ Star

22,058

🔗 Fork

7,612

# Challenge 1: L3/L4 LB are not container aware

L3/L4 LB

Node 1

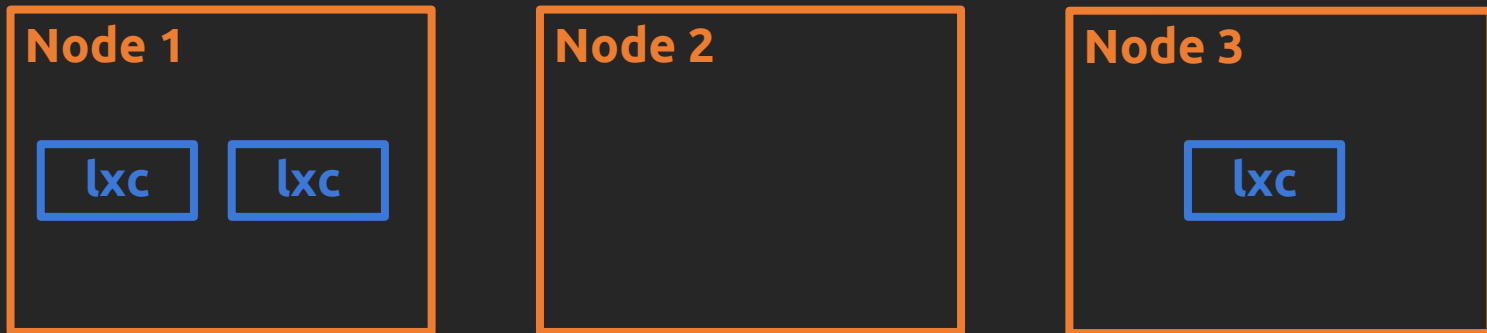
lxc

lxc

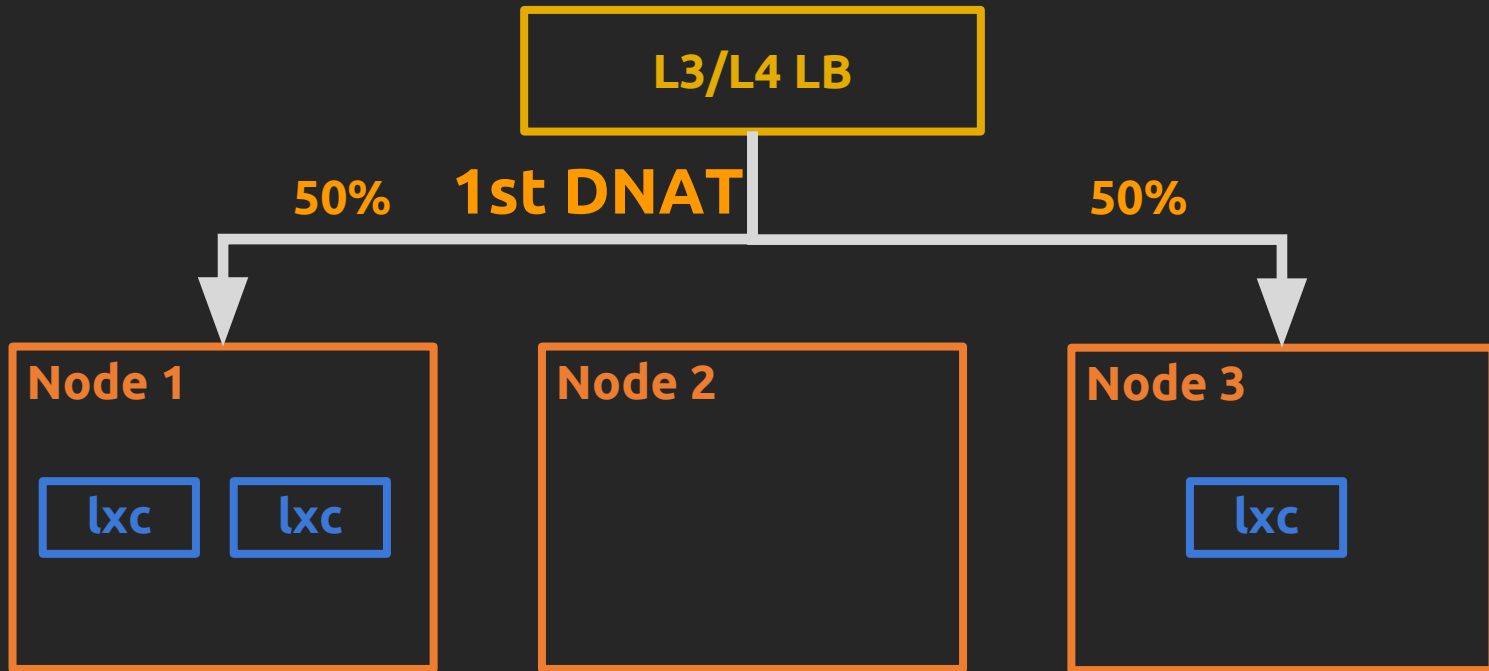
Node 2

Node 3

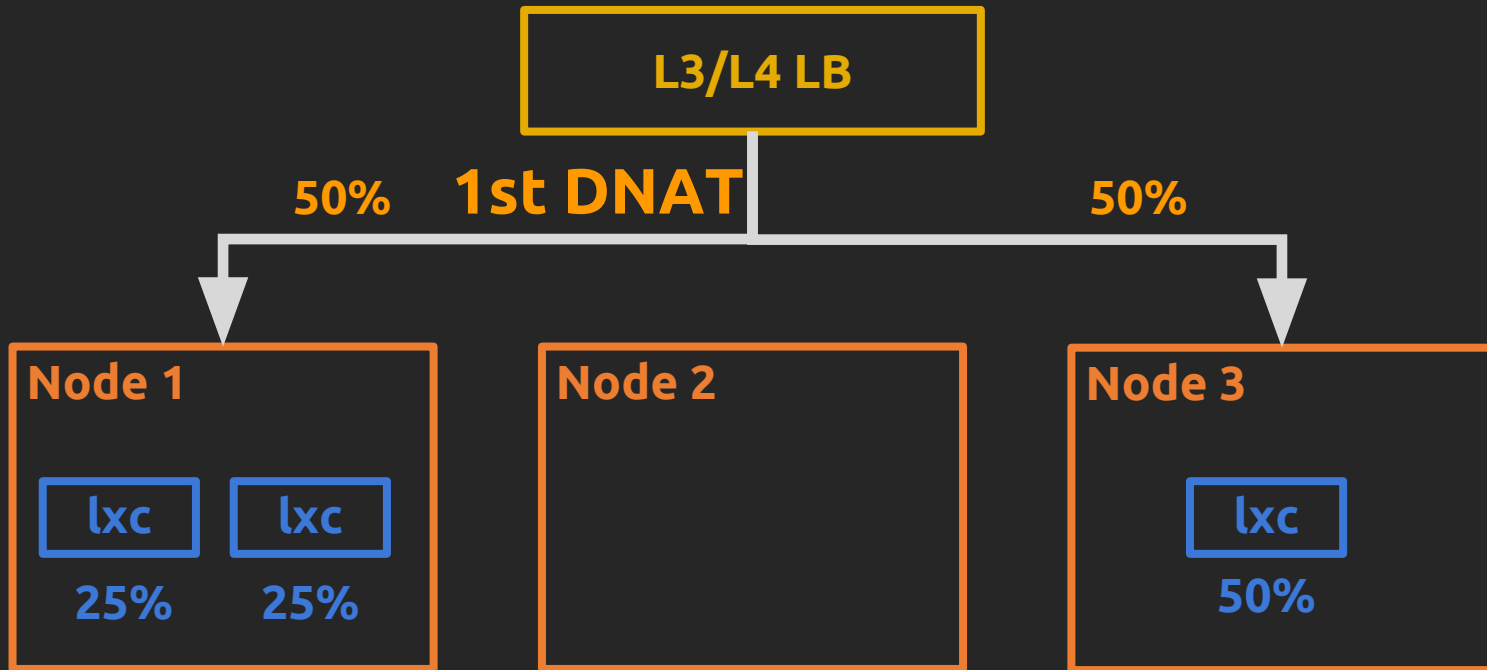
lxc



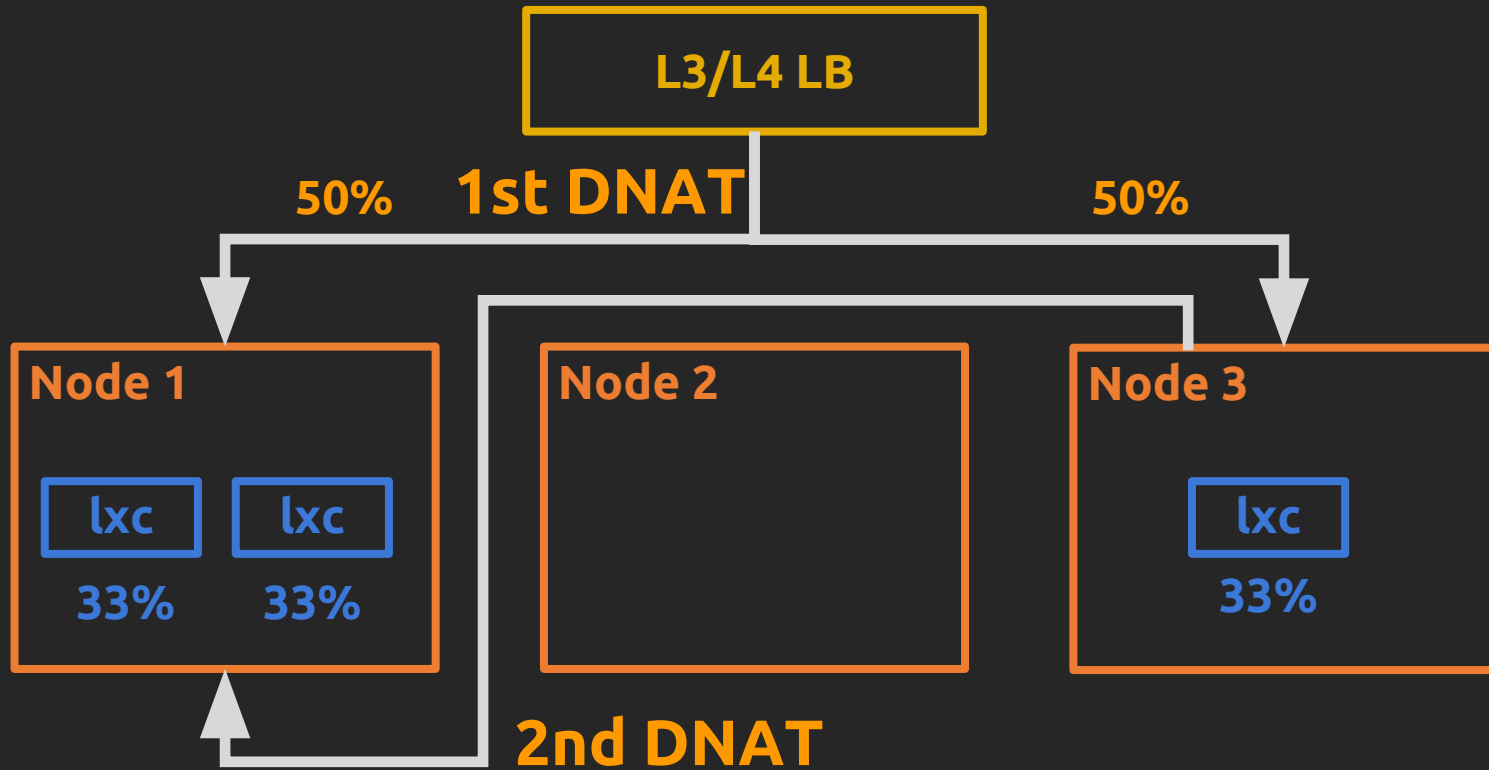
# Challenge 1: L3/L4 LB are not container aware



# Challenge 1: L3/L4 LB are not container aware

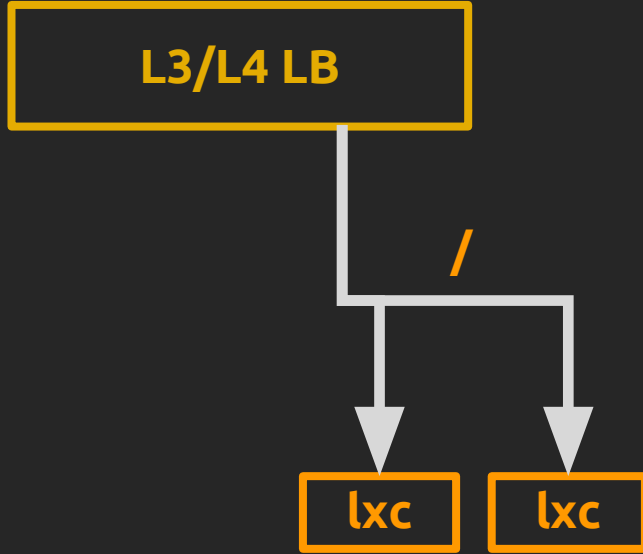


# Challenge 1: L3/L4 LB are not container aware



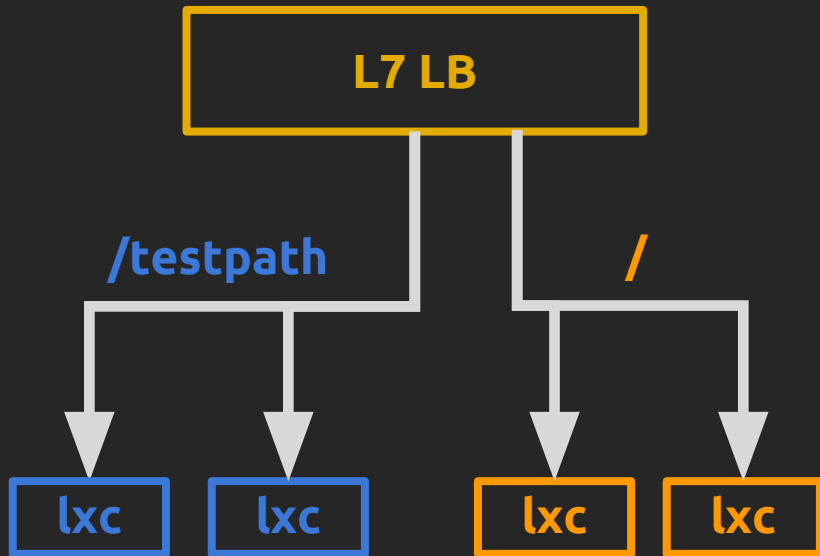
# Challenge 2: HTTP/URL routing

## Multiple services



# Challenge 2: HTTP/URL routing

## Multiple services



```
apiVersion: extensions/v1beta1
kind: Ingress
metadata:
  name: my-ingress
spec:
  rules:
  - http:
      paths:
      - path: /testpath
        backend:
          serviceName: test
          servicePort: 80
```

# Challenge 3: You HTTP ports be like ...





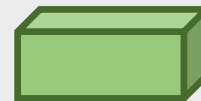
# Network Security

## for microservices

L3/L4



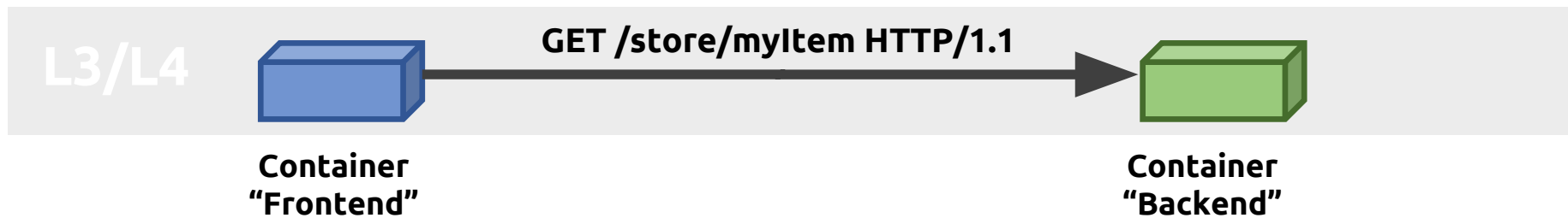
**Container  
“Frontend”**



**Container  
“Backend”**

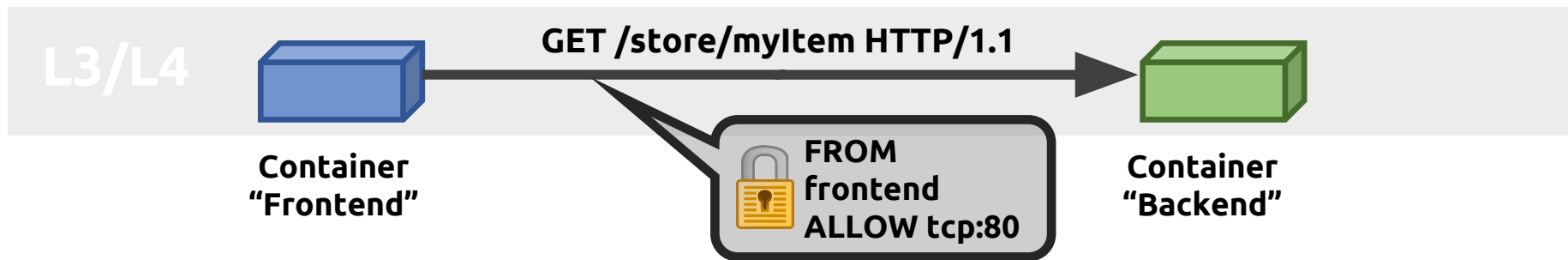
# Network Security

## for microservices



# Network Security

## for microservices



# Network Security

## for microservices

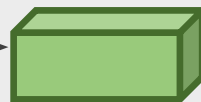
API

L3/L4



Container  
"Frontend"

GET /store/myItem HTTP/1.1



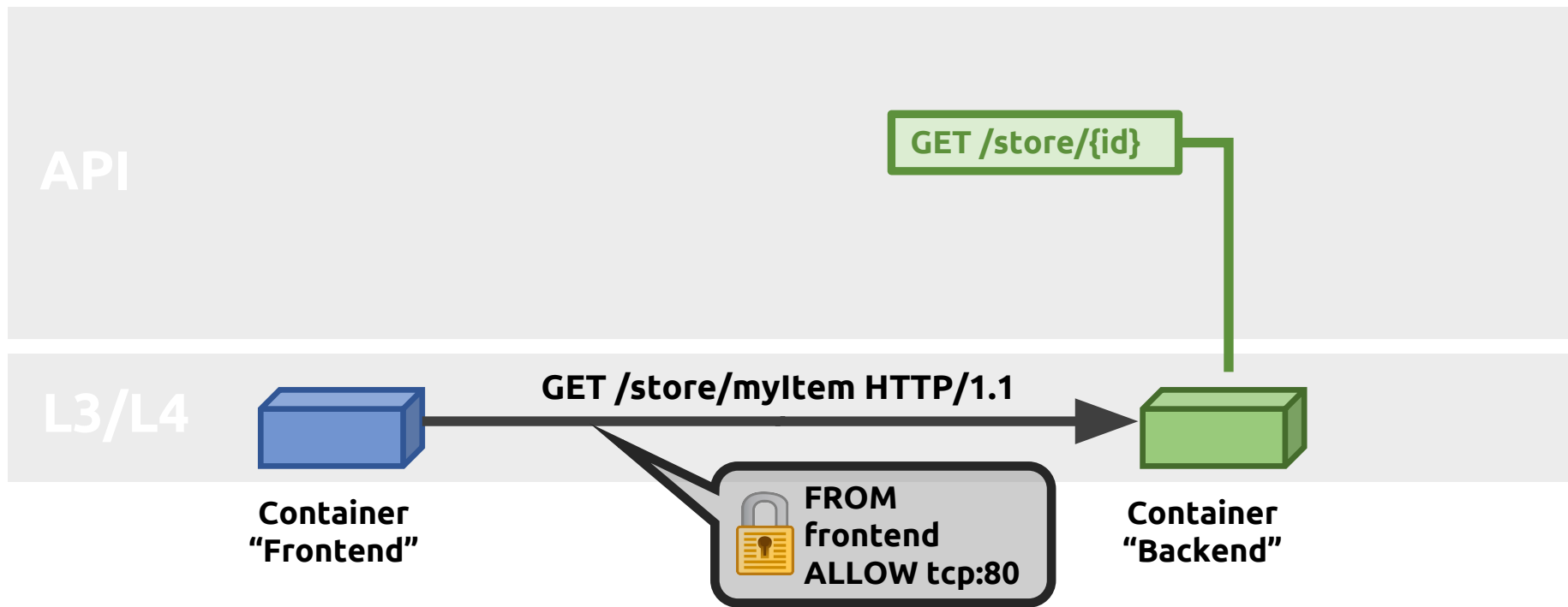
Container  
"Backend"



FROM  
frontend  
ALLOW tcp:80

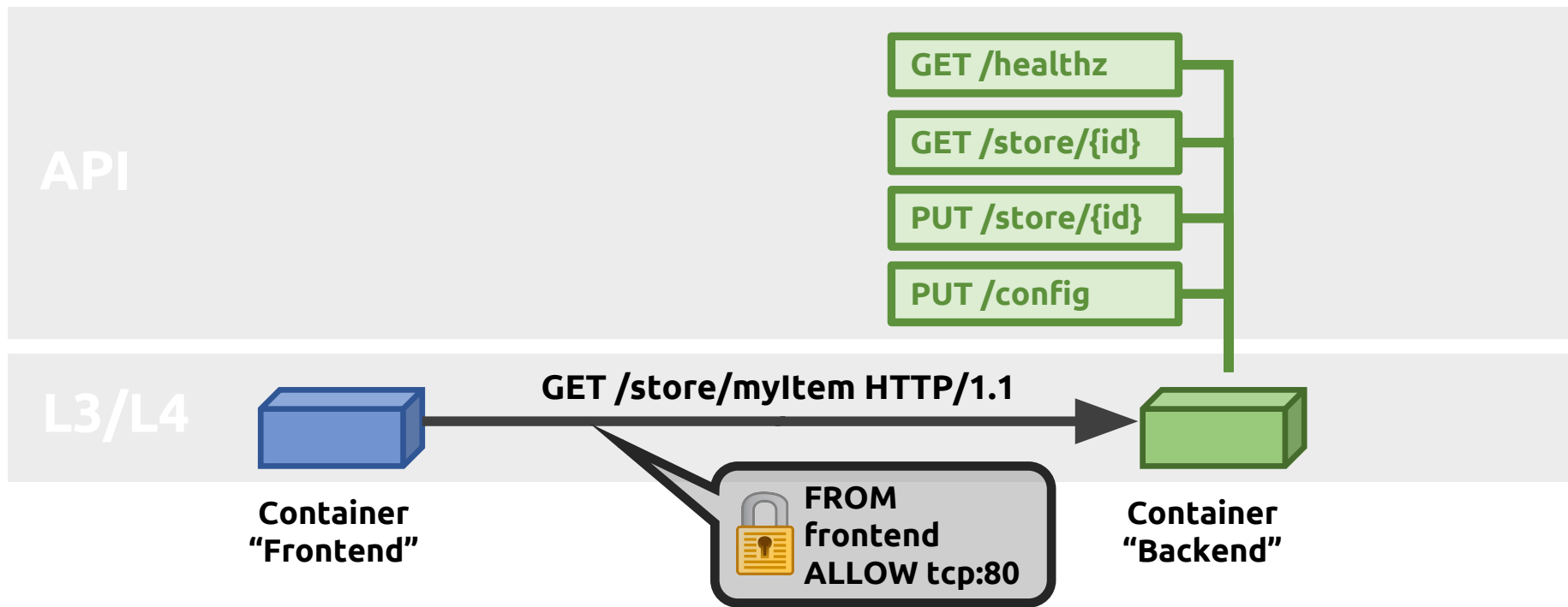
# Network Security

## for microservices

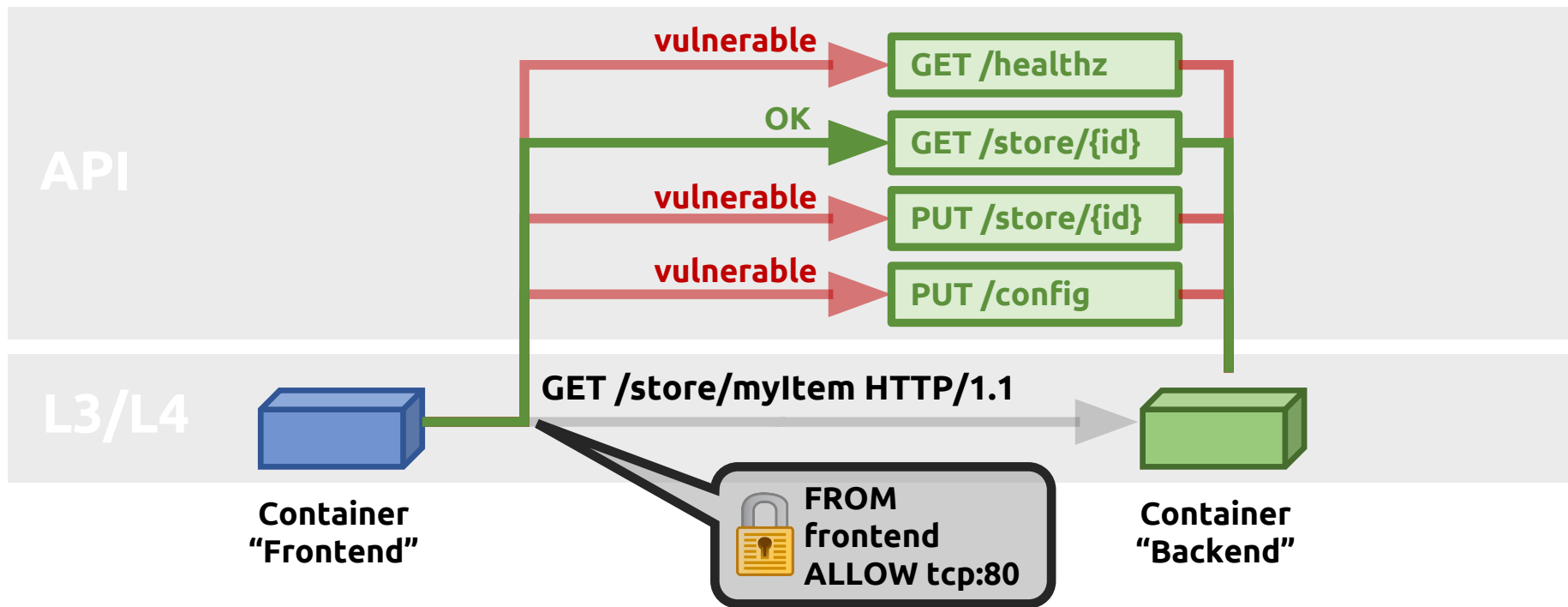


# Network Security

## for microservices



# Network Security for microservices



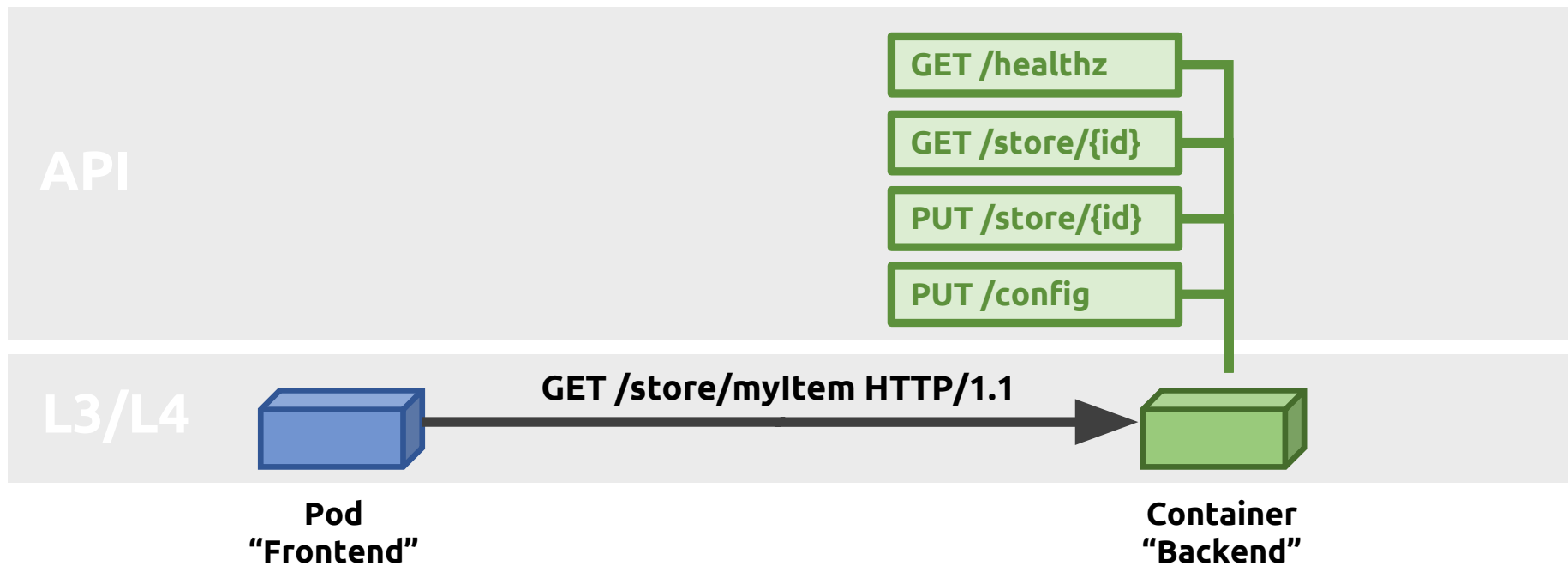
**L4 security** has  
become **meaningless** in  
the age of microservices





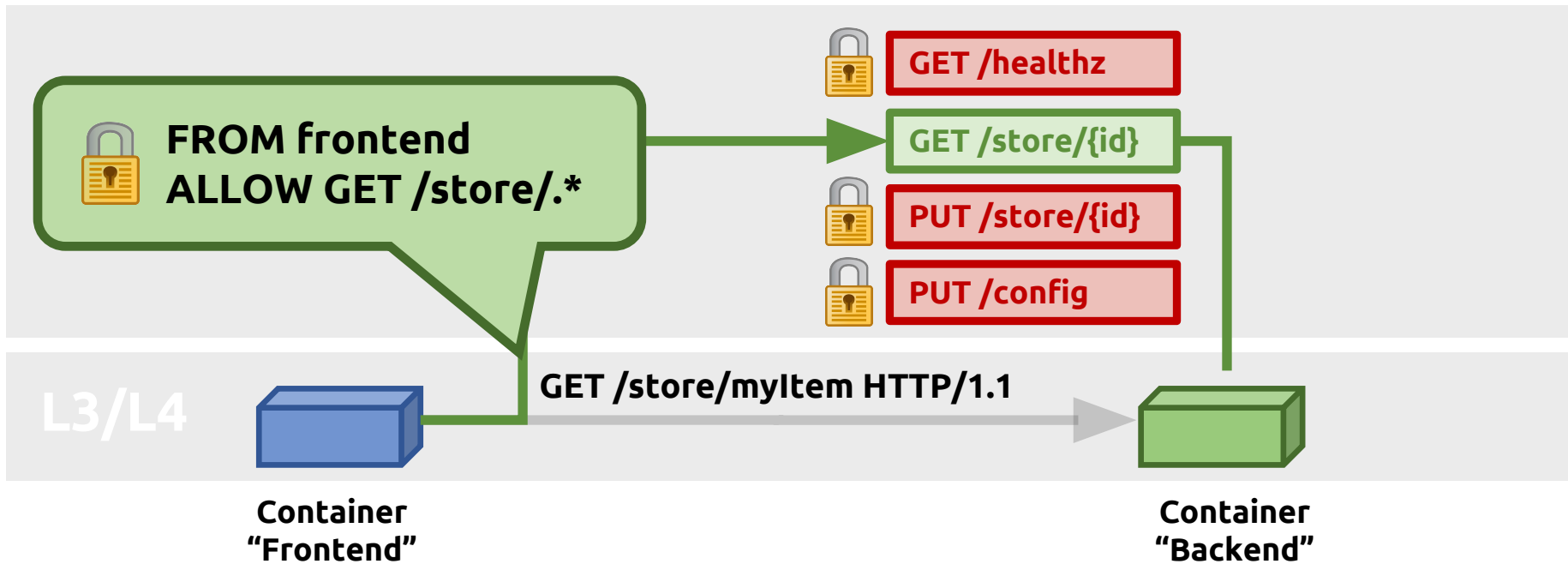
# Network Security

## for microservices



# Network Security

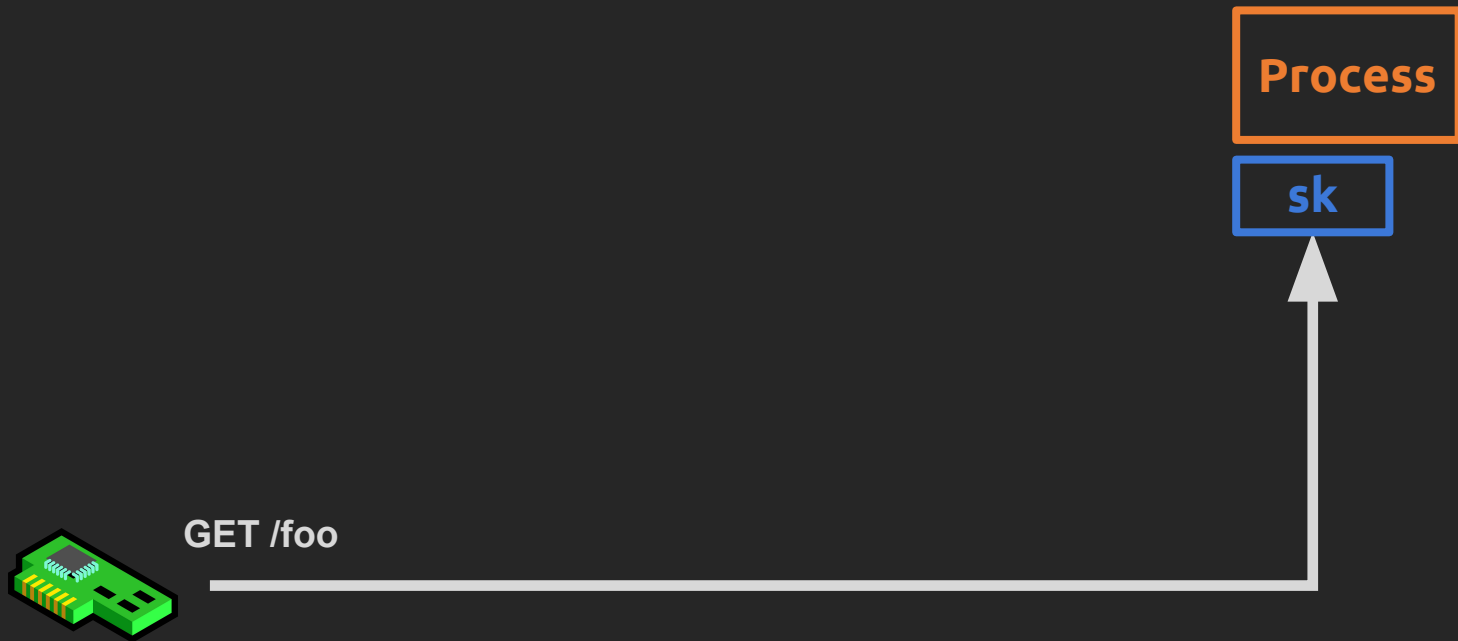
## for microservices



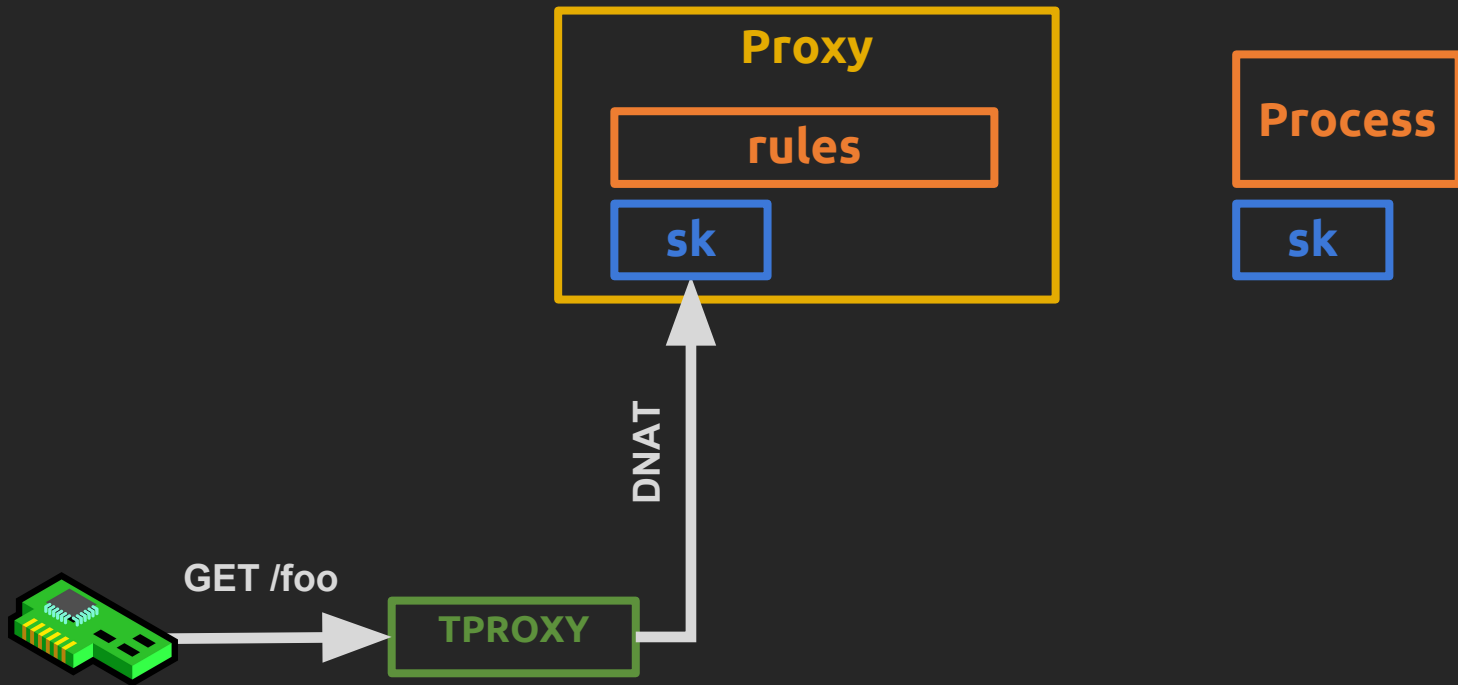
**We demand  
a demo!**



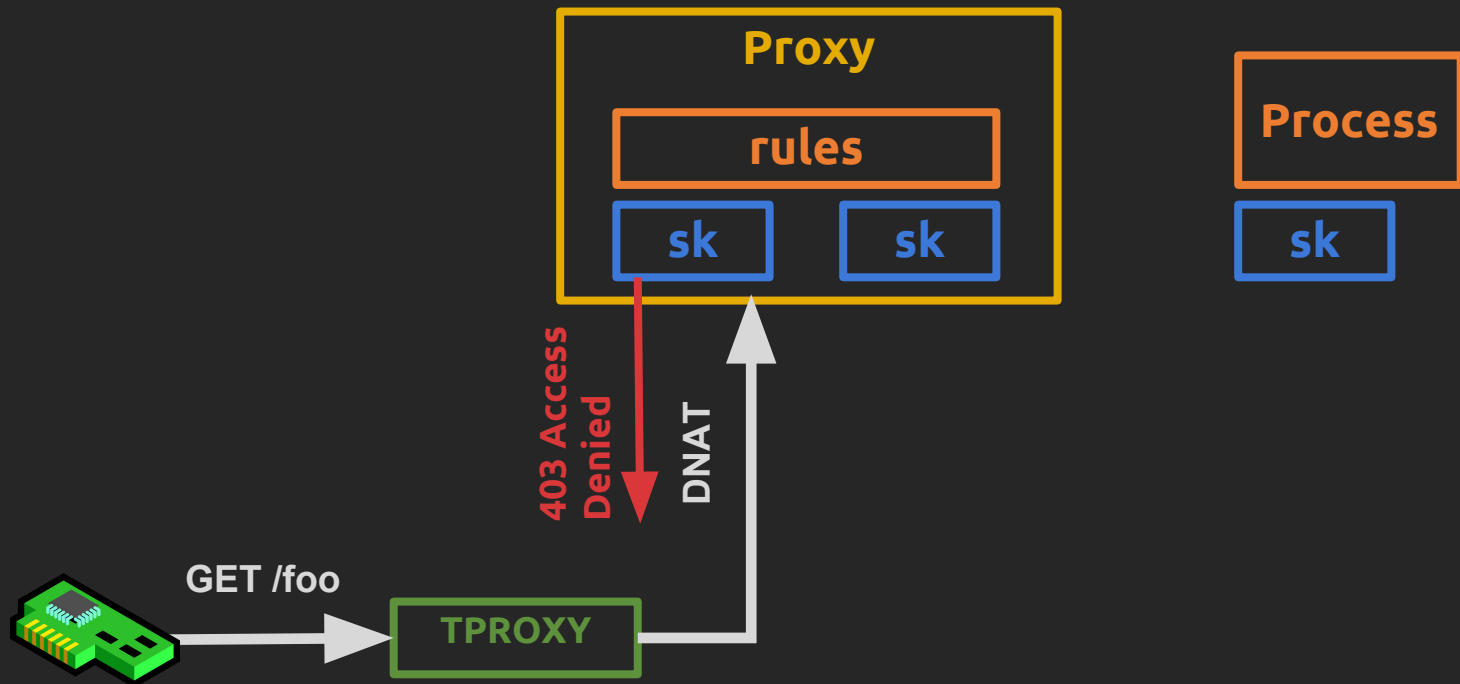
# Enforcing HTTP rules



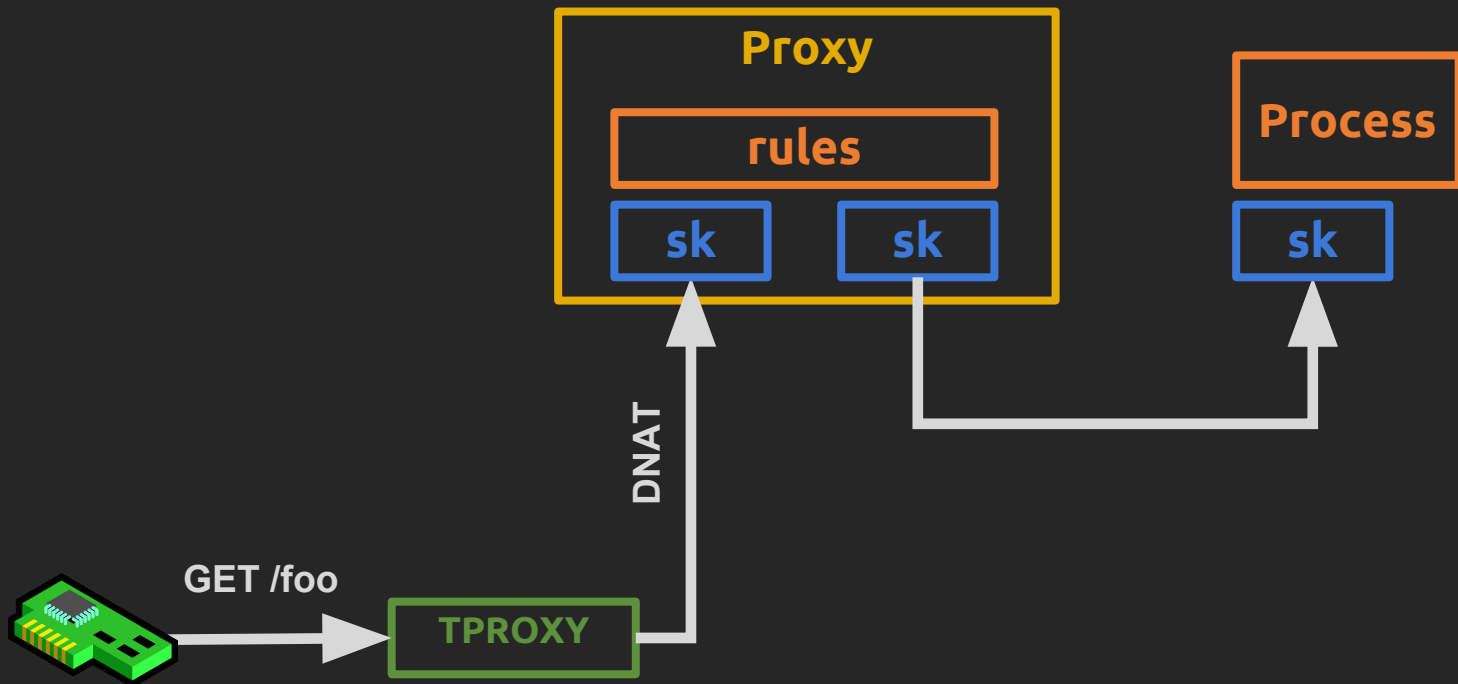
# Enforcing HTTP rules



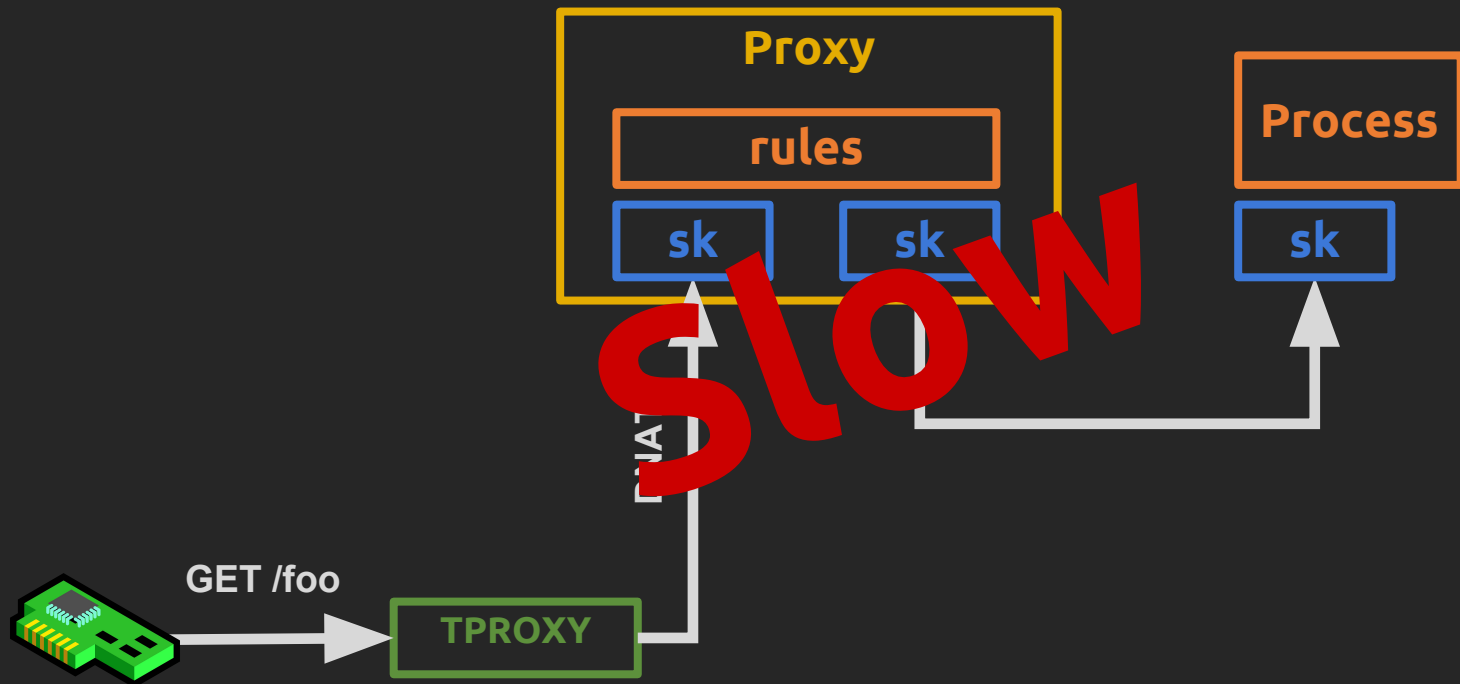
# Enforcing HTTP rules



# Enforcing HTTP rules



# Enforcing HTTP rules



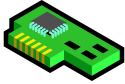




Kernel (old)



Kernel (New)



veth

