Kong

CNCF Webinar

API Gateway & Ingress Management with Kong

JANUARY 2020

Presenter

Harry Bagdi

Senior Engineer,
Kong, Inc.

Agenda

- Kong 2.0
- Kong for Kubernetes overview
- 0.7 deep dive
- Demo
- Roadmap

Kong

Kong 2.0

Go plugins

Plugins for Kong can be built using Go programming language

Auto-SSL

New plugin: **acme**, which now automatically provisions and encrypts your traffic

Hybrid mode - DP CP separation

Control-plane Kong nodes configure Data-plane Kong nodes

Buffered proxying

Buffer requests in-memory and modify them

Kong for Kubernetes
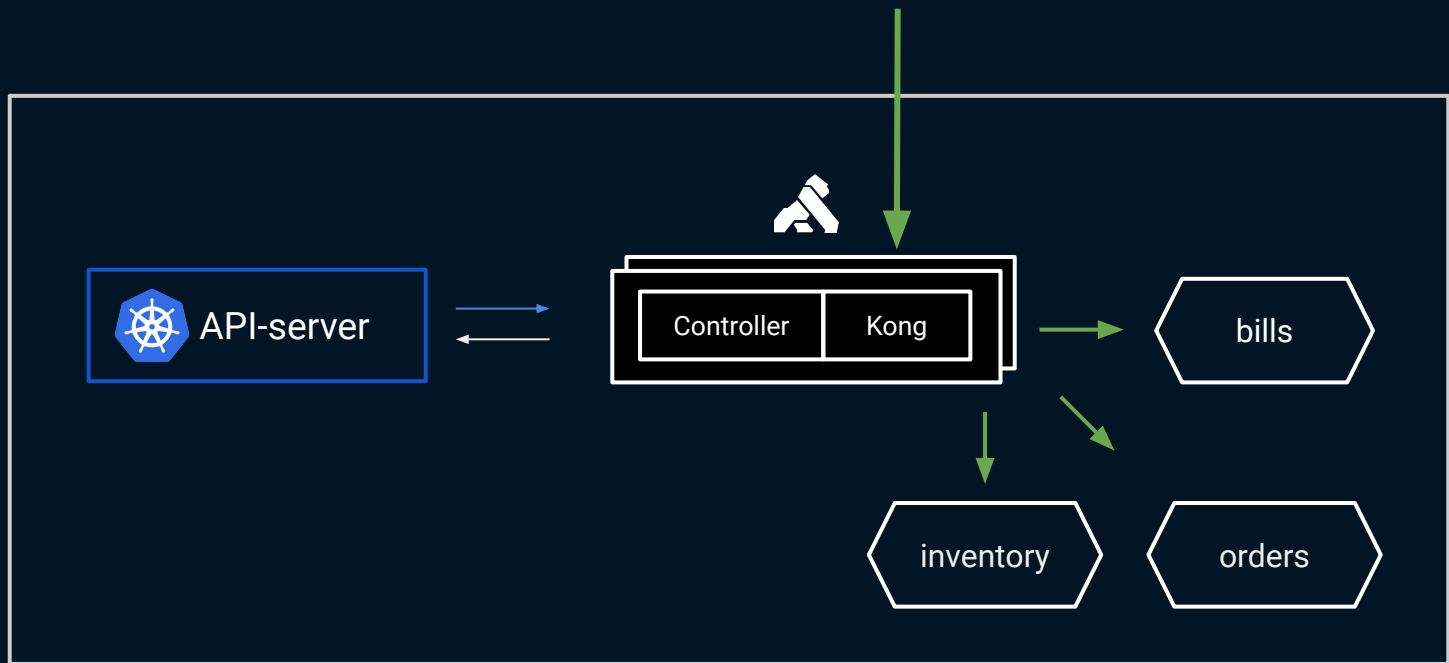
Ingress controller for Kubernetes

networking.v1beta1

Ingress Spec

- Vendor-neutral spec defining external access to services inside k8s
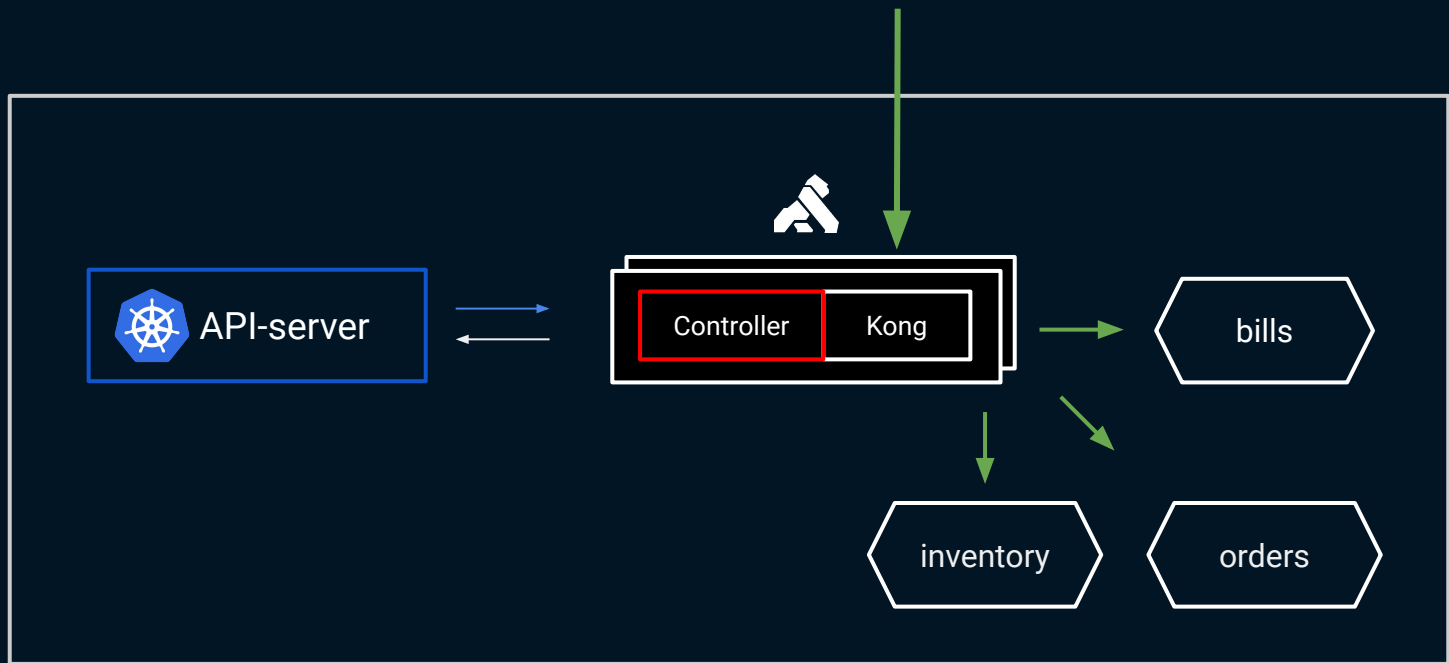- HTTP metadata based routing policies
- Wide adoption

Kong

Ingress Resource

```yaml
apiVersion: networking/v1beta1
kind: Ingress
metadata:
  name: finance-apis
spec:
  rules:
  - host: example.com
    http:
      paths:
      - path: /bills
        backend:
          serviceName: bills
          servicePort: 80
      - path: /orders
        backend:
          serviceName: orders
          servicePort: 443
```
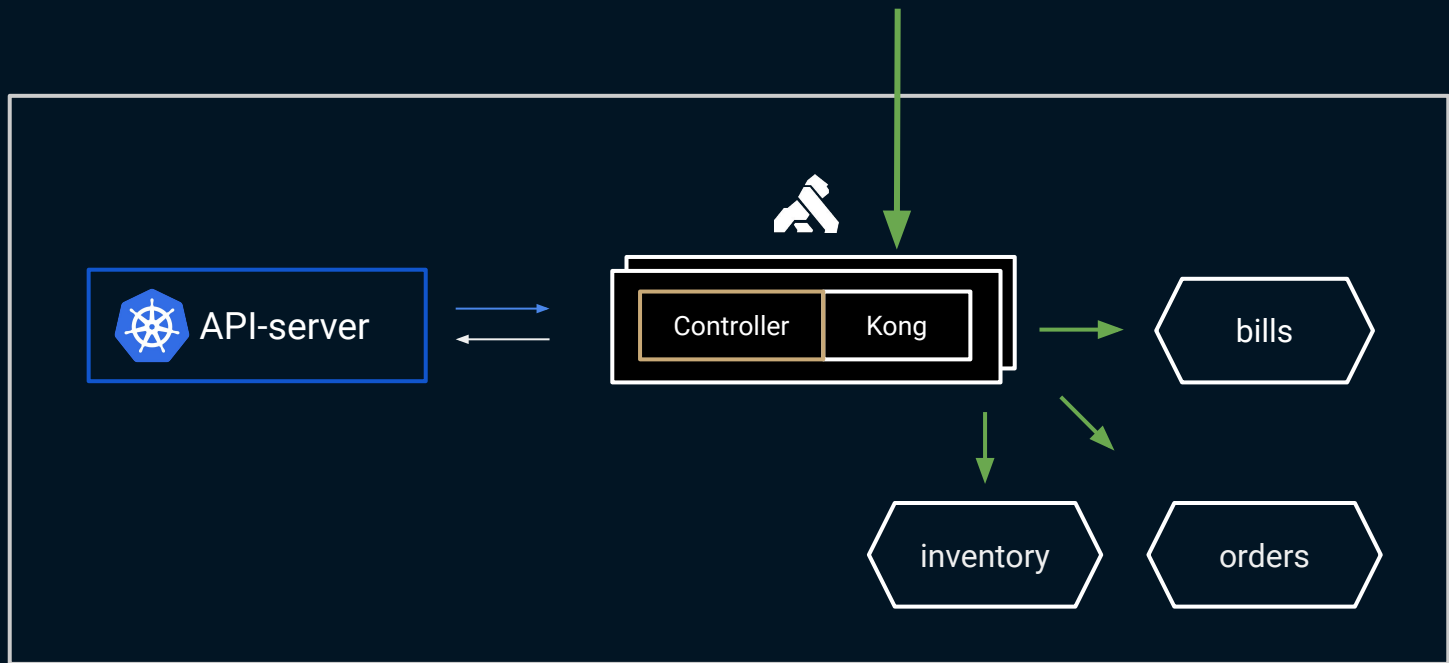
Kong for Kubernetes

Kong for Kubernetes
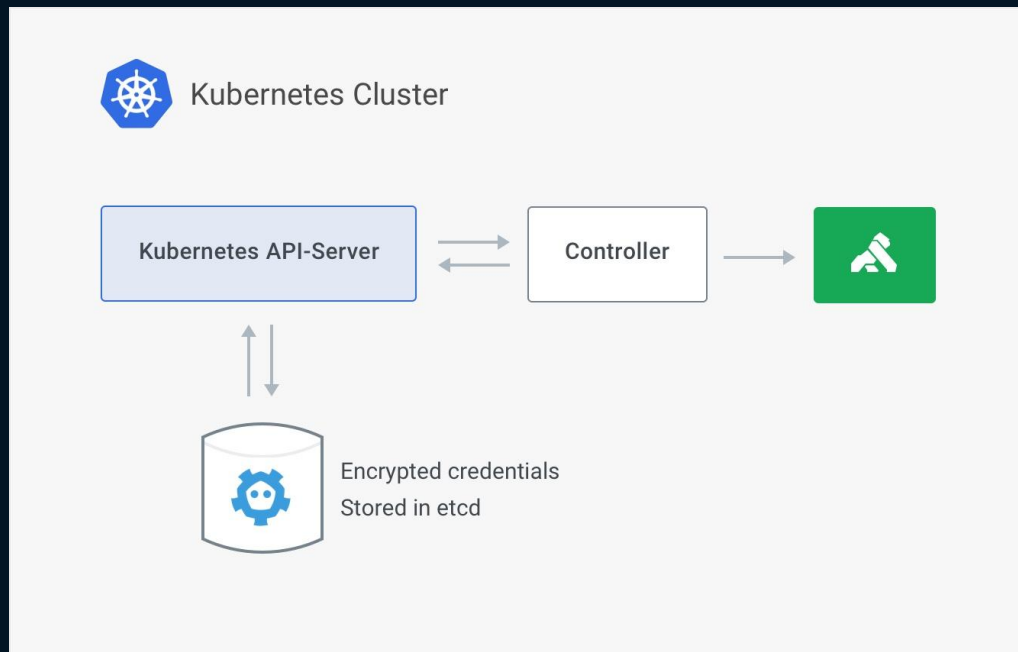
But, Controller?

- Translates the Ingress policies into vendor-specific configurations
- Manages the communication between Kubernetes Control-plane and the proxy software
- Implementations exist for cloud-provider specific load-balancers and reverse proxy softwares
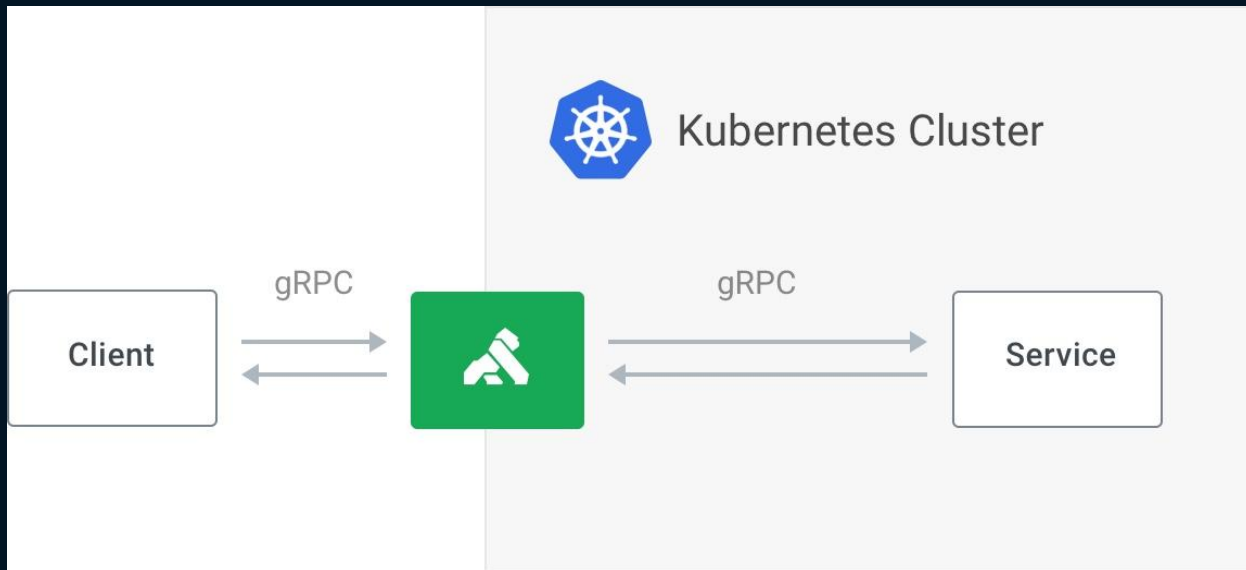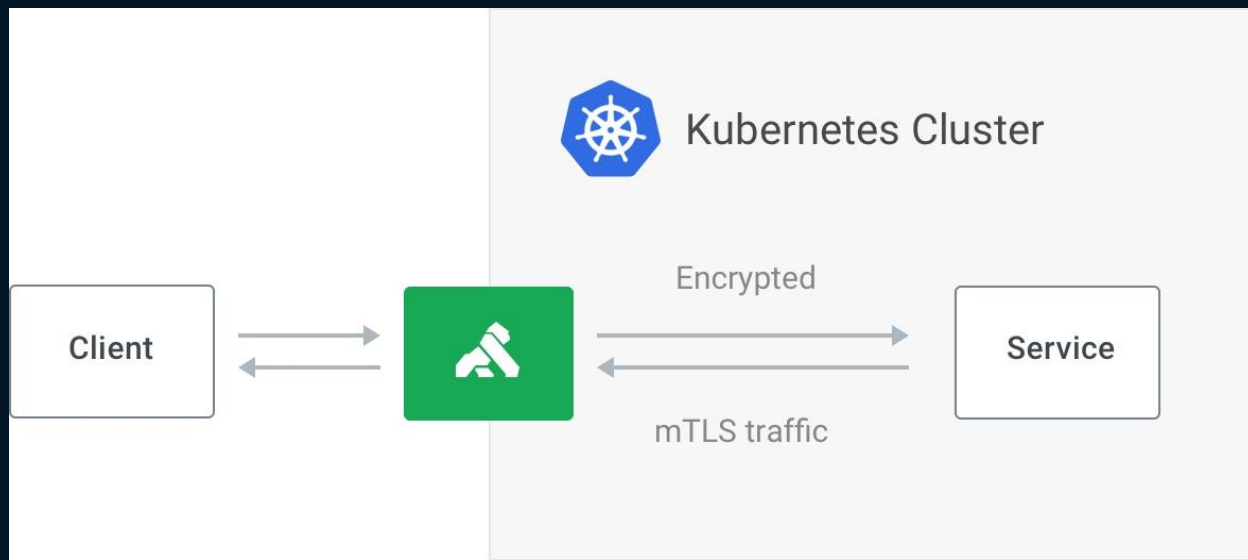
Kong

Kong for Kubernetes

Controller 0.7

Controller 0.7: Encrypted client credentials

Controller 0.7: Native gRPC routing with plugin support

Controller 0.7: mTLS within Kubernetes

Kubernetes Cluster

Client

Encrypted

Service

mTLS traffic

Kong

Demo

Every feature you need!

Load balancing

- Round robin, weight based, least conn
- Sticky session, hash based
- Active & passive health-checks (TCP/HTTP)

Routing

- Route by HTTP Method
- Route by header

Plugins

- Prometheus
- Jaeger/Zipkin/OpenTracing
- Response caching

Integrations

- cert-manager: automated TLS certs
- external-dns: automate DNS records

Kong

Roadmap

- L4 TCP/TLS routing
- Ingress v2 API
- Knative integration
- DP-CP separation

Kong

Thank You

Install Kong for Kubernetes:
kubectl apply -f https://bit.ly/k4k8s

Free lab environment (k8s in your browser)
https://konglabs.io/kubernetes

Getting help
#kong channel in Kubernetes Slack

Kong for Kubernetes Demo
http://bit.ly/37GUvxN

Kong