



Kubernetes, Istio e Knative: The new cloud stack

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Who am I?



- Software Engineer at Sensedia
- MBA in Java projects
- Java and Microservice enthusiastic

- Serverless
- Knative & Components
- Why Kubernetes & Istio?
- Demo
- Questions

What is Serverless?

What is Serverless?

Serverless computing, is an execution model where the **cloud provider** is responsible for executing a **piece of code** by dynamically allocating the resources.

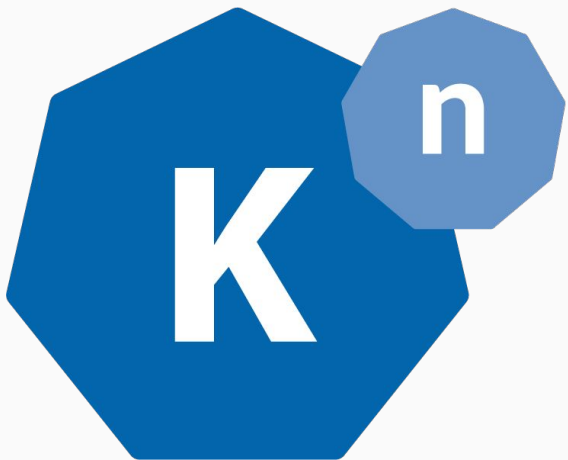
Reduced operational cost

Scalability

Time to market

What is Knative?

What is Knative?



Kubernetes based **open source** building blocks for **serverless**

Knative Components

Knative Components



Knative Components

Build

How your code is built and packaged as a container:

- Pluggable model to build
- Build in-cloud or on-cluster
- Templates available

Serving

How your code receives requests and scales with them:

- Automatic scaling up and down to zero
- Multiple revisions of same function
- Route traffic across revisions

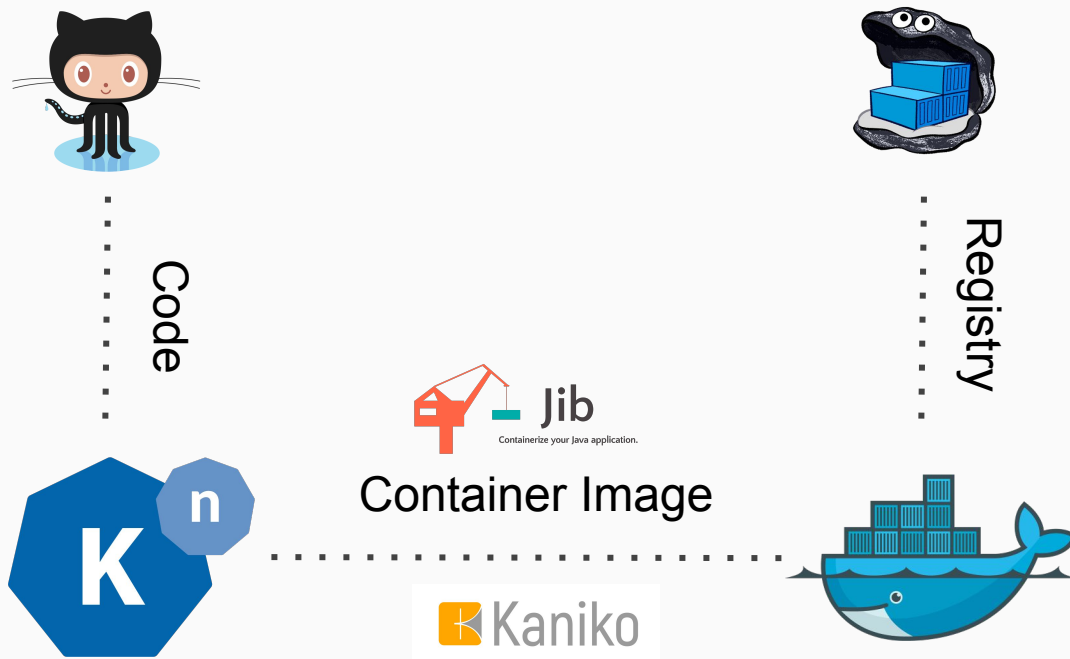
Eventing

How your code is triggered by events:

- Functions consume and publish events
- Multiple event sources available
- Encourages asynchronous

How Build works?

How Build works?



How Serving works?

How Serving works?

Service

Manages the whole lifecycle of your workload.

Configuration

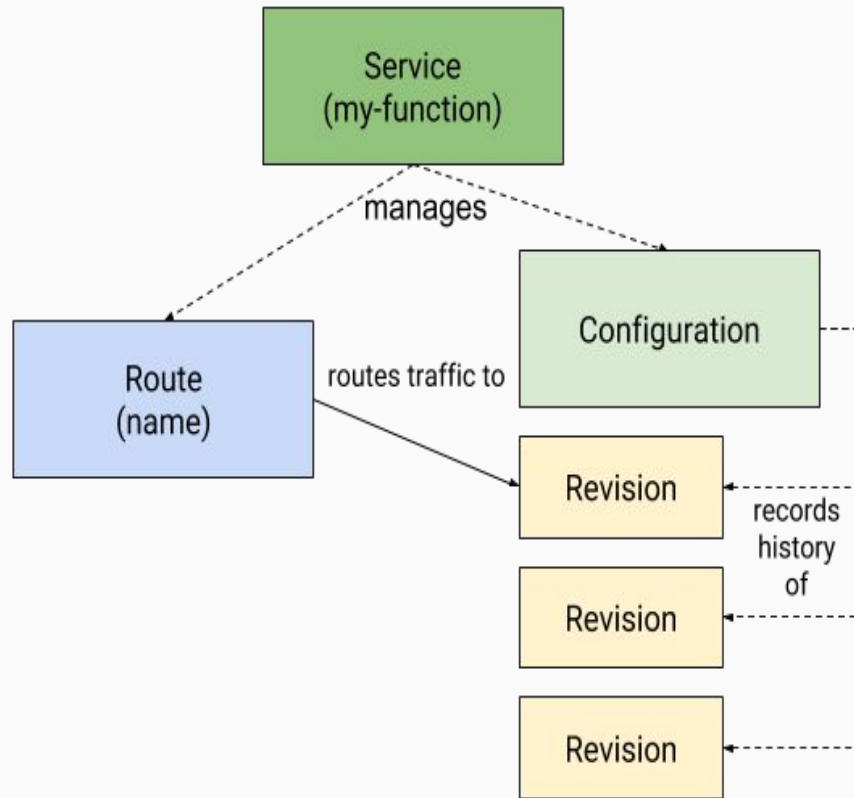
Maintains the current/desired state for your deployment.

Revision

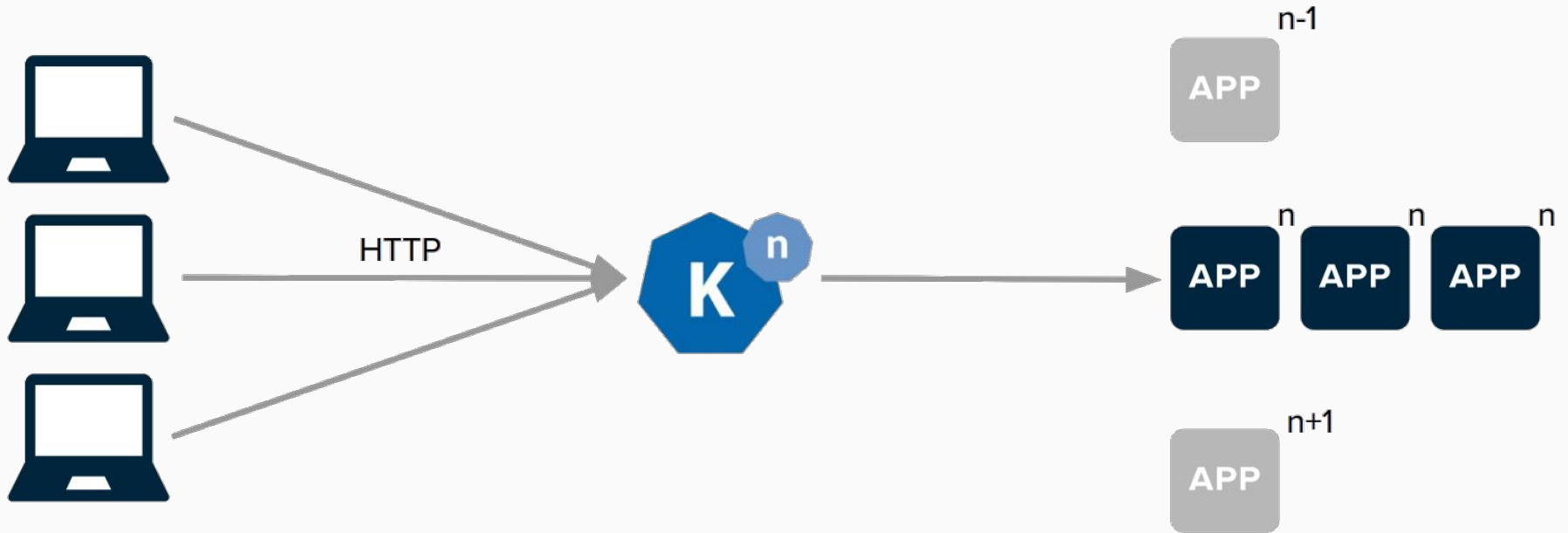
A point-in-time snapshot of code and configuration.

Route

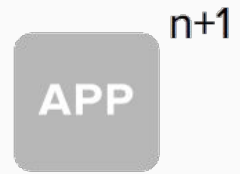
Maps and manage traffics to revisions.



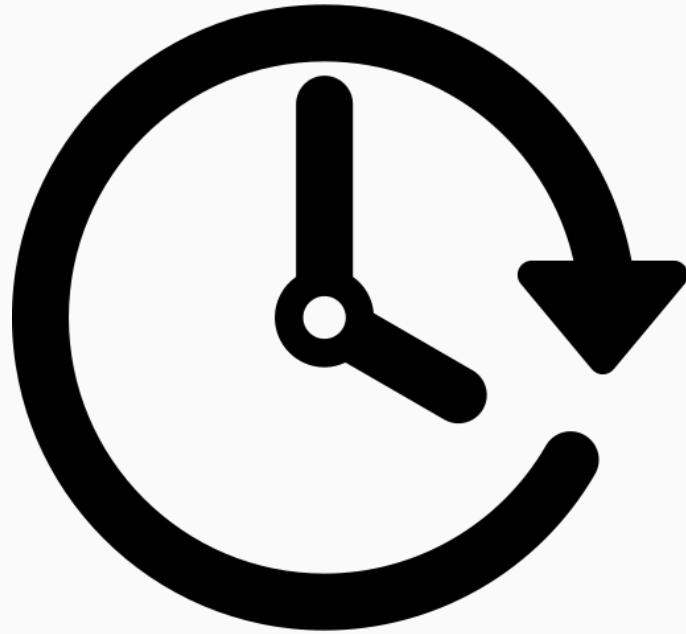
How Serving works?



How Serving works?



How Serving works?

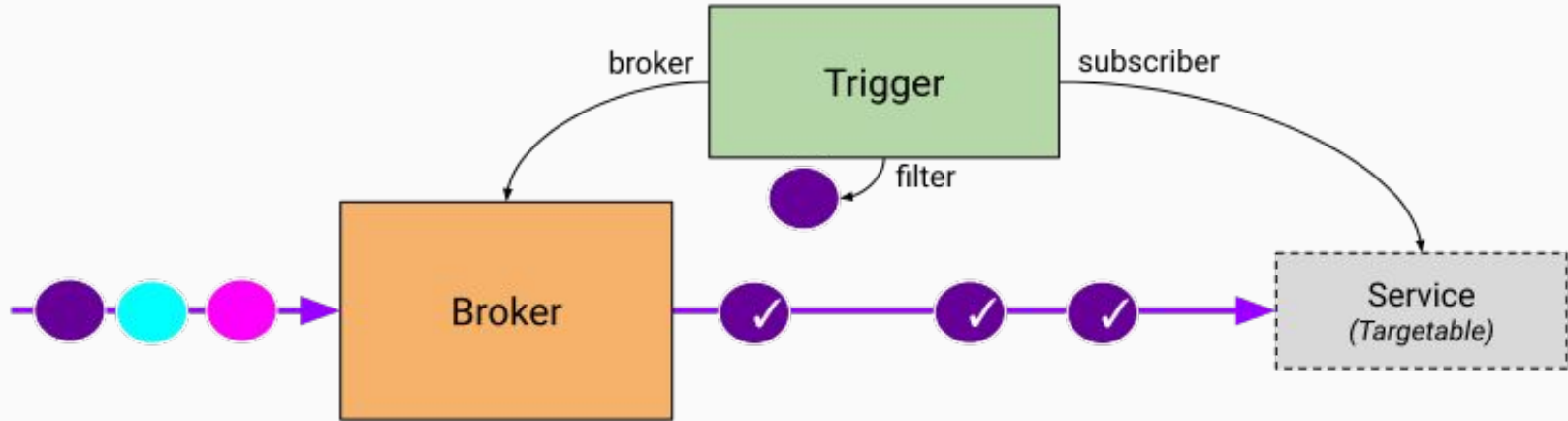


How Serving works?

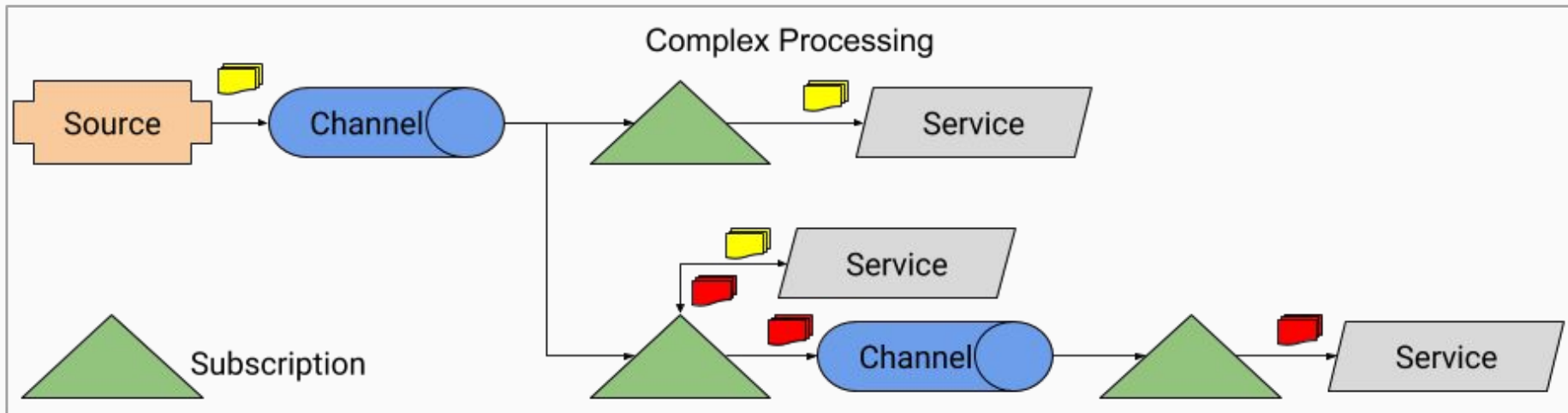
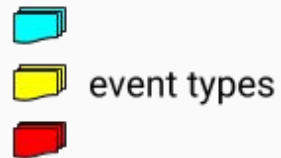


How Eventing works?

How Eventing works?



How Eventing works?



Why Kubernetes?

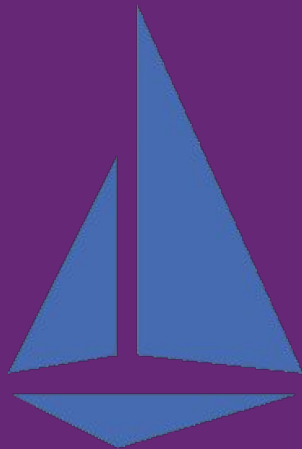
Kubernetes



- Horizontal scaling
- Auto-scaling
- Service discovery and Load balancing
- Self-healing

Why Istio?

Istio



- Traffic management
 - Traffic Routing
- Security
 - East-West
 - North-South
- Observability
 - Metrics
 - Traces
 - Logs

Demo

Summary

2° Place

Flexibility and No Vendor Lock-in

- Cloud
- Premises
- Third-party data center

1° Place

Build on top of Kubernetes and Istio

- Automatic scaling up and down to zero
- Route traffic across revisions
- Load-balancing

3° Place

Serverless Experience in a Containerized Environment

- Immutability
- High Scalability
- Pipeline Management

Thanks a million!

Questions?



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