Istio Introduction

22 February 2019

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What is istio?

It's a **service mesh**

"A dedicated infrastructure layer for handling service-to-service communication." - *Linkerd*

"The term service mesh is used to describe the network of microservices that make up such applications and the interactions between them." - *Istio*

"A service mesh is a configurable, low-latency infrastructure layer designed to handle a high volume of network-based interprocess communication among application infrastructure services using application programming interfaces (APIs)." - *Nginx*

"A service mesh is a way to control how different parts of an application share data with one another." - *RedHat*
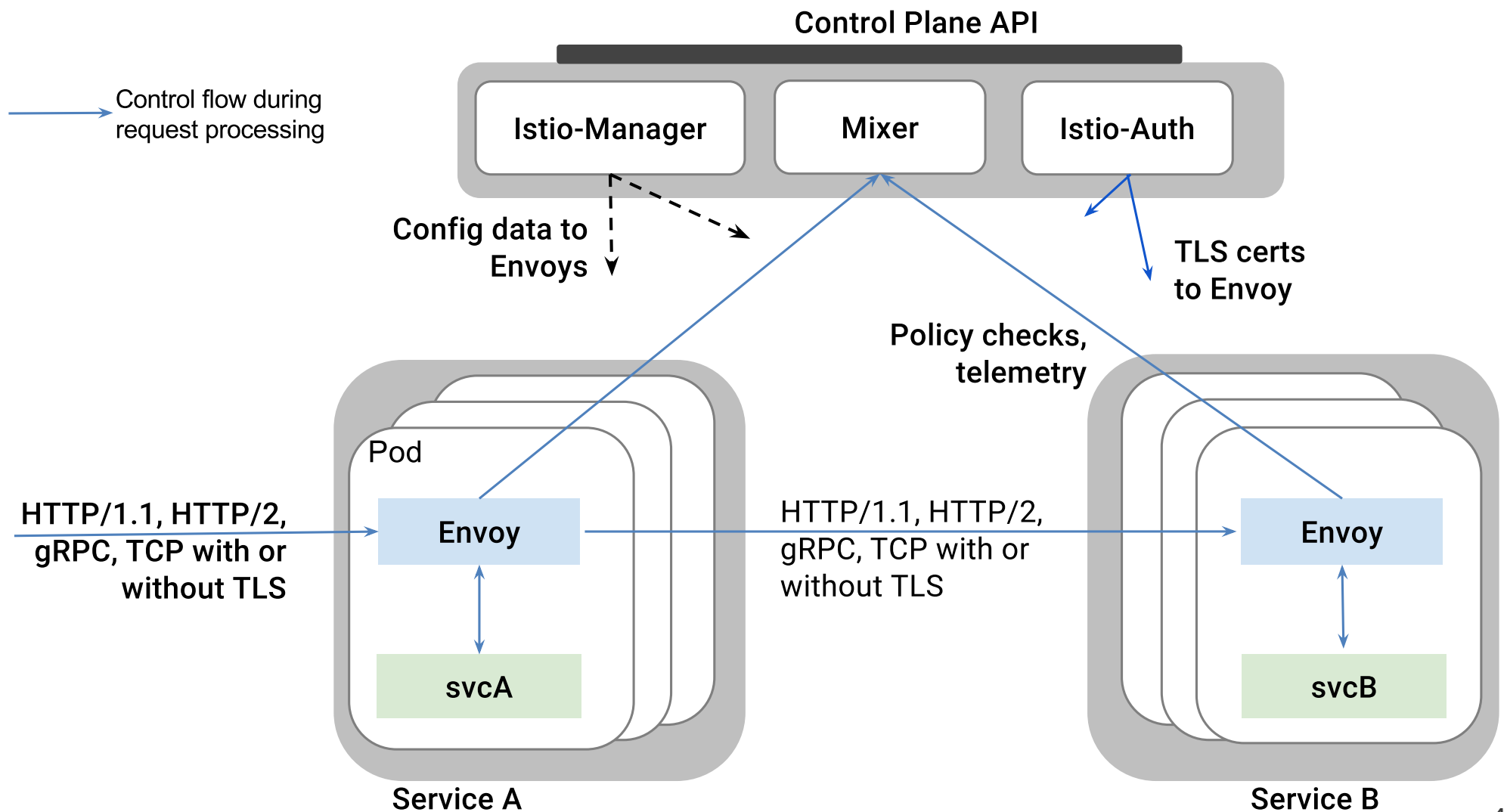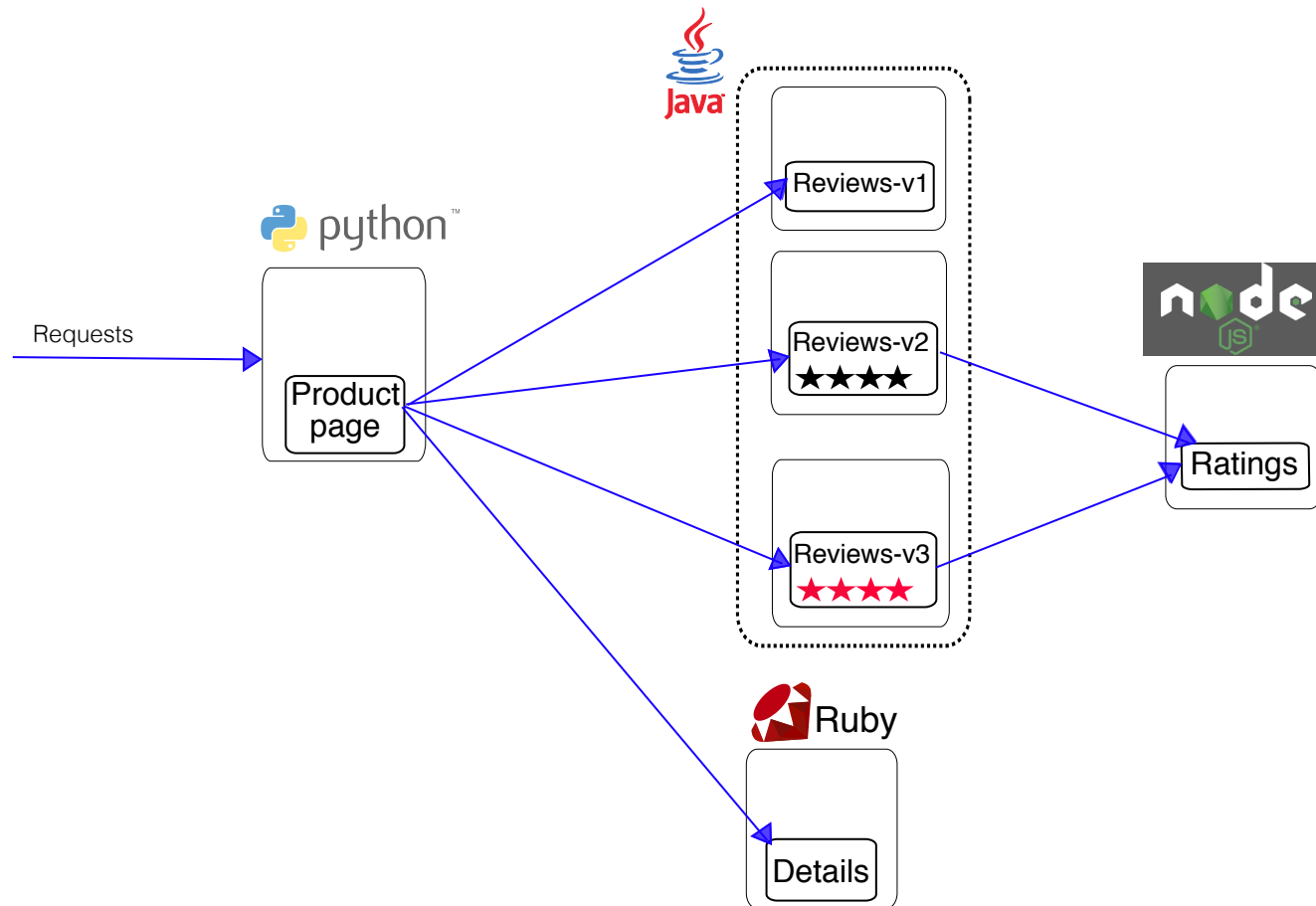
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I'm still confused...

So what it really is?

A set of common network-related tasks that can be abstracted away from both the applications and the underlying networks.

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Architecture

Control Plane API

Istio-Manager   Mixer   Istio-Auth

Config data to
Envoys

TLS certs
to Envoy

Control flow during
request processing

Policy checks,
telemetry

Pod

HTTP/1.1, HTTP/2,
gRPC, TCP with or
without TLS

Envoy

svcA

Service A

HTTP/1.1, HTTP/2,
gRPC, TCP with or
without TLS

Envoy

svcB

Service B

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Demo

Final thoughts

It's the most popular service mesh.

- Backed by IBM, Google, Lyft, RedHat

- Most mature, most features

But heavy and very complex

- It's not necessarily the best choice

We are building an **operator** to make things easier:

github.com/banzaicloud/istio-operator (http://github.com/banzaicloud/istio-operator)   6

Thank you

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https://github.com/martonsereg/k8s-meetup (https://github.com/martonsereg/k8s-meetup)