



云原生实战

Service Mesh 入门与实战

Roland Ma - Kubesphere

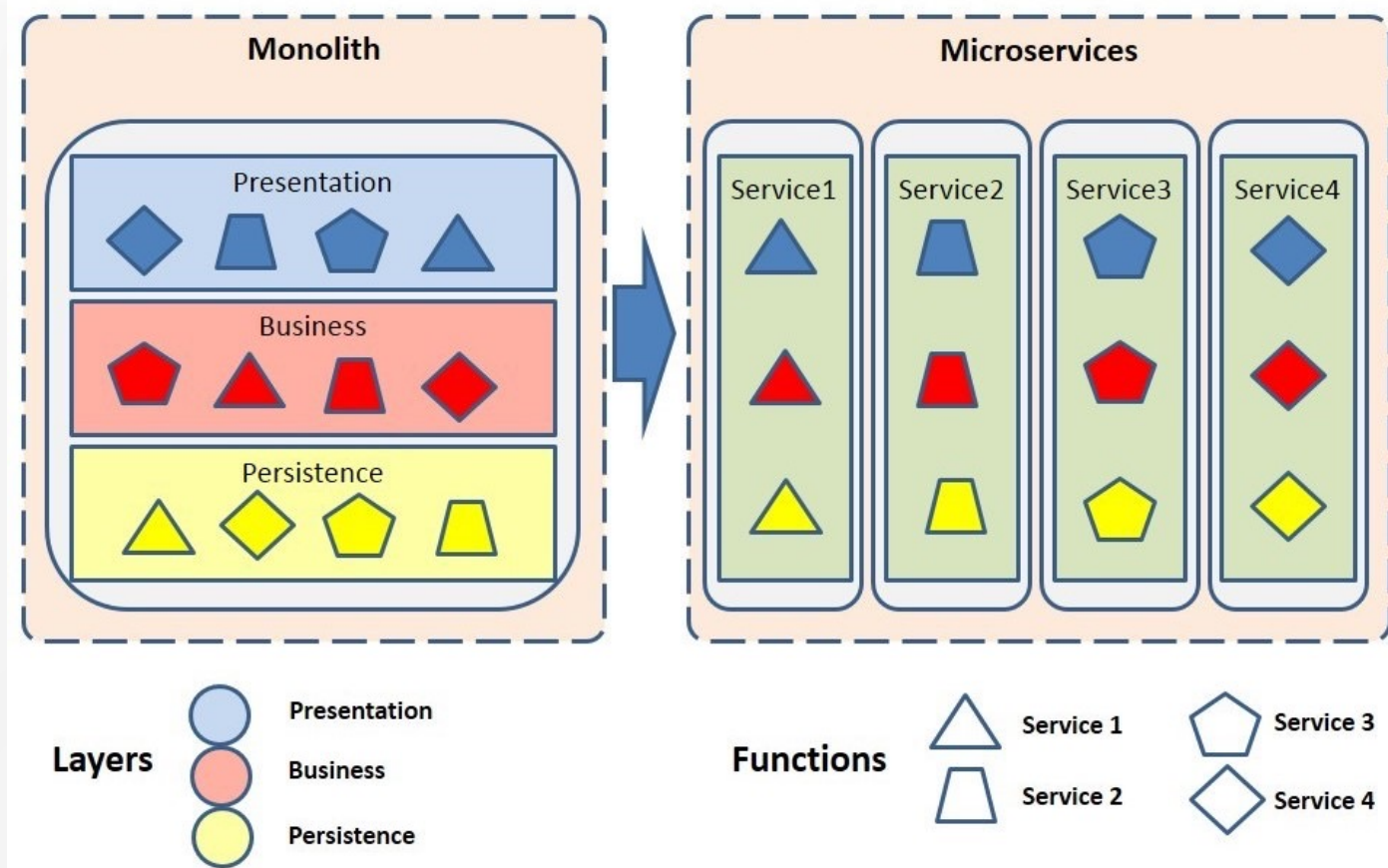


- 1 微服务概念回顾
- 2 传统微服务架构面临的挑战
- 3 Service Mesh 概念与架构
- 4 Istio 核心对象解读
- 5 KubeSphere 服务网格实战

微服务，又叫微服务架构，是一种软件架构方式。它将应用构建成一系列按业务领域划分模块的、小的自治服务。

微服务的特点：

- ▶ 高度可维护和可测试性
- ▶ 松耦合
- ▶ 独立部署
- ▶ 围绕业务能力进行组织

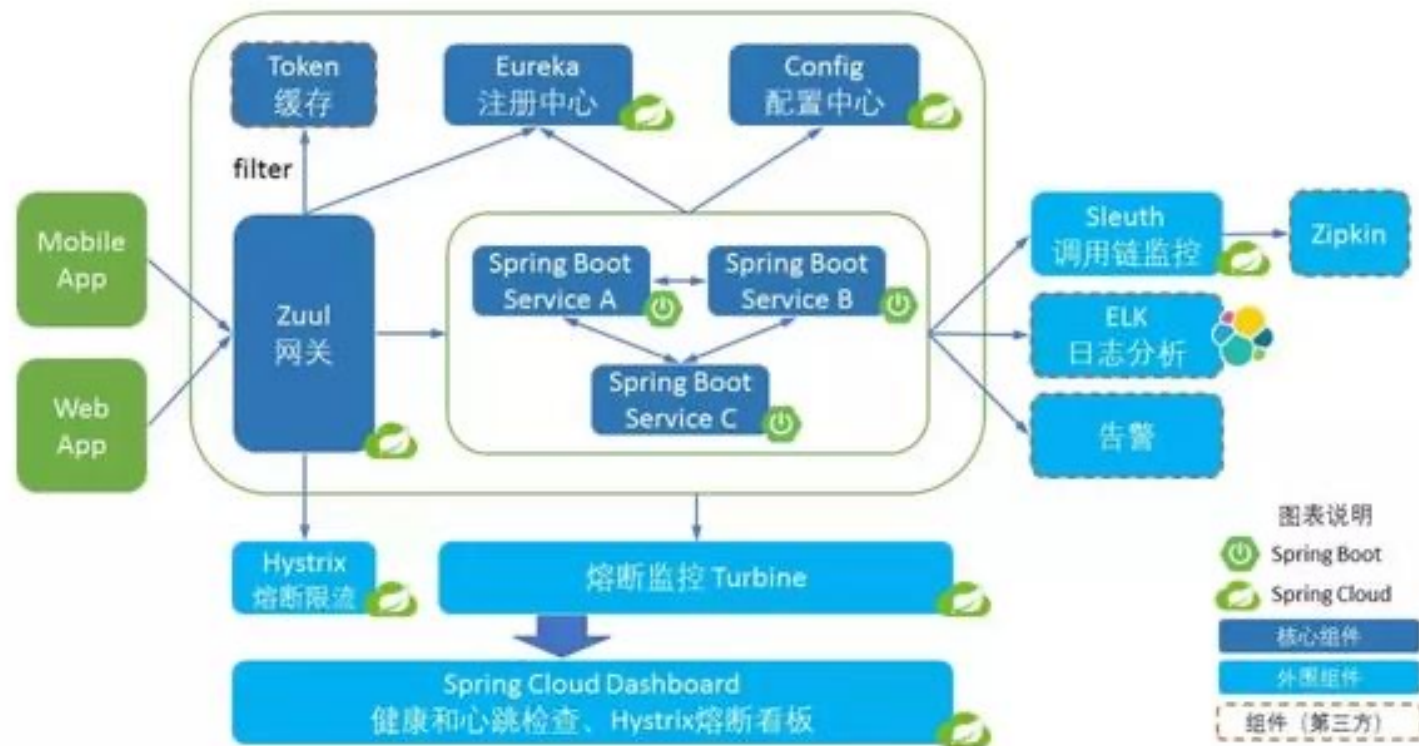


传统微服务框架的挑战

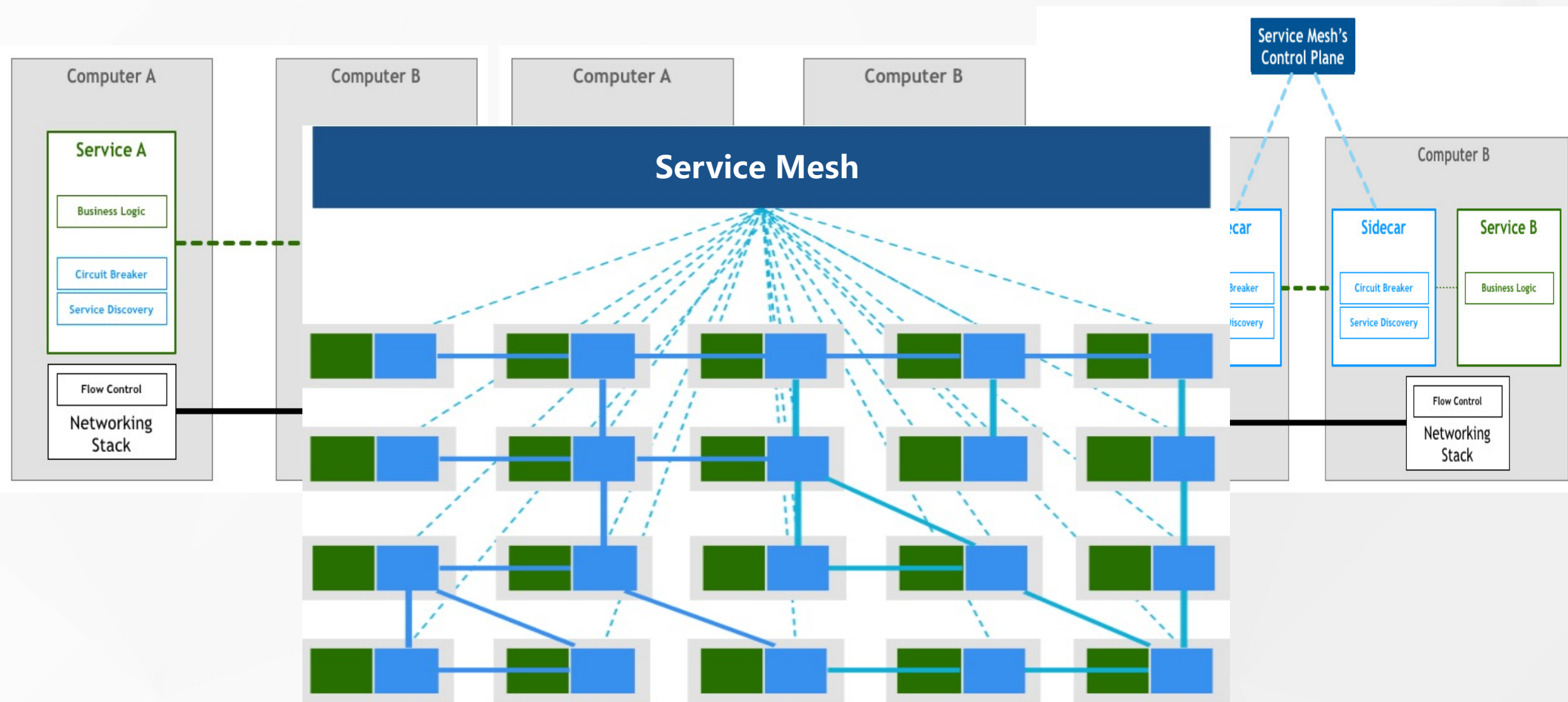
SpringCloud、Dubbo、Tars、其他

- ▶ 过于绑定特定技术栈
- ▶ 多语言支持受限
- ▶ 代码侵入度过高
- ▶ 老旧系统维护难

Spring Cloud微服务架构



Service Mesh 概念与架构



服务网格是用于处理服务间通信的专用基础设施层，它负责通过包含现代云原生应用程序的复杂服务拓扑来可靠地传递请求。实际上，服务网格通常通过一组轻量级网络代理来实现，这些代理与应用程序代码一起部署，而不需要感知应用程序本身。

—— Willian Morgan Buoyant CEO

 Istio Google ★ 28,718 MCap: \$2T	 HashiCorp Consul ★ 23,541 Funding: \$349.2M	 LINKERD Linkerd Cloud Native Computing Foundation (CNCF) ★ 7,786 Funding: \$3M	 Kuma Kuma Cloud Native Computing Foundation (CNCF) ★ 2,487 Funding: \$3M	 Open Service Mesh Open Service Mesh Cloud Native Computing Foundation (CNCF) ★ 2,208 Funding: \$3M	 traefik mesh Traefik Mesh Traefik Labs ★ 1,568 Funding: \$11.1M	 MESHERY Meshery Cloud Native Computing Foundation (CNCF) ★ 1,014 Funding: \$3M
 Gloo Mesh Solo.io ★ 922 Funding: \$171.5M	 Service Mesh Interface (SMI) Cloud Native Computing Foundation (CNCF) ★ 878 Funding: \$3M	 EaseMesh MegaEase, Inc. ★ 361	 Service Mesh Performance Cloud Native Computing Foundation (CNCF) ★ 178 Funding: \$3M	 AWS App Mesh Amazon Web Services MCap: \$1.9T	 GLASNOSTIC Glasnostic Glasnostic Funding: \$2.1M	 Grey Matter Greymatter.io



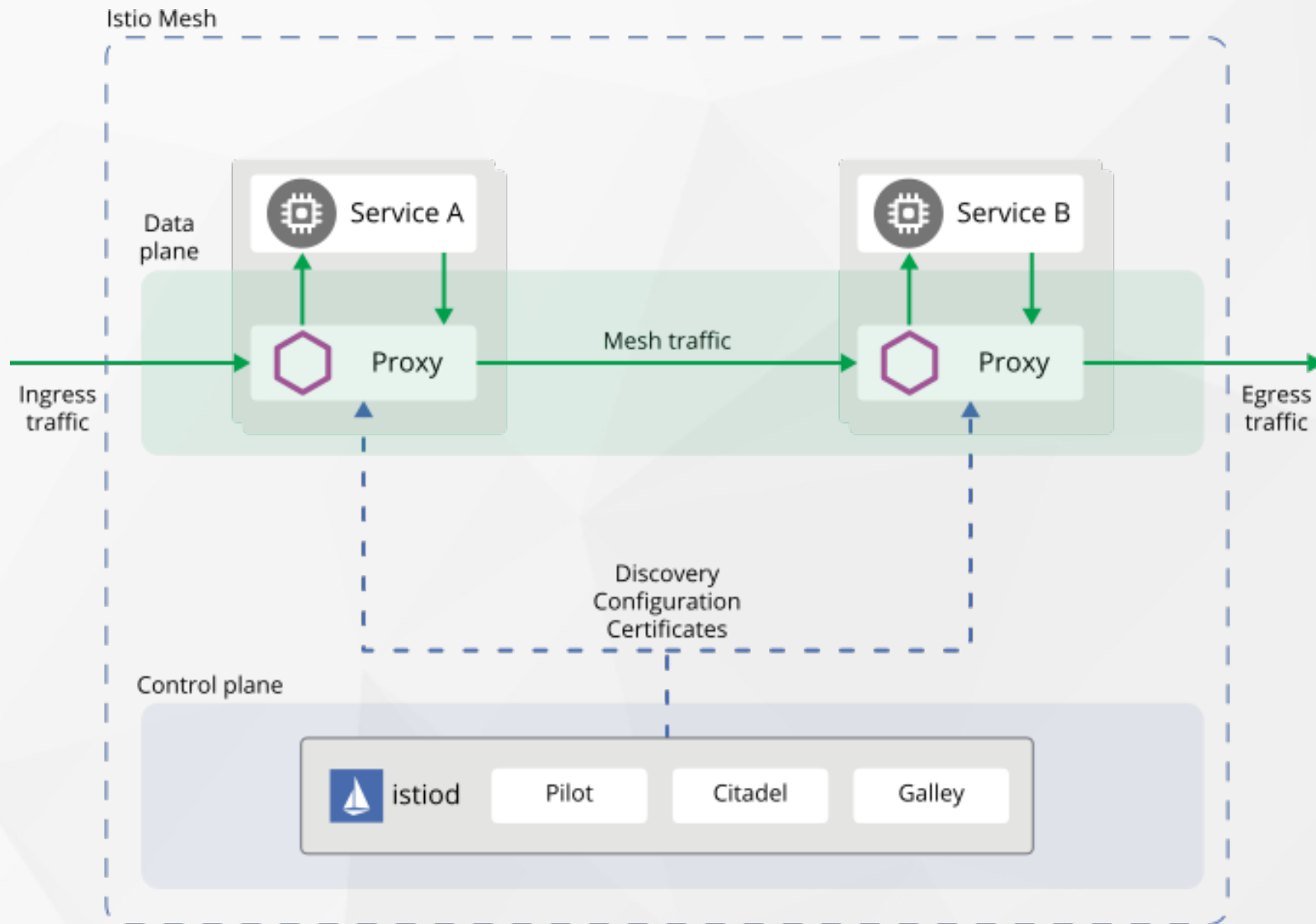
流量管理



可观测性



安全性能



Istio安装

创建服务端与客户端工作负载

实现灰度发布

虚拟服务

```
apiVersion: networking.istio.io/v1alpha3
kind: VirtualService
metadata:
  name: reviews
spec:
  hosts:
  - reviews
  http:
  - match:
    - headers:
        end-user:
          exact: jason
    route:
    - destination:
        host: reviews
        subset: v2
  - route:
    - destination:
        host: reviews
        subset: v3
```

目标规则

```
apiVersion: networking.istio.io/v1alpha3
kind: DestinationRule
metadata:
  name: reviews-destination-rule
spec:
  host: reviews
  trafficPolicy:
    loadBalancer:
      simple: RANDOM
  subsets:
  - name: v1
    labels:
      version: v1
  - name: v2
    labels:
      version: v2
    trafficPolicy:
      loadBalancer:
        simple: ROUND_ROBIN
  - name: v3
    labels:
      version: v3
```

网关

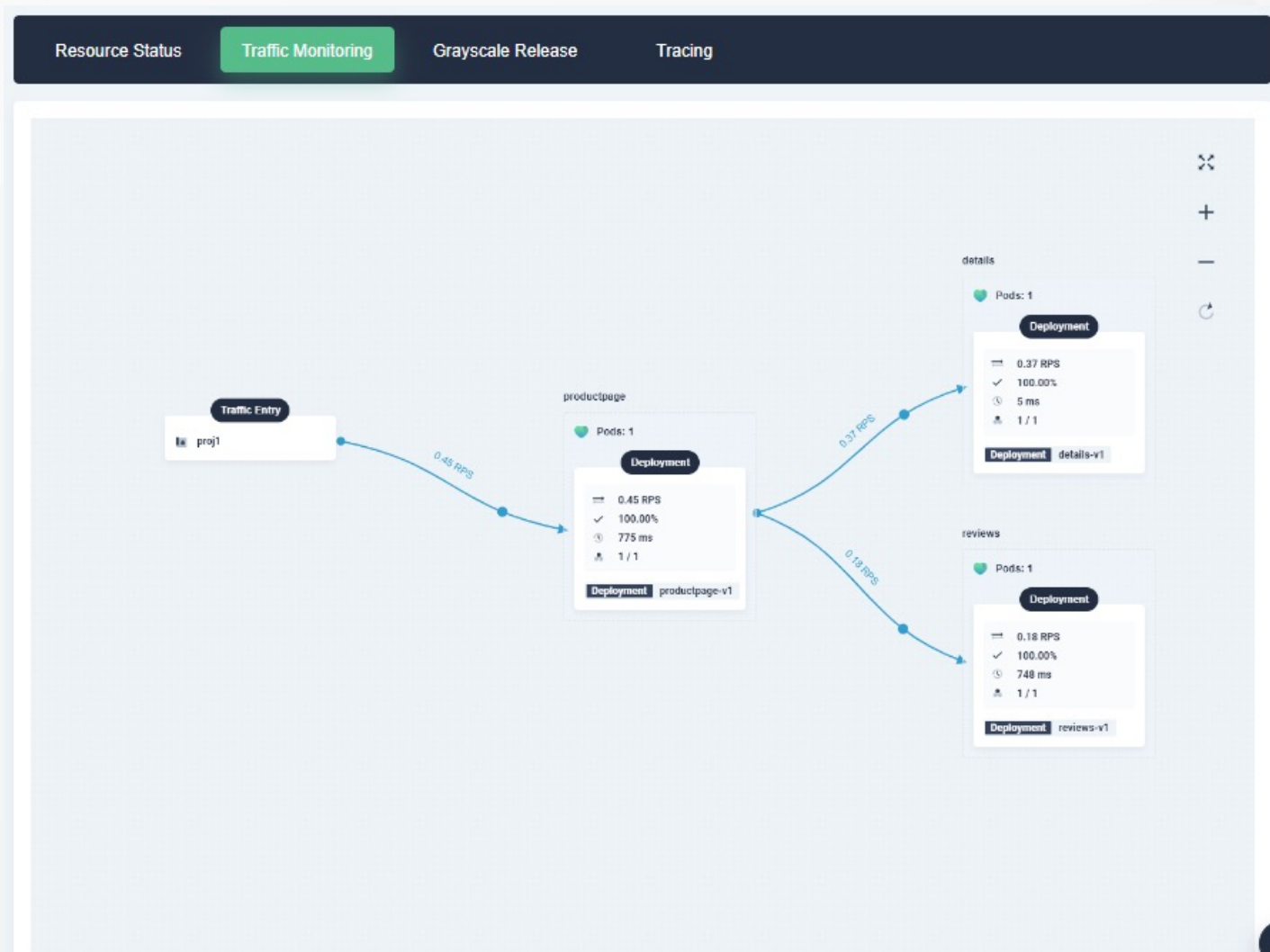
服务入口

Sidecar

启用服务网格

BookInfo 实例项目演示

金丝雀发布

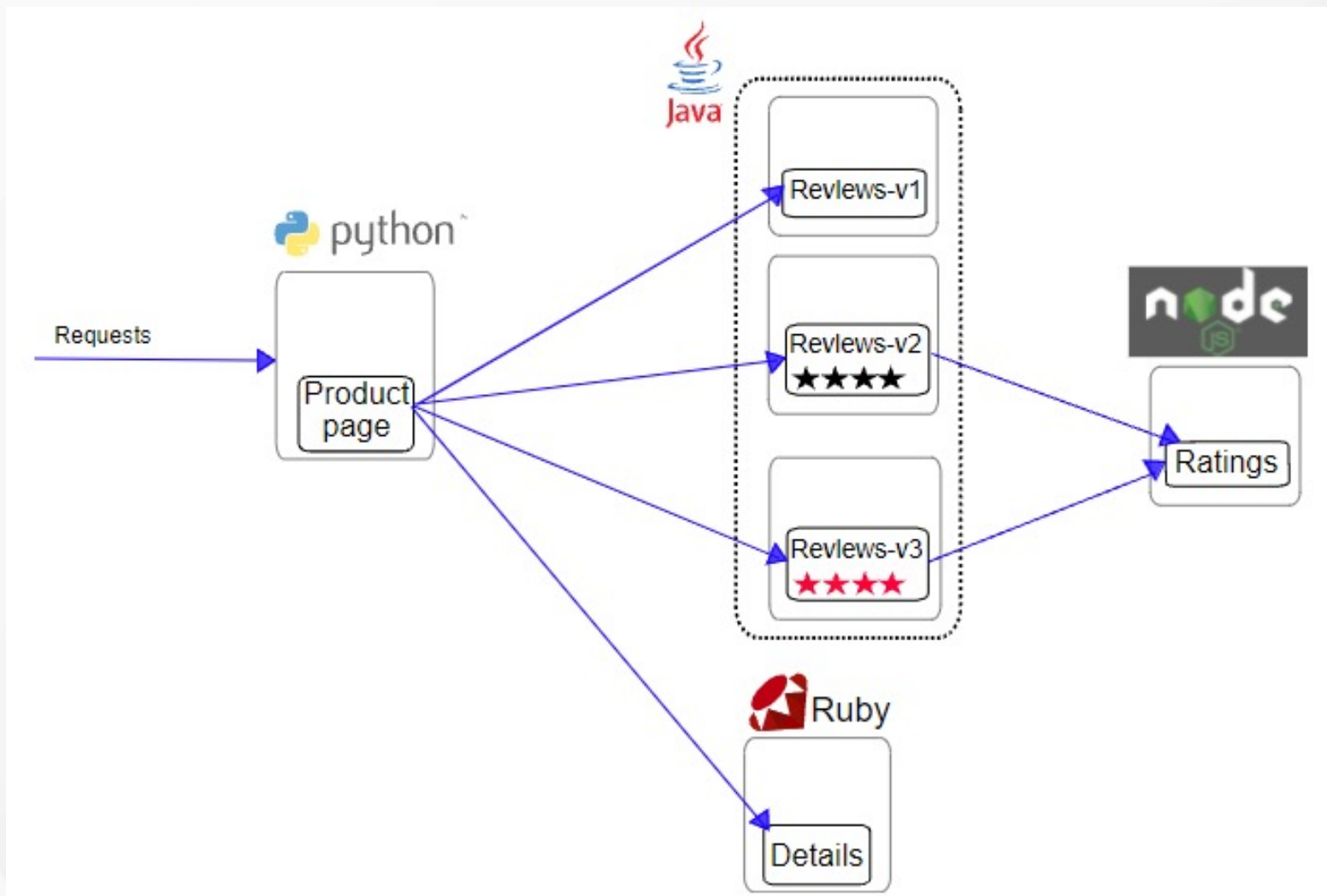


前端

- Product Page

后端

- Review
- Ratings
- Detail





谢谢观看