Stitching Service Mesh

Across Hundreds of Discrete Networks

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Who we are

1983	**1993**	**5,000**	**20**	**$6.8B** FY19	**50M**
Founded	IPO	Developers	Locations	Revenue	Customers

Why Service Mesh?
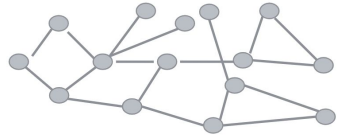
Monolith Era → Microservices → Kubernetes → Service Mesh Istio

Service Mesh
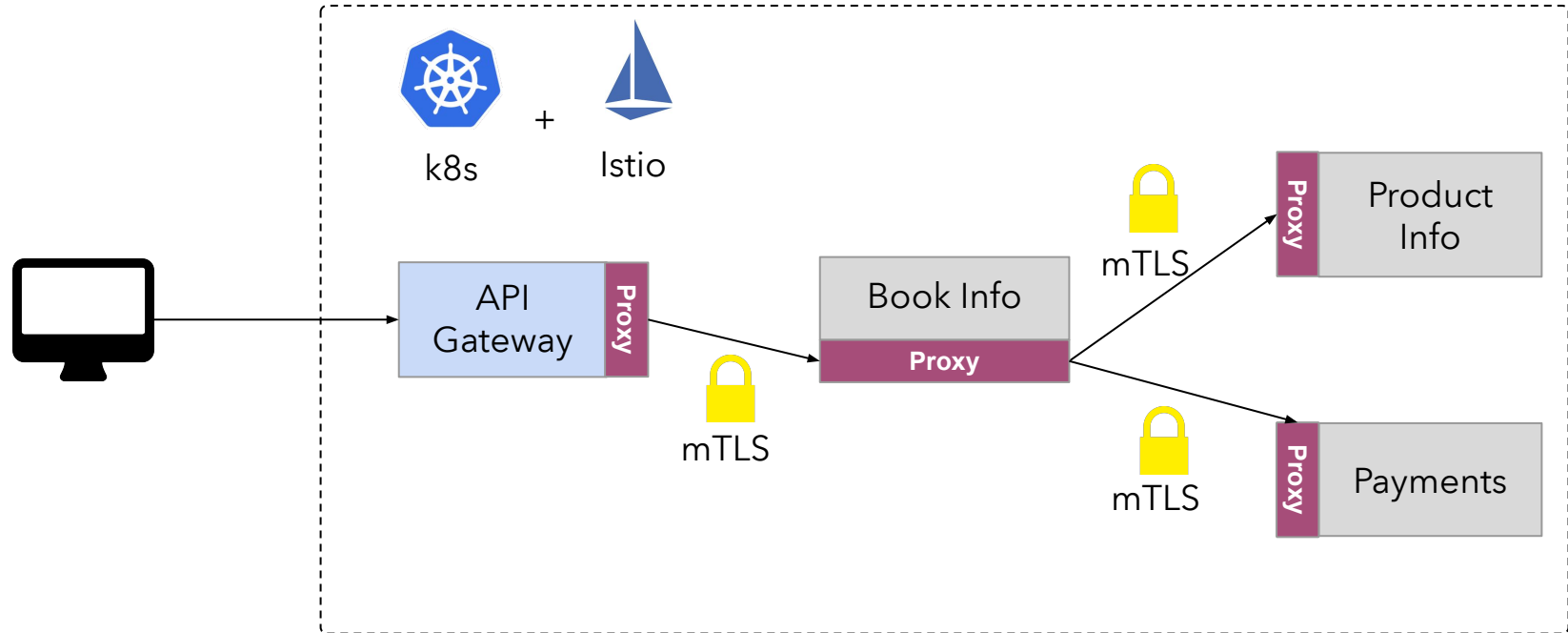
Deployment Complexities

- We have many Kubernetes clusters
  - Isolation
  - Autonomy
  - Compliance
  - Environments and DR

- There are overlapping and discrete networks

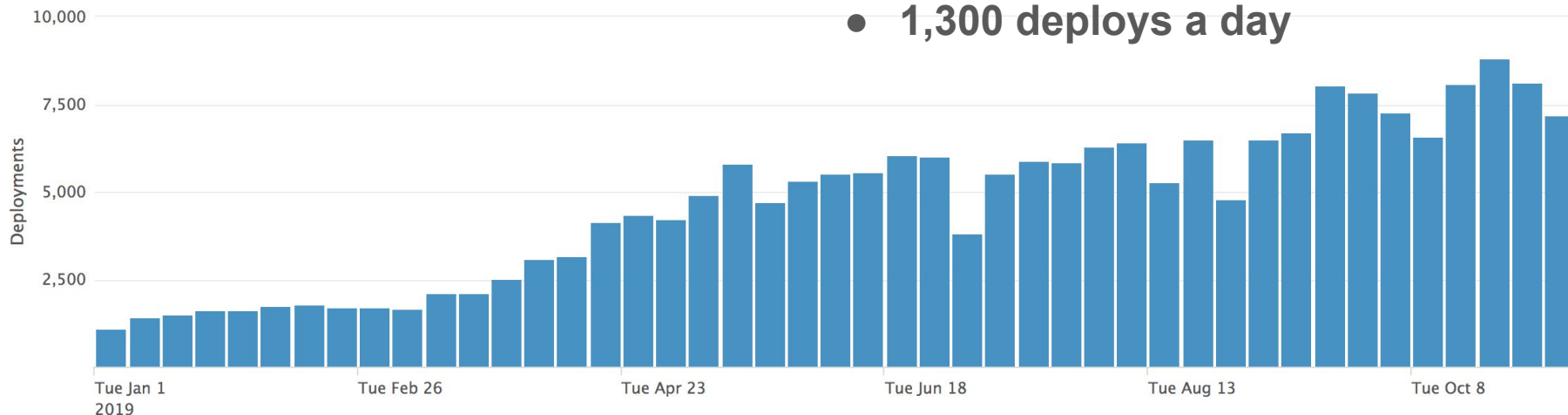- Services need to make requests across clusters

Some Intuit Statistics

- 4 business units
- 30 business segments
- 1,200+ developers using Kubernetes

- 160+ clusters (Intuit managed)
- 6,600 nodes
- 5,400 namespaces
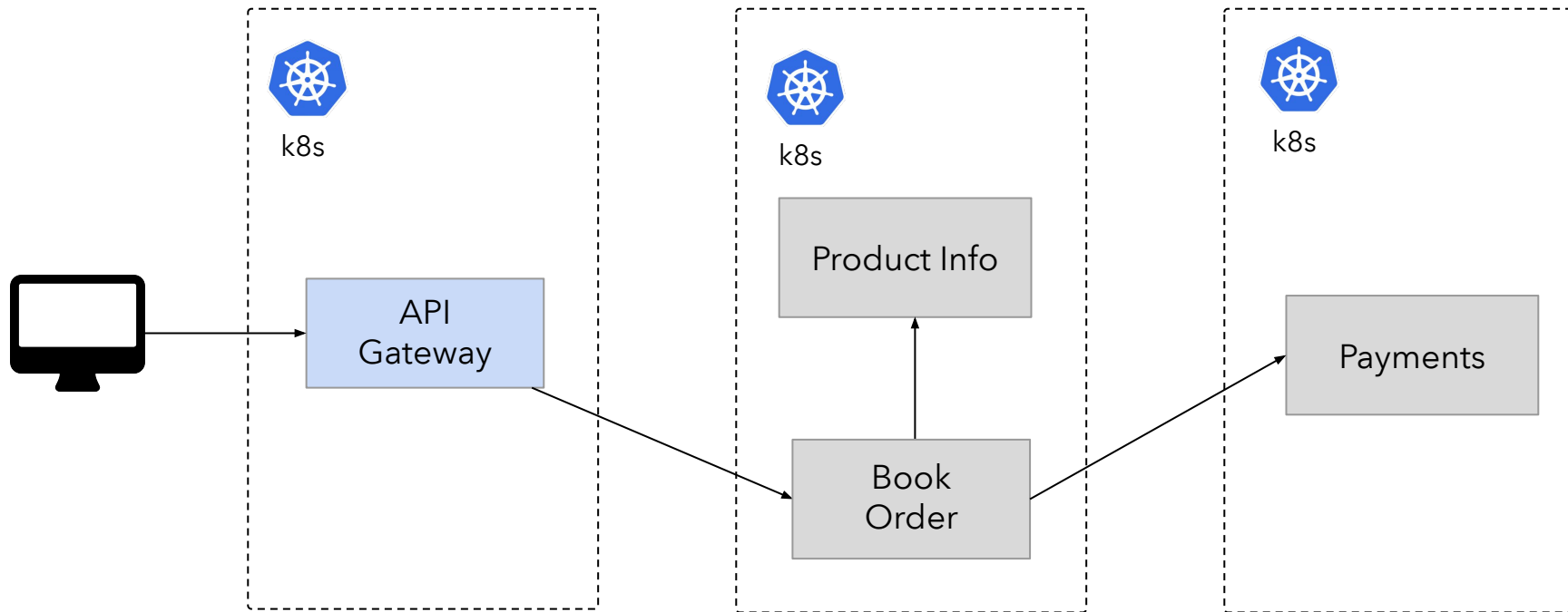- 62,000 pods
- **1,300 deploys a day**

Realistic Topology

What Do We Need from Our Mesh?

☐ Single global identity for a service - HA/DR requirements

☐ Point to point authentication

☐ End to end encryption

☐ No single points of failure

☐ Decoupling of service discovery and administration - {svc}.{namespace}.{cluster}

☐ Colocated authoring of istio and k8s config
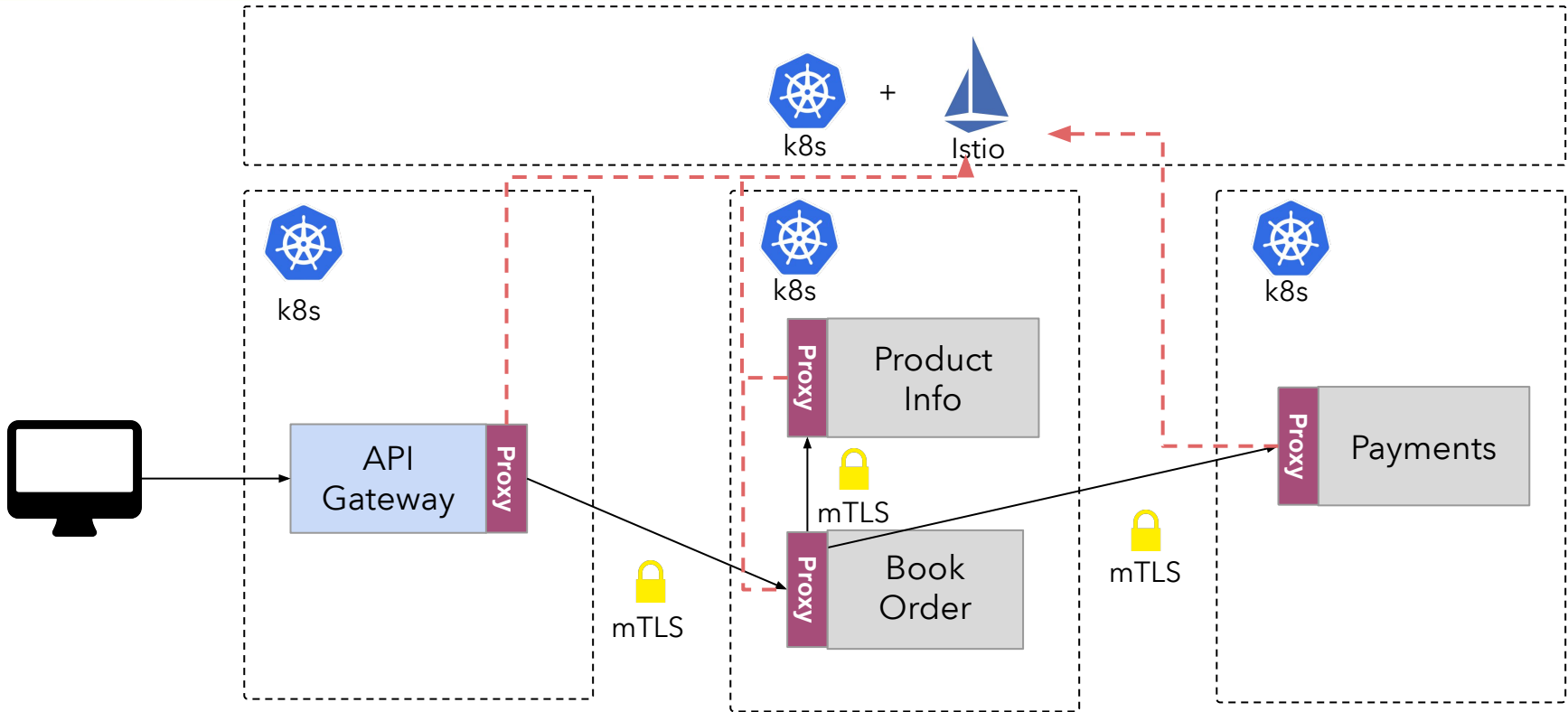
Shared Mesh Control Plane

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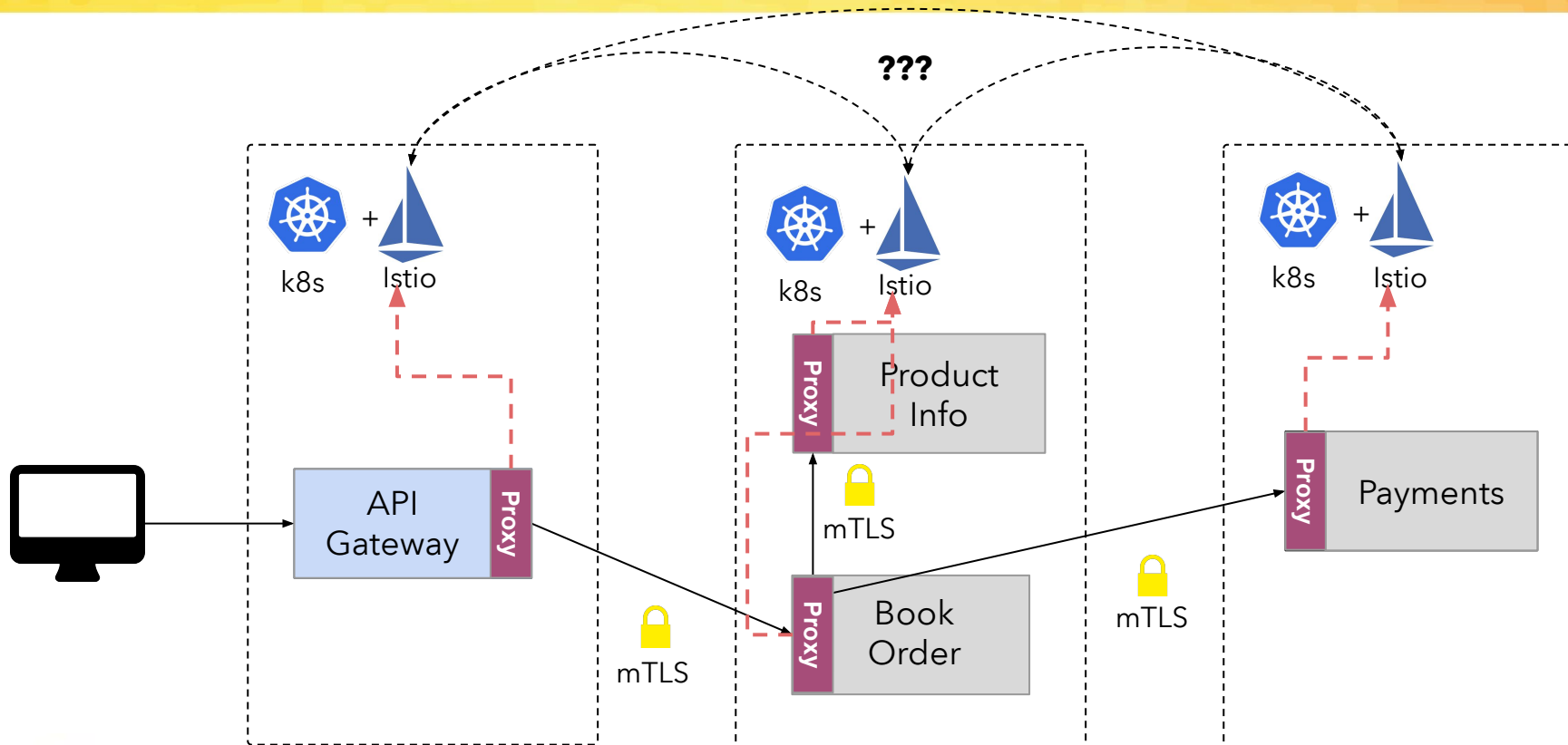☒ Colocated authoring of istio and k8s config

Multiple Control Planes

Multiple Control Planes

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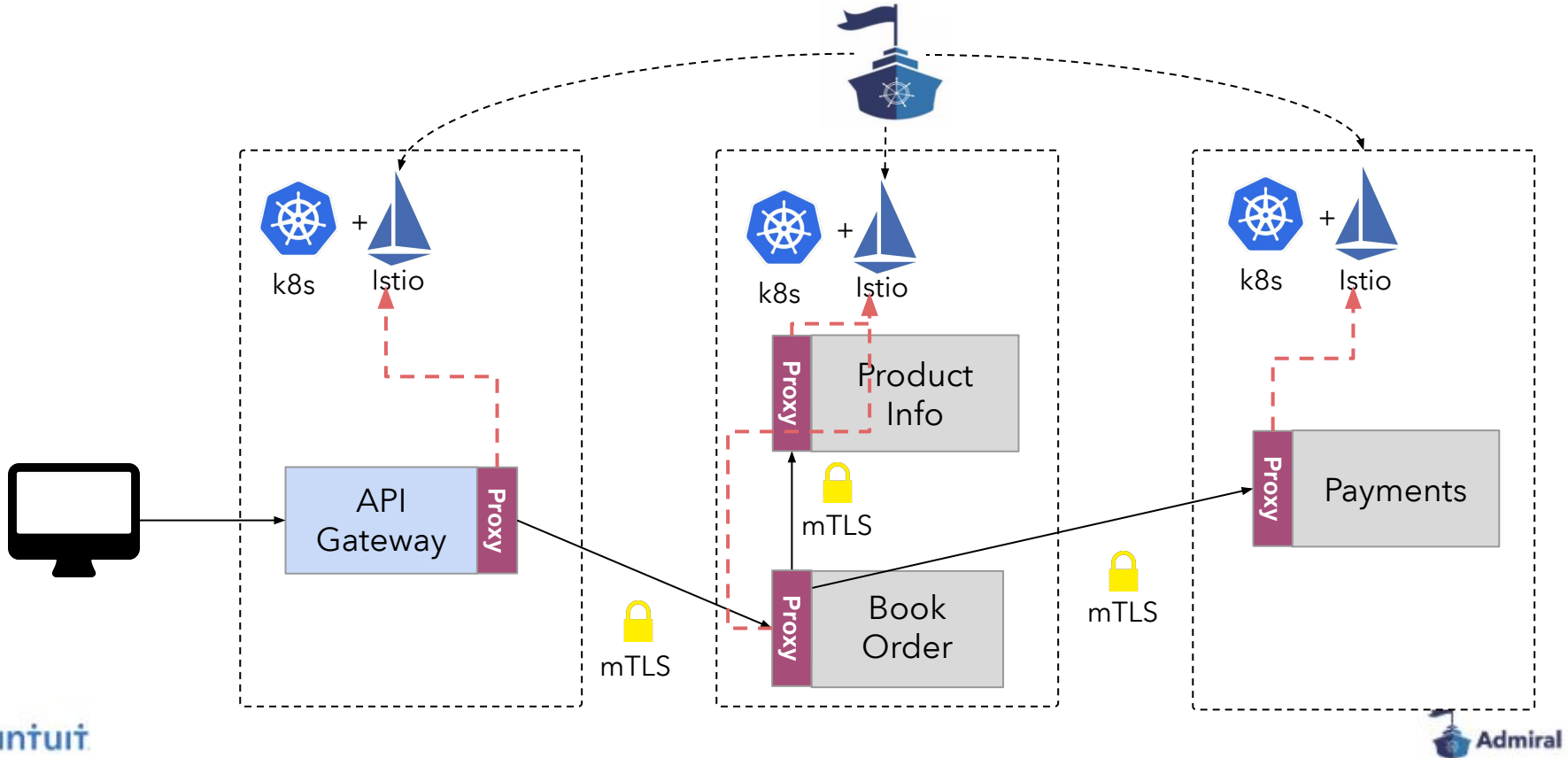
Admiral

- Intuit's multi-cluster mesh is powered by **Admiral**

- Automates cross-cluster service to service communication

- Creates globally unique service names

- Creates custom service names for explicit region and environment routing

Multiple Control Planes - with Admiral

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☑ Decoupling of service discovery and administration - {env}.{svc}.global
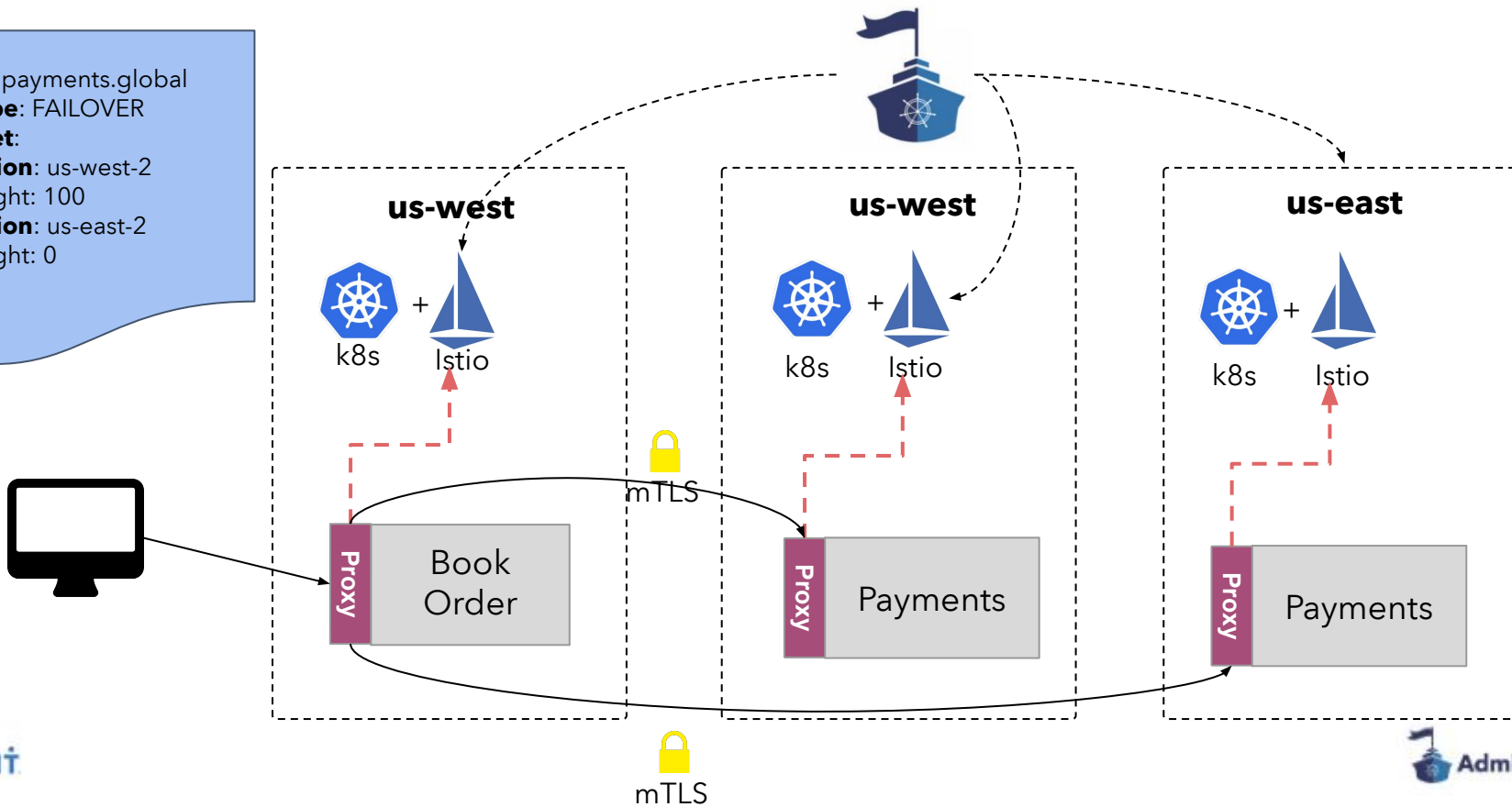
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intuit

Admiral

Demo (video)

It's open source!

tiny.cc/admiral

Admiral

Meet Intuit at Booth S47

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