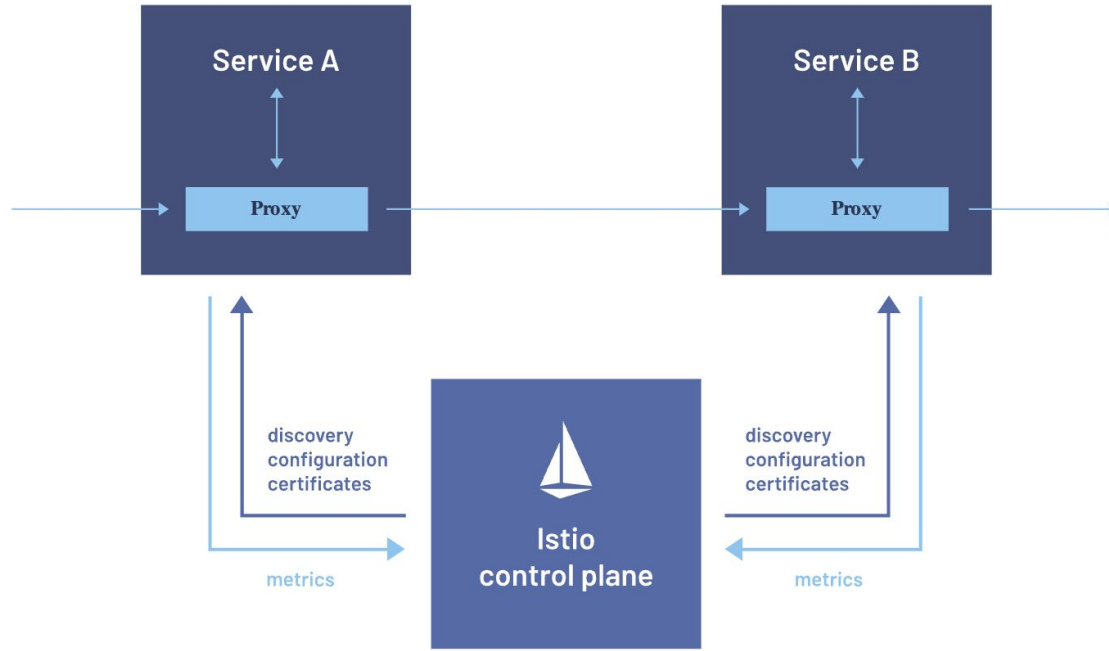


SOLO.IO

# AWS ECS - EKS with Istio Ambient Mesh

# Istio with Sidecars



# SOLO.IO | Google



Cost  
Reduction



Simplify  
Operations



Improve  
performance



# Ambient Architecture

## **Waypoint** L7 Processing Layer

All features of the Secure Overlay plus...

- Traffic Mgmt: HTTP routing & load balancing, Circuit breaking, Rate limiting, Fault injection, Retry, Timeouts, ...
- Security: Rich authorization policies
- Observability: HTTP metrics, Access Logging, Tracing

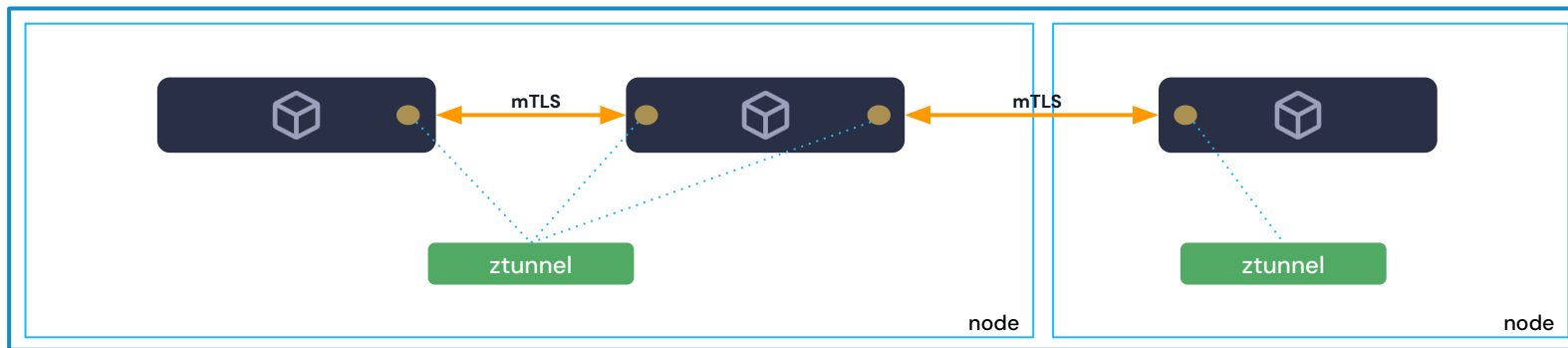
## **Ztunnel** Secure Overlay Layer

Streamlined, low resource, high performance with zero trust

- Traffic Mgmt: TCP Routing
- Security: mTLS tunneling, Simple authorization policies
- Observability: TCP metrics & logging

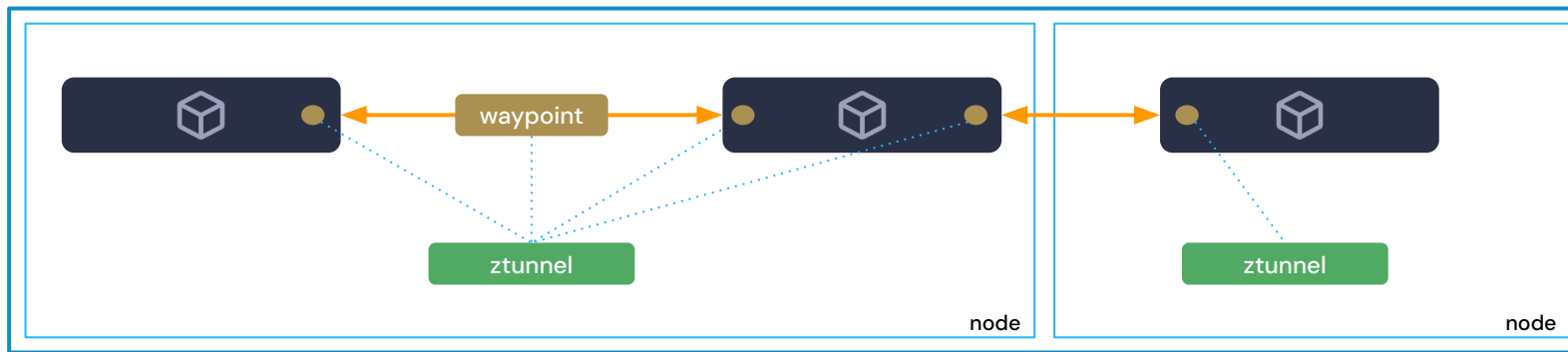
# Ambient

L4



# Ambient

L4 + L7



# Benefits over Sidecars

1

## Simplify Operations

- Don't need to inject Pods / alter deployment resources
- Upgrades/patching are out of band / transparent from the application
- Limited risk profile for opting into mesh features
- Reduced blast radius of application vulnerabilities

2

## Cost Reduction

- Cost savings with reduced data plane components
- Maintain isolated tenancy, customization, configuration

3

## Improve Performance

- No more race conditions between workload containers and sidecar/init-container, etc
- Improved performance

# Fast, Secure, and Simple: Istio's Ambient Mode Reaches General Availability in v1.24

Our latest release signals ambient mode – service mesh without sidecars – is ready for everyone.

Nov 7, | By Lin Sun - Solo.io, for the Istio Steering and Technical Oversight Committees

## coinbase

"We chose Istio because we're excited about ambient mesh. Different from other options, with Istio, the transition from sidecar to sidecar-less is not a leap of faith. We can build up our service mesh infrastructure with Istio knowing the path to sidecar-less is a two way door."

## Forbes

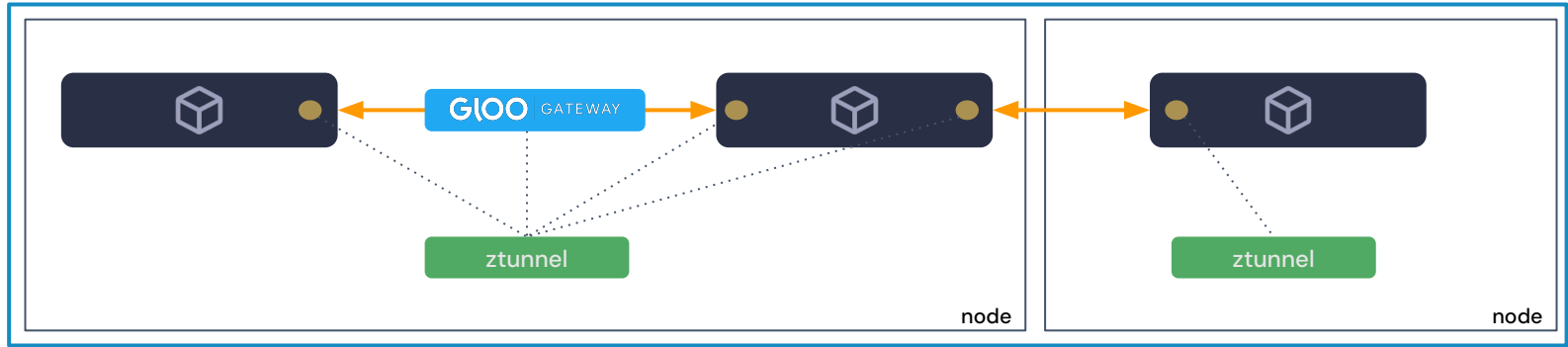
"It is incredibly easy to install ambient mesh with the Helm chart wrapper. Migrating is as simple as setting up a waypoint gateway, updating labels on a namespace, and restarting. I'm looking forward to ditching sidecars and recuperating resources. Moreover, easier upgrades. No more restarting deployments!"

## ERICSSON

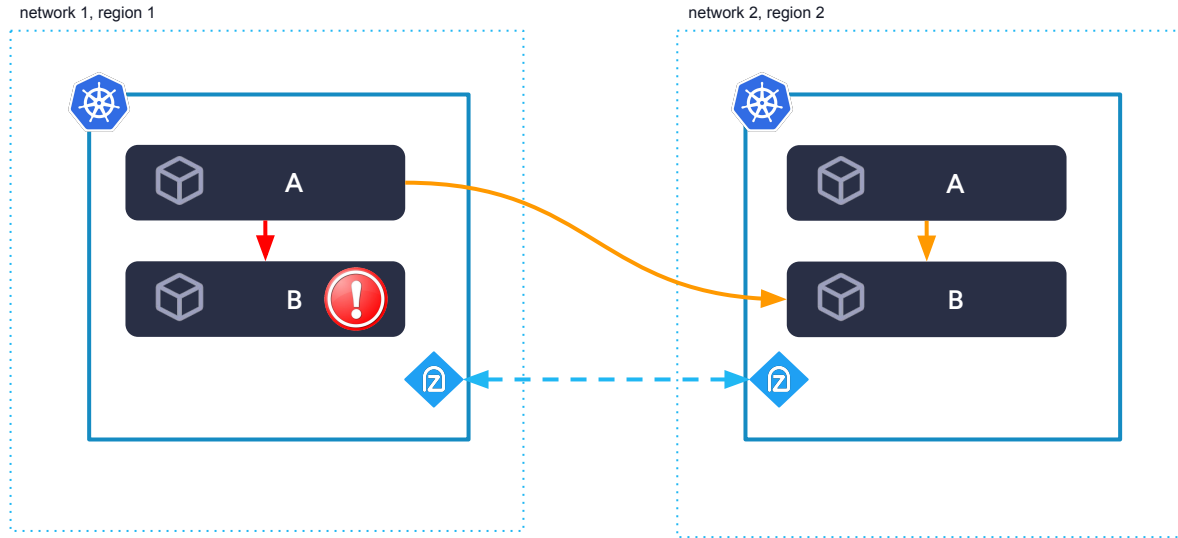
"Extremely proud to see the fast and steady growth of ambient mode to GA, and all the amazing collaboration that took place over the past months to make this happen! We are looking forward to finding out how the new architecture is going to revolutionize the telcos world."



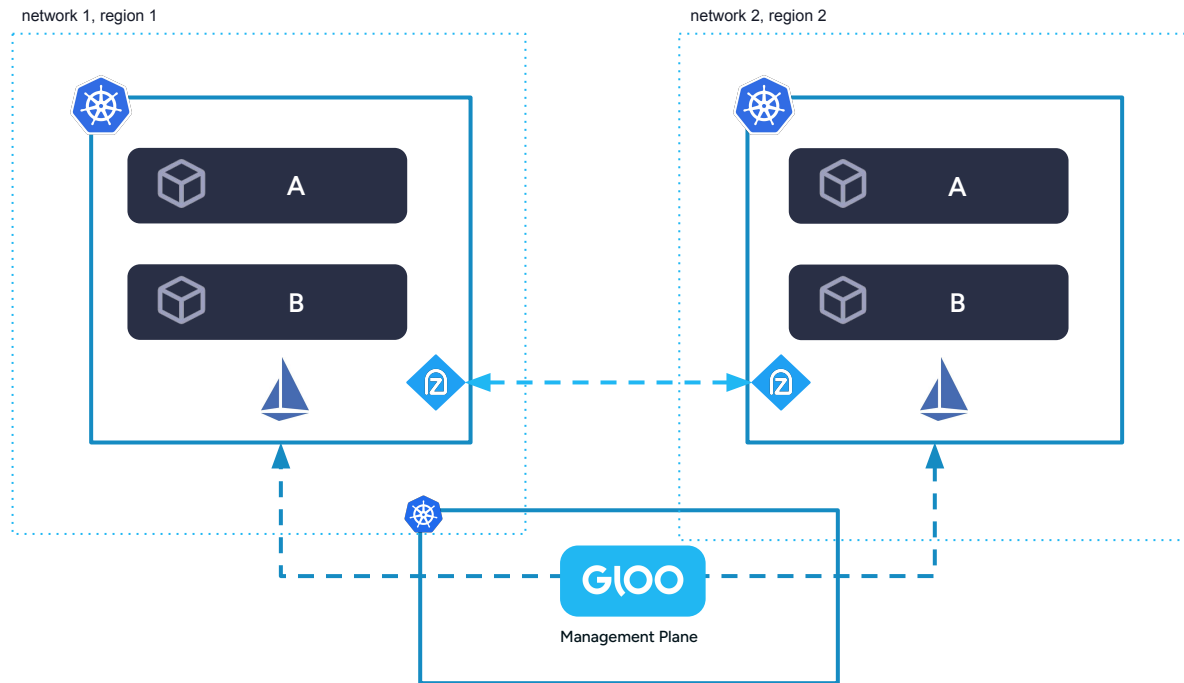
# Gloo Mesh: Gloo Gateway as Waypoint



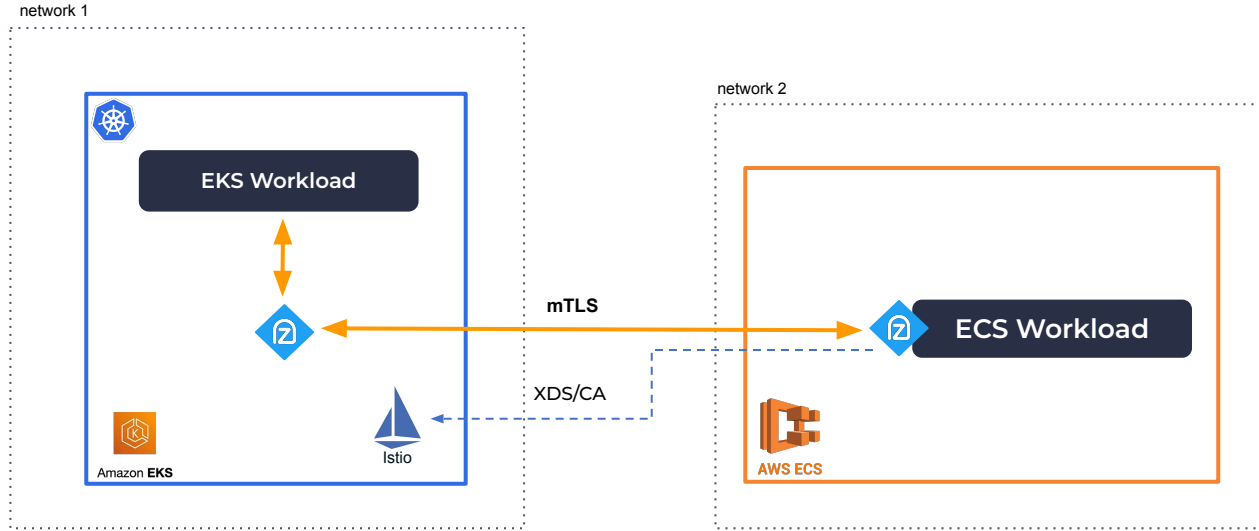
# Gloo Mesh: Multi-Cluster with Ambient Peering



# Gloo Mesh: Management Plane



# Gloo Mesh: Expanding Beyond Kubernetes



# Ambient across EKS and ECS Demo

The background of the image consists of several concentric circles in a dark blue color, centered on the page. The circles vary in opacity, creating a subtle ripple effect.

**Thank You!**