Anthos Service Mesh is a suite of tools that help you monitor and manage a reliable service mesh on premises or on Google Cloud.

A service mesh is an infrastructure layer that enables managed, observable and secure communication across your services, letting you create robust enterprise applications made up of many microservices on your chosen infrastructure. Service meshes factor out all the common concerns of running a service such as monitoring, networking, and security with consistent, powerful tools, making it easier for service developers and operators to focus on creating and managing great applications for their users.

Anthos Service Mesh is powered by Istio (https://istio.io), a highly configurable and powerful open source service mesh platform, with tools and features that enable industry best practices. Anthos Service Mesh is deployed as a uniform layer across your entire infrastructure, and service developers and operators can leverage its rich feature set without making a single change to application code.

You can find out much more about Istio and how to use it in the Istio documentation (https://istio.io/docs/).

With Anthos Service Mesh you get an Anthos tested and supported distribution of Istio, letting you create and deploy a service mesh on Google Cloud or on GKE On-Prem with full Google support. We also provide a configuration profile with recommended settings for using Anthos Service Mesh on GKE, and another profile designed for GKE On-Prem.

You can see the service mesh features we support in Supported features (/service-mesh/docs/supported-features).

Anthos Service Mesh has a suite of additional features and tools that help you observe and manage secure, reliable services in a unified way. Currently, these managed components are in beta.

- Service metrics and logs for HTTP traffic within your mesh's GKE cluster are automatically ingested to GCP.
- Out-of-the-box service dashboards in the Google Cloud Console (https://console.cloud.google.com/) with the information you need to understand your services.
- In-depth telemetry in the Cloud Console lets you dig deep into your metrics and logs, filtering and slicing your data on a wide variety of attributes.
- Service-to-service relationships at a glance: understand who connects to each service and the services it depends on.
- Quickly see the communication security posture not only of your service, but its relationships to other services.
- Dig deeper into your service metrics and combine them with other GCP metrics using Stackdriver (/stackdriver/docs/).
- Gain clear and simple insight into the health of your service with service level objectives (SLOs), which allow you to easily define and alert on your own standards of service health.

- Anthos Service Mesh certificate authority
    - You don't need to manage a certificate authority; Anthos Service Mesh certificate authority (Mesh CA) manages the issuance and rotation of mTLS certificates and keys for GKE Pods based on Managed Workload Identity (/kubernetes-engine/docs/how-to/workload-identity).
    - Configure mTLS (https://istio.io/docs/tasks/security/mutual-tls/) using Istio policies to ensure strong authentication and encryption in transit.
    - Integration with VPC service controls (/vpc-service-controls/)
- Integration with Identity-Aware Proxy (/iap/).

If you would like to join the Anthos Service Mesh beta, fill out the Contact sales form (https://cloud.google.com/contact/?form=anthos), and someone from our team will contact you. You must register your Google Cloud project and Google Cloud account to participate in the Anthos Service Mesh beta.

Currently the Anthos Service Mesh managed components aren't supported on GKE On-Prem.

- Learn more about Anthos Service Mesh's observability features in our Observability guide (/service-mesh/docs/observability/)