Google Cloud

Multi-cloud and Hybrid with Anthos

Enable Application Modernization with Hybrid and Multi-Cloud

Google Cloud's new open platform Anthos lets you run an application anywhere—simply, flexibly and securely. Anthos embraces open standards such as Kubernetes and Isito that lets you run your applications, unmodified, on existing on-prem hardware investments or in multiple public cloud environments.

Business Challenge

Although most organizations have migrated some portion of their applications to the cloud, CIOs still recognize three main business challenges. The first is complex proprietary IT infrastructure and legacy applications. The second is needing to be able to modernize these critical applications to increase efficiency and reduce costs without causing business disruption. And finally, the desire to build new cloud-native applications and services that are multi-cloud in nature to reduce vendor lock-in and proprietary systems.

Application Modernization	Containerization	Cloud Strategy
59% of customers want to modernize versus simply lifting and shifting workloads	87% of organizations will be running containerized applications	75%+ of workloads are still run on-prem and 90% of enterprises are currently running in hybrid and multi-cloud environments

Anthos Overview

Anthos is a 100% software-based platform for application modernization that allows organizations to build, deploy, and run applications in Google Cloud, on-premise, in other public cloud environments, or even at the Edge. Anthos abstracts away the infrastructure and provides policy, container, and service management through a unified control plane. In addition, pre-built services can be downloaded from the Google Cloud Anthos Marketplace and quickly deployed anywhere.

According to a Forrester report, customers who deploy Anthos can see some of the following benefits:

ROI	Time to Market	Security	Efficiency
4.8x return on	13x improvement in time	96% improvement in	55% increase in

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investment (ROI) deploying Anthos	to market on application deployment	productivity for security tasks	platform operations efficiency

Anthos Platform

There are five main components in the Google Cloud Anthos Platform. Three of the key components:

Container Management

Anthos GKE (Google Kubernetes Engine) is a managed Kubernetes environment that allows customers to use a single Kubernetes control plane across multiple cloud and on-prem infrastructure.

Service Management

Anthos Service Mesh is a managed service that is built on Istio and provides traffic management, quotas, authentication, and policy enforcement across VMs and containers.

Policy Management

Anthos Config Management is a multi-cluster configuration management that enables consistent policies across cloud and on-prem clusters.

Figure 1 depicts a high-level architecture of the Anthos Platform.

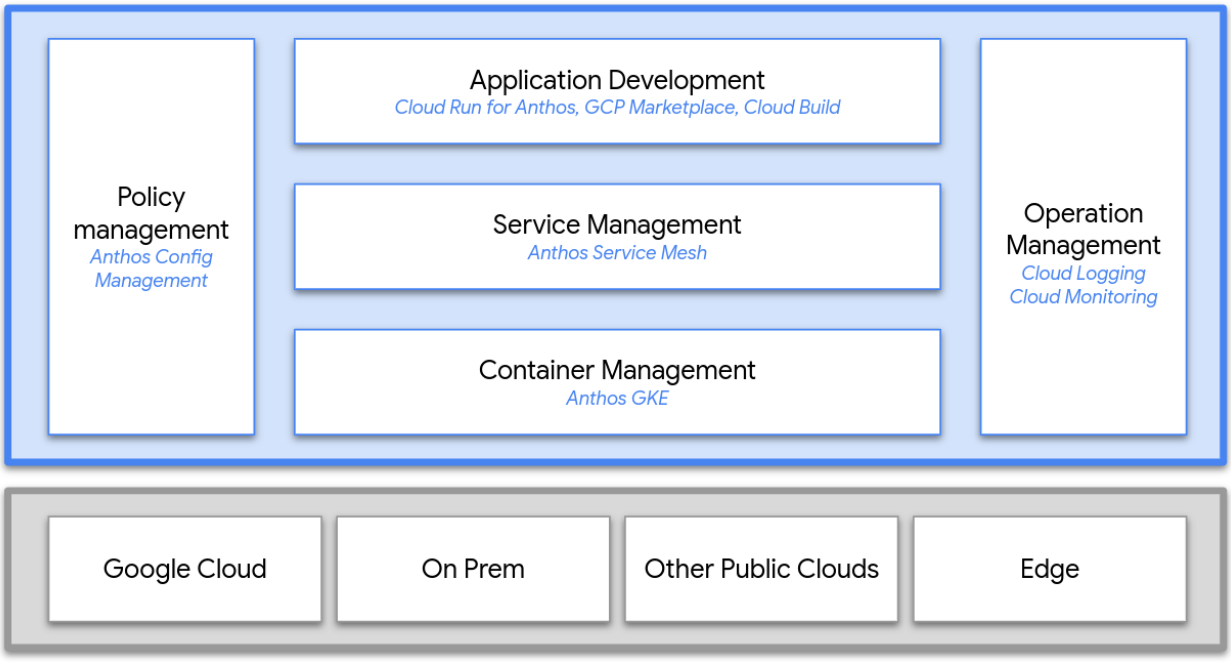

Figure 1. Anthos Architecture Diagram

There are two additional components to Anthos which extend to other GCP service as well:

Operation Management

Cloud Logging and Monitoring in Anthos provide a single pane of glass for monitoring and logging of applications, services, and containers.

Application Development

The Anthos Marketplace allows developers to add production ready solutions by commercial partners to their on-prem and cloud hosted solutions.

Sample Anthos Implementation

Anthos is a flexible, scalable, and secure platform that accelerates application modernization for hybrid and multi cloud environments. *Figure 2* shows a sample Anthos implementation for a hybrid cloud environment that includes Google Cloud and an on-prem data center.

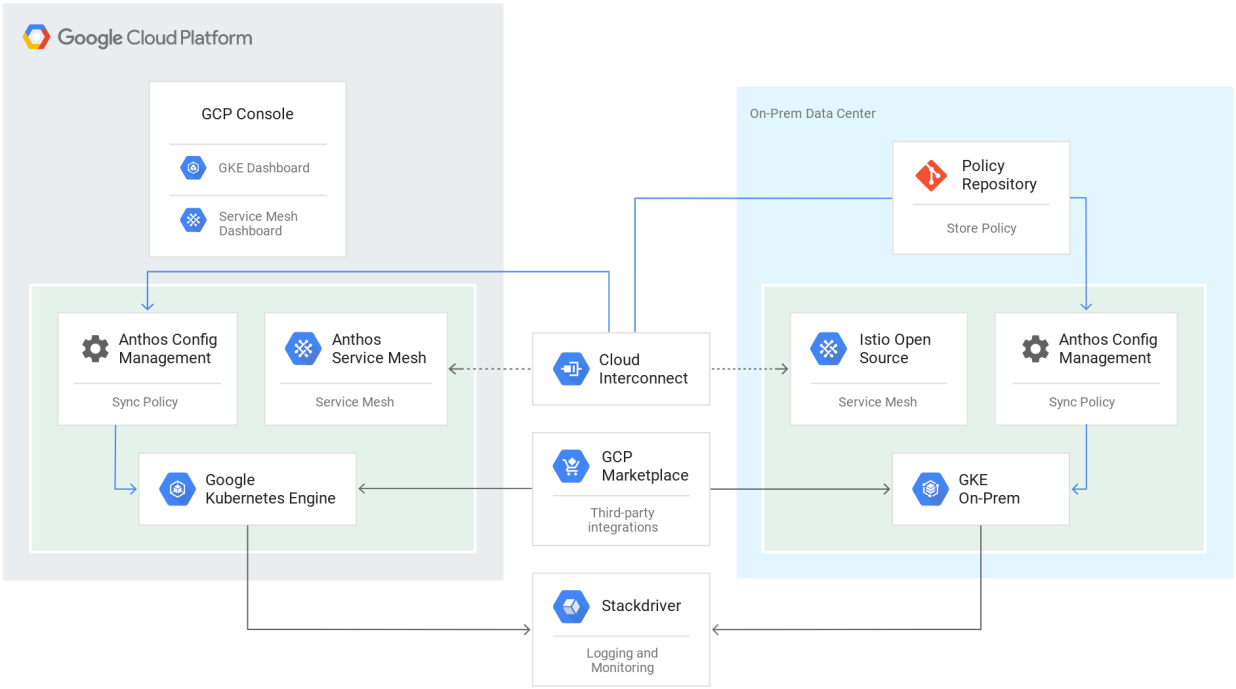

Figure 2. Sample Anthos Implementation

In this example, the customer is able to leverage Google Cloud for the hyper-scaling of containers and services that require rapid expansion in times of peak customer demand while at the same time, the on-premise environment is able to be used to run applications and store data that have high compliance requirements. This flexibility ensures that customers have choice for the infrastructure and location that best meets the needs of their users. In addition, the Anthos Marketplace is able to be used to allow the customer to adopt cloud native technologies and deploy them directly to their on-premise environment.

A great example of a customer who is leveraging Anthos to enable a hybrid cloud environment is HSBC. HSBC is using Anthos to deliver a consistent platform where they can deploy and manage containers both on-premises and in the cloud.

Google Cloud

“At HSBC, we needed a consistent platform to deploy both on-premises and in the cloud. Google Cloud's software-based approach for managing hybrid environments provided us an innovative, differentiated solution that was able to be deployed quickly for our customers.”

Darryl West
Group CIO

HSBC

Google Cloud Professional Services Offerings

Google Cloud’s Professional Services Organization (PSO) is able to work directly with customers to help design, build, and deploy an Anthos environment to solve a specified business challenge.

Key activities

- **Preparation Call -** Review expectations of the engagement and provide advice on key infrastructure decisions and requirements.
- **Virtual Kickoff -** Kickoff call to introduce teams, align on project goals and timelines, and confirm the requirements for the project are met.
- **Artifact Reviews -** Review network diagrams and application architecture documentation.
- **Onsite Planning** - Assist with project planning, identifying project gaps and working with customer to develop path forward.
- **Customer Readiness Activities**- Create a readiness checklist, confirming onsite timing.
- **Onsite Workshop Activities -** Support customer with the validation of the on-premises environment, installation of GKE On-Premises software, installation of Anthos Configuration Management, testing of an initial cluster with a hello world application, deployment of the customer’s initial application to an appropriate cluster.
- **Post Onsite Review -** Provides a final overview of the engagement and support any additional customer success related requests.

Deliverables

Pre-Onsite Deliverables

- **Review**
  - Network diagram(s)
  - Application architecture
  - Checklist of all readiness steps and confirmation of onsite timing
  - Workshop activities
  - Onsite engagement overview

Onsite Deliverables

- **Onsite workshop activities**
  - Validate on-premise environment
  - Assist with installation of GKE on-premises software
  - Install Anthos Configuration Management
  - Testing of demo application deployment
  - Assisting with deployment of customer specified application

Post-Onsite Deliverables

- **Support during SME meetings**
- **Application architecture design document**
- **Final support one-pager**

Engagement Details

- Prerequisites: A clear business use case for using Anthos to support a hybrid cloud or multi cloud environment.
- Up to 48 FTE days (3 Cloud Deploys) of engagement within 12 weeks.
- For on-prem or multi-cloud environments, customer should have access and ability to install Anthos components in those environments as needed.
- Depending on the PSO and GCP resources needed, an initial Anthos deployment costs $250k-$750k.

- **SME Meetings** -
  Remote SME meetings as needed to assist with deployment.

- **Closeout** -
  Delver one-pager and application architecture design document.

Let's connect to discuss how Anthos can help your organization!