Google Cloud's Anthos on NetApp HCI

Develop, deploy, and modernize applications with a data fabric powered by NetApp

Key Benefits

Deploy Google Cloud's Anthos on-prem with NetApp HCI

- Modernize application development with Google Kubernetes Engine (GKE)
- Scale CPU, GPU, and storage resources independently with NetApp guaranteed performance

Modernize application development with GKE

- NetApp Trident enables data persistence for GKE
- Enables "Write once, run anywhere" DevOps

Mobilize enterprise workloads

- Deploy enterprise workloads across hybrid clouds
- Optimize cost and scale for stateful applications

NetApp Cloud Volumes ONTAP® provides Google Cloud native storage services

- Enables enterprise storage capabilities that run natively on Google Cloud
- Cloud Volumes ONTAP offers storage management solutions for cost efficiency and data protection

Google Cloud's Anthos on NetApp® HCI provides a hybrid cloud deployment environment to support Google Kubernetes Engine. A data fabric delivered by NetApp and disaggregated NetApp HCI offer customers a true multicloud experience with full application mobility for both on-premises and Google Cloud environments.

Google Cloud's Anthos on NetApp HCI

As organizations look for ways to drive their digital transformation initiatives, hybrid cloud strategies are now a reality for most IT teams. NetApp and Google are advancing their strategic partnership to help customers unlock the power their data fabric with Google Cloud's Anthos and NetApp HCI private cloud services.

- **Data fabric.** NetApp helps organizations deploy a single data fabric that lets them mobilize data and applications across public and private cloud environments. Together, Google and NetApp help companies access data and resources anywhere and everywhere to move fast and out-pace competitors.

- **Anthos on NetApp HCI.** Anthos and NetApp HCI give organizations "Write once, run anywhere" app flexibility with persistent data across their hybrid cloud infrastructure. Gain a cloud-native experience on-premises with a hybrid cloud platform that can scale capacity and compute independently.

- **Private cloud services with NetApp HCI.** The NetApp HCI cloud native on premises platform is fully tested and certified with Google Anthos. NetApp Element® software and automated deployment provide a true hybrid multicloud experience to ensure that your IT team can deliver on-demand performance, scalability, and simplicity using the NetApp QoS services and disaggregated architecture.

- **NetApp Trident for stateful applications.** A key element in enabling application mobility is NetApp Trident, an open-source project that NetApp maintains for application container persistent storage. Trident is implemented as an external provisioner controller that runs as a pod itself, monitoring volumes and completely automating the provisioning process.
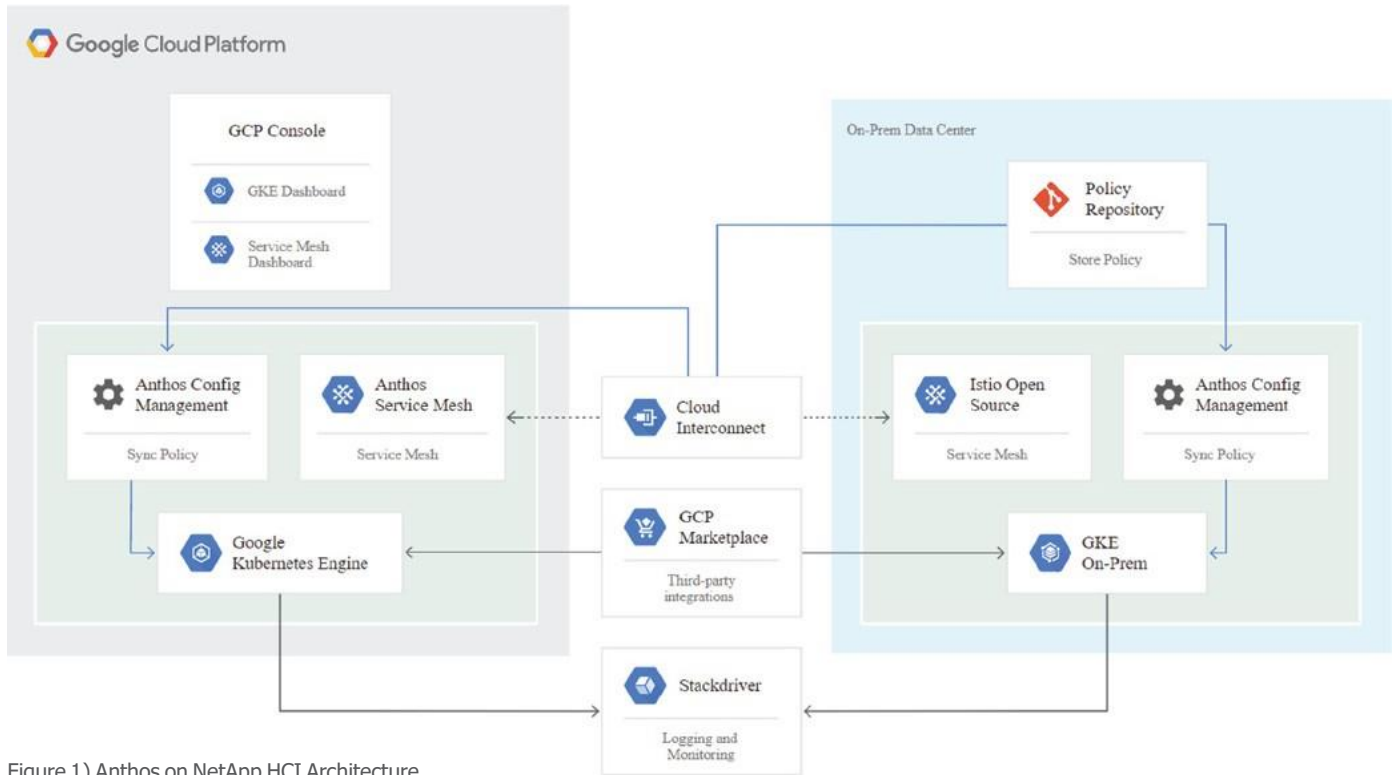
■ NetApp®

Figure 1) Anthos on NetApp HCI Architecture

Deploy, Develop, and Modernize Applications with Anthos and NetApp HCI

Google Cloud's Anthos on NetApp HCI enables private cloud PaaS for Google Kubernetes Engine to allow organizations to develop, deploy, modernize, and mobilize applications on-premises and on Google Cloud. Anthos is built on open-source technologies that run on-premises in containers hosted on VMware-based infrastructure. This solution emphasizes the use of containers, Service Mesh, Stackdriver, and other transformational technologies, enabling organizations to experience consistent application development cycles and production-ready workloads in both local and cloud-based environments. The following figure is a deployment overview of the certified solution. For full deployment details for the Anthos solution, see the NetApp Google Solutions page.

NetApp HCI Validated Design for Google Cloud's Anthos

Google Kubernetes Engine On-Premises with NetApp HCI

GKE On-Premises is an extension of Google Kubernetes Engine, deployed in the end-user's own private data center. Organization can deploy the same applications designed to run in containers in Google Cloud to Kubernetes clusters on their premises. GKE On-Premises offers the following benefits:

- **Cost savings.** End users can realize significant cost savings by using their own physical resources for their application deployments instead of provisioning resources in their Google Cloud environment.

- **Develop then publish.** On-premises deployments can be leveraged while applications are in development, which allows the applications to be tested in the privacy of a local data center, before being made publicly available in the cloud.

- **Meet security requirements.** Customers with increased security concerns or sensitive datasets that cannot be stored in the public cloud can meet organizational requirements by running their applications in the security of their own data centers.
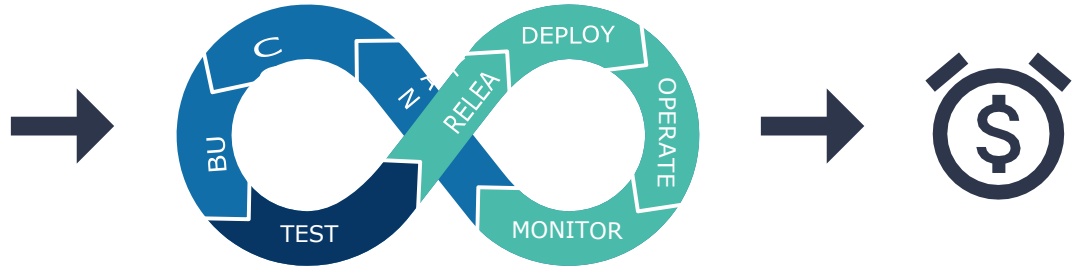
Figure 2) Anthos on NetApp HCI Architecture

Anthos and HCI Enable Cloud Native Development Organizations to Write Once and Run Anywhere

Running a modern enterprise means being constantly disrupted by unpredictable competitive challenges. Traditional approaches to leveraging technology are too slow in delivering innovation at the pace at which business ecosystems are changing. To quickly adapt to these changing business needs, enterprise IT departments must become agile. Through embracing new Cloud Native tools, IT developers become more effective in implementing innovative solutions, reducing time to value for new mission-critical business applications.

The Anthos on premises with NetApp HCI solutions from Google and NetApp enable IT teams to modernize and deploy existing workloads seamlessly across public and private cloud domains. Support for GKE accelerates DevOps development and optimizes deployment timelines for new apps, and NetApp HCI automated services provide QoS capabilities to deliver performance, automation, simplicity, and scalability for hybrid cloud environments.

About NetApp

NetApp is the data authority for hybrid cloud. We provide a full range of hybrid cloud data services that simplify management of applications and data across cloud and on-premises environments to accelerate digital transformation. Together with our partners, we empower global organizations to unleash the full potential of their data to expand customer touchpoints, foster greater innovation and optimize their operations. For more information, visit www.netapp.com. #DataDriven