NetApp Google Cloud

NETAPP
CLOUD VOLUMES SERVICE FOR GOOGLE CLOUD

File data mobility and management with extreme performance for Google Cloud

The cloud is the agile and innovative platform for business. Both public and private cloud adoption continue to grow as enterprises recognize the cloud's strategic business value.

The cloud helps to deliver digital transformation, accelerating business outcomes for organizations and providing scale for additional resources and capabilities as needed. Data in the cloud is secured with encryption, providing peace of mind to customers. Google Cloud goes further with chips, servers, storage, network, and data centers, all purpose-built for end-to-end, secure data protection. Sophisticated Machine Learning (ML) finds and redacts sensitive information to prevent data loss.

Harnessing all the data required for effective Artificial Intelligence (AI) and ML applications is a challenge for traditional solutions. The cloud offers dramatic advantages in analytics, with the ability to integrate AI and ML within applications. You can accelerate development by automating development and test environments and being able to clone hundreds of environments in minutes.

NetApp and Google Cloud are uniting their strengths for the first time to create Cloud Volumes Service for Google Cloud, a fully-managed, native cloud data service with advanced data management capabilities and unprecedented performance. This relationship extends the reach of NetApp's world-class data services, backed by hundreds of thousands of customers, to Google Cloud's innovative leadership in application development, analytics, and machine learning. NetApp is a leader in data management with over 25 years' experience delivering high-performance, highly-available storage. As major public cloud provider, Google is primed to address the key needs of their customers by offering this advanced level of data mobility and management with extreme performance.

Key Features

- Fully managed service integrated into the Google Cloud console
- Migrate data from on-premises to the cloud 10X faster
- Provision volumes from 0 to 100TB in seconds
- Multiprotocol support (NFS, SMB)
- Protect data with automated, efficient Snapshots
- Accelerate application development with rapid copy
- Consume cloud services such as analytics, AI, and Machine Learning

NetApp Cloud Volumes Service for Google Cloud

Cloud Volumes Service is a Google Cloud-integrated, fully-managed file storage solution with the performance, availability, and security required to efficiently run your business-critical applications. Migrate your workloads to the cloud and run them without sacrificing performance (see table below). Cloud Volumes Service for Google Cloud removes obstacles, so you can move more of your file-based applications to the cloud, with support for NFS v3 and SMB. Plus, support for NFS v4 is coming soon. You do not have to re-architect your applications, and you get persistent storage for your applications without complexity.

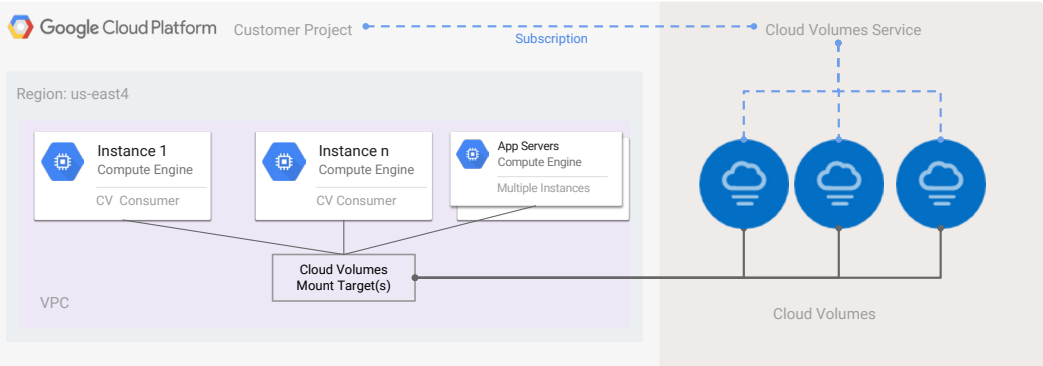
Cloud Volumes Service for Google Cloud is fully integrated into the Google Cloud console. Users experience a fully managed service, along with support and billing from Google. World-class support, managed by Google Cloud, enables you to configure access for specific roles. This one solution enables you to quickly and easily add multi-protocol workloads. You can build and deploy both Windows and Linux based applications. You can schedule snapshots of your cloud volumes and restore them to keep your data protected. You can also create copies of your data and then migrate them to continuously keep your datasets in sync.

With three service levels (standard, premium, and extreme) that can be changed on demand, you are guaranteed to find the right performance fit for your workload and adjust as the nature of your application changes. Performance for each cloud volume scales with the amount of allocated capacity, so performance is not limited as your dataset size grows. You can also increase/decrease the allocated capacity on the fly as well - without having to worry about adding/deleting underlying nodes.

Service Levels	MB Throughput / TB	Workload Types
Standard	16MB	General Purpose, File Shares, Email, Web
Premium	64MB	Databases, Applications
Extreme	128MB	OLTP High Performance Databases

Cloud Volumes Technical Architecture

Single Project



Use Case Examples

Cloud Volumes Service for Google Cloud supports and expedites the deployment of various enterprise applications and cloud-native systems through rapid delivery of cloud-native shared filesystems and a rich set of storage management features. The primary use cases to consider when using Cloud Volumes Service are migrating enterprise applications to Google Cloud, cloud native applications (born in the cloud workloads), and cloud analytics for unstructured data.

Migrate Enterprise Applications to the Cloud

A Fortune 500 global healthcare services company is currently migrating 100% of their applications to Google Cloud with an overall goal of simplifying operations and ease of use. The company which uses SAP teamed with NetApp to implement a Cloud Volumes Service for Google Cloud solution to migrate these critical enterprise applications.

The solution delivered simple and easy-to-consume NFS and SMB endpoints running in Google Cloud. The company pays only for the storage they use and can change performance tiers without moving their data and simply and efficiently adjust capacity based on their specific application requirements.

For their first application, the healthcare company used Cloud Volumes Service for Google Cloud to deliver highly available NAS encrypted storage for application binaries. They started with 10TB of storage and quickly expanded to over 100TB. The company expected the migration might take 6 months, and was extremely pleased when they moved their application to Google Cloud in just 2 weeks, 10X faster than planned. Next steps include using NetApp Cloud Sync to manage their electronic data interchange (EDI) workloads in Google Cloud.

Cloud Native Storage for Cloud Native Applications

Enterprise workloads typically have a strong requirement for reliable data storage. In a Kubernetes workload environment, it's especially critical to ensure that data is easy to backup and restore, and is always available, consistent, and durable.

Cloud Volumes Service for Google Cloud helps deliver protected persistent data storage allowing pods and containers within Kubernetes to take advantage of the enterprise data protection capabilities within Google Cloud. It also allows snapshots to be instantaneously created and instantly restored back to the original source volume or to a new volume. The solution fully supports NFS which is often the preferred platform for Kubernetes deployments.

Storage efficiency is also very important in Kubernetes environments due to the inherent scalability of containers. Cloud Volumes Service for Google Cloud lets you instantly spin up new volumes to handle an increase in workloads and to provide greater redundancy and availability. Workloads can be quickly spun down when not needed to save money.

Cloud Analytics for Unstructured Data

A global retail analytics expert leverages millions of files to help traditional retailers improve profits through their IoT devices and comprehensive analytics suite. To increase business agility and platform efficiency, the company decided to move their files from on-premises storage to Google Cloud. As part of the shift, they needed to adopt a highly available cloud storage service to manage the raw data from their IoT devices in the cloud.

The company selected NetApp Cloud Volumes Service for Google Cloud to improve their analytics application performance, reduce overhead costs, and improve the efficiency of their cloud operations. The solution supported their NFS and SMB application protocols, allowed them to provision new storage volumes easily and autonomously, and deliver the high availability they need across Google Cloud regions.

Cloud Volumes Service for Google Cloud helped the company ensure that their customer's raw data was secure, efficiently stored, and easily accessible. The fully managed service was able to meet their high SLO and SLA requirements, and deliver 99.9% availability across Google Cloud regions. They were also able to automate the process of relegating less important data to a lower performance storage tier saving them both time and money.

Conclusion

NetApp Cloud Volumes Service for Google Cloud enables organizations to remove the complexity associated with implementing cloud-native file systems, allowing them to get up and running quickly and easily. To learn more visit Cloud Volumes Service for Google Cloud.

About NetApp

NetApp provides a full range of cloud data services that simplify management of applications and data across cloud and on-premises environments to accelerate digital transformation. Together with its partners, NetApp empowers global organizations to unleash the full potential of their data to expand customer touchpoints, foster greater innovation, and optimize their operations.

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