NetApp | **Google Cloud**

SAP solutions for Google Cloud

The challenge
SAP components are inherently highly networked, and the underlying data and storage architecture is powerful but also very demanding.

The opportunity
NetApp makes the move to SAP on Google Cloud easier and faster. Get the performance needed for SAP applications and take advantage of superior features built into the service to efficiently protect and manage SAP environments.

Top reasons to use NetApp for SAP

01 Shrink deployment times by as much as 40% and accelerate SAP migrations.*

02 Worry-free deployment enabled by dynamic selection of service levels.

03 Make running SAP in the cloud a reality with sub-millisecond latency, high IOPs and high throughput storage

04 Dramatically reduce complexity and management overhead for shared files.

05 Accelerate protection and application development/testing with NetApp Snapshot™ and cloning technology.

Accelerate SAP projects with NetApp

A data fabric powered by NetApp solutions and NetApp ONTAP® data management combine to let you migrate, add new modules, or handle other development tasks on Google Cloud—without taking down your production environment. NetApp architecture also makes it easy to generate multiple SAP test environments using storage-based cloning, and to scale your storage infrastructure without rethinking your data management architecture.
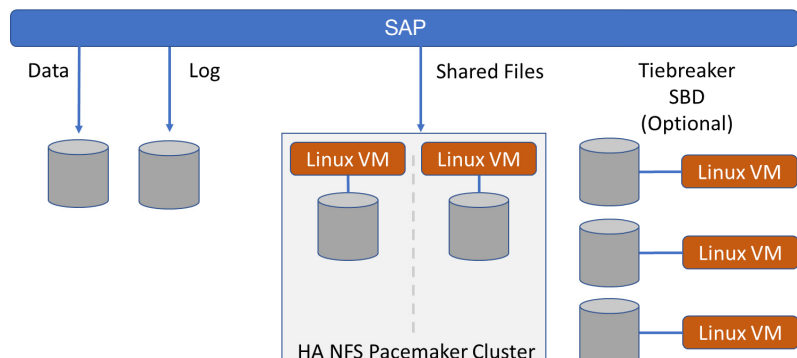
Where NetApp adds value

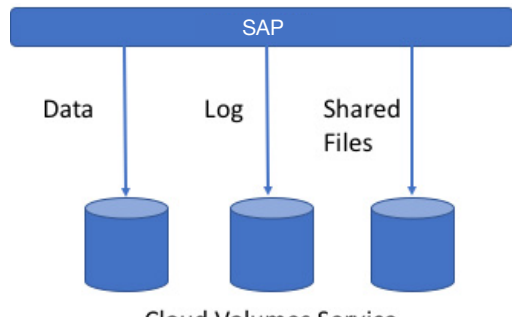|	Use case	NetApp benefits	Google Cloud
Production	**SAP production** Storage for production SAP DBs, and anyDB. NetApp Cloud Volumes performance service tier is ideal for use with SAP in Google Cloud.	File Storage simplifies storage deployment and management compared to block storage. NetApp offers shared file storage offerings that are well-suited for critical SAP workloads.	Cloud Volumes Service
	Shared files File Storage simplifies storage deployment and management compared to block storage.	Eliminate HA-NFS software clustering by introducing high-availability (HA) shared file storage in place of complicated persistent disk or block storage.	Cloud Volumes Service Cloud Volumes ONTAP
Secondary	**Dev/Test** Rapidly create development sandboxes and parallel QA environments.	Snapshot and cloning features improve development/testing workflows, resulting in accelerated development and QA testing. Bring applications to market more quickly with higher quality and with less risk.	Cloud Volumes Service Cloud Volumes ONTAP
	Disaster recovery Protect on-premises data or replicate between clouds.	Efficient, secure data replication from on-premises environments to the cloud—or replication between cloud regions—reduces risk of downtime or data loss.	Cloud Volumes ONTAP

Why NetApp Cloud Volumes for SAP

	Native block disk	NetApp
Performance	Performance is based on configured disk – difficult to change configuration once deployed	Dynamically choose from three performance tiers
Availability	Requires clustered OS with persistent disk.	Each volume is highly available by design
Cost	May offer lowest capacity cost, but requires user management	Three SLA tiers provide cost flexibility
Scalability	Capacity expansion requires manual effort. Capacity contraction requires service interruption.	Dynamically scale capacity and performance up or down
Ease of use	Configuration, updates, and capacity expansion are manual processes.	Fully managed file service (PaaS) removes management overhead
Data management	No advanced functionality.	Space efficient snapshots and cloning

Before

SAP

Data | Log | Shared Files | Tiebreaker SBD (Optional)

Linux VM | Linux VM | Linux VM | Linux VM | Linux VM

HA NFS Pacemaker Cluster

After

SAP

Data | Log | Shared Files

Cloud Volumes Service

Cardinal Health moves SAP to the cloud

"Google Cloud and NetApp Cloud Volumes helped us move high performance file workloads that we thought would take months or years to refactor."

— VP Cloud Services, Cardinal Health

CardinalHealth™