

AWS Storage Gateway



Extending, backing up on-premise storage to the cloud



Introduction to Storage Gateway

AWS Storage Gateway **connects an on-premises software appliance with cloud-based storage.**

Provides you seamless and secure integration between your organization's on-premises IT environment and AWS's storage infrastructure.

Securely store your data to the AWS Cloud for **scalable** and **cost effective** storage.

Software appliance is available as a **virtual machine (VM) image**.

Supports both **VMware ESXi** and **Microsoft Hyper-V**

Once installed and activated you can use the **AWS Console** to create your gateway

There are **3 Types** of Gateways

Select gateway type

File gateway

Store files as objects in Amazon S3, with a local cache for low-latency access to your most recently used data.

Volume gateway

Block storage in Amazon S3 with point-in-time backups as Amazon EBS snapshots.

Tape gateway

Back up your data to Amazon S3 and archive in Amazon Glacier using your existing tape-based processes.

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Storage Gateway Types

There are **3 Types** of Gateways

File Gateway (NFS) (store your files in S3)

Volume Gateway (iSCSI) (store copies of your hard disk drives in S3)



- **Stored Volumes**
- **Cached Volumes**

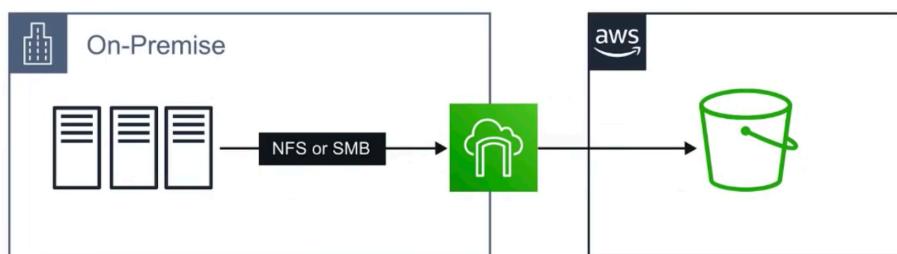
Tape Gateway (VTL) (virtual tape library) A small green icon of a circular tape reel.



File Gateway (NFS)

Your files are stored as objects inside your S3 buckets.

Access your files through a **Network File System (NFS)** or **SMB** mount point.



Ownership, permissions, and timestamps are all stored within **S3 metadata** of the object associated with the file.

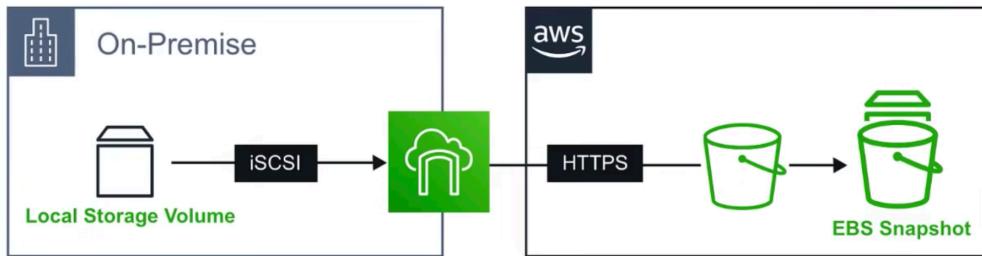
Once a file is transferred to S3, it can be managed as a **native S3 object**.

Bucket Policies, Versioning, Lifecycle Management, and Cross-Region Replication apply directly to objects stored in your bucket.



Volume Gateway (iSCSI)

Volume Gateway presents your applications with disk volumes using the **Internet Small Computer Systems Interface (iSCSI)** block protocol.



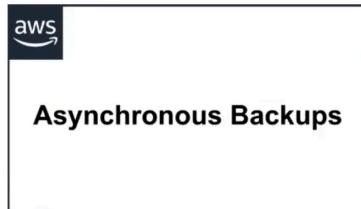
Data that is written to volumes can be asynchronously backed up as **point-in-time snapshots** of the volumes, and stored in the cloud as **AWS EBS Snapshots**.

Snapshots are incremental backups that capture only changed blocks in the volume.

All Snapshot storage is also **compressed** to help minimize your storage charges.



Volume Gateway - Stored Volumes



Primary data is **stored locally**, while **asynchronously backing up** that data to AWS.

Provide your on-premises applications with low-latency access to their entire datasets, while still providing durable off-site backups.

Create storage volumes and **mount them as iSCSI devices** from your on-premises servers.

Any data written to stored volumes in **stored on your on-premises** storage hardware.

Amazon Elastic Block Store (**EBS**) **snapshots** are backed up to **AWS S3**.

Stored Volumes can be between **1GB - 16TB** in size



Volume Gateway – Cached Volumes



On-Premise

Cache Most Frequently Accessed Files



Primary Data

Lets you **use AWS S3 as your primary data storage**, while retaining **frequently accessed data locally** in your storage gateway.

Minimizes the need to scale your on-premises storage infrastructure, while still providing your applications with low latency data access.

Create storage volumes up to 32TB in size and **attach them as iSCSI devices** from your **on-premises servers**.

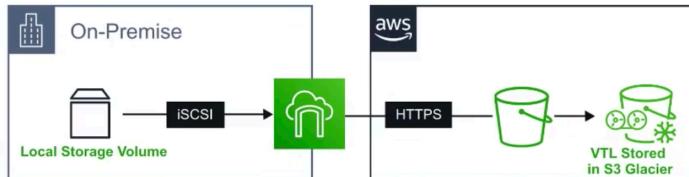
Your gateway stores data that you write to these volumes in S3, and retains recently read data in your on-premises storage gateway cache and upload buffer storage.

Cached volumes can be between **1GB - 32GB** in size



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Tape Gateway (VTL)



A durable, cost-effective solution to archive your data in the AWS Cloud

The **VTL** interface it provides let you leverage existing tape-based backup application infrastructure.

Store data on **virtual tape cartridges** that you create on your tape gateway.

Each tape gateway is **pre-configured with a media changer and tape drives**, which are **available to your existing client backup applications as iSCSI devices**.

You **add tape cartridges** as you need to archive your data.



Veritas Backup Exec™

Supported by **NetBackup**, **Backup Exec**, and **Veeam**.





Storage Gateway *CheatSheet*

- **Storage Gateway** connects on-premise storage to cloud storage (hybrid storage solution)
- There are three types of Gateways: File Gateway, Volume Gateway, Tape Gateway
- **File Gateway** lets S3 act a local file system using NFS or SMB, extends your local hard drive to S3
- **Volume Gateway** is used for backups and has two types: **Stored** and **Cached**
- **Stored Volume Gateway** continuously backups local storage to S3 as EBS Snapshots **Primary Data on-Premise**
- Stored Volumes are **1GB to 16TB** in size
- **Cached Volume Gateway** caches the frequently used files on-premise. **Primary Data** is stored on S3
- Cached Volumes are **1GB to 32GB** in size
- **Tape Gateway** backups up virtual tapes to S3 Glacier for long archive storage