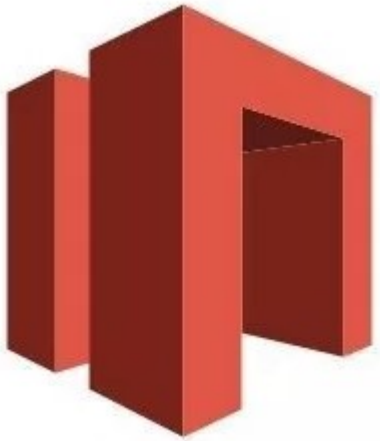


AWS Storage Gateway

Hybrid Cloud for Storage

- AWS is pushing for “Hybrid cloud” storage.
  - Part of your infrastructure is on the cloud.
  - Part of your infrastructure is on premise
- This can be due to
  - Long Cloud migrations
  - Security requirements
  - Compliance requirement
  - IT strategy
- S3 is a proprietary storage technology unlike (EFS/NFS), so how to you expose S3 data on-premises?
- **AWS Storage Gateway!!**

AWS Storage Cloud Native Options

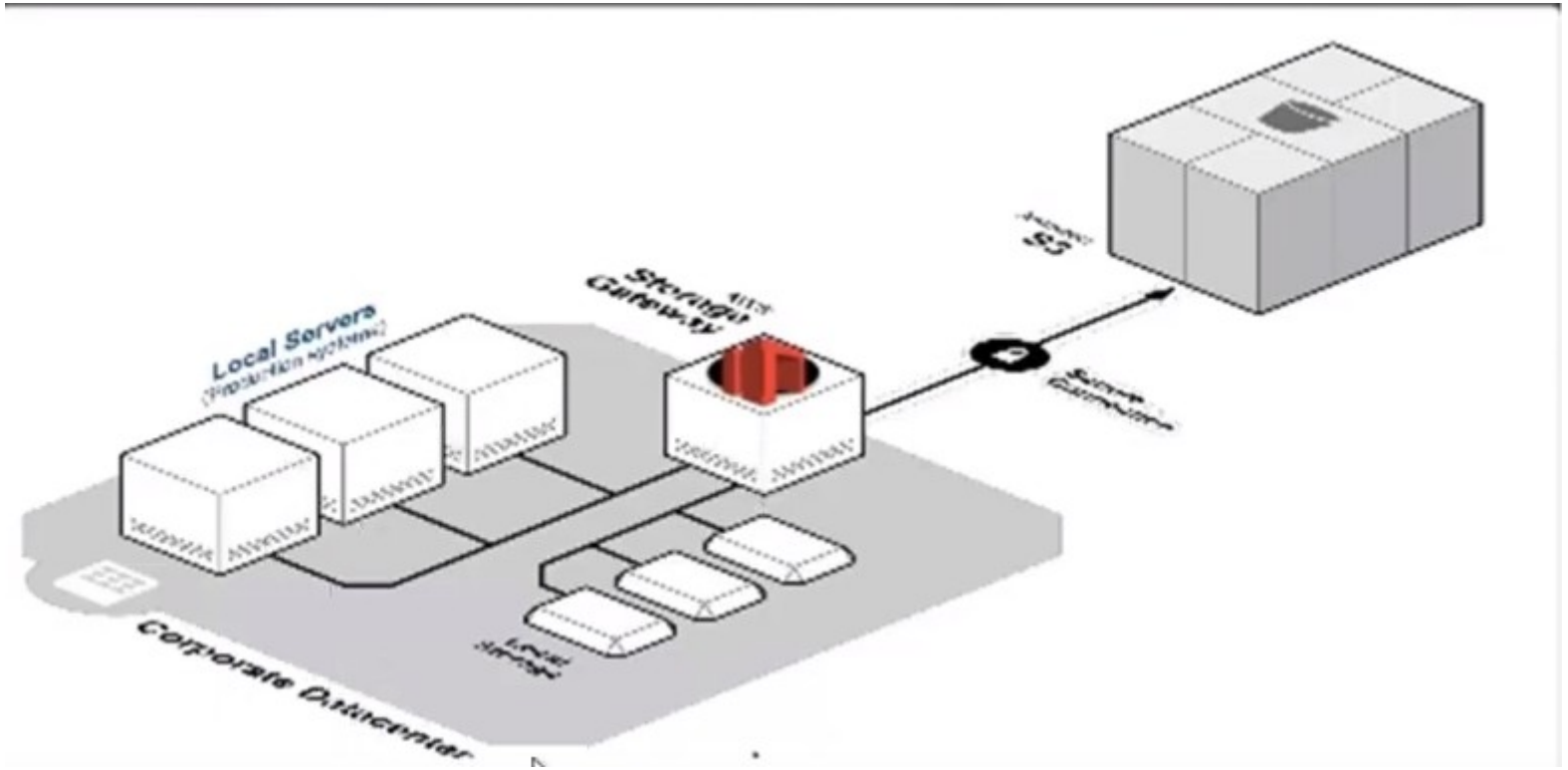
Storage Gateway

- The AWS Storage Gateway service enables hybrid storage between on-premises environments and the AWS Cloud.

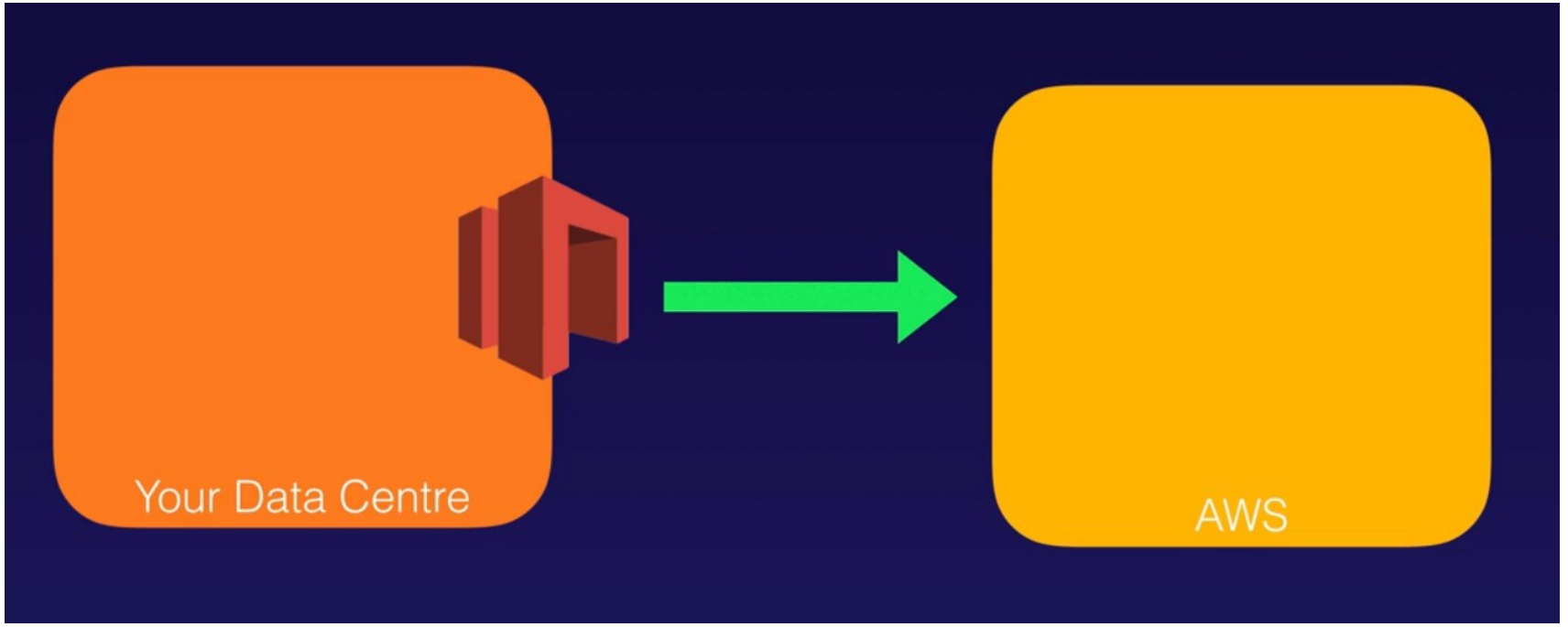
- It seamlessly integrates on-premises enterprise applications and workflows with Amazon's **block** and **object** cloud storage services through industry standard storage protocols.

- It provides low latency performance by caching frequently accessed data on premises while storing data securely and durably in Amazon Cloud storage services.

Storage Gateway



Storage Gateway



What is Storage Gateway ?

- AWS Storage Gateway's software appliance is available for download as a virtual machine image that you can install on a host in your datacenter.
- Storage Gateway supports either VMware ESXi or Microsoft Hyper-V.
- Once you have installed your gateway and associated it with your AWS account through the activation process , you can use the AWS management console to create the storage gateway option that is right for you.

AWS Storage Gateway

- Bridge between On-Premise data and cloud data in S3.
- Use cases: Disaster Recovery, backup & restore

3 types of Storage Gateway

- File Gateway
- Volume Gateway
- Tape Gateway

Storage Interfaces

File Gateway

- Stores 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.
  - **Cache Volumes**: Low latency access to your most recently used data.
  - **Stored Volumes**: On-premises data with scheduled offsite backups

Tape Gateway

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

Storage Interfaces

File Gateway

- The File gateway enables you to store and retrieve objects in Amazon S3 using file protocols, such as NFS.

Volume Gateway

- The Volume gateway provides block storage to your applications as local iSCSI disk volumes that can be tiered into Amazon S3.
  - **Cached Volume,** your primary data is written to S3, while you retain some portion of it locally in a cache for frequently accessed data.
  - **Stored Volume,** your primary data is stored locally and your entire dataset is available for low latency access while asynchronously backed up to AWS

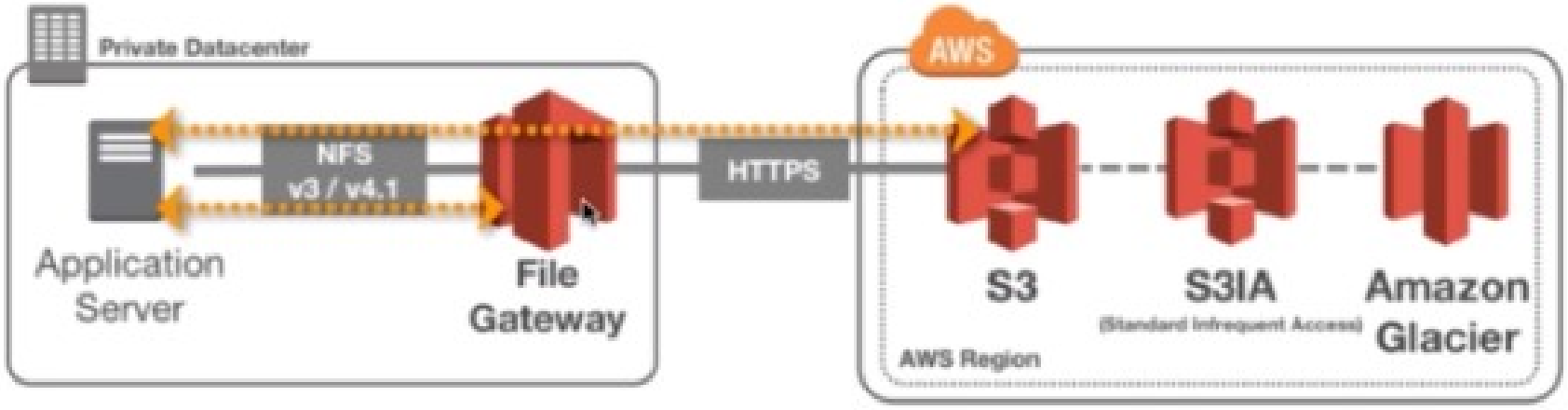
Tape Gateway

- The tape gateway provides your backup application with an iSCSI virtual tape library(VTL) interface, consisting of a virtual media changer, virtual tape drives and virtual tapes. Virtual tape data is stored in S3 or to Glacier

File Gateway

File Gateway

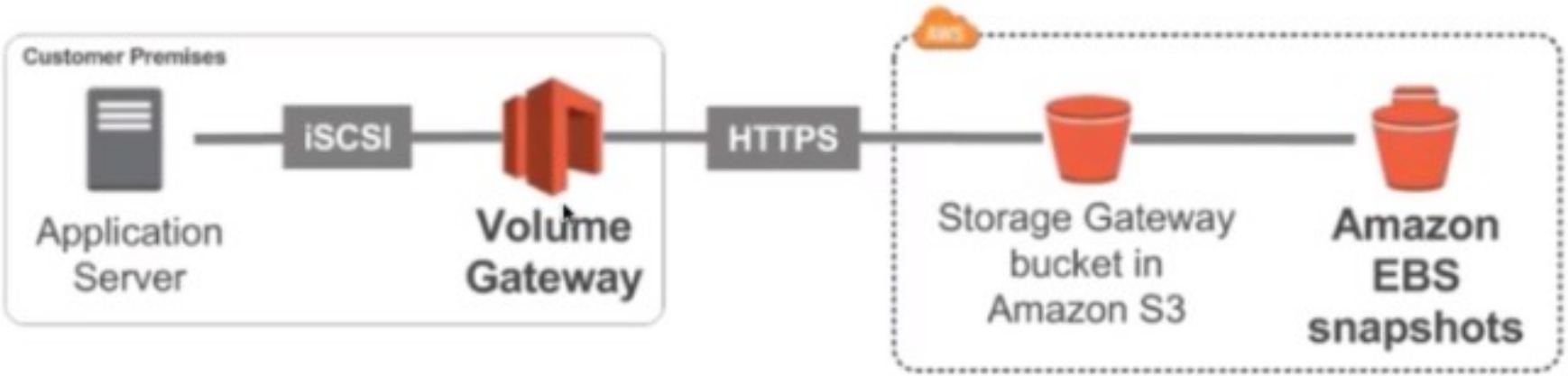
- Configured S3 bucket are accessible using the NFS and SMB(Server Message Block) protocol
- Supports S3 standard, IA and one zone IA
- Bucket access using IAM roles for each File Gateway
- Most recently used data is cached in the File Gateway
- Can be mounted on many servers



Volume Gateway

Volume Gateway

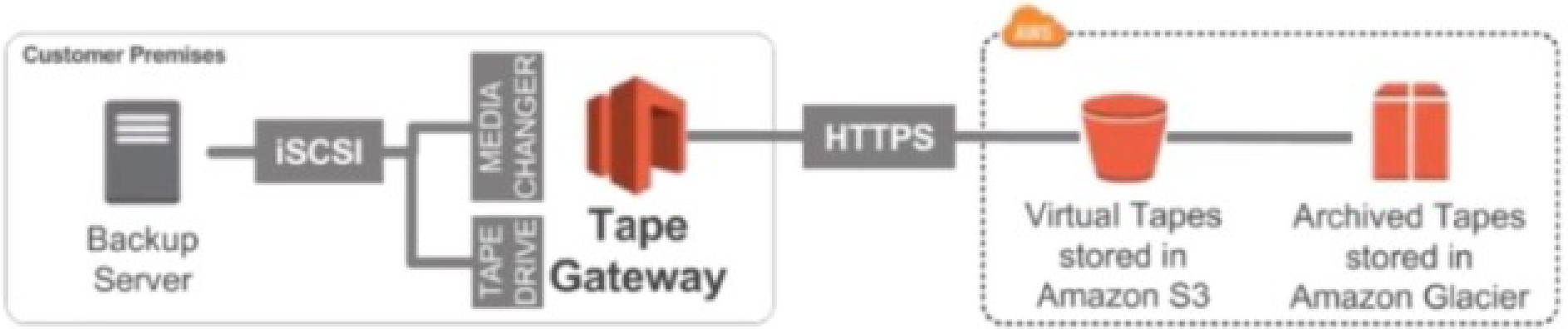
- Block Storage using iSCSI protocol backed by S3
- Backed by EBS snapshots which can help restore on premise volumes
- **Cached Volumes**: Low latency access to most recent data
- **Stored Volumes:** Entire dataset is on premise, scheduled backups to S3



Tape Gateway

Tape Gateway

- Some Companies have backup processes using physical tapes
- With Tape Gateway, companies use the same processes but in the cloud
- Virtual Tape Library(VTL) backed by Amazon S3 and Glacier
- Backup data using existing tape-based processes(and iSCSI interface)
- Works with leading backup software vendors



Exam Tips

- Exam tip: Read the question well, it will hint at which gateway to use
- On premise data to the cloud  Storage Gateway

- File access / NFS => File Gateway (backed by S3).
- Volumes / Block Storage / iSCSI => Volume Gateway (backed by S3 with EBS snapshots)
- VTL Tape Solutions / Backup with iSCSI => Tape Gateway (backed by S3 and Glacier)

Exam Tips

File Gateway

- File Gateway: For flat files, stored directly to S3.

Volume Gateway

- Block storage in Amazon S3 with point-in-time backups as Amazon EBS snapshots.
  - **Cache Volumes**: Entire dataset is stored on S3 and most frequently used data is cached on site.
  - **Stored Volumes**: Entire dataset is stored on site and is asynchronously backed up to S3.

Tape Gateway

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