aws SUMMIT

Edge and Hybrid Storage

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Complete Set of Data Building Blocks

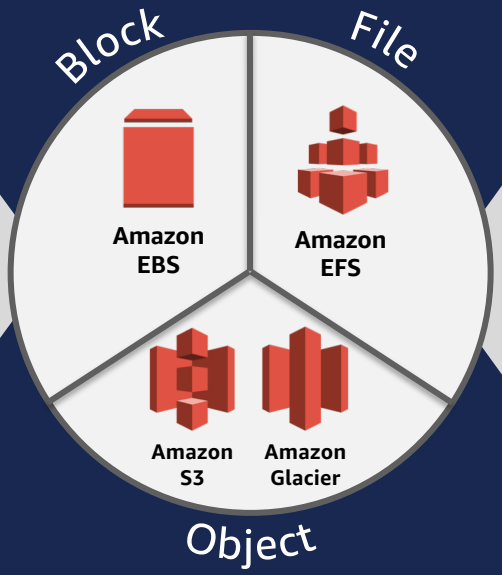
Data movement

Online

- **AWS Storage Gateway Family**
- Amazon Kinesis Video Streams
- Amazon Kinesis Data Streams
- Amazon EFS File Sync
- Amazon S3 Transfer Acceleration
- AWS Direct Connect
- Storage Partners

Offline

- AWS Snow family



Data security and management

- Amazon Macie
- AWS QuickSight
- AWS Lambda
- AWS CloudFormation
- AWS CloudTrail
- AWS CloudWatch
- AWS IAM
- AWS KMS

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Storage Gateway Hybrid Storage Solutions

Use standard storage protocols to access AWS storage

AWS CloudTrail

Amazon CloudWatch

AWS Identity and Access Management (IAM)

AWS Key Management Service (KMS)

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A Few of Our Customers

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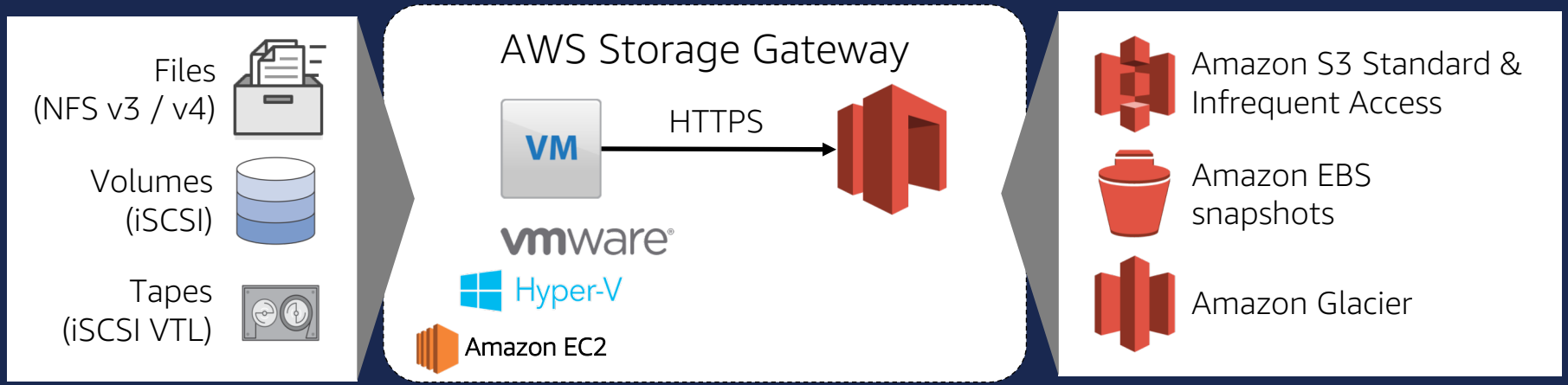
AWS Storage Gateway



Service uses an appliance to provide

- Protocol conversion and device emulation
- Caching (read-through / write-back)
- Optimized data transfer

Data stored in Amazon S3 with

- Native S3 management (File)
- Snapshots to EBS (Volume)
- Archive to Amazon Glacier (Tape)

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Tape Gateway

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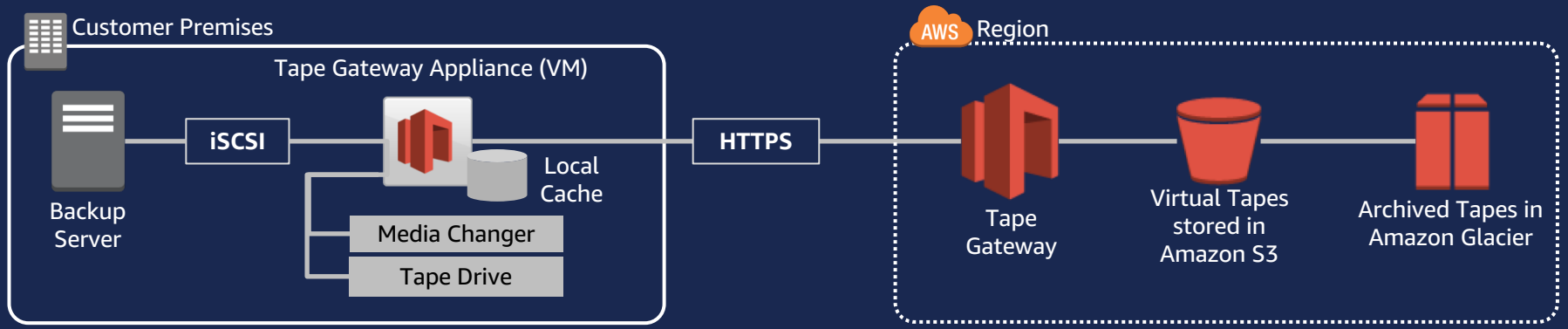
Tape Gateway

Virtual tape storage in Amazon S3 and Amazon Glacier with VTL management



- Easy cloud adoption: Virtual tape storage in S3 & Glacier accessed via gateway
- Secure & efficient: Data encrypted and compressed in-transit and at-rest
- Scalable: Unlimited archive capacity; up to 1 PB total tape storage per gateway
- Dependable: 3-5-hour tape retrieval from Amazon Glacier with 99.999999999% data durability
- Low-cost: Simple licensing, predictable storage costs, and reduced management time

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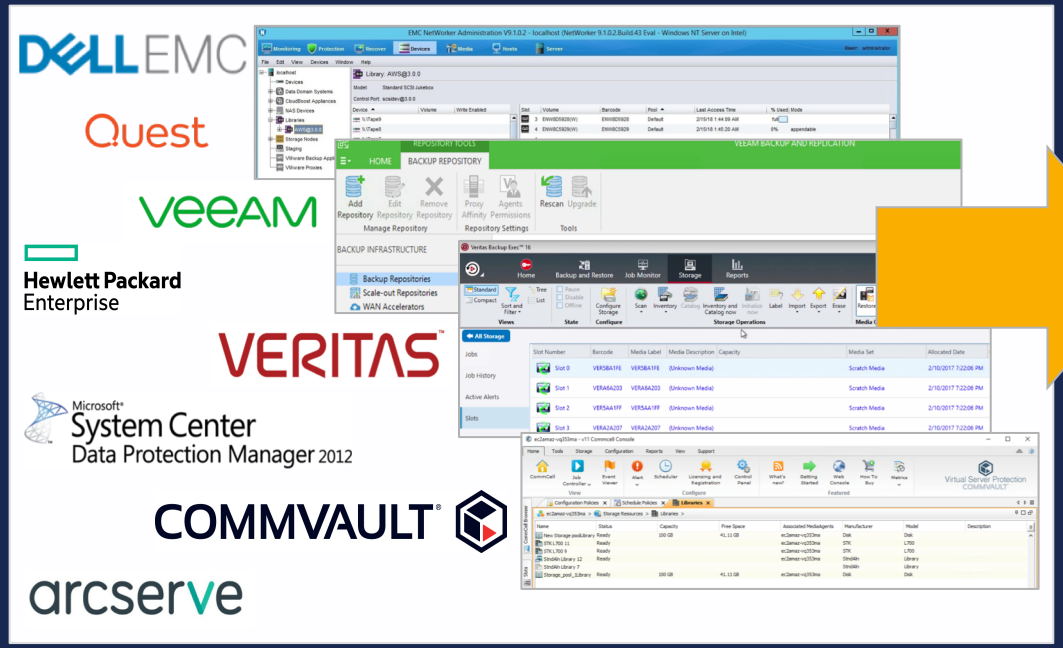
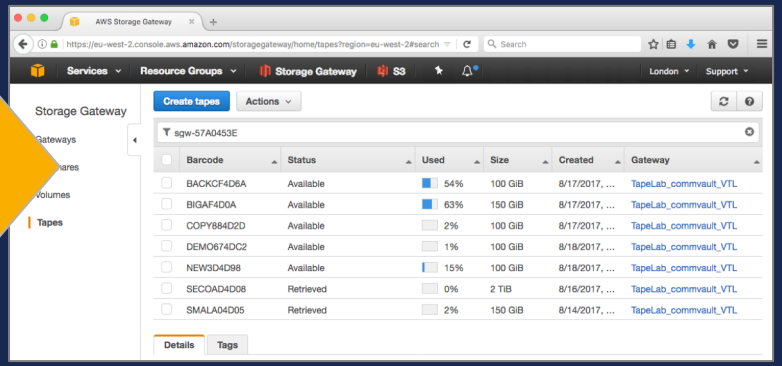
Drop-in replacement for tape backups

- Works with leading common backup applications
- Emulates a tape library
- Supports existing backup workflows





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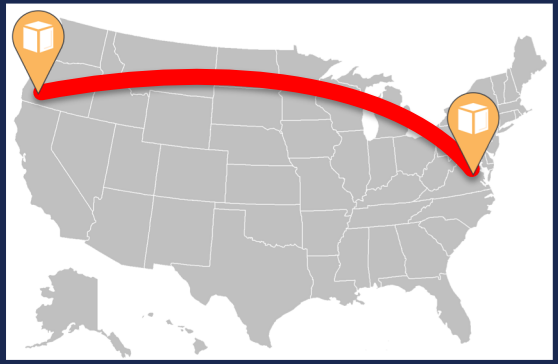
Backup, archive, and disaster recovery

Cost-effective storage in AWS with local or cloud restore

Southern OREGON UNIVERSITY

"**Tapes are a headache,** prone with hardware failures, offsite storage costs, and constant maintenance needs. Storage Gateway provided **the most cost-effective and simple alternative.** We even got disaster recovery by using a **bi-coastal data center.**"



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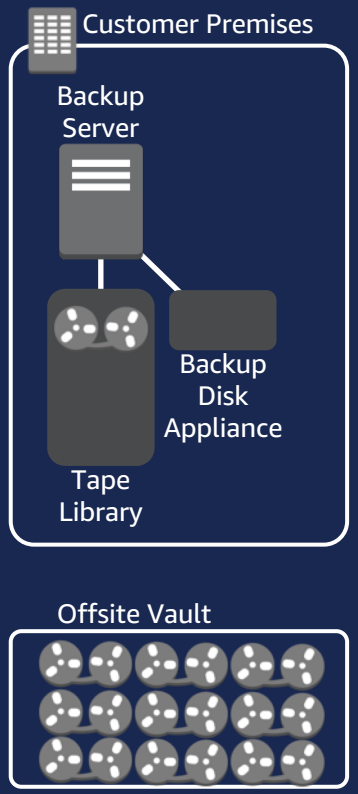
Your tape archive today



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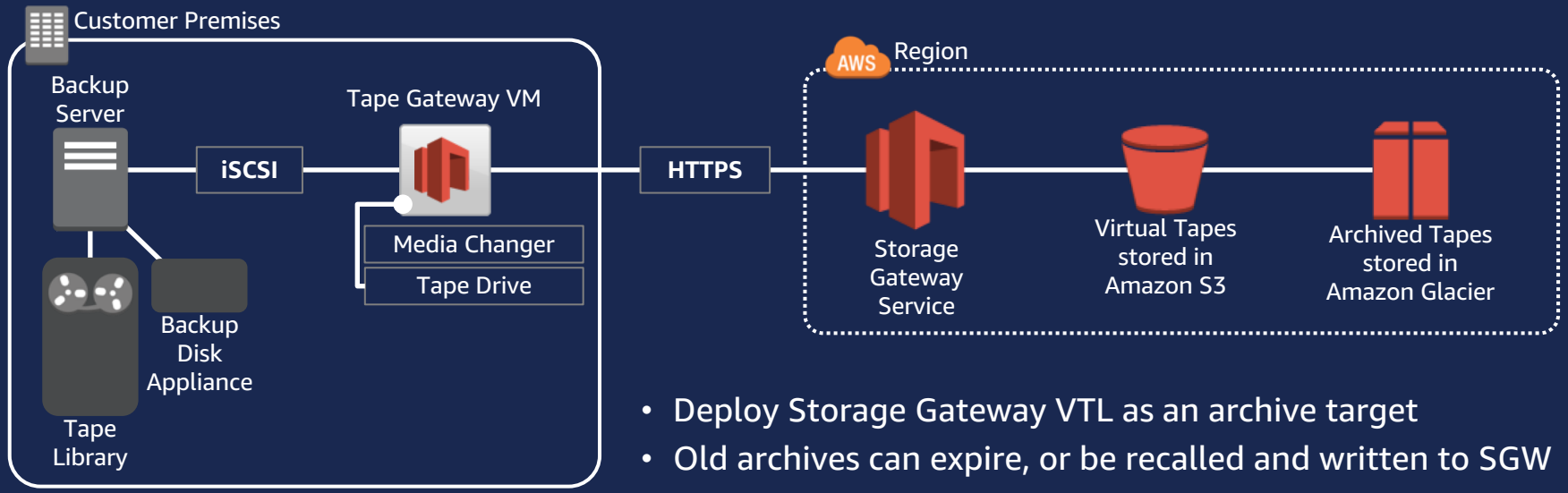
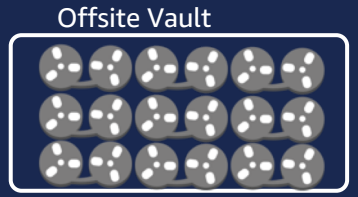
Move your tape archive



- Deploy Storage Gateway VTL as an archive target
- Old archives can expire, or be recalled and written to SGW
- Decommission Tape Library when all tapes are expired



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Volume Gateway

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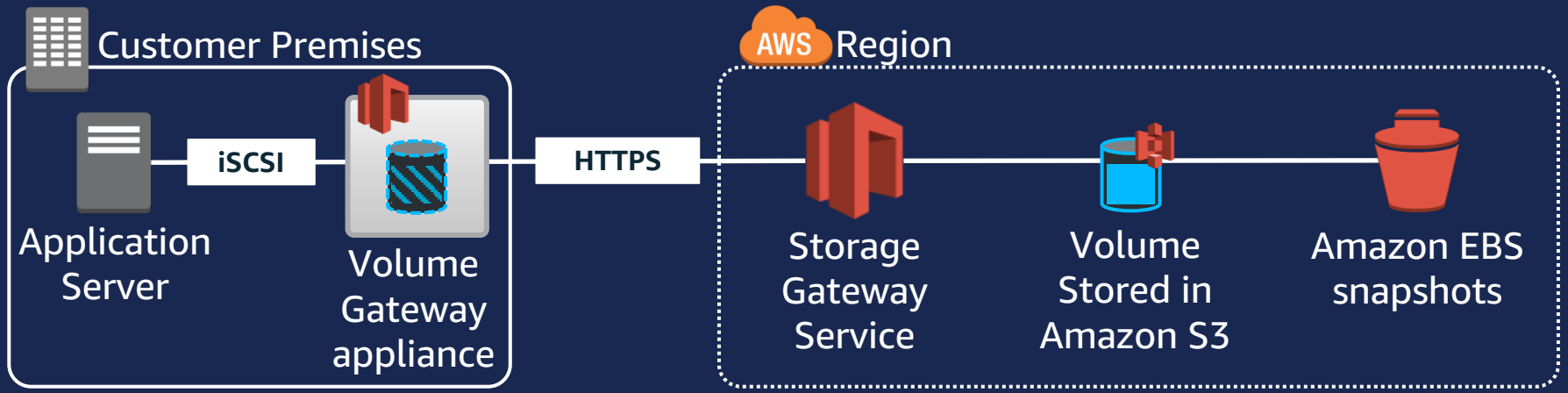
Volume Gateway

- Cloud-backed block storage that can be presented on-premises
- Tier snapshots or whole volumes to the cloud to reduce SAN/NAS mgt.
- Flexible recoveries in-cloud or on-prem. with snapshots and clones
- Common use cases: Tiered storage for Windows file servers, backup and restore, disaster recovery, data migrations



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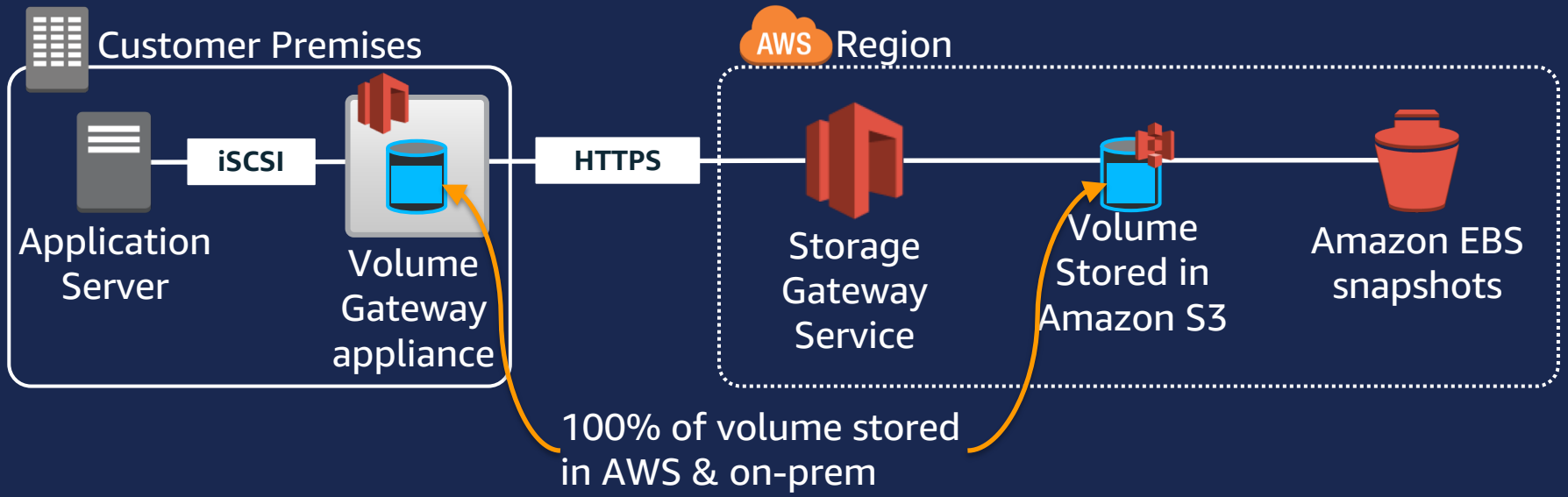
Volume Gateway – Stored Mode

Using *Stored Volumes* a full copy of the volume is stored on-premises and in the cloud



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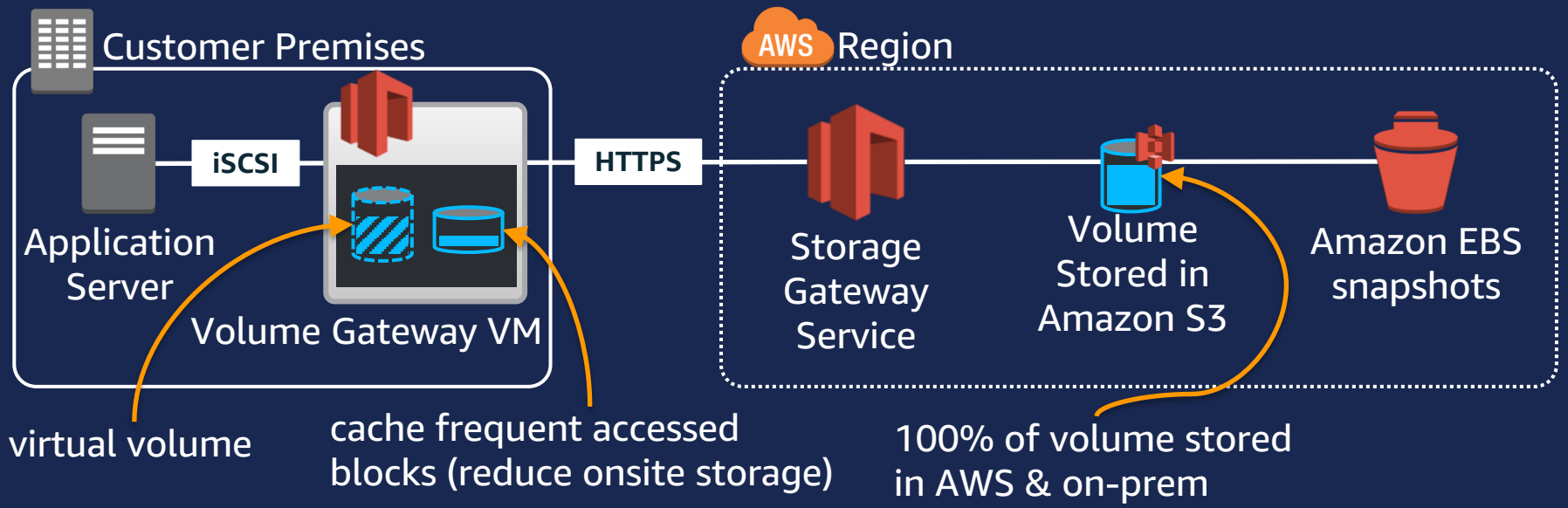
Volume Gateway – Cached Mode

Using *Cached Volumes* a full copy of the volume is stored in AWS and a portion (hot data) is stored on-premises



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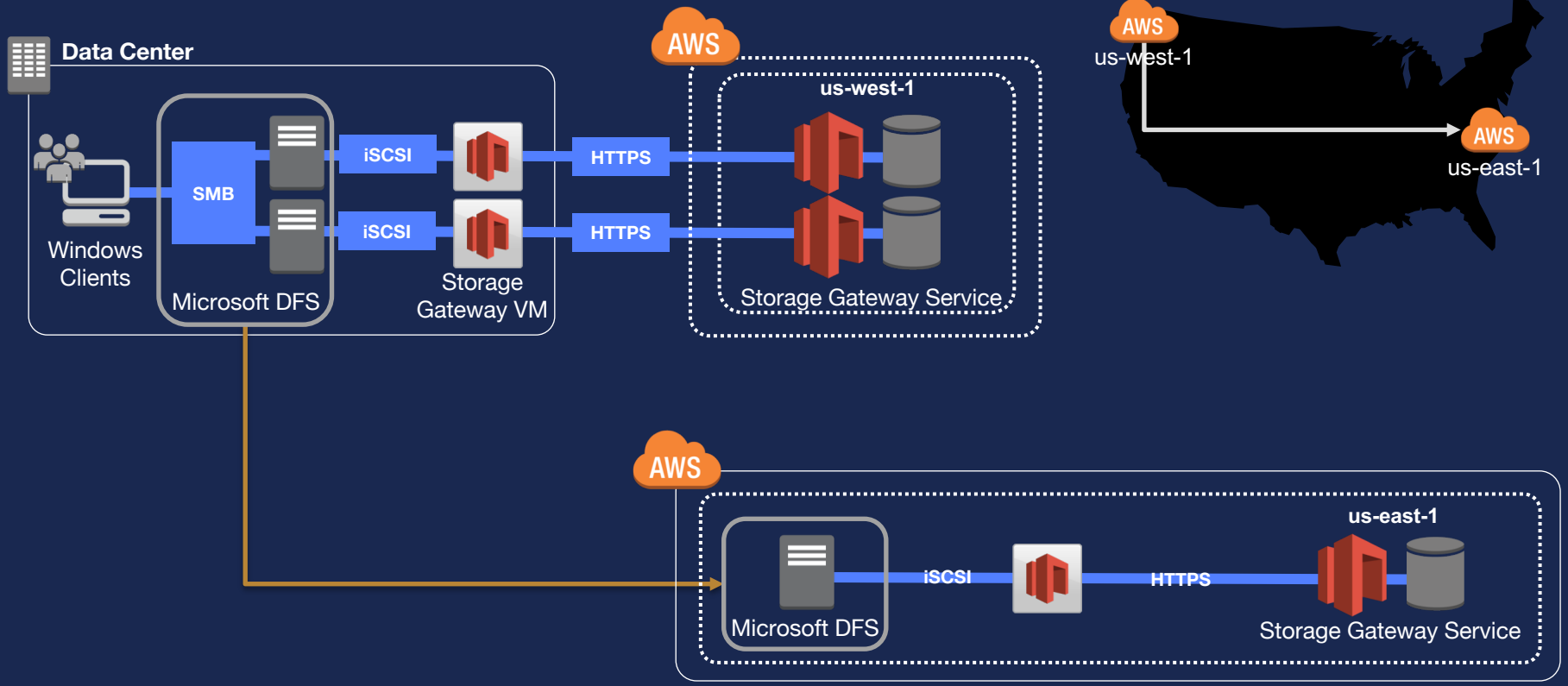
High availability Windows Server storage

Local HA with remote DR



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Flexible storage

Easily expand storage capacity on-demand

"Storage Gateway allows us to store backups offsite, create online archives of big files, and ***easily expand our file servers****. With cached volumes, we have the most used files local, and all of the files are stored safely in AWS.* ***We use Storage Gateway whenever we need a quick way to have big storage available.****"*

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Volume Gateway + EBS Snapshots

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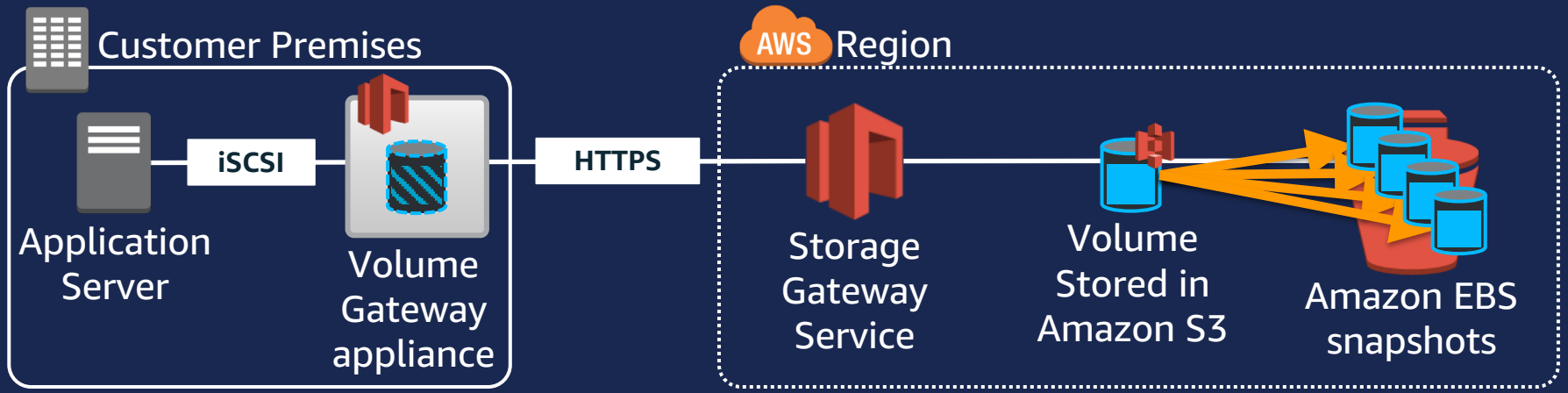
Volume Gateway – EBS Snapshots

Snapshots are point-in-time backups of a volume

Created on-demand or on a configurable schedule

Can be used to create an EBS or Storage Gateway volume



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Recovery with Volume Gateway

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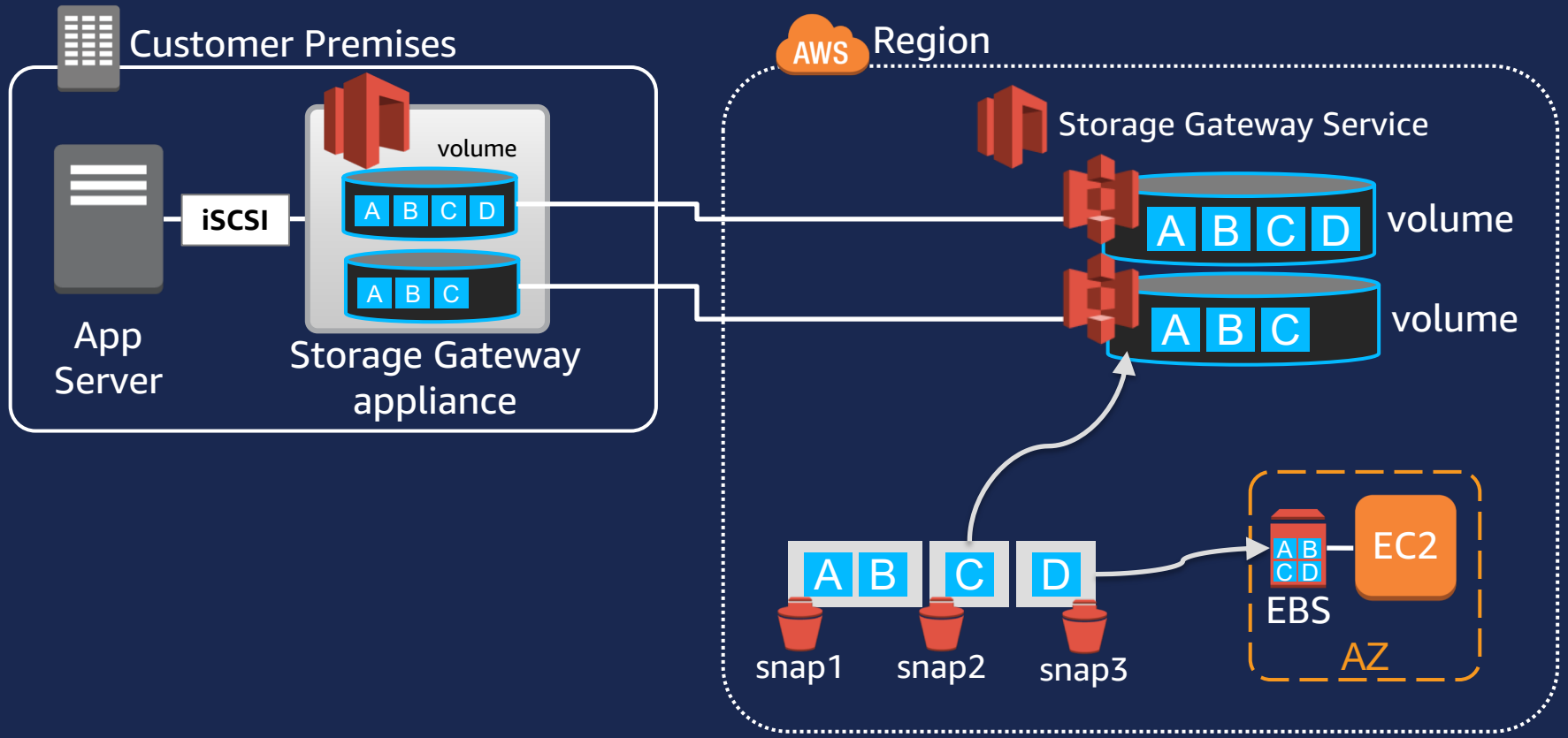
Recovery with EBS Snapshots



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File Gateway

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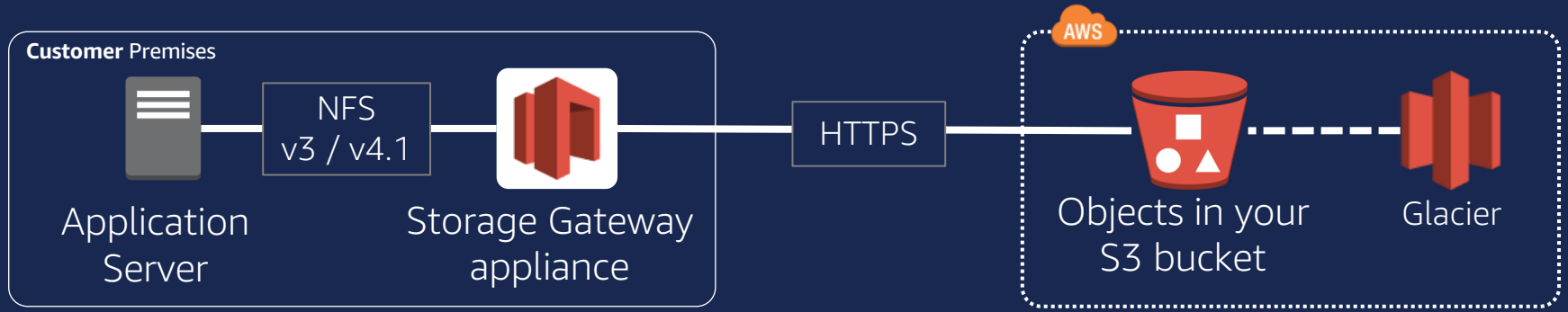
File Gateway

Store files as objects in Amazon S3; Access via S3 API or file protocols



- Storage in your S3 buckets with 1:1 mapping from files-to-objects
- File metadata stored in object metadata
- Full control over how your data is accessed and stored
- Use cases: Hybrid cloud data processing (Big Data/Data Lakes), data distribution, e.g. for content or media, backup & recovery, etc.

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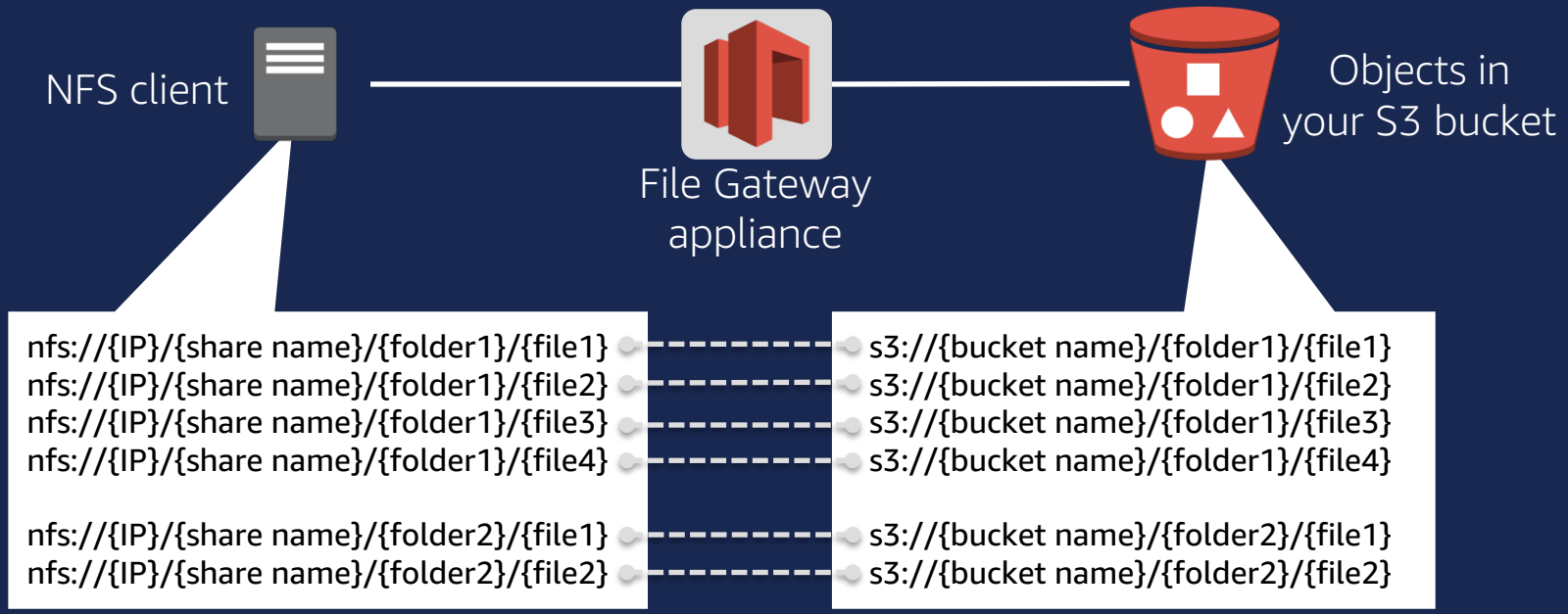
File Gateway

One-to-one mapping from files-to-objects



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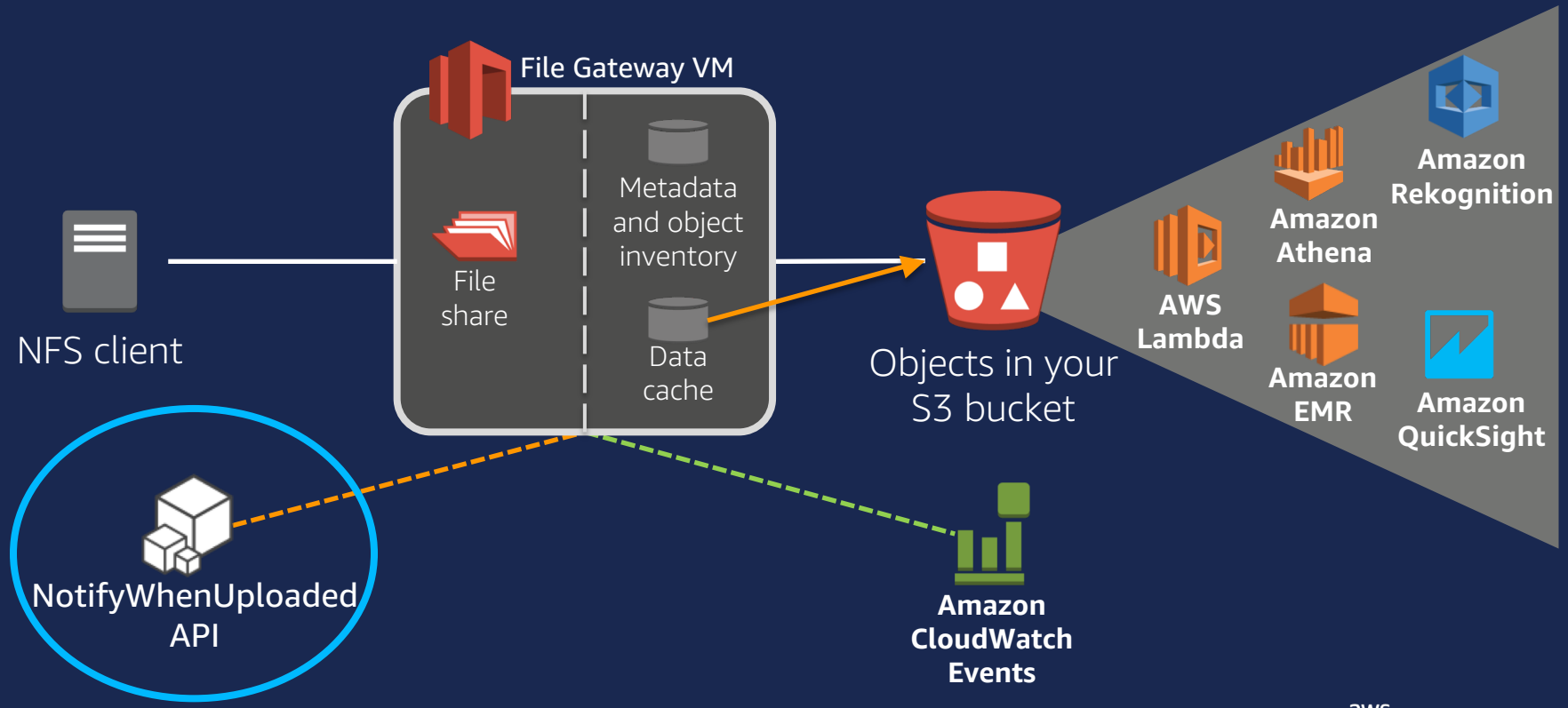
File Gateway

Metadata and workload automation



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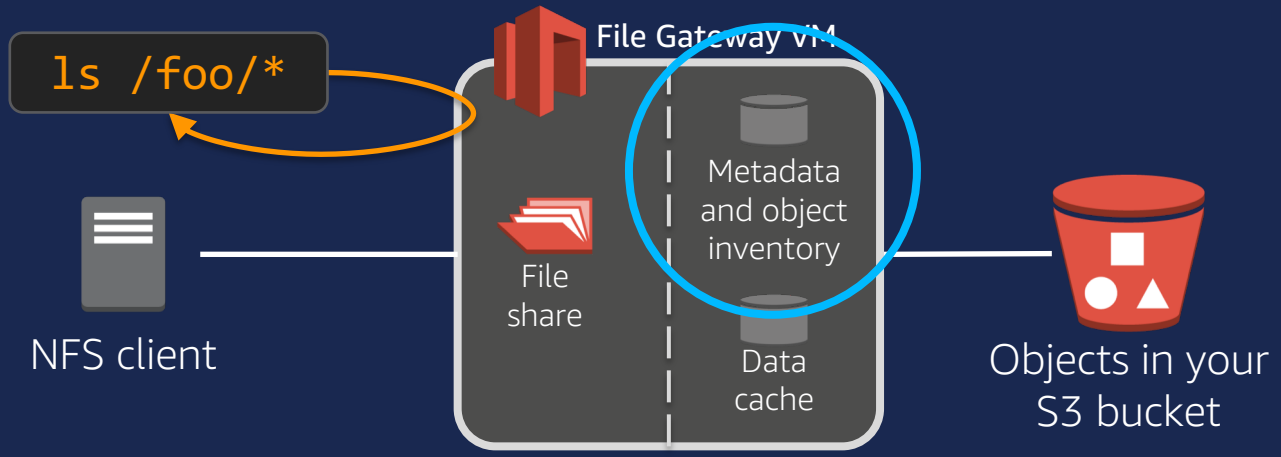
File Gateway

Metadata and workload automation



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File Gateway

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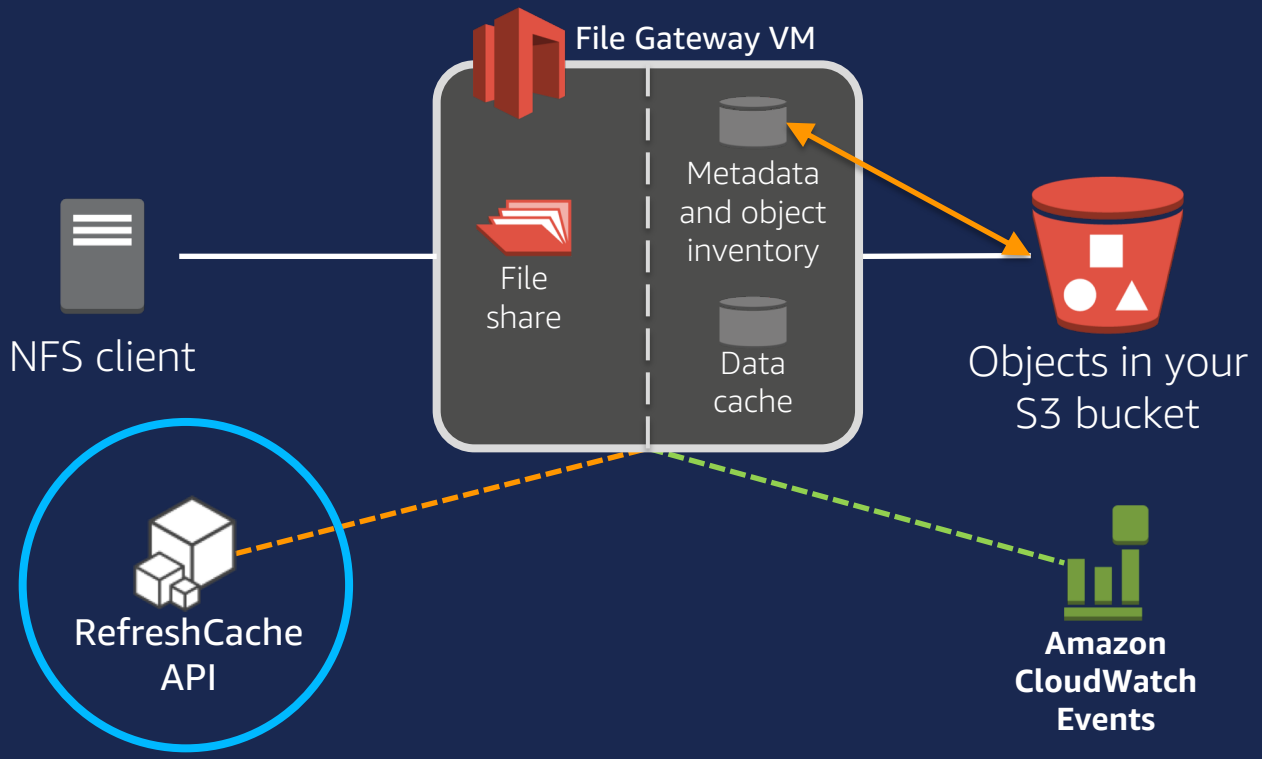

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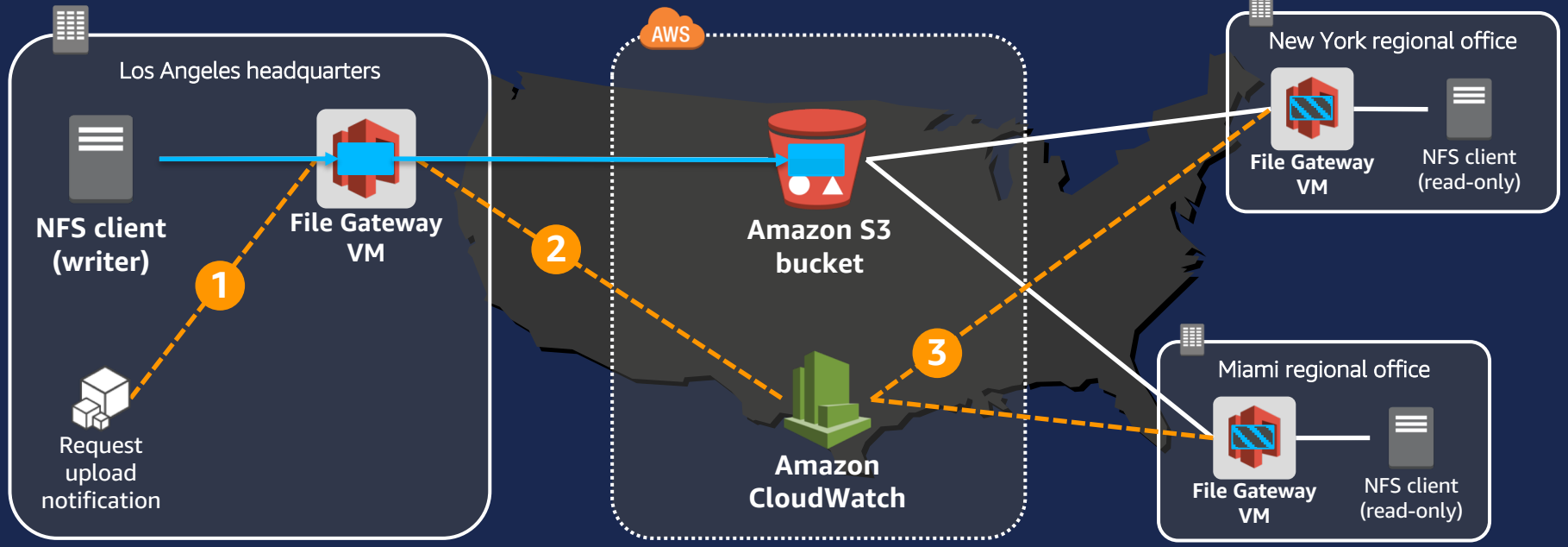
Content distribution with File Gateway



1. Client writes files and calls ***NotifyWhenUploaded*** API…
2. When files are uploaded, the gateway sends a CloudWatch Event…
3. Event triggers ***RefreshCache*** API on gateways in the remote offices
4. When ***RefreshCache*** completes, the gateway sends a CoudWatch Event notification

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Enabling cloud workloads

Move data to AWS storage for big data, cloud bursting, or migration

moderna

messenger therapeutics

"Storage Gateway has the promise to transform the way we move data into the cloud. The NFS interface lets us **easily integrate data files from analytical instruments,** and the transparent S3 storage lets us easily connect our cloud-based applications and leverage the **powerful storage capabilities of S3**.
With Storage Gateway, we can now **unleash the full power of AWS on our instrument data.**"

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AWS Storage Gateway

aws SUMMIT

- Seamlessly connect on-premises applications with AWS Cloud storage; No changes to existing applications
- Local cache for low-latency access to data stored durably in AWS
- Supports use cases throughout your cloud journey:
  Backup & DR, tiered storage, hybrid processing workflows, migration
- Login to your AWS account, download the VM (or launch an EC2 instance), deploy new on-premises storage in minutes

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