AWS Storage Gateway

Amazon S3 File Gateway: Store and access objects in Amazon S3 from NFS or SMB file data with local caching

The hybrid cloud model:

YOU HAVE ON-PREMISES DATA AND APPLICATIONS…

Existing applications & data archives

New data sources

End users

AWS

…that want to use storage and services in the cloud

Hybrid cloud storage challenges

On-premises

In-cloud

On-premises	In-cloud
I am running out of on premises storage capacity	…and need to use scalable, durable, and secure cloud storage
I want to run my existing applications without change (files, backups, archive)…	…but leverage the infinite scale of the cloud
I need low latency, on premises access to data in the cloud…	…while accessing the power of cloud compute and analytics
Compliance requires that I integrate with enterprise security and management tools…	…but I want to manage & monitor from a single pane of glass

Storage Gateway

Amazon S3 File Gateway

Amazon FSx File Gateway

Tape Gateway

Volume Gateway

Native file access, SMB or NFS, to Amazon S3 for backups, archives, and ingest for data lakes

Replace on-premises Windows file shares with efficient, low-latency Amazon FSx for Windows based group file shares and home directories

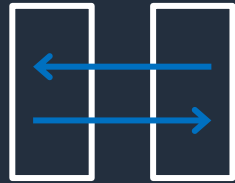Replace physical tape infrastructure leveraging Amazon S3 archive tiers for long-term retention

Block storage volumes with snapshots, AWS Backup integration, and cloud recovery

Storage Gateway – benefits

EASY ON-RAMP TO CLOUD BENEFITS

Standard protocols
No changes to existing apps

Local caching
Low-latency access to frequently used data

Optimized data transfers
Minimized network traffic

Secure and compliant
FIPS, HIPAA, PCI, SOC*, ISO**, and encryption

Cost-effective
Pay-as-you-go pricing

AWS-integrated
Management, monitoring, and in-cloud workloads

*SOC (1, 2, 3) **ISO (9001, 27001, 27017, 27018)

S3 File Gateway – How it works

S3 IS MANAGED BY THE CUSTOMER

On-premises

AWS Cloud

S3 File Gateway

Control Plane
(HTTPS)

Storage Gateway
Managed Service

NFS v3/v4

OS,
Metadata
Cache

Data Cache

SMB v2/v3

Application
Server

Common
Protocols

Root
Disk

Cache
Disk(s)

Data Plane
(HTTPS – Direct to S3)

S3 Bucket(s)

**Can be cross-region
and/or cross-account**

Optimized
data transfers

**Disks should be SSD
whenever possible**

Files are stored as native S3 objects.
Durable, scalable, cost effective.

Low-latency cache

Amazon S3 File Gateway for on-premises backup

MOVE DATABASE AND FILE BACKUPS INTO THE CLOUD AND FREE UP ON-PREMISES STORAGE CAPACITY

Features

NFS/SMB protocol support, mount shares directly on database and application servers

Files stored durably in Amazon S3, lifecycle to any S3 storage class

Local cache for accessing recent backups

Windows ACL support to control access to backup files

Bandwidth-optimized, only changes are transferred

Benefits
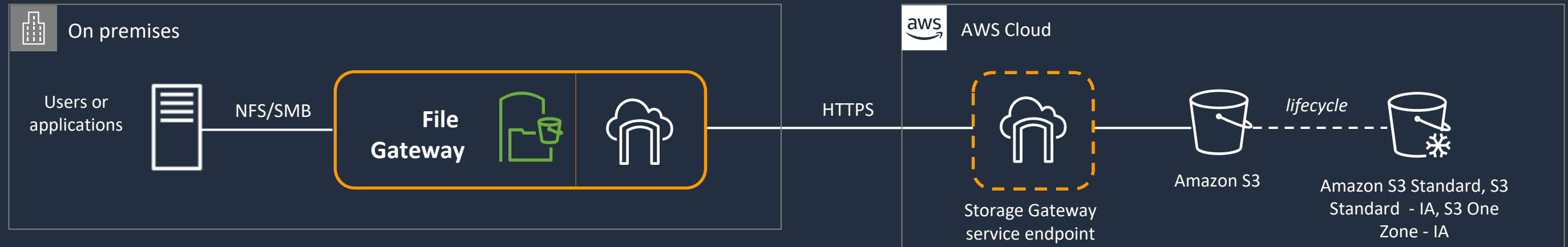
Reduce on-premises storage for backups

Easily integrates with SAP, SQL Server, Oracle, HDFS and other applications

Restore backups on-premises or in the cloud on EC2 or RDS

Amazon S3 File Gateway for archive

Move archives into the cloud and free up on-premises storage capacity

Features

NFS/SMB protocol support, mount shares directly on client systems

Files stored durably in Amazon S3, lifecycle to any S3 storage class

Local cache for recently accessed files

Windows ACL support to control access to archive files

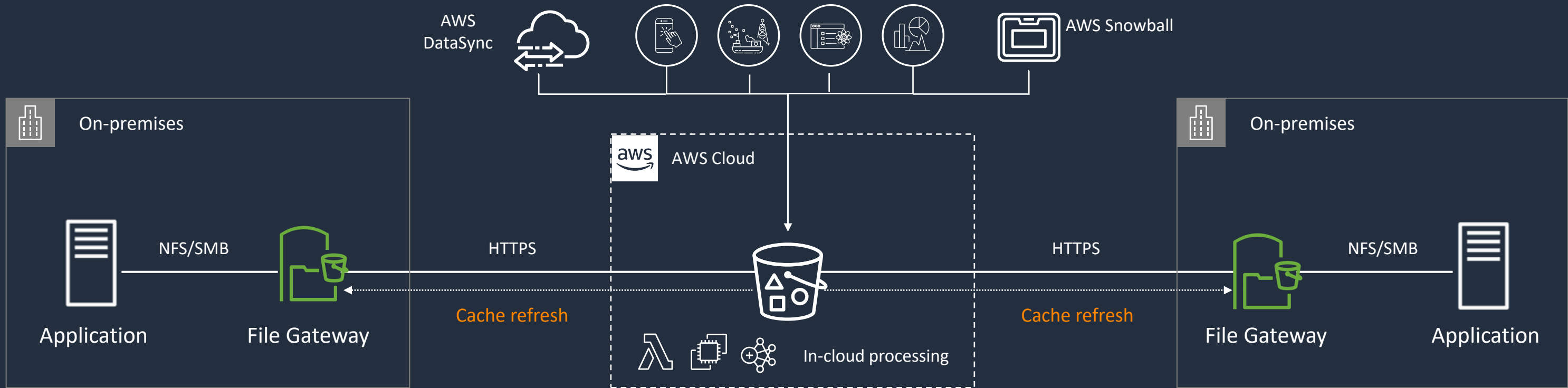Bandwidth-optimized, only changes are transferred

Benefits

Cost optimization

Reducing on-premises capacity

Data protection with S3 Versioning. S3 Object Lock and S3 Replication

Amazon S3 File Gateway for building data lakes

INGEST AND ACCESS FILES QUICKLY FROM DISTRIBUTED LOCATIONS AND SCALE CAPACITY AS NEEDED

Features

Generate data in-cloud or ingest from on-premises

Fully-managed gateway cache provides low-latency access to data

Up to 64 TB of cache per gateway and automated cache refresh at 5 min intervals

Option to access files using the S3 API

Benefits

Access cloud storage from any on-premises location

Process data in the cloud and refresh gateway cache for up-to-date results

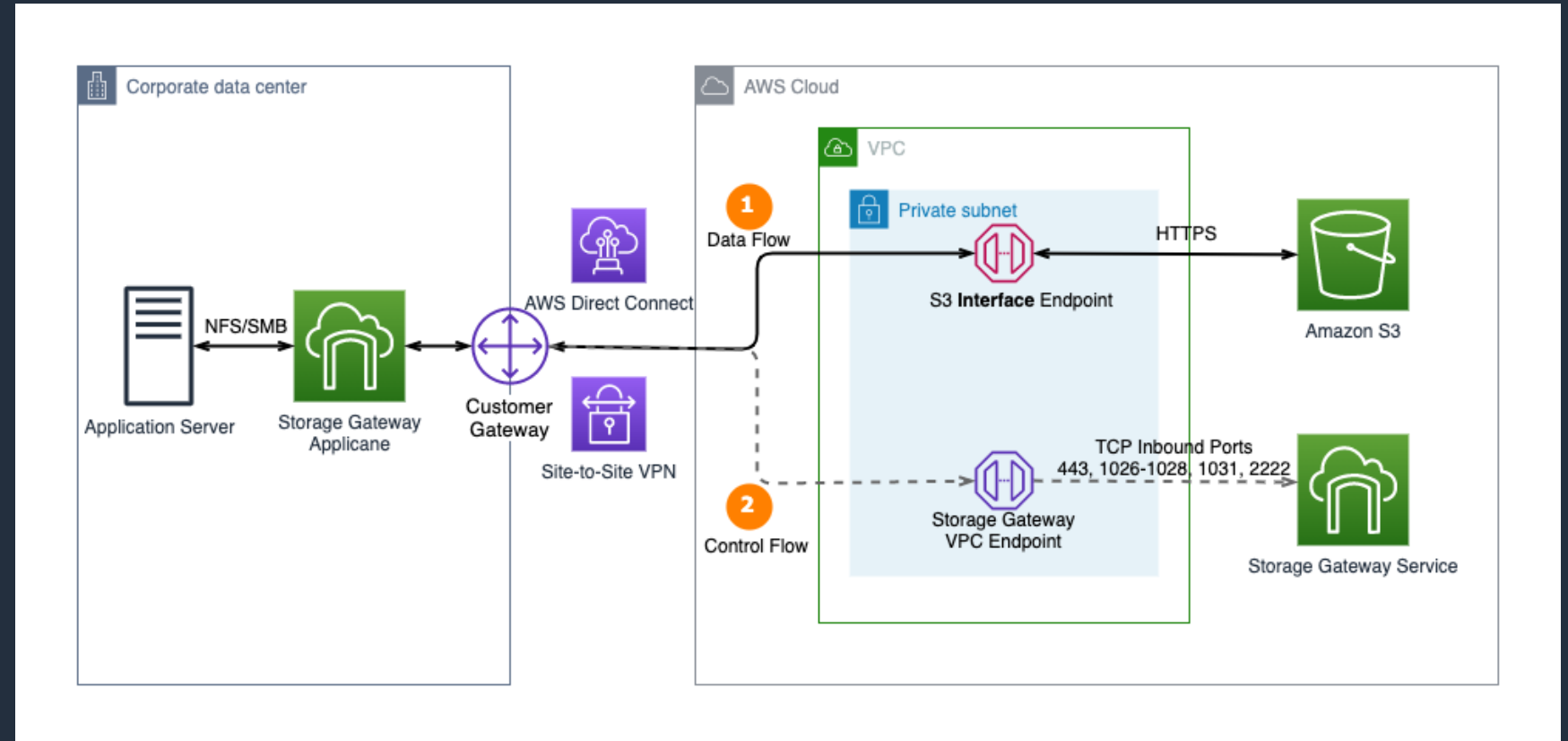Data stored cost-effectively and centrally in the cloud

Endpoint Types

- Storage Gateway Endpoints
- Public
- Public with FIPS enabled
- VPC
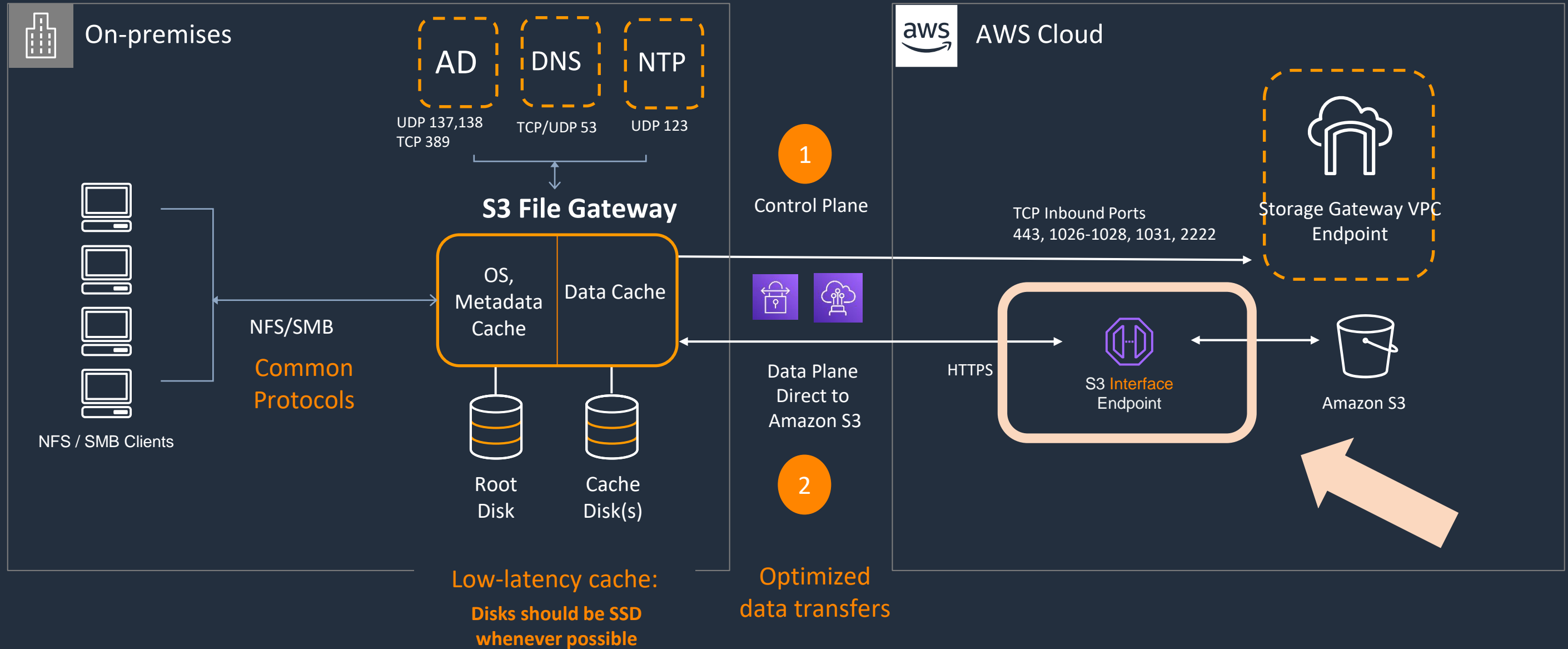
- S3 Endpoints
- Public
- Public with FIPS enabled
- VPC with S3 PrivateLink (S3 Interface and S3 Gateway)

- *Note* Access points and Access point aliases are now supported

Amazon S3 File Gateway

- Connect using NFS v3/v4 or SMB v2/v3 protocols
  - Files stored as native S3 objects
  - Metadata is preserved as object user metadata

- Object-level encryption with SSE-S3 or SSE-KMS

- Fully managed local cache
  - Read-through, write-back, LRU managed

- Notifications through Amazon CloudWatch (e.g., upload complete)

- Optimized data transfers
  - Uploads only sends changes, downloads retrieve file parts needed

- Automated cache refresh
  - Optimizes content distribution workloads

- Performance
  Client writes at up to 4 Gbps