



# Shared Block Storage in the Cloud is Nothing New

Tamir Berg, Cloud Solutions Architect  
Oded Berman, Cloud Evangelist

# Agenda slide

List major section of your presentation

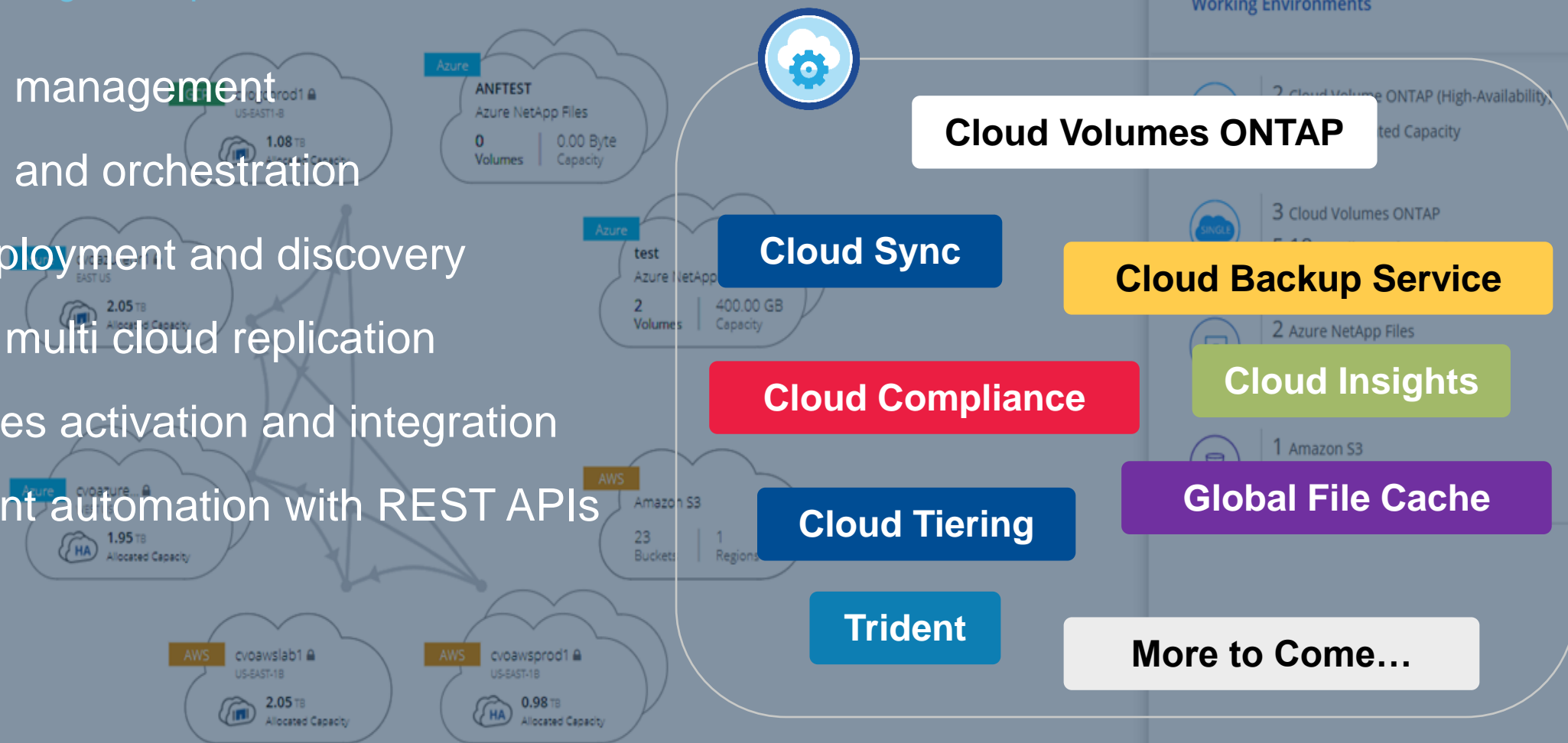
- 1) NetApp Cloud Solutions Overview
- 2) Mission Critical Applications Requirements
- 3) NetApp Cloud Block Storage
- 4) Demo
- 5) Q & A



# Cloud Manager

Data lifecycle management platform

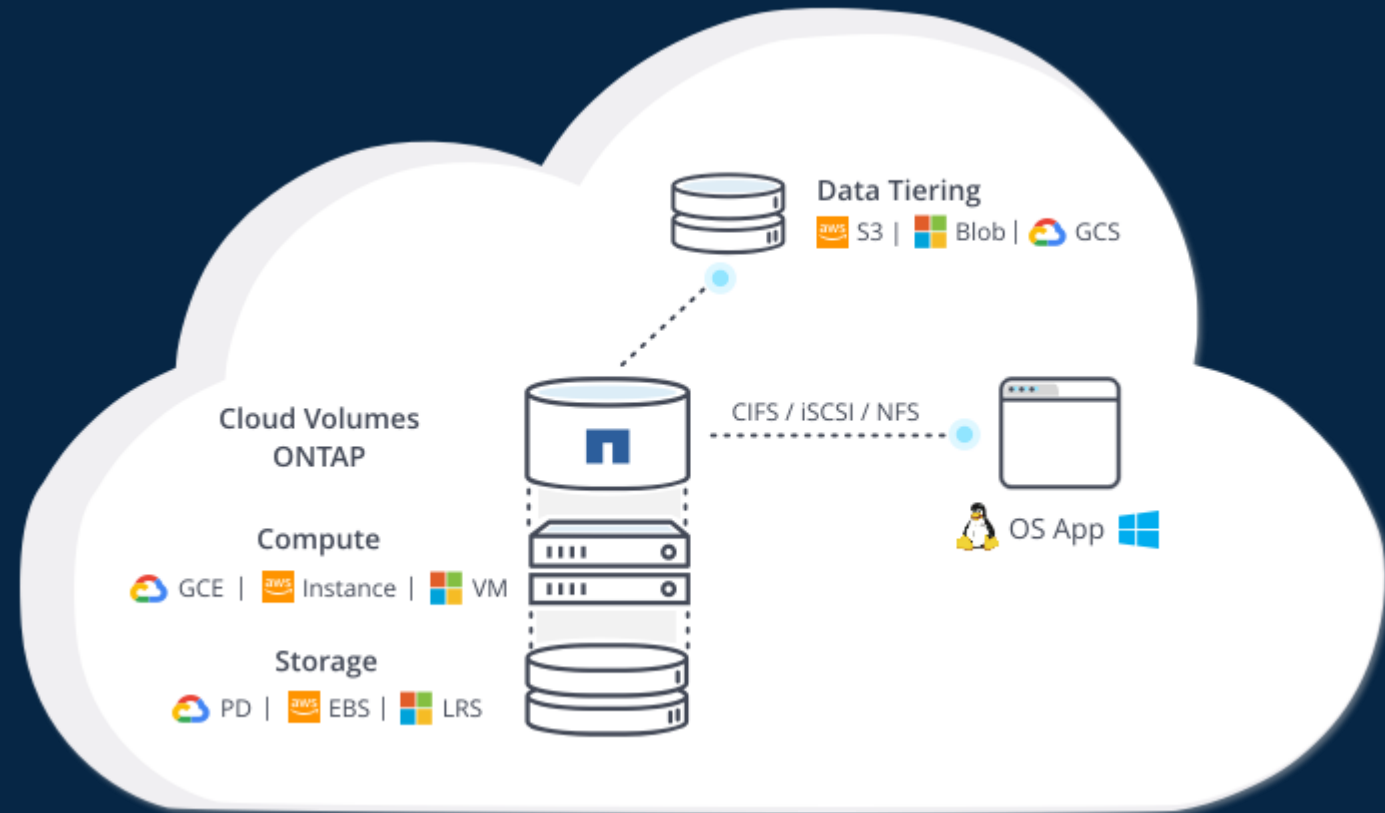
- Centralized management
- Automation and orchestration
- Storage deployment and discovery
- Hybrid and multi cloud replication
- Data services activation and integration
- Management automation with REST APIs



# Cloud Volumes ONTAP

## Overview & Architecture

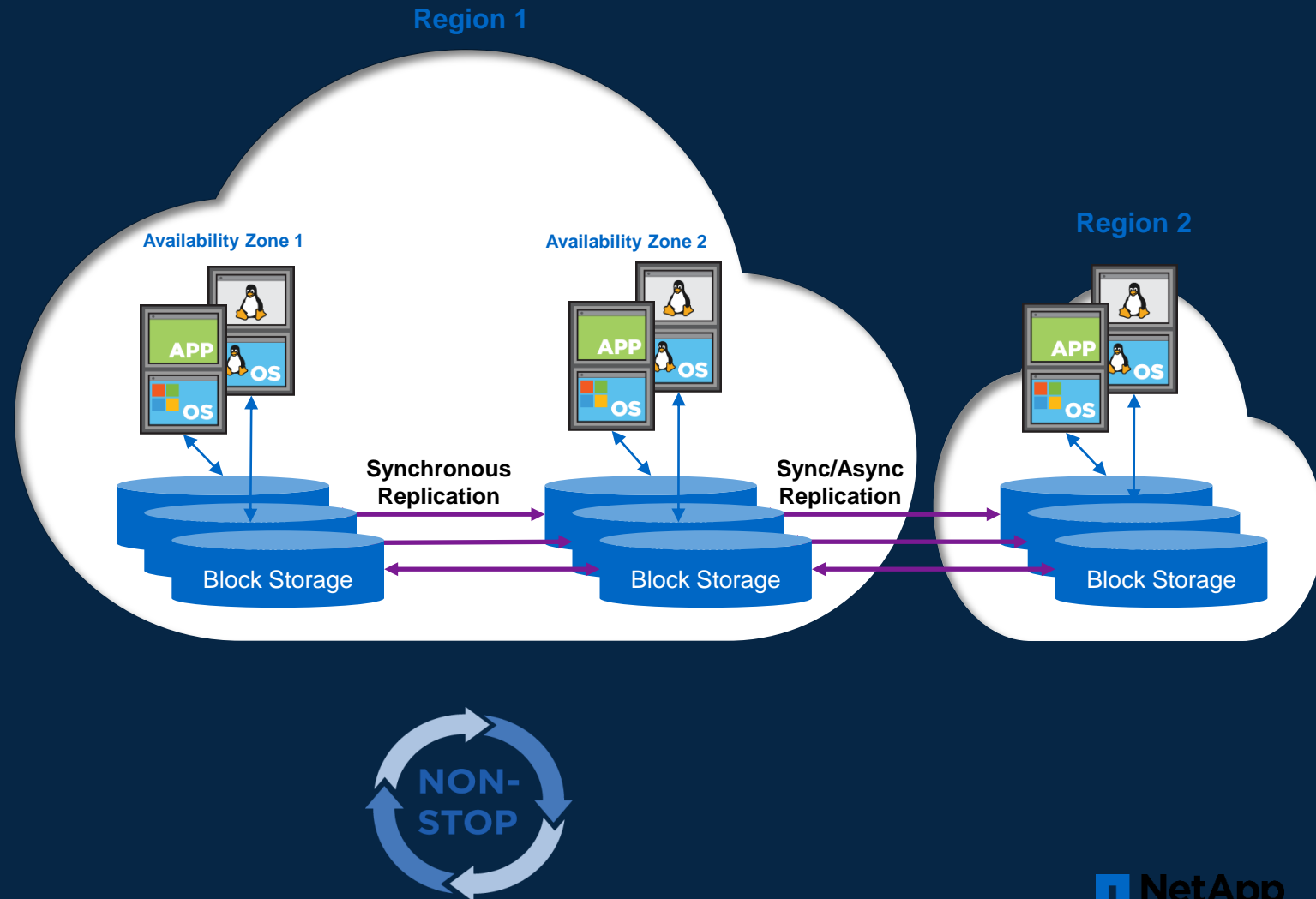
- A fully-fledged version of ONTAP running in the public cloud
- Consumes native cloud infrastructure
- Supports cloud-first, cloud-only, and hybrid multi cloud strategy
- Mature, proven technology
- Available in a pay-per-use or licensed model
- Same ONTAP tools and processes



# Mission Critical Applications Requirements

Challenges waiting to be addressed

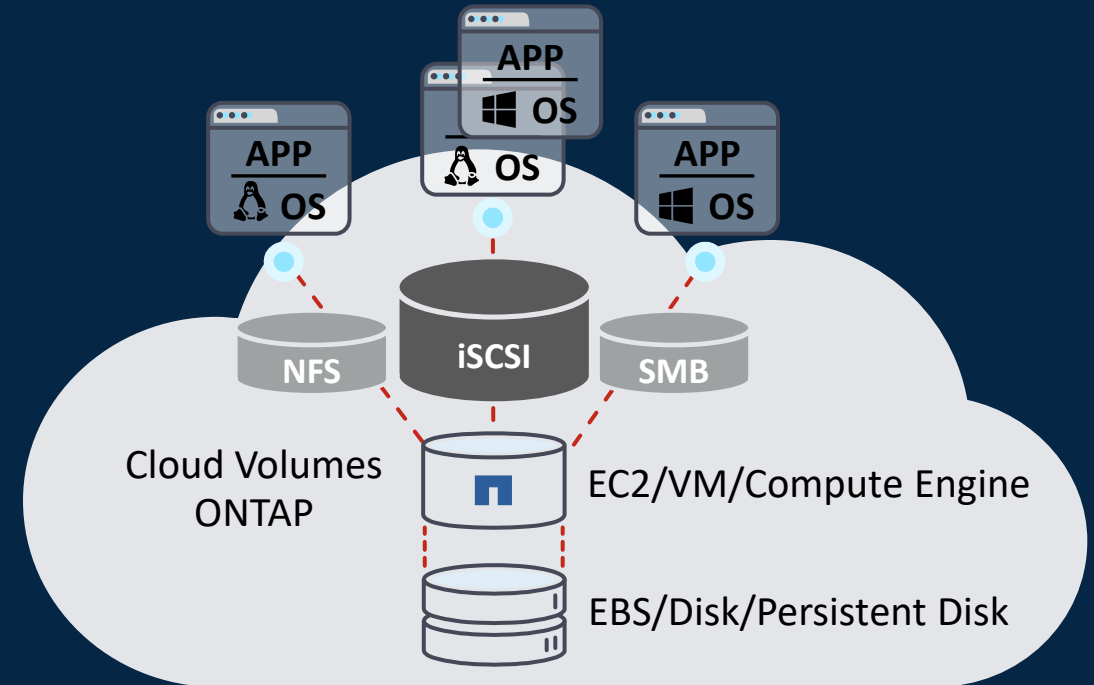
- Block level storage
  - Low latency
  - App requirement
- Data protection
  - High availability
  - Disaster recovery
- Storage scalability
- Data agility
- Hybrid multicloud mobility
- Cost-efficient



# NetApp Cloud Block Storage

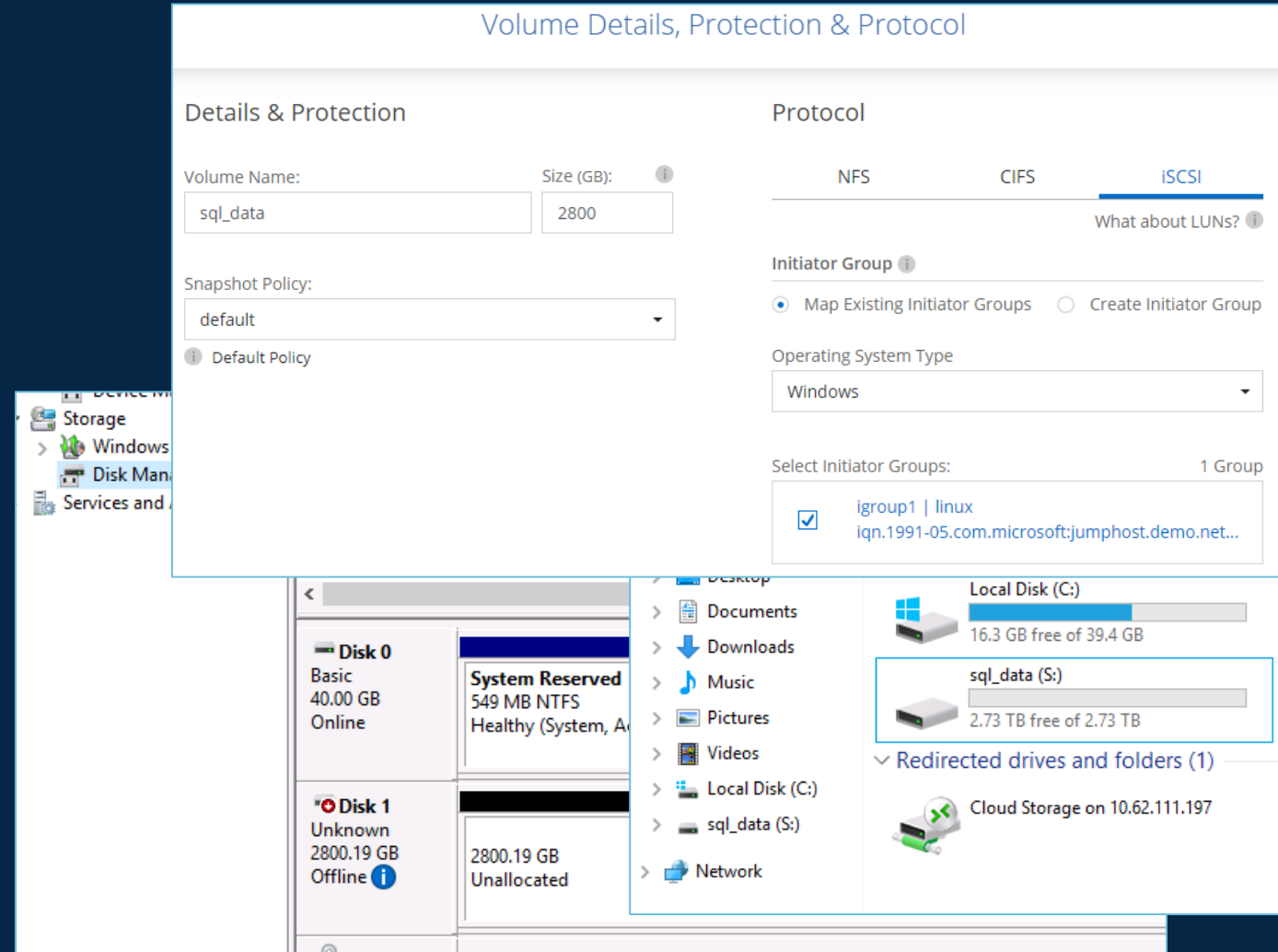
## Overview & use cases

- Unified storage architecture
- iSCSI LUNs as block containers
  - Secured authentication (CHAP)
  - In-flight data encryption (IPsec)
- Shared/multi-attached block storage
- Consistent high performance
- Use cases
  - Enterprise applications & databases
  - Big data analytics
  - File systems & media workflows
  - GCVE datastores & in-guest to all



# Setting up Cloud Block Storage

- No license is required
- No setup and configuration
- Simple workflow
  - Create a block storage volume (iSCSI LUN)
  - Associate app hosts (Initiator Group)
  - Mount to app hosts
  - Access disk drive
- Configure data protection

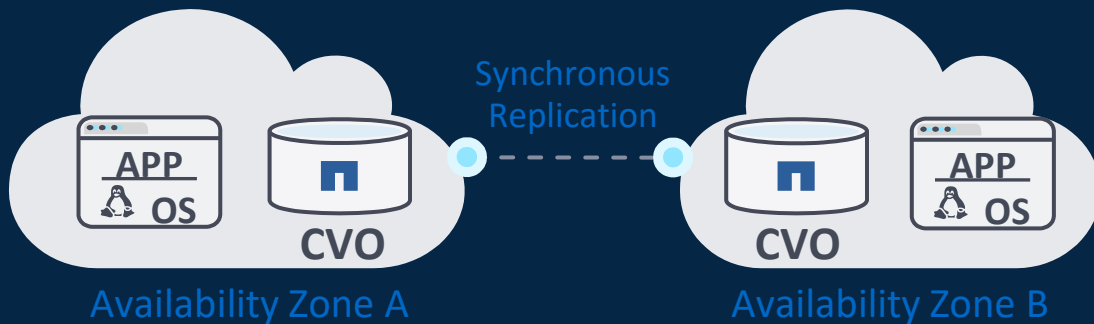


# High Availability Configuration

Business continuity



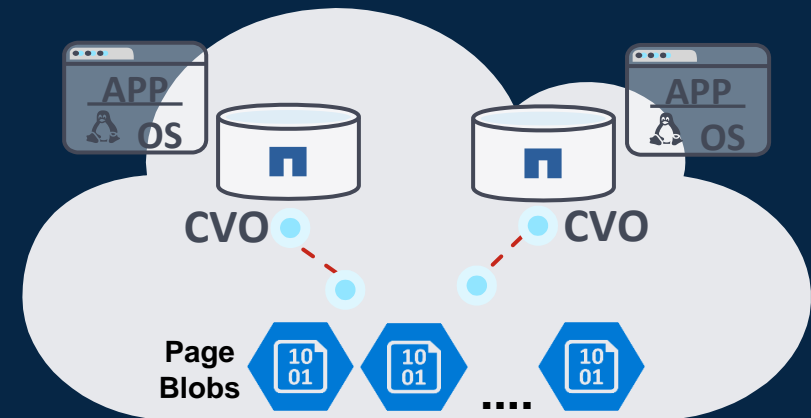
- Multi-AZ high availability
- Synchronous data replication
- Automatic failover & failback
- RPO=0 and RTO < 60s
- Non-Disruptive upgrades (NDU)



Coming soon!



- Same Resource Group
- Availability Set
- Single data copy
- RPO=0 and RTO < 60s
- Seamless failover & failback

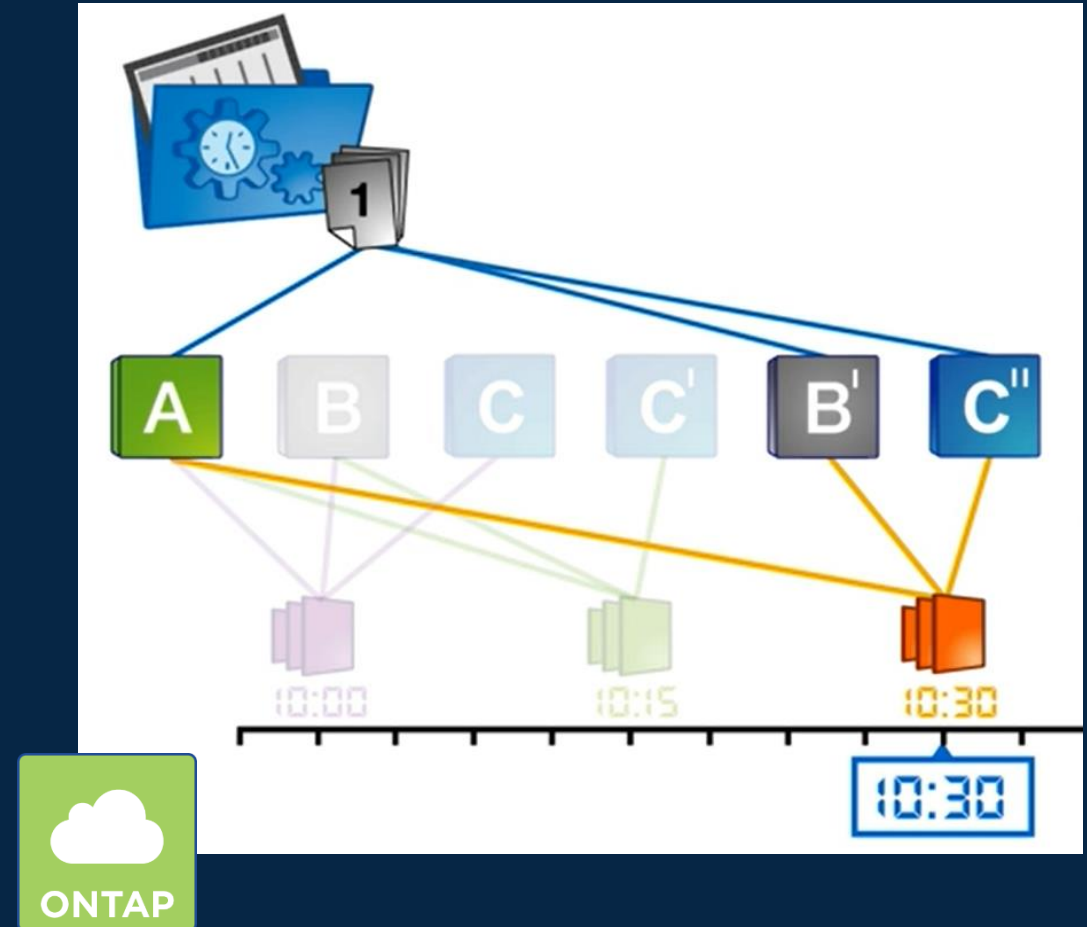




# Local Data Protection

Instantaneous point-in-time Snapshots

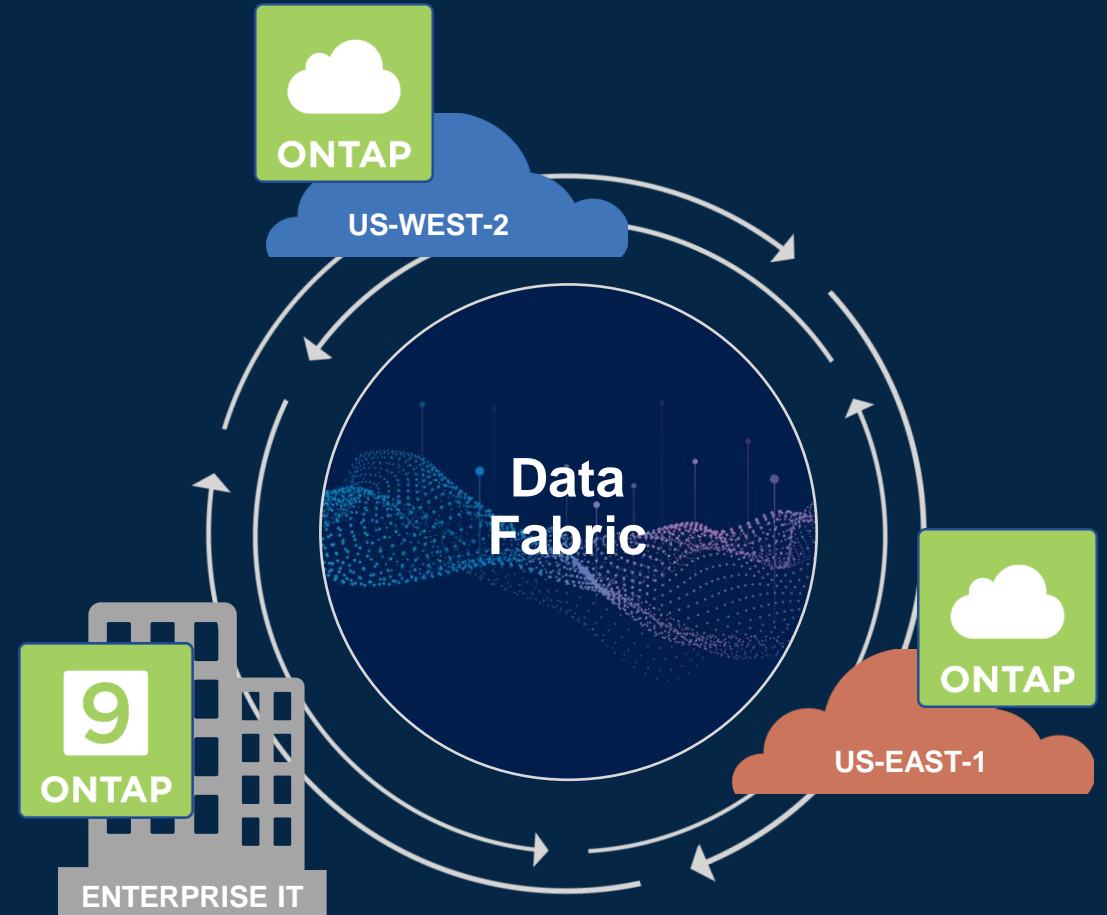
- Readonly point-in-time image
- Instantaneous application local backup
- None disruptive to running applications
- Application & database integrated
- Zero penalty on performance & capacity
- Use cases:
  - Restore
  - Cloning
  - Replication



# Remote Data Protection

Cross site SnapMirror data replication

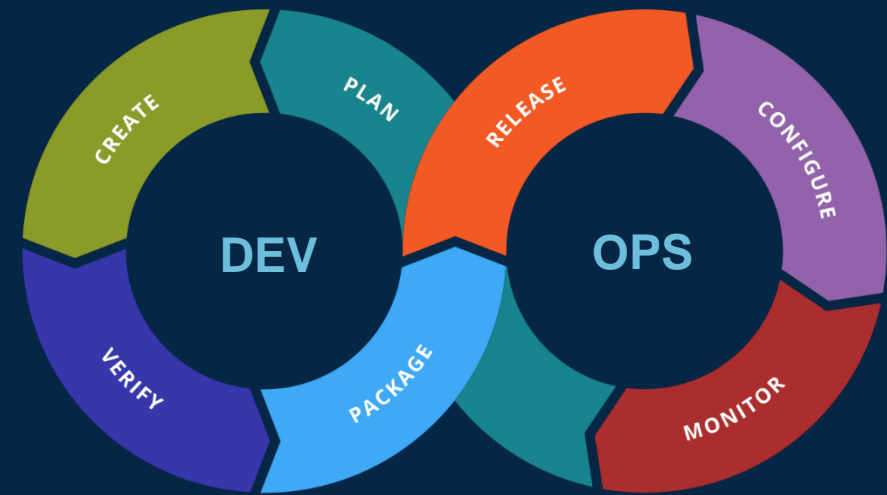
- Hybrid multi cloud data mobility engine
- Continuous efficient data transfer
- Application & database integrated
- Use Cases
  - Disaster Recovery
  - Backup
  - Archive
- Quick restore, failover & failback
- Simple launch, manage and test via UI & API



# Lightning Fast & Cost-Efficient DevOps & Dev/Test

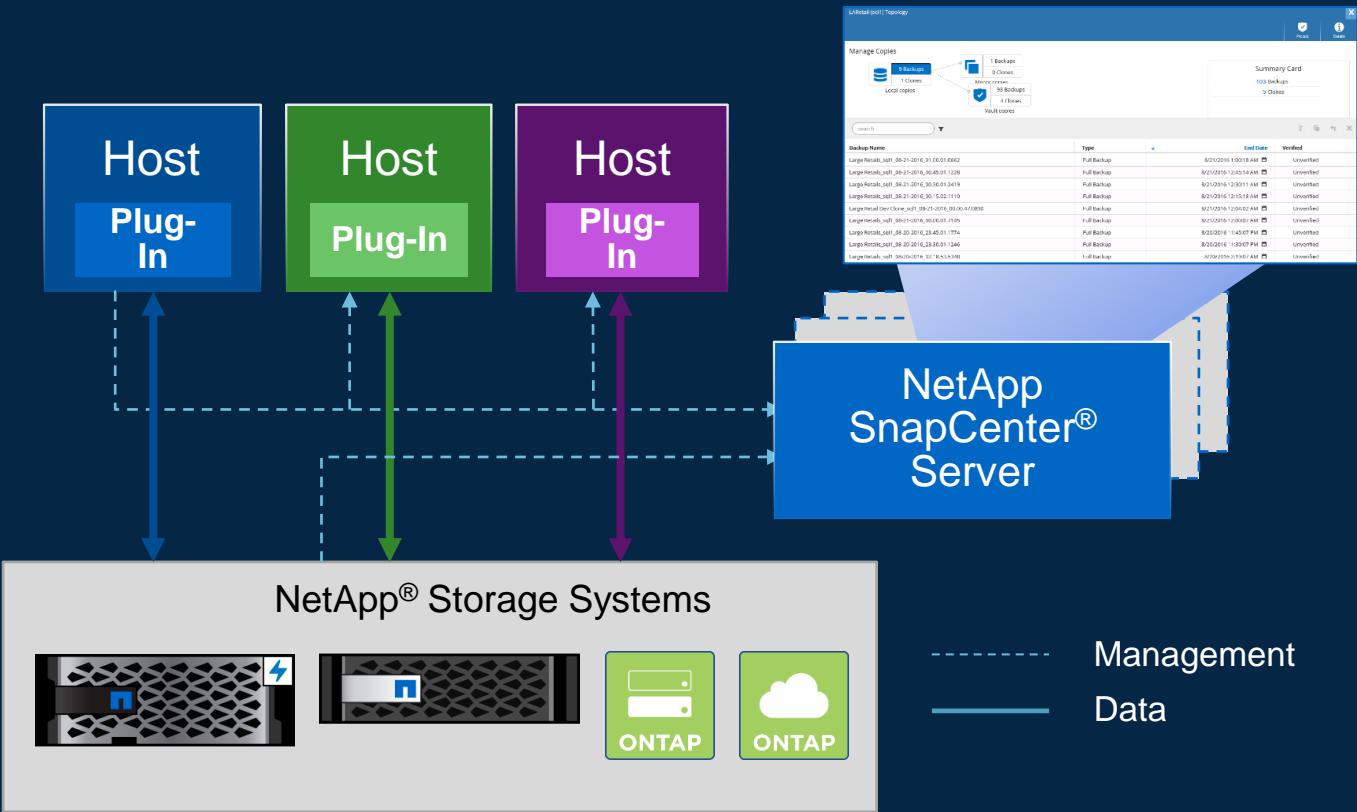
Accelerate your CI/CD pipeline with automated clones

- Take advantage of cost-effective industry leading data management features such as FlexClone, Snapshots, etc.
- Instantaneous writeable data sets
- Zero capacity & performance overhead
- Integrate to CI/CD pipeline with REST API
- Simplify disaster recovery testing



# Application-Aware Data Protection and Clone Management

SnapCenter, a unified, scalable software for consistent data protection

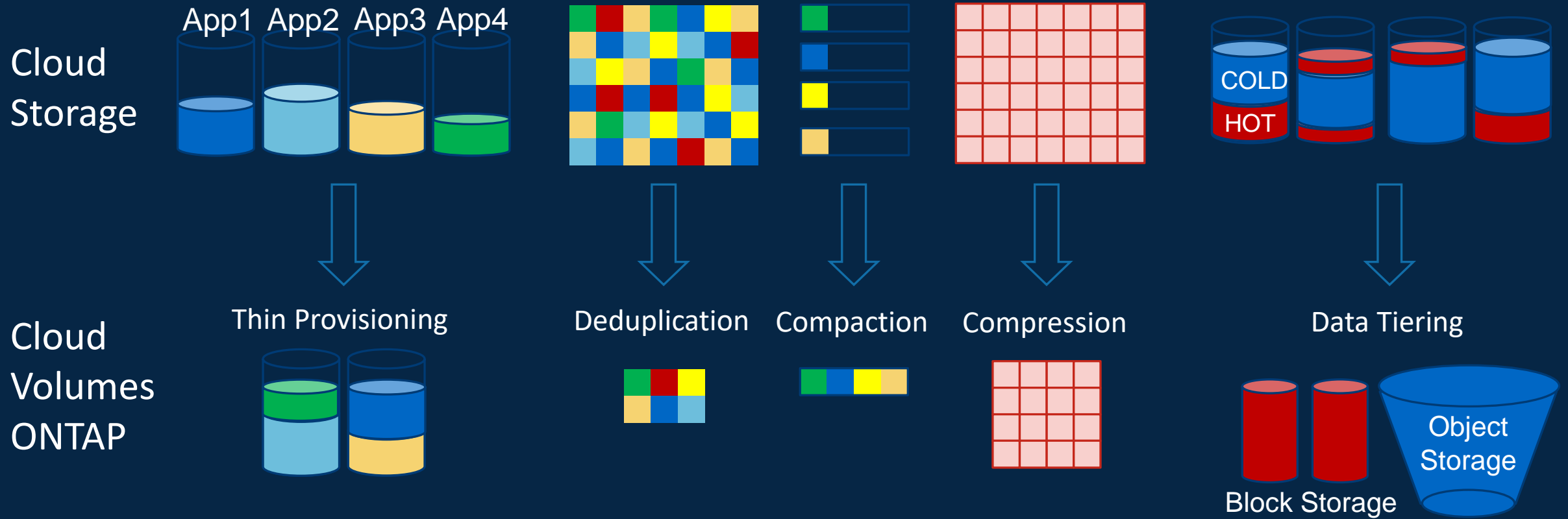


## NetApp Supported:

## Community Supported:

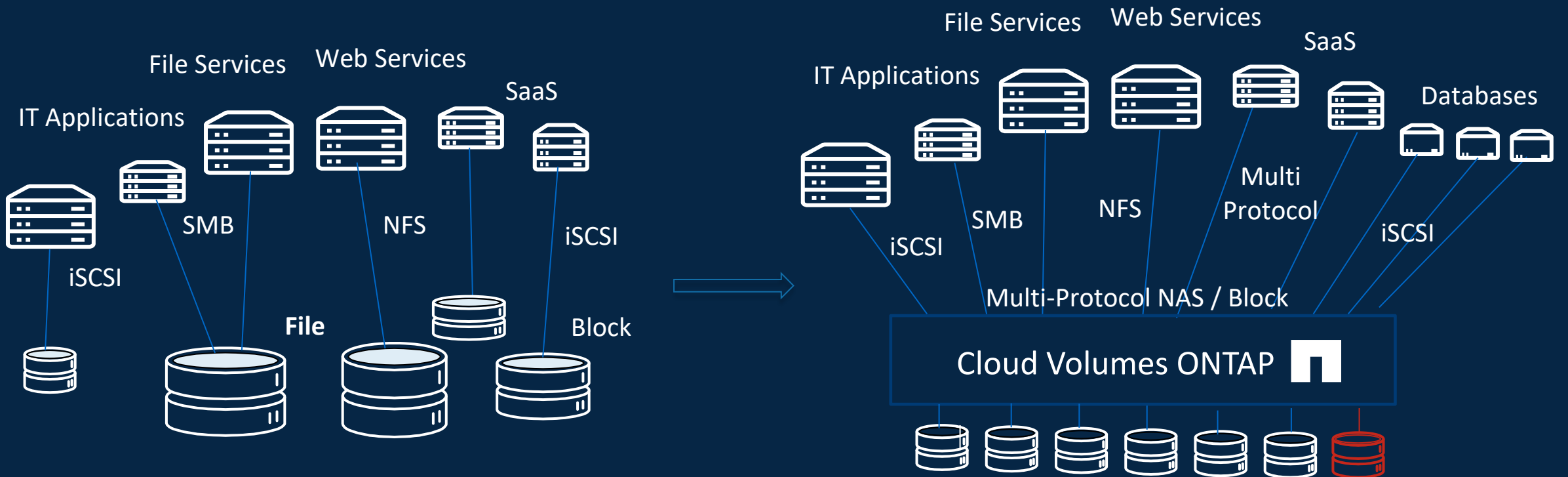
# Optimized Cloud Storage Cost

Storage efficiencies to reduce storage footprint



# Optimized Management

Decreased operational complexity & cost





# Demo



# Getting Started & Resources

- Cloud Central
  - <https://cloud.netapp.com/home>
- NetApp Cloud Block Storage
  - <https://cloud.netapp.com/cvo-cloud-block-storage>
- Cloud Manager SaaS
  - <https://cloudmanager.netapp.com>
- Technical Report
  - [Best Practices for Modern SAN](#)
- Block Storage Blogs
  - [Cloud SAN Storage with Cloud Volumes ONTAP](#)
  - [Block Storage Provisioning via Cloud Manager](#)





# Q & A



Thank you.