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eBook

Cloud Volumes ONTAP for AWS: 10 Customer Success Stories

Executive Summary

As the shift towards the cloud continues, enterprises that still need to choose a cloud provider, or who are thinking of moving to a new one, have difficult decisions to make when it comes to their storage demands. Will the new cloud platform provide for all of the enterprise's needs? What kind of changes will have to be made to the existing applications to use the storage offered in the cloud? And how much will all of it cost?

As the first major cloud provider, Amazon Web Services (AWS) innovated the operational efficiency, performance, agility, and cost savings that define cloud deployment and is still trusted by more enterprises than any other cloud to this day.

The major role that storage had to play in that was clear from the beginning as Amazon Simple Storage Service (Amazon S3) was the first service AWS made available. But while the advantages of cloud storage are significant, the added value of deploying them with Cloud Volumes ONTAP includes high availability, advanced data protection, fast migration capabilities, and storage efficiency features.

This guidebook will offer insight into why enterprises choose to deploy with Cloud Volumes ONTAP on AWS through examination
of a number of prominent case studies from various sectors and use cases.

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Introduction

Towards the end of 2019 Gartner forecast that worldwide public cloud revenue in 2020 will be $266.4 billion, up 17% from the previous year. Infrastructure as a service (IaaS) is expected to have the highest growth rate, as enterprises look to the cloud to meet the storage and compute needs of modern applications and workloads. About one-third of corporate IT budgets are spent on cloud services across a wide range of use cases:

Enterprise workloads

In 2019, 60% of workloads were running on a public cloud service (up from 45% in 2018). Cisco predicts that by 2021 94% of all workloads will be processed in cloud data centers.

Databases

By 2023 the global cloud database market is expected to be worth $21.66 billion, having grown at 47% between 2018 and 2023.

File shares

On average, an enterprise uses 76 file sharing cloud services, making it one of the fastest growing cloud use cases year over year.

Data protection

60% of organizations of all sizes use the cloud for disaster recovery, backup and archiving, while 38% of companies cite enhanced disaster recovery capabilities as a key motivation for their cloud migration.

Cloud Use Cases: Drivers and Benefits

Operational efficiency

In addition to shifting infrastructure management responsibilities from the corporate IT team to a cloud service provider, the cloud boosts operational efficiency in a number of ways such as highly automated deployment of applications and workflows, self-service provisioning, and agile service creation.

Agility

37% of organizations cited greater flexibility as a key driver for their cloud adoption. Cloud infrastructure resources scale up and down smoothly and cost-effectively to meet dynamic business needs.

Performance

The public cloud provides cutting edge, high-performance store-compute capacity at a manageable cost. In addition, the geographic distribution of public cloud data centers can be leveraged to improve availability and latency.

Cost savings

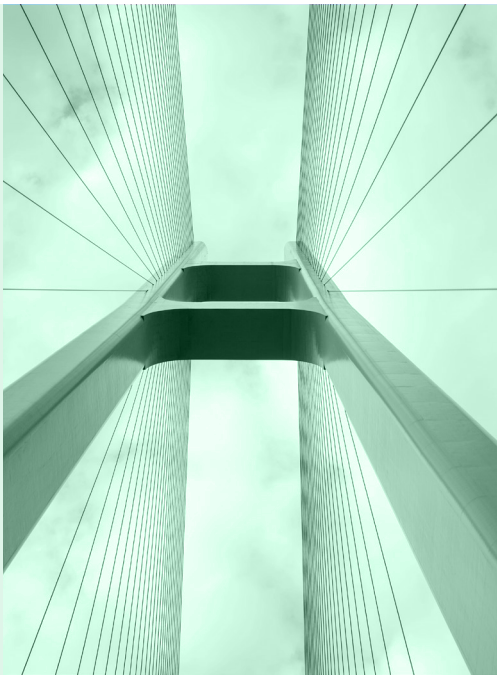
A well-managed public cloud environment offers many opportunities to reduce setup, maintenance, and compute-store costs, often by as much as 30%.

However, public cloud usage in general and cloud storage in particular is not without its challenges, including availability, operational complexity, cost sprawl, compliance, and security. In this ebook we present real-life success stories of enterprises from a wide range of domains that have used Cloud Volumes ONTAP on AWS to address these challenges and maximize the benefits from their cloud data storage deployments.

Cloud Storage Challenges

While the cloud offers an array of benefits, it still presents a number of challenges for enterprise IT departments to consider.

1. Availability
2. Data Protection, Disaster Recovery
3. Backups and Archiving
4. File Share Accessibility
5. Compliance and Governance
6. Security
7. Storage Footprint and Costs
8. Data Tiering, Inactive Data
9. Container/Kubernetes Persistent Volumes
10. Multicloud and Hybrid



1 Availability

In order to uphold high availability SLAs in the cloud, enterprises must institute redundant architectures with seamless failover and failback processes.

2 Data Protection, Disaster Recovery

In the shared responsibility model, cloud customers are responsible for protecting their data from deletion, corruption and exfiltration, including the ability to recover from natural or man-made disaster scenarios.

3 Backups and Archiving

Data backup and long-term retention are business-critical requirements. Enterprises must ensure that data to be archived in the cloud is aggregated from all relevant storage systems in a fully automated process.

4 File Share Accessibility

Enterprises employ both Windows and Linux machines and need to serve out both NFS and SMB/ CIFS file data.

5 Compliance and Governance

Some key challenges are the blurred lines of compliance responsibility across the different service models (IaaS, PaaS, SaaS), the highly distributed nature of cloud environments, and the growth of shadow IT.

6 Security

Challenges include IAM controls that are granular enough to prevent unauthorized access, as well as encryption of data at-rest and in-flight and careful data encryption key management.

7 Storage Footprint and Costs

For maximum cost-effectiveness, cloud data needs to be stored as efficiently as possible but storage efficiencies such as thin provisioning, compression, deduplication, efficient point-in-time snapshots, and data cloning aren't built-in to cloud storage services.

8 Data Tiering, Inactive Data

Active and inactive data have to be automatically detected so that they can be seamlessly shifted between low-cost object storage and performant disk storage.

9 Container/Kubernetes Persistent Volumes

With modern applications relying more and more on ephemeral containers and on Kubernetes orchestration, organizations face the challenge of managing persistent data storage.

10 Multicloud and Hybrid

The almost universal adoption of multicloud and hybrid strategies raises many data storage challenges such as end-to-end visibility, unified management, interoperability, and consistent security and compliance policies.

Cloud Volumes ONTAP Customer Storage Success Stories on AWS

NetApp Cloud Volumes ONTAP is an enterprise-grade data management system that runs as an instance on AWS storage, complementing cloud native services. Its operational and storage efficiencies dramatically reduce administration time and storage footprints—and costs. Cloud Volumes ONTAP is managed through NetApp Cloud Manager, the single-pane GUI that provides end-to-end visibility into and control of cloud data assets in AWS and across hybrid and multicloud architectures, with every action also fully automatable via API calls.

Cloud Volumes ONTAP for AWS is successfully in operation with thousands of customers worldwide. In this section we will look at some of these case studies and show how NetApp Cloud Volumes ONTAP helps these enterprises address the challenges described above and maximize data storage on AWS.

Concerto: Scalable, Secure Cloud Storage

Concerto Cloud Services is a fully-managed cloud service provider (MSP) that specializes in the seamless deployment of enterprise applications across on-premises, third-party, and managed cloud solutions to deliver a tightly integrated, customizable, secure hybrid cloud platform. Concerto maintains large on-premises data centers as well as a public cloud footprint.

In order to enhance its performance capabilities, Concerto deployed Cloud Volumes ONTAP for AWS for data retention and disaster recovery purposes.

Using SnapMirror® data replication, Concerto rolled out a replication target for both of its data centers in less than two days, after which data deltas only are written to the Cloud Volumes ONTAP instance in AWS in order to keep the replica updated.

The benefits realized by Concerto Cloud Services and its customers through partnering with NetApp:

- Customized hybrid cloud solutions that allow customers to switch seamlessly between private and public cloud as well as between performance tiers.
- A remarkable four-hour RTO SLA no matter what the customer environment (public, private, hybrid).
- A 50% reclamation of high-cost storage space in Concerto's data centers by shifting its DR target to Cloud Volumes ONTAP for AWS.
- A 96% data reduction for production data backed up on AWS through Cloud Volumes ONTAP's built-in deduplication and compression storage efficiencies.

View The Full Concerto Case Study →

Cordant: Flexible File Shares in the Cloud

The Cordant Group, based in the UK, provides integrated services to enterprises including personnel recruitment and seamless services that boost performance and profitability.

Their business challenge was to move their entire IT infrastructure—websites, proprietary SQL-based applications, and Citrix thin client services—to the AWS cloud. Using Cloud Volumes ONTAP for AWS, they were able to implement a straightforward cloud transition, with no need to overhaul their applications.

After the initial migration to a cloud infrastructure, they decided to replicate their physical storage environment in the cloud. However, they found that the Windows DFS file share solution offered by AWS was too restrictive.

By using Cloud Volumes ONTAP, Cordant complements AWS native storage services to gain the following advantages:

- Cloud file shares that support all the leading file share protocols: SMB / CIFS, NFS, and iSCSI.
- SQL database backups via SnapManager for SQL Server that are then mirrored to the cloud for robust, cost-effective data protection and disaster recovery.
- Cloud storage efficiencies with data compression, data deduplication and compaction that, working together, can reduce data blocks by 50% or more.
- A unified and familiar hybrid data management interface for simple installation, resource assignment, and data provisioning in NetApp Cloud Manager.
- End-to-end visibility into their storage requirements across all environments.

View The Full Cordant Case Study →

D2L: High Availability and Data Protection

Founded in 1999, D2L (Desire to Learn) is a leading online learning platform for K-12, higher education, and corporate customers. Today they support millions of users and thousands of schools, academic institutions, and corporations around the globe. In their highly competitive market, they stand out for their innovation, availability, and quality.

The company found itself managing petabytes of data (course materials, test scores, video content, and more) in its data center. Maintaining their on-premises infrastructure was diverting too much time and money from their core business activities, so D2L decided to transition its platform to the cloud. On AWS they get on-demand scalability, with Cloud Volumes ONTAP providing optimized management, enhanced storage efficiency, and better data protection.

The benefits D2L gains from Cloud Volumes ONTAP for AWS are:

- Easy and safe migration of petabytes of production data to AWS using SnapMirror® data replication.
- High availability with a Cloud Volumes ONTAP HA pair deployment.
- Increased their ability to scale business by a factor of 10.
- Saving time and reducing costs with built-in storage efficiencies (compression, deduplication) that reduced the number of files to move and store by up to 60%.
- Enhanced data protection with strong and cost-effective backup, recovery, and DR capabilities. Quick rollbacks with zero data loss are now easier than ever.
- Centralized hybrid data management and operational efficiencies to implement a scalable all-cloud platform that frees up resources for innovation.

View The Full D2L Case Study →

EidosMedia: Seamless Data Fabric

Each day 32K+ authors and coordinators use EidosMedia's content creation and delivery platform to manage 280K+ digital assets as they serve 45K+ multimedia stories to 65M+ readers and viewers across five continents. Its customers include the Financial Times, Dow Jones, Le Monde and Deutsche Post DHL.

With scalability, agility and innovation key competitive factors, EidosMedia faced a number of business challenges: they needed to improve their ability to simultaneously publish to multiple destinations worldwide, accelerate the development of new features, and migrate to a SaaS model.

EidosMedia deploys Cloud Volumes ONTAP HA for AWS and reaped the following benefits:

- High availability with Cloud Volumes ONTAP HA pairs, where if one node crashes, workloads immediately and automatically failover to another node, ensuring continuous operations and fault-tolerant business continuity.
- True hybrid data management, with workloads able to move seamlessly from on-premises to the cloud and back across the NetApp Data Fabric leveraging NetApp SnapMirror replication and data mobility technology.
- Shortened development cycles for dev/test environments using FlexClone®. Eidos can easily spin up and tear down environment copies by cloning writable volumes instantly and at zero capacity no matter the size of the source data.

View The Full EidosMedia Case Study →

Monash University: Easy Migration, Reduced Storage Costs

Monash University is the largest university in Australia. Educating 80,000+ students in campus locations on four different continents, Monash is ranked in the top 1% of universities across the globe.

When Monash University made the strategic decision to move to a cloud-only strategy based on a multicloud model (using AWS and Azure), they used Cloud Volumes ONTAP's intuitive interface and its data replication features to migrate 3,500 workloads from their on-prem systems to the AWS cloud within a 12-month period.

They continue to reap the following benefits:

- Saving 25% in AWS storage costs thanks to Cloud Volumes ONTAP's deduplication and compression capabilities.
- Reduced environment provisioning time from months to minutes with 1-click full-stack provisioning.
- Eliminated over-provisioning and extra upfront costs through thin provisioning of a shared pool of storage resources.
- Data tiering between Amazon S3 and Amazon EBS gives Monash a capacity tier for inexpensive long-term storage which can be accessed automatically upon demand.

View The Full Monash University Case Study →

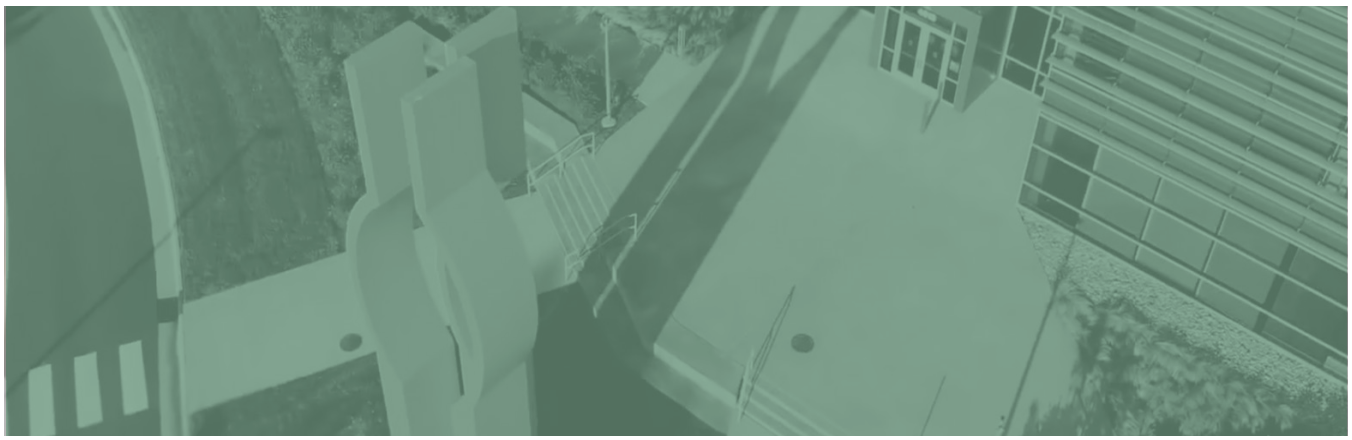
Blue Cross Blue Shield: Hybrid Cloud Management

BlueCross BlueShield of North Carolina

Blue Cross and Blue Shield of North Carolina (Blue Cross NC) provides high-quality healthcare and insurance at competitive prices for close to 4 million North Carolinians and employing 4,700+ people across the state.

Blue Cross NC, a longstanding on-premises ONTAP customer, initially adopted Cloud Volumes ONTAP HA for AWS to smooth the transition of workloads to the cloud and manage their enterprise workloads and DevOps environment. They benefited from a unified and consistent visibility and management interface (NetApp Cloud Manager) across their on-premises and cloud data storage resources.

Today Blue Cross NC is in the process of moving 100% of their applications to containers with Kubernetes and OpenShift in order to accelerate the time to market for their next-generation health care solutions. They now also benefit from using Cloud Manager and the NetApp Trident open source storage provisioner to dynamically provision Kubernetes persistent volumes.



View The Full Blue Cross Blue Shield Case Study →

Officeworks: Automated Tiering, Kubernetes Persistent Storage

Officeworks is an Australian brick-and-mortar and online retailer of office supplies, furniture, technology, and student supplies. It sells more than 40,000 products, employs 8,000 people, and is committed to operating a sustainable, responsible, and community-oriented business.

Committed to a cloud-first strategy, Officeworks' initial Cloud Volumes ONTAP use case was archiving cold data on cost-effective Amazon Simple Storage Service (S3) object storage. Cloud Volumes ONTAP then automatically tiers data back and forth between the capacity tier and the Amazon Elastic Block Service (EBS) performance tier, as needed.

As they continued to use Cloud Volumes ONTAP as a springboard to push more and more on-premises data to AWS, they found that Cloud Volumes ONTAP's deduplication feature, which is not available natively on AWS, reduced their cold data footprint by 20-30%.

Using Cloud Volumes ONTAP, Officeworks gains:

- Cost-effective and low-maintenance hosting of their NFS, SMB and CIFS file shares as part of their disaster recovery (DR) plan.
- Faster development time through FlexClone data cloning technology.
- Dynamic Kubernetes persistent volume provisioning via NetApp Trident.

Read more on the Officeworks uses Cloud Volumes ONTAP →

Reach (formerly Trinity Mirror): Enhanced Disaster Recovery

The UK largest regional newspaper group, Reach, has a monthly reader base of 45 million people.

With the company and its data exponential growth, Reach had to address a number of business challenges:

- Breaking down data silos between its print and online businesses.
- Reduce downtime and delays to a minimum in order to keep up with the publication pace.
- Escape their disaster recovery (DR) on-premises infrastructure refresh cycle.

Reach was already using NetApp to centralize its siloed editorial and advertising systems on a common infrastructure and content management system. Reach then turned to Cloud Volumes ONTAP on AWS to build a disaster recovery (DR) platform. The benefits of the successful deployment include:

- Exceeding their stringent recovery time objective (RTO) and data loss (RPO) SLAs.
- A storage footprint reduction of 50% with Cloud Volumes ONTAP's storage efficiency features.
- Reducing DR and image library storage costs with automated data tiering.

View The Full Reach Case Study →

TechnologyOne: Dramatically Reduced Storage Footprint

TechnologyOne is Australia's largest enterprise software company, serving 1,000+ customers worldwide. After a flood disaster, the company decided to buy Infrastructure-as-a-Service from AWS and later on saw that data storage in their hybrid environment was both hard to manage and expensive.

TechnologyOne needed a secure, reliable, portable data storage solution that could meet the challenges of 99.999% uptime, extreme high performance, synchronous, frequent, and low-latency data back-up across their hybrid infrastructure, and real-time data portability to accommodate seasonal and other workload spikes.

TechnologyOne chose Cloud Volumes ONTAP on AWS as the backbone of a data storage managed service, and its customers are reaping the following benefits:

- A flexible, end-to-end solution that covers archive and object storage as well as high-performing block storage on disk.
- Extending the AWS resiliency SLA to 99.999% availability.
- Exceeding the performance of native AWS storage by a factor of 10.
- Seamless data portability across hybrid, multicloud environments.
- An 85% reduction of their production data footprint, which represents seven-figure budget savings.
- Single-pane data management and monitoring across all systems, including managing TechnologyOne's customer chargeback model for data storage consumption.
- Its Australian customers can show compliance with data sovereignty regulations.

View The Full TechnologyOne Case Study →

Wirestorm: Accelerate Application Delivery

Wirestorm is expert in business intelligence, big data, enterprise mobility applications, cloud computing, application development, and technical staffing solutions. Its clients include Microsoft, Corbis, Providence Hospital, Schneider Electric, and other Fortune 500 companies.

Wirestorm's business challenges were to lower cloud cost and server spend as well as reduce deployment time. They implemented Cloud Volumes ONTAP HA pairs on AWS and achieved the following benefits:

- Multicloud deployment that enables the company to harness the power of multiple cloud environments for store/compute-intense analytics workloads.
- Dramatically reduce project delivery times by a factor of 6.
- Reduced dev/test copy creation time from 20 hours to less than 1 minute with FlexClone writable cloned volumes and SnapMirror data replication.

View The Full Wirestorm Case Study →

Summary

With all the compelling benefits of data storage in the cloud with AWS, there are still considerable challenges to be addressed in order to ensure that data is available, protected, secure, and compliant. Cloud data storage must also be carefully managed in as automated a manner as possible in order to prevent costly sprawl and unnecessarily high storage costs for inactive data.

NetApp's Cloud Volumes ONTAP extends NetApp's industry-leading enterprise data management on-premises solutions to AWS cloud users Creating a seamless Data Fabric across multicloud and hybrid architectures, Cloud Volumes ONTAP improves the performance, availability and security of cloud native storage, while reducing costs.

See how Cloud Volumes ONTAP for AWS can take your data management to the next level.

Start a free 30-day trial now

Get started

Refer to the Interoperability Matrix Tool (IMT) on the NetApp Support site to validate that the exact product and feature versions described in this document are supported for your specific environment. The NetApp IMT defines the product components and versions that can be used to construct configurations that are supported by NetApp. Specific results depend on each customer's installation in accordance with published specifications.

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