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# Realize a 61% ROI when you migrate data to AWS with Amazon FSx for NetApp ONTAP



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Enterprises are rapidly moving structured and unstructured data to the cloud, and it's no secret why. The cloud provides unlimited scale; ubiquitous access; availability of advanced cloud services; and, of course, the ability to move infrastructure spend from CapEx to OpEx.

This cloud shift has huge implications for storage. Unsurprisingly, some traditional data storage and data management vendors have tacked "cloud" onto their systems as an afterthought. Unfortunately, the enterprises that buy these cloud-washed products can't take full advantage of the cloud because their storage systems are not hyperscaler-native.

The cloud works in a fundamentally different way than on-premises infrastructure, so when a vendor ports an on-premises data management system to the cloud, the result is often the worst of both worlds. For starters, the ported system retains storage silos. One of the cloud's biggest strengths is ubiquitous access and scale, but a retrofitted traditional data management system retains those silos that prevent a holistic view of data. Data management is inescapably fractured and inefficient.

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## **Disadvantages of a non-native system**

Non-native cloud management systems also often retain on-premises processes for provisioning and managing data stores, which are cumbersome and don't enable IT to take full advantage of the cloud. Additionally, because these systems haven't been optimized for the hyperscaler environments on which they will run, they are slow and provide subpar performance.

Retaining on-premises processes can also compromise security. A non-native solution may not fully integrate into the security ecosystem and the services

of the cloud provider. For example, the system may rely on authentication that's local to that storage system and not integrated with the Identity and Access Management (IAM) ecosystem in AWS. If this is the case, the system will create different security islands that IT must manage, which introduces complexity and increases the risk of human error or the introduction of a vulnerability.

Non-native systems are also difficult to integrate with hyperscaler-native services that offer significant advantages to keeping and managing data in the cloud. With a native data management system, it's simple to connect your data to industry-leading

foundation models and generative AI-powered applications. It's not impossible to do the same with data in non-native systems, but they often don't play well with hyperscaler-native services and require expensive, complex integrations.

Some organizations may be concerned about moving to a hyperscaler-native data management system because they lack cloud skills. It's a legitimate concern. According to [LinkedIn](#), cloud computing is among the top-10 in-demand hard skills for 2023. A fully managed cloud data management solution such as Amazon FSx for NetApp ONTAP can help bridge the skills gap.

## **A large hospital system moves petabytes of data to the cloud**

eHealth New South Wales (NSW) in Australia was facing this exact challenge of transitioning to the cloud amid concerns about data storage and management. As the digital arm of NSW Health, which serves 8.2 million residents with 228 hospitals and 160,000 staff, eHealth NSW is responsible for digitizing and managing the organization's applications as the hospital system migrates to the cloud.<sup>1</sup>

Digital imaging was a particular concern because this file data is mission-critical; physicians rely on radiological and sonographic images to diagnose patients. Not only was this data set quite large, at 1.6 petabytes, but it was also growing 25% annually. eHealth NSW wanted to gain scale, agility, and ubiquitous access by moving these files to the cloud.

After evaluating multiple cloud data management systems, eHealth NSW chose Amazon FSx for NetApp ONTAP, which offered several strong advantages. First, it enables replication of on-premises storage with NetApp® SnapMirror® technology, allowing for seamless migration with no interruption to physician access.

Additionally, FSx for ONTAP provides the high level of security and data protection the healthcare organization requires to protect personal health information. The solution leverages multiple zones and high-availability solutions to ensure that physicians will always have access to these critical images. And because it utilizes known NetApp ONTAP® features, the solution provides end users with a consistent, centralized experience with which they are already familiar.

1. AWS, "eHealth NSW Transforms Public Health System with the Cloud," 2022.

eHealth NSW is confident that it made the right choice. Even before full optimization, it achieved annual savings of \$800,000 AUD.

## **Amazon FSx for NetApp ONTAP**

NetApp ONTAP is an industry leader in storage operating environments, both on premises and in the cloud. Amazon FSx for NetApp ONTAP brings the proven capabilities of ONTAP to a unified AWS-native storage service that facilitates migration of block and file data to the cloud.

The system provides native AWS support for file data including file shares, group shares, and data protection. It also supports structured data like databases and other enterprise applications like electronic health records (EHRs) and electronic design automation (EDA), as well as SAP HANA and VMware workloads.

Forrester Consulting estimates that Amazon FSx for NetApp ONTAP can provide a 61% risk-adjusted 3-year ROI, with payback in less than six months. Enterprises can see a 31% reduction in technology costs, compared to on-premises storage.<sup>2</sup>

Additionally, the solution moves data storage and management from a CapEx business model to one based on OpEx, and because it's provided as a service, there's no three- to five-year storage hardware purchase cycle. IT no longer needs to buy excess capacity to account for future data growth, a necessary on-premises strategy that means that excess hardware may go unused for years.

Every company is looking at optimizing cloud costs and doing more with less. ONTAP is extremely efficient and leverages technologies such as compression, deduplication, compaction, thin provisioning, and tiering to place less-critical data in lower-cost storage to minimize cloud cost.

Increased labor efficiency is another big advantage of FSx for ONTAP – a 45% increase, to be exact. As a fully managed service, it automates or eliminates manual processes, such as provisioning storage and applying patches, firmware updates, and operating system updates. Scaling is also effortless, often requiring nothing more than a few keystrokes and mouse clicks to achieve.

Migrating to FSx for ONTAP reduces headaches and is 40% faster than doing so manually. Replication tools enable IT

2. Forrester Consulting, "[The Total Economic Impact of Amazon FSx For NetApp ONTAP](#)," February 2023.

to move data from on premises to the cloud nondisruptively. There's no need to turn off any business capabilities during migration.

Amazon FSx for NetApp ONTAP is highly secure, as the solution's many security certifications demonstrate. It meets the most [stringent federal security standards](#), including FedRAMP High and Moderate authorization. The system is also authorized for U.S. Department of Defense Cloud Computing Security Requirements Guide (DoD CC SRG) IL2, IL4, and IL5.<sup>3</sup>

The system is fully integrated with AWS IAM security and security groups, and it integrates with AWS key management systems for data encryption, both in transit and at rest. FSx for ONTAP can also integrate with user authentication systems such as Active Directory to control data access at the file system level, just as IT would do on premises.

## Key use cases

Use cases for Amazon FSx for NetApp ONTAP include:

- **General-purpose NAS:** IT can achieve consistent performance and high availability for file-based

applications through a cloud file storage service with multiprotocol support for Linux and Windows workloads. As a result, IT can easily migrate Linux (NFS) and Windows (SMB) apps into the AWS Cloud without having to refactor or change code. FSx for ONTAP is extremely cost-efficient, maximizing storage efficiencies to reduce infrastructure costs by up to 65%.<sup>4</sup>

- **Enterprise apps:** FSx for ONTAP delivers sub-millisecond latencies, gigabytes per second of throughput, hundreds of thousands of IOPS, and extensive data protection capabilities to meet the performance and data resilience demands of enterprise applications like SAP HANA, Microsoft SQL Server, Oracle databases, and VMware workloads.

By decoupling storage from compute resources, enterprises can migrate storage-heavy VMware workloads to AWS on FSx for ONTAP and save up to 50% on operating costs.<sup>5</sup> And FSx for ONTAP is certified for SAP HANA workloads.<sup>6</sup>

- **Long-term, secure retention:** IT can maintain data integrity and enable long-term retention with the

3. AWS, "[Amazon FSx receives DoD Impact Level 4 and 5 authorization](#)," December 6, 2022.

4. AWS, "[Amazon FSx for NetApp ONTAP Features](#)," October 2023.

5. NetApp, "[Announcing VMware Cloud on AWS integration with Amazon FSx for NetApp ONTAP](#)," August 30, 2022.

6. NetApp, "[Amazon FSx for NetApp ONTAP is now SAP HANA certified](#)," May 17, 2022

recently released NetApp SnapLock® capability. IT can write data to a SnapLock volume so that it's read-only, which makes it accessible to everyone but tamperproof. This capability is particularly important for regulated industries that need data permanence and integrity until the specified expiration date to satisfy regulatory requirements or corporate best practices and compliance mandates.<sup>7</sup>

SnapLock Compliance is certified to meet stringent records-retention requirements, such as SEC Rule 17a-4, FINRA, HIPAA, and CFTC.

- **Data protection:** IT can dramatically reduce the time it takes to perform backup and instantly restore data from in-place zero-impact NetApp Snapshot™ copies. These Snapshot copies for applications and databases remain consistent with NetApp SnapCenter® and

are highly available and durable for efficient replication of data copies made with SnapMirror. Enterprises can take advantage of single and multiple availability zones and cross-region disaster recovery support to ensure resilience. And backups and replicas stored in SnapLock volumes are completely protected against malicious encryption by ransomware. Finally, with FSx for ONTAP, IT can protect and test against site outages without disruption to the business.

Migrating to and managing data in the cloud doesn't have to be an elaborate, costly undertaking—FSx for ONTAP further reduces operational complexities with unified billing, invoicing, and support from AWS. Native integration with advanced AWS services ensures that IT can reap the full benefits of the cloud. With Amazon FSx for NetApp ONTAP, enterprise IT gains a fully managed data storage and management platform that cuts costs, increases agility, and provides strong security.

Visit the FSx for ONTAP overview to [learn more](#)

[Book a one-on-one meeting](#)

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7. NetApp, "[Get immutable storage with SnapLock on a native AWS file service](#)," July 19, 2023.