

## Smooth the Cloud Migration Path With NetApp and ThunderCat

Cloud migration has long been one of Federal agencies' top IT initiatives, from Cloud First to Cloud Smart and now the [May 2021 executive order](#) on cybersecurity, which calls on agencies to accelerate movement to secure cloud services. The COVID-19 pandemic furthered the cloud push, as agencies moved services online to facilitate remote work and citizen services. In fact, Federal agencies spent nearly \$900 million on cloud computing in fiscal year 2020 to fulfill immediate telework needs spurred by COVID-19.

Many agencies still have a lot of cloud ground to cover, however. MeriTalk research showed most agencies are at the mid-point or earlier in their cloud adoption journey, and 75 percent of IT decision makers want their agencies to be moving to the cloud more aggressively. The December 2021 [FITARA](#) scorecard, which grades agencies on various IT criteria, gave only five agencies As in the category of "modernizing government technology."

Federal workers themselves are worried about the pace of cloud migration. In a MeriTalk survey of public sector IT employees, 62 percent said their workforce is not ready to take full advantage of cloud and only 42 percent reported that their agencies have moved mission-critical apps to the cloud.

### **Cloud Migration Bolsters Agency Operations Today, Innovation Tomorrow**

Accelerating government modernization – and cloud movement in particular – supports agency missions in many ways. A recent Deloitte report observed, "Moving to the cloud is not only allowing organizations to recover

but positioning them to thrive post-pandemic, increasing resilience and supporting business continuity at first, and then allowing to them to do new things and offer new services. Going forward, cloud can support benefits including collaboration, automation, scale, innovation, and agility."

[Research](#) shows that moving to the cloud can cut infrastructure costs by approximately one-third compared to on-premises operations. Cloud can also improve productivity dramatically as employees can work more efficiently and IT staff are freed from routine maintenance tasks.

### **NetApp Simplifies Movement of Mission-Critical Apps to the Cloud**

Migration of mission-critical applications can be a primary roadblock to cloud migration because these applications require an enterprise-scale architecture to handle their high availability and performance demands. Agencies may struggle to find the optimal arrangement of cloud infrastructure and file services to meet their requirements for data protection, scalability, and resiliency.

To address this challenge, NetApp and AWS teamed up to provide NetApp Cloud Volumes ONTAP (CVO) for AWS, an enterprise-grade, software-defined data management system running on AWS storage. With 30 years of experience, NetApp has long been a reliable source of cloud solutions for Federal agencies, and AWS is the leading cloud platform.

A cloud-native file storage service, CVO combines advanced NetApp file services with the flexibility of AWS. CVO is based on ONTAP, NetApp's proven file system technology which provides a widely adopted set of data access and management capabilities.

CVO provides operational and storage efficiencies that reduce administration time and storage footprints, and its superior scaling of dev/test environments maximizes ROI. Agencies can migrate enterprise apps without re-architecting or redesigning processes. In addition, CVO is multi-protocol, running Linux and Windows file shares in the cloud.

#### **Benefits of CVO include:**

- High availability
- Advanced data protection and disaster recovery
- Optimized costs
- Increased application performance
- Enhanced security and compliance
- Single pane management

Analysts agree that CVO is a superior solution. IDC noted that CVO and other NetApp cloud solutions “have very low price points, are quick and easy to deploy, and exhibit none of the ‘risk’ associated with traditional enterprise storage purchases yet they showcase differentiating NetApp capabilities in the areas of performance, availability, scalability, and functionality.”

### **NetApp and AWS Offer a Fully Managed Solution for Even Greater Flexibility**

Another option for agencies is AWS FSx for ONTAP. This fairly new solution is fully managed shared storage in the AWS cloud, providing the familiar features, performance, capabilities, and APIs of popular NetApp file systems with the agility and simplicity of a fully managed AWS service.

FSx for ONTAP makes it simple to launch and scale secure, shared cloud file storage. Its feature-rich, fast, highly reliable, and flexible shared file storage is broadly accessible with Linux, Windows, and macOS compute instances via industry-standard NFS, SMB, and iSCSI protocols. It enables organizations to extend on-premises



*CVO leverages ONTAP and its rich data management capabilities and common user experience. ONTAP offers proven data reduction abilities and an extensive ecosystem in traditional deployments, as well as cloud-native container-based environments.*  
– Gartner

data onto AWS for enhanced data protection, migrate enterprise workloads without refactoring, and set the stage to run stateful Kubernetes applications.

#### **With FSx for ONTP, AWS handles:**

- Set up and provisioning of file servers and storage volumes
- Data replication
- Installation and patching of file server software
- Detection and remediation of hardware failures
- Management of failover and failback
- Administration of backups affordable, with advanced capabilities.

#### **Secure conferencing anywhere**

Bring teams together with highly scalable voice, video, and content sharing. Protect from hackers and other cyber threats during telework, while avoiding the disruption of vital government services.

#### **Move collaboration to cloud**

FedRAMP-authorized collaboration and videoconferencing systems maximize flexibility. WebEx web conferencing offers support for meeting, events, and training, hosted in a secure environment.

NetApp was named the 2021 AWS Independent Software Vendor (ISV) Design Partner of the Year - US, for the jointly engineered and natively integrated Amazon FSx for NetApp ONTAP service.

## Security Is Built Into NetApp Solutions

Recently, NetApp earned the Commercial Software for Classified (CSfC) designation from the National Security Agency for enterprise storage. NetApp is the only enterprise storage vendor to hold this certification. CSfC specifically certifies NetApp AFF hardware with NetApp Storage Encryption (NSE) drives and NetApp Volume Encryption/ NetApp Aggregate Encryption (NVE\NAE) software-level encryption. The NVE\NAE software-level encryption used in CVO and FSx is FIPS 140-2 Level 2 certified. These stringent Federal government certifications indicate the inherent security of the NetApp Data Fabric.

## ThunderCat Is a Trusted Guide on the Cloud Migration Journey

ThunderCat, a technology solutions provider to government and industry, is a longtime NetApp partner and a service-disabled veteran-owned small business. ThunderCat experts can customize any solution to meet specific mission requirements and provide ongoing support, ensuring agency satisfaction. ThunderCat can deliver highly scalable cloud architectures while maintaining the performance, availability, and security necessary for today's environments.

## CVO for AWS vs. AWS FSx for ONTAP

Both CVO for AWS and AWS FSx for ONTAP are excellent choices for agencies seeking to move to cloud services. With both solutions, agencies are in charge of the familiar items in ONTAP – volumes, SVMs, supported protocols (NFS, CIFS and iSCSI), shares, and proper access. CVO was created with the intent that customers will manage, deploy, and license it themselves.

FSx for ONTAP is a step beyond CVO. It delivers the full capabilities of ONTAP as a service, relieving agencies of the management burden while providing AWS automation, monitoring, security, and future innovations. Because it requires no installation, upgrading, or maintenance, FSx provides reliability with less work for agencies.



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