MARKET PERSPECTIVE

NetApp's Public Cloud Services Portfolio Strategy and Evolution — 2021 Update

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EXECUTIVE SNAPSHOT

FIGURE 1

Executive Snapshot: NetApp's Public Cloud Services Portfolio Strategy and Evolution — 2021 Update

Over the past four years, NetApp has focused on expanding its cloud services portfolio. The provider has done so through both organic product development and acquisition. These investments are enabling NetApp to deliver a host of new and expanded cloud infrastructure services. This document summarizes NetApp's cloud services portfolio and strategy, highlighting how the vendor has established a portfolio of cloud storage services, and areas where NetApp is investing to drive growth over the long term.

Key Takeaways

- File storage services in public cloud have become an integral part of all major public clouds. File storage services offer on-premises consistency and latency performance relevant for both existing applications moving to public cloud and new applications being developed on public cloud.

- NetApp has positioned itself as a leading provider of both native- and partner-delivered file storage services through Cloud Volumes ONTAP and the Cloud Volumes Service family.

- With this established base of file storage services, NetApp is now expanding its cloud services portfolio with a focus on cloud-native infrastructure and application development and optimization via solutions like Spot by NetApp (Ocean and Wave) and Astra and newly acquired assets like Data Mechanics.

Recommended Actions

- Enterprises moving performance-sensitive workloads to public cloud should consider NetApp's cloud services offerings to explore options to improve cost and performance for their cloud workloads.

- NetApp's cloud infrastructure foundation provides an on-ramp for adoption and integration of higher-level services for cloud-native application development, orchestration, and optimization.

- As more primary workloads are built on or shifted to public cloud shared file storage, NetApp should continue to expand its cloud data services portfolio with new and existing customers. NetApp's acquisition of Data Mechanics and the release of Ocean CD are just two examples of the vendor's work in this area during 2021.
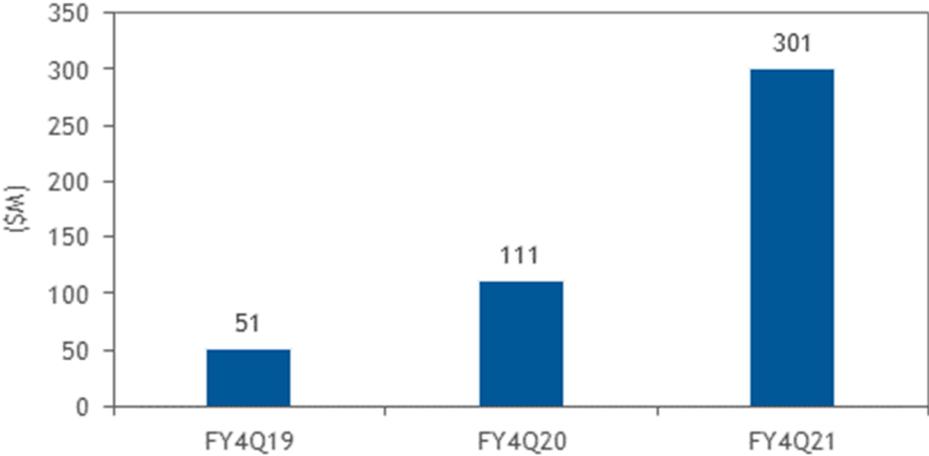
Source: IDC, 2021

NEW MARKET DEVELOPMENTS AND DYNAMICS

"Public Cloud" Has Become a Key Tenet of NetApp's Storage Portfolio

Over the past several years, NetApp has focused on growing its cloud services portfolio. It has done so via organic expansion and crucially complemented it via strategic acquisitions. NetApp's quest has been to shift to a hybrid cloud data services business model, one which is increasingly tied to public cloud infrastructure services and cloud-native workloads. This market has therefore become increasingly important and visible to the company as it charts out its future. In FY 1Q19, NetApp began publicly disclosing a revenue run rate specific to "cloud data services" ($20 million ARR in FY 1Q19). The performance of this segment has garnered much attention and increasingly serves as an indicator of the success of NetApp's leading cloud products, specifically its Cloud Volumes platform and the Spot by NetApp family. Figure 2 shows NetApp's public cloud services ARR over the past three years for comparison. This document provides additional analysis on NetApp's cloud services portfolio, the performance of this segment, and the vendor's evolving strategy in the public cloud storage market.

FIGURE 2

NetApp Public Cloud Services ARR Over Time

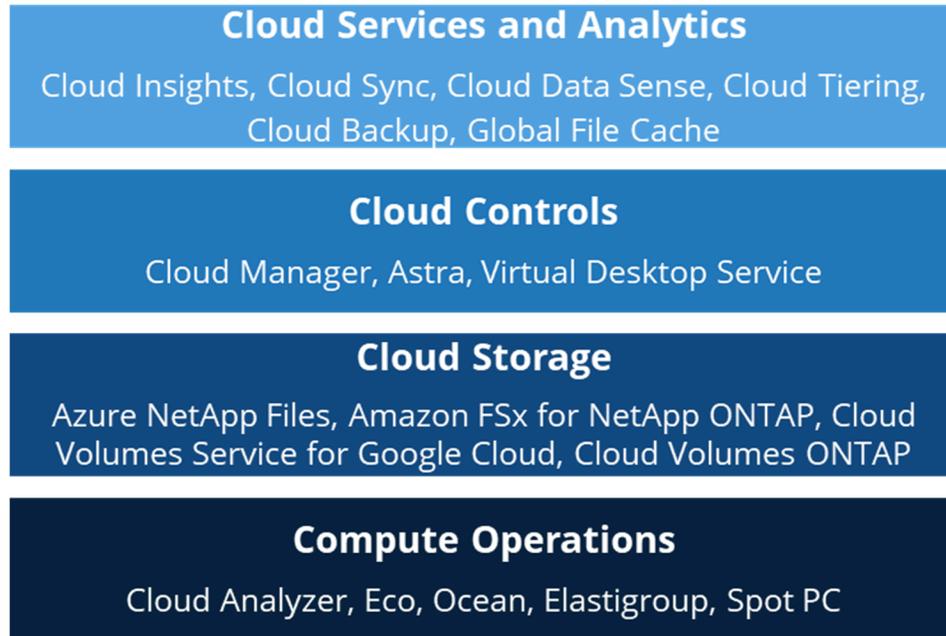Note: Comparison of NetApp reported "cloud data services" and "public cloud services" annual run rate.

Source: IDC and NetApp, 2021

What's in a Number? NetApp's Public Cloud Services

NetApp's public cloud services portfolio consists of a range of products across four categories: cloud storage, cloud services and analytics, cloud controls, and compute operations (see Figure 3). Collectively, these solutions account for NetApp's public cloud services ARR. NetApp expects its public cloud services portfolio to reach $1 billion in annual recurring revenue by FY25. In this document, we focus on NetApp's public cloud services, which include Spot by NetApp, Astra, Cloud Insights, Azure NetApp Files, Amazon FSx for NetApp ONTAP, and Cloud Volumes ONTAP (for AWS, Azure, Google Cloud) and adjacent management services. These products and services account for the majority of NetApp's public cloud services revenue.

FIGURE 3

NetApp Public Cloud Services Portfolio

Cloud Services and Analytics
Cloud Insights, Cloud Sync, Cloud Data Sense, Cloud Tiering, Cloud Backup, Global File Cache

Cloud Controls
Cloud Manager, Astra, Virtual Desktop Service

Cloud Storage
Azure NetApp Files, Amazon FSx for NetApp ONTAP, Cloud Volumes Service for Google Cloud, Cloud Volumes ONTAP

Compute Operations
Cloud Analyzer, Eco, Ocean, Elastigroup, Spot PC

Source: NetApp, 2021

How NetApp Became an Essential Part of the Public Cloud Storage Equation

NetApp's cloud strategy is focused on enabling customers to procure public cloud resources transparently and move workloads from, to, and across clouds (either public or dedicated) seamlessly. NetApp promotes the sale of traditional storage to IT organizations for deployment in on-premises private clouds but increasingly facilitates adoption of public cloud file storage resources via its Cloud Volumes portfolio. NetApp's focus here is to offer a familiar operating model as far as data services are concerned, regardless of where the workload is placed and by the same teams that manage on-premises and cloud deployments. NetApp's initial entry into cloud storage was through NetApp Private Storage (NPS) for Cloud. NPS for Cloud connected NetApp FAS systems in Equinix datacenters to AWS and Azure compute via a dedicated network. This architecture allowed storage to physically reside in the NetApp ecosystem (data is replicated from on premises to NPS and then to the public cloud provider) while using compute resources from AWS or Azure accessed via cloud peering. This offering was designed to give NetApp customers control over their data while leveraging the public cloud compute resources of their choice. NPS for Cloud established much of the groundwork needed for NetApp to begin integrating the full ONTAP experience directly with public cloud IaaS providers.

NetApp's Cloud Volumes platform was the next logical step in the vendor's cloud evolution, integrating the full capabilities of ONTAP with public cloud resources. NetApp Cloud Volumes branding can be confusing, so it is worth a quick overview to understand the differences of each:

- **Cloud Volumes ONTAP for AWS, Azure, and Google Cloud:** Released in 2016, Cloud Volumes ONTAP was NetApp's first cloud file storage solution. NetApp Cloud Volumes ONTAP is a software-only storage subscription services running the NetApp ONTAP storage operating system. Cloud Volumes ONTAP is configured as a virtual machine (VM) version of Data ONTAP, which runs on top of public cloud compute and storage resources (e.g., AWS EC2 and EBS). Cloud Volumes ONTAP was primarily designed for existing NetApp customers familiar with the ONTAP experience, allowing them to download a software version that could be deployed on cloud resources while offering all the features available in their on-premises deployment. Cloud Volumes ONTAP experienced initial success with NetApp storage admins by helping them recreate the same enterprise storage experiences on the public cloud.

- **NetApp Cloud Volumes Service:** CVS differs from Cloud Volumes ONTAP in that it is a fully managed file service designed to appeal to a wider range of users and workloads (not just a storage admin already familiar with NetApp). CVS also offers additional deployment options (e.g., managed natively within the public cloud provider's platform). At the technical level, the key differentiation between CVS and Cloud Volumes ONTAP is that CVS adds an additional layer of software management that handles storage configuration, capacity provisioning, storage protocol, throughput, and so forth as a managed service for the user, whereas these functions would all be managed by the end user in the case of Cloud Volumes ONTAP. Enterprises subscribe to NetApp CVS according to the public cloud resources they want to provision volumes on:

  - **NetApp Cloud Volumes Service for Google Cloud:** CVS on GCP offers a native experience, sold and supported by Google. Users subscribe to CVS via the GCP dashboard and create and manage NFS or SMB volumes on a per-project basis. CVS for GCP requires the use of an existing or new VPC connection between NetApp and GCP. The user is billed separately for their Google Compute Engine costs and their CVS subscription (based on level of service) – but all billing is done through Google, not NetApp.

  - **Azure NetApp Files (ANF):** ANF is unique because it is sold directly by Microsoft. The ANF experience is native to Azure, meaning customers provision the service like any other Azure service. Within the Azure console, users create a NetApp account, set up a capacity pool, and create NFS volumes. The volumes can then be mounted to any Azure VM. Microsoft handles all billing, implementation, and support of ANF.

  - **Amazon FSx for NetApp ONTAP:** A native offering under the AWS FSx umbrella of services, FSx for NetApp ONTAP is a fully managed service which integrates NetApp ONTAP, the flagship file services platform from NetApp. This means the full capabilities of ONTAP (e.g., SnapVault, SnapMirror, and storage management capabilities for compression, deduplication, and compaction), can now be delivered as a native AWS service. Furthermore, NetApp Cloud Manager, Cloud Insights, and Spot by NetApp all support Amazon FSx for NetApp ONTAP.

Combined, these NetApp cloud storage products are beginning to generate significant revenue. NetApp indicates that end users spent well over $100 million with cloud providers for NetApp's data services (which includes ANF, Cloud Volumes Service, and Cloud Volumes ONTAP) in 2021.

NetApp's Public Cloud Storage Strategy Leverages Several Key Acquisitions

NetApp has made several acquisitions that helped accelerate development of its cloud storage portfolio, including:

- **Greenqloud:** Acquired in 2017, Greenqloud's Qstack solution served as the foundation for NetApp Cloud Manager. This allows users to allocate cloud storage by creating NFS volumes in the cloud that are served up by NetApp. It also allows users to monitor resources across clouds, select services levels, and connect to cloud-based compute. This platform has now evolved one step further to become NetApp Cloud Manager. Cloud Manager has become a hybrid cloud/multicloud storage provisioning platform, with additional workflow capabilities, data policies, and automation for ONTAP platforms.

- **StackPointCloud:** Acquired in 2018, StackPointCloud became NetApp Kubernetes Service (NKS), which has since become Astra. Astra is NetApp's managed Kubernetes service. Astra integrates with on-premises ONTAP systems, Cloud Volumes, and Astra Trident to allow users to manage container-based workloads, as well as the orchestration of persistent data across containers.

- **Cognigo:** Acquired in 2019, Cognigo added file security, compliance, classification, and notification capabilities. These capabilities are being embedded into NetApp's cloud portfolio via Cloud Manager and are now branded as NetApp's Cloud Data Sense service.

- **Talon:** Acquired in 2020, Talon will also integrate with NetApp's Cloud Volumes portfolio, adding cloud-based global file caching capabilities that will be extremely valuable to customers that are part of the Azure/ANF ecosystem. This service is now branded as Global File Cache.

- **CloudJumper:** Acquired in 2020, CloudJumper provides virtual desktop and remote desktop services for Azure, AWS, and Google Cloud. CloudJumper was integrated into the NetApp data services portfolio and forms the foundation for the rebranded Virtual Desktop Service offering. It is also integral to the fully managed Spot PC service. This gives NetApp an important foothold in Windows-based VDI environments that can be immediately complemented by Talon, ANF, and other NetApp cloud data services.

- **Spot, Data Mechanics and CloudCheckr:** NetApp acquired Spot in June 2020. Spot built business solutions that enable cost analysis and cost optimization of customers' cloud infrastructure services usage. Since acquiring Spot, NetApp has invested heavily in developing a platform of cloud services under the "Spot by NetApp" umbrella to help enterprise IT manage everything from cloud infrastructure management to operations and continuous deployment under one roof. In June 2021, NetApp acquired Data Mechanics, with the plan of integrating it into Spot Wave. Data Mechanics adds application and infrastructure optimization specific to Apache Spark big data use cases. On October 4th NetApp announced the acquisition of CloudCheckr. CloudCheckr is a cloud optimization platform focused on security, compliance, and resource optimization. NetApp intends to integrate CloudCheckr into the Spot by NetApp portfolio, expanding its cloud data management and FinOps capabilities. These tools and services combined are key to helping NetApp capture adjacent opportunities that appeal to developers and DevOps users looking to adopt services for big data, Kubernetes, and/or serverless functions.

NetApp has used these acquisitions, along with others, to aggressively expand its presence in cloud environments, as well as its list of cloud data services.

Market Context: Public Cloud Storage Providers Are Expanding into Adjacent Services

The baseline cost of public cloud IaaS compute and storage services (e.g., price per gigabyte per month for storage and price per vCPU or instance per hour for compute) will continue to decline over time to remain in line with customer expectations. Leading providers have consistently reduced the list price of compute and storage services, while releasing free and low-cost tools and services designed for cost management and resource optimization as an alternative way to help customers optimize resource usage. However, this steady reduction in IaaS resource based pricing presents a headwind to growth for IaaS providers. As a result, providers must drive adoption of adjacent services (e.g., gateways, containers, data transfer, and analytics) to offset baseline cost reduction. Services for analytics, database and data warehousing, data transfer, and monitoring and management tools are just a few of the increasingly advanced cloud data services that customers plan to adopt from their public cloud IaaS provider over the next year. This demand for more advanced data services (beyond just raw compute and storage resources) will slowly shift customer conversations away from capacity and cost to the value customers get via access to adjacent services within the public cloud providers' portfolio or the availability of these services through partner integration. While creating new opportunities, it is important to note that these adjacent services can take much longer for enterprises to adopt and are more complex than simply adding cloud storage or compute capacity.

Spot and Astra Help NetApp Capture Opportunities Adjacent to Cloud Storage

NetApp has relied on its acquisition of Spot to launch several new initiatives aimed at positioning Spot as a suite of products for cloud cost visibility, as well as infrastructure automation, management, and optimization via Spot's Wave and Ocean capabilities. The latest addition to the Spot by NetApp portfolio is Spot PC, built out of NetApp's CloudJumper acquisition. Spot PC adds fully managed cloud desktop as a service for Azure. Spot PC is a prime example of an adjacent cloud service designed to complement new and existing NetApp cloud services customers that are looking to expand their footprint beyond cloud infrastructure (in this case, ANF and Elastigroup).

Astra, launched in early 2020, marked a major expansion of NetApp's cloud portfolio with a focus on capturing adjacent services opportunity. Astra offers data management for containerized workloads in both private and public clouds; data protection through snapshots, backups, replication, and cloning; and disaster recovery capabilities. Astra now supports Kubernetes applications hosted on Microsoft Azure via ANF and AKS, and also supports Google Kubernetes Engine (GKE) clusters in Google Cloud via NetApp's Cloud Volumes Service for Google Cloud. Astra allows NetApp to capture opportunities in two key adjacencies: multicloud data protection and cloud application modernization.

NetApp recently announced public preview of Astra Data Store, a Kubernetes-native shared file service for both container and VM workloads. Astra Data Store adds a standard NFS client and unified data store for Kubernetes-native workloads.

Ongoing Assessment of NetApp's Public Cloud Opportunity

NetApp's primary objective is to capture opportunity associated with the growth of file-based shared storage in the public cloud. As discussed previously, NetApp's Cloud Volumes portfolio provides the groundwork to do so. NetApp has also successfully pursued partnerships with leading cloud services providers to deliver services which act as a force multiplier for its own cloud business (e.g., ANF, Amazon FSx for NetApp ONTAP). However, much of NetApp's long-term opportunity in the public cloud also depends on service suites like Spot by NetApp and Astra. The adjacent cloud services

these suites provide will allow NetApp to address a wider range of public cloud workloads (e.g., big data, container-based application development, serverless functions, and VDI). Expect NetApp to continue providing customers with immediate access to a range of enterprise-grade cloud storage and data management capabilities required to run file-based workloads in the cloud – such as replication, backup and recovery, multiprotocol access, and tiering. This infrastructure foundation will then act as an on-ramp for higher-level services for cloud-native application development, orchestration, and optimization, helping solidify NetApp's value and relevance in an ever-expanding universe of public cloud services.

ADVICE FOR NETAPP

NetApp achieved early success by embedding itself in the fast-growing file storage segment of public cloud, a market that is still relatively nascent and by all accounts has benefited from the integration of NetApp's ONTAP and Cloud Volumes capabilities. Since then, NetApp has invested heavily in the buildout of adjacent cloud data services to expand its opportunity and reach beyond its core infrastructure install base. There are several areas we would advise NetApp to consider as it continues to evolve its public cloud services strategy:

- **Continue to help enterprises reduce storage costs:** Cost may not be the main consideration for primary workloads, but it is for secondary workloads like backup and archive. As customers continue to adopt low-cost public cloud file storage to use as a target for these secondary storage workloads, one of their top concerns will be cost. As public cloud storage providers continue to drive down the cost per gigabyte associated with file storage, NetApp should also make the cost reduction of its associated secondary cloud services a priority. This will help NetApp align with public cloud customer expectations that they will receive more functionality, higher levels of service, and lower costs over time from their public cloud services providers.

- **Continue to develop multicloud integration with public cloud providers:** NetApp is already on the forefront in terms of integrating with leading public cloud file services providers like Microsoft, AWS, and Google. But as these providers continue to expand their portfolio of services, NetApp should prioritize partnership opportunities and joint development and go-to-market opportunities as soon as possible. The release of Astra on AKS was a great addition in this area. And the release of Amazon FSx for NetApp ONTAP means NetApp now has joint product offerings in market with the top two cloud IaaS providers.

- **Expand to emerging use cases and workloads:** As more primary workloads are built on or shift to public cloud shared file storage, NetApp has the opportunity to expand its data services portfolio to new customers. NetApp's acquisition of Data Mechanics and the release of Ocean CD are just two examples of the vendor's work in this area during early 2021. We believe growing adoption of EPYC-based public cloud IaaS resources for HPC workloads may be an area of opportunity for NetApp to position itself as a key enabler. Although this will expose NetApp to a new customer base, it will also present challenges in terms of customer education and brand awareness.

LEARN MORE

Related Research

- *Amazon Web Services Announces FSx for NetApp ONTAP* (IDC #lcUS48204921, September 2021)

- *NetApp to Acquire Spot and Bring True "Application-Driven Infrastructure" to Public Cloud Workloads* (IDC #US46512320, June 2021)
- *NetApp Acquires Data Mechanics and Boosts Spot's Capabilities to Support Big Data Workloads in Cloud-Native Environments* (IDC #lcEUR148044121, June 2021)
- *NetApp Astra Now Available Through Microsoft's Azure Kubernetes Service* (IDC #lcUS47634621, April 2021)
- *NetApp FY 3Q21 Earnings Summary: Impressive Cloud Storage Growth Driving NetApp's New Identity* (IDC #lcUS47501521, March 2021)
- *NetApp to Acquire CloudCheckr, adding to its Spot by NetApp Platform* (IDC #lcUS48074321)

Synopsis

This IDC Market Perspective summarizes NetApp's public cloud services portfolio and strategy, highlighting how the vendor has successfully grown this business over the past several years and areas where NetApp is investing to drive growth over the long term.

"Over the past several years, NetApp has focused on expanding its public cloud services portfolio through both organic growth and acquisition," said Andrew Smith, research manager, Infrastructure Systems, Platforms, and Technologies at IDC. "NetApp now provides file storage services for all major public cloud IaaS providers, making it a critical enabler in a storage segment we estimate is growing in the triple digits."

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