

## Swish Solution Brief

# Six Considerations for Building an Effective Cloud Strategy for Federal Agencies

Federal agencies are increasingly embracing cloud technologies to modernize their information technology environments, achieve cost savings, deliver services efficiently, and deploy emerging innovations. Yet, most agencies still struggle to develop mature strategies and approaches that fully leverage the cloud's benefits. To maximize the value of their cloud initiatives — and avoid the stovepipes and inefficiencies that can result from hybrid environments — we encourage federal agencies to develop strategies that incorporate the following considerations:

## 1. Hybrid is here to stay

Agencies are adopting a Cloud First approach as they modernize, which means that hybrid IT environments — combining legacy infrastructures and applications with virtual and cloud-based environments — will persist. To fully leverage these hybrid infrastructures, agencies should look for natural integration points to extend existing on-premises solutions into the cloud and integrate IT resources wherever they reside.

For example, NetApp ONTAP® is a powerful, cost-effective, and easy-to-use data management solution for your cloud workloads. The familiar and reliable NetApp ONTAP® data management software, with its data protection and storage efficiency features, is now available for AWS or Azure clouds.

NetApp solutions also assist with integrating and extending a variety of data services into the cloud.

## 2. Building fabrics

Building fabrics across hybrid infrastructures will deliver seamless, consistent capabilities. A fabric is an architected set of services that ensures consistent delivery of capabilities, regardless of whether IT resources reside on-premises or in the cloud. Often a fabric will align with a Federal Enterprise Architecture Reference Model or cross-cutting capability such as security or performance. The NetApp Data Fabric, for example, simplifies and integrates data management across one or multiple clouds and on-premises for improved data visibility and insights, data access and control, and data protection and security.

One way to build an effective data fabric is with NetApp's Cloud Volumes service, which provides agencies an easy, low-risk option for extending traditional on-premises file-based storage systems into the cloud. This approach helps agencies maintain the same data governance, security, and efficiencies for their cloud operations that they rely on for their on-premises operations. Cloud Volumes delivers predictable performance and ease of integration with cloud services such as analytics, database, and other native services. Cloud Volumes is a fully managed cloud storage solution that supports NFSv3, NFSv4, and SMB protocols, can grow to 100TB, and run file shares at peak performance while providing the best data protection and security in an organization's preferred cloud provider, whether Amazon Web Services (AWS), Google Cloud Platform (GCP), or Microsoft Azure.

These solutions enable agency IT staffs to create hybrid-spanning performance fabrics that easily monitor and manage the performance of applications and infrastructures.

### 3. Security, as always, is critical

Hybrid environments have the potential to result in fragmented security regimes. Just as it is important to build data and performance fabrics across the hybrid infrastructure, it is also critical to build a ubiquitous fabric that ensures security policies and coverage are robust, automated, and applied consistently and seamlessly throughout.

Government agencies already know and trust NetApp's certified security protocols. One way to extend that security throughout the hybrid environment is with NetApp's ONTAP® data management solution, which enables agencies to integrate their on-prem and cloud governance, risk, and compliance (GRC) regimes. NetApp's ONTAP® storage management software applies extensive

security features, including full-disk encryption, aggregate encryption for the cloud, volume encryption, role-based access control (RBAC), multifactor authentication (MFA), external key management, virus scanning, secure purge, data spillage remediation, and more.

### 4. Data must be where it is needed, when it is needed

The ability to move data efficiently, as needed, to another cloud, format, or application is critical to effectively managing any hybrid environment.

Ensuring that data can flow seamlessly between clouds — public and private, on and off premises — is an important feature of the data fabric, mentioned earlier. For example, NetApp's Cloud Sync service offers a simple, secure, and automated way to transfer data from any source to any target in minutes instead of hours. Cloud Sync can be used for data migration, collaboration, archiving, analytics and other use cases. Once data is in place, Cloud Sync continuously syncs data at schedules set by the agency. Because it transfers only deltas in the data — instead of entire datasets — it minimizes the time and expense involved. Another option is NetApp's SnapMirror, which enables agencies to replicate data or a workflow across the data fabric.

### 5. Don't forget your software-as-a-service (SaaS) offerings when backing up your cloud

Most SaaS vendors make clear that their customers are responsible for ensuring their data is protected, yet many organizations send critical data to SaaS providers without a reliable protection plan.

It is not practical for an agency to custom-develop adapters or connectors that protect SaaS application

data for every SaaS service to which they subscribe. A better option is a cloud-to-cloud backup service, such as NetApp's SaaS Backup for Office 365 and NetApp's SaaS Backup for Salesforce. These options are efficient, easy to implement, and operate much as existing backup regimes do for on-premises workloads.

## 6. Monitor and optimize your cloud for improved performance and lower costs

There are effective hybrid monitoring tools to do this that are simple and easy to use.

NetApp's OnCommand Insight is deployed using a hybrid architecture to provide end-to-end visibility of your multivendor on-premises systems and cloud resources. Increase customer satisfaction by reducing your mean time to repair (MTTR) by monitoring and troubleshooting your entire infrastructure. Optimize your workload placement and reclaim unused resources. Justify your costs with show-back reporting to create accountability and business alignment.

NetApp's Cloud Insights is designed specifically for today's cloud-based infrastructure and deployment technologies and provides advanced analytics on the connections between resources within any cloud environment. Cloud Insights deploys quickly and easily and provides real-time data visualization of the topology, availability, performance, and utilization of the infrastructure, including both cloud and on-premises multi-vendor resources. And it connects traditional service and software-defined infrastructure layers to provide visibility into both traditional and modern application architectures.

The advanced analytics in Cloud Insights delivers actionable insights into the demands, latencies, errors, and saturation points occurring within the dynamic cloud environment. With Cloud Insights, agencies can:

- Reduce mean time to resolution (MTTR) by up to 90 percent.
- Reduce cloud infrastructure costs by an average of 33 percent.
- Prevent up to 80 percent of cloud-infrastructure issues from ever impacting end users.

## Conclusion

Swish encourages agencies to develop an overall hybrid cloud strategy to maximize the value they get from their investments today and tomorrow. Incorporating these six considerations into your hybrid cloud strategy will deliver IT services and performance that are more responsive, efficient, and consistent.

## About Swish

Founded in 2005 and headquartered in McLean, VA, Swish is a Service-Disabled Veteran-Owned Solutions Provider (SDVOSB), with a focus on high-quality outcomes for our clients. Our experienced and certified engineers search out the most innovative technologies and then develop full life cycle solution offerings to ensure our clients realize maximum operational value. Swish ensures digital service capabilities, performance, and security exceed mission requirements. To learn more, please visit: [www.swishdata.com](http://www.swishdata.com)

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