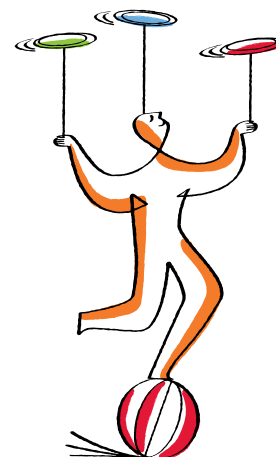




Solution Brief

NetApp Storage Solutions for Amazon Web Services



The Challenge

For many executives, the instant, elastic, and affordable computing of Amazon Web Services (AWS) has become too attractive to ignore. Some executives have instituted AWS and cloud mandates, ordering their IT organizations to consider AWS. To take full advantage of the AWS cloud, organizations must be confident that they can do so without increasing management complexity and risk. Data security, sovereignty, management, and control remain enterprise requirements for cloud adoption, as does the ability to meet service-level agreements for end users.

Use AWS Cloud on Your Terms with NetApp Solutions for Amazon

Extensive choice for enterprise customers

NetApp offers a family of storage solutions to help you use the AWS cloud your way. By combining the world's number one public cloud and the

world's number one branded storage operating system you can confidently manage and maintain control of your data while gaining the flexibility and efficiency benefits of the AWS cloud. You can choose from options to rent, lease, or buy data storage in the cloud or near the cloud to best match your IT resources to your business requirements.

NetApp offers you more choices than any other major storage provider to help you meet your changing business objectives while you use AWS:

- **NetApp Cloud ONTAP:** Point and click to instantly deploy the NetApp® clustered Data ONTAP® operating system on top of AWS Elastic Block Store (EBS) cloud storage, through the AWS Marketplace.
- **NetApp Private Storage (NPS) for AWS:** Get the elasticity and savings of AWS compute cloud with the performance, availability, and control of dedicated enterprise storage.

- **NetApp OnCommand® Cloud Manager:** Easily deploy, manage, and track your storage resources in or near the cloud.

Choosing NetApp with AWS gives you freedom and flexibility. You can match AWS cloud compute resources to utilization and avoid large capex investments required for peak, unforecasted, or seasonal workloads. Start with Cloud ONTAP for small projects or trials, and then move to NPS for AWS as your need for performance, availability, or capacity grows. Or use NPS for AWS when you need data sovereignty, security, compliance, or control. Whatever you decide, you can easily manage storage and your data with OnCommand Cloud Manager.

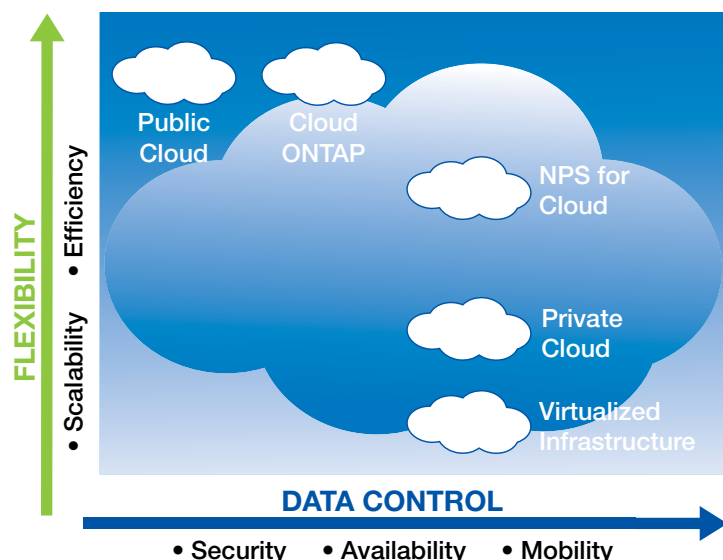


Figure 1) Public clouds offer flexibility. Private clouds offer control. NetApp solutions for AWS are designed to offer both with fewer tradeoffs.

AWS Cloud Benefits with the Power of Clustered Data ONTAP

Because these solutions are based on the NetApp clustered Data ONTAP universal data platform, you get the same seamless data mobility, portability, and advanced management features that you have come to expect from NetApp. You can even use NetApp SnapMirror® software, number one for data replication, to move data between your premises and AWS environments. Best of all, you get the advanced data management features of clustered Data ONTAP, such as space-efficient NetApp Snapshot™ copies for backup and rapid recovery, and integrated data protection of your enterprise applications.

Change your capex-opex mix to meet dynamic business needs

With quick and easy data movement, it's simple to change your mix of public and private cloud resources on demand. You can even balance your capex-opex profile and meet dynamic business needs. Dial up or dial down your use of the AWS cloud and on-premises resources to meet changing business needs.

Accelerate innovation and time to market with AWS and maintain control of your data

It can be difficult to justify a capex purchase for a new development project.

With Cloud ONTAP, you can leverage the speed and flexibility of AWS for your compute and storage needs to get up and running quickly. As the project grows and matures, you can run on AWS and take advantage of the data mobility of clustered Data ONTAP to deploy it on premises.

Cloud ONTAP

NetApp Cloud ONTAP is a software-only storage appliance built on NetApp® Data ONTAP® operating system—NetApp Data ONTAP is the world's #1 branded storage OS*. You get the same great features that you have come to expect from NetApp, including storage efficiency, application integration, and data protection.

Cloud ONTAP provides a flexible data storage solution that can fit many different customer storage requirements, from small-capacity, low-performance applications to medium-scale applications with higher performance needs. Cloud ONTAP is deployed and managed from OnCommand Cloud Manager as an Amazon Elastic Compute Cloud (EC2) compute instance that manages Amazon EBS storage, allowing the customer to build a virtual storage solution directly in Amazon infrastructure resources.

Simple point-and-click deployment

When you need a new storage environment in the cloud, by using OnCommand Cloud Manager, you can just point and click to bring up a new instance of Cloud ONTAP. You can choose the amount of storage capacity and performance you need, and within minutes, you have an operational clustered Data ONTAP storage environment.

Multiple procurement models let you choose how to consume your storage

Cloud ONTAP can be consumed either on an hourly, metered model or on a six-month subscription basis. In both cases, Cloud Manager is used to deploy the instance, but you can choose either hourly, where the resources are procured straight from the Amazon Marketplace and billed to your Amazon account, or the subscription. For the subscription method, you purchase the subscription from NetApp and use a key in Cloud Manager for each instance you deploy. Both payment models include a NetApp Software Support Plan.

NetApp Private Storage for Amazon Web Services

A hybrid cloud solution

Public clouds offer infinite, elastic, affordable compute resources, but they have drawbacks and trade-offs when it

* Source, IDC: IDC Worldwide Quarterly Disk Storage System Tracker 2014 Q1 – June 2014 (Open Networked Disk Storage System revenue).

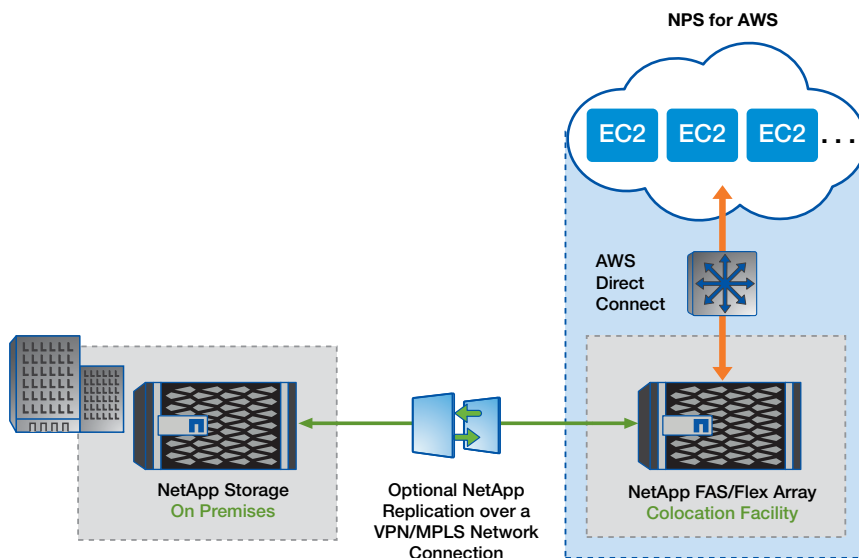


Figure 2) NetApp Private Storage for AWS.

comes to performance, data availability, security, sovereignty, and control. NPS for AWS is a hybrid cloud solution that gives you public cloud benefits without the usual trade-offs. For workloads that require high performance and capacity or for those times when you want to maintain control of your data while using the AWS cloud, NPS for AWS is the ideal choice.

Public Cloud Benefits with Proven Enterprise Storage

By combining public cloud compute resources with proven enterprise storage, you get the elasticity and savings of Amazon EC2 together with the performance, security, availability, and control that even our Fortune 100® customers rely on.

Maintain Complete Control of Your Data on NetApp While Using AWS

Your organization can pay per use for cloud compute resources while your data resides within secure private storage, maximizing security, availability, and compliance.

Get secure connectivity to AWS cloud with AWS Direct Connect

With an NPS for AWS approach, you keep your data “next to” AWS cloud on NetApp storage in select data centers.** Your NetApp storage is connected directly to AWS compute with AWS

Direct Connect, a secure, dedicated, high-speed network connection that does not go over the Internet. By putting your data “next to” AWS cloud with a dedicated connection, AWS compute feels local while data remains secure and protected in a colocation facility.

Meet compliance and sovereignty requirements

With NPS for AWS, you own your storage and you know where your data lives at all times. You maintain complete control of your data on NetApp while you use AWS, and you can still meet the strictest compliance and sovereignty requirements. NetApp also offers advanced compliance features such as SnapLock® data movement and disk encryption for industries with special compliance regulations.

Obtain world-class physical security for your data

By placing NetApp private storage in tier 1 data centers, such as Equinix, enterprises get unmatched physical and environmental security, above and beyond what most could otherwise afford. The patented Equinix five-layer security system was created by the architects of the U.S. Federal Reserve security system. The Equinix system includes appointment-only access, 24/7 security staffing, biometric hand geometry readers, 24-hour video

surveillance, and the ability to track all visitors throughout the data center.

Sample Use Cases of NPS for AWS Use Amazon EC2 for large, variable enterprise workloads

Get the elasticity of Amazon EC2 with the speed, reliability, and availability of NetApp storage for enterprise workloads such as Oracle® Database and Microsoft® SQL Server®. You can avoid large capex investments by matching compute resources to utilization. With AWS Direct Connect and NetApp storage, your enterprise applications can get the high-speed, low-latency response they need.

Provide disaster recovery at a lower cost

Deploy cost-effective single or multiregion DR by activating EC2 only in test and failover scenarios.

Leverage temporary cloud resources for data center migration and consolidation

Move your data to private storage connected to EC2 and maintain operations as old data centers are decommissioned. Then leave the data on private storage or move it to a new consolidated data center.

** NPS for AWS is available in all 11 AWS Direct Connect locations, in global and regional data centers such as Equinix worldwide and Eircom in the United Kingdom.

Adjust your capex-opex spending throughout your SaaS lifecycle

Pay as you go for AWS compute power; start with Cloud ONTAP and move to NPS for AWS as you grow. For example, Cloud ONTAP is optimal for starting a data analytics application with a small to medium amount of data. As your analytics use grows, you may decide to repatriate data to a NetApp private cloud as your application matures and your user base grows.

OnCommand Data Management

NetApp offers a suite of storage management tools that allow you to manage and monitor your storage both in the cloud through Cloud ONTAP and near the cloud with NPS for AWS. From overall hybrid cloud management with Cloud Manager to complete storage environment monitoring with Insight, OnCommand provides you with all the tools necessary to manage your NPS for AWS or Cloud ONTAP environment. OnCommand also helps you decide which resources and workloads best fit—in the cloud, near the cloud, or on your premises.

Cloud Manager

OnCommand Cloud Manager provides storage management for your hybrid cloud environment. It is the deployment environment for Cloud ONTAP that simplifies the installation and resource assignment of all your instances. Cloud Manager also eases the day-to-day requirements of your Cloud ONTAP and NPS for AWS environment, including configuring, provisioning, and monitoring your active virtual and hardware storage nodes.

Cloud Manager integrates with your cloud environment, allowing you to insert credentials so that it gathers the required resources to meet your storage requirements. With visibility into the actual resources consumed by each instance, Cloud Manager can monitor and provide valuable cost feedback to your administrator on the cost of resources over time. You can use this information to help you decide when it is best to move workloads to the most cost-efficient environment.

Cloud Manager key features include:

- Simplifies configuration and deployment of Cloud ONTAP
- Offers central point of control for all Cloud ONTAP instances
- Provides AWS cloud resource cost monitoring
- Eases license and entitlement management
- Facilitates hybrid environments that include Cloud ONTAP and NetApp Private Storage

About NetApp

Leading organizations worldwide count on NetApp for software, systems and services to manage and store their data. Customers value our teamwork, expertise and passion for helping them succeed now and into the future.

www.netapp.com



© 2014 NetApp, Inc. All rights reserved. No portions of this document may be reproduced without prior written consent of NetApp, Inc. Specifications are subject to change without notice. NetApp, the NetApp logo, Data ONTAP, FlexClone, OnCommand, SnapManager, SnapMirror, Snapshot, and SnapVault are trademarks or registered trademarks of NetApp, Inc. in the United States and/or other countries. All other brands or products are trademarks or registered trademarks of their respective holders and should be treated as such.
DS-3623-0914

Follow us on:

