



Technical and Sales FAQ

ONTAP Cloud

Frequently Asked Questions

Cloud ONTAP and OnCommand Cloud Manager

Jeff Whitaker, NetApp
November 2016

Abstract

This FAQ answers questions about NetApp® ONTAP® Cloud (formerly Cloud ONTAP) and OnCommand® Cloud Manager. This is a living document that will be updated as new questions are submitted. This is targeted for NetApp sales and partners.

TABLE OF CONTENTS1..... NetApp ONTAP Cloud Storage Software

4

What is ONTAP Cloud Software?	4
What is ONTAP Cloud High Availability?	5
How is ONTAP Cloud purchased?	5
Where does ONTAP Cloud operate?	5
What is ONTAP Cloud for GovCloud and how is it different?	5
How is ONTAP Cloud for GovCloud deployed?	6
Why do I see ONTAP Cloud for GovCloud in the commercial AWS marketplace?	6
What is 'write performance mode' and how does it work?	6
What is 'Volume View' in Cloud Manager v2.2?	6
Are there multiple ONTAP Cloud product models to choose?	6
What is included with the purchase of ONTAP Cloud?	7
Note: The Included Software Support Plan includes entitlement to software upgrades, web and phone support as well as a self-service portal. Government support is included for GovCloud region.	8
How do I renew my ONTAP Cloud BYOL subscription?	8
Why should a customer choose ONTAP Cloud versus native EBS to store their data?	8
Can I protect my data across availability zones with ONTAP Cloud?	9
Can I protect my data between my data center and ONTAP Cloud?	9
What is the difference between ONTAP Cloud and Data ONTAP Edge?	9
Can I use my previously purchased Data ONTAP/Data ONTAP Edge licenses with ONTAP Cloud?	9
What features of ONTAP software are supported on ONTAP Cloud?	10
What is new in Cloud ONTAP 8.3.1 and Cloud Manager v2.0?	10
What is new with Cloud ONTAP 8.3.2rc1 and Cloud Manager v2.1.0?	10
What is new with Cloud ONTAP 8.3.2 GA and Cloud Manager v2.2.0?	10
What is new with ONTAP Cloud 9.0 rc1 and Cloud Manager v3.0?	11
What is new with ONTAP Cloud 9.1 and Cloud Manager v3.1?	11
2 OnCommand Cloud Manager.....	12
What is OnCommand Cloud Manager?	12
Is OnCommand Cloud Manager required for ONTAP Cloud?	12
Is OnCommand Cloud Manager required for NetApp Private Storage?	12
Where does OnCommand Cloud Manager run?	12
What is the difference between the Cloud Manager version on the provider marketplace and the version for on premises installation?	12
Is there a charge for Cloud Manager?	12
Can I use Cloud Manager with any of my NetApp Systems?	13
3 Frequently Asked Sales Questions	14
Do NetApp Sales Reps and Partners get compensated on ONTAP Cloud?	14
If sales is not paid on the Pay-as-you-go models, why should I care about them?	14
When should I sell ONTAP Cloud vs. NPS for Cloud?	14
4 Frequently Asked Technical Questions	15
How does ONTAP Cloud operate on AWS compute and storage resources?	15

How does high availability work in ONTAP Cloud?	15
What is the performance and capacity impact when configured as an HA pair?	15
What is the capacity limit for each ONTAP Cloud models?	15
Does ONTAP Cloud support S3 storage?	15
Does ONTAP Cloud have to run continuously?	15
Does ONTAP Cloud support 7-mode?	16
Can I manage ONTAP Cloud with my existing OnCommand management tools (System Manager, Unified Manager, Insight, WFA, etc.)?	16
How is encryption addressed in ONTAP Cloud?	16
5 Frequently Asked Support Questions	17
What level of support comes with a ONTAP Cloud purchase?	17
Are the traditional support features included with ONTAP Cloud and Cloud Manager?	17
Does NetApp provide differentiated service for ONTAP Cloud customers?	17
How does support work for work for ONTAP Cloud – BYOL?	17
How does support work for ONTAP Cloud pay as you go?	18
Appendixes	19
References	19
Version History	19

LIST OF TABLES

Table 1) NetApp ONTAP Cloud for AWS Product Models	7
Table 2) NetApp ONTAP Cloud for Microsoft Azure	8

1 NetApp ONTAP Cloud Storage Software

What is ONTAP Cloud Software?

Answer: "NetApp ONTAP Cloud is a software-only storage service running the NetApp ONTAP storage software offering you control of your data with the power of an enterprise storage software solution. Building your cloud storage environment on ONTAP Cloud provides enterprise-class features for your cloud storage.

- Non-disruptive, two node high-availability (HA) support keeps you operating against unplanned storage failures in the cloud
- Provision both NAS and SAN storage with NFS, CIFS and iSCSI support
- Minimize your storage footprint with efficiency features such as data deduplication, thin provisioning and data compression
- Zero-impact NetApp Snapshot™ copies with near-instantaneous point-in-time backups of your data without taking additional storage resources
- NetApp SnapMirror® technology brings your hybrid cloud environment together by tying on-premises FAS storage to your ONTAP Cloud environment.
- Get advanced data management features with the OnCommand management suite of tools from in depth monitoring and tracking of storage with OnCommand Insight to detailed storage instance control with OnCommand System Manager.
- Replicate data across availability zones to ensure application availability

ONTAP Cloud is deployed and managed from OnCommand Cloud Manager giving you a simple point-and-click environment to manage the software and underlying cloud infrastructure for your cloud storage solution.

Figure 1. NetApp ONTAP Cloud Software Storage Service

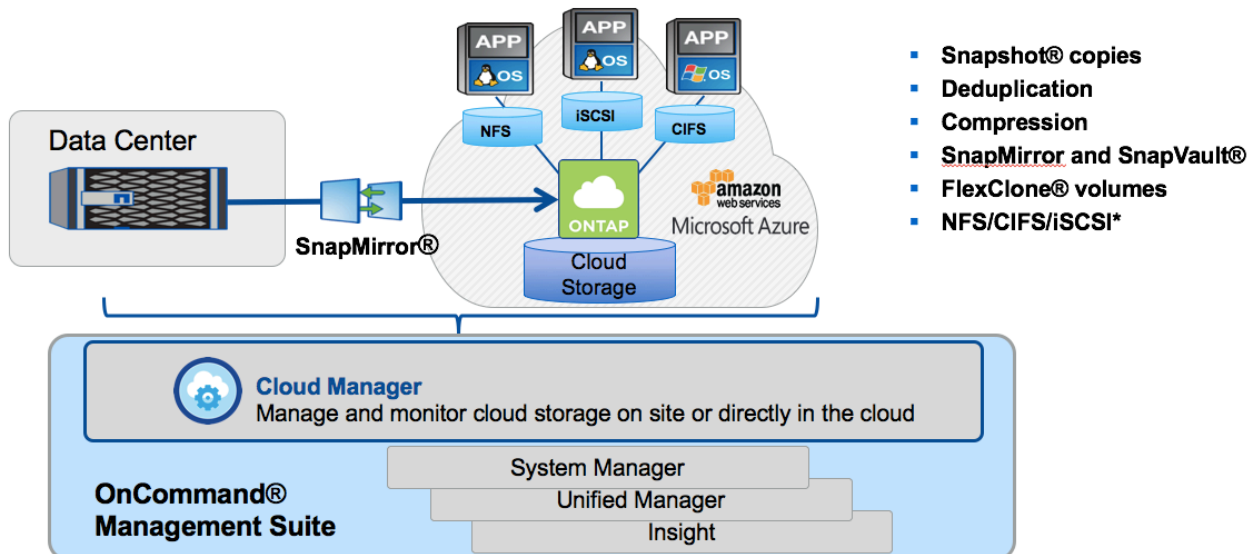
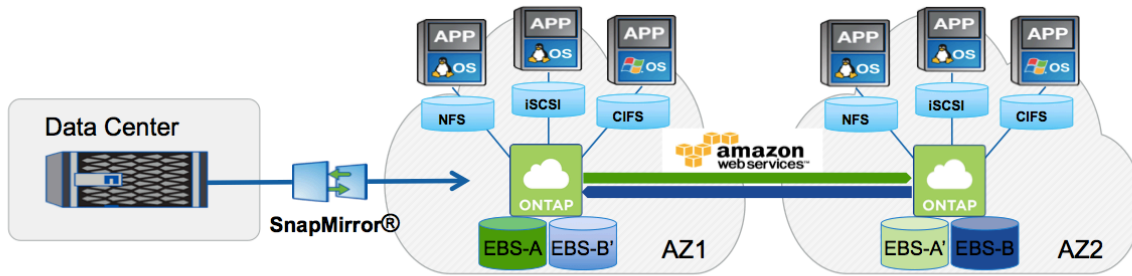


Figure 2. NetApp ONTAP Cloud High Availability Configuration



What is ONTAP Cloud High Availability?

Answer: ONTAP Cloud High Availability (HA) is the version of ONTAP Cloud that can be configured as a two node HA solution in the Cloud. If a customer requires a non-disruptive environment for their application, ONTAP Cloud HA will allow them to build a two-node solution with failover support in the case that one node fails (whether unplanned or for planned upgrade purposes). ONTAP Cloud HA requires two ONTAP Cloud instances and a failover controller in order to operate. As with a single instance of ONTAP Cloud, OnCommand Cloud Manager is required for setup, configuration and management of the environment. ONTAP Cloud HA for AWS is available in ONTAP 9.0 rc1.

How is ONTAP Cloud purchased?

Answer: ONTAP Cloud is available on the AWS and Azure Marketplace with multiple procurement options. You can purchase by the hour as pay-as-you-go, or you can purchase a subscription from NetApp. In the pay-as-you-go model, you purchase directly from the provider marketplace and pay for the ONTAP Cloud software, support and resources by the hour (or optional annual purchase). The provider will bill you for everything. For the subscription model, you are purchasing a six-month or annual subscription from the NetApp sales representative (or reseller) and, via Cloud Manager, activating a subscription that enables ONTAP Cloud – BYOL (Bring your own license) instances. The provider will bill you only for the compute and storage resources used/provisioned.

Where does ONTAP Cloud operate?

Answer: ONTAP Cloud is a virtual storage environment that runs inside of a cloud data center. It runs on cloud compute and storage resources (AWS – EBS, Azure – Premium/Standard storage). The providers have cloud data centers in many regions worldwide and a customer can choose the cloud data center and availability zone that best fits their requirements. Because ONTAP Cloud is virtual, a customer can choose to run in one regional cloud data center and move the environment to another regional data center as needed. If they are looking to replicate data from their on-premises to the cloud data center, or from one region/availability zone to another, then they can start an ONTAP Cloud instance and SnapMirror the data from one location to another. In this case, they are moving the data that is managed within the ONTAP Cloud environment (SnapMirror compatibility requirements still apply).

What is ONTAP Cloud for GovCloud and how is it different?

Answer: The AWS GovCloud region is a specific region targeting the US public sector. It has much of the same capabilities as the rest of the AWS regions except for two key items: 1) GovCloud has separate access privileges from the other commercial regions (commercial accounts do not have access to the GovCloud region), 2) there is no AWS marketplace for the GovCloud region. The access rights have no impact on the operation of ONTAP Cloud for GovCloud, but the lack of a marketplace changes the way ONTAP Cloud is deployed. ONTAP Cloud for GovCloud is only offered as a BYOL license from NetApp or NetApp partners and deployed from the AWS console. ONTAP Cloud for GovCloud software support is provided by U.S. persons on U.S. soil.

How is ONTAP Cloud for GovCloud deployed?

Answer: Due to no AWS marketplace for the GovCloud region, ONTAP Cloud for GovCloud is deployed initially from the AWS Console. It is not deployed in the same manor as the rest of the regions. Users will first purchase the BYOL license and then open the AWS console. From the AWS console they will search for “ONTAP Cloud” to find the Amazon Machine Instance (AMI). This AMI will launch Cloud Manager and start the installation wizard (similar to the standard installation wizard).

Why do I see ONTAP Cloud for GovCloud in the commercial AWS marketplace?

Answer: The AWS marketplace in the commercial regions offer listings for information purposes that we have used for ONTAP Cloud for GovCloud. This is to inform customers, who are searching the marketplace for ONTAP Cloud, that we have a GovCloud offering. This will direct them to the necessary resources to learn about ONTAP Cloud for GovCloud or to NetApp sales to answer questions and purchase. They can not directly purchase or deploy ONTAP Cloud for GovCloud from this listing.

What is ‘write performance mode’ and how does it work?

Answer: ONTAP Cloud write performance mode is a new feature in Cloud Manager v2.2 to allow improved write performance for your ONTAP Cloud instances. Write performance is enhanced by acknowledging data writes and caching them before the write is committed to disk. This means there is small window of time where the write has been acknowledged but not committed. This is only an issue if an unplanned system outage occurs while a write has been acknowledged but has yet to be written to disk. For this reason NetApp recommends that this feature only be used when there is write protection available at the application layer, or if the usage of the ONTAP Cloud system is targeting non-critical workloads. This feature can be enabled at the time a ONTAP Cloud instance is created, or changed at a later time via Cloud Manager. Changing the ONTAP Cloud write speed will require a reboot of the ONTAP Cloud instance, so please ensure there are no actions being performed against the ONTAP Cloud system when you change the write speed.

What is ‘Volume View’ in Cloud Manager v2.2?

Answer: Volume View a new mode that is different from the traditional ‘Storage System View’ in Cloud Manager. In Storage System View the user deploys new ONTAP Cloud instances and manages the data on each instance, more as a storage administrator. With Volume View, Cloud Manager now enables creation and management of volumes of your data and does not require any knowledge of the underlying storage system. Cloud Manager will automate all of that for you. As an example, if a user wants to create a 5TB NFS volume, Cloud Manager will deploy the ONTAP Cloud system for you behind the scenes and also create your volume for you. If the user then wishes to create a 2 TB volume, Cloud Manager will create the volume on the existing ONTAP Cloud system, or alternately deploy a new system if needed based on overall utilization of the ONTAP Cloud system.

Are there multiple ONTAP Cloud product models to choose?

Answer: ONTAP Cloud is available in multiple options to best fit your application needs. In version 8.3.1 and beyond, there are two models available: ONTAP Cloud and ONTAP Cloud (BYOL), ONTAP Cloud is the pay as you go solution purchased on the provider marketplace with both hourly and Annual purchasing. The ONTAP Cloud (BYOL) represents the bring your own license version sold by NetApp and is offered in both six-month or annual subscriptions.

For the pay as you go solution, there are multiple flavors based on the compute instance type chosen.

- Explore: Provides the full power of Data ONTAP in a pre-packaged solution for smaller capacity applications up to 2TB
- Standard: Provides the full power of Data ONTAP with flexible performance and capacity options for a broader support of applications up to 10 TB

- Premium: Provides the full power of Data ONTAP for high capacity applications up to 368 TB. Prior or ONTAP 9.1, the Premium version only supported up to 46TB of magnetic disk capacity. After 9.1, there is no capacity reduction due to the new ST1 (replaces magnetic) and SC1 volume type support. There is no Azure support for the Premium model.
- BYOL: Provides the full power of Data ONTAP with flexible performance and expanded capacity options up to 368TB and supports all compute instance types. Azure support is limited to 31TB.

What is included with the purchase of ONTAP Cloud?

Answer: ONTAP Cloud Explore and Standard are full versions of Data ONTAP. Included in the purchase are many of the great traditional Data ONTAP features (SnapShot Copies, FlexClone volumes, SnapMirror data replication, data deduplication, etc.); also included are OnCommand Cloud Manager and NetApp's enterprise-quality Software Support Plan. The support offering and entitlement are included in the purchase price of ONTAP Cloud.

Table 1) NetApp ONTAP Cloud for AWS Product Models

	ONTAP Cloud for AWS		ONTAP Cloud for AWS High Availability	
Licensing	AWS	BYOL	AWS	BYOL
High Availability	No	No	Yes	Yes
Multiprotocol	•	•	•	•
Data protection	•	•	•	•
NetApp FlexClone® volumes	•	•	•	•
AWS Regions	All*	All* (plus GovCloud)	All	All* (plus GovCloud)
EBS volume types	GP2, ST1, SC1	GP2, ST1, SC1	GP2 and ST1	GP2 and ST1
Procurement (license)	AWS Marketplace	NetApp	AWS Marketplace	NetApp
Solution capabilities	M3.XL, M4.XL: • Up to 2TB • AWS encryption M3.2XL, M4.2XL, C4.2XL: • Up to 10TB • AWS encryption R3.XL, R3.2XL, C4.4XL: • Up to 368TB • NetApp and AWS encryption	M3.XL, M3.2XL, M4.XL, M4.2XL, C4.2XL: • Up to 368TB • GP2 • AWS encryption R3.XL, R3.2XL, C4.4XL: • Up to 368TB • NetApp and AWS encryption	M4.XL: • Up to 2TB • AWS encryption M4.2XL, C4.2XL: • Up to 10TB • AWS encryption R3.XL, R3.2XL, C4.4XL: • Up to 360TB • NetApp and AWS encryption	M4.XL, M4.2XL, C4.2XL: • Up to 360TB • AWS encryption R3.XL, R3.2XL, C4.4XL: • Up to 360TB • NetApp and AWS encryption
Support	Software Support Plan	Software Support Plan	Software Support Plan	Software Support Plan

* Sao Paolo does not support the M3 instance type, No C2S support

Note: The Included Software Support Plan includes entitlement to software upgrades, web and phone support as well as a self-service portal. Government support is included for GovCloud region.

Table 2) NetApp ONTAP Cloud for Microsoft Azure

	ONTAP Cloud for Azure	
Licensing	Azure	BYOL
High Availability	No	No
Multiprotocol	•	•
Data protection	•	•
NetApp FlexClone® volumes	•	•
AWS Regions	All*	All*
Volume types	Standard, Premium	Standard, Premium
Procurement (license)	Azure Marketplace	NetApp
Solution capabilities	DS3, DS4, DS3v2, DS4v2 • Up to 2TB • Azure encryption DS13, DS14, DS13v2, DS14v2: • Up to 10TB • Azure encryption	DS3, DS4, DS3v2, DS4v2, DS13, DS14, DS13v2, DS14v2: • Up to 31TB • Azure encryption
Support	Software Support Plan	Software Support Plan

* Azure Government is not supported at this time

How do I renew my ONTAP Cloud BYOL subscription?

Answer: You must contact your NetApp sales representative or reseller to purchase any BYOL subscription renewals.

Why should a customer choose ONTAP Cloud versus native EBS to store their data?

Answer: EBS storage can be viewed as similar to DAS storage for standard servers. It is raw storage capacity for Amazon EC2 compute (servers). There are features beyond what DAS offers, but they are limited and without any data replication features. They do offer snapshot copies on EBS storage. AWS snapshots are actual copies of the EBS storage off to S3 storage. These snapshots have impact on the performance of the storage and they also create a complete replica of the storage in S3, which is charged to the customer.

ONTAP Cloud storage is a managed storage environment that uses the raw EBS storage as its basis. ONTAP Cloud takes the EBS storage, manages it with the Data ONTAP storage operating system and

provides numerous advanced features on top of the storage. There are many advanced features that ONTAP Cloud offer:

- Multi-protocol (NFS, CIFS, iSCSI)
- Data Protection (Snapshot copies, SnapMirror, SnapVault)
- Storage efficiency (Data deduplication, compression, thin provisioning) that can reduce the amount of EBS storage you need to purchase
- FlexClone volumes
- Management (Unified Manager, System Manager, WFA, Insight, etc.)

For the some of these features that may overlap, there are key areas of differentiation that follow NetApp's traditional competitive advantages. For protocols, AWS does not offer a complete NAS solutions (NFSv4.1, pNFS, CIFS). NetApp brings this and is unified such that all the features for block storage are available to NAS. For Snapshots, NetApp Snapshots are zero-copy point in time copies of the data. NetApp Snapshots have no impact on performance and the copies are only of the change data, minimizing the storage consumed.

Can I protect my data across availability zones with ONTAP Cloud?

Answer: Yes. ONTAP Cloud includes SnapMirror replication software which provides a means of moving data between Data ONTAP instances. Data can be moved from one availability zone to another with SnapMirror. One would only need to have another Data ONTAP storage environment in the secondary availability zone. That secondary location could be another ONTAP Cloud instance or it could be a NetApp Private Storage instance.

Can I protect my data between my data center and ONTAP Cloud?

Answer: Yes. ONTAP Cloud includes SnapMirror replication software which can be used to move data between Data ONTAP platforms including data center to cloud, cloud to data center or between clouds (or cloud regions). In order to replicate data to the data center, you would only need to have a Data ONTAP based FAS system on your premises to be the target.

What is the difference between ONTAP Cloud and Data ONTAP Edge?

Answer: ONTAP Cloud and Data ONTAP Edge come from the same heritage, but are different products. Both are based on a virtual version of Data ONTAP known as a virtual storage appliance (VSA). This VSA technology takes Data ONTAP, creates a wrapper around it that allows it to run as a virtual machine on various hardware infrastructure environments.

Data ONTAP Edge is a product based on the underlying VSA technology and is packaged to address remote office environments. It runs on a specific enterprise hypervisor (VMware's ESX) and runs on a select set of hardware that best fits the remote office space.

ONTAP Cloud is also based on the underlying VSA technology but is packaged to operate in the cloud. It runs on the supported cloud environment compute and storage infrastructure and is designed to support general application support. It also provides the necessary features important to the cloud (capacity, performance, protocols, replication, efficiency, etc.).

Can I use my previously purchased Data ONTAP/Data ONTAP Edge licenses with ONTAP Cloud?

Answer: No. ONTAP Cloud is a new platform and has it's own associated licenses. You can not re-use licenses from any other NetApp platform on ONTAP Cloud.

What features of ONTAP software are supported on ONTAP Cloud?

Answer: There is support for the majority of features in ONTAP with the exception of a few. ONTAP Cloud does not support the following features (circa Oct 2016):

- Metrocluster
- RAID-DP
- Flash Pools
- Anything hardware dependent

What is new in Cloud ONTAP 8.3.1 and Cloud Manager v2.0?

Answer: There are a number of new features that have been added with Cloud Manager v2.0 and Cloud ONTAP version 8.3.1. The updates are as follows:

1. Increased capacity support for both the pay as you go and bring your own license solutions up to 368TB of EBS GP2 storage.
2. New NetApp managed encryption of the data at rest, offering customers the increased security of encryption with externally managed encryption keys (validated with SafeNet)
3. New packaging to simplify the deployment of Cloud ONTAP. There are now only two packages available on the marketplace, Cloud ONTAP for AWS and Cloud ONTAP for AWS (BYOL).
4. New "Premium" version of the Cloud ONTAP for AWS pay as you go solution
5. New annual purchase option for both pay as you go and bring your own license solutions
6. Magnetic disk support of up to 46TB giving customers that can work with the lower disk performance a low cost capacity option with Cloud ONTAP.
7. Trial period for Cloud ONTAP for AWS increased from 14 days to 30 days on the customers first use of Cloud ONTAP (pay as you go only)

What is new with Cloud ONTAP 8.3.2rc1 and Cloud Manager v2.1.0?

Answer: With the Cloud Manager v2.1.0 and Data ONTAP 8.3.2rc1 release, there are many new features and both software pieces are required.

The changes include:

1. Support for Cloud ONTAP 8.3.2rc1 with M4.XL and M4.2XL instances
2. SnapMirror management and throttling for the following topologies:
 - a. From a Cloud ONTAP instance to a secondary Cloud ONTAP instance
 - b. From a FAS system to a Cloud ONTAP instance
 - c. From a Cloud ONTAP instance to a FAS system
3. Support for cloning (FlexClone) from a Snapshot copy
4. Support creation of CIFS shares
5. Set-up custom AWS disk size and edit volume properties
6. Automatic backup of Cloud ONTAP configuration

What is new with Cloud ONTAP 8.3.2 GA and Cloud Manager v2.2.0?

Answer: With the Data ONTAP 8.3.2 GA and Cloud Manager v2.2.0 release, you get a number of new features to enhance the data management capabilities in the cloud. The release includes:

1. AWS GovCloud Region Support (Specific US government only region)
2. Write Performance Mode (Write caching to increase performance for non critical workloads)

3. Cloud Manager Volume View (deploy and manage data volumes rather than systems)
4. Cloud Manager user interface enhancements

What is new with ONTAP Cloud 9.0 rc1 and Cloud Manager v3.0?

Answer: With the release of ONTAP 9, the naming has changed to ONTAP Cloud (from Cloud ONTAP). From a feature perspective, with ONTAP Cloud 9.0rc1 and Cloud Manager v3.0 you get a number of new features to enhance the data management capabilities in the cloud. The release includes:

1. Two-node high availability support in ONTAP Cloud for AWS
2. Cloud Manager includes all the new management capabilities to support HA
3. New failover control node for HA (AWS instance)

What is new with ONTAP Cloud 9.1 and Cloud Manager v3.1?

Answer: From a feature perspective, with ONTAP Cloud 9.1 and Cloud Manager v3.1 you get Microsoft Azure support along with a number of new features for the AWS version. The release includes:

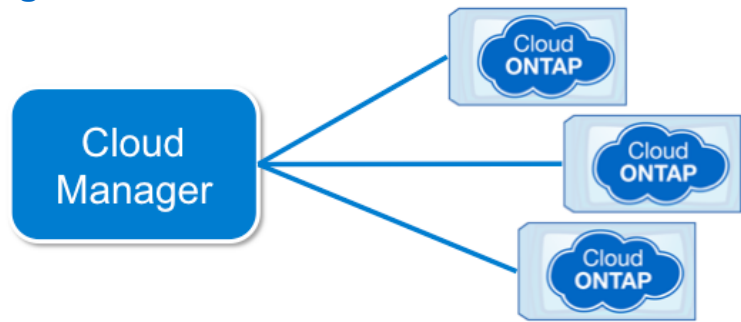
1. Microsoft Azure support (single node only – No HA, no NetApp encryption)
2. New AWS regions supported (Ohio, Mumbai)
3. New AWS instance types supported C4.2XL, C4.4XL)
4. New AWS EBS volume types supported: ST1 (replaces magnetic), SC1 (not available with HA)

2 OnCommand Cloud Manager

What is OnCommand Cloud Manager?

Answer: OnCommand Cloud Manager provides management for your hybrid cloud storage environment, including ONTAP Cloud and clustered Data ONTAP based platforms. Cloud Manager eases the day-to-day management of your Data Fabric,

including configuring, provisioning and monitoring each of your active virtual and hardware storage nodes. It is the deployment environment for ONTAP Cloud that offers a point-and-click installation and automatically selects and assigns cloud resources to each instance. When deploying ONTAP Cloud, Cloud Manager will use your cloud provider credentials to select the compute and storage resources necessary to run the instance of your choice.



Is OnCommand Cloud Manager required for ONTAP Cloud?

Answer: Yes. ONTAP Cloud can only be deployed via Cloud Manager. Cloud Manager handles all the back-end activities to make sure that your cloud compute and storage resources are properly assigned to the ONTAP Cloud instance. Trying to directly deploy ONTAP Cloud via any other method will result in failure to start.

Is OnCommand Cloud Manager required for NetApp Private Storage?

Answer: No. NetApp Private Storage is a FAS based solution and does not require Cloud Manager for deployment. Cloud Manager does offer features specific to NPS that can simplify the deployment, but it is not required.

Where does OnCommand Cloud Manager run?

Answer: Cloud Manager can run in AWS, Azure or on premises at the customer data center. It is available either as an instance on the provider marketplace or it can be downloaded from NetApp's support website and run on your premises (or where you choose). Cloud Manager is a central management point for your hybrid cloud environment and can manage your ONTAP based environments independent of location. For cloud based deployments, you can start Cloud Manager directly from the marketplace.

What is the difference between the Cloud Manager version on the provider marketplace and the version for on premises installation?

Answer: There are two key differences between ONTAP Cloud versions and they revolve around how you get the software and how it is installed. The marketplace version is a prebuilt environment that gets deployed directly from the marketplace into a cloud instance. The version that runs on the customer premises is downloaded off the support.netapp.com website. The customer will need to sign in on the support site with their support ID and then download the software.

Is there a charge for Cloud Manager?

Answer: No. Cloud Manager is available to a NetApp customer at no charge. If you deploy Cloud Manager on the cloud, you will be charged by the provider for the cost of the compute resource that ONTAP Cloud runs.

Can I use Cloud Manager with any of my NetApp Systems?

Answer: Yes. Cloud Manager can be used on any clustered Data ONTAP based platform. It provides configuration, management and monitoring for these environments but it is required for ONTAP Cloud deployment and includes extended features that are only relevant to ONTAP Cloud (such as installation, cloud resource acquisition, cloud network setup, etc.). With version 1.1 and beyond, Cloud Manager manages the SnapMirror relationship between ONTAP Cloud and on premises FAS solutions.

3 Frequently Asked Sales Questions

Do NetApp Sales Reps and Partners get compensated on ONTAP Cloud?

Answer: Yes and No. NetApp sales teams and partners are paid standard compensation on ONTAP Cloud BYOL subscription offering. For the pay as you go offering, the software is purchased directly from the provider marketplace and billed directly through the provider and therefore does not include compensation for NetApp or NetApp partner sales. For the BYOL, or bring your own license, subscription model, the software and support is purchased from NetApp and only the cloud resources are purchased and billed by the provider. When purchasing a BYOL subscription, the customer will receive a license key to install in the AWS instance which signifies that it has already been purchased outside of the marketplace. The Cloud Manager installation wizard handles this process and hides any complexities from the customer.

If sales is not paid on the Pay-as-you-go models, why should I care about them?

Answer: ONTAP Cloud is a key component of NetApp's hybrid cloud strategy. The hybrid cloud includes the external public cloud, such as Amazon or Azure and the private customer environment. When a customer is purchasing any version of ONTAP Cloud, it is very likely there is some associated storage tied to it within the customer premises. So if they purchase a pay-as-you-go solution, they are more often going to purchase an ONTAP storage system in their data center (if they have not already). By comparison, if a customer purchases some other pay-as-you-go solution, then they likely may not be buying from NetApp at all. Embrace ONTAP Cloud and take the opportunity to drive more hardware sales in the data center.

The pay-as-you-go offering also brings a new method for a customer to consume ONTAP. A new customer can rapidly deploy and try ONTAP Cloud at a very low price point without having to go through all the hoops of getting a POC or loaner gear to make this happen. As well, based on the pricing structure, an hourly pricing model will be financially viable for shorter term usage of the product. For a customer that is trying out a new application or solution, they can try on ONTAP Cloud, validate that the environment works as described and then move either to a longer term subscription or move to a FAS environment. This also extends to customers trying out new production services on Data ONTAP. They can use the pay-as-you-go environment to get the application off the ground and then move to a subscription or NPS environment once their cloud costs start to climb.

The key is that the pay-as-you-go offering can be very beneficial to getting a customer sold on ONTAP and then likely onto a more valuable offering moving forward.

When should I sell ONTAP Cloud vs. NPS for Cloud?

Answer: There are a number of factors that differentiate when a customer can use ONTAP Cloud or NPS. First and foremost is to determine if the customer is willing to put their data on cloud storage infrastructure. Whether it is for data governance requirements or the customer's desire to maintain direct physical ownership of their storage system, they will need to utilize NPS (or via FAS from a NetApp backed cloud services provider).

As well, if the customer is not using AWS or Azure as their cloud provider, they must go with NPS.

If the customer is planning on placing their data in cloud infrastructure and they want to buy their cloud storage on an hourly or subscription basis, then they will need to go with ONTAP Cloud.

For a ONTAP Cloud environment, there are limitations on capacity and underlying infrastructure performance that can be used as a guideline.

4 Frequently Asked Technical Questions

How does ONTAP Cloud operate on AWS compute and storage resources?

Answer: ONTAP Cloud is a virtual machine version of Data ONTAP that is designed to run on top of Amazon EC2 compute instances. EBS storage volumes are assigned to the compute instance to create the equivalent of a Data ONTAP storage node that operates in the cloud.

ONTAP Cloud is an Amazon Machine Instance (AMI) that, via OnCommand Cloud Manager is deployed from the AWS Marketplace. Whether purchased hourly or as a subscription, the software is deployed from the marketplace on your AWS environment.

How does high availability work in ONTAP Cloud?

Answer: ONTAP Cloud supports two-node active-active HA in the ONTAP 9 release. It takes two ONTAP Cloud High Availability instances and a separate failover controller to handle planned or unplanned failover from one node to the other. The failover will happen within a 60 second timeframe to keep all active volumes online. In order for HA to operate in an AWS cloud environment without shared storage, each active volume will be mirrored to the second instance. In the case of a node shutdown, the failover node will identify the failure and instruct the second node to become primary. Once the original node comes back online, the data will be synchronized and the original node will be flipped back to primary and normal operations will continue.

What is the performance and capacity impact when configured as an HA pair?

Answer: The capacity of an HA environment will be nearly the same as a single node environment and only loses one volume from the total capacity in order to support the mirroring process between nodes (368TB vs 360TB in HA). In order to support HA, a copy of every data write must be made from the primary node to the secondary node. Due to this, you can expect slightly lower write performance while operating in an HA configuration versus that of a comparable single node environment.

What is the capacity limit for each ONTAP Cloud models?

Answer: The capacity limit specified in each of the ONTAP Cloud models describes the raw cloud storage capacity assigned to the ONTAP Cloud instance. The supported capacity numbers are listed in Table 1 and Table 2. The usable storage will vary depending on a number of factors including ONTAP overhead/reserve, deduplication level, compression, etc. So the useable capacity of each model can vary from slightly lower than the raw capacity level, to much higher useable capacity.

Does ONTAP Cloud support S3 storage?

Answer: At this time, ONTAP Cloud does not support AWS S3 Storage. ONTAP Cloud supports AWS EBS General Purpose storage (GP2) as the basis for the solution. It also has the option of choosing magnetic storage at a low performance and capacity than that of the GP2 storage. S3 storage is an object based storage environment that does not have necessary performance to support traditional applications. ONTAP Cloud uses EBS GP2 due to its performance and the ability to use guaranteed levels of performance from the underlying storage. S3 can not provide these guarantees.

Does ONTAP Cloud have to run continuously?

Answer: No, ONTAP Cloud can run whenever you need it to operate. For the hourly platforms, you will be charged for your instance only when it is operational. When not needed, you can stop it. If you need to maintain your data, you will need to pay for your storage resources at all times. If you do not, the data will be lost. For the subscription model, you pay for longer term data management, but only pay for the actual compute resources when ONTAP Cloud is operating.

Does ONTAP Cloud support 7-mode?

Answer: No, ONTAP Cloud is built on clustered Data ONTAP and will be supported in this environment moving forward. As well, the first release of ONTAP Cloud was based on clustered Data ONTAP 8.3.

Can I manage ONTAP Cloud with my existing OnCommand management tools (System Manager, Unified Manager, Insight, WFA, etc.)?

Answer: Yes, ONTAP Cloud is a ONTAP based platform and therefore, all management tools that you use with your traditional NetApp FAS storage controllers will work with ONTAP Cloud. Tools compatibility will still need to meet those defined by the version of ONTAP for which ONTAP Cloud is based. ONTAP Cloud is based on clustered Data ONTAP 8.3 and beyond.

How is encryption addressed in ONTAP Cloud?

Answer: ONTAP manages the encryption at rest and works with tools such as SafeNet to manage the encryption keys. This gives customers increased security of their data in that the keys are managed separately from the cloud provider and potentially physically located outside the cloud provider. They can use key management from SafeNet either within AWS or externally via a Safenet appliance. If any external entity gains access to the data, they will not have access to the encryption keys making the data unintelligible. Encryption is still supported by the underlying AWS environment for all the versions of ONTAP Cloud. As well, there also is encryption over the wire that covers the link from connection side of the solution. For encryption over the wire, traditional network encryption methods can be used and will be up to the customer to choose the AWS solution that best fits their needs. NetApp is not involved in the encryption over the wire nor EBS encrypted volumes. In ONTAP 9.1, ONTAP Cloud for Azure supports Azure encrypted disk, but does not support NetApp Encryption.

5 Frequently Asked Support Questions

What level of support comes with a ONTAP Cloud purchase?

Support for ONTAP Cloud is included with the purchase of both BYOL and hourly/annual (pay as you go) subscriptions.

Software support for ONTAP Cloud for GovCloud (US) is provided by U.S. persons on U.S. soil and is included for the duration of the license.

Support includes:

- 24/7/365 access to the NetApp Support site
- Toll-free access to the NetApp Technical Support Center. (Support for GovCloud routes to a specialized center in the United States.)
- Access to software updates
- Remote monitoring through NetApp AutoSupport (if authorized by the customer)

NetApp has extensive self-support options including knowledge base, documentation, videos, and community forums that are available 24x7. NetApp customers can get support from our tech support team via web tickets or phone. Find out more by reading the Service Description for [ONTAP Cloud](#) and [GovCloud](#).

Are the traditional support features included with ONTAP Cloud and Cloud Manager?

Answer: Yes. ONTAP Cloud supports AutoSupport as well as the MyAutoSupport portal once instances are registered with NetApp. AutoSupports for ONTAP Cloud do not generate cases in this first release. The benefits of ASUP for ONTAP Cloud include faster case resolution and data trending. Historical Data, ARS signatures, Performance Data, System Logs all contribute to this.

Cloud Manager also supports AutoSupport and benefits customers and NetApp in the same way as ONTAP Cloud. Cloud Manager will not be seen in MyAutoSupport as it is a free, unregistered software product.

Does NetApp provide differentiated service for ONTAP Cloud customers?

Answer: Yes, NetApp Customer Support Services is standing up a new “Cloud” specialization team to focus on ONTAP Cloud customers. ONTAP Cloud cases and calls will be routed to this new team for a faster response and an enhanced customer experience. NetApp will also provide a Community environment specific to ONTAP Cloud customers with self-help videos, knowledge articles and technical tips.

How does support work for work for ONTAP Cloud – BYOL?

Answer: Customers or Partners purchasing ONTAP Cloud – BYOL receive a software support plan (SSP) included in the purchase. SSP is not an optional add-on. The key that is generated at the time of purchase feeds into downstream systems like the NetApp Support Site (NSS). A NetApp “901” serial number signifies the BYOL instance.

There are no additional Data ONTAP feature license key’s to add. The Cloud Manager application will take care of applying the applicable feature licenses.

How does support work for ONTAP Cloud pay as you go?

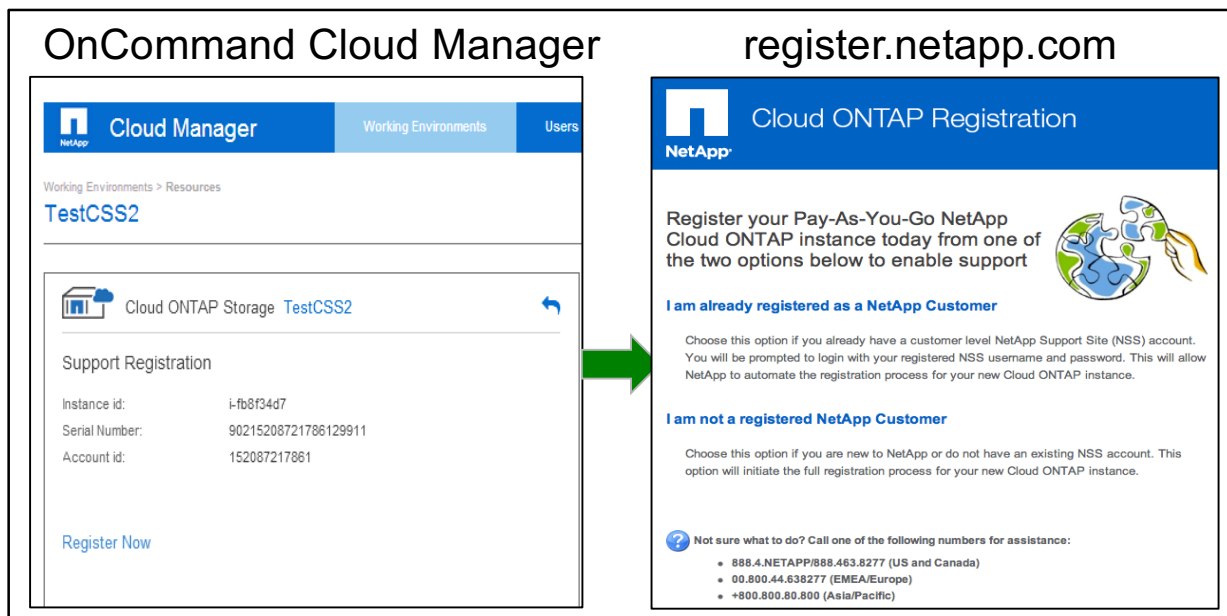
Answer: Customers purchase ONTAP Cloud from the Amazon Marketplace and deploy using Cloud Manager. Once the ONTAP Cloud instance is created and connected, a new “In Product Registration” interface in Cloud Manager, users can register the NetApp serial number for support. A NetApp “902” serial number signifies the hourly instance.

Support registration is not required to use the product. However, support registration is required for entitlement to software updates and the ability to open web cases or phone NetApp support. This registration should be performed on each ONTAP Cloud instance (serial number).

The support registration process involves a new register.netapp.com web page that interacts with Cloud Manager. Customers can register through Cloud Manager or directly from the web page. When users register from Cloud Manager, certain data is automatically passed into the web form to speed up the process and reduce errors. The registration process will attempt to distinguish existing NetApp customers from net-new customers. If the customer is an existing NetApp customer with an NSS customer level account, it will prompt the user for those credentials over secure connection and identify whom they are. The user can then select “submit” and registration occurs within a couple minutes. Net-new customers will have to enter traditional information (name, address, email, phone, etc). Upon successful submission, a non-tech case is created for NetApp Service Admins (SCA) to process. SCA will vet customer information and process the serial number records. The SLA for this path is 2 hours. This process for net-new customers also involves NetApp CMAT and Global Trade Compliance teams.

The following diagram shows the registration transition from Cloud Manager to the new web registration form.

Note: NetApp employee NSS accounts are blocked from registering. Registration is solely for paying customers with a customer level account. This does not include Guest level NSS accounts. They will be blocked as well.



Appendixes

Format the first-level heading “Appendixes” using the Heading 1 (Back Matter) style.

Note: The remainder of this document (back matter) includes optional sections. Develop the sections that are applicable to your document.

Place appendixes as subheadings to the first-level heading “Appendixes.” To make the TOC easier to skim, do not reuse the word “Appendix” in each second-level heading.

References

The following references were used in this FAQ:

- NetApp ONTAP Cloud Solution Brief
<https://fieldportal.netapp.com/Core/DownloadDoc.aspx?documentID=134660&contentID=261787>
- OnCommand Cloud Manager Datasheet
<https://fieldportal.netapp.com/Core/DownloadDoc.aspx?documentID=134662&contentID=261788>

Version History

Version	Date	Document Version History
Version 1.0	September 2014	Use this version numbering for the initial release and subsequent major releases.
Version 1.5	February 2015	Use this version for Cloud Manager v1.1 and Cloud ONTAP 8.3 GA
Version 1.6	July 2015	Use this version for Cloud Manager v2.0 and Cloud ONTAP 8.3.1
Version 1.7	December 2015	Use this version for Cloud Manager v2.1 and Cloud ONTAP 8.3.2rc1
Version 1.8	March 2016	Edits for GovCloud
Version 1.9	March 2016	Use this version for AWS GovCloud Support with ONTAP 8.3.2 GA and Cloud Manager v2.2
Version 3.0	June 2016	Use this version for ONTAP Cloud 9.0 and High Availability
Version 3.1	November 2016	Use this version for ONTAP Cloud 9.1 with Azure support

NetApp provides no representations or warranties regarding the accuracy, reliability, or serviceability of any information or recommendations provided in this publication, or with respect to any results that may be obtained by the use of the information or observance of any recommendations provided herein. The information in this document is distributed AS IS, and the use of this information or the implementation of any recommendations or techniques herein is a customer's responsibility and depends on the customer's ability to evaluate and integrate them into the customer's operational environment. This document and the information contained herein may be used solely in connection with the NetApp products discussed in this document.

[Go further, faster®](#)