



# **Cloud Manager release notes**

## **Release Notes**

NetApp  
May 12, 2022

This PDF was generated from <https://docs.netapp.com/us-en/cloud-manager-relnotes/index.html> on May 12, 2022. Always check docs.netapp.com for the latest.

# Table of Contents

- Cloud Manager release notes ..... 1
- Recent changes in Cloud Manager ..... 2
  - Administrative features..... 2
  - Azure NetApp Files ..... 3
  - Amazon FSx for ONTAP ..... 4
  - Application Template ..... 5
  - Cloud Backup..... 5
  - Cloud Data Sense ..... 6
  - Cloud Sync..... 8
  - Cloud Tiering ..... 10
  - Cloud Volumes ONTAP ..... 11
  - Cloud Volumes Service for GCP ..... 12
  - Compute..... 12
  - Global File Cache..... 13
  - Kubernetes..... 14
  - Monitoring..... 15
  - On-prem ONTAP clusters..... 15
  - Ransomware Protection..... 16
  - Replication ..... 17
  - SnapCenter Service..... 17
- Release notes index..... 19
  - Storage..... 19
  - Data services ..... 19
  - Administration ..... 19

# Cloud Manager release notes

# Recent changes in Cloud Manager

Learn about the most recent changes to the cloud services that are part of the Cloud Manager platform. For more details, go to the [full set of release notes](#) for each individual service.

## Administrative features

This section describes new features related to Cloud Manager's administration features: Accounts, Connectors, cloud provider credentials, and more.

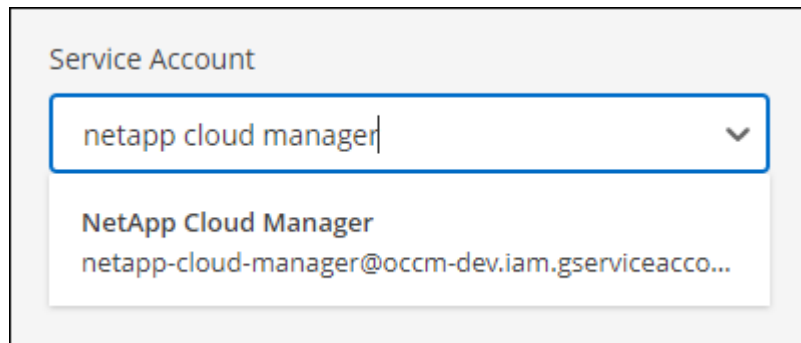
### 2 May 2022

#### Connector 3.9.18

- The Connector is now supported in the following Google Cloud regions:
  - Delhi (asia-south2)
  - Melbourne (australia-southeast2)
  - Milan (europe-west8)
  - Santiago (southamerica-west1)

[View the full list of supported regions](#)

- When you select the Google Cloud service account to use with the Connector, Cloud Manager now displays the email address that's associated with each service account. Viewing the email address can make it easier to distinguish between service accounts that share the same name.



- We have certified the Connector in Google Cloud on a VM instance with an OS that supports [Shielded VM features](#)
- This release of the Connector also includes Cloud Volumes ONTAP enhancements. [Learn about those enhancements](#)
- New AWS permissions are required for the Connector to deploy Cloud Volumes ONTAP.

The following permissions are now required to create an AWS spread placement group when deploying an HA pair in a single Availability Zone (AZ):

```
"ec2:DescribePlacementGroups",  
"iam:GetRolePolicy",
```

These permissions are now required to optimize how Cloud Manager creates the placement group.

Be sure to provide these permissions to each set of AWS credentials that you've added to Cloud Manager. You can find the latest list of permissions on the [Cloud Manager policies page](#).

## 3 April 2022

### Connector 3.9.17

- You can now create a Connector by letting Cloud Manager assume an IAM role that you set up in your environment. This authentication method is more secure than sharing an AWS access key and secret key.

[Learn how to create a Connector using an IAM role.](#)

- This release of the Connector also includes Cloud Volumes ONTAP enhancements. [Learn about those enhancements](#)

## 27 February 2022

### Connector 3.9.16

- When you create a new Connector in Google Cloud, Cloud Manager will now display all of your existing firewall policies. Previously, Cloud Manager wouldn't display any policies that didn't have a target tag.
- This release of the Connector also includes Cloud Volumes ONTAP enhancements. [Learn about those enhancements](#)

## Azure NetApp Files

### 11 April 2021

#### Support for volume templates

A new Application Templates service enables you to set up a volume template for Azure NetApp Files. The template should make your job easier because certain volume parameters will already be defined in the template, such as capacity pool, size, protocol, VNet and subnet where the volume should reside, and more. When a parameter is already predefined, you can just skip to the next volume parameter.

- [Learn about Application Templates and how you can use them in your environment](#)
- [Learn how to create an Azure NetApp Files volume from a template](#)

### 8 March 2021

#### Dynamically change service levels

You can now dynamically change the service level for a volume to meet workload needs and optimize your costs. The volume is moved to the other capacity pool with no impact to the volume.

[Learn how to change a volume's service level.](#)

## 3 August 2020

### Azure NetApp Files set up and management

Set up and manage Azure NetApp Files directly from Cloud Manager. After you create an Azure NetApp Files working environment, you can complete the following tasks:

- Create NFS and SMB volumes.
- Manage capacity pools and volume snapshots

Cloud Manager enables you to create, delete, and restore volume snapshots. You can also create new capacity pools and specify their service levels.

- Edit a volume by changing its size and managing tags.

The ability to create and manage Azure NetApp Files directly from Cloud Manager replaces the previous data migration functionality.

## Amazon FSx for ONTAP

### 27 February 2022

#### Assume IAM role

When you create an FSx for ONTAP working environment, you now must provide the ARN of an IAM role that Cloud Manager can assume to create an FSx for ONTAP working environment. You previously needed to provide AWS access keys.

[Learn how to set up permissions for FSx for ONTAP.](#)

### 31 October 2021

#### Create iSCSI volumes using Cloud Manager API

You can create iSCSI volumes for FSx for ONTAP using the Cloud Manager API and manage them in your working environment.

#### Select volume units when creating volumes

You can [select volume units \(GiB or TiB\) when creating volumes](#) in FSx for ONTAP.

### 4 October 2021

#### Create CIFS volumes using Cloud Manager

Now you can [create CIFS volumes in FSx for ONTAP using Cloud Manager](#).

#### Edit volumes using Cloud Manager

Now you can [edit FSx for ONTAP volumes using Cloud Manager](#).

# Application Template

**3 March 2022**

## **Now you can build a Template to find specific working environments**

Using the "Find Existing Resources" action you can identify the working environment, and then use other template actions, such as creating a volume, to easily perform actions on existing working environments. [Go here for details.](#)

## **Ability to create a Cloud Volumes ONTAP HA working environment in AWS**

The existing support for creating a Cloud Volumes ONTAP working environment in AWS has been expanded to include creating a high-availability system in addition to a single-node system. [See how to create a template for a Cloud Volumes ONTAP working environment.](#)

**9 February 2022**

## **Now you can build a Template to find specific existing volumes and then enable Cloud Backup**

Using the new "Find Resource" action you can identify all the volumes on which you want to enable Cloud Backup, and then use the Cloud Backup action to enable backup on those volumes.

Current support is for volumes on Cloud Volumes ONTAP and on-premises ONTAP systems. [Go here for details.](#)

**31 October 2021**

## **Now you can tag your Sync relationships so you can group or categorize them for easy access**

[Learn more about resource tagging.](#)

# Cloud Backup

**2 May 2022**

## **Search & Restore is now supported with backup files in Google Cloud Storage**

The Search & Restore method of restoring volumes and files was introduced in April for users who store their backup files in AWS. Now the capability is available for users who store their backup files in Google Cloud Storage. [See how to restore your volumes and files using Search & Restore.](#)

## **Configure a backup policy to be applied automatically to newly created volumes in Kubernetes clusters**

If you added new persistent volumes to your Kubernetes clusters after Cloud Backup was activated, in the past you needed to remember to configure backups for those volumes. Now you can select a policy that will be applied automatically to newly created volumes. This option is available in the setup wizard when activating Cloud Backup for a new Kubernetes cluster, or [from the Backup Settings page](#) for clusters that have already activated Cloud Backup.

## Cloud Backup now requires a license before being activated on a working environment

There are a few changes to how licensing is implemented with Cloud Backup:

- You must sign up for a PAYGO Marketplace subscription from your cloud provider, or purchase a BYOL license from NetApp, before you can activate Cloud Backup.
- The 30-day Free Trial is available only when using a PAYGO subscription from your cloud provider - it is not available when using the BYOL license.
- The Free Trial starts the day the Marketplace subscription starts. For example, if you activate the Free Trial after you have been using a Marketplace subscription for 30 days for a Cloud Volumes ONTAP system, the Cloud Backup Trial will not be available.

[Learn more about the available licensing models.](#)

## 4 April 2022

### Cloud Backup for Applications 1.1.0 (powered by SnapCenter) is now GA

The new Cloud Backup for Applications capability enables you to offload existing application consistent Snapshots (backups) for Oracle and Microsoft SQL from on-premises primary storage to cloud object storage in AWS S3 or Azure Blob.

When required, you can restore this data from cloud to on-premises.

[Learn more about protecting on-premises applications data to cloud.](#)

### New Search & Restore feature to search for volumes or files across all ONTAP backup files

Now you can search for a volume or file across **all ONTAP backup files** by partial or full volume name, partial or full file name, size range, and additional search filters. This is a great new way to find the data you want to restore if you are not sure which cluster or volume was the source for the data. [Learn how to use Search & Restore.](#)

## 3 March 2022

### Ability to back up persistent volumes from your GKE Kubernetes clusters to Google Cloud storage

If your GKE cluster has NetApp Astra Trident installed, and it's using Cloud Volumes ONTAP for GCP as backend storage for the cluster, then you can back up and restore your persistent volumes to and from Google Cloud storage. [Go here for details.](#)

**The Beta capability to use Cloud Data Sense to scan your Cloud Backup files has been discontinued in this release**

## Cloud Data Sense

## 11 May 2022

### Support added for scanning data in Google Drive accounts

Now you can add your Google Drive accounts to Data Sense in order to scan the documents and files from those Google Drive accounts. [See how to scan your Google Drive accounts.](#)



Data Sense can identify Personal Identifiable Information (PII) within the following Google file types from the Google Docs suite — Docs, Sheets, and Slides — in addition to the [existing file types](#).

### **Directory level view added to the Data Investigation page**

In addition to viewing and filtering data from all your files and databases, now you can view and filter data based on all the data within folders and shares in the Data Investigation page. So now you can manage your data on the directory level. [See how to select the Directories view of your scanned data](#).

### **Expand groups to show the users/members that have permissions to access a file**

As part the Data Sense permissions capabilities, now you can view the list of users and groups that have access to a file. Each group can be expanded to show the list of users in the group. [See how to view users and groups who have read and/or write permissions to your files](#).

### **Two new Filters have been added to the Data Investigation page**

- The "Directory type" filter enables you to refine your data to see folders or shares only. The results will be shown in the new **Directories** tab.
- The "User / Group Permissions" filter enables you to list the files, folders, and shares that a specific user or a group has read and/or write permissions to. You can select multiple users and/or group names - or enter a partial name. T

[See the list of all the filters you can use to investigate your data](#).

## **5 April 2022**

### **Four new types of Australian personal data can be identified by Data Sense**

Data Sense can identify and categorize files that contain the Australian TFN (Tax File Number), Australian Driver's License Number, Australian Medicare Number, and Australian Passport Number. [See all the types of personal data that Data Sense can identify in your data](#).

### **Global Active Directory server can be an LDAP server now**

The global Active Directory server you integrate with Data Sense can be an LDAP Server now in addition to the previously supported DNS Server. [Go here for details](#).

## **15 March 2022**

### **New Filter to show the files to which a specific user or a group has read or write permissions**

A new Filter called "User / Group Permissions" has been added so you can list the files that a specific user or a group has read and/or write permissions to. You can select one or more user and/or group names - or enter a partial name. This functionality is available for volumes on Cloud Volumes ONTAP, on-prem ONTAP, Azure NetApp Files, Amazon FSx for ONTAP, and File Shares.

### **Data Sense can determine the permissions for files in SharePoint and OneDrive accounts**

Data Sense can read the permissions that exist for files that are being scanned in OneDrive accounts and SharePoint accounts now. This information appears in the Investigation pane details for files and in the Open Permissions area in the Governance Dashboard.

## Two additional types of personal data can be identified by Data Sense

- French INSEE - The INSEE code is a numerical code used by the French National Institute for Statistics and Economic Studies (INSEE) to identify various entities.
- Passwords - This information is identified using proximity validation by looking for permutations of the word "password" next to an alphanumeric string. The number of items found will be listed under "Personal Results" in the Compliance Dashboard. You can search for files that contain passwords in the Investigation pane using the Filter **Personal Data > Password**.

## Support for scanning OneDrive and SharePoint data when deployed in a dark site

When you've deployed Cloud Data Sense on a host in an on-premises site that doesn't have internet access, now you can scan local data from OneDrive accounts or SharePoint accounts. [You'll need to allow access to the following endpoints.](#)

The Beta capability to use Cloud Data Sense to scan your Cloud Backup files has been discontinued in this release

# Cloud Sync

1 May 2022

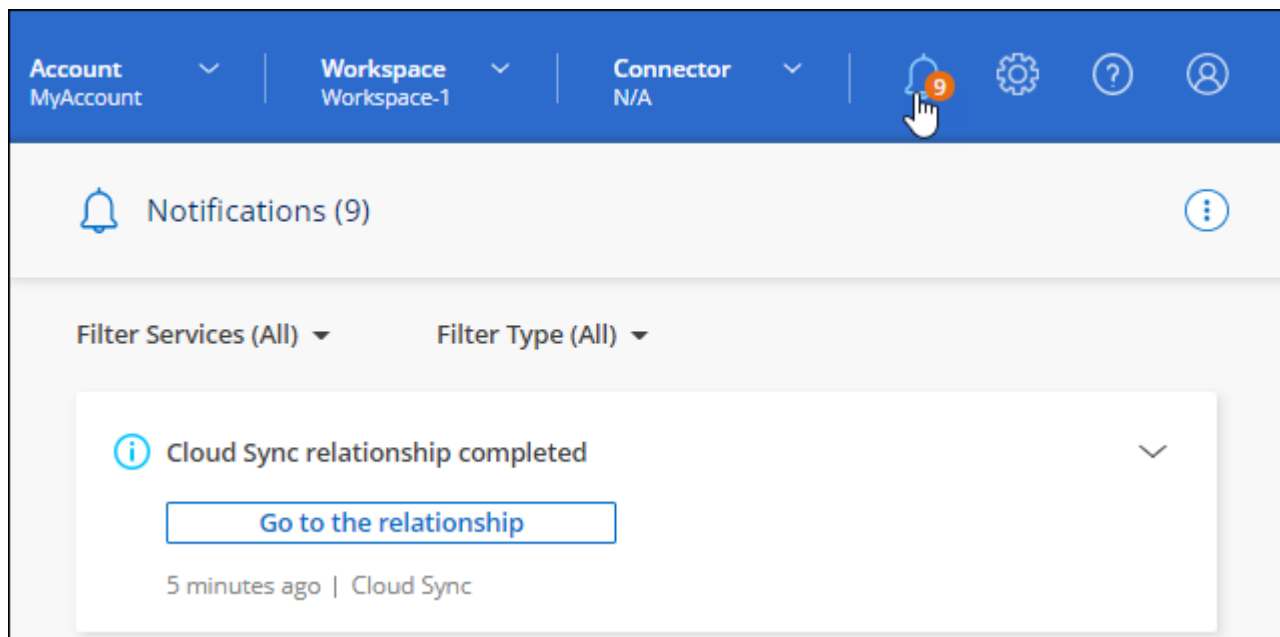
## Sync timeout

A new **Sync Timeout** setting is now available for sync relationships. This setting enables you to define whether Cloud Sync should cancel a data sync if the sync hasn't completed in the specified number of hours or days.

[Learn more about changing the settings for a sync relationship.](#)

## Notifications

A new **Notifications** setting is now available for sync relationships. This setting enables you to choose whether to receive Cloud Sync notifications in Cloud Manager's Notification Center. You can enable notifications for successful data syncs, failed data syncs, and canceled data syncs.



[Learn more about changing the settings for a sync relationship.](#)

## 3 April 2022

### Data broker group enhancements

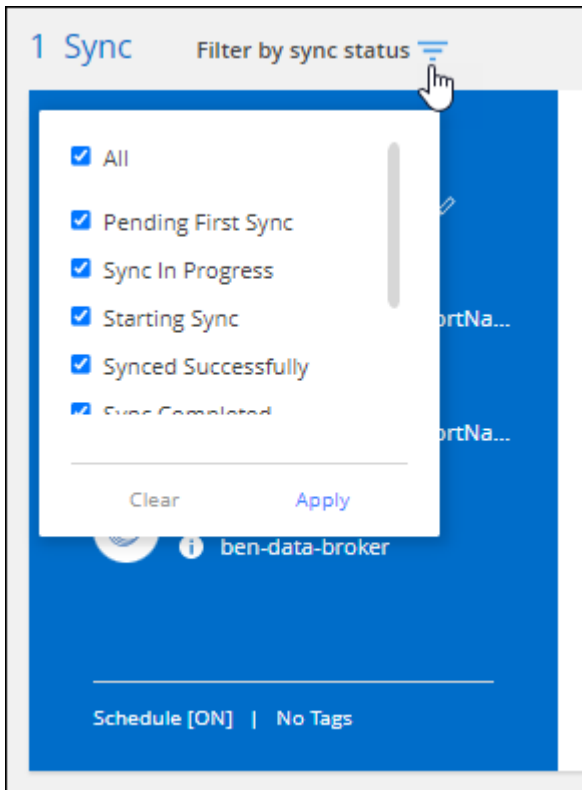
We made several enhancements to data broker groups:

- You can now move a data broker to a new or existing group.
- You can now update the proxy configuration for a data broker.
- Finally, you can also delete data broker groups.

[Learn how to manage data broker groups.](#)

### Dashboard filter

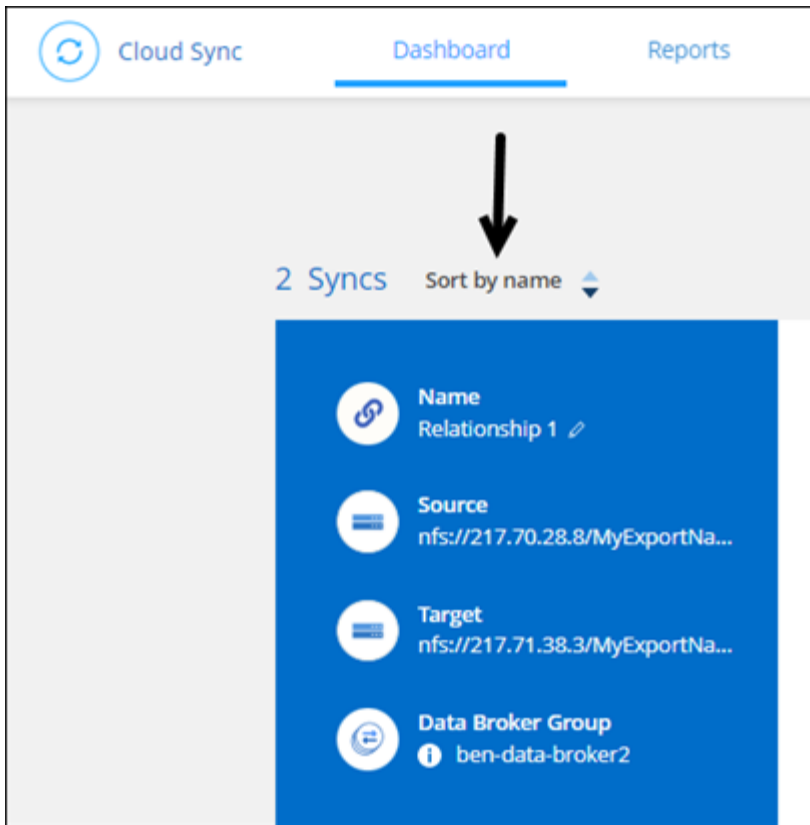
You can now filter the contents of the Sync Dashboard to more easily find sync relationships that match a certain status. For example, you can filter on sync relationships that have a failed status



## 3 March 2022

### Sorting in the dashboard

You now sort the dashboard by sync relationship name.



## Enhancement to Data Sense integration

In the previous release, we introduced Cloud Sync integration with Cloud Data Sense. In this update, we enhanced the integration by making it easier to create the sync relationship. After you initiate a data sync from Cloud Data Sense, all of the source information is contained in a single step and only requires you to enter a few key details.

The screenshot shows the 'Sync Relationship' setup screen. The progress bar indicates the following steps:

- 1 Data Sense Integration (Active)
- 2 Data Broker Group
- 3 NFS Server
- 4 Directories

Below the progress bar, there is a section titled 'Selected Data Sense Source' with a table of source details:

Source	Host	Working Environment	Volume
/cifs1	1.1.1.1	cifs	\1.1.1.1\cifs1

Below the table, there is a section titled 'A few more things before we continue' with a form to 'Define SMB Credentials'.

Define SMB Credentials:

User Name	Password	Domain (Optional)
<input type="text"/>	<input type="text"/>	<input type="text"/>

## Cloud Tiering

## 3 May 2022

### Cloud Tiering license support for additional cluster configurations

Cloud Tiering licenses can now be shared with your clusters that are in Tiering Mirror configurations (not including MetroCluster configurations) and with clusters that are tiered to IBM Cloud Object Storage. You no longer have to use the deprecated FabricPool licenses for these scenarios. This makes it easier to use the "floating" Cloud Tiering licenses on more of your clusters. [See how to license and configure these types of clusters.](#)

## 4 April 2022

### Amazon S3 Glacier Instant Retrieval storage class is now available

When setting up Cloud Tiering, now you can configure a lifecycle rule so your inactive data transitions from the *Standard* storage class to *Glacier Instant Retrieval* after a certain number of days. This will help reduce your AWS infrastructure costs. [See the supported S3 storage classes.](#)

### Cloud Tiering has been fully qualified on ONTAP Select systems

In addition to tiering data from your AFF and FAS systems, now you can tier inactive data from your ONTAP Select systems to cloud storage.

## 2 September 2021

### Cloud Tiering BYOL license replaces FabricPool license

A new **Cloud Tiering** license is now available for tiering configurations that are supported within Cloud Manager using the Cloud Tiering service. It is a floating license that you can use across multiple on-premises ONTAP clusters. The **FabricPool** license that you may have used in the past is retained only for configurations that aren't supported within Cloud Manager.

[Learn more about the new Cloud Tiering license.](#)

### Tier inactive data from on-prem ONTAP clusters to S3-compatible object storage

Now you can tier inactive data to any Object Storage service which uses the Simple Storage Service (S3) protocol. [See how to tier data to S3-compatible object storage.](#)

## Cloud Volumes ONTAP

## 2 May 2022

The following changes were introduced with the 3.9.18 release of the Connector.

### Cloud Volumes ONTAP 9.11.0

Cloud Manager can now deploy and manage Cloud Volumes ONTAP 9.11.0.

[Learn about the new features included in this release of Cloud Volumes ONTAP.](#)

## Enhancement to mediator upgrades

When Cloud Manager upgrades the mediator for an HA pair, it now validates that a new mediator image is available before it deletes the boot disk. This change ensures that the mediator can continue to operate successfully if the upgrade process is unsuccessful.

## K8s tab has been removed

The K8s tab was deprecated in a previous and has now been removed. If you want to use Kubernetes with Cloud Volumes ONTAP, you can add managed-Kubernetes clusters to the Canvas as a working environment for advanced data management.

[Learn about Kubernetes data management in Cloud Manager](#)

=== Annual contract in Azure

The Essentials and Professional packages are now available in Azure through an annual contract. You can contact your NetApp sales representative to purchase an annual contract. The contract is available as a private offer in the Azure Marketplace.

After NetApp shares the private offer with you, you can select the annual plan when you subscribe from the Azure Marketplace during working environment creation.

[Learn more about licensing.](#)

# Cloud Volumes Service for GCP

## 9 September 2020

### Support for Cloud Volumes Service for Google Cloud

You can now manage Cloud Volumes Service for Google Cloud directly from Cloud Manager:

- Set up and create a working environment
- Create and manage NFSv3 and NFSv4.1 volumes for Linux and UNIX clients
- Create and manage SMB 3.x volumes for Windows clients
- Create, delete, and restore volume snapshots

# Compute

## 7 December 2020

### Navigation between Cloud Manager and Spot

It's now easier to navigate between Cloud Manager and Spot.

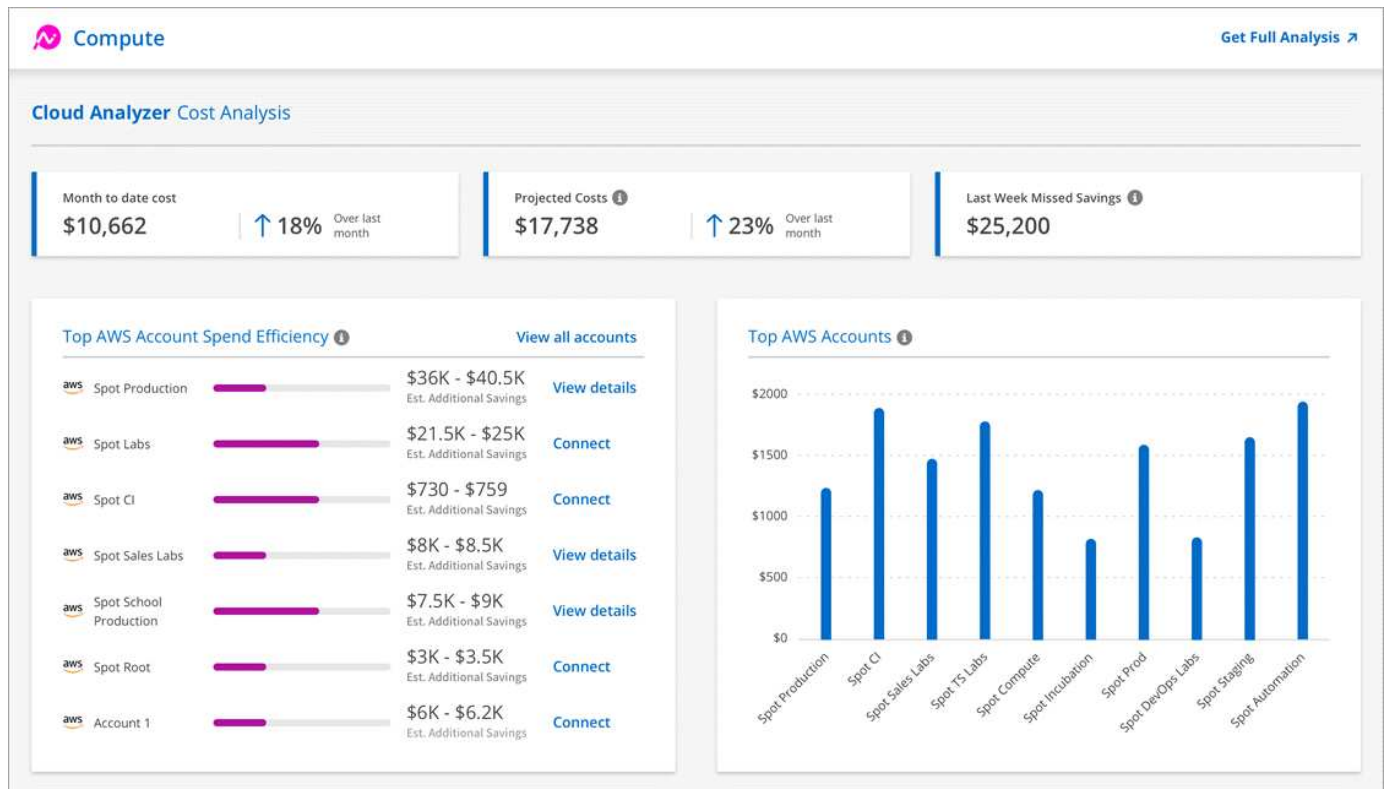
A new **Storage Operations** section in Spot enables you to navigate directly to Cloud Manager. After you're done, you can get back to Spot from the **Compute** tab in Cloud Manager.

## 18 October 2020

## Introducing the Compute service

By leveraging [Spot's Cloud Analyzer](#), Cloud Manager can now provide a high-level cost analysis of your cloud compute spending and identify potential savings. This information is available from the **Compute** service in Cloud Manager.

[Learn more about the Compute service.](#)



## Global File Cache

17 December 2021 (version 1.2.0)

The OpenSSL module has been upgraded to version 1.1.1l.

This is the latest version and it is more secure. This module is used for secure communication between GFC Edge and GFC Core.

The logging infrastructure has been enhanced.

9 June 2021 (version 1.1.0)

The "Edge Synchronization" feature has been added.

This feature keeps multiple Edges at a remote office in sync and the data is always cached/warm. When a file is flushed/fetched at one Edge, then the same file on all Edges participating in Edge Sync is updated and cached. See section 8.4 in the [NetApp Global File Cache User Guide](#) for details.

## **The OpenSSL module has been upgraded to version 1.1.1k.**

This is the latest version and it is more secure. This module is used for secure communication between GFC Edge and GFC Core.

## **Updated License Registration Page.**

The GFC License Registration Page now displays the number of licenses when activated through a NetApp subscription.

## **21 March 2021 (version 1.0.3)**

### **Software installer updates to automatically exclude GFC process from Windows Defender.**

The Global File Cache software installer now excludes all GFC processes from Windows Defender software on-demand scanning.

### **A new Policy Configuration tab has been added to the Configuration Console.**

This configuration tab enables you to add pre-population jobs from the GFC Core.

### **Enhanced the software to use less memory while increasing performance and stability.**

# **Kubernetes**

## **4 May 2022**

### **Drag and drop to add storage class**

You can now drag your Kubernetes cluster and drop it onto the Cloud Volumes ONTAP working environment to add a storage class directly from the Canvas.

[Add storage class](#)

## **4 April 2022**

### **Manage Kubernetes clusters using the Cloud Manager resource page**

Kubernetes cluster management now has enhanced integration directly from the cluster working environment. A new [Quick start](#) gets you up and running quickly.

You can now take the following actions from the cluster resource page.

- [Install Astra Trident](#)
- [Add storage classes](#)
- [View persistent volumes](#)
- [Remove clusters](#)
- [Enable data services](#)



**27 February 2022**

### **Support for Kubernetes clusters in Google Cloud**

You can now add and manage managed Google Kubernetes Engine (GKE) clusters and self-managed Kubernetes clusters in Google Cloud using Cloud Manager.

[Learn how to get started with Kubernetes clusters in Google Cloud.](#)

## **Monitoring**

**1 August 2021**

### **Change to Acquisition Unit name**

We changed the default name of the Acquisition Unit instance to `CloudInsights-AU-UUID` so that the name is more descriptive (the UUID is a generated hash).

Cloud Manager deploys this instance when you enable the Monitoring service on a Cloud Volumes ONTAP working environment.

**5 May 2021**

### **Support for existing tenants**

You can now enable the Monitoring service on a Cloud Volumes ONTAP working environment even if you have an existing Cloud Insights tenant.

### **Free Trial transition**

When you enable the Monitoring service, Cloud Manager sets up a free trial of Cloud Insights. On the 29th day, your plan now automatically transitions from the Trial Version to the [Basic Edition](#).

**9 February 2021**

### **Support in Azure**

The Monitoring service is now supported with Cloud Volumes ONTAP for Azure.

### **Support in Government regions**

The Monitoring service is also supported in Government regions in AWS and Azure.

## **On-prem ONTAP clusters**

**27 February 2022**

### **An "On-Premises ONTAP" tab is available in the Digital Wallet.**

Now you can view an inventory of your on-prem ONTAP clusters along with their hardware and service contracts expiration dates. Additional details about the clusters are also available.

[See how to view this important on-prem cluster information.](#) You'll need to have a NetApp Support Site account (NSS) for the clusters, and the NSS credentials will need to be attached to your Cloud Manager account.

## 11 January 2022

### **Tags that you add to volumes on on-prem ONTAP clusters can be use with the Tagging service.**

Tags that you add to a volume are now associated with the tagging feature of the Application Templates service, which can help you organize and simplify the management of your resources.

## 28 November 2021

### **Create volume wizard for on-prem ONTAP clusters has been simplified**

We redesigned the create volume wizard for ease of use and you can now choose a custom export policy.

## Ransomware Protection

## 11 May 2022

### **New panel to track the security hardening of your ONTAP environments.**

A new panel "Harden your ONTAP environments" provides the status of certain settings in your ONTAP systems that track how secure your deployment is according to the [NetApp Security Hardening Guide for ONTAP Systems](#) and to the [ONTAP anti-ransomware feature](#) that proactively detects and warns about abnormal activity.

You can review the recommendations and then decide how you want to address the potential issues. You can follow the steps to change the settings on your clusters, defer the changes to another time, or ignore the suggestion. [Go here for details.](#)

### **New panel to show how different categories of data are being protected using Cloud Backup.**

This new "Backup Status" panel shows how comprehensively your most important categories of data are backed up in case you need to recover because of a ransomware attack. This data is a visual representation of how many items of a specific category in an environment are backed up by Cloud Backup. [Go here for details.](#)

## 15 March 2022

### **New panel to track the permissions status of your business critical data**

A new panel "Business critical data permissions analysis" shows the permissions status of data that is critical for your business. That way you can quickly assess how well you are protecting your business-critical data. [Go here for details.](#)

### **Open Permissions area now includes OneDrive and SharePoint accounts**

The Open Permissions area in the Ransomware Protection Dashboard now includes the permissions that exist for files that are being scanned in OneDrive accounts and SharePoint accounts.

9 February 2022

## New Ransomware Protection service

The new Ransomware Protection service enables you to view relevant information about cybersecurity and assess how resilient your data is to a cyber attack. It also provides you with a list of alerts and remediations for making your data more secure.

[Learn more about this new service.](#)

## Replication

2 September 2021

### Support for Amazon FSx for ONTAP

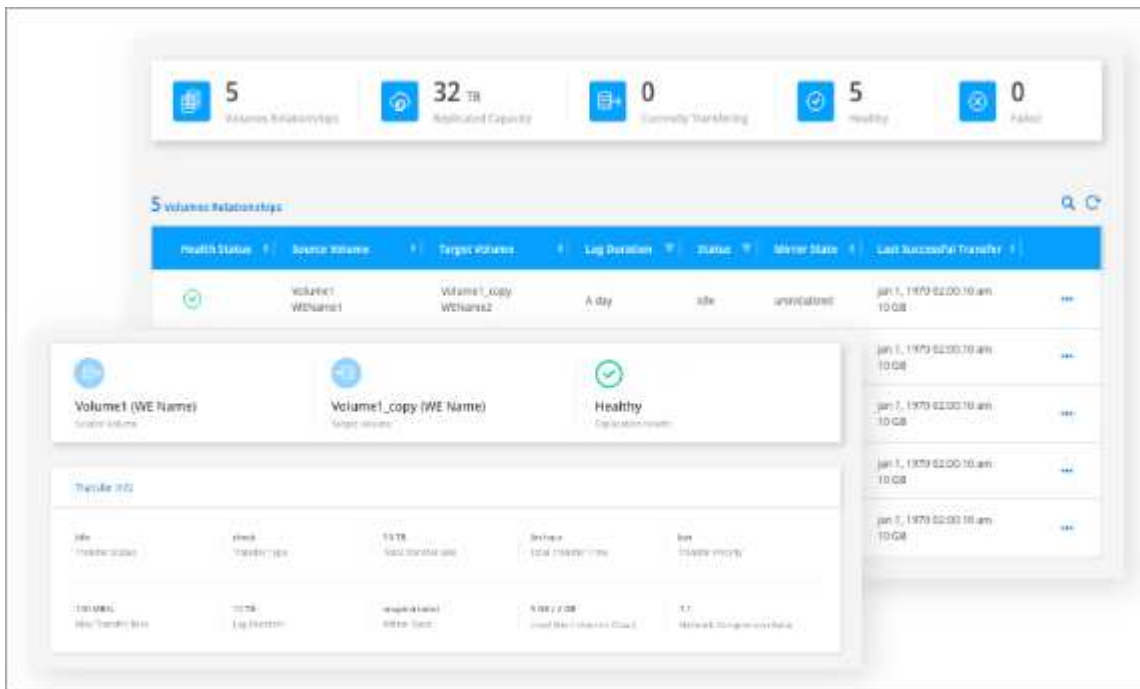
You can now replicate data from a Cloud Volumes ONTAP system or an on-premises ONTAP cluster to an Amazon FSx for ONTAP file system.

[Learn how to set up data replication.](#)

5 May 2021

### Redesigned interface

We redesigned the Replication tab for ease of use and to match the current look and feel of the Cloud Manager user interface.



## SnapCenter Service

**21 Dec 2021**

**Fixes for Apache Log4j vulnerabilities**

SnapCenter Service 1.0.1 upgrades Apache Log4j from version 2.9.1 to 2.17 to address the following vulnerabilities: CVE-2021-44228, CVE-2021-4104, and CVE-2021-45105.

The SnapCenter Service cluster should auto-update to the latest version. You should ensure that the version in the SnapCenter Service UI shows that the cluster is 1.0.1.1251 or later.

# Release notes index

View the full set of release notes for each individual service.

## Storage

- [Azure NetApp Files](#)
- [Amazon FSx for ONTAP](#)
- [Cloud Volumes ONTAP](#)
  - [Release notes for Cloud Volumes ONTAP](#)
  - [Release notes for Cloud Volumes ONTAP management in Cloud Manager](#)
- [Cloud Volumes Service for Google Cloud](#)
- [Kubernetes clusters](#)
- [On-prem ONTAP clusters](#)

## Data services

- [AppTemplate](#)
- [Cloud Backup](#)
- [Cloud Data Sense](#)
- [Cloud Sync](#)
- [Cloud Tiering](#)
- [Compute](#)
- [Global File Cache](#)
- [Monitoring](#)
- [Ransomware](#)
- [Replication](#)
- [SnapCenter Service](#)

## Administration

- [Set up and administration](#)

## Copyright Information

Copyright © 2022 NetApp, Inc. All rights reserved. Printed in the U.S. No part of this document covered by copyright may be reproduced in any form or by any means-graphic, electronic, or mechanical, including photocopying, recording, taping, or storage in an electronic retrieval system-without prior written permission of the copyright owner.

Software derived from copyrighted NetApp material is subject to the following license and disclaimer:

THIS SOFTWARE IS PROVIDED BY NETAPP "AS IS" AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL NETAPP BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

NetApp reserves the right to change any products described herein at any time, and without notice. NetApp assumes no responsibility or liability arising from the use of products described herein, except as expressly agreed to in writing by NetApp. The use or purchase of this product does not convey a license under any patent rights, trademark rights, or any other intellectual property rights of NetApp.

The product described in this manual may be protected by one or more U.S. patents, foreign patents, or pending applications.

RESTRICTED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.277-7103 (October 1988) and FAR 52-227-19 (June 1987).

## Trademark Information

NETAPP, the NETAPP logo, and the marks listed at <http://www.netapp.com/TM> are trademarks of NetApp, Inc. Other company and product names may be trademarks of their respective owners.