



## **Get started**

### **Cloud Backup**

NetApp  
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# Table of Contents

- Get started ..... 1
  - Learn about Cloud Backup..... 1
  - Set up licensing for Cloud Backup ..... 3

# Get started

## Learn about Cloud Backup

Cloud Backup is a service for Cloud Manager working environments that provides backup and restore capabilities for protection and long-term archive of your data. Backups are automatically generated and stored in an object store in your public or private cloud account.

When necessary, you can restore an entire *volume* from a backup to the same or different working environment. When backing up ONTAP data, you can also choose to restore one or more *files* from a backup to the same or different working environment.

[Learn more about Cloud Backup.](#)

Backup & Restore can be used to:

- Back up and Restore ONTAP volumes from Cloud Volumes ONTAP and on-premises ONTAP systems. [See detailed features here.](#)
- Back up and Restore Kubernetes persistent volumes. [See detailed features here.](#)
- Back up the application consistent Snapshots from on-premises ONTAP to cloud using Cloud Backup for Applications. [See detailed features here.](#)
- Back up datastores to the cloud and restore virtual machines back to the on-premises vCenter using Cloud Backup for VMware. [See detailed features here.](#)



When the Cloud Manager Connector is deployed in a Government region in the cloud, or in a site without internet access (a dark site), Cloud Backup only supports backup and restore operations from ONTAP systems. When using these alternate deployment methods, Cloud Backup does not support backup and restore operations from Kubernetes clusters, Applications, or Virtual Machines.

## How Cloud Backup works

When you enable Cloud Backup on a Cloud Volumes ONTAP or on-premises ONTAP system, the service performs a full backup of your data. Volume snapshots are not included in the backup image. After the initial backup, all additional backups are incremental, which means that only changed blocks and new blocks are backed up. This keeps network traffic to a minimum.

In most cases you'll use the Cloud Manager UI for all backup operations. However, starting with ONTAP 9.9.1 you can initiate volume backup operations of your on-premises ONTAP clusters using ONTAP System Manager. [See how to use System Manager to back up your volumes to the cloud using Cloud Backup.](#)

The following image shows the relationship between each component:



## Where backups reside

Backup copies are stored in an object store that Cloud Manager creates in your cloud account. There's one object store per cluster/working environment, and Cloud Manager names the object store as follows: "netapp-backup-clusteruuid". Be sure not to delete this object store.

- In AWS, Cloud Manager enables the [Amazon S3 Block Public Access feature](#) on the S3 bucket.
- In Azure, Cloud Manager uses a new or existing resource group with a storage account for the Blob container. Cloud Manager [blocks public access to your blob data](#) by default.
- In GCP, Cloud Manager uses a new or existing project with a storage account for the Google Cloud Storage bucket.
- In StorageGRID, Cloud Manager uses an existing storage account for the object store bucket.

## Backups are taken at midnight

- Hourly backups start 5 minutes past the hour, every hour.
- Daily backups start just after midnight each day.
- Weekly backups start just after midnight on Sunday mornings.
- Monthly backups start just after midnight on the first day of each month.
- Yearly backups start just after midnight on the first day of the year.

The start time is based on the time zone set on each source ONTAP system. You can't schedule backup operations at a user-specified time from the UI. For more information, contact your System Engineer.

### **Backup copies are associated with your NetApp account**

Backup copies are associated with the [NetApp account](#) in which the Connector resides.

If you have multiple Connectors in the same NetApp account, each Connector will display the same list of backups. That includes the backups associated with Cloud Volumes ONTAP and on-premises ONTAP instances from other Connectors.

## **Set up licensing for Cloud Backup**

You can license Cloud Backup by purchasing a pay-as-you-go (PAYGO) marketplace subscription from your cloud provider, or by purchasing a bring-your-own-license (BYOL) from NetApp. A valid license is required to activate Cloud Backup on a working environment, to create backups of your production data, and to restore backup data to a production system.

A few notes before you read any further:

- If you've already subscribed to the Cloud Manager pay-as-you-go (PAYGO) subscription in your cloud provider's marketplace for a Cloud Volumes ONTAP system, then you're automatically subscribed to Cloud Backup as well. You won't need to subscribe again.
- The Cloud Backup bring-your-own-license (BYOL) is a floating license that you can use across all systems associated with your Cloud Manager account. So if you have sufficient backup capacity available from an existing BYOL license, you won't need to purchase another BYOL license.
- When backing up on-prem ONTAP data to StorageGRID, you need a BYOL license, but there's no cost for cloud provider storage space.

[Learn more about the costs related to using Cloud Backup.](#)

### **30-day free trial**

A Cloud Backup 30-day free trial is available from the pay-as-you-go subscription in your cloud provider's marketplace. The free trial starts at the time that you subscribe to the marketplace listing. Note that if you pay for the marketplace subscription when deploying a Cloud Volumes ONTAP system, and then start your Cloud Backup free trial 10 days later, you'll have 20 days to use the free trial.

When the free trial ends, you'll be switched over automatically to the PAYGO subscription without interruption. If you decide not to continue using Cloud Backup, just [unregister Cloud Backup from the working environment](#) before the trial ends and you won't be charged.

### **Use a Cloud Backup PAYGO subscription**

For pay-as-you-go, you'll pay your cloud provider for object storage costs and for NetApp backup licensing costs on an hourly basis in a single subscription. You should subscribe even if you have a free trial or if you bring your own license (BYOL):

- Subscribing ensures that there's no disruption of service after your free trial ends. When the trial ends, you'll be charged hourly according to the amount of data that you back up.

- If you back up more data than allowed by your BYOL license, then data backup continues through your pay-as-you-go subscription. For example, if you have a 10 TiB BYOL license, all capacity beyond the 10 TiB is charged through the PAYGO subscription.

You won't be charged from your pay-as-you-go subscription during your free trial or if you haven't exceeded your BYOL license.

There are a few PAYGO plans for Cloud Backup:

- A "Cloud Backup" package that enables you to back up Cloud Volumes ONTAP data and on-premises ONTAP data.
- A "CVO Professional" package that enables you to bundle Cloud Volumes ONTAP and Cloud Backup. This includes unlimited backups for Cloud Volumes ONTAP volumes charged against this license (backup capacity is not counted against the license). This option doesn't enable you to back up on-premises ONTAP data.
- A "CVO Edge Cache" package has the same capabilities as the "CVO Professional" package, but it also includes support for [Global File Cache](#). You are entitled to deploy one Global File Cache Edge system for each 3 TiB of provisioned capacity on the Cloud Volumes ONTAP system. This option is available only through the Azure Marketplace, and it doesn't enable you to back up on-premises ONTAP data.

[Learn more about these capacity-based license packages.](#)

Use these links to subscribe to Cloud Backup from your cloud provider marketplace:

- AWS: [Go to the Cloud Manager Marketplace offering for pricing details.](#)
- Azure: [Go to the Cloud Manager Marketplace offering for pricing details.](#)
- GCP: [Go to the Cloud Manager Marketplace offering for pricing details.](#)

## Use an annual contract

Pay for Cloud Backup annually by purchasing an annual contract.

When using AWS, there are two annual contracts available from the [AWS Marketplace page](#) for Cloud Volumes ONTAP and on-premises ONTAP systems. They're available in 1-, 2-, or 3-year terms:

- A "Cloud Backup" plan that enables you to back up Cloud Volumes ONTAP data and on-premises ONTAP data.

If you want to use this option, set up your subscription from the Marketplace page and then [associate the subscription with your AWS credentials](#). Note that you'll also need to pay for your Cloud Volumes ONTAP systems using this annual contract subscription since you can assign only one active subscription to your AWS credentials in Cloud Manager.

- A "CVO Professional" plan that enables you to bundle Cloud Volumes ONTAP and Cloud Backup. This includes unlimited backups for Cloud Volumes ONTAP volumes charged against this license (backup capacity is not counted against the license). This option doesn't enable you to back up on-premises ONTAP data.

See the [Cloud Volumes ONTAP licensing topic](#) to learn more about this licensing option.

If you want to use this option, you can set up the annual contract when you create a Cloud Volumes ONTAP working environment and Cloud Manager prompts you to subscribe to the AWS Marketplace.

When using Azure, 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 Cloud Backup activation.

When using GCP, contact your NetApp sales representative to purchase an annual contract. The contract is available as a private offer in the Google Cloud Marketplace.

After NetApp shares the private offer with you, you can select the annual plan when you subscribe from the Google Cloud Marketplace during Cloud Backup activation.

## Use a Cloud Backup BYOL license

Bring-your-own licenses from NetApp provide 1-, 2-, or 3-year terms. You pay only for the data that you protect, calculated by the logical used capacity (*before* any efficiencies) of the source ONTAP volumes which are being backed up. This capacity is also known as Front-End Terabytes (FETB).

The BYOL Cloud Backup license is a floating license where the total capacity is shared across all systems associated with your Cloud Manager account. For ONTAP systems, you can get a rough estimate of the capacity you'll need by running the CLI command `volume show-space -logical-used` for the volumes you plan to back up.

If you don't have a Cloud Backup BYOL license, click the chat icon in the lower-right of Cloud Manager to purchase one.

Optionally, if you have an unassigned node-based license for Cloud Volumes ONTAP that you won't be using, you can convert it to a Cloud Backup license with the same dollar-equivalence and the same expiration date.

[Go here for details.](#)

You use the Digital Wallet page in Cloud Manager to manage BYOL licenses. You can add new licenses, update existing licenses, and view license status from the Digital Wallet.

## Obtain your Cloud Backup license file

After you've purchased your Cloud Backup license, you activate the license in Cloud Manager either by entering the Cloud Backup serial number and NSS account, or by uploading the NLF license file. The steps below show how to get the NLF license file if you plan to use that method.

If you're running Cloud Backup in an on-premises site that doesn't have internet access, meaning that you've deployed the Cloud Manager Connector on a host in the offline on-premises site, you'll need to obtain the license file from an internet-connected system. Activating the license using the serial number and NSS account is not available for offline (dark site) installations.

### Steps

1. Sign in to the [NetApp Support Site](#) and click **Systems > Software Licenses**.
2. Enter your Cloud Backup license serial number.

Software Licenses

Serial Number

Serial #	Cluster SN	License Name	License Key	Host ID	Value	End Date
4810		CLOUD_BKP_SERVICE	<a href="#">Get NetApp License File</a>		100	12/31/9998

3. In the **License Key** column, click **Get NetApp License File**.
4. Enter your Cloud Manager Account ID (this is called a Tenant ID on the support site) and click **Submit** to download the license file.

**Get License**

SERIAL NUMBER: 4810

LICENSE: CLOUD\_BKP\_SERVICE

SALES ORDER: 3005

TENANT ID:

Example: account-xxxxxxx

[Cancel](#) [Submit](#)

You can find your Cloud Manager Account ID by selecting the **Account** drop-down from the top of Cloud Manager, and then clicking **Manage Account** next to your account. Your Account ID is in the Overview tab.

## Add Cloud Backup BYOL licenses to your account

After you purchase a Cloud Backup license for your NetApp account, you need to add the license to Cloud Manager.

### Steps

1. From the Cloud Manager left navigation menu, click **Digital Wallet** and then select the **Data Services Licenses** tab.
2. Click **Add License**.
3. In the *Add License* dialog, enter the license information and click **Add License**:
  - If you have the backup license serial number and know your NSS account, select the **Enter Serial Number** option and enter that information.

If your NetApp Support Site account isn't available from the drop-down list, [add the NSS account to Cloud Manager](#).

- If you have the backup license file (required when installed in a dark site), select the **Upload License File** option and follow the prompts to attach the file.



**Add Cloud Backup License**

A Backup License must be installed with an active subscription. A Backup license enables you to use Cloud Backup for a certain period of time and for a maximum amount of backup space.

☒ Enter Serial Number ☐ Upload License File

Serial Number

NetApp Support Site Account

☐ Enter Serial Number ☒ Upload License File

To install a license, follow these instructions:

- 1 Obtain the license file from the "System > Software Licenses" tab at [NetApp Support Site](#). You will need to provide your cloud service serial number and Cloud Manager Account ID.
- 2 Click Upload File and then select the file.

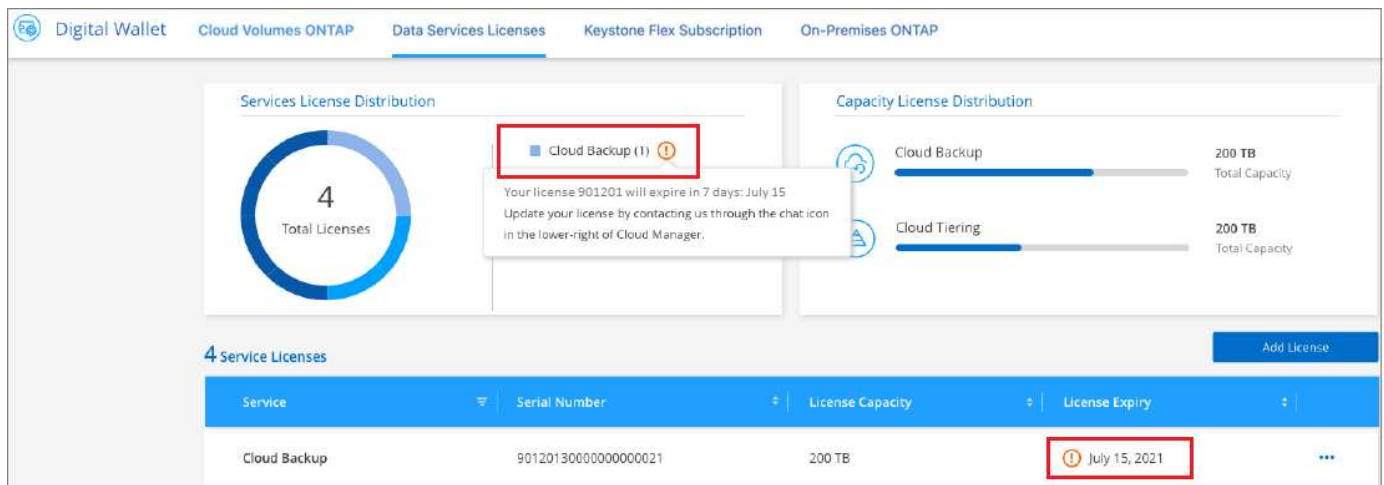
Upload License File

## Result

Cloud Manager adds the license so that Cloud Backup is active.

## Update a Cloud Backup BYOL license

If your licensed term is nearing the expiration date, or if your licensed capacity is reaching the limit, you'll be notified in the Backup UI. This status also appears in the Digital Wallet page and in [Notifications](#).



You can update your Cloud Backup license before it expires so that there is no interruption in your ability to back up and restore your data.

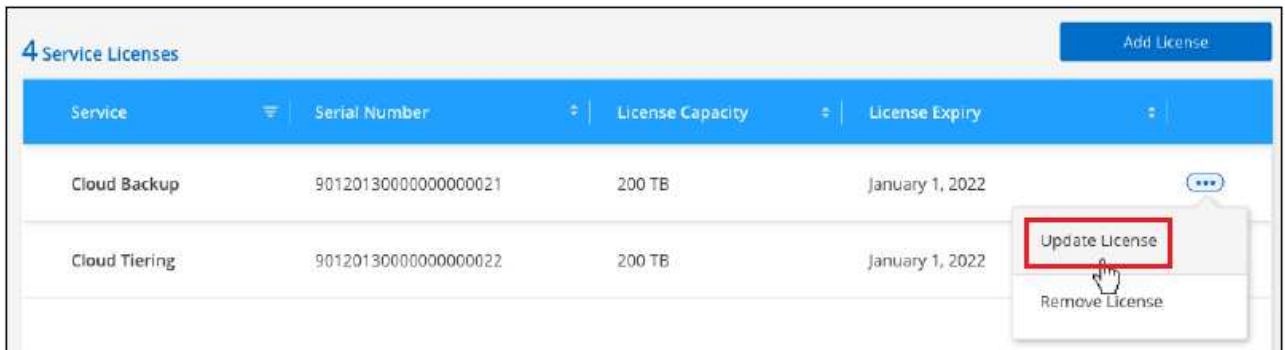
## Steps

1. Click the chat icon in the lower-right of Cloud Manager, or contact Support, to request an extension to your term or additional capacity to your Cloud Backup license for the particular serial number.

After you pay for the license and it is registered with the NetApp Support Site, Cloud Manager automatically updates the license in the Digital Wallet and the Data Services Licenses page will reflect the change in 5 to 10 minutes.

2. If Cloud Manager can't automatically update the license (for example, when installed in a dark site), then you'll need to manually upload the license file.

- a. You can [obtain the license file from the NetApp Support Site](#).
- b. On the Digital Wallet page *Data Services Licenses* tab, click **...** for the service serial number you are updating, and click **Update License**.



- c. In the *Update License* page, upload the license file and click **Update License**.

## Result

Cloud Manager updates the license so that Cloud Backup continues to be active.

## BYOL license considerations

When using a Cloud Backup BYOL license, Cloud Manager displays a warning in the user interface when the size of all the data you are backing up is nearing the capacity limit or nearing the license expiration date. You'll receive these warnings:

- When backups have reached 80% of licensed capacity, and again when you have reached the limit
- 30 days before a license is due to expire, and again when the license expires

Use the chat icon in the lower right of the Cloud Manager interface to renew your license when you see these warnings.

Two things can happen when your BYOL license expires:

- If the account you are using has a marketplace account, the backup service continues to run, but you are shifted over to a PAYGO licensing model. You are charged for the capacity that your backups are using.
- If the account you are using doesn't have a marketplace account, the backup service continues to run, but you will continue to see the warnings.

Once you renew your BYOL subscription, Cloud Manager automatically updates the license. If Cloud Manager can't access the license file over the secure internet connection (for example, when installed in a dark site), you can obtain the file yourself and manually upload it to Cloud Manager. For instructions, see [how to update a Cloud Backup license](#).

Systems that were shifted over to a PAYGO license are returned to the BYOL license automatically. And systems that were running without a license will stop seeing the warnings.

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