



License management

Cloud Volumes ONTAP

NetApp
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License management

Manage capacity-based licenses

Manage your capacity-based licenses from the BlueXP digital wallet to ensure that your NetApp account has enough capacity for your Cloud Volumes ONTAP systems.

Capacity-based licenses enable you to pay for Cloud Volumes ONTAP per TiB of capacity.

The *BlueXP digital wallet* enables you to manage licenses for Cloud Volumes ONTAP from a single location. You can add new licenses and update existing licenses.



While the actual usage and metering for the products and services managed in BlueXP are always calculated in GiB and TiB, the terms GB/GiB and TB/TiB are used interchangeably. This is reflected in the Cloud Marketplace listings, price quotes, listing descriptions, and in other supporting documentation

[Learn more about Cloud Volumes ONTAP licenses.](#)

How licenses are added to the BlueXP digital wallet

After you purchase a license from your NetApp sales representative, NetApp will send you an email with the serial number and additional licensing details.

In the meantime, BlueXP automatically queries NetApp's licensing service to obtain details about the licenses associated with your NetApp Support Site account. If there are no errors, BlueXP automatically adds the licenses to the digital wallet.

If BlueXP can't add the license, you'll need to manually add them to the digital wallet yourself. For example, if the Connector is installed in a location that doesn't have internet access, you'll need to add the licenses yourself. [Learn how to add purchased licenses to your account.](#)

View the consumed capacity in your account

The BlueXP digital wallet shows you the total consumed capacity in your account and the consumed capacity by licensing package. This can help you understand how you're being charged and whether you need to purchase additional capacity.

Steps

1. From the BlueXP navigation menu, select **Governance > Digital wallet**.
2. On the **Cloud Volumes ONTAP** tab, keep **Capacity Based Licenses** selected.
3. View the packages summary, which shows you consumed capacity, total precommitted capacity, and total PAYGO capacity.
 - *Total consumed capacity* is the total provisioned capacity of all Cloud Volumes ONTAP systems in your NetApp account. The charging is based on each volume's provisioned size, regardless of local, used, stored, or effective space within the volume.
 - *Total precommitted capacity* is the total licensed capacity (BYOL or Marketplace Contract) that you purchased from NetApp.
 - *Total PAYGO* is the total provisioned capacity using cloud marketplace subscriptions. Charging via

PAYGO is used only if the consumed capacity is higher than the licensed capacity or if there is no BYOL license available in the BlueXP digital wallet.

Here's an example of a Cloud Volumes ONTAP packages summary in BlueXP digital wallet:

4. Under the summary, view the consumed capacity for each of your licensing packages.

- *Consumed capacity* shows you the capacity of the volumes for that package. For more details about a specific package, hover your mouse over the tooltip.

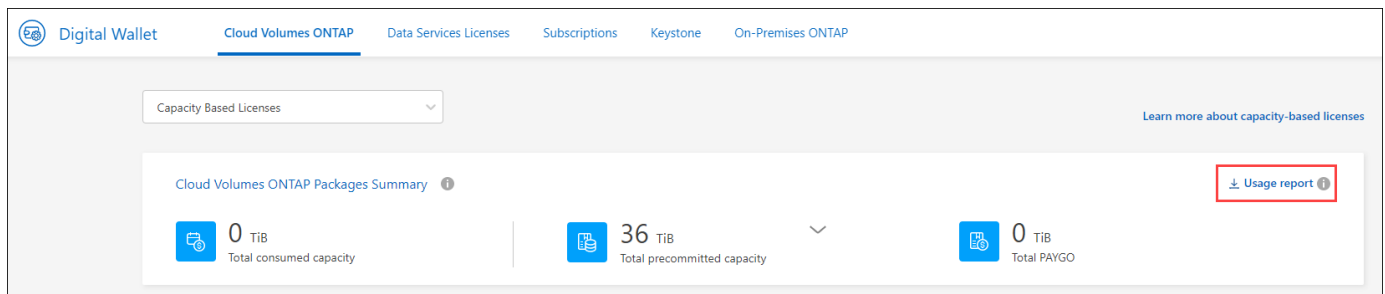
To better understand the capacities that display for the Essentials package, you should be familiar with how charging works. [Learn about charging for the Essentials package.](#)

- *Precommitted capacity* is the licensed capacity (BYOL or Marketplace Contract) that you purchased from NetApp.
 - *BYOL* shows you the licensed capacity that you purchased from NetApp for this package type.
 - *Marketplace Contracts* shows the licensed capacity that you purchased with a marketplace contract for this package type.
- *PAYGO* shows you the consumed capacity by license consumption model.

Here's an example for an account that has several licensing packages:

Download usage reports

Account administrators can download four usage reports from the digital wallet in BlueXP. These usage reports provide capacity details of your subscriptions and tell you how you're being charged for the resources in your Cloud Volumes ONTAP subscriptions. The downloadable reports capture data at a point in time and can be easily shared with others.



The following reports are available for download. Capacity values shown are in TiB.

- **High-level usage:** This report shows you exactly what's in the "Cloud Volumes ONTAP Packages Summary" card in the digital wallet. It includes the following information:
 - Total consumed capacity
 - Total precommitted capacity
 - Total BYOL capacity
 - Total Marketplace contracts capacity

- Total PAYGO capacity
- **Cloud Volumes ONTAP package usage:** This report shows you exactly what's on the package cards in the digital wallet. It includes the following information for each package except the Optimized I/O package:
 - Total consumed capacity
 - Total precommitted capacity
 - Total BYOL capacity
 - Total Marketplace contracts capacity
 - Total PAYGO capacity
- **Storage VMs usage:** This report shows how charged capacity is broken down across Cloud Volumes ONTAP systems and storage virtual machines (SVMs). This information is not available on any screen in the digital wallet. It includes the following information:
 - Working environment ID and name (appears as the UUID)
 - Cloud
 - NetApp account ID
 - Working environment configuration
 - SVM name
 - Provisioned capacity
 - Charged capacity roundup
 - Marketplace billing term
 - Cloud Volumes ONTAP package or feature
 - Charging SaaS Marketplace subscription name
 - Charging SaaS Marketplace subscription ID
 - Workload type
- **Volumes usage:** This report shows how charged capacity is broken down by volumes in a working environment. This information is not available on any screen in the digital wallet. It includes the following information:
 - Working environment ID and name (appears as the UUID)
 - SVN name
 - Volume ID
 - Volume type
 - Volume provisioned capacity



FlexClone volumes aren't included in this report because these types of volumes don't incur charges.

Steps

1. From the BlueXP navigation menu, select **Governance > Digital wallet**.
2. On the **Cloud Volumes ONTAP** tab, keep **Capacity Based Licenses** selected and click **Usage report**.

The usage report downloads.

3. Open the downloaded file to access the reports.

Add purchased licenses to your account

If you don't see your purchased licenses in the BlueXP digital wallet, you'll need to add the licenses to BlueXP so that the capacity is available for Cloud Volumes ONTAP.

What you'll need

- You need to provide BlueXP the serial number of the license or the license file.
- If you want to enter the serial number, you first need to [add your NetApp Support Site account to BlueXP](#). This is the NetApp Support Site account that's authorized to access the serial number.

Steps

1. From the BlueXP navigation menu, select **Governance > Digital wallet**.
2. On the **Cloud Volumes ONTAP** tab, keep **Capacity Based Licenses** selected and click **Add License**.
3. Enter the serial number for your capacity-based license or upload the license file.

If you entered a serial number, you also need to select the NetApp Support Site account that's authorized to access the serial number.

4. Click **Add License**.

Update a capacity-based license

If you purchased additional capacity or extended the term of your license, BlueXP automatically updates the license in the digital wallet. There's nothing that you need to do.

However, if you deployed BlueXP in a location that doesn't have internet access, then you'll need to manually update the license in BlueXP.

What you'll need

The license file (or *files* if you have an HA pair).



For more information on how to obtain a license file, see [Obtain a system license file](#).

Steps

1. From the BlueXP navigation menu, select **Governance > Digital wallet**.
2. On the **Cloud Volumes ONTAP** tab, click the action menu next to the license and select **Update License**.
3. Upload the license file.
4. Click **Upload License**.

Change charging methods

Capacity-based licensing is available in the form of a *package*. When you create a Cloud Volumes ONTAP working environment, you can choose from several licensing packages based on your business needs. If your needs change after you create the working environment, you can change the package at any time. For example, you might change from the Essentials package to the Professional package.

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

About this task

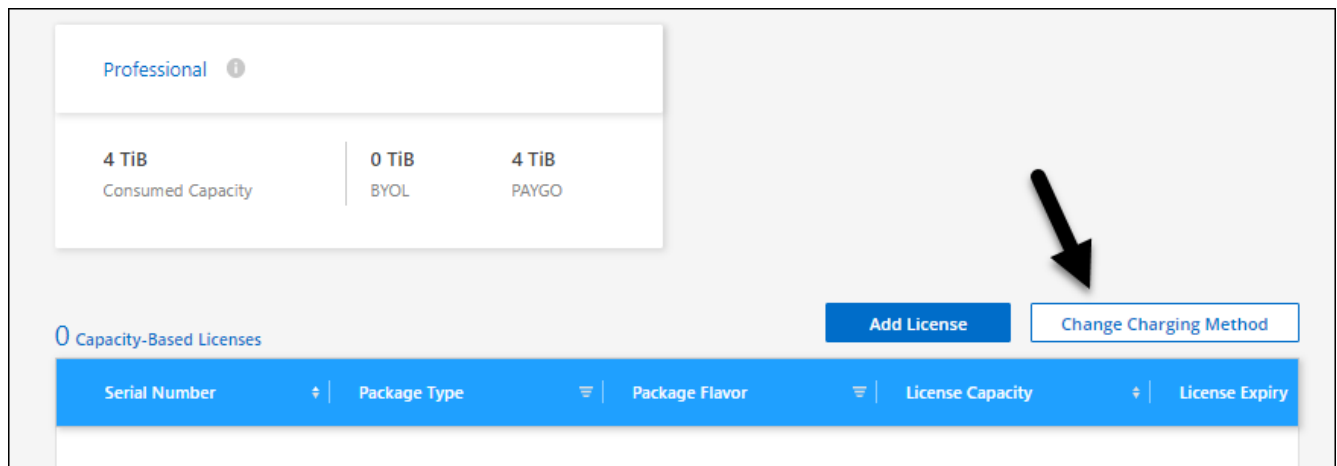
- Changing the charging method doesn't affect whether you're charged through a license purchased from NetApp (BYOL) or from your cloud provider's marketplace (pay as you go).

BlueXP always attempts to charge against a license first. If a license isn't available, it charges against a marketplace subscription. No "conversion" is required for BYOL to marketplace subscription or vice versa.

- If you have a private offer or contract from your cloud provider's marketplace, changing to a charging method that's not included in your contract will result in charging against BYOL (if you purchased a license from NetApp) or PAYGO.
- Changing to or from the Edge Cache license isn't supported.

Steps

1. From the BlueXP navigation menu, select **Governance > Digital wallet**.
2. On the **Cloud Volumes ONTAP** tab, click **Change Charging Method**.



3. Select a working environment, choose the new charging method, and then confirm your understanding that changing the package type will affect service charges.

4. Click **Change Charging Method**.

Result

BlueXP changes the charging method for the Cloud Volumes ONTAP system.

You might also notice that the BlueXP digital wallet refreshes the consumed capacity for each package type to account for the change that you just made.

Remove a capacity-based license

If a capacity-based license expired and is no longer in use, then you can remove it at any time.

Steps

1. From the BlueXP navigation menu, select **Governance > Digital wallet**.
2. On the **Cloud Volumes ONTAP** tab, click the action menu next to the license and select **Remove License**.
3. Click **Remove** to confirm.

Manage Keystone subscriptions

Manage your Keystone subscriptions from the BlueXP digital wallet by enabling subscriptions for use with Cloud Volumes ONTAP and by requesting changes to the committed capacity for your subscription's service levels. Requesting additional capacity for a service level provides more storage for on-premises ONTAP clusters or for Cloud Volumes ONTAP systems.

NetApp Keystone is a flexible pay-as-you-grow subscription-based service that delivers a hybrid cloud experience for customers who prefer OpEx to CapEx or leasing.

[Learn more about Keystone](#)

Authorize your account

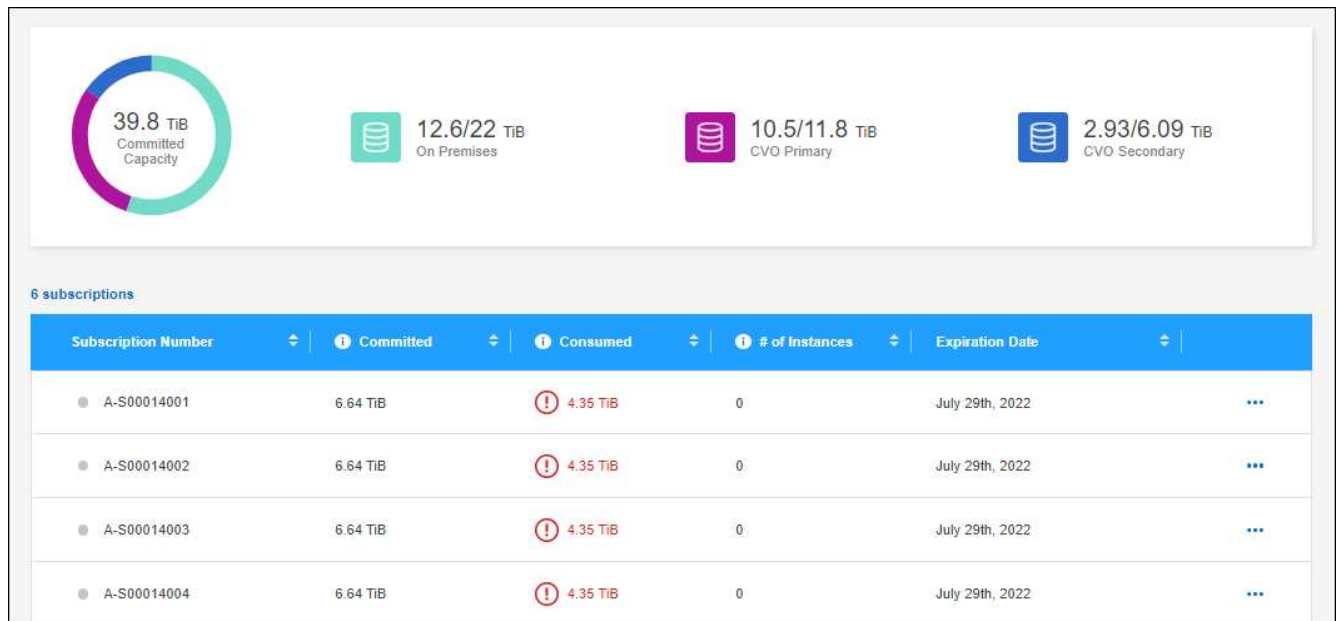
Before you can use and manage Keystone subscriptions in BlueXP, you need to contact NetApp to authorize your BlueXP user account with your Keystone subscriptions.

Steps

1. From the BlueXP navigation menu, select **Governance > Digital wallet**.
2. Select **Keystone**.
3. If you see the **Welcome to NetApp Keystone** page, send an email to the address listed on the page.

A NetApp representative will process your request by authorizing your user account to access the subscriptions.

4. Come back to the **Keystone Subscription** to view your subscriptions.



Link a subscription

After NetApp authorizes your account, you can link Keystone subscriptions for use with Cloud Volumes ONTAP. This action enables users to select the subscription as the charging method for new Cloud Volumes ONTAP systems.

Steps

1. From the BlueXP navigation menu, select **Governance > Digital wallet**.
2. Select **Keystone**.
3. For the subscription that you want to link, click **...** and select **Link**.

Subscription Number	Committed	Consumed	# of Instances	Expiration Date	
A-S00014001	6.64 TiB	4.35 TiB	0	July 29th, 2022	...
A-S00014002	6.64 TiB	4.35 TiB	0	July 29th, 2022	View detail and edit
A-S00014003	6.64 TiB	4.35 TiB	0	July 29th, 2022	Link

Result

The subscription is now linked to your BlueXP account and available to select when creating a Cloud Volumes ONTAP working environment.



Request more or less committed capacity

If you want to change the committed capacity for your subscription's service levels, you can send a request to NetApp directly from BlueXP. Requesting additional capacity for a service level provides more storage for on-premises clusters or for Cloud Volumes ONTAP systems.

Steps

1. From the BlueXP navigation menu, select **Governance > Digital wallet**.
2. Select **Keystone**.
3. For the subscription that you want adjust the capacity, click ... and select **View detail and edit**.
4. Enter the requested committed capacity for one or more subscriptions.

Subscription Modification for A-S00014001

Service Level	Current Committed Capacity	Current Consumed Capacity	Requested Committed Capacity
Extreme	0.977 TiB	0.293 TiB	<input type="text" value="Enter amount"/> TiB
Premium	0.977 TiB	0.488 TiB	<input type="text" value="Enter amount"/> TiB
Performance	0 TiB	0 TiB	<input type="text" value="Enter amount"/> TiB
Standard	0.732 TiB	0.439 TiB	<input type="text" value="Enter amount"/> TiB
Value	0.977 TiB	 0.879 TiB	<input type="text" value="Enter amount"/> TiB
Data Tiering	0 TiB	0 TiB	<input type="text" value="Enter amount"/> TiB
CVO Primary	1.96 TiB	 1.76 TiB	<input type="text" value="3"/> TiB
CVO Secondary	1.02 TiB	0.488 TiB	<input type="text" value="Enter amount"/> TiB

Additional Information

Is there anything else we should know about your request?
Please be as descriptive as possible.

Enter your notes here

5. Scroll down, enter any additional details for the request, and then click **Submit**.

Result

Your request creates a ticket in NetApp's system for processing.

Monitor usage


The BlueXP digital advisor dashboard enables you to monitor Keystone subscription usage and to generate reports.

[Learn more about monitoring subscription usage](#)

Unlink a subscription

If you no longer want to use a Keystone Subscription with BlueXP, you can unlink the subscription. Note that you can only unlink a subscription that isn't attached to an existing Cloud Volumes ONTAP subscription.

Steps

1. From the BlueXP navigation menu, select **Governance > Digital wallet**.
2. Select **Keystone**.
3. For the subscription that you want to unlink, click  and select **Unlink**.

Result

The subscription is unlinked from your BlueXP account and no longer available to select when creating a Cloud Volumes ONTAP working environment.

Manage node-based licenses

Manage node-based licenses in the BlueXP digital wallet to ensure that each Cloud Volumes ONTAP system has a valid license with the required capacity.

Node-based licenses are the previous generation licensing model (and not available for new customers):

- BYOL licenses purchased from NetApp
- Hourly pay-as-you-go (PAYGO) subscriptions from your cloud provider's marketplace

The *BlueXP digital wallet* enables you to manage licenses for Cloud Volumes ONTAP from a single location. You can add new licenses and update existing licenses.

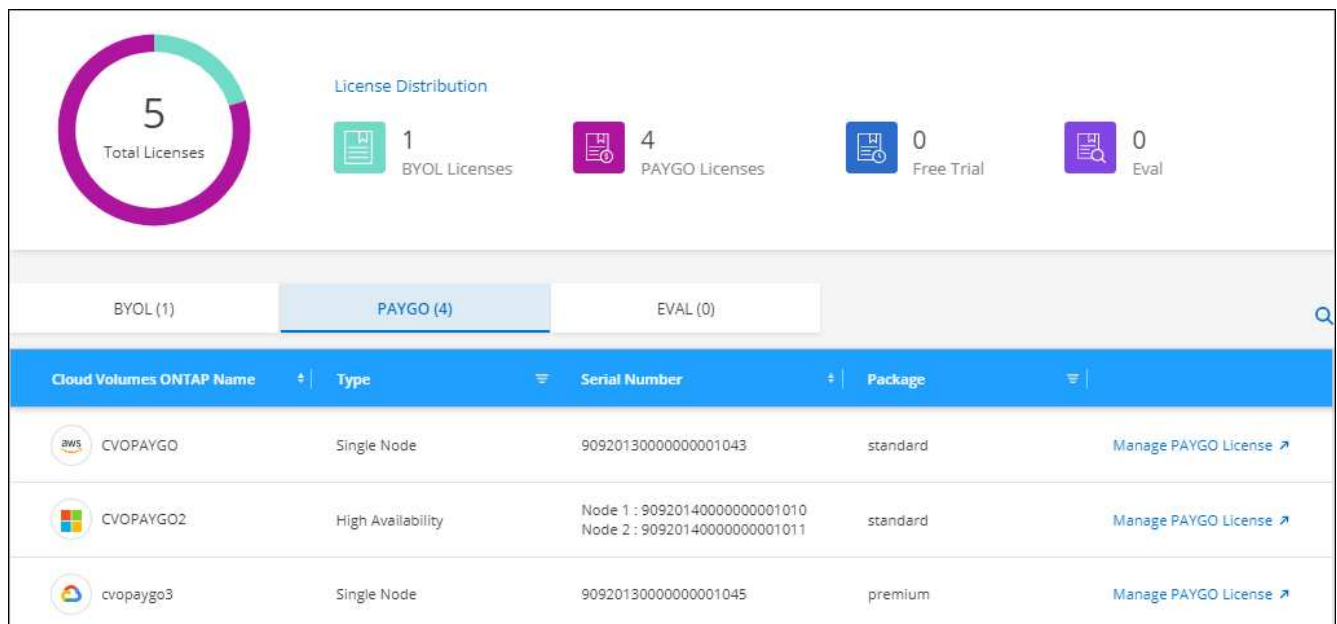
[Learn more about Cloud Volumes ONTAP licenses.](#)

Manage PAYGO licenses

The BlueXP digital wallet page enables you to view details about each of your PAYGO Cloud Volumes ONTAP systems, including the serial number and PAYGO license type.

Steps

1. From the BlueXP navigation menu, select **Governance > Digital wallet**.
2. On the **Cloud Volumes ONTAP** tab, select **Node Based Licenses** from the drop-down.
3. Click **PAYGO**.
4. View details in the table about each of your PAYGO licenses.



The screenshot displays the 'License Distribution' section of the BlueXP digital wallet. It features a donut chart showing 5 total licenses, with a breakdown: 1 BYOL License, 4 PAYGO Licenses, 0 Free Trial, and 0 Eval. Below this, there are tabs for 'BYOL (1)', 'PAYGO (4)', and 'EVAL (0)'. The 'PAYGO (4)' tab is selected, showing a table of licenses. The table has columns for 'Cloud Volumes ONTAP Name', 'Type', 'Serial Number', and 'Package'. There are three rows of licenses listed, each with a 'Manage PAYGO License' link.

Cloud Volumes ONTAP Name	Type	Serial Number	Package
CVOPAYGO	Single Node	90920130000000001043	standard
CVOPAYGO2	High Availability	Node 1 : 90920140000000001010 Node 2 : 90920140000000001011	standard
cvopaygo3	Single Node	90920130000000001045	premium

5. If needed, click **Manage PAYGO License** to change the PAYGO license or to change the instance type.

Manage BYOL licenses

Manage licenses that you purchased directly from NetApp by adding and removing system licenses and extra capacity licenses.

Add unassigned licenses

Add a node-based license to the BlueXP digital wallet so that you can select the license when you create a new Cloud Volumes ONTAP system. The digital wallet identifies these licenses as *unassigned*.

Steps

1. From the BlueXP navigation menu, select **Governance > Digital wallet**.
2. On the **Cloud Volumes ONTAP** tab, select **Node Based Licenses** from the drop-down.
3. Click **Unassigned**.
4. Click **Add Unassigned Licenses**.
5. Enter the serial number of the license or upload the license file.

If you don't have the license file yet, refer to the section below.

6. Click **Add License**.

Result

BlueXP adds the license to the digital wallet. The license will be identified as unassigned until you associate it with a new Cloud Volumes ONTAP system. After that happens, the license moves to the **BYOL** tab in the digital wallet.

Exchange unassigned node-based licenses

If you have an unassigned node-based license for Cloud Volumes ONTAP that you haven't used, you can exchange the license by converting it to a BlueXP backup and recovery license, a BlueXP classification license, or a BlueXP tiering license.



Exchanging the license revokes the Cloud Volumes ONTAP license and creates a dollar-equivalent license for the service:

- Licensing for a Cloud Volumes ONTAP HA pair is converted to a 51 TiB data service license
- Licensing for a Cloud Volumes ONTAP single node is converted to a 32 TiB data service license

The converted license has the same expiry date as the Cloud Volumes ONTAP license.

Steps

1. From the BlueXP navigation menu, select **Governance > Digital wallet**.
2. On the **Cloud Volumes ONTAP** tab, select **Node Based Licenses** from the drop-down.
3. Click **Unassigned**.
4. Click **Exchange License**.

BYOL (14)		Eval (2)		Unassigned (3)		PAYGO (6)		<div><div></div><div>Add Unassigned Licenses</div></div>	
Serial Number	Type	Cloud Provider	License Expiry	Status					
012345678901234567890	Single Node	All Providers	April 20, 2022	Unassigned	Exchange License				
012345678901234567891	Single Node	 Azure	April 20, 2022	Unassigned	Exchange License				
012345678901234567892	Single Node	 AWS	January 1, 2022	Exchanged to Cloud Tiering on August 1, 2021					

5. Select the service that you'd like to exchange the license with.
6. If you're prompted, select an additional license for the HA pair.
7. Read the legal consent and click **Agree**.

Result

BlueXP converts the unassigned license to the service that you selected. You can view the new license in the **Data Services Licenses** tab.

Obtain a system license file

In most cases, BlueXP can automatically obtain your license file using your NetApp Support Site account. But if it can't, then you'll need to manually upload the license file. If you don't have the license file, you can obtain it from netapp.com.

Steps

1. Go to the [NetApp License File Generator](#) and log in using your NetApp Support Site credentials.
2. Enter your password, choose your product, enter the serial number, confirm that you have read and accepted the privacy policy, and then click **Submit**.

Example

License Generator

The following fields are pre-populated based on the NetApp SSO login provided.
To download the corresponding NetApp license file, re-enter your SSO password along with the correct Product Line and Product Serial number.

First Name	<input type="text" value="Ben"/>
Last Name	<input type="text"/>
Company	<input type="text" value="Network Appliance, Inc"/>
Email Address	<input type="text"/>
Username	<input type="text"/>

Product Line*	<input type="text"/>
---------------	----------------------

Not only is protecting your data required by

☐ I have read NetApp's new **Global Data** may use my personal data.

- ONTAP Select - Standard
- ONTAP Select - Premium
- ONTAP Select - Premium XL
- Cloud Volumes ONTAP for AWS (single node)
- Cloud Volumes ONTAP for AWS (HA)
- Cloud Volumes ONTAP for GCP (single node or HA)
- Cloud Volumes ONTAP for Microsoft Azure (single node)
- Cloud Volumes ONTAP for Microsoft Azure (HA)
- Service Level Manager - SLO Advanced
- StorageGRID Webscale
- StorageGRID WhiteBox
- SnapCenter Standard (capacity-based)

3. Choose whether you want to receive the serialnumber.NLF JSON file through email or direct download.

Update a system license

When you renew a BYOL subscription by contacting a NetApp representative, BlueXP automatically obtains the new license from NetApp and installs it on the Cloud Volumes ONTAP system.

If BlueXP can't access the license file over the secure internet connection, you can obtain the file yourself and then manually upload the file to BlueXP.

Steps

1. From the BlueXP navigation menu, select **Governance > Digital wallet**.
2. On the **Cloud Volumes ONTAP** tab, select **Node Based Licenses** from the drop-down.
3. In the **BYOL** tab, expand the details for a Cloud Volumes ONTAP system.
4. Click the action menu next to the system license and select **Update License**.
5. Upload the license file (or files if you have an HA pair).
6. Click **Update License**.

Result

BlueXP updates the license on the Cloud Volumes ONTAP system.

Manage extra capacity licenses

You can purchase extra capacity licenses for a Cloud Volumes ONTAP BYOL system to allocate more than the 368 TiB of capacity that's provided with a BYOL system license. For example, you might purchase one extra license capacity to allocate up to 736 TiB of capacity to Cloud Volumes ONTAP. Or you could purchase three

extra capacity licenses to get up to 1.4 PiB.

The number of licenses that you can purchase for a single node system or HA pair is unlimited.

Add capacity licenses

Purchase an extra capacity license by contacting us through the chat icon in the lower-right of BlueXP. After you purchase the license, you can apply it to a Cloud Volumes ONTAP system.

Steps

1. From the BlueXP navigation menu, select **Governance > Digital wallet**.
2. On the **Cloud Volumes ONTAP** tab, select **Node Based Licenses** from the drop-down.
3. In the **BYOL** tab, expand the details for a Cloud Volumes ONTAP system.
4. Click **Add Capacity License**.
5. Enter the serial number or upload the license file (or files if you have an HA pair).
6. Click **Add Capacity License**.

Update capacity licenses

If you extended the term of an extra capacity license, you'll need to update the license in BlueXP.

Steps

1. From the BlueXP navigation menu, select **Governance > Digital wallet**.
2. On the **Cloud Volumes ONTAP** tab, select **Node Based Licenses** from the drop-down.
3. In the **BYOL** tab, expand the details for a Cloud Volumes ONTAP system.
4. Click the action menu next to the capacity license and select **Update License**.
5. Upload the license file (or files if you have an HA pair).
6. Click **Update License**.

Remove capacity licenses

If an extra capacity license expired and is no longer in use, then you can remove it at any time.

Steps

1. From the BlueXP navigation menu, select **Governance > Digital wallet**.
2. On the **Cloud Volumes ONTAP** tab, select **Node Based Licenses** from the drop-down.
3. In the **BYOL** tab, expand the details for a Cloud Volumes ONTAP system.
4. Click the action menu next to the capacity license and select **Remove License**.
5. Click **Remove**.

Convert an Eval license to a BYOL

An evaluation license is good for 30 days. You can apply a new BYOL license on top of the evaluation license for an in-place upgrade.

When you convert an Eval license to a BYOL, BlueXP restarts the Cloud Volumes ONTAP system.

- For a single-node system, the restart results in I/O interruption during the reboot process.

- For an HA pair, the restart initiates takeover and giveback to continue serving I/O to clients.

Steps

1. From the BlueXP navigation menu, select **Governance > Digital wallet**.
2. On the **Cloud Volumes ONTAP** tab, select **Node Based Licenses** from the drop-down.
3. Click **Eval**.
4. In the table, click **Convert to BYOL License** for a Cloud Volumes ONTAP system.
5. Enter the serial number or upload the license file.
6. Click **Convert License**.

Result

BlueXP starts the conversion process. Cloud Volumes ONTAP automatically restarts as part of this process. When it's back up, the licensing information will reflect the new license.

Change between PAYGO and BYOL

Converting a system from PAYGO by-node licensing to BYOL by-node licensing (and vice versa) isn't supported. If you want to switch between a pay-as-you-go subscription and a BYOL subscription, then you need to deploy a new system and replicate data from the existing system to the new system.

Steps

1. Create a new Cloud Volumes ONTAP working environment.
2. Set up a one-time data replication between the systems for each volume that you need to replicate.

[Learn how to replicate data between systems](#)

3. Terminate the Cloud Volumes ONTAP system that you no longer need by deleting the original working environment.

[Learn how to delete a Cloud Volumes ONTAP working environment.](#)

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