Tiering data from on-premises ONTAP clusters to Azure Blob storage

Cloud Manager

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Free space on your on-prem ONTAP clusters by tiering data to Azure Blob storage. Data tiering is powered by NetApp's Cloud Tiering service.

Quick start

Get started quickly by following these steps or scroll down to the remaining sections for full details.

Prepare to tier data to Azure Blob storage

You need the following:

- An AFF or FAS system with all-SSD aggregates that's running ONTAP 9.4 or later and has an HTTPS connection to Azure Blob storage. Learn how to discover a cluster.
- A Connector installed in an Azure VNet.
- Networking for a Connector that enables an outbound HTTPS connection to the ONTAP cluster in your data center, to Azure Blob storage, and to the Cloud Tiering service.

Set up tiering

In Cloud Manager, select an on-prem working environment, click **Setup Tiering** and follow the prompts to tier data to Azure Blob storage.

Set up licensing

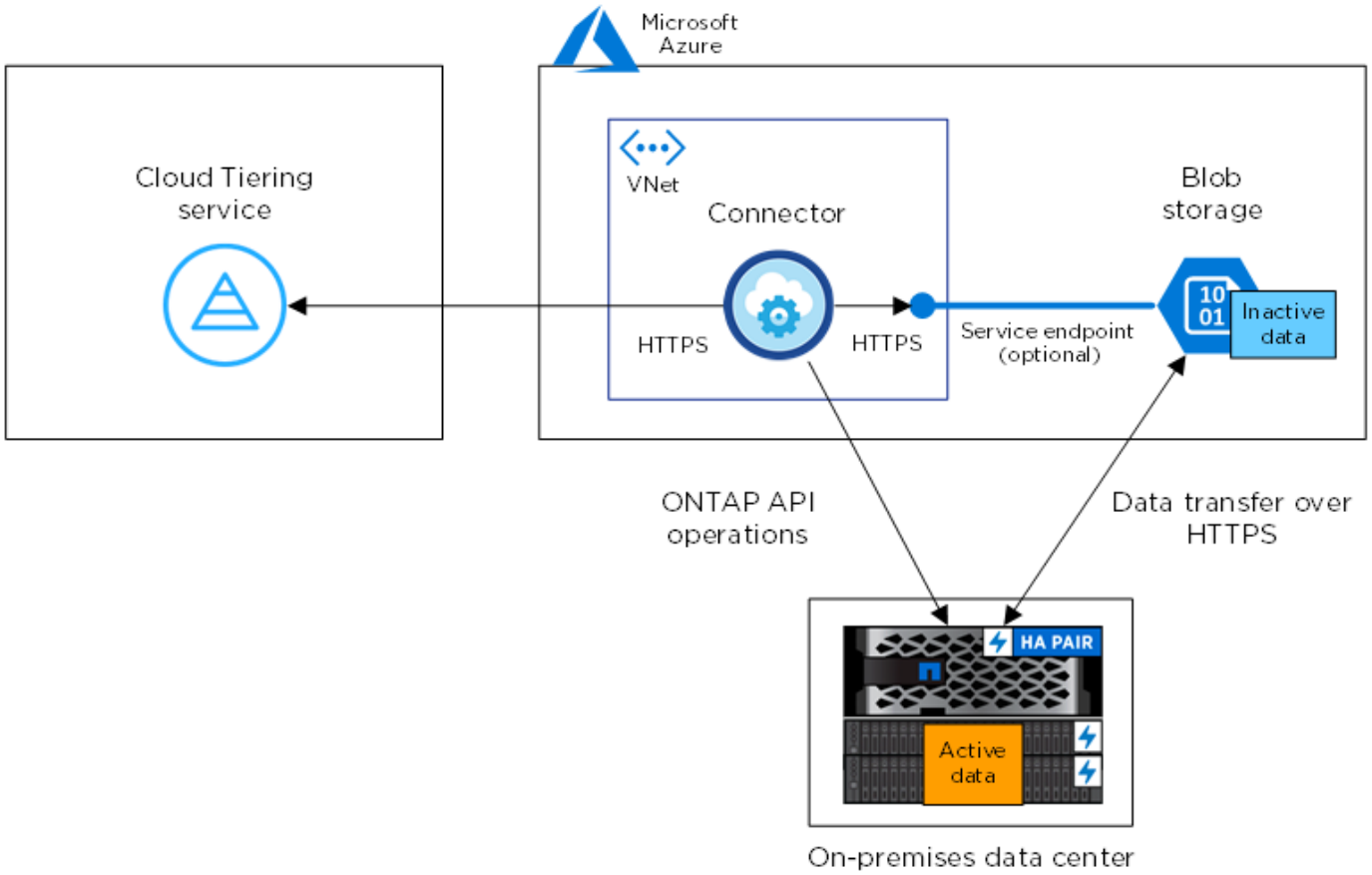
After your free trial ends, pay for Cloud Tiering through a pay-as-you-go subscription, an ONTAP tiering license, or a combination of both:

- To subscribe from the Azure Marketplace, click **Tiering > Licensing**, click **Subscribe**, and then follow the prompts.
- To add a tiering license, contact us if you need to purchase one, and then add it to your cluster from Cloud Tiering.

Requirements

Verify support for your ONTAP cluster, set up your networking, and prepare your object storage.

The following image shows each component and the connections that you need to prepare between them:



Communication between the Connector and Blob storage is for object storage setup only.

Preparing your ONTAP clusters

Your ONTAP clusters must meet the following requirements when tiering data to Azure Blob storage.

Supported ONTAP platforms

Cloud Tiering supports AFF systems and all-SSD aggregates on FAS systems.

Supported ONTAP version

ONTAP 9.4 or later

Cluster networking requirements

- The ONTAP cluster initiates an HTTPS connection over port 443 to Azure Blob storage.

  ONTAP reads and writes data to and from object storage. The object storage never initiates, it just responds.

  Although ExpressRoute provides better performance and lower data transfer charges, it's not required between the ONTAP cluster and Azure Blob storage. Because performance is significantly better when using ExpressRoute, doing so is the recommended best practice.

- An inbound connection is required from the NetApp Service Connector, which resides in an Azure VNet.

  A connection between the cluster and the Cloud Tiering service is not required.

- An intercluster LIF is required on each ONTAP node that hosts tiered volumes. The LIF must be associated with the *IPspace* that ONTAP should use to connect to object storage.

  IPspaces enable network traffic segregation, allowing for separation of client traffic for privacy and security. Learn more about IPspaces.

  When you set up data tiering, Cloud Tiering prompts you for the IPspace to use. You should choose the IPspace that each LIF is associated with. That might be the "Default" IPspace or a custom IPspace that you created.

Supported volumes and aggregates

The total number of volumes that Cloud Tiering can tier might be less than the number of volumes on your ONTAP system. That's because volumes can't be tiered from some aggregates. For example, you can't tier data from SnapLock volumes or from MetroCluster configurations. Refer to ONTAP documentation for functionality or features not supported by FabricPool.

Cloud Tiering supports FlexGroup volumes, starting with ONTAP 9.5. Setup works the same as any other volume.

Discovering an ONTAP cluster

You need to create an on-prem ONTAP working environment in Cloud Manager before you can start tiering cold data.

Learn how to discover a cluster.

Creating or switching Connectors

A Connector is required to tier data to the cloud. When tiering data to Azure Blob storage, a Connector must be available in an Azure VNet. You'll either need to create a new Connector or make sure that the currently selected Connector resides in Azure.

- Learn about Connectors
- Creating a Connector in Azure
- Switching between Connectors

Preparing networking for the Connector

Ensure that the Connector has the required networking connections.

Steps

1. Ensure that the VNet where the Connector is installed enables the following connections:
   - An outbound internet connection to the Cloud Tiering service over port 443 (HTTPS)
   - An HTTPS connection over port 443 to Azure Blob storage
   - An HTTPS connection over port 443 to your ONTAP clusters
2. If needed, enable a VNet service endpoint to Azure storage.

   A VNet service endpoint to Azure storage is recommended if you have an ExpressRoute or VPN connection from your ONTAP cluster to the VNet and you want communication between the Connector and Blob storage to stay in your virtual private network.

Tiering inactive data from your first cluster to Azure Blob storage

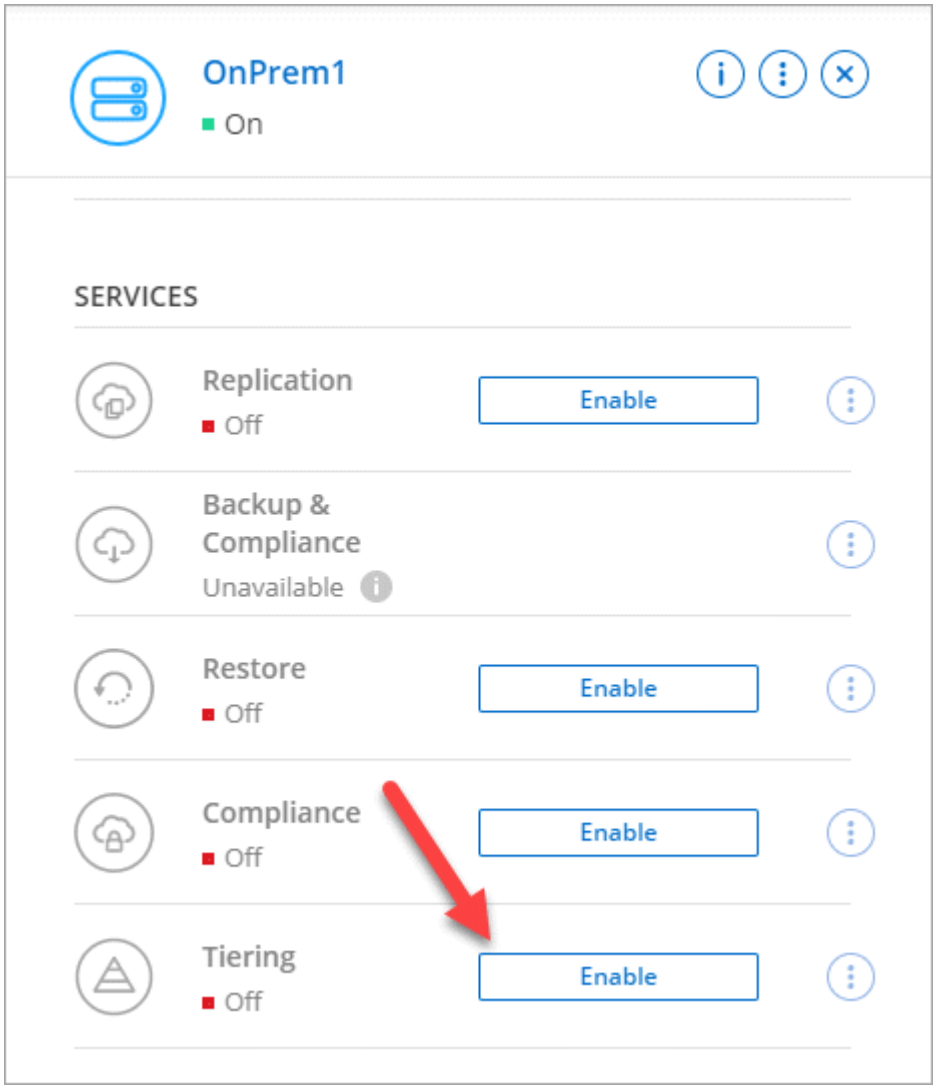
After you prepare your Azure environment, start tiering inactive data from your first cluster.

What you'll need

An on-premises working environment.

Steps

1. Select an on-prem cluster.
2. Click **Enable**.



3. Complete the steps on the **Tiering Setup** page:
   a. **Resource Group**: Select a resource group where an existing container is managed, or where you would like to create a new container for tiered data.
   b. **Azure Container**: Add a new Blob container to a storage account or select an existing container.

      The storage account and containers that appear in this step belong to the resource group that you selected in the previous step.

c. **Access Tier**: Select the access tier that you want to use for the tiered data.

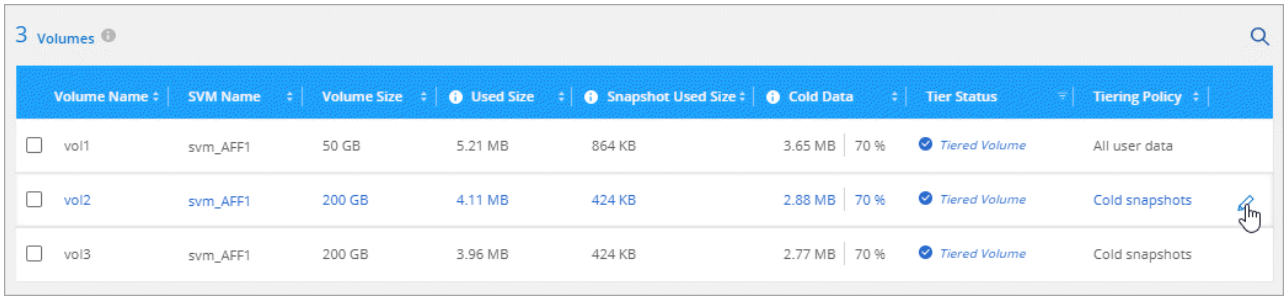
d. **Cluster Network**: Select the IPspace that ONTAP should use to connect to object storage.

   Selecting the correct IPspace ensures that Cloud Tiering can set up a connection from ONTAP to your cloud provider's object storage.

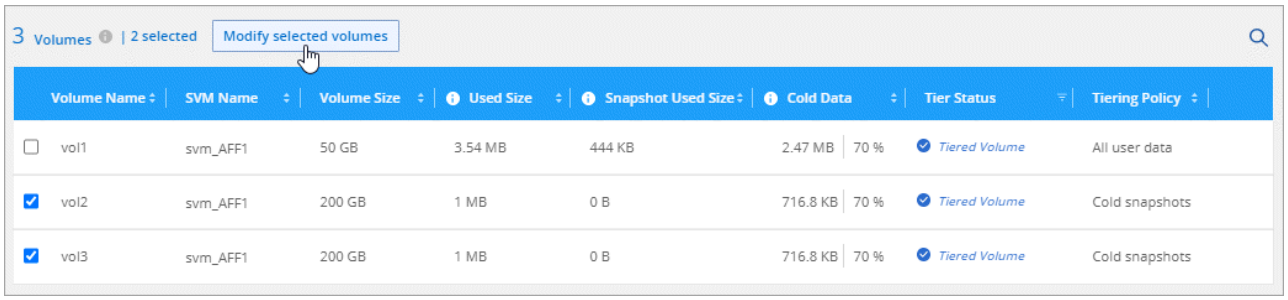
4. Click **Continue** to select the volumes that you want to tier.
5. On the **Tier Volumes** page, set up tiering for each volume.

   Learn more about volume tiering policies.

   - To select a tiering policy for just one volume, click the  icon, select a tiering policy, and optionally adjust the cooling days.



   - To select a tiering policy for several volumes, select multiple volumes, click **Modify selected volumes**, select a tiering policy, and optionally adjust the cooling days.



Result

You've successfully set up data tiering from volumes on the cluster to Azure Blob object storage.

What's next?

Be sure to subscribe from the Cloud Tiering service.

You can also add additional clusters or review information about the active and inactive data on the cluster. For details, see Managing data tiering from your clusters.