Archive to the cloud through S3 API

StorageGRID

NetApp
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Archive to the cloud through the S3 API

You can configure an Archive Node to connect directly to Amazon Web Services (AWS) or to any other system that can interface to the StorageGRID system through the S3 API.

> Moving objects from an Archive Node to an external archival storage system through the S3 API has been replaced by ILM Cloud Storage Pools, which offer more functionality. The **Cloud Tiering - Simple Storage Service (S3)** option is still supported, but you might prefer to implement Cloud Storage Pools instead.

If you are currently using an Archive Node with the **Cloud Tiering - Simple Storage Service (S3)** option, consider migrating your objects to a Cloud Storage Pool. See the instructions for managing objects with ILM.

Configure connection settings for the S3 API

If you are connecting to an Archive Node using the S3 interface, you must configure the connection settings for the S3 API. Until these settings are configured, the ARC service remains in a Major alarm state as it is unable to communicate with the external archival storage system.

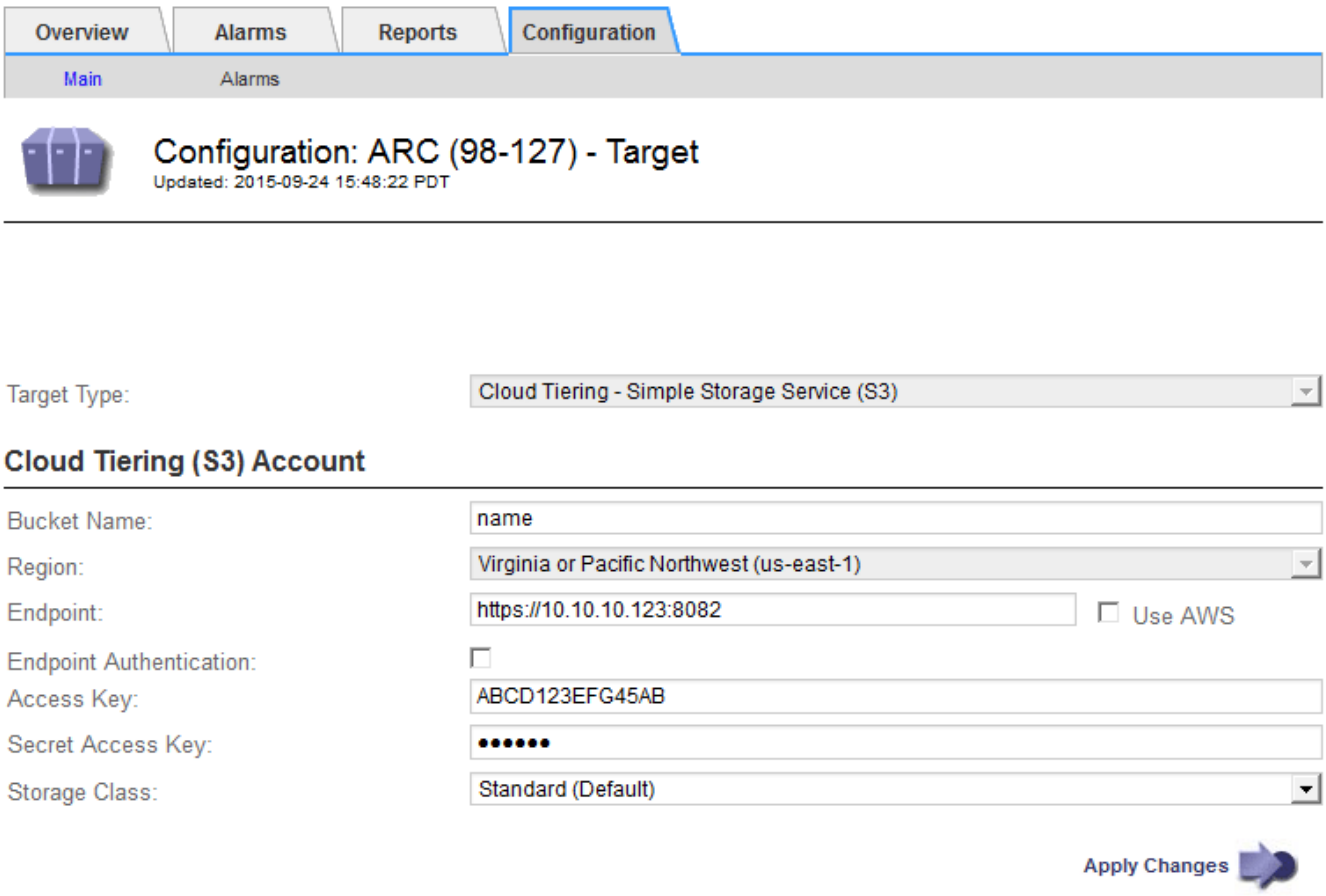
> Moving objects from an Archive Node to an external archival storage system through the S3 API has been replaced by ILM Cloud Storage Pools, which offer more functionality. The **Cloud Tiering - Simple Storage Service (S3)** option is still supported, but you might prefer to implement Cloud Storage Pools instead.
>
> If you are currently using an Archive Node with the **Cloud Tiering - Simple Storage Service (S3)** option, consider migrating your objects to a Cloud Storage Pool. See Manage objects with ILM.

What you'll need

- You are signed in to the Grid Manager using a supported web browser.
- You have specific access permissions.
- You have created a bucket on the target archival storage system:
  - The bucket is dedicated to a single Archive Node. It cannot be used by other Archive Nodes or other applications.
  - The bucket has the appropriate region selected for your location.
  - The bucket should be configured with versioning suspended.
- Object Segmentation is enabled and the Maximum Segment Size is less than or equal to 4.5 GiB (4,831,838,208 bytes). S3 API requests that exceed this value will fail if S3 is used as the external archival storage system.

Steps

1. Select **SUPPORT** > **Tools** > **Grid topology**.
2. Select **Archive Node** > **ARC** > **Target**.
3. Select **Configuration** > **Main**.



4. Select **Cloud Tiering - Simple Storage Service (S3)** from the Target Type drop-down list.

   Configuration settings are unavailable until you select a Target Type.

5. Configure the cloud tiering (S3) account through which the Archive Node will connect to the target external S3 capable archival storage system.

   Most of the fields on this page are self-explanatory. The following describes fields for which you might need guidance.

   - **Region**: Only available if **Use AWS** is selected. The region you select must match the bucket's region.
   - **Endpoint** and **Use AWS**: For Amazon Web Services (AWS), select **Use AWS**. **Endpoint** is then automatically populated with an endpoint URL based on the Bucket Name and Region attributes. For example:

     ```
     https://bucket.region.amazonaws.com
     ```

     For a non-AWS target, enter the URL of the system hosting the bucket, including the port number. For example:

     ```
     https://system.com:1080
     ```

   - **End Point Authentication**: Enabled by default. If the network to the external archival storage system is trusted, you can unselect the check box to disable endpoint SSL certificate and hostname verification for the targeted external archival storage system. If another instance of a StorageGRID system is the target archival storage device and the system is configured with publicly signed certificates, you can keep the check box selected.

- **Storage Class**: Select **Standard (Default)** for regular storage. Select **Reduced Redundancy** only for objects that can be easily recreated. **Reduced Redundancy** provides lower cost storage with less reliability. If the targeted archival storage system is another instance of the StorageGRID system, **Storage Class** controls how many interim copies of the object are made at ingest on the target system, if dual commit is used when objects are ingested there.

6. Select **Apply Changes**.

   The specified configuration settings are validated and applied to your StorageGRID system. Once configured, the target cannot be changed.

Modify connection settings for S3 API

After the Archive Node is configured to connect to an external archival storage system through the S3 API, you can modify some settings should the connection change.

What you'll need

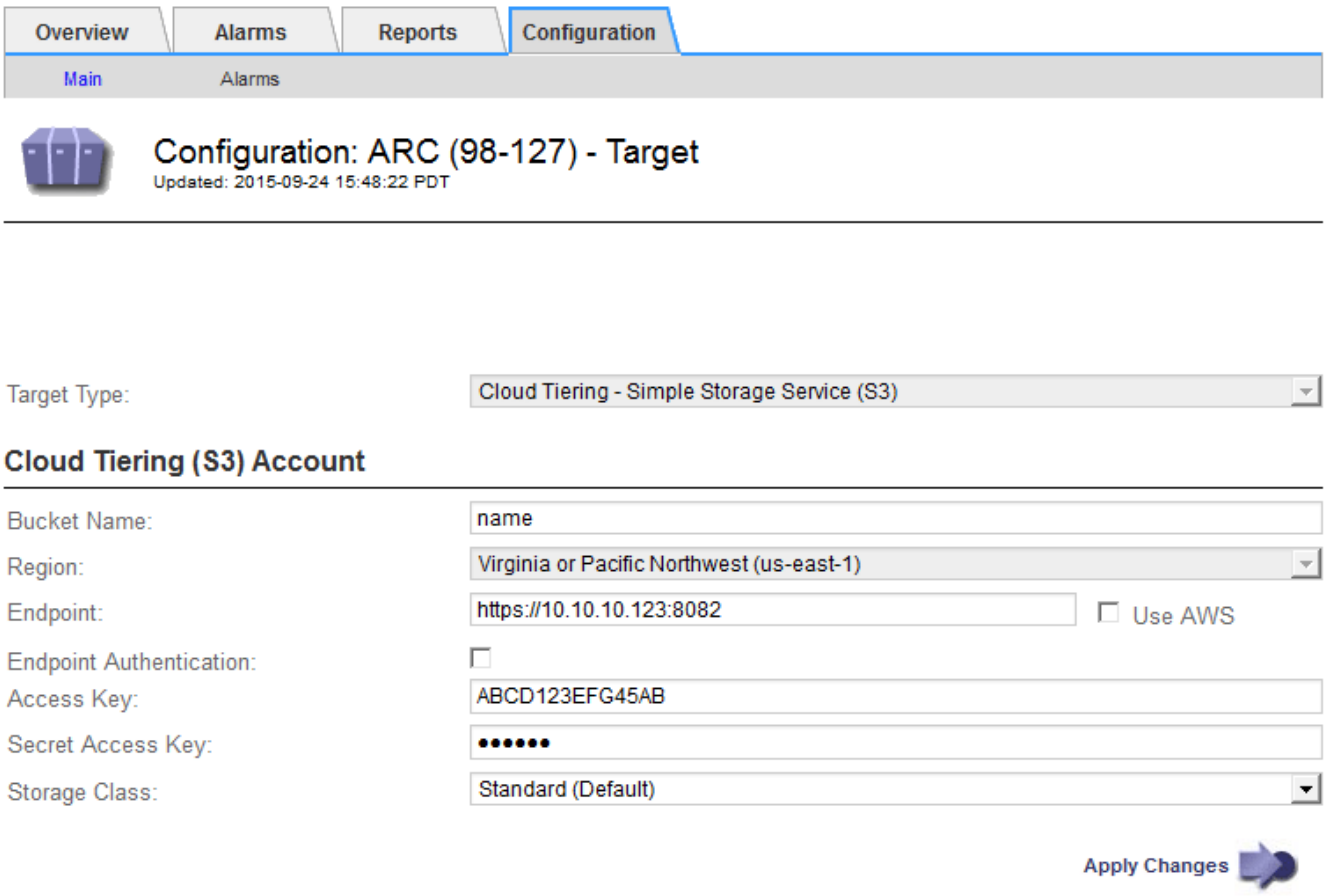
- You are signed in to the Grid Manager using a supported web browser.
- You have specific access permissions.

About this task

If you change the Cloud Tiering (S3) account, you must ensure that the user access credentials have read/write access to the bucket, including all objects that were previously ingested by the Archive Node to the bucket.

Steps

1. Select **SUPPORT** > **Tools** > **Grid topology**.
2. Select ***Archive Node*** > **ARC** > **Target**.
3. Select **Configuration** > **Main**.



4. Modify account information, as necessary.

   If you change the storage class, new object data is stored with the new storage class. Existing object continue to be stored under the storage class set when ingested.

   Bucket Name, Region, and Endpoint, use AWS values and cannot be changed.

5. Select **Apply Changes**.

Modify the Cloud Tiering Service state

You can control the Archive Node's ability read and write to the targeted external archival storage system that connects through the S3 API by changing the state of the Cloud Tiering Service.

What you'll need

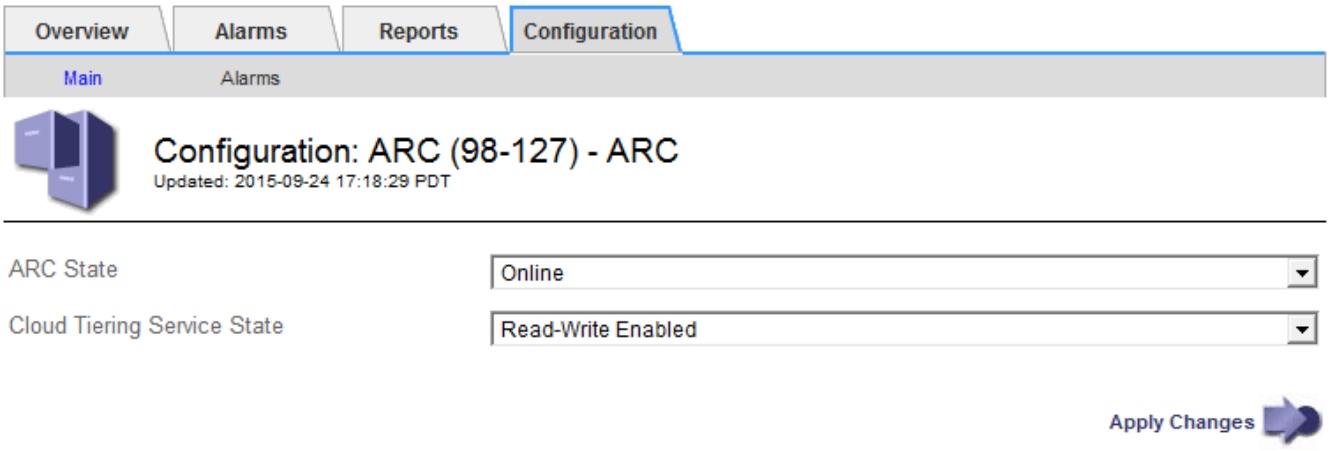
- You must be signed in to the Grid Manager using a supported web browser.
- You must have specific access permissions.
- The Archive Node must be configured.

About this task

You can effectively take the Archive Node offline by changing the Cloud Tiering Service State to **Read-Write Disabled**.

Steps

1. Select **SUPPORT** > **Tools** > **Grid topology**.
2. Select ***Archive Node*** > **ARC**.
3. Select **Configuration** > **Main**.



4. Select a **Cloud Tiering Service State**.
5. Select **Apply Changes**.

Reset the Store Failure Count for S3 API connection

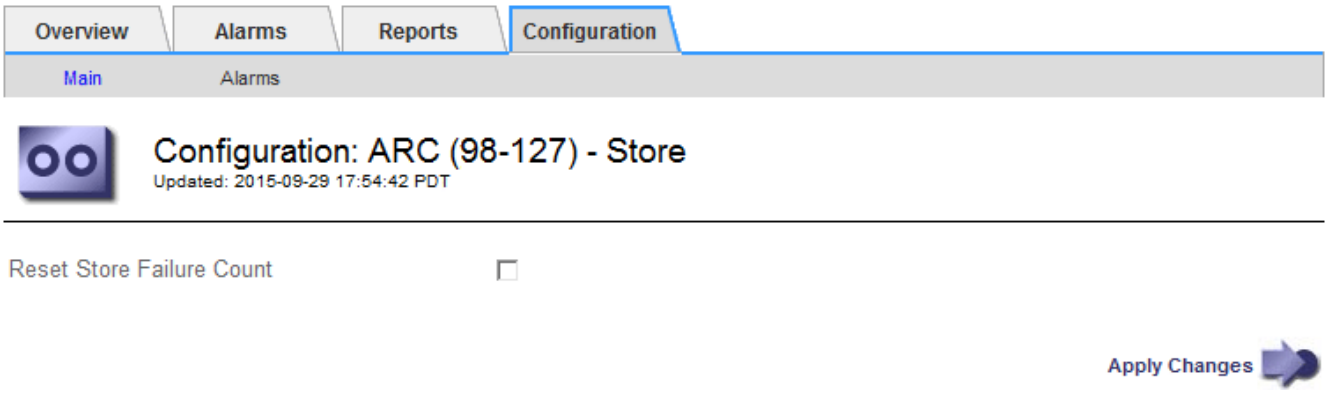
If your Archive Node connects to an archival storage system through the S3 API, you can reset the Store Failure Count, which can be used to clear the ARVF (Store Failures) alarm.

What you'll need

- You are signed in to the Grid Manager using a supported web browser.
- You have specific access permissions.

Steps

1. Select **SUPPORT** > **Tools** > **Grid topology**.
2. Select ***Archive Node*** > **ARC** > **Store**.
3. Select **Configuration** > **Main**.



4. Select **Reset Store Failure Count**.

5. Select **Apply Changes**.

   The Store Failures attribute resets to zero.

Migrate objects from Cloud Tiering - S3 to a Cloud Storage Pool

If you are currently using the **Cloud Tiering - Simple Storage Service (S3)** feature to tier object data to an S3 bucket, consider migrating your objects to a Cloud Storage Pool instead. Cloud Storage Pools provide a scalable approach that takes advantage of all of the Storage Nodes in your StorageGRID system.

What you'll need

- You are signed in to the Grid Manager using a supported web browser.
- You have specific access permissions.
- You have already stored objects in the S3 bucket configured for Cloud Tiering.

> Before migrating object data, contact your NetApp account representative to understand and manage any associated costs.

About this task

From an ILM perspective, a Cloud Storage Pool is similar to a storage pool. However, while storage pools consist of Storage Nodes or Archive Nodes within the StorageGRID system, a Cloud Storage Pool consists of an external S3 bucket.

Before migrating objects from Cloud Tiering - S3 to a Cloud Storage Pool, you must first create an S3 bucket and then create the Cloud Storage Pool in StorageGRID. Then, you can create a new ILM policy and replace the ILM rule used to store objects in the Cloud Tiering bucket with a cloned ILM rule that stores the same objects in the Cloud Storage Pool.

> When objects are stored in a Cloud Storage Pool, copies of those objects cannot also be stored within StorageGRID. If the ILM rule you are currently using for Cloud Tiering is configured to store objects in multiple locations at the same time, consider whether you still want to perform this optional migration because you will lose that functionality. If you continue with this migration, you must create new rules instead of cloning the existing ones.

Steps

1. Create a Cloud Storage Pool.

   Use a new S3 bucket for the Cloud Storage Pool to ensure it contains only the data managed by the Cloud Storage Pool.

2. Locate any ILM rules in the active ILM policy that cause objects to be stored in the Cloud Tiering bucket.
3. Clone each of these rules.
4. In the cloned rules, change the placement location to the new Cloud Storage Pool.
5. Save the cloned rules.
6. Create a new policy that uses the new rules.

7. Simulate and activate the new policy.

   When the new policy is activated and ILM evaluation occurs, the objects are moved from the S3 bucket configured for Cloud Tiering to the S3 bucket configured for the Cloud Storage Pool. The usable space on the grid is not affected. After the objects are moved to the Cloud Storage Pool, they are removed from the Cloud Tiering bucket.

Related information

Manage objects with ILM

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