Veritas Access 7.2.1 Amazon Web Services Cloud Storage Tiering Solutions Guide

Linux

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Veritas Access Amazon Web Services Cloud Storage Tiering Solutions Guide

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https://sort.veritas.com/data/support/SORT_Data_Sheet.pdf

Contents

Chapter 1

Use case for AWS cloud storage tiering

This chapter includes the following topics:

About creating an Amazon Glacier, AWS S3, or AWS S3-compatible cloud storage tier

Once you configure cloud tiering in Veritas Access, data that is stored in a scale-out file system can be intelligently moved between the on-premises tier and the cloud tier. Veritas Access moves the data from on-premises to Amazon Glacier, AWS S3, or AWS S3-compatible directly based on automated policy management. This is especially useful for long-term data retention use cases.

You can add the following AWS cloud storage tiers:

- Amazon Glacier - for storing data that is rarely accessed, and retrieval latency of several hours is acceptable (costs more to retrieve data)
  Amazon Glacier is part of the Amazon Web Services (AWS) suite of cloud computing services, and is designed for long-term storage of infrequently used data.
  See "Amazon Glacier considerations and retrieval options" on page 8.
- AWS S3 - for storing a variety of objects, mostly images and videos
  Amazon S3 (Simple Storage Service) stores unstructured data in the form of objects. Objects are organized into buckets (each owned by an AWS account), and identified within each bucket by a unique, user-assigned key.
  See "AWS S3 considerations" on page 9.

- AWS S3-compatible - for storing a variety of objects, mostly images and videos
  S3-compatible is any third-party implementation of the Amazon S3 APIs
  See "S3-compatible considerations" on page 9.

See "Workflow for adding an AWS cloud storage tier (Amazon Glacier, S3, or S3-compatible)" on page 8.

Figure 1-1 Veritas Access data to the AWS cloud

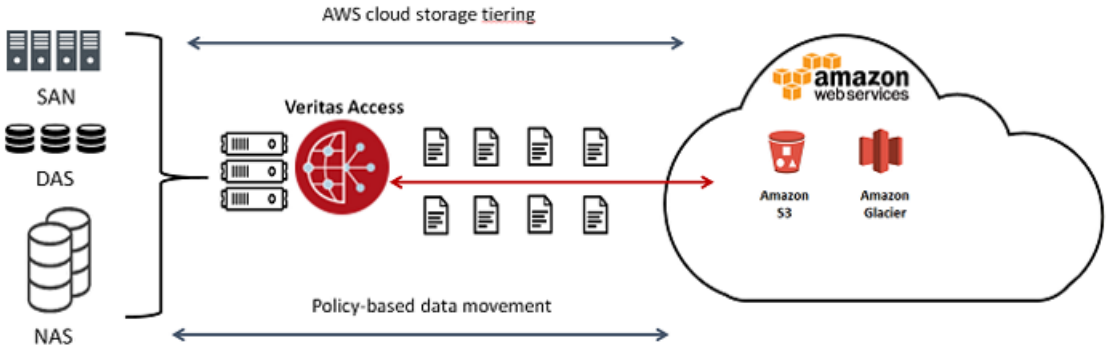
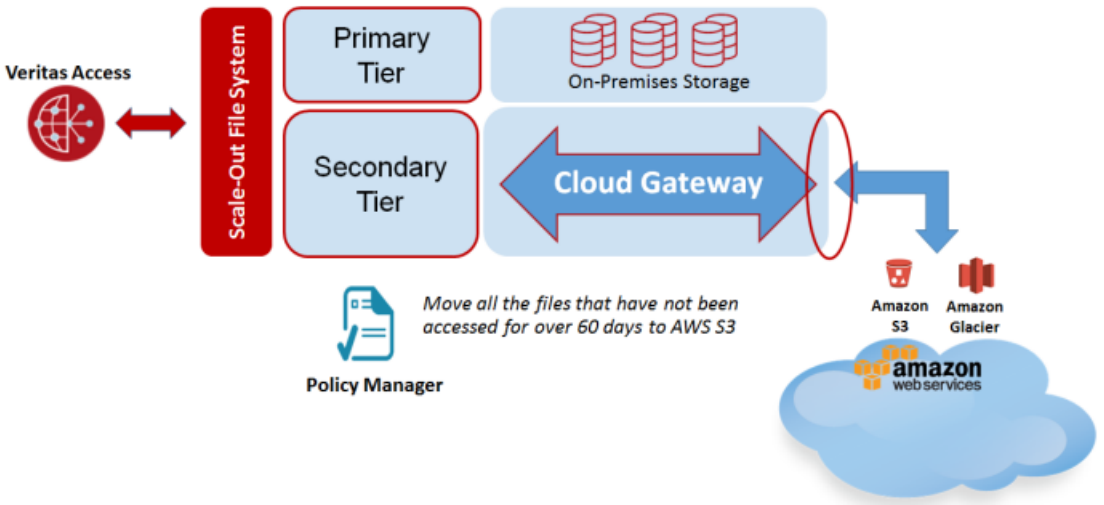


Figure 1-2 Policy-based data movement to the AWS cloud



Chapter 2

Moving infrequently used data to the AWS cloud

This chapter includes the following topics:

Configuring AWS cloud storage tiering

You can configure AWS cloud storage tiering using the following Veritas Access interfaces:

- GUI
  File Systems panel and the **Settings** panel
- CLISH
  See the `storage_cloud.1` and `storage_tier.1` manual pages for more information.
- RESTful APIs
  See the *Veritas Access RESTful API Guide* for more information.

Workflow for adding an AWS cloud storage tier (Amazon Glacier, S3, or S3-compatible)

By default, a scale-out file system has a single primary tier, which is the on-premises storage for the scale-out file system. You can add a cloud service as an additional tier. After a cloud tier is configured, you can move data between the tiers of the scale-out file system.

See "About creating an Amazon Glacier, AWS S3, or AWS S3-compatible cloud storage tier" on page 5.

See "Amazon Glacier considerations and retrieval options" on page 8.

To add an AWS cloud storage tier (Amazon Glacier, S3, or S3-compatible), perform the actions in the order listed (GUI operations order):

- Create a scale-out file system with a minimum file system size of 10 GB.
- Select a storage pool for the on-premises storage.
- Specify that you want to add cloud storage and specify a name for the cloud tier.
- Select the cloud storage provider.
  If you use Amazon Glacier or S3, you need to specify the AWS access and secret keys.
  If you use S3-compatible storage, you need to specify the access key, secret key, and the REST endpoint of the S3 server.
- Select the tier type.

Amazon Glacier considerations and retrieval options

Adding an Amazon Glacier type tier to a scale-out file system creates a vault in Amazon Glacier.

The Amazon Glacier tier is an offline tier. Read, write, and truncation file operations fail with an EIO error for files moved to the Amazon Glacier tier.

When files are moved to an Amazon Glacier tier, an archive is created per file. If you want to read or modify the data that is moved to Amazon Glacier, move back the data to on-premises using `Storage> tier move start` or using policies. See the Amazon Glacier website for storage and retrieval costs.

The maximum file size for moving files to Amazon Glacier is 4 GB.

The Amazon Glacier cloud tier usage statistics are not immediately reflected.

Amazon Glacier archive retrieval options:

- **Expedited** - Retrievals typically complete within 1-5 minutes.
  The expedited option is expensive and you should use it conservatively.
  Files moved from the Amazon Glacier tier with the expedited option might return the following error:

  ```
  InsufficientCapacityException (503 service unavailable)
  ```

  This error occurs if there is insufficient capacity to process the expedited request. This error only applies to expedited retrievals and not to standard or bulk retrievals.
- **Standard** - Retrievals typically complete within 3-5 hours.
- **Bulk** - Retrievals typically complete within 5-12 hours.

AWS S3 considerations

When an S3 type of tier is created for a scale-out file system, a bucket is created in S3. When files are moved to an S3 tier, data is chunked to 64 MB sizes and objects are created for each chunk. So for a 1 GB file on-premises, when moved to S3, will have 16 objects of 64 MB size. An S3 tier can be removed only if the bucket corresponding to it is empty, so either delete all the files that were moved to S3 or move back the files to on-premises. When Amazon S3 or any S3-compatible cloud storage provider is used as the cloud tier, the data present on S3 can be accessed any time (unlike in Amazon Glacier). An EIO error is returned if you try to write, or truncate the files moved to the S3 tier. If you want to modify the data, move the data to on-premises using `Storage> tier move start` or using policies. See the Amazon S3 website for storage and retrieval pricing.

S3-compatible considerations

S3-compatible is any third-party implementation of Amazon S3 APIs. An S3-compatible storage service can be added as a cloud tier only if it supports AWS signature version 4 authentication. Veritas Access does not differentiate between S3 and S3-compatible when storing and retrieving data.