

IBM Cloud Object Storage System

Veritas Storage Streamer V4.0 Installation and Configuration Guide

Bulletin ID: IBM_COS_VERITAS_STREAMER_2017-12



This edition applies to IBM Cloud Object Storage System and is valid until replaced by new editions.

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Support information

For more information on the product or help with troubleshooting, contact IBM Support at IBMCloudStorageSupport@us.ibm.com or visit the [Directory of worldwide contacts](#).

Revision History

Version	Date	Description
1.0	12/11/17	Initial version
1.1	12/20/17	Updated to include usage with IBM COS v3.10

Introduction

The IBM Cloud Object Storage Veritas Storage Streamer is installed on an Enterprise Vault server and serves as a remote interface between Enterprise Vault and a IBM Cloud Object Storage, as primary storage.

This document details ...

- the Installation & Configuration procedure for **v4.0** of the EV Storage Streamer. V4.0 adds support for -
 - AWS Signature Version 2 (AWS v2) & AWS Signature Version 4 (AWS v4) Signing Process
 - WORM interactions between Veritas Enterprise Vault V12.2 & ClevOS v3.12.
- the upgrade procedure to be used when upgrading from the previous version of the storage streamer.

EV Storage Streamer v4.0 can be used when connecting EV12 to either IBM COS v3.10 or v3.12.

Configuration Diagram

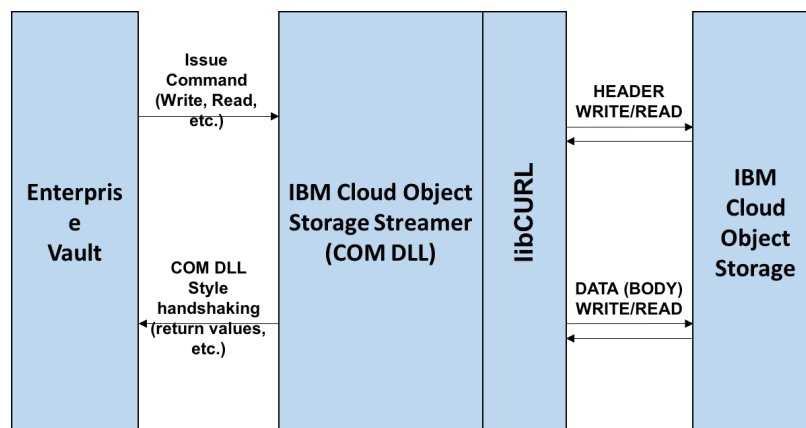


Figure 1. Configuration Diagram

Mapping Enterprise Vault to IBM Cloud Object Storage Concepts

Enterprise Vault archives data in containers called Vault Stores which are logically grouped within Vault Store Groups. Each Vault Store is partitioned into Open, Ready and Closed Partitions. At any point in time there is only one Open Partition within a Vault Store.

Vault Stores and Vault Store Groups are configured in Enterprise Vault using the Vault Admin Console (VAC). When configuring a New Vault Store, 'IBM Cloud Object Storage' can be selected as the Storage Type. Each New Vault Store must be configured with an initial Partition. When configuring this partition, details of an existing IBM Cloud Object Storage vault must be provided including the IP Address of the Accesser, Port, Protocol, Authentication and the name of the IBM Cloud Object Storage Vault. The details of an existing IBM Cloud Object Storage vault must be provided for every New partition configured using the VAC. The IBM Cloud Object Storage vault configuration must have Index-enabled and Versioning-disabled.

The cardinality possible between a Vault Store Partition and a IBM Cloud Object Storage vault is N:1.

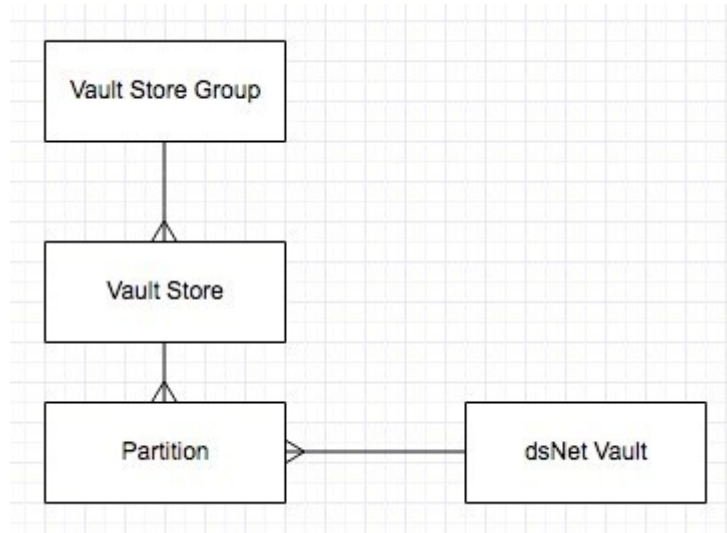


Figure 2. Cardinality Diagram

Each Vault Store can only have one Active IBM Cloud Object Storage vault (associated through the Open partition). A Vault Store can have multiple Closed and Ready partitions, and one Open Partition, all pointing to different IBM Cloud Object Storage vaults. Vault store partitions in a vault store can be of different storage types. The Open partition will be used and when it has closed, EV will use the next available (Ready) partition, if any exist.

As a normal practice a partition is typically configured to a different storage type/location. Even though partitions on different Vault Stores can be pointed to the same IBM Cloud Object Storage Vault, this is not recommended by IBM.

The table below summarizes the key Enterprise Vault concepts and how they relate to IBM Cloud Object Storage concepts.

Table 1. Enterprise Vault - IBM Cloud Object Storage concepts

Enterprise Vault Concept	Description	Related IBM Cloud Object Storage Concept
Vault Store	Enterprise Vault stores archives in Vault Stores. Vault Stores contain one or more Enterprise Vault partitions that can reside on any of the supported storage media, including the 'IBM Cloud Object Storage' storage type.	A Vault Store is a logical container in Enterprise Vault, and maps to IBM Cloud Object Storage through the partitions it contains
Vault Store Group (VSG)	A VSG is a logical collection of Vault Stores	Vault Store Groups are logical concepts in Enterprise Vault, and have no direct mapping in IBM Cloud Object Storage.
Vault Store Partitions	Vault Stores are subdivided into partitions. Only one partition can be open in each Vault Store. This is the active partition in which Enterprise Vault archives data.	Vault Store Partitions map directly to IBM Cloud Object Storage Vaults
Open Partition	An Open Partition is the current active Partition in which Enterprise Vault data is being written	The open partition is the current active partition mapped to a IBM Cloud Object Storage Vault
Ready Partition	Each Vault Store can have a number of Ready Partitions. A Ready Partition is the next available partition to be used.	Each ready partition maps to a IBM Cloud Object Storage Vault
Closed Partition	Each Vault Store can have any number of Closed Vault Store Partitions. Enterprise Vault does not archive content into partitions that are closed.	Each closed partition maps to a IBM Cloud Object Storage Vault

Prerequisites and Dependencies

Minimum Software Versions

The functionality described in this document was tested with Veritas Enterprise Vault software version 12.2, IBM Cloud Object Storage release 3.12 & 3.10 and the Windows Server, Windows SQL server versions listed in the following table....

Table 2. Dependency Information

Software	Version
Windows Server	2012 R2 (WOW 64)
Windows SQL Server	2012 x64 (OR, SP1, SP2),,2014 x64 (OR, SP1)

IBM Cloud Object Storage Veritas Storage Streamer Installer

Obtain the IBMCOSPluginSetup.exe plugin from IBM Cloud Object Storage support team.

IBM Cloud Object Storage Vault Configuration

The IBM Cloud Object Storage vault used to host EV partitions must have index enabled and versioning disabled.

Supported Authentication

The IBM COS Storage streamer supports Anonymous, Basic, AWS v2 and AWS v4 authentication

Installation and Configuration Instructions

The instructions below detail the steps necessary to install and configure IBM's Cloud Object Storage Veritas Storage Streamer with Veritas Enterprise Vault software. These instructions assume the following:

- IBM Cloud Object Storage system is installed and configured.
- IBM Cloud Object Storage vault has been deployed to an Accesser appliance.
- The IP address or hostname of the Accesser appliance is known
- The name of the IBM Cloud Object Storage vault and the username and password or AWS keys required to access the vault is known
- The Host system for Veritas Enterprise Vault server software is installed and configured.
- Installer has Administrator privilege on the Veritas Enterprise Vault server where IBM Cloud Object Storage Streamer will be installed.

Install IBM Cloud Object Storage Veritas Storage Streamer on Enterprise Vault Server

Obtain IBM Cloud Object Storage Veritas Storage Streamer Installation Package

Log in to the Veritas Enterprise Vault server as an Enterprise Vault account user, then download IBM COS Plugin Setup.exe to the desired install directory. The Enterprise Vault account user should have admin privileges on the Windows Server to install the IBM Cloud Object Storage Veritas Storage Streamer plugin.

Installing IBM Cloud Object Storage Veritas Storage Streamer Plugin

The IBM Cloud Object Storage Veritas Storage Streamer plugin (IBMCOSPluginSetup.exe) should be installed on each Enterprise Vault Server in your network. Right click on the installation file IBMCOSPluginSetup.exe and run as Administrator. This will automate the install and registration of the storage streamer dsnetStreamer.dll.

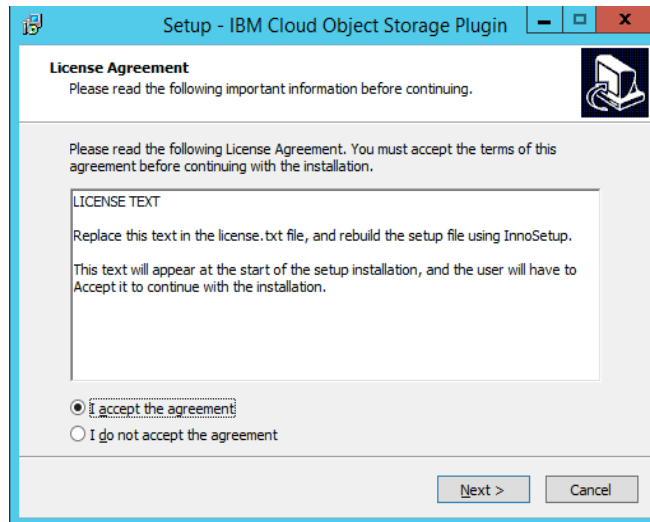


Figure 3. Installer Wizard Setup

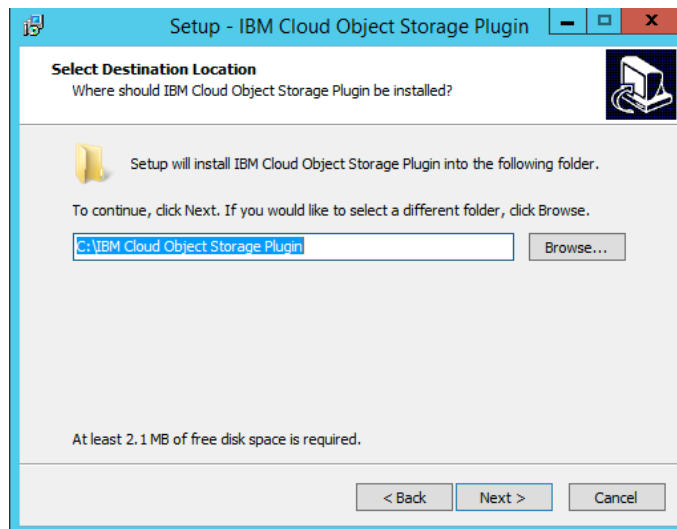


Figure 4. Select Destination Folder

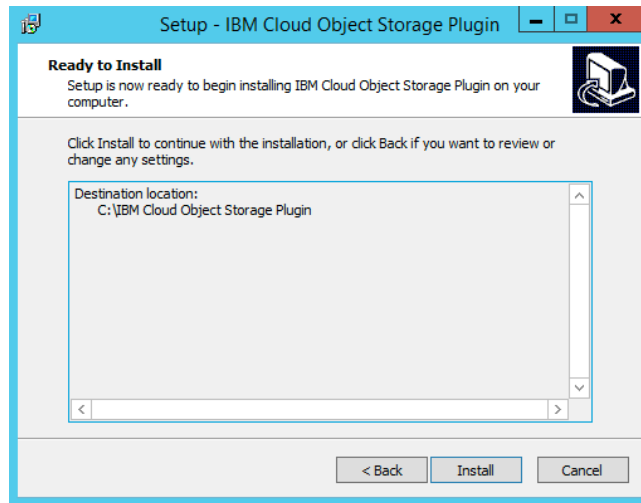


Figure 5. Install Storage Streamer



Figure 6. Finish Plugin Setup Wizard

Create Vault Store Group and Vault Store

The Vault Stores created in this section will be used to access the IBM Cloud Object Storage medium. The names/descriptions input for the Vault Store Group, Vault Store and Partition in this section are arbitrary examples.

Create New Vault Store Group

1. Right-click on Vault Store Group in the VAC. Select New, Vault Store Group.

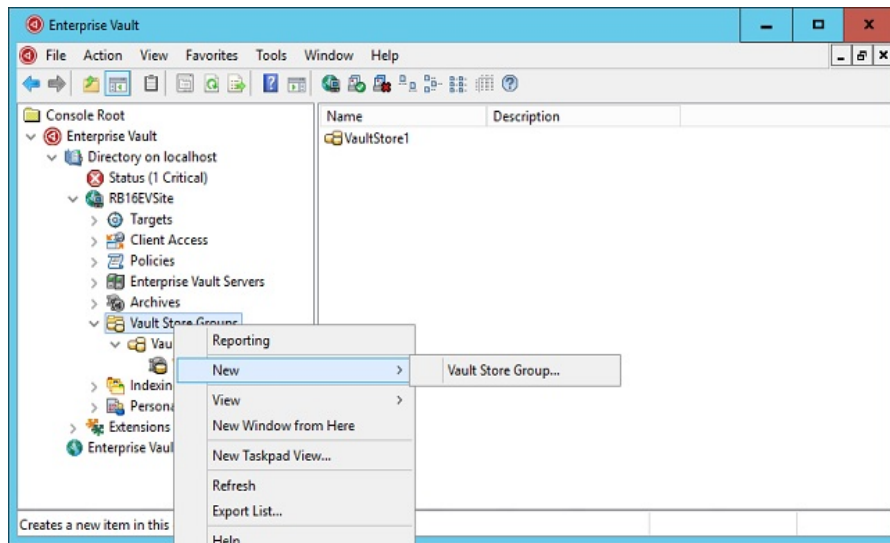


Figure 7. Create New Vault Store Group

2. The **New Vault Store Group** wizard displays. Select **Next**.

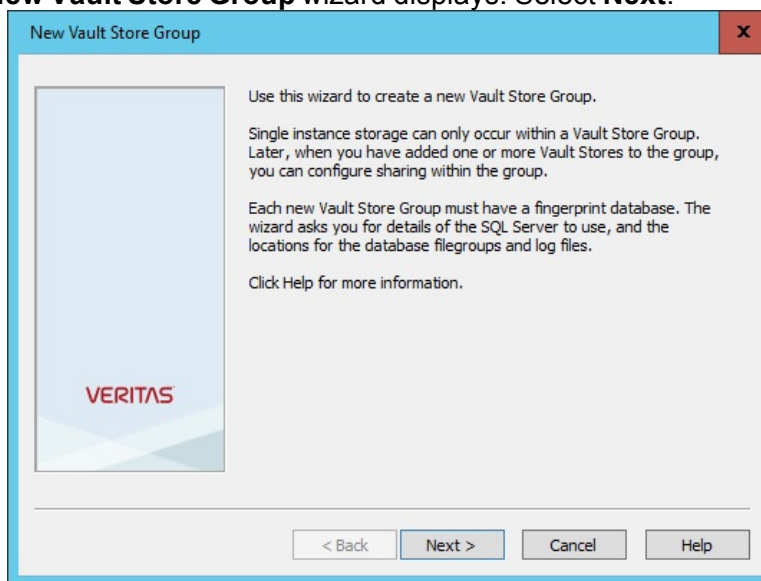


Figure 8. Create New Vault Store Group Wizard

3. Enter **Name** and **Description** for new Vault Store Group, and select **Next**.

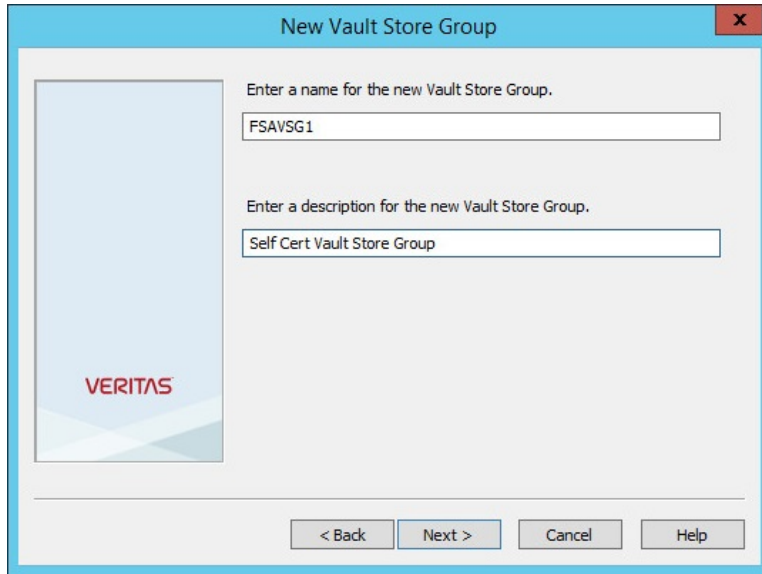


Figure 9. Name and Description

4. Enter the name of the SQL server to be used for the Vault Store Group Fingerprint Database, and select **Next**.

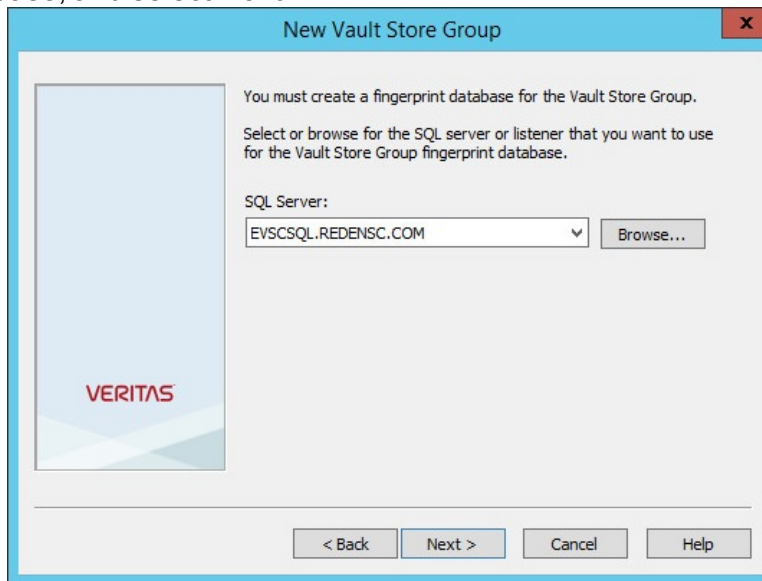


Figure 10. SQL server to be used

5. Enter the SQL **Primary filegroup** and **Transaction log** locations. Make sure the field Configure additional locations for the non-primary file groups is **unchecked**, and select **Next**.

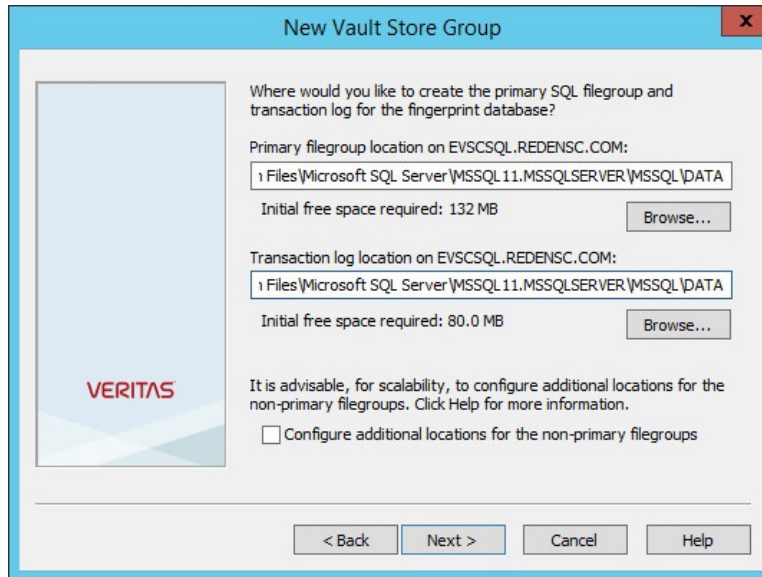


Figure 11. SQL Primary file group and transaction log

6. Confirm the **Vault Store Group** Information you have entered, and select **Next**

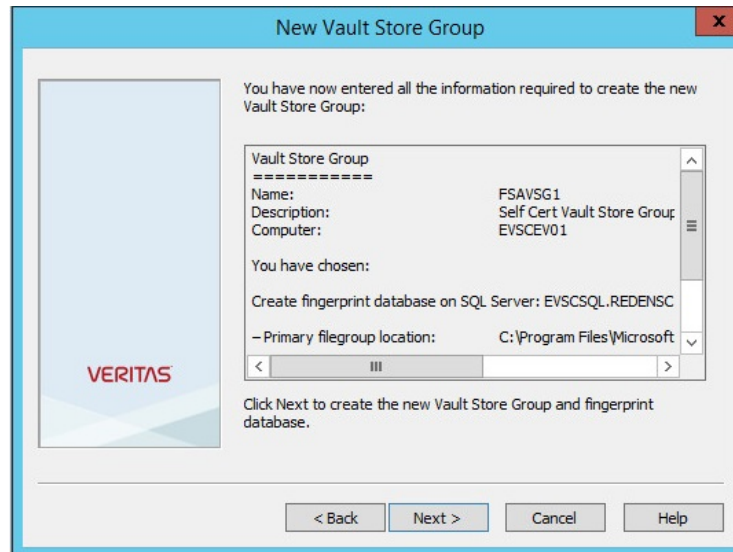


Figure 12. Confirm Vault Store Group

7. Select **Next** to create the new Vault Store Group and fingerprint database.

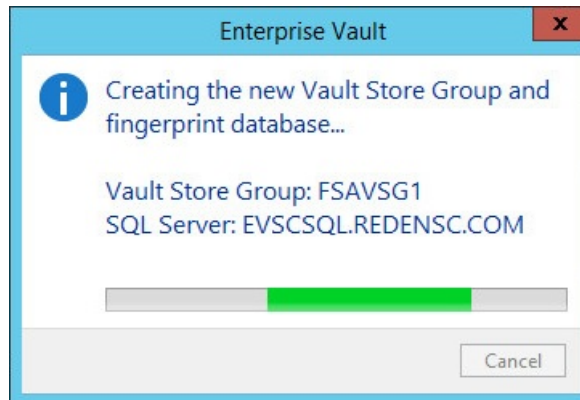


Figure 13. Creating New Vault Store Group and fingerprint database

8. Observe that the Vault Store Group and fingerprint database have been successfully created. Select **Next** to create a new Vault Store.

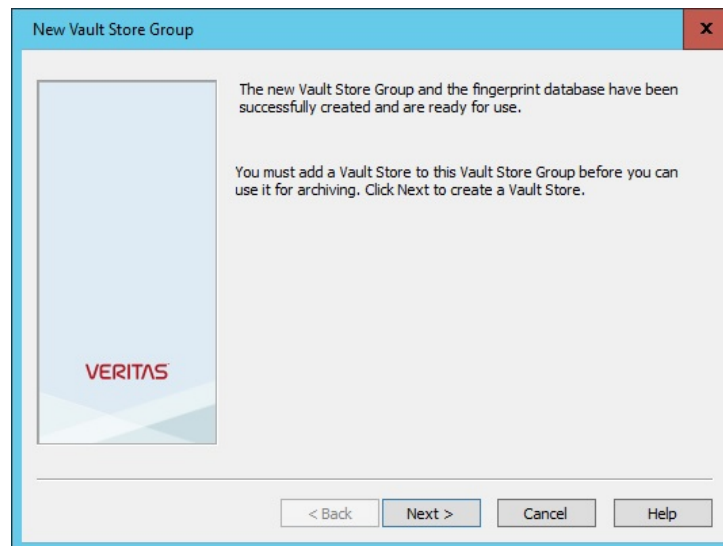


Figure 14. Create new Vault Store

Create New Vault Store

1. Select **Next** to create a new Vault Store

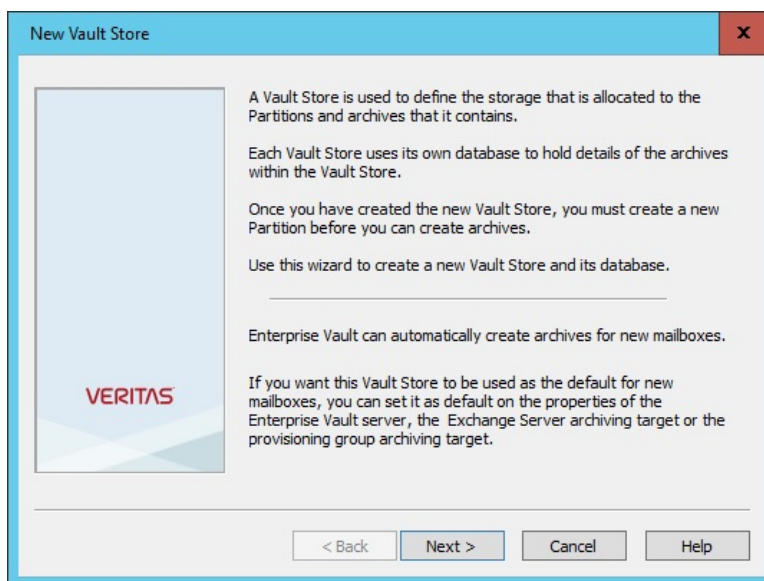


Figure 15. Create New Vault Store

Select **server** to specify the computer with the Storage Service to be used, and select **Next**.

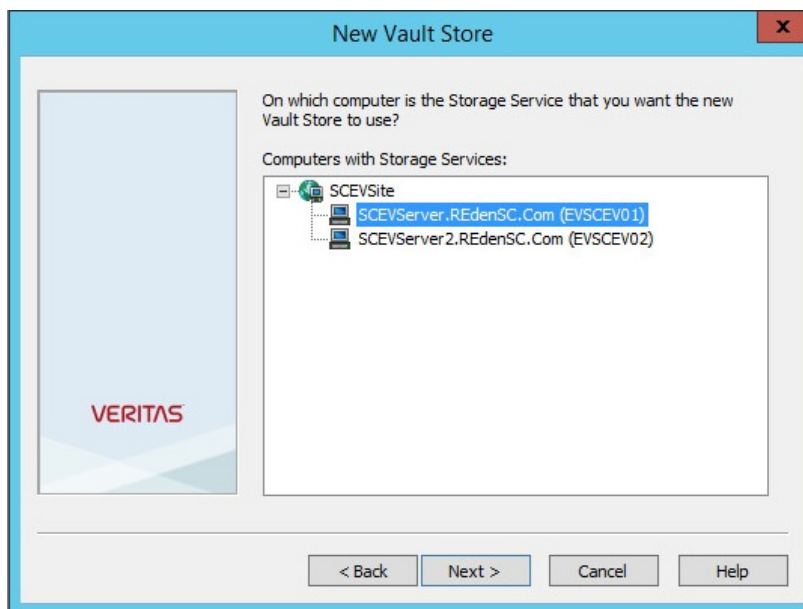


Figure 16. Select server

2. Enter the **Name** and **Description** for the new Vault Store, and select **Next**.

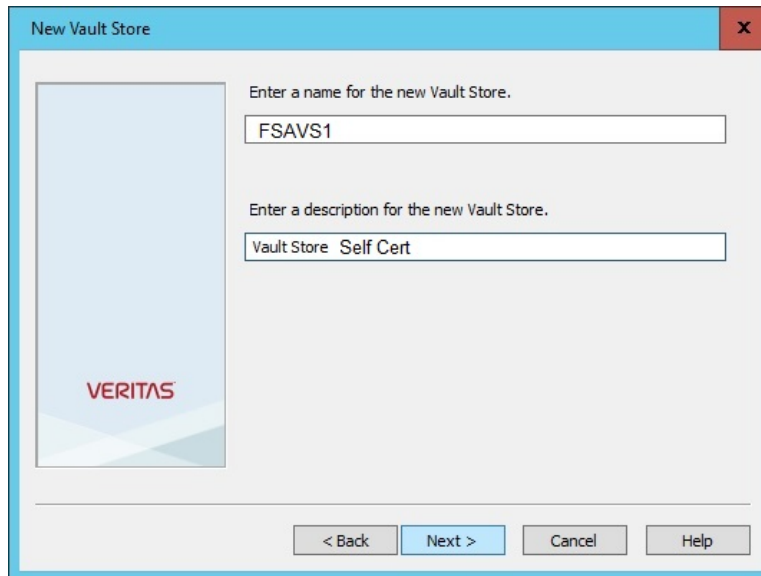


Figure 17. Name and Description

3. Enter **SQL Server name** to be used for the Vault Store Database, and select **Next**.

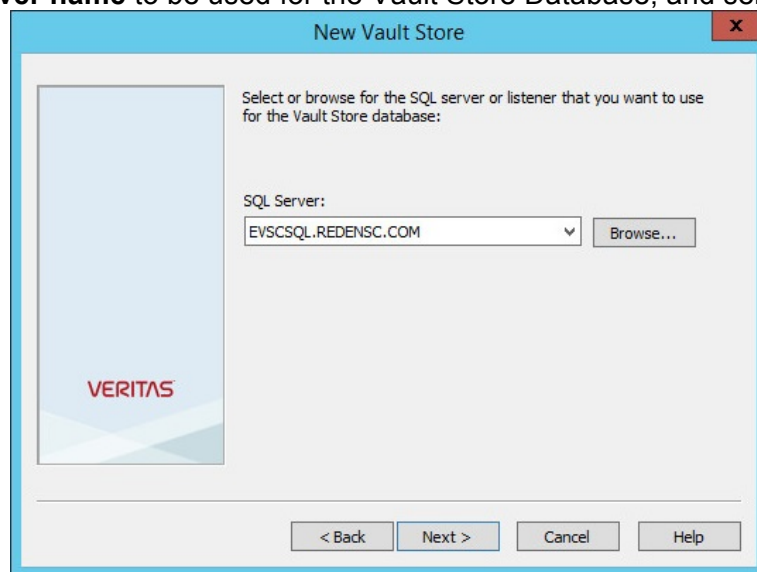


Figure 18. SQL Server

4. Enter the locations of the **Vault Store Database** and **Transaction log**, and select **Next**.

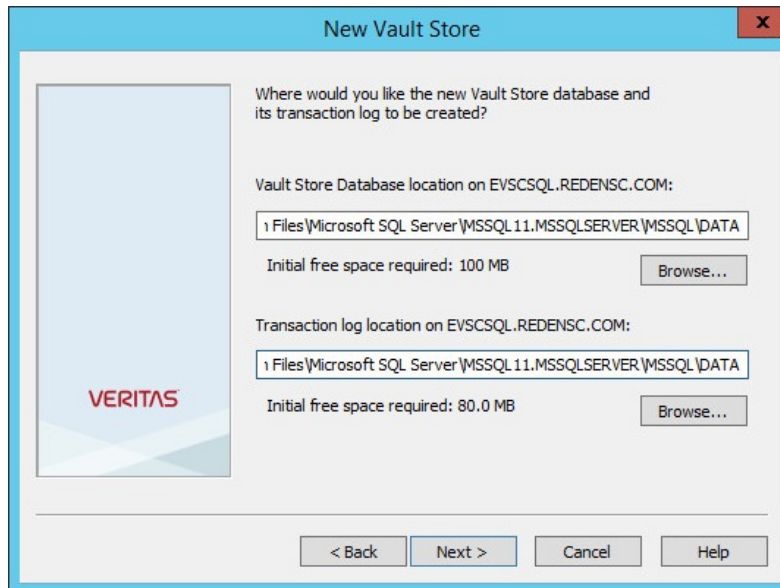


Figure 19. Vault store database and transaction log

5. Ensure that *Remove original items* is selected. For **Default behavior** select *Yes, in the storage queue*, and select **Next**.

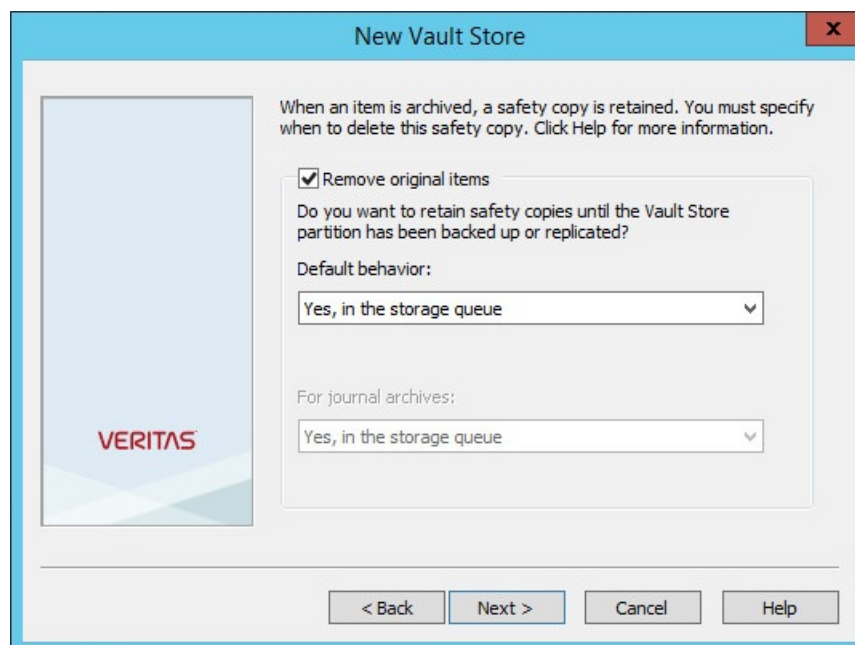


Figure 20. Behavior of storage queue

6. Confirm the Vault Store Information you have entered, and select **Next**. The new Vault Store is created.

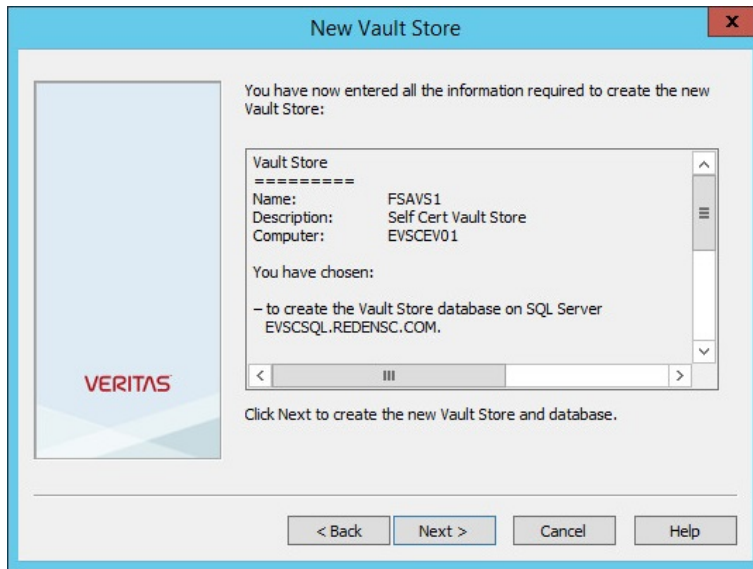


Figure 21. Vault store information

7. Wait while the new Vault Store is created.

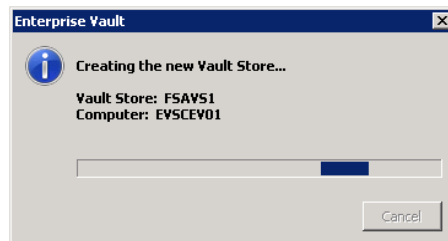


Figure 22. Wait while new vault store is ready

8. Confirm Vault Store Creation. Select **Next**.

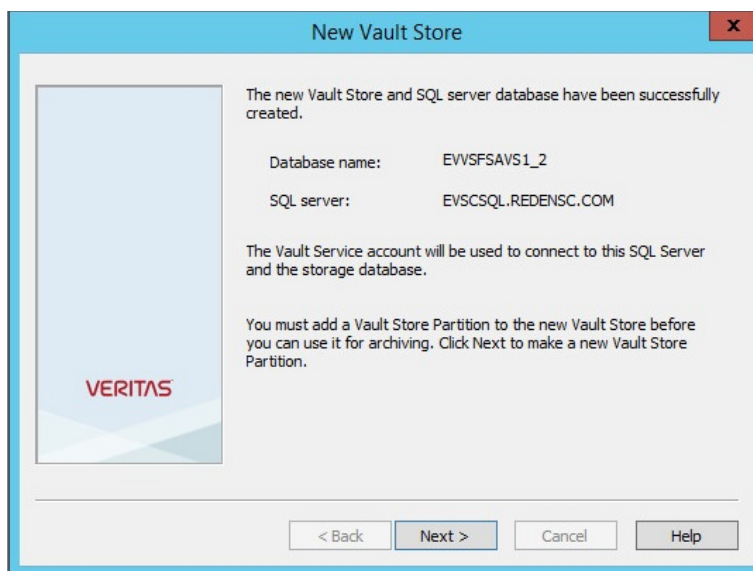


Figure 23. Confirm vault

Create a New Partition

1. **New Vault Store Creation** will automatically proceed to create a **New Partition**. Select **Next**.

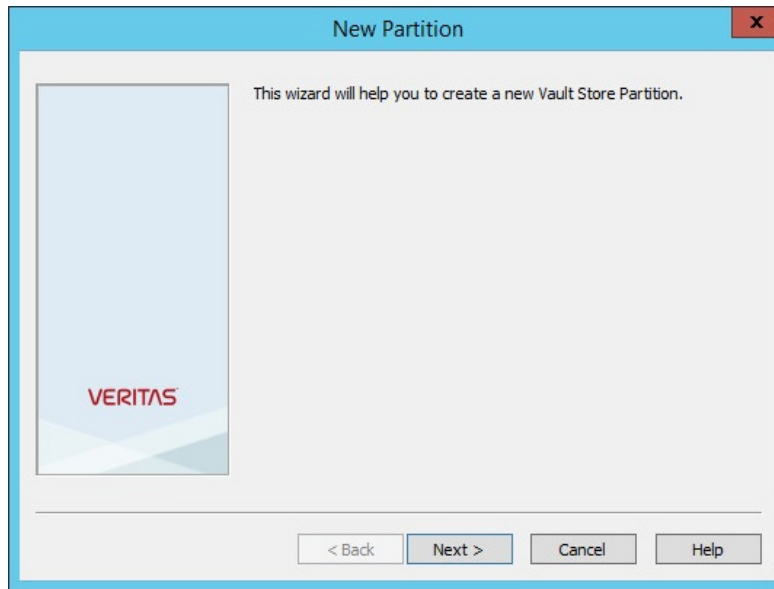


Figure 24. New Vault Partition

2. Enter the **Name** and **Description** of the partition. Check that *Open* is selected from the **Create this new partition** drop-down list, and select **Next**.

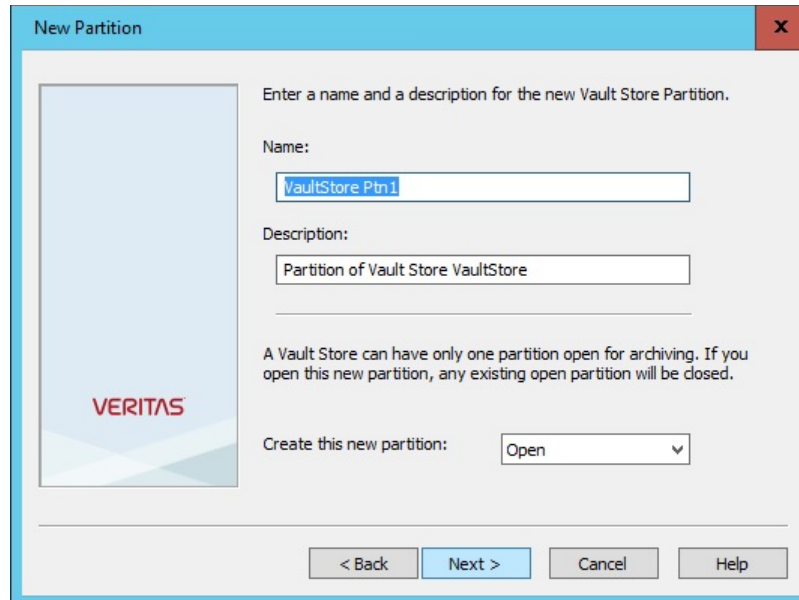


Figure 25. New Vault Partition Name/Description

3. Select the storage system 'IBM Cloud Object Storage' from the **Storage Type** drop-down list, and select **Next**.

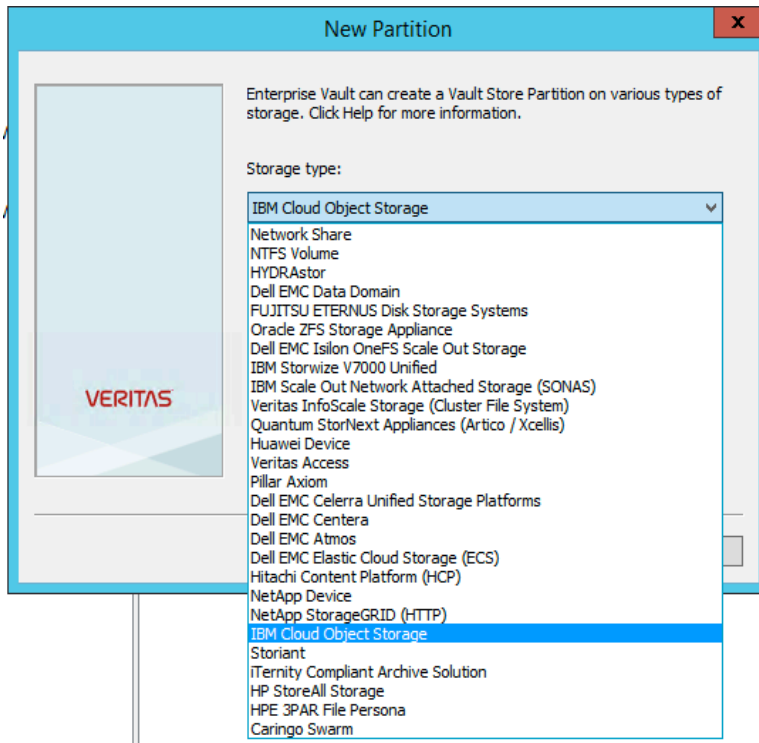


Figure 26. Select storage type

4. Configurable Parameters for connection settings.

The following parameters must be configured for the IBM Cloud Object Storage Streamer in the Vault Admin Console (VAC) when creating a new vault store partition, as described in Create Vault Store Group and Vault Store.

Table 3. Configuration Parameters

Name	Default Value	Description	Require
Accesser IP	N/A	IP address or hostname of the Accesser Appliance	Yes
Protocol	http	http or https	Yes
Port	80 (443 for https)	Port	Yes
Vault Name	N/A	Vault name configured on IBM Cloud Object Storage system (Index enabled & Versioning disabled)	Yes
Authentication Type	None	The desired authentication scheme (None, Basic, Access Key AWS v2 or Access Key AWS v4)	Yes
Access Key	N/A	IBM COS Public Access Key	Yes
Secret Access Key	N/A	IBM COS Secret Access Key	Yes
Disable Peer Certificate Verification	False	False: For https only, do not verify authenticity of peer's certificate. True: This setting means that the client will not attempt to verify the certificate of the Accesser or load balancer when using https. The devices ship with self-signed certificates by default. If you want to use https and do not want to disable this option, you must configure your clients to trust certificates issued by the IBM Cloud Object Storage Manager	Yes
Server Authentication	N/A	Basic Authentication: Username and Password	Yes

5. Setting Authentication scheme - In Modify Settings the desired Authentication scheme can be set. Options now include AWS v2 & AWS v4 and will appear as follows –

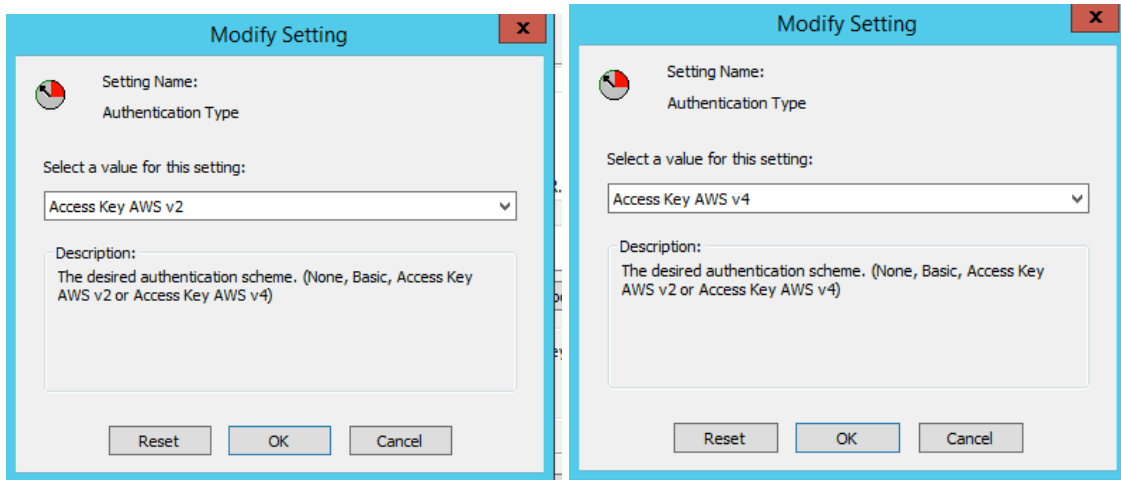


Figure 27. Setting Authentication Scheme

Choose desired authentication scheme and select **OK**.

1. Run the **Connectivity Test** to determine the performance of the partition in single instance storage, and select **Next**. You will see a confirmation dialog when the IBM Cloud Object Storage connection test succeeds.

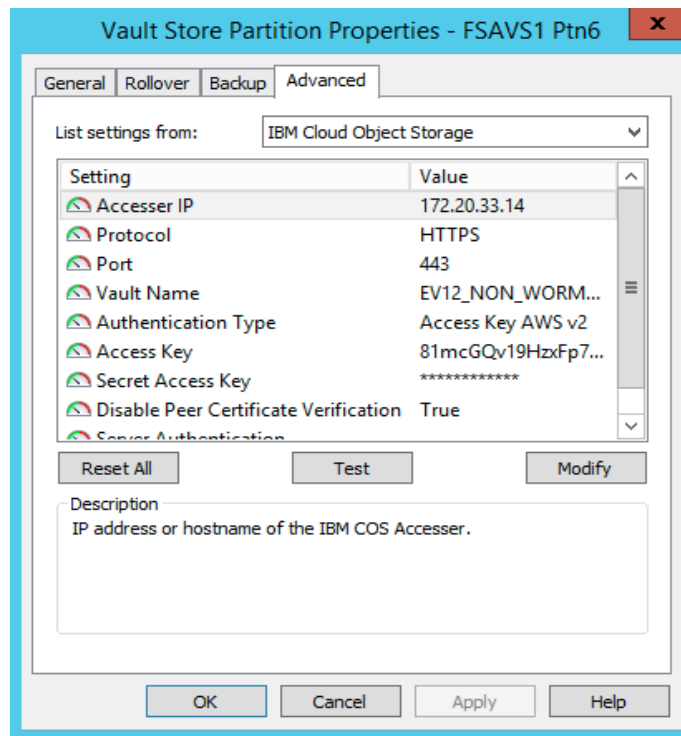


Figure 28. Connection settings test

2. If **Test** connectivity fails, it should not be possible to proceed through the wizard. Select **Next**.

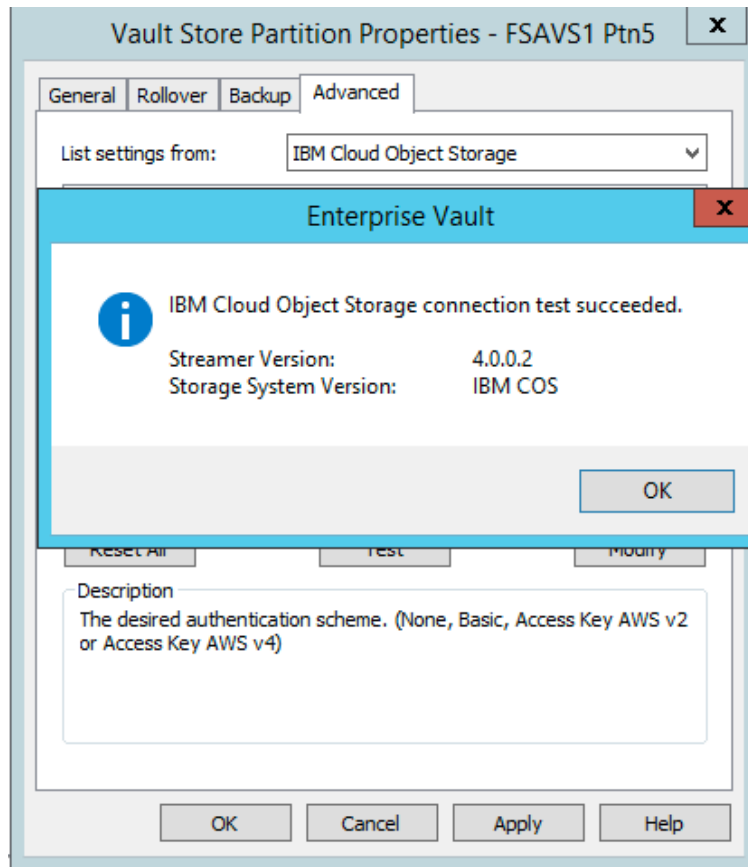


Figure 30. Connection settings test

3. Archiving to WORM-enabled storage –

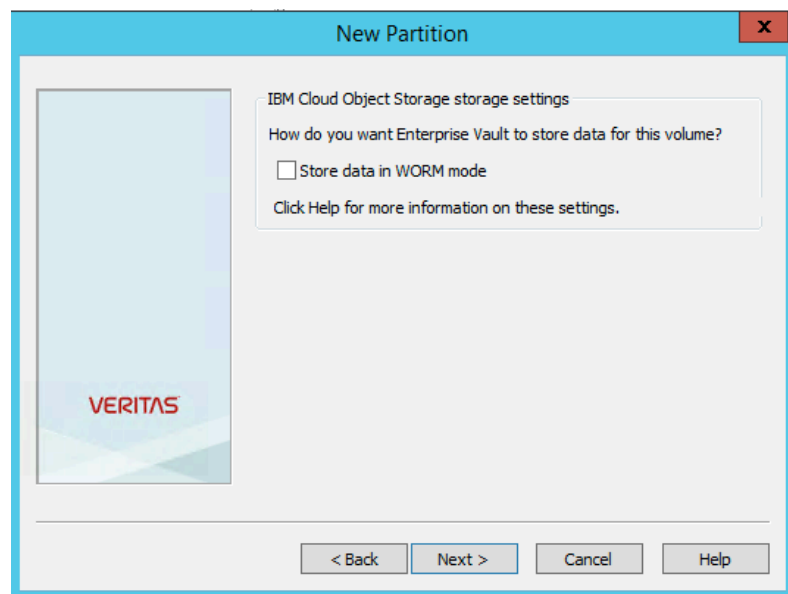


Figure 31. Selecting WORM storage

Select '**Store data in WORM mode**' if required¹. Assumes Storage type supports WORM storage. Note that **Access Key AWS v4** Authentication type must be set for WORM storage.

4. In the **Partition Rollover** drop-down list, Leave the value as *Not Enabled*. Select **Next**.

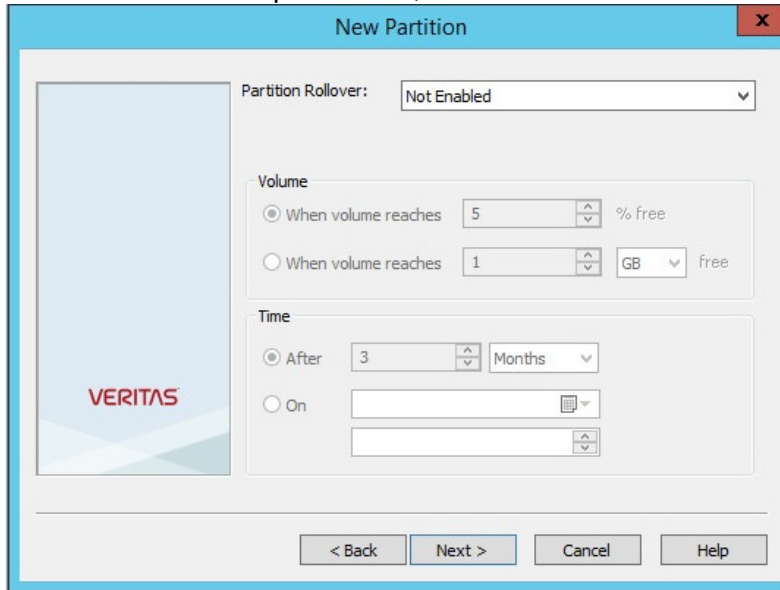


Figure 32. Partition Rollover

5. For the partition scan interval, **Uncheck** the *Scan partition every*.

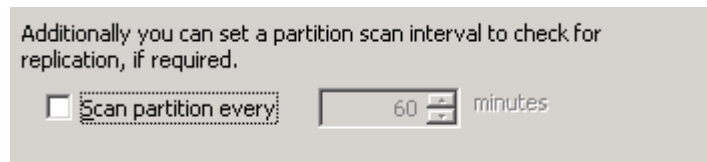


Figure 33. Partition scan interval

6. Select **Finish** on the Partition Summary.

¹ Do not select WORM mode if archiving to IBM COS v3.10. WORM support only from IBM COS 3.12 onwards.

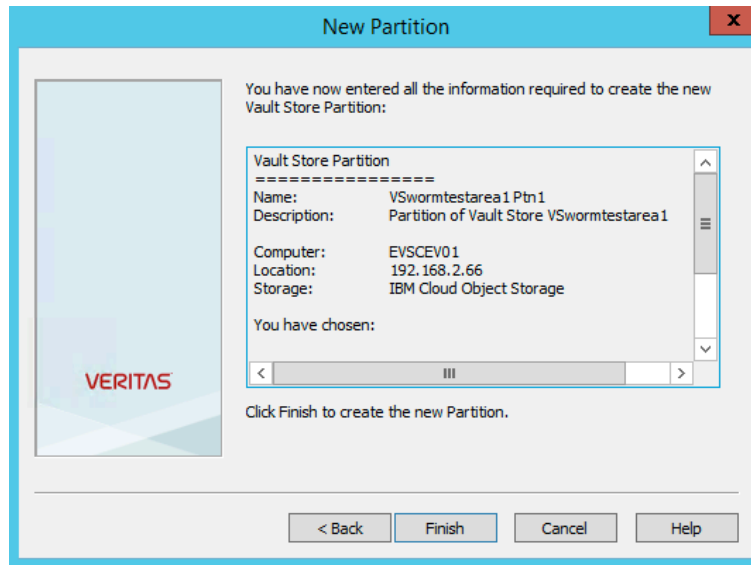


Figure 34. Partition summary

7. Select **Finish** on Partition Completion.

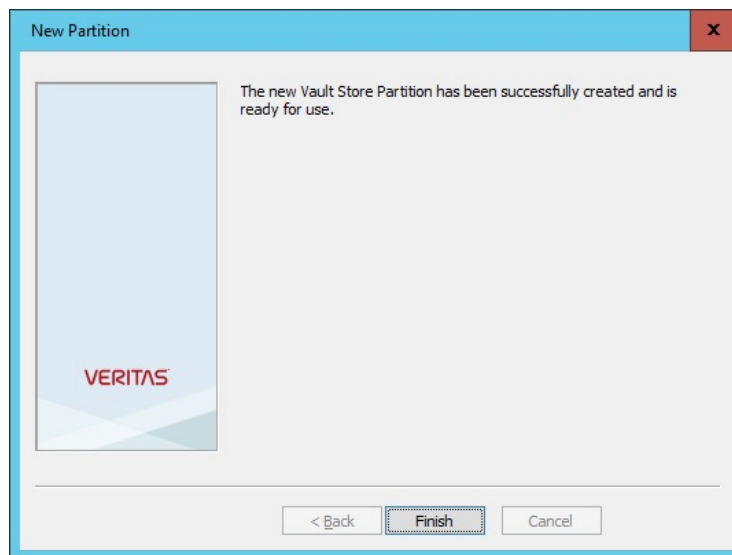


Figure 35. Partition completion

- Check that the **Vault Store Group**, **Vault Store**, and **Partition** have been created without any errors.
- Check the *Veritas Enterprise Vault event log* for any errors.

Logging Configuration

Enterprise Vault logging is managed by Windows Event Viewer and can be accessed as illustrated below in the Event Viewer Window.

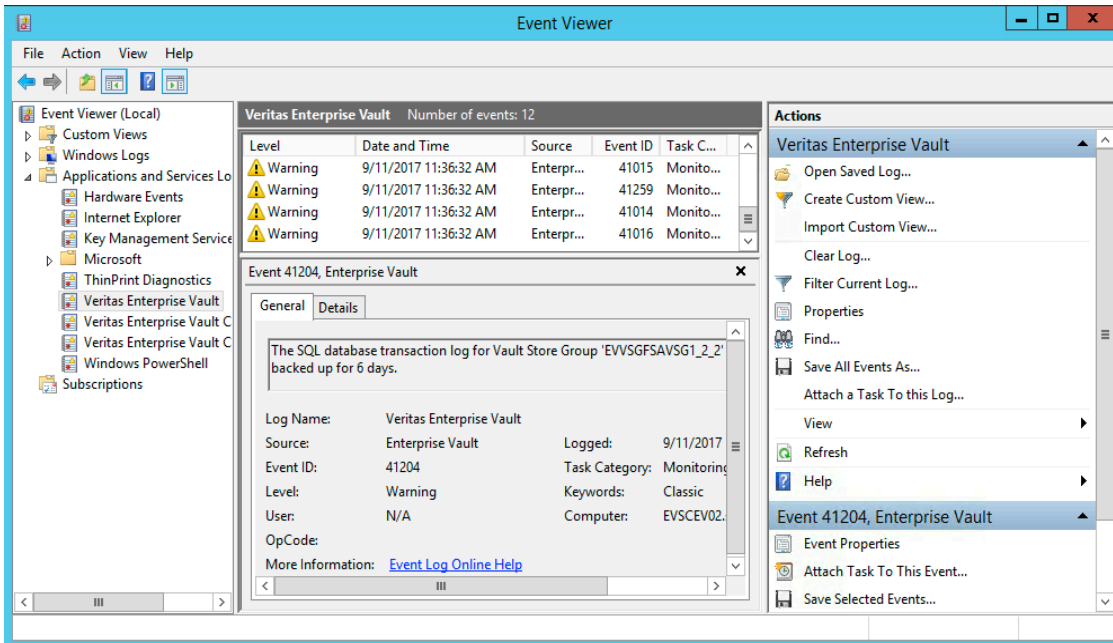
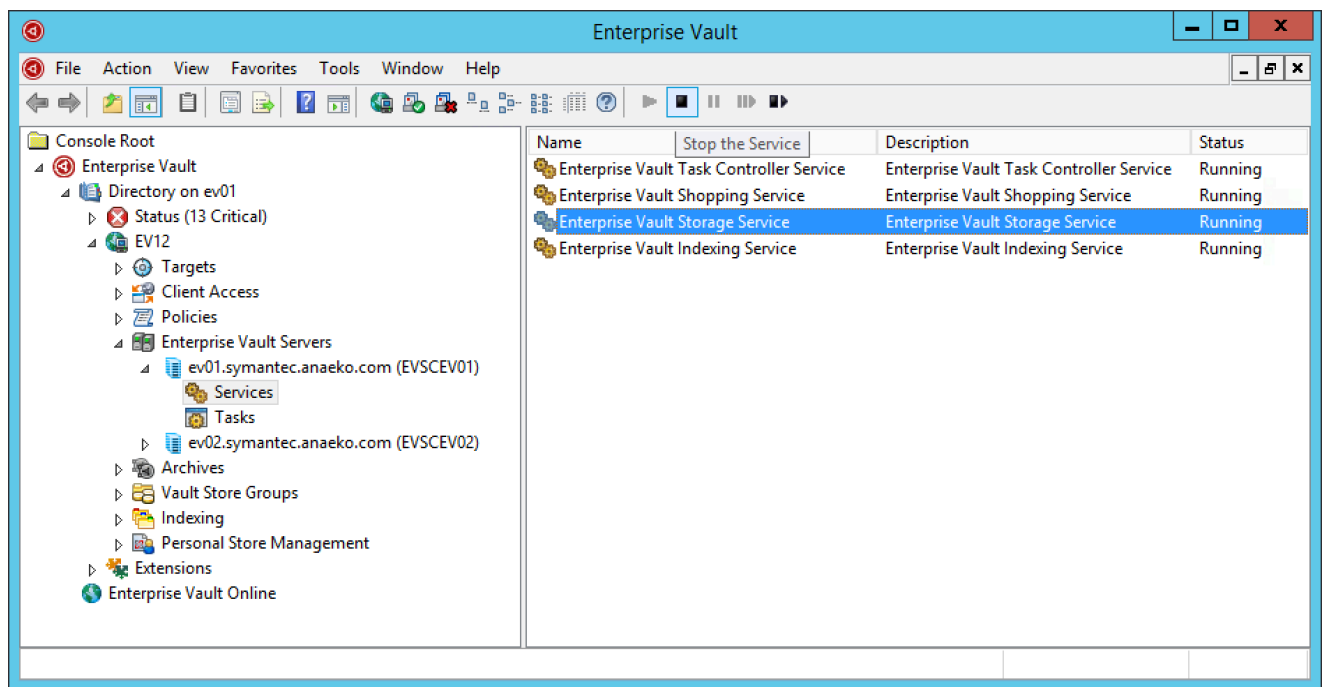


Figure 36. Windows Event Viewer

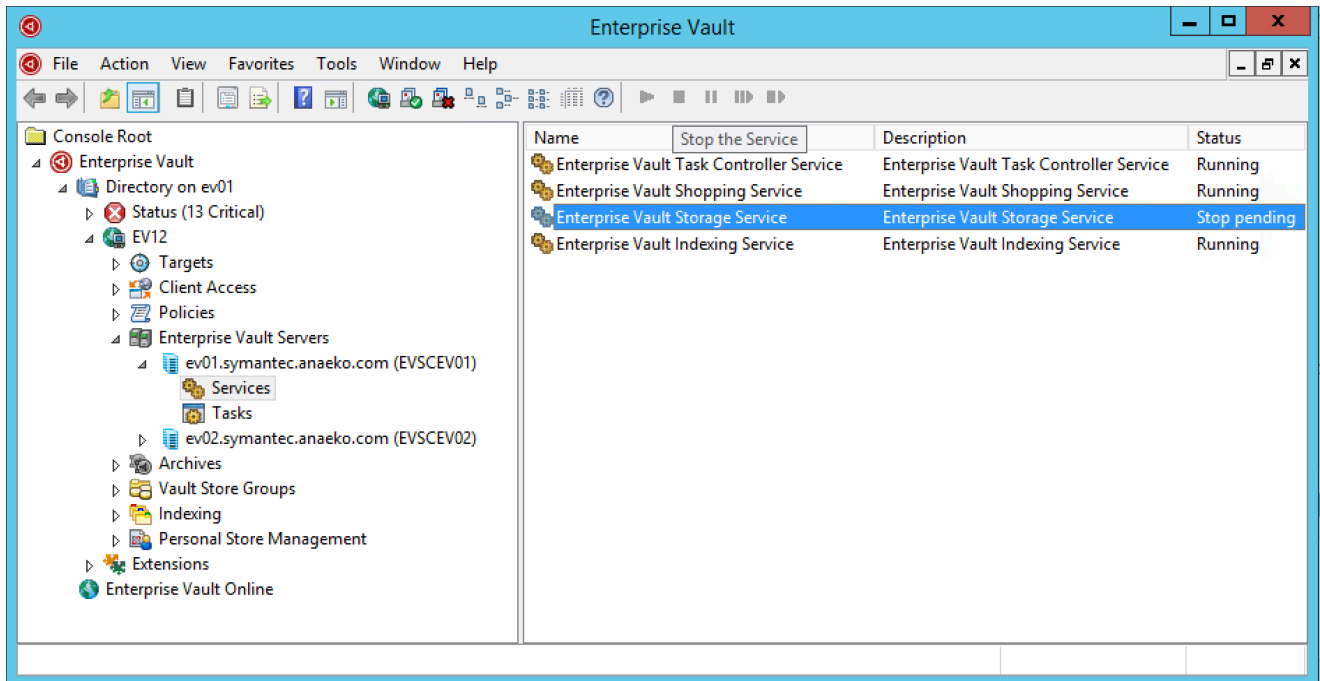
Upgrade Process

The following steps should be performed if upgrading the storage streamer from a previous version.

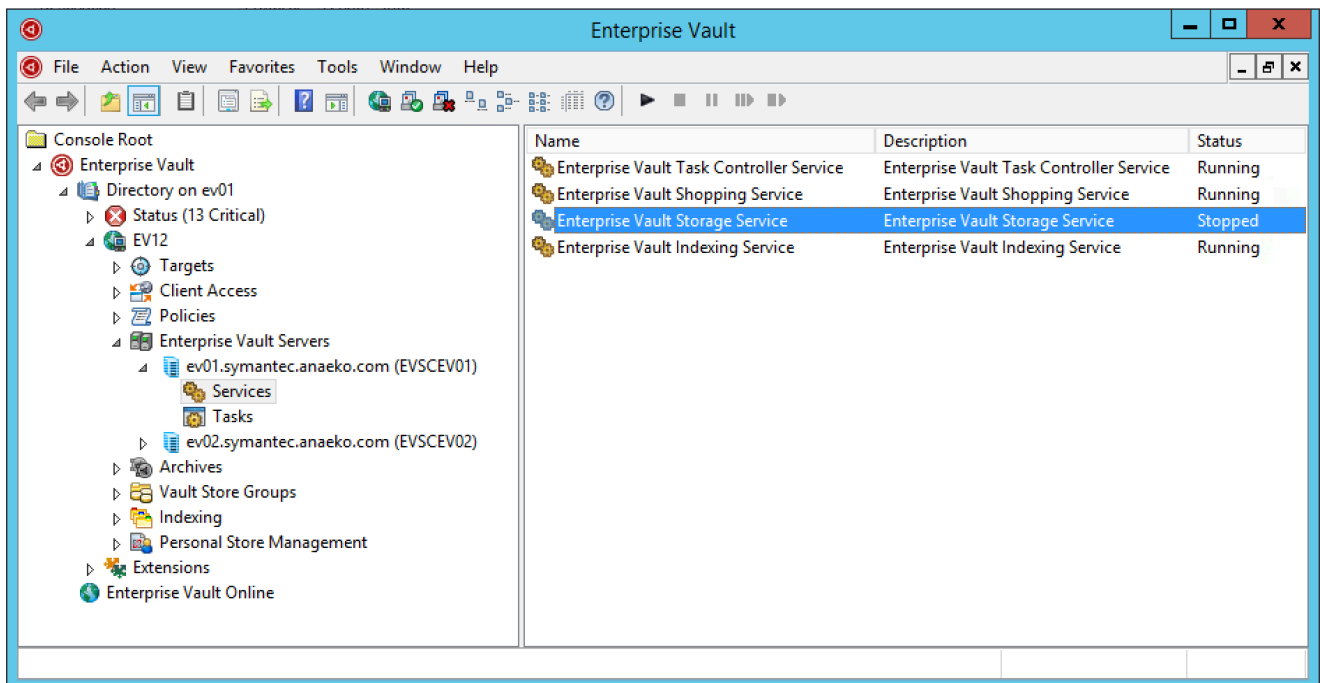
1. In order to upgrade, first stop the existing EV Storage Streamer. (This step is required as the Storage Streamer will have captured ownership of the storage streamer COM DLL, and may not release it if it's currently using it)
2. Select the Storage Streamer in the EV console and click on the stop button in the top bar.



The status of the streamer will then go from Running to Stop Pending ..

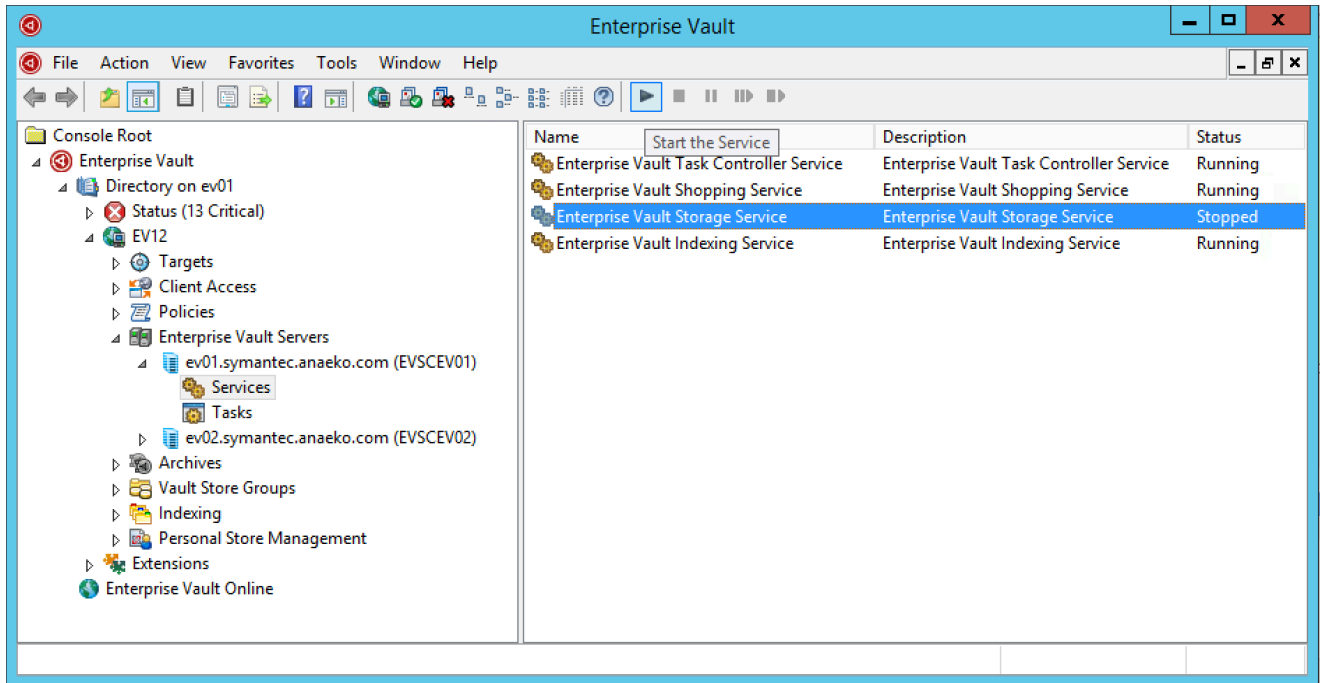


..and then to Stopped ...

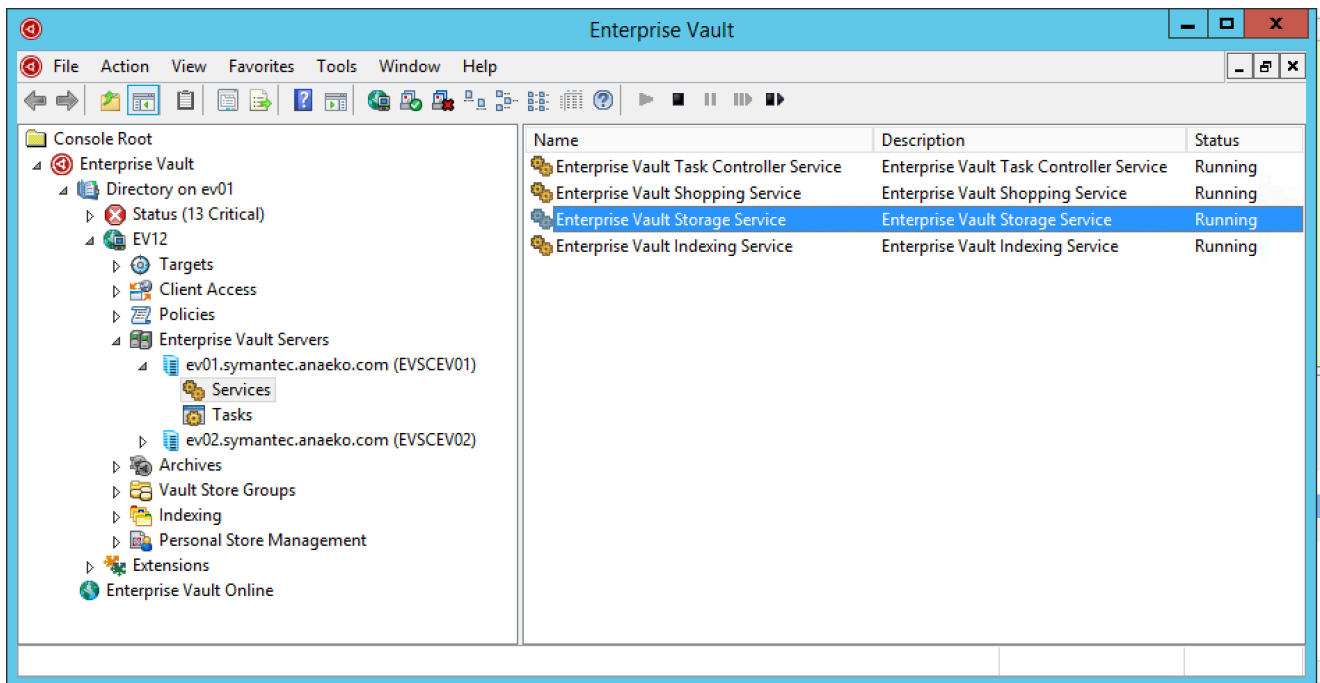


- Now run the IBMCOSPluginSetup.EXE install file as per section “Install IBM Cloud Object Storage Veritas Storage Streamer on Enterprise Vault Server” which will overwrite the existing streamer. Note that if a different destination folder is provided (than for the old storage streamer) the newly installed streamer will always be used by EV even though the original DLL is still located on the hard drive.

4. Select the Storage Streamer and start it



The status of the Storage Streamer will change to Running ...



The installation of the new plugin is now complete.

Reference

Not Applicable

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