panzura®

BEST PRACTICE GUIDE

USING THE PANZURA GFS TO
ACCELERATE AUTODESK VAULT

This document provides recommended configurations for running Autodesk® Vault Professional Server with the Panzura® Global File System (GFS).

Created in conjunction with **cadable**

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Purpose

This document provides recommended configurations for running Autodesk® Vault Professional Server with the Panzura® Global File System (GFS).

Background

Autodesk Vault Server is a CAD data management software that helps designers and engineers organize their design data, manage documentation, and track revisions and other development processes.

One feature found in the Professional Edition is "File Store Replication", the process used by Vault to copy CAD data across sites but as with all data replication solutions, it is affected by latency. Panzura adds value by solving the latency problem and eliminating challenges with replication.

Panzura provides global file locking, fast file synchronization, cloud reliability and military grade security; Autodesk Vault users gain the performance benefits of a global file system without compromising their current workflow.

A general diagram of the solution is presented in Figure 1. Panzura provides general File System functionality, eliminating the need for expensive NAS arrays and simplifying the integration between sites.
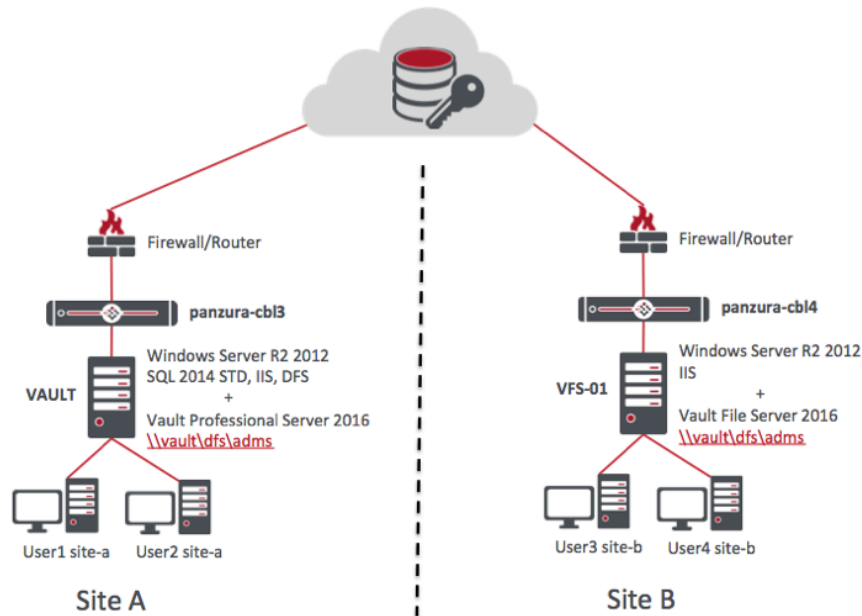

Figure 1: Two Site Diagram

Pre-requisites

You should have working knowledge of Microsoft Windows Server®, Autodesk Vault and Panzura GFS administration and terminology. This guide details on how to configure Panzura and Autodesk Vault to work together. Be sure to have proper licenses to deploy this solution.

This document covers the following software versions:

- Panzura GFS version 6.0 or better (in any combination of Physical, Virtual or AMI controllers)

- Autodesk Vault Professional Server 2016

- Microsoft Windows Server 2012 R2 with SQL Server Standard

Deployment

The variables below in quotes can be replaced with names that adhere to your corporate naming schema.

Phase 1: Install and configure the Microsoft Windows Server and the Panzura GFS

1. Install and deploy a Microsoft Windows Server at each location as per the diagram above.

    a. "*Site A*" - Hostname: *VAULT* - Services: SQL Server 2014 STD, IIS, DFS, Vault Professional Server 2016

    b. "*Site B*" - Hostname: *VFS-01* - Services: IIS, Vault File Server 2016

2. Install the Master Controller at "*Site A*" with hostname "*panzura-cbl3*" as usually done for any master controller, follow the instructions on the *Panzura Storage Controller Installation Guide* for instructions.

    a. No need to create a specific File System at this stage, a CIFS/SMB share will be configured during the Autodesk Vault configuration process.

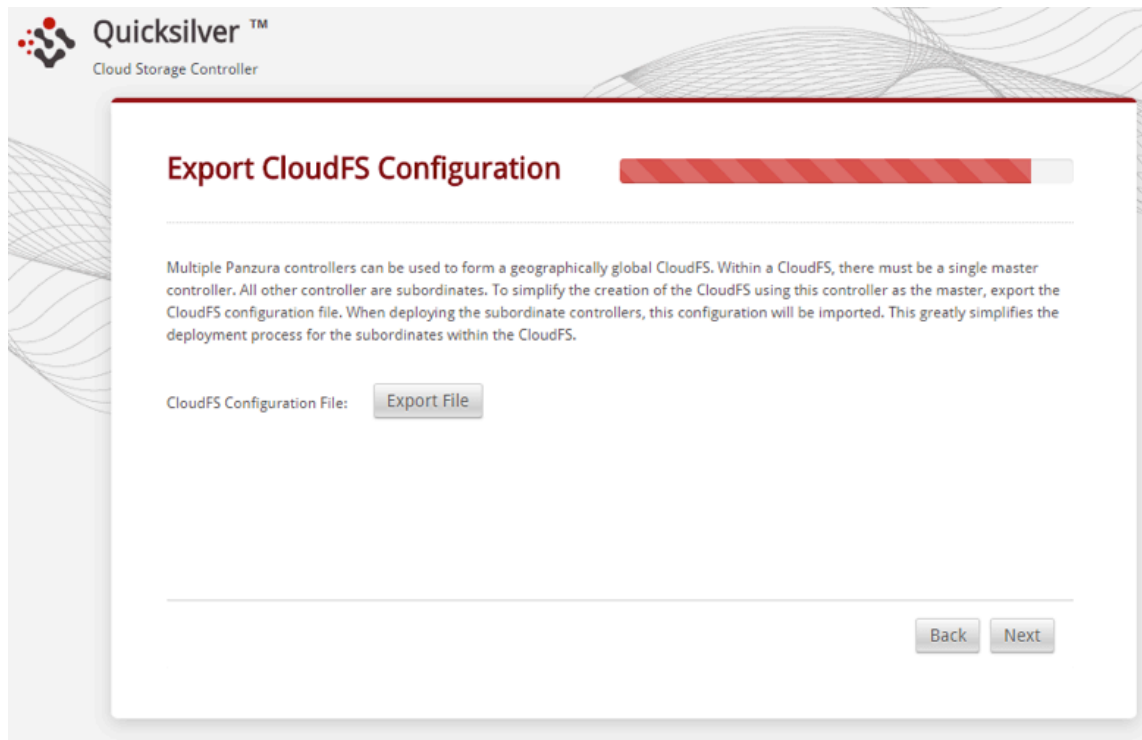   b. Export the CloudFS Configuration to facilitate the configuration of Subordinate controllers

Figure 2: Export the CloudFS Configuration

3. Install the Subordinate Controller at "*Site B*" with hostname "*panzura-cbl4*" as usually done for any subordinate controller, follow the instructions on the *Panzura Storage Controller Installation Guide* for instructions.

    a. Use the CloudFS configuration file as noted in the Installation Guide.

4. With GFS configured and online, you can configure HA capabilities if needed, follow the *Panzura Storage Controller HA Best Practices* for instructions.

Phase 2: Configure your Autodesk Vault File Store location

1. Create a SMB Share for your Autodesk Vault Servers

    a. Login to the Master Panzura CloudFS UI to create Vault's share and enable ABE

    - Click on the Configuration tab -> CIFS -> Add a CIFS Share: "*ADMS*" (If you are using Panzura 6.1 or above the tab will be SMB instead of CIFS)
    - Share Name: *adms*
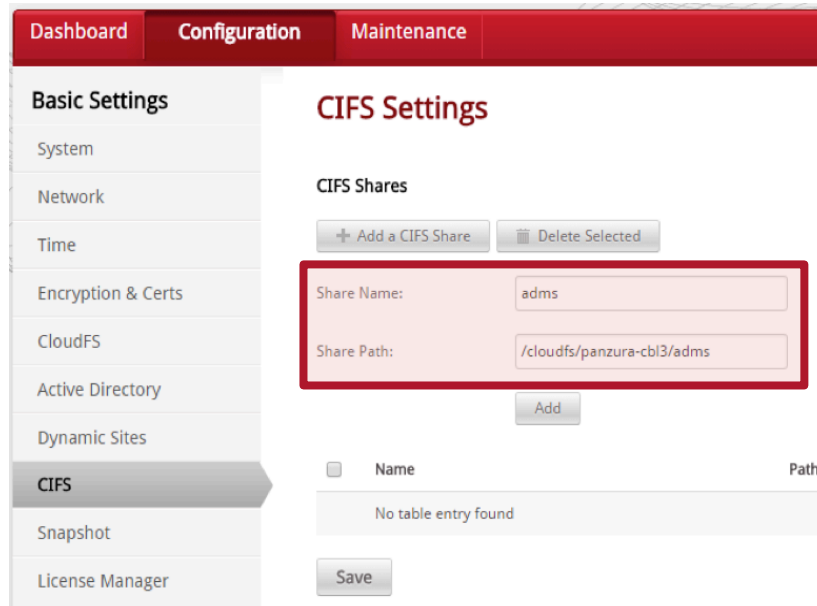   - Share path: */cloudfs/panzura-cbl3/adms*

Figure 3: Share name: adms , Share path: /cloudfs/panzura-cbl3/adms

    - Click on the Configuration tab -> Advanced -> CIFS
    - If you are using Panzura 6.1 or above the menu option is <u>SMB</u> instead of <u>CIFS</u>
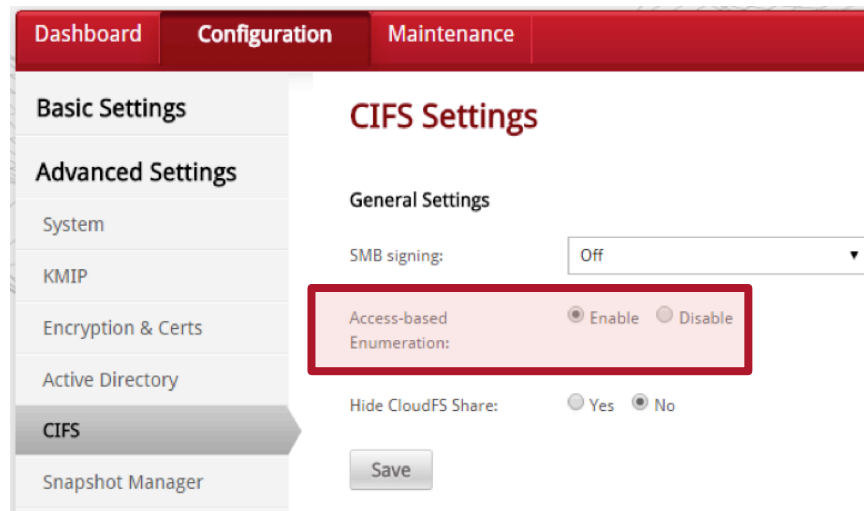   - Enable Access-based Enumeration (ABE)

Figure 4: Enable Access-based Enumeration (ABE)

2. Repeat step 1, but on the <u>Subordinate controller</u>

    a. Login to the Subordinate Panzura CloudFS UI to create Vault's share and enable ABE, be sure to use the appropriate controller hostname "*panzura-cbl4*"

        -   Click on the Configuration tab -> CIFS -> Add a CIFS Share: "*ADMS*"

        -   If you are using Panzura 6.1 or above the menu option is <u>SMB</u> instead of <u>CIFS</u>

        -   Share Name: *adms*

        -   Share path: */cloudfs/panzura-cbl4/adms*

        -   Click on the Configuration tab -> Advanced -> CIFS

        -   If you are using Panzura 6.1 or above the menu option is <u>SMB</u> instead of <u>CIFS</u>

        -   Enable Access-based Enumeration (ABE)

3. Open the Active Directory Console

    a. Create an Active Directory user account for the Vault Servers to use as the Impersonation Account. Use a descriptive name like; "*AutodeskRemote*"

4. Create a DFS Namespace on the first Microsoft Windows Server called "*vault*"
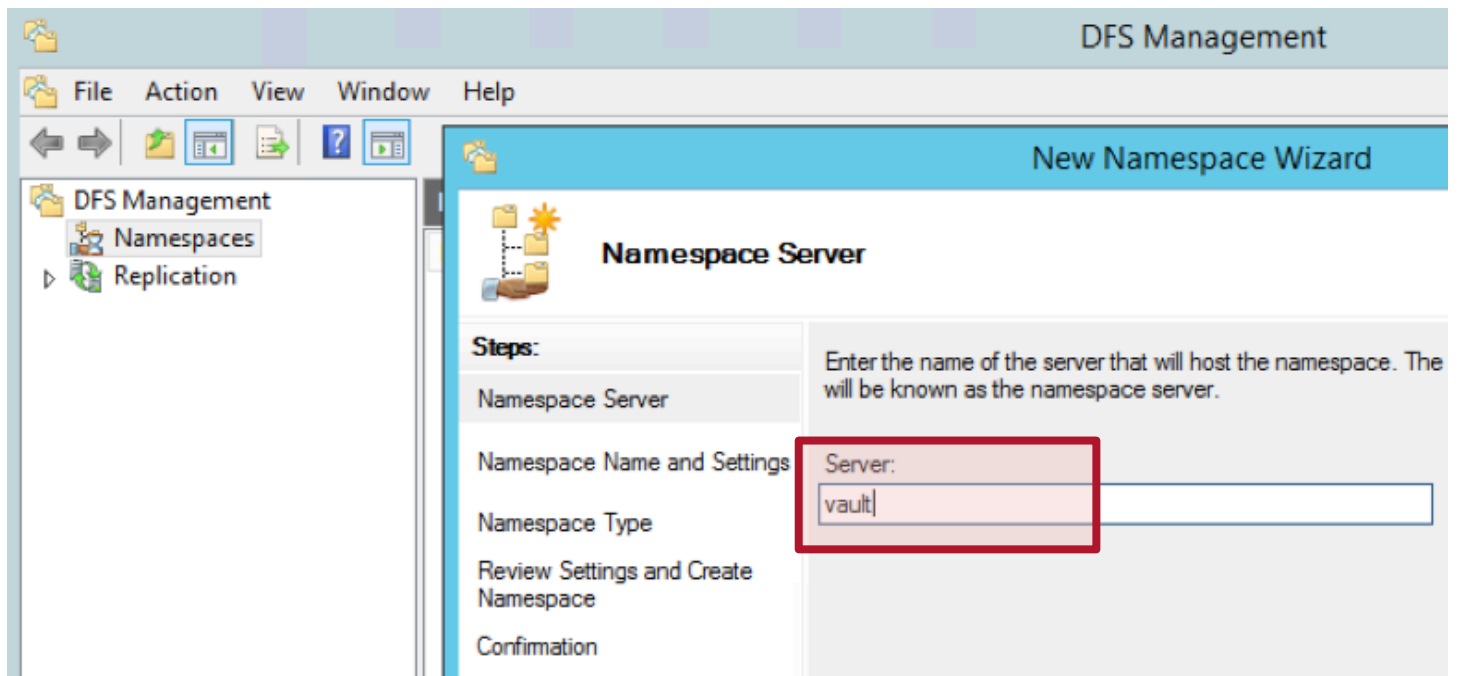

Figure 5: Name the Microsoft Windows Server "valut"

a. Open the DFS Management console to create the Namespace structure

- Create a Namespace, use a short name like "*DFS*"

- Create a Shared Folder underneath the "*DFS*" Namespace. Use a short name like "*ADMS*"
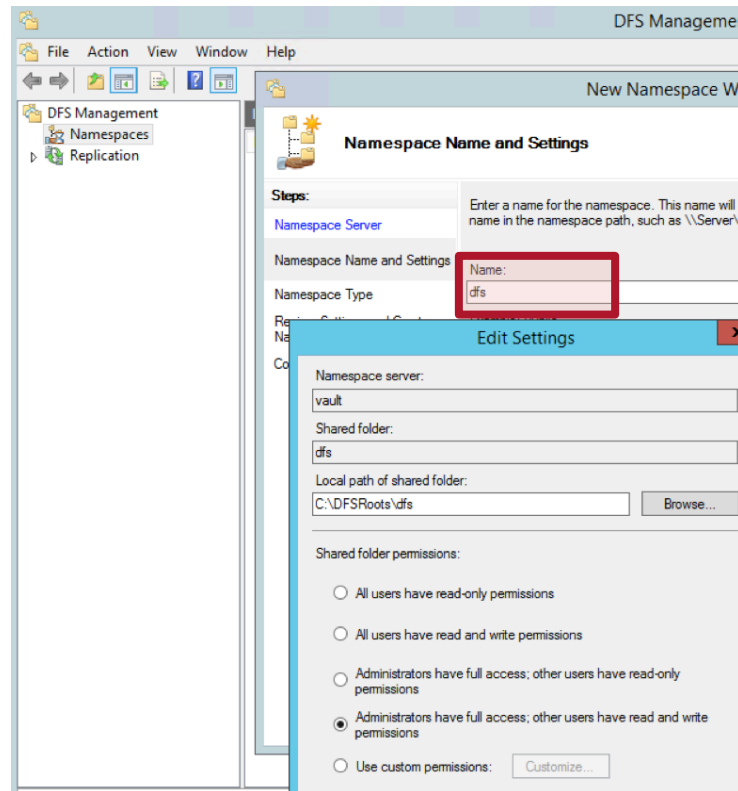

Figure 6: Create a Namespace, use a short name like: "DFS"

b. Select "*Stand-alone namespace*" and verify that the newly created namespace "\\vault\dfs" is on the "Preview of Standalone Namespace" box
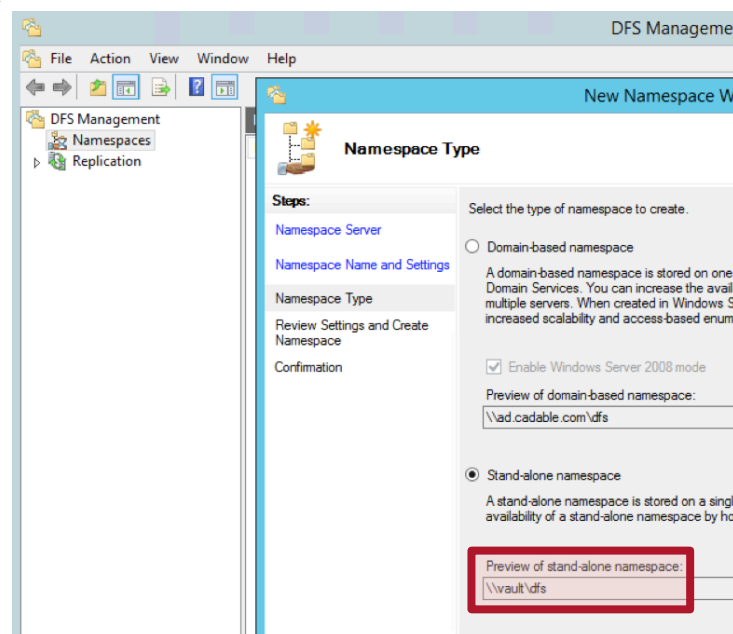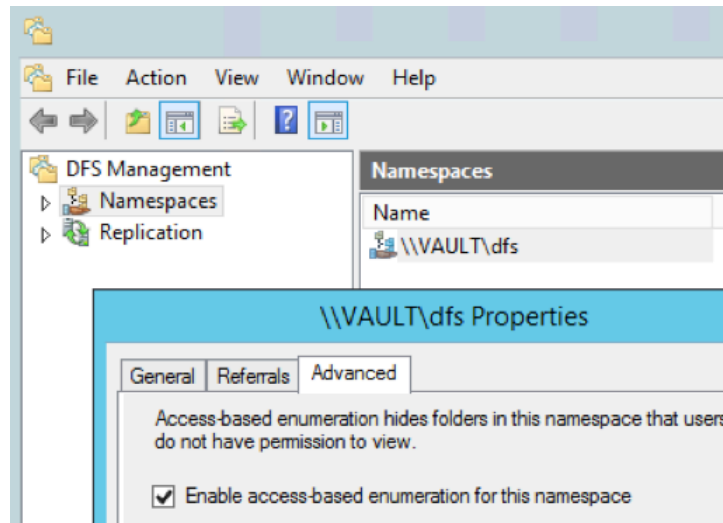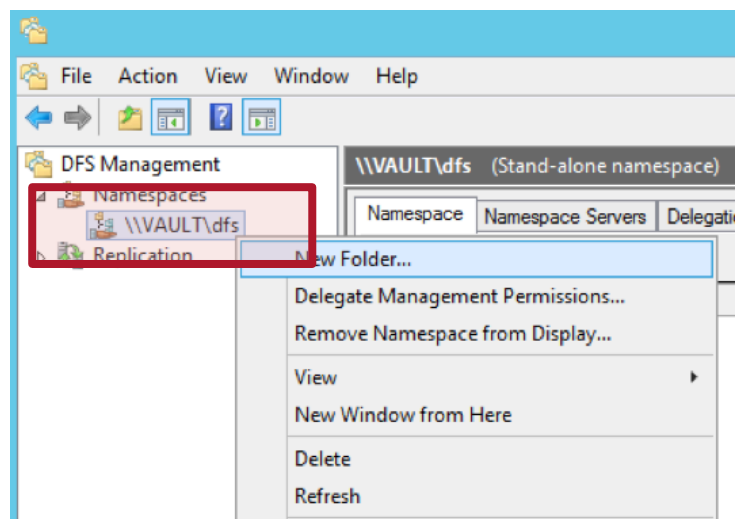

Figure 7: Select: "Stand-alone namespace"

c. Right click on the Namespace name \\VAULT\dfs and click on Properties.
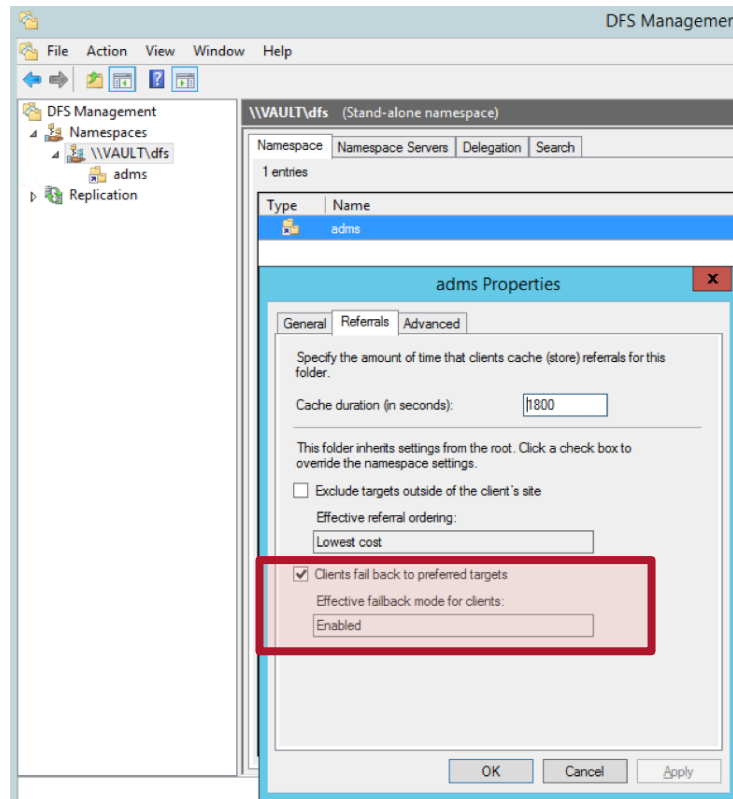
- Enable "*access-based enumeration*" and save

d. Right click on the Namespace name "\\VAULT\dfs" and create a New Folder "*adms*"

e. Right click on the new folder "*adms*" and select Properties

- Click on the "Clients fail back to preferred targets" and click "OK"
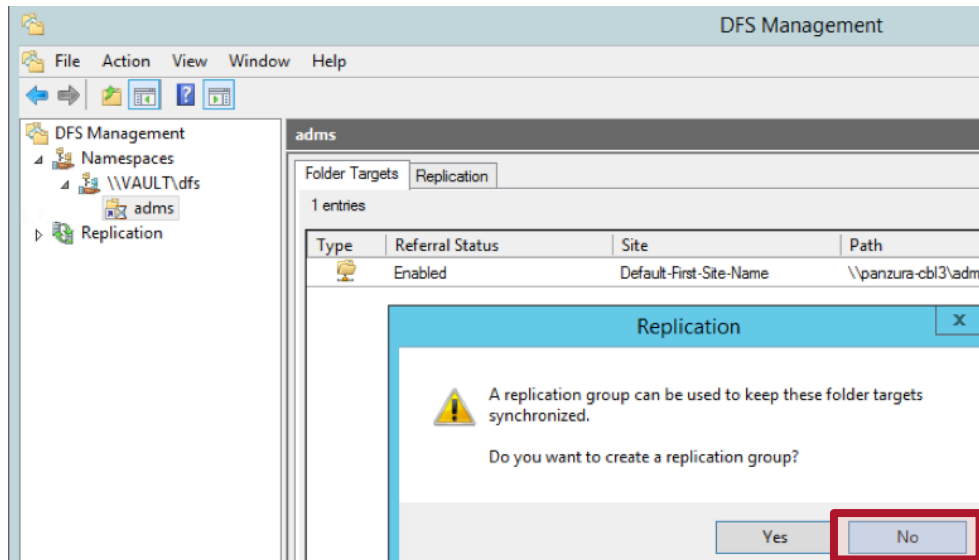

f. If the wizard does not request a "New Folder Target", right click on the new folder name "*adms*" and add a New Folder Target

- Use the path to the Panzura Share you created in Phase 1: "\\panzura-cbl3\adms" and click "OK"
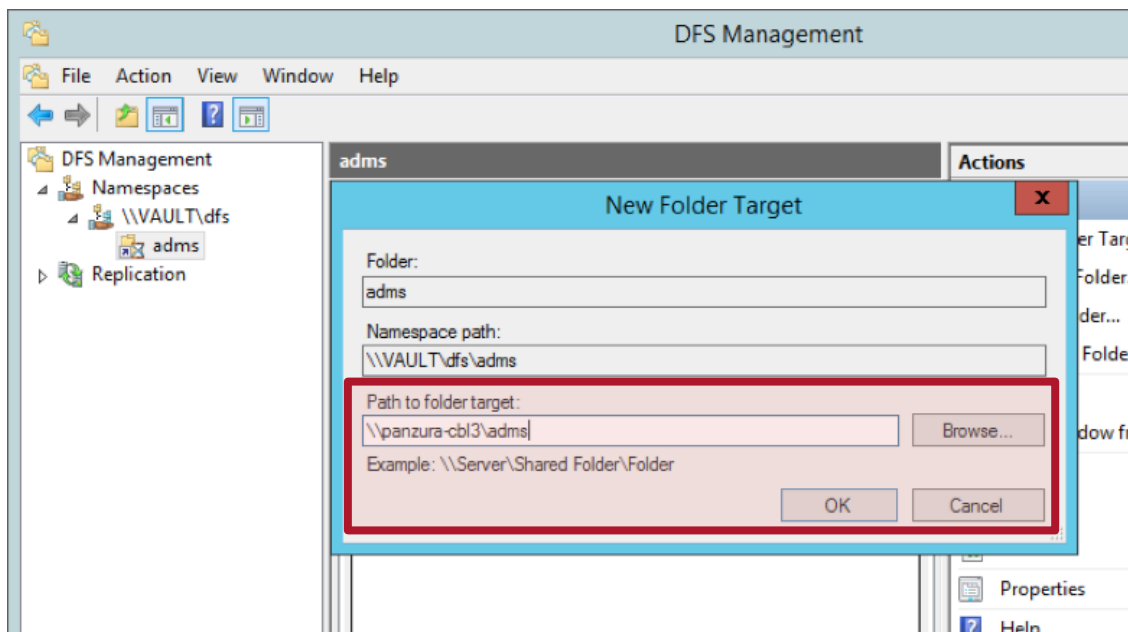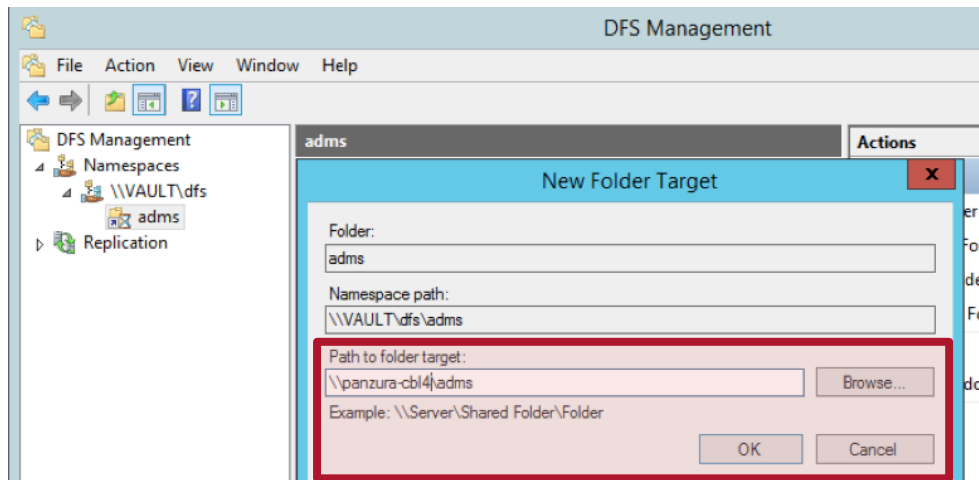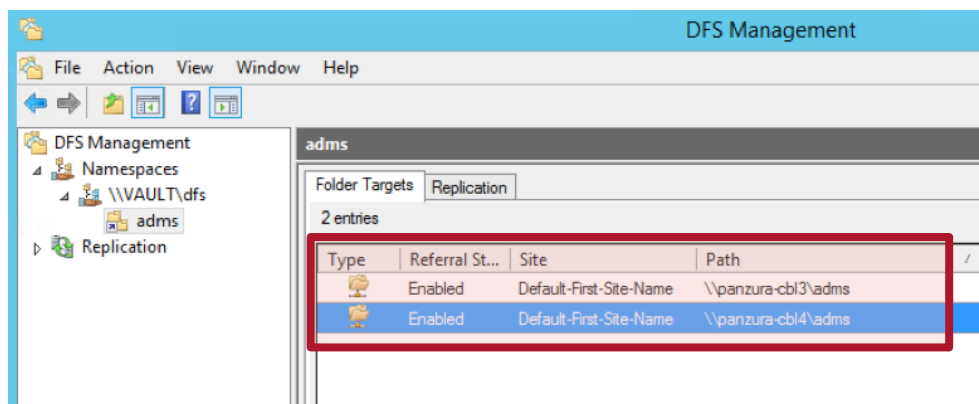
g. The wizard will require input for "Replication"

- Click on "**No**"

h. Right click on the "*adms*" folder and select "New Folder Target" to add the share from the Subordinate controller "*panzura-cbl4*" to the Folder Target list.
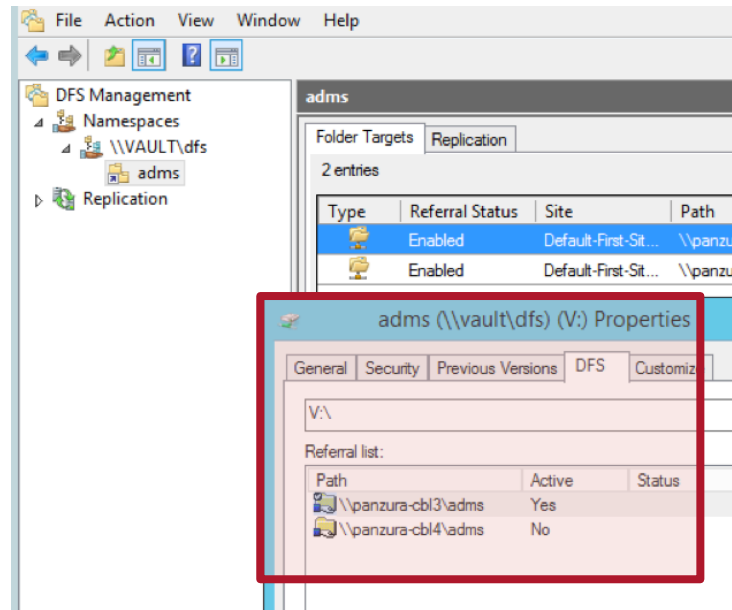

i. After these steps, the Folder Properties should appear as shown below, showing the "*adms*" folder with two targets
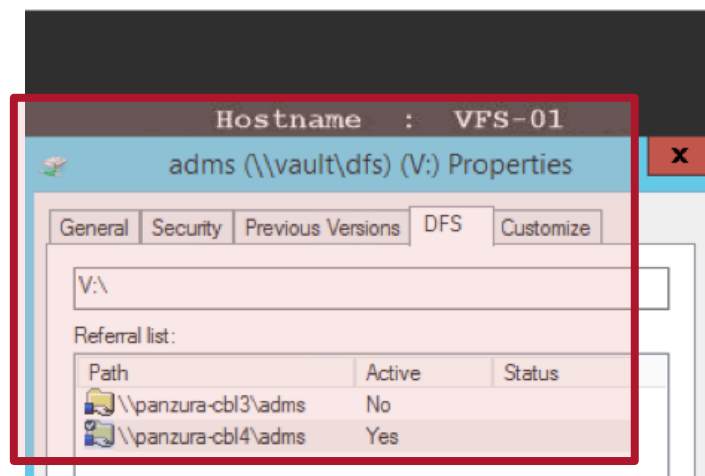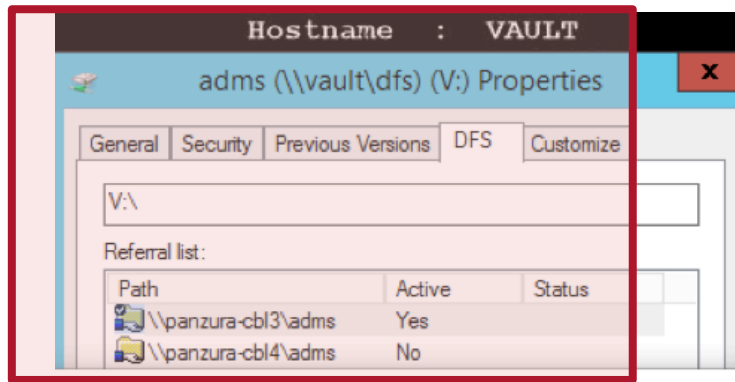
j. On each site verify that DFS points to the appropriate controller

- Open the DFS Management console and right click on the "*adms*" folder and select Properties, click the DFS tab.

- The server on *Site A*, VAULT points to the Panzura controller on *Site A*: panzura-cbl3

- The server on *Site B*, VFS-01 points to the Panzura controller on *Site B*: panzura-cbl4

5. Configure the Panzura CC to bypass **FileStoreInfo.fsg[1]**

    a. Login to the Master Controller CloudFS UI and click on the Maintenance tab -> Diagnostics and in the Diagnostics Tools section, select: cifs-add-gcfg

    Note: If you are using Panzura 6.1 or above the option is <u>smb-add-gcfg</u>

    - In the "Enter Parameters" box, type:

    `pz-replock local files = /Thumbs.db/.DS_Store/^.smbdelete/.fsg/`

    - Click "RUN"

    - Repeat this routine on <u>every</u> Panzura Cloud Controller that has an Autodesk Vault Server connected to it.
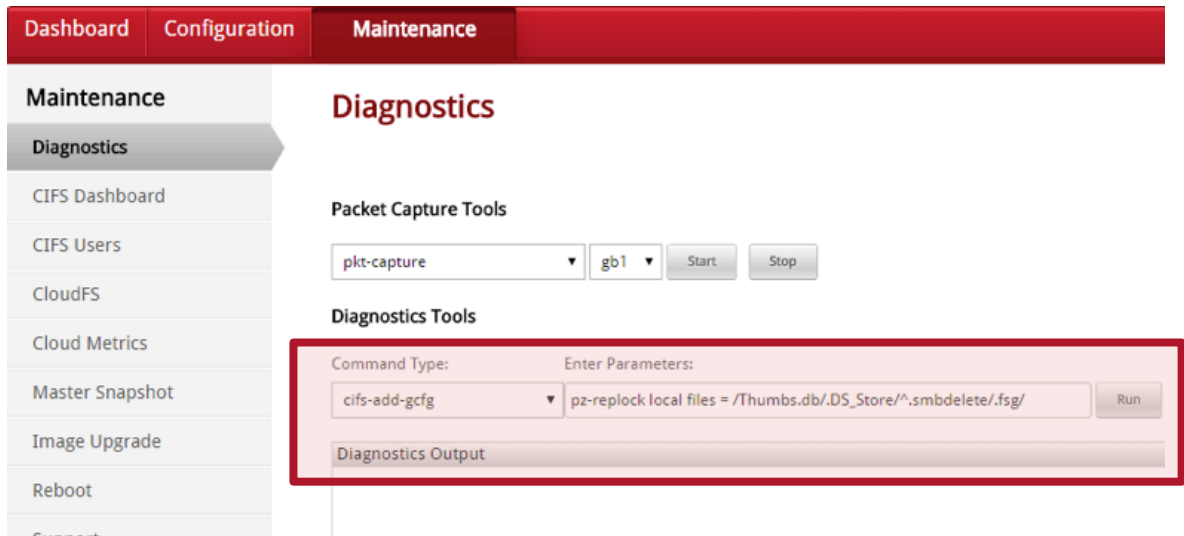
This step is required to stop the synchronization of the "FileStoreInfo.fsg" file between controllers. Each Vault Server must own its working file to maintain a healthy system. If the Panzura controllers modify this file, Vault will interpret the remote update as a corruption of the file and will stop working properly.

Phase 3: Configure Autodesk Vault File Server (AVFS) Connectivity

1. Establish connectivity from AVFS to ADMS

    a. Start AVFS Console

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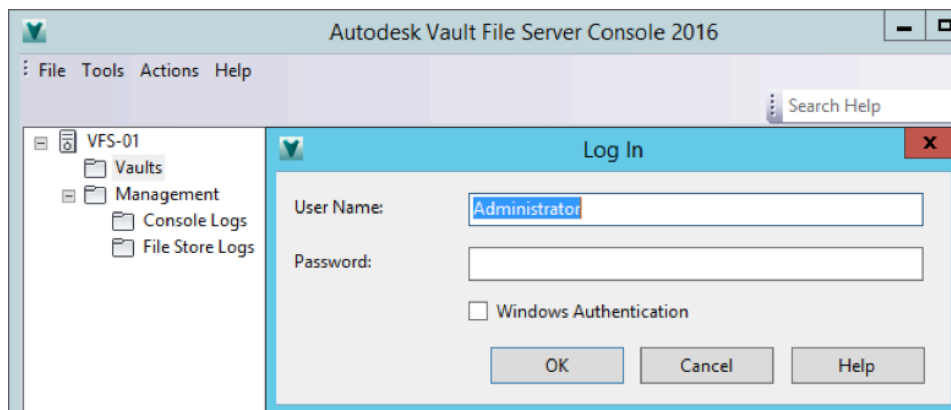
1. **FileStoreInfo.fsg** is a static file that is unique to each instance of Autodesk Vault. This file does not need to be kept in sync across Panzura Controllers, unless Autodesk Vault is re-installed on the master ADMS. Maintaining this file independent from the GFS allows each Vault Server to use a single directory as its File Store.
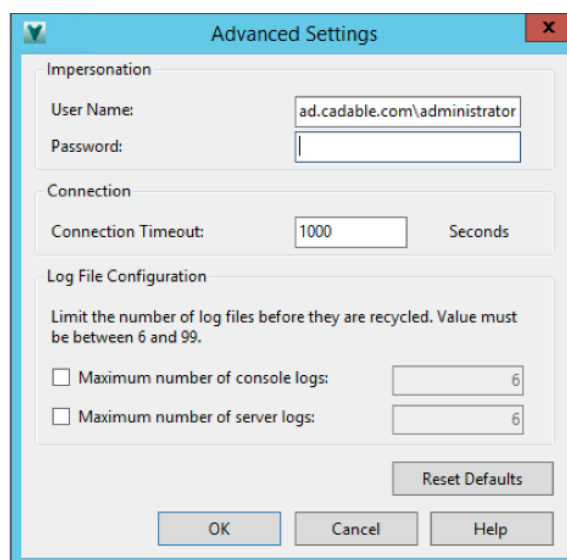
b. Tools -> Administration -> Basic

- Enter the hostname or IP address of the master *vault* along with Administrator level credentials
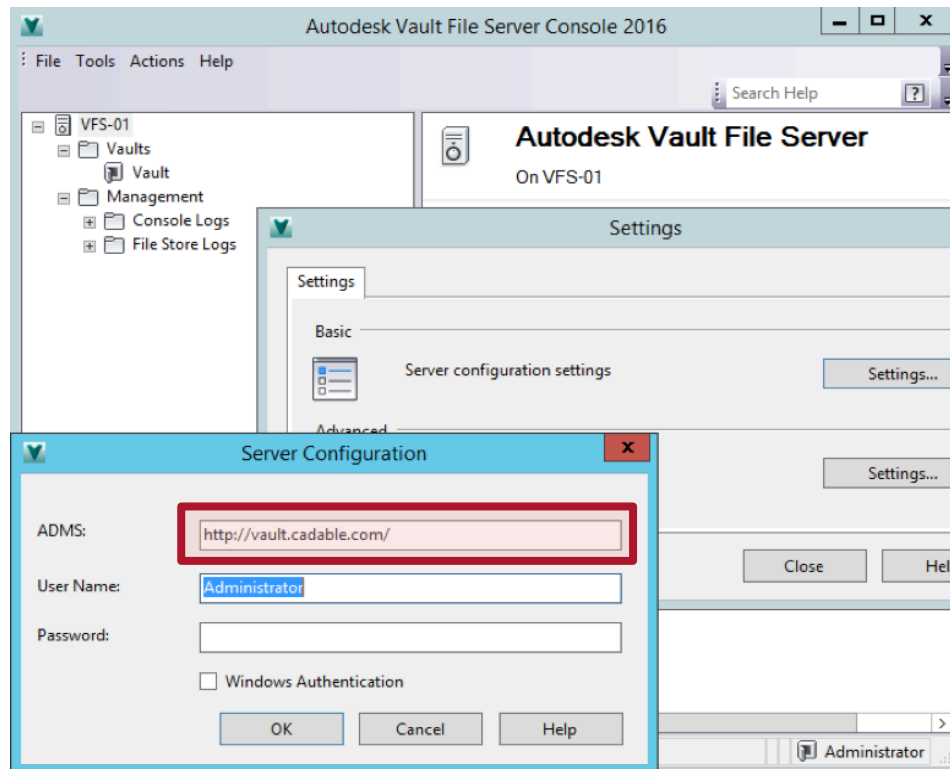
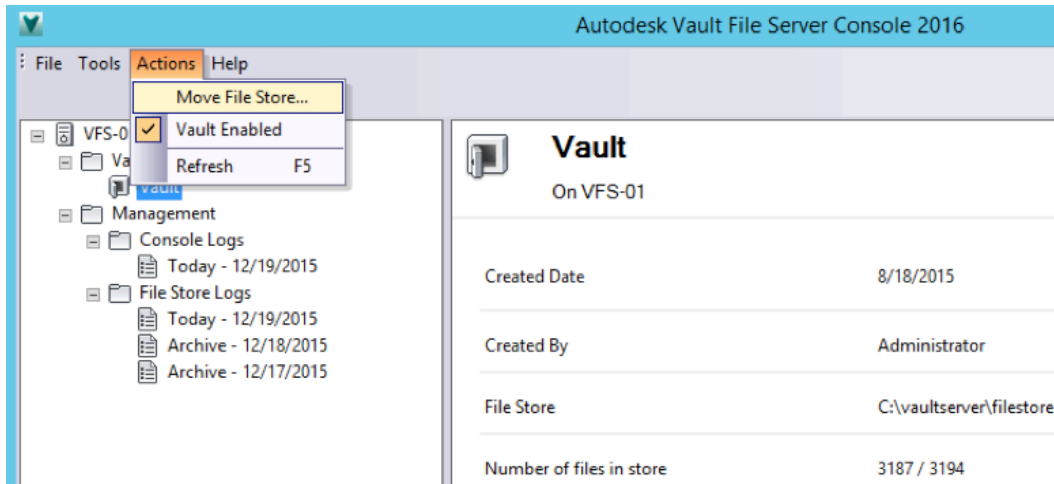c. Tools -> Administration -> Advanced

d. Set your Impersonation Active Directory username and password

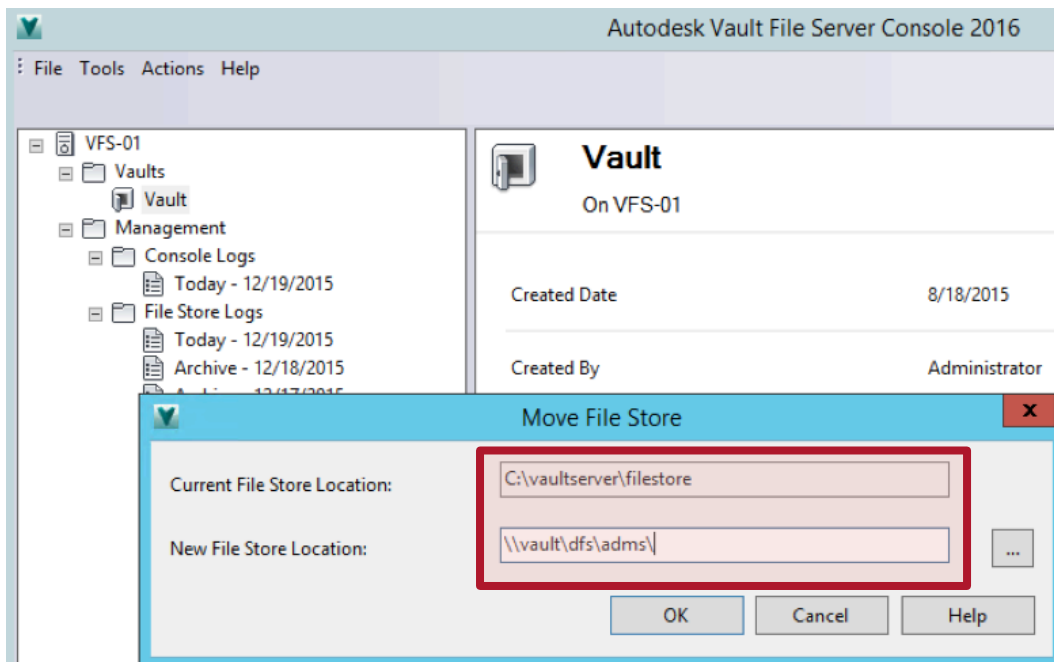e. Set the initial File Store location to reside on a local drive of the AVFS

2. Move the AVFS File Store to the DFS Share

    a. In the AVFS console from the left navigation pane:

- Click on desired Vault

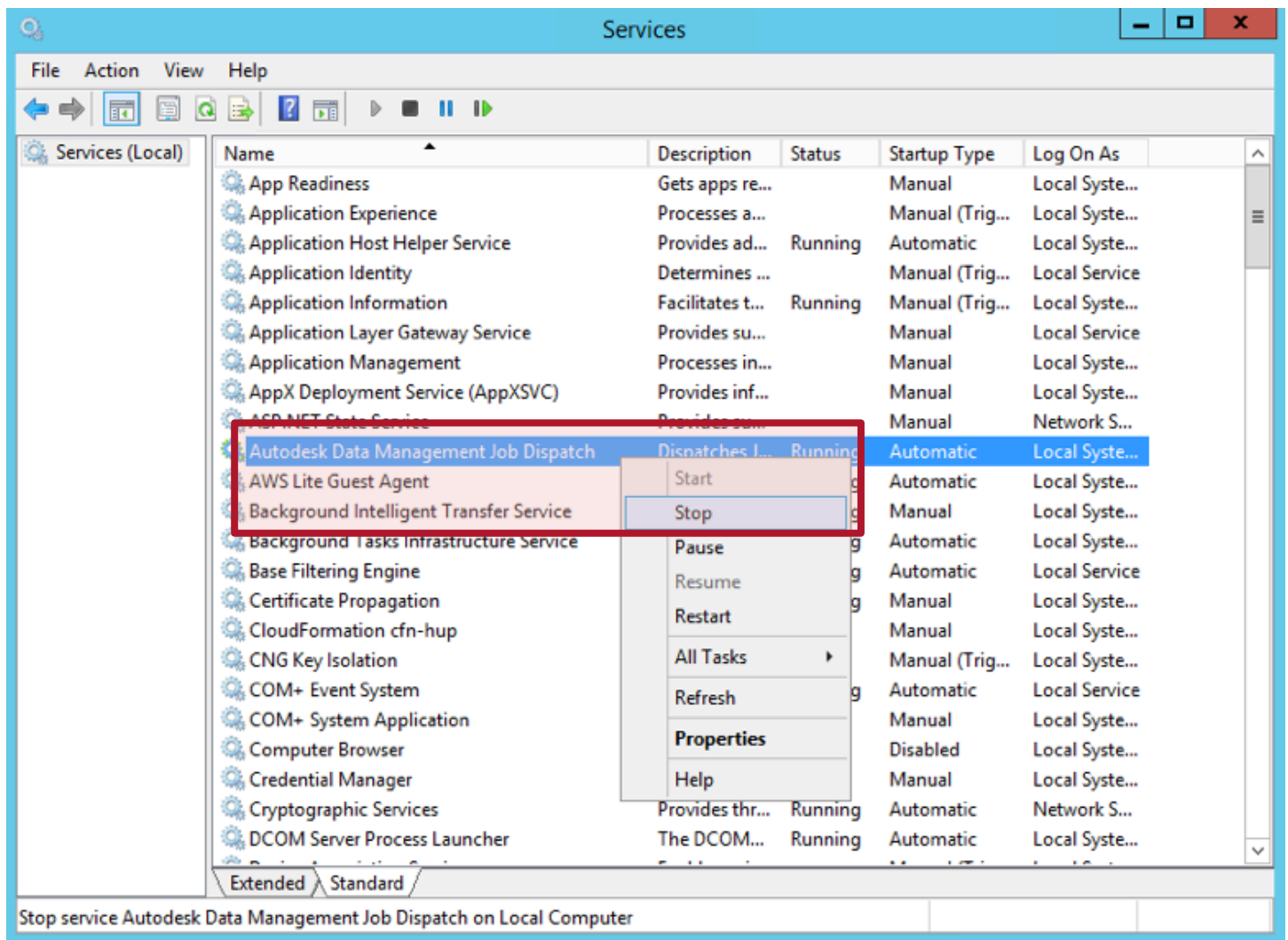

- select "Move File Store"

- Enter: \\server_name\dfs_share_name

Phase 4: Point the master ADMS server to the DFS Share

1. Shut down the Autodesk Data Management Job Dispatch service on the AVFS and clear the DFS Share so that the main server can move its File Store into it

   a. Disable Autodesk Data Management Job Dispatch service on AVFS

      • Open Services Console, run, services.msc at the command prompt

      • Right click "Autodesk Data Management Job Dispatch" and click on "Stop"

b. Delete the files on "*DFS*" Share that "AVFS" created, the system will use the files from the master *vault*

- Using the Windows File Explorer go to the "ADMS" drive, right click on the "Vault" and select **Delete**.
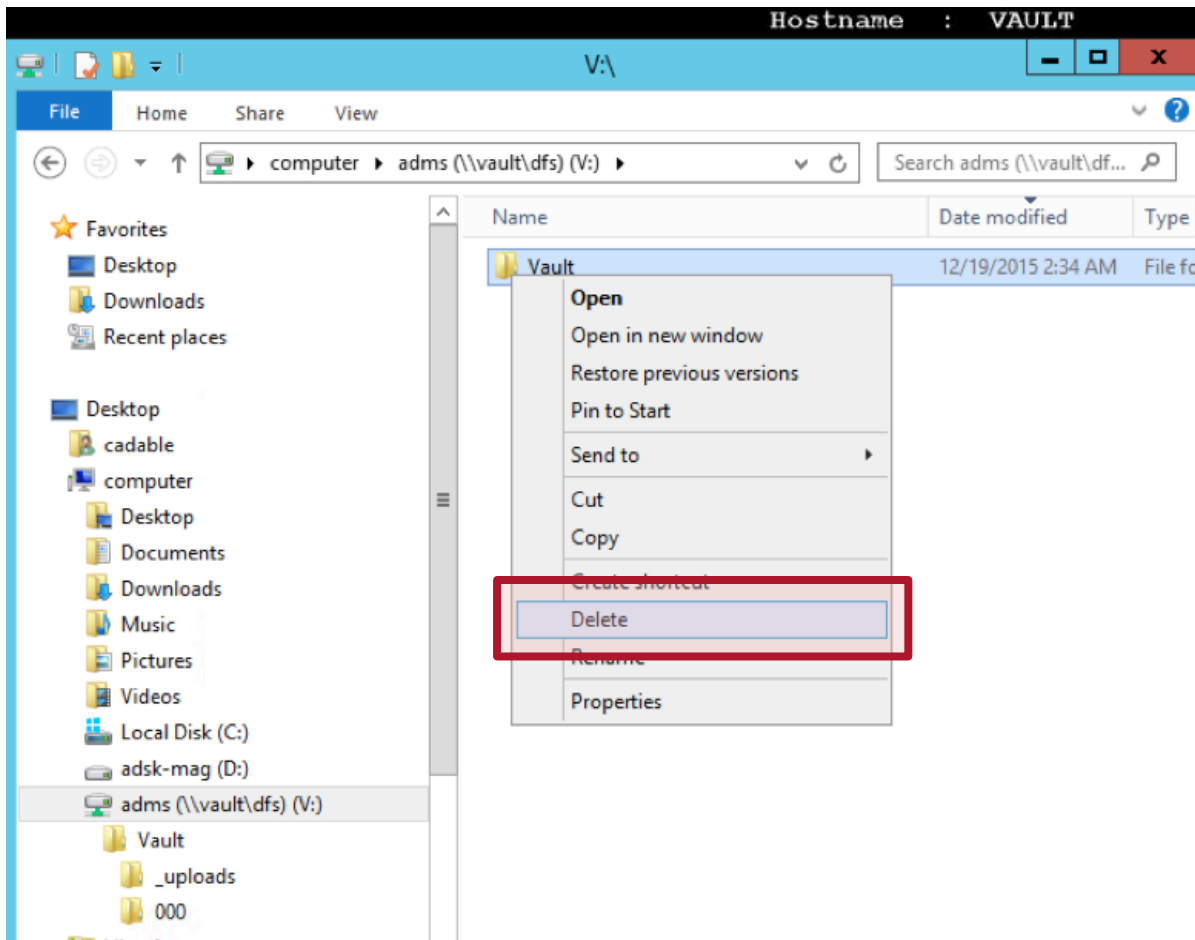

We delete the VFS File Store on the "DFS" share "ADMS" so that the main Vault Server can move its File Store in the "DFS" share location. The Vault system will not move the File Store into a directory that already has a File Store in it because the directory structure of the main Vault Server and the VFS-01 is identical.

Another reason to do it in this order –*VFS-01 first, Vault second*-, is because the VFS starts with a partial copy of the data and completes itself upon next sync and as files are needed for that site. The main Vault Server is the complete copy of the Vault, so we would want to move it to the "DFS" share last. If multiple "DFS" servers are involved, do all of them one by one, shutting down the previous server as you move to the next one, then the main Vault server last, then start them all up.
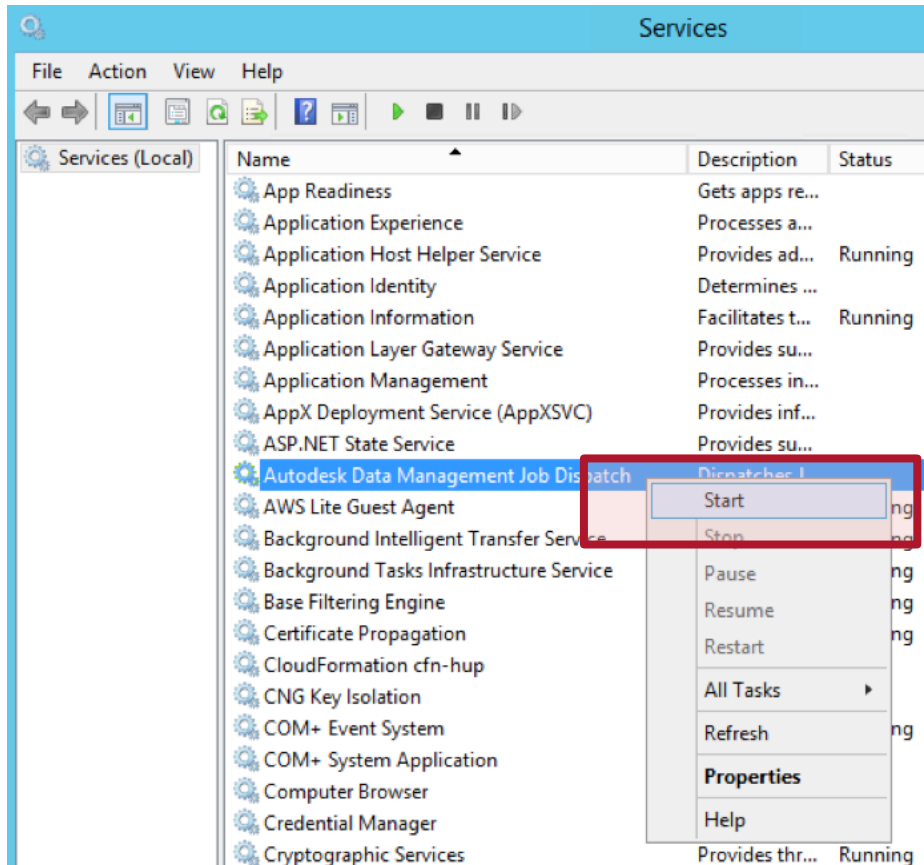
c. Move main ADMS File Store to DFS Share

- Run ADMS Console on master ADMS

- In the left navigation pane, right-click on the desired Vault and select "Move File Store"

- \\server name\dfs share name
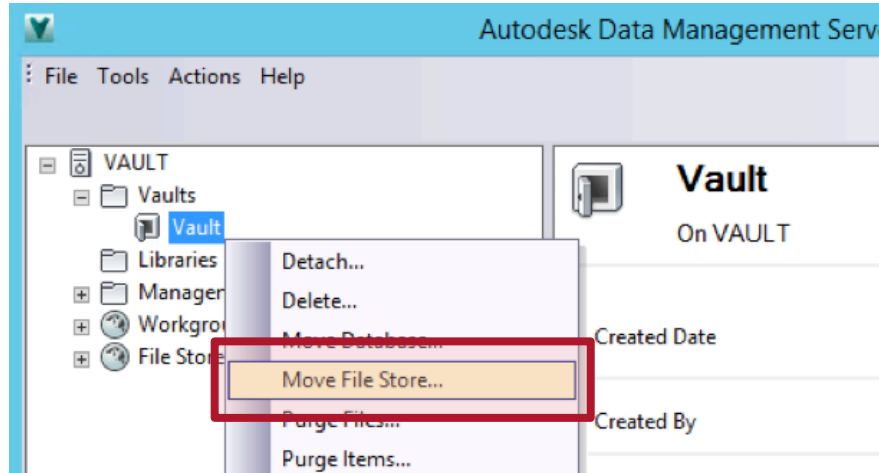
2. Start Autodesk Data Management Job Dispatch on VFS

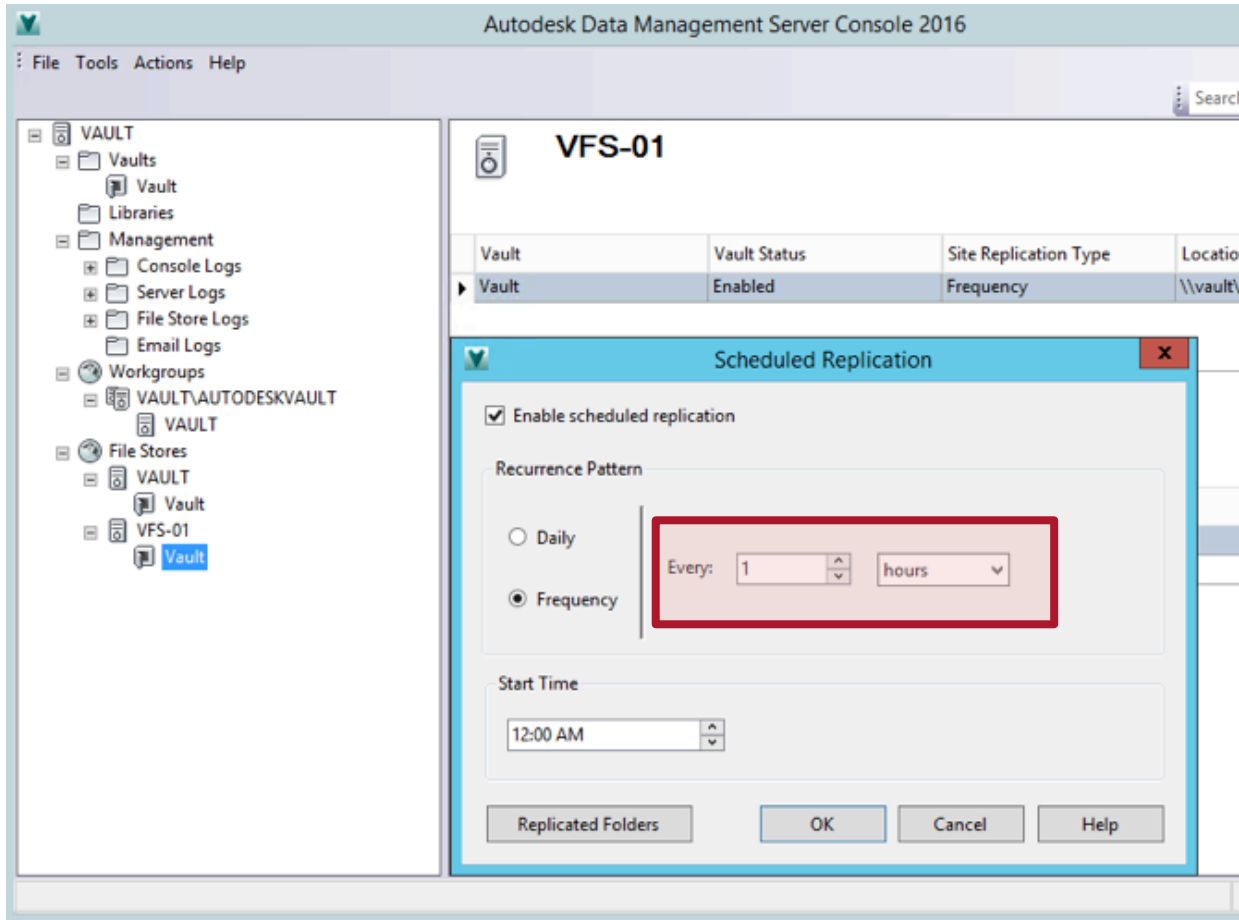a. Open Services Console, run, services.msc from the command prompt

- Right click on "Autodesk Data Management Job Dispatch" and click Start

3. Fine tuning

    a. Start ADMS Console on master ADMS

- Right-click on Workgroup objects that point to DFS Share

- Set replication schedule to 1 hour intervals

You have now configured Autodesk Vault to take advantage of Panzura's performance for cross-site collaboration! The image below illustrates the end user view of the Vault using the GFS on the host Vault. It will appear the same on VFS-01 or anyother configured host.
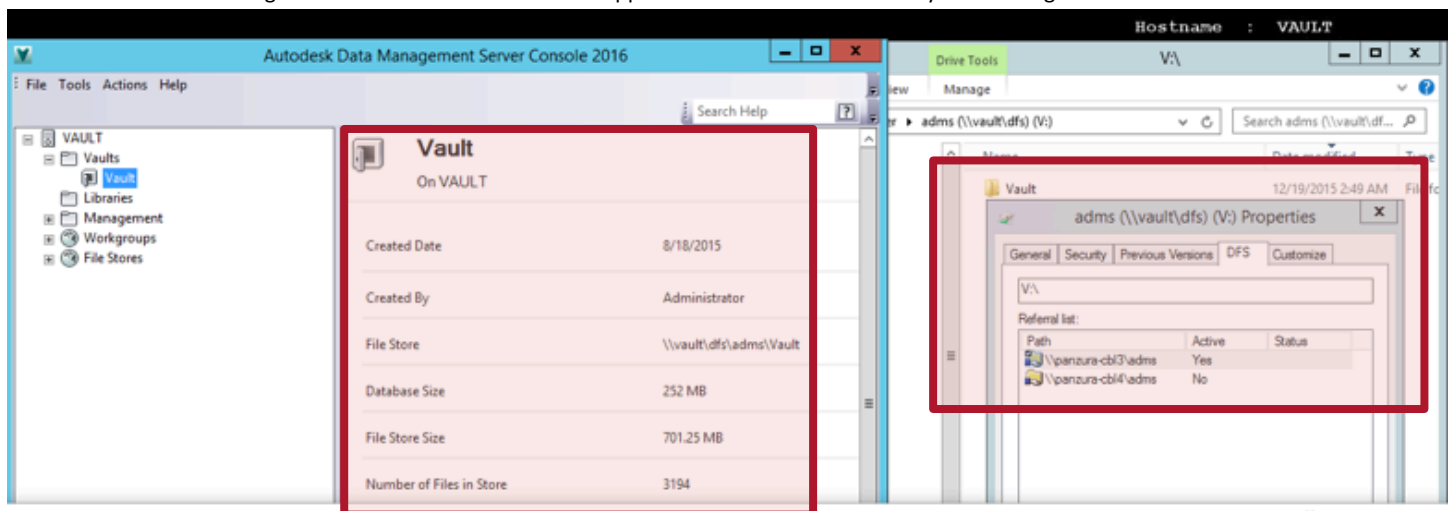
Additional Considerations

The use of the Panzura GFS as the file system infrastructure for Autodesk Vault reduces the wait between project creation/modification and files accessibility on a secondary site from hours to seconds.

When a user from a remote site tries to access a file within the "1 hour" replication window as configured in the step 3 from the last phase, the user will see a message from the server: "Do you want the local server to get a copy of the file?" click on "Yes".

Clicking "yes" for your server to get a local copy will not actually trigger a re-copy of the file. Panzura will accelerate copying the file via the GFS and the Vault Server will mark the file as downloaded almost instantly.

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