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Restoring Your Vault: Real-World Tools for Restoring Your Data

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Learning Objectives

- Understand issues that need to be addressed in your recovery plans
- Learn how to plan a restore of your own servers
- Understand what components are needed in a restore

Description

This class will cover the strategies, possible pitfalls, and best practices for restoring a vault. We will discuss restoring a vault for testing, and we'll address real-world post-disaster scenarios. The class will cover a detailed list of items to consider when restoring a vault, including server names, patch levels, replication, common issues that are encountered, and post-restore actions. We will air a live demo showing some of these items. This session features Vault Professional.

Your AU Expert(s)

Chris Bluhm is a Premium Support Specialist for the Enterprise Priority Data Management team. Prior to joining Autodesk in 2014, he spent 10 years working as an IT administrator. During this time, he was responsible for creating and testing Disaster Recovery Plans for multi-million Dollar Firms.

Traci Peurasaari is a SQL/DBA specialist within Enterprise Priority Support. She has over 25 years of relational database experience in Microsoft SQL Server and Oracle. Her experience spans both the administrative, development and support arenas. For the past 10 years she has done a significant amount of SQL support and training for customers. She has trained internal support staff in supporting customer databases. She is proficient in Database performance and tuning, backup and restore and replication. Her experience spans multiple industries from manufacturing to advertising to finance. Throughout her career – regardless of title the Database has been her passion and she has always maintained her activities in it whether it be through customer support, development or Business Analytics and metrics.

Understand issues that need to be addressed in your recovery plans

First things first: Backup!

Vault Backups

The primary tool to back up your vault is to use the backup tool available in the ADMS (Autodesk Data Management Server). This can be found under the “Tools” dropdown within the ADMS window.

It is important to note that this tool backs up not only the vault databases and settings but also your file store so the backup size can be quite large.
Within ADMS there are two types of ways to back up the vault they are detailed below.

Full Backup

The best method is that of a Full backup. This backs up the entire database, settings and file store at the point in time of the backup. Always make sure you check the “Validate the backed up files”, shown below, to ensure that your backup is successful and can be recovered.

A Full backup can take a significant amount of time depending on the size of your database/file store and should not be run during production hours as the extra activity may impact normal vault activities.

Incremental Backup

An Incremental backup only backs up changes that have occurred since the last backup. It is much faster than a full backup but you cannot restore from it unless you have both the Full backup it reference AND any other Incremental backups that have occurred since then. An Incremental backup is best suited for the performance hit of a Full backup makes it unrealistic to run during production hours. As with a Full backup make sure to validate the file.

Config File backups

Make sure you are backing up your web.config file if it has been customized as well as any configuration files for add-ins you may be using. These will not be backed up as part of the ADMS backup tool. (this can be found at <install path>\Autodesk\ADMS Professional 20##\server\web\services\)

Multi-Site Environment backups

There are special Considerations that must be accounted for when backing up a multi-site environment replication:

Autodesk best practice is to perform all backup and restore operations at the publisher in a multi-site environment. However this is not possible for organizations with global locations that have slow or limited network connectivity.

If you have a large vault installation with many instances across the world with limited connectivity you should work with your Autodesk team to develop the best backup plan for you.(if you have limited network speed you can use an alternate snapshot location that is described at the end of this document)
The items below are best practice recommendations by Autodesk.

Before you create a backup, enable all vaults at a site.

Before you create a backup, replicate the data and ensure that replication is at a steady state. If any of the vaults are not replicated, you are prompted to either continue with the backup or cancel the backup operation. If you choose to continue, the data is synchronized automatically during the backup process; however, this extends the time required to back up the data, and other sites cannot access the database for the duration of the backup process.

For best performance, create the backup on a server that is in close network proximity to the SQL database.

As before you will use the ADMS console to create the full backup

Backing up Individual Subscribers

If your subscribers and publishers are geographically far apart it may not make sense to sync all data to the main site. In this case you may back up subscribers individually using the built in backup tool or a 3rd party tool.

Backing up AVFS servers

No special backups are needed to backup AVFS servers other than making sure the local copy of the filestore is backed up.

Third Party Backups

A whitepaper detailing how to backup with Third party tools can be found here:
http://download.autodesk.com/us/vault/Backup_and_Restore_Autodesk_Vault.pdf
*A special Note: When backing up with 3rd party tools always make sure that the SQL backups Occur before the File System to ensure there are no logical inconsistencies between the database and filestore.

Before you Restore

What's In your Backup?

Knowledge Vault Master database

-This contains all of your users, and global settings. It is the most important part of your backup. Without it you can accomplish virtually nothing.

Vault database

-This contains all of the metadata and logic to link and control your files.

Content Center Databases

-These contain any custom or predefined libraries that you are using. There are no special conditions for them.

SQL Server system Databases

-These will help restore your server and can be very important if you use encryption (these include the system and master database and the service master key)

Web.config file

-This has any special settings you've set through the web.config such as server access timeouts.

Filestore

-These are all of the actual versions of your files. They are renamed so it is not easy to access files outside of the vault.

Is It Working?

Validate your backups: make sure that you regularly check to ensure that automated backups are working

Monitor System health: as referenced above make sure that you are monitoring the software and hardware health of your systems to make sure they do not have any serious errors.

Understand what components are needed in a restore

What are you restoring?

What are you Restoring?

Before you start to restore you need to understand what we are restoring and how they relate to each other:
Databases

Knowledge Vault Master(KVM):
-You must restore the KVM and vault databases together or you will risk file and database corruption.
Vaults:
-Each vault will have an associated named database and transaction log. These need to be restore with a paired KVM
Libraries
-Any Custom libraries can be restored from any backup, they are not tied to the vault databases or KVM.

Filestore:
-Your filestore(s) at a primary or secondary site also need to be restored. Their restore should come from a point in time that is the same or later than the KVM and vault database backups if possible.

What accounts do you need?
SQL Account – You will need an account to access the sql server.
Local administrator account – this account will be used during setup.
Impersonation account – this account will be used by vault to access the filestore(this can be a domain account)

How to plan a restore of your own servers

Before the Restore

Before you start a restore there are some important questions to answer:

-Are you able to name the new server the same as the old server?
If not you need to contact Autodesk support due to SQL restrictions.
-Is the new server the same OS and service pack level as before?
This is important to make sure the restore will work successfully
-Are you using the same version of vault as your backup?
Vault Cannot restore a backup from a different version
You can find the version that created the backup I the backupcontents.xml file
-Is the SQL installation the same edition, version, and service pack level as before?

This is important to make sure the restore will work successfully

Also make sure that any pertinent SQL settings such as Collation are the same on both servers.

-Make sure the Vault filestore location is empty and you have the necessary storage space

Avoid naming it the name of the vault. The restore wizard will create a subfolder with the name of the Vault in the filestore location

-If you are using an existing database make sure the Database owner is set as vaultSys
-Make sure to follow the readme's to make sure no steps are missed and no special actions are required between service packs.
-Install of the hot fixes and/or services packs that were installed on the original server.

Special Considerations for Multisite Environments

AVFS

It is important to remember that only 1 AVFS filestore per ADMS can be initialized at a time. So if you have 4 AVFS servers all pointing to the same ADMS they will each need time to validate their local filestore before they can be enabled for use.

Replicated workgroups.

If you are using SQL replication for multiple ADMS servers you must recreate the publisher/subscriber relationship. Using an alternate snapshot folder can greatly decrease the time involved in this. See a description on how to do this here; https://msdn.microsoft.com/en-us/library/ms151795.aspx