



## The Nuts and Bolts of Autodesk® Vault Replication Setup

James McMullen – Autodesk, Inc

**PL4700-V** Has your company decided to move toward a replicated Autodesk Vault software environment? Does your company already have a replicated environment and need to upgrade? As the administrator, you will be tasked with either of these operations. This class covers the basics of implementing replication and upgrading a replicated environment. Make your job easier!

### Learning Objectives

At the end of this class, you will be able to:

- Basic understanding of a replicated environment
- Learn how to install and configure SQL STD / ENT for Vault Replication
- Learn how to install and configure Autodesk Vault for replication
- Learn the how to upgrade an Autodesk Vault replicated environment

### About the Speaker

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## Basic understanding of a replicated environment

The point of this section is to allow you to gain a basic understanding of terms that we use to describe various aspects of our Vault product line.

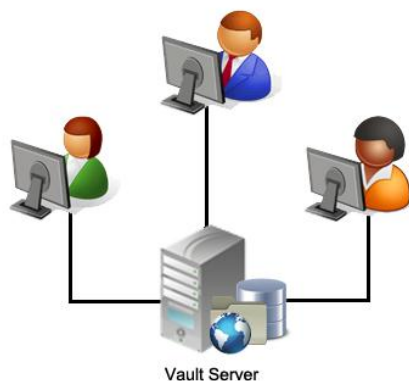
### Basic overview of Vault

#### *Autodesk Vault Basic*

Autodesk Vault Basic allows companies to securely store their design data. Instead of having multiple copies of design data throughout your organization, Vault allows you to store all your files in a central location. It gives you basic version control as well in case you ever want to go back to a previous version of your design files.

#### *Basic Vault Configuration*

The basic Vault configuration consists of one physical server with all of the Vault components. Multiple clients connect to this server to store files and collaborate on projects.



The recommended configuration is a single server dedicated to data management meaning that no other competing business applications interfere with the operation of the vault software.

### *Vault Server Components*

The Vault server consists of 4 different components:

- Autodesk Data Management Server (ADMS) – a standalone application which allows you to create and manage vaults and libraries.
- Internet Information Services (IIS) – Web services used for client-to-server communications. It uses standard HTTP methods, communicating over port 80 by default.
- Microsoft SQL Server – stores the metadata extracted from files when they are added to the vault.
- File store – the file system that stores the actual files checked in by the clients.



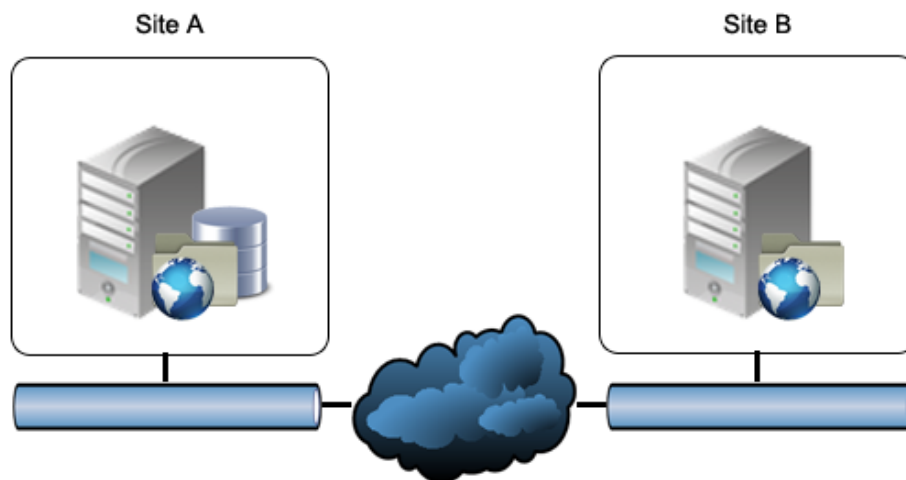
To improve performance, separating the Vault server components may become necessary. Separating the services onto dedicated servers enables each of the services to get the full resources available on devoted servers.



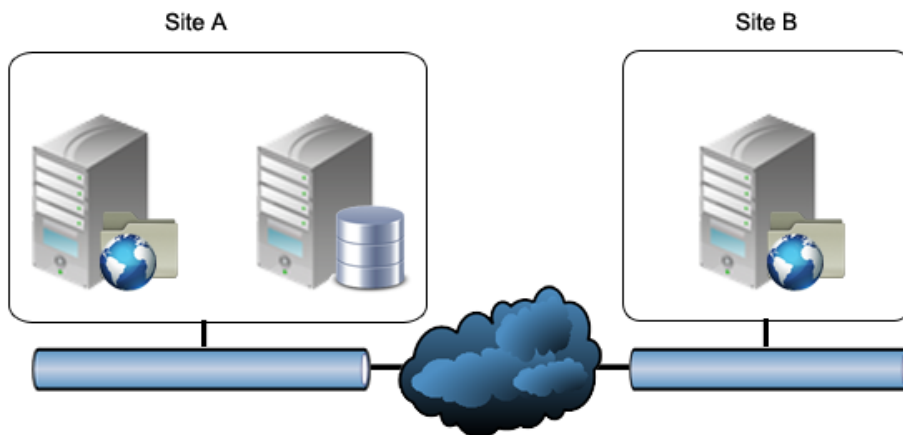
## What is a multi-site environment

### *Sample Vault Deployment*

In the presentation, I created a sample company to help explain the notion of moving from a “basic” vault environment into a multi-site environment. In essence, expanding to another office with multiple clients may require the company to expand the vault configuration to accommodate the second office. A multi-site architecture could be used to accomplish the support needed for the other locations. The multi-site environment allows users to design and collaborate across multiple locations as if all the users were in one location.



In these environments, users open data files from their local file store. All metadata is read from and written to a central database so that users can open large files much faster than if they copy them across the Wide Area Network (WAN)



Since both sites are sharing the same SQL database, performance can be increased by placing the database on a dedicated server.

### *File Store Replication*

The database keeps a record of each file and version that available at each site. To synchronize each site, file store replication is configured to happen, automatically, at 12:00am every night. Replication can be configured to replicate all the files in the vault or replicate specific folders. During the day, if a user finds that a file is not located on their site, they can replicate the file on demand.

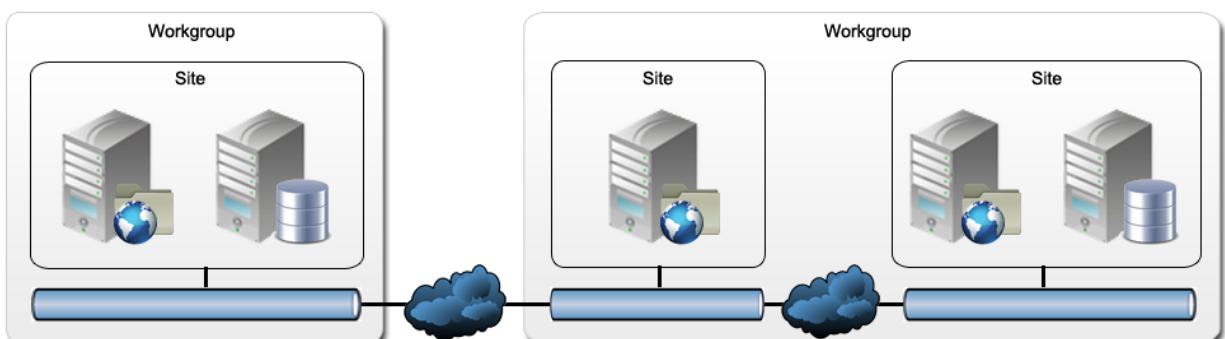
### *What is full replication?*

#### *Larger Sample Vault Deployment*

Companies which have multiple design organizations which work on the same projects need the ability to collaborate and share files. Full replication, or Connected Workgroups, is an architecture suited for multiple sites that are distributed over great distances or poor networks. With this architecture, SQL databases are replicated across the multiple locations as well as the file store. In the presentation, I explained pictorially how an environment like this might be set up.

### *Terminology*

- Site – A location where the Vault server software is installed for users to connect to with their client application.
- Workgroup – A group of sites connecting to the same SQL database.
- Publisher – the first SQL server configured in a full replicated environment.
- Subscriber – SQL servers connected to the Publisher in a full replicated environment.



## Learn how to install and configure SQL STD / ENT for Vault Replication

The install of SQL Standard is the same as you would do for Enterprise. Below I will show you how to in SQL for Autodesk Vault replication. Please remember that when you are setting up a replicated environment that all the SQLs in the environment must be on the same version and the same service pack / hot fix level. You will have to make sure that you are running this on a server class OS as well. Once the install is finished I would highly recommending checking for Microsoft updates and let them install.

### Step by Step install of SQL

You can either follow the steps below or watch the module again in case there is something in particular that you need to find.

Open up the install from your desired location

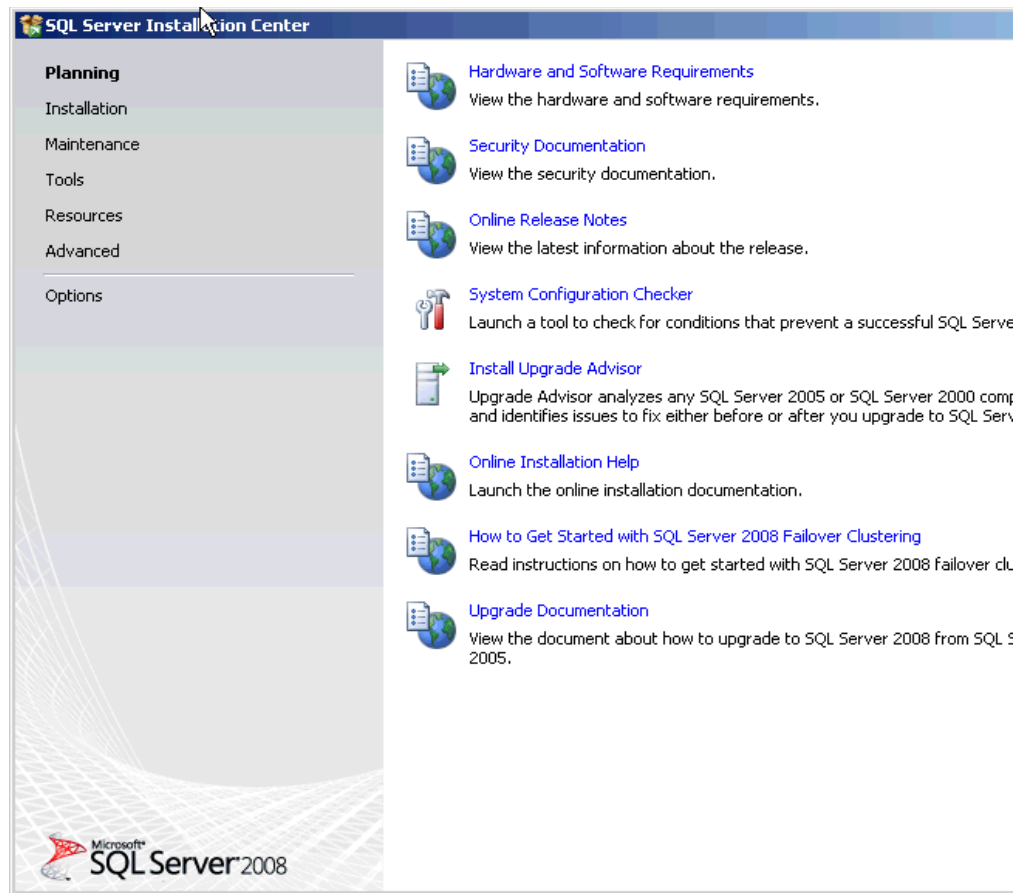
If this is a brand new operating system, the installer will have to enable the .NET Framework for the installation to continue.



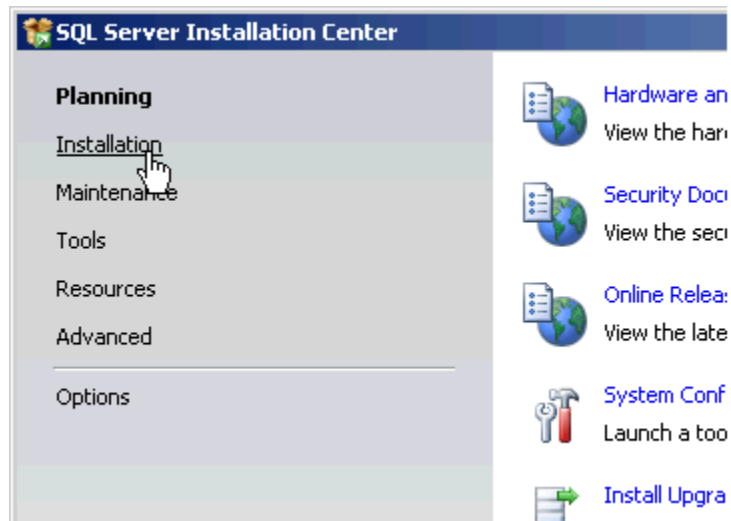
You will see this dialog prior to the main installation screen appearing.



Here is the main install screen.

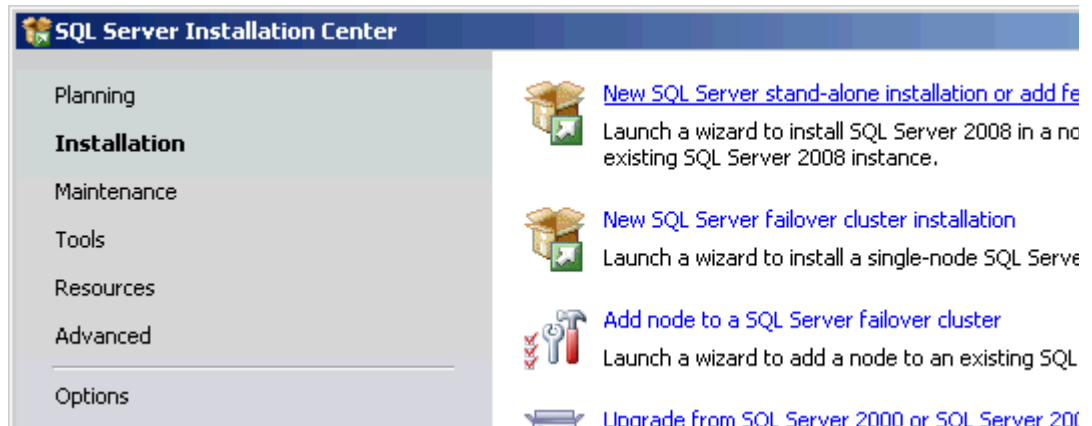


Now click on the Installation link.





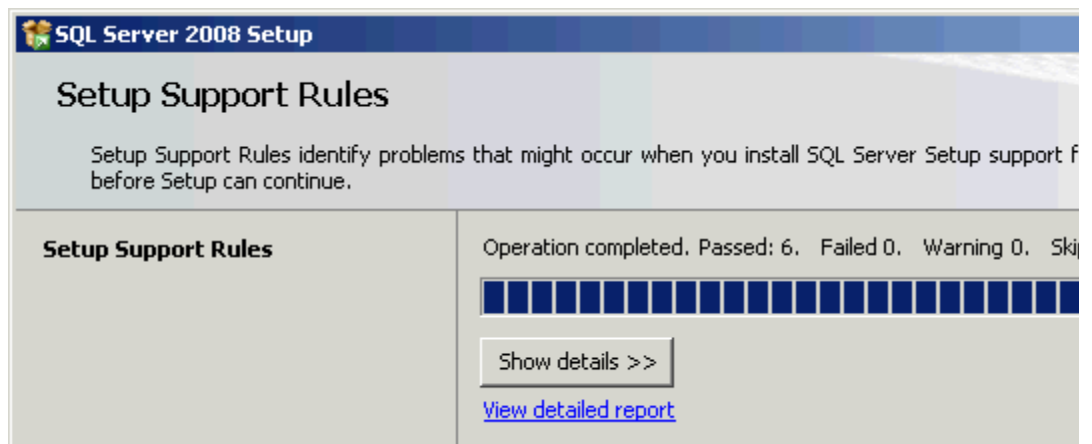
Click new installation or add features to an existing installation.



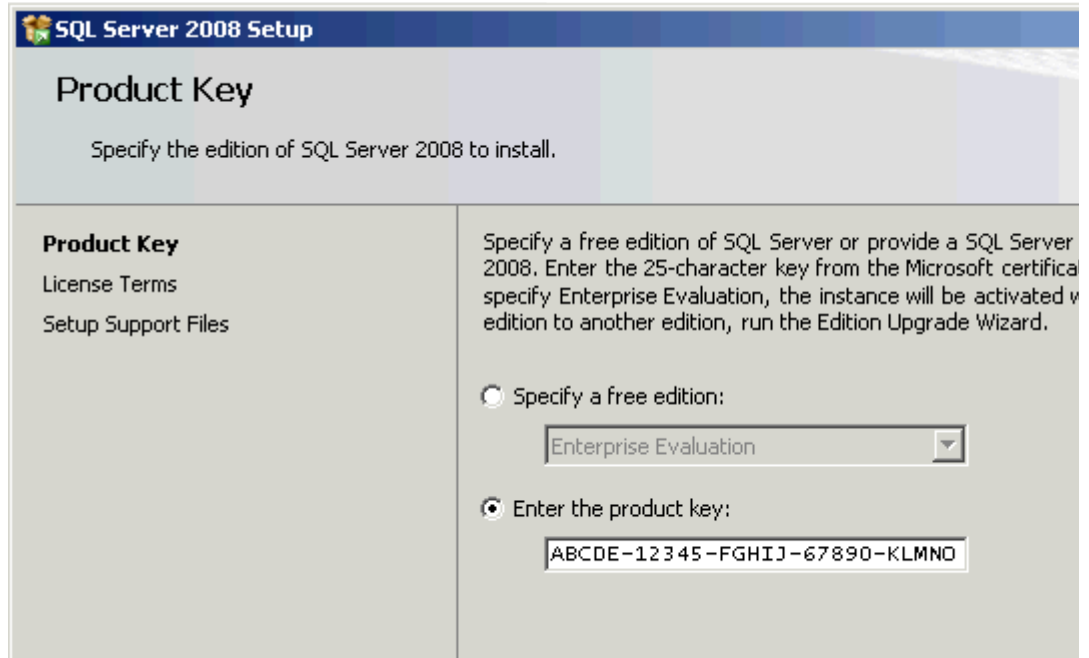
You will see this dialog prior to the main installation screen appearing.



Click OK in this dialog



A series of screens will appear but they are just informational. The next screen that requires action is the product key. Type in your appropriate information if it is not in there already and select next.



**SQL Server 2008 Setup**

## Product Key

Specify the edition of SQL Server 2008 to install.

**Product Key**  
License Terms  
Setup Support Files

Specify a free edition of SQL Server or provide a SQL Server 2008. Enter the 25-character key from the Microsoft certificate. If you specify Enterprise Evaluation, the instance will be activated when you specify a free edition, run the Edition Upgrade Wizard.

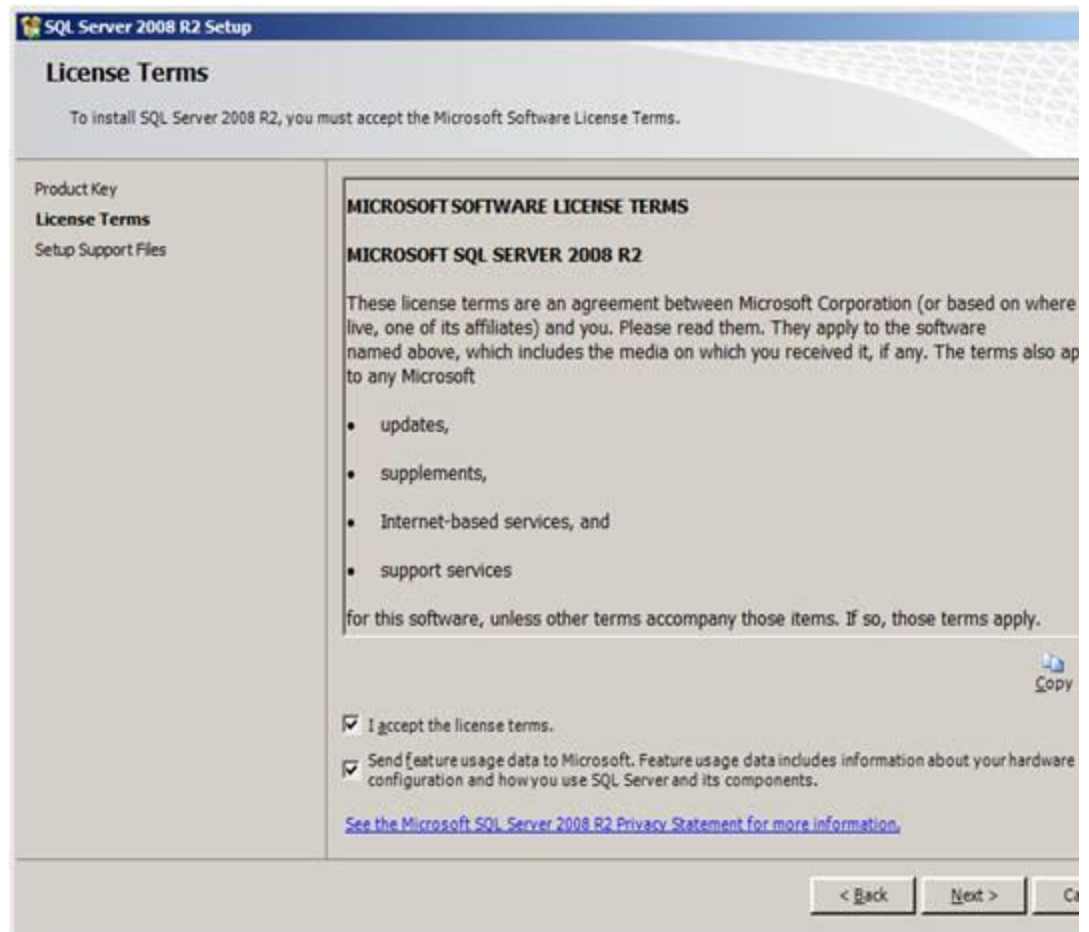
☐ Specify a free edition:

Enterprise Evaluation

☒ Enter the product key:

ABCDE-12345-FGHIJ-67890-KLMNO

Accept the license agreement.



**SQL Server 2008 R2 Setup**

## License Terms

To install SQL Server 2008 R2, you must accept the Microsoft Software License Terms.

Product Key  
**License Terms**  
Setup Support Files

**MICROSOFT SOFTWARE LICENSE TERMS**

**MICROSOFT SQL SERVER 2008 R2**

These license terms are an agreement between Microsoft Corporation (or based on where you live, one of its affiliates) and you. Please read them. They apply to the software named above, which includes the media on which you received it, if any. The terms also apply to any Microsoft

- updates,
- supplements,
- Internet-based services, and
- support services

for this software, unless other terms accompany those items. If so, those terms apply.

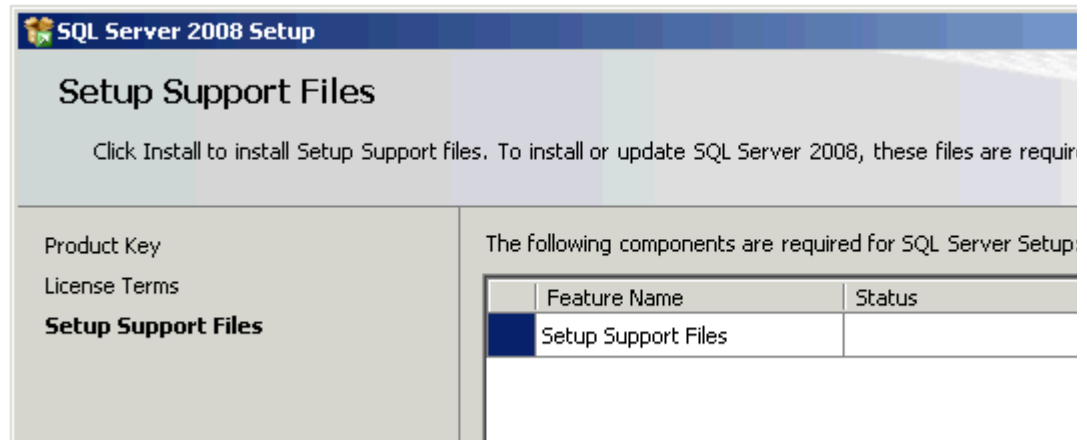
☒ I accept the license terms.

☒ Send feature usage data to Microsoft. Feature usage data includes information about your hardware configuration and how you use SQL Server and its components.

[See the Microsoft SQL Server 2008 R2 Privacy Statement for more information.](#)

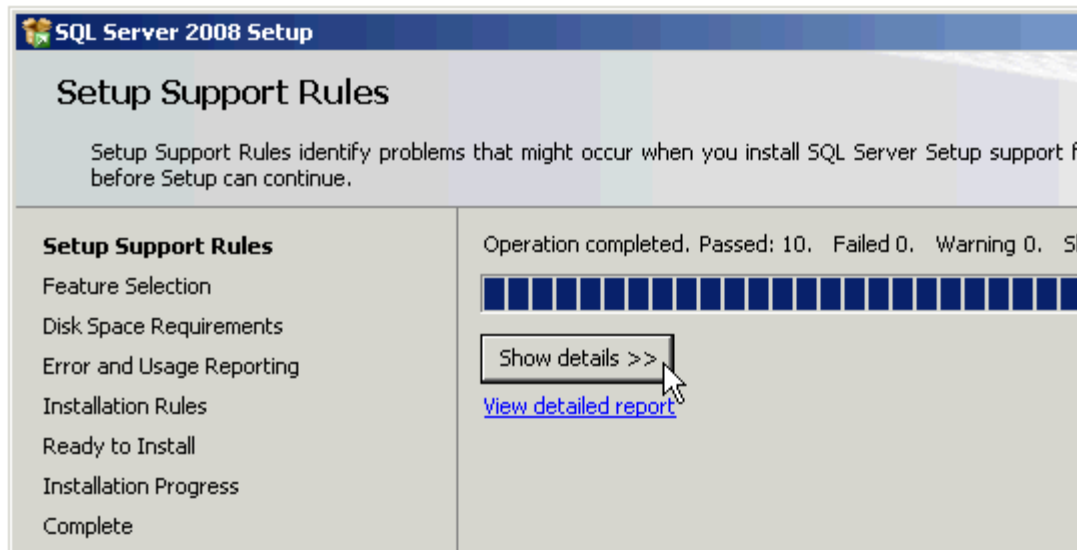
< Back   Next >   Cancel

Click Install

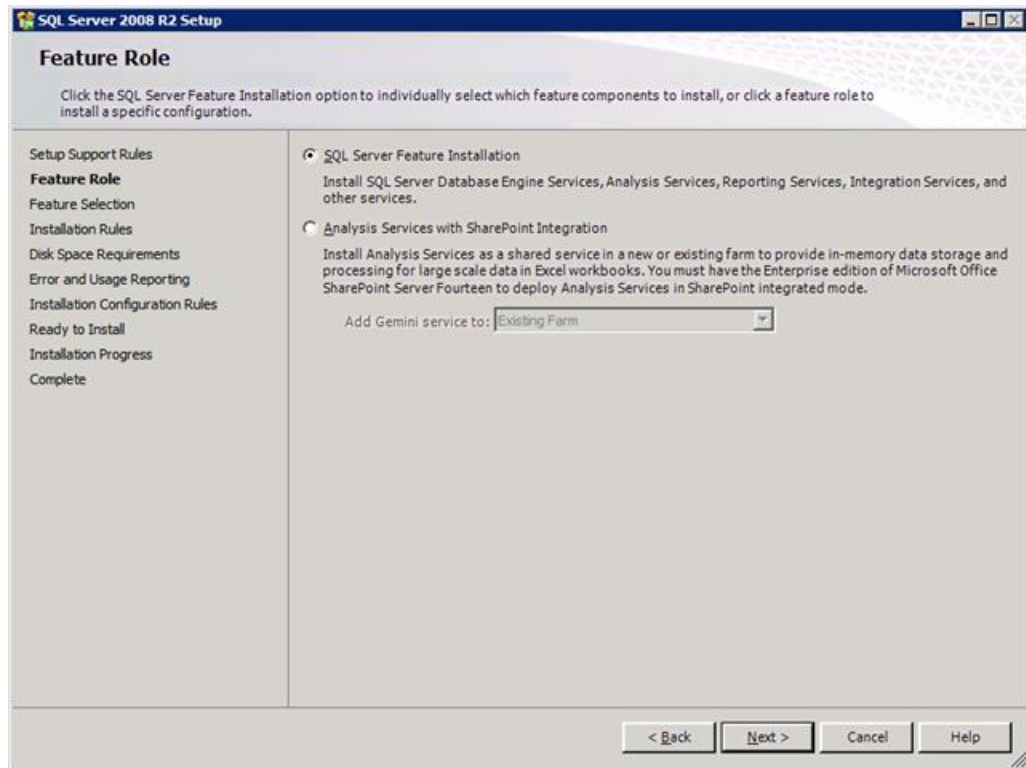


We will address the SQL firewall setting in the next module. Check and resolve anything errors that are found here.

Click Next

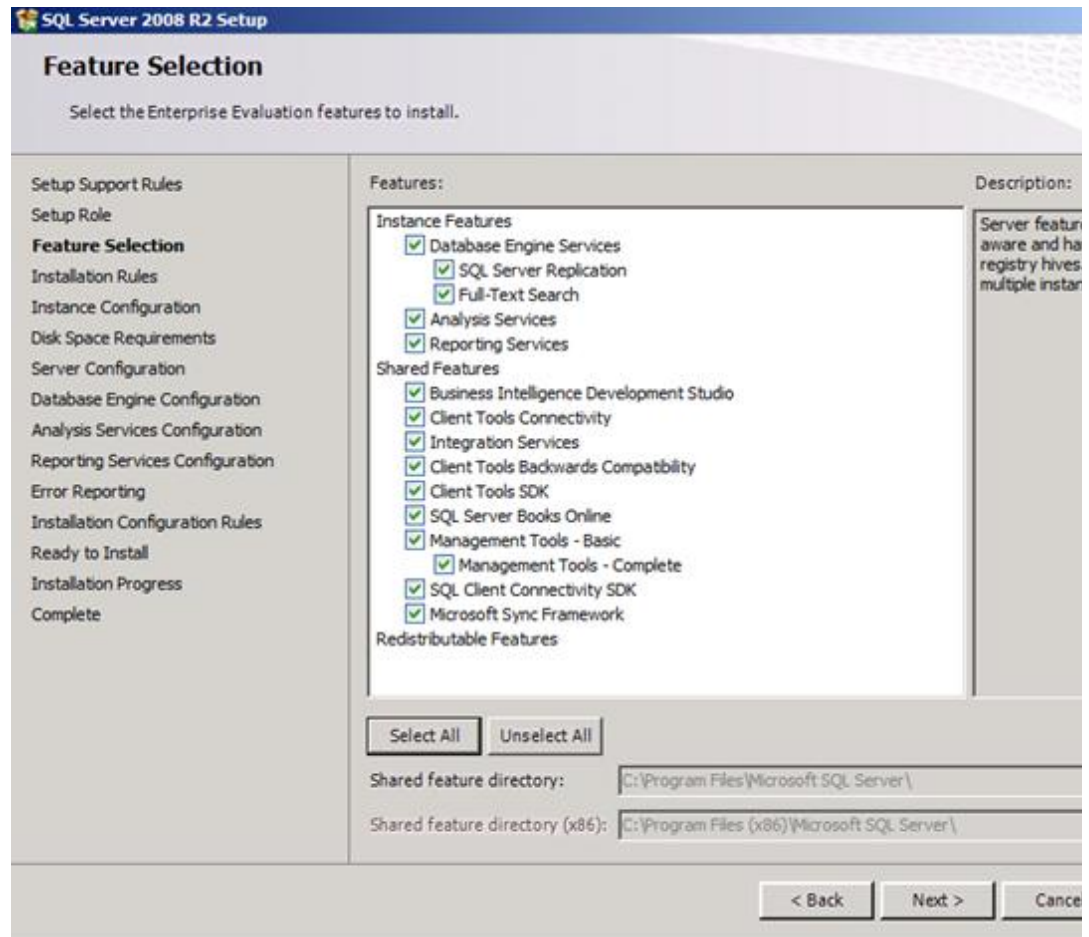


Click Next



Check the “SQL server replication” checkbox and the “SQL Client Connectivity SDK”. I highly recommend selecting SQL Management Tools as well, since this will allow you to administer SQL via the SQL Management Console. Each parent box should get checked as well but double check. Now select the Next button.

Click Next again.



Select the radio button in front of “Named instance” and type in AUTODESKV AULT. This should change the instance id to that as well. Select Next once that is done.

**SQL Server 2008 Setup**

### Instance Configuration

Specify the name and instance ID for the SQL Server instance.

☒ Default instance  
☐ Named instance:

Instance ID:

Instance root directory:

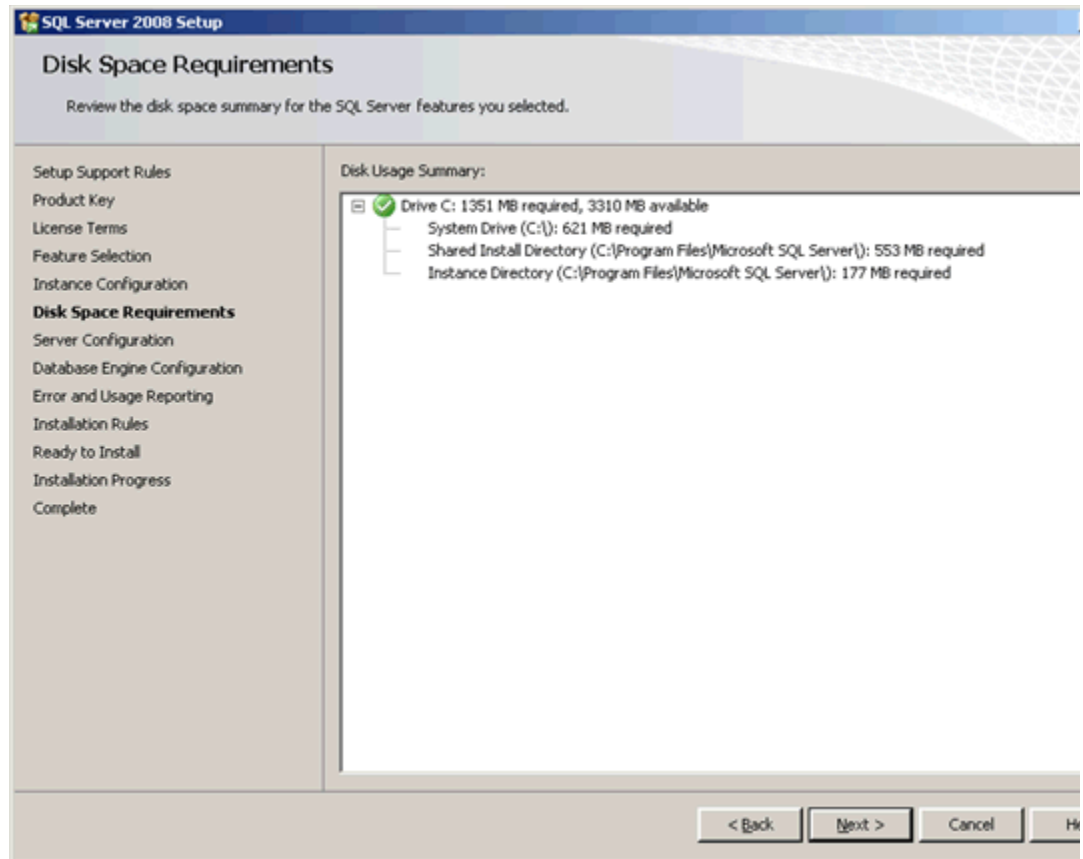
SQL Server directory:

Installed instances:

Instance	Features	Edition	Version	Instance ID
----------	----------	---------	---------	-------------

< Back   Next >   Cancel   H

Click Next



I always make sure that all the service accounts run under the same name. But if you have separate accounts for each, feel free to use them. Document the users that you used for these. It will be needed later. Set the SQL Server Agent to Automatic. The reason being is replication will not work if the Agent isn't running. Select the Next button.

**SQL Server 2008 R2 Setup**

### Server Configuration

Specify the service accounts and collation configuration.

Service Accounts | Collation

Microsoft recommends that you use a separate account for each SQL Server service.

Service	Account Name	Password	Start Name
SQL Server Agent			Man...
SQL Server Database Engine			Aut...
SQL Server Browser	NT AUTHORITY\LOCAL S...		Aut...

Use the same account for all SQL Server services

< Back   Next >   Cancel



On this screen, I make sure to select "Mixed Mode". This is a requirement for replication to work. You are required to enter a password for the sa account. Based on domain policies a strong password for sa is usually required. Select the "Add Current User". Once everything is populated accordingly select the Next button.

The screenshot shows the 'Database Engine Configuration' window in the SQL Server 2008 R2 Setup. The window has a title bar 'SQL Server 2008 R2 Setup' and a subtitle 'Database Engine Configuration'. Below the subtitle is the instruction 'Specify Database Engine authentication security mode, administrators and data directories.' The window is divided into two main sections. On the left is a navigation pane with a list of setup steps: 'Setup Support Rules', 'Setup Role', 'Feature Selection', 'Installation Rules', 'Instance Configuration', 'Disk Space Requirements', 'Server Configuration', 'Database Engine Configuration' (which is highlighted), 'Error Reporting', 'Installation Configuration Rules', 'Ready to Install', 'Installation Progress', and 'Complete'. The main area on the right is titled 'Account Provisioning' and contains the following elements: a tabbed interface with 'Account Provisioning', 'Data Directories', and 'FILESTREAM' tabs; a section 'Specify the authentication mode and administrators for the Database Engine.' with 'Authentication Mode' options where 'Windows authentication mode' is selected and 'Mixed Mode (SQL Server authentication and Windows authentication)' is unselected; a text box 'Specify the password for the SQL Server system administrator (sa) account.' followed by 'Enter password:' and 'Confirm password:' input fields; a section 'Specify SQL Server administrators' with a list box containing two empty circles and buttons 'Add Current User', 'Add...', and 'Remove'; and a note on the right stating 'SQL Server administrator have unrestricted access the Database Engine.' At the bottom of the window are three buttons: '< Back', 'Next >', and 'Cancel'.

Select the Next button

**SQL Server 2008 Setup**

## Error and Usage Reporting

Help Microsoft improve SQL Server features and services.

Setup Support Rules  
Product Key  
License Terms  
Feature Selection  
Instance Configuration  
Disk Space Requirements  
Server Configuration  
Database Engine Configuration  
**Error and Usage Reporting**  
Installation Rules  
Ready to Install  
Installation Progress  
Complete

Specify the information that you would like to automatically send to Microsoft to improve future releases of Server. These settings are optional. Microsoft treats this information as confidential. Microsoft may provide updates through Microsoft Update to modify feature usage data. These updates might be downloaded and installed on your machine automatically, depending on your Automatic Update settings.

[View the Microsoft policy for SQL Server privacy and data collection.](#)

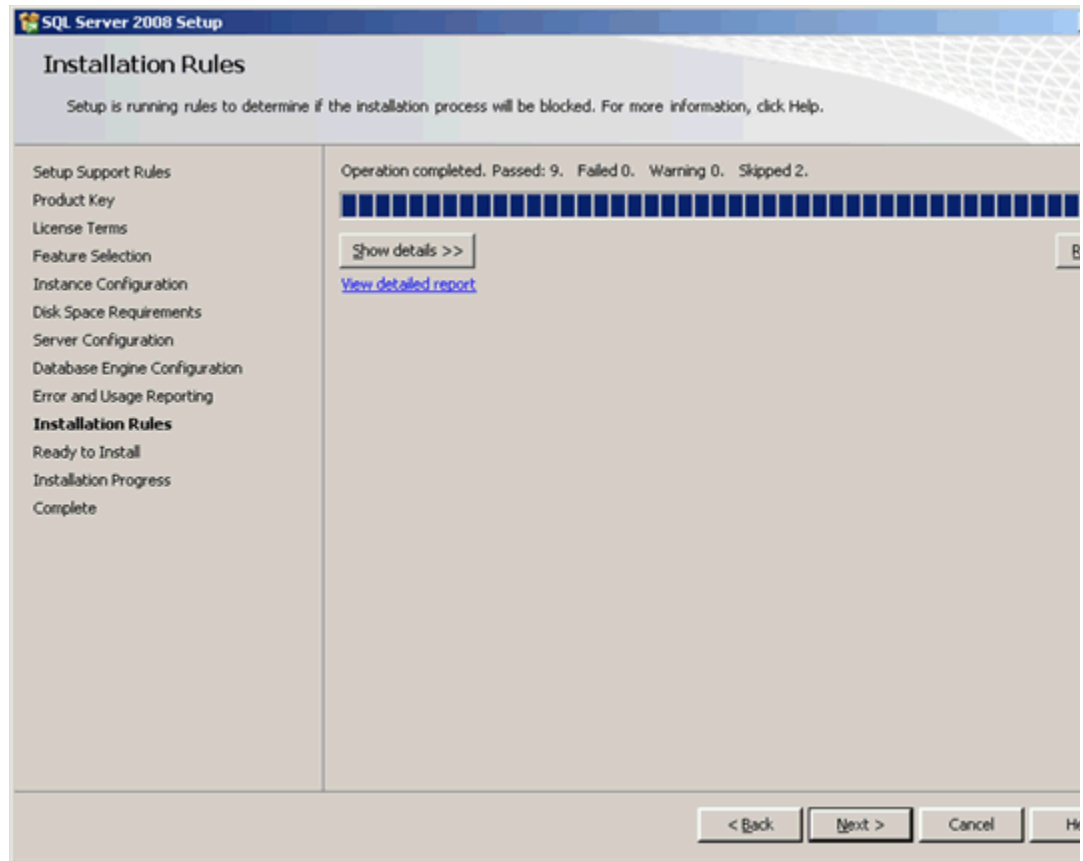
[Read more about Microsoft Update and Automatic Update.](#)

☐ Send Windows and SQL Server Error Reports to Microsoft or your corporate report server. This setting applies to services that run without user interaction.

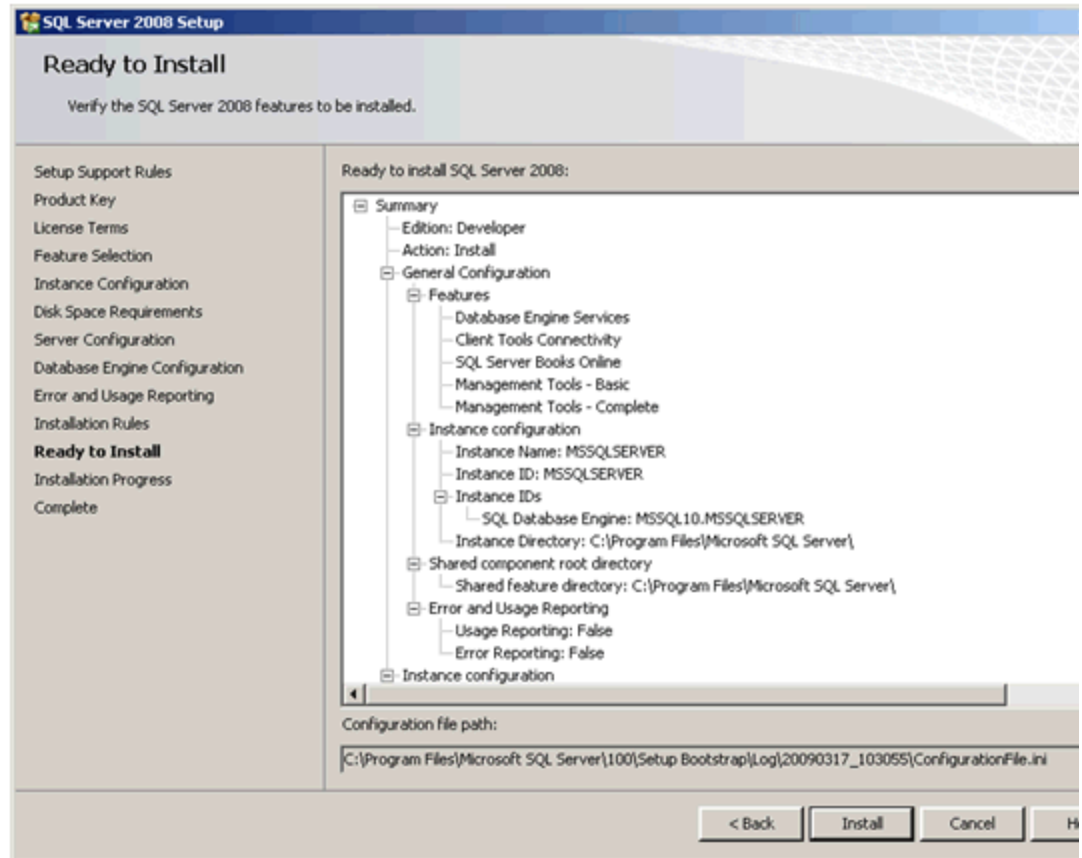
☐ Send feature usage data to Microsoft. Feature usage data includes information about your hardware configuration and how you use Microsoft software and services.

< Back   Next >   Cancel   Hi

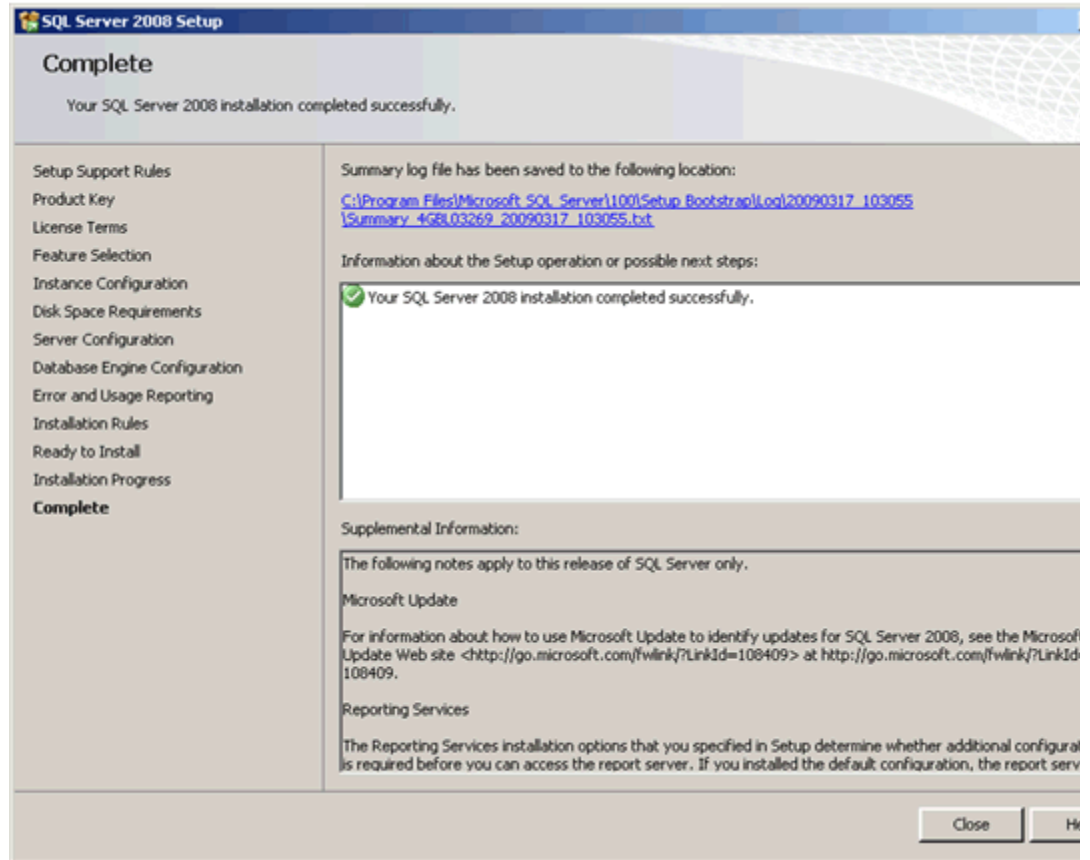
Select the Next button



Select the  
Install button



Select the  
Close button



Close the  
dialog (click X)



## Learn how to install and configure Autodesk Vault for replication

This will give you a quick over on some of the essential items that you need to set up prior to installing the ADMS. It will explain the installation of the ADMS as well.

### Prep work on the Publisher

By doing some initial prep work on the Publisher it will make a seamless installation of the Subscriber. I would refer to the Advanced Configuration guide for guidance as well (See Appendix).

One of the main requirements is what we refer to as the “replicated user”. It is highly recommend that this user be a domain user. This user will be the one handling the replication between the various workgroups. Please follow the policies of your organization in terms of password and usage. It is highly recommended that you use a strong password for the user and if possible set the password to never expire.

Another key area is shared folders. For this, I create a folder for database replication and one for file store replication. I name these folders ReplicationShare and MultisiteShare, respectively. The main reason why you would want to use a similar naming convention is that it will allow you to quickly assess the use of the folder. These folders require a certain level of permissions. Namely, both the user account under which the Autodesk Vault server runs and the user account under which the SQL instance operates, need full control access to the shared network folder. We also need to make sure that the SQL Server Agent user is added as well.

When testing there are times that a couple pre-checks come up regularly. You will want to disable UAC prior to starting the installer. The firewall is key as well. Richard has a great blog that helps explain the firewall settings in great detail. Instead of reposting this information, I will just refer you to his webpage which is located in the Appendix section. Also, in the appendix there is a guide on how to quickly assess that the firewall is indeed set up properly. The other one is around IIS. I always wait on the IIS issue. The reason being is that you might not have IIS installed until after the install is complete. Since it is a warning, we can skip over it and come back to it later. Again, there is a link the Appendix that leads to a great article that demonstrates how to set the value accordingly.

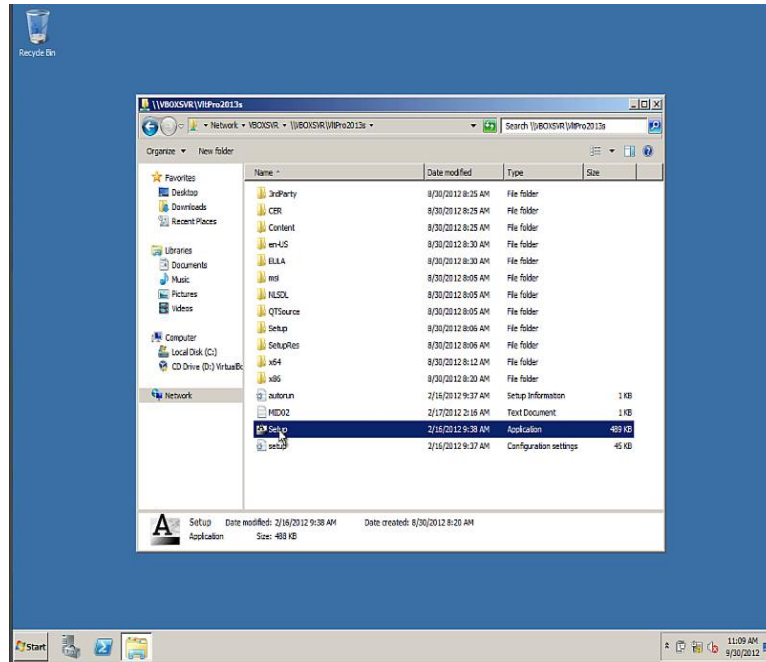
The main take away here is that you always want to make sure that the pre-checks have all past prior to continuing with the installation. The warnings are items that you can resolve later. Also, the wiki is a great source to help better explain the warnings and errors that you might see during the install.

## Install a publisher workgroup

Click on the installer

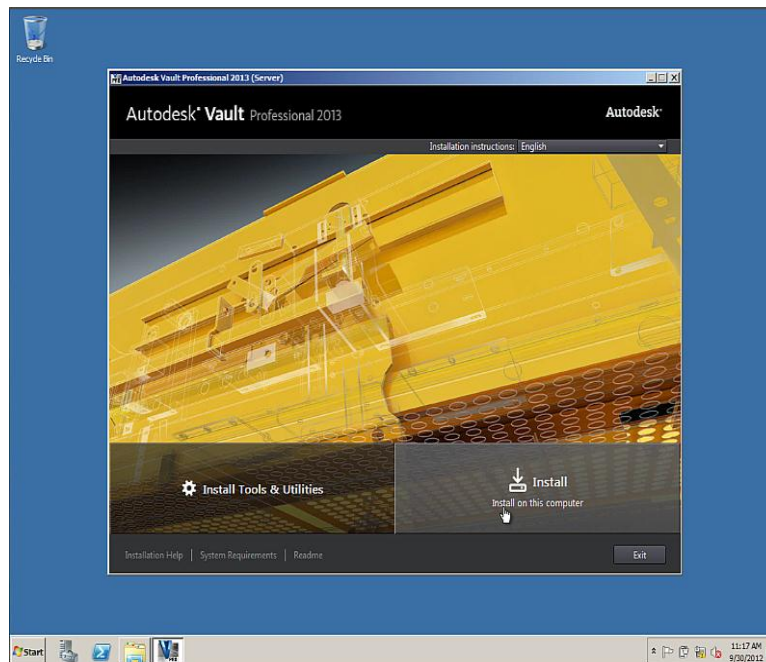
It will prompt if you want to run the installer...just accept it.

It will preload a set of programs that are required for the installer to complete.



This is the first screen you have to do something with.

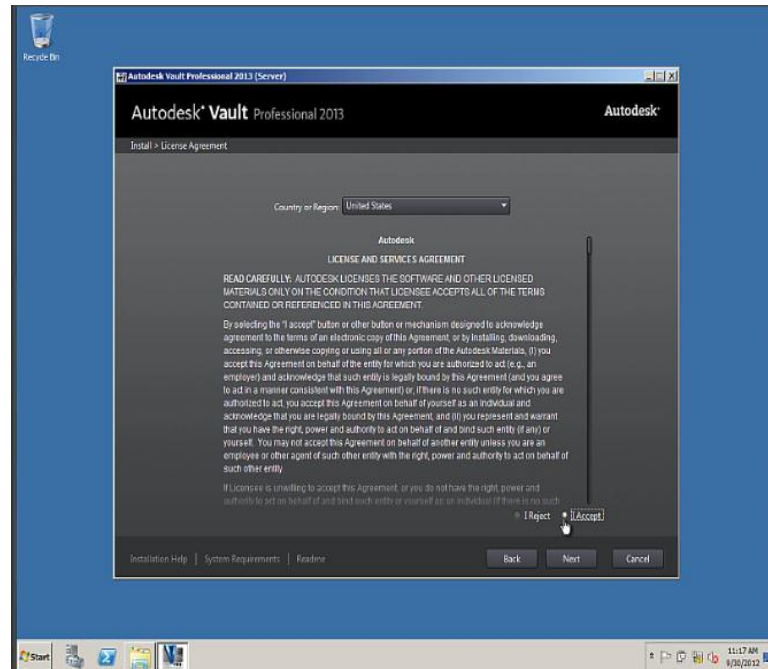
Click the "Install" option.





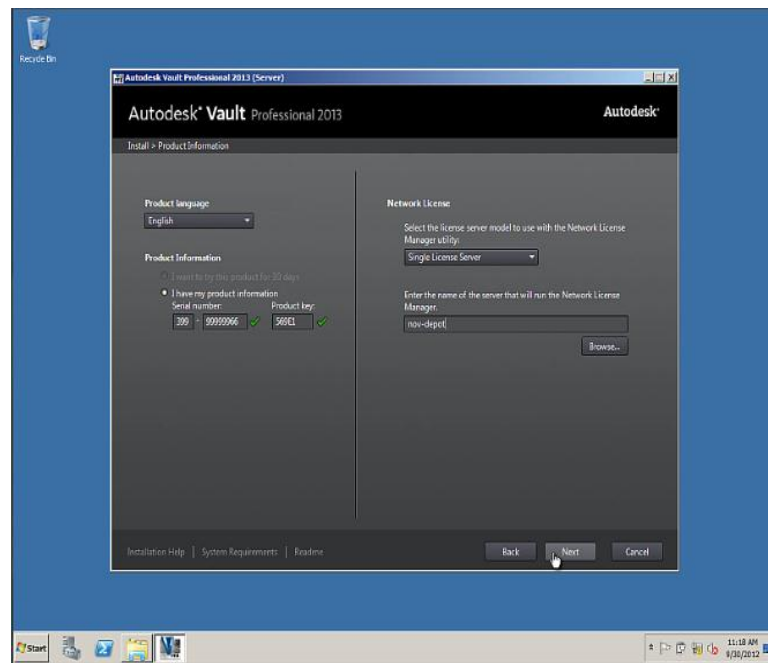
Go over the license agreement.

Select Next



Fill out this screen with the appropriate information.

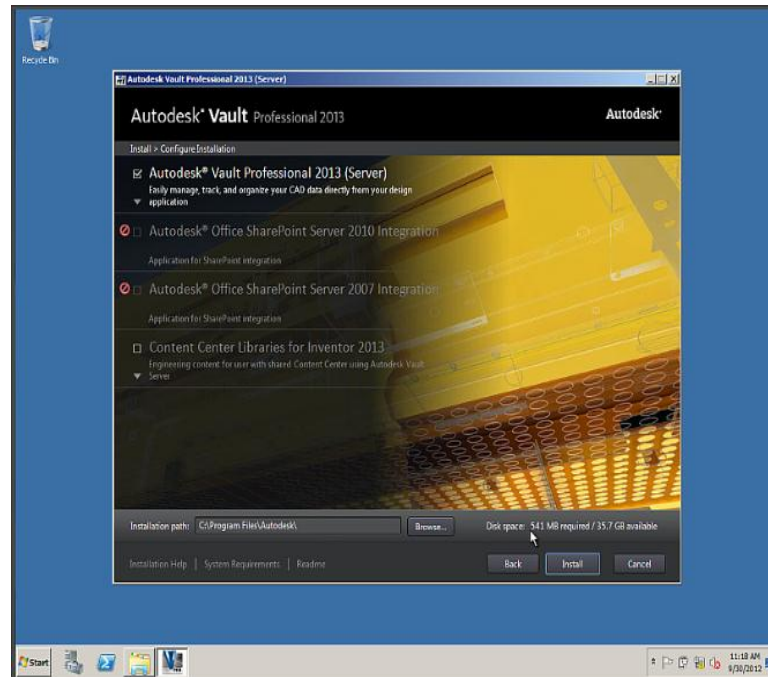
Click Next



Expand the arrow to customize the install.

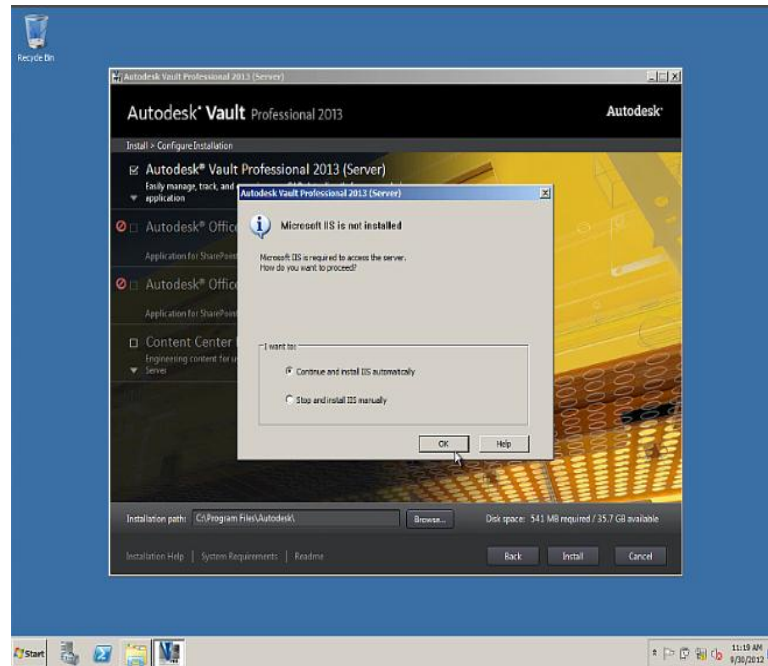
In that drop down you can setup a remote SQL or you change the sa password. There are other options in there as well. Feel free to investigate on your own. Once you are done minimize the box and

Select Install.



You can either choose to have the installer install IIS or you can configure it yourself. Please refer to the Advanced Configuration Guide, if you would like to install it yourself. The link is located in the Appendix.

Select OK.

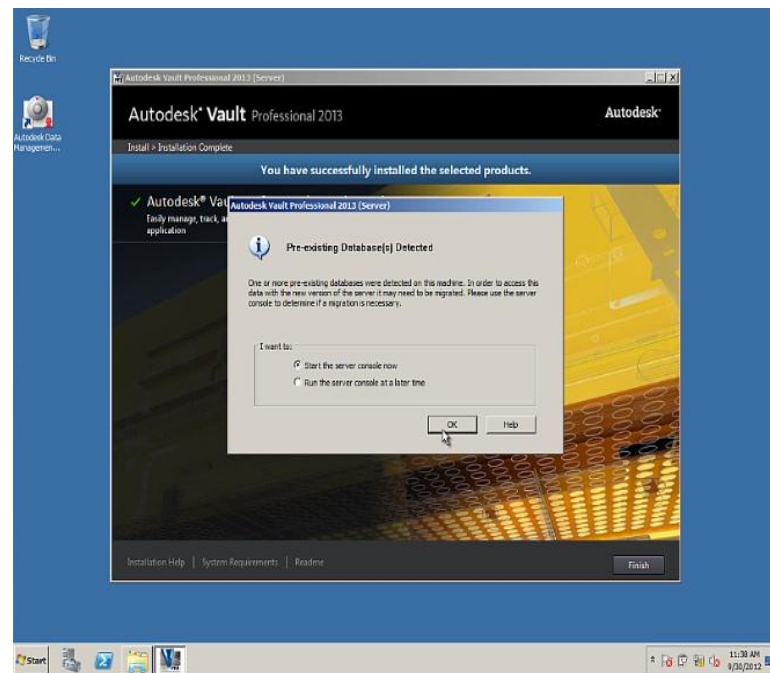


Since we already installed SQL, we would want to select YES on this dialog.

Assuming all goes alright and we configured everything properly, the pre-checks should just pass. And we can select Continue.

Click finish when the installation is done.

I leave the “Start the server console now” option highlight since I normally go in and configure a few things up front. So let’s just select OK here.



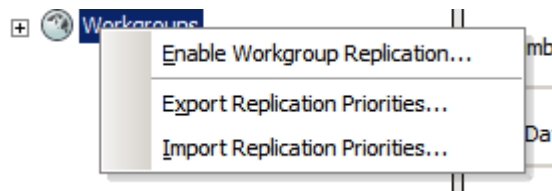
### *ADMS is installed... Now what?*

We now have the ADMS installed. We have going to have to go into the ADMS. Here are the steps to enable replication. In the presentation, I mentioned that this is cached on the ADMS. This is true but it is only true for that session.

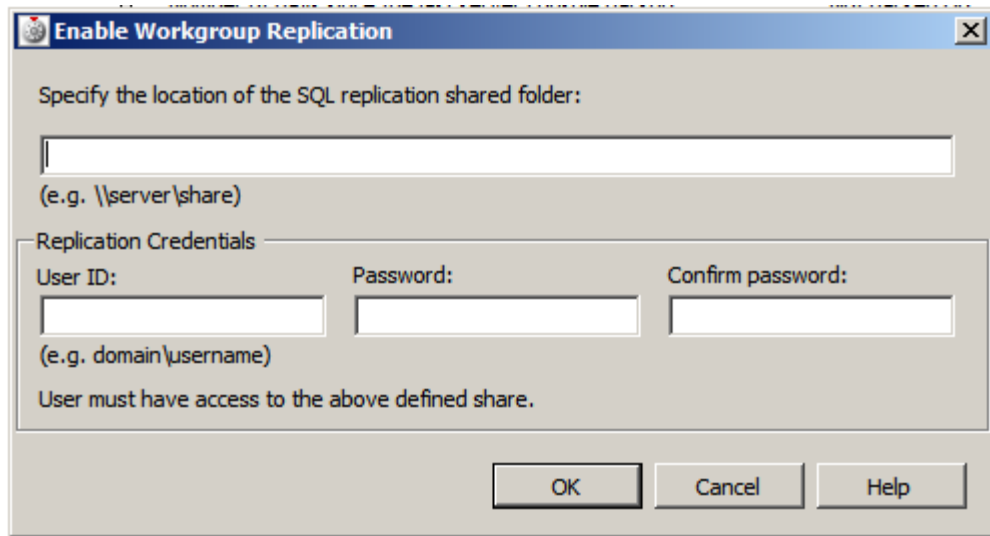
Select the Workgroup Node

RMB Enable Workgroup Replication

You may be prompted for the sa password



Fill out the dialog accordingly using the data we stored away earlier



**Enable Workgroup Replication**

Specify the location of the SQL replication shared folder:

(e.g. \\server\share)

Replication Credentials

User ID:  Password:  Confirm password:

(e.g. domain\username)

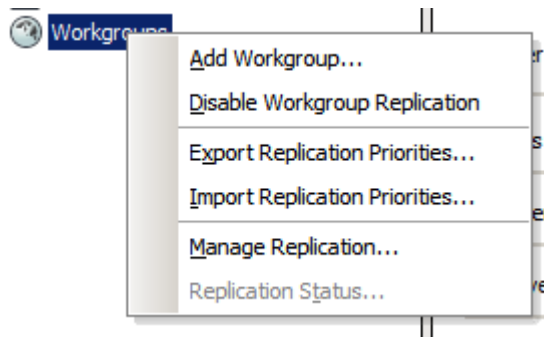
User must have access to the above defined share.

OK Cancel Help

We are going to need to add another Workgroup

Select the Workgroup Node

RMB Add Workgroup



Fill out the dialog accordingly.

Enter the name of your workgroup (server name).

Enter your workgroup label.

Enter the name of the SQL instance (server name)

If you did not use the default sa, uncheck the checkbox and for User ID enter sa and for password enter your password.

Enter in your replicated user in the Remote Replication Credentials section.

Click OK when you are done.

**Add Workgroup**

Workgroup Name:

Workgroup label:

Specify the remote computer name where the SQL instance (AutodeskVault) exists:  
 \AutodeskVault

**Remote SQL Credentials**

☒ Use default SQL user ID and password

User ID:  Password:  Confirm password:

**Remote Replication Credentials**

User ID:  Password:  Confirm password:

(e.g. domain\username)

User must have access to '\\novJIMauPUB\ReplicationShare'.

OK Cancel Help

### ***Install the Subscriber***

You cannot install the subscriber until everything on the Publisher has finished. Namely, everything mentioned above here has to be done. If you start the install sooner, you will not be able to make the Subscriber a Subscriber. There are bits that get set from the Publisher to the Subscriber to make the environment function properly. Sometimes if you start the Subscriber site installation prior these bits arriving on the Subscriber's SQL a warning will show up in the pre-checks. Just wait a few minutes and try the "re-test" option again. Eventually all the bits will arrive and you can continue the installation. Please note that the installation of the Subscriber ADMS is the same as the installation of the Publisher ADMS.

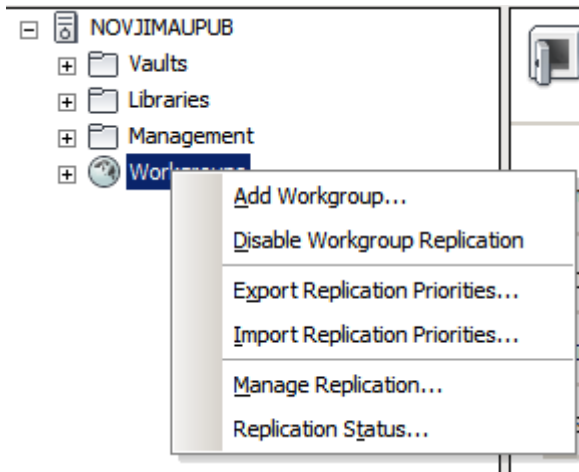
### ADMS is installed... Now what?

So currently, we have both SQL environments up and running and have ADMS installed on both workgroups. Now we must send the Vaults & Libraries that we want to replicate.

#### On the Publisher

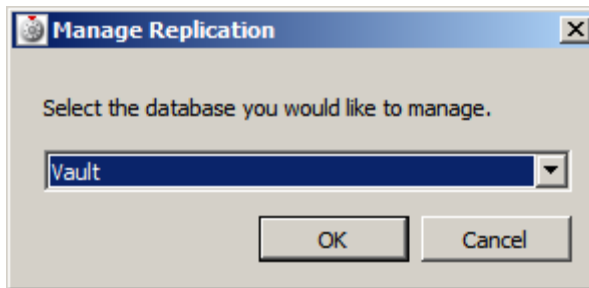
RMB on the Workgroup node

Select Manage Replication

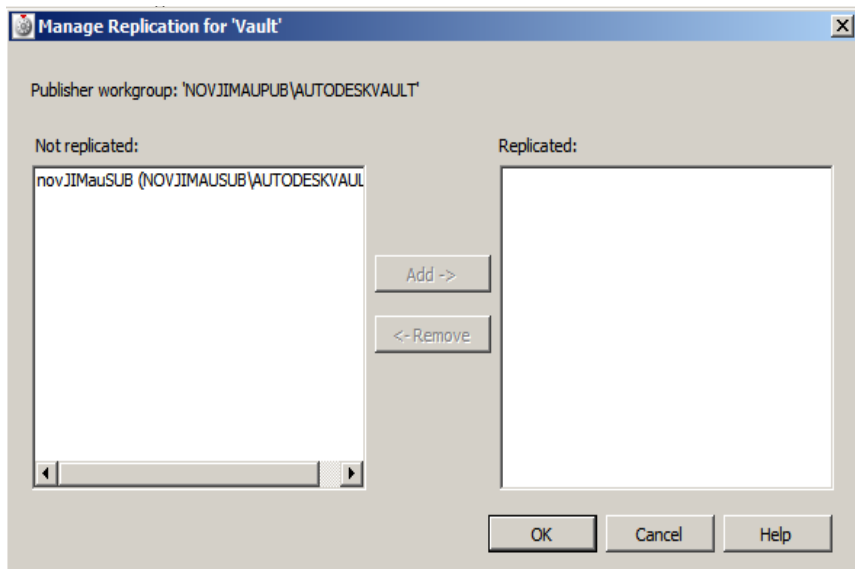


Select the vault that you want to replicate

- Select the subscribers you want to replicate the vault too



Select the subscribers you want to replicate

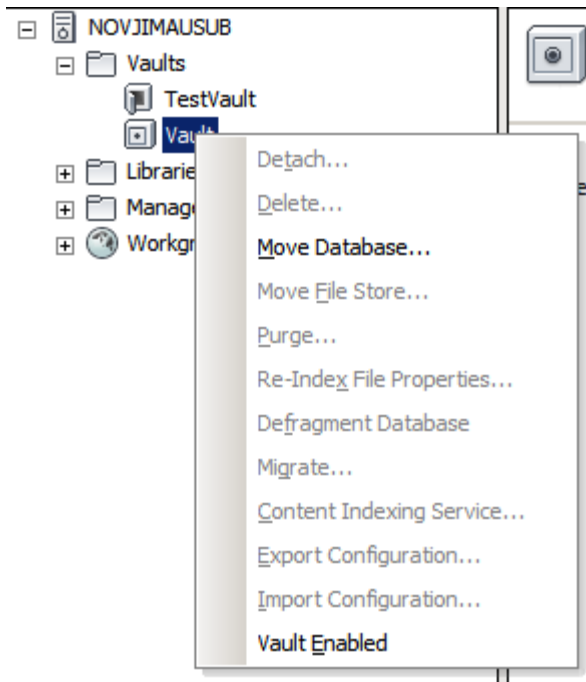


#### On the Subscriber

Go to the appropriate Subscriber

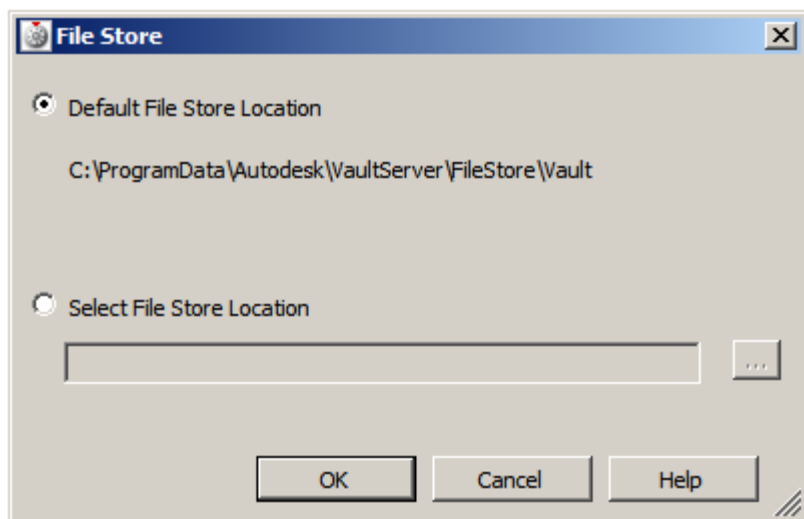
Select the "Vaults" node and expand it

RMB on the vault and select "Vault Enabled"

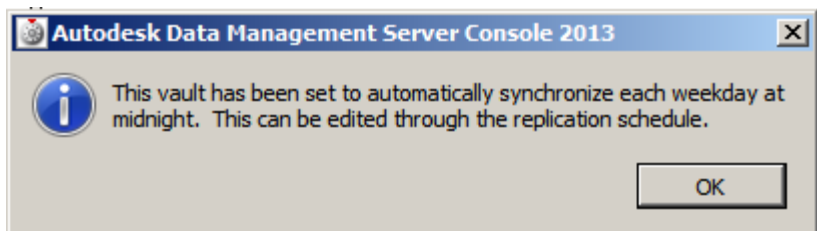


Select the appropriate filestore location

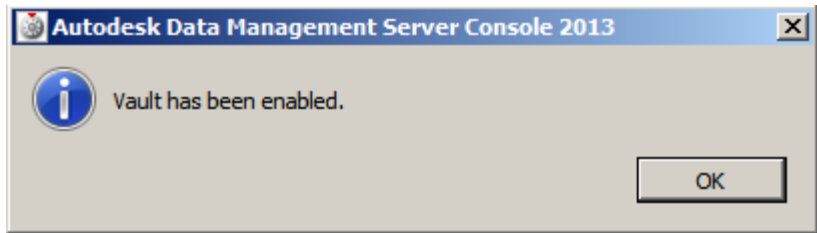
Click OK



Click OK



Click OK



### *Make sure replication is functioning properly*

Once that is done we will need to make sure that our environment is indeed setup properly. In order to do this, we must run a couple tests. You would want to add a file to the Publisher workgroup. Check it out & Modify it & check it back in. Feel free to check out other workflows that are important to your organization. Move to a Subscriber workgroup and transfer ownership of the previously existing file and repeat the same steps we did on the Publisher. You will want to do this on all the Subscriber sites until you are done with your environment. You might want to transfer ownership back to the publisher when you are done to complete the circle. By performing these tests you will be validating that the file store and database replication are working properly. At this point in time, your environment is ready for use.

## **Learn the how to upgrade an Autodesk Vault replicated environment**

Answers to key questions will be answered in this section, in particular:

- Backing up / restoring on environment
- Upgrading from release to release

### **Backing up / restoring an environment**

#### *How does backup and restore work?*

Disaster recovery is very important in a full replicated environment. Backup and restore in a replicated environment is similar and yet different than a traditional backup and restore of a non-replicated environment. Let's focus on the out of the box solution. The ADMS Console can be used to perform a backup on the publisher. However, subscribers cannot be backed up using the ADMS Console. A restore can only be done at a site in the Publisher's workgroup. This type of restore will require you to rebuild all of your Subscribers. This is very important to understand. 3<sup>rd</sup> party software can be used in place of using the ADMS Console but needs to be tested to verify that a successful restore can be performed.

#### *What to Backup if you are using a 3<sup>rd</sup> party utility*

So what are the key things that I need to worry about if I am going to use a 3<sup>rd</sup> party utility. The software used for backup should have the following capabilities:



1. A SQL server backup agent for backing up and restoring the databases.
2. Ability to restore the SQL Master and MSDB databases.
3. Ability to verify the backed up database or file.
4. Ability to work within a replicated SQL server environment.
5. Ability to send e-mail alerts to administrators in the event of a backup failure. (This is a suggestion, not a requirement).
6. Ability to back up and restore the databases and file store with security settings.

A detailed white paper with instructions for backing up and restoring using 3<sup>rd</sup> party software can be found here: [Using 3<sup>rd</sup> Party Tools to Backup/Restore Autodesk Vault](#).

### *Keys to success*

Now that you have the environment setup and know how to perform a backup restore. It is good practice to make sure your databases and file stores are backed up regularly. Here at Autodesk, we have a backup schedule in place that performs a full back-up on Sunday using the out of the box solution with incremental backups scheduled during the week. About once a month in a testing environment, I perform a restore just to make sure things are still running smoothly. It is always a good practice to have each site backup their file store on a regular basis since a local backup will be faster restore than say something from half way around the world. You will want to take regular validation checks on your file store. I mentioned earlier about restoring in a test environment. You would want to have this environment to test updates or anything else that you might want to do in a production environment prior to doing it in a production environment. Regular monitoring of your system is always a good idea to make sure that it is running effectively. I would suggest setting up SQL messaging to help notify you if your environment is not synchronizing properly. It is better to be warned in advance instead of finding out you have a problem after the retention period has expired. The default retention is a 14 day retention period.

### *Restore Requirements*

We talked about backups and mentioned restores. Restoring is an interesting process. Using the out of the box solution will not allow a restore until you disable replication. In essence, you have to recreate the environment based off the restore point. If you are planning on using the 3<sup>rd</sup> party utilities, depending what you backed up, you should be able to restore a site / workgroup with taking out the entire environment. You will need to restore the data on a machine with the same name. With the out of the box solution, you can use a machine with a different name it will just show up as a new site within the publisher workgroup. This is fine for your test environment and could be tricky for your production environment since everyone will be so used to going to a specific machine name. Whether you are using a test environment, the same machine or a newly built machine with the same name, the SQL Server edition must be the same as the original SQL Server edition. If you are restoring a subscriber, the backup used for the restore process must not be older than 14 days. If you do not have a backup within the 14 day retention period, you must delete the subscriber's workgroup in the ADMS Console on the publisher and recreate it. If you are restoring the publisher, the backup used for the restore process must not be older than 14 days from the last synchronization date of all subscribers.

To ensure that your backup set will restore properly, it is a good practice to periodically test both your backup and restore procedures.

To test your backup, Autodesk recommends that you install ADMS on a separate computer and restore your backups on a regular basis.

### Upgrading from release to release

#### *How do I upgrade from one release to another?*

Always backup your environment prior to any type of upgrade. At the least, I would take two database backups, one a week or two weeks prior to performing the upgrade and the other as close to the upgrade as possible. The backup taken a week or two prior to performing the upgrade will allow you to restore the backup inside a test environment. The key here is that by doing a migration in a test environment will allow you to better plan the down time that your users will experience. With 2013, you can install the new version of the product on top of the older version. Remember we support migration from 2 releases back to the current release. Once you are comfortable with how an upgrade works in your test environment you can perform it in your production environment. The first site that must get upgraded is a site that is contained within the Publisher workgroup. Once that site is upgraded and migrated, you can finish up the other sites in the Publisher workgroup. Next you can move to a site within the Subscriber workgroup that you want to upgrade next. This time a migration will not be needed since the publisher will be pushing over the updated data for you. Once the update is complete you can move to the other sites contained within that subscriber group. At this point, you keep moving from subscriber to subscriber until your environment is done. Next is to validate that the upgrade did indeed work properly.

#### *Make sure replication is functioning properly*

Once that is done we will need to make sure that our environment is indeed setup properly. In order to do this, we must run a couple tests. You would want to add a file to the Publisher workgroup. Check it out & Modify it & check it back in. Feel free to check out other workflows that are important to your organization. Move to a Subscriber workgroup and transfer ownership of the previously existing file and repeat the same steps we did on the Publisher. You will want to do this on all the Subscriber sites until you are done with your environment. You might want to transfer ownership back to the publisher when you are done to complete the circle. By performing these tests you will be validating that the file store and database replication are working properly. At this point in time, the upgrade is complete and your environment is ready for use.

## Appendix A – Environment Information Sheet

Here is a potential template that you can use to store key information from your environment.

<b>Publisher Information</b>	
ADMS Console Machine Name	
Operating System (ADMS)	
SQL Machine Name	
Operating System (SQL)	
SQL Version	
SA password	
Vault Product (Year/Version)	
Vault Service Pack Level	
Vaults	
Replication Share Location	
Multi-site Share Location	

<b>Subscriber Information</b>	
ADMS Console Machine Name	
Operating System (ADMS)	
SQL Machine Name	
Operating System (SQL)	
SQL Version	
SA password	
Vault Product (Year/Version)	
Vault Service Pack Level	
Vaults:	
Replication Share Location	
Multi-site Share Location	

## Appendix B – Validate a replicated environment

Here is a generic overview of how to validate a replicated environment.

- I. Establish that replication is indeed working properly.
  - a. On the Publisher
    - i. Create a temporary folder
    - ii. Add a file to that folder
    - iii. Send ownership to a Subscriber
  - b. On the Subscriber
    - i. VALIDATE: the proper version of the file is showing up and that the data is there via an open in window operation.
    - ii. Get a previous version of the file.
    - iii. VALIDATE: that the version is correct in terms of data and file properties.
    - iv. Get ownership of the file.
    - v. Check-out the file.
    - vi. Modify the file
    - vii. Check the file back in
    - viii. Repeat Step b. until the last Subscriber
  - c. On the last Subscriber send the ownership back to the Publisher
    - i. Open the file on the Publisher
    - ii. VALIDATE: the proper version of the file is showing up and that the data is there via an open in window operation.
  - d. Assuming the above passed. Your environment is now replicating properly without any issues.

## Appendix C – Important links referenced in the presentation

Richard Rankin's blog: <http://crackingthevault.typepad.com/crackingthevault/>  
Autodesk Vault Wiki page: <http://wikihelp.autodesk.com/Vault/enu/Help>  
Advanced Configuration Guide: [http://wikihelp.autodesk.com/Vault/enu/Help/Help/0206-Autodesk206/0264Advanced\\_Configuration](http://wikihelp.autodesk.com/Vault/enu/Help/Help/0206-Autodesk206/0264Advanced_Configuration)

IIS settings located on the Wiki: [http://wikihelp.autodesk.com/Vault/enu/Help/Help/0206-Autodesk206/0210-About\\_Yo210/0211-Vault\\_In211/0229-IIS\\_Time229](http://wikihelp.autodesk.com/Vault/enu/Help/Help/0206-Autodesk206/0210-About_Yo210/0211-Vault_In211/0229-IIS_Time229)

SQL Firewall Link: <http://crackingthevault.typepad.com/crackingthevault/replication/>

The article referenced a Microsoft knowledge article: <http://support.microsoft.com/kb/968872>

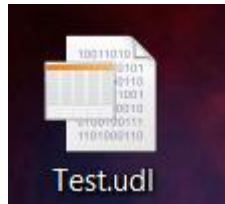
## Appendix D – How to use Test.udl to test firewall

Once I feel the firewall is set properly, I create a test.udl program to test the configuration.

Create a text file on your desktop

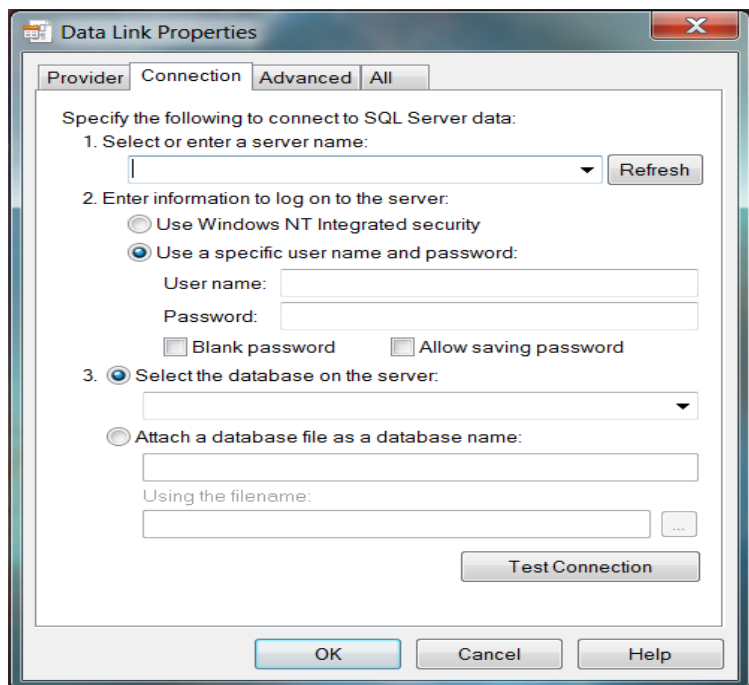
Rename it so that the extension is udl and NOT txt

Open up the tool



Select the Connection Tab.

1. Fill in the name of the server for step 1.
2. In step 2, select the Use a specific user name and password: option.
  - a. Enter sa for the user name
  - b. leave the blank password.
3. For step 3, leave this blank.
4. Click "Test Connection".



You should see "Test failed because of an error in initializing provider. Login failed. Login failed for user 'sa'."

This means that the firewall is set properly.

