

Autodesk Vault 2011

# Implementation Guide

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# **Vault Fundamentals**



# Introduction

# 1

This book is intended to help users who have a basic understanding of Microsoft® Windows® to install and implement Autodesk® Vault successfully in a Microsoft Windows network environment. We assume that you understand Windows® navigation as well as installing and uninstalling software in a Windows environment.

In the following chapters, we explain the best practices for implementing Autodesk® Vault, and the recommended methods for deploying the data management server. Although these methods are not the only methods for deploying the software, they are the most robust and easiest to maintain.

Use this guide as a starting point. If your business needs demand it, you can change the configuration later.

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**NOTE** If you have any questions about this document, contact your reseller to perform a professional implementation of the Autodesk data management server.

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## Book Organization

The Autodesk Vault Implementation Guide is divided into three sections. The first section is intended to help understand the different versions of Vault. This section presents guidelines for planning a Vault implementation. The second section explains the steps to install the different components of a Vault environment. The last section covers topics relevant to configuring and maintaining all the components in a Vault environment.

## Conventions Used In This Book

The following are different formats used in this book to make the text easier to read and understand.

Convention	Example
Files or Paths	<code>C:\Program Files\</code>
World Wide Web Links	<a href="http://www.autodesk.com">www.autodesk.com</a>
Important Information	<b>NOTE</b> Additional information
Program or Script Code	<code>@ECHO OFF</code>
User Prompts	User Name

## Support

This book addresses the basic implementation of the Vault environment for most systems. However, there are possible combinations of different software and /or hardware interactions not listed. For more information, visit the following sites:

- [www.autodesk.com/vault](http://www.autodesk.com/vault)
- [www.autodesk.com/discussiongroup-vault](http://www.autodesk.com/discussiongroup-vault)
- [www.autodesk.com/vault-support](http://www.autodesk.com/vault-support)
- [www.autodesk.com/vault-whitepapers](http://www.autodesk.com/vault-whitepapers)

If you are an Autodesk Subscription member you can log support requests through the subscription portal at [www.autodesk.com/subscriptionlogin](http://www.autodesk.com/subscriptionlogin).

## Key Terms

Term	Definition
Data management server	The server used in conjunction with Autodesk Vault and Content Center for storing files and version data.

<b>Term</b>	<b>Definition</b>
Clients	Applications that access the Autodesk data management server. These include stand alone applications such as Autodesk Vault Explorer and integrated application add-ins such as Autodesk Vault for Inventor, or Autodesk Vault for Microsoft® Office.
Data management	A means to organize and track files and design modifications through the design process.
Autodesk Vault Explorer	The standalone client for Autodesk Vault used to organize information in the vault. This interface can be used to manage any Microsoft Windows file in Autodesk Vault
Microsoft® Internet Information Services (IIS)	A Microsoft® Web server necessary for doing a full implementation of the Autodesk data management server.
Vault	The logical combination of a vault database and a vault file store that contains all the information managed by Autodesk Vault. Each installation of Autodesk Vault can maintain several independent vaults. A single client can connect to several different vaults, but not simultaneously.
Server Console	An application that performs vault system administrative tasks, such as data back up and restore.
Web Server	A server process running on the Autodesk data management server that responds to requests from vault clients.
Web service	An Application Programming Interface for a client to communicate with a web server application, such as the Autodesk data management server.



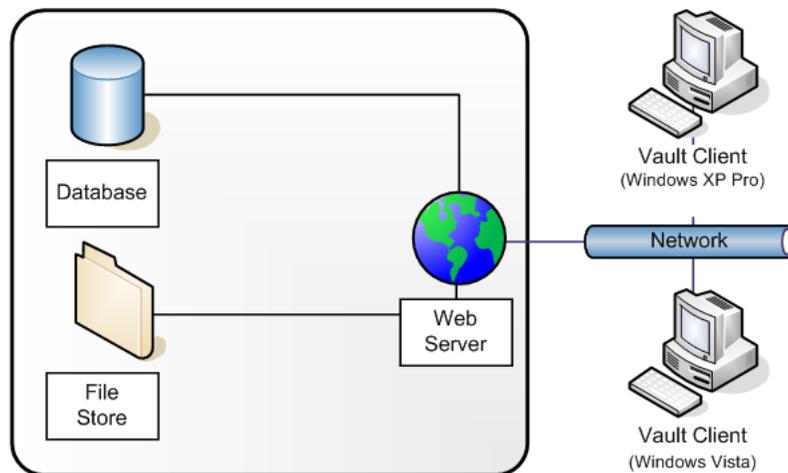
# Understand Autodesk Vault

# 2

This chapter explains the underlying Vault architecture and provides information essential for implementing Vault successfully.

## Vault Architecture

Three primary components make up the Vault server; a web server, a database, and a file store. The following figure illustrates the basic configuration of the components.



Single Autodesk Vault Server  
(Windows 2003 Server Preferred)

## Web Server

Autodesk® data management server requires Windows Internet Information Services (IIS) to be installed.

---

**NOTE** If IIS is not installed on the computer that hosts the server, and you require more than a single-user installation, install IIS before you install Autodesk Vault server.

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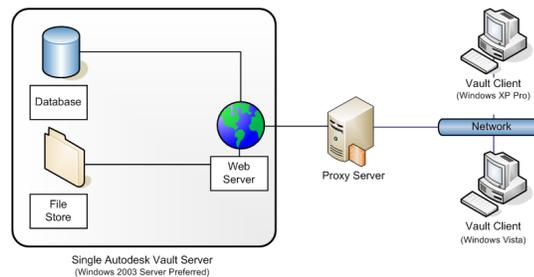
**NOTE** The original Microsoft® Windows® installation media might be necessary to complete the IIS installation.

---

The Autodesk Vault server is actually a Web application that uses services to manage the communication between the clients and the server with Web services. The interaction between the clients and the server resembles the way a web browser communicates with a site on the Internet. The Web services use standard HTTP methods, communicating over the Web server port 80 by default. Microsoft IIS is required for multiple-user configurations.

## What Is a Proxy Server

A proxy server forwards requests of client computers to other servers. Some networks force all client computers to use a proxy server for all web service requests.



If you your network uses a proxy server, you can configure it to use a host name or bypass the proxy server of your host clients.

---

**NOTE** For more information about configuring a proxy server, see Using Vault with a Proxy server.

---

## Database Server

The database server tracks all the relationships between data. It acts like a library card catalog, containing indexes and pointers of where to find related information. By default, the Autodesk data management server installs Microsoft® SQL Server 2008 SP1 Express. Microsoft SQL Server 2008 SP1 Express can be upgraded any time after the Autodesk data management server components are installed. The SQL server can be upgraded to:

- Microsoft SQL Server 2008 SP1 Enterprise
- Microsoft SQL Server 2008 S1 Standard

## File Store

The file store and the database server work with each other. The database provides the index information for the location of files. The file store is the secure location on the server where the files are located.

## Vault Workgroup

Vault Workgroup helps teams create and share, design and engineering information by securely organizing, managing, and tracking data in a central location. Ease of administration enables workgroup control of data access and security, and facilitates team-based design across disciplines. Because they can quickly manage their designs and track changes over time, users gain productivity without disruption to their natural design workflows. In addition, Vault Workgroup delivers lifecycle and revision control processes directly in the design application, which promotes faster cycle times and better-quality engineering data.

## Vault Collaboration

Vault Collaboration includes all of the functionality in Autodesk Vault Workgroup and adds an advanced toolset that provides administrators with the scalability needed to manage large workgroups. Users can share engineering design data with downstream data consumers using the included web client and expose design-related information to the extended enterprise by publishing to Microsoft® SharePoint®. Scalable multi-site functionality enables companies

to synchronize design data among distributed workgroups, extending the reach of the digital model to the entire project team.

## Vault Professional

Vault Professional, previously known as Autodesk® Vault Manufacturing, securely stores and manages engineering information, design data, and documents—shortening the design-to-build and manufacture process. It includes multisite tools to connect workgroups across discrete locations, helping the entire design chain collaborate and share project information. Take full advantage of advanced functionality by giving design departments the tools they need to track change orders, manage bills of materials (BOMs), and promote earlier collaboration through integration to expert business systems. In addition, support for multi-CAD environments means that Vault clients using non-Autodesk design products can aggregate and manage design data throughout its lifecycle.

## How Vault Works

As the previous diagrams have shown, each component can be configured to run on its own server. When configuring a server for each component, refer to the following workflow.

- 1 Client checks out a file.
- 2 Client sends a request for the file to the Vault server.
- 3 Vault server sends a query to the database.
- 4 Vault server copies the files from the file store to the client.

It is important to notice the client computer does not directly communicate with another client computer at anytime.

---

**NOTE** The option to configure remote SQL is only available with Vault Collaboration and Professional.

---

## Autodesk Vault Clients

A vault client is any stand-alone application or integrated add-in that connects to the Autodesk data management server to access files and perform vault operations.

An example is the Inventor add-in. When data is added to a vault using the Inventor add-in, the add-in preserves all the complex relationships that are created by assemblies, drawings, presentations, and other files.

## Autodesk Vault Client

The Vault Client is a general-purpose application for interacting with a vault on the Autodesk data management server. You can browse the complete vault structure, add any file to the vault, and perform most other file-based operations, depending on your level of permission.

## Autodesk Vault Add-ins for Design Applications

Add-in clients provide basic vault functions within the environment of a parent application. Add-ins maintain application-specific data relationships when adding files to a vault.

There are add-ins available for Autodesk and non-Autodesk design applications.

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**NOTE** As a rule, if an integrated client is available for a particular application, managing files using that client minimizes loss of data, such as the assembly relationships. We recommend that you use integrated clients whenever possible.

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## Microsoft Office Add-in

The Microsoft Office add-in performs basic vault functions on documents, spreadsheets, and other non-CAD data within any of the Microsoft Office applications: Microsoft® Word, Excel®, and Power Point®.

## Content Center

Content Center provides access to Autodesk Inventor Content Center libraries. Content Center libraries are stored on the Autodesk data management server.

## License Manager Components

Autodesk Vault Workgroup, Collaboration, or Professional require a license for each client connection to the Vault sever. The following section describes the components used to manage these licenses.

## Network License Manager

The Network License Manager is used to configure and manage the license servers. When installing Vault server for Vault Workgroup, Collaboration, or Professional, the Installation wizard prompts you for information about the license manager, such as license server model and server name.

## FLEXnet Configuration Tools

The Network License Manager uses FLEXnet® license management technology from Acreso Software. FLEXnet provides administrative tools that help to simplify management of network licenses. You can use FLEXnet tools to:

- Monitor network license status.
- Reset licenses lost to a system failure.
- Troubleshoot license servers.
- Update existing license files on the fly.

---

**NOTE** For more information about FLEXnet configuration tools see the Vault Network Licensing Guide.

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## SAMreport-Lite

While not part of the network installation, a version of SAMreport called SAMreport-Lite is available to help you track network license usage. With SAMreport-Lite technology from Acreso Software, you can monitor client usage for Autodesk network licensed products.

SAMreport-Lite generates usage reports in various output formats including HTML, text, and Report Interchange Format. For more information about the SAMreport-Lite features, and for instructions on installing SAMreport-Lite, see the SAMreport-Lite User's Guide.

## Installation Requirements

Previous versions of Autodesk data management server installed Microsoft®SQL 2005 Express. Before installing the latest version of Vault, service pack 3 for Microsoft SQL 2005 Express will need to be installed. If no previous version

of a SQL server is detected, or if you are not connecting to an existing remote SQL instance, Microsoft® SQL Server 2008 Express service pack 1 is installed by default. When using SQL Express, Autodesk Vault server supports approximately ten simultaneous vault clients. Additional users can be supported using the full version of Microsoft SQL Server 2005 SP3 or 2008 SP1. Purchase the full Microsoft SQL Server software separately from Microsoft® or a Microsoft reseller.

For more information about system requirements, visit [www.autodesk.com/vault](http://www.autodesk.com/vault) or the Autodesk® Installation online Help.

If a compatible local SQL database is detected during installation, you are prompted to migrate the data once the installation is complete.

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**NOTE** If a database is detected that is not compatible with the new version of Autodesk server, you must remove it before the Autodesk server can be installed.

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## Operating System Requirements

Autodesk Vault server supports both 32-bit and 64-bit operating systems. All operating systems listed in the following table are 32-bit. Supported 64-bit operating systems are also indicated.

Operating System	Service Pack	64 bit	32 bit	IIS
Windows® XP Professional	SP2,SP3	•	•	•

Operating System	Service Pack	64 bit	32 bit	IIS
Windows Vista® Ultimate	SP1,SP2	•	•	•
Windows Vista® Enterprise	SP1,SP2	•	•	•
Windows Vista® Business	SP1,SP2	•	•	•

Operating System	Service Pack	64 bit	32 bit	IIS
Windows® 7 Ultimate		•	•	•

Operating System	Service Pack	64 bit	32 bit	IIS
Windows® 7 Enterprise		•	•	•
Windows® 7 Business		•	•	•
Operating System	Service Pack	64 bit	32 bit	IIS
Windows server™ 2003 Server Standard	SP2	•	•	•
Windows server™ 2003 Server Standard R2	SP2	•	•	•
Windows server™ 2003 Enterprise	SP2	•	•	•
Windows server™ 2003 Enterprise R2	SP2	•	•	•
Windows server™ 2003 Small Business Edition	SP2		•	•
Windows server™ 2003 Small Business Edition R2	SP2		•	•
Windows server™ 2008 Server Standard	SP2	•	•	•
Windows server™ 2008 Server Enterprise	SP2	•	•	•
Windows server™ 2008 Small Business Edition		•	•	•
Windows server™ 2008 R2 Small Business Edition		•		•

**NOTE** For Best performance on servers, we recommend a dedicated member (non-domain controller) server

For data management client add-ins, the system requirements are that of the design application.

## Microsoft SQL Requirements

Vault 2010 installed Microsoft SQL 2005 Express. The minimum requirement for Vault 2011 is Microsoft SQL 2005 Express service pack 3. Service pack 3 for SQL 2005 must be applied before install Vault 2011.

Microsoft SQL Version	Service Pack	64 bit	32 bit
Microsoft SQL Server 2005 Express5	SP3	•	•
Microsoft SQL Server 2005 Workgroup	SP3	•	•
Microsoft SQL Server 2005 Standard	SP3	•	•
Microsoft SQL Server 2005 Enterprise	SP3	•	•
Microsoft SQL Server 2008 Express5	SP1	•	•
Microsoft SQL Server 2008 Standard	SP1	•	•
Microsoft SQL Server 2008 Enterprise	SP1	•	•

## Hardware Requirements

The following are minimum, recommended, and preferred requirements for running Autodesk Vault server. If possible, meet the *Recommended* requirements.

Vault Client Requirements			
	Disk Space	Memory	Processor
Minimum	1 GB	1 GB	Intel® Pentium® 4, Intel® Xeon® AMD Athlon® 64 / Opteron, 1.6GHz

	Disk Space	Memory	Processor
Recommended	4 GB	2 GB	Intel Pentium 4, Intel Xeon AMD Athlon 64 / Opteron, 2.0GHz

<b>Vault Server Requirements</b>			
	Disk Space	Memory	Processor
Minimum	100 GB	2 GB	Intel® Pentium® 4, Intel® Xeon® AMD Athlon® 64 / Opteron, 2.0GHz
Recommended	200 GB	4 GB	Intel Pentium 4, Intel Xeon AMD Athlon 64 / Opteron, 3.0GHz

<b>Vault Server Replication Requirements (Vault Server and SQL Server)</b>			
	Disk Space	Memory	Processor
Minimum	300 GB	4 GB	Intel® Pentium® 4, Intel® Xeon® AMD Athlon® 64 / Opteron, 3.0GHz
Recommended	500 GB	8 GB	Intel Pentium 4, Intel Xeon AMD Athlon 64 / Opteron, 3.0GHz

<b>Vault Server Replication Requirements (Vault Server only)</b>			
	Disk Space	Memory	Processor
Minimum	150 GB	2 GB	Intel® Pentium® 4, Intel® Xeon® AMD Athlon® 64 / Opteron, 3.0GHz
Recommended	300 GB	3 GB	Intel Pentium 4, Intel Xeon AMD Athlon 64 / Opteron, 3.0GHz

## Other Requirements

- A DVD drive is required, to install off of disk.
- Operating Systems installation media.
- Internet connection for Web downloads and Subscription Aware access.
- Microsoft Internet Explorer® 6 SP1 or later.

- We recommend settings that allow Microsoft Windows to manage virtual memory as needed. Keep at least twice as much free hard disk space as system memory.



# Plan the Vault Environment

# 3

A Vault implementation can be as simple as installing all components on a single computer, or as complex as installing components on several computers in different locations. The more complex the Implementation, the more information there is to consider. This chapter provides an outline of information to consider to make the best decisions for your Vault Implementation.

## Information Check List

When Implementing Vault, consider:

- Number of users.
- The number of servers.
- The hardware specifications for all the servers.
- The Operating Systems for all servers.
- All firewalls installed on servers.
- List of other applications running on all servers.
- The version of Microsoft® SQL is going to be used.
- How frequently do users access information in the Vault?
- The latency between all servers.

## Use the Information

Every Vault implementation is unique, the following sections help you determine the best configuration for your needs.

## Number of Users

Knowing the number of users helps prevent access problems and slow response times. For example, if you have more than ten concurrent users, use Windows® Server 2003 or 2008. For more than 25 user, consider upgrading to the full standard edition or enterprise edition of SQL. Microsoft SQL express allows only 25 concurrent connections. When implementing Vault for a single user, you can load all the components on a single computer.

## Number of Servers

When determining the number of servers keep in mind how information flows from the client computer to the Vault server to the SQL server and back. (See How Vault Works).

## Server Hardware Specifications

For the recommended and preferred system requirements see [Hardware Requirements](#) on page 15. Vault is more processor intensive than memory intensive like some other applications. Avoid loading Vault components on servers that already have a high CPU usage.

## Server Operating Systems

Vault Server can be loaded on several different operating systems. When deciding to use a non-server operating system, consider the limitations.

- Windows XP has a limit of ten concurrent users.
- Windows Vista has a limit of ten concurrent users and three concurrent web service requests.
- Windows 7 has a limit of ten concurrent users and three concurrent web service requests.

## Firewalls

Firewalls can block incoming requests. During the Vault Server installation, the server is checked for known firewalls. Firewalls can require that you configure them to allow the Vault Server to communicate correctly. Some

system protection software can include firewalls. Check these tools for the existence of firewalls.

## Applications on Servers

Vault can be processor intensive. Loading the Vault Server on a server with other processor intensive applications can cause Vault to run slower than expected.

## Microsoft SQL Version

Vault 2011 requires a minimum of Microsoft SQL 2005 Express service pack 3. If necessary, upgrade your previous version of Vault with 2005 Express to service pack 3. See [Installation Requirements](#) on page 12.

SQL Express has a limitation of 25 concurrent users and a 4-GB size restriction. If your Vault implementation requires more capacity, set up the Vault server using the Standard or Enterprise versions of SQL.

## Access Frequency

How often the Vault Server is accessed affects the server performance. For example, a Vault implementation with 50 users and one or two users checking out one or two files a day does not tax the server much. Using the same configuration with 35 of users accessing the vault every 10 minutes, Vault Server performance differs, running at the non-recommended requirements.

## Network Speed

All though network speed is commonly equated to latency, you also consider bandwidth and throughput. Network speed is an important factor to consider, when trying to get the best performance for your Vault implementation. Without running tests to measure your latency, bandwidth, and throughput between all the servers, you can gain an idea of how fast the connections are. Copy a few large files from one server to another. When performing this test, copy from Server A to Server B and then copy from server B to Server A. Data traveling from one server to another does not always take the same route when traveling back.



# Install Vault



# Build the Vault Environment

# 4

This chapter discusses installing the Vault server on several different operating systems.

## Options for Installing Vault

If you are installing the server components for Vault Workgroup, Collaboration, or Professional, you have several options. Vault Collaboration and Professional supports Multi-Site replication with a central remote database. Vault Collaboration and Vault Professional also allow a single site to implement Vault with a dedicated database server.

---

**NOTE** For more information on Vault components see [Understand Autodesk Vault](#) on page 7. For more information on Vault environments see [Plan the Vault Environment](#) on page 19.

---

## Install FLEXnet for Vault

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**NOTE** If you are installing FLEXnet on Windows Vista, Windows Server 2008, or Windows 7 IPv6 is enabled by default. Refer to Autodesk TS1101507 for information on using the Autodesk License Manager with IPv6.

---

Vault Workgroup, collaboration and Professional 2011 have a licensing feature. The licensing feature uses the Autodesk® Licensing Manager used by other Autodesk products. The installation and configuration of the license manager is like other Autodesk products.

If you are installing Vault server and not Vault Workgroup, collaboration or Professional server, you do not install or configure the network licensing manager.

---

**NOTE** The license server does not have to be the same server as the Vault server. If a different server is used, choose the configure button when installing the Vault server to select the server to use as the license manager.

---

## How to Install the Network License Manager

The Network License Manager is used to configure and manage the license servers.

### Install your Network License Manager

- 1 In the Autodesk Installation wizard, click Install Tools and Utilities.
- 2 On the Select the Products to Install page, select Autodesk Network License Manager and then click Next.
- 3 Review the Autodesk software license agreement for your country or region. Accept this agreement to proceed with the installation. Choose your country or region, click I Accept, and then click Next.

---

**NOTE** If you do not agree to the terms of the license and want to terminate the installation, click Cancel.

---

- 4 On the Review - Configure - Install page, review your product selection and the current settings. If you do not want to change anything, click Install. If you want to change the install type or installation path, click Configure.
- 5 On the Select the Installation Type page, select Typical or Custom. Accept the default installation path (*C:\Program Files\Autodesk Network License Manager\*), or Browse to specify a different path. If you enter a path that does not exist, a new folder is created using the name and location you provide. Click Next.

---

**WARNING** Do not install the Network License Manager on a remote drive. When you install the Network License Manager files, provide a path to a local drive. Specify the drive letter; the universal naming convention (UNC) is not permitted.

---

- 6 On the Configuration Complete page, click Configuration Complete to return to the confirmation page.
- 7 On the Review - Configure - Install page, click Install.
- 8 When the Installation Complete page displays, click Finish.

## Configure a License Server

You configure a license server so that you can manage the Autodesk product licenses you received when you ran the Network License Activation utility. Configure the license server with the *lmtools.exe* utility.

### Configure your license server

Log in with Administrator rights when working with the LMTOOLS utility.

- 1 Do one of the following:
  - (Windows XP / Windows Server 2003) Click Start ► Programs ► Autodesk ► Network License Manager ► LMTOOLS.
  - (Windows Vista Windows, Server 2008, or Windows 7) Double-click the LMTOOLS icon on the desktop.
- 2 In the LMTOOLS program, on the Service/License File tab, make sure the Configure Using Services option is active.
- 3 Click the Config Services tab.
- 4 In the Service Name list, select the service name you want to use to manage licenses.

By default, the service name is *Flexlm Service 1*. If FLEXnet® is managing other software on your computer in addition to Autodesk, you can change the service name to avoid confusion. For example, you can rename *Flexlm Service 1* to *Autodesk Server1*.

---

**NOTE** If you have more than one software vendor using FLEXnet® for license management, the Service Name list contains more than one option. Make sure that only one Autodesk service is listed.

---

- 5 In the Path to Lmgrd.exe File field, enter the path to the Network License Manager daemon (*lmgrd.exe*), or click Browse to locate the file.

By default, this daemon is installed in the *C:\Program Files\Autodesk Network License Manager* folder.

- 6 In the Path to the License File box, enter the path to your license file, or click Browse to locate the file.

This path is to the license file obtained by the Network License Activation utility or the location where you placed the license file if you obtained it offline.

- 7 In the Path to the Debug Log File box, enter a path to create a debug log, or click Browse to locate an existing log file.

It is recommended that you save to the *C:\Program Files\Autodesk Network License Manager* folder. The log file must have a *.log* file extension. For new log files, enter the *.log* extension manually.

- 8 To run *lmgrd.exe* as a service, select Use Services.
- 9 To start *lmgrd.exe* automatically when the system starts, select Start Server at Power Up.

- 10 Click Save Service to save the new configuration under the service name you selected in step 4. Click Yes when prompted if you would like to save the settings to the service.

- 11 Click the Start/Stop/Reread tab and do one of the following:

- If a service has not yet been defined for Autodesk, click Start Server to start the license server.
- If a service for Autodesk is already defined and running, click Re Read License File to refresh the Network License Manager with any changes made to the license file or Options file.

The license server starts running and is ready to respond to client requests.

- 12 Close *lmtools.exe*.

## Install and Use SAMreport-Lite (Optional)

SAMreport-Lite is a reporting tool that helps you track network license usage. With SAMreport-Lite technology from Acresto™ Software, you can monitor client usage for Autodesk network licensed products.

To learn more about installing and using SAMreport-Lite, see the *SAMreport-Lite User's Guide*. Click the Documentation link at the lower left corner of the Installation wizard, or see the Help System in the Autodesk product.

## Install Vault Server

This section gives step by step instructions for setting up the Vault server on Windows XP, Windows Vista, Windows 7, Windows Server 2003, and Windows Server 2008.

---

**NOTE** ASP .NET v2.0 (32-bit) must be installed and configured properly to use Vault server on a 64-bit Windows operating system. Refer to TS1078626

---

## Pre-Install Microsoft SQL

If it is unable to find an installed version of Microsoft SQL, Autodesk Vault Server installs the Microsoft SQL 2008 Express service pack 1. You can install Microsoft SQL 2005 Standard or Enterprise Edition service pack 3 or Microsoft SQL 2008 Standard or Enterprise Edition service pack 1 before installing the Vault server so that you do not have to perform the upgrade at a later time.

---

**NOTE** This installation process possibly requires the server to reboot multiple times. Please be sure that you are able to perform the necessary reboots. Also, if you use a custom password for the SQL SA account, specify this password during the installation of the Vault server.

---

Use the following steps to install Microsoft SQL with an Autodesk Vault Instance.

- 1 Start the installation process for Microsoft SQL Server.
- 2 The installation process installs any necessary prerequisites and begins running the pre-installation checks. Note any errors and take the necessary corrective actions before continuing
- 3 In the Components to Install dialog box, select SQL Server Database Services. To modify the installation path, click Advanced.
- 4 In the Feature Selection dialog box, you can expand the Database Services options and change the location of the data files directory.
- 5 In the Instance Name dialog box, enter the name of the instances as *AutodeskVault*.

---

**NOTE** If you install SQL without using this instance name, the ADMS installation creates its own instance of SQL Server called AutodeskVault.

---

In the Service Account dialog box, specify the Local System account. Or, if you plan to perform backups and restores to remote locations, specify a Domain User account for the SQL Server.

- 6 In the Authentication Mode dialog box, select Mixed Mode authentication and set the SA password. The default password used in during a default installation is "AutodeskVault@26200".

## Set Up Remote SQL

Vault Collaboration or Professional allow the Vault environment to be configured to use a remote SQL database. This database resides on a dedicated server which a single site can use to increase performance. Alternatively, it can be used for a multi-site replicated Vault environment.

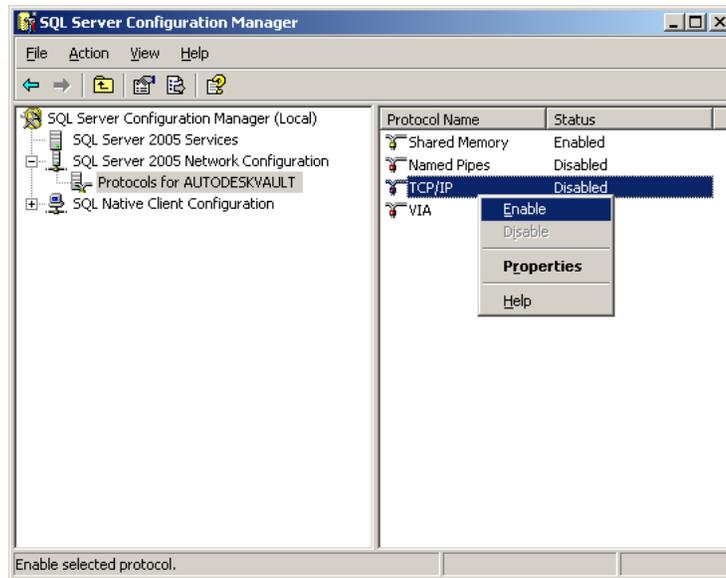
## Configure Microsoft SQL Server for Remote Access

---

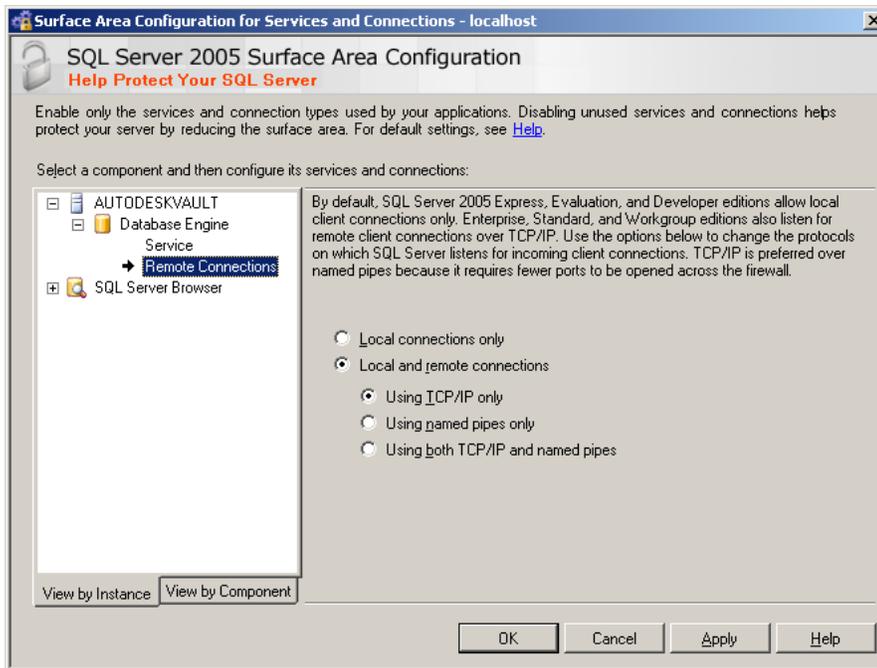
**NOTE** The following steps are detailed steps for setting up remote access on SQL 2005. Some steps may vary for SQL 2008.

---

- 1 On the computer on which SQL is installed, click Start ► Programs ► Microsoft® SQL Server 2005 ► Configuration Tools ► SQL Server Configuration Manager.
- 2 In the SQL Server Configuration Manager dialog box, expand SQL Server 2005 Network Configuration and then select Protocols for AUTODESKVAULT.
- 3 Right-click TCP/IP in the protocols list and then select Enable.



- 4 Close SQL Server Configuration Manager.
- 5 On the computer on which SQL is installed, click Start ► Programs ► Microsoft SQL Server 2005 ► Configuration Tools ► SQL Server Surface Area Configuration.
- 6 In the SQL Server Surface Area Configuration dialog box, select Surface Area Configuration for Services and Connections.
- 7 In the Surface Area Configuration for Services and Connections dialog box, expand AUTODESKVAULT ► Database Engine and then select Remote Connections. Verify that Local and Remote Connections and Using TCP/IP only are turned on.



- 8 Click OK.
- 9 From the Windows® Start menu, select Settings ► Control Panel.
- 10 In the Control Panel, double-click Administrative Tools.
- 11 In the Administrative Tools window, double-click Computer Management.
- 12 In the Computer Management window, expand Services and Applications and then select Services.
- 13 Locate the SQL Server (AUTODESKVAULT) service. Right-click the service and then select Restart.



- 14 Locate the SQL Sever Browser service. Right-click the service and then select Properties.
- 15 In the SQL Server Browser Properties (Local Computer) dialog box, change the startup type to be Automatic and then click OK.
- 16 Right-click SQL Server Browser and then select Start.

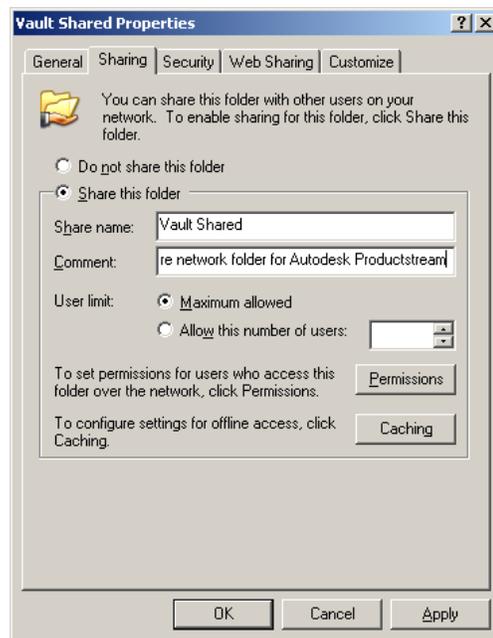
## Create Shared Network Folders

In a multi-site environment, one site can host the AUTODESKVAULT SQL instance. The additional sites access that SQL instance remotely, or all sites can access the same SQL instance remotely. Before configuring the additional sites to access the SQL instance, a shared network folder must be created.

The shared network folder is required as a transition area between the SQL instance and the Autodesk Vault server. The shared network folder can be located on any computer that is accessible by both the data management server and SQL. The space requirement for the shared folder is equal to the total of all database files.

Both the user account under which the Autodesk Vault server is running as well as the user account under which the SQL instance is operating need full access to the shared network folder.

- 1 Choose a network location and create a folder.
- 2 Right-click the new folder and then select Sharing and Security.
- 3 In the Properties dialog box, click Share this folder.
- 4 Enter a name for the shared folder.
- 5 In the Comment field, enter *Shared network folder for Autodesk Vault*.



- 6 Click Permissions.
- 7 In the Permissions dialog box, click Add. Add the user account under which ADMS is running. By default, this account is a local administrator account on the ADMS server called Autodesk Vault.
- 8 Add the Windows account under which the SQL Server service is running. The default is Network Service.
- 9 Give both accounts Full Control.

10 In the Permissions dialog box, click OK.

11 In the Properties dialog box, click OK.

## Windows XP

This section explains the recommended steps to install the Autodesk Vault server on a Windows XP workstation. The installation can be summarized in four major steps.

- 1 Choose the data management server hardware.
- 2 Load Internet Information Services (IIS)
- 3 Configure Windows XP Firewall
- 4 Run the data management server installation.

---

**NOTE** If 10 or more users need access to the vault, we recommended that you install the Autodesk Vault server on Windows Server 2003 or 2008

---

## What You Need

You need the following items before you start.

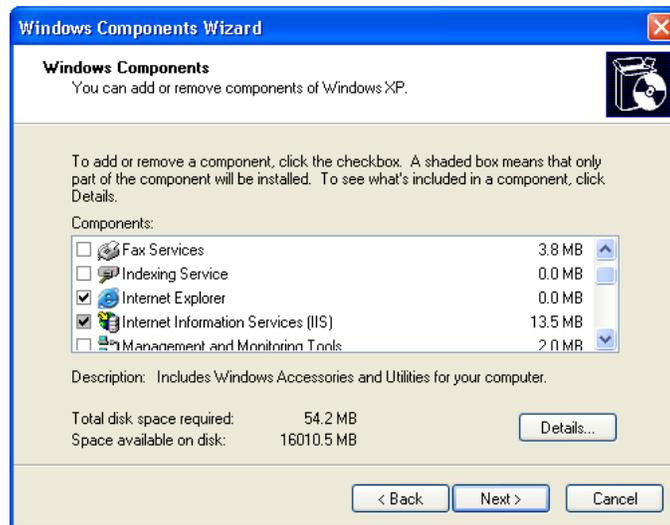
- Autodesk Vault installation media
- Windows XP installation media
- Administrator rights to the computer your installing the data management server on.

## Installation

After choosing the data management server hardware. (see Hardware Requirements for recommended specifications), load Internet Information Services on this system

- 1 From the Windows Start menu, select Programs ► Control Panel
- 2 From the Control Panel, double-click Add or Remove Programs

- 3 On the left side of the Add or Remove Programs dialog box, select the option to Add/Remove Windows Components
- 4 Check Internet Information Services (IIS) and click the Next button. You can possibly be prompted for your Windows XP CD.



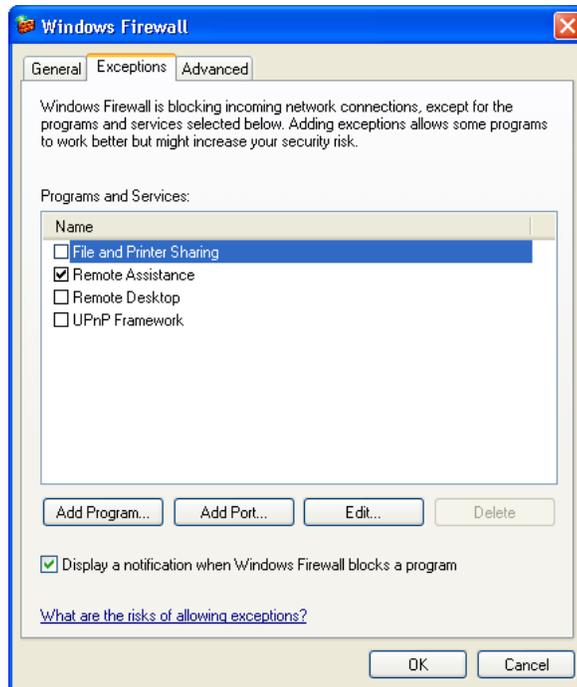
---

**NOTE** If IIS is installed and is not being used for any application uninstalling IIS and reinstalling it ensures that the default settings are set

---

Now that IIS is installed, configure the firewall that is built into Windows XP.

- 1 From the Windows Start menu, select Programs ► Control Panel
- 2 From the Control Panel, double click Security Center
- 3 If the Firewall strip says on then click the firewall icon at the bottom of the dialog box.
- 4 In the Windows Firewall dialog box, click the Exceptions tab, and then click Add Port

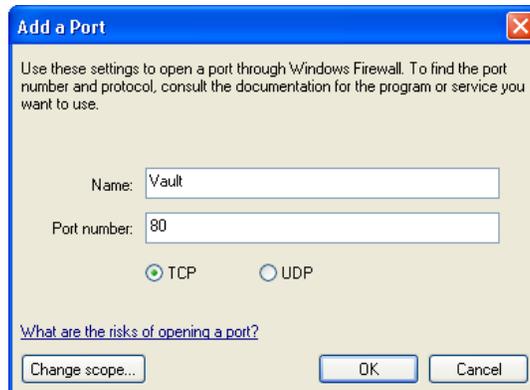


5 In the Add a Port dialog box, Enter the following information.

Name: Vault

Port: 80

Ensure TCP is checked



- 6 Click OK

---

**NOTE** If you are not running Windows XP Firewall you can skip this step.

---

Once the firewall is configured to allow Vault to communicate properly, run the installation from the Autodesk Vault server media.

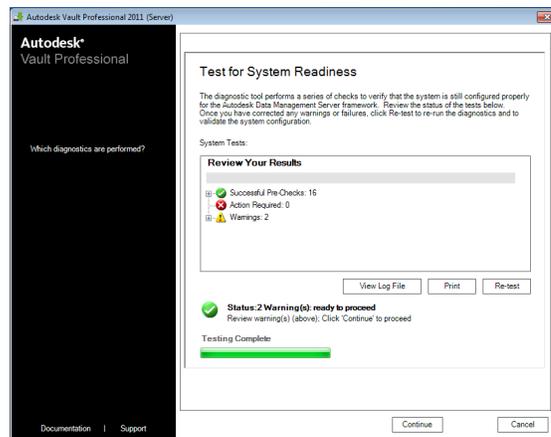
- 1 Insert the Installation media and double-click the setup.exe
- 2 Choose Install Products.
- 3 Choose Autodesk Vault 2011 (Server).
- 4 Accept the License Agreement.
- 5 Fill in your user information.
- 6 The configuration screen allows you to change the location of the SQL installation. You can change the SQL database location, and the location for the Autodesk Vault server console application.

---

**NOTE** We recommend that you take the default locations unless you are setting up a remote site. For more information on Multi-Site setups see Setting Up Multiple Site Environments

---

- 7 Click Install
- 8 The installation performs a series of installation pre-checks. If your system does not pass the installation prechecks a dialog box displays failures and warnings. Use the installation help and information in Troubleshooting



## Windows Vista

This section explains the recommended steps to install the Autodesk Vault server on a Windows Vista workstation. The installation can be summarized in four major steps.

- 1 Choose the data management server hardware.
- 2 Load and configure Internet Information Services (IIS).
- 3 Configure Windows Vista Firewall.
- 4 Run the data management server installation.

## What You Need

You need the following items before you start.

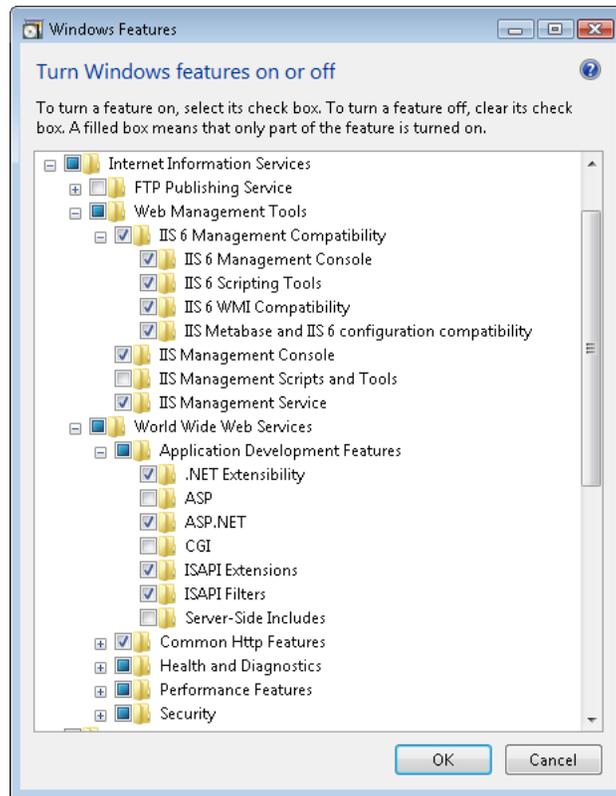
- Autodesk Vault installation media
- Windows Vista installation media
- Administrator rights to the computer your installing the data management server on.

## Installation

After choosing the data management server hardware (see Hardware Requirements for recommended specifications), check the Internet Information Services settings on this system. If IIS is not loaded the Vault server installation will install IIS.

- 1 From the Windows Start menu, select Control Panel
- 2 From the Control Panel, double click Programs and Features
- 3 On the left side of the Programs and Features dialog box, select the option to Turn Windows Features on or off
- 4 Check Internet Information Services
- 5 Expand Internet Information Services ► Web Management Tools ► IIS six Management Compatibility.

- 6 Turn on the check box for IIS Metabase and IIS 6 configuration compatibility.
- 7 Expand Internet Information Services ► World Wide Web Services ► Application Development Features.
- 8 Turn on the check box for ASP .NET. Three other settings are automatically turned on: .NET Extensibility, ISAPI Extensions, and ISAPI Filters



---

**NOTE** If IIS is installed and is not being used for any application uninstalling IIS and reinstalling it ensures that the default settings are set. If IIS is not installed you can allow the Vault server installer to perform this installation.

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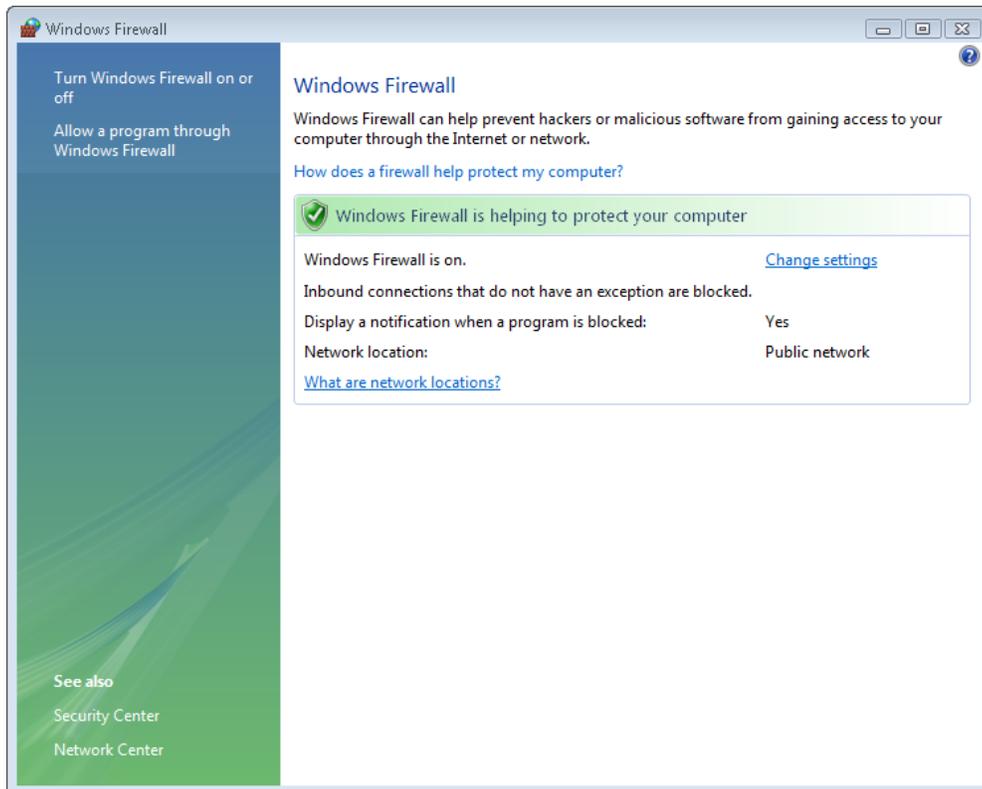
Now that IIS is installed, configure the firewall that is built into Windows Vista, if necessary.

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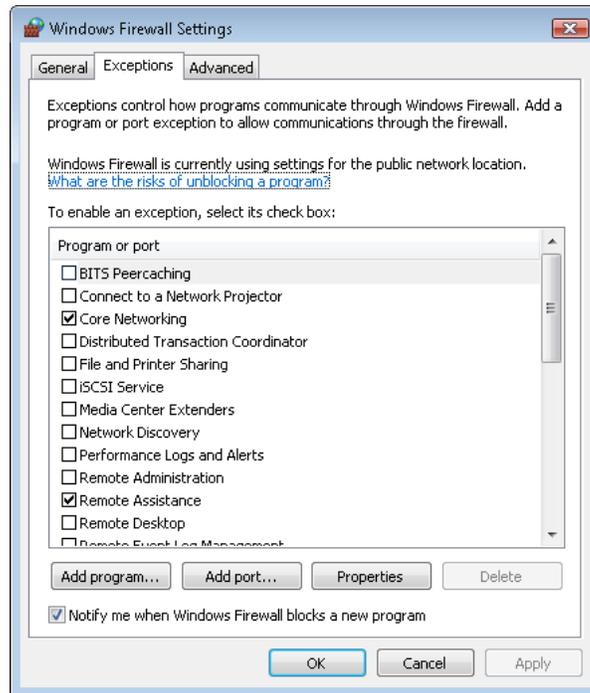
**NOTE** If you are not running Windows Vista Firewall you can skip this section.

---

- 1 On the Windows Start menu, select Programs ► Control Panel.
- 2 On the Control Panel, double click Windows Firewall.
- 3 If the Firewall strip says that "Windows Firewall is helping to protect your computer," then click Change settings.



- 4 In the Windows Firewall dialog box, click the Exceptions tab, and then click Add Port

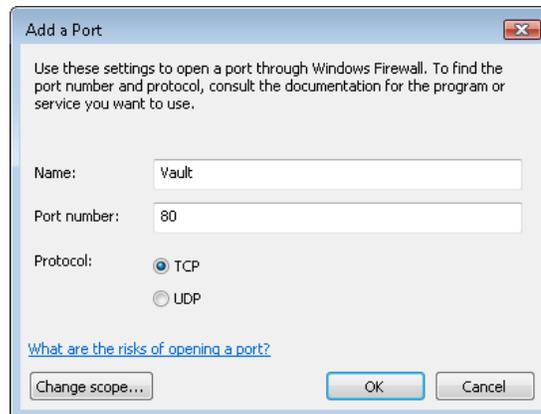


5 In the Add a Port dialog box, Enter the following information.

Name: Vault

Port: 80

Ensure TCP is checked



6 Click OK

Once the firewall is configured to allow Vault to communicate properly, run the installation from the Autodesk Vault server media.

- 1 Insert the Installation media and double-click the *setup.exe*.
- 2 Choose Install Products.
- 3 Choose Autodesk Vault 2011 (Server).
- 4 Accept the License Agreement.
- 5 Fill in your user information.
- 6 The configuration screen allows you to change the location of the SQL installation. You can change the SQL database location, and the location for the Autodesk Vault server console application.

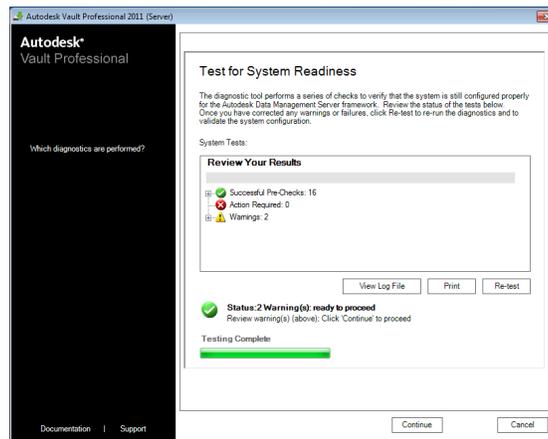
---

**NOTE** We recommend that you take the default locations unless you are setting up a remote site. For more information on Multi-Site setups see Setting Up Multiple Site Environments.

---

7 Click Install

- 8 The installation performs a series of installation pre-checks. If your system does not pass the installation prechecks a dialog box displays failures and warnings. Use the installation help and information in Troubleshooting.



## Windows 7

This section explains the recommended steps to install the Autodesk Vault server on a Windows 7 workstation. The installation can be summarized in four major steps.

- 1 Choose the data management server hardware.
- 2 Load and configure Internet Information Services (IIS).
- 3 Configure Windows 7 Firewall.
- 4 Run the data management server installation.

## What You Need

You need the following items before you start.

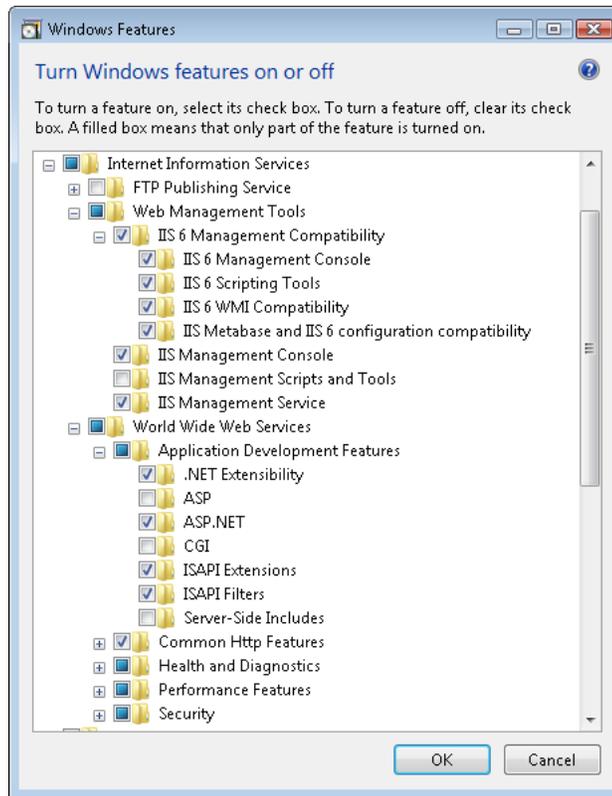
- Autodesk Vault installation media
- Windows 7 installation media
- Administrator rights to the computer your installing the data management server on.

## Installation

After choosing the data management server hardware (see Hardware Requirements for recommended specifications), confirm Internet Information Services settings on this system. If IIS is not loaded the Vault server installation will install IIS.

- 1 From the Windows Start menu, select Control Panel
- 2 From the Control Panel, click Programs and Features
- 3 On the left side of the Programs and Features dialog box, select the option to Turn Windows Features on or off
- 4 Check Internet Information Services
- 5 Expand Internet Information Services ► Web Management Tools ► IIS six Management Compatibility.

- 6 Turn on the check box for IIS Metabase and IIS 6 configuration compatibility.
- 7 Expand Internet Information Services ► World Wide Web Services ► Application Development Features.
- 8 Turn on the check box for ASP .NET. Three other settings are automatically turned on: .NET Extensibility, ISAPI Extensions, and ISAPI Filters



---

**NOTE** If IIS is installed and is not being used for any application uninstalling IIS and reinstalling it ensures that the default settings are set. If IIS is not installed you can allow the Vault server installer to perform this installation.

---

Now that IIS is installed, configure the firewall that is built into Windows 7, if necessary.

---

**NOTE** If you are not running Windows 7 Firewall you can skip this section.

---

- 1 On the Windows Start menu, select Control Panel.
- 2 On the Control Panel, double click Windows Firewall.
- 3 If the Firewall strip says that "Windows Firewall is helping to protect your computer," then click Advance settings on the left side of the Windows Firewall dialog box.
- 4 In the Windows Firewall with Advanxw security dialog box, click tInbound Rules, located in the left pane.
- 5 From the Action pulldown menu select New Rule.
- 6 Select Port and click Next.
- 7 In the Protocol and Ports dialog box, Enter the following information.  
Specific local ports: 80
- 8 In the Action dialog box select Allow the connection and click Next.
- 9 In the Profile dialog box select all the listed profiles and click Next.
- 10 In the Name dialog box enter the a name for this new rule. To keep things simple you can call this new rule Vault. Adding a description is optional
- 11 Click Finish

Once the firewall is configured to allow Vault to communicate properly, run the installation from the Autodesk Vault Server media.

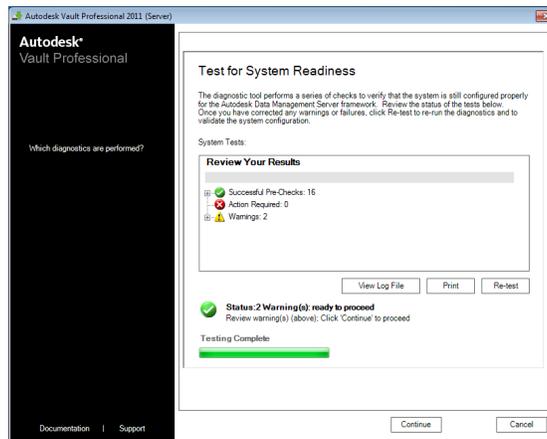
- 1 Insert the Installation media and double-click the *setup.exe*.
- 2 Choose Install Products.
- 3 Choose Autodesk Vault 2011 (Server).
- 4 Accept the License Agreement.
- 5 Fill in your user information.
- 6 The configuration screen allows you to change the location of the SQL installation. You can change the SQL database location, and the location for the Autodesk Vault server console application.

---

**NOTE** We recommend that you take the default locations unless you are setting up a remote site. For more information on Multi-Site setups see Setting Up Multiple Site Environments.

---

- 7 Click Install
- 8 The installation performs a series of installation pre-checks. If your system does not pass the installation prechecks a dialog box displays failures and warnings. Use the installation help and information in Troubleshooting.



## Windows Server 2003

This section explains the recommended steps to install the Autodesk Vault server on a Windows server 2003. The installation can be summarized in three major steps.

- 1 Choose the data management server hardware.
- 2 Load Internet Information Services (IIS) and ASP .NET.
- 3 Run the data management server installation.

## What You Need

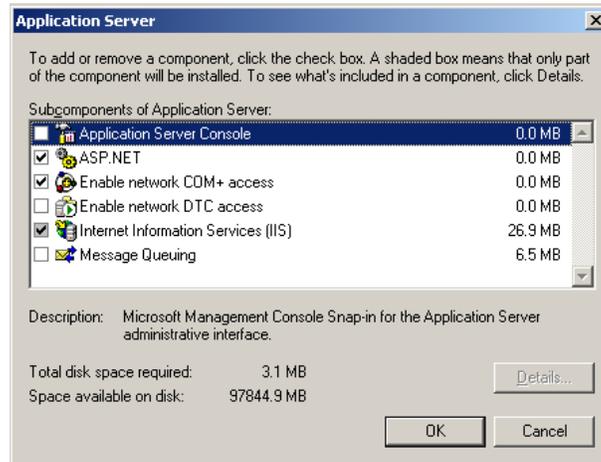
You need the following items before you start.

- Autodesk Vault installation media
- Windows 2003 Server installation media
- Administrator rights to the computer your installing the data management server on.

## Installation

After choosing the data management server hardware. (see Hardware Requirements for recommended specifications), load Internet Information Services on this system

- 1 From the Windows Start menu, select Programs ► Control Panel ► Add or Remove Programs
- 2 On the left side of the Add or Remove Programs dialog box, select the option to Add/Remove Windows Components
- 3 Select and check Application Services and click the Details button
- 4 Check the ASP .NET option. This action causes the boxes for Enable network COM+ access and Internet Information Services to be checked as well.



- 5 Next button. You can possibly be prompted for your Windows server 2003 CD.

---

**NOTE** If IIS is installed and is not being used for any application uninstalling IIS and reinstalling it ensures that the default settings are set

---

Once the IIS is configured, run the installation from the Autodesk Vault server media.

- 1 Insert the Installation media and double-click the setup.exe

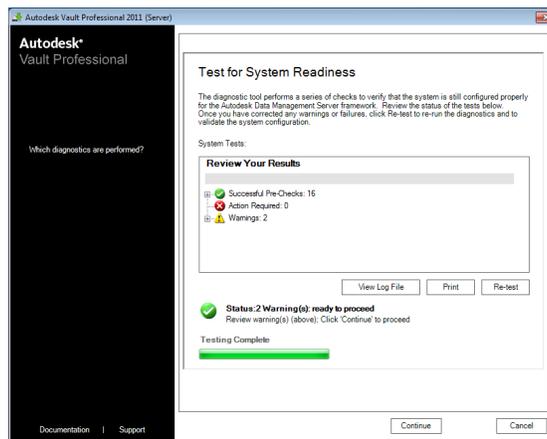
- 2 Choose Install Products.
- 3 Choose Autodesk Vault 2011 (Server).
- 4 Accept the License Agreement.
- 5 Fill in your user information.
- 6 The configuration screen allows you to change the location of the SQL installation. You can change the SQL database location, and the location for the Autodesk Vault server console application.

---

**NOTE** recommend that you take the default locations unless you are setting up a remote site. For more information on Multi-Site setups see Setting Up Multiple Site Environments

---

- 7 Click Install
- 8 The installation performs a series of installation pre-checks. If your system does not pass the installation prechecks, a dialog box displays failures and warnings. Use the installation help and information in Troubleshooting



## Windows Server 2008

This section explains the recommended steps to install the Autodesk Vault server on a Windows Server 2008. The installation can be summarized in four major steps.

- 1 Choose the data management server hardware.
- 2 Load and configure Internet Information Services (IIS)
- 3 Configure Windows 2008 Firewall
- 4 Run the data management server installation.

## What You Need

You need the following items before you start.

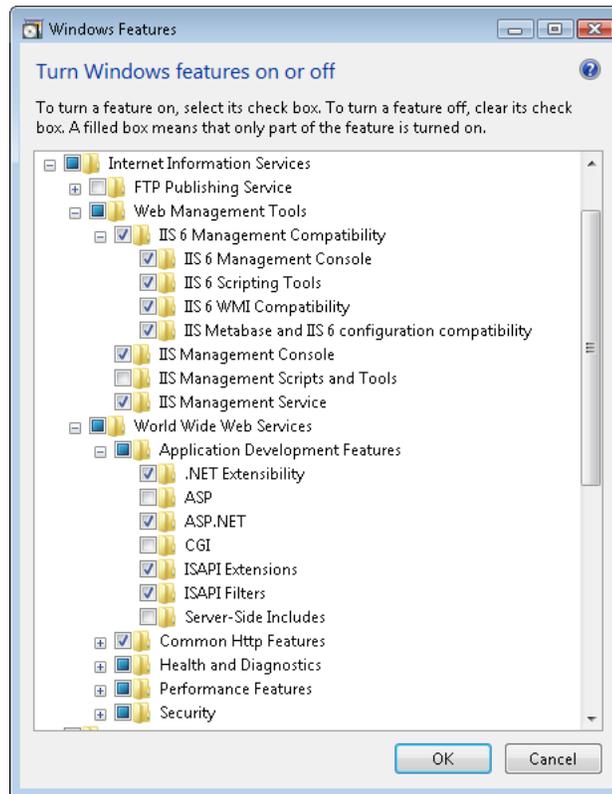
- Autodesk Vault installation media
- Windows Server 2008 installation media
- Administrator rights to the computer your installing the data management server on.

## Installation

After choosing the data management server hardware. (see Hardware Requirements for recommended specifications), load Internet Information Services on this system

- 1 On the Windows Start menu, select Programs ► Control Panel
- 2 On the Control Panel, double click Programs and Features
- 3 On the left side of the Programs and Features dialog box, select the option to Turn Windows Features on or off
- 4 Select Roles in the left pane.
- 5 In the right pane select Add Role Services.
- 6 Check Internet Information Services
- 7 Expand Internet Information Services ► Web Management Tools ► IIS 6 Management Compatibility.
- 8 Turn on the check box for IIS Metabase and IIS 6 configuration compatibility.
- 9 Expand Internet Information Services ► World Wide Web Services ► Application Development Features.

- 10 Turn on the check box for ASP .NET. Three other settings are automatically turned on: .NET Extensibility, ISAPI Extensions, and ISAPI Filters



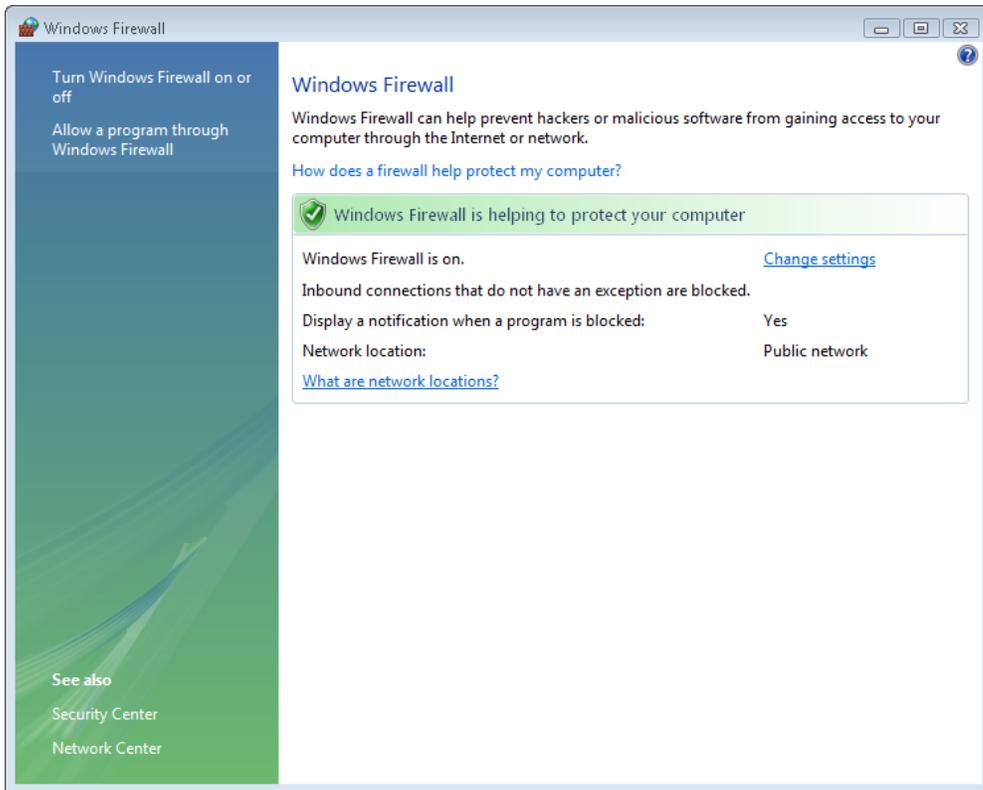
---

**NOTE** If IIS is installed and is not being used for any application uninstalling IIS and reinstalling it ensures that the default settings are set

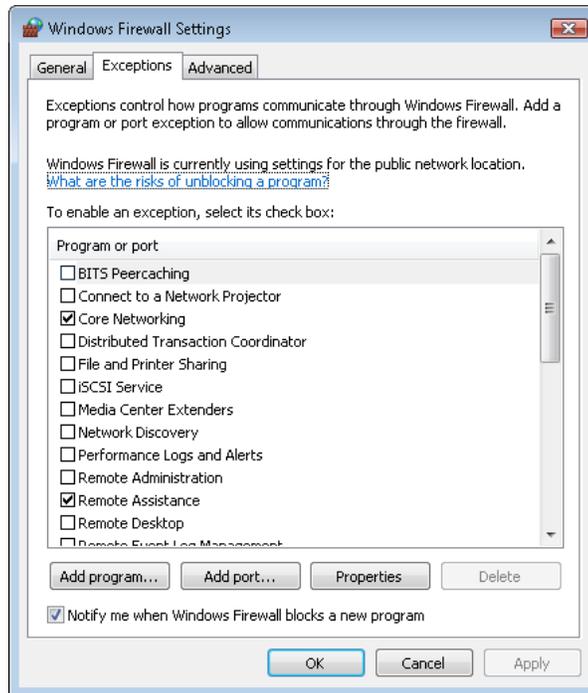
---

Now that IIS is installed you can configure the firewall that is built into Windows Server 2008, if necessary.

- 1 On the Windows Start menu, select Programs ► Control Panel
- 2 On the Control Panel, double click Windows Firewall
- 3 If the Firewall strip says "Windows Firewall is helping to protect your computer," then click Change settings.



- 4 In the Windows Firewall dialog box, click the Exceptions tab, and then click Add Port

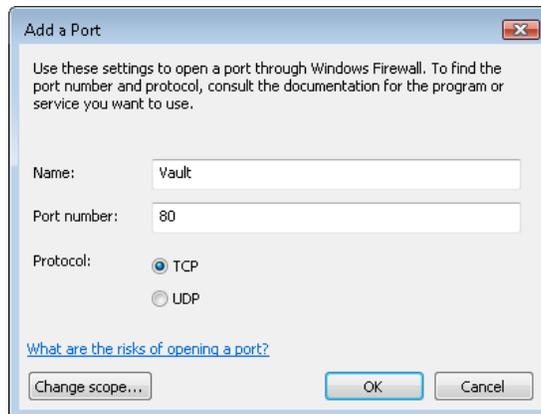


5 In the Add a Port dialog box, enter the following information.

Name: Vault

Port: 80

Ensure TCP is checked



6 Click OK

---

**NOTE** If you are not running Windows 2008 Firewall you can skip this step.

---

Once the firewall is configured to allow Vault to communicate properly, run the installation from the Autodesk Vault server media.

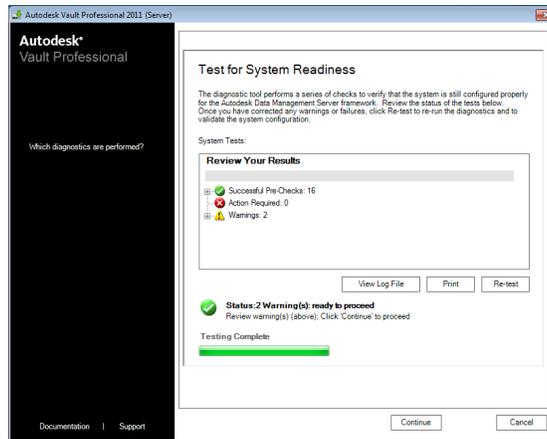
- 1 Insert the Installation media and double-click the *setup.exe*
- 2 Choose Install Products.
- 3 Choose Autodesk Vault 2011 (Server).
- 4 Accept the License Agreement.
- 5 Fill in your user information.
- 6 The configuration screen allows you to change the location of the SQL installation. You can change the SQL database location, and the location for the Autodesk Vault server console application.

---

**NOTE** We recommend that you take the default locations unless you are setting up a remote site. For more information on Multi-Site setups see [Setting Up Multiple Site Environments](#)

---

- 7 Click Install.
- 8 The installation performs a series of installation pre-checks. If your system does not pass the installation prechecks, a dialog box displays failures and warnings. Use the installation help and information in [Troubleshooting](#)



## Upgrading Vault Server

One of the first steps to a successful deployment is to assess the needs of your organization and the ability to move to the next version. This section provides information on some of the major areas to consider before moving to a new release.

## Testing

After assessing the hardware and software, determine whether you need a test environment. If you have unanswered questions, or determine that the data management system is critical to your business, consider setting up a test environment before upgrading to the next release of Autodesk Vault or Autodesk Productstream.

---

**NOTE** Using a second “test environment” is a best practice.

---

## Test Environment

If possible, perform a test upgrade of the Vault server on a machine that is like the one that is currently hosting the software. A test upgrade provides confidence that the backup is valid and helps you identify any potential pitfalls without impacting your production environment. It also helps you to

determine compatibility with other applications and environment settings that your company uses.

Test Machine Settings	Benefits
Similar CPU, memory, disk space	Provides an estimate of how long the migration can take. Gives insight into migration settings, such as time-out values to be changed. Shows other configuration settings that can require changes.
Database	Test machines that need access to a vault that is 2 GB or more also need a similar version of full Microsoft® SQL server installed.
Other applications that are installed on the production server	Test for compatibility with various proxy clients, firewalls, anti-virus programs, and so on.
Operating System, Service Packs, firewalls, and so on.	Compatibility testing.
Microsoft® Windows® Administration settings	Check for compatibility with Windows Domain policies, login scripts, permissions, and other settings.

## Migration

The Autodesk Vault server console can migrate a vault from Vault 2009 and Vault 2010 to work with Autodesk Vault server 2011. If you currently have a vault database earlier than release 2009, migrate it first to release 2009 and then use the server console to migrate it to work with Autodesk Vault server 2010.

## Before You Upgrade

When upgrading from a previous version of Autodesk Vault server 2010 or 2009:

- 1 Back up all existing Vaults and libraries.

- 2 Test the backup by restoring it to another computer.
- 3 If you have not upgraded your MS SQL database you need to make sure that the MS SQL is upgraded to 2005 SP3 or 2008 SP1.
- 4 Run the Vault server 2011 installation and allow it to upgrade your existing Vault server.

If you are running the Autodesk Vault server 2008, remove the data management server components before installing the Vault server 2011.

These steps are required to remove Autodesk Vault server 2008. Always create a backup of your vault data before uninstalling. Be careful to perform the following steps in the order given.

## Uninstall Components

Before uninstalling any components, back up existing vault and library data. Restore the backed up data on a test environment to verify that it can be successfully restored before proceeding.

---

**NOTE** Depending on your configuration, you may not find some of the following components. If they do not appear in the Windows Add or Remove Programs utility, skip the item.

---

- Autodesk Vault server 2008 or earlier
- Autodesk Vault 2008 or earlier (if the server and clients are on the same computer)
- Autodesk Office Add-in (if the server and clients are on the same computer)

---

**NOTE** Do NOT uninstall the SQL instance AUTODESKVAULT.

---

## Install Vault Server 2011

You can install Autodesk Vault server 2011 after you:

- Back up the vault and library data.
- Restore the backup on a test environment to verify it works.

- Remove previous versions of the Autodesk data management server and clients.

See [Install Vault Server](#) on page 29 for instructions on installing the server

During the installation, any existing databases and file stores are detected. You are prompted to migrate the data following the installation.

---

**NOTE** Vaults from Autodesk Vault server versions 1.0 and 1.3 cannot be migrated. A vault from Autodesk Vault server version 3, 4, 5, 2008 must be migrated to either version 2009 or 2010 before being migrated to version 2011 or higher.

---

When starting the server console the first time, it asks you whether to migrate any vaults it finds. If you Select no, use the following procedure to migrate any existing vault.

#### Migrate existing vault data

- 1 From the Windows Start menu, select Programs ► Autodesk ► Autodesk Vault ► Autodesk Data Management Server Console 2011.
- 2 The unmigrated vault is indicated with a yellow warning sign. Select the non-migrated vault.
- 3 Select Actions ► Migrate.
- 4 When the migration is done, click OK.

## Upgrade Microsoft SQL

If your existing Microsoft SQL database server is using Microsoft 2005 Express service pack 3, or one of the supported Microsoft SQL versions.

## Upgrade Microsoft SQL Express to Microsoft SQL Standard or Higher

To upgrade a SQL Express installation to a full version of SQL using a media which does not include a service pack, or higher, you can use one of the following methods.

---

**NOTE** A server console backup is recommended before performing either of these methods

---

### Method One

- 1 Open a command prompt and navigate to the directory where the full version of SQL setup is located.
- 2 Enter “setup.exe SKUUPGRADE=1” (case sensitive).
- 3 Start the upgrade and select the AutodeskVault instance.
- 4 After the upgrade is complete, apply the latest SQL service pack since this upgrade actually does not have on and it is not transferred from SQL Express.

### Method Two

- 1 Create a full backup of your vault using the server console.

---

**NOTE** In later steps, you delete all your vault databases. Validate that you can restore this backup on a test server before proceeding. Do not continue if your test restore fails. Correct any problems you have with the backup before continuing these steps.

---

- 2 After the test restore is successful, open the ADMS Console and delete all vaults and libraries listed. Then select Detach Master Vault from the Tools menu.
- 3 Make sure that all users are logged out of the vault.
- 4 Completely uninstall SQL Express, including the following applications in this order:
  - Microsoft SQL Server

---

**NOTE** If you have more than one instance of SQL Express installed, be sure to uninstall only the AutodeskVault instance. DO NOT uninstall any other part of SQL after this step is complete.

---

- MS SQL Server Native Client
- MS SQL Server VSS Writer
- MS SQL Server 2005 Backward Compatibility
- MS SQL Server Setup Support Files

- 5 Delete the SQL Express folders from Program Files (including data files). If your Vault databases are located on a different drive, be sure to delete the files in this location as well.
- 6 Install the full version of SQL with an AUTODESKVAULT instance as in the "Install MS SQL Server Prior to Installing ADMS 2008" section.
- 7 Install Microsoft SQL 2005 SP3 or Microsoft SQL 2008 SP1.
- 8 Restore the backup that you created in step one using ADMS Console.

# Install the Vault Client

# 5

The Autodesk® Vault clients include the integrated add-ins for applications such as Autodesk Inventor® and AutoCAD®, and the stand-alone Vault clients. Add-in clients are available for Autodesk® and non Autodesk design applications. Once the Autodesk data management server is installed, the clients can be installed.

## Data Management Client Requirements

Autodesk data management clients that integrate with an Autodesk design application require a licensed installation of the corresponding Autodesk application. Refer to the hardware and software requirements for each product.

The clients work with the Autodesk data management server. The Autodesk data management server must be installed and configured before the clients can access the server.

---

**NOTE** The data management clients are not compatible with previous versions of Autodesk Vault server. If you are upgrading to Autodesk Vault 2011 , all server and client components must be upgraded.

---

### Operating Systems

- Windows® XP Professional (SP2, SP3)
- Windows Vista® Ultimate (32-bit and 64-bit)
- Windows Vista® Enterprise (32-bit and 64-bit)
- Windows Vista® Business (32-bit and 64-bit)
- Windows XP Professional x64 Edition
- Windows 7 Ultimate (32-bit and 64-bit)

- Windows 7 Professional (32-bit and 64-bit)
- Windows 7 Enterprise (32-bit and 64-bit)

#### **Recommended Hardware**

- Intel®Pentium® 4, Intel®Xeon®, ADM Athlon™ 2 GHz
- 2-Gb memory or higher
- 4-Gb disk space

#### **Before installing**

- Close all Autodesk and Microsoft applications before installation.
- Disable any virus scanning software before installing.
- Previous versions of clients are not compatible with Autodesk Vault server 2011. Installing Autodesk Vault server 2011 requires that all clients are upgraded to version 2011.
- The recommended screen resolution is 1024x768 or higher. Large font settings in lower screen resolution settings can affect clarity of dialog boxes.

## **Client Installation**

The Autodesk data management clients are available with the product installation media as well as on the Autodesk Vault 2011 media.

The Autodesk Vault add-in for Microsoft® Office was shipped with your software. It can be used with one or more of the following Microsoft products when installed and registered on your machine.

- Microsoft® Word 2003/2007
- Excel® 2003/2007
- PowerPoint® 2003/2007

---

**NOTE** To install the Autodesk Vault clients, you must have either Microsoft Windows administrator privileges or power user privileges.

---

### **Install the clients for an Autodesk design application**

- Insert the installation media for the Autodesk design application and follow the instructions for the installation wizard.

### **Install the clients for a non-Autodesk design application**

- Insert the installation media for the application and follow the instructions to install the software.

### **Install clients from the Autodesk Vault 2011 Media**

- 1 Insert the Autodesk Vault 2011 media.
- 2 Double-click *setup.exe*.
- 3 Follow the instructions in the installation wizard.

## **Add-in Integration**

If a design application is on the computer before the clients are installed, the corresponding add-in clients automatically integrate with the design applications. However, if an application is installed after the data management clients, action is required. Go to the Control Panel and modify the data management application to install the missing add-in.



# **Configure and Maintain Vault**



# Configure Basic Vault Options

# 6

This chapter describes the basic options you configure to allow users to begin using Vault.

## Log In the First Time

When Autodesk Vault server is installed, a vault and a user account are created. The name of the vault is “Vault”. The account name is “administrator”. No password is assigned to the account and the name is not case sensitive. The administrator account has full administrator privileges.

---

**NOTE** If a user account is already created for you, log in with your user name and password.

---

### Log into Autodesk Data Management Server the first time

- 1 Use one of these methods:
  - On the Start menu, click Programs ► Autodesk ► Autodesk Data Management ► Autodesk Vault.
  - On the Start menu, click Programs ► Autodesk ► Autodesk Data Management ► Autodesk Vault *[Product Name]*.
  - In an application with an integrated add-in, click the Vault add-in tab ► Log In.
- 2 In the Log In dialog box, verify the following:

<b>User name</b>	The name for the vault account.
<b>Password</b>	The password associated with the vault account.

<b>Server</b>	The name of the computer on which the vault server is installed.
<b>Database</b>	The name of a vault database located on the specified server. The default is "Vault". Click the browse button to select from a list of available databases on the server.

A default user ID, vault server, and database are set up for you to get started using the vault. If a user account is already created for you, use your own account information. If a user account has not been created for you, or the default values are not present, contact your vault administrator.

Use either the default values or, if an account has been created for you, use your own account information. The default values are:

User Name: Administrator

Password: empty

Server: Name of the computer on which the vault server is installed. Use localhost if the server is installed on the same machine as the client.

Database: Vault

- 3 Click OK.  
You are logged into the vault.

---

**NOTE** You have the option to save the account information to log into the vault automatically the next time.

---

## Use Vault with a Proxy server

If a client machine connects to the Web server through a proxy server, all calls to the Autodesk Data Management Server from any Autodesk client fail. To have a successful Autodesk Client/Server communication, bypass the proxy server.

### Change the proxy settings in Internet Explorer 6.x and 7.x

- 1 Open Internet Explorer.
- 2 On the Tools menu, select Internet Options.
- 3 Select the Connections tab.

- 4 Click LAN Settings.
- 5 If the "Use a proxy server for your LAN" check box is enabled, turn on the "Bypass proxy server for local addresses" check box.
- 6 Click the Advanced button next to the Port field.
- 7 In the Proxy Setting dialog box, add the server name and IP address into the Exceptions field.
- 8 Click OK.
- 9 Click OK.
- 10 Click OK to close Internet Options.

All addresses without a period, for example: *http://webservice*, bypass the proxy and resolve directly.

If Internet Explorer continues to connect to the assigned HTTP proxy server, then the HTTP proxy address can contain a period. If this situation happens, configure the proxy server to use a host name.

#### **Configure the proxy server to use a host name**

- 1 Follow steps 1-5 from the previous section for changing the proxy settings in Internet Explorer.
- 2 If the "Address" field is "*http://webservice.domainname.com*" or "*http://10.0.0.1*", then change it to "*http://webservice*" only.
- 3 Click OK and close Internet Explorer Options.

## **Manage User Accounts**

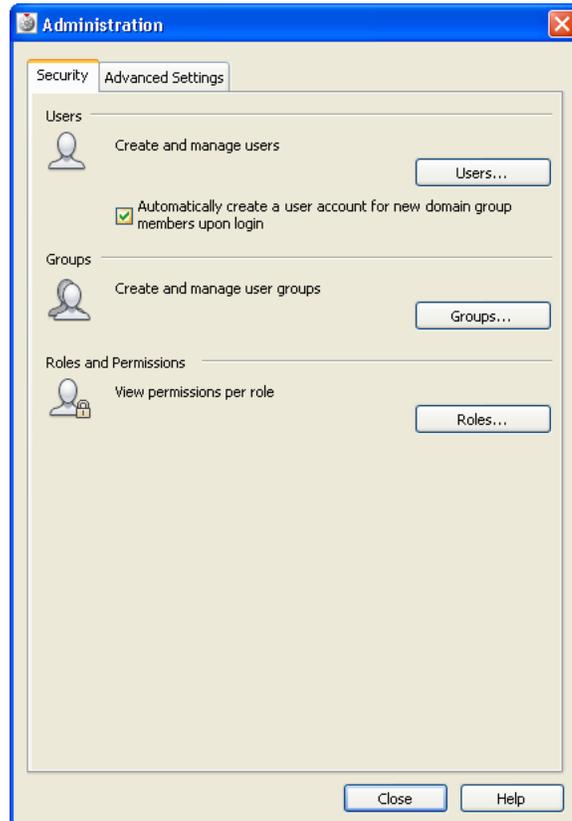
The vault is a secure database. Before anyone can use a vault, the administrator must add accounts for users and grant levels of permission within the vault using roles.

For more information about users, roles, and managing accounts, see the server console Help.

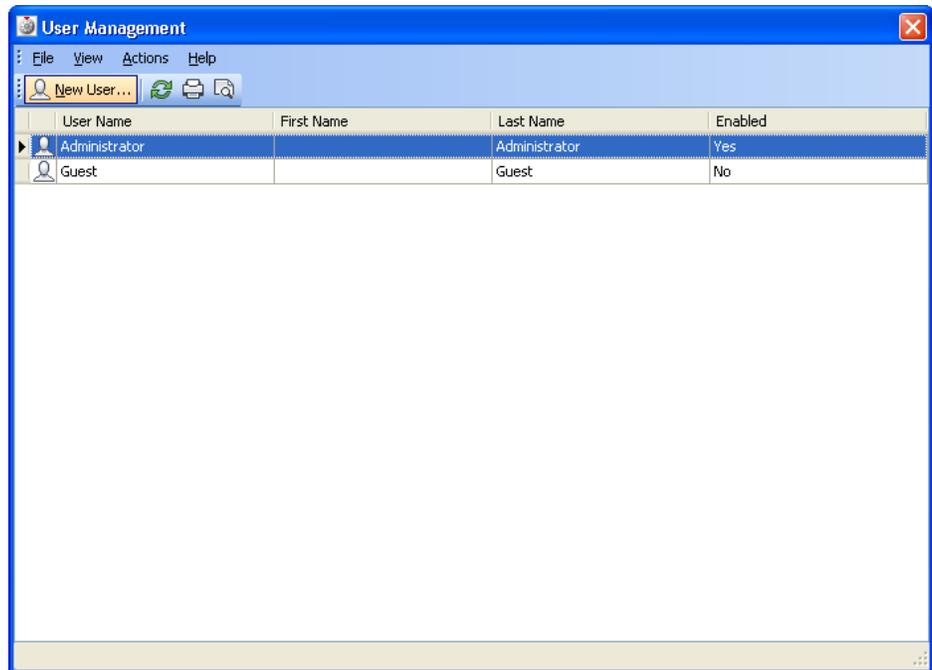
## **Add or Edit User Accounts**

You can create user accounts and grant vault access.

- 1 In either the Vault client or server console Click Tools ► Administration.
- 2 In the Administration dialog box, click the Security tab and then click Users.



- 3 In the User Management dialog box, click New User.



- 4 In the New User dialog box, enter the information for the new user:
- First name
  - Last name
  - User name
  - Email address

The image shows a 'New User' dialog box with the following fields and controls:

- First Name: [Text Input]
- Last Name: [Text Input]
- User Name: [Text Input]
- Email: [Text Input]
- Password: [Text Input]
- Confirm Password: [Text Input]
- Roles... [Button] [Text Input]
- Vaults... [Button] [Text Input]
- Groups... [Button] [Text Input]
- Enable user
- OK [Button] Cancel [Button] Help [Button]

- 5 Enter a password and confirm it.
- 6 Click Roles and assign one or more roles to the account. Roles determine the level of access to the vault.
- 7 Click Vaults and select one or more vaults for the account to access.
- 8 Select the Enable User check box. Until the account is enabled, it is not available for use and cannot access the vault.

Repeat this process for each new user account needed. Each new user is granted access to the selected vaults on the server.

#### **Edit a user account**

- 1 Double-click a user profile in the User Management dialog box. Or, highlight a user profile and then click Edit User.
- 2 In the User Profile dialog box, edit the information for the current user.
- 3 To edit the password, enter a new password and then confirm the new password.

- 4 Click Roles to edit the user roles.
- 5 Click Vaults to edit the user access to vaults.
- 6 Click OK.

---

**NOTE** Each user logs into the vault with a unique user name and password. Restrict access to the administrator account to only the assigned vault administrator.

---

## Assigning Roles to User Accounts

- 1 Select Tools ► Administration.
- 2 In the Administration dialog box, click Users.
- 3 To assign roles to a user for the first time, click New User.
- 4 In the New User dialog box, select Roles.
- 5 In the Add Roles dialog box, select one or more roles, and then click OK.
- 6 To edit the role for an existing user, double-click a user profile in the User Management dialog box.
- 7 In the User Profile dialog box, click Roles.
- 8 In the Add Roles dialog box, select or cancel the selection of one or more roles.
- 9 Select the Enabled check box. Until the account is enabled, it is not available for use and cannot access the vault.
- 10 Click OK.

More than one role can be assigned to a user account. The permissions are a union of the assigned roles.

---

**NOTE** The Content Center Administrator, and Content Center Editor, roles are specific to Content Center. Do not alter them.

---

## Grant Vault Access to Users

- 1 Select Tools ► Administration.
- 2 In the Administration dialog box, click Users.

- 3 To grant a user access to one or more vaults for the first time, click New User.
- 4 In the New User dialog box, click Vaults.
- 5 In the Add Vaults dialog box, select one or more vaults, and then click OK.
- 6 To edit access to a vault, double-click a user profile in the User Management dialog box.
- 7 In the User Profile dialog box, click Vaults.
- 8 In the Add Vaults dialog box, select or cancel the selection of one or more vaults.

## Disable User Accounts

- 1 Select Tools ► Administration.
- 2 In the Administration dialog box, click Users.
- 3 In the User Management dialog box, double-click a user profile to disable, or highlight the user account and click Edit User.
- 4 In the User Profile dialog box, clear the check box for Enable User.
- 5 Click OK.

## Assign Users to Groups

Groups allow the administrator to create a container to add or remove users from. Rather than assigning several users permissions and roles, the administrator can grant the same permissions to several users by adding or removing them from a group.

- 1 Select Tools ► Administration.
- 2 Select Groups.
- 3 In the Group Management dialog box click the New Group button.
- 4 Enter a name and email address for the group.
- 5 Add the roles and Vaults to the group.

**6** Add the users individually or by selecting another group to include.



# Configure Vault Workgroup

# 7

This section provides steps to configure several options that can be used with Vault Workgroup, Collaboration and Professional to control document revisions.

## Revision

A revision is a collection of file versions rolled up into one object that is displayed to the user. After a revision is created, document edits are contained within that revision until a new revision is created. So as changes are made and committed to the system, the user sees no change to the revision label.

Once the revision objects have been created, any revision can be downloaded or opened. When a revision is downloaded, only one version within that revision is used to represent the revision. If life cycles (For more information see Life Cycles) are not used, then that version is always the latest version within that revision.

## Choose the Revision Scheme

Vault Workgroup, Collaboration, and Professional install three default revision schemes to choose from. To access these schemes, launch your Vault client.

- 1 On the Start Menu, select All programs ► Autodesk ► Autodesk Data Management ► Autodesk Vault *[Product Name]*.
- 2 Log in to the Vault.
- 3 On the Tools Menu select Administration.

- 4 Select the Behaviors tab.
- 5 Click the Revisions button.

The Revision Scheme Definitions dialog box opens with the three default options for revision schemes.

The first revision scheme is configured to use the letters A through Z as the primary revision designator and numbers for all secondary and tertiary. For example, the first revision is marked as A, and the second is marked as B. If you had a small change to Revision A and did not want to mark it as a full Revision bump, you use the secondary, which is A.1.

The second revision scheme is configured the same as the first, except the primary designator is not alphabetical but numerical starting with one. For example, the first revision is 1, and the second is marked as 2. A secondary designation is marked as 1.1.

The last default revision scheme is the Null scheme. Use this scheme if you do not want to use document revisions with Vault.

## Create a New Revision Scheme

If necessary, you can create your own scheme based on your company standards.

- 1 On the Start Menu, select All programs ► Autodesk ► Autodesk Data Management ► Autodesk Vault *[Product Name]*.
- 2 Log in to the Vault.
- 3 On the Tools Menu select Administration.
- 4 Select the Behaviors tab.
- 5 Click the Revisions button.

Use the New, Copy, and Edit buttons across the top of the Revision Scheme Definition dialog box to define a revision scheme that matches your company standards.

## Lifecycles

A lifecycle is comprised of various states that can be assigned to a file. One or more of these states can be identified as a "released state".

---

**NOTE** This option is applied to the state, not the name of the state itself.

---

When a document is in a released state, a new version is created that is marked internally as released. Newer non-released versions can be created by moving the document to a different state without creating a revision. You can choose your life cycle definition using the following steps.

- 1 On the Start Menu, select All programs ► Autodesk ► Autodesk Data Management ► Autodesk Vault *[Product Name]*.
- 2 Log in to the Vault.
- 3 On the Tools Menu select Administration.
- 4 Select the Behaviors tab.
- 5 Click the Lifecycles button.

In the Lifecycle Definition dialog box, you see that Vault Workgroup, Collaboration, and Professional ships with five predefined lifecycle definitions.

The first Lifecycle definition is the Basic Release process. This process supports the lifecycle states.

- 1 Work in progress
- 2 For Review
- 3 Released
- 4 Obsolete

The second Lifecycle definition is the Flexible Release process. This process supports the lifecycle states.

- 1 Work in progress
- 2 For Review
- 3 Released
- 4 Quick Change
- 5 Obsolete

Adding the Quick Change lifecycle state allows you to change a design after a document has been released. This functionality is useful when finding small problems during manufacturing.

The third Lifecycle definition is the Long Lead Time Release process. This process supports the lifecycle states.

- 1 Work in progress
- 2 For Review
- 3 Pre-Release
- 4 Released
- 5 Quick Change
- 6 Obsolete

Adding the Pre-Release lifecycle state allows users to track documents that must be released earlier for ordering materials with long delivery times.

The fourth Lifecycle definition is the Simple Release process. This process supports the lifecycle states.

- 1 Work in progress
- 2 Released

If all you want to do is control which documents are currently released and which documents are being worked on this Lifecycle definition can be used.

The last Lifecycle definition is the None definition, which allows Vault to be used without Lifecycles.

## Categories

Category management provides a way to group properties logically. Grouping by category provides a means for assigning a defined set of behaviors and rules to one or more files. A category labels a file and also sets the defined behaviors that can be used on the file.

For example, you can use categories to mark files as engineering documents or office documents. Once these categories have been assigned, you can use Vault rules to assign default properties, revision schemes, and lifecycle definitions.

- 1 On the Start Menu, select All programs ► Autodesk ► Autodesk Data Management ► Autodesk Vault [*Product Name*].
- 2 Log in to the Vault.

- 3 On the Tools Menu select Administration.
- 4 Select the Behaviors tab.
- 5 Click the Categories button.

## Rules

Rules allow you to assign categories to files automatically. You can access the rules by following these steps:

- 1 On the Start Menu, select All programs ► Autodesk ► Autodesk Data Management ► Autodesk Vault *[Product Name]*.
- 2 Log in to the Vault.
- 3 On the Tools Menu, select Administration.
- 4 Select the Behaviors tab.
- 5 Click the Rules button.

Using rules categories can be assigned without interrupting the workflow of users. For example, if John is an engineer and works only on engineering documents, a rule can be added that anytime John checks in a file, the Engineering category is assigned to it. John can continue working without having to stop and assign the category to his documents.

## Import and Export Configurations

Once you have your Vault configured, you can log into the Vault server console and save your configuration. The configuration can be used when configuring a new Vault. The following steps can be used to export your configuration.

### Export a Configuration

- 1 On the Start Menu, select All Programs ► Autodesk ► Autodesk Data Management ► Autodesk Data Management Server Console.
- 2 On the left side of the Server Console select the Vault you want to export the configuration from.
- 3 From the Action pull down menu select Export Configuration.
- 4 Select a location and filename for the configuration file and select Save.

### **Import a Configuration**

- 1** From the Start Menu, select All Programs ► Autodesk ► Autodesk Data Management ► Autodesk Data Management Server Console.
- 2** On the left side of the Server Console select the Vault you want to apply the existing configuration.
- 3** From the Action pull down menu select Import Configuration.
- 4** Select the configuration file and select Open.

# Configure Vault Collaboration and Vault Professional

# 8

In this chapter, we discuss configuring some of the Vault Collaboration and Vault Professional advance options. These options are not available in the base level of Vault or Vault Workgroup.

## Windows Authentication

Windows Authentication allows an Administrator to use existing Active Directory domain user accounts. Windows Authentication also allows users to log in with their Windows credentials once the Administrator has imported their accounts. To import an Active Directory Domain user account follow these steps.

- 1 From the pull down menu select Tools ► Administration.
- 2 In the Administration dialog box, select the Security tab.
- 3 Click Users.
- 4 In the User Management dialog box, select Actions Import Domain User.
- 5 In the Select Users dialog box, click Locations to specify the domain containing the Active Directory accounts to import. In the Locations dialog box, select the domain to use and then click OK.
- 6 In the Select Users dialog box, enter the names of the users to add from the Active Directory domain. Alternatively, click Advanced to search for the users.

- 7 Once the users accounts have been specified, click OK in the Select Users dialog box. The selected Active Directory domain user accounts are added to the User Management list.

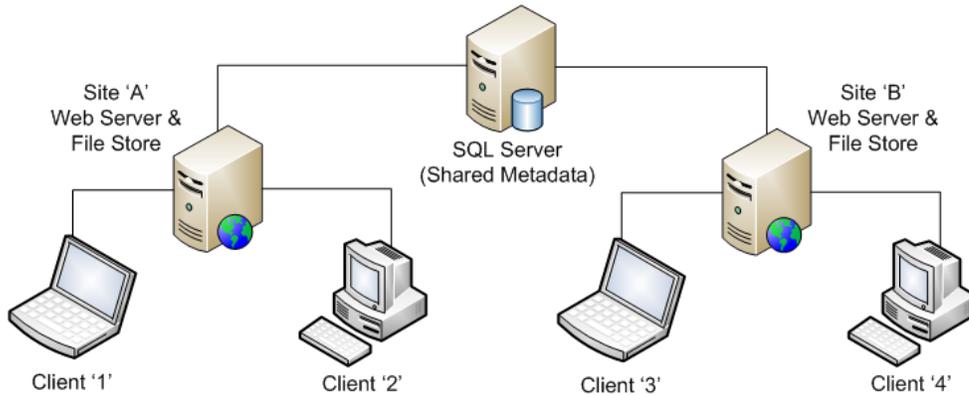
## Set Up Multiple Site Environments

Multiple remote sites can be configured to access the same vault data. A site is comprised of a dedicated Autodesk® Vault server and a file store. Each site accesses a shared AUTODESKVAULT SQL instance.

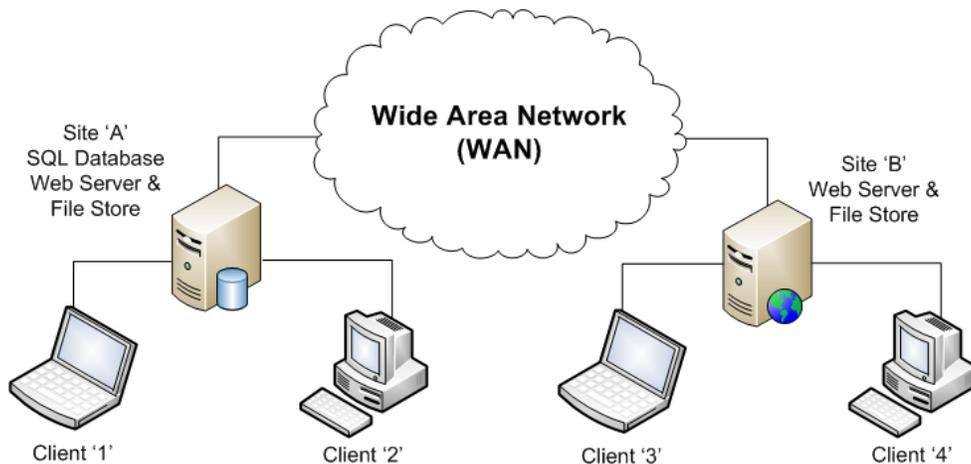
### What is a Multiple Site Environment

The multiple site environment allows users to design products across multiple locations as if all the users were in one location. Autodesk® Vault Collaboration and Professional allow two different methods to accommodate this functionality.

The first method is to centralize the data base for all sites. The database for Vault can sit on a separate server as illustrated here.



The second method is to set up a main site with the database and main file store located on the same server. The main site has the most users and is where the most design work is done.



In these environments, users open data files such as AutoCAD® drawings Inventor Assemblies or Microsoft® Office documents 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)

---

**NOTE** Setting up the main site first and attempting to access the main set remotely can provide satisfactory performance for some users. We recommend that you set up the main site and expand to a multiple site after.

---

## Is Multiple Site Environment Right for You

Setting up a multiple site environment is more complicated than a single server environment. Consider several factors when deciding if you want to set up a multiple site environment:

- Network reliability.
- Network latency and Bandwidth between sites. (Should be low latency and high bandwidth.)
- Number of remote sites.
- Number of users per site.
- Size and number of files to replicate per day/per hour.
- Estimated number of concurrent users.

---

**NOTE** For more detailed information see [Plan the Vault Environment](#) on page 19

---

## Pre-Install Checklist

If you read the preceding information and decide to set up a multiple site environment, go through the following check list before you start.

- Do all remote sites have the software? Is the software copied on the server? Is there a DVD drive on server?
- Do you have access to an Administrator for all sites? Do you have remote login from main site to each remote sites?
- Do all remote sites have a latest copy of the file store with a backup package (for existing ADMS customers)?
- Are all Windows updates current on all servers?
- Are virus scans turned off?
- Are firewalls turned off?
- Are TCP Port 1433 and UDP Port 1434 blocked by firewall?

## Install Vault Server on Additional Sites

After installing the remote SQL instance and setting up your main Vault server site, install additional Vault sites. The additional sites in the multi-site environment must have the Vault Collaboration or Professional server installed and configured to access the SQL instance used by the first site. The connection to the remote SQL instance is configured during the installation of the data management server. Follow these steps for each additional site.

- 1 On the remote site, insert the Autodesk Vault Collaboration or Professional installation media.
- 2 On the installation screen, select either Autodesk Collaboraion or Professional data management server.
- 3 From the Select the Products to Install page, select Autodesk Vault server 2011, and then click Next.

---

**NOTE** You can install the data management clients on the server as well, but it is not a requirement.

---

- 4 Accept the license agreement and then click Next.
- 5 On the Review - Configure - Install page, select Autodesk Vault server 2011 from the drop-down list and then click Configure.
- 6 Select the Autodesk Vault server 2011 tab.
- 7 Select Use remote SQL.  
Enter the name of the server containing the SQL instance to which to connect or click Browse to locate the server on the network.

---

**NOTE** Do not include \\ in front of the server name. A SQL instance named 'AUTODESKVAULT' must exist at the specified location.

---

- 8 When using a remote SQL instance, a shared network folder is required as a transition area between the SQL instance and the Autodesk data management server. The shared network folder can be located anywhere on the network and must be accessible by both the data management server and SQL. The space requirement for the shared folder is equal to the total of all database files. Choose a location with sufficient space and performance. Enter the UNC path to the shared network folder or click Browse to locate the shared folder on the network.

---

**NOTE** 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.

---

- 9 Click Configuration Complete.
- 10 Click Install.
- 11 The Installation Complete page indicates that Autodesk Vault server has been installed. Click Finish.

---

**NOTE** Once the server is installed, repeat this process for each additional site.

---

## Manage Sites

Sites are managed and maintained using the server console. For more information and additional site management features, see the server console Help.

- 1 On the Windows Start menu, select Programs ► Autodesk ► Autodesk Data Management ► Autodesk data management server console.
- 2 Log into the server console.
- 3 In the navigation pane, select Workgroups.
- 4 Select the Site you want to manage.

Each site is listed along with a summary of site statistics including:

- Server Name
- Description
- Location of File Store
- Vault Name
- Vault Status
- Replication Type
- Last Replication
- Next Replication
- Site Status

## Change Descriptions of Sites

- 1 Select a site from the list.
- 2 Right-click the Description field for the site, and then select Edit Description.
- 3 In the Description dialog box, enter a new description for the site and then click OK.

## Replicate Data

Replicating data at a site compares the local file store to the file store at each other site. It retrieves any missing files from the other sites. Once replicated, a file and its history are available at the replicated site. Individual vaults can be replicated, or all the enabled vaults on a site can be replicated. Replication can also be scheduled.

---

**NOTE** The Replication command synchronizes data only at the site at which it is initiated. Each site is responsible for its own replication. For more information on site replication see replication in the following section.

---

## Connected Workgroups

Autodesk Vault Collaboration and Vault Professional allow the configuration of connected workgroups to improve the performance of Microsoft SQL for remote sites.

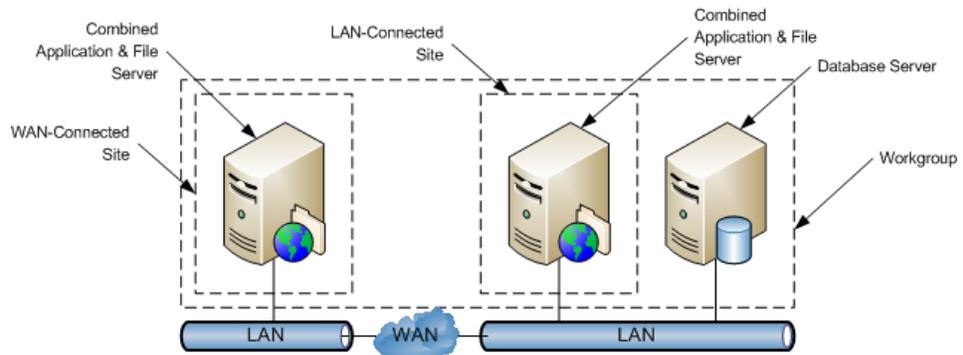
## Replication

Replication is the process of copying data from one server to another server usually located in two different physical locations. This process allows the setup of a Vault environment which has two different locations and users will not have to spend time downloading large CAD files across their Wide Area Network (WAN) connection. Before the added features of Connected Workgroups in Vault Collaboration and Vault Professional only the files were replicated.

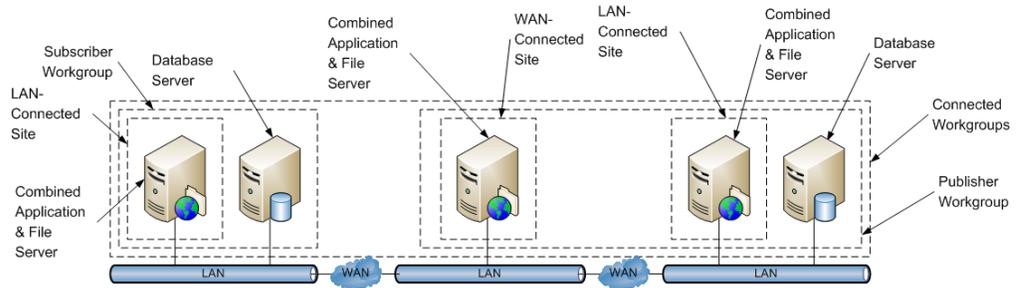
The connected workgroup feature in Autodesk Vault Collaboration and Vault Professional supports the use of multiple database servers using Microsoft SQL Publisher/Subscriber technology. This technology allows the replication of the SQL database at multiple locations.

## Workgroups Fixing

Autodesk Vault Collaboration allows replication of file stores from one site to another site. This is managed by one Microsoft SQL database. This configuration is known as a workgroup. The following illustration shows a typical workgroup configuration. All sites in a single workgroup share the same Microsoft SQL server.



To allow sites to have their own database server to increase SQL performance, Autodesk Vault Collaboration uses connected workgroups. The following illustration shows a workgroup with two different sites connected to a second workgroup with a single site.



## Setting up Connected Workgroups

The installation of a Connected Workgroup environment requires each component to be installed and configured in the correct order. The following section summarizes the order and then explains the installation of each component in detail.

### Configure the Publisher

Autodesk Vault Collaboration or Vault Professional do not support connected workgroups on Microsoft SQL express. The full version of Microsoft SQL must be installed with a database instance named "AutodeskVault" before installing the Vault server. (See [Pre-Install Microsoft SQL](#) on page 29 for more information) If you are upgrading an existing Vault server to use connected

workgroups you can get more information on this topic in the Autodesk Vault Advance configuration Guide.

- 1 Install MS SQL
- 2 Configure a shared folder on the publisher. The security on this folder must allow access to what ever account is setup as the replication user account and the the AUTODESK VAULT user.
- 3 Install Vault server on the computer which will have all the information replicated from. This computer is known as the Publisher.
- 4 After the Vault server has been installed start the Vault server console.
- 5 Fill in the UNC path for the shared folder. For example: \\server\share\.
- 6 Enter the User Id, which should be the user account configured for replication and should have full access to the shared folder.
- 7 Enter and confirm the network password for the User ID entered.

**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 '\\nov-columbus1\M5share'.

OK Cancel Help

- 8 Click OK

## Configure Firewalls

Before adding a workgroup be sure that the SQL server can communicate with the Vault server through the firewall. This can be done by allowing an exception for the SQL executables *sqlbrowser.exe* and *sqlserver.exe*.

## Configure Subscribers

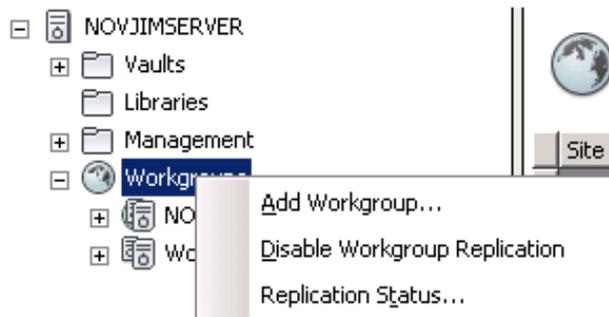
After the Publishing server is set up and configured the subscribing servers can be setup. When configuring the subscribing servers the publishing server will install the Vault server databases to the subscribing server over the network.

---

**NOTE** For subscribing locations with slower network connections it is advantageous to configure the server at the same location as the publisher and ship the server. If shipping a subscribing server to a different location, it should not be disconnected from the network for more than 14 days to allow a successful replication once reconnected to the network.

---

- 1 Install the same version of SQL that was used on the publisher with a preconfigured instance named AutodeskVault the same sa password as the publisher.
- 2 From the publisher launch the Vault server console.
- 3 In the left pane of the server console, right-click on the Workgroups node and select Add Workgroup.



- 4 Enter a name for the new workgroup.
- 5 Enter the name of the computer with the new instance of SQL was installed.
- 6 Enter the User ID and Password for the network user setup to run replication.

The screenshot shows a Windows-style dialog box titled "Add Workgroup". It contains the following elements:

- Workgroup Name:** A text input field.
- Specify the remote computer name where the SQL instance (AutodeskVault) exists:** A text input field with a dropdown menu showing "\AutodeskVault".
- Remote SQL Credentials:** A section with a checked checkbox "Use default SQL user ID and password" and three input fields for "User ID:", "Password:", and "Confirm password:".
- Remote Replication Credentials:** A section with three input fields for "User ID:", "Password:", and "Confirm password:". Below these fields is the text "(e.g. domain\username)" and "User must have access to '\\novJIMserver\share'".
- Buttons:** "OK", "Cancel", and "Help" buttons at the bottom right.

- 7 Click OK

After clicking OK a background process configures the remote SQL server as a subscriber and starts to replicate the KVM database from the publisher. Once the secondary server has completed its configuration, it will be added to the Workgroups tree in the console.

---

**NOTE** Though the configuration is complete the replication may not be complete. Verify the replication is complete before moving to the next step.

---

Once the publisher finishes installing the databases to the subscriber, the Vault server console can be installed on the subscribing server.

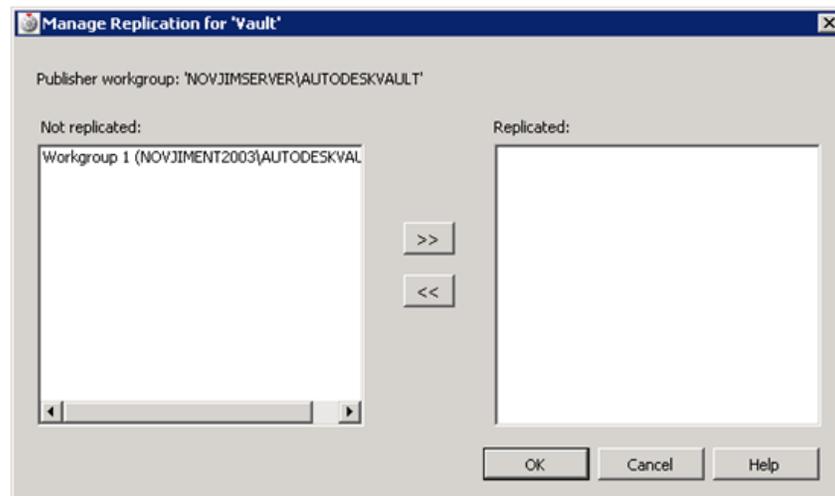
## Enabling Vault Replication

Once a Connected workgroup has been configured the last step is to enable which vaults are replicated. This can be configured using the Manage Replication tool.

- 1 Select the primary Workgroup.
- 2 In the right pane right-click the Vault to manage and select Manage Replication.



- 3 Select the workgroup from the "Not replicated" column, presses the >> button to add it to the Replicated column.



- 4 Click OK

## Backup and Restore

All backup and restore operations should be done from the publisher site. If it becomes necessary to restore a subscriber, remove that subscriber from the

connected workgroup environment, rebuild the subscriber server and add it back to the connected workgroup environment.

Autodesk Vault Collaboration or Vault Professional not only backs up the normal KVM and Vault databases but also the SQL master database, the msdb database, and the replication distribution database. The default name of the replication distribution database is AutodeskReplication.

Autodesk Vault Collaboration and Vault Professional will not allow you to simply restore a connected workgroup environment. The databases necessary for restoring a connected workgroup environment are backed up and can be restored manually if necessary.

---

**NOTE** The publisher name and name of the distribution database are stored in the backupcontents.xml file.

---

## Backup

The Vault server console should be used to create a back up of the Vault server at the publisher site.

**A backup should be done whenever:**

- Changes are made to a workgroup.
- A workgroup is added.
- A workgroup is deleted.
- A workgroup is renamed.

## Restore

To restore an Autodesk Vault Collaboration or Vault Professional environment using the backup and restore tools provided by the server console, the publishing server must be restored and all subscribers must be added as if they were never part of the environment.

The following rules apply when manually restoring the Autodesk Vault Collaboration or Vault Professional connected workgroup publisher while maintaining the existing subscribers:

- The publisher can only be restored to a server with the same name.

- Subscribers should be on the same version of Autodesk Vault Collaboration or Vault Professional. No data migration should be needed.
- The backup should not be more than 14 days old.
- Start each database server in single-user mode.
- Restart the database server instance after each database is restored.

**Restore the databases in the following order**

- 1 Master
- 2 MSDB
- 3 AutodeskReplication
- 4 KVM
- 5 Vaults

---

**NOTE** For more information on backup and restore procedures regarding connected workgroups see the Autodesk Vault Advance Configuration Guide.

---

# Data Management Server Maintenance

# 9

This chapter contains the procedures for Autodesk® data management server administration and management.

## About Autodesk Data Management Console

A vault consists of three primary components:

- The master database called KnowledgeVaultMaster
- Vault database
- File store

KnowledgeVaultMaster is the master database for Autodesk® Vault server. Like the master database of SQL, KnowledgeVaultMaster is a separate database. It contains common global administrative and configuration information for all the vault and library databases on the Autodesk Vault server.

The vault database stores information, such as file names, user names, properties, and file relationships.

The file store is a directory structure that contains the actual data files. Autodesk Vault server console includes tools for maintaining databases and file stores.

---

**NOTE** Never directly move, delete, or edit a file in the file store.

---

Perform all database and file store maintenance using the data management console. The console is the interface for the administrator to maintain the vault file stores and databases. Tasks include backing up and restoring data, creating

new vaults, and purging old data. The administration utilities in the server console are also available from the command line. You can use the command line with scripts to create custom schedules and automated maintenance tasks.

---

**NOTE** A database consists of an *.mdf* file and an *.ldf* file. Keep these two files together for a vault to work correctly.

---

Log into the server console with a vault account that has been assigned the Administrator role. To perform most vault maintenance, you must also have SQL administrator privileges. For more information about vault maintenance, command line options, and SQL administrator privileges, see the server Console Help.

#### Start the Server Console

- 1 On the Windows® Start menu, select Programs ► Autodesk ► Autodesk Data Management ► Autodesk (Server Console).
- 2 In the Log In dialog box, enter the user name and password for the vault administrator account.
- 3 Click OK.

## Perform Vault Maintenance

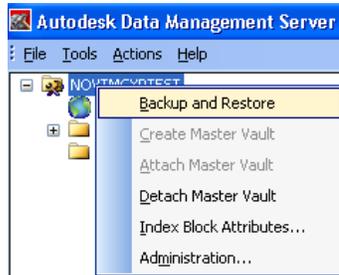
Ensure that no users are connected to the vault or library before performing any maintenance. Users are blocked from accessing the Autodesk Vault server during maintenance procedures (Autodesk® Vault Collaboration and Professional allow backups while users are connected).

## Back Up Vault Data

Backing up vault data is essential. The following are recommendations for backing up Autodesk® Vault.

Use the supplied backup-restore utility.

Use the server console to back up all data necessary to restore a server if a failure occurs. When backing up and restoring the Autodesk Vault server, no users can access any vault on the server unless the server is a Productstream® server. When you back up the server, all users are blocked from accessing the system. In addition, server console backs up or restores all vaults on the server. There is no way to select individual vaults to back up or restore.



Develop a Backup Schedule.

The next step is to automate the process. Two common methods are:

- Use the Windows Task Scheduler. This process uses the backup tools included with the server console as part of a standard Windows batch file.
- Include the backup as part of a tape backup set. This process uses a tape back up system to back up the vault directly or to use a method like the Windows Task Scheduler.

The preferred and most reliable method for backing up a vault is to integrate the server console backup tools into your tape backup plan.

With the server console command line options, you can create a script to automate the backup process. The following script is intended for a default Autodesk Vault server installation. Edit the backup paths and installation paths as needed.

---

**NOTE** The following script is for performing full back ups ONLY. For more command line options or to create a script for performing incremental back ups, see the data management server console Help.

---

#### Automate backup using Microsoft® Windows® Task Scheduler

1 Create a text file called *Backup.txt*.

2 Insert the following text:

```
@ECHO OFF
REM DELETE B AND CASCADE A BACKUP SUBDIRECTORIES
RMDIR /Q /S "C:\Backup\Vault\B"
REN "C:\Backup\Vault\A" "B"
REM CREATE A NEW DIRECTORY FOR THE BACKUP
```

```
MKDIR "C:\Backup\Vault\A\  
REM START THE BACKUP PROCESS (THIS IS ONE LINE OF TEXT)  
"C:\Program Files\Autodesk\Data Management Server 2009\ADMS  
Console\Connectivity.ADMSConsole.exe" -Obbackup  
-B"C:\Backup\Vault\A" -VUadministrator -VP[YourPassword] -S
```

- 3 Change the name of the text file to *Backup.bat* to convert it to a batch file.

---

**NOTE** When backing up a multi-site environment, back up locally on the primary server.

---

## Windows Vista User Account Control

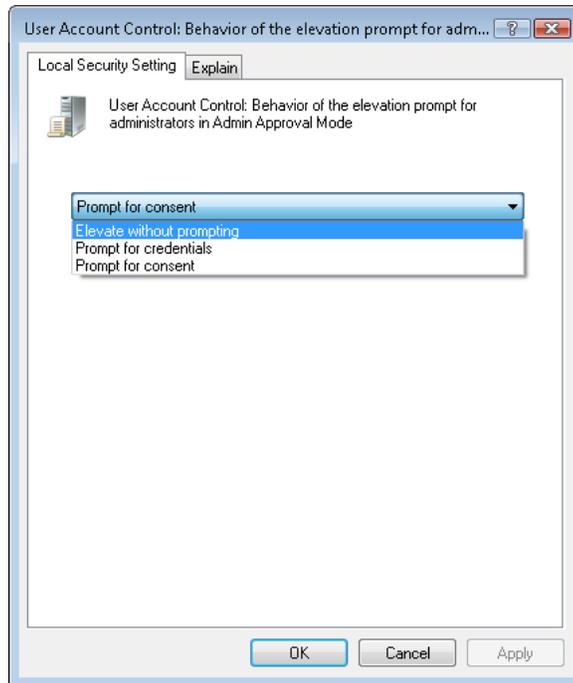
If you want to schedule automatic backups using the Autodesk server console, User Account Control settings in Windows Vista® must be configured to allow applications to run without prompting for administrator permission.

---

**NOTE** The following settings affect the entire computer. All applications run without prompting for administrator approval.

---

- 1 On the Windows Start menu, select Run.
- 2 In the Run dialog box, enter *secpol.msc* and then click OK.
- 3 If you are prompted to allow the security policy application to run, click Continue.
- 4 In the Local Security Policy dialog box, expand Security Settings ► Local Policies ► Security Options.
- 5 Locate the policy User Account Control: Behavior of the elevation prompt for administrators in Admin Approval Mode. Right-click the policy and then select Properties.
- 6 In the Properties dialog box, select Elevate without prompting and then click OK.



- 7 Locate the policy User Account Control: Run all administrators in Admin Approval Mode. Right-click the policy and the select Properties.
- 8 In the Properties dialog box, select Disable and then click OK.

## Creating Tape Backups

There are different ways to use a tape backup system to back up a vault. We recommend integrating the Server Console backup tools into your tape backup plan. Many systems allow you to run a script before and after the tape job executes. To back up a vault using a tape backup system, use the following scripts before and after the job runs.

---

**NOTE** We do not recommend using backup software to back up the SQL database and file store directly. This method increases the difficulty of migrating to a new release of Autodesk Vault server or restoring a vault on a new machine. In addition, never back up the SQL Server using the "live" backup plug-ins that are available for major tape backup systems. Ensure the file store and SQL data are perfectly in sync with each other. Failure to do so can render your data unusable.

---

- 1 Run the following script before your tape backup job starts:
 

```
@ECHO OFF
REM THIS WILL STOP THE WEB SERVER AND "CYCLE" THE SQL SERVER
REM PROVIDING THE BEST RESULTS FOR BACKING UP THE VAULT
IISRESET /STOP
NET STOP MSSQL$AUTODESKVAULT
NET START MSSQL$AUTODESKVAULT
REM START THE BACKUP PROCESS (THIS IS ONE LINE OF TEXT)
"C:\Program Files\Autodesk\Data Management Server 2009\ADMS
Console\Connectivity.ADMSConsole.exe" -o backup -B"C:\Backup\Vault\A"
-VUadministrator -VP -S
```
- 2 Run the following script after your tape backup job completes:
 

```
@ECHO OFF
REM DELETE THE BACKUP SET AFTER THE TAPE SET COMPLETES
RMDIR /Q/S C:\Backup\Vault\A"
REM START THE WEB SERVER
IISRESET /START
```
- 3 Validate the Tape Backup
 

To ensure that your backup set restores properly, test both the backup and the backup procedures. We recommend that you install the Autodesk Vault server on a separate computer. Test a full restore of the data using the Restore command in Autodesk Vault server console.

## Restore Vaults from Back Ups

- 1 Click Tools ► Restore.
- 2 Restoring a vault deletes the current data sets and file store. This action cannot be undone. You are prompted for confirmation before proceeding. Click Yes.
- 3 Select whether you are restoring a directory or a file.
- 4 In the Restore from directory field, specify the location of the backed up data. To browse for a location, click ... and locate a directory using the file browser.

- 5 Select whether to restore the database to the original location or to a different location. If you choose Select Restore Location, specify a target directory for the database. This selection is sometimes necessary when restoring data to a different machine that does not have the same drive letters or locations available.
- 6 Select whether to restore the file to the original location or to a different location. If you choose Select Restore Location, specify a target directory for the file store.
- 7 Click OK.

The vault data is automatically migrated when it is restored using Autodesk Vault server console. If you are restoring the data using the command line, migrate the data after it is restored.

---

**NOTE** Back up files created from the Autodesk Vault server installed with using Autodesk Productstream® cannot be restored to an Autodesk Vault server installed with Autodesk Vault.

---

## Manage Vaults

A vault is created automatically when Autodesk Vault server is installed. Typically, use a single vault for holding all the design data for a design team, since data and folder mappings cannot be shared across vaults. However, you can create additional vaults for:

- Testing purposes so users can become familiar with vault procedures without affecting the main vault.
- Contractors who want to use multiple vaults to isolate data from independent clients who each have separate libraries and shared content.

### Create a vault

- 1 In Autodesk Vault server console, click Vaults.
- 2 Click Actions ► Create Vault.
- 3 Enter a name for the new vault. The name cannot contain certain special characters.
- 4 The file store can be located in a default location, or a new location can be specified. Click OK to create the vault with the default file store

location. Or, click Select File Store Location to specify a new location and then click OK.

---

**NOTE** The default path for the file store is *C:\Documents and Settings\All Users\Application Data\Autodesk\VaultServer\FileStore*. The default path for the file store on a Windows Vista system is *C:\Program Data\Autodesk\VaultServer\FileStore*.

---

## Delete Vaults

Vaults that are no longer in use can be deleted. Before deleting any vault, back up the data.

- 1 In Autodesk Vault server console, click Vaults.
- 2 Select a vault to delete.
- 3 Click Actions ► Delete Vault.
- 4 You are prompted to verify your actions. Click OK.

## Move File Stores

We recommend that you keep all the Autodesk Vault server components on a single machine. However, the file store can be moved from its existing location to another location. To move a file store to a location on a remote machine, see “Managing a Remote File Store” in the *Advanced Configuration Guide* available in the online Vault Knowledge Base.

---

**NOTE** Use only the data management server console to move a file store.

---

## Attach and Detach Vaults

Detaching a vault disconnects it from the server so it can be moved to another location. Do not move the detached vault off the machine hosting the SQL server. Before detaching the master vault database, detach all other databases. The vault and its log file are detached. The names of the files for a vault named Vault are:

- *Vault.mdf*
- *Vault\_log.ldf*

After the vault is detached, you can move the two corresponding files. The *.mdf* and *.ldf* files must be kept together. Attaching a vault reconnects the set of vault files that were moved to the database engine.

---

**NOTE** After reattaching the database, the Autodesk Vault server user accounts must be edited to have access to the reattached vault. To avoid editing the user accounts, back up the database and restore it to a new location.

---

#### **Detach a vault**

- 1 Ensure that no users are accessing the vault (unless using Productstream).
- 2 In Autodesk Vault server console, select a vault from the main view.
- 3 Click Actions ► Detach.
- 4 You are prompted to confirm your actions. Click Yes.

#### **Detach the master vault**

- 1 Ensure that no users are accessing the vault (unless using Productstream).
- 2 Click Tools ► Detach Master Vault.
- 3 You are prompted to confirm your actions. Click Yes.

---

**NOTE** Detach all other databases before detaching the master vault.

---

#### **Attach a vault**

- 1 Select the Vaults folder.
- 2 Click Actions ► Attach.
- 3 In the Attach Vault dialog box, enter the name of the data file (*.mdf*) or click the browse button to locate the file.
- 4 Enter the name of the log file (*.ldf*) or click the browse button to locate the transaction log file.
- 5 Enter the name of the file store or click the browse button to locate the file store.
- 6 Enter the name of the vault.
- 7 Click OK.

For more information on detaching and attaching vaults, see the Autodesk Vault Help. Also, visit the Autodesk Web site at [www.autodesk.com](http://www.autodesk.com), and search for support document TS81609.

## PurgeVault Data

To help maintain drive space and to minimize file store size for better performance, you can purge old file versions and out-of-date information from the vault. You specify the conditions that must be met to keep a file version in the vault. Versions that do not meet the specified criteria are then removed from the vault.

### Basic rules of purging

- The latest version cannot be purged. To remove a file and all its versions from a vault, use Delete.
- File versions linked to items in Autodesk Productstream cannot be purged. To remove a version linked to an item, the item must first be deleted from the item master.
- File versions that are labeled cannot be purged.
- Locked files cannot be purged.
- If a file to be purged is checked out, an extra version is maintained.
- Children with a dependent parent version cannot be purged until the parent version has been purged.

1 Select a vault from the main view.

2 Click Actions ► Purge.

3 In the Vault Version Purge dialog box, turn on the check box next to each of the selection rules to determine the data to purge:

**Versions except latest** Specify how many file versions to leave in the vault.

**Versions older than days** Specify the age of files to purge.

**Exclude versions where comment contains** Enter a text string contained within the Comments field of the files in the vault. Any files containing this string are excluded from the purge process.

4 Click OK.

## Re Index the Server

Re indexing the server extracts the properties from all the files in the vault. Typically, this indexing process occurs when a file is first added to the vault or when an updated version is checked in. From time to time, re index the entire vault to:

- Add new properties to the vault that were previously unknown to the system.
- Remove unwanted properties from the vault that are no longer needed, in turn saving space in the SQL Server database.

The Autodesk Vault server utilizes a technology created by Microsoft called iFilters. iFilters are small applications that exist on the server containing a set of instructions on how to open and extract property data from files. A few iFilters are installed with Autodesk Vault server by default and other exist with the operating system. There are also many third-party iFilters available for other file formats. An Internet search for iFilter returns some of the filters that other software developers have published.

The iFilters that are included by default index the following file types:

- AutoCAD®.dwg
- Autodesk Inventor®
- Autodesk® 3D Studio Max®
- Microsoft® Office

## Add New Properties

When a new iFilter is installed, the vault database must be re indexed to recognize the related properties. After, run the Re-Index command to extract the new property data from all the files in the vault, including the historical versions.

---

**NOTE** Some iFilters create actual properties that are searchable and can be displayed as columns in the vault. Others only index file contents which are searchable, but cannot be displayed as a column. For more information on searching file contents, see the next section [Full Content Indexing](#) on page 108.

---

## Full Content Indexing

Full content indexing is the ability to index the actual file contents of many different document types. For example, reading simple text on a *.dwg* file or finding all occurrences of a word in Microsoft® Word documents.

### Enable Full Content Indexing

By default, full content indexing is not enabled. Full content indexing can be enabled per vault on the Autodesk Vault server.

- 1 In the server console, select a vault from the navigation pane.
- 2 Select Actions ► Content Indexing Service.
- 3 In the Content Indexing Service dialog box, select Yes, enable Content Indexing Service.

### Microsoft Indexing Service

Unlike the standard property indexing performed by the Autodesk Vault server, full content indexing is done using the Windows Indexing Service. The Windows Indexing Service is enabled by default.

#### If the Windows Indexing Service installation is required

- 1 On the Windows Control Panel, double-click Add or Remove Programs.
- 2 In the Add or Remove Programs dialog box, click Add/Remove Windows Components.
- 3 In the Windows Components Wizard, turn on the Indexing Services check box and then click Next.
- 4 When the component is installed, click Finish.

When you enable the full content indexing for a vault, a new catalog is created in the Index Server, prefixed with ADSK. This is the repository for indexed contents.

The Microsoft Indexing Service is implemented as a shared server. There is no degraded performance with checkin times, nor will the database size increase. However, a full content search takes slightly longer to return results when compared to a more simple property based search.

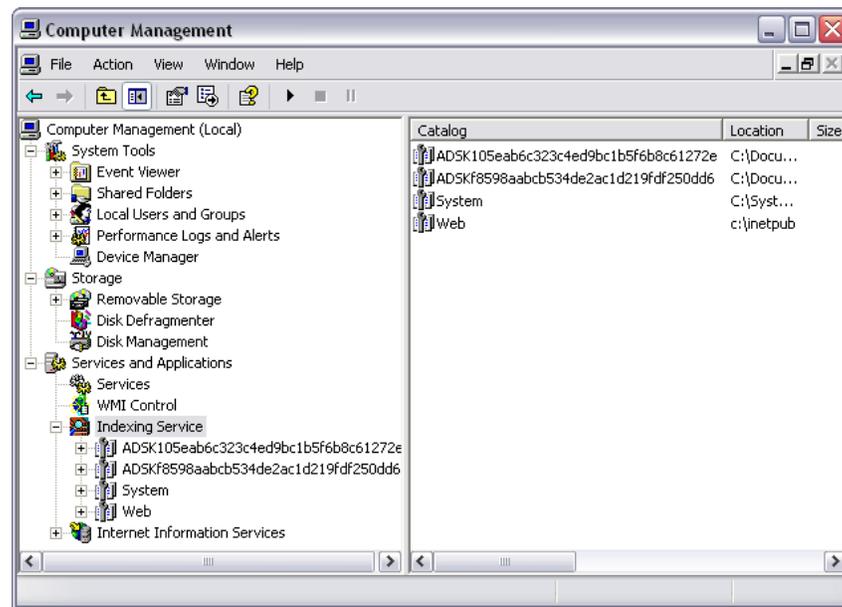
---

**NOTE** The server console manages the Indexing Service under normal operation.

---

### Access the Windows Indexing Service

- 1 From the Windows Control Panel, double-click Administrative Tools.
- 2 In the Administrative Tools window, double-click Computer Management.
- 3 In the Computer Management dialog box, expand Services and Applications ► Indexing Service.



## Manage Content Center Libraries

In addition to hosting vaults, Autodesk Vault server also hosts Content Center libraries. Use the server console to perform Content Center Library administrator tasks.

For information on installing Content Center libraries, refer to the Content Center Installation Guide available on the Autodesk Inventor 2009 installation media, disk 1.

## Maintain Libraries in Server Console

Use the server console to create, manage, and delete libraries. The console displays the list of Content Center libraries currently installed on the server. Using the Backup command, you can create a back-up of an existing library on the server. Select a library from the list to manage it.

A Content Center library is contained within a SQL Server database. The database is comprised of a pair of files with the extensions MDF and LDF. These files together make one library and need to be maintained together.

## Create New Libraries

You can create a new read-write or read-only Content Center library, which can be configured for use in either a local or an Autodesk Inventor project that accesses the Content Center libraries from a central server.

### Create a library

- 1 In the server console, select the Libraries folder in the navigation pane.
- 2 Click Actions ► Create Library.
- 3 Enter a name for the new library.
- 4 Select a library partition from the drop-down list.
- 5 Enter a name for the library database.
- 6 Click OK.

## Delete Libraries

Deleting a library detaches the selected library from the database server, and deletes the data files (*.mdf* and *.ldf*) from the hard disk. All data contained in the library is permanently deleted.

### Delete a library

- 1 In the server console, select a library you want to delete in the navigation pane.
- 2 Click Actions ► Delete Library.
- 3 Click OK.

## Attach Libraries

Use Attach to make a Content Center library available on the server from a pair of existing *.mdf* and *.ldf* data files already on the computer.

### Attach a library

- 1 In the server console, select Libraries in the navigation pane.
- 2 Click Actions ► Attach Library.
- 3 Click the browse button, and locate the *.mdf* file you want to attach. The *.ldf* file is automatically attached.
- 4 In the Attach Library dialog box.
- 5 Click OK.

## Detach Libraries

Detaching a library removes a Content Center library from the list of available libraries in the server console. Detach does not delete its data files (MDF and LDF) from the server. The data files can be reattached and made available at a later time using the Attach command. They can also be manually copied to another location to be backed up, or moved to another machine.

### Detach a library

- 1 In the server console, select Libraries in the navigation pane.
- 2 Click Actions ► Detach Library.
- 3 Click the browse button, and locate the *.mdf* file you want to detach.
- 4 Click OK.

## Export Libraries

Export copies a set of library files (*.mdf* and *.ldf*) that are in the server console to a specified location. You can specify a folder on the same machine, or a location available on the network.

### Export a library

- 1 In the server console navigation pane, select a library you want to export.
- 2 Click Actions ► Export Library.
- 3 In the Browse for Folder dialog box, specify the location you want to export the *.mdf* file to, and click OK.

## Import Libraries

Import copies library files (a pair of MDF and LDF files) into the standard SQL Server data files directory. Then it performs an attach operation to register them with SQL Server and make them available as a Content Center Library. For example, use Import to copy library files from a third party supplier to the Content Center Library you are administrating.

### Import a library

- 1 In the server console navigation pane, select a library you want to import.
- 2 Click Actions ► Import Library.
- 3 In the Browse for Folder dialog box, locate the *.mdf* file you want to export, and click OK.

## Library Summary

Highlight a library to display high-level information about the library and its data files in the main pane.

## Library Status

Right-click a library in the browser and select Read-Only to toggle the status of a library to be marked as Read-Only or Read-Write. You cannot change the status of a default read-only libraries installed with Autodesk Inventor.

## Content Center Permissions

If you require editing permissions for one or more Content Center libraries, you must have a Content Center Editor account set up for you in the data management server console.

Accounts are not required for users who only need read-only access to the Content Center library.

### To create Content Center library user accounts in the data management server console

- 1 In server console, click Tools ► Administration.
- 2 In the Administration dialog box, click Users.
- 3 In the User Administration dialog box, click New users.
- 4 In the New User dialog box, enter the desired information for the user. Click the Roles button to assign the user a Content Center role.
- 5 Select Content Center Editor to assign editing permissions.
- 6 Click Vaults to assign the user to a vault. Assign a user to a vault, even if you are not using Autodesk Vault Explorer. This assignment is required to log into the Autodesk Vault server in Autodesk Inventor to access the Content Center libraries.
- 7 If needed, click Groups to assign the user to a group (optional).
- 8 Click OK.
- 9 In the User Management dialog box, and then in the Administration dialog box, click Close.
- 10 Communicate user account information and the Login procedure to each member in the team.

## Learning and Training

Before getting started and rolling out an Autodesk data management solution to all the users in your group, we advise that you learn the basics and understand your deployment approach. Since Autodesk Vault can affect multiple users, make sure that the deployment goes as smoothly as possible.

## Learn to Use Autodesk Vault

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**NOTE** It is recommended that all users go through training from an Autodesk Authorized Training Center in addition to the following steps.

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As a first step to learning to use Autodesk Vault, refer to the tutorials that are included in with the Autodesk Vault Help. There is a tutorial for each of the design application add-ins. These tutorials are accessible from the respective Help menus in the design application.

### Search the Autodesk Knowledge Base:

- Knowledge Base [www.autodesk.com/vault-support](http://www.autodesk.com/vault-support)

### More online information about Autodesk Vault server and client applications:

- Autodesk Inc. [www.autodesk.com](http://www.autodesk.com)
- Autodesk Vault [www.autodesk.com/vault](http://www.autodesk.com/vault)

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**NOTE** Autodesk sponsored discussion groups are a forum where Autodesk customers and industry partners ask questions and share information about Autodesk products. Discussion group topics are publicly available worldwide. You are welcome to participate by posting questions or providing input or answers to questions from other users.

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## Get Training

Be more productive with Autodesk software. Get trained at an Autodesk Authorized Training Center (ATC) with hands-on, instructor-led classes to help you get the most from your Autodesk products. Enhance your productivity with proven training from over 1,400 ATC sites in more than 75 countries. For more information about Autodesk Authorized Training Centers, contact [atc.program@autodesk.com](mailto:atc.program@autodesk.com) or visit the online ATC locator at [www.autodesk.com/atc](http://www.autodesk.com/atc).

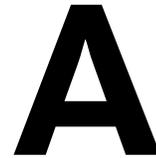
## Train Other Users

As previously mentioned, when training other users on Autodesk Vault, we advise that you use a new, personalized vault for learning purposes. Since a

new vault is 100% independent of others, there is no risk that their learning process interferes with production data.



# Performance Enhancements



There are several ways to enhance the overall performance of Autodesk® Vault. Before proceeding, we recommend that you read [Understand Autodesk Vault](#) on page 7 in this guide.

## Key Terms

Term	Definition
Performance Tuning	Monitoring and analyzing the performance of a system and adjusting its configuration to obtain optimum performance.
Operating System	The software that the rest of the software depends on to make the computer functional. On most PCs this is Microsoft® Windows® or the Mac OS®.
Memory	It is a set of storage locations on the main circuit board of a PC.
Disk Defragmentation	A utility included with the Windows operating system that coalesces files on the hard drive, freeing up disk space.
Anti-virus Program	A program that searches for viruses and removes any virus that it finds.
Proxy Server	Existing between a client Web browser and a real server, a computer that caches common and often requested Web pages and holds them for easier access by users.
Customize View	A command in Productstream® or Vault Explorer to customize the information shown in the display grid.

## Tune Server Performance

There are a number of factors that can be tuned to get the optimal performance from Autodesk Vault server. By reviewing this section and tuning your configuration accordingly, you can get the most from your data management solution.

### Operating System

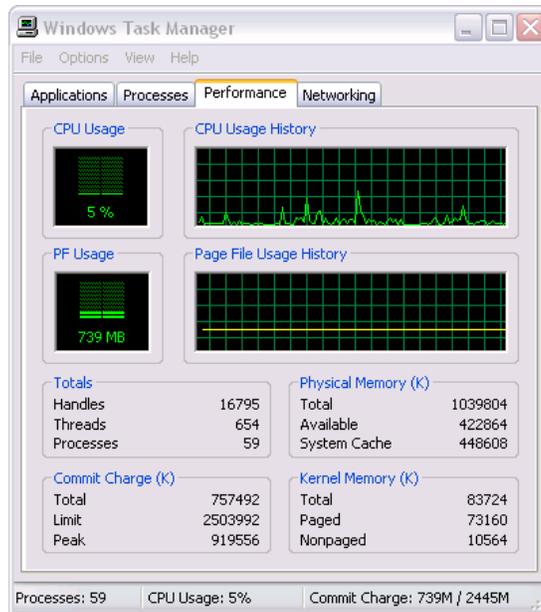
A dedicated server operating system such as Windows server™ 2008 is preferable to workstation operating systems such as Windows® XP Professional or multi-purpose server operating systems such as Microsoft® Windows Small Business Server 2008.

### Server Memory

In order to determine whether the server has enough available memory, some key factors must be considered: the size of your data and the number of users concurrently accessing the Vault server. If Productstream is used, the number of users concurrently accessing the Item Master should be considered as well.

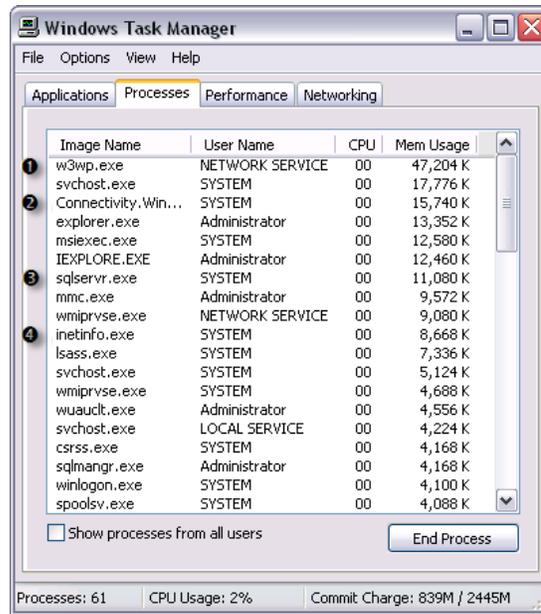
#### View memory usage

- Invoke the Task Manager by right-clicking in the taskbar or pressing CTRL+ALT+DEL.



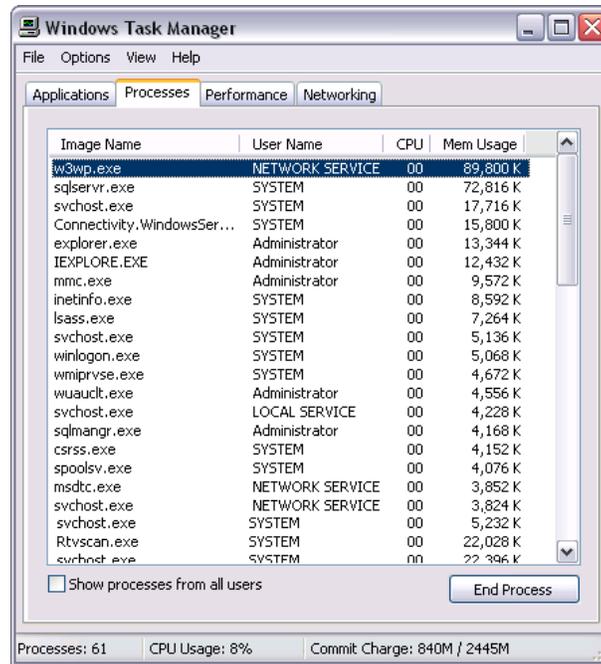
If the Commit Charge Total regularly exceeds the total amount of physical memory, it is likely that many of the programs and processes on the server are using the disk-based swap file excessively. Using the swap file is much slower than using physical memory. Windows uses the swap file for many tasks, so a small amount of swap file usage will not cause any problems.

- If you suspect that your server has an inadequate amount of memory, check the Commit Charge Total value. Clicking the Processes tab reveals more details on the memory usage of all programs or processes.



**Initial memory usage by Autodesk Vault server.**

- 1 IIS Web Server process (there may be many of these running).
- 2 Autodesk Vault server notification process.
- 3 Microsoft®SQL server process.
- 4 IIS main Web server process.



Memory usage after adding a large Inventor drawing and associated files.

In general, SQL Server memory will grow over time. This is because the database server is using memory as fast cache buffers for frequently used queries. As other programs request memory on the server, SQL Server releases memory as needed. Similarly, the IIS worker process (*w3wp.exe* in Windows 2003 server) reserves memory for caching as well. When the system starts running low on physical memory, the operating system reclaims some of this memory. In general, unless you have a large site with many users or large models, this will not need to be changed.

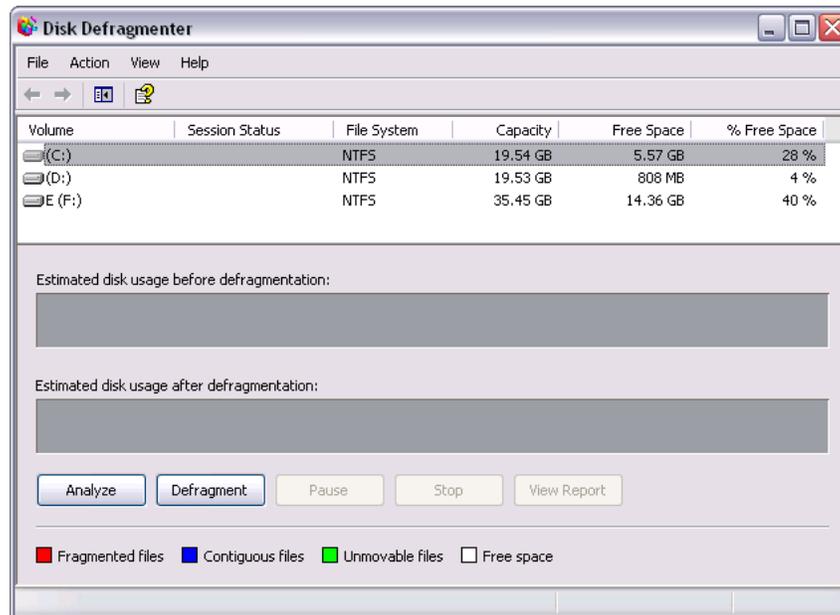
## Disk Performance

Using multiple disks generally enhances system performance. There are many types of disk technologies available, such as the Redundant Array of Inexpensive Disks (RAID). Choosing which type of disk technologies depends on the number of users, vault size, frequency of updates, and so on.

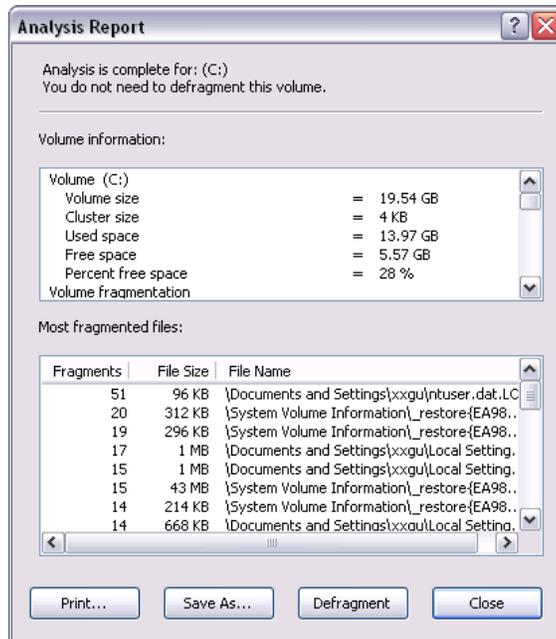
Disk fragmentation can also greatly affect Autodesk Vault server performance. Most Windows editions provide a disk tool that measures how the files on your computer are stored on disk.

### Running the disk defragmenter

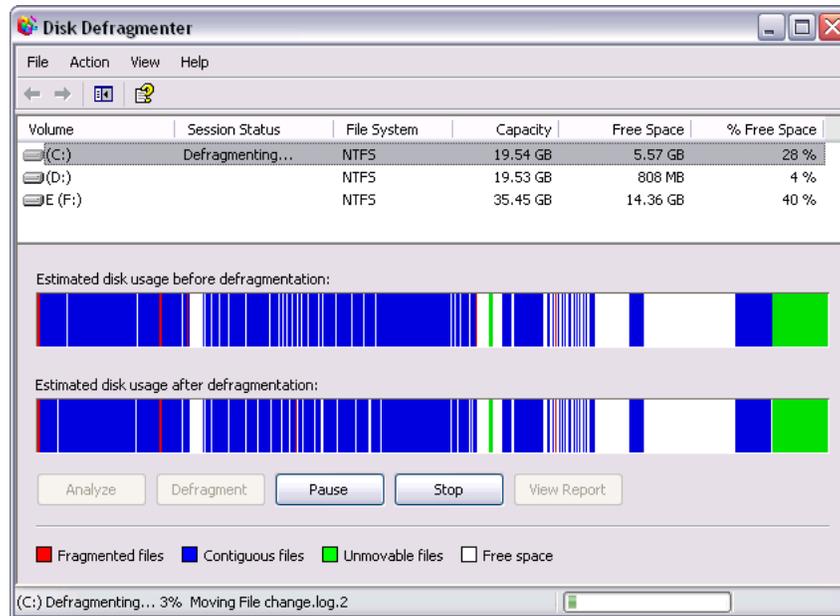
- 1 Click Start ► All Programs ► Accessories ► System Tools ► Disk Defragmenter.



- 2 Choose a disk (volume) and click Analyze. Following analysis, a report appears.



3 Click the Defragment button.



## Aggressive Anti-virus Programs

Some types of Anti-virus programs scan data coming from the network and data being written to the file store. If your anti-virus software appears to be engaged for too long on vault operations, such as uploads, adjusting the scanner settings may help.

There is, of course, a trade-off between security and performance. Because of this, performing some test cases and benchmarks on your own data and server is recommended.

## CPU

Faster or multiple CPUs can improve vault performance, but this is typically a more expensive option than the others and should mainly be considered after the other areas have been reviewed.

# Vault Client Performance

There are a number of factors that can be tuned to get the optimal performance from the data management clients. Review this section and tune your configuration accordingly to get the most from your data management solution.

## Client Settings

Certain settings within the client application can affect performance not only in the client, but in the Vault add-ins as well.

### Customize View command

- This is a commonly used setting in the Productstream and Vault Explorer client programs. It is used to add additional information to display grids. Usually, this does not have much additional impact on performance. However, some display fields, such as the thumbnail property, may take a longer to display. Enabling these settings only on an 'as needed' basis can help to improve day-to-day performance.

## Memory

Add-ins for design applications consume additional memory. The amount of memory they consume is typically small. But, in certain circumstances, it makes sense to review the memory usage on the client. The most common problems occur when the original client CAD model uses most the available memory of a computer before introducing a vault into the workflow. Please refer to the Server Memory section for additional instructions on how to review the memory usage on your systems.

## Disk Performance

Like the server, client computers can suffer from disk fragmentation as well. The concept of analyzing disk fragmentation is the same for both clients and servers.

## Troubleshoot

Learn how to use the Autodesk® Server Diagnostics Tool or the Autodesk online Knowledge Base to solve problems that might occur when installing or using Autodesk® data management server.

### Key Terms

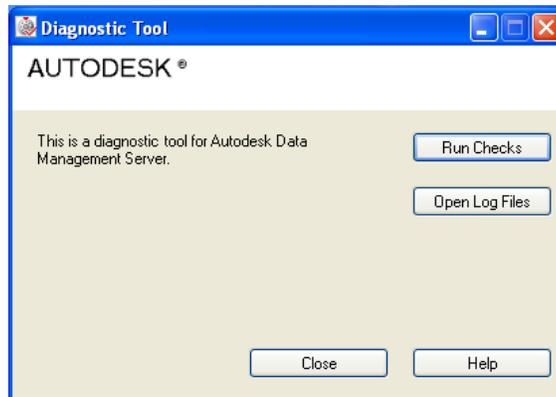
Key Terms	Definition
Autodesk Server Diagnostics Tool	A program that can perform a series of checks to identify possible Autodesk Vault server problems and gather system information to help diagnose the problem.
Autodesk Knowledge Base	An online support for all Autodesk products.
Autodesk Vault server	The server used in conjunction with Autodesk Vault, Autodesk® Productstream®, and Content Center for storing files and version data.
Log file	A text file generated by the Autodesk Server Diagnostics Tool containing important system configuration information.

## Server Diagnostics Tool

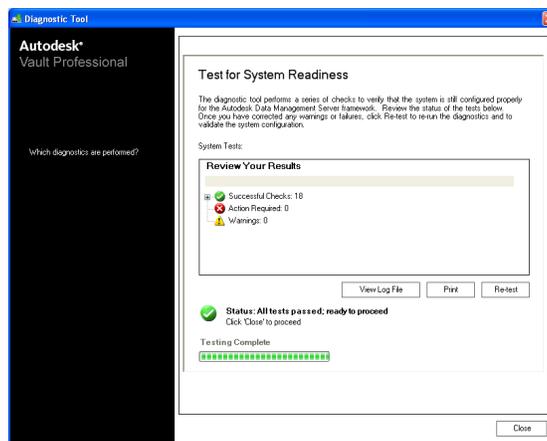
The Autodesk Server Diagnostics Tool is a collection of tests that can help determine why a vault installation is not working properly. Changes to the server machine configuration over time can interfere with the Autodesk Vault server. The Autodesk Server Diagnostics Tool performs a series of tests to identify possible Autodesk Vault server problems and compiles system information to help diagnose the problem.

### Run the diagnostics tool

- 1 On the Windows® Start menu, select Programs ► Autodesk ► Autodesk Data Management ► Tools ► Autodesk Server Diagnostics Tool.
- 2 In the Diagnostics Tool Setup dialog box, click Run checks.



When Checking, all the results of the diagnostic tests are displayed in a list indicating which of the checks have passed successfully, have generated a warning, or have failed.



- If a warning is returned, click the link in the Warning list to get more information.
  - If any of the checks fail, click the link displayed under the Action Required list to learn more about the error.
- 3 When the diagnostics are complete, click Close and then click Open Log Files to open the directory containing the log files.

### Learn more about errors and corrections

- In the Review Your Results list, click the error information under the Action Required list. It is linked to the corresponding pages of Autodesk Vault server installation help.

## View Diagnostic Log Files

The diagnostic log file lists the name of each condition that is checked along with its information and test results. This includes the version of the operating system, the IIS information, the firewall, and any other related configuration information. Other log files are also created during the installation. The log files are stored in the EDMLog folder located in *C:\Documents and Settings\Administrator\Local Settings\Temp*.

### Access the log files using one of the following methods:

- In the Diagnostics Tool dialog box, click Open Log File. The EDMLog directory containing all the log files is opened. Select a log file to open.
- Once you run the diagnostic checks, click View Log File to display the diagnostic log file.

Should it be necessary to seek assistance, you can forward log files to your IT personnel or to Autodesk Technical Support.

## Recheck Operating System Environments

After you correct all the errors according to the log files or online help, click Recheck. The Diagnostics Tool will again check the operating system. Repeat this process until the all errors are corrected.

## Common Installation Solutions

The following solutions given for installation problems which may occur if the data management server is not properly configured.

## **Error 404: File Not Found**

During the pre-checks of the data management server installation you receive the message “Error 404: File Not Found”.

### **Solution**

This error may occur if the ASP.NET Web service Extension is not allowed to run in Internet Information Services (IIS). Follow the steps below to resolve the error.

- 1 Open the Internet Information Services Manager.
- 2 Expand the Web Services Extension Folder
- 3 From the right pane, select ASP .NET v2.0.50727.
- 4 Select the ASP .NET extension in the right pane.
- 5 Click Allow.
- 6 Restart the pre-checks.

## **Error: ASPX failed to run...**

During the pre-checks of the data management server installation you receive the message “Error ASPX failed to run ASP .NET filter is prohibited”.

### **Solution**

- 1 Open the Internet Information Services Manager.
- 2 Expand the Web Services Extension Folder.
- 3 From the right pane, select ASP .NET v2.0.50727.
- 4 Select the ASP .NET extension in the right pane.
- 5 Click Allow.
- 6 Restart the pre-checks.

## Error: ASPX file failed to run...

During the pre-checks of the data management server installation you receive the message “ASPX failed to run at URL:’*http://localhost/TestASPNet.aspx*’”.

This error may be caused if .NET 2.0 is installed prior to installing Internet Information Services (IIS) and ASP >NET account does not have the proper permissions on the IIS Metabase:

### Solution

- 1 Open a Windows® command prompt and navigate to the *%systemroot%\microsoft.net\framework\2.0.50727\* directory.
- 2 Enter *aspnet\_regiis.exe -ga ASPNet* If you are running Windows® XP or Windows Vista®. If you are running Windows server 2003, enter *aspnet\_regiis.exe -ga “%computername%\Network Service”*.
- 3 Enter *IISRESET*.
- 4 Restart the pre-checks.

## Error 29001. Performance counter...

During the pre-checks of the data management server installation you receive the message “Error 29001. Performance counter installation error. Input string was not a correct format.”

### Solution

This error may occur when the installation attempts to add performance counters for the data management server.

#### To check the current state of the performance counters

- 1 Click Start (Windows) ► Run.
- 2 In the Run dialog box, enter *Perfmon*.
- 3 Verify that you can add performance counters to the list to be monitored.

An inability to add performance counters indicates that system files have been corrupted.

### To repair these files

- 1 Using Windows Internet Explorer®, browse to C:\WINDOWS\system32
- 2 Rename the perfc009.dat and perfh009.dat files to *perfc009.dat.OLD* and *perfh009.dat.OLD*, respectively.
- 3 Click Start (Windows) ► Run.
- 4 In the Run dialog box, enter *lodctr /r:PerfStringBackup.ini*.
- 5 Export a copy of HKEY\_LOCAL\_MACHINE\Software\Microsoft\Windows NT\Current Version\Perflib\009 from the system registry of a working computer and transfer it to your computer.
- 6 Change the Data Values of the Last Counter and Last Help keys so that they are the same as in the system registry of the working computer.
- 7 Restart your computer.

## ISAPI Filter error while running...

While running the data management server on the 64-bit version of Windows server 2003 you notice an Event ID 2274 error in the Event Viewer Application log, indicating a problem with ISAPI filter.

## Solution

Refer to the following Microsoft Knowledge Base article: <http://support.microsoft.com/kb/894435/en-us>.

## Advanced Troubleshooting

Additional troubleshooting resources for the Autodesk data management system can be found online. They include a searchable Knowledge Base available on the Autodesk support page. You can access the Autodesk Knowledge Base online at [www.autodesk.com](http://www.autodesk.com).



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