Autodesk Vault and Data Management Questions and Answers

Autodesk® Civil 3D® software is a powerful, mature, civil engineering application designed to significantly increase productivity, save time, and decrease costs. It uses an industry-proven dynamic engineering model that maintains intelligent object relationships, so a change made in one place instantly updates your entire project to help you finish your work faster and more accurately.

Autodesk Civil 3D 2007 adds multiuser project support for core elements in the Civil 3D model so that your project team can work more efficiently and with less risk of coordination errors as modifications occur in the project cycle. The project support in Civil 3D uses the core data management capabilities of Autodesk® Vault functionality to help ensure that the entire project team has access to the data they need to complete their work.

This paper is meant to answer some of the common questions that come up when a user or a company are deciding whether to use the project and data management features included in Civil 3D 2007.

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1. General Information

1.1 What is Autodesk Vault?

Autodesk Vault, the main component of the Autodesk Data Management Server, is a server-based application that provides a repository for document and file storage and management. It is integrated with Autodesk Civil 3D as the primary component for storing and managing Civil 3D project data, such as alignments, profiles, surfaces, and pipe networks.

1.2 Do I have to use Autodesk Vault in order to use Autodesk Civil 3D?

No, Autodesk Civil 3D 2007 is fully functional if you choose to not install Autodesk Vault and the data management solution. Autodesk Civil 3D 2007 can be used in the following ways:

- Use all the Civil 3D features without a “project”. Design data is stored per individual drawing—no change between 2006 and 2007 releases.
- Use all the Civil 3D features without a “project” and use data Shortcuts. Civil 3D 2007 has limited shortcut capabilities because the shortcut capabilities from the 2006 release have been replaced with the projects and data management solution.
- Use all the Civil 3D features and use a “project” for sharing design data across multiple drawings. This project-based collaborative environment uses Autodesk Vault and the data management solution.

1.3 Is there a Vault utility that enables non-CAD users to work in the Vault environment (managers, estimators, administrators, and so forth)?

No, only users who have Autodesk Civil 3D or an AutoCAD® 2007–based application that supports Vault can work with the Vault environment.

1.4 What benefits does Autodesk Vault provide?

Autodesk Vault provides the following benefits to any user or organization that implements it.

- Drafting and design in sync through all project drawings
- True multiuser access
- Versioning of project data
- Archiving of project data
- User-level access control
- Easy access to and management of project data

1.5 What version of Autodesk Vault does Civil 3D 2007 use?

Civil 3D 2007 includes Autodesk Vault 5.
2. Installation and Configuration

2.1 What is installed with Civil 3D 2007 if I choose to install the Autodesk Vault and data management solution?

Two main components are installed with Civil 3D 2007 if you choose to use the Autodesk data management solution:

- Autodesk Vault, which includes the Autodesk Data Management Server
- Client components for Autodesk Civil 3D and Autodesk Vault Explorer

2.2 Which versions of SQL Server can I use with Autodesk Vault 5 and Autodesk Data Management Server?

By default, the Autodesk Data Management Server installs a limited release of Microsoft® SQL Server 2000 called Microsoft SQL Server Desktop Engine (MSDE). Users can upgrade to the following versions of SQL Server at any time:

- SQL Server 2000 (Standard or Enterprise)
- SQL Server 2005 Express
- SQL Server 2005 (Workgroup, Standard, or Enterprise)

2.3 Can I install Autodesk Data Management Server after I've installed Civil 3D software?

Yes, you can choose to install the Autodesk Vault and Autodesk Data Management Server after Civil 3D 2007 has been installed. You need to change the existing Civil 3D installation and choose to install the Autodesk Data Management Server components (and server where applicable).

2.4 How many concurrent users can access a single Vault?

With the MSDE SQL Server you are limited to 10 concurrent users accessing any one Vault at a given time. If you need more than 10 concurrent users, consider upgrading to a full version of Microsoft SQL Server. Note that Microsoft does offer SQL Server 2005 Express for free, and it can have more than 10 concurrent users accessing the database at one time. (The 10 concurrent user constraint is based on the type of operating system the Autodesk Data Management Server is installed on and the size of the relational database used.)

- Microsoft® Windows® XP Professional always has a limit of eight concurrent users, no matter which SQL Server version you use. On a Microsoft Windows Server operating system, the number of users is limited by the SQL Server version used and the Microsoft licensing agreement.
- The MSDE SQL Server has a relational database size limit of 2 GB. When the 2 GB limit is reached, no more data can be stored on the server. You need to upgrade SQL Server or create a new Vault for new projects.
2.5 Can Autodesk Data Management Server be used in a mixed-OS environment?
No, Autodesk Data Management Server is supported only in a Windows environment with these specific operating systems:

- Microsoft® Windows® 2000 Server (SP4)
- Microsoft® Windows® 2003 Server Standard (SP1, SP2)
- Microsoft® Windows® 2003 Server Enterprise (SP1, SP2)
- Microsoft® Windows® 2003 Server x64 Edition
- Microsoft® Windows® 2000 Professional (SP4)
- Microsoft® Windows® XP Professional (SP1, SP2)
- Microsoft® Windows® XP Professional x64 Edition

For computer-aided design (CAD) related add-ins, the system requirements are those of the design application.

2.6 Can I manage the permissions of users with Autodesk Data Management Server?
Yes, Autodesk Data Management Server allows for the creation, management, and assigning of permissions to individual users for a particular Vault. Security is set by user and role, and is applied to everything contained in a Vault. It cannot be set at the level of individual folders and files in a Vault.

2.7 Can I use my existing Windows user accounts with Autodesk Data Management Server?
Autodesk Vault uses its own user accounts and permissions and thus cannot use your current Windows user accounts.

2.8 Can I control the number of revisions that are stored in the Vault?
Yes, you can use the Autodesk Vault Manager to purge versions by three selection criteria: number of versions, versions older than a given number of days, or where a comment contains a specific notation.

2.9 Is Vault Explorer included in the Civil 3D deployment?
Yes, when creating a deployment, you choose whether to use the Civil 3D Project Management capabilities. If you choose yes, you can set the default location for the Server and the database.

3. Implementation

3.1 Should I put all my projects into one Vault or spread them across several Vault databases?
The answer depends on your business objectives and model. If you have one office with several users sharing project data, one Vault would be much easier to manage. Larger organizations may have multiple departments, offices, or regions that may want to have separate Vaults that don’t interact. Keep in mind that the data in multiple Vaults can never be automatically merged.
3.2 Does the Autodesk Data Management Server system work with Sheet Set Manager?

There is no plug-in for Sheet Set Manager that allows it to directly check drawings in and out of Autodesk Vault. The workaround is to use the interface in Civil 3D to check out the source drawings you need to create the sheets, generate the sheets locally with Sheet Set Manager, and then check the new drawings into the Vault once they are created.

3.3 Can you force a file to check in when Civil 3D is closed?

No, users must manually check a drawing in to the project before they close the Civil 3D drawing session. Note that users have to check a drawing in only when they want to commit the changes they’ve made to that drawing to the project database or when they want to share their changes with the project team.

3.4 Do I have to create an XML file for a drawing in the project to check out alignments, profiles, surfaces, and so forth?

No, Civil 3D automatically creates the files needed for objects such as alignments, profiles, and surfaces to be checked into the project.

3.5 What is a working folder and should I use a shared working folder?

A working folder is the directory that Vault uses to store the files you have checked out or opened as read-only from the project. This folder can be local to your machine or shared with other users on a network drive. A shared working folder enables you to store the drawings you are working with on a network drive, conserving hard-drive space on the client machines. A shared working folder also allows for daily or scheduled backups of the project data to take place without having to back up the entire project database.

3.6 How can I work with project files remotely?

You can set the working folder to a local drive. When you check the drawing out, the file resides locally on your hard drive.

3.7 How do I move a project from one Vault to another?

It is possible to check out the entire project to create local copies of the drawings and data within them. Then you manually add the local data to a different project using Vault Explorer. The files need to be validated to resolve any conflicts.

4. Data Compatibility and Interoperability

4.1 Can I migrate Civil 3D 2006 projects forward to Civil 3D 2007?

Yes. Civil 3D 2007 includes a command that migrates an Autodesk® Civil 3D® 2006 project forward to 2007.

4.2 If I migrate my Civil 3D 2006 projects forward, are the drawings converted to Civil 3D 2007?

No, the drawings are not automatically converted. Once a drawing is opened in Civil 3D 2007, it is converted to the latest format.
4.3 Can I use Autodesk Land Desktop and Autodesk Land Desktop Companion with Vault and Autodesk Data Management Server?

Yes, but in a limited way. Autodesk® Land Desktop 2007 and Autodesk® Civil 3D® - Land Desktop Companion 2007 do not include a plug-in to manage drawing files directly from the Vault. You can, however, use Vault Explorer, which is installed with Civil 3D 2007 or the AutoCAD 2007 Vault plug-in to manually check out, check in, and open read-only drawing files. Note that any Land Desktop project databases must also be manually added to the Vault, and checked out, checked in, or opened for read only using Vault Explorer.

4.4 Can I use AutoCAD with Vault and Autodesk Data Management Server?

Yes, if you are an AutoCAD subscription customer, you can download and install the AutoCAD 2007 Vault plug-in, which gives you the ability to check out, check in, and open read-only drawings from Vault.