AUTODESK UNIVERSITY 2014

# Now that the Vault Is Open: Intermediate Implementation of Vault Professional 2015

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**CV5968-P** – Starting where the previous class (Vault Professional Meets Alice In Wonderland: Down the Rabbit Hole We Go) left off, this lecture covers the trials and tribulations of next year's implementation of Vault Professional 2015 software. We will begin with an overview of what Autodesk, Inc., accomplished with the software over the previous years, refreshing your Vault Professional foundation. This class will also cover tips and tricks for developing training guides for your users that will lessen user impact and improve productivity. Learn how to take advantage of Buzzsaw software for secure access to the latest versions of your files in the field, and discover how the software works with Vault Professional software for easy collaboration. This class will also detail the advanced customization of Vault Professional software to make your work faster and more efficient. This class mainly focuses on the use of Vault Professional software in an architecture, engineering, and construction environment.

## Learning Objectives

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

- Learn how to successfully implement Vault Professional 2015 software specific to your organization's needs
- Learn how to develop beneficial user guides, ensuring limited downtime
- Learn how to create a Buzzsaw software site, allowing field staff access to the latest files in the vault
- Learn how to employ advanced-customization features found in Vault Professional software

## About the Speaker

*Jeff Orr, C.E.T., is currently employed as an engineering technologist for Strathcona County. Since obtaining his civil engineering technologist diploma at the Northern Alberta Institute of Technology in 2010, he has worked at the County for the past 3.5 years. He currently works on the design and visualization of transportation projects, such as trail networks and rural roads, and he administrates the vault. Along with Jason Eggen, CET, Jeff co-presented a class describing the implementation of Vault software for a local government at Autodesk University 2013.*

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## Implementation of Vault Professional 2015

### A Failure to Plan…

This may be cliché, but the saying does wonders when trying to summarize what to do during an implementation of any software. This section will cover everything from the tech side of things, to the lifecycle planning that is a crucial part of ensuring that Vault is used to its highest potential.

First, the tech side of things. This program can be a bit of a bore to install and it is highly suggested that the Advanced Configuration guides published by Autodesk be referenced. This guide outlines all of the possible configurations for the install. Ensure that the release of Vault Professional is compatible with the version of SQL running on the server. Consider upgrading the version of SQL server as well, this will come in handy when trying to maintain a Vault server with as little maintenance as possible. The SQL server (depending on the specific replication requirements of the project) can be installed prior to or after Autodesk Vault Server.

During the stages of planning out how the tech side of the implementation will go, it is wise to make a strategy as to the customization of the program itself. How are you going to get Vault to work for you? Set out to find a team of individuals, having mixed levels of responsibility and job descriptions, and create the Vault Implementation Team. This is a project that demands the attention of more than one individual. The team should have a mix of backgrounds in the organization. At least one should have a strong grasp on the IT world and servers in particular. There should be a few CAD users, of varying levels of expertise, usually the CAD Manager would be heavily involved, as well as an intermediate level user. A manager or director should also be involved in the project, in order to more easily obtain an endorsement from upper management.

When your IT gurus are busy trying to figure out which version of SQL is currently installed on the server, the implementation team will plan out the current workflows. The Vault software is designed to, with an amount of work from the implementation team; enhance any workflow used by the organization. That being said, the documentation of the existing workflows and practices must be done ahead of time. This also allows for the review and update of policies and practices throughout the company.

During this phase special care should be taken to address any issues that have arisen from poor data management in the past. The implementation team at Strathcona County had identified several issues during this phase, one of which was the access of files by certain users at inappropriate times. In our previous data management system (Windows Explorer) users had full access to all files stored on the server. Several users were able to access drawing files at times when they should not have, and made changes that were not documented. These issues were not caught before construction, and had led to costs coming back to the department.

Once the workflows have been documented and optimized (look for any unneeded or redundant measures) the needs of each user must be evaluated. Which users will need access to which files and when. In Strathcona County's pre-Vault existence, a gentlemen's agreement was in place "preventing" any designer from modifying a survey drawing. However, this agreement was poorly understood by other staff groups and was difficult to enforce.

Find out what your staff has issues with. There are a multitude of potential issues that can arise in any discipline. A few members of the implementation team should interview a selection of effected users. Find out what issues they are having that can be addressed by better document management. Document, if it has not been done so already, which branches or departments or groups need access to which files, and when they need to see them. With that information in hand, data security is made possible. And that is music to a CAD Managers ears I'm sure.

The members of the implementation team assigned to deal with the technical side of the install will report back with their findings. Most organizations will want to test any new software that comes into their organization. When Vault is being put through its testing paces, any information gleaned from the rest of the implementation team should be put to paper and eventually digitized. These documents will form the backbone of the working Vault within the organization.

### Understanding the Basics First

Before we rush headlong into all of the intermediate steps of a Vault implementation, a solid foundation of the basics must be established. It's always a good idea to go back to basics. Autodesk Vault Professional 2015 is a data management software that can mould itself to enhance any workflow. It accomplishes this by ensuring that the right people have access to the right files at the right time.

Setting up users is quite simple in Vault. When setting up a Vault in a testing environment, it is suggested to have "dummy" users created to test any lifecycles created. Setting up lifecycles and their states can be complicated, testing is important. Using these dummy users during the "debug" phase will prove useful to catch any errors or omissions in the security or transitions of the lifecycle. Once the dummy users have been created and the lifecycles have been tested, the next step is to create the human users. To make this easier, import the users from an active directory. This is a quick way to import a large amount of users. Important to note, once a user is created in Vault, they cannot be removed. The user has to be retained ensure accuracy and accountability for the users, their accounts must remain. The best way to "remove" a user from the database is to have the user "disabled". Any changes to files in the vault will remain associated to that user.

To better organize users, place them in groups. Having users in groups will allow administration to set large amounts of users with the same permissions. If a user has access to a particular file or folder, and is part of a group that also has permissions to that same file, the larger access will prevail. This can lead to some undesirable situations. As a general best practice, this can be resolved by only assigning permissions, security etc to groups. Another useful hint to multiple

layers of permissions is to know that any group or user that has a “deny” permission, this will trump any other level of access.

Users and groups can be assigned roles based on what administration would like them to be able to be used. Roles allow a user or group to accomplish certain tasks in the Vault. Some example of these tasks are checking files in and out, editing files, adding or deleting user defined properties or changing a lifecycle state or revision. Aside from permissions, these are the heart of what a user can do inside Vault.

The ability for Vault to work right out the box is a good thing, but in order to gain the most out of Vault, a little bit of work is required. This is the time to put the planning to work. Files, once they are checked into Vault are assigned a category. These categories are what sort the files into the proper lifecycle, and its initial lifecycle state. Lifecycles are essentially the workflows that your organization uses, while the lifecycle stat is a node in the workflow. The customization in Vault can allow a lifecycle to mimic almost any workflow used by the organization. Keep in mind the transitions, security and version control for each of the states. Administrators can use these tools to ensure that each file is available to the users that need them at the proper times.

Inside the lifecycle is a lifecycle state. These are the individual steps in the workflows. Depending on how each node will connect to each other, the list of lifecycle states can be confusing. Each state will have unique parameters that will aid in the customization of the lifecycle as a whole. Each state will have separate transitions, securities, and version control. Configuring the transitions allows the administrators to control which users are able to move a file from one state to another. Keep in mind that a document can theoretically transition from one state to any other state in the lifecycle. It is important for the administrators to set up each possible transition in order to control where the files can go. Securities detail which users can view, edit or delete files (should they have the proper permissions) in a given state. To set which versions are kept upon a file being transitioned to another state, the version control tab is used.

Another practical idea to customize the Vault workflows is that of user defined properties. To create a user defined property, under the tools dropdown, select administration, then Vault settings. Under the behaviors tab select the properties button and new property. After the property has been named, it can be associated with any of the created lifecycles. Administrators can set up lifecycles to read user defined properties similar to that of any other properties during a transition.

## Developing Practical User Guides

A new data management software suite can be intimidating from an end user perspective. Their workflows and thought process are now being challenged by a new regime. The most common reaction is to resist change. The main job of the implementation team, once Vault has been rolled out to the users, is to mitigate that feeling of resistance. Depending on the size of the team using Vault, the location of the users, and the time that is allocated to user training, there

are several answers to this query. The best way of tackling this issue is by far to use a bit of every method, as most users will prefer different teaching methods.

### If a Picture is Worth a Thousand Words… (Training Videos)

This method of creating a user guide is potentially the most foreign to the majority of CAD professionals. Most are familiar with large, wordy manuals and seminars taught by industry innovators. This method, however, gives the power to the users. Depending on the level of expertise (or how long the assigned team member has to learn) the humble training video can be anything from a series of screen captures in the form of a Power Point like slide show to that of a high production quality video series. Its best to aim somewhere in the middle if the implementation team decide to attempt this training method.

During the planning stages, the implementation team had a specific set of ideas in mind in reference to how the end user should use the software. For example, what the proper method (proper as determined by the organization) of how to create a project and how to name any documents created thereafter. Keep these things in mind when developing a “script” for a training video. Try to keep in mind things that users will find different from their previous workflows and how to handle those same tasks in the new Vault environment. Don’t forget the basics either. Things like checking in and out a document may seem common place, but new users may find these tasks difficult and will benefit for a brief section on the basics.

As previously mentioned, the production of any training videos can take several different forms. The easiest of which, can be done in one fell swoop. With a USB microphone, all that’s needed is software that will record the screen as well as the creator’s voice. Software such as Camtasia will handle these basic necessities as well as other functions. Editing the videos is where most time will be consumed. If multiple additional assets must be added and synced to the video (additional images, sound clips etc) the editing process can be long and tedious. It is up to the video creator to figure out where the point of diminishing returns is. It is also possible to record voice and video at separate times, but this can lead to difficulties in syncing the two during editing.

In order to maximize the return on any training videos or other training materials, ensure that they are straight to the point. With attention spans becoming laughably short, keep any videos less than four minutes if at all possible. This time length will allow the creator to pack as much information in as possible, without fear of either overloading the user or losing them halfway through. In this form of communication, economy is everything. Everything shown on the screen or described should directly relate to the topic discussed.

The potential for an extremely positive return on the small time it takes to produce these training devices can be large. A parting word of advice for these videos: Users will do exactly at is in the videos. Ensure that any workflows laid out in these videos are well planned and will have as little impact on later workflows.

### How to Reference Guides

These documents will more than likely play to the strengths of the implementation team. If this instructional method is chosen by the implementation team, there should be two different styles of documents produced. A short, checklist style overview of a given task, as well as a long form program manual containing the details of each task outlined in the aforementioned checklist.

Having two separate documents will be able to serve both the infrequent or new users as well as the day to day users. Firstly, the short form checklist document. This document should contain only necessary information needed to remind users of the general steps in the process. The benefit of this style of short form check list is two-fold. It provides all users with a quick reference to multiple common commands and procedures while not being overwhelming. Also, seeing as how these documents are very condensed, the implementation team can address a multitude of topics within a short time frame. These documents should be stored where all users have access, and the links should be made prominent in any subsequent training documents. These documents also offer the flexibility of future additions. As with most implementations, issues can arise that were unforeseen by the implementation team. These documents can help address any of these issues.

The second type of written training device is the long form program manual. These manuals should be distributed to all new users during the first phase of implementation. As this manual will likely be the first contact a user will have with this product, it is important to highlight the new paradigm that is expected. It is in this document that any specific details regarding the organizations specific implementation choices can be noted. In contrast with the short form checklist, this document will heavily feature the use of images and screen captures to better convey the details of any procedure.

### One-on-One / Group Training Sessions

The last of the popular training devices is that of an in person session. Whether this be a group session or a one-on-one training class is dependant primarily on the size of the group that has to be trained, and the timelines of the initial implementation. Large group training sessions can offer high value, as multiple people in the organization can get familiar with using Vault. These large sessions can take some time to put together, but done well can solve users issues before they arise. Much like that of the training videos, keep any group sessions brief and to the point. Introduce the new software, how it will improve the workflow of the users, and how they are expected to interact with the software. When interacting with the users, ensure that you impress upon them the improvements this will offer to both the entire organization as well as themselves. This is the first time you will get to personally make that message. User feedback is important however, so do not be dismissive. Take all complaints, criticisms and praise with a grain of salt, and plan to start improving the administration of the Vault.

After the software has been implemented, and the users have been introduced and educated, there are several steps that can be taken to ensure user's adoption is high. It is important that members of the implementation team follow up with any issues brought forth from the user

group. Any issues brought forth from the user base will let the team know of how to adjust the Vault to better suit the needs of the users. Set meetings at incremented stages for the next few weeks, while the users are becoming more familiar.

## Autodesk Buzzsaw Integration

How would data normally shared with people inside an engineering organization? How would that same data be shared to people outside that network? Email can be used. However, it can be difficult to keep everything straight if a large group is working on the same set of files. Why not put those documents up on an ftp site? Seeing as how that technology is more than 40 years old, there's something to be said about its security issues.

Autodesk Buzzsaw provides an easy solution to sharing your data. With a similar administration style to that of Autodesk Vault, Buzzsaw enables multiple people to access the latest version of the files in your vault from a secure location. Administrators of Vault will find it very simple to administrate how they share their data to their project teams and beyond.

The first step to sharing data is to register with Autodesk, your Buzzsaw site. This is incredibly easy. Navigate to the Autodesk homepage and search for Buzzsaw. At the Buzzsaw homepage, select get started now, and begin filling out the details. It is suggested that the first account you create should be that of an administrator, as they will have all functionality initially unlocked. Once the Buzzsaw site is up and running, an email will be sent out to the first account holder. This welcome email will allow first access into the Buzzsaw site, which will stay active for 30 days. It is at this time, if Buzzsaw is a good fit in your organization, that the software needs to be purchased, or the site will expire.

When exploring the Buzzsaw site, you may notice it seems rather empty. There are no files stored on the site, save for the Trial Site Content project. In the Buzzsaw Web Viewer, in the upper left hand corner, notice a window panning through different features. Click this window. A list of key features will be displayed. Scrolling down to the bottom reveals the Connect to Enterprise feature. It is this feature that will allow you to connect to a Vault database. Project Sync will allow for Vault to push data (from the Vault ADMS) to and from the Buzzsaw site.

### Pushing Data Back and Forth

Now that the Buzzsaw site is enabled and active, its time to start pushing specific project data to the Buzzsaw site. The first step of which is to configure the Project Sync. Under the actions dropdown is the Project Sync settings. First, the Buzzsaw site configuration. In this dialogue, enter the Buzzsaw site name, along with the Buzzsaw username and password. This will enable a connection between Buzzsaw and Vault. During the setup of Project Sync, the administrators can choose which folder that needs to be synced from Buzzsaw to Vault. It can be beneficial to set up non-top domain folders during folder mapping. Having high level domains can lead to large amounts of data transfer. Setting individual folders across from Buzzsaw to Vault and back can lead to better performance in the job processor and faster replication.

### Useful Buzzsaw Features

While having access to the data in Vault at any time through a web browser is nice, the web app has limited functionality from an administrative point of view. Buzzsaw, much like Vault, can run perfectly well out of the box, but a little work customizing the software can go a long way. To achieve this customization, download the Buzzsaw for Windows App. This can be found on the Key Features window on the Buzzsaw Web Browser.

Once inside the web app, the administrator can then start to set up similar parameters in Buzzsaw as there is in Vault. Unfortunately, there is no way to import settings or user information directly from Vault to Buzzsaw, but it is simple enough to create these. All permissions in Buzzsaw are either user or group based, so it is best to start by creating users. When creating users, it is important to look at the General Information tab of the Site Administration to find out how many users can be enabled. Per seat of Buzzsaw, there can be 25 enabled users at any time. Plan your users accordingly. Tip: Create one generic user for each external company that needs to have access to your files. This will allow more users for internal employees.

Buzzsaw works in Projects, which is essentially a value added folder system. Users and group rights can be controlled either by the entire site, or by individual project. Similar to Vault, any user or group permissions will carry on to subsequent folders, unless otherwise determined by an administrator. It is possible for users, who are part of groups to have multiple levels of permissions to a folder or item. The permissions tab of a given folder, or the members tab of the properties menu of a file will display this information. If a user belongs to a group whose permissions exceed that of the permissions granted to that user, the actual access will display that user's level of access.

Another feature that is found useful in Buzzsaw is the ability to send notifications to specific users or groups of users. These notifications can be configured two ways. When one file or folder has been updated, an email is instantly sent to the users or groups on the notification list. Notifications can also be configured to send emails at the end of the day, summarizing any changes made.

## Advanced Implementation Ideas

To ensure maximum uptime, plan your upgrades ahead of time. Using the same care and attention to detail can remove any potential headaches. Vault server and client should be upgraded at the same time as your software is. Keeping in mind that Vault client must be the same or higher release as the integrated software (other Autodesk software, Microsoft Office Suite programs). Communication between the Vault client and server is also affected by release version. Vault server will be able to communicate with any client version at the same release level or below. Meaning that Vault client 2015 will interact with any 2015 or below Autodesk software, however, it will only communicate with 2015 or higher Vault Server.

Another advanced implementation idea is that of the job processor. This processor works in the background to complete any tasks assigned to it. For example, during the transition from one lifecycle state to another Vault can be assigned to create a .DWF of a design drawing. Another example of the job processor is the sync to Buzzsaw commands. These actions are carried out by the job processor. However, the job processor needs to be active, and restarted prior to commencing any tasks. There is some code that can be used to ensure the job processor restarts automatically every “x” minutes. This comes in handy, especially if any sync settings are set to continuous. You can find this by accessing the JobProcessor.exe.config file found in the installation directory/explorer. In this file, under the app settings section, you can set the “PeriodInMinutes” value to 1 for a faster refresh time.

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