

# Managing CAD and BIM Standards Using Vault

Bobby Henry, Speaker

Toll Brothers, Inc.

Carl Smith, co-speaker

IMAGINiT Technologies





## About the speaker

**Bobby Henry**

**Toll Brothers Inc.**

An AutoCAD Certified Professional with 18 years experience in the home building industry. Currently the Asst. CAD Manager for Toll Brothers supporting their architectural department by resolving use issues, updating existing software, and implementing new software.



## About the co-speaker

Carl Smith,  
IMAGINiT Technologies

An Autodesk certified instructor, sought after speaker, and blogger. Working as lead consultant, project manager and head trainer, Carl has in-depth knowledge of Autodesk products and their application in manufacturing plants across the U.S.

“Our ability to do great things with data will make a real difference in every aspect of our lives.”

Jennifer Pahlka, Founder and Executive Director for Code for America

# Key Objectives

- **VAULT CONFIGURATION**

Learn how to custom aspects of Vault to better support standards management

- **PRODUCT CONFIGURATIONS**

Learn how to configure some Autodesk products to look at Vault for the latest standards

- **UPDATING CONTENT WORKFLOW**

Discover workflows for modifying, testing, and deploying standards

- **DEPLOYMENT METHODS**

Learn how to set up workflows to automate rapid deployments of standards

# Vault Configuration



# Folder Structure

## Product Type





# Product Versions

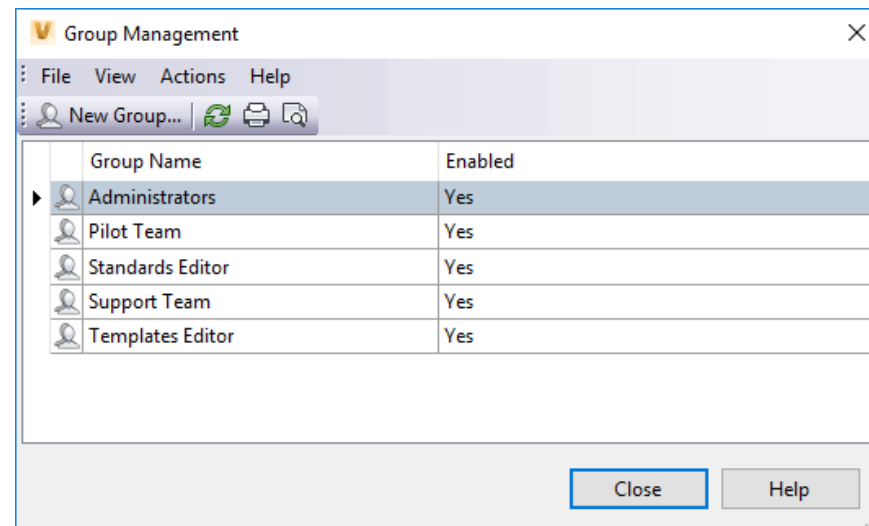


## Content Type



# User Groups

# User Groups



# Roles

# Document Editor (Level 3)

- File Change Category
- File Change LifeCycle State
- File Change Revision
- File Delete Unconditional
- File Rollback LifeCycle State
- File Version Delete Unconditionally
- Folder Change Category
- Folder Change LifeCycle State

The screenshot shows a 'New Role' dialog box with the following fields and sections:

- Name:** Document Editor (Level 3)
- Description:** Elevated control over files, folders, and their properties
- Assign Permissions:**
  - Available Permissions:**
    - Item Change Category
    - Item Change Item Number
    - Item Change LifeCycle Definition
    - Item Change LifeCycle State
    - Item Change Revision
    - Item Change Revision Scheme
    - Item Create
    - Item Delete Conditional
    - Item Delete Unconditional
    - Item Edit
    - Item Purge
    - Item Read
    - Item Rollback LifeCycle State
    - Item Version Delete
    - Job Queue Delete
  - Selected Permissions:**
    - File Add & Remove User Defined Pi
    - File BOM Read
    - File BOM Update
    - File Change Category
    - File Change File Number
    - File Change LifeCycle Definition
    - File Change LifeCycle State
    - File Change Revision
    - File Check In
    - File Check Out
    - File Create
    - File Delete Conditional
    - File Delete Unconditional
    - File Dependency Update
    - File Move

Buttons: Add->, <-Remove, OK, Cancel, Help

# Item Editor (Level 3)

- Item Administer Item Number
- Item Administer Unit of Measure
- Item Delete Unconditional

**New Role**

Name: Item Editor (Level 3)

Description: Elevated control over files, folders, and items

Assign Permissions

Available Permissions:

- Folder Change Category
- Folder Change LifeCycle Definition
- Folder Change LifeCycle State
- Folder Delete
- Folder Edit User Defined Property
- Folder Rename
- Get File Rollback Lifecycle State Target
- Import historical data
- Item Purge
- Job Queue Delete
- Job Queue Enable
- Job Queue Reserve
- Label Create
- Label Delete
- Library Attach
- Library Create
- Library Defragment
- Library Delete
- Library Detach
- Library Info Update
- Library Migrate
- Link Add & Remove User Defined Property
- Link Edit User Defined Property
- Link Move
- Manage Behavior Definitions

Selected Permissions:

- File BOM Read
- File Change File Number
- File Create
- File Promote
- File Read
- Folder Create
- Folder Read
- Forum Read
- Item Add & Remove User Defined Property
- Item Administer Item Number
- Item Administer Unit of Measure
- Item Change Category
- Item Change Item Number
- Item Change LifeCycle Definition
- Item Change LifeCycle State
- Item Change Revision
- Item Change Revision Scheme
- Item Create
- Item Delete Conditional
- Item Delete Unconditional
- Item Edit
- Item Read
- Item Rollback LifeCycle State
- Item Version Delete
- Job Queue Add

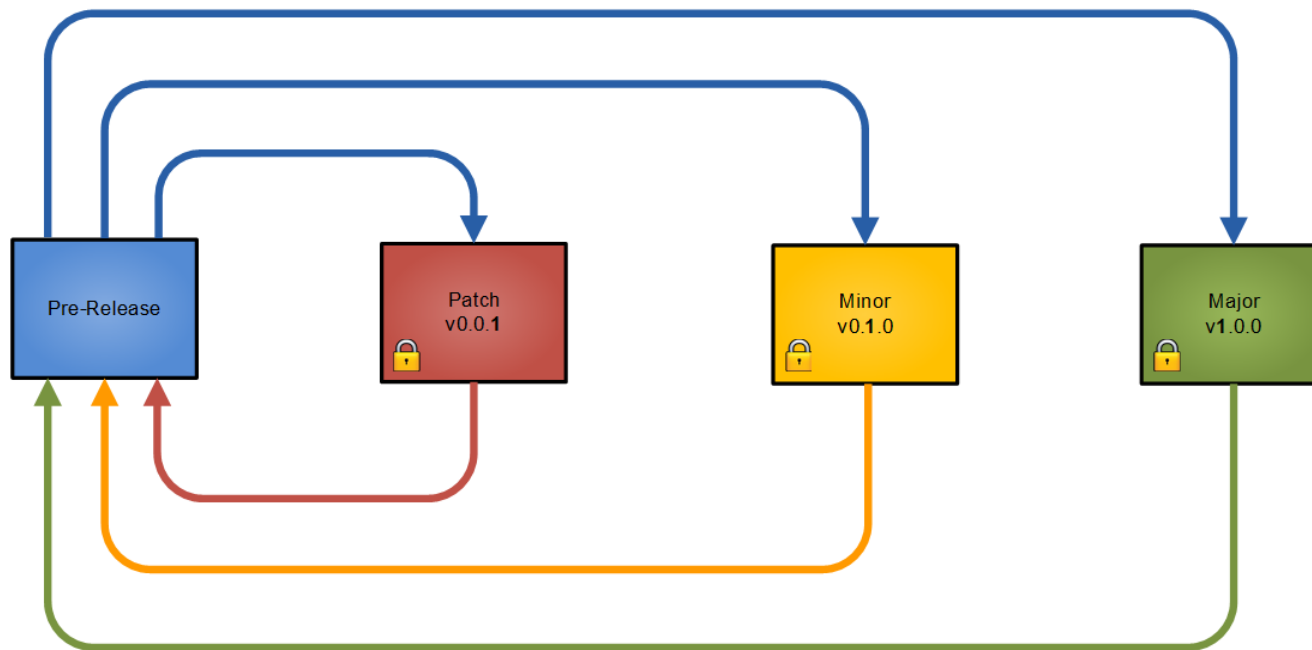
Buttons: Add-> <-Remove

Buttons: OK Cancel Help

# Lifecycles and States



# Standards Lifecycle



# Standards Lifecycle

**Lifecycle Definition - 'Standards Lifecycle'**

Definition Name: Standards Lifecycle

Description: Standards lifecycle with Symantic Versioning

Category: Standard Items, Standard Custom Objects, Standard Files

Definition Security: Combine with object-based security

**Lifecycle Details**

Lifecycle States:

Name	Description
Pre-Release	Pre-release testing
Patch	Hot fix bug items
Minor	Minor revisions
Major	Major revisions

General Transitions Security Control Comments

State Name: Pre-Release

State Description: Pre-release testing

OK Cancel Apply Help

Criteria Actions Custom Job Types Security

Filter: All

- ☒ Bump primary revision
- ☐ Bump primary revision
- ☐ Bump secondary revision
- ☐ Bump tertiary revision
- ☐ Check that contained files are "Released"

Criteria Actions Custom Job Types Security

Filter: All

- ☒ Bump secondary revision
- ☐ Bump primary revision
- ☐ Bump secondary revision
- ☐ Bump tertiary revision
- ☐ Check that contained files are "Released"

Criteria Actions Custom Job Types Security

Filter: All

- ☒ Bump tertiary revision
- ☐ Bump primary revision
- ☐ Bump secondary revision
- ☐ Bump tertiary revision
- ☐ Check that contained files are "Released"

# Standard Folders Lifecycle



# Standard Folders Lifecycle

**Lifecycle Definition - 'Standards Folder Lifecycle'**

Definition Name: Standards Folder Lifecycle

Category: Standards Folder

Definition Security: Combine with object-based security

Description: Lifecycle for company standard folders

**Lifecycle Details**

Lifecycle States:

	Name	Description
✓	Available	Files available for download
	Retired	Files no longer available f...

General Transitions Security Control Comments

State Name: Available

State Description: Files available for download

OK Cancel Apply Help

# Revision Schemes

# Software Versioning

**Revision Scheme Definition - 'Software Versioning'**

Definition Name:

Category:

Description:

**Scheme Details**

Scheme Values:

Type	Value
► Delimiter	.
Primary Scheme Format	SemVer
Secondary Scheme Format	Numeric
Tertiary Scheme Format	Numeric

**Preview** | **Scheme Format** | **Comments**

Revision primary sequence values:

**Example Revision Formats**

Delimiter Character: .  
Primary: v  
Secondary: v.1  
Tertiary: v.1.1

OK Cancel Help

**List Scheme Format**

Scheme Format Name:

Scheme Values:

List Values

- ☒ v0
- ☐ v1
- ☐ v2
- ☐ v3
- ☐ v4
- ☐ v5
- ☐ v6
- ☐ v7
- ☐ v8
- ☐ v9
- ☐ v10
- ☐ v11
- ☐ v12
- ☐ v13

Add  
Remove  
Move Up  
Move Down  
Set as Default

OK Cancel Help

# Categories

# File Category

**Category Edit**

Name:

Color:  Available: ☒

Description:

**Configure Categories**

File Categories:

...	Category Name	Description
<input checked="" type="checkbox"/>	Default	Default Category
<input checked="" type="checkbox"/>	Standard Files	Company Standard Files

Behaviors

Lifecycles Revisions Properties

...	Name	Description
<input checked="" type="checkbox"/>	Standards Lifecycle	Standards lifecycle with Symantic Versioning
<input type="checkbox"/>	<None>	Null lifecycle definition for opt-out scenario



# Folder Category

**Category Edit**

Name:

Color:  Available: ☒

Description:

**Configure Categories**

Folder Categories:

...	Category Name	Description
<input checked="" type="checkbox"/>	Default	Default Category
<input type="checkbox"/>	Standards Folder	Company Standards Folder

Behaviors

Lifecycles Properties

...	Name	Description
<input checked="" type="checkbox"/>	Standards Folder Lifecycle	Lifecycle for company standard folders
<input type="checkbox"/>	<None>	Null lifecycle definition for opt-out scenario

# Item Category

**Category Edit**

Name:

Color:  Available: ☒

Description:

**Configure Categories**

Item Categories:

...	Category Name	Description
<input checked="" type="checkbox"/>	Default	Default Category
<input checked="" type="checkbox"/>	Standard Items	Company Item Standards

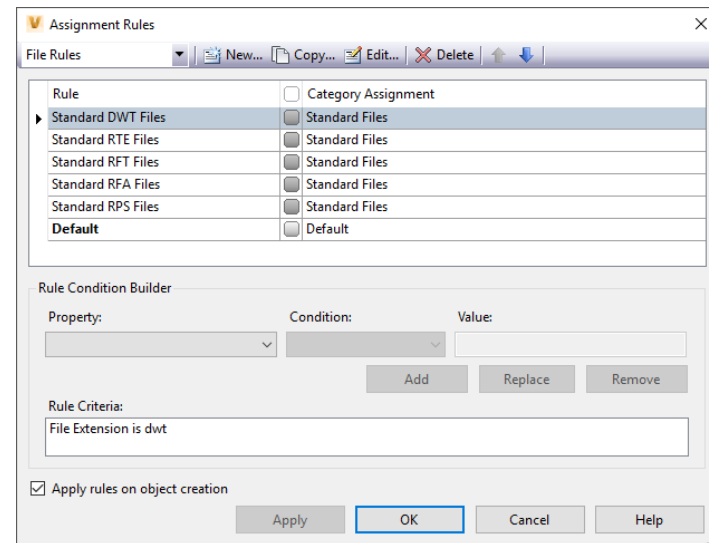
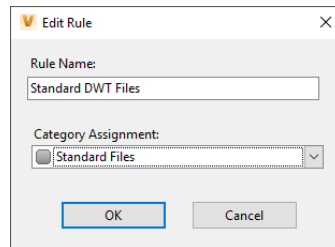
Behaviors

Lifecycles Revisions Properties

...	Name	Description
<input checked="" type="checkbox"/>	Standards Lifecycle	Standards lifecycle with Symantic Versioning
<input checked="" type="checkbox"/>	<None>	Null lifecycle definition for opt-out scenario

# Rule Sets

# File Rule Sets




Rule Condition Builder

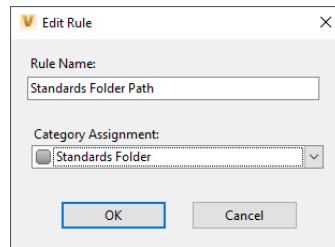
Property:	Condition:	Value:
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="button" value="Add"/>		<input type="button" value="Replace"/> <input type="button" value="Remove"/>

Rule Criteria:

File Extension is dwt  
File Extension is rfa



# Folder Rule Sets

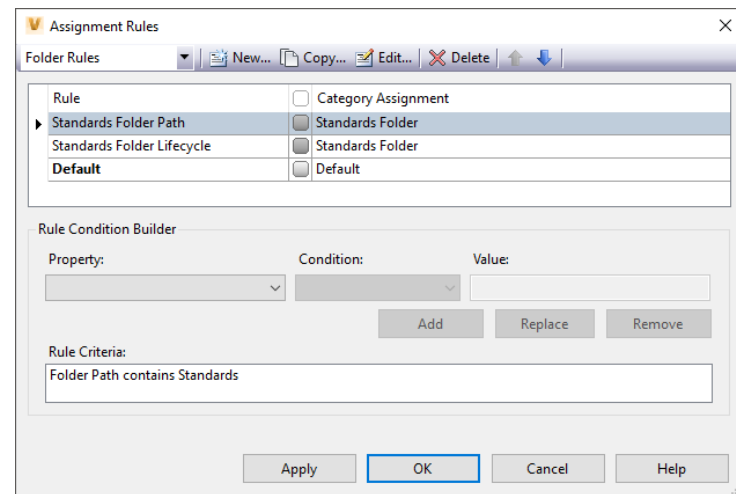


**Edit Rule**

Rule Name:  
Standards Folder Path

Category Assignment:  
☒ Standards Folder

OK Cancel



**Assignment Rules**

Folder Rules

Rule	Category Assignment
Standards Folder Path	<input checked="" type="checkbox"/> Standards Folder
Standards Folder Lifecycle	<input checked="" type="checkbox"/> Standards Folder
Default	<input type="checkbox"/> Default

Rule Condition Builder

Property: Condition: Value:

Add Replace Remove

Rule Criteria:  
Folder Path contains Standards

Apply OK Cancel Help

# Properties

# Properties

New (Property) X

Name:

Type:

Associations:

Settings Mapping

Property values:

Name	Value
State	Enabled
Basic Search	Searched
Initial Value	
List Values	'3DS Max', 'AutoCAD ...
Enforce List Of Values	True
Requires Value	False
Case Sensitivity	Name Case
Minimum Length	
Maximum Length	

Category values:

Name	Value	Overri...
File:Standard Files		
Enforce List Of V...	True	
Requires Value	False	
Case Sensitivity	Name Case	
Minimum Length		
Maximum Length		
Folder:Standards Folder		
Enforce List Of V...	True	
Requires Value	False	
Case Sensitivity	Name Case	
Minimum Length		
Maximum Length		

OK Cancel Help



# Properties

**New (Property)**

Name:

Type:

Associations:

Settings Mapping

Property values:

Name	Value
State	Enabled
Basic Search	Searched
Initial Value	
List Values	'2015', '2016', '2017', ' ...
Enforce List Of Values	True
Requires Value	False
Case Sensitivity	None
Minimum Length	
Maximum Length	

Category values:

Name	Value	Overri...
File:Standard Files		
Enforce List Of V...	True	
Requires Value	False	
Case Sensitivity	None	
Minimum Length		
Maximum Length		
Folder:Standards Folder		
Enforce List Of V...	True	
Requires Value	False	
Case Sensitivity	None	
Minimum Length		
Maximum Length		

OK Cancel Help

Vault Configuration Complete!

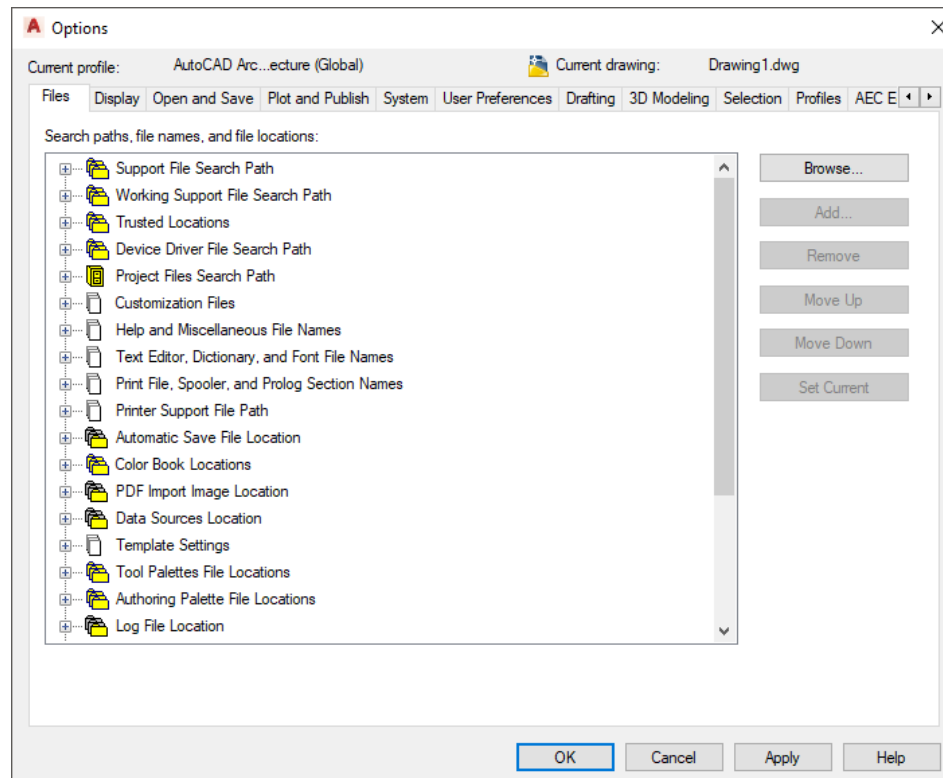
# Production Configuration





## Architecture, Engineering & Construction Collection

# AutoCAD



# Revit

Options

General  
User Interface  
Graphics  
Hardware  
**File Locations**  
Rendering  
Check Spelling  
SteeringWheels  
ViewCube  
Macros

Project template files: The first five project templates will appear as links on the Recent Files page.

Name	Path
Construction Tem...	C:\_Test Vault\Standards\Revit\Templates\...
Architectural Temp...	C:\_Test Vault\Standards\Revit\Templates\...
Structural Template	C:\_Test Vault\Standards\Revit\Templates\...
Mechanical Templ...	C:\_Test Vault\Standards\Revit\Templates\...

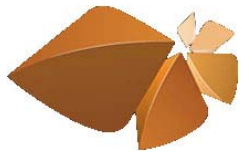
Default path for user files:  
C:\Users\pherry\Documents Browse...

Default path for family template files:  
C:\ProgramData\Autodesk\Family Templates\English\_I Browse...

Root path for point clouds:  
C:\Users\pherry\Documents\PointClouds Browse...

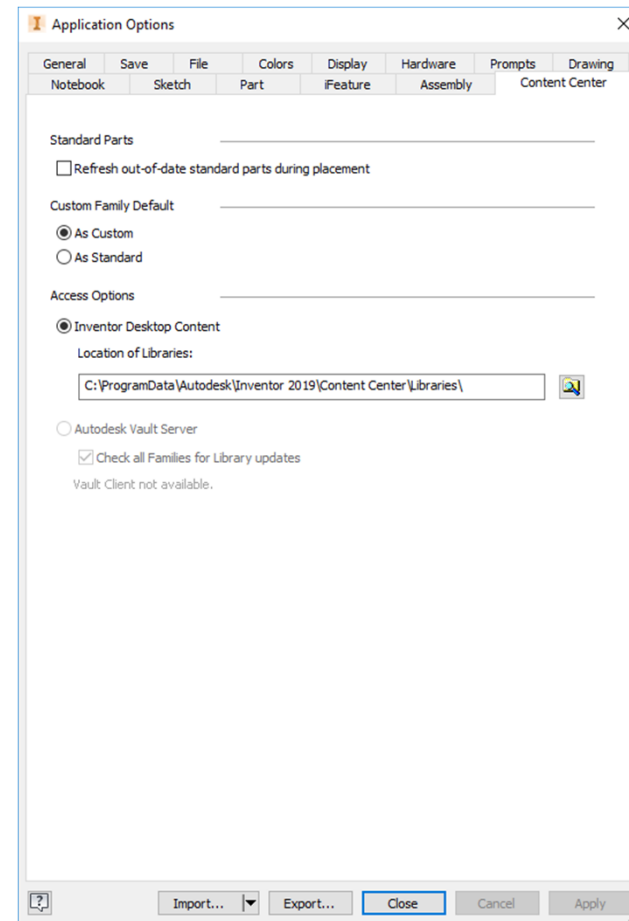
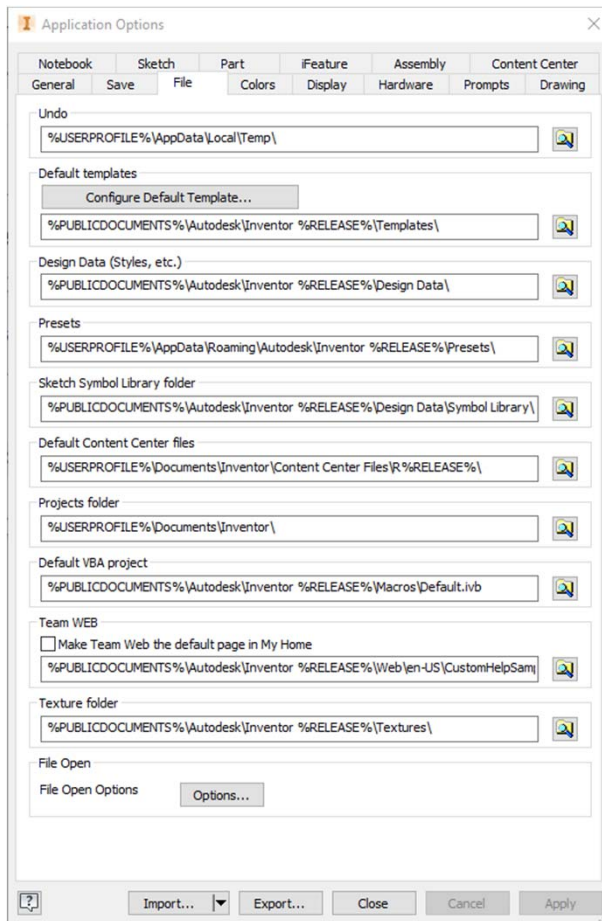
Places...

OK Cancel Help

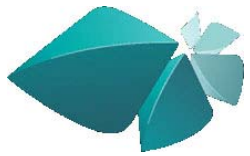


## Product Design & Manufacturing Collection

# Inventor

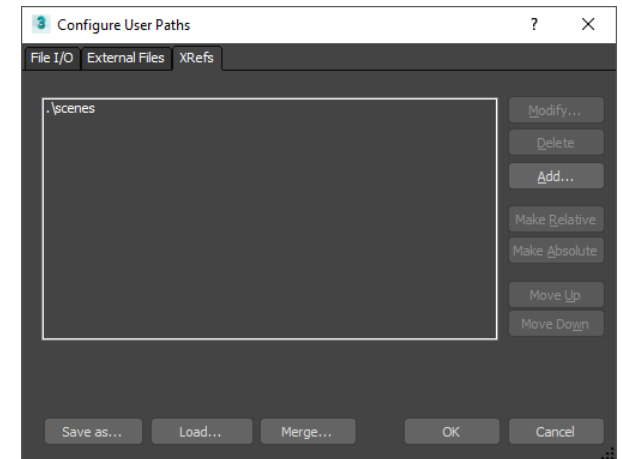
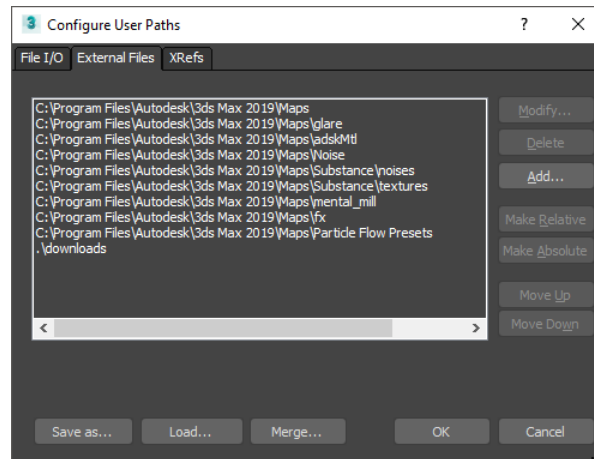
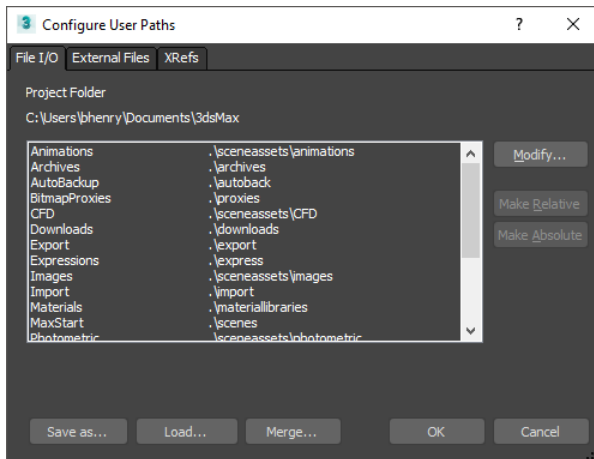






## Media & Entertainment Collection

# 3DS Max

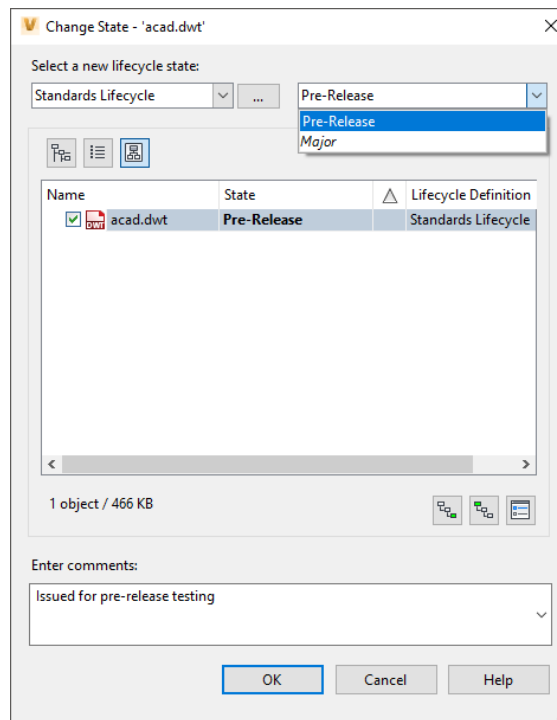


Product Configuration Complete!

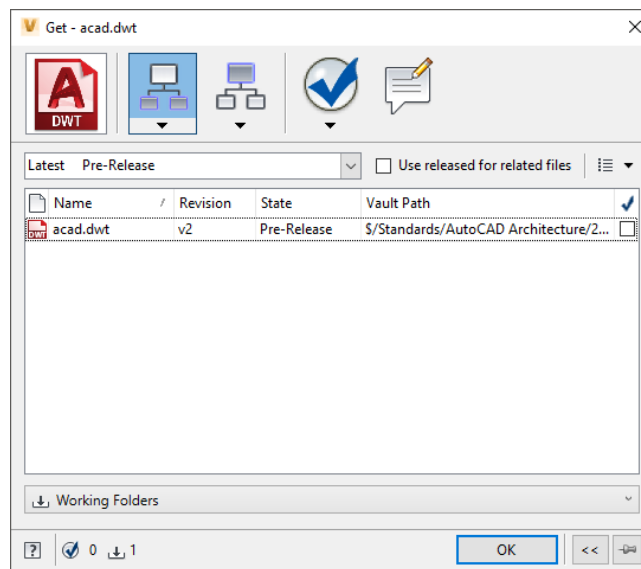
# Workflows for Updating Content



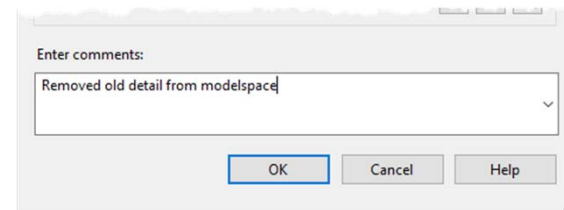
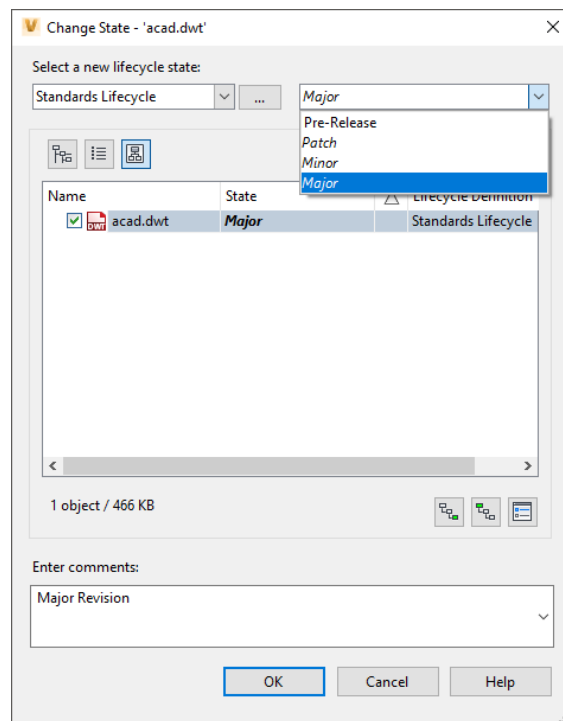
# Modifying Content



# Testing Content



# Approving Content



Update Workflow Complete!



# Methods for Deploying Updates



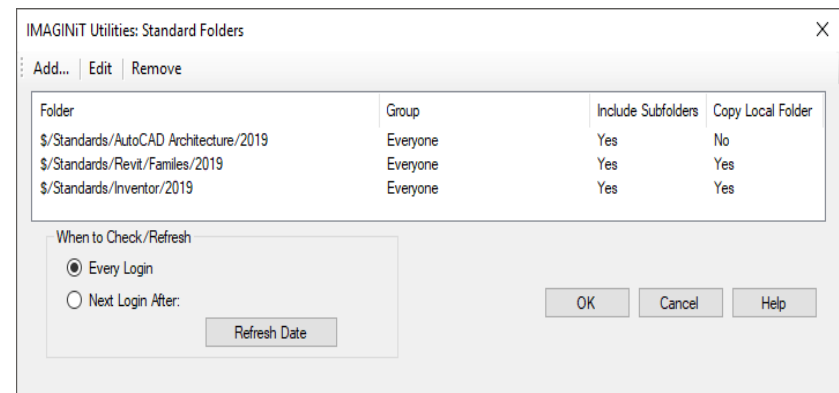
Manually

Automatically

# Standards Folder

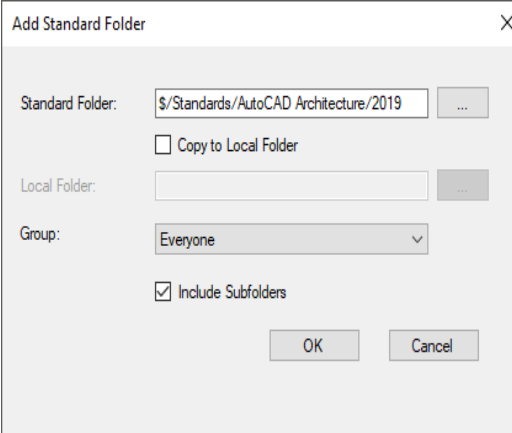
- **Email Notifications:**

- Forces a get-latest on single folders
- Every Login or After Specified Date



# Standards Folder

- **Email Notifications:**
  - Easy configuration
  - Allows for Local Folders

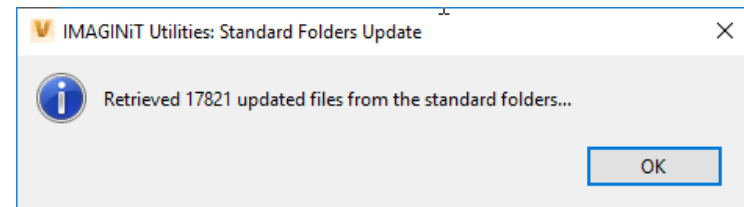


The image shows a dialog box titled "Add Standard Folder" with a close button (X) in the top right corner. The dialog contains the following fields and controls:

- Standard Folder:** A text field containing the path "\$/Standards/AutoCAD Architecture/2019" and a browse button ("...").
- Copy to Local Folder:** An unchecked checkbox.
- Local Folder:** A text field and a browse button ("...").
- Group:** A dropdown menu currently showing "Everyone".
- Include Subfolders:** A checked checkbox.
- Buttons:** "OK" and "Cancel" buttons at the bottom right.

# Standards Folder

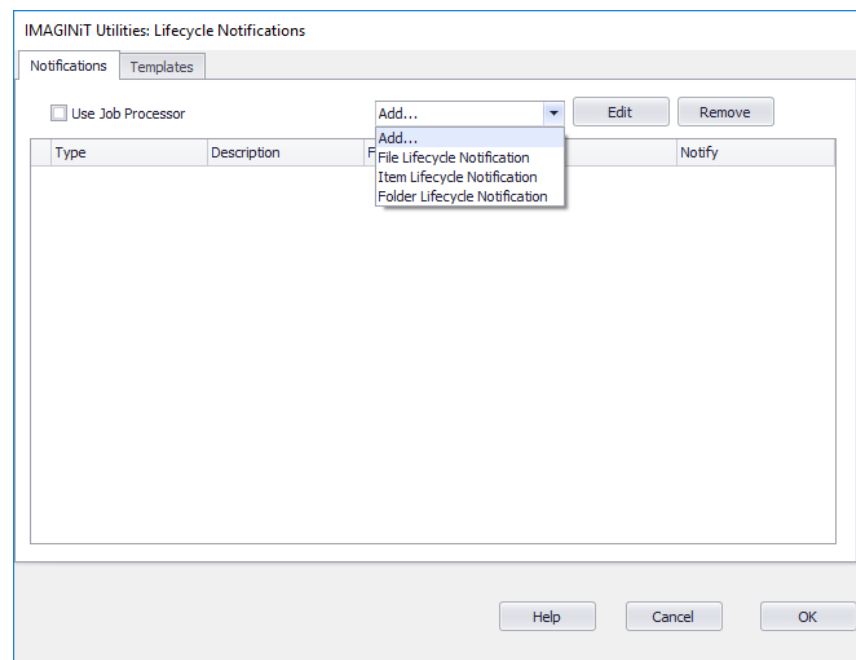
- **Email Notifications:**
  - User Notifications



# Lifecycle Notifications

- **Email Notifications:**

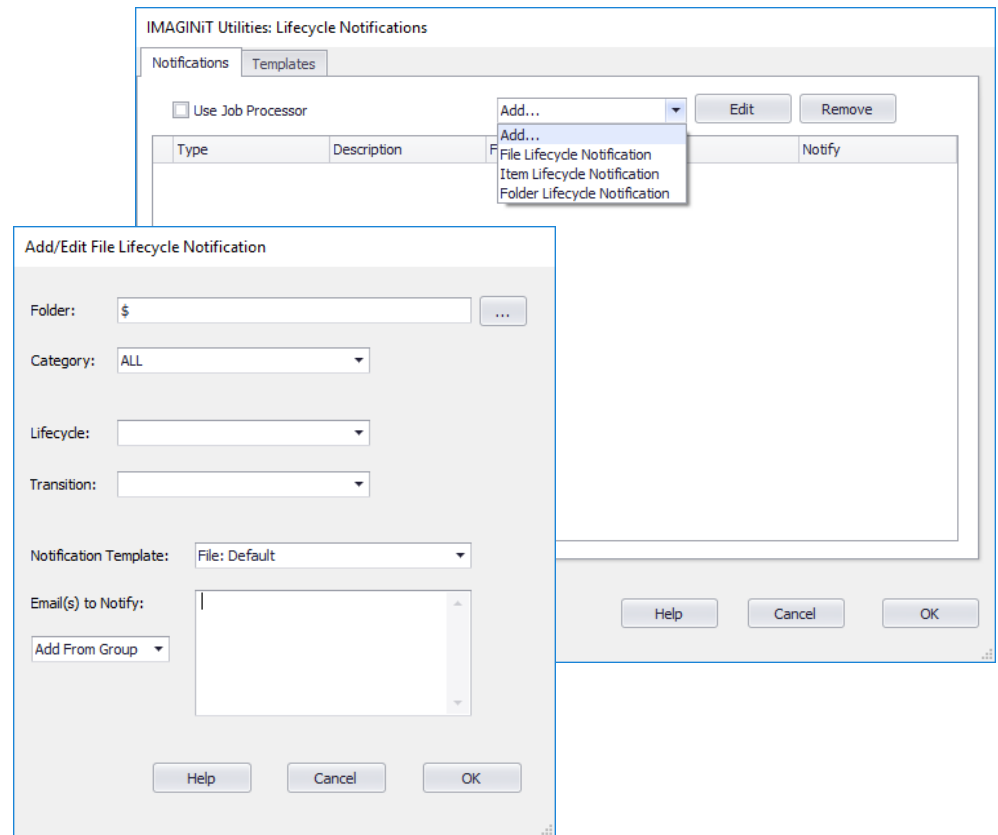
- Simple method for automatically notifying stakeholders of a lifecycle event change.
- Works with Items, Files, and Folders



# Lifecycle Notifications

- **Email Notifications:**

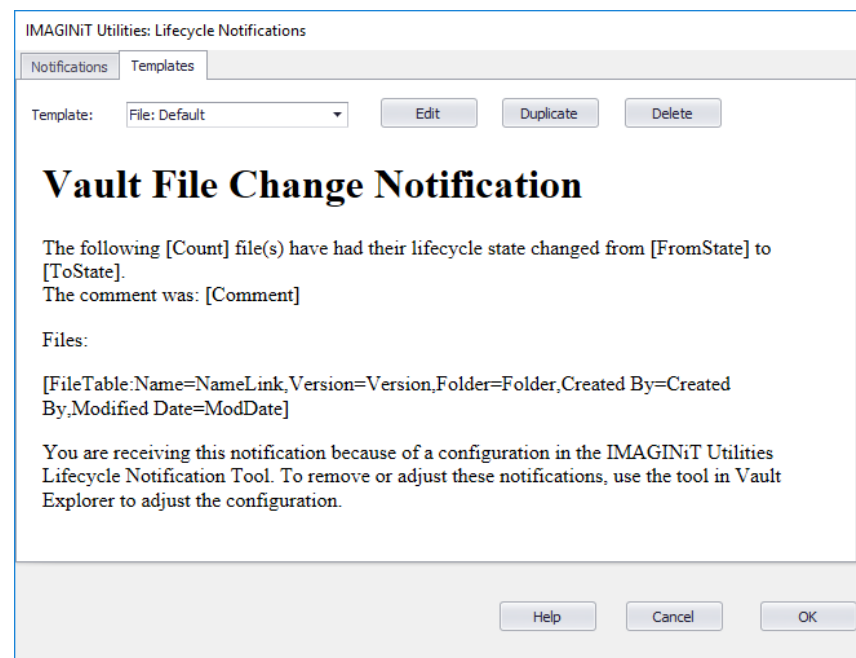
- Determine which folders to effect.
- Specify which category's are effected
- Specify the Lifecycle and the transition the notification will respond to.
- Select from a list of notification templates





# Lifecycle Notifications

- **Email Notifications:**
  - Modify the notification and save as a custom template



# Lifecycle Notifications

- **Email Notifications:**

- Email setup

The screenshot shows a Windows-style dialog box titled "IMAGINiT Utilities for Vault: General Options". It has four tabs: "PDF", "DWG", "DXF", and "Email Settings", with "Email Settings" being the active tab. The dialog contains the following elements:

- A message: "You must configure the SMTP email server that will process the email notifications."
- A text field labeled "SMTP Mail Server:".
- A text field labeled "Port #:" with the value "25" entered.
- A checkbox labeled "Requires SSL" which is unchecked.
- A checked checkbox labeled "Requires Authentication:".
- Two text fields for authentication credentials, one to the left and one to the right of the "Requires Authentication" checkbox.
- A text field labeled "From Address:".
- A button labeled "Send Test Email" located to the right of the "From Address" field.
- At the bottom of the dialog are three buttons: "Help", "Cancel", and "OK".

Methods for Deploying Updates Complete!



# Knowledge Gained

- **VAULT CONFIGURATION**

Learn how to custom aspects of Vault to better support standards management

- **WORKFLOW OVERVIEW**

Discover workflows for modifying, testing, and deploying standards

- **PRODUCT CONFIGURATIONS**

Learn how to configure some Autodesk products to look at Vault for the latest standards

- **DEPLOYMENT METHODS**

Learn how to set up workflows to automate rapid deployments of standards



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