



# AUTODESK® VAULT 2017

## What's New – Data Standard

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# Agenda - Overview

- What's New – General
- What's New – CAD
  - Save As – Save neutral formats to Vault
- What's New – Vault
  - Insert CAD
  - Numbering Support for File-/Folder-/CustomObj-/ Categories
- Technical Details
- Issues Fixed

# VDS 2017 - General

# Default Configuration | General

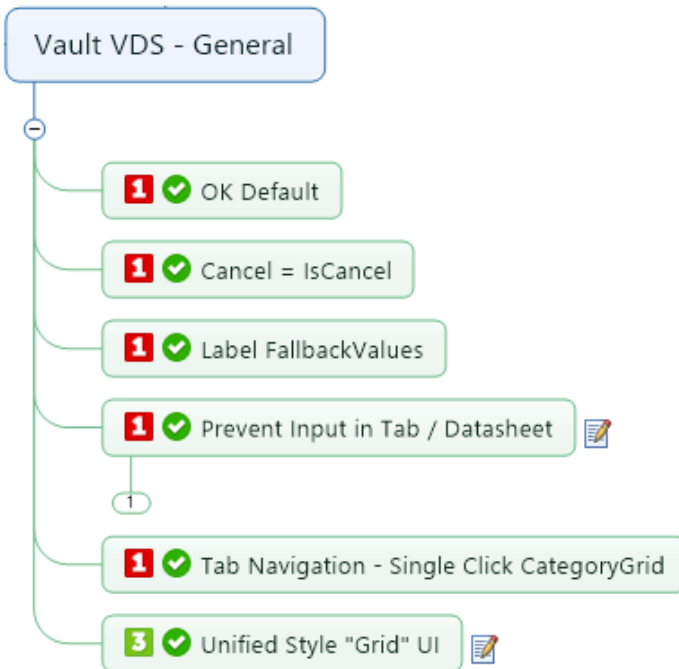
- Updated configuration
  - user experience

History	Uses	Where Used	Change Order	Preview	Classification	Links	CAD BOM	Datasheet	Datasheet
Category	Engineering	Property Name	Property Value	Author	Markus	Project			
Name	100062.ipt	Mfg Approved By		Manager		Engr Approved By			
State	Work in Progress	Engineer							
Create Date									
Created By	Administrator								

Prevent Input, even it is enabled

Category	Engineering	Property Name	Property Value
Name	100120.iam	Part Number	100120
Description		Description	
File Name	100120.iam	Cost	
Path	S:/Designs/1/P-0023	Checked By	
		Company	
		Title	Test 1
		Subject	Test 1
		Keywords	Test 2
		Comments	Test 3
		Ident Number	
		Source File	

Pull-down disabled in tab



# Default Configuration | CAD

- BreadCrumb
  - Filter according ACL
  - Supports 2017 security model

Neue Datei - Baugruppe1.iam

Folder  
1 > P-0023 > P-0026

Kategorie	Engineering	Eigenschaftsname	TEST Ebene 4
Nummernschema	Sequential	Material	
Nummer	#####	Manager	
Titel		Ident Number	
Beschreibung		Bezeichnung	
Dateiname	Wird generiert	Fertigung genehmigt von	
		Kontrolliert von	
		Konstruktion genehmigt von	
		Ingenieur	
		Bestandsnummer	
		Kosten	0,0000
		Konstrukteur	Markus
		Projekt	
		Autor	Markus
		Schlüsselwörter	
		Titel	

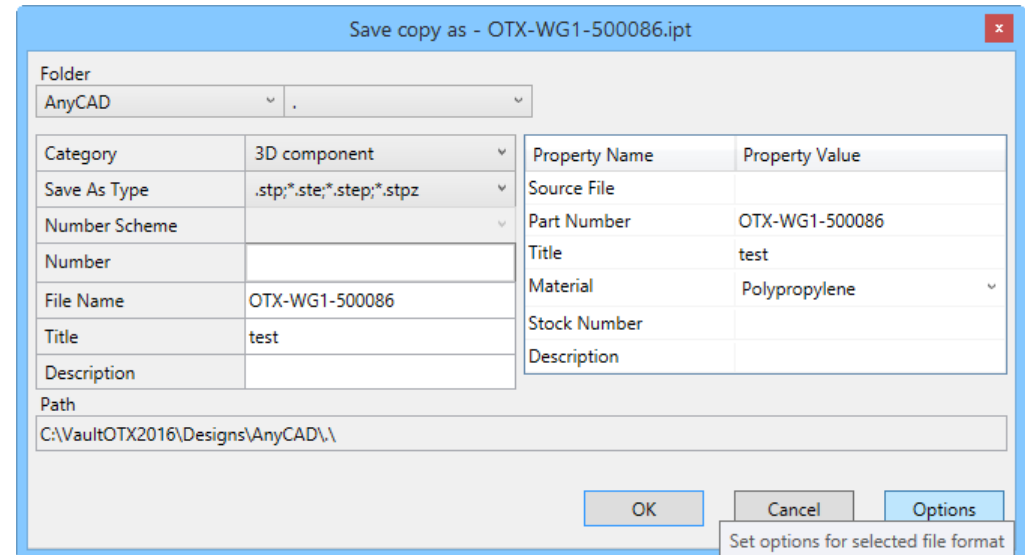
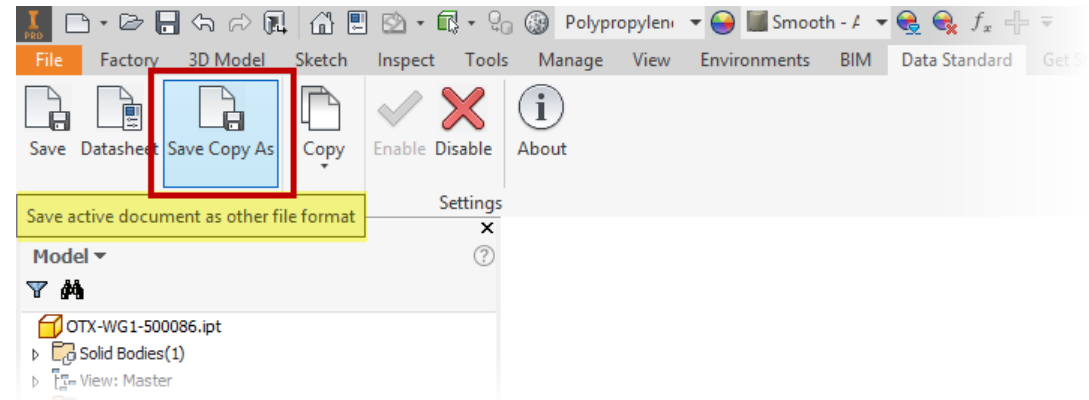
Path  
C:\Users\Markus\Documents\Vault\Designs\1\P-0023\P-0026\

OK Abbrechen

# VDS 2017 What's New - CAD

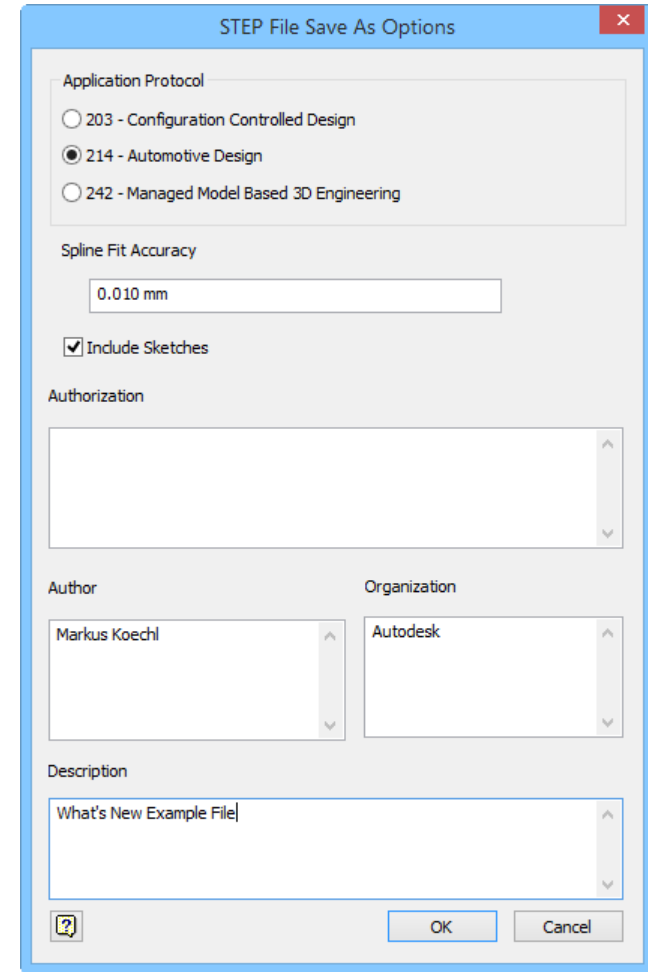
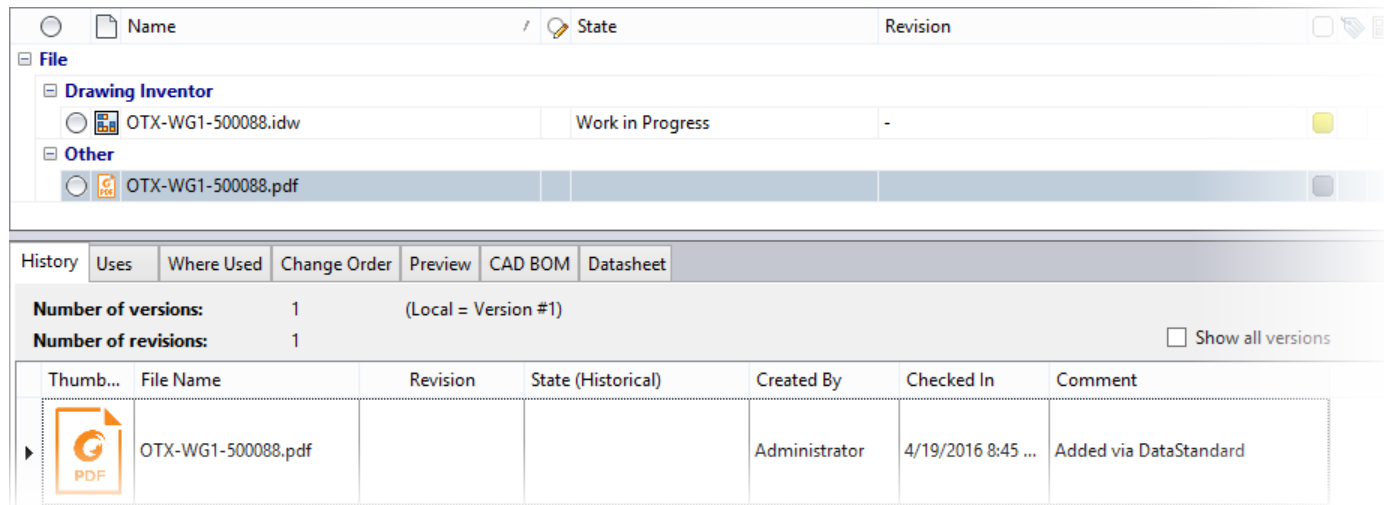
# VDS 2017 – Inventor | Save As Command / Dialog

- 3D Components – Save As
  - STEP
- 2D Drawings – Save As
  - 2D DXF
  - 2D DWG
  - 2D PDF



# VDS 2017 – Inventor | Save As Dialog

- Access to Options
- Auto Check In





Save Datasheet Save Copy As Copy Enable Disable About

File Copy Settings

Model

- ROTARY VALVE A2-26625 SIDE-3.ipt
  - Solid Bodies(1)
  - View: Master
  - Origin
    - Base 1
    - Work Plane 1
    - End of Part



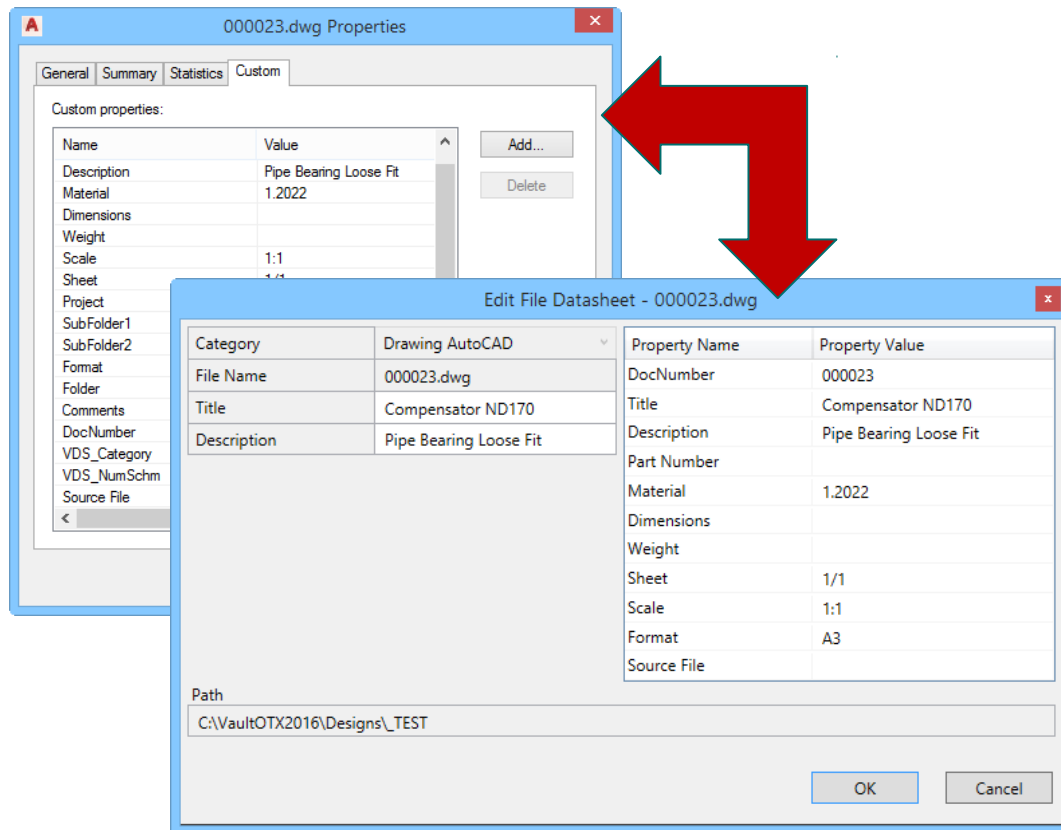
# VDS AutoCAD – Property Management

**Property Mapping** | Property Labeling / Dynamic Category Properties

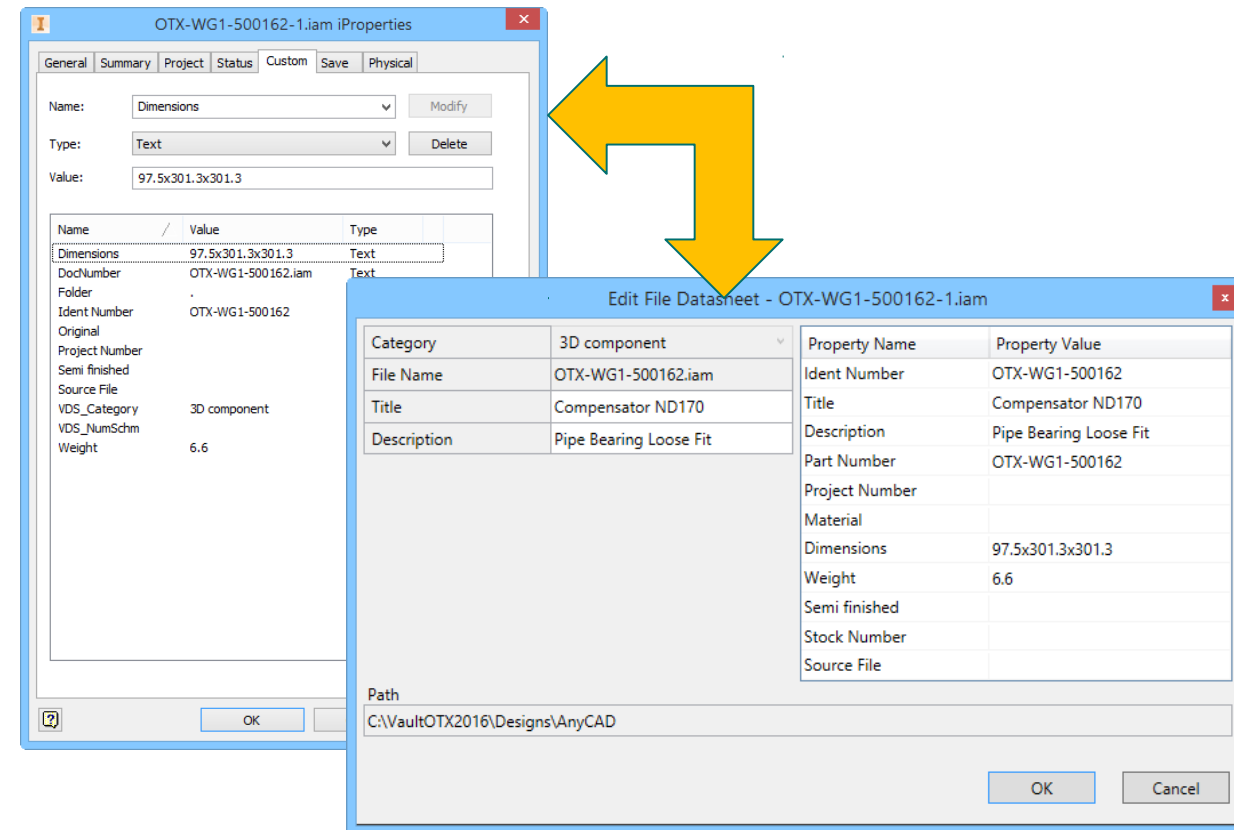
# VDS – CAD | Property Management – Overview 1

VDS works with...

- AutoCAD File Properties



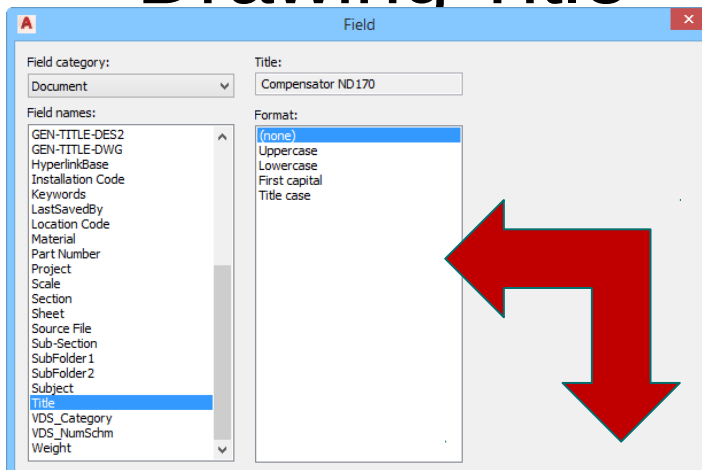
- Inventor File / iProperties



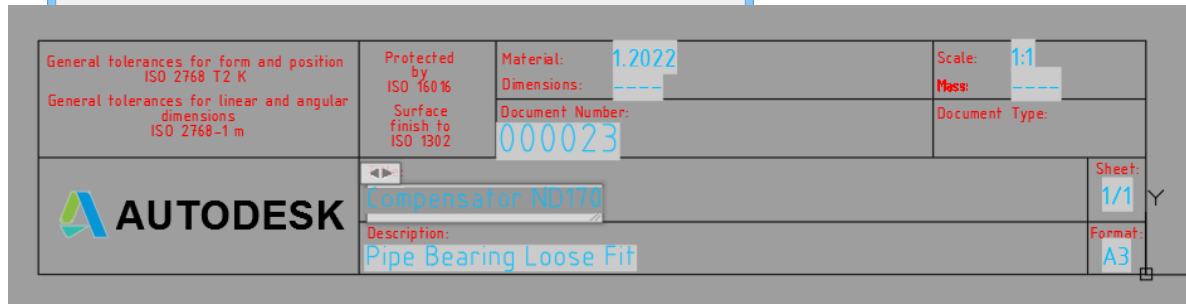
# VDS – CAD | Property Management – Overview 2

## AutoCAD

### ■ Drawing Title - Fields

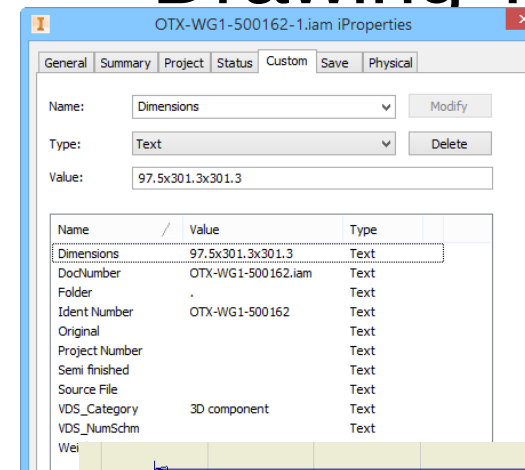


**AutoCAD displays property as field content**

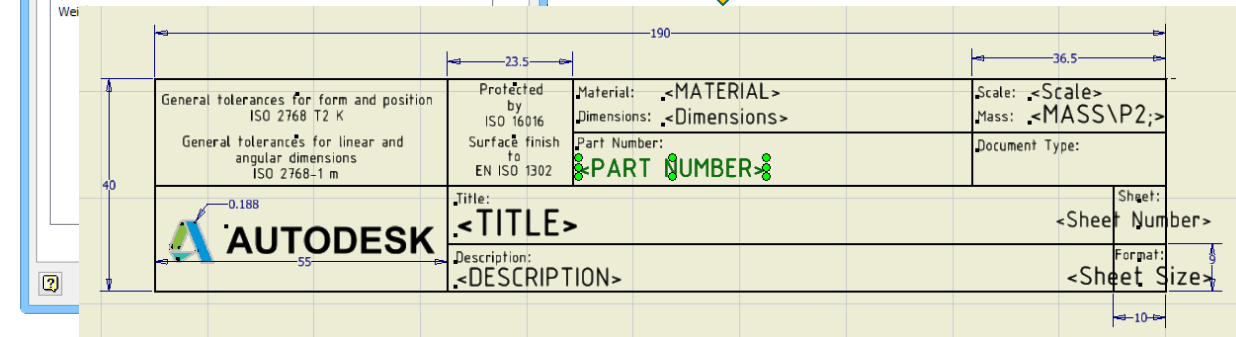


## Inventor

### ■ Drawing Title - Fields

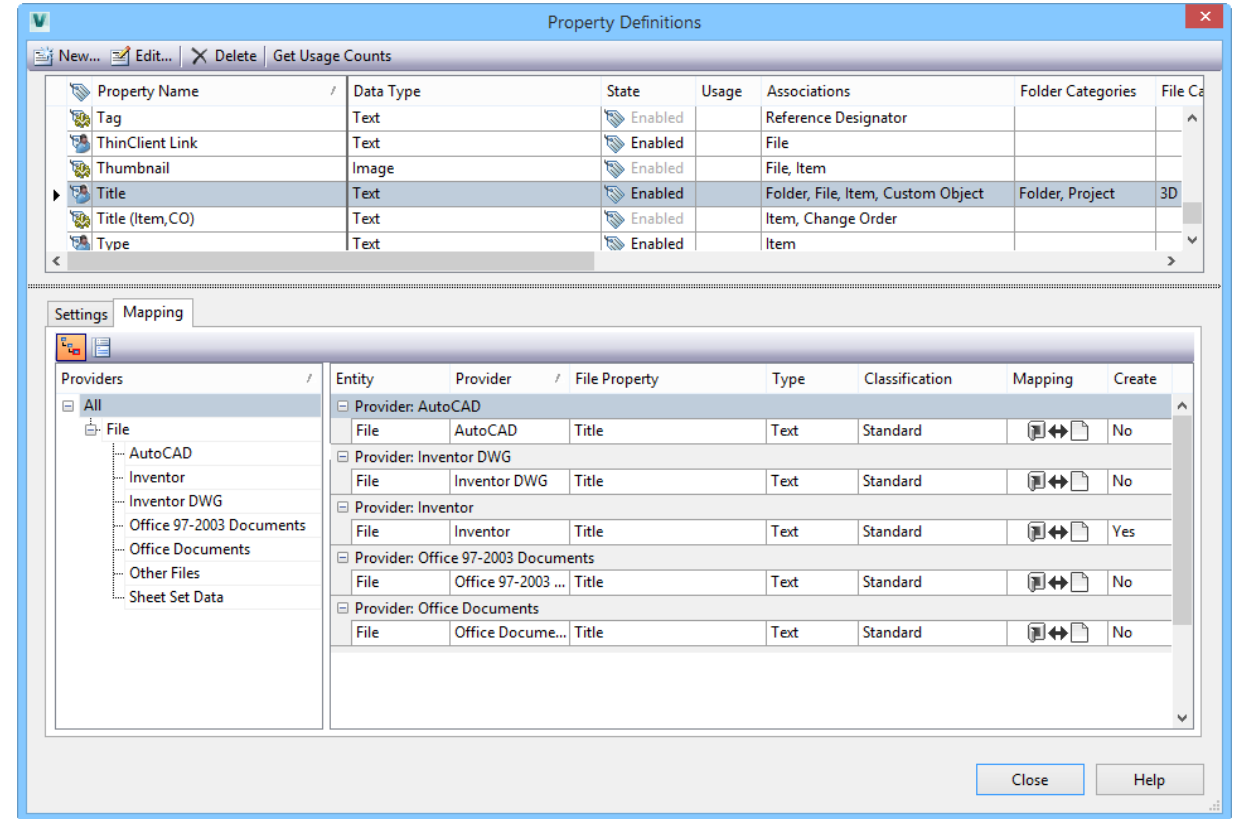


**Inventor displays property as field content**



# VDS – CAD | Property Management – Overview 3

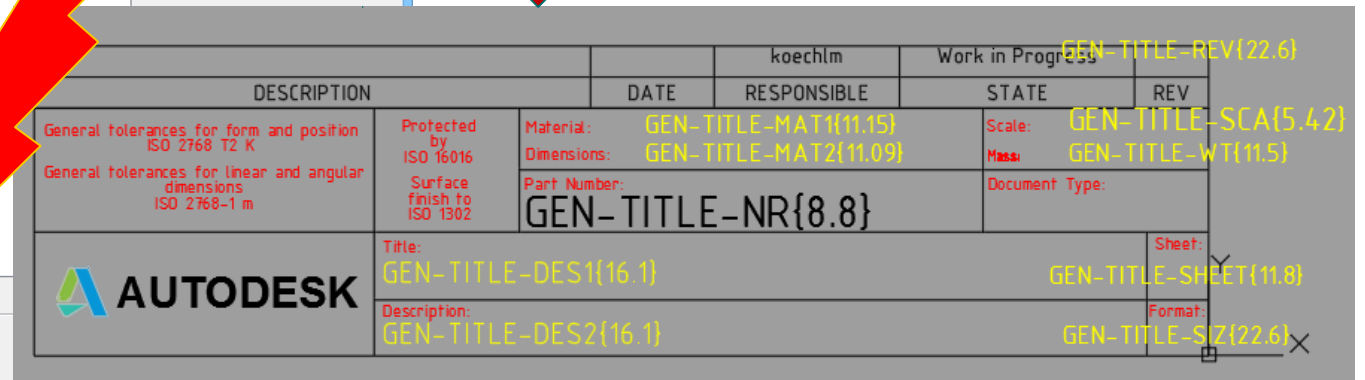
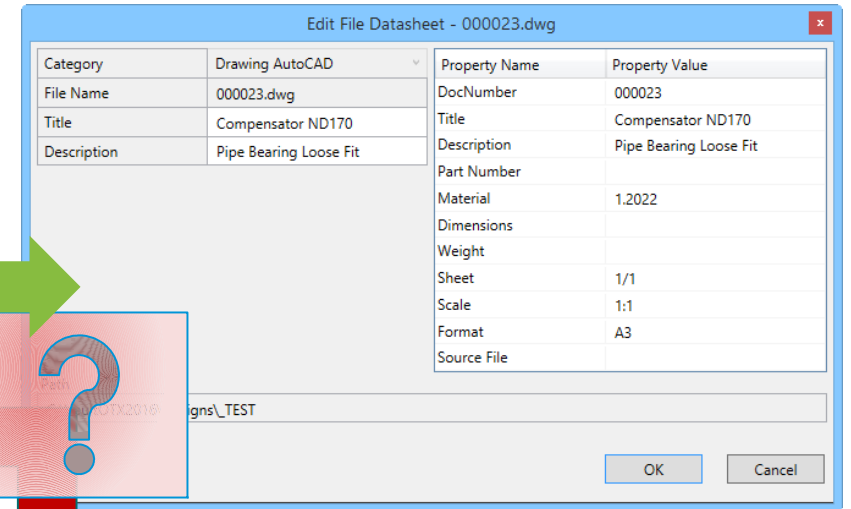
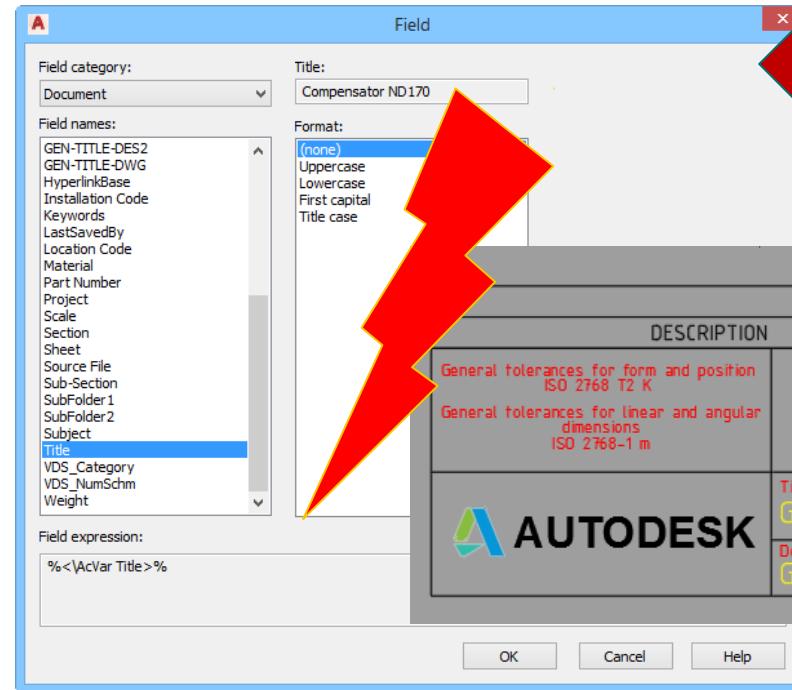
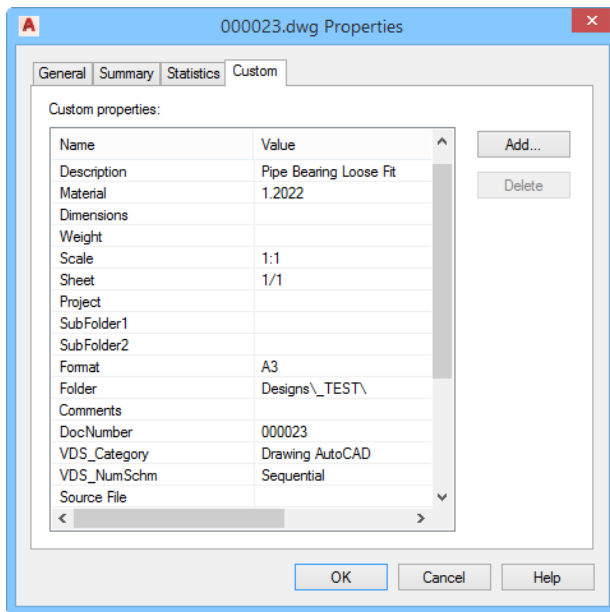
- Vault – UPD Mapping
  - Standard Properties
  - Custom Properties



# VDS – AutoCAD | Property Management – Block Attributes

## AutoCAD

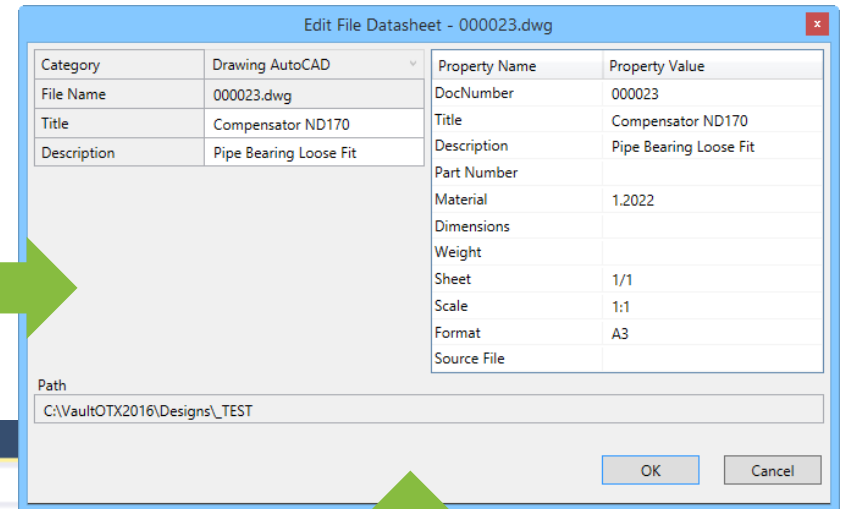
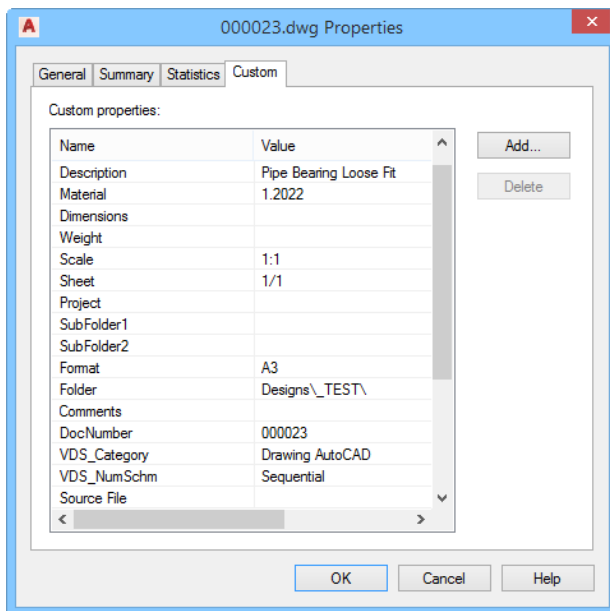
### ■ Drawing Title – Attributes



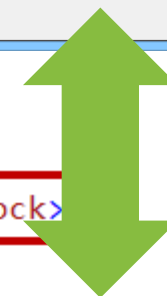
# VDS – AutoCAD | Property Management – Block Attributes

## AutoCAD

### ■ Drawing – Title Attributes



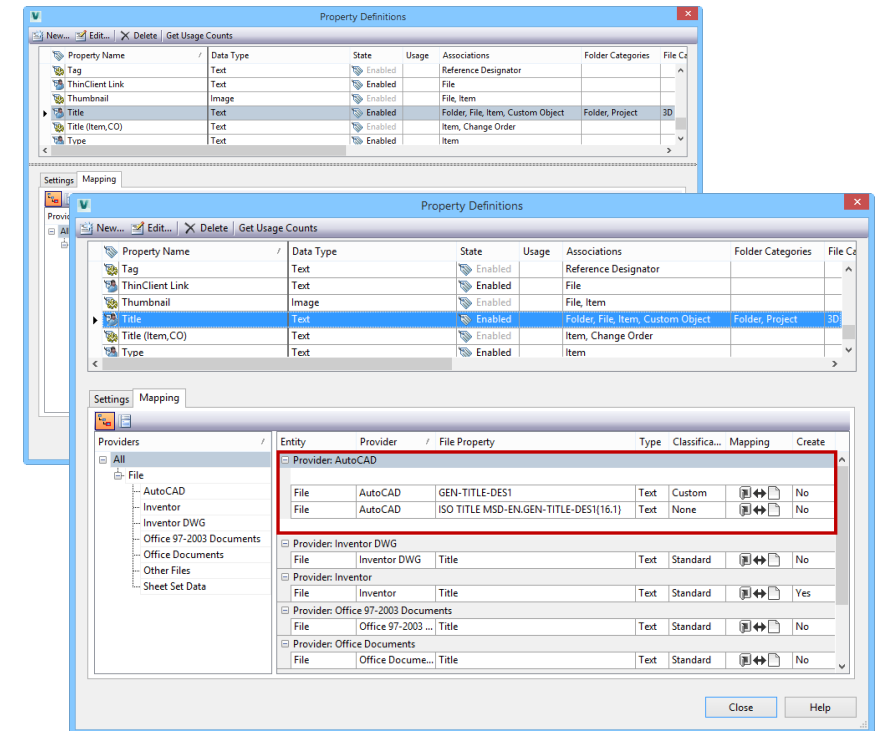
```
AutoCAD.cfg  x
<?xml version="1.0" encoding="utf-8"?>
<Configuration>
  </PropertyDefinitions>
  <ShowCheckInDialog>True</ShowCheckInDialog>
  <TitleBlock>ISO_TITLEA,ISO_TITLEB,DIN_TITLE</TitleBlock>
</Configuration>
```



DESCRIPTION	DATE	RESPONSIBLE	STATE	REV
General tolerances for form and position ISO 2768 T2 K		koechlm	Work in Progress	GEN-TITLE-REV(22.6)
General tolerances for linear and angular dimensions ISO 2768-1 m				GEN-TITLE-SCA(5.42)
Protected by ISO 16016 Surface finish to ISO 1302				GEN-TITLE-WT(11.5)
Material: Dimensions: Part Number:		GEN-TITLE-MAT(101.5) GEN-TITLE-MAT2(11.09) GEN-TITLE-NR{8.8}	Scale: Mass: Document Type:	GEN-TITLE-SHA(11.8)
AUTODESK		Title: Description:		GEN-TITLE-SHEET(11.8) GEN-TITLE-SZ(22.6)

# VDS – AutoCAD | Property Management – Block Attributes

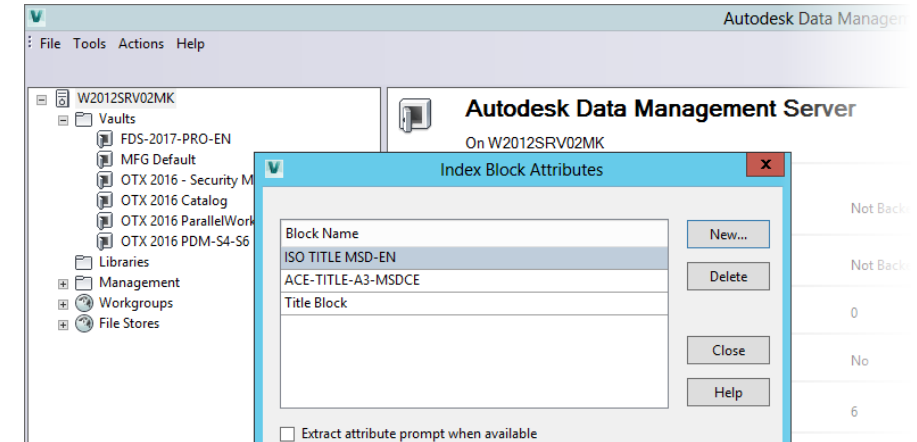
- ✓ Vault – UPD Mapping
  - Standard Properties
  - Custom Properties
- For Legacy Support and VDS independency add...
  - Vault – Block Index
  - Vault – Block Mapping





# VDS – AutoCAD | Property Management – Block Attributes

- For Legacy Support and VDS independency add...
  - Vault – Block Index
  - Vault – Block Mapping



Entity	Provider	File Property	Type	Classifica...	Mapping	Create
[-] Provider: AutoCAD						
File	AutoCAD	GEN-TITLE-DES1	Text	Custom		Yes
File	AutoCAD	ISO TITLE MSD-EN.GEN-TITLE-DES1{16.1}	Text	None		No
[-] Provider: Inventor DWG						



VDS 2016 Update 1  
VDS 2016 Update 2  
**VDS 2016 Update 3**  
**VDS 2017**

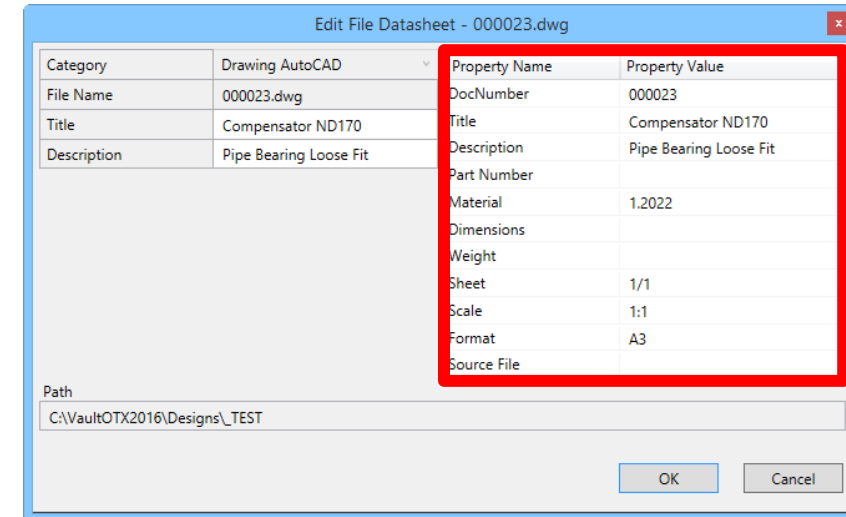
# VDS AutoCAD – Property Management

Property Mapping |

Property Labeling / Dynamic Category Properties

# VDS – AutoCAD | Dynamic Property Grid - Labeling

- Dynamic properties bind to
  - Category
  - **Primary** mapping

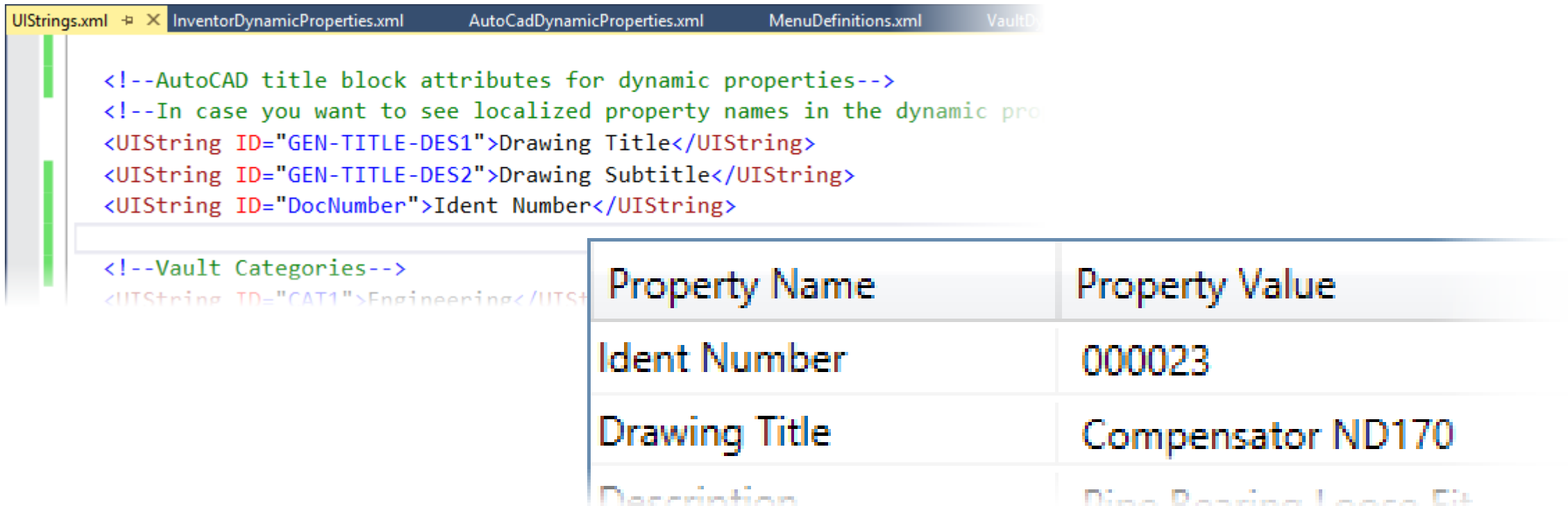


⇒ Label =

Entity	Provider	File Property	Type	Classifica.
Provider: AutoCAD				
File	AutoCAD	GEN-TITLE-DES1	Text	Custom
File	AutoCAD	ISO TITLE MSD-EN.GEN-TITLE-DES1{16.1}	Text	None

# VDS – AutoCAD | Dynamic Property Grid - Labeling

- Override property/attribute name to “friendly label”



The screenshot shows a code editor with several tabs: UIStrings.xml, InventorDynamicProperties.xml, AutoCadDynamicProperties.xml, MenuDefinitions.xml, and VaultD... The code in the editor is as follows:

```
<!--AutoCAD title block attributes for dynamic properties-->
<!--In case you want to see localized property names in the dynamic pro
<UIString ID="GEN-TITLE-DES1">Drawing Title</UIString>
<UIString ID="GEN-TITLE-DES2">Drawing Subtitle</UIString>
<UIString ID="DocNumber">Ident Number</UIString>

<!--Vault Categories-->
<UIString ID="CAT1">Engineering</UISt
```

Property Name	Property Value
Ident Number	000023
Drawing Title	Compensator ND170
Description	Disc Bearing Loose Fit

# VDS – Inventor | Dynamic Property Grid - Labeling

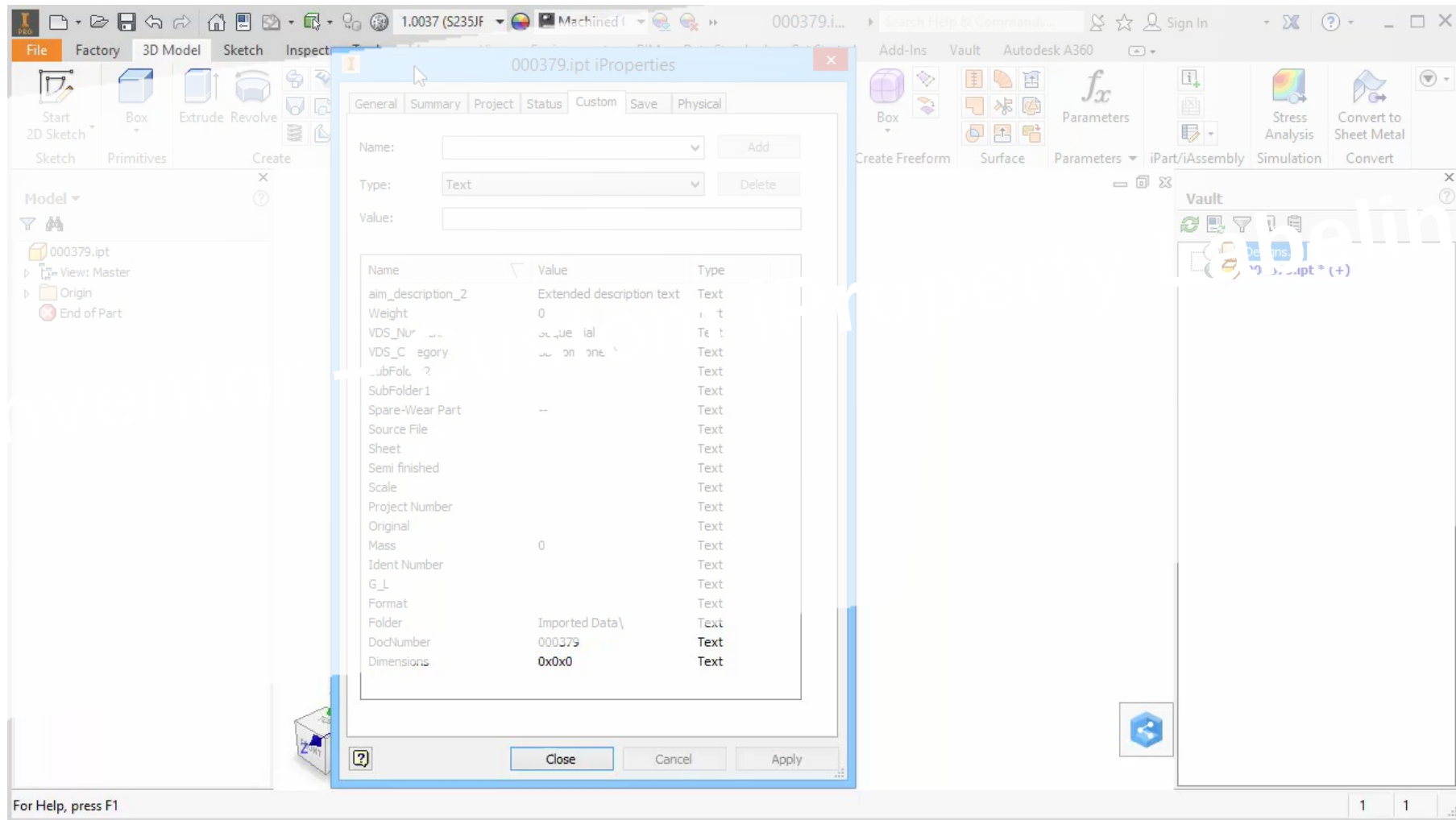
- Override custom iProperty name to get a “friendly label”

Property Name	Property Value
aim_description_2	Extended description text
Description	

```
<!--Inventor custom iProperty labeling-->  
<!--Use overrides to localize or change display names of mapped cu  
<UIString ID="aim_description_2">Description (long)</UIString>
```

Property Name	Property Value
Description	
Description (long)	Extended description text
Dimensions	0.0.0

# VDS – Inventor | Dynamic Property Grid – Labeling Video



# VDS 2017 What's New - Vault

# VDS 2017 – Vault | New File...

## Dynamic Visibility – General Properties

- Create Mode
- Edit Mode

Category	Base	Property Name	Property Value
Document Type	Inventor	Author	
Template	Sheet Metal.ipt	Manager	
Number Scheme	Sequential	Engr Approved By	
Number	#####	Engineer	
Title	Test 2	Designer	
Description		Stock Number	
File Name	Will be generated	Part Number	
Path	\$/Designs/1/7	Mfg Approved By	
		Material	
		Cost	
		Company	
		Title	Test 2



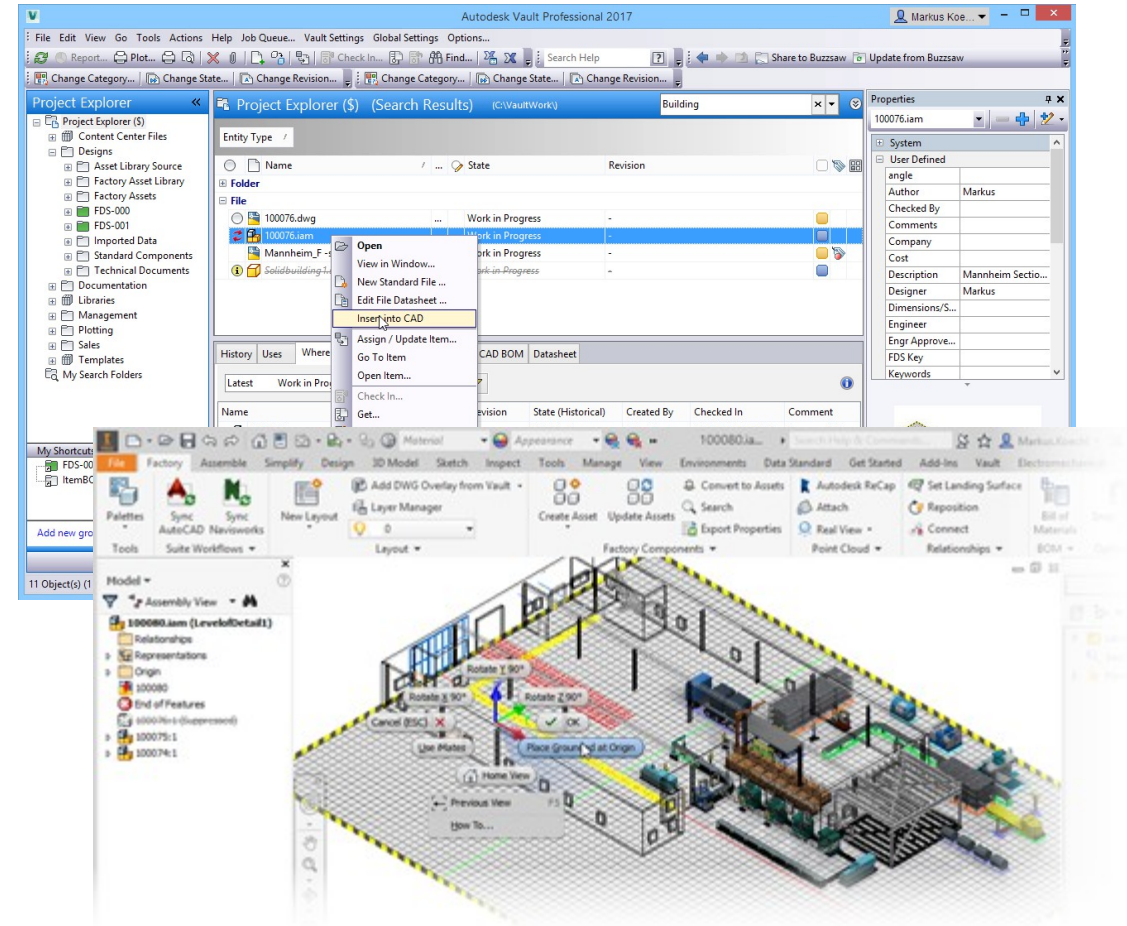
# VDS 2017 – Vault | CAD – BOM

## Thumbnail Support

History	Uses	Where Used	Change Order	Preview	CAD BOM	Datasheet		
Thumbnail	Position	Part Number	Quantity	Component Type	Material	Title	Description	
	4	20-200-356	4	Part		WELDED ASSEMBLY	FRAME MOUNTING FOOT	^
	1	200-375	1	Part	NA	FRAME LAYOUT	WIREFRAME LAYOUT DRAWING	
	3	200-371	1	Part	STEEL - HIGH GRADE ALLOY	PLATE	MAIN WELDED FRAME, CENTER BRACE	
	2	200-350	4	Part	STEEL - HIGH GRADE ALLOY	PLATE	120X60 TUBE END CAP	
	9	200-374	2	Part	Steel, Alloy	PLATE	NAME PLATE, SHORT	
	0	OTX-WG1-500001	1	Assembly				v

# VDS 2017 – Vault | Insert CAD

- Context Command in
  - List Views
  - Search Results
- Auto – Switch to Inventor



Autodesk Vault

# Autodesk Exchange App - Insert To CAD

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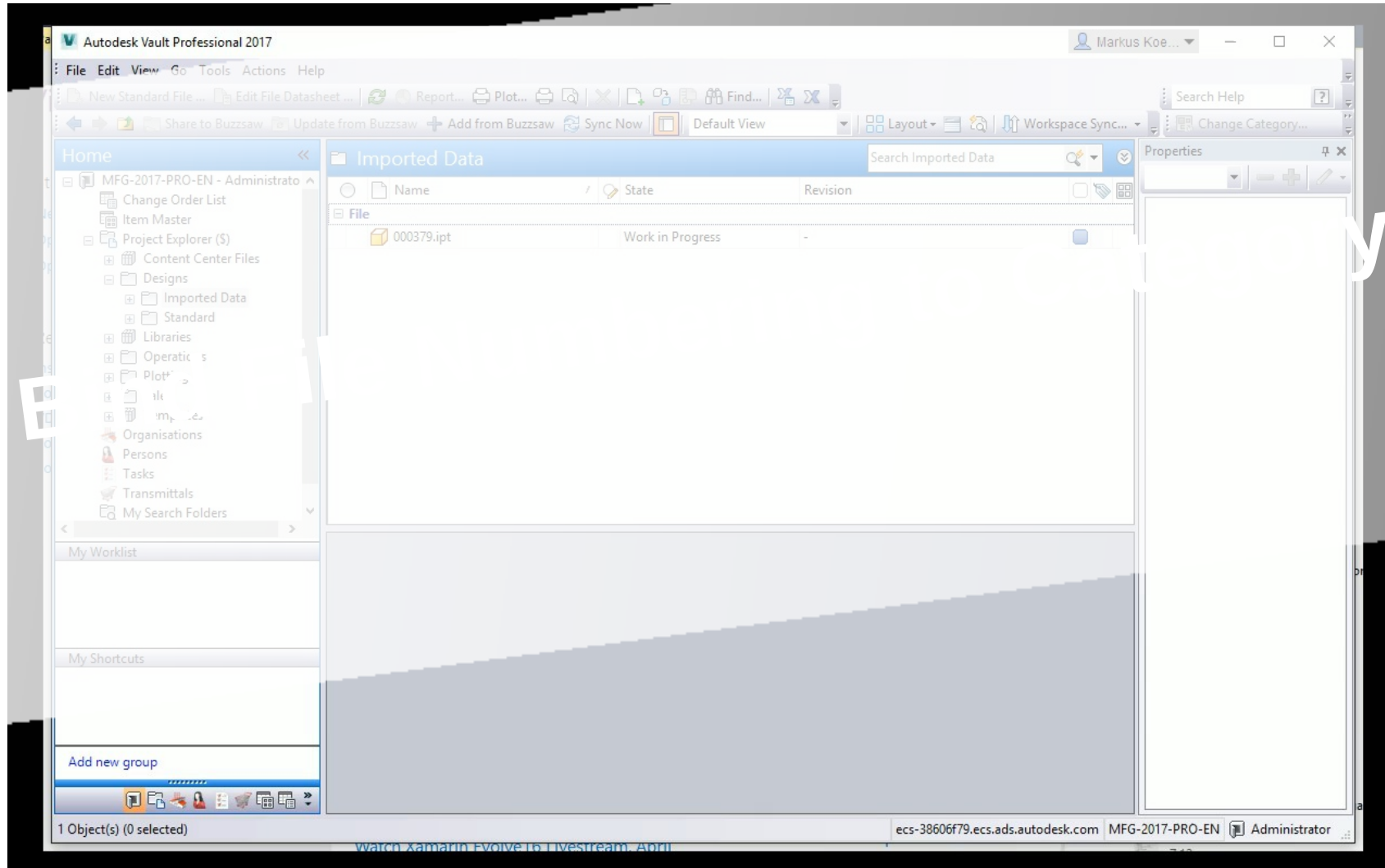


# VDS 2017 – Vault | File / Folder / Project Numbering

## Concept

- Numbering Scheme = Entity Category Name
- Enable | Disable Numbering

# File Numbering | Video





# Folder / Project Numbering | Video

The screenshot displays the Autodesk Vault Professional 2016 interface. The main window is titled "Autodesk Vault Professional 2016". The interface is divided into several panes:

- Project Explorer (Left):** Shows a hierarchical tree of folders. The folder "P-0023" is selected and highlighted in blue. Other folders include "4", "5", "6", "7", "MyPro", "P-0016", "P-0017", "P-0018", "P-0019", "P-0021", "P-0022", "P-0024", and "P-0025".
- Main View (Center):** Displays a table with columns "Name", "State", and "Revision". Under the "Folder" section, two items are listed: "P-0024" and "P-0025".
- Properties (Right):** Shows the properties for the selected folder "P-0023". It is divided into "System" and "User Defined" sections.

System	
Category Name	Project
Create Date	2/15/2016 2:37 PM
Created By	Administrator
Current User	MUC\IBI\32\AL\JES...
Folder Path	Designs\17\Projects\17\P-002...
Released Until	2/15/2016 2:37 PM
Lifecycle Definition	
Name	P-0023
Property Compliance	Compliant
State	
User Defined	
Date End	
Date Start	
Ident Number	P-0023
Title	Test 2

At the bottom of the interface, the status bar shows "3 Object(s) (0 selected)" and the user information "localhost Default MFG 2017 PreView Administrator".

# VDS 2017 – Vault | Custom Object Numbering

## Concept

- Numbering Scheme = Custom Object Def Name
- Enable | Disable

The screenshot shows the 'New Task' dialog box with the following data:

Category	Task	Property Name	Property Value
Number	T - #####	Title	VDS What's New
State		Description	Presentation Material
Create Date		Incident Number	
Created By		Date Start	4/20/2016
		Date End	4/30/2016

# Addendum – Technical Details



# VDS 2017 | Menu File Format

XML to support

- Multilanguage Definitions
- Unicode Names

```
<mymenu>
  <MenuItem>
    <NewTask Label="$UIString[MNU22]" Description="$UIString[MNU17]" Hint="$UIString[MNU18]" PSFile="CreateCustomObject.ps1"
      Image="NewCustomObject.ico" ToolbarPaintStyle="TextAndGlyph" NavigationTypes="$UIString[MNU23]" MultiSelectEnabled="True" />
    <EditTask Label="$UIString[MNU21]" Description="$UIString[MNU19]" Hint="$UIString[MNU20]" PSFile="EditCustomObject.ps1"
      Image="EditCustomObject.ico" ToolbarPaintStyle="TextAndGlyph" NavigationTypes="Task" MultiSelectEnabled="False" />
    <NewFile Label="$UIString[MNU1]" Description="$UIString[MNU11]" Hint="$UIString[MNU7]" PSFile="CreateFile.ps1"
      Image="NewStandardFile.ico" ToolbarPaintStyle="TextAndGlyph" NavigationTypes="File,Folder"
      MultiSelectEnabled="False" />
    <EditFile Label="$UIString[MNU2]" Description="$UIString[MNU12]" Hint="$UIString[MNU8]" PSFile="EditFile.ps1" />
  </MenuItem>
</mymenu>
```

# VDS 2017 | Menu File Format

## Vault Explorer – Start Up | Menu Load

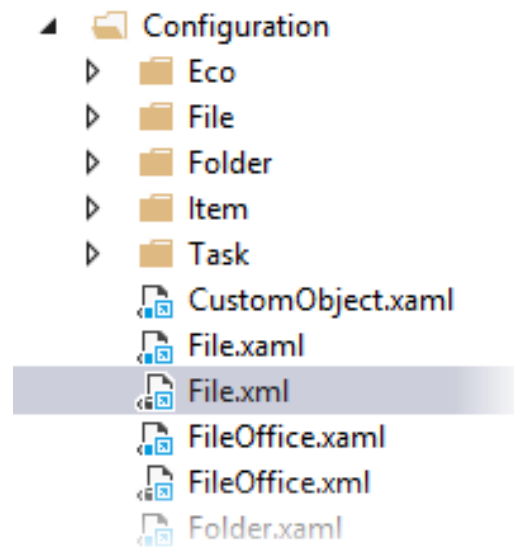
- Error Handling
- Messages

```
<!-- New 2017 -->  
<UIString ID="MSG6">More than one entry found for menu item {0}. Please correct the MenuDefin  
<UIString ID="MSG7">The label attribute for the menu item {0} could not be found. Please corr  
<UIString ID="MSG8">The PS1File attribute for the menu item {0} could not be found. Please co  
<UIString ID="MSG9">The Location attribute for the command site {0} could not be found. Pleas  
<!--Messages used in AutoCAD.cfg and Inventor.cfg-->
```

# VDS 2017 | Template Structure – File.XML

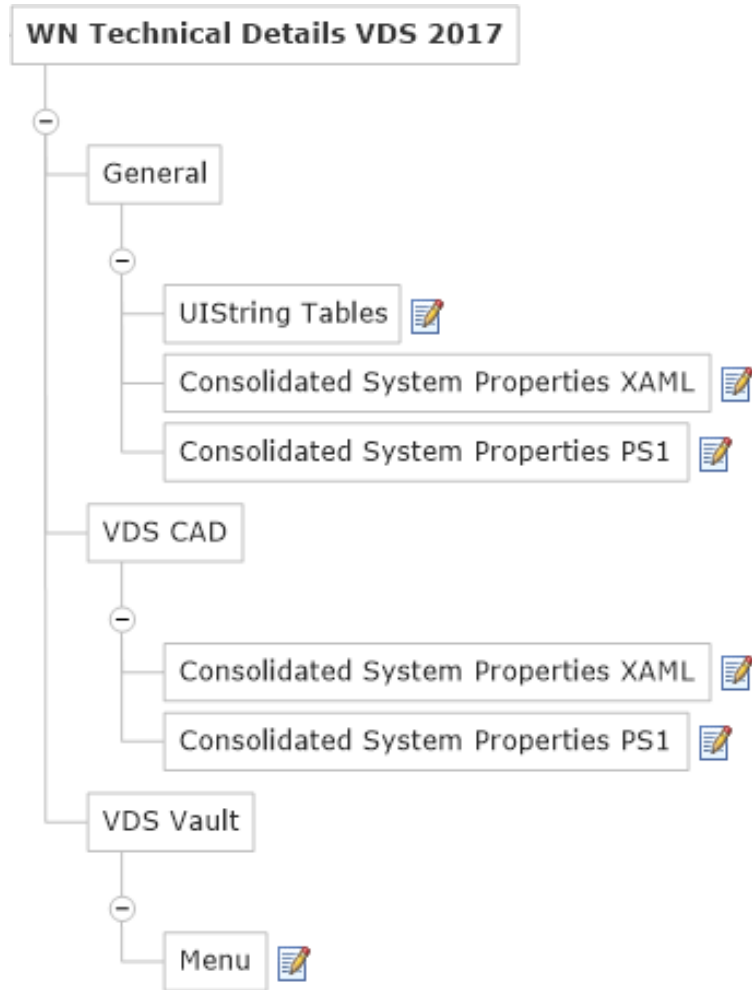
DocTypeData Node externalized to

- File.xml
- FileOffice.xml



```
Default.ps1 File.xml [X]
<?xml version="1.0" encoding="utf-8" ?>
<DocTypeData xmlns="">
  <DocTypeInfo>
    <DocName>Inventor</DocName>
    <Path>$/Templates/Inventor</Path>
  </DocTypeInfo>
  <DocTypeInfo>
    <DocName>AutoCAD Drawings</DocName>
    <Path>$/Templates/AutoCAD</Path>
  </DocTypeInfo>
  <DocTypeInfo>
    <DocName>Office Document</DocName>
    <Path>$/Templates/Office</Path>
  </DocTypeInfo>
</DocTypeData>
```

# VDS 2017 | Consolidated System Properties



## Consolidated System Properties PS1

### Entity Type "FILE"

```
$Prop["_FileName"].Value  
$Prop["_FilePath"].Value  
$Prop["_FileExt"].Value  
$Prop["_CreateMode"].Value  
$Prop["_EditMode"].Value  
$Prop["_ReadOnly"].Value  
$Prop["_Category"].Value  
$Prop["_NumSchm"].Value
```

### Entity Type "FOLDER"

```
$Prop["_Category"].Value  
$Prop["_CreateMode"].Value  
$Prop["_EditMode"].Value  
$Prop["_FolderPath"].Value  
$Prop["_FolderName"].Value  
$Prop["_ReadOnly"].Value  
$Prop["_NumSchm"].Value
```

### Entity Type "CustomObject"

```
$Prop["_CustomObjectDefName"].Value  
$Prop["_CustomObjectName"].Value  
$Prop["_Category"].Value  
$Prop["_CreateMode"].Value  
$Prop["_EditMode"].Value  
$Prop["_ReadOnly"].Value  
$Prop["_NumSchm"].Value
```

## Consolidated System Properties PS1

### Accessible Properties in CAD Dialog Context:

```
$Prop["_Category"].Value  
$Prop["_HasBOM"].Value  
$Prop["_WorkspacePath"].Value  
$Prop["_VaultVirtualPath"].Value  
$Prop["_CreateMode"].Value  
$Prop["_NotCreateMode"].Value  
$Prop["_EditMode"].Value  
$Prop["_NotEditMode"].Value  
$Prop["_CopyMode"].Value  
$Prop["_SaveCopyAsMode"].Value  
$Prop["_FileName"].Value  
$Prop["_FilePath"].Value  
$Prop["_FileExt"].Value  
$Prop["_OriginalFileName"].Value  
  
$Prop["PathAndFileNameHandler.EXT"].Value  
$Prop["PathAndFileNameHandler.FileName"].Value  
$Prop["PathAndFileNameHandler.FileNameNoExtension"].Value  
$Prop["PathAndFileNameHandler.FullFileName"].Value  
$Prop["PathAndFileNameHandler.OriginalFileName"].Value  
$Prop["PathAndFileNameHandler.OriginalFullFileName"].Value  
$Prop["PathAndFileNameHandler.Path"].Value
```

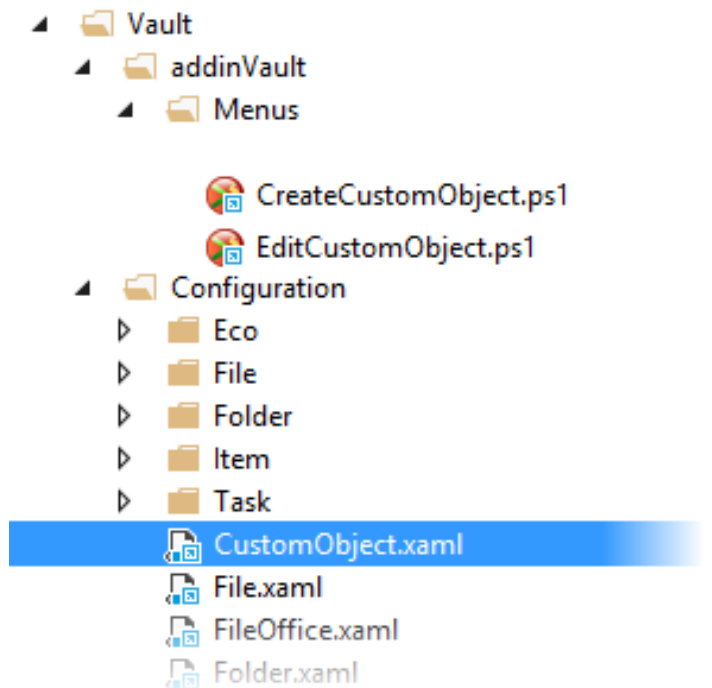
# VDS 2017 | Dialog Template – Custom Object

One Single Neutral Template allows

- Copy & Paste for new ones
- Add Menu
- ✓ Done

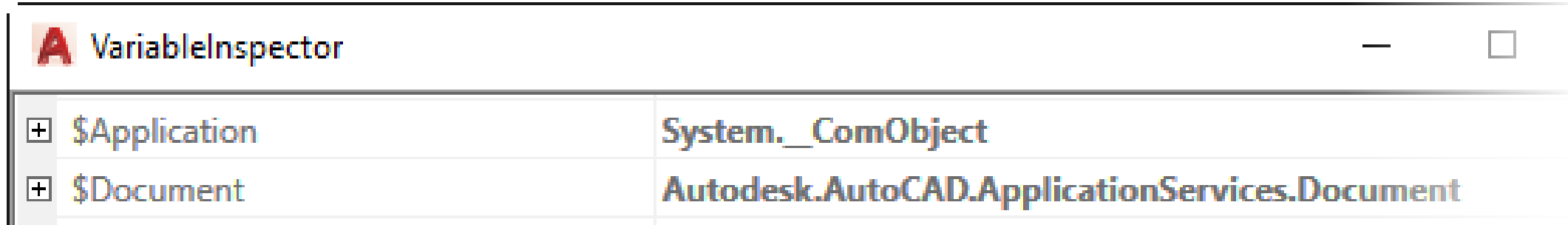
Category	Number
State	
Date Created	
Created By	

OK Esc



# VDS 2017 – CAD | Application / Document Objects

- AutoCAD and Inventor Objects available
  - \$Application
  - \$Document



The screenshot shows a window titled "VariableInspector" with a red 'A' icon. It contains a table with two rows of object definitions.

VariableInspector	
+ \$Application	System._ComObject
+ \$Document	Autodesk.AutoCAD.ApplicationServices.Document

# Issues Fixed

# VDS – CAD | Folder Selection – ACL

- Issue: Folders with ACL applied are listed in breadcrumb folder tree
- ✓ Solution: Folder listing added filter based on Vault “cloaked” (user accessible) property.



# VDS – CAD | Folder Selection – ACL

- Issue: VDS for CAD - ValidatedBinding not validated on save event
- ✓ Solution: systematic change added capability to validate during runtime (created/edit) and on save event

# VDS – Vault | Template Selection – ACL

- Issue: Templates with ACL / object security applied are not filtered for new file...
- ✓ Solution: VDS template list returns filtered listing according user's file access

# VDS – Vault | Custom Command – Restrictions

- Issue: "Umlaut" / special characters not allowed in mymenu.mnu file
- ✓ Menu definition changed to XML format and supports Unicode characters.

