

# Evolve with Vault: What's New in Vault 2015 and Vault 2015 R2

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# Assumptions

- Familiarity with Vault
  - Especially previous releases
- PL7016 - An Introduction To Vault
  - Breakers B, Level 2
  - Taught by Adam Luttenbacher
- Please hold questions until end

# Your Instructors



Jeffrey Maisano

- Sr. Principal Engineer
- 14 years at Autodesk in the Data Management group
- Developer on Vault Explorer client applications
- Previously worked on the new Vault thin client, the Inventor Vault add-in, and Autodesk Streamline.



Anil Chintamaneni

- Senior User Experience Designer
- Works in the Data Management group mainly on the Vault software product line
- 9 years at Autodesk
- Worked as a Product Data Collaboration Engineer at Ford Motor Company
- Holds a Master's degree in Mechanical Engineering.

# Introduction

Vault has undergone a massive overhaul in the recently released Vault Professional 2015 and Vault Professional 2015 R2, especially in the areas of Items and bill of materials (BOM). This class will give you an overview of some of the major Item and BOM enhancements in Vault 2015 including support for long-lead Item workflows and enhancements in Vault 2015 R2 including multiple BOM rows, BOM properties, BOM reports, Copy Design, and Vault Office.

# Handout

- Covers everything discussed in this presentation
- More material
- ePub format available

# Key learning objectives

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

- • Learn about Item and BOM enhancements in Vault 2015.
- • Learn about advanced Item and BOM capabilities in Vault 2015 R2.
- • Learn about the new Copy Design feature in Vault 2015 R2.
- • Learn about new Vault Office client and more in Vault 2015 R2.

# Vault 2015

# Vault 2015

- Item/BOM Enhancements
  - Long Lead Items
  - Multiple Modeless Dialogs
  - BOM Tab Improvements
  - Other Item Improvements
- Inventor Vault Add-In Enhancements
- Other Vault Enhancements



# **Vault 2015**

## **Item/BOM Enhancements – Long Lead Items**

## Related Class

- PL6547 - All You Want to Know About Items in Vault Professional
  - Taught by William Schwerin and Anil Chintamaneni
  - Thursday, Dec 4, 10:00 AM - 11:30 AM

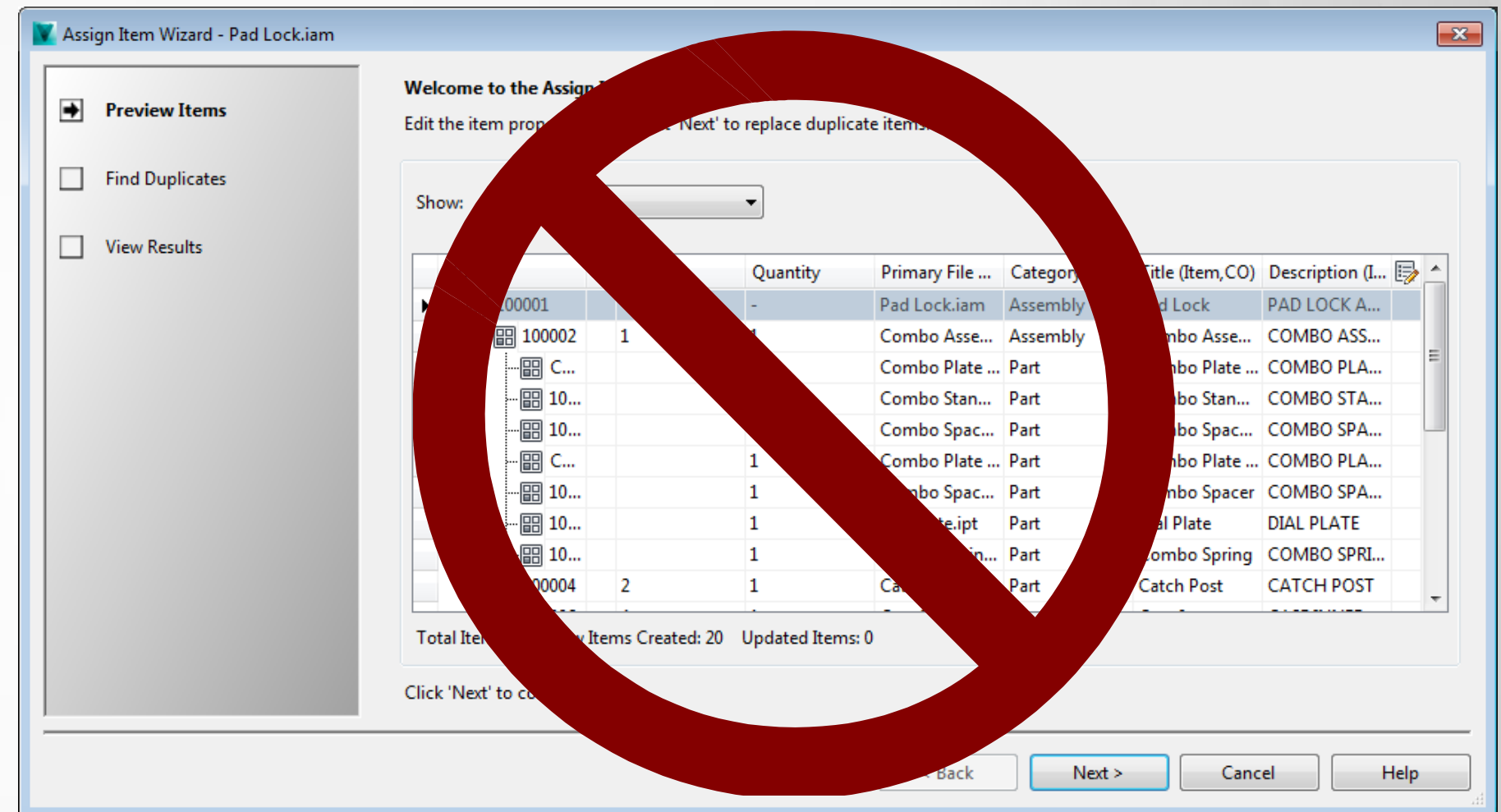
# Vault 2015 Item/BOM Enhancements - Long Lead Items

- Using Items was difficult if the entire design was not ready
- New workflows allow:
  - Use of Items on parts of the design
  - Items to be created before CAD data
  - BOM structure to be defined in advance of CAD data

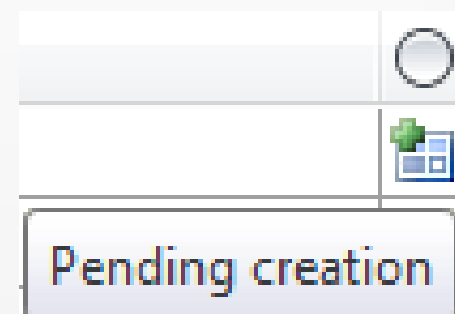
# Vault 2015 Item/BOM Enhancements - Long Lead Items

## No More Item Wizard

- Item Wizard removed



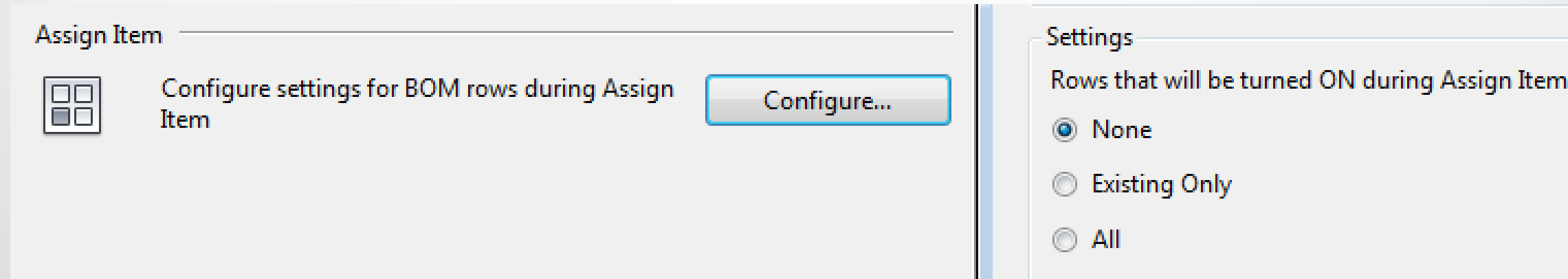
- Edit before commit



# Vault 2015 Item/BOM Enhancements - Long Lead Items

## New Assignment Options

- Administrator control
  - Over which BOM entries get converted to Items
- Migration:
  - Migrated vaults set to 'All' (legacy behavior)
  - New vaults set to 'None'



# Vault 2015 Item/BOM Enhancements - Long Lead Items

## BOM Components

- Unassigned BOM rows
- Excluded from operations
  - Export
  - Change State/Revision/Category
- Non-editable properties:
  - Number (Name)
  - Position Number
  - Quantity

| Number           | Row Order | Position Number | Quantity |
|------------------|-----------|-----------------|----------|
| 100002           | -         | -               | -        |
| Combo Spring     | 1         | 1               | 1        |
| Combo Stand-...  | 2         | 2               | 1        |
| Combo Spacer     | 3         | 3               | 1        |
| Combo Spacer...  | 4         | 4               | 2        |
| Combo Plate L... | 5         | 5               | 1        |
| Combo Plate ...  | 6         | 6               | 1        |
| 100007           | 7         | 7               | 1        |

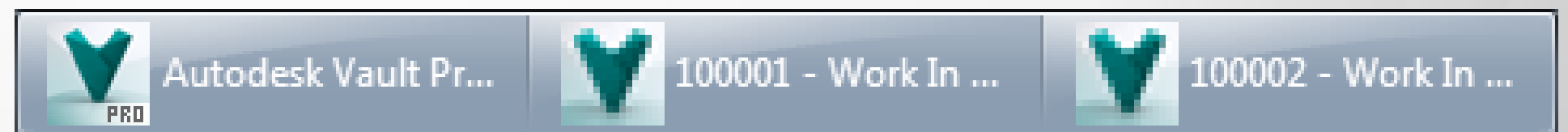
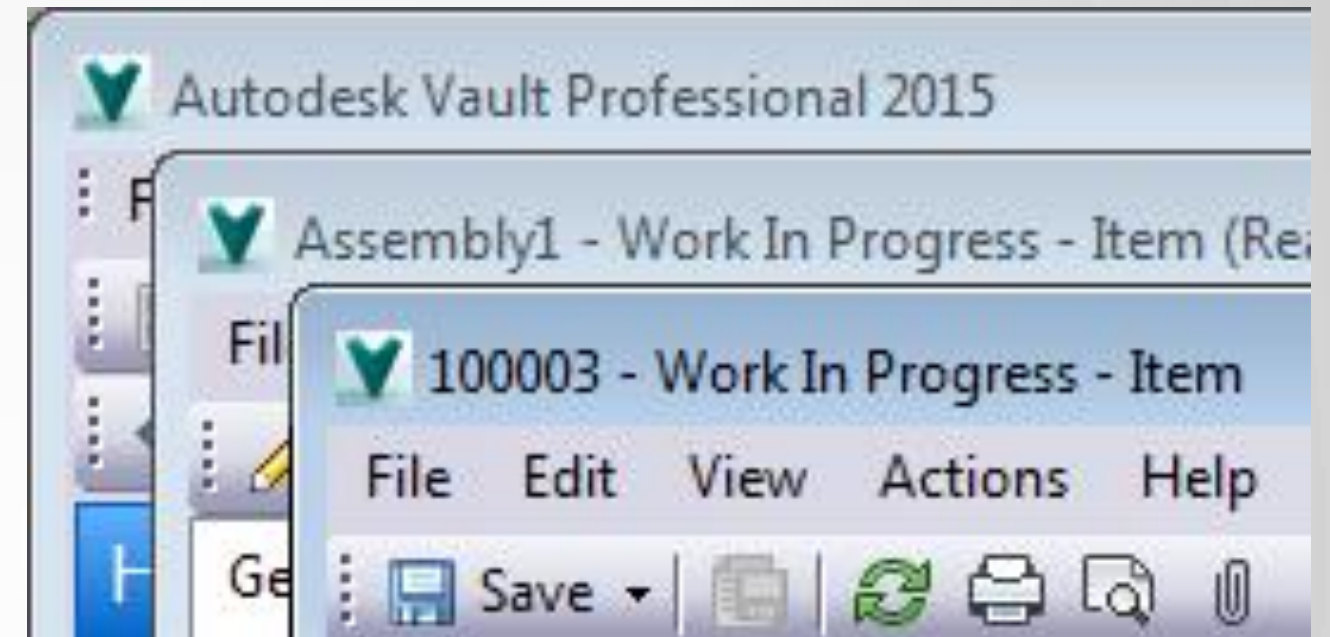
# **Vault 2015**

## **Item/BOM Enhancements – Multiple Modeless Dialogs**

# Vault 2015 Item/BOM Enhancements

## Multiple Modeless Item Windows

- Multiple Item windows open at the same time
- Interact with both Item window and main app window
  - Drag & Drop, Copy & Paste
- Each window has entry on the Windows taskbar

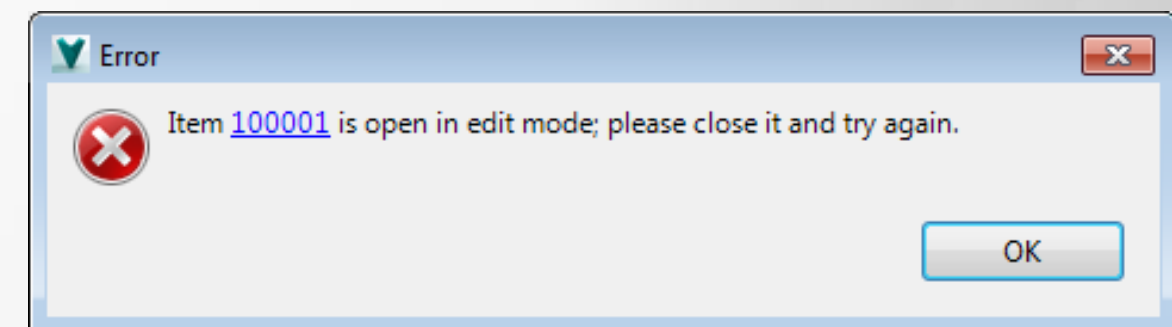
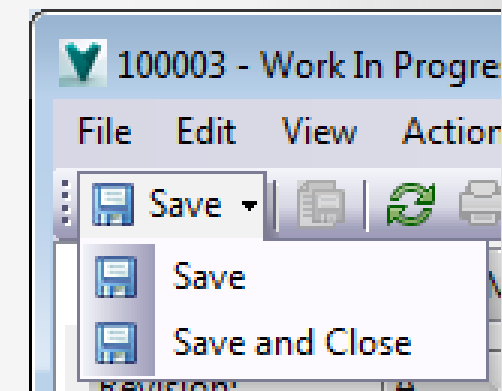
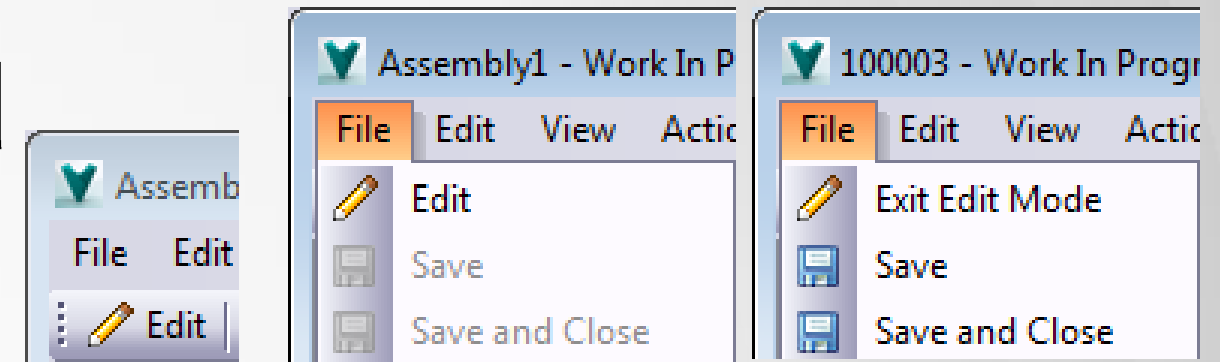




# Vault 2015 Item/BOM Enhancements

## Multiple Modeless Item Windows – Viewing/Editing/Saving

- Enter and exit 'Edit' mode as needed
- Save as many times without exiting dialog or 'Edit' mode
- Open always starts dialog in 'View' mode
- Only 1 Item dialog can be in 'Edit' mode at a time
  - Some commands may be disabled
  - Error dialog with quick link to Item being edited



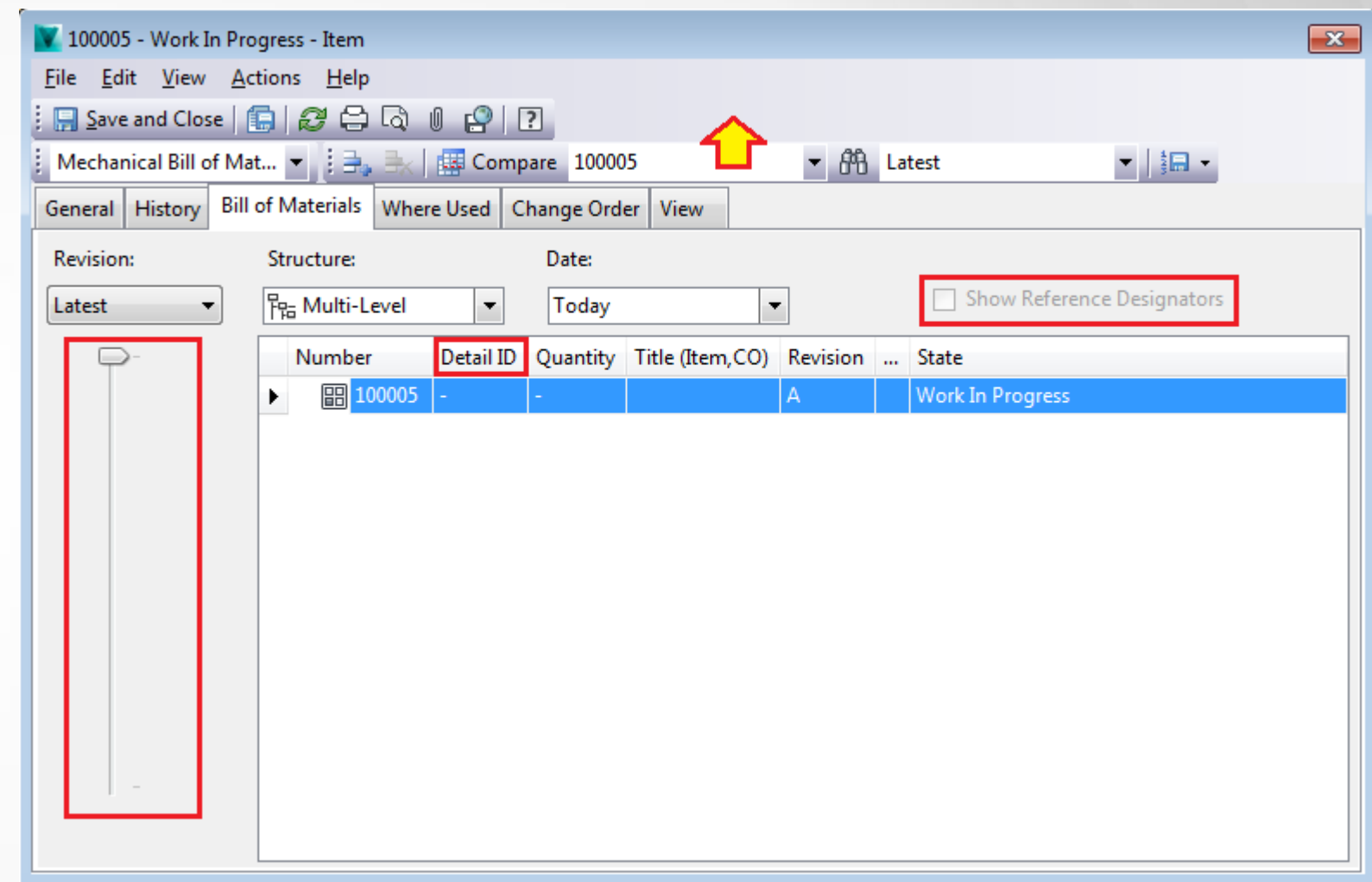
# **Vault 2015**

## **Item/BOM Enhancements – BOM Tab Improvements**

# Vault 2015 Item/BOM Enhancements – BOM Tab

## Previous BOM Tab Layout

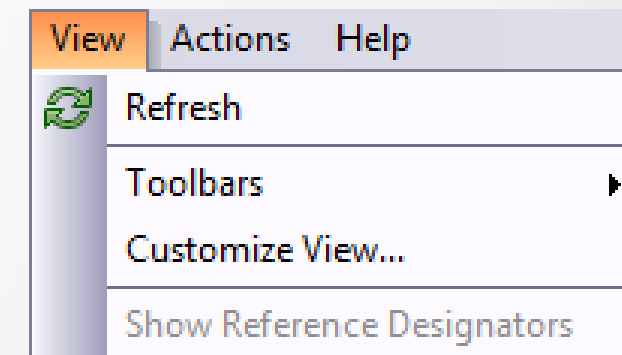
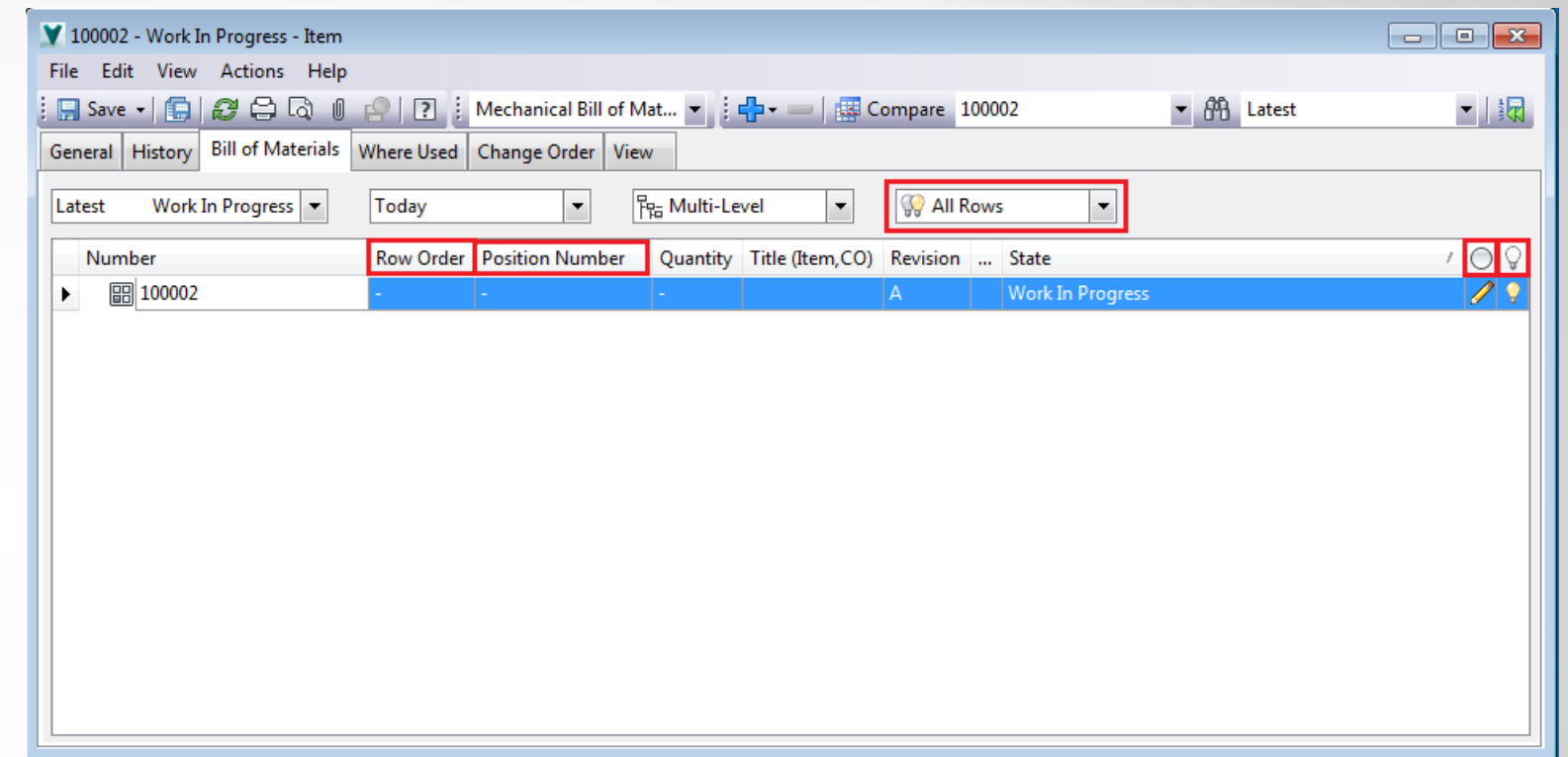
- Revision slider removed
- Detail ID column replaced
  - With Row Order
  - And Position Number
- Show Reference Designators removed
  - Replaced with menu option
- Toolbars moved to 1 line
  - But still customizable



# Vault 2015 Item/BOM Enhancements – BOM Tab

## New BOM Tab Layout

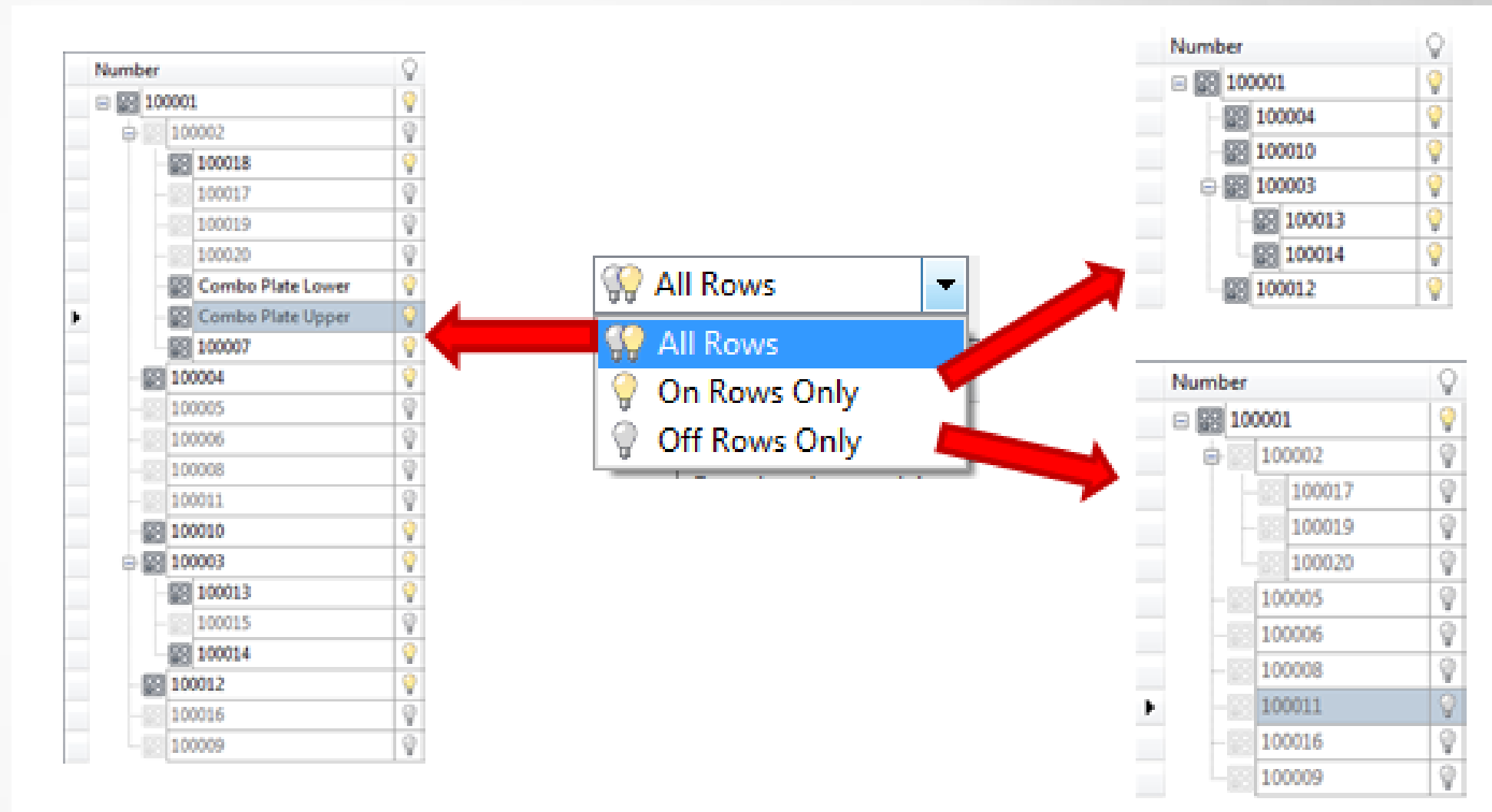
- New BOM property columns
  - Row Order
  - Position Number
  - Vault Status
  - On/Off column
- Show Reference Designators removed
  - Replaced with menu option
- Toolbars moved to 1 line
  - But still customizable
- On/Off Row Filter



# Vault 2015 Item/BOM Enhancements – BOM Tab

## On/Off Rows & Filter

- Rows can now be turned 'Off'
  - In BOM, but excluded
- Filter Settings:
  - All Rows
  - On Rows Only
  - Off Rows Only
- Children of 'filtered' parents are not shown

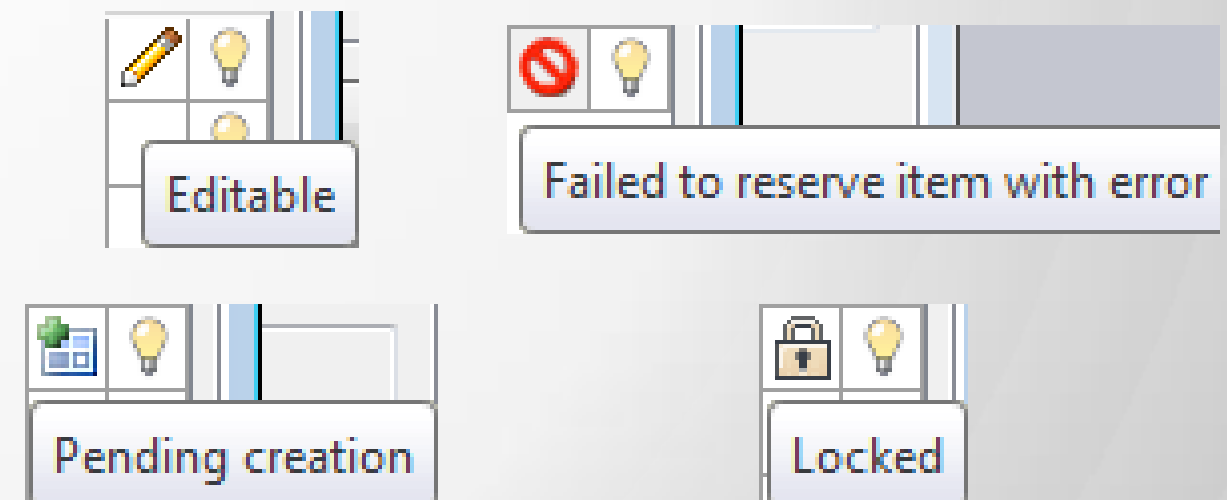
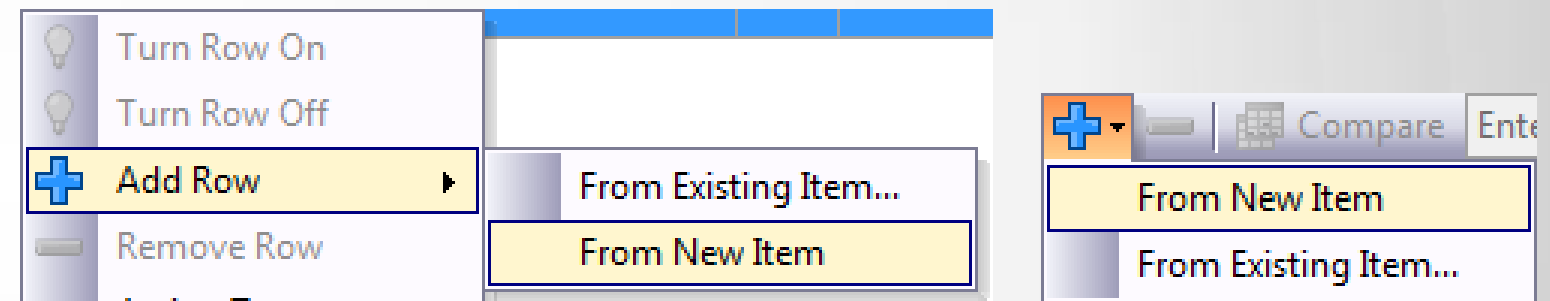


# Vault 2015 Item/BOM Enhancements – BOM Tab

## Edit All Levels of BOM

- All rows available for editing
- Items are reserved on demand for editing
- Add row from new Item
- New Vault Status column indicates reservation, errors

| Number | Row Order | Position Number | Quantity |
|--------|-----------|-----------------|----------|
| 100001 | -         | -               | -        |
| 100002 | 1         | 1               | 1        |
| 100018 | 1.1       | 12              | 3        |



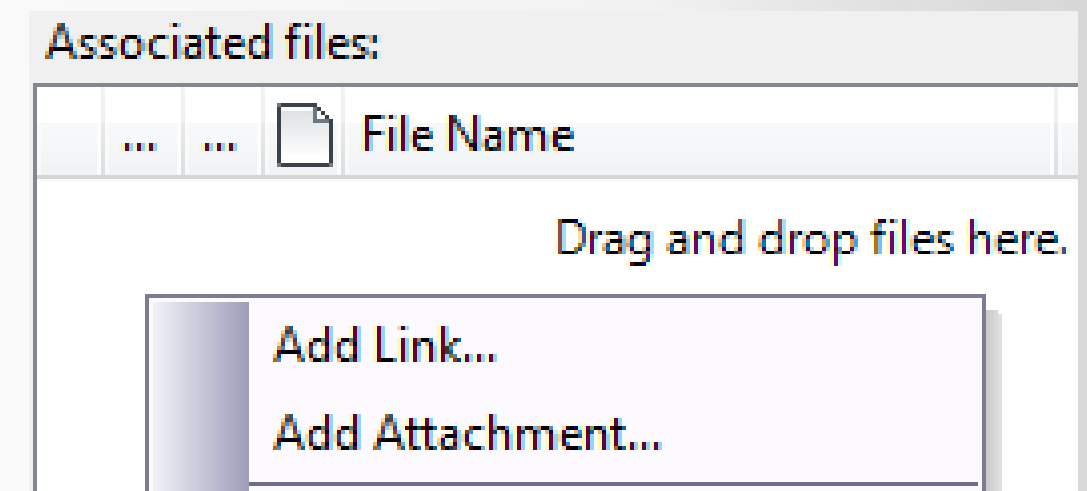
# **Vault 2015**

## **Item/BOM Enhancements – Other Item Improvements**

# Vault 2015 Item/BOM Enhancements

## New Workflows For Associating Files And Items

- Previous methods:
  - Add Link... command
  - Add Attachment... command
- Drag & Drop of files
  - To 'Associated files' grid
  - To Items in Item Master
  - To Item links
- Copy & Paste (Ctrl-C/Ctrl-V)

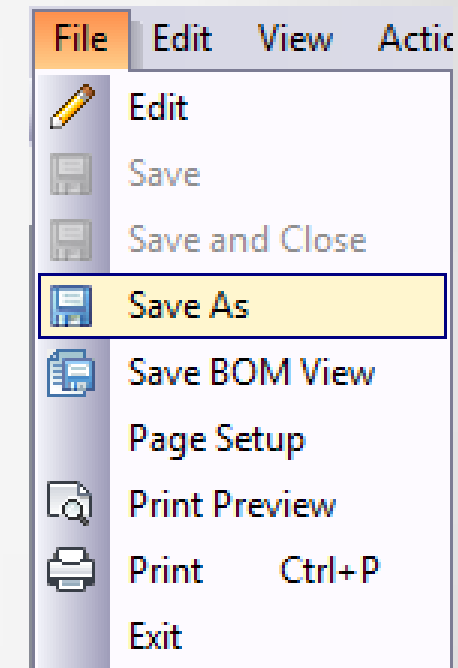




# Vault 2015 Item/BOM Enhancements

## Save As Command

- New command in Item dialog file menu
- Save a copy of the current Item
  - Properties
    - Description
    - Title
    - Unit
    - Unit of Measure
    - Category
  - BOM structure
  - Associated attachments



**Demo**

# **Vault 2015**

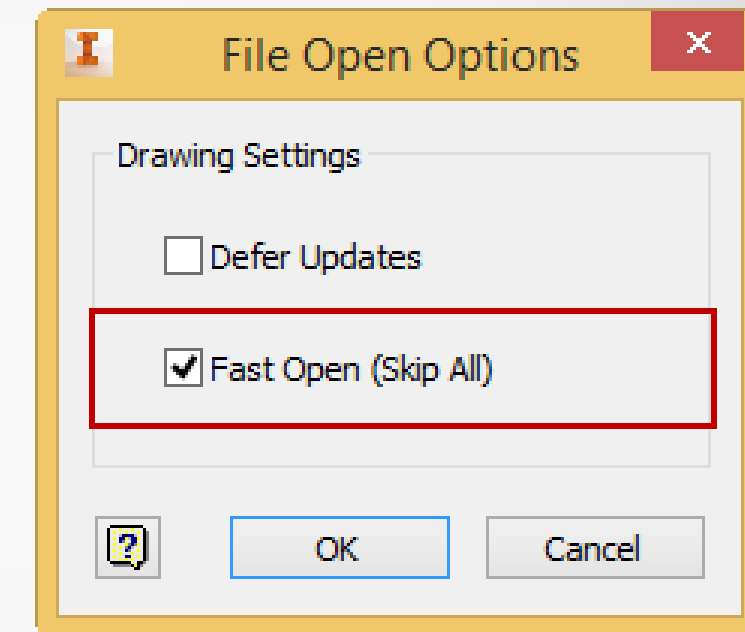
## **Inventor Vault Add-In**

### **Enhancements**

# Vault 2015 Inventor Vault Add-In Enhancements

## Fast Open for Drawing Files (IDW & DWG)

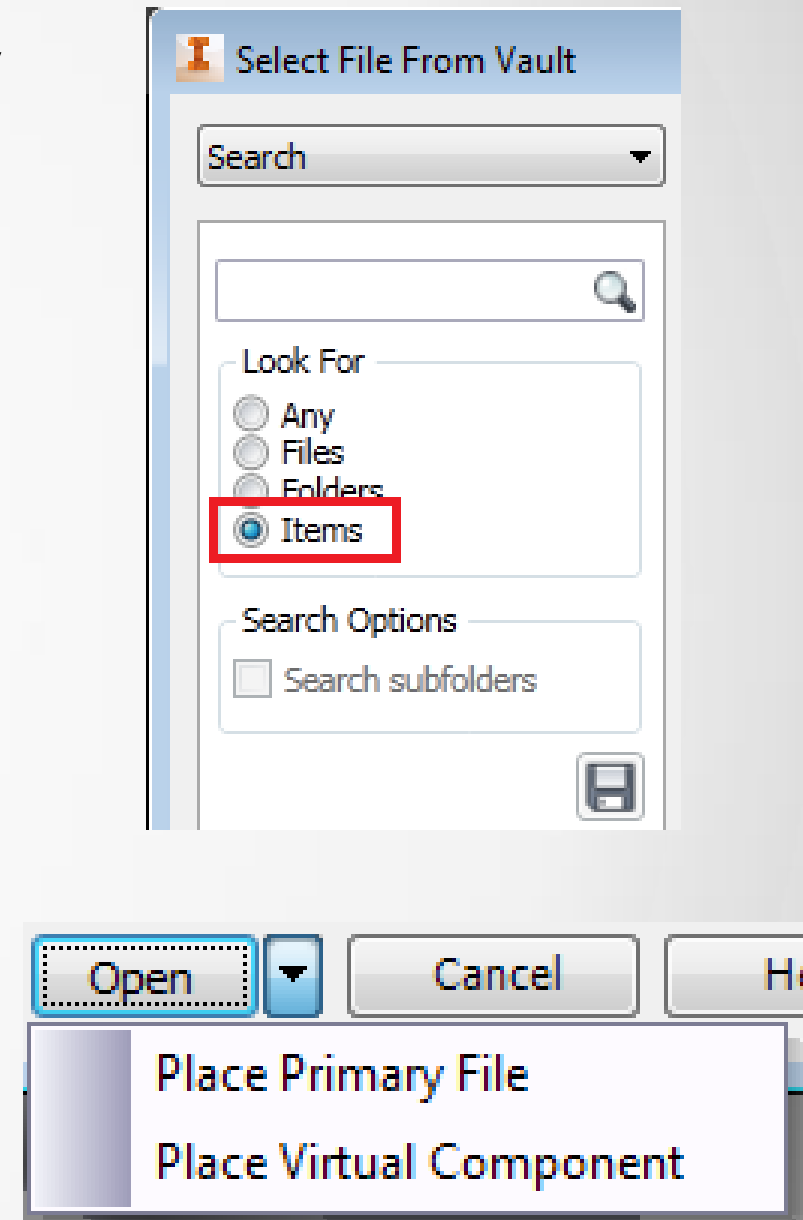
- Only IDW/DWG file is downloaded
- Available via Open from Vault dialog
  - Options... button
  - Only when IDW/DWG file selected



# Vault 2015 Inventor Vault Add-In Enhancements

## Place Item from Vault

- Search Items in 'Select File From Vault'
- Place will:
  - Use Primary File
  - Create Virtual Component
    - Auto-fill properties
      - Title
      - Description
      - Part Number



**Demo**

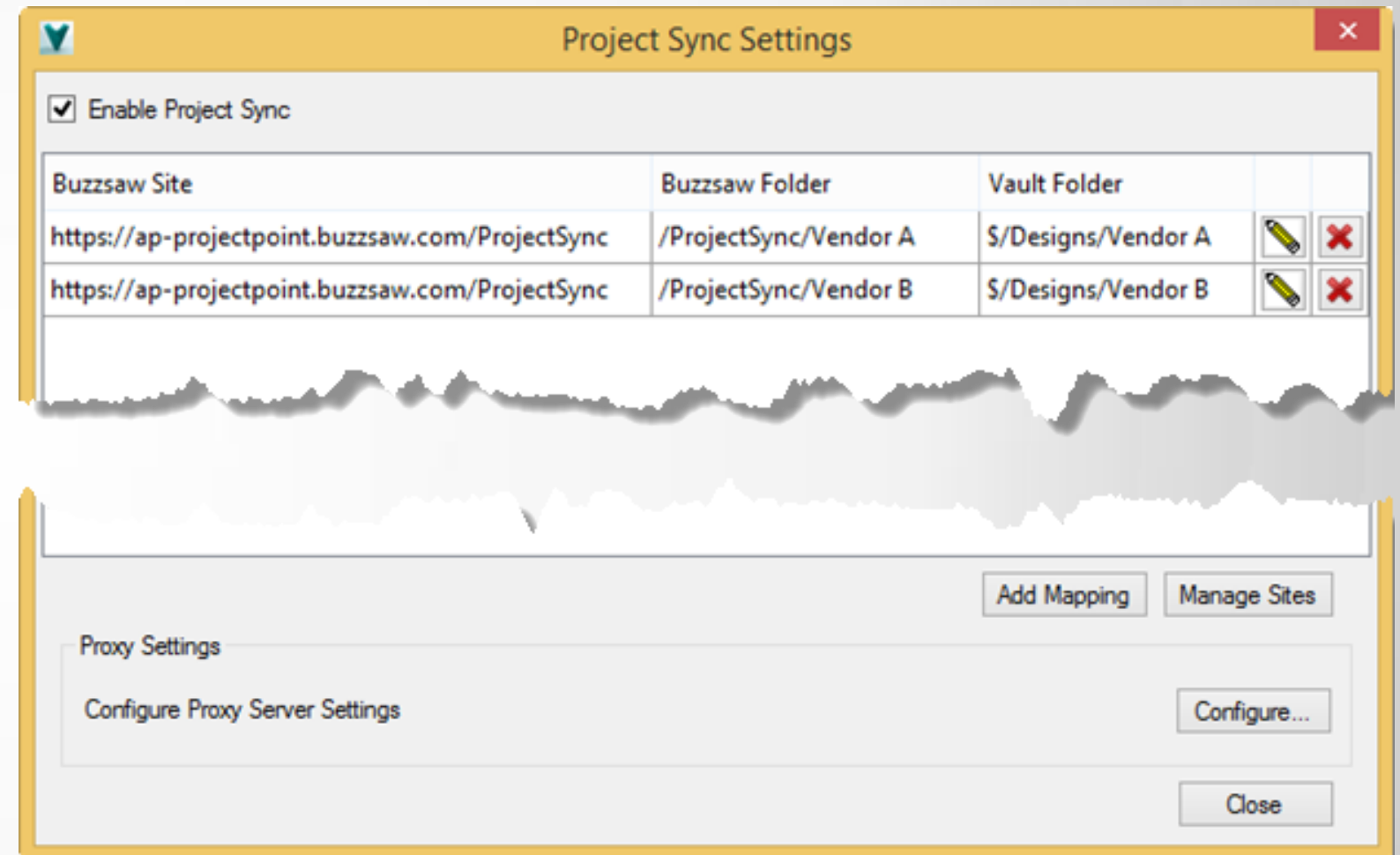
# **Vault 2015**

## **Other Vault Enhancements**

# Vault 2015 General Vault Enhancements

## Project Sync Updates

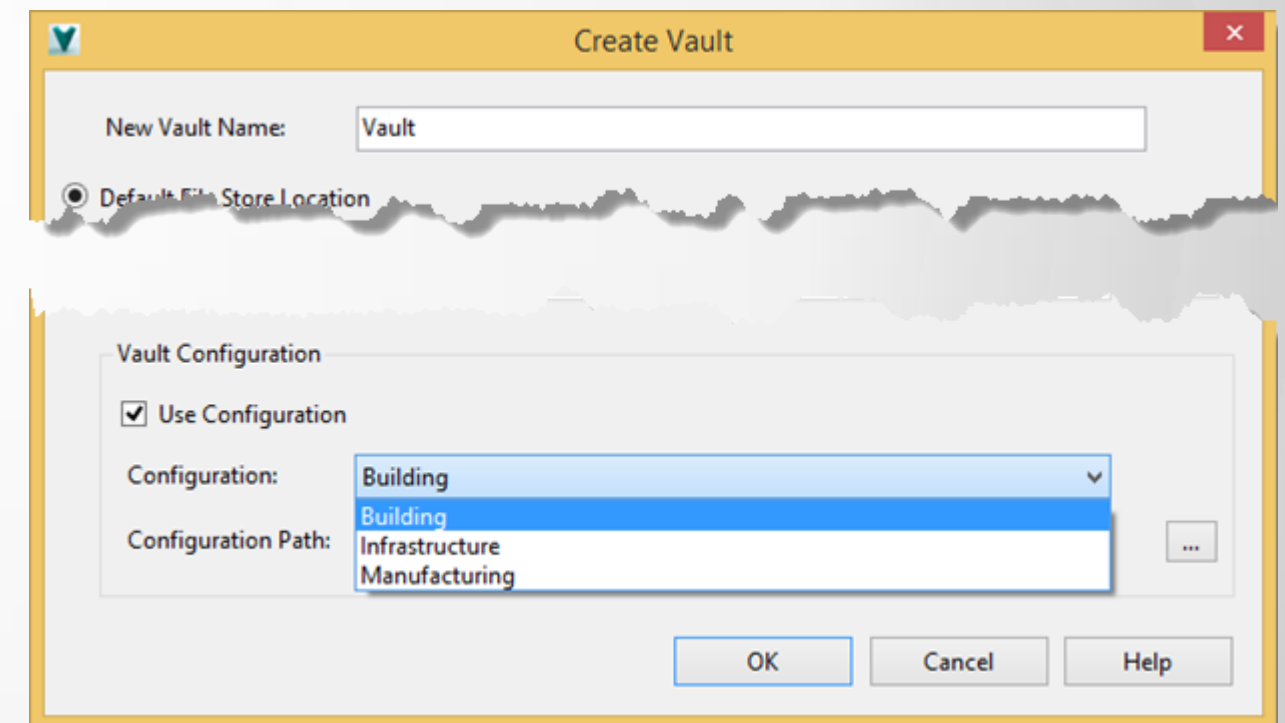
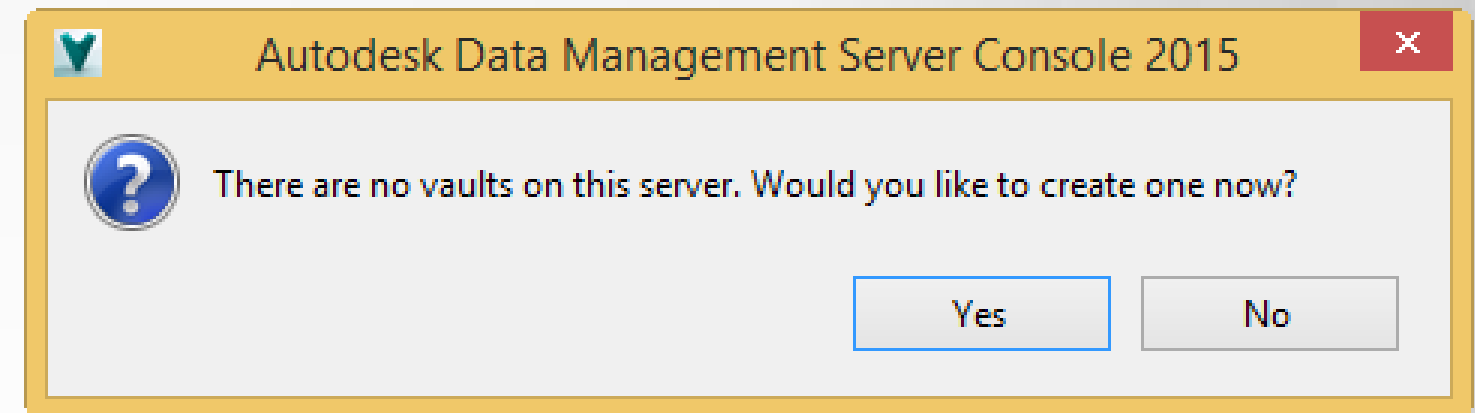
- Map multiple Buzzsaw folders to a Vault
- Map each Buzzsaw folder to a different Vault Folder



# Vault 2015 General Vault Enhancements

## ADMS Console Updates

- No default 'Vault' database created
- Prompt to create first Vault
- Default configurations
  - Building
  - Infrastructure
  - Manufacturing



# Vault 2015 General Vault Enhancements

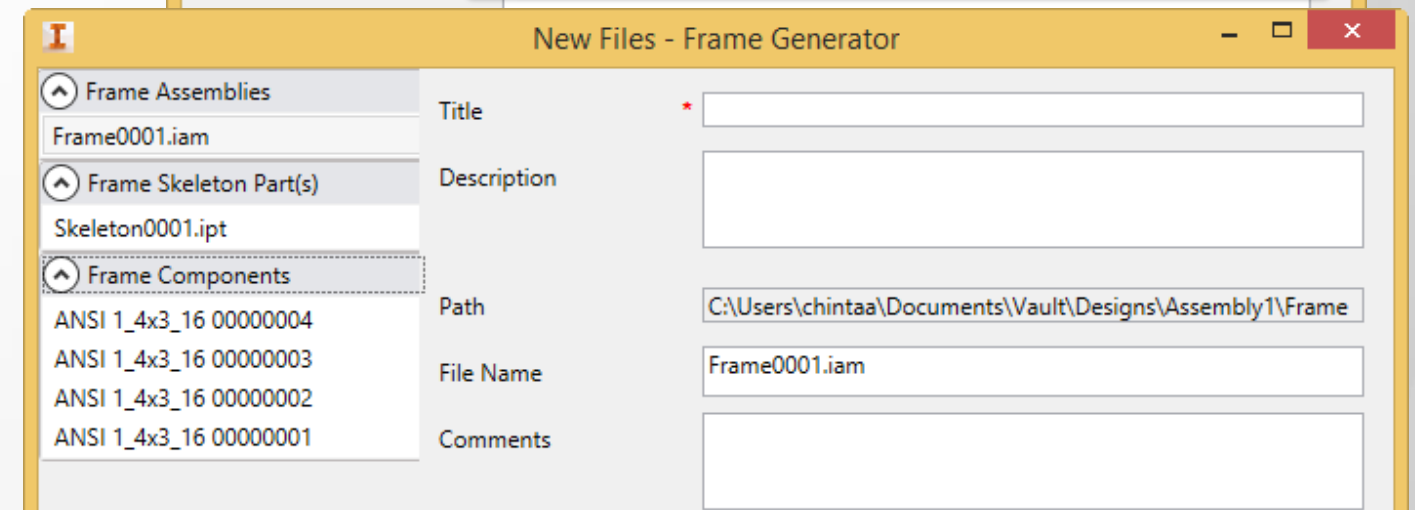
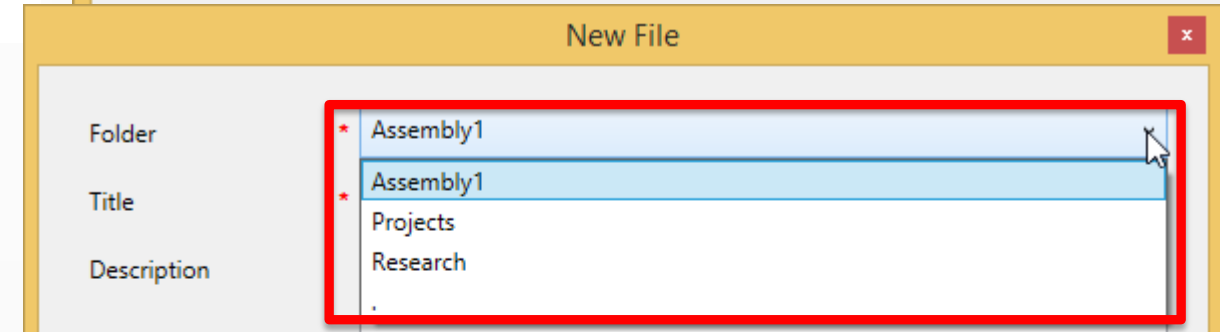
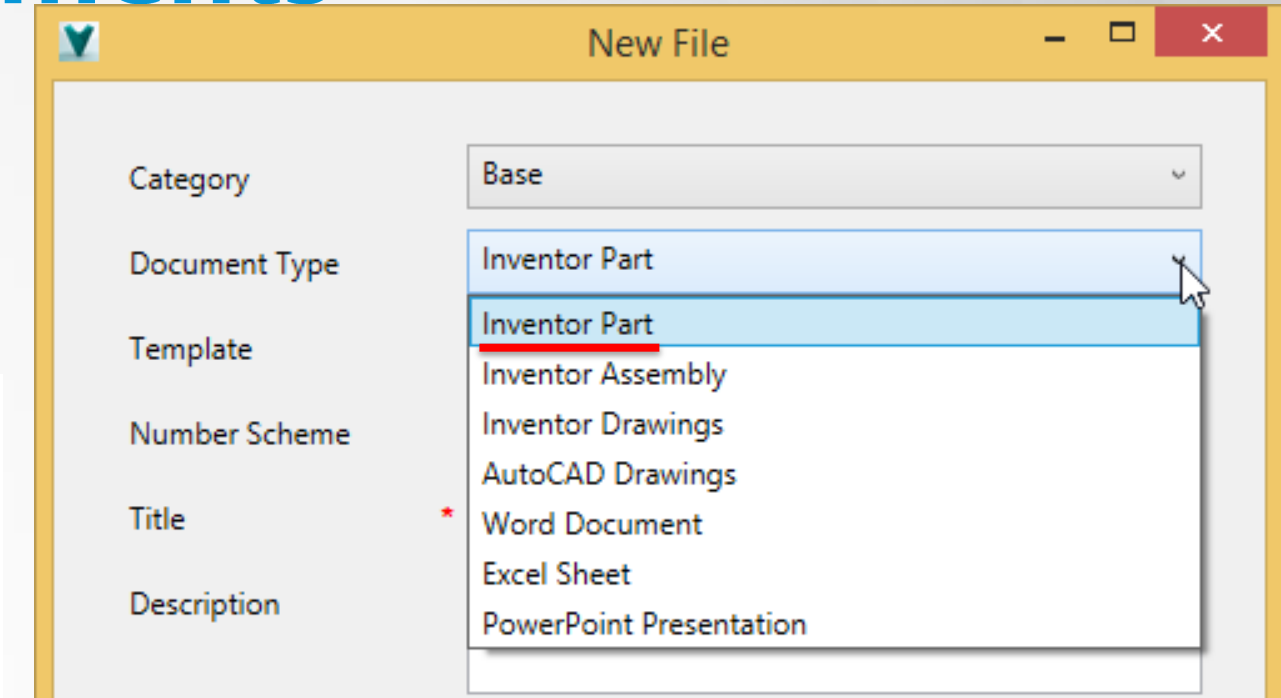
## Data Standard Enhancements

- File.xml customization

```
<XmlDataProvider x:Key="DocTypes"
    XPath="/DocTypeData">
  <x:XData>
    <DocTypeData xmlns="">
      <DocTypeInfo>
        <DocName>Inventor Part</DocName>
        <Path>$/Templates/Inventor/IPT</Path>
      </DocTypeInfo>
    </DocTypeData>
  </x:XData>
</XmlDataProvider>
```

- Sub-folder selection in Inventor

- Properties for multiple files





# Vault 2015 R2

# Vault 2015 R2

- Item Lifecycle Rationalization
- Item/BOM Enhancements
- Thin Client Enhancements
- Vault Office Thick Client
- Copy Design
- Data Standard Enhancements

# **Vault 2015 R2**

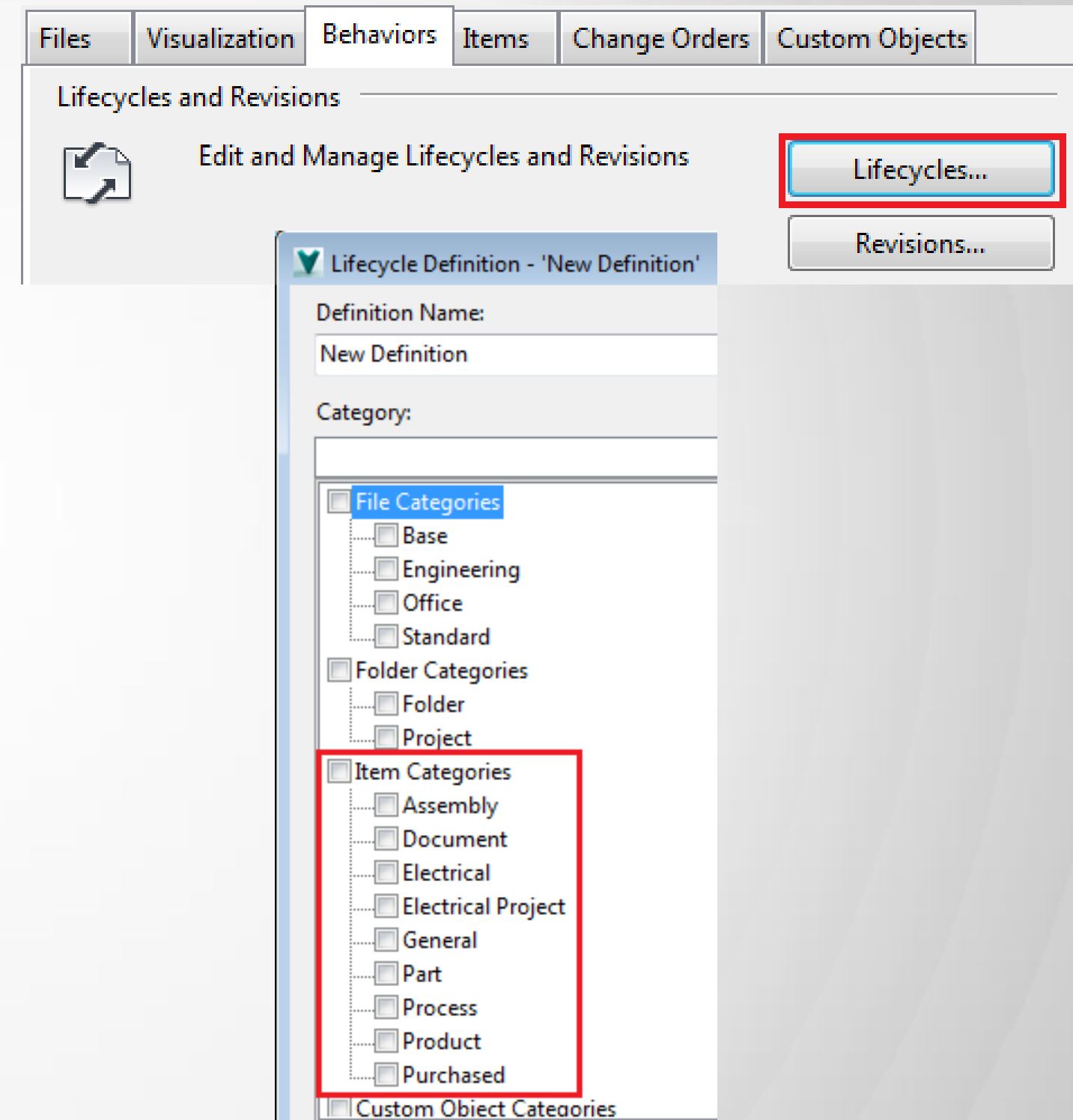
## **Item Lifecycle Rationalization**

# Related Class

- PL5397 - I Want to Ride My Lifecycle
  - Taught by Ralf Walter and Alan Bathgate
  - Tuesday, Dec 2, 1:30 PM - 2:30 PM

# Vault 2015 R2 Item Lifecycle Rationalization

- Items now use Vault's configurable lifecycle engine
- Customize Item behavior
- Share lifecycle definitions with:
  - Files
  - Folders
  - Custom Objects
- Administration now in Behaviors/Lifecycles...



# Vault 2015 R2 Item Lifecycle Rationalization

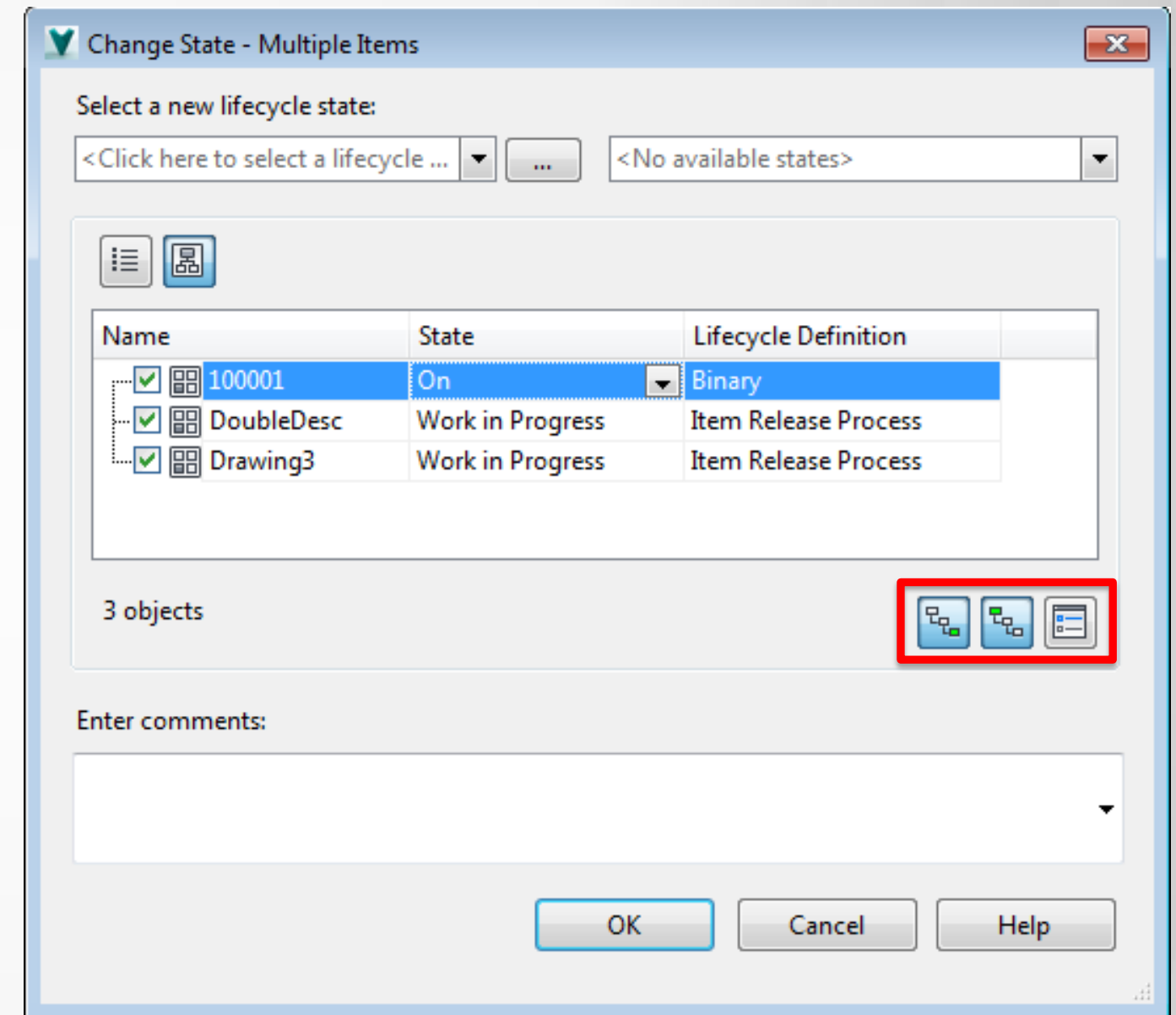
## Administration Configuration

- Configurable number/names of states
- Requirements enforcing:
  - Property value
  - Child Item state requirements
  - File link states per link type
  - Permissions on state transition
  - Security on a per-state basis.
- 'Obsolete', 'Released' states

# Vault 2015 R2 Item Lifecycle Rationalization

## Change [Category, State, Revision] Workflow Unification for Items

- Same GUI as Files, Folders, and Custom Objects
- Uses relationship gathering options
  - Instead of 'Apply to Children' option



Demo

# **Vault 2015 R2**

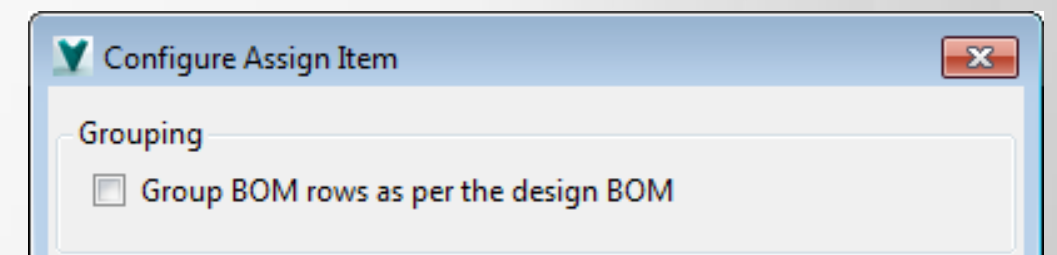
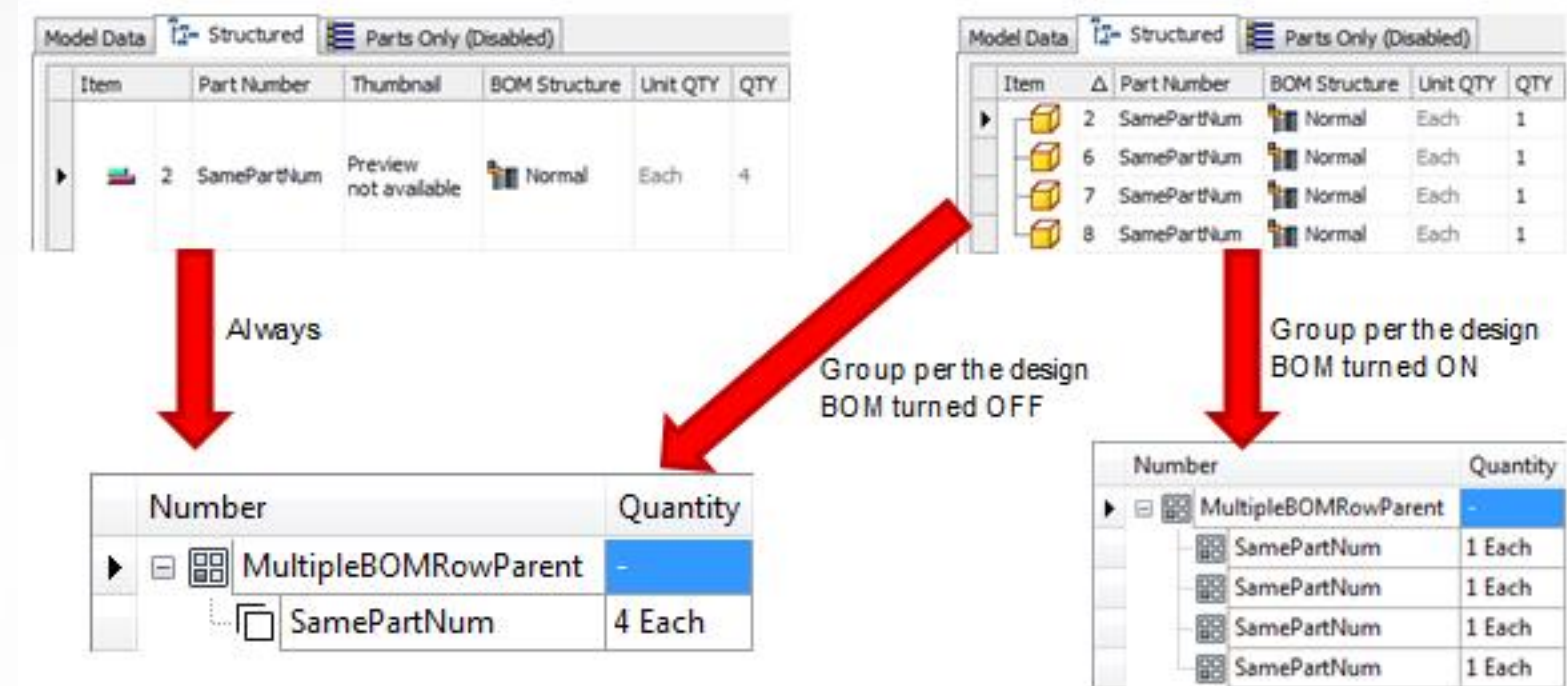
## **Item/BOM Enhancements**



# Vault 2015 R2 Item/BOM Enhancements

## Grouped Rows & Multiple BOM Rows

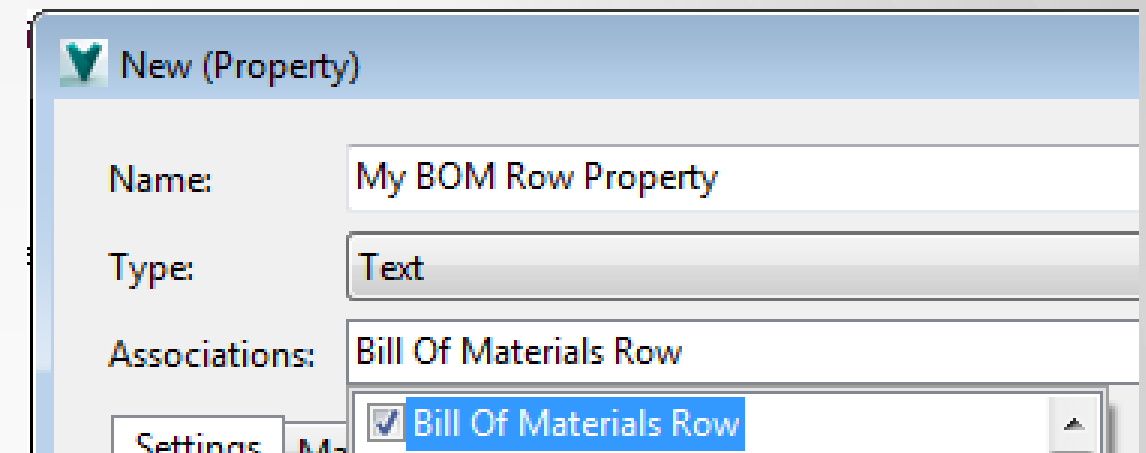
- More accurate representation of CAD BOM
- Administrator control over legacy (Grouping) behavior
- Multiple rows with same Item under same parent
- Each row can:
  - Have different amounts/units
  - Have different BOM row properties



# Vault 2015 R2 Item/BOM Enhancements

## BOM Row Properties

- Each parent's reference to an Item within a BOM to have its own properties
- Admin configurable user-defined properties
- Limited property behaviors
  - Initial value
  - Suggested value list
  - Read-mapping (value from file)



New (Property)

Name: My BOM Row Property

Type: Text

Associations: Bill Of Materials Row

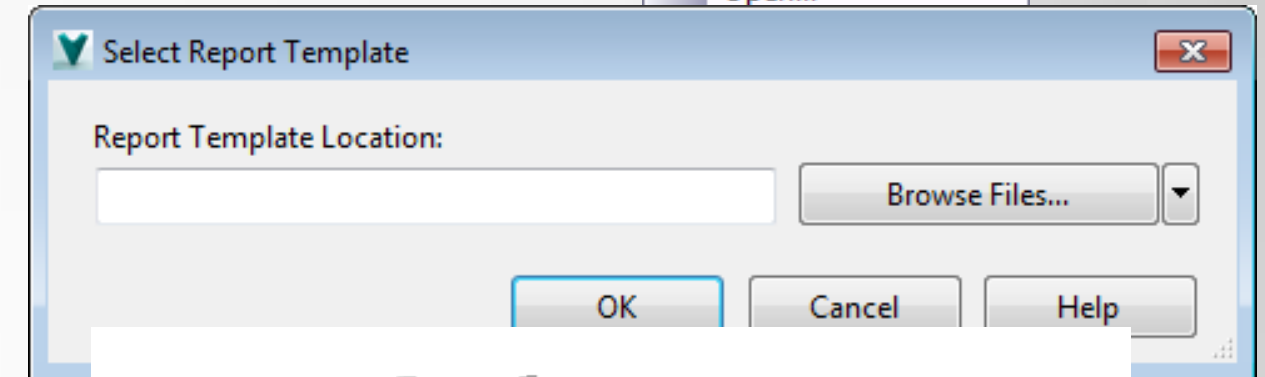
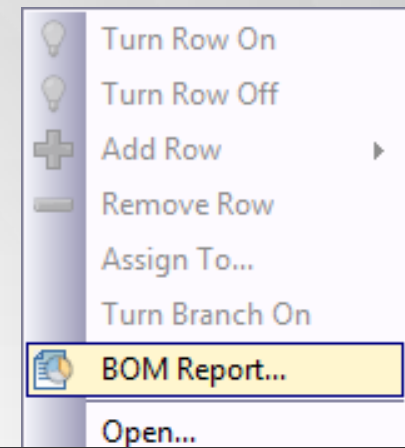
Settings Bill Of Materials Row

| Number        | My BOM Row Property |
|---------------|---------------------|
| [-] Assembly1 | -                   |
| Part3         | my val 1            |
| Part1         | my val 2            |
| Part2         | my val 3            |

# Vault 2015 R2 Item/BOM Enhancements

## BOM Reports

- Command in read-only BOM view
- Supports BOM Row properties
- Select report from Vault or disk
- 3 Templates supplied:
  - Multi-level
  - First-level
  - Parts-only
- Report Template Authoring utility support



### Autodesk® Bill of Materials Report - Multi-Level

Item Number : Pad Lock  
Title : Pad Lock  
Category :  
State : Released  
Revision : A

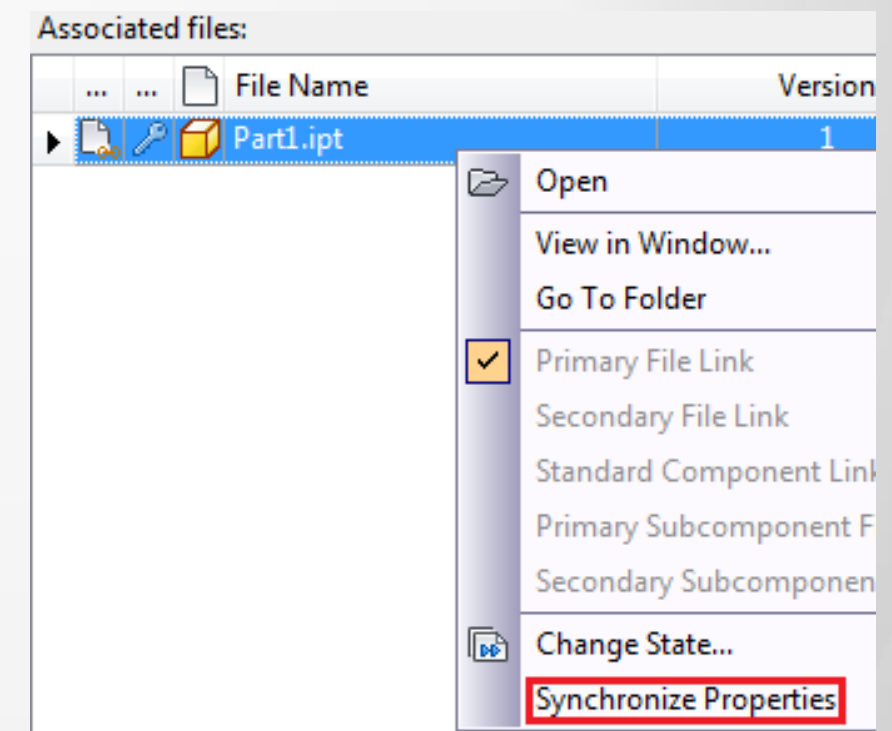
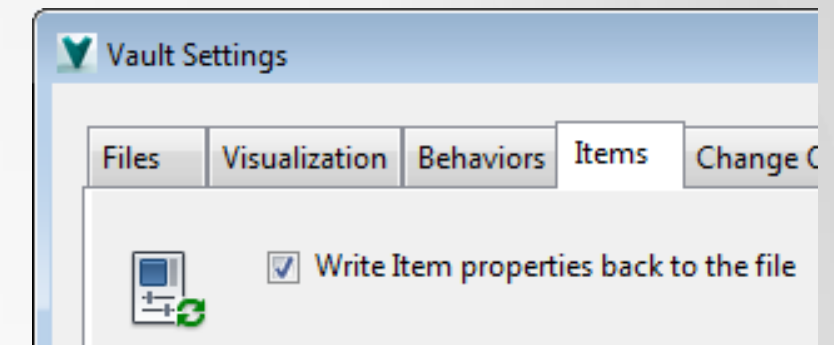
| Row Order | Number             | Position Number | Quantity | Title              | Revision | State    | Latest Obsolete | On/Off |
|-----------|--------------------|-----------------|----------|--------------------|----------|----------|-----------------|--------|
| -         | Pad Lock           | -               | -        | Pad Lock           | A        | Released | False           | True   |
| 1         | Combo Assembly     | 1               | 1        | Combo Assembly     | A        | Released | False           | True   |
| 1.1       | Combo Spring       | 1               | 1        | Combo Spring       | A        | Released | False           | True   |
| 1.2       | Combo Stand-Off    | 2               | 1        | Combo Stand-Off    | A        | Released | False           | True   |
| 1.3       | Combo Spacer       | 3               | 1        | Combo Spacer       | A        | Released | False           | True   |
| 1.4       | Combo Spacer Notch | 4               | 2        | Combo Spacer Notch | A        | Released | False           | True   |
| 1.5       | Combo Plate Lower  | 5               | 1        | Combo Plate Lower  | A        | Released | False           | True   |
| 1.6       | Combo Plate Upper  | 6               | 1        | Combo Plate Upper  | A        | Released | False           | True   |
| 1.7       | Dial Plate         | 7               | 1        | Dial Plate         | A        | Released | False           | True   |
| 2         | Catch Post         | 2               | 1        | Catch Post         | A        | Released | False           | True   |
| 3         | Lock Shackle       | 3               | 1        | Lock Shackle       | A        | Released | False           | True   |
| 4         | Case Inner         | 4               | 1        | Case Inner         | A        | Released | False           | True   |
| 5         | Case Outer         | 5               | 1        | Case Outer         | A        | Released | False           | True   |
| 6         | Case Back          | 6               | 1        | Case Back          | A        | Released | False           | True   |
| 7         | Dial               | 6               | 1        | Dial               | A        | Released | False           | True   |
| 8         | Catch Assembly     | 8               | 1        | Catch Assembly     | A        | Released | False           | True   |



# Vault 2015 R2 Item/BOM Enhancements

## Item Property Writeback within the Vault Explorer Client

- Write Item properties to single:
  - Primary association
  - Secondary association
  - Tertiary association
- Admin control affects all clients
- Enhanced result reporting
- Synchronize Properties command available on Associated files grid
- Job Processor



# Vault 2015 R2 Item/BOM Enhancements

## Item Iterations

- See historic 'Work In Progress' item versions
- When 'Off'
  - Tip 'Consumable' version
    - Released, Obsolete
  - Or Tip version if no 'Consumable'

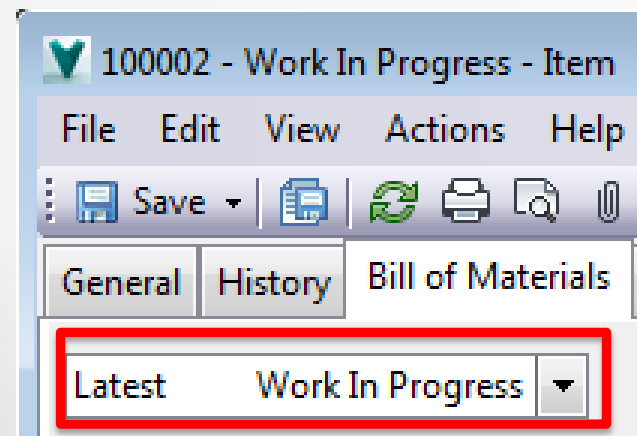
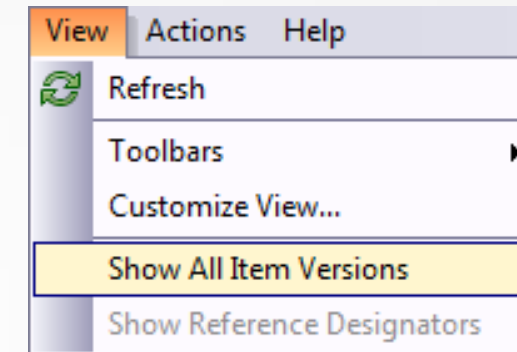
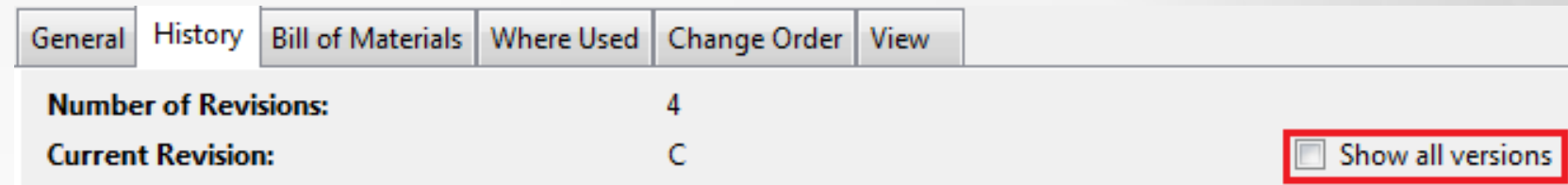
| Latest   | Work in Progress | Today   |
|----------|------------------|---------|
| Revision | Lifecycle State  | Version |
| ▶ Latest | Work in Progr... | 12      |
| C        | Work in Progr... | 12      |
| B.1      | Released         | 10      |
| B        | Work in Progr... | 5       |
| A        | Released         | 3       |

| Latest   | Work in Progress | Today   |
|----------|------------------|---------|
| Revision | Lifecycle State  | Version |
| ▶ Latest | Work in Progr... | 12      |
| C        | Work in Progr... | 12      |
| C        | Work in Progr... | 11      |
| B.1      | Released         | 10      |
| B.1      | Quick-Change     | 9       |
| B.1      | Quick-Change     | 8       |
| B.1      | Released         | 7       |
| B.1      | Work in Progr... | 6       |
| B        | Work in Progr... | 5       |
| B        | Work in Progr... | 4       |
| A        | Released         | 3       |
| A        | Work in Progr... | 2       |
| A        | Work in Progr... | 1       |

# Vault 2015 R2 Item/BOM Enhancements

## Item Iterations

- New 'sticky' option
- Affects:
  - 'History' tab
  - 'General' tab version selection
  - 'BOM' tab version selection
  - 'Where Used' tab version selection
  - 'Attachments' window version selection



Demo

## Related Class

- PL6547 - All You Want to Know About Items in Vault Professional
  - Taught by William Schwerin and Anil Chintamaneni
  - Thursday, Dec 4, 10:00 AM - 11:30 AM



# **Vault 2015 R2**

## **Thin Client Enhancements**



# Vault 2015 R2 Thin Client Enhancements

## Show All Versions for Item History

- See historic 'Work In Progress' item versions
- Default is Administrator controlled
- Local override

**File and Item Display Settings**

Filters to limit the types of data that are displayed

**Items**

☒ Released items


**History**

☒ Latest version

**Bill of Materials**

☒ ON rows ☐ OFF rows ☐ Both rows

Sort By Revision



Toggle all versions

# Vault 2015 R2 Thin Client Enhancements

## On/Off Row Filtering for BOM views

- Admin control over default
- Local user override
  - Sticky for session
  - Control over:
    - ON Rows
    - OFF Rows
    - Non-released Items

**File and Item Display Settings**

Filters to limit the types of data that are displayed

**Items**

☒ Released items

**History**

☒ Latest version

**Bill of Materials**

☒ ON rows ☐ OFF rows ☐ Both rows

Sort By Number

**Show the following**

ON Rows ☒

OFF Rows ☒

Non-released Items ☒

Apply

# Vault 2015 R2 Thin Client Enhancements

## BOM Row Properties

- Show in 'Configure Properties' dialog
- Can be:
  - Added
  - Removed
  - Re-ordered
  - Sorted

Select Properties

| Available Properties       | Selected Properties |
|----------------------------|---------------------|
| Message                    | Number              |
| Mfg Approved By            | Position Number     |
| My BOM Bool Property       | Revision            |
| My BOM Date Property       | Title (Item,CO)     |
| My BOM Num Property        | Quantity            |
| My BOM Row Property        |                     |
| Name                       |                     |
| Number of Attachments      |                     |
| Number of File Attachments |                     |

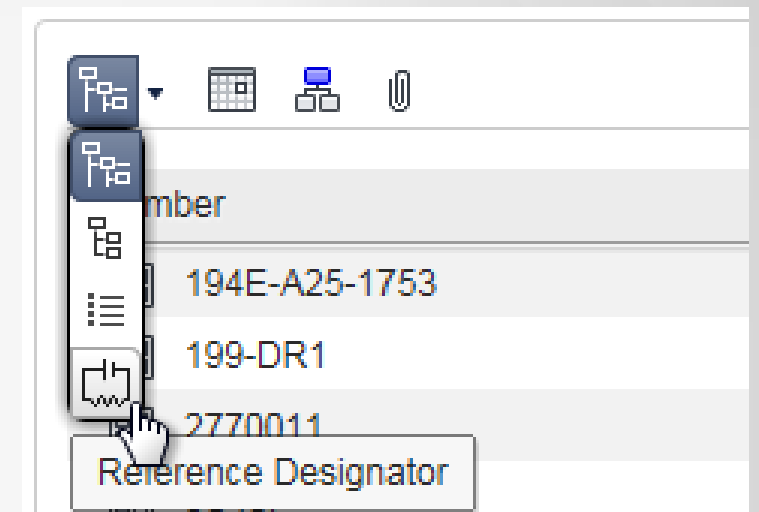
Add ->

| Number ▲  | My BOM Bool Property | My BOM Date Property | My BOM Num Property | My BOM Row Property |
|-----------|----------------------|----------------------|---------------------|---------------------|
| ● ☐ Part1 | True                 |                      | 1                   | my val 2            |
| ☐ 100002  |                      | 1/1/2014             | 2                   |                     |
| ☐ 100003  | False                |                      | 3                   | my val 4            |
| ☐ Part2   | True                 | 12/4/2014            |                     | my val 3            |
| ☐ Part3   |                      |                      | 4                   | my val 1            |

# Vault 2015 R2 Thin Client Enhancements

## Reference Designator View

- View for ACAD Electrical
- Different default properties:
  - Tag
  - Location
  - Installation



Demo

# **Vault 2015 R2**

## **Vault Office Thick Client**

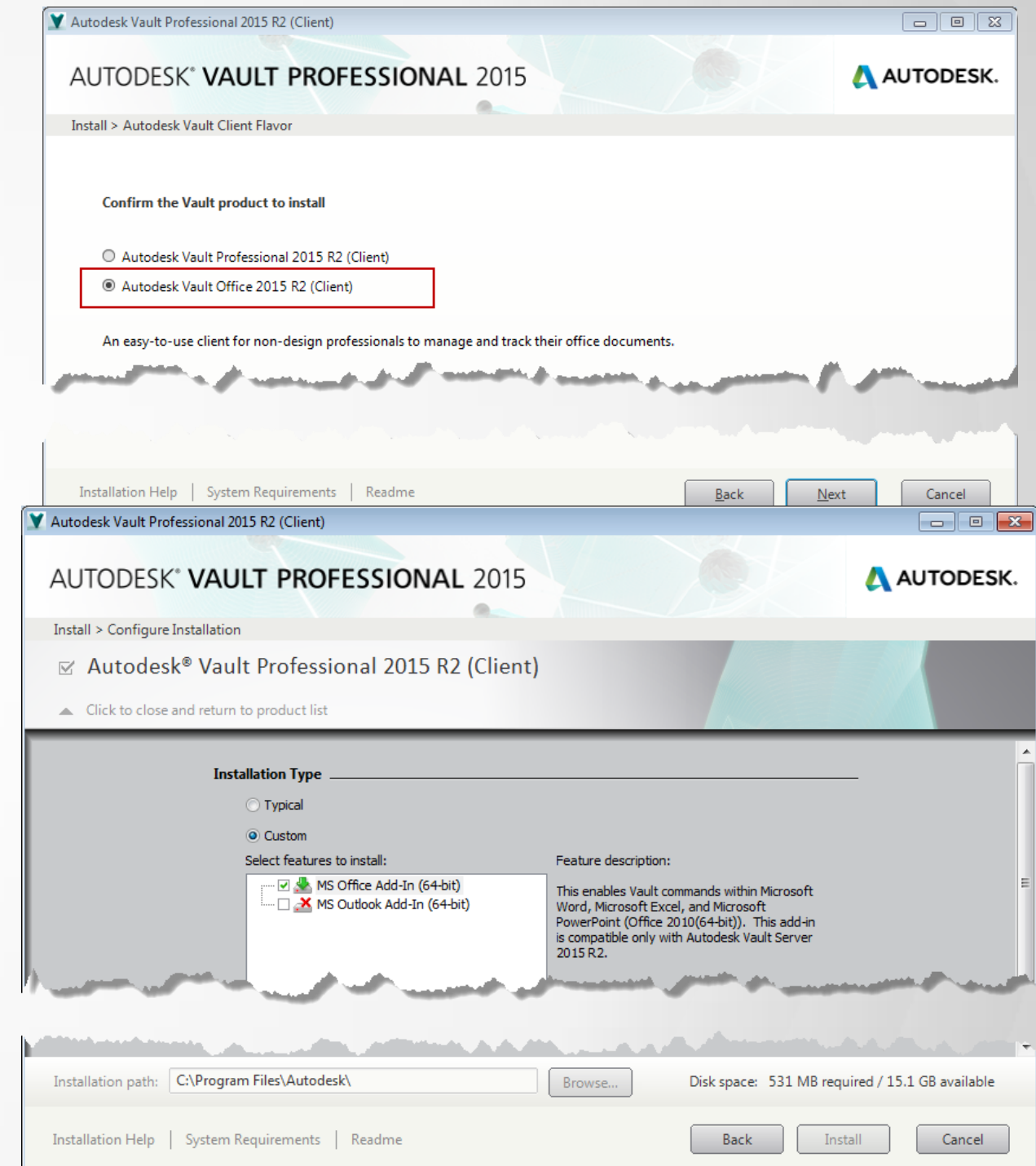
## Related Class

- PL6282 - Vault Office: Manage Your TPS Reports
  - Taught by John Krause
  - Thursday, Dec 4, 1:00 PM - 2:00 PM

# Vault 2015 R2

## Vault Office Thick Client

- Vault for the non-CAD user
  - Different license type
- New installer options
  - Vault Office 2015 R2 client
- Old installer options
  - MS Office Add-In
  - MS Outlook Add-In



# Vault 2015 R2

## Vault Office Thick Client Commands



















- New Checkout command
- Disabled commands
  - Create Item
  - Assign/Update Item
  - Edit Item
  - Change Item Number
  - Update View
  - Job Queue...
  - Administration
  - Options...



# Vault 2015 R2

## Vault Office Thick Client Commands

- Commands disabled for CAD files
  - Get...
  - Checkout/Checkin/Undo Checkout
  - Change [Category, Revision]
  - Add/Edit/Sync Properties
  - Delete and Purge
  - Move, Rename and Replace
  - Copy Design

|   |   |
|---|---|
|  Open                    |  Open                    |
| View in Window...   | View in Window...   |
|  Assign / Update Item... |  Assign / Update Item... |
| Go To Item  | Go To Item  |
| Open Item...  | Open Item...  |
|  Check In...             |  Check In...             |
|  Get...                  |  Get...                  |
|  Checkout                |  Checkout                |
|  Undo Check Out...       |  Undo Check Out...       |
|  Change State...        |  Change State...        |
|  Copy Design...        |  Copy Design...        |
| Create Shortcut   | Create Shortcut   |
|  Delete                |  Delete                |
| Purge...  | Purge...  |
| Rename...   | Rename...   |
| Add To Change Order ▶   | Add To Change Order ▶   |
| Go to Working Folder  | Go to Working Folder  |
| Go To Folder  | Go To Folder  |
| Details...  | Details...  |

# **Vault 2015 R2**

## **Copy Design**

## Related Class

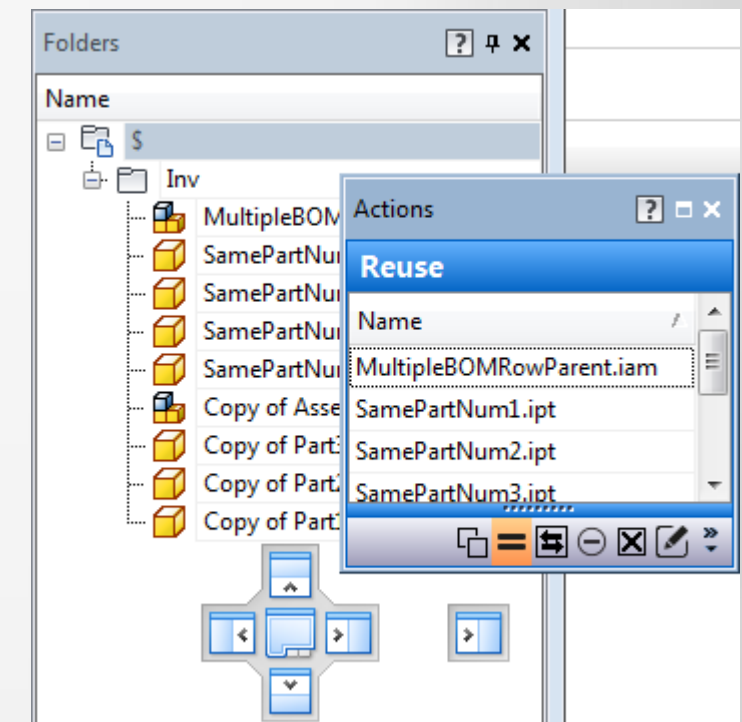
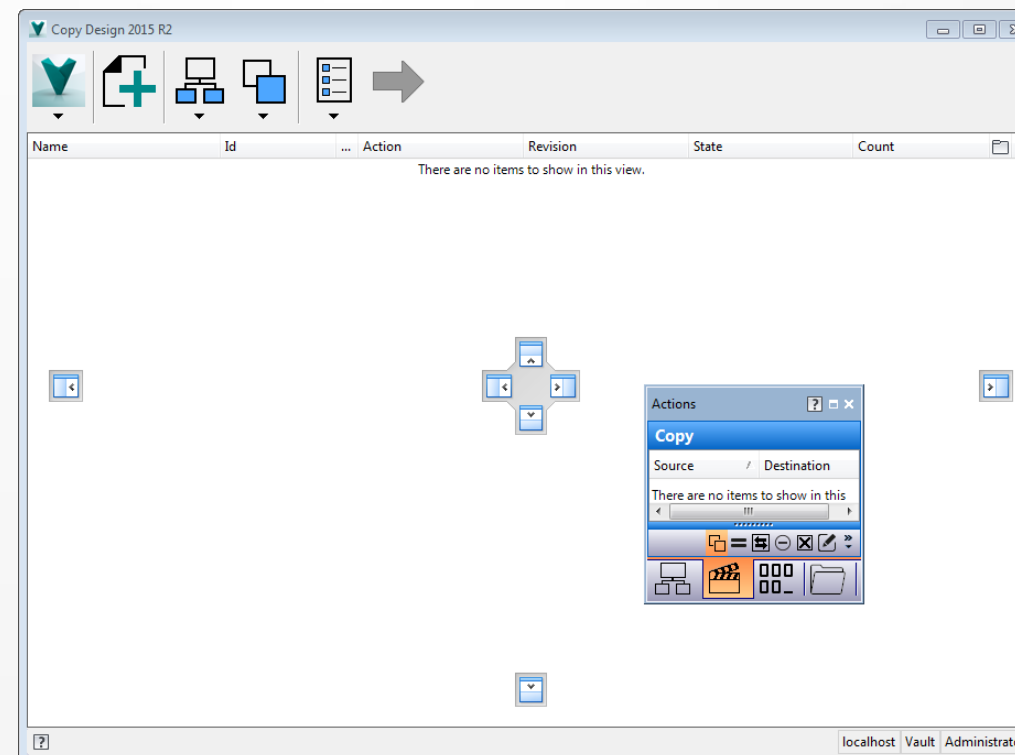
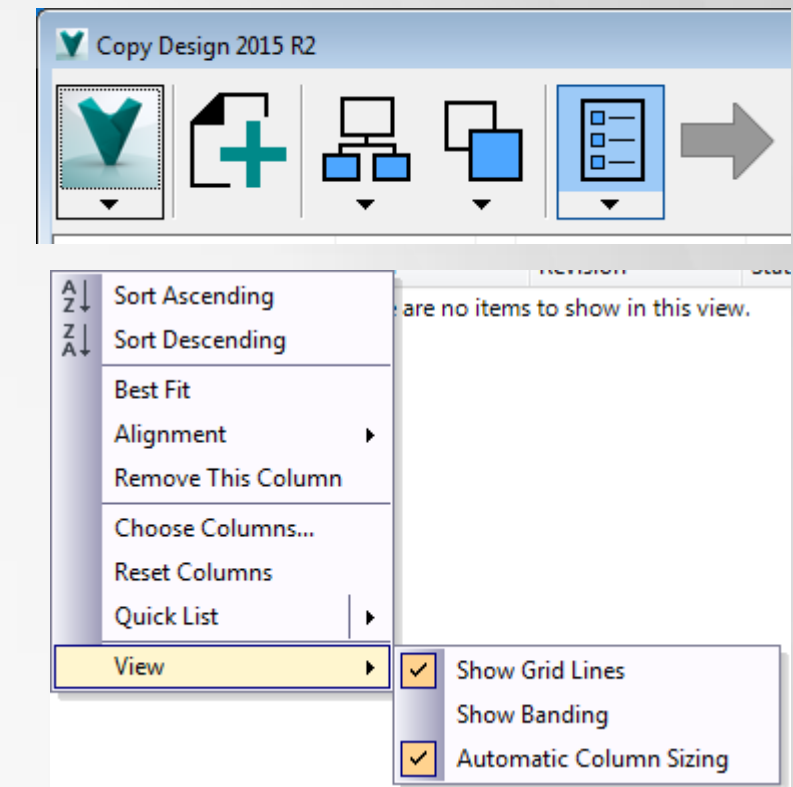
- PL5873-P - How to Get Away with Copying All of Your Work
  - Taught by Allan O'Leary and Adam Luttenbacher
  - Wednesday, Dec 3, 1:00 PM - 2:00 PM

# Vault 2015 R2 Copy Design

- Re-written from ground up
- Stand-alone application
- Performance and memory usage optimized
  - Server-side copy
- Number Scheme integration
- New workflows and interactions
  - Multiple root nodes
  - Instance based actions

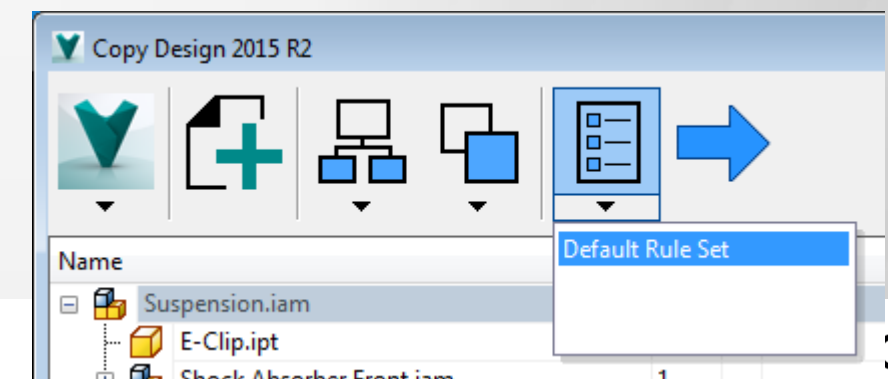
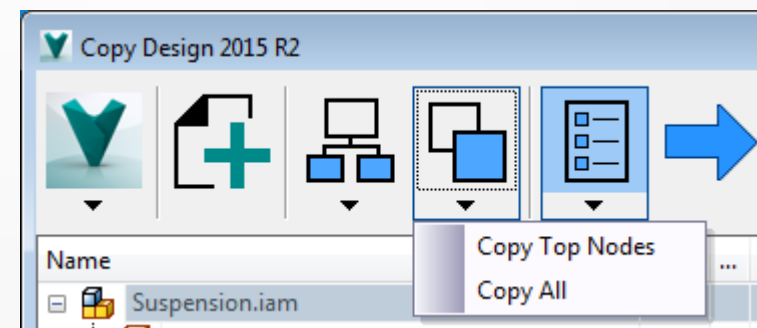
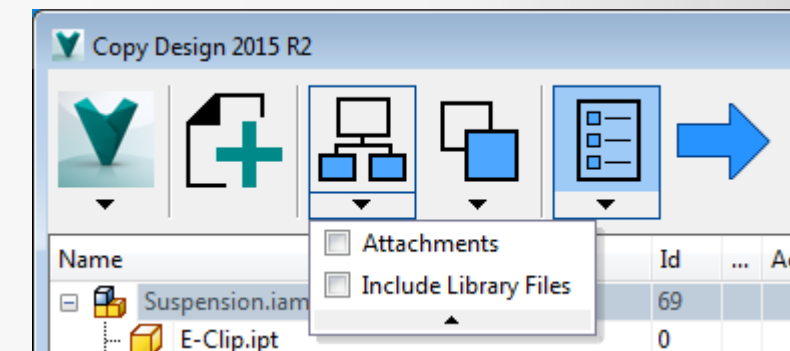
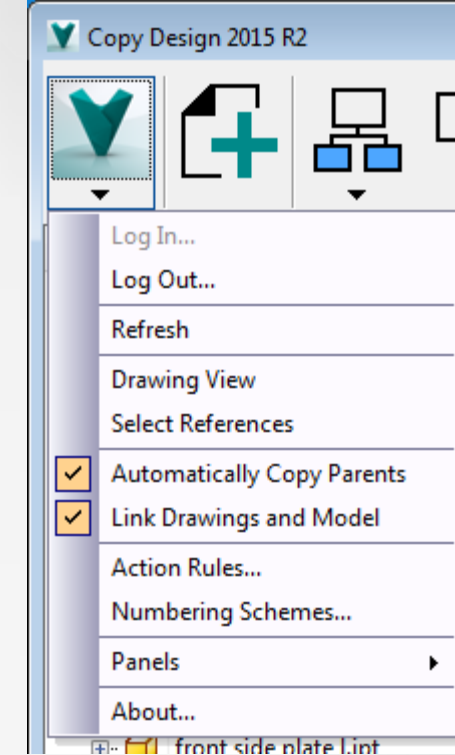
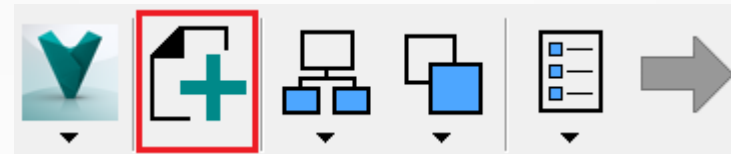
# Vault 2015 R2 Copy Design Main Interface

- Stand-alone application
- Ribbon-based toolbar
- Customizable grids
- Dockable panels



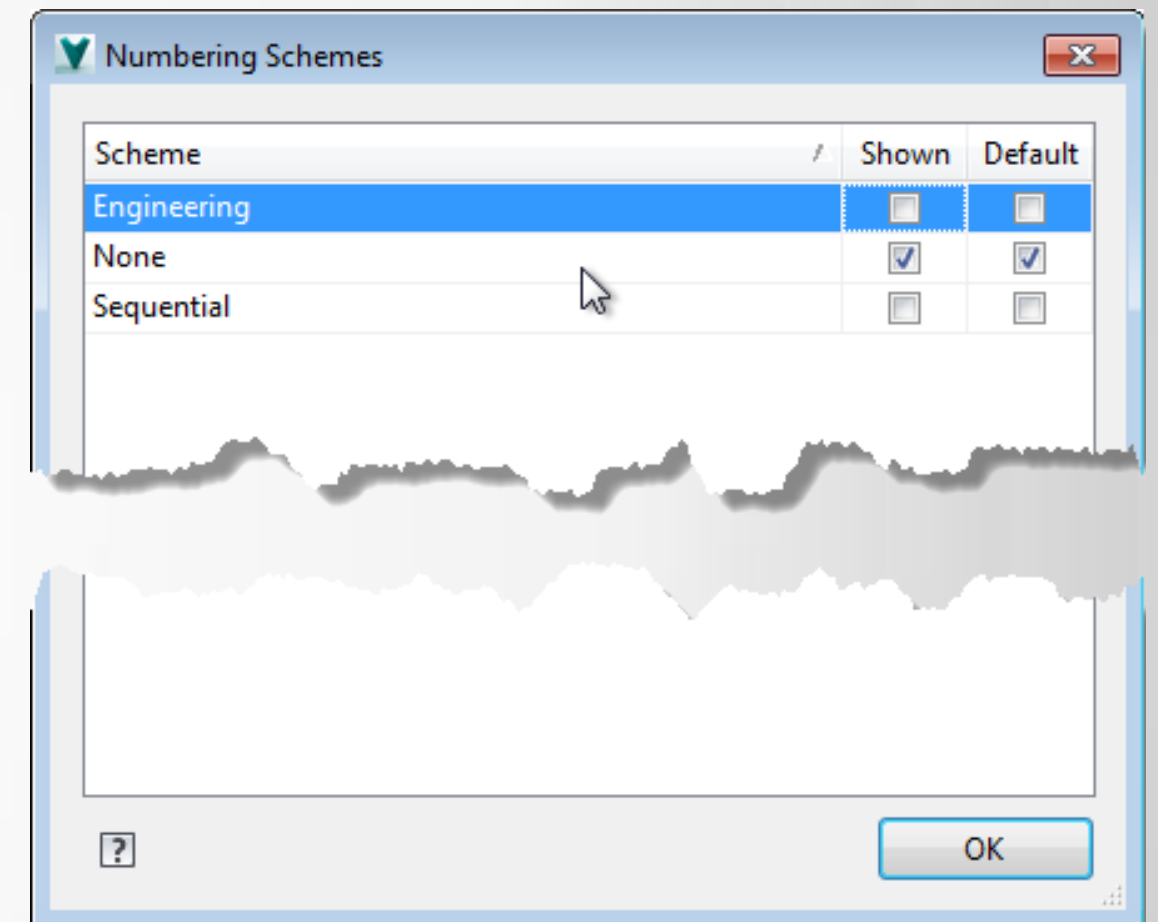
# Vault 2015 R2 Copy Design Ribbon-Based Toolbar

- Main action menu button
- 'Add objects' button
- 'Include Children' button
- 'Copy Settings' button
- 'Rule Sets' button



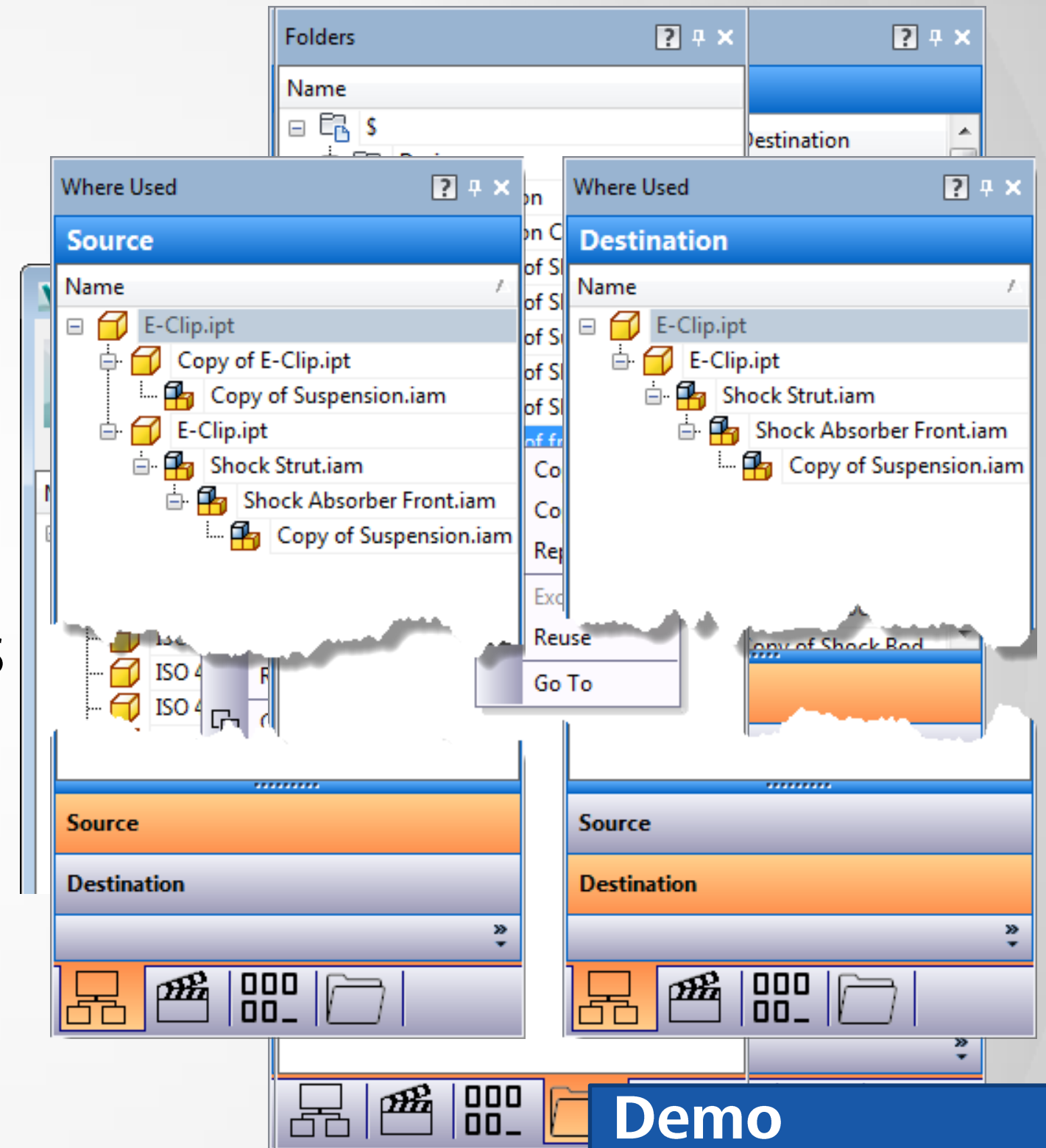
# Vault 2015 R2 Copy Design Numbering Schemes

- Interacts with existing number schemes
- Set availability for 'Numbering' panel
- Set default



# Vault 2015 R2 Copy Design Panels

- Actions Panel
  - View and set actions for instances
- Numbering Panel
  - Set names of copied files
  - Integrated with numbering schemes
- Folders Panel
  - Vault folder structure view
- Where Used Panel
  - Shows design view for original and copied design





## Related Class

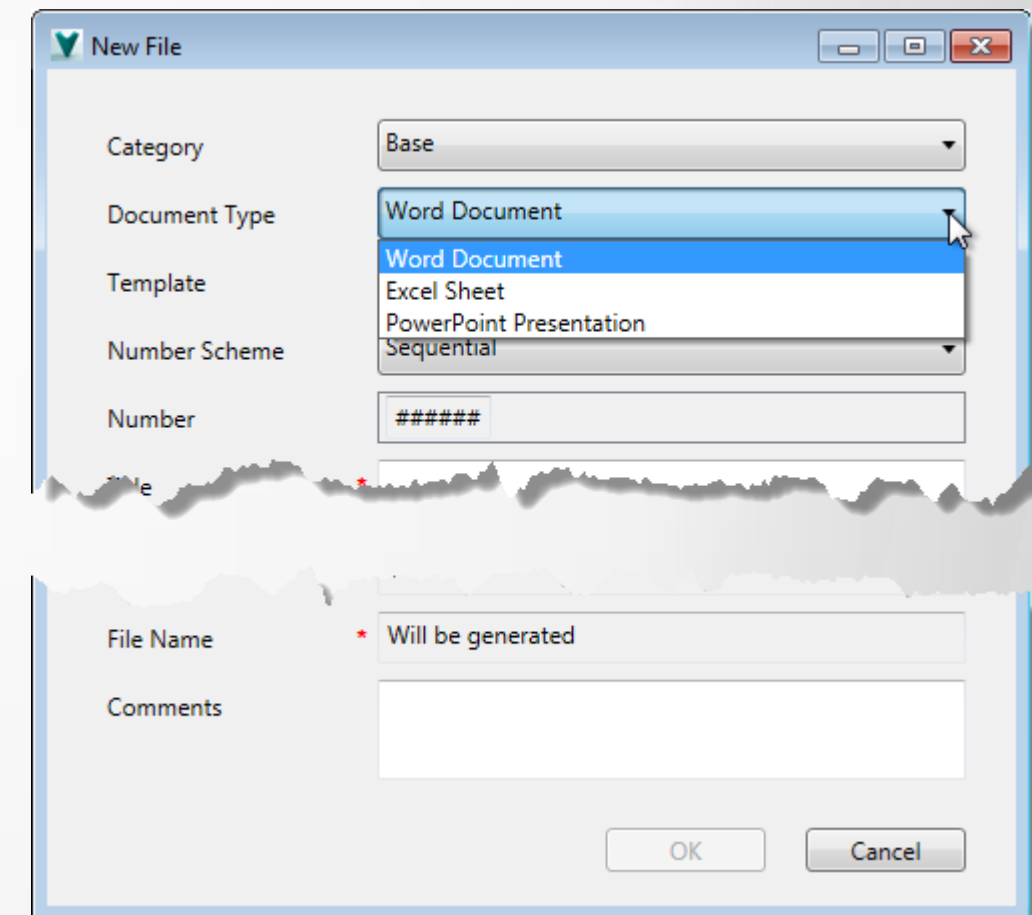
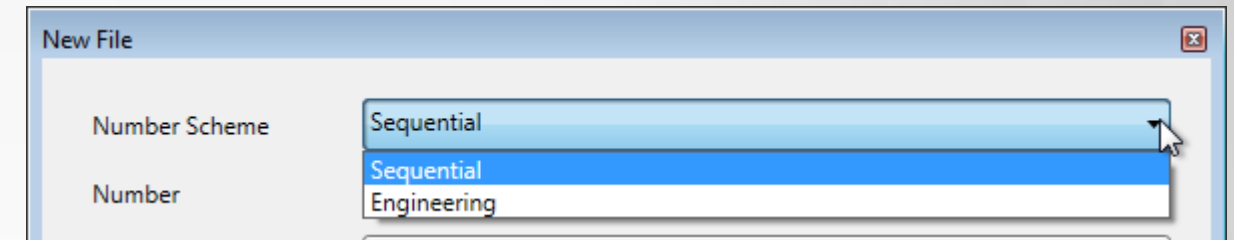
- PL5873-P - How to Get Away with Copying All of Your Work
  - Taught by Allan O'Leary and Adam Luttenbacher
  - Wednesday, Dec 3, 1:00 PM - 2:00 PM

# **Vault 2015 R2**

## **Data Standard Enhancements**

# Vault 2015 R2 Data Standard Enhancements

- New File dialog includes Numbering Schemes
  - Fields for input where user input needed
  - VE and Inventor add-in
- Vault Office New File dialog shows non-CAD doc types
  - Configurable via FileOffice.xaml



# Other Vault Classes

- PL6489 - Trees are Celebrating: Our Engineering Department is 99% Digital with Vault Pro
  - Tuesday, Dec 2, 1:30 PM - 2:30 PM
- PL6526 - Return of The Data Management Avengers
  - Wednesday, Dec 3, 8:00 AM - 9:30 AM
- PL5898 - Top 10 Workflows that Vault Makes Better for AutoCAD Users
  - Wednesday, Dec 3, 8:00 AM - 9:30 AM

# Other Vault Classes

- PL5077 - Looking into the Crystal Ball: The Future of PDM at Autodesk
  - Wednesday, Dec 3, 1:00 PM - 2:00 PM
- PL6164 - Analyze That: Vault Reporting and Monitoring
  - Wednesday, Dec 3, 1:00 PM - 2:00 PM
- PL5827 - Unlocking the Power of the Job Processor
  - Wednesday, Dec 3, 3:00 PM - 4:00 PM
- PL6015-P - Every Silver Lining Has a Vault in the Cloud
  - Wednesday, Dec 3, 3:00 PM - 4:00 PM

# Other Vault Classes

- PL5962-P - Hitchhiker's Guide to Property Management
  - Wednesday, Dec 3, 4:30 PM - 5:30 PM
- PL5315 - The Devil is In the Detail—PDM and PLM: Parker Hannifin Corporation's Journey
  - Wednesday, Dec 3, 4:30 PM - 5:30 PM
- PL7015-P - Vault Features You Aren't Using But Need To Be: The Sequel
  - Thursday, Dec 4, 8:00 AM - 9:30 AM

# Other Vault Classes

- PL6274-P - Data Standard introduction
  - Thursday, Dec 4, 10:00 AM - 11:30 AM
- PL5843-P - Vault GPS: Make All the Right Turns During Your Vault Upgrade
  - Thursday, Dec 4, 1:00 PM - 2:00 PM
- BM7938 - Enterprise, It's not just a Starship - Enterprise Data management... the new frontier
  - Thursday, Dec 4, 1:00 PM - 2:00 PM

# Other Vault Classes

- PL5839-P - Don't Flirt with Disaster: Create a Vault Recovery Plan
  - Thursday, Dec 4, 3:00 PM - 4:00 PM
- PL5314 - PDM 2014 @ Franke: Global replacement of a running data management system
  - Thursday, Dec 4, 3:00 PM - 4:00 PM



# Questions

# Summary

# Session Feedback

- Via the Survey Stations, email or mobile device
- AU 2014 passes given out each day!
- Best to do it right after the session
- Instructors see results in real-time











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