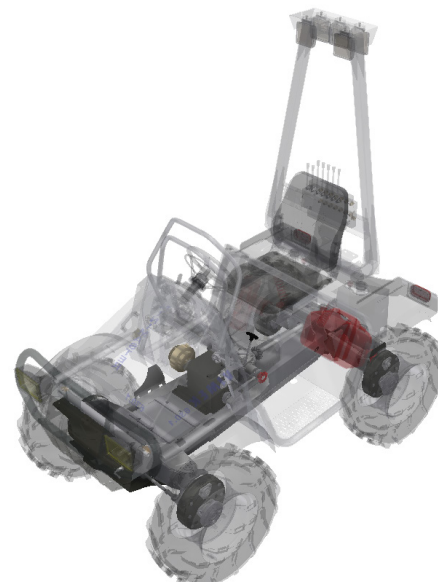# Autodesk® Vault 2016
What's new

CAD integrations

Autodesk Vault 2016 enhances integrations to a number of CAD applications to improve existing capabilities and address new CAD application functionality.

Part of the Autodesk® solution for Digital Prototyping, the Autodesk® Vault family of data management software helps you keep track of all your digital design data. The Vault 2016 release provides a number of key enhancements that simplify user workflows, provide new item and BOM functionality, enhance the non-designer experience, and improve productivity with an all new Copy Design interface.

> Inventor AnyCAD support

Autodesk Vault 2016 software provides basic file management for the new Autodesk® Inventor® AnyCAD capabilities.

When you add 3rd party CAD files to your Inventor documents, you can now check in, check out, and open from Vault with support for the reference files, allowing them to be stored alongside all your other Inventor design data.

> Inventor Drawing Underlay

In addition to third party reference support, Inventor 2016 also introduces support for Autodesk® AutoCAD® underlays in the Inventor environment.

Vault 2016 provides reference support allowing users to add, check in, and check out drawing files used in Inventor models.

> AutoCAD Electrical project support

Autodesk® AutoCAD® Electrical also sees extended support for the project.

Vault 2016 users will now be able to use the new copy design tool with AutoCAD Electrical projects as well as additional file management tasks such as move and rename.

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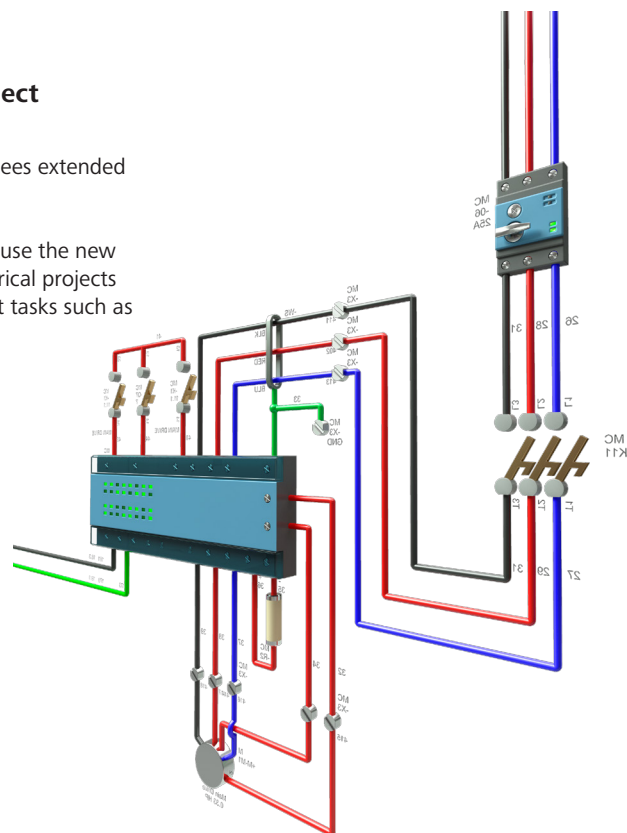
Unified lifecycles

The 2016 release helps companies unify lifecycle controls and adds the same great document lifecycle flexibility to items.

Manage your file access and release process using the traditional fixed workflow item method—or separate the two release methods and use the more flexible document lifecycle controls in parallel with item controls.

Item lifecycle enhancements

Autodesk Vault Professional 2016 software expands the concept of flexible lifecycle definitions to item lifecycles, enabling users to manage several lifecycle definitions per item category and use the same release management process for items and files.

In order to better manage the handling of obsolete components, an Obsolete state flag has been added, similar to the Released flag for modifying component behaviors.

Item security flexibility

To better address access management, the permission model has been updated with item-level object-based permissions that can be applied manually to an item by a user or group—similar to file, folder, and custom object permissions. Flexible rights management based on category, lifecycle definition, and item state has also been added.

As with documents, it is now possible to define user or group item permissions for:

- State transitions
- State-based access

Flexible link-based security

Management of linked documents is now available. Rather than simply locking primary files associated with an item, administrators can control documents per item state to:

- Apply item security
- Apply custom security

Security settings can be unique for primary, secondary, and design document link types.

Administration improvements

It is now simpler for administrators to work in the lifecycle scheme dialogs. When a new state is created, it is automatically selected so you can quickly switch into edit mode. There is also an entity filter available in the transition configuration dialog to reduce the actions displayed and simplify the definition of transition rules.
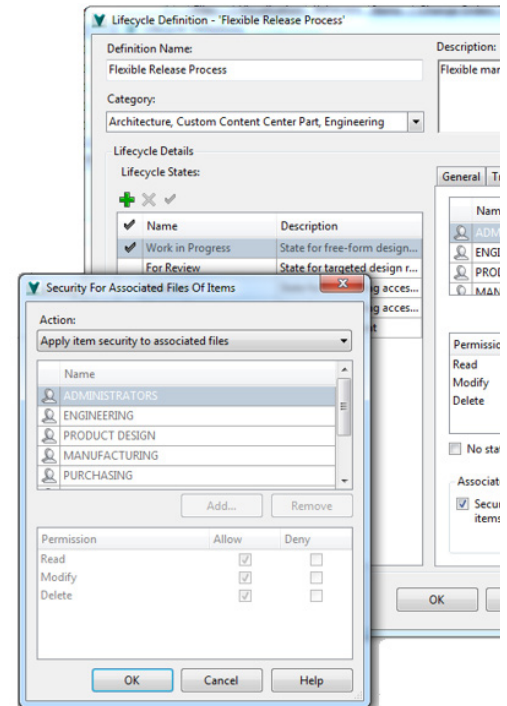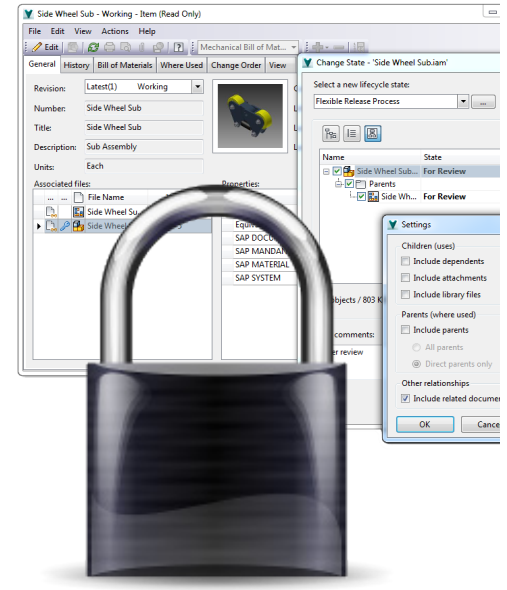
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Improved item management

Autodesk Vault Professional 2016 includes several usability enhancements and new features to improve your item workflows.

User interface consistency

The user experience has been improved to help you work with items more efficiently. You now have a more visual and intuitive approach to item management that is consistent with document methods for tasks such as change state, revisions, and categories.
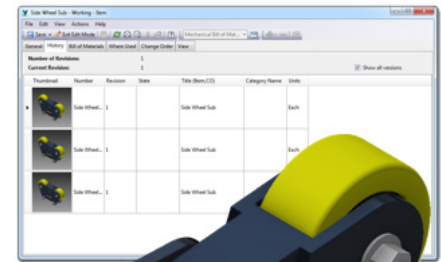

Item versions

In addition to capturing specific item revision history, you are now able to view all item versions. This enables you to see changes made to the item between releases—including property and document updates on the general tab through to history, where used, and the bill of materials.
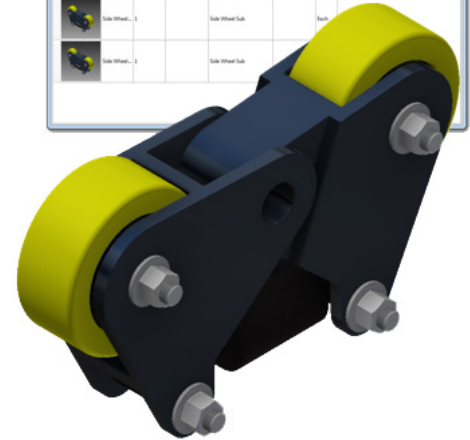
Assign item category

As in previous versions of Vault Professional, you can automatically categorize items based on predefined rules and change the item category as required. The latest release introduces the ability to assign a category on creation. This administrator-controlled setting permits users to select a category from the available list, streamlining the process when creating new items.
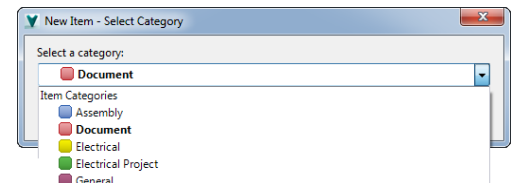

Write-back item properties

In response to customer requests, you can now use the Vault CAD add-ins, Vault Explorer, or the job processor to map and write back item properties directly to the CAD files for clearer and more accurate design documentation.

Item dialog usability

Updates to the Item dialog enable you to configure the associated files list view in the General tab, resize the view within the General and View tabs, and easily access Exit Edit Mode with toolbar changes.

In addition, Save As has been improved to create the new item in edit mode ready to update. Watermarking has also been refreshed to provide configurable stamp settings.
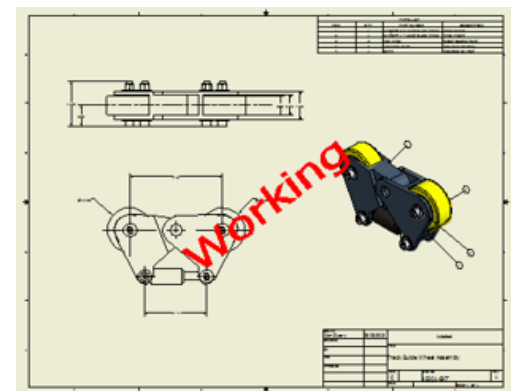

AUTODESK

Improved item management

Autodesk Vault Professional 2016 includes several usability enhancements and new features to improve your item workflows.

Item export

With Autodesk Vault Professional 2016, you can now export completed item details and bill of materials—including BOM row properties as well as grouped and ungrouped items. Additional options in the export dialog now permit you to export items in non-released states for consumption in manufacturing. You can also export previous item revisions with new options available on the BOM tab.
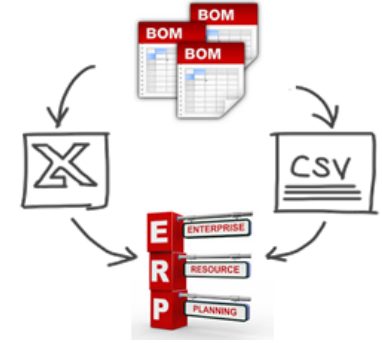
These capabilities provide simple, flexible methods to extract accurate item details and bills of materials for manufacturing.

Item BOM compare

The item bill of materials tool has also been updated with BOM compare being refreshed to help compare not only added and deleted rows, but grouped and ungrouped items, multiple rows, and modified item and BOM row properties.

You can now compare two iterations of the same item or completely different items, in addition to two different revisions.

Item purge

Item management controls have been further enhanced and unified with the familiar file interface to enable purging of unwanted item versions.

With the new purge behavior rules on each item state in your flexible lifecycle scheme, you can now purge unwanted item versions across Vault like you do with files, using the new Purge Item command in the ADMS console or by selecting individual items for purge.

Item ECO controls

Change order control for items has been updated to enable you to restrict item change state operations in the context of the ECO with the new flexible lifecycle states.

Item state change rollback

The new item state change rollback behavior is extended to be applied on all item states in your flexible lifecycle definition, so you can roll back from the current state to the previous valid state of an item.

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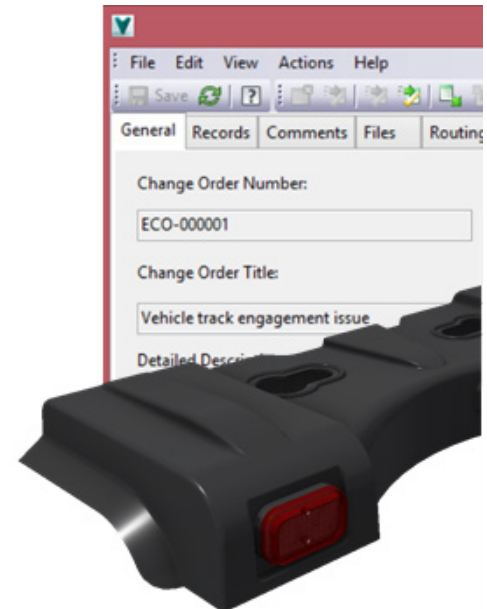
BOM enhancements

Enhancements to the bill of material interface provide a more flexible and collaborative approach to managing the Item BOM with access to BOM properties, support for multiple BOM rows, and reporting directly out of the BOM view.

BOM properties

Configuration

Define BOM row properties and mapping using the same interface for file-based user-defined properties and map values as read-only from CAD.

Modify BOM view

Add BOM row properties to the BOM grid, configuring to show traditional system-based properties like quantity, as well as custom and new BOM row properties including row type, group type, item quantity, and unit quantity.

Edit BOM properties

You can edit the BOM row properties directly, once they are added, by clicking on the grid while in edit mode.
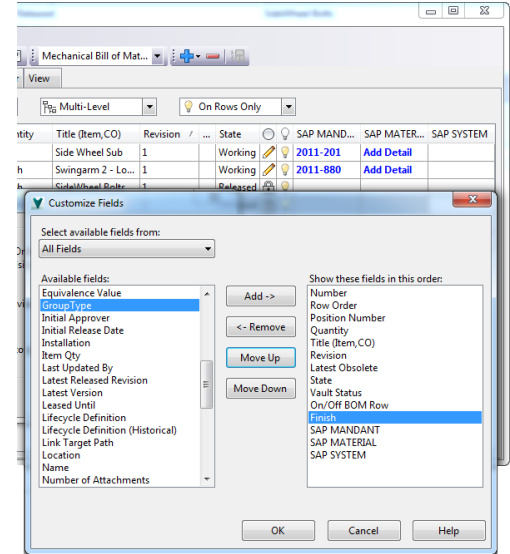
Multiple BOM row support

New in this release is the addition of multiple BOM row support, enabling you to display multiple BOM rows that share the same Item definition.

You can use the traditional behavior to group items where multiple exist—or permit the rows to exist separately, modifying position number and BOM row properties to accurately reflect the CAD BOM.
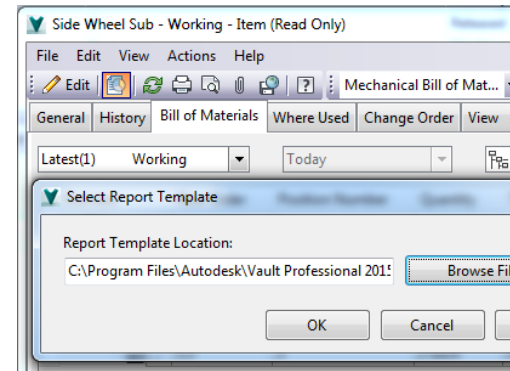
BOM reports

You can now extend access to BOM information outside of Vault by creating BOM reports from Vault Explorer and the item environment.

Create or utilize existing Autodesk Vault templates to configure the bill of materials report for multi-level, parts-only, or first-level-only views, and you can include your own BOM row properties.
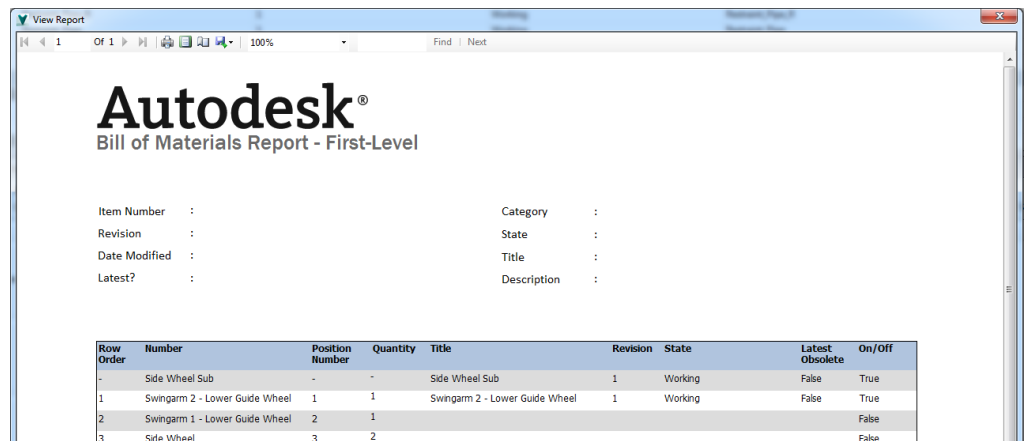
Copy Design

The Copy Design feature has been completely redesigned, enabling new user-requested workflows and productivity enhancements, including reference-based copy, property and file behavior management, automatic file numbering, and performance improvements.

Multiple file copy

The new copy design tool enables greater productivity by now permitting users to copy more than one set of files per operation. Add multiple assemblies or individual files and configure them independently to execute multiple copy operations at one time.

Reference-based copy

In operations where the same component is referenced by multiple assemblies, you can now configure different operations for each reference in the model context. Traditionally, when a component is used in more than one location, such as derived parts in skeletal models, it is copied in all other assembly levels, making it impossible to replace or reuse instances where required.

By selecting the reference option, each individual component reference can have its copy behavior set independently.

Copy Design reference support

Changes to reference management means you are now also able to copy models containing circular references, such as derived parts or Autodesk® AutoCAD® overlays, as well as non-CAD file types, including attachments.

Replace with pending files

A new feature for use with skeletal modeling techniques is the ability to replace components with pending data. This means that files that will be created as part of the copy process can be reused throughout the structure.

When selecting Replace on a component, a Pending Data option appears in the file dialog—here you have access to the uncommitted new files being created by copy operations elsewhere in the model.

Once referenced into the operation, Vault will create the new file and rebuild the new structure with the selected file, like it would with any normal replace operation.

Folder-based Copy Design

Based on user feedback, the new Copy Design interface enables you to execute copy operations based on folder location. After selecting your data, you can create new folders, carry out file operations based on the folder location, drag and drop between folders, and use a visual method for configuring the copy.
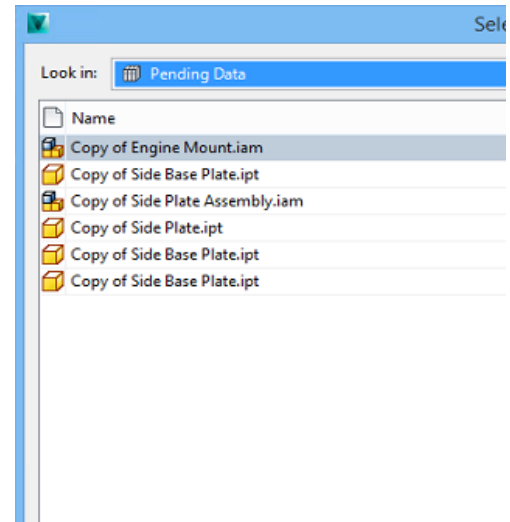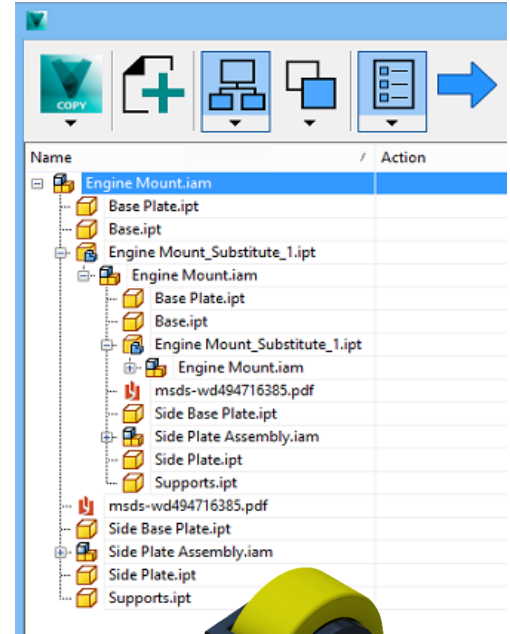
Copy Design

In addition to enabling a number of new workflows, Copy Design also makes it easier to manage file behavior with the ability to apply auto-numbering schemes and control properties and category behavior.

Auto-numbering

The most frequently requested enhancement for Copy Design was the inclusion of automated numbering schemes, so you can apply Vault file numbering schemes to the new copied files in one operation.

You are now able to specify which schemes should be available in Copy Design, and a simple approach enables you to set schemes across all copied files.
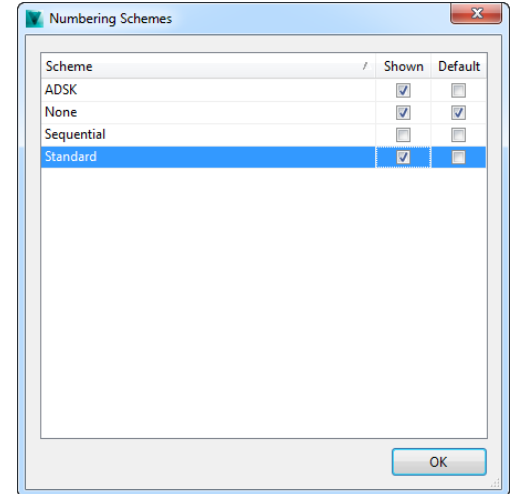
Property management

By default, all new files will follow new file assignment rules—part number equals file name, configured new file category, lifecycle, and revision. Special case overrides are now possible, enabling you to maintain the source files category properties for the new document, reset properties, or set user-defined properties to blank.

Basic mapping capabilities have also been added to enable iLogic reset and tracking original file name and copy user.

Server-based Copy Design

The new command execution no longer requires file transfer from server to client. The copy operation is now completely handled on the server with the new file structure repaired on the next download operation, similar to move and rename commands.

Copy Design drawing view

Another new workflow enablement is the Model Copy and Drawing Copy options. By default, when you add files to the copy operation only the models are shown—drawings are linked in the background and will follow the same behavior as the model, inheriting the same new name and folder location.

By switching to drawing view, you can control the drawing file behavior independently of the model—managing the new file name, location, and behaviors—making it easy to copy drawings with links to the same model or reuse drawings linked to a new version of the model.

Numbering Schemes

Scheme	Shown	Default
ADSK	✓	☐
None	✓	✓
Sequential	☐	☐
Standard	✓	☐

OK

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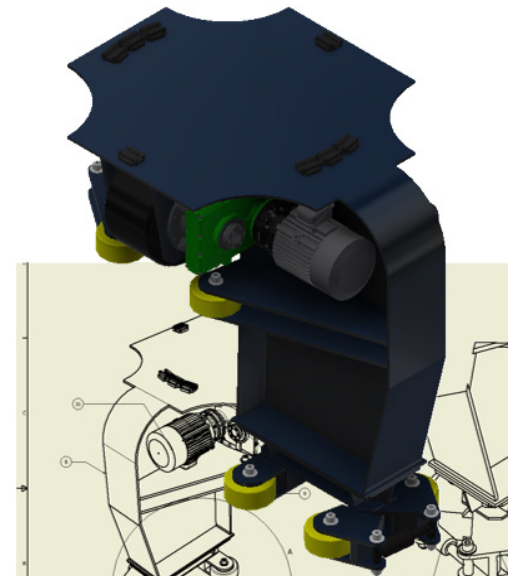
Copy Design

The Copy Design interface has been updated to enable simple control of the new workflows and better aid you in the configuration of the copy.

⟩ Copy Design interface

Configurable grid properties

Copy Design is now available as a separate window and uses the standard Vault file grid, so you are able to configure the displayed properties to suit your requirements.

The main grid displays the current configuration settings—including action applied to the original file, the new file name, and new Copy Design specific values, including:

- Component ID
- Component Qty

These two values enable users to identify individual reference information (which reference the original component and how many references exist or are being created).

The main grid is also used to show the success or failure of individual Copy Design operations once the copy is complete.

Panels

Using the main grid, you can configure and run a simple copy operation. In larger assembly configurations or more complicated operations, you can utilize the Copy Design panels to see alternate views of the data being, find specific source components, change the part number settings, or get an overview of the results.

The panels provide a number of specific capabilities aimed at providing a different approach to copy configuration and additional tools to accomplish the desired results.

Naming – Manage scheme assignment and modify configurable numbering scheme values, including the legacy No Scheme format with prefix and suffix.

Where used – Review the source and destination of specific components as part of the copy operation.

Action – Review current actions, change component behavior, and check configuration before execution.

Folder – The folder view enables you to execute certain actions by folder content and review file destination or new folder creation.
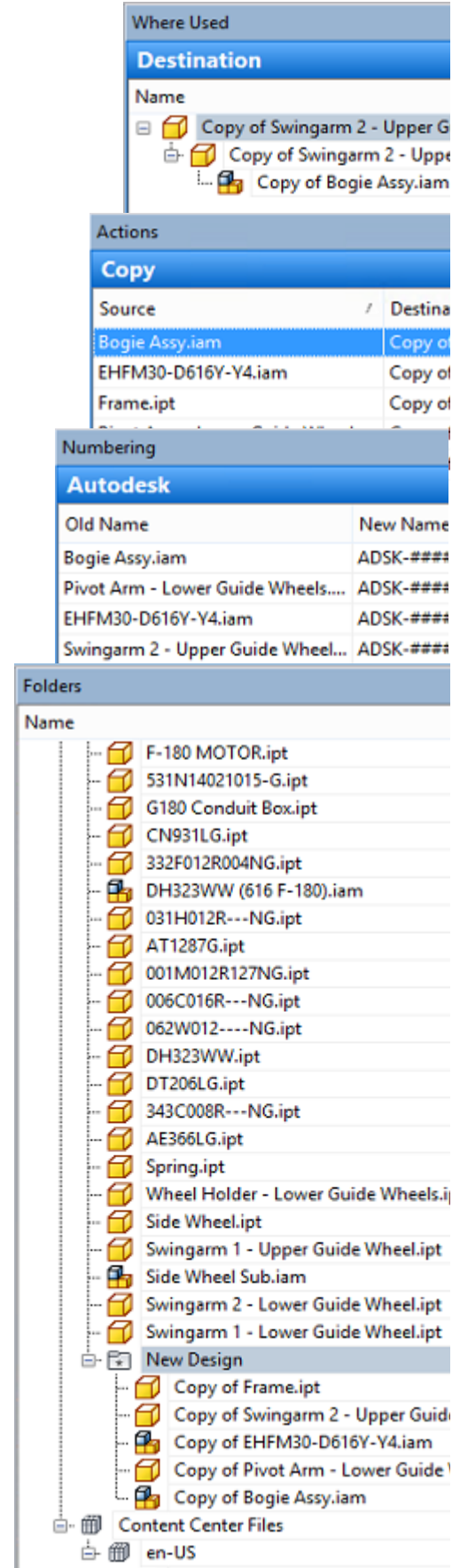
Vault Office

In response to customer need for enhanced non-designer capabilities in Vault Office, you now have the option to install a modified thick client with additional capabilities around document release and change order participation.

The thin client has also been updated to support the new Item BOM views.

Vault Office thick client

The new Vault Office thick client enables non-CAD users to create and edit supporting project and design data—and also includes additional capabilities to view, batch print, send transmittals, and even participate in some basic ECO activity and approval processes.

The Vault Office thick client connects to Vault Workgroup and Vault Professional servers, although it cannot be installed alongside an existing Vault Client and does restrict a number of basic CAD user capabilities. It permits users to modify non-CAD files, folders, ECOs, and custom objects, and provides read-only interaction with CAD files and items.

With the Vault Office thick client, users can use Data Standard for non-CAD files and change life-cycle states for CAD files and Items. They can also create a job and update views with the Job Processor. In addition, basic client customization is permitted and users can create and manage shortcuts and links, making it easier than ever to collaborate across the extended organization and incorporate non-CAD users in the engineering release process.

Thin client

The Autodesk Vault thin client has had another update to items that enables new access controls and support for the Vault Explorer Item BOM views.

Users can now view all the Item version history or revision history as they do with files.

The BOM view has been extended to support partial BOM views, electrical reference designators, additional BOM row properties, viewing of BOM component grouping, and filter row types permitted by the administrator.

Administrators can configure the BOM view in the thin client to display ON, OFF, or Both Rows, as well as allowing for access to both assigned and unassigned item rows.

In addition to configuring the BOM view, administrators can configure item state-based access, extending from hard coded Released/Effective to align with the new consolidated released states for items. If required, the administrator can limit user access to latest item versions or "Tip" version only.

Number ▲	Position Number
⊖ ▦ ADSK-ITEM-000000	5
▦ ADSK-ITEM-000001	1
▦ ADSK-ITEM-000002	2
▦ ADSK-ITEM-000003	3
▦ Side Wheel	3
▦ Spring	4
▦ Swingarm 1 - Lower Guide Wheel	2
▦ Swingarm 2 - Lower Guide Wheel	1

8 Total Items, 5 First-Level Items, 8 Unique Items

Sort By Number

Show the following

ON Rows	ON
OFF Rows	ON
Unassigned Items	ON
Non-released Items	ON

Apply

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Integrations and Project Sync

The Autodesk Vault add-ins incorporate collaboration-based enhancements around open models in a mixed application environment, as well as IFC enhancements and updates to Project Sync, making it more functional for sharing related project data.

File open version support

The Vault 2016 add-ins for Autodesk® Inventor®, AutoCAD, and Autodesk® Revit® software now enables users to default to the version of the application that it was created in when opening files from Vault Explorer. This ensures that the file is opened by a compatible version and will not be migrated to an incompatible database version—important for group projects where multiple versions of software may be in use.

IFC file support

Changes to IFC file type provides support for the following workflows involving IFC files:

- Link currently open Revit model to IFC file in Vault
- Save Revit model to Vault along with its linked IFC file and the intermediate cache/scaffolding files
- Open a Revit model from Vault and download/checkout the related IFC file and associated cache files
- Open an IFC file saved in Vault and import into the Revit model

Project Sync

A small change to Project Sync supports pushing related files from Vault to Autodesk® Buzzsaw® software via Project Sync. A file and all of its dependencies and attachments can be sent to Buzzsaw with the Share to Buzzsaw command.
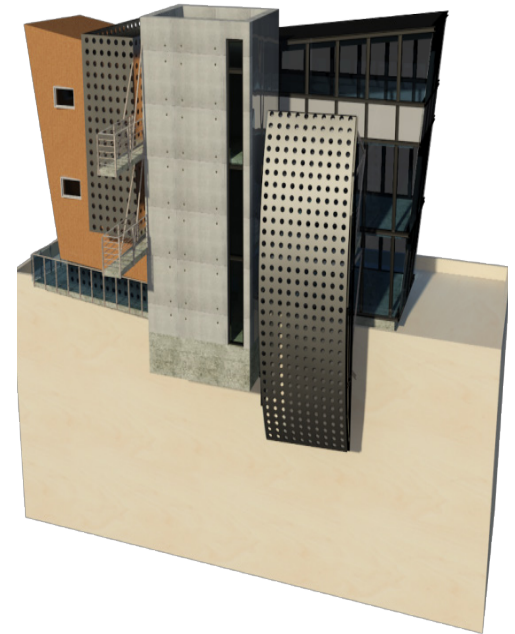
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