ENOVIA Solutions Version 5 Release 18 Product Enhancement Overview

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Action Editor Product

Functionality

Transferring Modification to new owners

You can now transfer the ownership of all modifications in an Action or of individual modifications in associated objects

Application Desktop

New Functionalities

Using Select Under

Select Under is a feature that allows you to very easily select all child nodes of a configured product when working in a tree view. The Select Under command provides an efficient means to select descendants of a given node while eliminating the tedious process of having to select many objects individually from the tree. For more information, refer to:

- Using Select Under

EBOM Detailing and Configuration

New Functionalities

Product Specification Lifecycle Status

As you develop the product class structure, you may find it appropriate to change the status of a specific product, product class or even a product class root in order to gain visibility of that object's maturity within your organization. Product Specification lifecycles can be changed as well, allowing for better management of the specification. For more information, refer to:

- Changing Product Specification Lifecycle Status

As-Supported Product Specification

This new functionality gives you the flexibility of adding additional specifications and related data in the new As-Supported Product Specification without changing any data related to the approved As-Designed Product Specification that lives within the Engineering Effectivity Domain. For more information, refer to:

- Creating an As-Supported Product Specification

Workpackage Report Merge

The workpackage report merge function gives you the ability to generate a consolidated bill of materials (BOM) report from separate reports that use the same data template. Data from queries are added together to form the merged report using fields from the template. For more information, refer to:

- Creating Workpackage Report Merge

Controlling Generic Components (GCOs)

Generic Components (GCOs) may include various attributes, linked instances, child GCOs, or attached documents. Without a means of controlling a GCO, individual parts of a GCO can be modified or lost inadvertently, altering the entire GCO in a way that was not intended. Having lifecycles associated with GCOs and allowing GCOs to be transferred from person to person or organization to organization provides a means of controlling and tracking GCOs, making them more secure. For more information, refer to:

- Controlling Generic Components (GCOs)

Deleting Unsolved Operations

Many activities can lead to unsolved operations. These include, but are not limited to: Inserting a part or product instance into the product structure, replacing a part or product instance in a product structure, moving a part or product instance within a product structure, cutting a part or product instance, and extending effectivity. Depending on the type of unsolved operation involved, unsolved operations can now be easily removed, directly from the Configuration tab in the Product Editor or the Part Editor. For more information, refer to:

- Deleting Unsolved Operations

Sending a CGR to Catia

When working on a large project, there are times when it would be beneficial to be able to edit data while having a visualization of surrounding structure and equipment to facilitate the positioning of data. The Send to Catia function allows for this while also preventing unwanted changes to the surrounding structures by making it read-only. For more information, refer to:

- Sending a CGR

Enhancements

Customizing the Effectivity Display

When working with effectivities it may be necessary to have numerous effectivities tied to a part or a product, or one or more effectivities may consist of a complex combination of specifications, such as Spec1 AND Spec2 AND Spec4 BUT NOT Spec3. As the effectivities become more complex, it can become increasingly difficult to read all the effectivities listed on the Configuration Tab, especially if all the effectivities are displayed in a single row. Customizing the effectivity display on the Configuration Tab greatly improves the readability of the effectivities. For more information, refer to:

- Customizing the Effectivity Display

Editing Modification and Action Filter Criteria in a Product Specification

Product Specification filter criteria can include Effectivity criteria (ranges, dates, milestones, specifications), and Change Management criteria (actions, ECOs, and modifications). Basic editing of the filter criteria for a Product Specification, including Effectivity criteria is already supported. Now, by including action, ECO, and modification criteria, you can search for modifications, actions, or ECOs, select them, and then save them as part of the Product Specification's filter criteria. For more information, refer to:

- Editing Modification or Action Filter Criteria of a Product Specification

- Editing the Filter Criteria of a Product Specification.

Label change for Unresolved Add Operations

Inserting a part/product instance into the product structure, replacing a part/product instance in a product structure or moving a part/product instance within a product structure are examples of functions that (if they are performed without being associated to an Action) result in unresolved Add operations. In the case of viewing only instances which have been defined to fall within a given configuration filter without any unresolved Add operations, you can use the Ignore Unresolved Operations option in the Edit Configuration Filter window. In previous revisions, the Ignore Unresolved Operations check box was referred to as Hide Instances with Unresolved Add Operations. There will be no change in functionality, only the label name is changing. As before, only the unsolved adds will be hidden. For information on using the Ignore Unresolved Operations option, refer to the following:

- Defining a Configuration Filter Using Effectivities

- Editing the Filter Criteria of a Product Specification

Content Management Product

New Functionalities

Sheet Editor

When you need to view or edit the properties of more than one document at a time, it is easier to to view all of them in a tabular list than one at a time. The Sheet Editor lets you search for the documents and use this type of view.

Viewing Where Used

When you are working with various documents and objects in Content Management it is often necessary to see where these objects are used in the enterprise. Using the where used function allows you to see all the areas where the particular object is being used.

ENOVIA-CATIA Interoperability

New Functionality

Sorting and Filtering Error Messages
> This improved dialog box informs the user about the possible causes for Interoperability failure by classifying them as Error, Warning or Information.

Enhanced Functionalities

New Tracing Capability in Customer Environment
> This capability is available for problem tracking purposes in a customer environment.

P&O Privilege Errors
> In case a Save operation fails due to security privilege, an improved error message including the missing P&O privilege name.

Settings for Instances Synchronization at Save
> The setting allows to select the synchronization policy for instances at Save regarding positions and/or references.

A Warning Message When Server is Lost
> A warning appears when the transaction is aborted due to server crash or failure.

Refreshing Documents in Session
> You can use the new Analysis window to sort and refresh documents in session.

VPM Lifecycle Navigator Web

New Functionalities

Context Home Page

This page is set up for you, the user, and your role in the company by your administrator.

My History Folder

My History folder in the Favorites pane is used as a log folder which keeps a set record of bookmarks for the objects and functions you have performed or accessed using contextual and other menus.

Establish Favorites Preferences

This function allows you to define the number of bookmarks and a list of available commands for the My History folder in the Favorites pane.

Enhanced Functionality

Indicator Dot

When creating or editing the object, the indicator dot indicates if an attribute name contains any illegal character(s).

Selecting Options from the Drop-Down List

You are able to select options from the drop-down lists using the keyboard keys in VPM Lifecycle NAVIGATOR WEB Product.

Engineering Change Management Web Product

New Functionalities

Transferring Modification to new owners

You can now transfer the ownership of all modifications in an Action or of individual modifications in associated objects

Enterprise Process Management Web

New Functionalities

Routing Slips Expand All

All of the steps and tasks in a Routing Slip are expanded when selecting the caret.

LifeCycle Administration Guide

New Functionality

Managing Replication Packages
Instructions for using Replication Package Manager.

Managing the Context Home Page

Managing and configuring the user's Context Home Page.

Enhanced Functionalities

Delay transfer of site ownership

Customizing Settings

Customizing relationships for custom entities

Enabling the Replication Tab

Enabling the runtime environment to display the Replication Tab.

VPM Navigator

New Functionalities

Where Used
> This command shows you all the locations where a given object is used and is of particular use when you need to know the full impacts of modifying or deleting an object used in more than one location.

Deleting Objects
> You can now delete isolated Part versions or document revisions along with any associated objects.

Reusing Assemblies
> An assembly can be created as a Product or component in CATIA V5. Product-type assemblies are reusable while component type assemblies are not. If the assembly is not intended to be reused, it is preferable to create a component-type assembly because it is simpler and easier to use. For a variety of reasons, you may need to reuse a component that you initially thought would not be reused. A new feature is provided to enable you to transform component-type assemblies into Product-type assemblies.

Configuring Parts and Products
> Configuration allows you to maintain variations of your Product structure without having to maintain a distinct Part list for each variant. Once a Part is configured, you may assign date or range effectivity as well as specification effectivity to the Part instances in your Product structure. Applying effectivity to your Product structure allows you to extract meaningful views of your structure easily by filtering the structure based on effectivity. You may now configure Parts and Products directly in VPM Navigator.

Applying Effectivity
> Applying effectivity to your Product Structure allows you to extract meaningful views of your structure easily by filtering the structure based on effectivity. You may now directly edit the effectivity of instances in your Product structure.

Product View Result: Saving Application Data in a Workpackage
> When you save your assembly in the Structure Exposed mode, you can save information about application data in a Workpackage (CATProduct document) called a Product View Result (PVR). A synchronization tool is provided to ensure the CATProduct file can be maintained to stay

synchronized with the exposed Product structure.

Scan and Check

The Scan and Check command is now available to check entities that are to be saved as new in your CATIA session to assign an appropriate domain and give values to any mandatory attributes. This is useful if your site has customized Part and document objects.

Working With Product Specifications

You can now navigate product specifications in VPM Navigator. A Product specification is an extraction of an autonomous Product from a predefined bill of material. Product specifications give you the ability to instantiate a resolved (filtered) Product into another Product (PRC).

Managing Server Memory Usage

You can now customize server memory usage by setting a threshold for it.

Document Management

The following new document management functionalities are available:

- document creation

- document properties

- document show in tree

- document open (for view) in native editor

- document check-out

- document check-in

- document cancel check-out

- document copy out

- document change status/release

- document attach

- detach document from Part

- use proper document icons to represent a document based on its file type

- Documents tab on Part properties

- enable sheet editor for documents.

Action Management

The following new Action management functionalities are available:

- Action creation

- ○ associating objects with Actions
- ○ querying Actions
- ○ view/edit Action properties
- ○ add attachments to Actions / remove attachments from Actions
- ○ Action transfer
- ○ add affected objects to Actions / remove affected objects from Actions
- ○ Action history.

Enhanced Functionalities

Using the Search Workbench

Searching for Actions Based on a Single PRC
> An option now exists for an Action search allowing you to retrieve only Actions that have a single PRC defined as an associated object. This is particularly useful when you are searching for an Action to set as current in order to track changes you are making to your PRC.

Creating and Using Saved Queries
> To increase efficiency you may now store frequently used queries for future use. Saving queries also allows multiple users to reuse the same query quickly and easily.

Publish/Subscribe
> It is now possible to subscribe to Action and Part versioning events. After subscription, you can automatically retain visibility to each version of the Part or Action as it continues through its lifecycle without having to resubscribe.
> You can now retrieve published events that have not been cleared from the database, query all subscribed objects and unsubscribe when you like and launch certain commands from the Published Events dialog box.

Selecting Objects
> You can now open CGRs in context using the Select Under command.

Sending CATIA Documents to a File System
> You can now use this command from the impact graph

Locking/Unlocking
> You can now have a Part version automatically unlocked when you lock

a new Part version.

You can now use this command from the impact graph and choose, from the ENOVIA Send To dialog box, a target directory from a list of previously used directories.

Filtering

Creating and Using Saved Filters

To increase efficiency you may now store frequently used filters for future use. Saving filters also allows multiple users to reuse the same query quickly and easily.

Limiting the Filter Levels

You can now select the number of levels to which filtering is to be applied. This may be particularly useful if you think the filtered Product structure will be very large.

Filtering by Attribute

You can now define filter criteria based on customized domains.

Filtering by Configuration Handler

New configuration handlers can be built on existing configuration handlers by opening the existing configuration handlers, editing them and then saving them under a new name. This speeds up the creation process by preventing you from having to enter effectivity information repeatedly, in order to create a new configuration handler.

Applying a Configuration Filter

Inserting a Part/Product instance into the Product structure, replacing a Part/Product instance in a Product structure or moving a Part/Product instance within a Product structure are examples of functions that (if performed without being associated with an Action) can result in unresolved operations. In the case of viewing only instances which have been defined to fall within a given configuration filter without any unresolved operations, you can use the Hide Unresolved Instances option.

Adding a Dynamic Configuration Handler

You can now save modification query criteria as a configuration handler.

Customizing

Customizing the ENOVIA V5 VPM Logon

Customizing VPM Navigator

Electrical Cable Route Management

New Functionality

Work packages can now point to 2-D or 3-D XML files when importing electrical design data into the Electrical Cable Database.
You can use a batch process to import electrical design data into the Electrical Cable Database.

Supply Chain Engineering Exchange

New Functionalities

Reconciling a Filtered View of a Product Structure

You can reconcile data extracted from a filtered product structure in ENOVIA V5 VPM using an attribute, volume or configuration filter. The process for the reconciliation remains the same except that after mapping your structure to ENOVIA V5 VPM you must apply the correct filter to the VPDM view.

Executing Global Sets on a Set of Objects

You can now execute a global set on a pre-selected list of objects (instead of on all objects in the CATIA view) by using a filter to select the proper objects in the CATIA view. You can locate objects based on attributes, document id, document information and mapped attributes. You can also choose to select all documents in the CATIA view or all objects in a sub tree. This feature is available both interactively and when running the reconcilator in batch (for ENOVIAvpm or ENOVIA V5 VPM).

Reconciliation of Product View Result (PVR) Documents

When working with structure exposed data in ENOVIA V5 VPM, Product View Result (PVR) documents can be created to preserve applicative (kinematic and drafting, for example) data. PVR documents can be modified by suppliers and integrated back into ENOVIA V5 VPM using the reconciliator (both interactively and in batch).

Enhanced Functionalities

Free Naming Support

If your site uses the free naming feature to map the identifiers of parts and documents in CATIA to the V_ID, V_name or V_description in ENOVIA V5 VPM, the Easy Query will take this mapping into account. The identifier will be automatically set in the correct field to take into account the mapping.

Customizing Global Sets and Filters

You can customize global sets and filters by inheriting existing (base product) global sets and filters and fixing their input values.

Infrastructure User Guide

New Functionalities

Navigating
> The Align Viewpoint command lets you modify the viewpoint so that its orientation is automatically set to the nearest horizontal or vertical orientation.

Enhanced Functionalities

Capturing Simple Images
> In non-standard scale mode, you can only capture pixel images.

Creating, Opening, and Saving Documents
> For dialog boxes allowing you to select a file or a directory, the last accessed path is now stored in preference files.

Customizing Fonts for Displaying Geometry Area Texts
> TrueType font versioning: the display of a text for a particular font in a particular version remains unchanged in future Version 5 releases or service packs.

Customizing Print Settings Before Printing Documents
> In non-standard scale mode, only the Rasterization rendering mode is supported.

Managing Document Save
> The Apply Save to editor scope only option now applies to the Save Management command.
> When you resize the Save Management dialog box, the new size is kept.

Running Batches
> The Generic Batch lets you run executable files in batch mode.
> When running the Print Batch in non-standard scale mode, only the Shading rendering mode is supported.

Selecting Objects Using a Filter
> The Tangent Intersection Edges activation mode is now available.

Selecting Objects Using the Search… Command
> The Pre-highlight option lets you activate or deactivate pre-highlighting of elements found by the search.
> Navigation options are now provided to display the search results.

Using the Paste Special… Command

Ability to edit the link created when pasting a body As Result With Link in the same document.

Customizing

Document

Apply Save All to editor scope only has been renamed to Apply Save to editor scope only because it now impacts the Save Management command as well.

Graphics Formats

In non-standard scale mode, options available in the Export area are deactivated.

Managing User-Defined Toolbars

Toolbar positioning has been modified when using the Restore position capability.

Scale

This new tab lets you create smaller geometries with a high accuracy.

Search

Two new options let you specify the maximum number of elements to be pre-highlighted and the maximum number of results displayed in the Search dialog box.

DMU Navigator

Enhanced Functionalities

Inserting Components
>You can now interrupt the activate terminal node process.

Running the CATDMUUtility Batch Process
>3D XML format now supported as an output option for CATParts.

Running the CATDMUUtility2D Batch Process
>3D XML format now supported as an output option for CATDrawings.

Saving as 3D XML
>You can save documents as 3D XML files, explanations are included for
>exchanging 3D XML data between DMU Review and 3DLive.

3D XML
>Settings for the usage of the 3D XML format have evolved.

Human Activity Analysis

New Functionality

Enhanced Functionality

Display additional NIOSH Information
> Until today, the intermediate factors, the Recommended Weight Limit (WRL), and the Lifting Index (LI) in the Score section of the Lift/Lower Analysis panel were calculated internally by the software and never displayed. There is a need to display these values. This way, you can be fully informed of a particular factor change, say the frequency multiplier, and can appreciate precisely how any of the intermediate factors influences the final result.

Human Builder

New Functionality

Restoring an Attached Position of an Object
>With restoring an attached position, the behavior of the attach functionality will not change. But when an object is first attached to a segment, the initial relative position between the segment and the object will be calculated and kept. You will be able to re-apply this relative position at any given point in time. If the object's position relative to its master segment has not changed, the object will not move; but if it has changed, the object will go back to its initial relative position.

Vehicle Occupant Accommodation (license required)

Vehicle Occupant Accommodation commands
>The Vehicle Occupant Accommodation toolbar is only available with the Vehicle Occupant Accommodation product license.

Human Data Catalogs (licenses required)

Human Anthropometry Catalog
Human Posture Catalog
Human Preferred Angles Catalog
>Manikin simulation and/or posture-creation can be time-consuming. The human catalogs improve the user experience and reduce simulation creation time.

Enhanced Functionality

The Vision Window Behavior
>Previously, this vision behavior consists to keep the camera constantly at the horizontal according the world coordinates system. This means that, even if the manikin leans its head (Y in the local coordinates system), the view in the vision window will remain the same. You will always see the scene at the horizontal even if the manikin is bending its

head. Now, the peripheral contour angle of the vision window will be readjust automatically to the head orientation.

Width and Type of Line Management for Constraints

You will be able to set up independently the type and thickness of the constraints view in the 3d screen, for the status for the width and line for constraints.

Enhanced Management of Look At behavior

You can explicitly choose which hand is to be the target of the Look At, the left, right, or either hand.

That way, you will be able to activate the right option from the start, and will not have to switch back and forth between the IK Mode (or Reach Mode) and the general options page.

Keeping the Settings of a Hand grasp

This stores the latest grasping posture angle specified in the Standard Pose dialog box for each posture type: spherical, cylindrical and pinch. These values will be then use as the default posture of the Hand Grasp command. In order to facilitate still more the hand positioning on an object, we also apply an appropriate offset for each posture type of the Hand Grasp. This will ease the hand positioning on an object while using the Reach command.

Manikin Constraints dialog box - Priority

Specific explanation of the priority settings in the dialog box.

Real Time Rendering

New Functionalities

Aligning Icons
> Allows you to align icons to the nearest grid location.

Snapping Geometry
> Allows you to snap the bottom wall of the environment to the geometry.

Enhanced Functionality

Modifying Lighting Properties
> Allows you to choose, or even store particular color combinations.

Customizing Settings

General
> Allows you to view devices, particularly cars, as touching the ground.

Shading Display
> Allows you to control the shading parameters without having to apply extra material.

DMU Composites Review

Welcome to the DMU Composites Review User's Guide!

This guide is intended for users who need to become quickly familiar with the product.

This overview provides the following information:

- DMU Composites Review in a Nutshell
- Before Reading this Guide
- Getting the Most Out of this Guide
- Accessing Sample Documents
- Conventions Used in this Guide

DMU Composites Review in a Nutshell

DMU Composites Review aims at reviewing a CATProduct with Composites geometry in at least one of its CATParts.

Before Reading this Guide

Before reading this guide, you should be familiar with basic Version 5 concepts such as document windows, standard and view toolbars. Therefore, we recommend that you read the Infrastructure User's Guide that describes generic capabilities common to all Version 5 products. It also describes the general layout of V5 and the interoperability between workbenches.

You should also be familiar with Composites Design (CPD), Composites Engineering Design (CPE) or Composites Design for Manufacturing (CPM).

Getting the Most Out of this Guide

To get the most out of this guide, we suggest that you start reading the User Tasks section, which deals with handling all the product functions.
The Workbench Description section, which describes the DMU Composites Review workbench, will also certainly prove useful to find your way around the DMU Composites Review workbench.
Navigating in the Split View mode is recommended. This mode offers a framed layout allowing direct access from the table of contents to the

information.

Accessing Sample Documents

To perform the scenarios, sample documents are provided all along this documentation. For more information on accessing sample documents, refer to Accessing Sample Documents in the Infrastructure User's Guide.

Conventions Used in this Guide

To learn more about the conventions used in this guide, please refer to Conventions section.

Photo Studio

New Functionality

Rendering Images

A new toolbar allows you to render images from any part or product workbench.

Photo Studio Optimizer

Enhanced Functionality

Installing and Uninstalling Satellites on UNIX/Windows
Allows you to use up to 24 CPUs simultaneously in a network.

DMU Optimizer

This section identifies what new or improved capabilities have been documented in the Version 5 Release 18 of DMU Optimizer User's Guide.

Enhanced Functionalities

Cutting through a Model with 3D Cut
> 3D Cut functionality now takes advantage of a new Boolean computation to cut the triangles on the box limits.

More about the Spatial Split option
> Spatial split now uses a new algorithm which improves the quality of the envelope.

DMU Kinematics Simulator

This section identifies what new or improved capabilities have been documented in the Version 5 Release 18 of DMU Kinematics Simulator User's Guide.

New Functionality

Designing a V5 mechanism

Copying and pasting a mechanism
You can now easily copy and paste a mechanism within an open product in session.

DMU Space Analysis

This section identifies what new or improved capabilities have been documented in the Version 5 Release 18 of DMU Space Analysis User's Guide.

Enhanced Functionalities

3D XML Alignment
> Documents containing sections and/or measurements made with **Measure Between** or **Measure Item** can be exported in the new 3D XML format version. This enables upward compatibility with CATIA products.

Measure Tools

Measure Between
> It is now possible to display selection content and components under the form of annotations in the geometry area 3D using the **Customize** button.

Knowledgeware Capabilities

Knowledgeware Rule-based Clash
> You can now optimize your clash rules, refer to Optimizing Rule-based clash.

Customizing Settings

XML Settings
> To improve the visualization of clash results in XML files: XML settings have been enriched with two new options (Zoom on interferences (Second XML type) only and Transparent background available in **Tools > Options > Digital Mockup > DMU Space Analysis > DMU - Clash Process**)
> To classify better XML result files, the Aggregate files in folders option has been added in **Tools > Options > Digital Mockup > DMU Space**

Analysis > DMU - Clash Process.

First XML Type

>   Two new options are available: Transparent background and Aggregate
>   files in folders.

Second XML Type

>   Visualization section has been created listing the various setting
>   combinations to improve results visualization.
>   XML Grammar section has been created.

DMU Space Analysis Interoperability

Exporting Clash Results Using First XML- Products from ENOVIA V5 database

>   A new scenario has been added to show how to export clash results in
>   first XML format.

Exporting Clash Results Using Second XML - Products from ENOVIA V5
database

>   A new scenario has been added to show how to export clash results in
>   second XML format.

New Functionalities

Penetration Management Tools

>   Are now available within DMU Space Analysis (in User Tasks section).

MULTICAx AD Plug-in

Enhanced Functionalities

MULTICAx Acis/DXF3D (A) Plug-in supports Windows 64 bits.

MULTICAx Pro/Engineer Plug-in

Enhanced Functionalities

ProE Wildfire3 is supported in Direct Mode on all OS (Windows & Unix) 32 and 64 bits.

Pro/ENGINEER Wildfire 3.0 converter support is also available in Windows 64-bit mode.

MULTICAx SolidEdge Plug-in

Enhanced Functionalities

MULTICAx SolidEdge (SE) Plug-in supports Windows 64 bits.

MULTICAx ID Plug-in

Enhanced Functionalities

IDI MS12 is now supported.

MULTICAx SolidWorks Plug-in

Enhanced Functionalities

MULTICAx SolidWorks (S) Plug-in supports Windows 64 bits.

MULTICAx Unigraphics Plug-in

Enhanced Functionalities

MULTICAx Unigraphics UD or U Plug-in support Windows 64 bits.