

ENOVIA Solutions Version 5 Release 17

Product Enhancement Overview

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Roles Guide

New Enhancements

Web Services Packaging and Licenses

Enovia's Web Services Licenses are grouped into three functional areas based on the applications to which they correspond. These areas are: General Web Services, Product Structure and Configuration, and LCA Product Lifecycle Management Web Services.

LCA Navigator

New Functionalities

LCA Navigator

Loading a Product from LCA Navigator into VPM Navigator. This function provides you with the ability to load a product into the VPM Navigator from the LCA Navigator. Once the product is loaded into VPM, you can work with the product in the VPM Navigator environment.

Customizing Quick Search List enables you to define the objects that comprise your quick search list, and organize the order of the objects in the search list.

Toolbar Icon Size Preference enables you to set the size of the toolbar icons to small, large, or text only.

Save Graph Session allows you to save the layout of a graph in Relationship Navigator. Opening a saved session saves time by eliminating the need to expand a project node from the parent object every time you start your session. When saving your session, you are able to begin working in the node tree where you previously ended.

Enable Selection Actions gives you the option of displaying the shortcut menu of the actions within the Relationship Navigator window.

You can view reports as charts, and select any items from chart report to see the properties of the selected item.

To reference the colors state in Relationship Navigator refer to Relationship Navigator State Colors section of this book.

Enhanced Functionality

Toolbar Enhancement

Some functionality have been regrouped in the toolbars for easier navigation.

Lifecycle Group, Lock Group, Attach File Group, Edit-Copy-Paste Group and Vault Operations Group.

Node Expansion

You can expand an entire graph in Relationship Navigator.

3d com User Guide

New Functionalities

3d com Web Navigator

Loading a Product from the 3d com Web Navigator in the VPM Navigator. This function provides you with the ability to load a product into the VPM Navigator from the 3d com Web Navigator. Once the product is loaded into VPM, you can work with the product in the VPM Navigator environment.

Managing the User Home Page is designed as the main entry point within 3d com that provides access to information from multiple sources. The User Home Page consolidates and displays information by organizing it into three different groups: Pre-defined searches, saved searches, internal and external RSS (Really Simple Syndication) feeds, which allow the sharing of web content.

Customizing Quick Search List enables you to define the objects that comprise your quick search list, and organize the order of the objects in the search list.

Toolbar Icon Size Preference enables you to set the size of the toolbar icons to small, large, or text only.

Save Graph Session is used to save the layout of a graph in Relationship Navigator. Opening a saved session saves time by eliminating the need to expand a project node from the parent object every time you start your session. When saving your session, you are able to begin working in the node tree where you previously ended.

Enable Selection Actions gives you the option of displaying the shortcut menu of the actions from the Relationship Navigator in the Viewer.

3d com Classic

No new functionality has been added.

Enhanced Functionalities

3d com Web Navigator Toolbar Enhancement

Some functionality have been regrouped in the toolbars for easier navigation.

Life Cycle Group, Lock Group, Vault Operations Group and Edit-Copy-Paste Group.

Node Expansion

You can Expand an Entire Node in Relationship Navigator.

Removed Functionality 3d com Web Navigator

Select Under function in Relationship Navigator is not supported in R17.

LCA Document Management

New Functionalities

Importing Multiple Files into Vault

LCA Navigator provides you a quick and easy way to import multiple files into ENOVIA. You can either drag and drop, or browse the documents from the local machine. Once you have uploaded the document files into the ENOVIA Vault, the system creates the ENOVIA Document Revisions and iterations for each document files, and checks the documents into the ENOVIA Vault.

Attach Document File

This functionality allows you to attach a new document revisions to a folder using fewer steps.

Finding Documents using Full Text Search

Full Text Search allows you to search the documents based on their content. Once a document has been checked into the system it is possible to find it with the full-text search based on the content of the document.

Enhanced Functionalities Sheet Auto numbering

With the insert function you are able to insert an existing document into a TOC. When inserting an existing document, the document links, the metadata, and the lifecycle are preserved. Individual sheets in multi-sheet documents can be connected and disconnected. This capability gives the user flexibility in managing the document as a stand-alone single-sheet or as part of a multi-sheet document. When a new sheet is added to a TOC, the sheet index is set to 0. When the first document is added to the TOC, the system automatically sets that sheet number to 1 and continues to increment additional sheets by a factor of 1. If the last sheet in a TOC is disconnected then the next sheet number assignment will be based on the last recorded sheet number that was assigned to a connected sheet. All the changes to the addition or removal of sheets on a particular TOC can be seen in the TOC's History tab.

Iterations and Format Enhancements

The Iterations and Formats tabs are merged into a single tab called 'Iterations/Formats'. It allows you to view both the Iterations and the Associated Formats of the Document Revision in just one place.

LCA Change Management

New Functionalities

Document Attach File

This functionality allows you to attach new document revisions, change requests, and change orders to actions using fewer steps.

Adding new documents to an Action as Affected Objects

Adding new documents to an Action as Attachments

Adding new documents to a Change Request as Affected Objects

Adding new documents to a Change Request as Attachments

Adding new documents to a Change Order as Affected Objects

Adding new documents to a Change Order as Attachments

Distribute Related Objects to Child Action

This functionality allows you to distribute a change order's affected objects, attachments, and effectivity to an Action. This functionality also extends to the change request by allowing you to distribute the affected objects and attachments of the request to an action as well.

Distributing a CO's Affected Objects to an Action

Distributing a CO's Attachments to an Action

Distributing a CO's Effectivity to an Action

Distributing a CR's Affected Objects to an Action

Distributing a CR's Attachments to an Action

Enhancements

Advanced Search using Effectivity

LCA Navigator provides you with the ability to search for actions and change orders using the configurable objects that are associated to them and their effectivity values. The documents that describe this enhancement are listed below:

Advanced Search for an Action

Advanced Search for a Change Order

LCA Enterprise Process Management

New Functionalities

The following functionality has been added in R17.

Attach File (One-Click Document Attach)

You can both upload a file and have it attached in a single click, which saves steps in attaching documents on the local computer. You can still search for uploaded documents as well, and this function also supports all file types during new document creation.

Attachment Support for LCA Objects

E-PM attachment for Business Processes, Activity Instances, and WorkItems supports all LCA Objects stored in a vault.

Improved User Settings Display

1. There is a shown distinction between Admin Authorization and Authorization for Categories.
2. User Settings shows if a user has Authorization or Administration Authorization for all categories (displaying ALL vs. Listed Categories).
3. User Settings show if a user has the right to see workitems for all users (displaying ALL vs. Listed Categories).

Sub-Process Navigation in Relationship Navigator

You can navigate to and from Sub-Processes in Relationship Navigator. Details can be found in the *Viewing a Process in Relationship Navigator* section.

Parent Relationship and Top Level Relationship for Business Processes

E-PM has improved navigation by showing Parent and Top Level Process Identifiers in the Properties window for a business process instance. Details can be found in the *Viewing Parent and Top Processes* section.

Navigation to WorkItems from Activity Instances

For improved navigability, E-PM allows you to view workitems from activity instances in Relationship Navigator. See the *Viewing WorkItems from an Activity in Relationship Navigator* section for more

details

Process Graph Enhancements

The following enhancements have been made to the Process Graph:

Graph Node Changes

Activity Names have been enhanced to provide higher visibility without fully-qualified names. Start and End nodes also have been added to the Process Graph to denote the start and end points of a business process (also shown below). Consult the [Viewing the Process Graph](#) for more details.

Process Graph Navigation Changes

Expand and Collapse functions are applicable to Process Sub-Graphs to allow more flexibility and less confusion when navigating through complex processes. View the following sections for details:

- [Graph Blocks and Sub-Processes](#)
- [Expanding All Graph Components](#)
- [Expanding a Sub-Graph](#)
- [Expanding a Sub-Process](#)
- [Automatic Activity Compressed/UNCompressed View](#)

Attaching Documents from WorkItem Check Out Window

Attaching documents from the check-out window and the Properties window eliminates the need to conduct a separate search on the same workitems. View the *Attaching Documents From the WorkItem Check Out Window* section for details.

Saving a WorkItem After Checkout

WorkItems can be saved after checkout, and can be resumed later. View the *Saving a WorkItem After Check-Out* section for details.

Properties Window Tabs for Process-Related Component Navigation

Tabs on the Properties Panels allow you to access sub-components of a business process. View the following sections for details:

- [Viewing Process-Related Components from the Properties Window](#)
- [Viewing Activity-Related Components from the Properties Window](#)

- Viewing WorkItem-Related Components from the Properties Window

Improved Reporting in E-PM

The following enhancements are available for E-PM Reporting:

- Reports are Viewable from Relationship Navigator
- Business Process Report Properties have the following panels:
 - General
 - Process Event Report
 - Process History
 - Activity Report
 - SubProcessReport
 - Process Chart
 - Diagnostics
- Process Activity Report Properties have the following panels:
 - General
 - Activity Event Report
 - Activity History
 - Activity Chart
 - Diagnostics
- Reporting Queries are based on a wider range of attributes and can use container attributes as well.
- Ability to view specific Process and Activity events, via these two panels:
 - Process History
 - Activity History
- Numerical data is available using different chart options (Pie/Bar).
- Reports are accessible based on the relationships contained within Relationship Navigator.
- You can Preview, Print, Download, and Upload E-PM reports to a Vault.*
- You can save and archive reporting templates.*

* -See the Reporting section of the *LCA Navigator Guide* for these and further enhancements.

Review Mechanisms

E-PM supports various mechanisms for creating reviews of LCA objects. A review will generate workitems for specific review members, based on specialties, P&O context, or task design.

Dynamic Sub-Processes

E-PM supports the use of dynamic sub-processes for auto-generated reviews (via routing slips) at specific points in a business process. Both the review and the review team tasked with it can be instantiated from existing templates.

Ad Hoc Reviews

You can create reviews directly from a document in E-PM using an existing public routing slip or by creating your own review on-the-fly.

Routing Package Actions

Routing package actions hold objects being reviewed. They allow multiple objects to be reviewed together and multiple reviews to be done on the same group of objects. Reviews can also be done from other types of actions.

Public Review Teams

E-PM offers the ability to construct reusable teams of review members. The same team can be loaded for different reviews on different LCA objects. Team modification is also possible after loading a Review team for added flexibility.

Public Routing Slips

You can create a review (with team members) that can be reused for various LCA objects. Each review step is configurable and will generate workitems to specified individuals. This allows quickly-created reviews to add flexibility to your business process.

VPM Interoperability

Interoperability with VPM is designed to manage business process flows across lifecycles of complex products designed and maintained in VPM. E-PM can be used to manage and coordinate tasks where iterations are common and data comes from various sources. Data from V-PM analysis and simulation tasks can also be easily integrated.

Interoperability features include:

- VPM objects as Attachments to a Business Process
- VPM Objects as Process Inputs
- Ability to Attach Configuration Handlers to Process Activities as Input Objects

- **VPM Action Creation from Automatic Activities**

LCA Enterprise Process Management Installation Guide

New Functionalities

The following features are found in E-PM V5 Release 17:

E-PM MQWF 3.6 Compliance

To bring you the most up-to-date and stable product, software requirements have changed from MQ Series 5.3 and MQWF 3.5 to MQ Series 6 and MQWF 3.6. Updated information regarding Jar files to be included in the the classpath environment variable can be found in the section: [Configuring User Authentication Exit](#).

References throughout documentation to `fmcjapi.jar` have been removed, as E-PM currently uses the MQ Workflow API from `fmcojagt.jar`. The two jar files should not exist in the same classpath for E-PM to function.

WebSphere MQ Client as an Alternative to WebSphere MQ Queue Manager

WebSphere MQ Client is currently available to provide flexibility and lower hardware requirements as an alternative to WebSphere MQ Queue manager.

Automatic Deployment Configuration

Additions to the `WASSetupUI` utility are provided to assist in configuring E-PM when it is initiated on the same machine as MQ Workflow. The following tasks are now automated using the data provided:

1. Configuration of WebSphere Application Server for E-PM
2. Creation of E-PM Database Schema and Tables
3. Configuration of WebSphere MQ Workflow Objects for E-PM
4. Customization of Application Launch, Listener Scripts, and Properties Files

Force Restart

Process administrators are provided with the function to force-restart a workitem or activity. Either an action or workitem can be restarted (from the workitem toolbar) so that the process may continue and the assigned user can receive workitems for completion.

Improved Error Reporting

To ease administrative tasks, more thorough error information is available for Workitems in E-PM. This

information is available through a dialog window, as well as through trace data on the server. Workitems that are in the error state can be examined using the new Show Error button on the Workitem toolbar.

Improved Server Listener Trace Data

E-PM administration in LCA server involves maintaining channels, application processes, etc. To give administration more information, listener trace data is available on the LCA server. Furthermore, a script is provided to simplify trace initialization.

Support for Sun Solaris Version 8

E-PM is supported for Sun Solaris Version 8. This is in conjunction with IBM Workflow support.

Content Management

New Functionalities

Enhanced Functionalities

Sheet Auto numbering

With the insert function you are able to insert an existing document into a Table of Contents (TOC). When inserting an existing document, the document links, the metadata, and the lifecycle are preserved. Individual sheets in multi-sheet documents can be connected and disconnected. This capability gives the user flexibility in managing the document as a stand-alone single-sheet or as part of a multi-sheet document. When a new sheet is added to a TOC, the sheet index is set to 0. When the first document is added to the TOC, the system automatically sets that sheet number to 1 and continues to increment additional sheets by a factor of 1. If the last sheet in a TOC is disconnected then the next sheet number assignment will be based on the last recorded sheet number that was assigned to a connected sheet. All the changes to the addition or removal of sheets on a particular TOC can be seen in the TOC's History tab.

Removed Functionalities Catalog Functionality

Following Catalog Functionality has been removed:

- Ability to create a new catalog in ENOVIA.
- Ability to modify a catalog in ENOVIA.
- Ability to search within the catalog.
- Ability to create keywords on catalogs and sub catalogs in ENOVIA.
- Ability to Save Catalogs in ENOVIA in Exploded mode.

You will need to reset the tree to see this change in your environment. Refer to Resetting the ENOVIA Home Tree section in this guide on how to reset the tree.

CES Enterprise Catalog Administration

New this Release

LCA People Organization and Security Guide

New Functionalities

Mask

A mask can be defined as a set of Access control information (ACI) for entities and attributes. Masks are set up by the administrator, and are associated to contexts. The following section contain the appropriate documentation for this highlight:

Mask

Security Rules editor

LCA People, Organization and Security application provides an easy to use web interface for the LCA Administrator to define LCA security Rules such as Privileges, Access Control etc.

Security Rules editor

Enhancements

Getting started

This section introduces first time users to LCA Navigator.
Getting Started

LifeCycle Administration Guide

New Functionality

Replication of TOC

You can replicate the Table of Contents (TOC) along with the attached Sheets and send it to multiple sites.

Simulation of Replication Package

You can ensure the contents of the Replication Package by simulating the package before actual extraction process. It also shows you a html report of the Objects, those will get extracted along with Replication Package.

Customizing Relationship Navigator State Colors

LCA objects in the Relationship Navigator window are given various colors depending on their status. LCA object state colors can be customized by changing hexadecimal RGB color values in XML-format configuration files.

Managing Templates and Stylesheets

Use Managing Templates and Stylesheets for reference when you create, customize and use Templates and Stylesheets for the Reporting purposes.

Customizing Import File Table Attributes

You have a facility to customize the list of document attributes displayed in the Import Files upload window.

Enhanced Functionalities Configured RBO Remodeling

When a Configured object along with its modification is replicated, the modification information will be removed from the Configured RBO and a new Mod RBO will be created. This enables multiple sites to manage the Effectivity when dealing with a flat product structure.

Configuring LCA Navigator for LCA Resources

Configuring LCA Navigator for LCA Resources provides the information on how to administer LCA Navigator.

LCA Multisite System Administration Guide

New Functionalities

Changing the Status of Replication Package for a specific site

You have the option to activate or deactivate the usage of the replication package for a specific site. When choosing to cancel the usage of these packages, it is not necessary for you to delete them.

Enhancements

There are no new enhancements in this release.

VPM Navigator

New Functionalities

Managing the Lifecycle Status

You can now change the maturity status of an ENOVIA object directly in VPM Navigator.

Transferring Ownership

It is now possible to change the ownership of ENOVIA objects commonly used in VPM Navigator.

Instant Collaboration

Instant Collaboration is now directly available in VPM Navigator.

Reidentifying Part Instances Subsequent to Versioning

Enhanced Functionalities

Using the Impact Graph Workbench

You can now:

- customize the impact graph so it displays only the links you request and bypass such defaults for the current impact graph
- immediately access the first level of the detected relationship, expand a single relationship or the whole impact graph
- display, when using the Impacts On command on contextual links, a full graph symmetrical to the graph displayed by the Impacted By command
- more easily identify link types, relation types and impact orientation due to improved graphical features
- refresh the graph from the parent node
- display a "leaner" graph that only opens the same node once.

Expanding and Collapsing in the Product Tree

Expansion and collapse have been improved by means of new commands. For example, you can now choose expansion depth.

Using the Modify Button When Saving

You can now attach a CATDrawing to a Part version.

Installing VPM Navigator

Interoperability - Mapping Attributes and Defining Domains in an XML File

You can now:

- map document attributes from CATIA V5 to ENOVIA V5
- map date-type attributes

Lifecycle and Security Checks - Connections (Cnx)

The same lifecycle and security rules now apply to Connection modules (constraints) as well.

Customizing Settings

Customizing the Impact Graph

Electrical Cable Route Management

New Functionality

You can generate an Electrical Cable Route Management report using LCA Navigator.

You can use the Electrical Cable Database Data Checker command to check for unnecessary data in the electrical cable database, and delete this data.

Administrators can set up security processes to access data in the electrical cable database. These security processes apply to commands submitted within VPM Navigator and the Electrical Cable Routing workbench, using the Electrical Cable Database Cable Selection dialog box.

Action Management

Enhancements

Auto Capture of Documents as Action Affected Objects

When new document revisions are created under action control (in either Product Editor or Parts Editor), those document revisions are automatically captured as affected objects beneath the action.

Action Affected Objects Enhancements

Action Management gives you the ability to paste multiple objects to an action as Affected Objects. You can paste these objects individually with different association types (Input/ Output), or you can paste all of them with the same association type in one easy step. When pasting multiple objects into an action, you are able to view the ID of the current object being pasted. The documents that define this process are listed below:

[Copy and Pasting multiple Affected Objects to an Action at one time](#)

[Cutting and Pasting multiple Affected Objects to an Action at one time](#)

Engineering LifeCycle

New Functionalities

Dynamic Configuration Handlers

When defining a Configuration Handler using Actions or Modifications, you can save the search criteria to create a dynamic filter. When a dynamic configuration handler is loaded, it will use whatever Actions or Modifications result from the query instead of using specific Actions or Modifications saved in the filter.

Documents defining this functionality are listed below:

- [Defining a Configuration Filter Using Actions](#)
- [Creating a Configuration Handler](#)

Managing Documents and Folders: Associating Documents to Product Specifications

As you are working within the product structure, you may need to associate a document that contains information relevant to all or part of the product structure. Documents can be associated with a specific part or product instance, a part or assembly, a product, a product class, a GCO or a product specification.

Product Editor Export: Exporting Computed Effectivity

Within Product Editor, you can choose to export attribute information for your product structure to a HTML, text, or XML file. Having this information available in file format, gives you the ability to manipulate data from these extractions for a variety of business purposes. However, by default, Item Instance's effectivity values are not exported. A new option has been added that allows you to export the computed effectivity of Item Instances.

Affecting Actions Relation in Where Used Tab

Product Editor enables you to establish and modify product structures made up of product root classes (products, components and part instances. As you develop your product structure, EV5 tracks the relationships between the various objects within it. You can display where these objects are used and visualize the relationships between them by using the Where Used tab.

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 an unresolved **Add** operation. Using the Hide instances with unresolved Add operations option in the Edit Configuration Filter window results in all instances with unresolved **Add** operations to be excluded from the filtered product view. Documents defining this functionality are listed below:

- Editing the Filter Criteria of a Product Specification
- Defining a Configuration Filter Using Effectivities

Creation of Customized Configuration Handlers and Product Specifications has been enabled

This new functionality allows users to create customized Product Specifications and Configuration Handlers. This allows you to add attributes specific to your processes and helps you distinguish between the different Product Specifications and Configuration Handlers easily. This easy distinction also allows you to search for these objects and send them to Sheet Editor to edit their filter criteria and attributes right from the search results window. Documents defining this functionality are listed below:

- Creating Product Specifications
- Editing Product Specifications
- Editing the Filter Criteria of a Product Specification
- Creating a Configuration Handler
- Editing Configuration Handlers
- Sheet Editor User Interface



Enhancements

Assigning a NOT operator to Specification Effectivity

When assigning specification effectivity in the Specification Chooser (launched from the Action Editor,

Configuration Tab and the Operations Panel) you can specify a NOT operator for a specification. Documents defining this functionality are listed below:

- Defining Effectivity Modifications Using Actions
- Establishing Effectivity by Editing Applicability
- Resolving Operations and/or Establishing Session Effectivity

Multi-select for Replacing Instances

You can use the Replace New Reference function to select a part instance currently displayed in your product structure and replace its part reference with a newly created clone of the part reference that is being replaced. The new part reference is actually a new evolution of the part that is being replaced. This is especially useful for creating alternative designs for a given assembly. With the Replace New Reference functionality, multiple instances can also be selected at one time using Replace New Reference, Replace Reference and Replace Product.

Configuration Management Usability Enhancements

- When defining the filter criteria of a product specification, empty categories will not be visible by default (this can be changed using a Portal setting). Also, when validating your filter criteria selections for a product specification, all the results of the validation will be displayed in a message box in addition to the regular visual display. See [Editing the Filter Criteria of a Product Specification](#) for more information.
- Navigation has been enhanced when authorizing specifications for a product type. You can individually select the specifications you want to authorize for each of the product types or you can multi-select specifications. See [Authorizing Specifications for a Product Type](#) or [Establishing Type Define Specifications](#) for more information.

Product Specifications and Configuration Handlers can be sent to the Sheet Editor

In the search results panel, you have the choice to send configuration handlers or product specifications to the sheet editor. Once in the sheet editor you can edit their attributes and use the Send To function to edit their filter criteria.

Copy/Paste is Available in the Component Editor

Component Editor enables you to create component hierarchies to organize your product structure. One method of creating a new component is to duplicate similar components. You accomplish this task using the Copy and Paste functions.



ENOVIA VPM Supply Chain Engineering Exchange

New Functionalities

Automatic Locking of ENOVIA V5 Objects

When reconciling data in ENOVIA V5 VPM, either in batch mode or interactively, the system will automatically attempt to obtain locks for all necessary objects (instances, parts documents) based on the reconciliation rules defined.

New Revision and New Version Rule for ENOVIA V5 Objects

When setting rules for ENOVIA V5 objects, either in batch mode or interactively, options are available to

- save documents to ENOVIA V5 as new revisions.
- save parts to ENOVIA V5 as new versions and their corresponding geometry documents as new revisions.

Document View

An option to display the objects to be reconciled as documents.

Publication and Attribute Characteristics When Reconciling Objects in ENOVIA V5

The ability to compare attributes between the current CATIA session and the objects in the ENOVIA V5 database has been made available. The comparison can be done based on attributes.

CATMaterial and Catalog Document Types

CATMaterial and Catalog document types are now supported in the reconciliator. All rules are supported as noted in Defining Reconciliation Rules.

Reporting and Printing

At any time during the reconciliation process, a report of the current reconciliation choices you have defined can be generated. The report is saved in an xml file and displayed in your default web browser. The report can be printed directly from the web browser.

Options have been added to the CATPDMExtractEV5Batch Batch Process to automatically complete the list of documents to be extracted.

Four new options (-completeWithDesign, -completeWithDrawing, -completeWithAnalysis, -completeWithImpactedBy level number|all_level) are provided to make the extraction of data from ENOVIA V5 easier by limiting the documents you need to explicitly define in the command line. VPM Navigator's impact graph is used to automatically determine the associated documents you want to extract.

Customizing Queries

Queries are used to map objects loaded in CATIA to objects existing in the VPDM. Three queries exist for mapping objects to ENOVIA V5 VPM: Easy Query, Query Document by Part Id and Query by Object Id.

Custom queries can now be defined based on any of the three standard queries. Custom queries can be added to define which parameters make up the query and/or supply default values for the query parameters.

Intermediate Query for mapping object to ENOVIAVPM

A multi-attribute query has been added for mapping object to ENOVIAVPM.

Global Set to automatically map the CATIA view with the VPDM view

A new global set has been added which automates the mapping by comparing the instance tree in the CATIA view with the instance tree of the VPDM view.

External links to file based documents are re-routed to existing documents in the VPDM.

Enhanced Functionalities

VPDM 3D View Populated From the VPM V5 Repository

When using the VPDM 3D View, CATPart files are loaded from the VPM V5 repository when the DMU cache has been activated.

Publication Exposed Objects can now be mapped from the VPDM View

Usability Enhancements

Several features have been added to the Reconciliator to improve usability:

- a progress bar has been added to display the completion status of the global query and the global set based on VPDM mapping.

- a 2D viewer has been added to preview drafting documents
- when using the query to map objects, the query criteria will be saved so that the same query run on the same object, within a single Reconciliator session, will be pre-loaded with the specified values
- global sets can now be run on sub-assemblies of the structure displayed in the CATIA view
- when using the query to map objects, the query function is now accessible from the shortcut menu in the CATIA view.

Product Interference Management

This section identifies what new or improved capabilities have been documented in the Version 5 Release 17 of Product Interference Management User's Guide.

New Functionalities

Editing Interferences Results

It is now possible to delete multiple interferences using both multi-selection and delete item displayed in the contextual menu (easily accessed by a right-click)

Infrastructure User Guide

New Functionalities

Virtual Reality Configurations

Working with Clusters

A new computing system called "cluster" is supported. This system lets you use a set of several computers consisting of one master computer and one or many slave computers.

Printing Online Documentation

Enhanced online documentation printing

Documentation is no longer delivered in PDF format. However, to enable you to print online documentation more easily, a new print engine allows you to display main pages (and all child pages to which the main page is linked) in a separate print window.

Enhanced Functionalities

Printing Documents

Customizing Print Settings Before Printing Your Documents

Ability to modify the size of the text displayed in the banner.

Ability to enter a floating-point value when defining the scale of the document to be printed.

A new option lets you use a polyhedral HLR rendering mode.

Printing Documents with Multiple Sheets

Ability to print .CATDrawing documents containing OpenType fonts.

Manipulating Objects

Using the Low Intensity Graphic Property

When applying the Low Intensity graphic property, it is now possible to keep the associated color when displaying objects in Shading with Material mode.

Saving Documents

Saving Documents in Other Formats

OpenType fonts are supported when saving a .CATDrawing document in PDF format.

Directional light sources are kept when saving a document in 3D XML format.

Selecting Objects

Selecting Using the Selection Traps

Ability to choose a selection trap mode and use it to make as many selections as needed.

Using Fonts

Customizing Fonts for Displaying Geometry Area Texts

OpenType fonts are now supported when working with .CATDrawing documents.

Viewing Objects

Activating Viewing Tools

The SpacePilot is now supported in WebViewer-derived products: 3D XML Player, 3DCOM Modular, LCA Navigator, Smarteam Editor and Smarteam Web Editor.

Customizing Settings

Devices

New parameters are available for working with PC clusters.

Document

A new option lets you run case sensitive searches when searching for DLNames.

A new option lets you perform a quick search for root DLNames.

Navigation

A new option lets you change the value of the rotation angle when rotating objects using the keyboard.

Graphic Formats

Ability to save a multisheet document in a single vectorial file and to set the current sheet of the document as the first page of the generated file.

Visualization

A new option lets you use the super sampling technique.

DMU Fitting Simulator

New Functionality

Generate Track command has been added

Users can select edges on the geometry, and generate tracks from the edges. Once the initial track has been generated from the edges, the track can be modified.

Enhanced Functionalities

Dragging the slider on the Player pop-up toolbar enables users to see the track simulation

In previous releases, users could not see the effects of attaching a section to a track until after a simulation was run; now users can see it as they move the slider.

The Player toolbar has a distance parameter

Users can interpolate along the track with a set distance. Also, the Sampling Step option in the Player Parameters dialog box can be set for distance as well as time.

When you select Shuttle, the Preview window now has a Tree tab

This tab enables users to see the names of all parts selected as part of the shuttle. Users can still preview the graphical representations of the parts via the 3D tab.

Shuttles may contain multiple groups and manufacturing assemblies

In previous releases, shuttles could only contain one group and a parent shuttle could reference another shuttle. In this release, each group is treated as an object, and users can select as many objects as they like. Similarly, users can include manufacturing assemblies within shuttles.

When you click the Activate Analysis button from the Track dialog box, you can edit the analysis object

Users have the option to edit one analysis object at a time while using the Track command; they do not have to exit the Track command and use the analysis commands.

Customizing Settings

Snap Sensitivity in the DMU Manipulation tab has been altered

The default value for the Orientation option has been changed to 20 deg.

DMU Engineering Analysis Review

Enhanced Functionalities

Results and Images Generation

Editing Images You can edit a deactivated image.

Results Management

Cut Plane Analysis New options are available.

Human Activity Analysis

New Functionalities

Segment coloring for RULA Analysis

You will be able to visualize the colors given by the RULA analysis on the manikin segments, without opening the RULA analysis dialog box. It provides you with yet another tool to visualize the analysis results.

Creating Load Parameters

The Load command is added to the Manikin Tools toolbar within the Human Activity Analysis configuration.

Human Builder

New Functionalities

Using the Auto Place (Z Only)

This describes how to use the Place Mode (Z only) command. This provides you with an easy-to-use tool for placing the manikin in the 3D environment, in accordance with the manikin's referential.

The Auto Grasp Toolbar

These functions automatically generate a grasp posture of the hand by checking the collision between the hand and one or several objects to be grasped, thereby decreasing the time it takes to create accurate postures.

Positioning objects on an area's surfaces

The Plant Layout workbench allows you to layout a manufacturing facility. One of the objects that Plant Layout can create is an "area," which is a solid representation of a floor. Many positioning tools require getting some sort of geometric representation for orientation, for example, snapping two objects together, aligning two objects, placing the compass on an object, or placing a temporary plane object on the surface. Using these features makes the area pickable, so it behaves similarly to a mechanical PAD in that you can place the compass on the area and snap to the orientation the compass defines.

Enhanced Functionalities

Optimize Posture findings for Human Posture Analysis, and Human Activity Analysis

In the Inverse Kinematics (IK) behavior panel, you can choose to optimize the posture according to either Postural Score or RULA Analysis. This option is in effect when IK mode or Reach mode is used, as well as when the IK solver is called to resolve a constraints update.

Enhanced snap for the Reach Mode command

The Enhanced Snap for Reach Mode Command functionality enables you to get a more predictable and acceptable posture of a manikin's segment after a reach using the Reach (Position & Orientation) command. This shortens the time of fine-tuning the posture after a reach operation.

Plan Orientated Coincidence Constraint for Manikin Segments

You can create a 2D Plan Coincidence constraint between any segments and any plans. The creation process works exactly as it does for the other constraints. After updating the constraint, the segment is perpendicular to the surface selected for the constraint. This highlight adds another type of coincidence constraint, described as a 2 Directions Plane coincidence constraint. The coincidence constraints created in previous versions are Point to Plane coincidence constraints, and are defined as such from R17 and onwards.

Gender and Percentile to be maintained on Manikin Instance

This feature allows you to reduce the number of manikin reference files. In particular, this feature can be applied to complex and complete simulation scenarios in which a large number of workers need to be involved, and sometimes changed in order to try different modeling alternatives. You can access this feature through Tools > Options.

Visual Cone Enhancement

The vision cone is an arbitrary limit that can be specified by the user in order to analyze what can be seen by the manikin inside a certain degree around the line of sight. This limit can represent an optical characteristic of the eye, like the limit for maximum acuity (approximately 1 degree) or the limit for colors discrimination (around 35 degrees).

Reporting Enhancements

This broadens the spectrum of possibilities of the existing report objects. First, you can now customize the input parameters of reports objects; second, you can see a status report for the manikin; third, you can see a new column in the report files that is used to store the input parameters of the reported elements.

Generating a Status Report

In the Status Report, you can select the items that you want to save in the report. By default, all the

items are checked.

Head/Neck kinematics model enhancement

In previous releases, the head motion was not natural while the manikin is looking at something located on the side. In this context, moving the compass up and down in IK mode produces lateral movement of the head.

Human Measurements Editor

Enhanced Functionality

Changing the Population with respect to values or percentages

The name of this function has changed in order to express more accurately its meaning. In the Human measurements options, the Copy/Paste Behavior label has been replaced by the Change Population with respect to label.

Human Posture Analysis

New Functionality

Creating Customized Joints for Preferred Angles and Postural Score

The general concept is to provide a tool that will allow them to create virtual segments (joints) of the pelvis, trunk, neck and head on which they will be able to edit preferred angle with score.

Enhanced Functionalities

User interface

The toolbar Angular limitation now gathers 7 commands. A new toolbar was added for the catalog functions.

Editing Preferred angles

The Editing of Preferred angles has been merged with the Angular limitations and Preferred angles.

DOF incorporated with the Preferred angles

Selecting the DOF has become easier, as this selection has been incorporated with each specific function.

Locks node is removed and locks accessible within angular limitations

For the ease of removing a angular limitation, the locks function has been removed from the Product tree, and from angular limitations.

Reset

This option allows the user to reset the Preferred angles to their original value.

Real Time Rendering

Enhanced Functionalities

Materials

Importing and Exporting Materials in 3D XML

Materials applied to CATProducts can now be saved and retrieved in 3D XML format.

New Functionalities

Materials

Replacing a a material library by another one

It is now possible to replace a material library through the Edit > Links capability.

DMU Space Analysis

This section identifies what new or improved capabilities have been documented in the Version 5 Release 17 of DMU Space Analysis User's Guide.

Enhanced Functionalities

Sectioning

Section Export

The resulting section curve is now exported as polyline thus ensuring a correct result close to section geometry

Section Result window

You can now customize the size and positioning for the sectioning result window and open multi sections simultaneously using a contextual menu command.

Measure Tools

Exact measure versioning

Exact measures are now versioned, thus ensuring measures created on a specific level are always valid and stable on this level.

Interference Checking

Intersection Volumes

Intersection volumes are now taken into account during interferences calculation providing an improved result displaying the inertial box.

Exporting Clash Command Results

You can now export intersection volumes in cgr format

Interference selection

It is now possible to display and edit clash selection using the Part Selection functionality in a Process document (with a DPM Assembly Process Simulation license)

Customizing Settings Sectioning

DMU Sectioning

You can now customize the sectioning result window (arranging the section viewer size and positioning). New options are available in Tools > Options > Digital Mockup > DMU Space Analysis > Sectioning tab > Result Windows .

Interferences

DMU Clash - Detailed Computation

Boolean button not only enables the intersection volumes calculation but also the inertial box display (Tools > Options > Digital Mockup > DMU Space Analysis > DMU Clash - Detailed Computation > Intersection Volume)

DMU Clash

New option to specify the clash value font size Tools > Options > DMU Clash .

3d com Administration Guide

What's New?

New Functionalities

Administrating 3d com Web Navigator

Configuring Navigator

SmartTeam has the ability to use viewer annotation management feature using Working Environment Context (WEC) adapter.

SMARTTEAM CATIA Integration

New Functionality

Analyzing the Impacts of a Change

The Impact Analysis functionality displays all the documents pointing onto a selected object. This tool allows you to evaluate the impacts brought by the modifications made to the current object and therefore help you choose the solution to implement with the least modification cost.

Enhanced Functionality

SMARTTEAM Document Display

The display of SMARTTEAM objects in Check Out, Check Out on the Fly windows and Not Saved warnings can be customized thru Tree Properties.

ENOVIA MULTICAx PD Plug-in

Enhanced Functionalities

Direct Mode

MULTICAx ProE currently supports ProE files up to versions Wildfire2.

ENOVIA MULTICAx UD Plug-in

Enhanced Functionalities

Direct mode

Converters based on NX2 are supported.

Indirect mode

Indirect translator now supports translation of UG NX3.0 parts and assemblies.

New Functionalities

Support of Geometric Tolerancing entities

The Indirect converter for UG NX3 also translates GD&T entities. This support is available during CATPart conversion and the following GD&T entities are translated - Datum, FCF, Datum Target, Size Tolerance and Linear Size Tolerance.