Nouveauté CATIA V5R21

Part Design

Nouveautés

Aucune amélioration n'a été apportée dans cette édition.

Assembly Design

Nouveautés

Aucune amélioration n'a été apportée dans cette édition.

Generative Drafting

New Functionality

Reduction of Required View Update Cycles after 3D Graphic Attribute Changes

You can now avoid updating a view which is not impacted by a show/no-show modification done in the 3D. This improves productivity.

Enhanced Functionality

Fillet Symbolic Representation Enhancements

You can now avoid extraneous fillet representation which overlaps with the actual geometry edge, thus enabling you to create associative dimensions on views.

Sketcher

Nouveautés

Aucune amélioration n'a été apportée dans cette édition.

Generative Shape Design

New Functionality

Creating a Contour

This new functionality lets you create a contour.

Simplifying Surfaces

This new functionality lets you simplify the topology of surface.

Enhanced Functionality

Creating Multi-Sections Surfaces

You can now define curvature continuity with section supports or guide supports. A multi-section surface can be created with the guide curves intersecting at extremity.

Creating Offset Surfaces

The new **Regularization** option enables you to regularize the offset surface locally.

Creating Swept Surfaces

The new **Compute C0 vertices as twisted areas** check box enables you to fill the C0 vertices areas.

Defining an Axis System

It is now possible to have an associativity between the default computed inputs and user-defined inputs.

Selecting Using Multi-Output

You can now delete one or more elements in one instance while selecting using multi-output.

Global Deformation on Wires

You can now select curves as an element to deform in the Bump, Shape Morphing, Wrap Curve and Wrap Surface commands.

Splitting Geometry

The new **Approximation** tab enables you to control the quality of the result of the **Split** through several parameters and modes.

Replacing Elements

A new button enables you to cancel the inversion of the locally inverted feature.

Creating Fill Surfaces

The **Canonical portion detection** check box allows you to compute canonical portions.

Creating the Nearest or the Farthest Entity of a Multiple Element

You can now create the entity that is far from the reference surface.

Creating a Hole

The new **Axis Computation** option enables you to automatically create axis and direction lines passing through the center of the hole.

Creating a Hole Curve

The new **Axis Computation** option enables you to automatically create an axis and direction lines passing through the center of the hole curve.

Creating Multi-Sections Volumes

You can now define curvature continuity with section supports or guide supports. A multi-section surface can be created with the guide curves intersecting at extremity.

Generative Structural Analysis

Enhanced Functionality

Result Visualization
Force Flow 2d and 3d Text Images

Two new images are available in the Generate Images dialog box: Force Flow 2d Text and Force Flow 3d Text.

Export Data from Extrema

You can transfer extrema (coordinates, values, type) into a .txt or .xls file.

Color Map in the Specification Tree

The color map now appears in the Specification Tree under its corresponding image.

Analysis Connections
Creating General Analysis Connections

You can select several mechanical features when defining general analysis connections.

Virtual Parts
Creating Virtual Parts

- Virtual Parts can be applied to Geometrical Groups and Groups by Neighborhood supports.
- When you select a support, the **Select Mesh Part** button is available.

Groups

Grouping Surfaces

You can select surfaces continuously according to the angle between them.

Sensors

Creating Local Sensors

You can select an image as support when creating local sensors in a mono-occurrence or multi-occurrence computed solution. Only entities visualized in the image will be taken into account.

Reference Information

Image Edition

You can select an image as group which allows you to filter entities by values.

Dynamic Response Sets

Defining a Load Excitation Set

Enforced displacement loads can now be selected when defining load excitation sets. The modulation applied to this load can be interpreted as accelerations on the nodes in the load definition.

Advanced Meshing Tools

What's New?

Enhanced Functionalities

Surface Meshing
Offset in RBM

You can apply an offset while creating a mesh with the Rule Based Surface Mesher. The mesh is created based on an offset representation of the geometry (the actual geometry is unchanged). This results in a higher quality mesh than if the surface were meshed and then offset.

Curve Projection

The local specification for the projection of curves to constrain a mesh has been enhanced to allow selection of curves from 2D and 3D features as well as the 1D features that were available previously. In addition, if you use automatic mesh capture while creating a surface mesh with RBM, you can also automatically project curves. If you automatically project curves during mesh capture, the same tolerance is used for mesh capture and curve projection.

Mesh Part Selection in RBM

The automatic mesh capture option in the Rules Based Surface Mesh dialog box now includes an option to select all mesh parts. Choosing this option will account for all up to date meshes within the automatic mesh capture tolerance range when you create the surface mesh.

Analysis Tools in RBM

The Free Edges, Cutting Plane, Interferences, and Element Quality Analysis tools are now available in the Rules Based Meshing workbench. These tools are located in the Mesh Analysis Tools toolbar.