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3 Lifecycleviewer

3.1 Introduction

By integrating Lifecycle Visualization with Teamcenter, you can work with managed visualization data in the external single application viewer or in the Lifecycle Viewer perspective in the rich client. The Single Application Viewer is a separate Teamcenter application. The application complements Teamcenter's embedded visualization components by supporting optional software modules such as Concept Showroom, Visualization Illustration, and Variation Analysis. The Lifecycle Viewer is an embedded visualization application within the Rich Client. It provides almost all visualization tools included in the single viewer, many of which are not included in embedded Teamcenter applications such as My Teamcenter or Structure Manager.

3.2 Fundamentals

3.2.1 Primary and secondary visualization documents

Visualization files in Teamcenter are always either primary or secondary documents. You can open primary documents independently of other documents, whereas secondary documents depend on primary documents. For example, a JT file is a primary document that you can view independently without having to open another file; a markup layer (VPL file), on the other hand, cannot be viewed without another file and must be opened in the context of a primary document (such as a JT file).

3.2.2 Static and configured product structure

Product structures from Teamcenter can be static or configured. This depends on how you save the session and then reopen it. When you initially send a product structure to the Lifecycle Viewer or the Single Application Viewer, the structure matches the currently active configuration settings of Teamcenter applications such as Structure Manager (configuration rules, validity, variant rules, active assembly arrangements, and other settings).

3.2.3 Visualization session files

Session files store the status of the viewer so that you can resume your work at a later time. If you save your work as a session file, you can retain viewer elements such as open files, snapshots, part visibility, and part transformations.

3.3 Basic tasks

You should understand how the following tasks are performed when you first use the Lifecycle Visualization integration in Teamcenter:

- Enable the UI options in the rich client to send visualization data to the standalone application viewer.
- Use the Teamcenter Integration preferences to set the default behavior of visualization datasets in Lifecycle Visualization.
- Open the visualization files from Teamcenter in the Single Application Viewer or Lifecycle Viewer.
- Insert the visualization files into the Standalone Application Viewer or Lifecycle Viewer, or merge the files with an active session.

- Browse the Teamcenter database from the Single Application Viewer.
- Create shortcuts to folder locations in Teamcenter.

3.4 Visualization tools in Teamcenter

The Lifecycle Visualization integration in Teamcenter supports the Teamcenter Lifecycle Visualization Single Viewer and the Lifecycle Viewer in the Rich Client. In addition, many rich client perspectives include embedded visualization components.

3.4.1 Lifecycle viewer

Lifecycle Viewer is a comprehensive visualization client in Teamcenter. It provides almost all visualization tools included in the single viewer, many of which are not available in the embedded viewers in Teamcenter applications such as My Teamcenter.

Lifecycle Viewer is available in the same product configurations as the single viewer (Base, Standard, Professional, and Mockup). The features available depend on the licensing level. The base configuration is automatically installed with the rich client.

By using Lifecycle Viewer, you can:

- Work within a comprehensive user interface that gives you access to many options that were previously available only in standalone products, including menus and views (the equivalent of project workspace windows such as the assembly).
- Insert or merge files in the active viewports.
- Work with multiple datasets open.
- Maintain the status of your work with session files.
- Save data as PLM XML.
- Export 2D images and 3D models as supported datasets.
- Create visualization data such as motion files, swept volumes, and .vfz collaboration files.

3.4.2 Working with visualization data in my Teamcenter viewer

The **Viewer** view in My Teamcenter displays content depending on the type of object selected in the current component view or in the **Details** view. Support for visualization data includes:

- When an item or item change state is selected, the viewer displays the associated image, circuit board, schema, or JT data.
- When an image, ECAD board, ECAD schema, or JT dataset is selected, the Viewer displays the image, board, schema, or model.

Application Cases for Visualizations

- Display and markup of parts, circuit boards, schematics, drawings and images without having to start the stand-alone viewer or lifecycle viewer.

Available visualization tools

- **2D-Markup**

Create 2D Markups.

- **2D multiple page**

Navigate pages in multi-page 2D images or documents.

- **2D display**

Move, zoom, rotate and flip 2D images/.

- **3D Markup**

Create 3D markups.

- **3D measurement**

Perform 3D measurements.

- **3D navigation**

Slide, rotate and zoom 3D models.

- **3D-PMI**

Display and manipulate PMI in your model.

- **3D cut**

Create 3D cross-sections.

- **3D selection**

Select parts and part shape elements.

- **3D Standard Views**

Check model from preset viewing angles.

- **ECAD Base**

View the ECAD document layers, manipulate layer color and visibility controls, search and create
reports.

- **ECAD Markup**

Create ECAD markups.

- **ECAD multiple page**

Switch between pages in schema documents with multiple pages.

- **ECAD view**

Move, zoom, rotate and flip an image.

- **Print**

Print documents.

3.4.3 Structure Manager Viewer

The viewer embedded in Structure Manager is available in the Viewer tab of the data window. You can use the Viewer to display JT files attached to assemblies and components in the structure tree when displaying and editing a product structure.

Application Cases for Visualizations

- Display 3D assemblies or structures.
- Display subcomponents in assemblies.
- Compare product structures.
- Create and save product views.

Available visualization tools

- **3D alignment**

Align parts to other parts in the Viewer.

- **3D representation**

Change the representation of 3D models.

- **3D distance**

Check distance of parts in 3D models.

- **3D comparison**

Compare the geometry of two groups of parts.

- **3D coordinate system**

Create parts and align them to local coordinate systems.

- **3D GDT Markup**

Create 3D GD&T markups.

- **3D manipulators**

3D-modeling.

- **3D markup**

Create 3D markups.

- **3D measurement**

Perform 3D measurements.

- **3D film recording**

Capture your actions in the 3D Viewer as movie files.

- **3D Navigation**

Slide, rotate and zoom 3D models.

- **3D-PMI**

Display and manipulate PMI in your model.

- **3D cut**

Create 3D cross-sections.

- **3D selection**

Select parts and part shape elements.

- **3D Standard Views**

Check model from preset viewing angles.

- **3D Thrush Line Editor**

Create and manipulate Thrustlines.

- **3D Visibility**

Hide obscured parts and clip areas of your model.

3.4.4 "JT Preview" view

Use the **JT preview** to display .jt parts associated with items, item change states, and datasets. When you select a compatible object, the .jt file is displayed in the view.

Application Cases for Visualizations

- Preview JT parts.

Available visualization tools

- **3D navigation**

Slide, rotate and zoom 3D models.

Image Preview View

Use the Image Preview to display 2D raster images associated with elements, element change states, and datasets. When you select a compatible object, the image is displayed in the view.

Application Cases for Visualizations

- Preview 2D raster images.

Available visualization tools

- None