

# Lifecycle visualization professional

Full-function design review solution with robust investigation tools to enable high-performance multi-CAD assembly analysis

## Benefits

- *Maximize productivity* by enabling your enterprise to capture, manage and control all of the comments and reviews made by your product teams and to facilitate more effective design reviews
- *Streamline innovation* by enabling extended design teams to leverage CAD data and visualize new ideas, test their validity and evaluate alternative concepts collaboratively
- *Accelerate time-to-market* by enabling concurrent utilization of design data throughout your lifecycle processes
- *Reduce cost* by enabling your development teams to validate form, fit and function without having to assume the costs associated with a CAD license
- *Extend the value of your intellectual capital* by combining and visualizing multiple CAD formats in the context of a multi-CAD assembly

## Summary

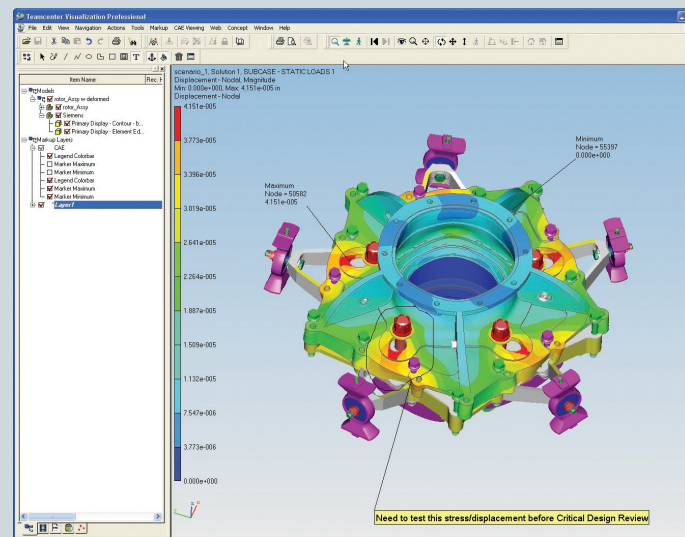
Teamcenter® software's lifecycle visualization professional capabilities extend the visual and analytic value of computer-aided design to product lifecycle participants who need to conduct design reviews with design data authored under multiple CAD systems. While many people need to work directly with design data trapped in proprietary CAD formats, they traditionally have had to learn how to use a native CAD system or wait for 2D drawings. This solution enables knowledge users who work with 3D data to validate design content and further its evolution without incurring the cost, complexity or training required by sophisticated CAD systems.

## Extending the value of design data beyond CAD

Teamcenter's lifecycle visualization professional solution takes the power of today's leading CAD capabilities and puts them into an easy-to-use tool that enables you to visualize your product designs during collaborative design reviews without the use of a 3D CAD authoring system.

Traditionally, extended design teams, such as your simulation, manufacturing and quality teams, have had to wait for a design to be complete before they could validate it for form, fit, function and manufacturability.

The lifecycle visualization professional solution allows downstream participants in the product lifecycle – which typically encompass more than 10 times the number of CAD authors – to begin their evaluations earlier in the lifecycle than was possible before. Having full-function design review tools



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### Benefits *continued*

- *Improve collaboration* by enabling upstream contributors and downstream stakeholders to leverage a common JT file format regardless of their chosen design-authoring tool

### Features

Lifecycle visualization professional includes all lifecycle visualization base and standard capabilities (as presented in their respective fact sheets). Key base and standard capabilities are listed below.

- Complete 2D navigation, measurement and markup tools, plus 2D compare
- 2D viewing of all standard formats, including pdf, bmp, gif, jpg, tiff, CGM, HPGL, IGES, DXF, DWF (6.0 and above) and DWG
- Ability to visualize in JT format and navigate multi-CAD assemblies from major 3D CAD systems
- Advanced 3D measurement
- Ability to visualize product structure, properties and layer information
- Ability to visualize PMI
- Advanced 3D visualization tools
- Enhanced 3D session and conferencing

Key professional capabilities are listed below.

- 3D comparison
- Dynamic 3D cross-sectioning
- Ability to view CAE results exported in JT format
- Callout and symbol manager for annotating exploded view illustrations
- Thrustline editor for creating and displaying advanced exploded view centerlines

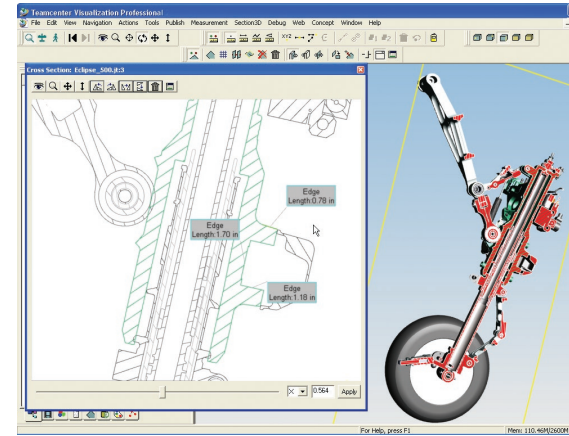
at your fingertips during your reviews enables better decisions, faster, without wasting valuable meeting time.

Teamcenter's lifecycle visualization suite has proven its credentials as the world's leading visualization standard for more than a decade by providing unmatched performance and a solution portfolio of unsurpassed breadth. Teamcenter not only provides your enterprise with the best visualization technology on the market today, but also enables you to collaborate with industry-leading companies around the world.

Teamcenter's lifecycle visualization suite is powered by JT™ technology. The JT format is a highly flexible CAD neutral format that allows full representation of relevant model information. Depending on your type of business processes, JT data can be very lightweight when representing extremely high performance of the largest assemblies, or it can optionally extract surface geometry, product structures, attributes and product manufacturing information (PMI) including tolerances, feature control information, weld symbols and other manufacturing annotations. The lightweight nature of JT enables product teams to visualize extremely large assemblies and validate the interfaces of sub-assemblies and components in the context of the complete assembly. In fact, CAD users often employ Teamcenter for large assembly viewing because their native CAD system cannot handle this amount of data. JT is so complete that it can even replace CAD files for data exchange between OEMs and suppliers.

The advanced 3D measurement, cross-sectioning and comparison capabilities of Teamcenter's lifecycle visualization professional solution allow users to interrogate these models just like a CAD system. Manipulation features enable users to evaluate form, fit and function by allowing measurements in various stages of articulation. The flexibility of JT supports visualization data, as well as precise surface definitions (BREP) for CAD-level precision. JT files can be generated for all major CAD formats – thereby

facilitating truly interoperable enterprise collaboration that allows users to work with multi-CAD assemblies.



Teamcenter provides users with the tools they need to leverage multiple forms of design data and share this data in a common visual representation. This parallel stream of design data enables more lifecycle participants to leverage design data early in the design process – resulting in shorter cycle times, higher product quality and lower development costs.

### Scalable solution that grows with your enterprise

The following Teamcenter lifecycle visualization service levels enable you to scale and extend the scope of your visualization solution to match the physical and functional growth of your enterprise.

*Lifecycle visualization base* – a powerful visualization solution that provides 2D and 3D visualization functionality, extensive 2D markup tools and 2D investigation tools, including measurement and comparison capabilities. This service level also includes basic 3D viewing plus ability to visualize product structure.

*Lifecycle visualization standard* – an enterprise 2D/3D view and markup solution that provides advanced 3D visualization functionality, powerful 3D

**Features *continued***

- Outline capture for capturing hidden-line removed representations of the geometry
- Precise transformation
- Manipulators for interactive translation, rotation and scaling
- Appearance editor
- Fly navigation mode
- Read lifecycle visualization illustration files
- Motion file playback (VFM files created by lifecycle visualization mockup and other motion authoring systems)
- Support for stereo viewing
- Animation file playback
- Ability to export JT (including alternate hierarchies), VRML, Nastran, and PLM XML files
- Ability to extend with illustration, animation and concept add-ons
- Ability to create session packages Windows, Unix and Linux (SUSE) support

markup tools, 3D measurement and access to advanced product data including product manufacturing information (PMI).

*Lifecycle visualization professional* – a full-function design review tool with 3D investigation tools, including cross-section, 3D comparison and user-defined coordinate system capabilities that allow users to perform analysis on multi-CAD assemblies – collaboratively – without using a CAD system.

*Lifecycle visualization mockup* – a sophisticated digital mockup solution used to assemble a complete digital prototype, perform advanced analysis – including static and dynamic clearance analysis on the whole product – and detect issues early. Optional add-ons include analysis, clearance server, illustration, JACK™ software (ergonomics), VSA (tolerance analysis), quality, animation creation and path planning.

*iSeries* – an easy to deploy and maintain web browser-based implementation of the lifecycle visualization base, standard and professional service levels.

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