Lifecycle visualization standard

Enterprise visualization and markup to enable rich-process collaboration

Benefits
- *Streamline decision-making* and facilitate rapid understanding of your design decisions by enabling product teams to visually participate in your review/ approval processes
- *Reduce errors and rework* by enabling product teams to collaborate on an extended basis early enough in the product lifecycle to significantly influence product cost and delivery schedules
- *Improve product quality* by enabling product teams to review and comment on product details in the context of design data – without requiring data translation or interpretation
- *Maximize productivity* by systematically capturing team reviews/comments and enabling team members to consider recent comments of other lifecycle disciplines, as well as comments made during earlier design reviews
- *Increase the value of your technology* investments by providing your extended product teams with easier access to embedded data in their CAD and PDM systems of choice
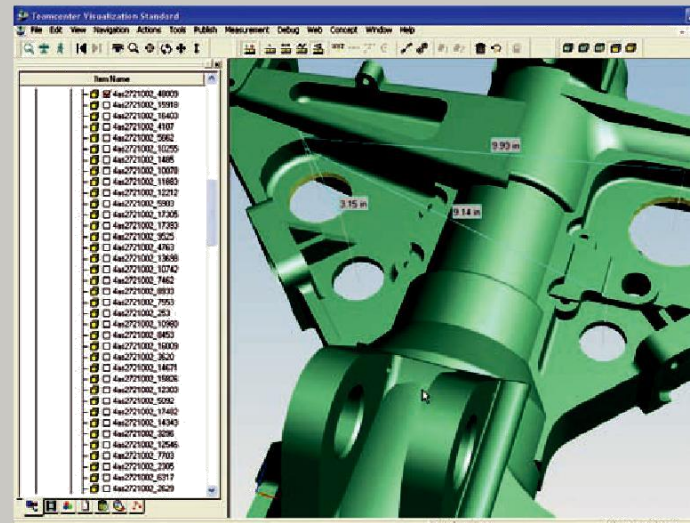
Summary
Teamcenter® software's lifecycle visualization standard solution incorporates full 2D/3D visualization and markup capabilities for extended enterprise collaboration. Intelligent 3D visualization and navigation helps users navigate complex models through hierarchical product structures. In addition, comprehensive 3D markup capabilities facilitate rich knowledge exchange throughout the product lifecycle.

Extending product design data beyond the design process
Teamcenter's lifecycle visualization standard solution empowers your extended product teams by enabling them to access and visualize design information, including 3D CAD data (in JT™ data format) and 2D drawings in most major 2D formats. Whether your users are manufacturing engineers who need to assess the manufacturability of a new innovation or managers who review design changes, the lifecycle visualization standard solution puts the right collaboration tools at your users' fingertips.

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. The lifecycle visual- ization suite 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.

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Features

All lifecycle visualization standard solutions include all lifecycle visualization base capabilities (as specified by the *Lifecycle Visualization Base Fact Sheet*). Key lifecycle visualization base capabilties include:

• 2D viewing of all standard formats, including pdf, bmp, gif, tiff, CGM, HPGL, IGES, DXF, DWF (6.0 and above) and DWG
• Complete 2D navigation, measurement and markup tools, plus 2D compare
• Ability to visualize product structure
• Ability to visualize in JT format and navigate multi-CAD assemblies from major 3D CAD systems, including NX™ software, Solid Edge® software, AutoCAD, Catia, CADDS, Inventor, Pro/Engineer and SolidWorks
• Peer-to-peer conferencing
• Integration with Teamcenter's engineering process management, manufacturing process management, community collaboration and enterprise knowledge foundation solutions

Besides lifecycle visualization base capabilities, lifecycle visualization standard includes the following capabilities:

• Ability to visualize part and assembly properties and layer information
• Advanced 3D visualization tools, including part selection, dynamic highlighting, part visibility control and user-defined views

Teamcenter's lifecycle visualization suite is powered by JT technology. The JT format is a highly flexible CAD-neutral format that can be created from most major CAD applications, allowing full representation of relevant model information. Depending on your business processes, JT data can be very lightweight or it can be enriched with exact surface geometry, product structures, attributes and product manufacturing information (PMI), including geometric dimensioning and tolerancing (GD&T).

Teamcenter's lifecycle visualization standard solution excels at handling extremely large models, thereby allowing product teams to work directly in the context of the complete assembly – and team members to review the "whole picture" – to contribute their input as early in the development process as possible.
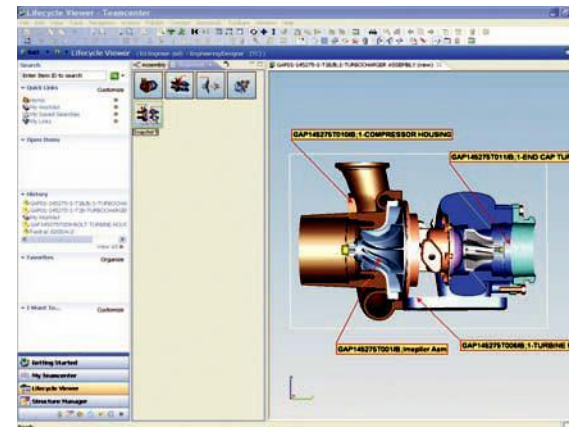
By combining the lifecycle visualization standard solution with Teamcenter's product lifecycle management (PLM) solutions, your product teams can leverage complete visual representations of a product design that include high-level product views, as well as product configurations managed by your product data management (PDM) system. In turn, you can use these visual representations across your entire product lifecycle to enable entitled users to actively engage in rich collaboration on an enterprise basis.

The lifecycle visualization standard solution is intuitive and easy to use, extending the design information embedded in mission-critical CAD models above and beyond your engineering department. Getting the right data to the right participants in your product lifecycle ensures that your company will deliver the right product to the right market at the right time.

Capabilities

The lifecycle visualization standard solution delivers a wide range of capabilities that allow you to digitally transform, streamline and improve your lifecycle processes, including:

• Ability to view and interact with the product assembly structure so that users can show or hide any combination of parts and subassemblies. Complete visibility control enables users to work on extremely large assemblies without having to load the whole product model.
• Advanced annotation capabilities that allow users to anchor 3D markups directly on a part. 3D markups enable reviewers to provide specific feedback in the context of the design data without requiring any translation-related interruption. 3D markups can include URLs and can even be saved as separate layer files with user-defined preferences.

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.

Features *continued*
- Advanced 3D measurement
- Basic 3D cross-sectioning
- 3D markup tools that can include URLs and 3D geometric dimensioning and tolerancing (GD&T) symbols
- Ability to directly read NX and Solid Edge files
- Ability to directly read VRML and STL files
- Explore navigation mode
- Snapshots
- Image capture
- Ability to send email
- Enhanced 3D session and conferencing
- Integration with Teamcenter's community collaboration visual issues capability
- Windows, UNIX and Linux (SUSE) support

Lifecycle visualization base – a powerful visualization solution that provides 2D and 3D visualization functionality, extensive 2D markup tools and 2D inves- tigation tools, including measurement and comparison capabilities. It also facilitates 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 markup tools, 3D measurement and access to advanced product data.

Lifecycle visualization professional – a full-function design review solution 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 and perform advanced analysis – including static and dynamic clearance analysis on the whole product – to detect issues early. Optional add-ons include clearance database, illustrate, 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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