Visual navigation and reporting

Make better decisions faster

Benefits

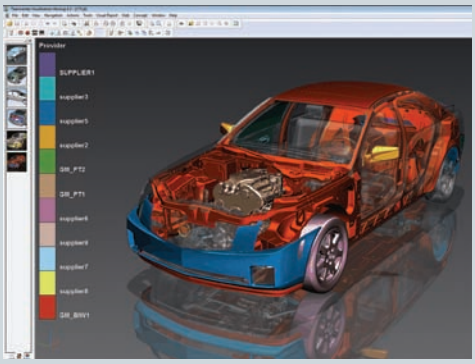
- Save time by selecting the right work context faster
- Speed-up navigation by as much as 10x by simplifying complex product structures and eliminating long query results
- Reduce network traffic by loading lightweight "shells" of a model until detailed parts are required
- Make decisions more effectively by understanding data in context of the 3D model
- Clarify complex data for quicker understanding by combining metadata with 3D data in a visually intuitive way
- Communicate complex relationships more clearly to non-technical stakeholders in clear, color-coded 3D reports

Summary

Teamcenter® software's lifecycle visualization suite provides visual navigation and reporting functionality that enables you to visually navigate and report on your company's data in Teamcenter's intuitive 3D visual environment. In most product data management systems, product and process data is presented in lists, tables and charts. As a result, users are required to understand a data structure in order to navigate to the information they need. In contrast, Teamcenter's visual navigation capabilities make it easy to quickly find the right information needed for a particular task by intuitively navigating the 3D model rather than lists of text. In addition, Teamcenter's visual reporting capabilities directly overlay relevant information on the 3D model, thereby enabling users to more quickly and clearly understand this data within a work-related context. These capabilities combine to facilitate better decision making.

Visual navigation and reporting's key value

The volume of product lifecycle management (PLM) data is exploding at the same time companies are under competitive pressure to work more productively and finish product development projects in compressed timeframes. Teamcenter's visual navigation and reporting capabilities are provided as an optional add-on module to facilitate faster and more intuitive access to the data that you manage in Teamcenter. You can leverage these capabilities to increase performance on even the largest assemblies, helping to save time and improve productivity.



Visual report showing filter for suppliers with each supplier's parts highlighted in a different color as indicated in the legend.

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Visual navigation and reporting

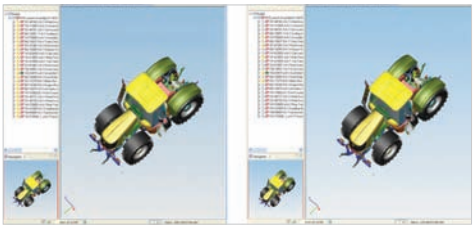
Features

- JT simplification to automatically create shelled models for each assembly node
- Simplified JT models loaded as required to minimize memory footprint and network traffic
- Detailed JT models automatically loaded when required on-demand by navigating to lower levels or initiating tasks requiring full models (e.g. measure, section)
- Color-coding with advanced materials based on attribute rules to visually overlay metadata on 3D
- Quick, single, or multiple rule reports
- Ability to show parts as transparent if they do not satisfy filter rules
- Easy to understand legend to indicate which materials relate to displayed results
- Ability to roll up or drill down to specific context

Visual navigation

Many users like to approach a design-related task by starting at the top assembly, selecting the models needed to perform their work – and perhaps most importantly, turn off the models that they do not need. Unfortunately, this approach is complicated by the fact that they often must start with a huge amount of data that is slow to load and use interactively.

To address this issue, Teamcenter pre-caches simplified shells of 3D JT™ models at each of the assembly levels to minimize the data loaded by the system, while quickly presenting users with all of the visual data they need to see. Teamcenter enables users to interact with even the largest product assemblies in real-time with minimal loading time because only the externally visible surfaces are loaded. As users navigate to lower levels of the assembly tree, take measurements, or create cross-sections, Teamcenter automatically loads the necessary JT part models as required.



Left: Loading an assembly of this size (400 MB) and detail takes 5 minutes to load using traditional methods. Right: Same assembly with simplified JT models is smaller (180 MB) and takes only 10 seconds to load and begin an interactive session.

Visual reporting

Teamcenter's visual reporting capabilities enable users to visualize Teamcenter-managed data directly in the context of the 3D model. Users gain a unique level of insight and understanding to enable them to make the right decisions in a shorter amount of time. Visual reports are much more intuitive since they leverage color-coding directly on the 3D geometry. This contrasts with lists of attributes that appear in conventional reports, which provide little or no visual context. Teamcenter's 3D color-coded "reports" are created on the basis of rules applied to the data (for example, red for parts that are not released and green for released ones). Users benefit because they are able to correlate a natural visual context with color-coded attributes, thereby making reports easy to understand.

Several use cases are ideal for visual reporting, such as color-coding parts created by different suppliers in a separate color to improve sourcing decisions. Users also can easily apply a match/no-match rule, such as identifying "released" and "not released" items in different colors. In addition, they can compare different attributes and their values, such as "components overweight" or "components late."

Making better decisions faster

Visual navigation and reporting can make the data that you manage in Teamcenter more approachable and valuable to more people in your product development environment. By improving the usability of your PLM data and making it more navigable and visually intuitive, even non-technical stakeholders can leverage this data to make better decisions faster.

Contact
Siemens PLM Software
Americas 800 498 5351
Europe 44 (0) 1276 702000
Asia-Pacific 852 2230 3333

www.siemens.com/teamcenter

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