

# Teamcenter 11.2.3 lifecycle visualization

## Release Notes

010221540



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## **Chapter 1: Release Notes introduction**

These Release Notes summarize the changes made for Teamcenter 11.2.3 lifecycle visualization, encompassing all of the stand-alone Lifecycle Visualization products.



## Chapter 2: Lifecycle Visualization products

Teamcenter lifecycle visualization is available in multiple product configurations, some of which also support optional software modules.

### Note

For the latest information on optional modules, licensing requirements, and pricing, see your Siemens PLM sales representative.

### Base

Base is the entry-level viewer product configuration in the Lifecycle Visualization family of products. Providing powerful 2D viewing and markup capabilities along with basic 3D viewing functionality, Base is an ideal solution for the visualization of the many 2D and 3D file formats supported.

Features provided by Base include:

- Access to more than 40 2D file types
- A rich set of 2D navigation tools (pan, zoom, page changing, etc.)
- 2D adjust
- 2D markups and 2D GD&T markups
- 2D measurements
- 2D comparisons
- 2D printing
- 2D image capture
- 2D Snapshots
- Option to save and load session files containing 2D and 3D content
- Option to open and save .plmxml files
- .jt file support
- Visualize 4GD worksets
- 3D viewing
- 3D navigation tools (pan, zoom, rotate, fit all, zoom area, and seek)

- Standard views (view only)
- Basic support for product structure
- Basic 3D properties viewing
- Product and Manufacturing Information (PMI) viewing
- Basic 3D cross section functionality
- Basic 3D markup and 3D GD&T markup functionality (view only)
- Basic 3D measurement functionality (single and double only)
- Quick Pick, Smart Pick, and selection preview when selecting part features
- Basic 3D printing
- 3D Snapshots
- Ability to export images to popular formats (.jpg, .png, .bmp, .tiff, .hpgl, and more)
- Peer-to-Peer conferencing
- PDM integration

Base supports the following optional features:

- ECAD Viewer (PCB and Schematic file viewing, markup, measurement, DFX, and printing)

### **Standard**

Standard provides an integrated environment for viewing data from multiple sources, including CAD, ERP, PDM, and legacy systems. An easy-to-learn user interface encourages collaboration among users without requiring complex training.

Features provided by Standard include:

- All the functionality provided by Base
- Direct read of 3D VRML, STL, Solid Edge, and NX formats
- Advanced 3D viewing
- Enhanced navigation features
- Ability to view and interact with product structure
- Selecting parts by area or volume
- Ability to control visibility by layers defined in the CAD environment
- Advanced 3D measurements
- 3D markups and 3D GD&T markups



- 3D image capture
- Enhanced .plmxml file support
- Vis Issues Manager

Standard supports the following optional features:

- ECAD Viewer

Standard supports the following optional file converters:

- IGES
- STEP
- DXF

### **Professional**

Professional provides access to several add-on modules that further extend the analysis capability of Lifecycle Visualization while also enabling users to author content.

Features provided by Professional include:

- All the functionality provided by Standard
- Advanced navigation features
- Ability to create and save alternate hierarchies
- 3D transformation, manipulators, and part manipulation mode
- Honor constraints in session files or PLM XML
- Advanced cross section functionality
- Comparing similar 3D models
- User-defined 3D coordinate systems
- Quick Color tool
- True Shading
- Advanced appearance tools
- Outline capture
- Creating and managing callouts and symbols
- Creating and editing thrustlines
- Generating exploded views

- Creating and playing motion (.vfm) files
- Capturing movies
- CAE results viewing
- Viewing Visualization Illustration documents
- Report generation
- Stereo viewing
- Virtual Reality device support
- Ability to export JT, Nastran, Robface, and VRML files
- Ability to export .plmxml files

Professional supports the following optional modules:

- Visualization Illustration
- Concept Desktop
- Concept Showroom
- Variation Analysis
- Quality Producer (Windows only)
- ECAD Viewer
- Visual Reports
- Animation authoring
- .vfz collaboration file authoring
- ADAMS conversion (Windows only)
- STEP file export
- MetaVPDM

Professional supports the following optional file converters:

- IGES
- STEP
- DXF

## Mockup

A real-time digital prototyping solution, Mockup combines a wide range of features with a robust set of dynamic analysis tools to help engineers identify defects in digital products at a much earlier stage of the product design cycle.

Features provided by Mockup include:

- All the functionality provided by Professional
- Dynamic interference checking to find and display interference quickly during motion playback
- Matrix clearance analysis to perform complete analysis on large, 3D product databases
- Create and manage part constraints
- 3D grouping
- Filter queries
- Area and mass properties reports
- 3D alignment
- Volume clipping
- Hide obscuring geometry
- Color application
- Part editing
  - o B-Rep face reversing
  - o Re-tessellation
  - o Decimation
  - o Visibility simplification
  - o JtOptimize

Mockup supports the following optional modules:

- Visualization Illustration
- Concept Desktop
- Concept Showroom
- Variation Analysis
- Quality Producer (Windows only)
- Jack

- ECAD Viewer
- Visual Reports
- .vfz collaboration file authoring
- ADAMS conversion (Windows only)
- STEP file export
- MetaVPDM
- Analysis
- Animation authoring
- Path planning
- ClearanceDB

Mockup supports the following optional file converters:

- IGES
- STEP
- DXF

### **Convert and Print**

Convert and Print are flexible command-line conversion and print software utilities that augment the power of the Lifecycle Visualization products. Both applications provide you with tools to convert and print many file formats, resulting in consistency and efficiency.

The key advantage to Convert and Print is their capacity to integrate effectively both native and external file format converters. By integrating the converters, you can convert original files directly into a supported file format. You can also print these files directly into the format required by your printer.

External converters supported include:

- Excel (Office 2007, Office 2010, and Office 2013)
- PowerPoint (Office 2007, Office 2010, and Office 2013)
- Word (Office 2007, Office 2010, and Office 2013)
- Visio (Office 2007, Office 2010, and Office 2013)
- Microsoft Project (Office 2007, Office 2010, and Office 2013)

## Chapter 3: Deprecating platform announcement

Siemens PLM Software will discontinue support for Teamcenter lifecycle visualization ClearanceDB (client and proxy tiers) on all Sun platforms, starting with Teamcenter 12.x. This includes Clearance Calculator (ClearanceExe), ClearanceDB Client (ClearanceDbClient), and ClearanceDB Proxy (ClearanceDbProxyServer and ClearanceDbProxyClient). ClearanceDB Server tier support on Sun will remain consistent with Teamcenter Server platforms.



# Chapter 4: What's new

## What's new overview

This Teamcenter lifecycle visualization release includes the following new features and enhancements. Descriptions are categorized by product level and optional module.

## New features for Base

### Model views for design disclosure

Model views are 3D representations of product components created in NX. Model views published by NX to Teamcenter and to JT files are attached to a disclosure object in Teamcenter. This object is referred to as a *3D design disclosure* and serves as the 3D model based definition for a design. In Teamcenter lifecycle visualization, you can load the 3D design disclosure structure along with its model views, and view and organize model views for design analysis and presentation. This feature is supported with NX 11.0.1 and later.

Model view features enable you to:

- Load and filter the list of model views on the Model Views page, from which you can choose the model views to display.
- Navigate and organize model views on the Model View Palette to review the design.
- Create snapshots from model views.
- Print model views.

### Font substitution in 2D vector files

You can now select a font to substitute for the font specified for text embedded in 2D vector files. This capability is particularly useful when the font specified in the file is not available.

Font substitution applies to 2D vector files with specified fonts for embedded text, such as may exist in CGM, DWG/DWF, HPGL, and ME10 file types. Font substitution does not apply to PDF files or to Microsoft Office document types such as DOC or XLS.

To substitute fonts	Do this
Temporarily, for the currently open file	On the <b>Fonts</b> tab in the <b>Properties</b> dialog box, select a font to substitute for an embedded font name in the open 2D vector file.  If you close the file, and reopen it, the font substitution does not persist.

To substitute fonts	Do this
By default, for all 2D vector files	On the <b>Font Substitution</b> tab in the <b>2D Loader Preferences</b> dialog box, select fonts to substitute for fonts that are named in 2D vector files.

## PMI preferences

PMI preferences are enhanced, giving you more flexibility in displaying PMI entities.

- You can now set the background opacity for PMI labels for the Flat-to-Screen display mode.  
This preference is available in the **Text** section on the **Per-Type Defaults** tab of the **PMI Preferences** dialog box.
- PMI color now is applied the same way for both Flat-to-Screen and In-Plane display modes.  
This preference is available in the **Selection** section on the **Global Settings** tab of the **PMI Preferences** dialog box.

## View PDF documents with attached JT files

When you open PDF documents, you can view attached JT files. This enhances the function of PDF documents as a way to share and organize data.

When you open a PDF document with attached JT files, the PDF file opens in the 2D Viewing window, and each JT file opens in a separate 3D Viewing window. Also, links in a PDF document to model views, PMI, and snapshots open the target in the active 3D Viewing window if the associated JT file is open.

## New features for Standard

### Visual issues in hosted Active Workspace

When you host Active Workspace in stand-alone Lifecycle Visualization, you can choose to open and work with visual issues in Active Workspace. If you typically work in Active Workspace, this feature hosts the data in a familiar environment.

To enable opening visual issues Active Workspace, set the new Teamcenter preference, **VIS\_Use\_ActiveWorkspace\_Issue\_UI**, to **True**. The embedded browser must already be open, and you must be signed in to Active Workspace.

### Scale anchored text markups

By default, anchored text markups do not scale with a model when you use zoom options. A new option, **Zoom with view**, in the **Anchored Text** section of the **Markup 3D Preferences** dialog box, enables you to set whether anchored text markups are scaled when the model is scaled. This gives you more flexibility in determining the appearance of markups.



## New features for Professional

### Find parts based on a property

You can use the 3D Find command to search model parts and assembly nodes for a JT or Teamcenter property, and optionally, the value for the property. You can then apply an action to the matching parts and assemblies.

#### Example

To examine the electrical system parts in a large assembly, search for the property and value **system=Electrical** and apply a **Show only** action.

### Jump to applied snapshots

When using behaviors to jump to specific snapshots in your document, you can now create behaviors to jump to applied snapshots. This gives you another way to work with and present snapshots to meet your needs.

### Adjust the technical illustration page sizing

Visualization Illustration is enhanced with features to adjust page sizing, to work with illustrations in a way that suits your preferences.

- By default, when you are working with a technical illustration and the content extends beyond the margins of the page, the drawing page is automatically resized. If you do not want the page to resize, you can deactivate this feature.
- You can resize the drawing page to fit the content on the page.

## New features for Mockup

### Clearance issue inheritance

More than one instance of the same violating part pairs may exist in your clearance results. Inheritance relationships can be defined in your ClearanceDB database so that these issues are not always duplicated but instead are managed based on their level of similarity.

You can define inheritance categories that determine the degree to which issues share clearance issue attributes and dispositions. For example, if an issue meets the criteria for being **Identical**, the issue is shared between occurrences and appears only once in the clearance results. If the issue is later updated or changed, all part occurrences reference the same, updated version of the issue. Also, if these part pair occurrences exist in different products, they can share the same issue. The attributes of **Similar** and **Resembling** issues are shared to a lesser degree and are handled differently from **Identical** issues.

To configure issue inheritance, you define the **ALL** product. The configuration settings in this product apply to all products in the database.

**General Clearance Results** is enhanced for analyzing issues:

- **Identical**, **Similar**, and **Resembling** issues are represented with different symbols, so you can easily identify them.
- The columns **Db Match**, **Db Base**, **Db Issue**, and **Db Issue Count** provide more information about occurrences.

## Group by element pairs in clearance results

When you analyze clearance results, many clearance issues may be almost, but not exactly the same. Clearance results in the **General Clearance Results** list are enhanced to include the feature **Group Tree by Elements**, which enables you to group issues by element pair, so you can see all the issues related to each element pair, regardless of result, type, etc.

## Clearance analysis enhancements

Clearance analysis is enhanced as follows:

- When you set the clearance distance for a clearance analysis, you have the option to make the value persist for subsequent clearance analyses, so that you do not have to set it for each analysis.
- The **Clearance Filter Properties** dialog box is enhanced for better usability.
- Group clearance analysis is enhanced for better usability.
- Dynamic clearance analysis is enhanced for better usability.

## Clearance analysis advanced logging

A new log file is available for clearance batch analysis. **EAI\_CL\_ADVANCED\_TRACE\_FILE** reports all major events, which provides more data for understanding and troubleshooting clearance analysis results. The log file should be used with caution as using it may significantly affect system performance.

## Jack Ribbon bar groups

The Ribbon bar is enhanced so you can more easily access Jack features. Commands are clearly defined, and commands that were previously available only from the **Jack** menu are now available in the Jack Ribbon bar groups.

Jack commands are available in three Ribbon bar groups:

- **Human**

Enable Jack, create human figures, delete figures, scale figures, and set Jack preferences.



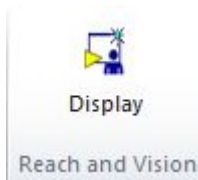
- **Control**

Move figures, posture figures, manipulate figures, apply hand gestures, adjust individual joints, and play back animations.



- **Reach and Display**

Create eye view windows, create reach zones, create view cones, check the status of the center of mass for human figures, and view the skeleton of human figures.



## New features for Variation Analysis

### Deviated Mesh Output

Use the new **Deviated Mesh Output** custom assembly operation to allow a nominal mesh to be deviated based on feature fabrication and assembly operations, and then exported for use in downstream finite element analysis (FEA).

The operation does the following:

- Adds a surface mesh to the part feature.
- Links mesh to individual parts in the **Part Properties** dialog box.
- Allows mesh nodes to serve as feature points and be deviated based on applied variation during fabrication and assembly operations.

For the mesh to be constructed or viewed, ensure the following:

- For mesh to be constructed, you must select the **Animate FEA Mesh**  check box for each part.
- For mesh to be viewed, you must select the **Show Animation During Monte Carlo Simulations**  check box in the **Process Document Preferences** dialog box.

#### Caution

To ensure that a valid deviated mesh is output, make sure the mesh size is at least two times larger than the largest tolerance zone.

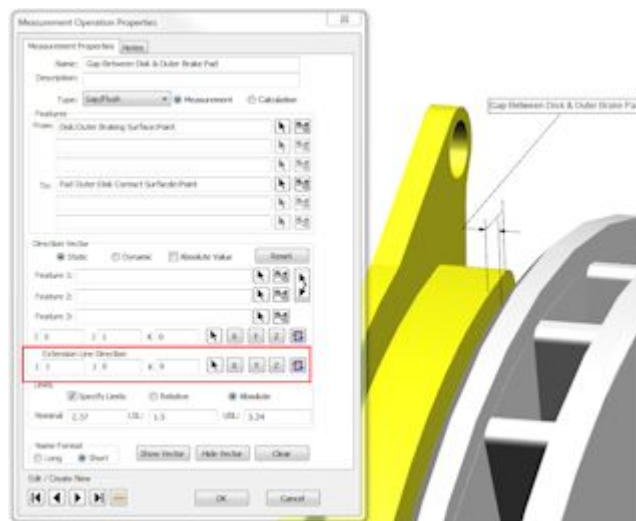
## Leader line enhancements

Leader lines for measurement operations are enhanced so you can work with dimension and extension lines more intuitively based on your measurement intent.

When you visualize measurement annotation in the **Viewing window**, the dimension line is always displayed in the measurement direction. This enhancement impacts the following measurement operations:

- **Gap/Flush**
- **Compensated Gap/Flush**
- **Point to Plane**
- **Point to Line**

In addition, you can now specify the extension line direction in the **Measurement Operation Properties** dialog box for the **Gap/Flush** measurement operation.



## Minimum Feature Clearance

Use the new Min Feat Clear measurement operation to calculate the minimum feature clearance between two features without using measurement points.

This operation does the following:

- Increases model initialization time due to mesh comprehension.
- Increases simulation time if animation is turned on.
- Reports measurement results using a standard process report method and High-Low-Median (HLM) simulation.

**Note**

To maintain performance, nominal clearance is not calculated in the properties dialog box. Relative specification limit values may be applied.



## Chapter 5: Supported platforms and locales

### Supported platforms

You can run Teamcenter lifecycle visualization on the platforms listed below. For more information about system hardware and software requirements, see the [hardware and software certifications](#) page on GTAC.

<http://www.plm.automation.siemens.com/locale/support/gtac/certifications.shtml>

#### Stand-alone Lifecycle Visualization

Stand-alone Lifecycle Visualization is supported on these platforms:

Platform	Version	Chipset
Mac OS	10.10.x	x86-64
Red Hat Enterprise Linux Desktop	6.x, 7.2	x86-64
SUSE Linux Enterprise Desktop	11 SP2, 12	x86-64
CentOS	7.2	x86-64
Windows Desktop x64	<ul style="list-style-type: none"><li>Windows 7 SP1 Professional, Enterprise, and Business</li><li>Windows 8 (Desktop only)</li><li>Windows 10 (Desktop only)</li></ul>	x86-64 (both Intel and AMD)
Windows Server 64-bit	<ul style="list-style-type: none"><li>Windows Server 2008 R2 SP1 Standard and Enterprise</li></ul> <div data-bbox="737 1409 1013 1577"><p><b>Note</b> Convert and Print only (all tiers)</p></div> <ul style="list-style-type: none"><li>Windows Server 2012 R2 Standard and Enterprise</li></ul> <div data-bbox="737 1713 1013 1881"><p><b>Note</b> Convert and Print only (all tiers)</p></div>	x86-64 (both Intel and AMD)

For information about supported platforms for ClearanceDB, see *ClearanceDB Administration* in the Teamcenter lifecycle visualization help.

### Stand-alone Lifecycle Visualization notes

Platform	Notes
<b>Mac OS</b>	<ul style="list-style-type: none"> <li>You can install the Base, Standard, Professional, and Mockup service levels.</li> <li>For the software to function correctly under Leopard, X11 for Mac OS X must be installed. X11 is available from <a href="http://www.xquartz.org">www.xquartz.org</a>.</li> </ul>
<b>SUSE Linux</b>	<p>Motif 2.3 libraries are required to install and run Lifecycle Visualization.</p> <p>To check which versions of Motif are installed, type:</p> <pre>rpm -a -q   egrep -i 'libXm motif'</pre> <p>If the required Motif 2.3 libraries are present, the report includes lines similar to this:</p> <pre>openmotif-libs-2.3.1-3.13 libXm4-2.3.4-4.15.x86_64</pre>
<b>Red Hat Linux</b>	<p>Motif 2.3 libraries are required to install and run Lifecycle Visualization.</p> <p>To check which versions of Motif are installed, type:</p> <pre>rpm -a -q   egrep -i 'libXm motif'</pre> <p>If the required Motif 2.3 libraries are present, the report includes lines similar to this:</p> <pre>openmotif-2.3.3-1.e16.x86_64 motif-2.3.4-7.e17.x86_64</pre>
<b>CentOS 7.x</b>	<p>Motif 2.3 libraries are required to install and run Lifecycle Visualization.</p> <p>To check which versions of Motif are installed, type:</p> <pre>rpm -a -q   egrep -i 'libXm motif'</pre> <p>If the required Motif 2.3 libraries are present, the report includes lines similar to this:</p> <pre>motif-2.3.4-7.e17.x86_64</pre>
<b>Miscellaneous</b>	<ul style="list-style-type: none"> <li>PDM and PLM XML are now installed by default in all service levels on the following platforms: <ul style="list-style-type: none"> <li>Windows</li> <li>Linux and Mac (PLM XML only)</li> </ul> </li> </ul>

## Supported locales

The Lifecycle Visualization application and help are localized for the following languages:



- Chinese (Simplified and Traditional)
- Czech
- French
- German
- Italian
- Japanese
- Korean
- Polish
- Portuguese (Brazil)
- Spanish
- Russian

Some optional modules are available in English versions only, including:

- ClearanceDB
- Convert and Print
- Jack
- Quality Producer
- Variation Analysis

**Note**

- A separate installer is required for each language version of the help.
- Because of operating system limitations, Teamcenter lifecycle visualization does not support non-ASCII characters, including 8-bit accented Western European and multi-byte characters, in file names.



## Chapter 6: System requirements

### General system requirements

Performance is directly related to system processor speed, RAM, and your video card. Although Lifecycle Visualization will run if your system meets the minimum requirements described in this section, your machine should be considerably more powerful for you to get the full benefit of the visualization features.

#### Minimum required system

For 3D models, 2D images, and ECAD images, your system should have a 1 GHz or better processor, 1 GB RAM, 2 GB of virtual memory, and a supported graphics card with 128 MB of dedicated video RAM and support for OpenGL 2.1 or greater.

#### Minimum recommended system

For 3D models, 2D images, and ECAD images, your system should have a 2 GHz or better 64-bit processor, 4 GB RAM, 6 GB virtual memory, and a supported graphics card with 256 MB of dedicated video RAM and support for OpenGL 3.2 or greater. For more information on which graphics adapters are supported, see *Graphics hardware requirements*.

#### Note

These are only recommendations. For information on officially supported workstations, video cards, and drivers, see the *hardware and software certifications* page on GTAC.

<http://www.plm.automation.siemens.com/locale/support/gtac/certifications.shtml>

### License server requirements

Lifecycle Visualization products use the Siemens PLM Software Common Licensing Server for served licenses.

The Siemens PLM Software Common Licensing Server software must be version 8.0.2 or later.

### Teamcenter community collaboration visual conferencing requirements

To use Teamcenter 11.1 lifecycle visualization with Teamcenter community collaboration visual conferencing you must have Teamcenter community collaboration conference server 11.1 or higher

Teamcenter community collaboration visual conferencing is not supported on older conferencing servers.

## Graphics hardware requirements

Supported graphics adapters for use with Teamcenter lifecycle visualization include the following professional 3D graphics adapters with their professional drivers:

Manufacturer	Models
NVIDIA	Quadro, QuadroFX, Grid
AMD	FireGL, FirePro
Intel	HD 4600 and newer

For full confidence that all of the advanced features of Teamcenter lifecycle visualization are displayed, including effects such as high-quality transparency, shadows, mirrors, CAE analysis results, intersection volumes, and other features requiring advanced graphics capabilities, use a certified system. Siemens PLM Software and our OEM partners rigorously test specific graphics adapters and drivers on a select set of workstations. Graphic adapters and drivers that pass are certified for use with a particular version of Teamcenter lifecycle visualization.

For information about certified systems, see the GTAC [hardware and software certifications](#) page and follow the link to *Hardware (Graphics Card) Certifications*.

### Note

Starting with Lifecycle Visualization version 10.1, if your graphics card supports OpenGL 3.2 or later, Lifecycle Visualization uses advanced OpenGL features to improve 3D rendering performance, including making use of memory on the graphics card. If you work with large models, we recommend graphics cards with 2GB or 4GB of GPU memory, or more. While exact memory requirements are highly situation specific, a rough guideline for required graphics card memory is 1 GB of graphics memory for every 2 GB of loaded geometry data.

### Consumer line and 2D graphics adapters

We do not recommend consumer lines of graphics adapters. These adapters and drivers are designed for playing games and emphasize frame rate over correctness. Drivers for consumer graphics are serviced by driver development and ISV partner teams separate from those for professional 3D adapters.

However, even these video adapters, if you have the most current graphics driver, usually work at a reduced effects level with Lifecycle Visualization. It may be necessary to reduce the performance settings.

### Note

When the OpenGL level of a graphics adapter is not capable of rendering an advanced visualization effect, the visual effect is silently omitted.

Some graphics adapters, especially those manufactured before 2008, contain issues that prevent Lifecycle Visualization from displaying certain specific features properly, regardless of their OpenGL support level claims.

## Resolving graphics adapter issues

You are encouraged to report graphics display problems found on recommended and certified hardware to <http://www.siemens.com/gtac>. We attempt to reproduce the problem. If a reproducible problem is determined to lie within Lifecycle Visualization software, we fix it directly; if a problem is found with the graphics driver, we work with the graphics vendor to isolate the issue and assist them as necessary to produce a driver patch.

We do not attempt to resolve problems that cannot be reproduced on recommended or certified hardware; we advise you to take such issues directly to the graphics adapter manufacturer.

## Help requirements

To run the Teamcenter lifecycle visualization help, the following requirements must be met:

- Windows:
  - o Internet Explorer – 8 or higher
  - o Firefox – 16 or higher
  - o Chrome – latest release
- Linux:
  - o Firefox latest release
- Mac OS X:
  - o Safari – latest version
  - o Chrome – latest version
- The Siemens PLM Documentation Server requires a supported 64-bit Java Runtime Environment (JRE) on the PLM Documentation Server host. The PLM Documentation Server does not support 32-bit Java.

Make sure a supported 64-bit JRE is installed on your PLM Documentation Server host.

- To watch videos and simulations, the Adobe Flash Player version 10 or later is required. You can download the latest version of the player from this location:

<http://get.adobe.com/flashplayer/>

- Some portions of the help are in the PDF format, which requires Adobe Acrobat Reader (any version). You can download the reader from this location:

<http://get.adobe.com/reader/>

**Note**

The help files are no longer packaged with the Teamcenter lifecycle visualization installer. To install the help, you must install the Siemens PLM Documentation Server and the Teamcenter lifecycle visualization help, which are installations separate from the installation of Teamcenter lifecycle visualization. You must also set the port and server for help access for clients during the product installation or after the product installation. A separate installer is available for each language version of the help.

**Firefox caveats**

Firefox recommends that users update to the latest version for security issues surrounding Java. They do not recommend using older versions of Firefox due to these issues. See the following for more information:

<http://support.mozilla.org/en-US/kb/latest-firefox-issues>

**Chrome caveats**

By default, Chrome does not launch local files (e.g. file:///). To enable this, users have to start Chrome from the command line with the `--allow-file-access-from-files` switch. One source for how to do this is: <http://www.askyb.com/chrome/open-local-file-in-google-chrome/>

**PDF requirements**

To view, mark up, and print PDF and Postscript files on Mac and Linux systems, you must install and use Ghostscript.

1. You can navigate to the following Web site to download and install the Ghostscript software:

<https://download.industrysoftware.automation.siemens.com/open-source/ghostscript>

2. After installing Ghostscript on Mac or Linux systems, add the following to your `vvcp.darwin.cfg` or `vvcp.linux.cfg` file in the `<installation_directory>lapp_defaults/` directory:

**\*PSPath:** `<path to the 'gs' executable>`

For example, add **\*PSPath:** `/usr/apps/gs864/bin/gs`.

Ghostscript is also required to work with Postscript files on Windows systems. You can download the Windows version from the site shown above.

**Tip**

To configure Ghostscript to use system fonts on Windows, install Ghostscript before you install Lifecycle Visualization.

**IDW requirements**

To work with Autodesk Inventor .idw 2D files, you must have one of the following:

- Autodesk Inventor
- Autodesk Inventor View, a freely distributed application available from Autodesk
- Design Tracking, a freely distributed utility available from Autodesk

**Note**

- Support for Autodesk Inventor .idw files depends on the version of the Autodesk Inventor, Autodesk Inventor View, or Design Tracking that you have installed. For example, if you have Design Tracking 7, then Inventor 5.3 through 7 files are supported. If you have Autodesk Inventor View 11, then Inventor 5.3 through 11 files are supported.
- Autodesk Inventor .idw files prior to version 5.3 are not supported.

## ADAMS conversion requirements

The ADAMS conversion feature, which converts RES files to the VFM motion file format, requires the Professional or Mockup product configuration, as well as an additional license. It is supported on Windows only.

## Visualization Illustration requirements

Visualization Illustration is supported on Windows only, and requires either the 32-bit or the 64-bit version of Visio 2010 with Service Pack 2, or Visio 2013 or 2016 with the latest patch. Visio 2016 is supported only on Windows 7. Standard, Professional and Premium editions of Visio are supported.

Authoring Visio-based work instructions in Teamcenter Manufacturing is supported only with 64-bit Visio 2010.

## Convert and Print requirements

The Convert and Print Office Automation feature requires Microsoft .NET Framework. Version 4.5.x is recommended.

You can download Microsoft .NET Framework for your version of Windows from <http://www.microsoft.com/en-us/download/>

## ClearanceDB requirements

For information about the requirements for ClearanceDB, see *ClearanceDB Administration* in the Teamcenter lifecycle visualization help.

## Interoperability with other software

Teamcenter 11.2.3 lifecycle visualization is supported with the following Siemens PLM Software:

- NX 8.x, 9.x, 10.x, 11.x
- Product Master Management 10.1
- Teamcenter (Unified) 9.x, 10.x, 11.x
- Teamcenter community collaboration 9.1 and 10.1
- Teamcenter community collaboration 10.1.2 (if on an IPv6 network)
- Teamcenter community collaboration conferencing server 11.1
- Teamcenter Enterprise 8.1 and 9.0

## Teamcenter client communication system (TCCS) requirements

The Teamcenter client communication system (TCCS) manages communication and file transfers between Teamcenter clients and servers. TCCS contains the Teamcenter Server Proxy (TSP) application which manages HTTP/S communication with a Teamcenter server and provides support for forward proxy, reverse proxy, and Kerberos authentication. TCCS also contains the FMS client cache (FCC), which uploads files from your workstation to a Teamcenter volume and also downloads requested files from the volume to your workstation. The Teamcenter lifecycle visualization integration with Teamcenter requires an FCC to transfer volume data between Teamcenter and the viewer.

TCCS is normally installed with the Teamcenter rich client. If the Teamcenter rich client is installed on your machine, most likely no additional installation steps are necessary. If you do not have the Teamcenter rich client installed, but you need to transfer volume data between Teamcenter and the viewer, you can download the TCCS installer from the GTAC site <http://www.siemens.com/plm/support>. For more information, see the *Lifecycle Visualization Installation* guide.

### Note

An FCC is required for Teamcenter 8 onwards. Although an FCC is not required for Teamcenter 2007, it is recommended.

For information on installing TCCS with the Teamcenter rich client, refer to *Windows Clients Installation*, *Linux Clients Installation*, or *Macintosh Clients Installation* within the Teamcenter documentation.



## Chapter 7: Resolved Problem Reports

Customer problem reports (PRs) resolved for Teamcenter 11.2.3 lifecycle visualization include:

PR	Product	Category	Summary
7692956	VISVIEW	2D_FILE_GERBER	Gerber thermal relief aperture macros not properly displayed.
7693844	VISVIEW	2D_FILE_GERBER	Gerber aperture macro line vector primitives not properly displayed.
7693969	VISVIEW	2D_FILE_GERBER	Gerber linear interpolation per the Ucamco specification not handled.
7698726	VISVIEW	2D_FILE_GERBER	Compare does not find reordered Gerber flash data to be a perfect match.
7704958	VISVIEW	2D_FILE_PDF	PDF generated through Dispatcher Service is displaced for AutoCAD drawings.
7712476	VISVIEW	2D_FILE_TIFF	Viewer stops responding on opening of second page of TIFF file.
7753580	VISVIEW	3D_CAE	Viewer stops responding on applying a CAE component of snapshot.
7748663	VISVIEW	3D_FILE_JT	Issue with position in exported JT file.
7597154	VISVIEW	3D_FILE_PRT	Unable to open NX 9.0.2.5 data.
7670503	VISVIEW	3D_FILE_PRT	Invisible layer from NX shown in Viewer with a bounding box.
7741892	VISVIEW	3D_FILE_PRT	NX PRT 3D Loader preferences values are switched.
7781479	VISVIEW	3D_FILE_STEP	Exported STEP files lose orientation.
7760863	VISVIEW	3D_FILE_VRML	Problem opening WRL file created in version 11.2.2.
7633337	VISVIEW	3D_LAYER	Active Layer Filter does not take effect on subsequently imported parts.
7747252	VISVIEW	3D_MARKUP	Insert Image doesn't manage picture with transparency.
3054468	VISVIEW	3D_MEASUREMENT	Double measurement not working.
7740401	VISVIEW	3D_MEASUREMENT	Double measurement does chain measurement in some cases.
7740412	VISVIEW	3D_MEASUREMENT	Not possible to select part for distance measurement in some cases.
7701435	VISVIEW	3D_PSLOADER	JT of selected BOMView Revision is not displayed.
7751031	VISVIEW	3D_PSLOADER	Poor performance loading large assembly from Structure Manager to Vis 11.2.2 versus 10.1.6.
7574587	VISVIEW	3D_SELECTION	Measurement gives wrong results.
7634527	VISVIEW	3D_SELECTION	Feature Lines causes increased loading time for successively loaded part sets.
7747726	VISVIEW	3D_SELECTION	Disabled selection filter Part and Edge on PMI Multiple Entity mode.
7566158	VISVIEW	3D_VIEW_CONTROL	3D Display Feature Lines showing dark lines in version 10.1.4.0 not seen in version 9.x.

PR	Product	Category	Summary
7803524	VISVIEW	3D_VIEW_CONTROL	Model view that is part of palette is not applied when sent to TcVis.
7768060	VISVIEW	APPEARANCES	Vis stops responding when adding a new color using Quick Color.
7809142	VISVIEW	APPEARANCES	Wrong material visualization after part transformation and session save.
2244555	VISVIEW	CLEARANCE	CAD component cannot be checked in the Lifecycle Viewer.
7428783	VISVIEW	CLEARANCE	Column Filter for column "Number" does not provide results.
7625761	VISVIEW	CLEARANCE	Error message from dynamic clearance: "Failed to get file from server."
7754113	VISVIEW	CLEARANCE	Load result file with wordwrap in the name of item revision causes problem.
7780066	VISVIEW	CLEARANCE	Interactive clearance result shows incorrect measurement.
8312063	VISVIEW	CLEARANCE	Interactive clearance result is incorrect.
7735215	VISVIEW	CLEARANCE_DB	Loss of dispositions.
7696414	VISVIEW	COORD_SYSTEMS	Align part to coordinate system menu item toolbar button are disabled.
7261872	VISVIEW	CROSS_SECTION3D	Section keeps moving after holding down and then releasing the arrow key.
7731443	VISVIEW	CROSS_SECTION3D	Snapshots with deactivated section make slider/manipulator appear.
7752012	VISVIEW	CROSS_SECTION3D	Vis stops responding using Align to Feature button for 3D section.
7754272	VISVIEW	CROSS_SECTION3D	Snapshot of cross-section causes Vis 11.2.2 to stop responding.
7768987	VISVIEW	CROSS_SECTION3D	Moving a 3D section plane is slower compared to version 11.1.
7516707	VISVIEW	FRAMEWORK_COMMS	Last folder name used for inserting a JT does not persist.
7729407	VISVIEW	FRAMEWORK_PC	Unable to deploy preferences/settings.
7732090	VISVIEW	FRAMEWORK_PC	Embedded viewer doesn't work on Japanese.
7732787	VISVIEW	FRAMEWORK_PC	Unable to find Jack>Human Control command in new ribbon interface.
7743866	VISVIEW	FRAMEWORK_PC	PostReg.exe has stopped working.
7804157	VISVIEW	FRAMEWORK_PC	Navigator windows shows broken graphic after resize in 2D in ribbon mode.
7667085	VISVIEW	HELP	Documentation is missing information on the maximum size for session package files.
7646183	VISVIEW	INSPECTOR	Vis stops responding when navigating JTInspector results.
7122687	VISVIEW	INSTALLATION	Install script CustomInstall.bat for Vis 10.1 has incorrect registry values.
7705595	VISVIEW	INSTALLATION	Need thumbnail of JT file when using Details pane in Windows Explorer.
7734930	VISVIEW	INSTALLATION	Show in Active Workspace menu not available in German locale.
7725826	VISVIEW	JT2JPEG	jt2jpeg.exe stops responding in Windows 2012.

PR	Product	Category	Summary
7476968	VISVIEW	MANIPULATORS	Reset of selection after double-click in Position/Rotation window.
7593879	VISVIEW	MOTION	Export should consider nominal matrix that was set in PLMVis.
7680855	VISVIEW	PLM_INTEGRATION	Operation BMF_USER_VIS_get_metadata_filename_context not working.
7720146	VISVIEW	PLM_INTEGRATION	4GD workset does not honor nongeometric components.
7721178	VISVIEW	PLM_INTEGRATION	4GD worksets display all model reference sets in Mockup.
7751184	VISVIEW	PLM_INTEGRATION	PLMXML export does not generate local JTs using customer patch.
7774677	VISVIEW	PLMXML_FILE_TYP	If one of the alternate hierarchies is empty other alternate hierarchies are not saved.
1817110	VISVIEW	PMI	PMI Reference Plane leads to face selection issues for 3D measurements.
7626545	VISVIEW	PMI	PMI Section view not correctly rendered.
7693030	VISVIEW	PMI	After "Show PMI," no geometry visible.
7709119	VISVIEW	PMI	Using the Disclosure filter in the Model View Gallery, Non-Published also showing Published.
7709487	VISVIEW	PMI	If palette is created, but not saved, must click Close button twice.
7709500	VISVIEW	PMI	Palette thumbnail display name with or without owning model.
7709503	VISVIEW	PMI	Set default Model View Gallery find parameters to Scope:all, Disclosure Filter: Published.
7709542	VISVIEW	PMI	On palette reload, thumbnail view name is listed twice.
7709863	VISVIEW	PMI	Sort by view name not working if group by owning part is off.
7713392	VISVIEW	PMI	Model view find and apply performance very slow at times.
7714177	VISVIEW	PMI	NX lightweight section cap color not inheriting body color option in Vis.
7717262	VISVIEW	PMI	Group thumbnail move within palette generates the wrong image.
7723031	VISVIEW	PMI	Assembly cross hatch displayed incorrectly.
7723039	VISVIEW	PMI	Lightweight section view box cut displays incorrect colors.
7723053	VISVIEW	PMI	Toggling PMI views results in different section colors.
7741807	VISVIEW	PMI	Disclosures: Ctrl+thumbnail does not deselect when Group by Owning Part is off.
7741884	VISVIEW	PMI	Disclosures: Request way to manually update thumbnail without closing Vis.
7741905	VISVIEW	PMI	Model view palette save successful message displayed twice.
7786449	VISVIEW	PMI	Section cut removes extra geometry at assembly level for single component body.
7847613	VISVIEW	PMI	MVStyle PMI causing all model views to show in tree.

PR	Product	Category	Summary
7720286	VISVIEW	PRINT/PLOT	Printing published lightweight section view causes Vis to stop responding.
1993636	VISVIEW	SESSION	Wrong message appears when activating a snapshot.
7755249	VISVIEW	SESSION	Save session file type .vf converted to .vfx with 3D markup.
7795769	VISVIEW	SESSION	Save session file type .vf converted to .vfx.
8514024	VISVIEW	THRUSTLINE_EDIT	Extra thrustline created.
7328905	VISVIEW	TRANSFORMATION	Save is not enabled after persistent transformation with 3D alignment.
7439109	VISVIEW	TRANSFORMATION	The model unit in temporary transformation dlg is not consistent.
7767985	VISVIEW	TRANSFORMATION	Part transformation by means of feature causes Vis to stop responding.
7711409	VISVIEW	VISUAL_REPORT	Visual report with local scope asks for Teamcenter logon.
1969779	VISVIEW	VOLUME_CLIPPING	Applying camera orientation of snapshot removes clipping volume.
7699652	VISVIEW	VR_DEVICES	3D part transformation with Spacemouse doesn't work properly.
7736240	VISVIEW	VR_DEVICES	Space Pilot 3D device still manipulates section plane when section off.
7711758	VISVIEW_CONVERT	COMMAND_LINE_OP	Prepare.exe crash with long file names in -tmpdir option.
7786170	VISVIEW_CONVERT	GENERAL	VVCP.ini DwgThickness incompatible with DwgLastView.
8303683	VISVIEW_CONVERT	GENERAL	Missing documentation for Office Automation feature requiring Microsoft .NET Framework version.
7813284	VISVIEW_CONVERT	STAMPING	Dispatcher: Item description text in double-quotes prints '\' in the PDF.
7714456	VISVIEW_PRINT	INSTALLATION	VVCP postscript printer configuration does not work on the AWS /driver unsigned
3054319	VISVSA	VISVSA	Unable to cancel multiple selections in DVA.
3054886	VISVSA	VISVSA	Multi-segment tolerance in DVA study cause Vis to stop responding.
7631078	VISVSA	VISVSA	Validation process gives error - "Model will not initialize," but initializes.
7706712	VISVSA	VISVSA	Extract features from PMI causes VA to stop responding, 10.1.4.0 and later.
7711878	VISVSA	VISVSA	Some points don't project to correct side of associated surface.
7715217	VISVSA	VISVSA	Process tree jumps to top when right-clicking in pane.
7742087	VISVSA	VISVSA	The fabricated feature is out of the space
7755789	VISVSA	VISVSA	Localization problem for Japanese.

## Chapter 8: Enhancement Requests

Customer enhancement requests (ERs) implemented for Teamcenter 11.2.3 lifecycle visualization include:

PR	Product	Category	Summary
1398385	VISVIEW	2D_FILE_CGM	Need a mapping file to display desired font in CGM files.
1861807	VISVIEW	2D_FILE_CGM	Specify a specific font file in 2D Loader Preferences for CGM files.
5448629	VISVIEW	2D_FILE_CGM	CGM file with embedded "\$" is read incorrectly.
5765856	VISVIEW	3D_FILE_JT	Transformed part positions lost on JT export.
6806132	VISVIEW	3D_VIEW_CONTROL	Request no front clipping with large BBbox.
1983404	VISVIEW	BEHAVIORS	Icon or progress bar to indicate the activation of a snapshot.
1981801	VISVIEW	BEHAVIORS	Need "return to last snapshot" action in behavior definitions.
1984864	VISVIEW	BEHAVIORS	Unable to resize the zone that contains the list of behaviors.
1757876	VISVIEW	CLEARANCE	Enter and Delete keys do not work in the Set Clearance dialog box.
1837776	VISVIEW	CLEARANCE	Need Clearance to retain value for minimum clearance when new a model is loaded.
7737471	VISVIEW	CLEARANCE	Simplify the Clearance filter interface.
7737480	VISVIEW	CLEARANCE	Simplify the group to group clearance interface.
7742014	VISVIEW	CLEARANCE	Improve the dynamic clearance interface.
8253923	VISVIEW	CLEARANCE	Define default "Minimum Clearance Value" to something other than "0."
1963525	VISVIEW	CLEARANCE	Provide option to disable Summary/Disposition Toolbox in 3D Clearance by default
1983380	VISVIEW	CLEARANCE	Make clearance distance a preference.
5660836	VISVIEW	CLEARANCE_DB	ClearanceDB disposition carry over.
7701511	VISVIEW	CLEARANCE_DB	Enable higher logging for CLDB Proxy.
7662389	VISVIEW	CONSTRAINTS	Show Degrees of Freedom and Create/Remove Mechanism options are not available in the embedded viewer.
7685268	VISVIEW	PALETTE_OPS	Need appearance palette conflict resolution to apply common renaming scheme.
7733729	VISVIEW	PMI	PMI model view visualization.
1983865	VISVIEW	PRESENTER	Unable to exit presentation mode on tablet.
7390820	VISVIEW	PRINT/PLOT	Request .mds file \Header and \Footer to recognize \Char and \Font.
7712011	VISVIEW	PRINT/PLOT	MDS file character formatting and header/footer formatting not working.
7713368	VISVIEW	PRINT/PLOT	Need centralized margin control for print stamping.

<b>PR</b>	<b>Product</b>	<b>Category</b>	<b>Summary</b>
7281980	VISVIEW	PUBLISH	In Visio 2010, page is expanded while adding asset to technical illustration page.
7525279	VISVIEW	VISUAL_REPORT	Request Teamcenter attributes be included in Show Matching Parts (ATR) file.
7689690	VISVIEW	VISUAL_REPORT	Create a "3D Find" dialog box based on visual reports.

## Chapter 9: Issues and workarounds

### Exit full screen mode when using a touch screen device

Problem	When using full screen mode on a touch screen device, such as in Presenter, the Esc key is not available to return to normal viewing mode.
Workaround	Using two fingers, tap in one of the corners of the touch screen to simulate using the Esc key.

### Loading a file from Teamcenter may fail if SSO is enabled

Problem	When loading a file from a Teamcenter server to Teamcenter lifecycle visualization running in a cluster system, if the server is configured with single sign-on (SSO), the viewer running on the secondary system may fail to load the data.
Workaround	Teamcenter lifecycle visualization running on the secondary system may have different environment variable settings as the one running on the primary system. Do the following:

1. Create a text file, for example:

**C:\tcvis\_cluster\_user\_env\_vars.txt**

2. Set the system environment variable to point to the file, for example:

```
TCVIS_CLUSTER_USER_ENV_VARS=C:\tcvis_cluster_user_env_vars.txt
```

3. Identify the following environment variables used by Teamcenter lifecycle visualization running on the primary machine:

```
APPDATA
```

```
USERPROFILE
```

```
USERNAME
```

4. Add the information to text file. For example:

```
APPDATA=C:\Users\PV\AppData\Roaming
```

```
USERPROFILE=C:\Users\YourUserName
```

```
USERNAME=YourUserName
```

5. Restart the secondary system.

**IPv6 for sockets**

Problem	The rich client embedded viewer does not support IPv6 for sockets. In this instance, the viewer will attempt to force an IPv4 connection.
Workaround	If using IPv6, ensure that IPv4 sockets are still enabled.

**VBScript in Internet Explorer**

Problem	Internet Explorer support for VBScript has changed. The changes may impact existing customer processes and deployments.
Workaround	For details, refer to the information, <i>VBScript in Internet Explorer</i> , located in this file in the installation <b>Examples</b> folder: <b>Automation\Documentation\ref_files\vbscript.htm</b>

**AutoCorrect options do not appear in Visualization Illustration**

Problem	When you use 64-bit Visio, the AutoCorrect options are not available. These options are available from the Application toolbar when using 32-bit Visio: <ul style="list-style-type: none"> <li>• <b>Menu→Tools→Options→Proofing→ AutoCorrect Options</b></li> <li>• <b>Menu→Tools→Auto Correct Options</b></li> </ul>
Workaround	Open Visio, and set the options using <b>Tools→Options→Proofing→AutoCorrect Options</b> .

**Dotted line appears in SVG file in technical illustration**

Problem	When you open an SVG file in Visualization Illustration, a dotted line may appear.
Workaround	The line represents a page break and can be ignored. It does not appear in printed or PDF output.

**Upgrading from an earlier release of Lifecycle Visualization requires full installation**

Problem	Performing an upgrade of the software is not adequate for proper functioning of all features.
Workaround	To upgrade to Lifecycle Visualization 11.2.2, perform a full installation.

**Linux embedded viewer dialog boxes appear behind the rich client window**

Problem	On Linux, embedded viewer dialog boxes may appear behind the main rich client application window.
Workaround	Use Gnome Window Manager. Most other Linux window managers do not work correctly.



### UI text does not display correctly for non-English locales on Linux

Problem	Teamcenter lifecycle visualization interface text does not display correctly for non-English locales on Linux.
Workaround	<p>You must specify the language at the login screen to ensure the X Server loads the correct fonts.</p> <p>If the <i>Font Creating Failed</i> error appears, refer to the workaround below for the <i>Missing UI text on Linux</i> issue.</p>

### Error when converting a DWG file with an embedded OLE object to PDF

Problem	An error message appears when you attempt to convert a DWG file with an embedded OLE object to PDF.
Workaround	<p>Disable macros and change resource settings:</p> <ol style="list-style-type: none"> <li>1. In Excel, choose <b>File</b>→<b>Options</b>.</li> <li>2. In the Excel Options dialog box, choose <b>Trust Center</b>.</li> <li>3. In the <b>Microsoft Excel Trust Center</b> section, click <b>Trust Center Settings</b>.</li> <li>4. Choose <b>Macro Settings</b>.</li> <li>5. Select <b>Disable all macros without notification</b>.</li> <li>6. You may need to set the following resource settings in the vvcp.ini file. These settings require less memory when converting the file. <ul style="list-style-type: none"> <li>• DwgOLERasterQuality=0</li> <li>• DxfOLERasterQuality=0</li> </ul> </li> </ol>

### Some CGM files generated by Catia V5 fail to display the image

Problem	Some CGM files generated by Catia V5 with embedded raster data fail to display the image when loaded into Teamcenter lifecycle visualization. This is because some CGM data generated by Catia V5 can be invalid based on the CGM specification. The invalid data may not impact the rendering of the image, but any found error can cancel the processing of the image.
Workaround	If the CGM specification check is overridden, the image may still display properly. To enable the override, while Teamcenter lifecycle visualization is not running, create an environment variable named TCVIS_IGNORE_CGM_RASTER_ERROR, and set it to any value. If any problems loading CGM files are still present, disable the override by deleting the TCVIS_IGNORE_CGM_RASTER_ERROR environment variable and restarting Teamcenter lifecycle visualization.

## VCD and SCD files do not load correctly when you use the example immersive configuration file

**Problem** Example files provided with Teamcenter lifecycle visualization include a file called **ImmersiveConfig.xml**, which you can use to configure the viewer to work with TrackD, InterSense, VRPN, or ZSpace. When using **ImmersiveConfig.xml**, the Video Configuration Description (VCD) and Sensor Configuration Description (SCD) files do not load correctly when immersive mode is activated.

**Workaround** You must change the following settings in the **ImmersiveConfig.xml** file to point to the VCD and SCD files for your current system. Use absolute paths instead of relative paths. For example:

```
<VCD_File name=" C:/Program Files/Siemens/TeamcenterXXX/Visualization/
Examples/Concept/Configuration_Files/VCD/Monitor.vcd"/>
```

```
<SCD_File name=" C:/Program Files/Siemens/TeamcenterXXX/Visualization/
Examples/Concept/Configuration_Files/SCD/InterSense_HeadAndWand.scd"/>
```

## No connection to hardware devices when immersive mode is activated

**Problem** When the immersive mode is activated, Teamcenter lifecycle visualization does not connect to hardware devices.

**Workaround** In the **ImmersiveConfig.xml** file, set `<Auto_Activate name=""/>` to a value of the corresponding hardware device server name.

For example, to connect to a VRPN server, set the value as:

```
<Auto_Activate name="VRPN"/>
```

Available options for the hardware device server names are:

TrackD

InterSense

VRPN

Zspace

## Product feature help filtering not enabled

**Problem** Beginning with Teamcenter 11.2 lifecycle visualization, help is no longer filtered based on installed optional features.

- Workaround
1. Copy the following file from the Teamcenter 11.2 lifecycle visualization product installation. This file is updated by the product installation to record the features that are installed on your system.
 

```
...\\Siemens\\Teamcenter11.2\\Visualization\\Help\\modules.js
```
  2. Paste the file to this location on the help server:
 

```
...\\Siemens\\PLM Documentation\\Server\\Collections\\tcv\\11.2\\help\\js
```

### Animations created with Capture Walk not saved correctly

- Problem Animations created with the Capture Walk option under Tracking Camera action are not saved correctly in Tc Vis 11.1.1. Such animation data will not load correctly in any TcVis versions.
- Workaround This problem is fixed in 11.2. Any Animation data created with the tracking camera action in TcVis 11.1.1 must be recreated in TcVis 11.2 and later versions.

### Fast Mode and Manual Update options in 3D Section are disabled

- Problem The **Fast Mode** option in the cross section preferences and the **Manual Update** menu item and toolbar option are disabled.
- Workaround None.

### CAE data does not display properly on Linux and OS X

- Problem The CAE data does not display properly on Linux and OS X.
- Workaround None. The CAE visualization functionality introduced in Teamcenter Visualization 11.1 is not fully supported by the graphics card drivers currently available for Linux and OS X.

### Missing CAE units in CAE Viewing

- Problem All the CAE units except Millimeters are displayed as Unknown in CAE Viewing.
- Workaround None. The CAE units in CAE Viewing are not supported in Teamcenter Visualization 11.1.

### Multiple clipped cross sections with capping do not display correctly

- Problem If you create multiple clipped cross sections with capping enabled, the resulting view may render incorrectly. It may look as if you can see through the capped sections and see the backs of the other capped sections.
- Workaround None

## Missing UI text on Linux

**Problem** On Linux systems running in one of the UTF-8 locales (en\_US.UTF-8), text may be missing from the Teamcenter lifecycle visualization user interface. For example, text may be missing from the assembly tree or the **File Open** dialog box. On systems with this issue, when you start the application, it may display the following error message:

```
Font Creation Failed
```

Also, the X11 log file (**/var/log/Xorg.0.log**) may contain error messages such as the following:

```
FreeType: couldn't find encoding 'iso8859-15' for '/.../generic.ttf'.
```

This is a result of some Linux distributions failing to generate the **encodings.dir** file during installation. X11 requires the **encodings.dir** file to load fonts in UTF-8 locales.

**Workaround**

1. Ensure that all X11 Unicode font packages are installed.
2. Navigate to the X11 **fonts/encodings/** directory. On Red Hat Enterprise Linux 6, this directory is located at **/usr/share/X11/fonts/encodings**, but other distributions may put the encodings folder in a different location.
3. If the **encodings.dir** file does not exist in this location, generate the file using the **mkfontdir** command. On Red Hat 6, type the following at the command prompt:

```
cd /usr/share/X11/fonts/encodings
as root mkfontdir -e /usr/share/X11/fonts/encodings \
-e /usr/share/X11/fonts/encodings/large
```

### Note

You must run the **mkfontdir** command from the directory containing the encodings, and it should have a separate **-e** flag for each subdirectory that also contains encodings, such as the **encodings/large/** subdirectory on RedHat 6.

4. If the **encodings.dir** file exists and the problem persists, check to make sure that it includes encodings for each of the classes in the **XLC\_LOCALE** file for the locale (in **/usr/share/X11/locale/en\_US.UTF-8/** on Red Hat 6, for example), or regenerate the **encodings.dir** file using the above directions.

## Visualization files are not associated with the viewer on OS X

**Problem** When you install Teamcenter lifecycle visualization on a Mac, the installer does not automatically associate supported file types with the viewer. You must manually associate supported file types with the viewer to do the following:

- Double-click a supported file type to open it in the viewer.
- Send visualization files from the Teamcenter Thin Client or Community directly into the viewer.

**Workaround** In the Visualization application installation directory, there is a simple native Mac OS X application called ViewerLauncher.app which you can associate with Lifecycle Visualization file types.

When you double-click a visualization file type that has been associated with ViewerLauncher.app, the application launches one of the following scripts:

- bin/vvbaselaunch
- bin/vvstdlaunch
- bin/vvprolaunch

By default, the script launched is vvprolaunch, which corresponds to the Professional license level. You can modify the following file to specify a different license level:

**ViewerLauncher.app/Contents/Resources/English.lproj/Settings.txt**

### Note

If you are using Safari to send visualization files from the Teamcenter Thin Client or Community directly into the viewer, you must also configure the browser to treat .vvi files as safe files.

## VVI files are not sent directly into the viewer on OS X

**Problem** When using the Teamcenter Thin Client or Community in Safari, .vvi files are not sent directly into the viewer. Instead, the .vvi is saved to your local file system, and you must manually open it in the viewer.

**Workaround** You must configure Safari to treat .vvi files as safe files for visualization data to open directly in the viewer. This behavior is controlled with a plist file named “com.apple.DownloadAssessment.plist”. This file is packaged with the ViewerLauncher.app. Copy it to this location:

**`${Home}/Library/Preferences`**

The key named “LSRiskCategorySafe” defines file types that are treated as safe and automatically opened in the viewer. The subkey “LSRiskCategoryContentTypes” defines an array of safe file extensions called “LSRiskCategoryExtensions”, which must contain a string named “VVI”. Note that the sample .plist file included with the installation is already configured to treat .vvi files as safe.

**Teamcenter Visualization is not installed to the Applications folder on OS X**

**Problem** On Mac OS X, the Teamcenter lifecycle visualization application and related files are not installed to the Applications folder.

**Workaround** If you want ViewerLauncher.app to be in the Applications folder, you must do the following:

1. From the command prompt, move all of the visualization files and folders at the same level as ViewerLauncher.app into the ViewerLauncher.app application bundle (Mac .app files include a hidden folder structure, with the top-level directory having a name that ends with the .app extension).
2. Move ViewerLauncher.app to the Applications folder.

**Product views display parts in incorrect positions**

**Problem** Parts may appear in incorrect positions when product views authored in the Lifecycle Viewer or the stand-alone viewer are restored in certain Teamcenter embedded viewers. This problem occurs when the motion system records part transformations on subassembly nodes, and the transformations are subsequently captured by the product view. These assembly-level transformations generated by the motion system are not applied correctly when the product view is restored in Structure Manager, Multi-Structure Manager, and Manufacturing Process Planner.

**Workaround** You can avoid this limitation by keeping 3D part transformations at the part level when working with motion in the Lifecycle Viewer or the stand-alone viewer. Rather than transforming an entire assembly or subassembly, expand the structure and select all of the individual parts and move them instead.

**The help does not display properly in Internet Explorer 9**

**Problem** When the Internet Explorer 9 Compatibility View setting is turned off, the help does not display properly.

- Workaround To view the help in Internet Explorer 9, you must turn on Compatibility View. In IE 9, do the following:
1. Choose **Tools**→**Compatibility View Settings**.
  2. In the **Compatibility View Settings** dialog box, select the **Display all websites in Compatibility View** check box.

### An ActiveX warning is displayed each time the help is started

Problem When you launch the help, an ActiveX warning is displayed.

Workaround To get rid of the ActiveX warning, do the following:

1. Choose **Tools**→**Internet Options**→**Advanced**.
2. In the **Settings** area, scroll down to the **Security** section, and select the **Allow active content to run in files on My Computer** check box.
3. Click **OK**.
4. Close and reopen the browser.

### Rendering artifacts during moving frame navigation

Problem Lifecycle Visualization includes new technology to greatly increase the interactivity of moving frame navigation for medium and large assemblies on multi-processor workstations. This feature is automatically disabled on single-CPU machines.

When you navigate rapidly about the 3D model, objects near the edge of the Viewing window may be delayed for a few frames before appearing. This is a normal side-effect of the performance enhancement. The severity of the effect is proportional to the size of the assembly being viewed, the number of polygons being rendered, and the speed of the graphics card.

Workaround To turn this feature off, you must set the environment variable **TCVIS\_DISABLE\_ASYNCSTRATEGY** to **True**. However, you should disable this feature only if your machine freezes or crashes.

### Issue with nVidia G-Sync cards

Problem If you have an nVidia G-Sync option card, unexpected errors may occur when using it in a PC cluster environment. Graphics adapters that support the nVidia G-Sync option card include the nVidia Quadro FX graphics solutions.

- Workaround**      The problem has been fixed in nVidia driver version 197.28 and above. To resolve the issue, update your driver.
- If you are using an older driver, you can set up the following system environment variable to disable the G-Sync effect in Lifecycle Visualization:
- TCVIS\_CLUSTER\_NOGSYNC=True**

### Visibility filter and Use Off-Screen Rendering option

- Problem**            When you turn off **Use Off-Screen Rendering**, the 3D graphics window must be completely clear of other windows. If any windows are covering the 3D graphics window in any way, the visibility check does not work.
- Workaround**        It is recommended that you do not turn off **Off-Screen Rendering**.

### Installing the Windows cluster service

- Problem**            A cluster is a Windows-based system that contains multiple workstations. Before you can use clusters, you must install an additional Windows service program (`TeamcenterVisClusterLaunch.exe`) on the client nodes.
- Workaround**        Install the Windows cluster service. For information on installing the service, see *Installing and uninstalling the Windows cluster service* in the stand-alone Lifecycle Visualization *Installation Guide*.

### Functionality not supported in PC clusters

- Problem**            Some functionality where new geometry or other content is generated dynamically during the course of the session will not work with PC clusters, including, but not limited to the following:
- Part edit
  - Environment map image captures for advanced materials
  - Jack
  - Variation Analysis
  - Visualization Illustration
  - 3D compare
  - Surface analysis
  - Layer filters
  - Animation file loading



Workaround      None

### Attempting to interoperate an assembly to a new NX manager fails

**Problem**            Interoperating an assembly to a new NX manager from Lifecycle Visualization fails if the assembly was originally sent to Lifecycle Visualization from Teamcenter.

**Workaround**        Start NX from Teamcenter before interoperating an assembly from Lifecycle Visualization. From the **File**→**Interoperate** menu in Lifecycle Visualization, choose the running NX manager instead of a new NX manager.

### Assembly names are different when sent from NX and Teamcenter

**Problem**            If an assembly is sent to Lifecycle Visualization directly from Teamcenter, the name in the assembly tree view has the Item ID, ItemRev, and ItemName. The Item ID, ItemRev, and ItemName are not present if the assembly is sent from NX.

**Workaround**        A solution where the Item ID, ItemRev, and ItemName are sent to Lifecycle Visualization as user data in the PLM XML is in NX 5.0.2 and later releases. This solution allows a Lifecycle Visualization user to add these as columns in the Assembly Tree. A longer term solution also is under investigation.

### Session files lose association to animation files

**Problem**            On Linux, you will encounter issues when you have a session file that references an animation primary document. When a 3D view from the session file is associated with the animation, that relationship should be preserved and re-established when you open the session. However, on Linux the relationship between the 3D view and the animation does not get re-established. Therefore, if you run the animation, it attempts to create a new 3D view instead of using the one that is present as part of the session.

**Workaround**        Perform the following steps:

1. Load the session (this loads the 3D view and the animation document).
2. Select the 3D view to be the animation target.
3. Select a part in the Viewing window.
4. Choose **Animation**→**Associate 3D View with Animation**.

### Cannot save PLM XML motion file formats to Teamcenter

**Problem**            When you try to save motion data to Teamcenter using the PLM XML Motion Frame or PLM XML Motion Keyframe file formats, an error message is displayed.

**Workaround**        You must use the VFM file format when saving motion data to Teamcenter. The PLM XML motion file formats are not supported.

### Visualization Illustration crashes while saving Stencil or selection Transparency button

Problem	Visualization Illustration 11.1 with Visio 2013 SP1 crashes while saving Stencil or selection Transparency button due to issues in Visio.
Workaround	Microsoft will likely provide fixes through an Office 2013 cumulative update for November 2014.

### Support for localized user interface in Visualization Illustration

Problem	The language shown on the user interface may be inconsistent when using Visualization Illustration.
Workaround	To provide a consistent user interface with respect to the user interface language presented by the viewer and the user interface language presented by the Visio Drawing Control, you must install one of the following: <ul style="list-style-type: none"> <li>• An English Visio 2010 or Visio 2013 product install and a MUI pack supporting the language of choice</li> <li>• A localized Visio 2010 or Visio 2013 product install for the language of choice</li> </ul>

Only when the Microsoft Office 2010 or Visio 2013 Language Settings tool has the user interface language set to the same language as specified for the default system locale will the user interface language be consistent throughout the entire Visualization Illustration application.

### In non-English versions of Visualization Illustration, opening an SVG file containing Assets displays a blank screen.

Problem	Opening an SVG file containing Assets displays a blank screen when Windows is configured to use a comma as the decimal symbol.
Workaround	Configure Windows to use a period as the decimal symbol. <ol style="list-style-type: none"> <li>1. Open Windows <b>Control Panel</b>.</li> <li>2. Choose <b>Region and Language</b>.</li> <li>3. In the <b>Region and Language</b> dialog box, on the <b>Formats</b> tab, click <b>Additional setting</b>.</li> <li>4. In the <b>Customize Format</b> dialog box, on the <b>Numbers</b> tab, change <b>Decimal symbol</b> from "," to ".".</li> </ol>

## Visualization Illustration asset capturing may stop working after uninstalling Lifecycle Visualization

- |            |   |
|------------|---|
| Problem    | After uninstalling Lifecycle Visualization when a previous version of Lifecycle Visualization is still installed, you may need to repair the previous installation to restore the proper functioning of the previous version of Asset Capture. This problem results in the following error message: <code>Failed to create the session data container.</code> |
| Workaround | <ol style="list-style-type: none"> <li>1. From the <b>Common Files</b> installation folder (for example, <b>C:\Program Files\Common Files\Siemens Shared\TcVis\9.1\</b>), remove the module <b>VP3DGeomAssetData.dll</b>.</li> <li>2. Run the repair option of the installation of the earlier version of Lifecycle Visualization.</li> </ol>                 |

## Visualization Illustration enablement

- |            |   |
|------------|---|
| Problem    | <p>Visualization Illustration users may notice that even though they have installed Visualization Illustration, they are not seeing certain functionality exposed. In particular, the following:</p> <ul style="list-style-type: none"> <li>• The Asset Clipboard does not appear when a 3D view is opened.</li> <li>• You cannot capture a 3D geometry asset.</li> </ul> |
| Workaround | <p>The first and most obvious reason for this may be a lack of a new Visualization Illustration license.</p> <p>The second reason for this may be the absence of a Visio 2010 or Visio 2013 installation. If either of these is not available, Visualization Illustration and all related functionality will be disabled.</p>   |

## Microsoft installer launches on start of Visio

- |         |   |
|---------|---|
| Problem | <p>The Lifecycle Visualization installer does not associate the Visio .vsd file type with the Viewer. As a result, double-clicking a .vsd file causes the Visio application to launch and load the document. However, because Visualization Illustration Technical Illustrations are built using Visio as a drawing engine, Technical Illustrations are Visio documents with a .vsd extension. As a result, there are some users that elect to associate the Viewer with the .vsd file type. By doing so, double-clicking a .vsd file causes the Viewer to launch and load the document. Regardless of which application is associated with the .vsd file type, .vsd files can always be opened in the Viewer through <b>File→Open</b>.</p> <p>If Microsoft detects during the startup of Visio that the .vsd file is not associated with the Visio application, the Microsoft Installer runs as a means to automatically repair what Microsoft views as a broken association. A description of this behavior can be found at <a href="http://support.microsoft.com/?id=290997">http://support.microsoft.com/?id=290997</a>. At the bottom of this article is a link that describes how to disable this behavior. However, this approach completely disables the Microsoft Installer.</p> |
|---------|---|

**Workaround**      A workaround for this problem is to not associate the .vsd file type with the Viewer. Rather than double-clicking the .vsd file type to launch the application, right-click the .vsd file and use the Microsoft Explorer **Open With** shortcut menu to open the file.

### Variation Analysis issues

**Problem**            The following issues apply to Variation Analysis.

- When extracting NX PMI data from a JT file, slot and tab patterns are not supported.
- When extracting NX PMI data from a JT file, the following tolerances do not flow down to Variation Analysis.
  - o PMI shown in multiple NX views are duplicated in JT PMI and subsequently in the Variation Analysis.
  - o Unilateral and unequal bilateral profile tolerances indicated by the  $\textcircled{U}$  modifier are not recognized.
- Reference dimension and angular plus-minus tolerances are not recognized.
- The flowdown of linear plus-minus tolerances (directed dimensions in NX PMI) require NX 10 or later.
- Rename/Remap does not work when the object being moved is the assembly node that is being duplicated.
- FCFs (Feature Control Frames) show a non-existing datum reference when a feature is linked to the tolerance library.

**Workaround**      None

## Chapter 10: Supported file formats

Teamcenter lifecycle visualization supports the following file formats:

- 2D file formats
- 3D file formats
- ECAD file formats
- 2D/3D file formats
- Lifecycle Visualization authored file formats
- Motion file formats supported for conversion to VFM
- Visualization Illustration supported file formats
- Lifecycle Visualization file formats
- Supported versions of the JT file format
- Supported versions of other Siemens PLM Software file formats

### Note

Some file types may need an optional translator. Consult your system administrator for assistance.

### 2D file formats

You can open the following 2D file formats:

Abbreviation	Extension	Description	Type	Prerequisites
<b>Raster and Document</b>				
BMP	.bmp	Microsoft Windows or OS/2 bitmap file	Raster	None
C4	.C4	JEDMICS C4 tiled raster format	Raster	None
CG4	.CG4	CALS Group IV format	Raster	None
DOC	.doc	Microsoft Word	Document	Install MS Word
DOC	.docx	Microsoft Word	Document	Install MS Word

Abbreviation	Extension	Description	Type	Prerequisites
DFT (Windows only)	.dft	Solid Edge draft files  <b>Note</b>  For details on supported versions, see <i>Supported versions of other Siemens PLM Software file formats</i> .	Raster	None
EMF (Windows only)	.emf	Microsoft Enhanced Metafile	Raster	None
GIF	.gif	CompuServe color raster format	Raster	None
HDR	.hdr	High Dynamic Range images  <b>Note</b>  High Dynamic Range (HDR) images are supported for 3D light maps only. Light maps can use OpenEXR or Radiance RGBE Encoding HDR images.	Raster	None
JPEG	.dept, .jpeg, .jiff, .jpe, .jpg	JPEG file	Raster	None
JPEG 2000	.j2k, .jp2, .jpc	JPEG 2000 file  <b>Note</b>  Using Teamcenter Visualization 2005 and later, you can display and save JPEG 2000 files.	Raster	None

Abbreviation	Extension	Description	Type	Prerequisites
MLR	.mlr, .mil, .milr, .CAL	MIL-R-28002 Type 1 Raster	Raster	None
MPP	.mpp	Microsoft Project	Document	Install MS Project
MPC	.mpc	Multi-page CALS file	Raster	None
PBM	.pbm	Portable BitMap image file  <b>Note</b>  The application only supports viewing this file type.	Raster	None
PCX	.pcx	Windows Paintbrush image file	Raster	None
PGM	.pgm	Portable GrayMap image file  <b>Note</b>  The application only supports viewing this file type.	Raster	None
PNG	.png	PNG file format	Raster	None
PNM	.pnm	Portable AnyMap image file  <b>Note</b>  The application only supports viewing this file type.	Raster	None
PPM	.ppm	Portable PixMap image file  <b>Note</b>  The application only supports viewing this file type.	Raster	None
PPT	.ppt	Windows PowerPoint	Document	Install MS PowerPoint

Abbreviation	Extension	Description	Type	Prerequisites
PPT	.pptx	Windows PowerPoint	Document	Install MS PowerPoint
PS	.ps, .eps	PostScript (Level 1, Level 2, EPS)	Raster	Install Ghostscript
RAS	.ras, .sun	Bi-level Sun raster	Raster	None
RGB	.rgb, .rgba, .sgi, .bw	SGI RGB file	Raster	None
RVF	.rvf	Raster Viewing Format	Raster	None
TG4	.tg4	CCITT Group 4 Type II tiled image format	Raster	None
TGA	.tga	Truevision Targa	Raster	None
TIFF	.tif, .tiff	Tagged Image File Format	Raster	None
TLC	.tlc	TLC file format	Raster	None
TRIFF	.fsx, .ovx., .fs, .ov	Monochrome, single and multi-page tiled raster file format	Raster	None
WBMP	.wbmp	Wireless Bitmap	Raster	None
WMF (Windows only)	.wmf	Windows Metafile	Raster	None
XLS	.xls, .cvs	Microsoft Excel	Document	Install MS Excel
XLS	.xlsx, .cvs	Microsoft Excel	Document	Install MS Excel
<b>Vector</b>				
907	.906, .907, .CAL	Calcomp 906, 907	Vector	None
CGM	.cgm	Binary Computer Graphics Metafile MIL-D-28003 ANSI X3.122  <b>Note</b>  Teamcenter Visualization 2005 and later supports CGM Version 4, while maintaining support for CGM Versions 1 through 3.  Teamcenter Visualization 2005 also	Vector	None



Abbreviation	Extension	Description	Type	Prerequisites
		supports WebCGM files.		
DGN (Windows only)	.dgn	Microstation DGN file format (available on Windows)	Vector	None
DWF	.dwf	Autodesk Drawing Web Format files  <b>Note</b>  The application supports DWF version 6 formatted files, including the new .w2d file extension.  Embedded raster data is supported only on Windows.	Vector	None
DWG (up to AutoCAD 2013)	.dwg	AutoCAD Internal file format  <b>Note</b>  The following types of embedded raster data are supported: BMP, JPG, GIF, MLR, TIFF, and PNG.	Vector	None
GERBER	.gbr, .gbx, .gvl	Gerber RS274D and RS274X formats  <b>Note</b>  Use .gvl files to open a list of Gerber files as one document with layers for each file in the list.	Vector	None

Abbreviation	Extension	Description	Type	Prerequisites
HPGL	.hgl, .hpg, .hppl, .hp2, .plt	HP Graphics Language (HPGL and HPGL/2)  <b>Note</b>  The application recognizes additional files as HPGL if you set the EAI_HPGL_EXTENSIONS environment variable. The setting should be a comma separated list of file extensions.  <b>Example</b>  "hpgl2,hpgl3"	Vector	None
IDW (Windows only)	.idw	Autodesk Inventor drawing file format	Vector	To work with the Autodesk Inventor files, you must have Autodesk Inventor, Autodesk Inventor View, or Design Tracking. Autodesk Inventor View and Design Tracking are freely distributed and available from Autodesk.  Autodesk Inventor .idw files prior to version 5.3 are not supported.
IGES	.igs, .iges	Initial Graphics Exchange Input File Specification, MIL-D-28000	Vector	None
MDL	.mdl	Model file	Vector	None
W2D	.w2d	Autodesk toolkit	Vector	None
<b>Miscellaneous</b>				

Abbreviation	Extension	Description	Type	Prerequisites
AI	.ai	Adobe Illustrator	Vector or Raster	For Linux, and Mac, install Ghostscript
MDS	.mds	MetaData Stamp	Vector or Raster	None
PDF	.pdf	Portable Document Format  <b>Note</b>  On Windows, you can directly create and work with PDF documents.	Raster	For Linux, and Mac, install Ghostscript
TXT	.txt	ASCII text file format	Document	None
WebCGM	.cgm	CGM file management through Web browsers, hyperlinks, and other supported WebCGM file features.	None	None
ZIP	.zip	ZIP files containing one or more files of a supported 2D format  <b>Note</b>  The 2D files contained within the ZIP are displayed in a single multipage 2D image window. You can navigate through the pages (files) using any of the available 2D multipage navigation options.	None	None

### 3D file formats

You can open the following 3D file formats:

Abbreviation	Extension	Description
ASM (Windows only)	.asm	<p>Assembly file for Solid Edge that can reference .par, .psm, .pwd, and other .asm files.</p> <p><b>Note</b></p> <p>For details on supported versions, see <i>Supported versions of other Siemens PLM Software file formats</i>.</p>
BLK	.blk	<p>NASTRAN bulk format</p> <p><b>Note</b></p> <p>To work with IGES files, the IGES optional translator must be properly installed and licensed.</p>
IGES 5.3	.igs, .iges	<p>Initial Graphics Exchange Input File Specification, MIL-D-28000</p> <p><b>Note</b></p> <p>To work with IGES files, the IGES optional translator must be properly installed and licensed.</p>
JT	.jt	<p>DirectModel file format</p>
PAR (Windows only)	.par	<p>Solid Edge single part file</p> <p><b>Note</b></p> <p>For details on supported versions, see <i>Supported versions of other Siemens PLM Software file formats</i>.</p>
PLM XML	.plmxml	<p>XML format that supports product view and product structure data</p>
PSM (Windows only)	.psm	<p>Solid Edge sheet metal file</p> <p><b>Note</b></p> <p>For details on supported versions, see <i>Supported versions of other Siemens PLM Software file formats</i>.</p>
PWD (Windows only)	.pwd	<p>Solid Edge weldment file</p> <p><b>Note</b></p> <p>For details on supported versions, see <i>Supported versions of other Siemens PLM Software file formats</i>.</p>

Abbreviation	Extension	Description
RES	.res	ADAMS results file format  <b>Note</b> <ul style="list-style-type: none"> <li>Lifecycle Visualization supports ADAMS RES 2010 and 2013 files.</li> <li>The ADAMS conversion feature, which converts RES files to the VFM motion file format, requires the Professional or Mockup product configuration, as well as an additional license. It is supported on Windows only.</li> </ul>
STEP AP203, 214	.stp	Standard for Exchange of Product  <b>Note</b> To work with STEP files, the STEP optional translator must be properly installed and licensed.
VRML	.wrl, .vrmf	Virtual Reality Markup Language  <b>Note</b> <ul style="list-style-type: none"> <li>VRML support is for geometry and appearance attributes only.</li> <li>You can export 3D models in only the VRML 1.0 format.</li> <li>Both VRML 1.0 and 2.0 files can be imported.</li> </ul>
XMO	.xmo	XML-based motion file format
XT	.x_t, .x_b, .xmt_txt, .xmt_bin	Parasolid XT File  <b>Note</b> For details on supported versions, see <i>Supported versions of other Siemens PLM Software file formats</i> .

**Note**

The CADDs format is no longer supported. You can use the CADDs to JT translator to translate single CADDs files or to perform automated batch translations of multiple CADDs files.

## ECAD file formats

You can open the following file formats in ECAD:

Abbreviation	Extension	Description
BCZ	.bcz	Teamcenter Briefcase
XFATF	.xfatf	PCB file
XSCH	.xsch	Schematic File
XRUL	.xrul	Contains the ECAD DFx rules.
XRES	.res	Contains the ECAD DFx results.
CGM	.cgm	ECAD Markup layer.

## 2D/3D file formats

You can open the following 2D/3D file formats:

Abbreviation	Extension	Description
DXF (up to AutoCAD 2013)	.dxf	AutoCAD drawing interchange format <div style="background-color: #f0f0f0; padding: 10px; margin-top: 10px;"> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>To work with 3D DXF files, the DXF optional translator must be properly installed and licensed.</li> <li>The following types of embedded raster data are supported: BMP, JPG, GIF, MLR, TIFF, and PNG.</li> <li>Solids are not supported.</li> </ul> </div>
DWG (up to AutoCAD 2013)	.dwg	AutoCAD Internal file format <div style="background-color: #f0f0f0; padding: 10px; margin-top: 10px;"> <p><b>Note</b></p> <p>The following types of embedded raster data are supported: BMP, JPG, GIF, MLR, TIFF, and PNG.</p> </div>
IGES	.igs, .iges	Initial Graphics Exchange Input File Specification, MIL-D-28000 <div style="background-color: #f0f0f0; padding: 10px; margin-top: 10px;"> <p><b>Note</b></p> <p>To work with IGES files, the IGES optional translator must be properly installed and licensed.</p> </div>

Abbreviation	Extension	Description
PRT	.prt	NX part file  <div style="background-color: #f0f0f0; padding: 5px;"> <p><b>Note</b></p> <p>Lifecycle Visualization supports direct viewing of NX .prt files. For details on supported versions, see <i>Supported versions of other Siemens PLM Software file formats</i>.</p> </div>

### Lifecycle Visualization authored file formats

You can save data as the following file formats:

Abbreviation	Extension	Description
907	.907	Calcomp 907
951	.951	Calcomp 951
AVI	.avi	Video (Windows)
BCZ	.bcz	Teamcenter Briefcase
BMP	.bmp	Microsoft Windows or OS/2 bitmap file
CGM	.cgm	2D Markup layer or ECAD
CSV	.csv	Clearance DB report
DBC	.dbc	Clearance DB Database Connection
ENV	.edv	Jack Environment (session)
FIG	.fig	Jack Figure (session)
GIF	.gif	Graphics Interchange Format  <div style="background-color: #f0f0f0; padding: 5px;"> <p><b>Note</b></p> <p>You must have a license to work with Visualization Illustration.</p> </div>
HPGL	.hpg	HP Graphics Language (HPGL and HPGL/2)
J2K	.j2k, .jp2, .jpc	JPEG 2000
JPEG	.jpg	JPEG file  <div style="background-color: #f0f0f0; padding: 5px;"> <p><b>Note</b></p> <p>You must have a license to work with Visualization Illustration.</p> </div>
JT	.jt	DirectModel Format
MLR	.mlr, .mil, .milr	MIL-R-28002 Type 1 Raster
MPEG	.mpg	Video (Mac and Linux)
P-SURF	.pss	Jack P-Surface (Part)

Abbreviation	Extension	Description
PCX	.pcx	Windows Paintbrush image file
PDO	.pdo	Process documents
PFC	.pfc	Vehicle Integrated Process Flow Charts
PLMXML	.plmxml	Product Structure
PNG	.png	PNG file format  <b>Note</b> You must have a license to work with Visualization Illustration.
PS	.ps	PostScript (EPS)
PVL	.pvl	2D Image View List
ROBFACE	.asy	Robface format
RVF	.rvf	Raster Viewing Format
SCD	.scd	Sensor Configuration Definition
STEP AP203	.stp	Standard for Exchange of Product  <b>Note</b> To work with STEP files, the STEP optional translator must be properly installed and licensed.
SVG	.svg	Scalable Vector Graphics  <b>Note</b> You must have a license to work with Visualization Illustration.
TIFF	.tif	Tagged Image File Format
TXT	.txt	3D Measurement Report, 3D PMI Point Report, Clearance Results
V3G	.v3g	3D Geometry Asset
VAN	.van	Animation
VCD	.vcd	Video Configuration Definition
VF	.vf	Work sessions
VFM	.vfm	Motion
VFZ	.vfz	Work Session Package



Abbreviation	Extension	Description
VML	.vml	Vector Markup Language  <b>Note</b> You must have a license to work with Visualization Illustration.
VPL	.vpl	3D markup layers
VRML	.wrl	Virtual Reality Markup Language  <b>Note</b> <ul style="list-style-type: none"> <li>VRML only supports geometry.</li> <li>You can export 3D models in only the VRML 1.0 format.</li> <li>Both VRML 1.0 and 2.0 files can be imported.</li> </ul>
VSD	.vsd	Technical Illustration
VTP	.vtp	Technical Portfolio
VVS	.vvs	Viewer State Script
XML	.xml	Attribute Color, Search Trace Results file, SPC measurement data file, XML point import and export file, exported Flowchart file, ECAD markup metadata file
XRUL	.xrul	Contains the ECAD DFX rules.
XRES	.xres	Contains the ECAD DFX results.
ZN	.zn	Clearance Zone

### Motion file formats supported for conversion to VFM

You can convert the following file types to the VFM motion file format:

Abbreviation	Extension	Description
XMO	.xmo	Motion
RES	.res	ADAMS Results Files  <b>Note</b> <ul style="list-style-type: none"> <li>Lifecycle Visualization supports ADAMS RES 2010 and 2013 files.</li> <li>The ADAMS conversion feature, which converts RES files to the VFM motion file format, requires the Professional or Mockup</li> </ul>

Abbreviation	Extension	Description
		product configuration, as well as an additional license. It is supported on Windows only.

### Visualization Illustration supported file formats

#### Note

You must have a license to work with Visualization Illustration.

You can work with the following file formats in Visualization Illustration:

Abbreviation	Extension	Description
BMP, DIB	.bmp, .dib	Windows Bitmap
EMZ	.emz	Compressed Enhanced Metafile
EMF (Windows only)	.emf	Enhanced Metafile
GIF	.gif	Graphics Interchange Format
JPEG	.jpg	JPEG Interchange Format
PNG	.png	Portable Network Graphics
SVG, SVGZ	.svg, .svgz	Scalable Vector Graphics
TIF, TIFF	.tif, .tiff	Tag Image File Format
VML	.vml	Vector Markup Language

### Lifecycle Visualization file formats

Lifecycle Visualization features utilize the following file formats:

Abbreviation	Extension	Description
CSV	.csv	ClearanceDB report
DBC	.dbc	ClearanceDB Database Connection file
ENV	.edv	Jack Environment (session)
FIG	.fig	Jack Figure (session)
eXT	.ext	ASCII XML format developed by Parasolid <div data-bbox="763 1591 837 1623" data-label="Section-Header"> <h4>Note</h4> </div> <div data-bbox="761 1644 1422 1749" data-label="Text"> <p>The application no longer saves data in the .eXT format. You can read .eXT files, but you can save product view data only in the .plmxml format.</p> </div>
JT	.jt	DirectModel Format
PDO	.pdo	Process documents
PFC	.pfc	Vehicle Integrated Process Flow Charts
P-SURF	.pss	Jack P-Surface (Part)

Abbreviation	Extension	Description
PLMXML	.plmxml	Product Structure
VAN	.van	Animation
VBK	.vbk	Illustration Book
VF	.vf	Work sessions
VFM	.vfm	Motion
VFP	.vfp	Autofile Locate preferences file.
VFZ	.vfz	Work Session Package
VPL	.vpl	3D markup layers
XML	.xml	Attribute Color, Search Trace Results file, SPC measurement data file, XML point import and export file, exported Flowchart file
XMO	.xmo	Motion
ZN	.zn	Clearance Zone

### Supported versions of the JT file format

You can open and, depending upon your licensing configuration, save the following versions of the JT file format:

Teamcenter lifecycle visualization version	JT version	JT and XT B-Rep support	ULP support
5.x	8.1 and earlier	Yes	No
6.x	8.1 and earlier	Yes	No
2007 (PLM1)	8.3 and earlier	Yes	Preliminary
2007.1	9.1 and earlier	Yes	Yes
2007.1.1	9.2 and earlier	Yes	Yes
8.0	9.3 and earlier	Yes	Yes
8.1	9.4 and earlier	Yes	Yes
8.2	9.5 and earlier	Yes	Yes
8.3	9.5 and earlier	Yes	Yes
9.x	9.5 and earlier	Yes	Yes
10	9.5 and earlier	Yes	Yes
10.1	10.0 and earlier	Yes	Yes
11.1	10.0 and earlier	Yes	Yes

### Supported versions of other Siemens PLM Software file formats

Depending upon your licensing configuration, you can open the following versions of other Siemens PLM Software file formats:

Teamcenter lifecycle visualization version	NX .prt file format	Solid Edge .dft, .asm, .par, .psm, and .pwd file formats	Parasolid .x_t, .x_b, .xmt_txt, and .xmt_bin file formats
Prior to 5.0	Not supported	Not supported	Not supported

<b>Teamcenter lifecycle visualization version</b>	<b>NX .prt file format</b>	<b>Solid Edge .dft, .asm, .par, .psm, and .pwd file formats</b>	<b>Parasolid .x_t, .x_b, .xmt_txt, and .xmt_bin file formats</b>
5.0	NX 1	Not supported	14.0
5.1	NX 2	Not supported	15.0
5.1.0.4	NX 3	Not supported	15.0
6.0 (including MP1)	NX 3	Not supported	16.1
6.0 MP1 with TcVis_2005MP1_PubEnhance patch	NX 4	Not supported	16.1
6.0 SR1	NX 4	Not supported	17.0
6.0 SR1 with TcVis_2005SR1_RDVSupport patch	NX 4	Not supported	17.0
6.0 SR1 MP1 (2005 SR1)	NX 4	v18	17.0
2007 (PLM1)	NX 4	v18	18.1
2007.1	NX 5	v20	18.1
2007.1 (MP1 – MP3)	NX 5	v20	18.1
2007.1 (MP4 – MP8)	NX 5	v100	18.1
2007.2	NX 6	v100	19.1
8.0	NX 6	v100	19.1
8.1	NX 7 (Windows) NX 6 (Mac OS, Linux)	v100	19.1
8.2	NX 7	v102	22.0
8.3	NX 7.5	v103	22.0
9.0	NX 7.5	v103	23.0
9.1	NX 8.0	v104	24.0
9.1.1.1	NX 8.0 Patch 1 (8.0.0.27)	v104	24.0
10	NX 8.0 Patch 1 (8.0.0.27)	v105 (ST5)	25.0.146
10.1.1	NX 8.5 (8.5.0.23)	V106 (ST6)	25.1.139
10.1.2	NX9 (9.0.0.20 vs2010)	V106 (ST6)	26.1.169
10.1.3	NX9 (9.0.0.21 vs2010)	V106 (ST6)	26.1.169
10.1.5 32-bit	NX9 (9.0.0.21 vs2010)	V106 (ST6)	26.1.169
10.1.5 64-bit	NX10 (10.0.0.25 vs2010)	V108 (ST8)	26.1.169
11.1	NX9 (9.0.0.21 vs2012)	V107 (ST7)	26.1.169

Teamcenter lifecycle visualization version	NX .prt file format	Solid Edge .dft, .asm, .par, .psm, and .pwd file formats	Parasolid .x_t, .x_b, .xmt_txt, and .xmt_bin file formats
11.1.2	NX10 (10.0.0.25 vs2012)	V108 (ST8) vs2012	26.1.169
11.2	NX10 (10.0.0.25 vs2013)	V108 (ST8) vs2012	27.0.205
11.2.2	NX10 (10.0.0.25 vs2013)	V108 (ST8) vs2012	28.1.228
11.2.3	NX11 (vs2015)	V109 (ST9 vs2015)	29.0.137

#### Note

- To avoid seeing construction geometry in Lifecycle Visualization, clean up your construction geometry in NX before opening the file in the viewer.
- Non-geometry data, such as PMI, is not supported.
- Wireframe data is not supported.
- 2D .prt files must contain embedded CGM data.



## Chapter 11: Global Technical Access Center (GTAC)

To report any serious problems about Lifecycle Visualization, please contact the Global Technical Access Center.

### Phone:

- USA and Canada: (800) 955-0000 or (714) 952-5444
- Outside the United States and Canada: Contact your local support office.

### Website:

You can also log and view any existing resolutions for incident reports on the Web at <http://www.siemens.com/gtac>.

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## About Siemens PLM Software

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