

Teamcenter 11.3 lifecycle visualization

Release Notes

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Chapter 1: Release Notes introduction

These Release Notes summarize the changes made for Teamcenter 11.3 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.

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>

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
- .vfx 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.

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

View 4GD partitions

When you launch 4GD worksets into stand-alone Lifecycle Visualization or the Lifecycle Viewer for viewing and analysis, you can now view the subset members within the assembly tree, organized per a specified partition scheme. The viewed partition scheme can be set on a per subset basis.

Visibility Ribbon bar group

The Visibility group is added to the Ribbon bar on the **View** tab. The group includes commands for displaying and selecting parts that were available from the **View**→**Visibility** and **View**→**Select** menus from the Application toolbar.



Generate high-definition images of model views

When working with model views, you can set a preference to generate high-definition images of model views when thumbnails are generated.

New features for Standard

Automatic sizing for inset images

Using the 3D Markup command **Inset Image**, you can now automatically size the images that you insert. A new **Inset Image** tab in the **Markup3D Preferences** dialog box has options to **Size manually** or **Size automatically**. For automatic sizing, you specify a **Height** and **Width** size preference for new inset images.

Use the new preference to standardize image size as new images are inserted.

Edit properties of filtered markup

You can now filter existing 3D markups and change specified properties of included markups. Use the new **Edit Properties** command to standardize existing markups, including lines, shapes, text, and inset images.

New features for Professional

Advanced find search pattern values

In the dialog box for the advanced find command, the search pattern lists are now populated automatically. The lists can be refreshed on demand from selected nodes or parts, or from all displayed parts.

New features for Mockup

Analyze part pairs in clearance issues

When you analyze regions of contact and penetration in clearance issues, you can analyze part pairs, one at a time.

In the **Clearance Navigation & Analysis** dialog box, if an element pair has multiple part pairs, and the **Analyze one part pair at a time** preference is activated, regions of contact and penetration between the current analyzed part pair are displayed in the **Contact and Penetration Study** list.

If part pairs are displayed, the **Navigation** section includes the **Part Pair** navigation, which specifies the analyzed part pair number out of the total number of part pairs in this element pair.

Analyze clearance results for 4GD worksets

You can now analyze clearance results for 4GD worksets. You must configure these settings:

- **ItemRevisionType** in the **Clearance.cfgglobal** file
- Teamcenter export transfer mode for 4GD worksets

Rotate clipping volume manipulator with motion jack hidden

When you use the clipping volume manipulator to clip areas of models, you may hide the green motion jack to avoid accidentally rotating the manipulator. Now, while the motion jack is hidden, you can rotate the manipulator by holding Ctrl + Shift as you rotate.

Enable distance lines filter in clearance results

When displaying distance lines in clearance results, you can set preferences to enable a distance lines filter, and you can set the filtering interval and maximum number of distance lines.

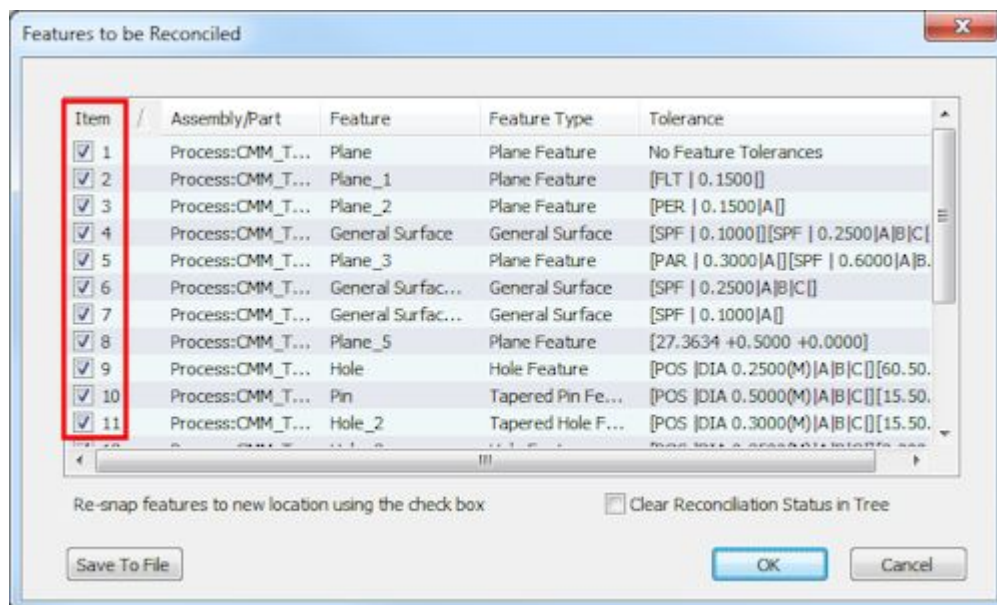
Order the clearance issue Zone list

When you disposition clearance issues, you can use the **Zone List Order** preference to set the order in which zones appear in the **Zone list**.

New features for Variation Analysis

Feature reconciliation auto-snap

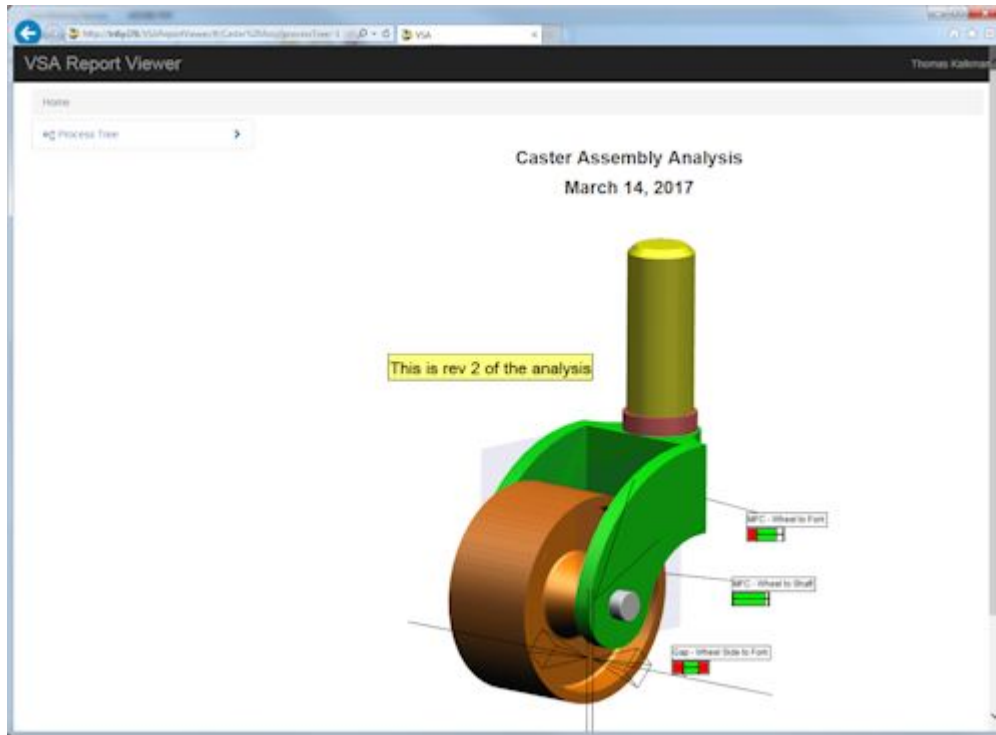
When performing feature reconciliation, you may automatically snap features to their new location by selecting the check box in the first column next to the Item number in the **Features to be Reconciled** dialog box.



If the check box for one or more features is cleared, the features are left in their original state.

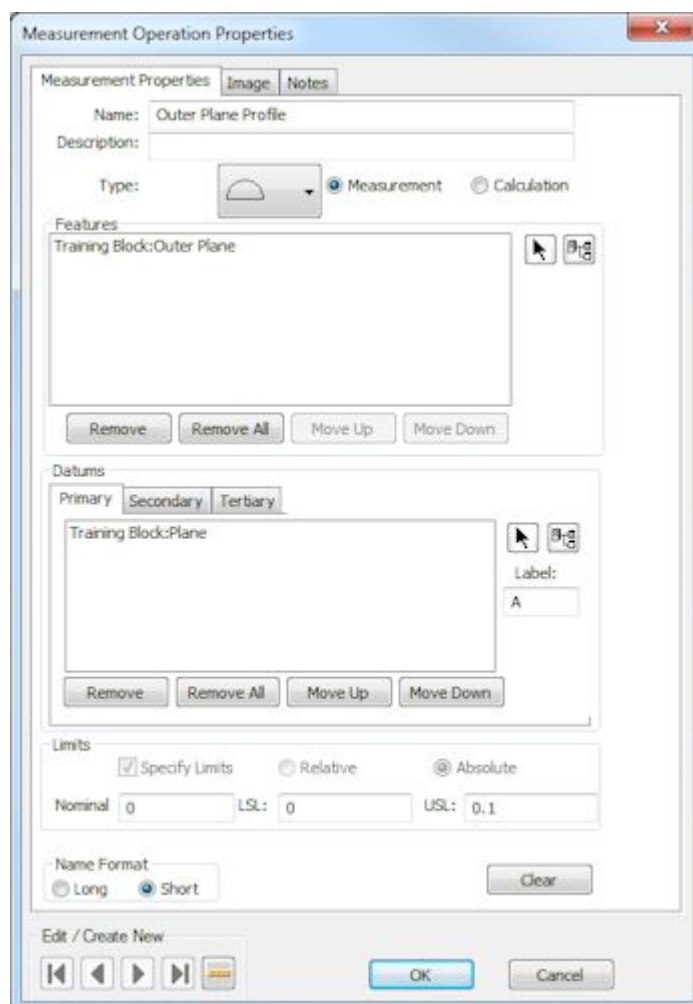
VSA Report Viewer

You can now view analysis results and content with the new web-based VSA Report Viewer .



Measurement operation enhancement

You can now define measurement operations in the context of a GD&T feature control frame for more precise definitions of assembly-level dimensional requirements.






Minimum feature clearance in measurement operations

Minimum feature clearance nominal measurement calculation is now available in the **Measurement Operation Properties** dialog box.

New part icon

A new part icon  is used to represent a part that has a mesh linked to it.

Process document from a text file enhancement

When you create a Process document from a text file, you can now generate **Feature Group Nodes** , **Custom Measurement Operation** nodes , and **Custom Assembly Operation** nodes .

Search at the part level

You can now perform a **Search Modify** and **Search/Replace** at the part level.

Open tolerance properties enhancement

When you select a tolerance in the process tree and open the properties, you are now taken to either the **Size/Taper Angle** tab or the **Feature Control Frame** tab by default, depending on the type of tolerance selected.

Documentation enhancements

Videos updated with Ribbon bar interface

All the videos in the Teamcenter lifecycle visualization help are updated to include the Ribbon bar interface.

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">Windows 7 SP1 Professional, Enterprise, and BusinessWindows 8 (Desktop only)Windows 10 (Desktop only)	x86-64 (both Intel and AMD)
Windows Server 64-bit	<ul style="list-style-type: none">Windows Server 2008 R2 SP1 Standard and Enterprise <div data-bbox="737 1409 1013 1577"><p>Note Convert and Print only (all tiers)</p></div> <ul style="list-style-type: none">Windows Server 2012 R2 Standard and Enterprise <div data-bbox="737 1713 1013 1881"><p>Note 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
Mac OS	<ul style="list-style-type: none"> You can install the Base, Standard, Professional, and Mockup service levels. For the software to function correctly under Leopard, X11 for Mac OS X must be installed. X11 is available from www.xquartz.org.
SUSE Linux	<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>
Red Hat Linux	<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>
CentOS 7.x	<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>
Miscellaneous	<ul style="list-style-type: none"> PDM and PLM XML are now installed by default in all service levels on the following platforms: <ul style="list-style-type: none"> Windows Linux and Mac (PLM XML only)

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 8.2.1 or later.

Teamcenter community collaboration visual conferencing requirements

To use Teamcenter 11.3 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 locally, 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. Alternatively, you may access the help from the [Siemens PLM Software Doc Center site](#), which you are directed to when you select the **Help** commands in the software after you choose not to install help during the software installation.

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

To install Visualization Illustration, when you install Teamcenter lifecycle visualization by right-clicking the **setup.exe**, you must select **Run as an Administrator**. This is necessary to register **VisVisioHostApp** in Windows.

Visualization Illustration is supported on Windows only (Windows 7 or Windows 10), and requires one of the following:

- Visio 2010 with Service Pack 2, either the 32-bit or 64-bit version
- Visio 2013 or 2016 with the latest patch, either the 32-bit or 64-bit version

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

Standard, Professional and Premium editions of Visio are supported.

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/>

- To view, convert, and print Microsoft Office files, you must have Microsoft Office installed.

ClearanceDB requirements

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

Interoperability with other software

Teamcenter 11.3 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 11.3 lifecycle visualization include:

PR	Product	Category	Summary
7945294	VISVIEW	2D_FILE_CGM	TcVis crashes trying to open some .cgm files.
7857761	VISVIEW	2D_FILE_DWG/DXF	Wrong DXF displayed if text has 90 degree rotation.
3055043	VISVIEW	2D_MARKUP	2D markup text is flipped after Flip Horizontal .
7906773	VISVIEW	3D_CAE	TcVis crashes opening .vf file.
7947890	VISVIEW	3D_CAE	TcVis 11.2.3 crashes opening a session package.
7948123	VISVIEW	3D_CAE	TcVis 11.2.2.1a01p1 crashes opening a session package.
7949522	VISVIEW	3D_CAE	TcVis crashes opening a session.
7952858	VISVIEW	3D_CAE	TcVis 11.2.2.1 crashes opening a session package.
7755429	VISVIEW	3D_FILE_JT	Vis monolithic JT export loses trachelines in views.
7809423	VISVIEW	3D_FILE_JT	Tc Vis 11.2.2: File → Export loses color overrides.
7917612	VISVIEW	3D_MARKUP	3D Markup button state stored with localized registry key names.
7461438	VISVIEW	3D_MEASUREMENT	Long delay after moving part with several dynamic measurements.
7886930	VISVIEW	3D_MEASUREMENT	Measure distance between leaf nodes is incorrect when SLS is off.
7891821	VISVIEW	3D_MEASUREMENT	Part set measurement returns invalid projected distance in Approximate mode.
7891825	VISVIEW	3D_MEASUREMENT	Measurement produces different results depending on selection sequence.
7923902	VISVIEW	3D_MEASUREMENT	"Display leader line on top" is removed from 3D measurement if applying snapshot.
7886808	VISVIEW	3D_PROPERTIES	Vis 11.2.x always reports center of gravity as 0,0,0.
3055179	VISVIEW	3D_RENDERING	Structure Manager embedded viewer displaying bounding boxes instead of full parts on Windows 10.
7780390	VISVIEW	3D_SELECTION	Not possible to access Select All with keyboard shortcut.
7883432	VISVIEW	3D_SELECTION	VisView.exe crash after maximize/restore window size.
3055321	VISVIEW	3D_VIEW_CONTROL	Standard views not showing in embedded viewer drop-down list.
7650409	VISVIEW	APPEARANCES	Performance issues between TcVis10.1 and TcVis 11.2.0.
2246111	VISVIEW	CLEARANCE	Contact found for two overlapping cubes (no clearance results).

PR	Product	Category	Summary
3054675	VISVIEW	CLEARANCE	Clearance filter not working properly on jt_rocker.jt file.
7891908	VISVIEW	CLEARANCE	Set Zones should use the order from the defining zones file and not alphabetic.
7900898	VISVIEW	CLEARANCE	Clearance: Result color not retained when applying Group.
7905671	VISVIEW	CLEARANCE	Results of a matrix clearance disappear after deleting assemblies.
3055146	VISVIEW	CROSS_SECTION3D	Hide borders not working for section series.
7757888	VISVIEW	CROSS_SECTION3D	Moving a clipped selective section is slower than non-selective.
7876362	VISVIEW	CROSS_SECTION3D	Hiding borders of 3D section along curve does not work.
7892916	VISVIEW	CROSS_SECTION3D	Capping/hatching leaves traces when moving clipping plane with SpaceMouse.
7911382	VISVIEW	CROSS_SECTION3D	Section3D + Update Parts doesn't update section clip near/ far.
7937232	VISVIEW	CROSS_SECTION3D	Unable to clip two sectioned parts in the same jt assembly.
7949976	VISVIEW	CROSS_SECTION3D	Significant decrease of 3D section performance.
7953925	VISVIEW	CROSS_SECTION3D	Moving section plane with slider results in huge steps.
7961744	VISVIEW	CROSS_SECTION3D	Flickering effect when moving section plane with position plane dialog buttons.
7780383	VISVIEW	FRAMEWORK_PC	2D File Insert not customizable.
7881880	VISVIEW	FRAMEWORK_PC	Vis browser is unable to open HTML document if drag to the browser.
7906172	VISVIEW	FRAMEWORK_PC	Wrong image for Part Edit icon for Quick Access toolbar.
7281310	VISVIEW	OUTLINE_CAPTURE	CGM hotspot not consistent.
7707377	VISVIEW	OUTLINE_CAPTURE	Outline capture produces wrong results most of the time.
7952493	VISVIEW	PATH_EXTRACTION	Working with Path Planning causes VFFrame error.
7877950	VISVIEW	PLM_INTEGRATION	TcVis session not taking into account SSO credentials for second Teamcenter site.
7922708	VISVIEW	PLMXML_FILE_TYP	plmxmltojt does not create BRep data when generating monolithic JT.
7960034	VISVIEW	PLMXML_FILE_TYP	Vis11.2.3 crashing when opening a plmxml file.
7961210	VISVIEW	PLMXML_FILE_TYP	Unable to save plmxml file from TcVis11.2.3 to Tc11.2.3.
3054551	VISVIEW	PMI	Design groups PMI hangs up TcVis.
3055379	VISVIEW	PMI	Tree walk occurs with PMI load.
7613231	VISVIEW	PMI	Assembly level PMI on parts within assembly context incorrectly filtering PMI.
7660308	VISVIEW	PMI	PMI selection disappears after rotating the part.
7780049	VISVIEW	PMI	PMI cannot be activated in TcVis 10.1.
7942873	VISVIEW	PMI	Vis crashes when JT PMI selected.

PR	Product	Category	Summary
7946476	VISVIEW	PMI	PMI coordinate systems labels do not reposition and leave fixed frame remains on screen.
8322025	VISVIEW	PMI	TcVis and JT2Go incorrectly keep highlighted the geometry associated to PMIs.
8322622	VISVIEW	PMI	Component in a lightweight section view does not properly highlight.
7908139	VISVIEW	TRANSFORMATION	Feature Transformation - TcVis freezes and/or crashes.
7957975	VISVIEW	VISUAL_REPORT	Vis11.2.3 crashes when applying a visual report with a legend.
7894286	VISVIEW	VR_DEVICES	TcVis does not release VR device focus file loading data.
7893268	VISVIEW_CONVERT	COMMAND_LINE_OP	Prepare utility crashes with DwgColorFile configuration.
7906572	VISVIEW_CONVERT	FORMATS	Convert NX part without embedded CGM prepare process hangs.
7495022	VISVSA	VISVSA	MSC contributor output is not correct.
7704476	VISVSA	VISVSA	Diameter symbol on pattern of slots and tabs allowed; this is violation of standard.
7878156	VISVSA	VISVSA	Object FEA Unit Load Node at pair(84) not found in FEA file.
7888249	VISVSA	VISVSA	"No pattern DRF" warning prevents simulation.
7924669	VISVSA	VISVSA	Failed to import assembly JT on TC to VA 11.2.3.
7929112	VISVSA	VISVSA	In PDO document, File→Close Session crashes Vis in Windows 10.
7943481	VISVSA	VISVSA	Wrong parameters for tapered hole in VSA 11.2.3.
8329343	VISVSA	VISVSA	VSA simulation doesn't initialize, and validation shows no errors.

Chapter 8: Enhancement Requests

Customer enhancement requests (ERs) implemented for Teamcenter 11.3 lifecycle visualization include:

PR	Product	Category	Summary
2224425	VISVIEW	2D_FILE_CGM	Need TcVis to support Cortona's custom line styles used in .cgm files.
5899480	VISVIEW	2D_FILE_CGM	N-Allow hotspot highlighting of WebCGM compliant files.
6435223	VISVIEW	2D_FILE_CGM	Need ability for CGM hotspot connecting lines to only show up on hotspot hover.
7552174	VISVIEW	2D_FILE_CGM	PLMVis does not support CGM standard fonts.
2135847	VISVIEW	2D_FILE_PDF	PDF file with authorization password does not open.
6371173	VISVIEW	2D_FILE_PDF	Improve PDF output.
7212215	VISVIEW	2D_FILE_PDF	PDF with password protected copy/paste not opening correctly.
7218511	VISVIEW	2D_FILE_PDF	PDF file is not opening correctly.
7764735	VISVIEW	2D_FILE_PDF	Prompt for a password when opening a PDF file with write protection.
1984258	VISVIEW	3D_MARKUP	Multiple selections of 3D text markups in Project Workspace.
3049099	VISVIEW	3D_MARKUP	Unable to select all callouts and edit the properties.
4688675	VISVIEW	3D_MARKUP	Enable 3D markup manipulations on groupings of markups.
7807481	VISVIEW	3D_MARKUP	How to set precise dimension of a 3D markup image.
3051038	VISVIEW	3D_MEASUREMENT	Need 3D measurement delta values to display with +/- based on direction.
7261903	VISVIEW	CLEARANCE	Poor performance when analyzing element pairs with many parts.
7879252	VISVIEW	CLEARANCE	Analyze element pair: provide ability to analyze one part pair at a time.
7909589	VISVIEW	CLEARANCE_DB	ClearanceDB support for Teamcenter 4G data.
7649558	VISVIEW	MANIPULATORS	3D clipping cube: option needed to lock rotation.
7894529	VISVIEW	PMI	Ability to create high-definition preview images for model views.
3055265	VISVIEW	VISUAL_REPORT	Visual Report cannot be reset upon reopening session file.
7904108	VISVIEW	VISUAL_REPORT	Miscellaneous enhancements for the new Find dialog box.

Chapter 9: Issues and workarounds

Help not compatible with older Documentation Server versions

- | | |
|------------|---|
| Problem | The Teamcenter 11.3 lifecycle visualization help is not compatible with versions 1.0 and 2.0 of the Siemens PLM Documentation Server . |
| Workaround | Install version 2.1 of the Siemens PLM Documentation Server , available on GTAC. |

Not responding message appears during clearance analysis

- | | |
|------------|--|
| Problem | When you perform a clearance analysis in which the part pair analysis takes several minutes, when you click in the main window, the message <code>Application not responding</code> appears. |
| Workaround | Click Wait for the program to respond , and the calculation will finish. |

JT-STEP Bi-Directional Translator support issue

- | | |
|------------|--|
| Problem | The integration to JT-STEP Bi-Directional Translator does not support the configuration control writeWhichFiles for a combination of values AP242XML,JTPARTS in interactive and command line mode. |
| Workaround | None |

Measurement operation navigation buttons not functional in Variation Analysis

- | | |
|------------|--|
| Problem | The measurement operation navigation buttons are not functional if there is a general surface feature that does not contain a sub-feature point associated with a minimum feature clearance measurement operation. |
| Workaround | Add at least one sub-feature point to the general surface feature. |

Thrustline attached with a leaf component not repositioned correctly

- | | |
|------------|---|
| Problem | Thrustline attached with a leaf component may not be repositioned correctly upon load if the position of the leaf components parent is changed due to new revision. |
| Workaround | None |

Save not deactivated when technical illustration with file is saved

- | | |
|---------|--|
| Problem | If a file is inserted into a technical illustration, and the technical illustration is saved, the Save button is not deactivated. |
|---------|--|

Workaround Close the technical illustration and click **Yes** when the message appears, `Do you want to Save changes to the file?`

Mismatch between outline geometry and shaded image

Problem When a 3D geometry asset is created without enabling page extents using the **Shaded with Outline** option, and then asset is shown both in Illustration with the **Show Shaded with Outline** option, a mismatch may occur between the outline geometry and the shaded image.

Workaround Create 3D geometry assets with page extents enabled. If this issue occurs with existing 3D geometry assets created without page extents, update the asset.

Hosting Active Workspace in stand-alone viewer with .NET deployment

Problem If Active Workspace is deployed with a .NET on IIS, there may be an issue when using the **Open in Vis** menu item from the browser that is hosted in the stand-alone viewer. A processing cursor appears, and the object is not loaded. This issue is not present with Java EE deployments of Active Workspace

Workaround Use an external browser to open the Active Workspace client and find and open in the stand-alone viewer.

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 Examples folder: Automation\Documentation\ref_files\vbscript.htm

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"> • Menu→Tools→Options→Proofing→ AutoCorrect Options • Menu→Tools→Auto Correct Options
Workaround	Open Visio, and set the options using Tools→Options→Proofing→ AutoCorrect Options .

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.

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 You must specify the language at the login screen to ensure the X Server loads the correct fonts.

If the *Font Creating Failed* error appears, refer to the workaround below for the *Missing UI text on Linux* issue.

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 Disable macros and change resource settings:

1. In Excel, choose **File**→**Options**.
2. In the Excel Options dialog box, choose **Trust Center**.
3. In the **Microsoft Excel Trust Center** section, click **Trust Center Settings**.
4. Choose **Macro Settings**.
5. Select **Disable all macros without notification**.
6. You may need to set the following resource settings in the vvcp.ini file. These settings require less memory when converting the file.
 - DwgOLERasterQuality=0
 - DxfOLERasterQuality=0

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 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"> • An English Visio 2010 or Visio 2013 product install and a MUI pack supporting the language of choice • A localized Visio 2010 or Visio 2013 product install for the language of choice

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"> 1. Open Windows Control Panel. 2. Choose Region and Language. 3. In the Region and Language dialog box, on the Formats tab, click Additional setting. 4. In the Customize Format dialog box, on the Numbers tab, change Decimal symbol from "," to ".".

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"> 1. From the Common Files installation folder (for example, C:\Program Files\Common Files\Siemens Shared\TcVis\9.1\), remove the module VP3DGeomAssetData.dll. 2. Run the repair option of the installation of the earlier version of Lifecycle Visualization.

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"> • The Asset Clipboard does not appear when a 3D view is opened. • You cannot capture a 3D geometry asset.
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 File→Open.</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 http://support.microsoft.com/?id=290997. 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>
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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.
- To view, convert, and print Office documents, you must have Microsoft Office installed.
- 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.

2D file formats

You can open the following 2D file formats:

Abbreviation	Extension	Description	Type	Prerequisites
Raster and Document				

Abbreviation	Extension	Description	Type	Prerequisites
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
DFT (Windows only)	.dft	Solid Edge draft files Note 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 Note 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	.deft, .jpeg, .jiff, .jpe, .jpg	JPEG file	Raster	None

Abbreviation	Extension	Description	Type	Prerequisites
JPEG 2000	.j2k, .jp2, .jpc	JPEG 2000 file Note Using Teamcenter Visualization 2005 and later, you can display and save JPEG 2000 files.	Raster	None
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 Note The application only supports viewing this file type.	Raster	None
PCX	.pcx	Windows Paintbrush image file	Raster	None
PGM	.pgm	Portable GrayMap image file Note The application only supports viewing this file type.	Raster	None
PNG	.png	PNG file format	Raster	None
PNM	.pnm	Portable AnyMap image file Note The application only supports viewing this file type.	Raster	None

Abbreviation	Extension	Description	Type	Prerequisites
PPM	.ppm	Portable PixMap image file Note The application only supports viewing this file type.	Raster	None
PPT	.ppt	Windows PowerPoint	Document	Install MS PowerPoint
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
Vector				
907	.906, .907, .CAL	Calcomp 906, 907	Vector	None

Abbreviation	Extension	Description	Type	Prerequisites
CGM	.cgm	Binary Computer Graphics Metafile MIL-D-28003 ANSI X3.122 <div data-bbox="721 411 1000 1016" style="background-color: #f0f0f0; padding: 5px;"> <p>Note</p> <p>Teamcenter Visualization 2005 and later supports CGM Version 4, while maintaining support for CGM Versions 1 through 3.</p> <p>Teamcenter Visualization 2005 also supports WebCGM files.</p> </div>	Vector	None
DGN (Windows only)	.dgn	Microstation DGN file format (available on Windows)	Vector	None
DWF	.dwf	Autodesk Drawing Web Format files <div data-bbox="721 1192 1000 1692" style="background-color: #f0f0f0; padding: 5px;"> <p>Note</p> <p>The application supports DWF version 6 formatted files, including the new .w2d file extension.</p> <p>Embedded raster data is supported only on Windows.</p> </div>	Vector	None

Abbreviation	Extension	Description	Type	Prerequisites
DWG (up to AutoCAD 2013)	.dwg	AutoCAD Internal file format <div data-bbox="721 342 1000 680" style="background-color: #f0f0f0; padding: 5px;"> <p>Note</p> <p>The following types of embedded raster data are supported: BMP, JPG, GIF, MLR, TIFF, and PNG.</p> </div>	Vector	None
GERBER	.gbr, .gbx, .gvl	Gerber RS274D and RS274X formats <div data-bbox="721 785 1000 1123" style="background-color: #f0f0f0; padding: 5px;"> <p>Note</p> <p>Use .gvl files to open a list of Gerber files as one document with layers for each file in the list.</p> </div>	Vector	None
HPGL	.hgl, .hpg, .hpgl, .hp2, .plt	HP Graphics Language (HPGL and HPGL/2) <div data-bbox="721 1232 1000 1738" style="background-color: #f0f0f0; padding: 5px;"> <p>Note</p> <p>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.</p> </div> <div data-bbox="721 1778 1000 1915" style="background-color: #f0f0f0; padding: 5px; margin-top: 10px;"> <p>Example</p> <p>"hpgl2,hpgl3"</p> </div>	Vector	None

Abbreviation	Extension	Description	Type	Prerequisites
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
Miscellaneous				
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 Note 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

Abbreviation	Extension	Description	Type	Prerequisites
ZIP	.zip	ZIP files containing one or more files of a supported 2D format <div style="background-color: #e0e0e0; padding: 10px;"> <p>Note</p> <p>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.</p> </div>	None	None

3D file formats

You can open the following 3D file formats:

Abbreviation	Extension	Description
ASM (Windows only)	.asm	Assembly file for Solid Edge that can reference .par, .psm, .pwd, and other .asm files. <div style="background-color: #e0e0e0; padding: 10px;"> <p>Note</p> <p>For details on supported versions, see <i>Supported versions of other Siemens PLM Software file formats</i>.</p> </div>
BLK	.blk	NASTRAN bulk format
IGES 5.3	.igs, .iges	Initial Graphics Exchange Input File Specification, MIL-D-28000 <div style="background-color: #e0e0e0; padding: 10px;"> <p>Note</p> <p>To work with IGES files, the IGES optional translator must be properly installed and licensed.</p> </div>
JT	.jt	DirectModel file format

Abbreviation	Extension	Description
PAR (Windows only)	.par	Solid Edge single part file Note For details on supported versions, see <i>Supported versions of other Siemens PLM Software file formats</i> .
PLM XML	.plmxml	XML format that supports product view and product structure data
PSM (Windows only)	.psm	Solid Edge sheet metal file Note For details on supported versions, see <i>Supported versions of other Siemens PLM Software file formats</i> .
PWD (Windows only)	.pwd	Solid Edge weldment file Note For details on supported versions, see <i>Supported versions of other Siemens PLM Software file formats</i> .
RES	.res	ADAMS results file format Note <ul style="list-style-type: none"> • Lifecycle Visualization supports ADAMS RES 2010 and 2013 files. • 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.
STEP AP203, 214	.stp	Standard for Exchange of Product Note To work with STEP files, the STEP optional translator must be properly installed and licensed.

Abbreviation	Extension	Description
VRML	.wrl, .vrmf	Virtual Reality Markup Language <div style="border: 1px solid gray; padding: 5px; margin-top: 10px;"> <p>Note</p> <ul style="list-style-type: none"> VRML support is for geometry and appearance attributes only. You can export 3D models in only the VRML 1.0 format. Both VRML 1.0 and 2.0 files can be imported. </div>
XMO	.xmo	XML-based motion file format
XT	.x_t, .x_b, .xmt_txt, .xmt_bin	Parasolid XT File <div style="border: 1px solid gray; padding: 5px; margin-top: 10px;"> <p>Note</p> <p>For details on supported versions, see <i>Supported versions of other Siemens PLM Software file formats</i>.</p> </div>

Note

The CADD5 format is no longer supported. You can use the CADD5 to JT translator to translate single CADD5 files or to perform automated batch translations of multiple CADD5 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	.xres	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 Note <ul style="list-style-type: none"> To work with 3D DXF files, the DXF optional translator must be properly installed and licensed. The following types of embedded raster data are supported: BMP, JPG, GIF, MLR, TIFF, and PNG. Solids are not supported.
DWG (up to AutoCAD 2013)	.dwg	AutoCAD Internal file format Note The following types of embedded raster data are supported: BMP, JPG, GIF, MLR, TIFF, and PNG.
IGES	.igs, .iges	Initial Graphics Exchange Input File Specification, MIL-D-28000 Note To work with IGES files, the IGES optional translator must be properly installed and licensed.
PRT	.prt	NX part file Note 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> .

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

Abbreviation	Extension	Description
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 Note You must have a license to work with Visualization Illustration.
HPGL	.hpg	HP Graphics Language (HPGL and HPGL/2)
J2K	.j2k, .jp2, .jpc	JPEG 2000
JPEG	.jpg	JPEG file Note You must have a license to work with Visualization Illustration.
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)
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 Note 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

Abbreviation	Extension	Description
STEP AP203	.stp	Standard for Exchange of Product Note To work with STEP files, the STEP optional translator must be properly installed and licensed.
SVG	.svg	Scalable Vector Graphics Note 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
VML	.vml	Vector Markup Language Note You must have a license to work with Visualization Illustration.
VPL	.vpl	3D markup layers
VRML	.wrl	Virtual Reality Markup Language Note <ul style="list-style-type: none"> VRML only supports geometry. You can export 3D models in only the VRML 1.0 format. Both VRML 1.0 and 2.0 files can be imported.
VSD	.vsd	Technical Illustration
VTP	.vtp	Technical Portfolio
VVS	.vvs	Viewer State Script

Abbreviation	Extension	Description
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 <div style="background-color: #f0f0f0; padding: 10px; margin-top: 10px;"> <p>Note</p> <ul style="list-style-type: none"> • Lifecycle Visualization supports ADAMS RES 2010 and 2013 files. • 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. </div>

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 style="border: 1px solid gray; padding: 5px; background-color: #f0f0f0;"> <p>Note</p> <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)
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

Teamcenter lifecycle visualization version	JT version	JT and XT B-Rep support	ULP support
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
11.2	10.2 and earlier	Yes	Yes
11.3	10.2 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
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

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
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
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
11.3	NX11 (vs2015)	V109 (ST9 vs2015)	29.0.137

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

Siemens PLM Software, a business unit of the Siemens Industry Automation Division, is a leading global provider of product lifecycle management (PLM) software and services with 7 million licensed seats and 71,000 customers worldwide. Headquartered in Plano, Texas, Siemens PLM Software works collaboratively with companies to deliver open solutions that help them turn more ideas into successful products. For more information on Siemens PLM Software products and services, visit www.siemens.com/plm.

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