

High-Performance Visual Collaboration

Whether stand-alone or seamlessly integrated with PTC® Windchill®, PTC® Creo® View™ Lite makes visual collaboration during the product lifecycle fast and easy for all.



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Whether stand-alone or seamlessly integrated with PTC® Windchill®, PTC® Creo® View™ Lite makes visual collaboration during the product lifecycle fast and easy for all.

PTC Creo View Lite removes the barriers to effective distribution of digital product data by providing all users, across the extended enterprise, with simple access to 3D models, 2D drawings, images and ECAD PCB's and Schematics. With its compact, yet accurate 3D viewable format, complex information can be quickly accessed to reduce rework and improve decision making.

Key Benefits

Improve Productivity and Communication

- View and interrogate heterogeneous MCAD and ECAD datasets in a common, consistent User Interface across the enterprise
- Eliminate data interoperability issues by using one visualization tool
- Work faster through Microsoft Fluent User Interface

Improve Quality and Reduce Development Cost

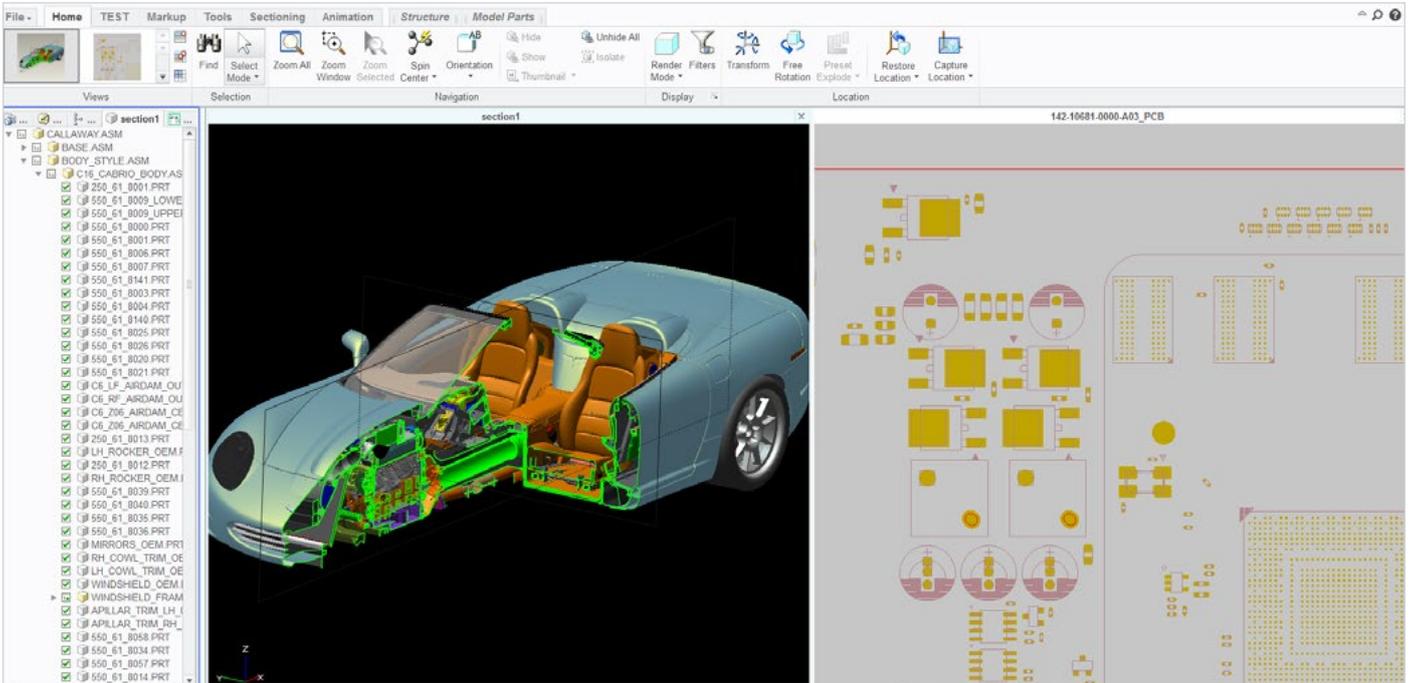
- Reduce the potential for rework through effective, collaborative markups of MCAD and ECAD design data
- Replace error-prone and inefficient paper-based processes with a review and tracking tool based on the 3D model
- Reduce errors by analyzing the Interferences early in the Product Development Cycle

- Enable all product stakeholders to review and provide feedback on product designs without requiring access to native MCAD or ECAD applications that created the data.
- Reduce IT overhead and maintenance with a single tool to view many types of detailed product data from heterogeneous data sources

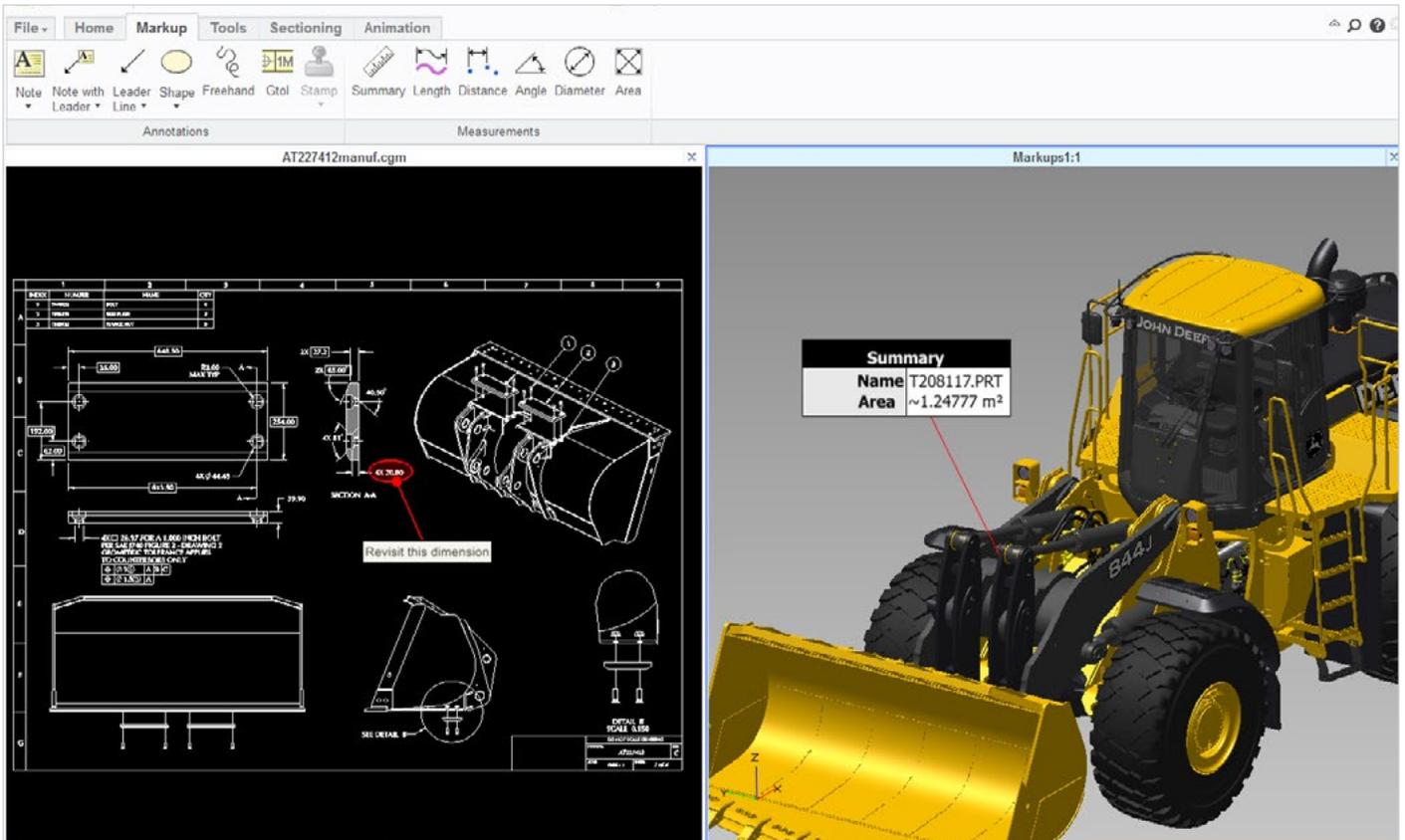
Features

Simple and Powerful Viewer

- Supports a wide variety of 3D Model and Drawing formats including CGM, HPGL, DXF, DWF and DWG and ECAD formats such as ODB++, IPC-2581, Gerber, as well as the PTC .eda file format that can be generated from all major ECAD tools
- View and interrogate PMI – Product Manufacturing Information – including GD&T (Geometric Dimension & Tolerance) information and Pro/ENGINEER® 3D drawings
- Analyze visuals that incorporate related content, such as meta-data coming in from the CAD and Windchill
- Directly import PTC® Creo® Parametric™ files through PGL format
- Accurately measure from B-REP geometry
- Increase user understanding using tooltips and simple searching



PTC Creo View Lite allows all product stakeholders to review and provide feedback without access to the application that created the data. Image courtesy of Callaway.



View, measure and mark up models and drawings created from multiple CAD tools. Image courtesy of Deere & Company.

Features [continued from previous]

- Common, consistent User experience across all the PTC Creo View editions (Creo View Express, Creo View Lite, Creo View MCAD, Creo View ECAD)
- Tightly integrated with PTC® Windchill® PDMLink®, PTC® Windchill® ProjectLink™ for visualizing light weight Creo View files from PTC Windchill
- Default visualization tool launched from a 3D thumbnail in PTC Windchill
- Powers the visualization of PTC Creo View technology embedded in Web pages, custom Java applications or Microsoft Office documents

Effective Markup Tools

- Utilize a full set of markup tools for 3D models, 2D drawings, images and documents and ECAD PCB's and Schematics
- Check markups back into PTC Windchill
- Markups created using PTC Creo View Lite may be carried forward across revisions or iterations in PTC Windchill

Superior Scalability and Performance

- Rapidly load and smoothly interact even with the largest models
- Render graphics faster – typically 10X faster than previous generations of PTC Creo View
- Reduced memory footprint through highly efficient memory usage

Platform Specifications

Operating Systems: Microsoft® Windows®

Browser: Internet Explorer® and Mozilla® Firefox®

Languages: English, Chinese (Traditional), Chinese (Simplified), French, German, Italian, Japanese, Korean, Spanish, Russian

For the most up-to-date platform support information, please visit:

PTC.com/partners/hardware/current/support.htm

NOTE: The timing of any product release, including any features or functionality, is subject to change at PTC's discretion.

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J02522-PTC-Creo-View-Lite-EN-0813



CREO VIEW MCAD

ULTRA-SCALABLE VISUAL COLLABORATION

Creo View MCAD is a universal viewer that brings 3D MCAD product models, assemblies, drawings, images and documents to everyone's desktop for comprehensive interrogation and visual collaboration—all without the need for native authoring applications.



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One of the biggest issues facing manufacturers is how to efficiently share the large volume of digital product content created throughout the product development process across the extended enterprise. With its compact, accurate 3D viewable format, Creo View MCAD allows complex product information to be quickly accessed. Now everyone can collaborate visually on product information, using markups to reduce rework and accelerate decision-making across the enterprise and beyond.

Key benefits

Accelerate the design process

By offering comprehensive view, markup and annotation tools, as well as market-leading performance, Creo View MCAD can accelerate the important design reviews that occur throughout the product development process. Now stakeholders around the world can simultaneously be involved in the design process. And with its ultra-scalability, Creo View MCAD supports a full range of visualization requirements, from simple desktop viewing of single CAD models to interaction with massive digital models of over one million parts.

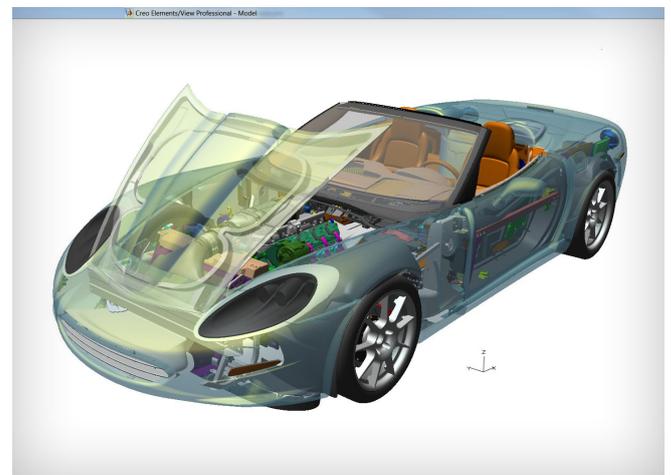
Reduce IT infrastructure overhead

Having a single tool to view many types of detailed product data lowers the amount of overhead required from the IT department. A common, consistent interface that can access digital product

definition data across the enterprise lowers expenses associated with software maintenance, product upgrades and internal training. Eliminating data interoperability issues translates into lower overhead and higher productivity.

Improve efficiency

Productivity improves by enabling engineers to easily share visual information across the enterprise, while still permitting users to accurately measure dimensions. Not only can Creo View MCAD accelerate time-to-market, but its visual collaboration and markup capabilities can also help reduce costs.



Easily and quickly share detailed visual information across the enterprise. Courtesy of Callaway Cars.

Increase control and security

Creo View MCAD allows critical business content (including models, drawings and documents) to be watermarked when collaborating on projects both within and beyond the enterprise.

Features

Simple and powerful viewer

Easy and intuitive user interface enables the visualization of MCAD models, documents and images in a common, consistent experience across the enterprise.

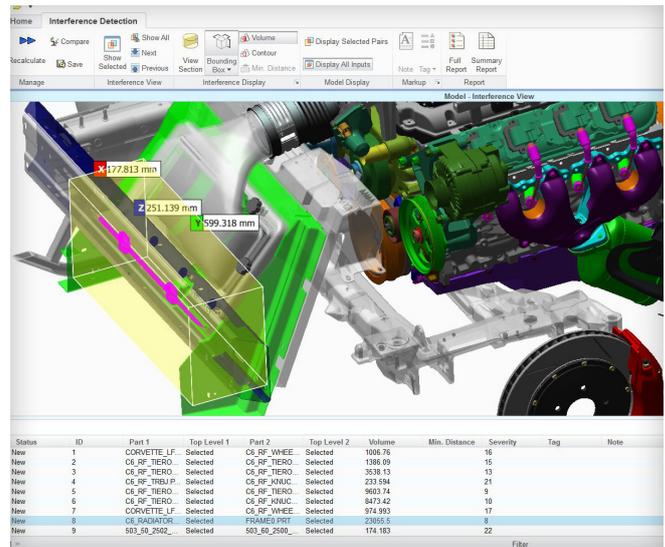
- Supports a wide variety of 3D model, 2D drawing and image source formats
- Supports (with optional adapters) all major MCAD formats, including: CADD5[®], CATIA V4, CATIA V5, NX[®], I-DEAS[®], SolidWorks[®], Microstation[®] (DGN) and Autodesk[®] Inventor
- View richly annotated model-based designs from Creo and CATIA[®] V5 (requires optional adapter)
- Visually integrate ECAD and MCAD information within the same user experience (also requires Creo View ECAD)
- Supports JT format (requires optional adapter)
- Instantly familiar, task-based user interface with undo/ redo capabilities
- Encompasses metadata and annotations to provide immediate reference information to the user
- Easily create smart exploded product views
- Supports STEP AP203 and AP214 standards for exchange of product structure and geometry information

Effective markup tools

Replace error-prone and inefficient paper processes with Web-based mark up and distribution.

- Full set of markup tools for 3D models, 2D drawings, images and documents

- Manage multiple markups
- Distribute markups across the extended enterprise
- Check markups back into Windchill[®] or other Product Lifecycle Management (PLM) systems and associate with source file for reference
- Cut, measure, mark up and manipulate sections in real-time



Detect and analyze clash issues with the optional Creo View Interference Analysis module.

Ultimate scalability and performance

- Rapidly load massive datasets and interact with them at good frame rates (requires optional module)
- Navigate through a model directly from within the PLM system using advanced 3D thumbnail technology
- Render graphics faster – typically 10X faster than previous generations of ProductView
- Visualize and analyze configured product structures from Windchill

Identify and correct errors

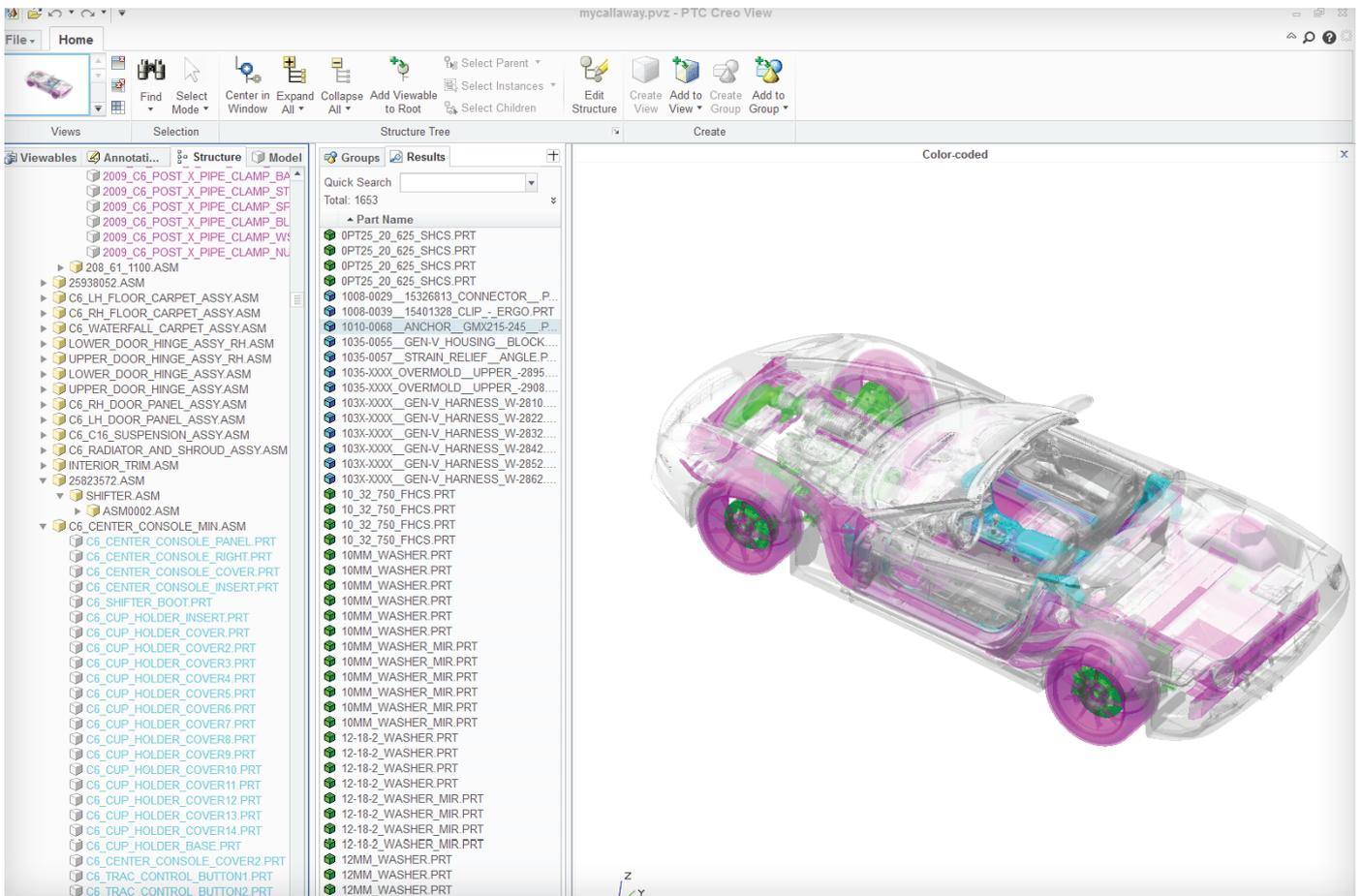
Discovering design errors early in the product development process is a fundamental requirement of any manufacturing company.

- Check for different types of interferences such as physically interfering parts, parts that are in contact or parts that have a required clearance from each other (requires an optional module)
- Verify the annotated 3D Model for unambiguous representation of critical dimensions and tolerances and collaborate on the missing information (requires an optional module)
- Evaluate the functional behavior of your product through interactive animations (requires an optional module)

Filter visual information

Rich product queries can utilize spatial locations to reduce the amount of information required to locate components within a 3D model.

- Query based on product attributes such as material or color
- Query based on positional location (e.g., find parts that are within 10 mm of a position or specific part)
- Search for product properties or components based on multiple criteria
- Perform color-coded searches by attribute or spatial location
- In-graphics assembly, navigation and selection
- Interactive graphical definition of search volumes



Analyze and color code designs using Product Attributes such as Weight, Lifecycle State, Spatial location and proximity using color coded search in Creo View.

Optional Creo View MCAD Extensions	
Creo View Interface for JT	Provides native import and export of JT format files
Creo View Toolkits (Web, Java, Office)	Use a rich set of APIs to create interactive Web pages, customize visualization applications and embed Creo View technology in Microsoft applications such as PowerPoint®
Creo View PDF Review	Full document collaboration capabilities, including annotation, viewing and watermarking
Creo View Design Check	An interactive tool that provides rapid, digital verification of the design intent captured in the original 3D model-based design
Creo View Interference Analysis	Identify, understand and review interference issues early in the development process
Creo View Animator	High-performance animation for digital mockups
Creo View Massive Assemblies	Utilize the exceptional scalability of Creo View MCAD to explore even the most massive assemblies
Creo View Adapters	Provides the ability to 'publish' native MCAD files to lightweight, accurate Creo View formats

PLM-wide visualization

As an integral part of PTC's Product Development System (PDS), Creo View MCAD enables visualization of digital data within a wide range of PTC applications, including Windchill® PDMLink® and Windchill® ProjectLink™. Creo View MCAD has also been integrated with other PLM systems, so it can display designs based on many CAD applications and other data formats, as well as facilitate electromechanical design collaboration.

- Measure and mark up product viewables
- Embed Creo View MCAD viewables within Arbortext® publications
- Use rich watermarking to prevent uncontrolled screen shots and printing
- Dynamically insert into Creo View MCAD from Windchill

Platform specifications

Microsoft® Windows®, Solaris/AMD, Linux

Languages: English, Japanese, French, German, Italian, Spanish, Chinese (Simplified & Traditional), Korean, Russian

For the most up-to-date platform support information, please visit:

PTC.com/partners/hardware/current/support.htm

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J7546 -CreoViewMCAD-EN-0816



CREO VIEW ECAD

Providing Easy and Accurate Enterprise Access to Complex Electronic Design Data

PTC Creo View ECAD provides the ability to easily visualize issues between multiple design domains and project team members without the need for the native ECAD products. This easy-to-use, yet high performance solution enables visualization, analysis and design verification of the schematic, PCB, MCAD Assembly and their associated electronic manufacturing data in a single environment. Due to its broad capabilities, PTC Creo View ECAD can provide a unified way for extended design teams to work closely together throughout the design process and achieve the goal of reducing or eliminating potential rework.



PTC Creo View ECAD

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Companies today are facing increasing pressures associated with time-to-market, product quality and management of development costs. Because of this, more than 50% of today's electronic designs must be changed after prototype testing due to problems that were not identified, communicated, and resolved during the design process, leading to costly design re-spins. One way to help minimize this, is to enable both design authors and extended team members to identify and collaborate on issues early and often throughout the design process.

PTC Creo View ECAD provides the ability to easily visualize issues between multiple design domains and project team members without the need for the native ECAD products. This easy-to-use, yet high-performance solution enables visualization, analysis and design verification of the schematic, PCB, MCAD Assembly and their associated electronic manufacturing data in a single environment. Due to its broad capabilities, PTC Creo View ECAD can provide a unified way for extended design teams to work closely together throughout the design process and achieve the goal of reducing or eliminating potential rework.

Key Benefits

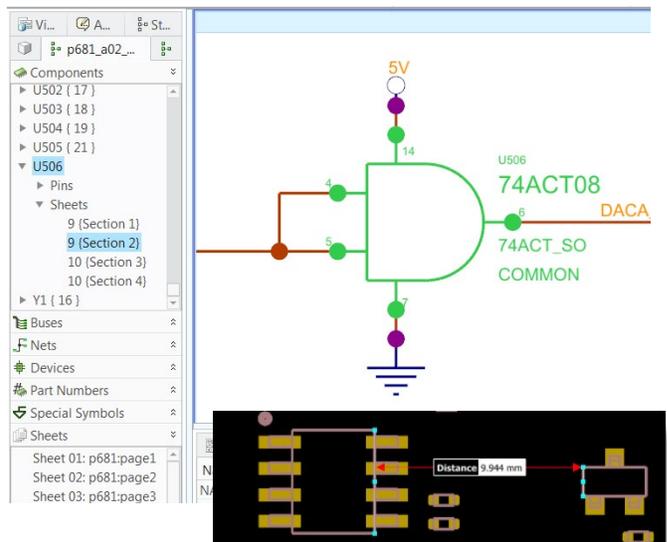
Reduce development time and cost

- Reduce overall design cycle time through constant and consistent communication
- Project team collaboration reduces design review time from days to hours
- Save time and money by reducing/eliminating design spins per board
- Realize significant productivity gains in board testing through visual confirmation of test points and associated signal map
- Simple UI provides a consistent look-and-feel across all EDA tools without the need to learn specific ECAD products
- No need for native tools to be installed - reduces ECAD license requirements
- Improve design team coordination through a common, easy-to-use GUI and electronic communication
- Improve ease of collaboration among dispersed project team members including engineering, test, manufacturing and downstream suppliers

Improve product quality

- Ensure design integrity by improving your chances of getting it right-the-first-time
- Discover, test and repair errors early, before they go out the door

- Allow the entire extended team to dynamically interact with electronic design data early and often throughout the design and manufacturing stages
- Trace receivers by pin function back to drivers to identify the source of a bad signal
- Search, highlight, and measure functions to verify detailed placement, net and component data



- Examine board layout from a true top or bottom orientation with any rotation
- Interactively query multiple objects within ECAD design data to verify design intent

- Intelligently navigate schematic design data, making test and debug a paperless process
- Find and quickly display design components and nets in the same context as the board being reviewed and tested

Features

Analyze EDA information

- Structural navigation of the entire design
- Instant visibility toggling of review items
- Quickly trace signal information and see report data on the fly
- Isolate specific nets and objects
- Cross-probe from schematic to layout to MCAD Assembly without the need for paper plots
- Output BOM, test point and routing topology data to Excel® spreadsheets

Integrate ECAD & MCAD visual collaboration

- Fully heterogeneous visual collaboration environment for both ECAD & MCAD
- Enables unique functions, such as cross-probing between ECAD/MCAD abstractions
- Create AR representations of the design in the context of the final assembly

Expedite design reviews through enterprise-wide collaboration

- Interactively browse and collaborate on schematic PCB and MCAD databases without requiring the native EDA tool
- Communicate change proposals and markup's back to the EDA user electronically
- Cross-select between the schematic, layout, MCAD Assembly and bill-of- material (BOM)

- Enable visualization of ECAD digital data within PTC Windchill® PDMLink® and PTC Windchill ProjectLink™
- Use in conjunction with native design tools by utilizing cross-highlighting features

EDA partnerships

- PTC works closely with the leading EDA vendors and standards committees to gain a detailed, up-to-date understanding of their data formats. These partnerships enable PTC Creo View ECAD to provide an accurate view of EDA data models.



Platform specifications

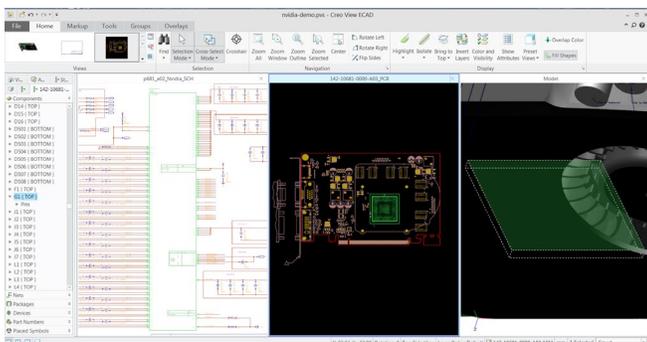
- Operating systems: Microsoft® Windows®, Linux
- Languages: English, French, German, Italian, Spanish, Japanese, Chinese (Simplified), Chinese (Traditional), Korean

For the most up-to-date platform support information, visit: PTC.com/partners/hardware/current/support.htm

For more information, visit: PTC.com/products/creo/view/ecad

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J0607-Creo View ECAD Update-DS-EN-0712



Creo™ View comparison chart

THIS CHART HIGHLIGHTS THE PRIMARY DIFFERENCES BETWEEN CREO VIEW EXPRESS, CREO VIEW LITE, CREO VIEW MCAD AND CREO VIEW ECAD.

	Creo View Express formerly ProductView® Express	Creo View Lite formerly ProductView Lite	Creo View MCAD formerly ProductView Professional	Creo View ECAD formerly InterComm® Expert™
Usability				
User interface (Microsoft-fluent UI)	•	•	•	•
Load, visualize, analyze large assemblies	•	•	•	•
Supported import file formats				
MCAD ¹	•	•	•	•
ECAD ²	•	•	•	•
2D formats ³	•	•	•	•
Documents: PDF	•	•	•	•
Image ⁴	•	•	•	•
Illustration: ISO	•	•	•	•
STEP files		•	•	
Other formats: STL, VRML, DGN, GBF, IGES			•	
Toolkits				
Web Toolkit support	•	•	•	•
Office Toolkit support	•	•	•	•
Java Toolkit support		•	•	•
Markups				
View markups	•	•	•	•
Create markups		•	•	•
Create, modify annotation sets		•	•	•

	Creo View Express	Creo View Lite	Creo View MCAD	Creo View ECAD
Drawings				
Measure	•	•	•	•
Drawing compare			•	
Working with Model Based Designs				
Access GD&T/ PMI – Model annotations navigator, hide/unhide, highlight, response surface highlighting		•	•	
Display Combination or View States from Creo Parametric or Capture States from CATIA V5	•	•	•	•
Combined printing of Combination or Capture States			•	
Layers				
Access layer navigator, hide/unhide layers		•	•	•
Windchill®				
Interoperability with Windchill		•	•	•
Watermarks				
Watermark – Add, delete, include in view, include in print		•	•	•
Watermark editor			•	•
Sectioning				
Sectioning (Define, Edit), Show (2D section views, section boundaries)		•	•	
Advanced sectioning (capped sections, section selected parts)			•	
Groups				
Groups (Create, Modify, Access)			•	•
Edit Groups			•	•
Editing				
Product Structure Editing			•	•
Edit part properties			•	

	Creo View Express	Creo View Lite	Creo View MCAD	Creo View ECAD
Select & Search				
Cross-selection			•	•
Advanced multi-line search			•	•
Spatial and color-coded advanced search			•	
Additional MCAD features				
Construction geometry – Create, Import/Export			•	
Smart explode			•	
Repositioning tools			•	
Export formats ⁵			•	
Hierarchical visual navigation			•	
Additional ECAD features				
Isolate & highlight				•
Reporting				•
Gerber overlays				•
ECAD Structure Navigator				•
Optional add-ons				
PDF Collaboration		•	•	
Massive Assembly			•	
JT Format			•	
Design Check			•	
Interference Analysis			•	
Animator			•	

¹MCAD formats: Pro/ENGINEER® (PRT, ASM, XPR, XAS, MFG, GPH, PIC, PGL), PVS, PVZ, ED, OL, EDZ, ZIP, DWF, DWFx

²ECAD formats: EDA, GERBER (GBD, ART), PVS, PVZ

³Import 2D formats: CGM, Autodesk* (DWG, DXF, DWF, DWFx), HPGL (PLT, HPGL, HPG, HP2, HGL, GL2), Pro/ENGINEER (DRW, FRM, LAY, DGM, REP, SEC)

⁴Import image formats: BMP, GIF, JPG, PNG, TIFF, JPEG, TIF, CG4

⁵Export formats: STEP, VRML, IGS, CGM, DXF, JPG, PNG, BMP, TIFF

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