

# PTC CREO SIMULATE ROADMAP

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PTC®

## Agenda

- PTC Creo Simulate positioning
- PTC Creo Simulate 4.0 Enhancements
  - Pre-processing
  - Mesh/Feature/Geometry
  - Post-Processing
- Creo Simulate 5.0 +
- Remarks

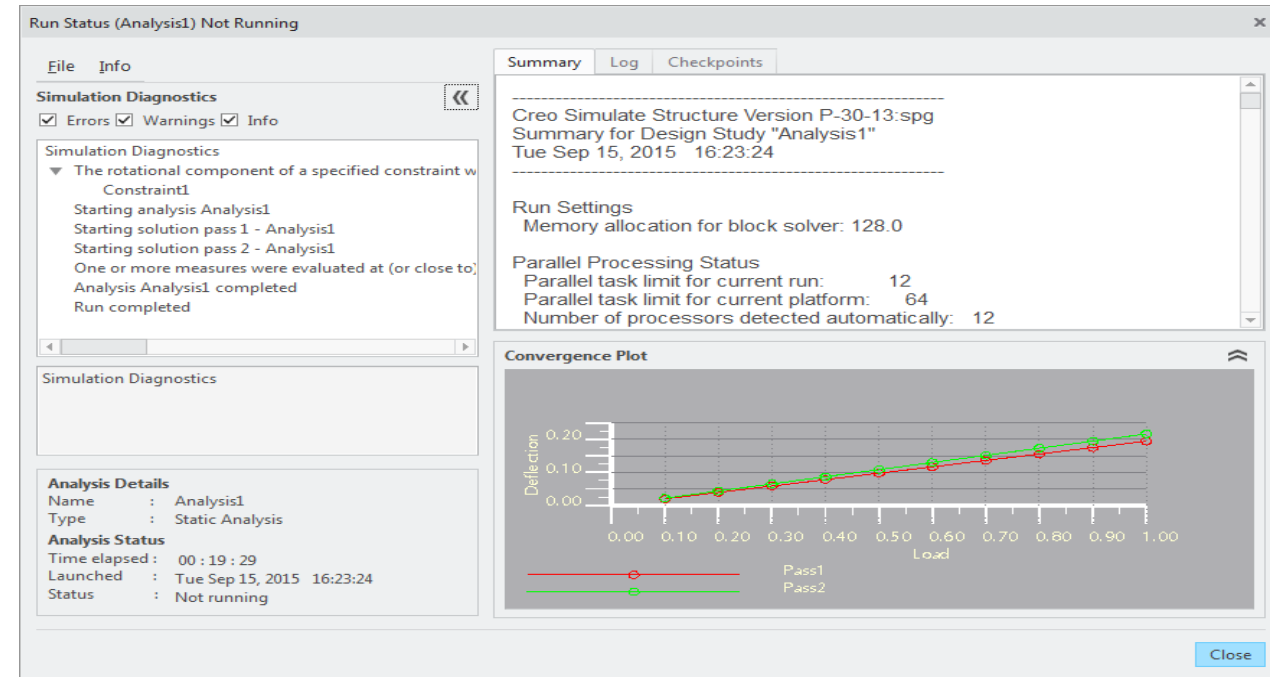
## Overhaul the Analysis and Design Study Experience

### Capabilities

- Filtering diagnostic option to show only relevant analysis information – Passed, Errors, Warnings and Information
- Revised diagnostic details with links to corresponding help content to improve a users ability to understand the particular error or warning
- Dynamic analysis status showing the elapsed time and activity
- Enhanced diagnostic window with expanding panel to show the analysis run status and convergence plot

### Benefits

- Streamline the analysis process and provide a modern look and feel
- Improved productivity and user experience
- High customer request



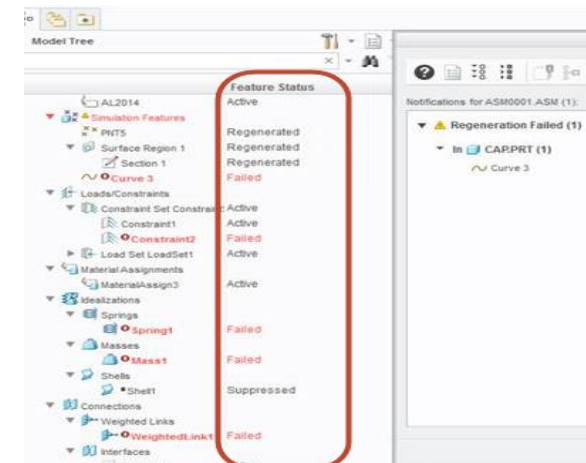
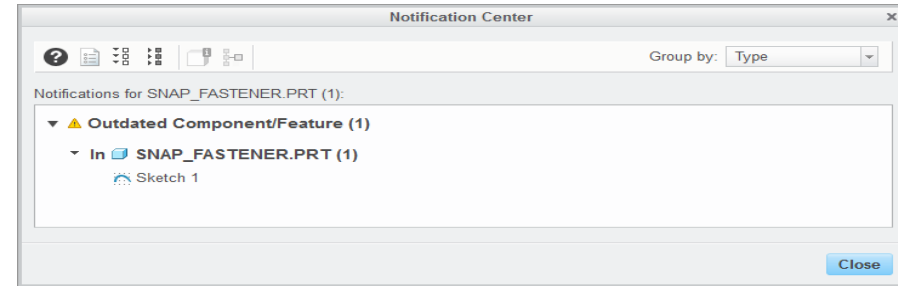
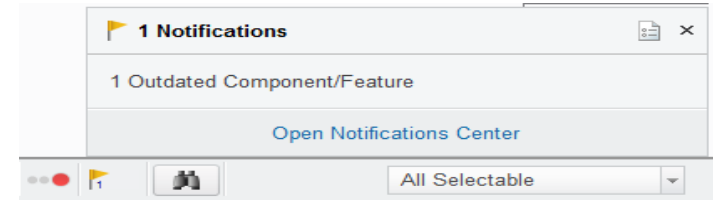
## Notification Support for Creo Simulate

### Capabilities

- Live indications of changes/issues that require users attention
- Single access-point to quickly identify common model issues
- Support both Simulate objects and features
- Simulate objects and features will be listed in the new Feature Status column
  - Indicate the specific status:
    - Failed
    - Suppressed
    - Out of Session

### Benefits

- Easier way to identify, locate and fix design issues
- Monitoring design changes and potential problems becomes more user-friendly and intuitive with a unified notification manager



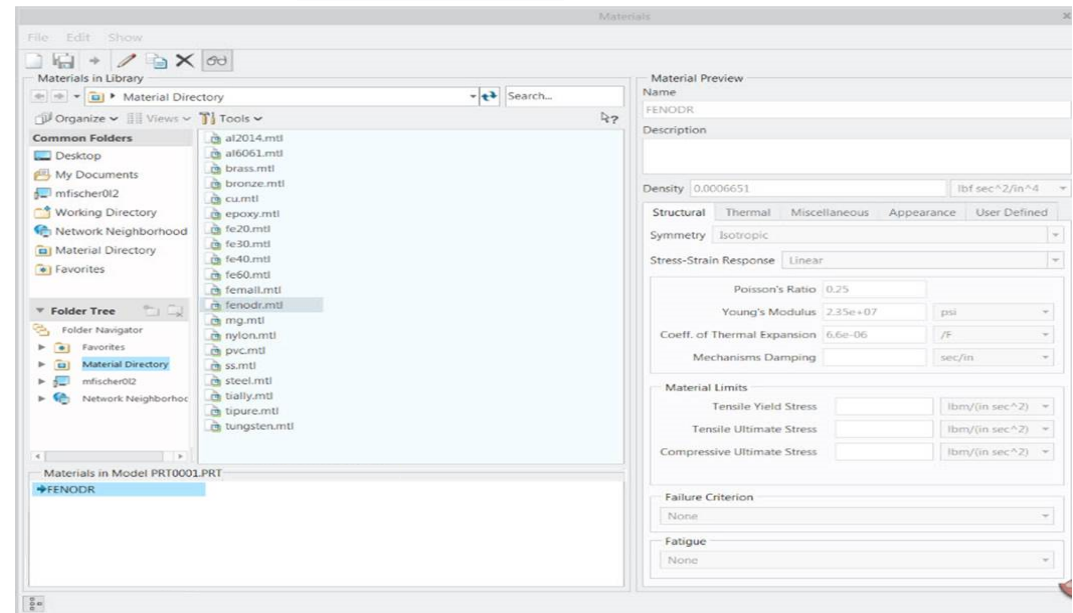
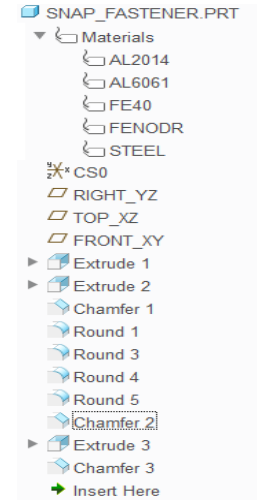
## Material Enhancements

### Capabilities

- Over 50 standard materials will be provided for free to all users within the standard install
- Easy assignment of materials through a new Material node in the model tree
  - Similar to the approach used in Creo Simulate
- Material Dialog update to show a dynamic properties panel

### Benefits

- Improved productivity and user experience
- Access to standard materials within PTC Creo



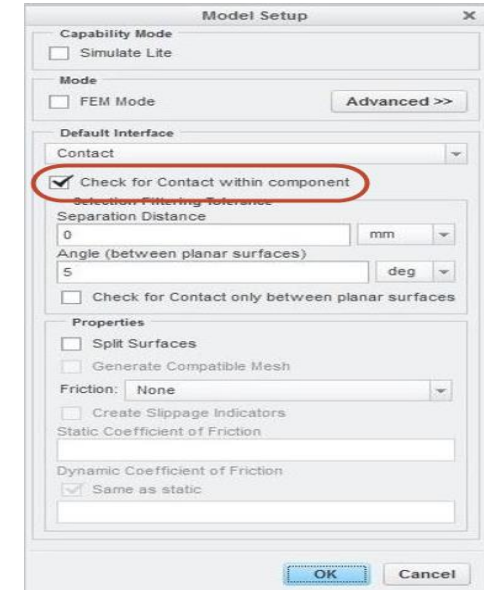
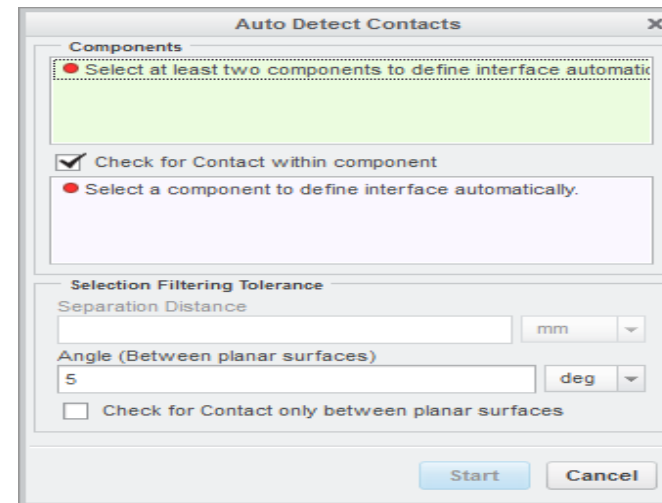
## Contact Interface Improvements

### Capabilities

- Enable contact auto-detect to detect contacts within a component
  - Available in both part and assembly mode
- Provide a new collector for contact auto-detect when in assembly to select the specific component to analyze
- Control contact properties from Model Setup when leveraging Contact as default interface

### Benefits

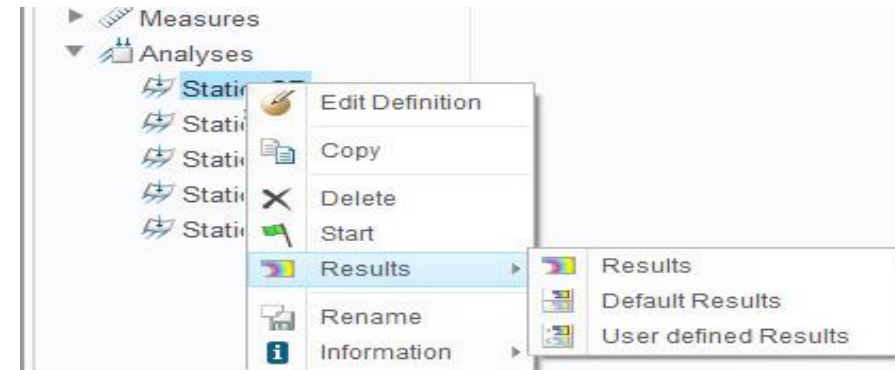
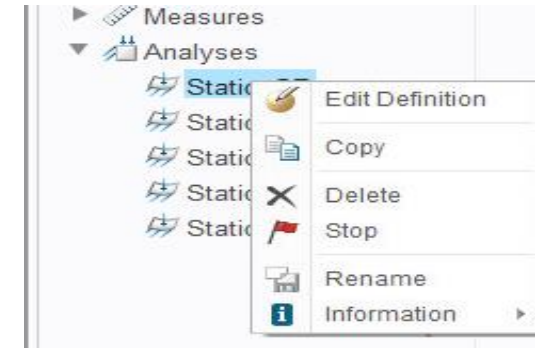
- Improved productivity and user experience
- Allow detection in part mode
- Reduces the need to manually create multiple contacts



## Analysis Node in Model Tree Enhancements

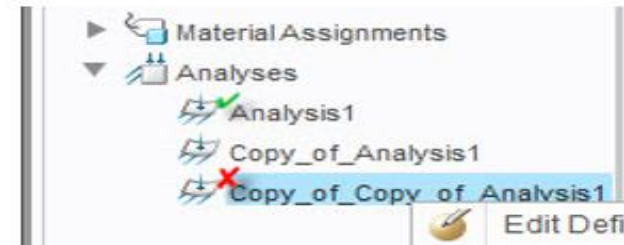
### Capabilities

- Access to additional commands via RMB for any analysis in the model tree
  - Run Analysis
  - Stop Analysis
  - Results
- Create new analysis via RMB on the Analyses node
- Updated icons representing the status of a given analysis



### Benefits

- Improved productivity and user experience
- Reduce menu and picks to create, run or review an analysis



## Graphic Display Improvements

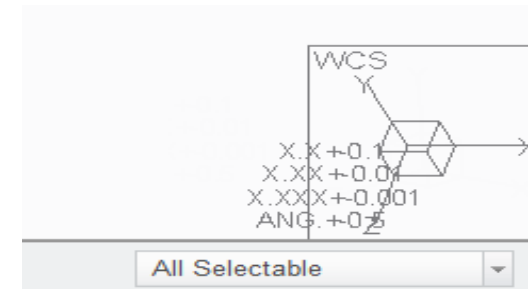
### Capabilities

- Relocate tolerance details when in Creo Simulate to avoid overlapping with Simulate Csys
  - Located tolerance to the left of the Csys while in Creo Simulate
  - Move tolerance back to the right corner when in Creo Parametric

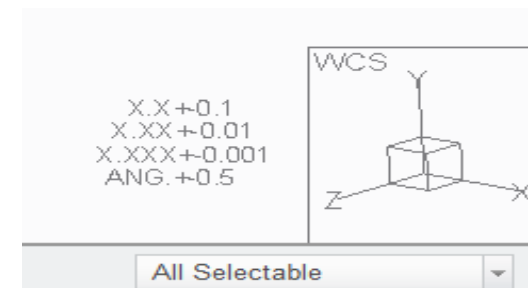
### Benefits

- Improved graphic display when tolerances are enabled

Current Display



Updated Display

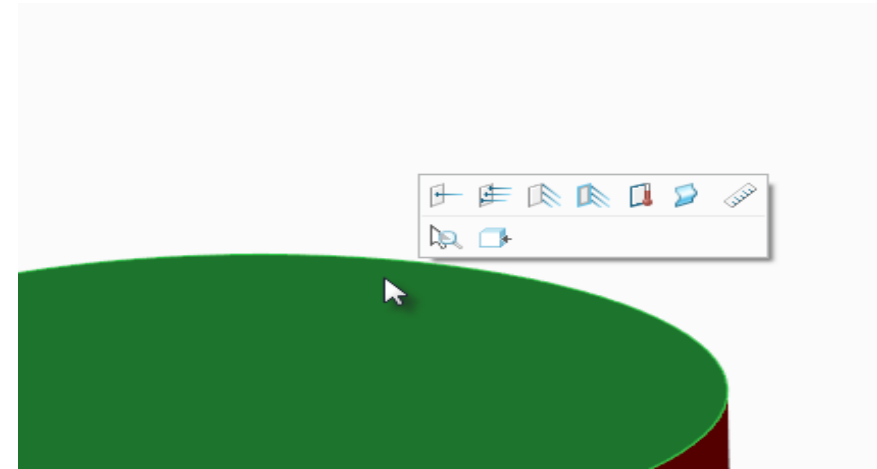




## Support Mini-Toolbar in Creo Simulate

### Capabilities

- Provide access to frequently performed actions
  - Loads
  - Constraints
- Available when selecting geometry, hovering over geometry or by pressing the RMB on geometry
  - Surfaces
  - Edges
- Customize the Toolbar to your needs



Loads



Constraints

### Benefits

- Improved productivity and user experience
- Easily apply and edit entities without needing to pick from the ribbon

## Enhanced Diagnostic Support

### Capabilities

- Updated diagnostic details of the top 200 errors and warnings
  - Improved details explaining the particular issue
  - Detailed Creo Help pages for each of the top 200 errors and warnings
  - Connect each error or warning to their respected pages in Creo Help
- New diagnostic terms glossary in Creo Help
- Improved help content with sample models and processes to resolve discovered issues
- New Best Practice content within Creo Help
  - Fasteners
  - Contact analysis

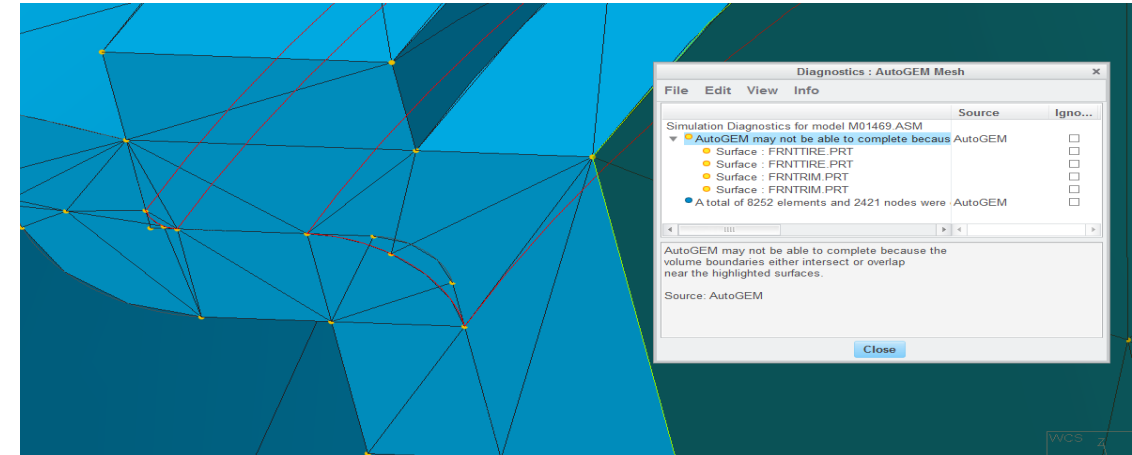
### Benefits

- Improve the ability to assist users to understand and resolve issues
- Improve analysis quality and results

## Mesh Robustness Improvements

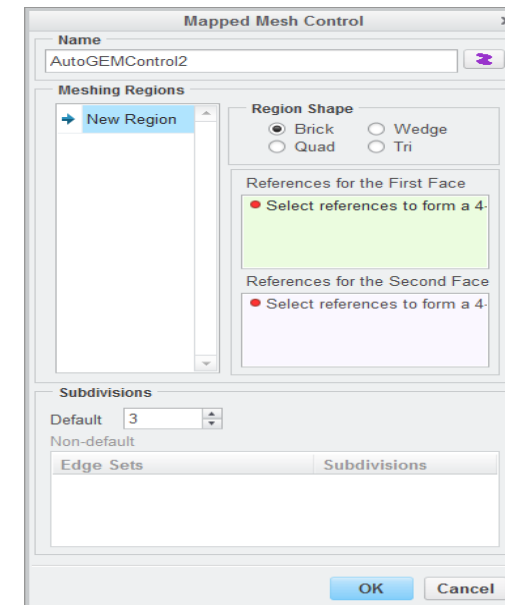
### Capabilities

- Improved AutoGEM automatic mesh repair capabilities
  - Identify intersecting and overlapping geometry and automatically fix the mesh
- Automatically detect and create thin solid mesh control options to improve mesh quality
  - Create brick and wedge elements versus tetrahedral elements
  - Will not create AutoGEM control option in the model tree
- Enable mapped mesh control option on solid surfaces in FEM mode



### Benefits

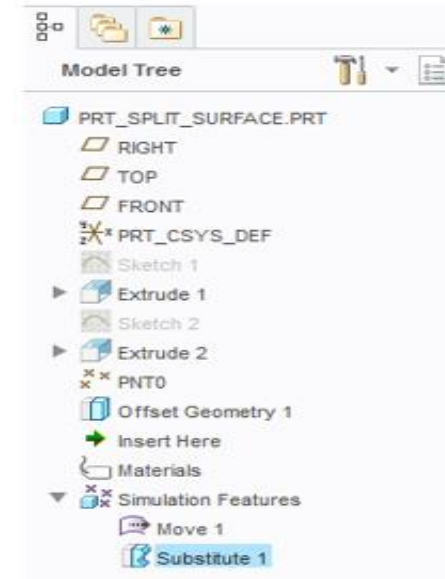
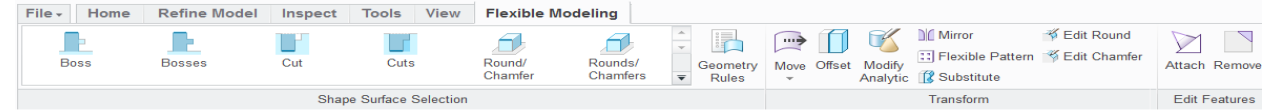
- Reduce the need to manual fix the poor import geometry
- Improved productivity and user experience



## Data Simplification Improvements

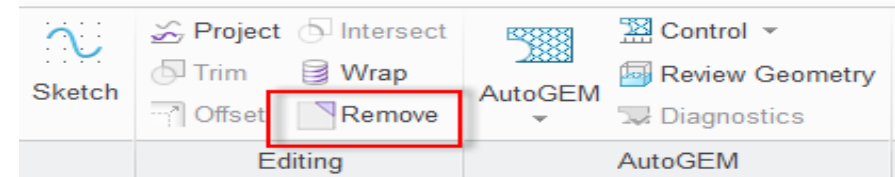
### Capabilities

- Access to Flexible Modeling tools within Creo Simulate
  - Integrated or standalone, users can now easily simplify, modify or explore new configurations to the design
  - Requires an active license of FMX
  - Shown as a Simulation Feature in the model tree
  - Promote FM features to PMA
- New Remove feature to help simplify the analysis model
  - Does not require a license of FMX



### Benefits

- Improved productivity and user experience
- Reduces the need to going back to PMA to simplify the data
- Explore additional design scenarios easily based on found results



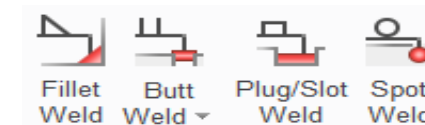
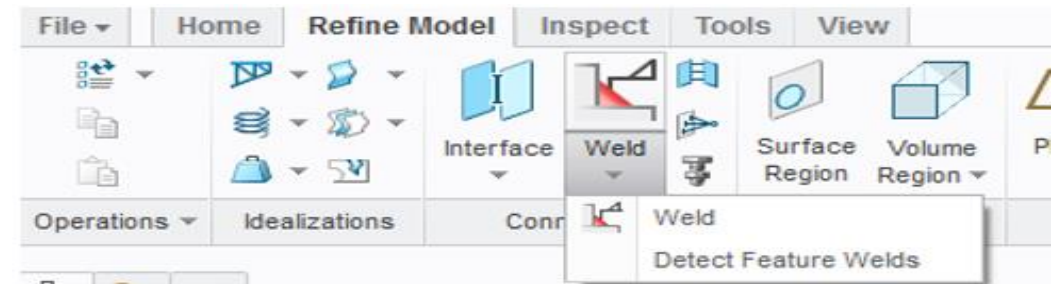
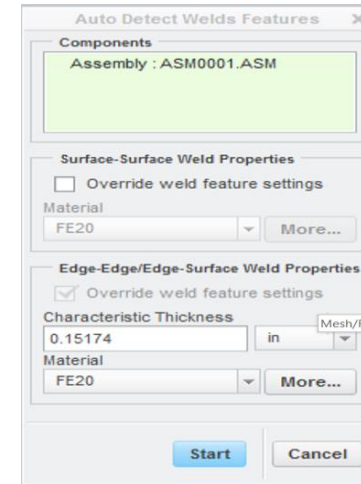
## Weld Connection Improvements

### Capabilities

- Enable auto-detection of weld features in the model
  - New weld connection will be created for all found weld features
  - Override option for surface-surface and edge-edge/edge-surface weld properties
- Support solid welds in Creo Simulate
  - Analyze the new weld feature as solid geometry versus surfaces
  - Support the following types of solid welds
    - Fillet Welds
    - Plug/Slot Welds
    - Butt Welds
    - Spot Welds

### Benefits

- Improved productivity and user experience
- Automated process for creating solid welds
- Higher quality results when welds features are present



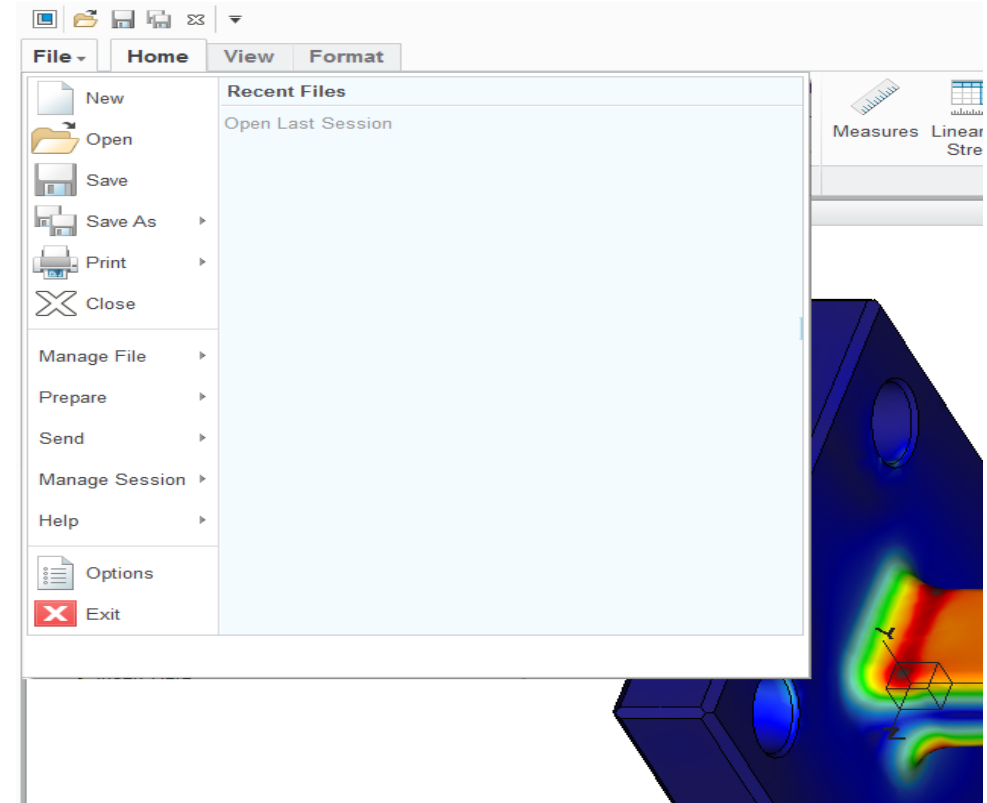
## Data Exchange Improvements

### Capabilities

- Standardized File pull-down menu and actions to be consistent with PMA
  - Consistent user interface and operations
- Improved process for saving results to Windchill
  - Publish Creo View file as secondary content for results (\*.mrs) and HTML report (\*.mrp)
  - Enable the ability to vault information to the workspace unlinked from the stored model directly from Simulate Results
- Improve exchange of information with Creo View
  - Support Annotations and Query in the Creo View output

### Benefits

- Improved productivity and user experience
- Improve the ability to store and archive results in Windchill
- Sharing results with an extended team in various formats



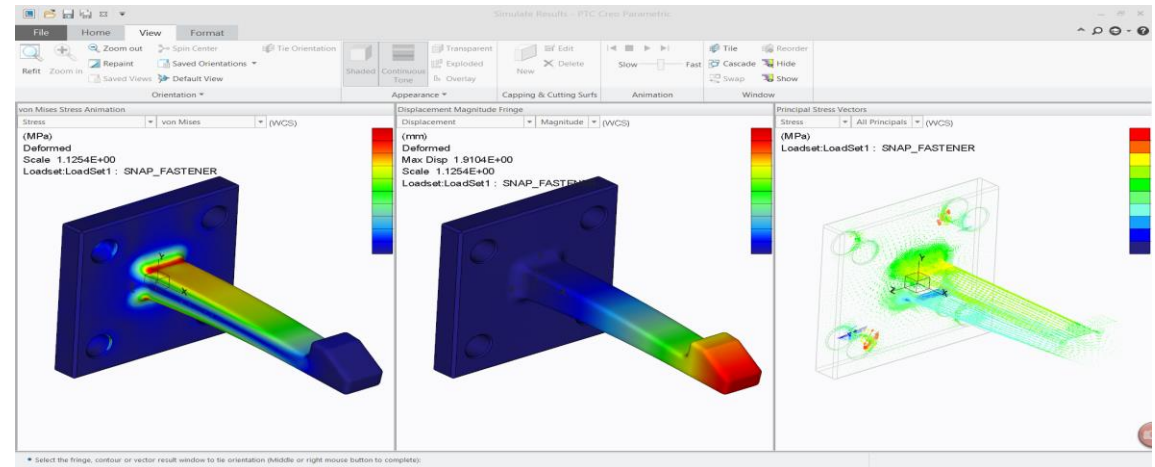
## Synchronize Orientation Control

### Capabilities

- Synchronize and lock the orientation of a series of results windows to the active window

### Benefits

- Improved productivity and user experience
- Improved results display



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What's next?