19.0 SP3 LTR Version News

SysML Plugin

Released on: November 18, 2019

The 19.0 SP3 release is packed with a number of new capabilities and improvements. Now you can export SysML models and diagrams to Simulink, Stateflow, S-functions, Simscape, and Modelica. Simulink and FMU models can be imported or updated using a new import dialog with optional ports and property selection. Other noteworthy features include contextualized relationships in diagrams and matrices, flows, ports and instances management enhancements, structural text copy/paste as nested structures in IBD and more.

Download it today at nomagic.com or contact your sales representative, and don't forget to give us your feedback on Twitter or Facebook. Also, please check the latest documentation and additional resources.

- SysML Plugin
- SysML model transformation to Simulink and Modelica
- Simulink Import
- Contextual Relationships
- Flow Management Improvements
- Instance Improvements
- Other

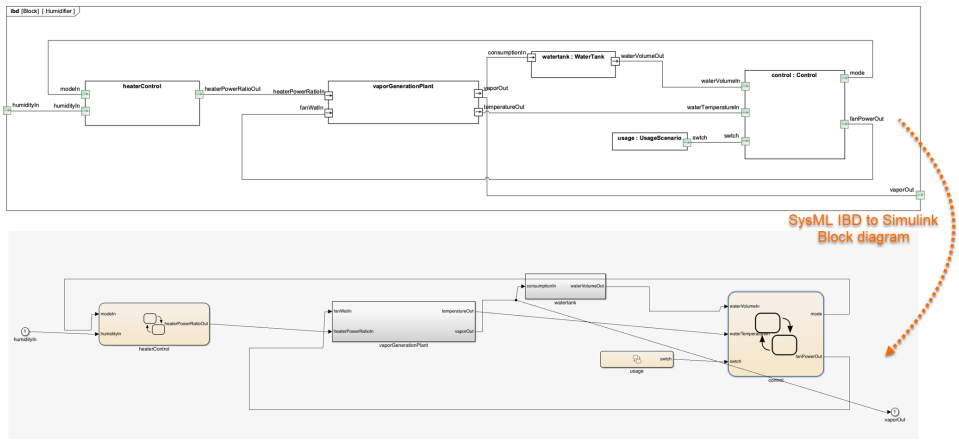
SysML model transformation to Simulink and Modelica

19.0 sp3 version allows users to export standard SysML models into Simulink (incl. Stateflow, Simscape) and Modelica models based on a standard mapping provided by new OMG SysPhS specification (SysML Extension for Physical Interaction and Signal Flow Simulation).

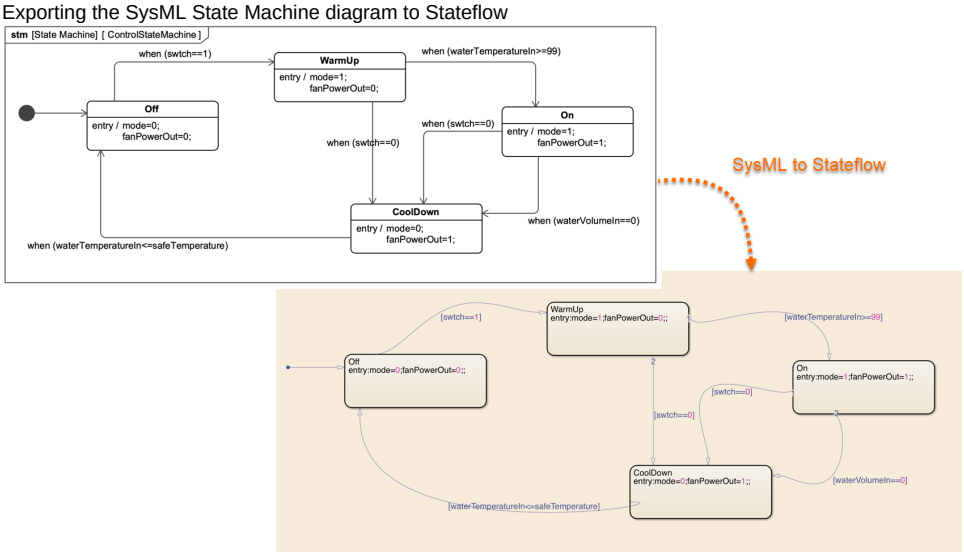
This one-way transformation supports both black-box or full implementation which includes parametrics, statemachines, internal structures with ports, interfaces and connectors.

Examples of Simulink export

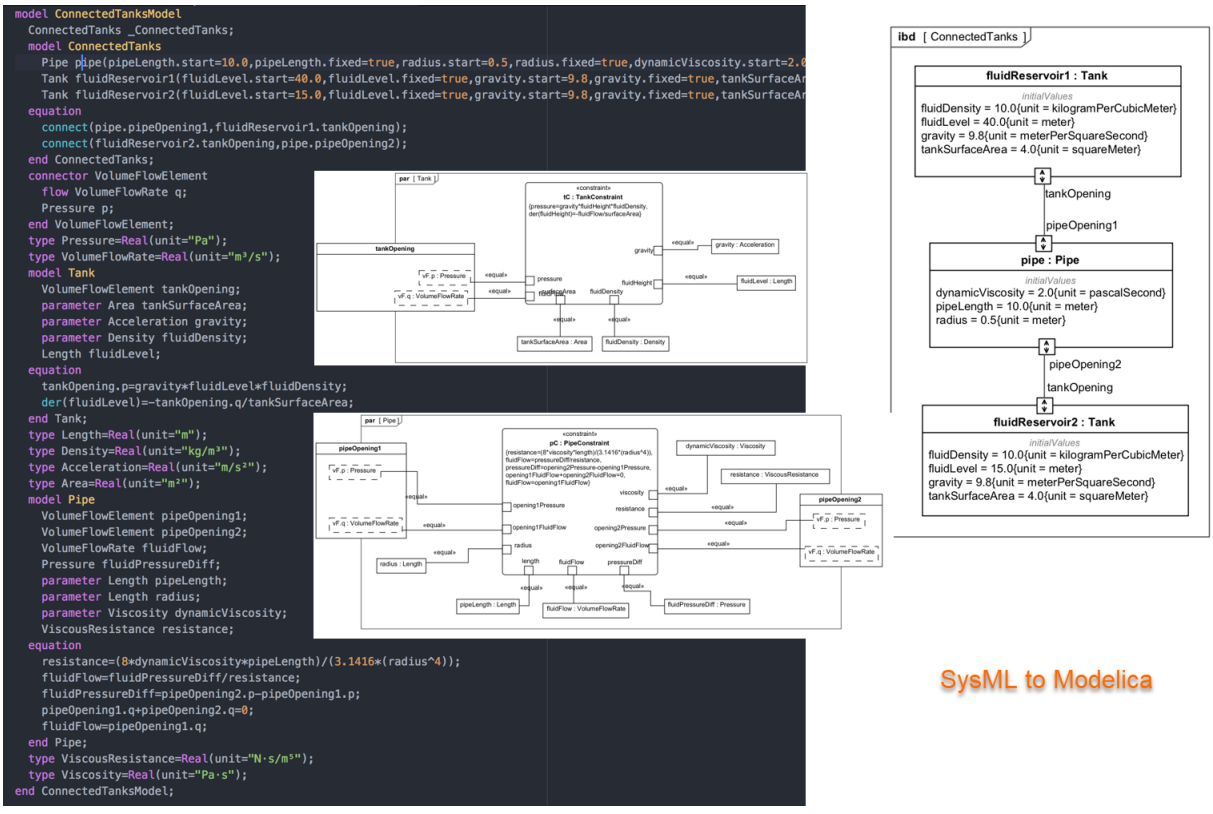
- Exporting the SysML IBD to Simulink Block diagram.



- Exporting the SysML State Machine diagram to Stateflow

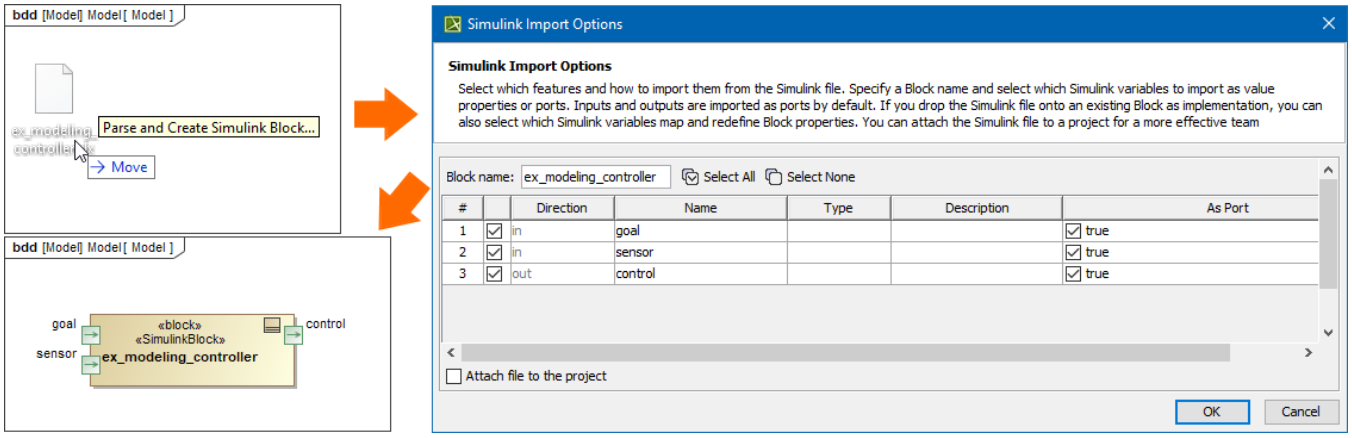


Example of Modelica export



Simulink Import

The SysML plugin has undergone some major improvements. Simulink model files can now be imported and represented as SysML Blackbox Blocks. Once the file is imported, you can select input and output ports to be represented as Flow ports on the Block. Additionally, the imported Simulink model can be simulated using the Cameo Simulation Toolkit.

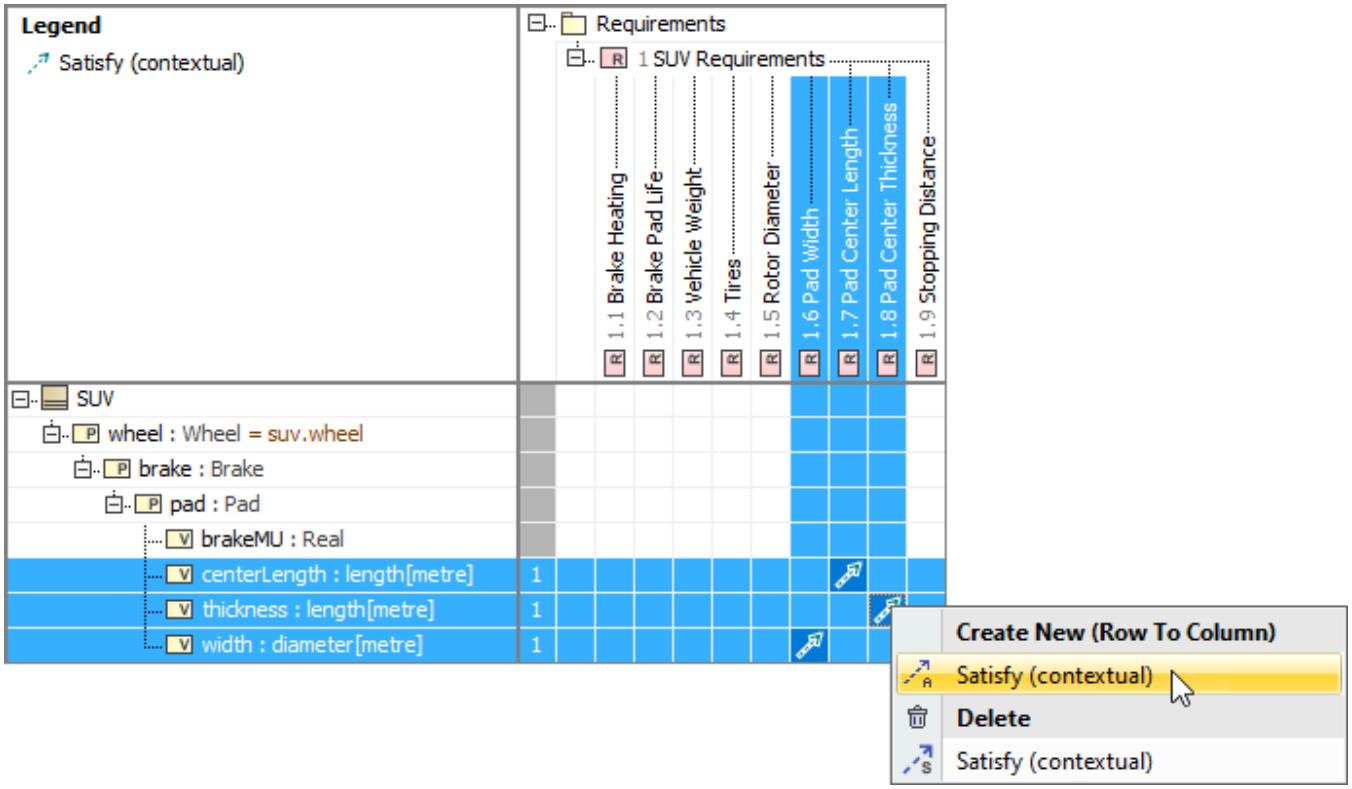


Importing external Simulink model

Learn more about Simulink import >>

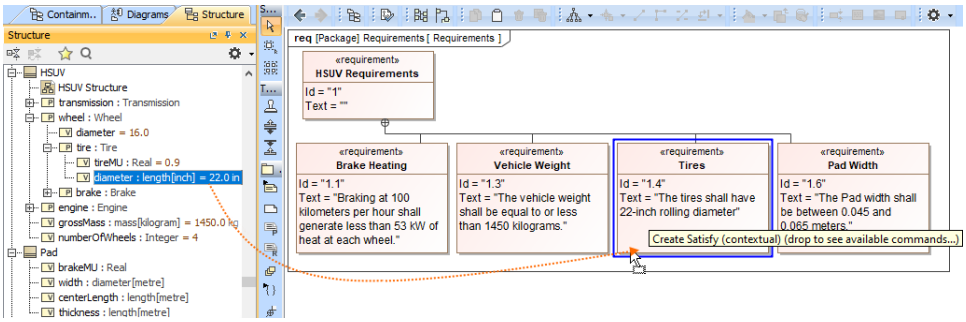
Contextual Relationships

- Enhance your modeling experience – contextualize Allocate, Refine, Satisfy, Trace, and Verify relationships to consider the context the connected properties are used in. Beginning with this release, users can more easily create and keep contextual relationships up to date in diagrams and matrices.



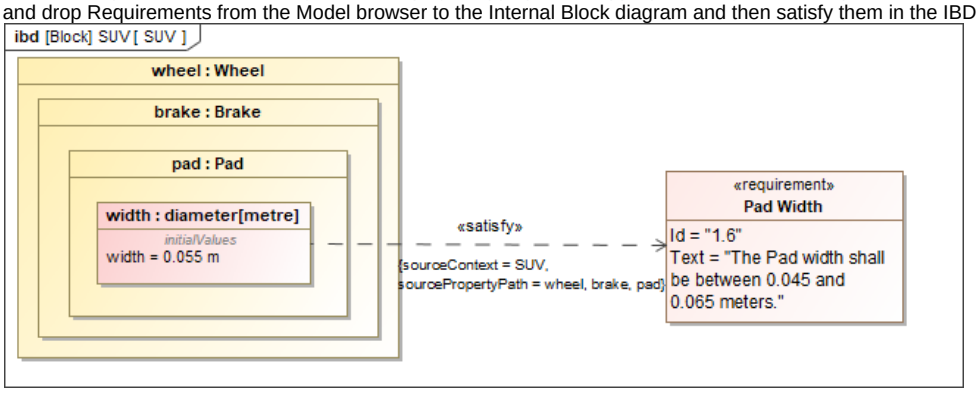
Creating contextual relationships to define the context they are used in

- You can now drag and drop the property directly on the Requirement shape in the symbol diagram to create the contextual Satisfy relationship automatically.



Creating the contextual Satisfy relationship by dragging-and-dropping it directly on the Requirement

- You can now drag and drop Requirements from the Model browser to the Internal Block diagram and then satisfy them in the IBD context.



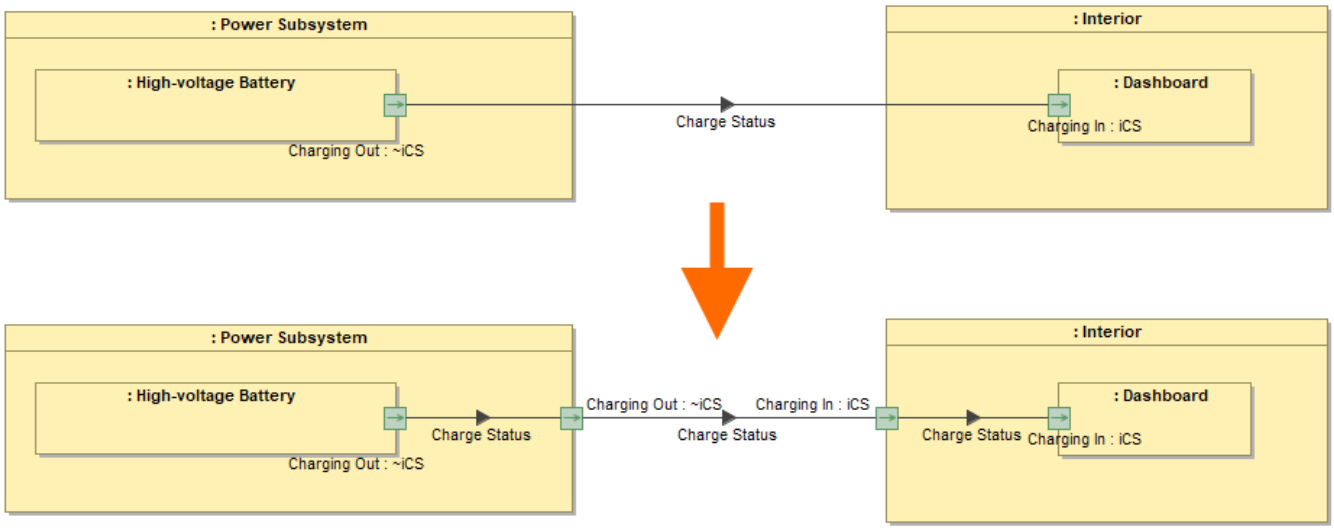
Displaying and satisfying Requirements in the Internal Block diagram

Learn more about Contextual Relationships >>

Flow Management Improvements

In the SysML Internal Block Diagram, the automatic delegation functionality:

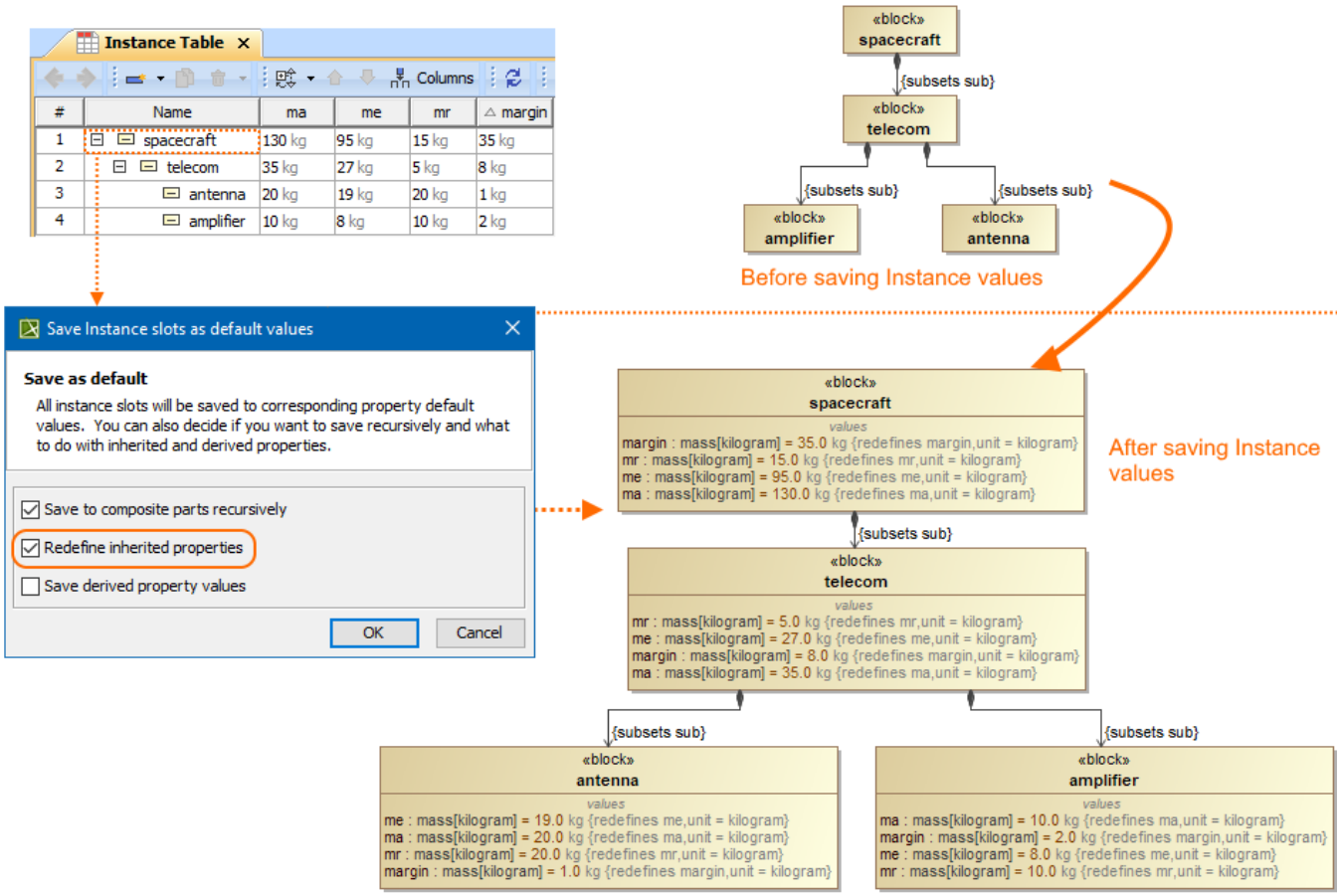
- creates a connector from the port to the nearest border.
- creates connectors with relevant ports between the ports of the nested parts (delegate).
- realizes the existing flows on the newly created connectors.



Learn more about automatic delegation >>

Instance Improvements

- Now you can save instance values to Blocks as default values. Learn more >>

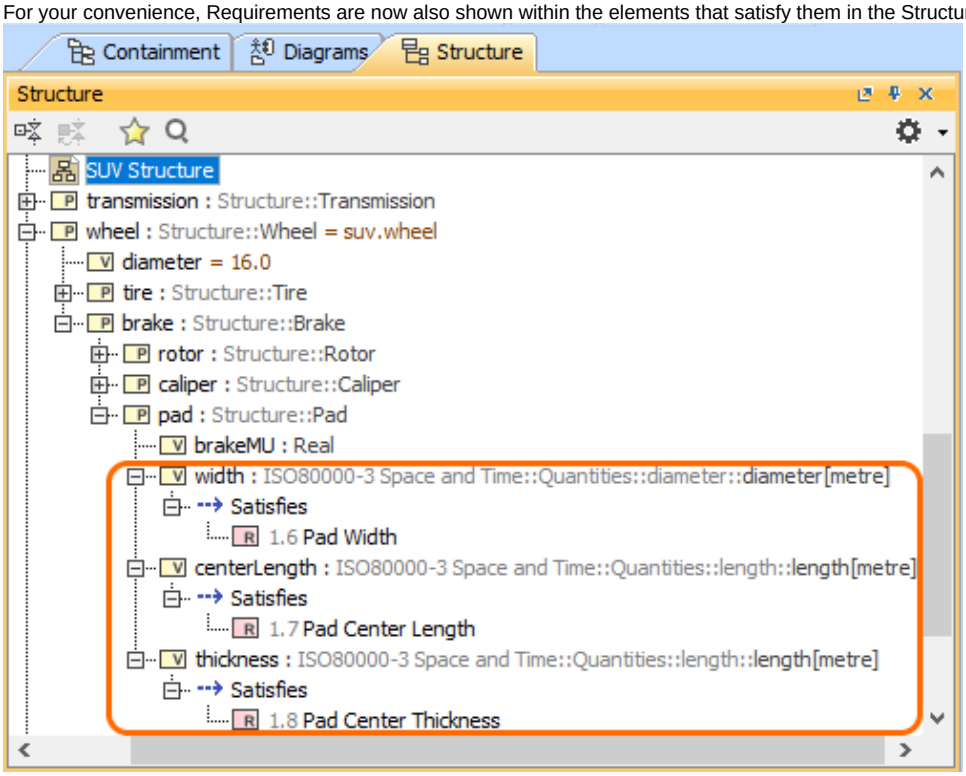


- The naming of the nested parts created by Create Instance wizard or in the Instance Table is improved.
- The new **Clone with parts** action in the Instance Table toolbar and selected row's shortcut menu copies not only the selected Instance but its nested parts as well.

Other

- Pins for the Opaque Actions can now be created automatically. Learn more >>

- For your convenience, Requirements are now also shown within the elements that satisfy them in the Structure tree.



The latest SysML Plugin documentation

- SysML Plugin 19.0

News of earlier versions

- SysML Plugin 19.0 LTR
- SysML Plugin 18.5 FR
- SysML plugin 18.4 FR
- SysML Plugin 18.3 FR
- SysML Plugin 18.2 FR
- SysML Plugin 18.1 FR
- SysML Plugin 18.0 LTR