What's new in SysML plugin 18.0 LTR

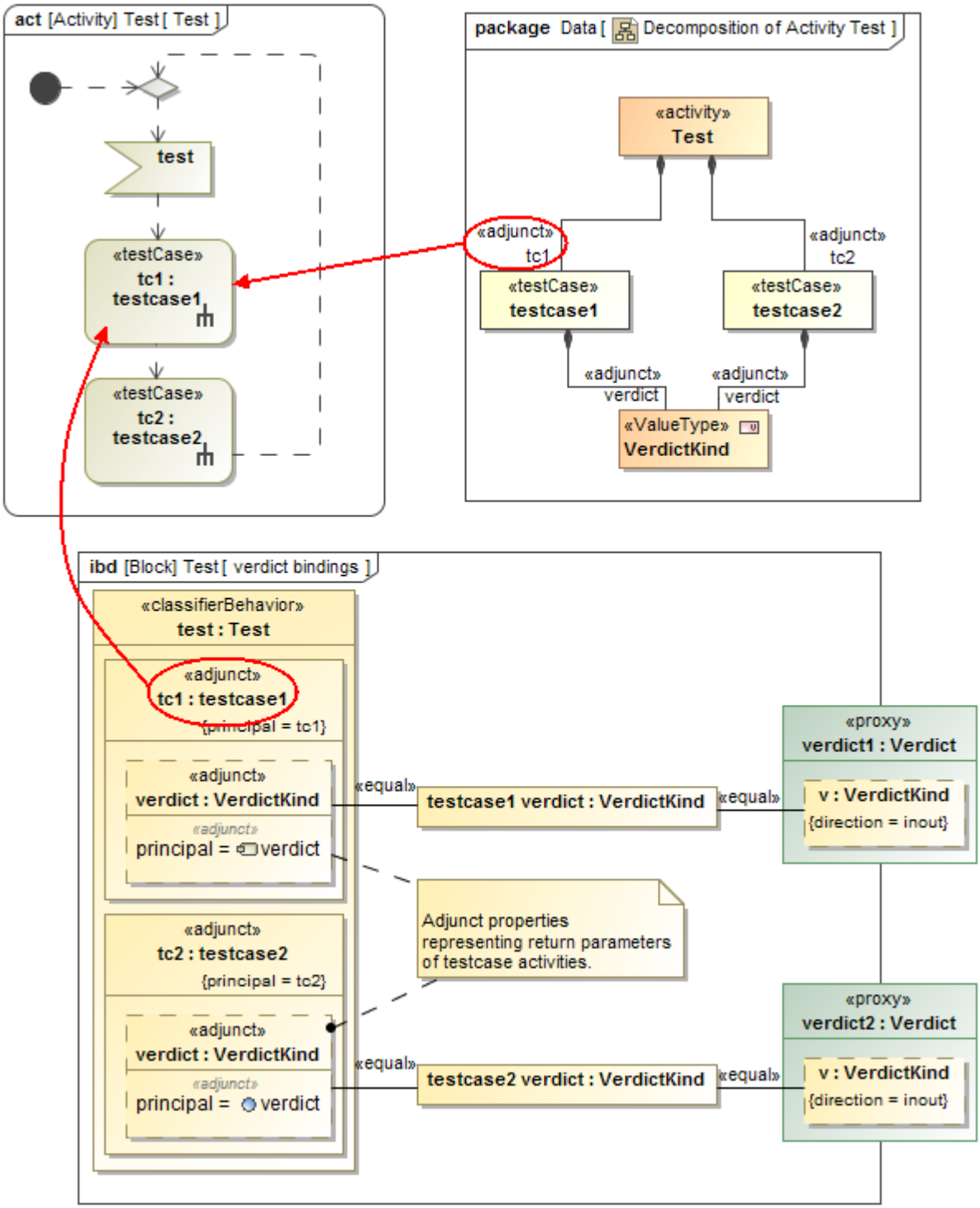
Release date: 2nd June 2014

SysML 1.4 Support

We are the first to introduce the new SysML 1.4 specification support, including new concepts such as AdjunctProperty, BoundReference, ElementGroup, and the new QUDV and ISO 80000 libraries.

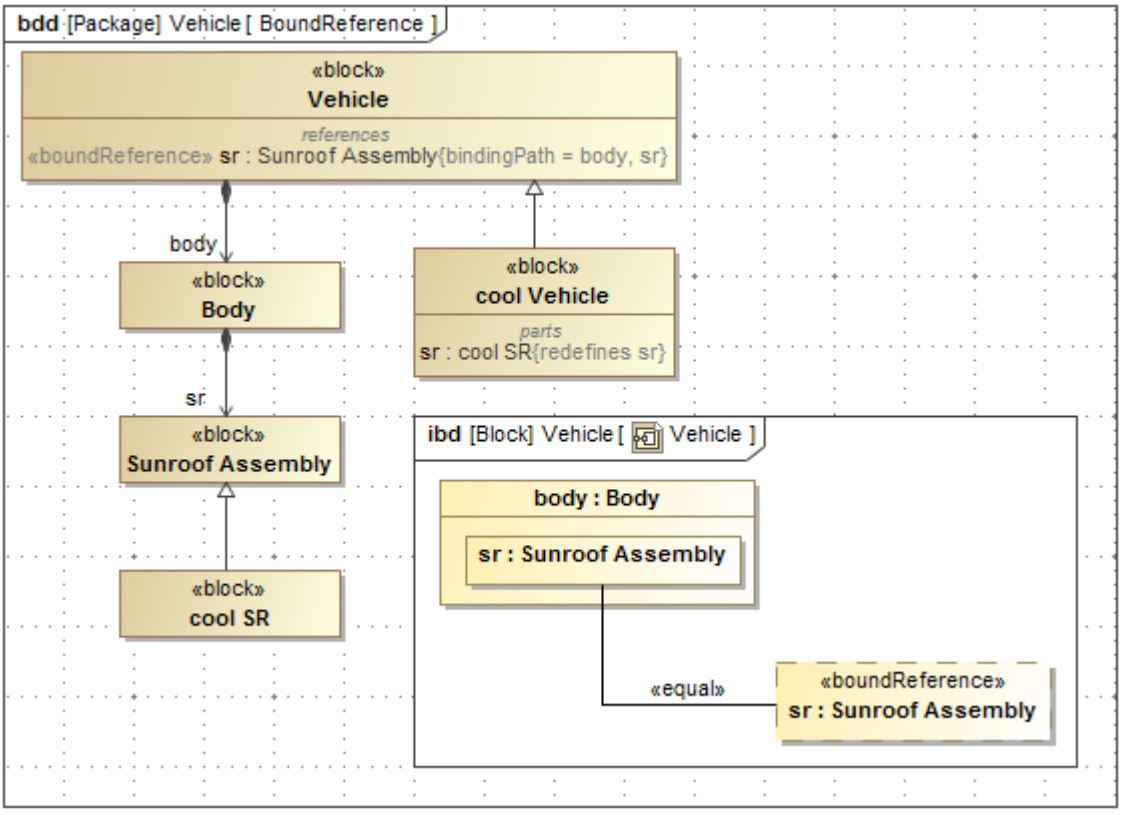
Navigation Through Non-properties

SysML 1.4 adds an extension of properties, so they are now able to represent behavior diagram elements, semantically equivalent to properties, such as behavior parameters, call actions, or object nodes. This enables navigation through non-properties using deep nested connectors, and structural and behavioral elements linking, such as ports association with behavior parameters.



Bound Reference

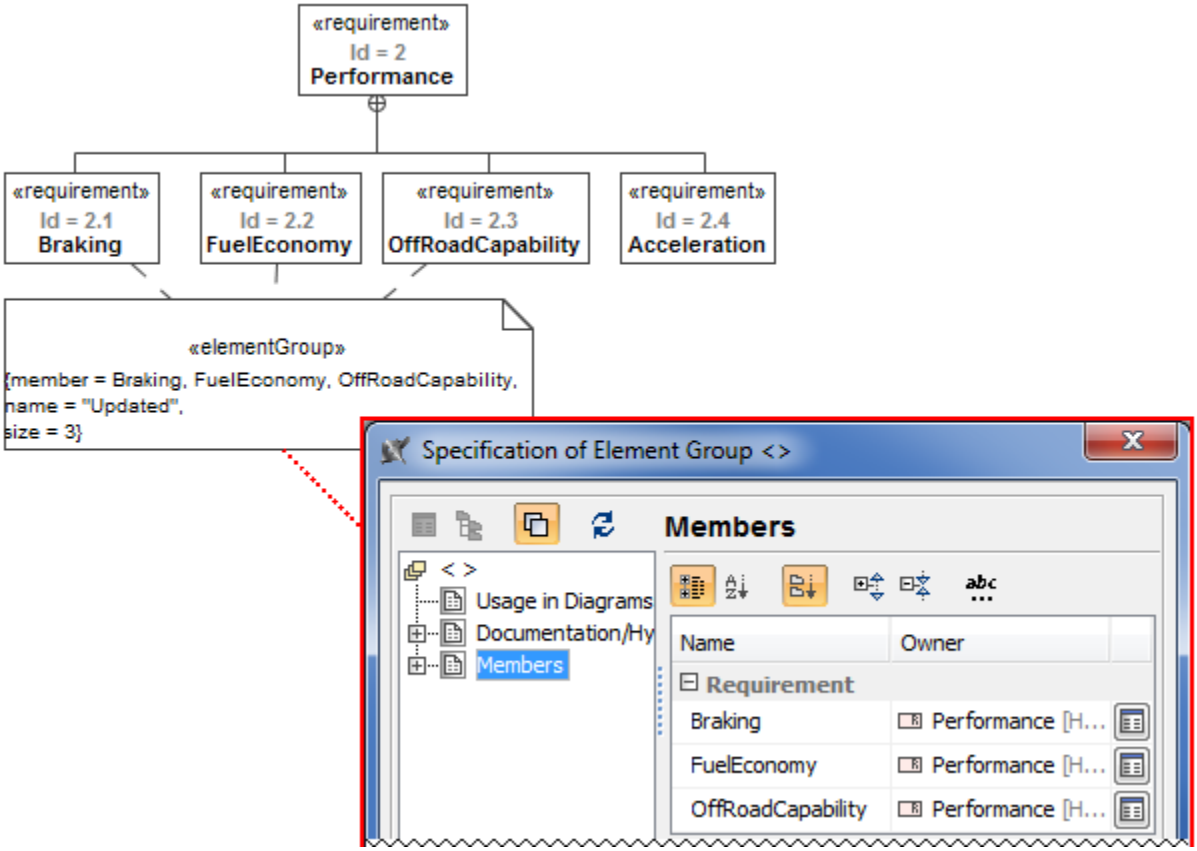
Bound Reference provides the modeler with a new way to quickly redefine and constrain deep nested system parts, without the considerable modeling efforts required previously. Bound Reference creates a virtual “shortcut” to a deep nested system part where multiplicity and type can be restricted by direct redefinition in subtypes.



Element Group

The SysML 1.4 ElementGroup concept provides a convenient and lightweight mechanism to group model elements based on an arbitrary defined criterion without imposing ownership or containment constraints.

An element group is persistent, but does not own its elements and thus an element can participate in an unlimited number of named groups. For example, it can group elements associated with a particular baseline, have a certain risk level, responsible person, review status or any other custom criteria. Each Element Group is based on a UML Comment and extends the capability of comments to refer to multiple annotated elements, as shown below:



Views and Viewpoints

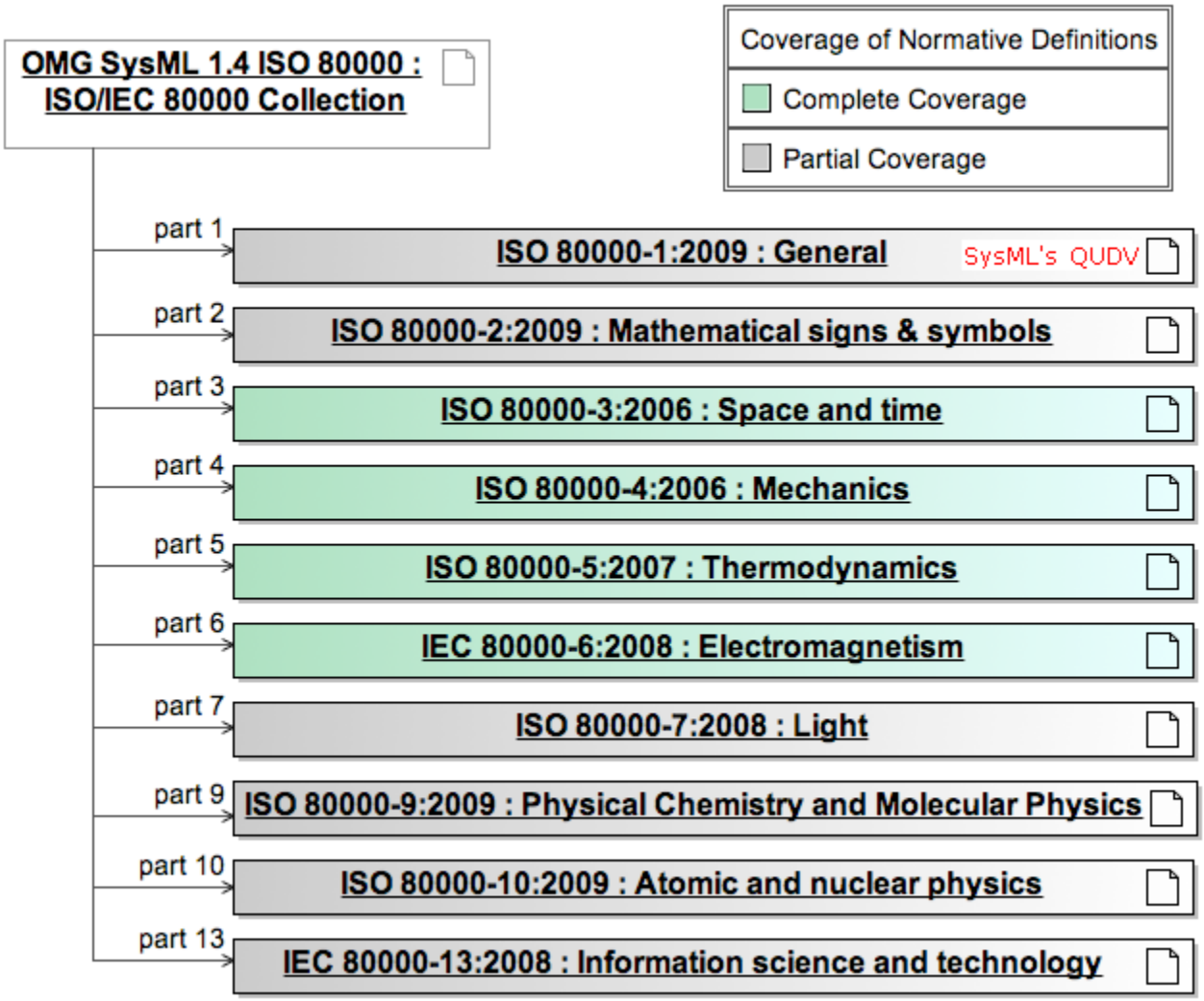
SysML 1.4 improves the concept of View and Viewpoint to reflect perspectives of different stakeholders. The views are constructed from a subset of the model that addresses their concerns.

New QUDV and ISO 80 000

The SysML 1.4 QUDV library was improved to:

- comply with International vocabulary of metrology (VIM 3rd edition)
- encode ISO/IEC 80000 definitions of base quantities and units to provide semantics for computer-based dimensional analysis.

The ISO/IEC 80000 library, which is a collection of 14 standards, is available to use in new projects on demand (from the shortcut menu, select **Modules** > **Load Module**).

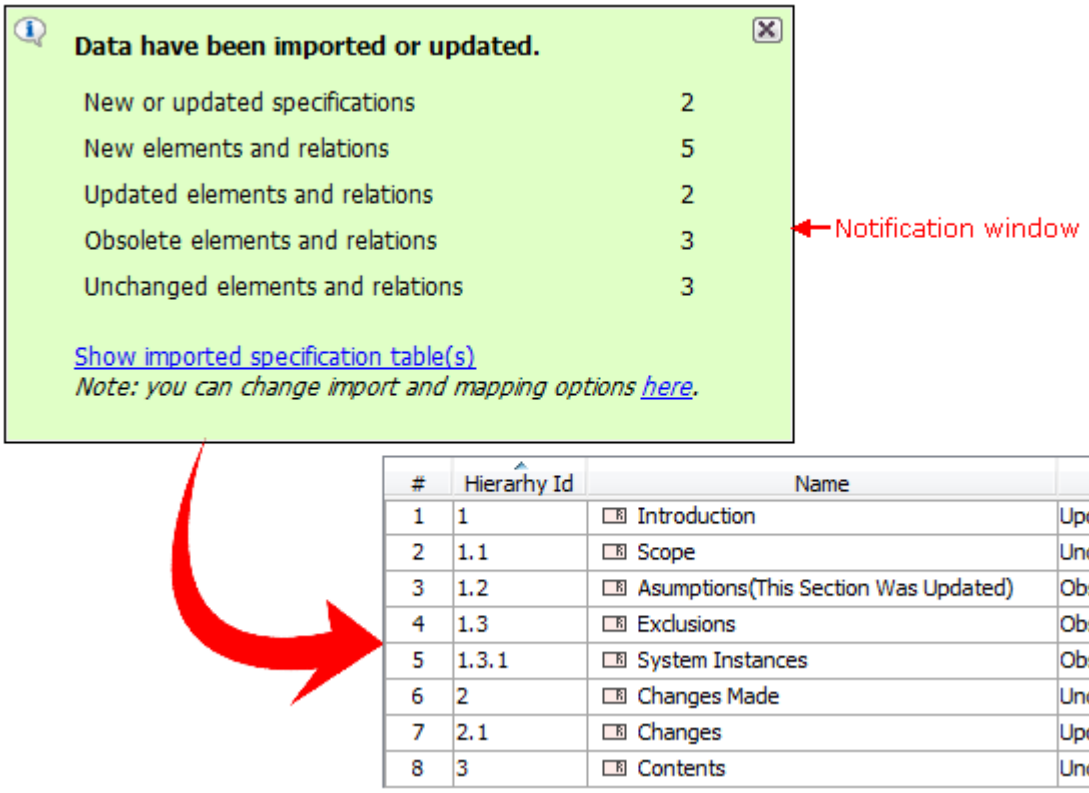


ReqIF Support

The requirements modeling features have been separated from SysML Plugin and become a part of the new Cameo Requirements Modeler plugin. For SysML Plugin users, the Cameo Requirements Modeler plugin is free of charge and will be installed as separate resource. When downloading and installing SysML Plugin through the **Resource / Plugin Manager** (**Help** > **Resource / Plugin Manager**), the Cameo Requirements Modeler plugin will install automatically. You can also download it from www.nomagic.com

The **Requirements Interchange Format** (ReqIF) support enables requirements import from the requirements management tools, such as IBM DOORS 9.4 and 9.5, IBM DOORS Next Generation, PTC Integrity, Polarion, and Siemens Teamcenter to Cameo Systems Modeler.

Requirements can also be updated by importing a new version of the file again. The user is notified about changed or removed requirements and can manage the changes.



#	Hierarhy Id	Name	Status
1	1	Introduction	Updated
2	1.1	Scope	Unchanged
3	1.2	Asumptions(This Section Was Updated)	Obsolete
4	1.3	Exclusions	Obsolete
5	1.3.1	System Instances	Obsolete
6	2	Changes Made	Unchanged
7	2.1	Changes	Updated
8	3	Contents	Unchanged

Instance Table

Need to handle a huge amount of instance specifications? Feel annoyed about editing their slot values one by one in the limited-size cells of the Specification window? **Try instance tables!**

The instance table is a spreadsheet-like data entry and review interface. Actually, the feature is based on a generic table.

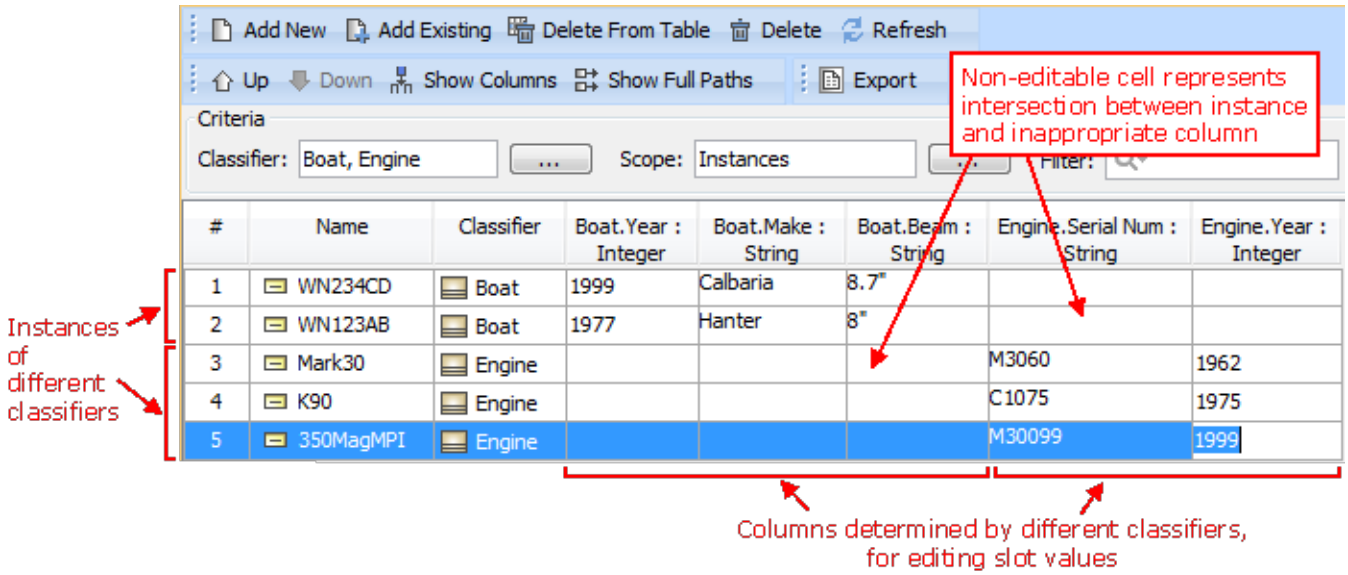
With the help of an instance table you can easily:

- Review instances of one or more classifiers, in the single place.
- Create instances for one or more classifiers.
- Edit slot values of the instances displayed in the table.
- Customize the representation of the table.
- Export the data into an HTML, XLSX, or CSV file.

Cases for the practical application:

- Instance specifications management
- Testing data and results representation
- Parametric analysis results
- Excel spreadsheet import and representation
- Bill of Materials (BOM)
- Trade studies

All that needs to be done is create an instance table, add the instances, and then choose the slots to review and edit. This form of reviewing and editing data will definitely save a lot of time, as opening the Specification window of each instance is no longer required.



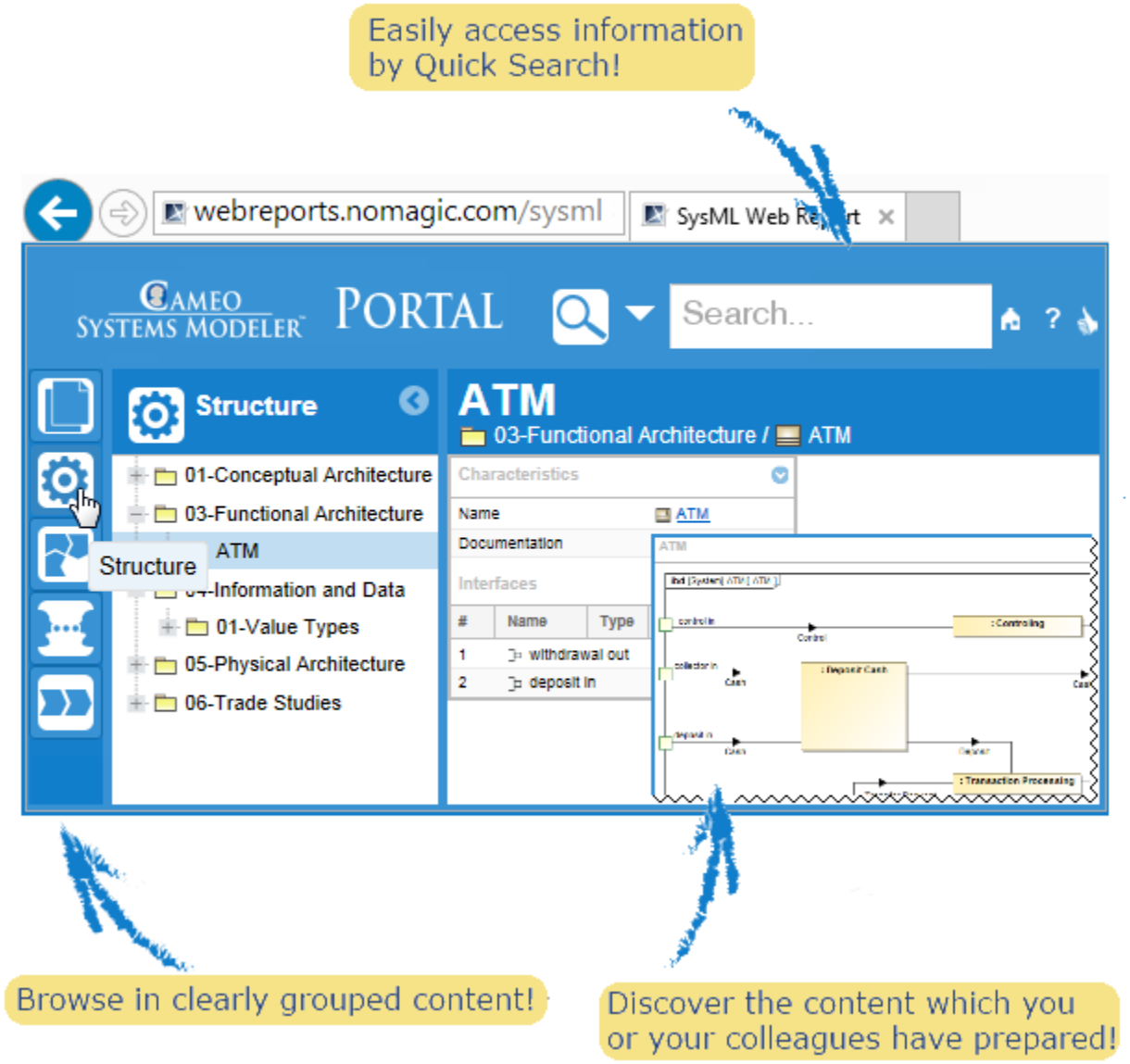
New Reports

We proudly present two new technologies for better model publishing:

- Web Portal report template
- Model Based Document Generator

Web Portal report template

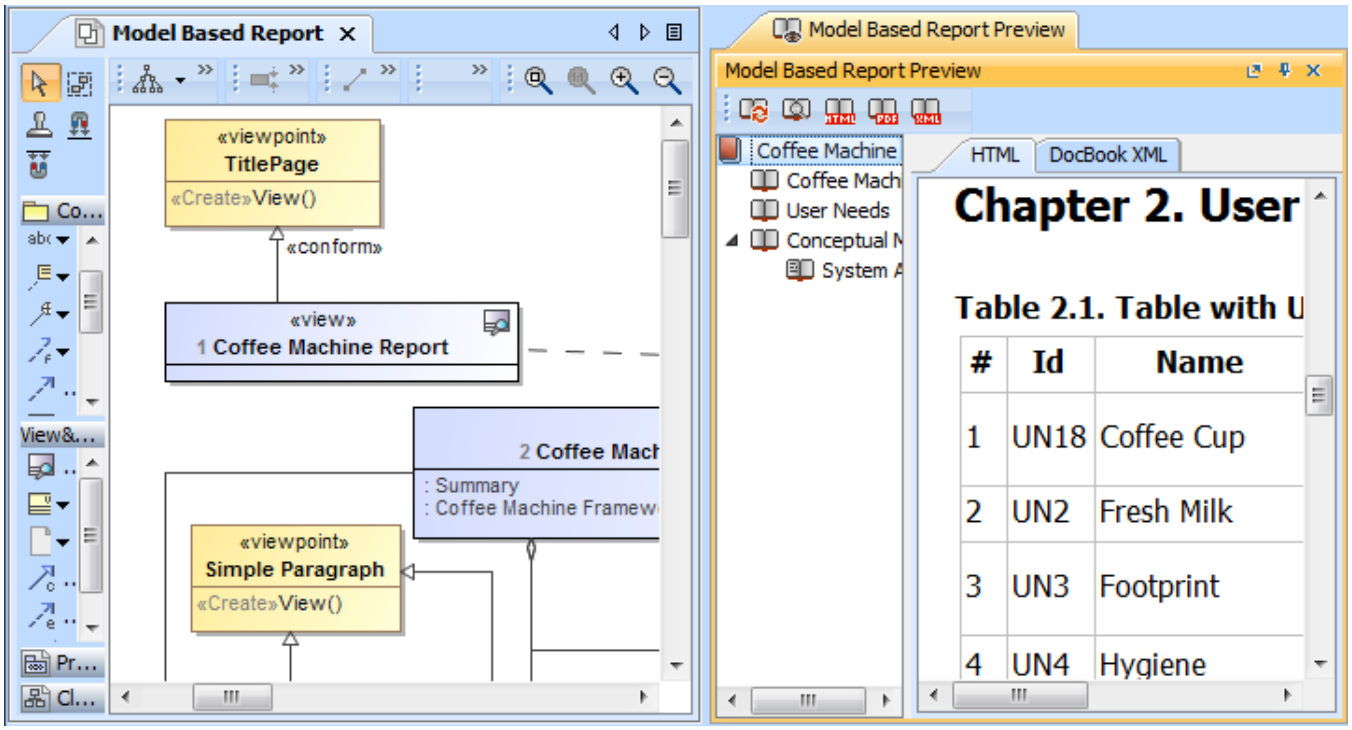
Web Portal report provides a capability of sharing model information among all stakeholders in a browsable, clean and less-technical way. As opposed to the existing Web Publisher report, it does not clone original SysML model view, but re-organizes the most essential and relevant information by the Four SysML Pillars - Requirements, Structure, Behaviors and Parametric Constraints.



NOTE. This is a technology preview of the systems engineering functionality. Please explore this new technology, experiment with it, and get back to us at support@nomagic.com with your feedback and suggestions about possible improvements or features you are missing. We seek to create as serviceable tool as it could be, so we are thankful and very appreciative of your contributions!

Model based document generator

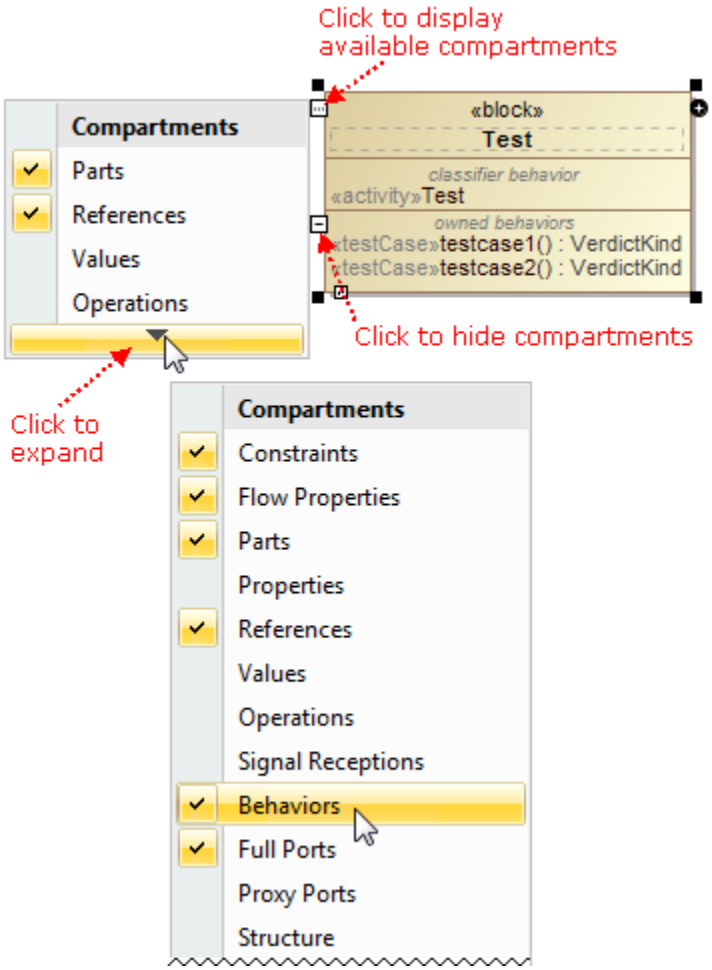
SysML 1.4 improves the concept of View and Viewpoint to reflect perspectives of different stakeholders. The views are constructed from a subset of the model that addresses their concerns. SysML introduces a new technology which interprets the SysML 1.4 Views and Viewpoints models to construct XML document conforming with DocBook standard. A combination of diagrams, tables, model queries and simple text fragments can be presented in a built-in preview window or exported to PDF or HTML documents.



NOTE. This is a technology preview of the document modeling functionality. Please explore this new technology, experiment with it, and get back to us at support@nomagic.com with your feedback and suggestions about possible improvements or features you are missing. We seek to create as serviceable tool as it could be, so we are thankful and very appreciative of your contributions!

Enhanced Compartments and Their Management

- New smart manipulator for quick compartments enabling/disabling on the left shape border.



- Empty compartment lines are not shown anymore, making shapes cleaner.
- Labels added on all compartments, including operations, signal receptions and others.
- New Behaviors compartment on Blocks and parts listing their behaviors.
- Port, as a special kind of the Part, is capable showing all Part compartments now, including default values, structure, operations and even behaviors.

SysML Profile API Changes

SysML Profile API changes were made in relation to the SysML 1.4 support.

The following constants were moved from the *com.nomagic.magicdraw.sysml.util.SysMLProfile* to *com.nomagic.magicdraw.sysml.util.MDCustomizationForSysMLProfile*:

```
public static final String CONSTRAINTPROPERTY_STEREOTYPE = "ConstraintProperty";
public static final String QUANTITYKIND_STEREOTYPE = "QuantityKind";
public static final String QUANTITYKIND_DEFINITIONURI_PROPERTY = "definitionURI";
public static final String QUANTITYKIND_DESCRIPTION_PROPERTY = "description";
public static final String QUANTITYKIND_SYMBOL_PROPERTY = "symbol";
public static final String UNIT_STEREOTYPE = "Unit";
```

The following methods were moved from the *com.nomagic.magicdraw.sysml.util.SysMLProfile* to the *com.nomagic.magicdraw.sysml.util.MDCustomizationForSysMLProfile*:

```
getConstraintProperty()
getQuantityKind()
getUnit()
isQuantityKind()
isUnit()
isConstraintProperty()
```

The constant *NESTEDCONNECTOREND_PROPERTYPATH_PROPERTY* changed to *ELEMENTPROPERTYPATH_PROPERTYPATH_PROPERTY*.

Fixed Issues

To open the list of publicly available or your own issues those have been included into version 18.0 LTR, click here.