2024x Version News

CAMEO
SIMULATION TOOLKIT™

Released on: November 10, 2023

In this release, Cameo Simulation Toolkit introduces a number of powerful functionalities. The new product version allows you to run server-side simulation with modified Simulation Configuration properties and even employ a virtual Simulation Configuration without modifying the Teamwork Cloud project. The product also enables live unit conversion to simplify model analysis and reduce the likelihood of errors. Beyond these enhancements, you can customize the Histogram appearance, control the simulation termination logic with the help of a new Auto Terminate property, and benefit from other smaller improvements.

Server-Side Simulation   Live Unit Conversion for Runtime Objects   Auto-Terminating Simulation Configurations

- Modifying Simulation Configuration   Histogram Improvements   Other Improvements
  Properties
- DSLS License Server Support

Server-Side Simulation

Modifying Simulation Configuration Properties

Now, you can run server-side simulations with modified properties of a Simulation Configuration without having to change the Teamwork Cloud project.
This approach provides a more convenient method to modify simulation properties without a modeling tool.
It's even feasible to run a simulation without explicitly specifying a Simulation Configuration; instead, a virtual Simulation Configuration can be employed.
This gives you the possibility to quickly choose a different execution target and define its simulation properties.

```
Request body                                          application/json  ⌄

Specify a set of simulation options with values that will override the initial simulation options.
Specify a set of input parameters with values to be provided for the simulation.
Specify a set of output parameters to be obtained after the simulation. If no output parameters are specified, all initialized values are returned.

Example Value | Schema

{
  "inputs": {},
  "outputs": [],
  "simconfig": {
    "ALLOW_CONCURRENT_ALLOCATED_ACTIVITIES": true,
    "AUTOMATIC_PARAMETRIC_RECALCULATION": true,
    "AUTO_CONVERT_UNITS": true,
    "AUTO_CREATE_FUML_OBJECT_OF_OUTPUT_PIN": true,
    "AUTO_START": true,
    "AUTO_START_ACTIVE_OPTIONS": true,
    "AUTO_TERMINATE": true,
    "CLOCK_RATIO": 1,
    "CLONE_REFERENCES": true,
    "COMPLETION_EVENTS_AND_TRANSITIONS": true,
    "CONSTRAINT_FAILURE_AS_BREAKPOINT": true,
    "DECIMAL_PLACES": 4,
    "DEFAULT_LANGUAGE": "JavaScript Rhino",
    "DURATION_SIMULATION_MODE": "MIN",
    "ENDTIME": 0,
    "ENGINES_PRIORITY": "[on] fUML Engine\n[on] Interaction Engine\n[on] SCXML Engine",
    "INITIALIZE_NUMERICAL_VALUE": false,
    "INITIALIZE_REFERENCES": true,
    "NUMBER_OF_RUNS": 0,
    "NUMBER_OF_STEPS": 0,
    "PASS_CALLER_CONTEXT": true,
    "RECORD_TIMESTAMP": false,
    "REMEMBER_FAILURE_STATUS": true,
    "RESULT_LOCATION": "Results",
```

The REST API request body with the 'simconfig' parameter which allows specifying simulation properties.

Enabling the autocompletion option for the simulation using Jupyter Notebook.

DSLS Licensing Server Support

From version 2024x, in addition to FlexNet, server-side simulation supports the DSLS licensing server.

Live Unit Conversion for Runtime Objects

Cameo Simulation Toolkit 2024x introduces live unit conversion for simulation runtime objects. When Value Properties are connected using a Binding Connector, their runtime values will be automatically converted if they have compatible Value Types (like grams and kilograms). This feature simplifies model analysis, especially when combining elements from various sources, and reduces the possibility of errors.
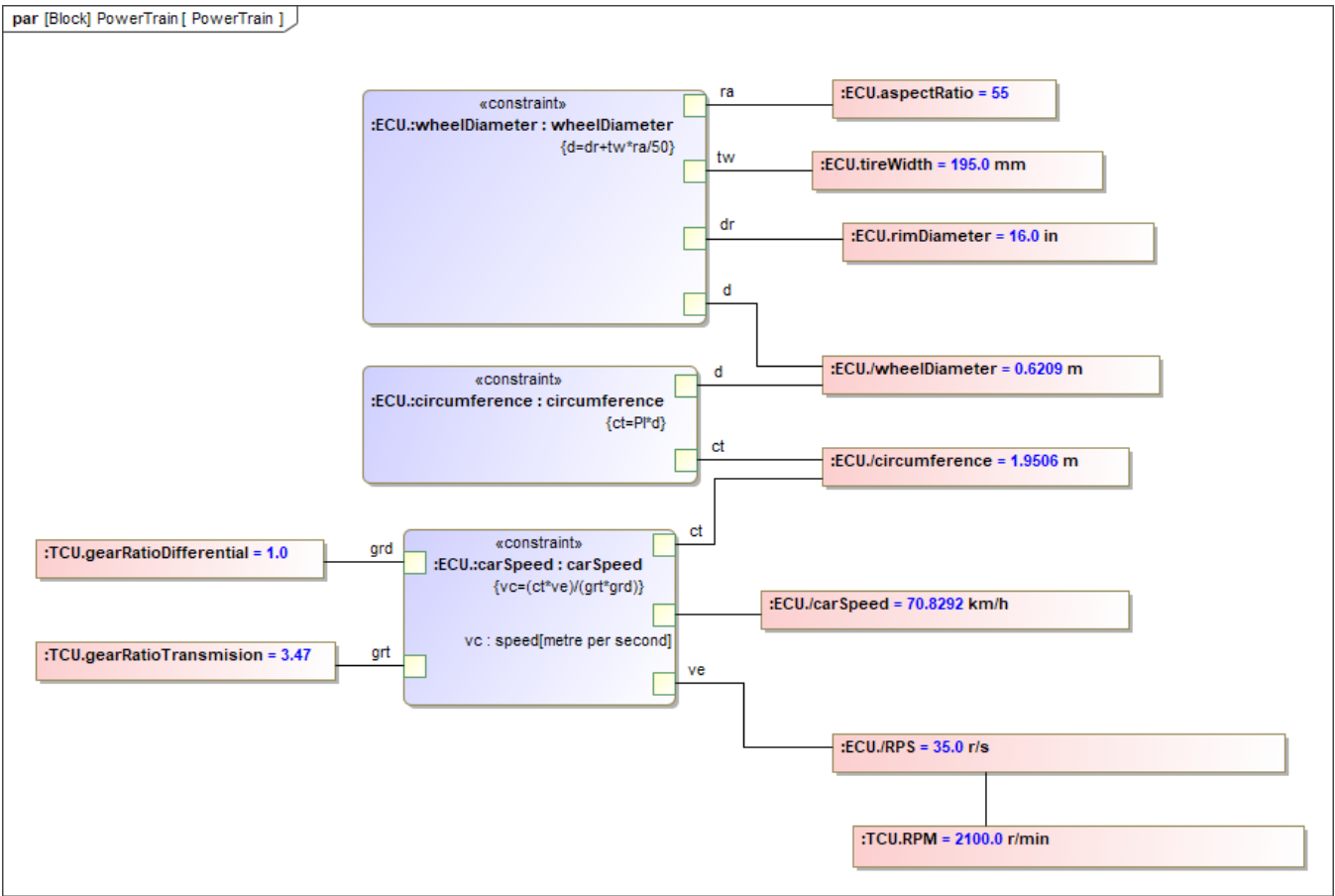

A Parametric Diagram with runtime values of Value Properties being automatically converted according to their Value Types during simulation.

Histogram Improvements

We're happy to present a new functionality that will allow you to tailor the Histogram appearance. With this improvement, you can define a custom number of data bins in which the results will be distributed and achieve the desired Histogram shape and precision. Furthermore, the edge of the last data bin will now match the maximum value of the value array, ensuring accurate representation.
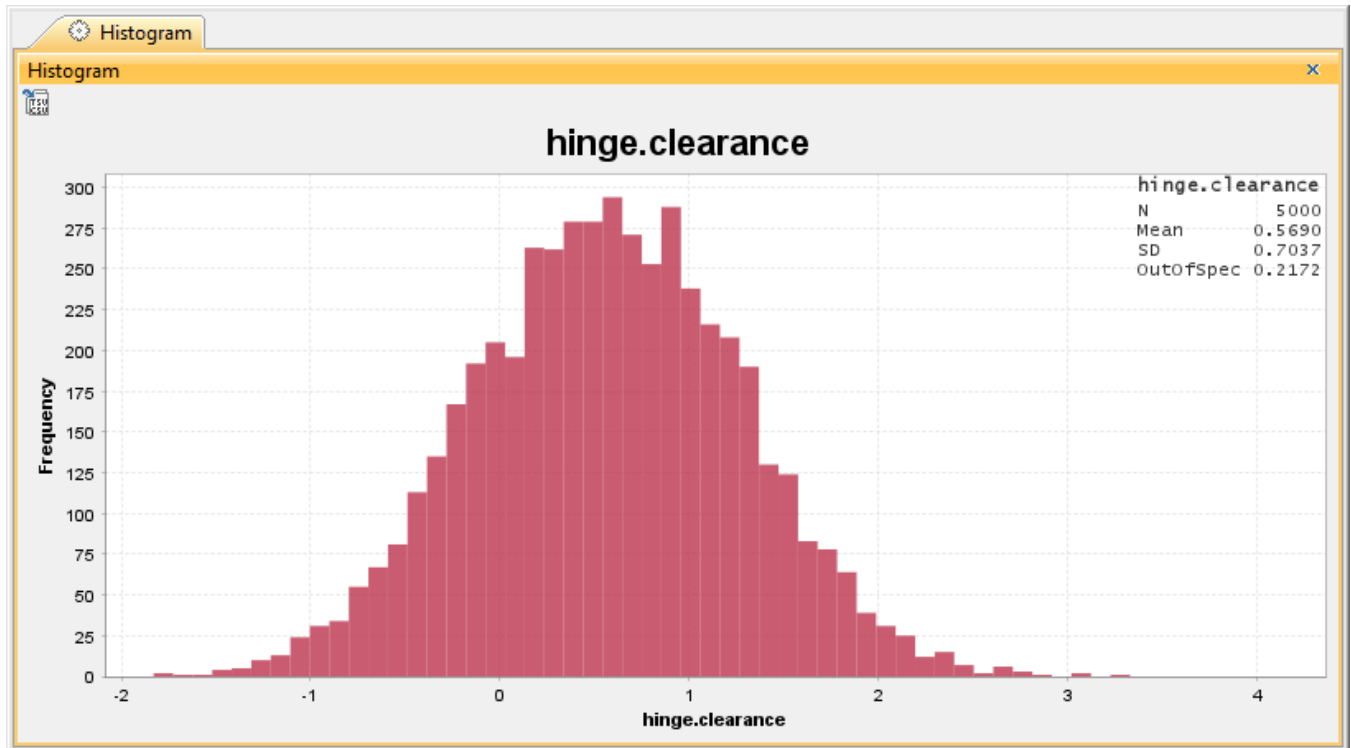
A sample Histogram with the custom number of data bins. Here, the **Number Of Bins** property is set to 50.

Learn more about working with Histograms >>

Auto-Terminating Simulation Configurations

Simulation Configurations now have a new **Auto Terminate** property, allowing you to manage the simulation termination logic. If you set this property to *true*, the simulation is terminated when it completes or after the initialization phase if it does not start automatically. When the property is set to *false*, the simulation continues to run without termination, hanging at the end or after the initialization phase if it does not start automatically.
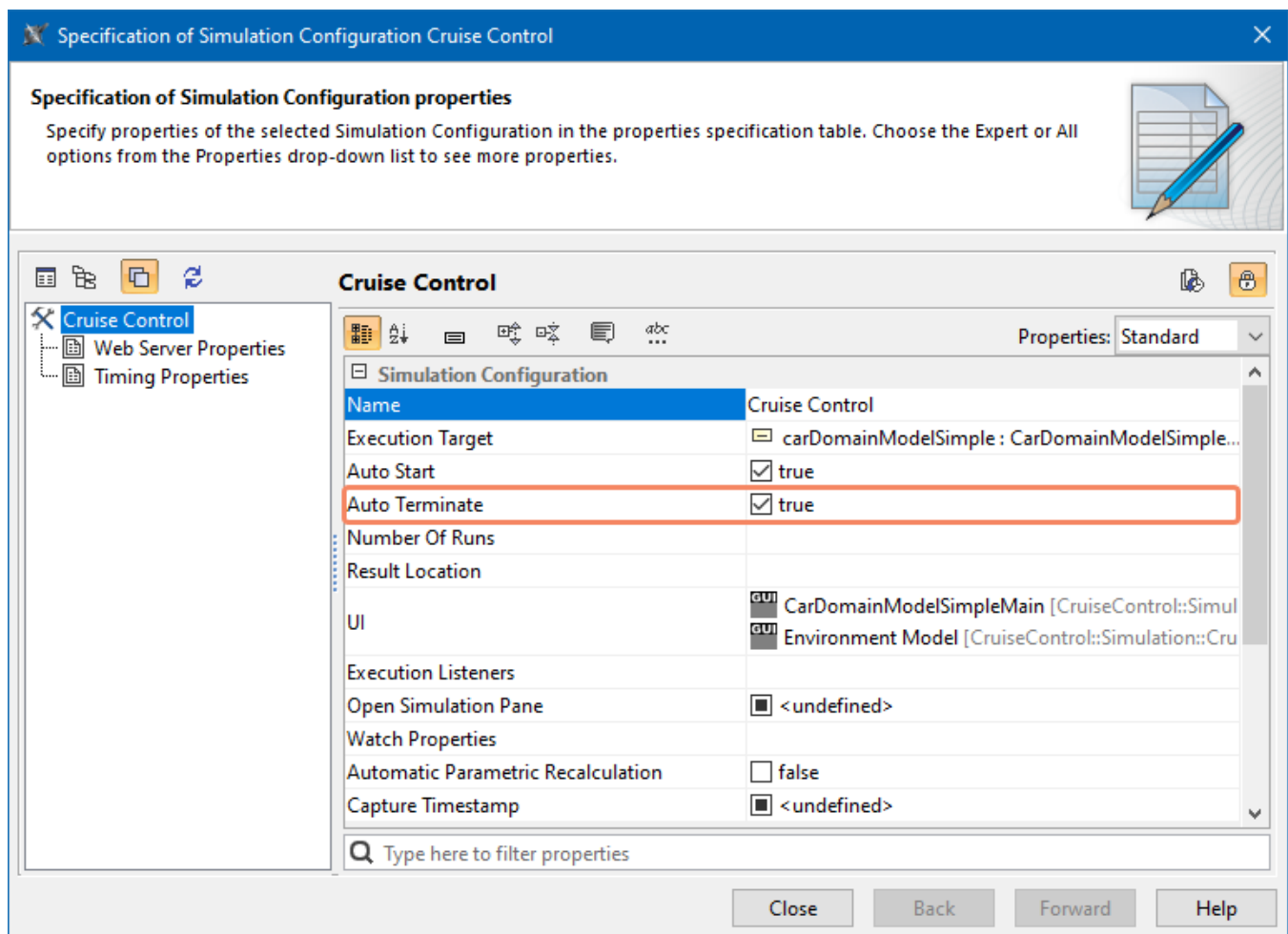
A new **Auto Terminate** property of a Simulation Configuration.

Learn more about Simulation Configuration properties >>

Other Improvements

- Generating HTML has become easier, thanks to the availability of the **Generate HTML** and **Generate and Attach HTML** actions in new, convenient locations. These actions can now be accessed from the context menu of a User Interface Modeling Diagram or a UI element in the Containment tree. Additionally, you can invoke the actions by right-clicking a property symbol, provided its type is a Widget.
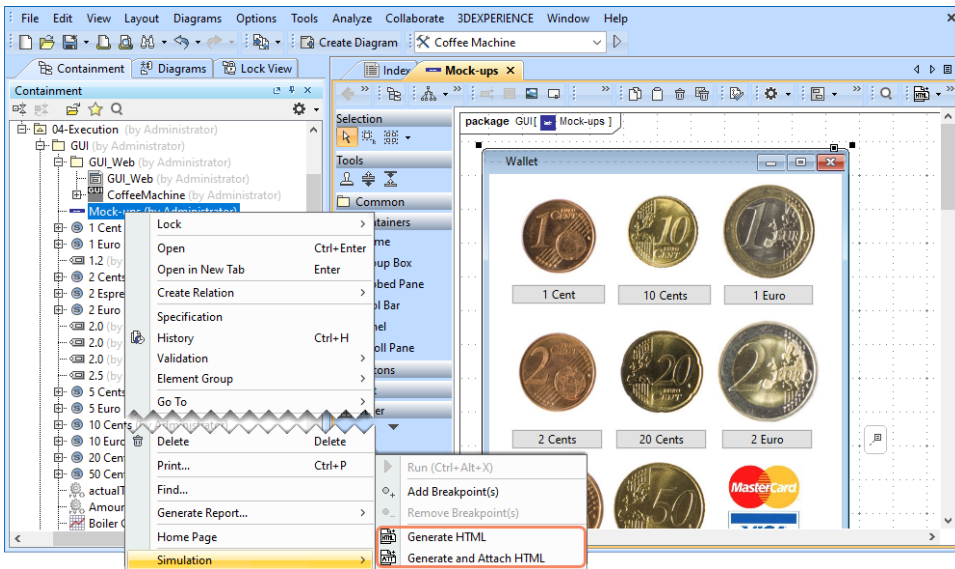
- The simulation now considers the **Decimal Places** project option.
- The *Parametric Execution Profile* has been eliminated. The constraints for parametric execution have been moved to the *Simulation Profile*.

Documentation

- [Cameo Simulation Toolkit 2024x](#)

News of earlier versions

- [Cameo Simulation Toolkit 2022x Refresh2](#)
- [Cameo Simulation Toolkit 2022x Refresh1](#)
- [Cameo Simulation Toolkit 2022x](#)
- [Cameo Simulation Toolkit 2021x Refresh2](#)
- [Cameo Simulation Toolkit 2021x Refresh1](#)
- [Cameo Simulation Toolkit 2021x](#)