19.0 LTR Version News

News of earlier versions

- What's New in Cameo Simulation Toolkit 18.5 FR SP2
- What's New in Cameo Simulation Toolkit 18.5 FR SP1
- Cameo Simulation Toolkit 18.5 FR
- Cameo Simulation Toolkit 18.4 FR
- Cameo Simulation Toolkit 18.3 FR
- Product news archive

Released on: December 4, 2017

Discover all the new things available with Cameo Simulation Toolkit 19.0. This version offers many new functionalities and improvements on security and administration, performance, and scalability. And please don't forget to give us your feedback on LinkedIn, Twitter or Facebook.

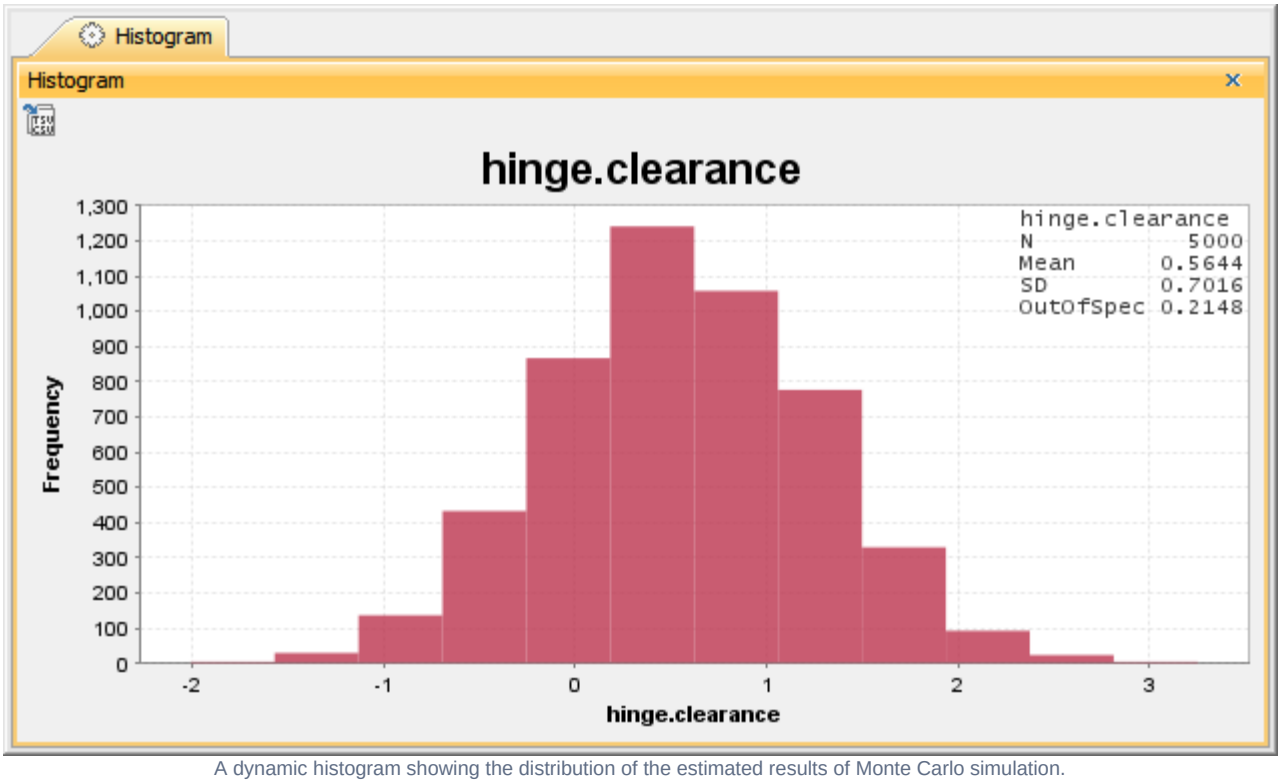
- Monte Carlo simulation support
- New MATLAB integration
- FMI 2.0 support
- More time units
- More concepts in the Sequence diagram
- Other improvements

Monte Carlo simulation support

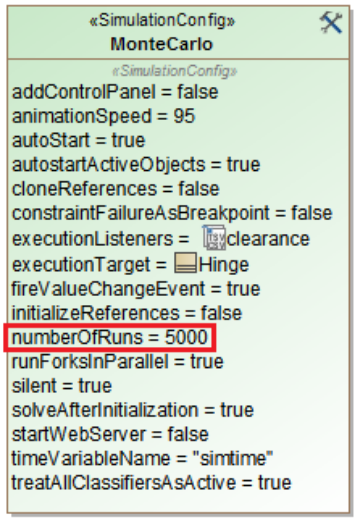
Cameo Simulation Toolkit introduces built-in support for Monte Carlo analysis. This allows managing uncertainty and estimating how random variation of sensitive parameters affects the overall performance of the system being modeled.

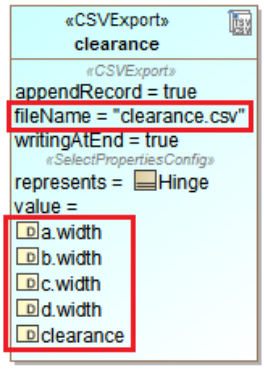
- Value distributions are specified using SysML «normal» and «uniform» stereotypes on Value properties.
- The number of initializations and runs of any selected target is specified in Simulation Configuration.
- Values of every iteration can be recorded using CSV Export configuration.
- A new histogram plot can show estimated distribution of the values of interest.
- The MonteCarloAnalysis block provides context, allows capturing and verifying statistical results (mean, standard deviation, and probability of out of spec), and represents them in Instance tables.
- The HingeMonteCarloAnalysis sample model demonstrates this capability.

Learn more about Monte Carlo simulation >>



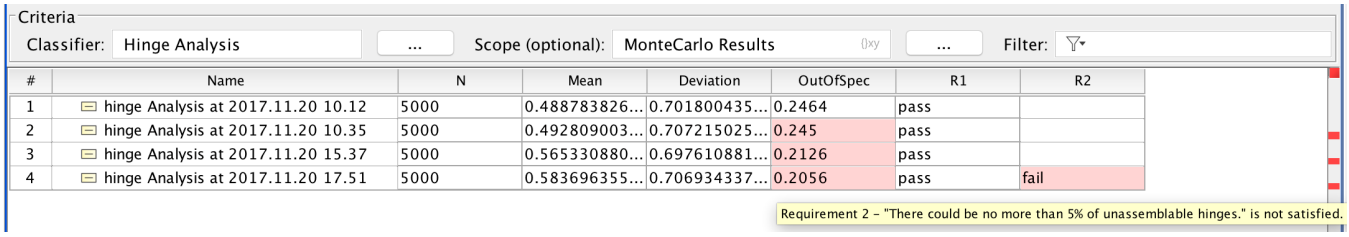
A dynamic histogram showing the distribution of the estimated results of Monte Carlo simulation.





	A	B	C	D	E	F
1	time(ms)	a.width	b.width	c.width	d.width	clearance
2	0	2.0261	1.9965	30.484	34.6528	0.1461
3	0	1.9892	1.9785	29.7529	34.9732	1.2526
4	0	1.992	2.0095	30.1982	34.6868	0.4871
5	0	1.9946	1.9892	29.3079	34.7369	1.4453
6	0	1.9634	2.0456	30.2014	34.6212	0.4108
7	0	2.0104	2.0046	30.0631	34.7043	0.6262
8	0	1.9566	1.998	30.6117	34.629	0.0628
9	0	1.9921	2.0253	30.4098	34.4042	-0.023
10	0	2.0215	2.0143	28.9045	34.0208	1.0806
11	0	1.9933	2.0407	30.7537	34.7602	-0.0274
12	0	1.9546	1.98	30.0565	34.1407	0.1497
13	0	1.9616	2.0407	29.9852	34.9724	0.9849
14	0	2.0258	2.0148	30.0176	34.7863	0.7281
15	0	2.0364	2.0032	30.2836	34.9712	0.6479
16	0	1.9544	1.9525	30.7889	34.8095	0.1138
17	0	1.9829	2.0311	30.3017	34.311	-0.0047
18	0	2.0173	1.9583	29.5591	34.8365	1.3019
19	0	2.0288	1.9738	31.7544	34.6289	-1.1282
20	0	1.9978	2.0449	29.9541	34.1318	0.135
21	0	2.0287	2.0236	28.7571	34.5584	1.7491
22	0	1.9857	2.0091	30.4534	34.5928	0.1447

Monte Carlo analysis results exported to CSV.



Recorded results in the Instance table.

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New MATLAB integration

MATLAB R2016b introduces a new official Java API, providing a faster and more reliable interface for CST to communicate. Mac users should be especially happy, as the new API no longer requires disabling System Integrity Protection (SIP). This new integration is available in CST 18.5 SP2 too. Learn more about new MATLAB integration >>

FMI 2.0 support

FMI 2.0 version models can now be imported and co-simulated. Simply drop an *.fmu file into the IBD diagram for interconnections and specify the end time and clock step in Simulation Config. Thanks to customer feedback, the co-simulation master algorithm is enhanced with several small improvements, too. Learn more about FMI 2.0 support >>

More time units

To support a wider variety of the systems and behavioral scenarios, smaller (nanosecond and microsecond) and larger (day, week, month and year) time units are added. Learn more about supported time units >>

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More concepts in the Sequence diagram

- Loop, opt, and alt fragments for repetitive or conditional execution. Learn more about combined fragments >>
- Lifeline selector to specify individual objects from a collection. Learn more about lifeline selectors >>
- Verification of return Message values. Learn more about return Message values >>
- Duration constraints between Call and Reply Messages. Learn more about duration constraints >>
- Improved verification of State invariants and active States. Learn more about State invariants >>

Other improvements

- The Export to CSV button in the Timeline chart.
- The Record Plot Data As option (CSV, PNG, or HTML) and the Result File option. Learn more about the Record Plot Data As and Result File options in the Timeline chart >>
- The Ignored Elements option in Timeline to filter what is represented in plots. Learn more about the Ignored Elements option in the Timeline chart >>
- States and Activities appear in Timeline in the order of occurrence. Learn more about States and Activities occurrence order in the Timeline chart >>
- Duration constraints on Activities. Learn more about duration constraints on Activities >>
- fUML_Library::BasicInputOutput::RealLine support for entering value from Simulation Console. Learn more about ReadLine support >>

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CST documentation

- Cameo Simulation Toolkit 19.0

Other resources

- Modeling Community Blogs
- Modeling Community Forum
- Webinars
- FAQ