Reactis V2011.2

Released December 20, 2011

Reactive Systems, inc

New Simulink Support

- MATLAB R2011b
- New block support: Variant Subsystem, Model Variant
- Support combining actions in Stateflow state labels
  - Introduced in R2010a
  - e.g. “`en, du, ex:  y++;`”

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Coverage Tracking

- Turn off coverage tracking for a subsystem
- Select coverage criteria tracked for a model
- Child State Exit via Parent Transition (CSEPT) coverage

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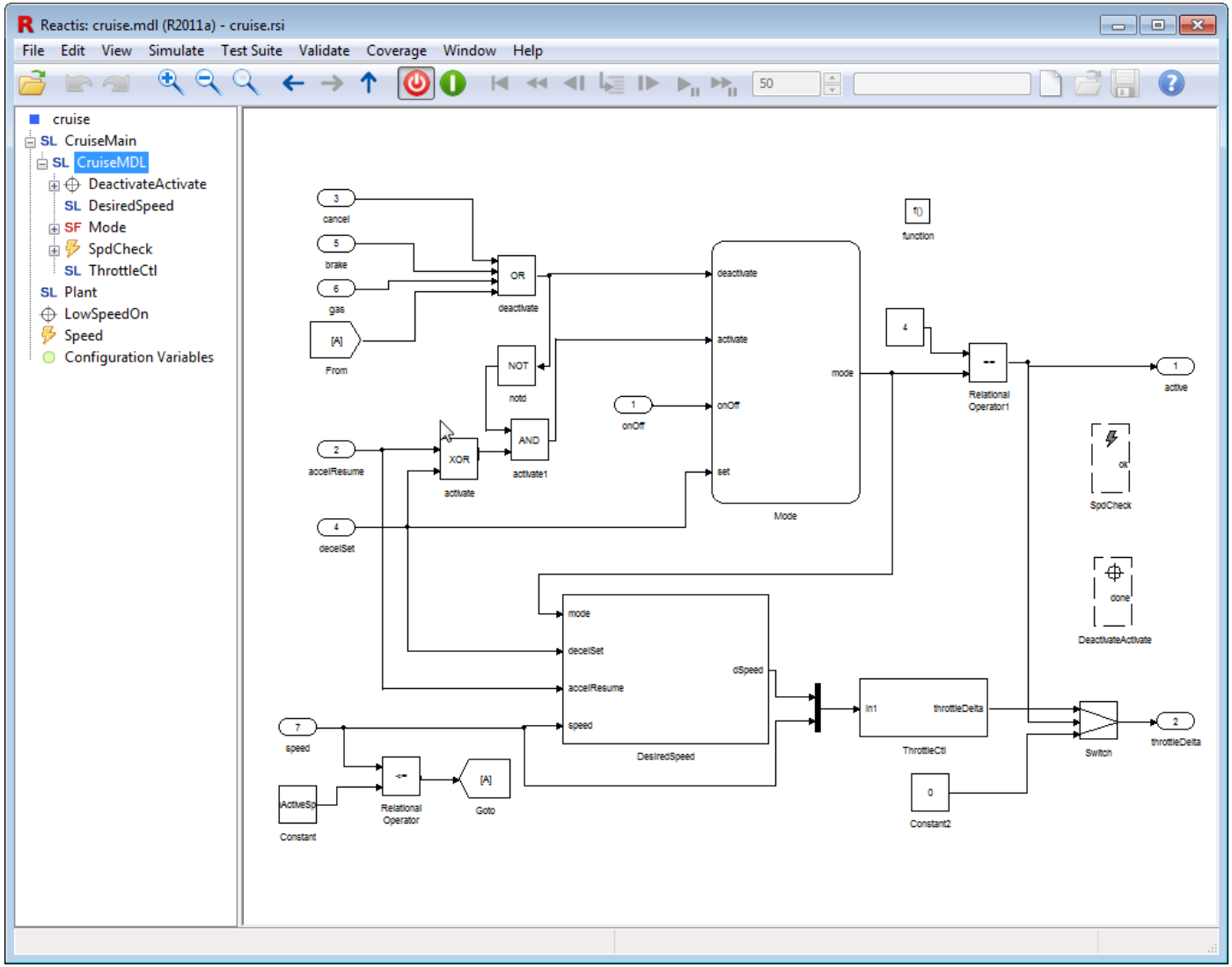
Turn Off Coverage Tracking for a Subsystem



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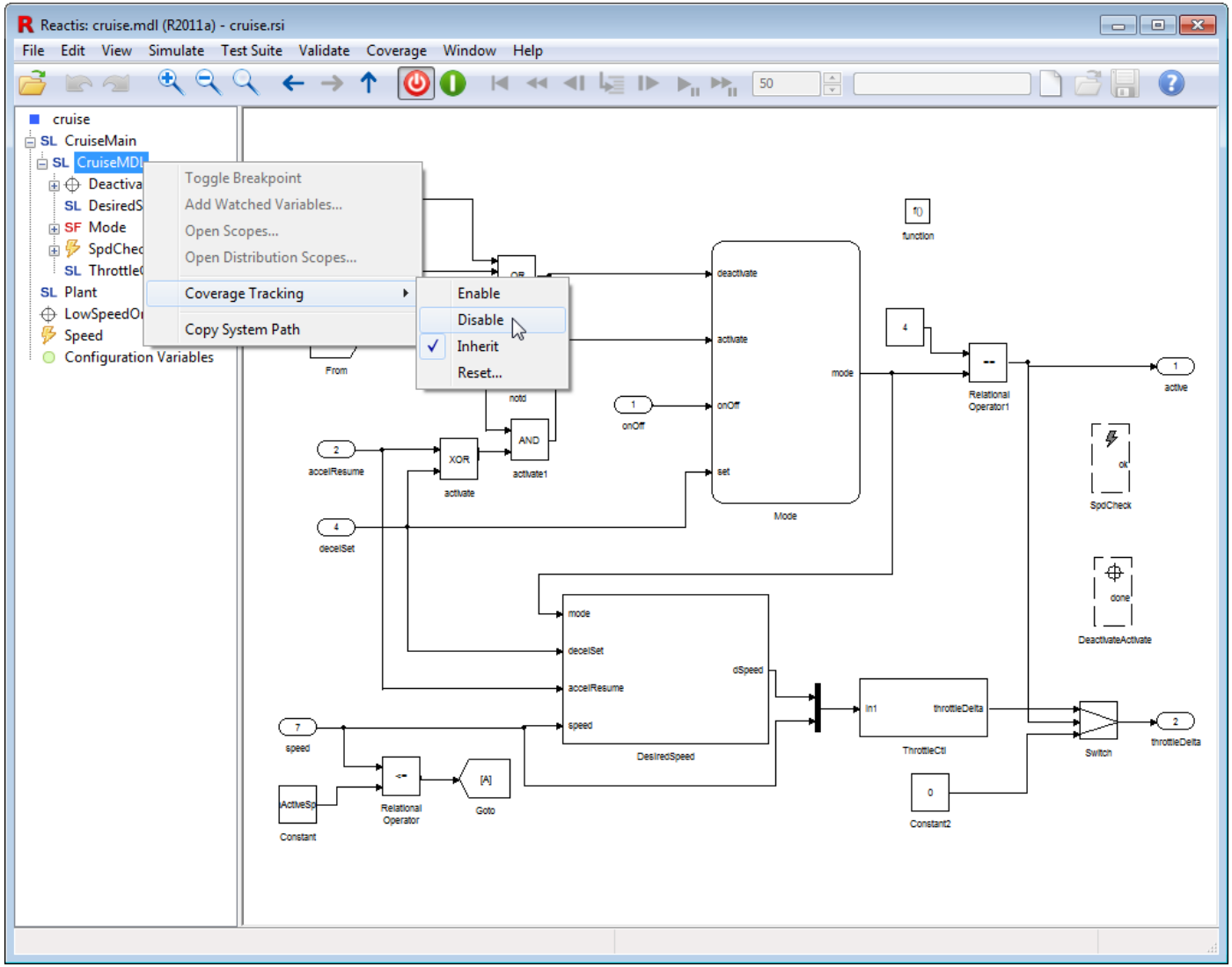

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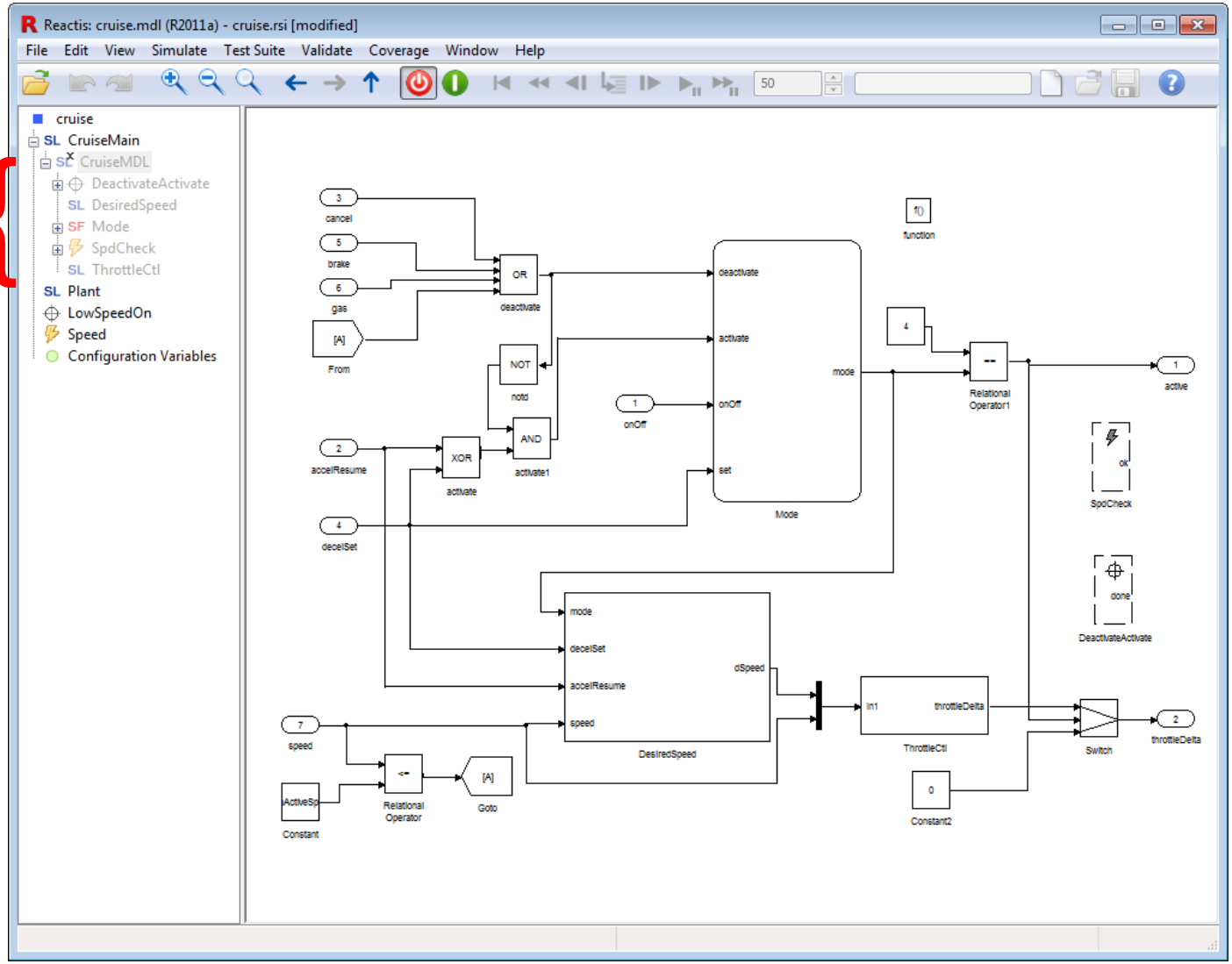
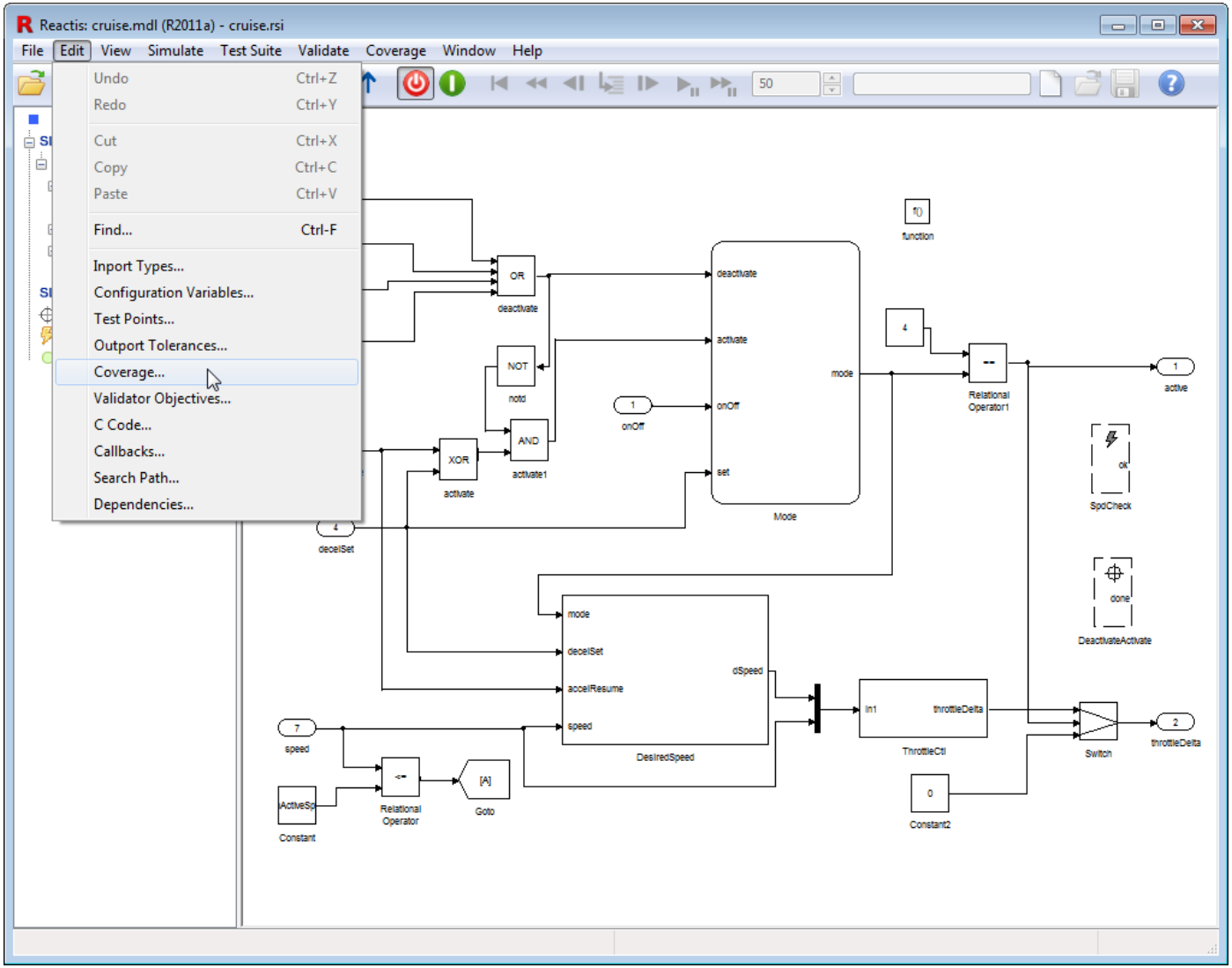
Turn Off Coverage Tracking for a Subsystem

Coverage not tracked for this part of model



Select Coverage Criteria Tracked for a Model



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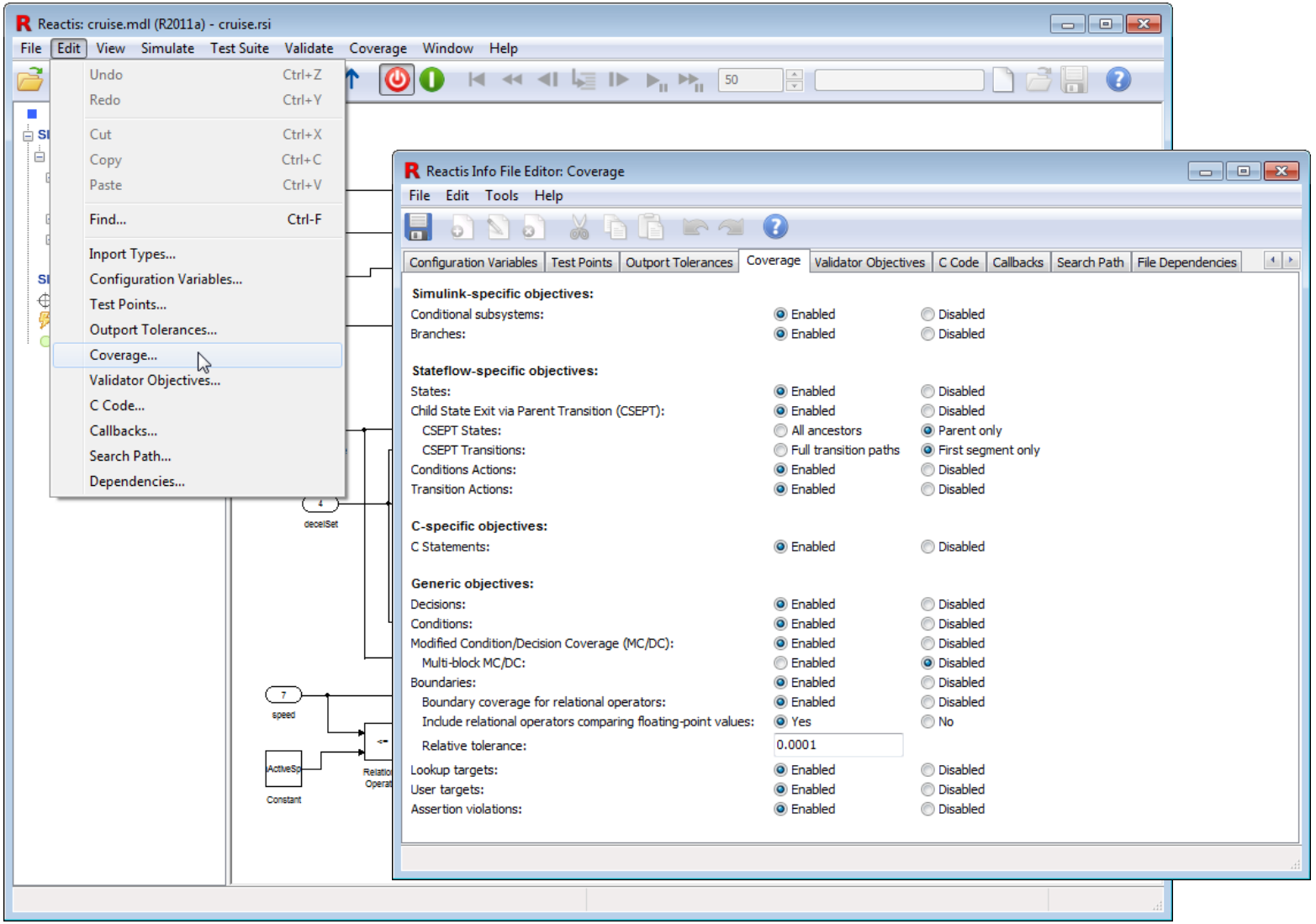
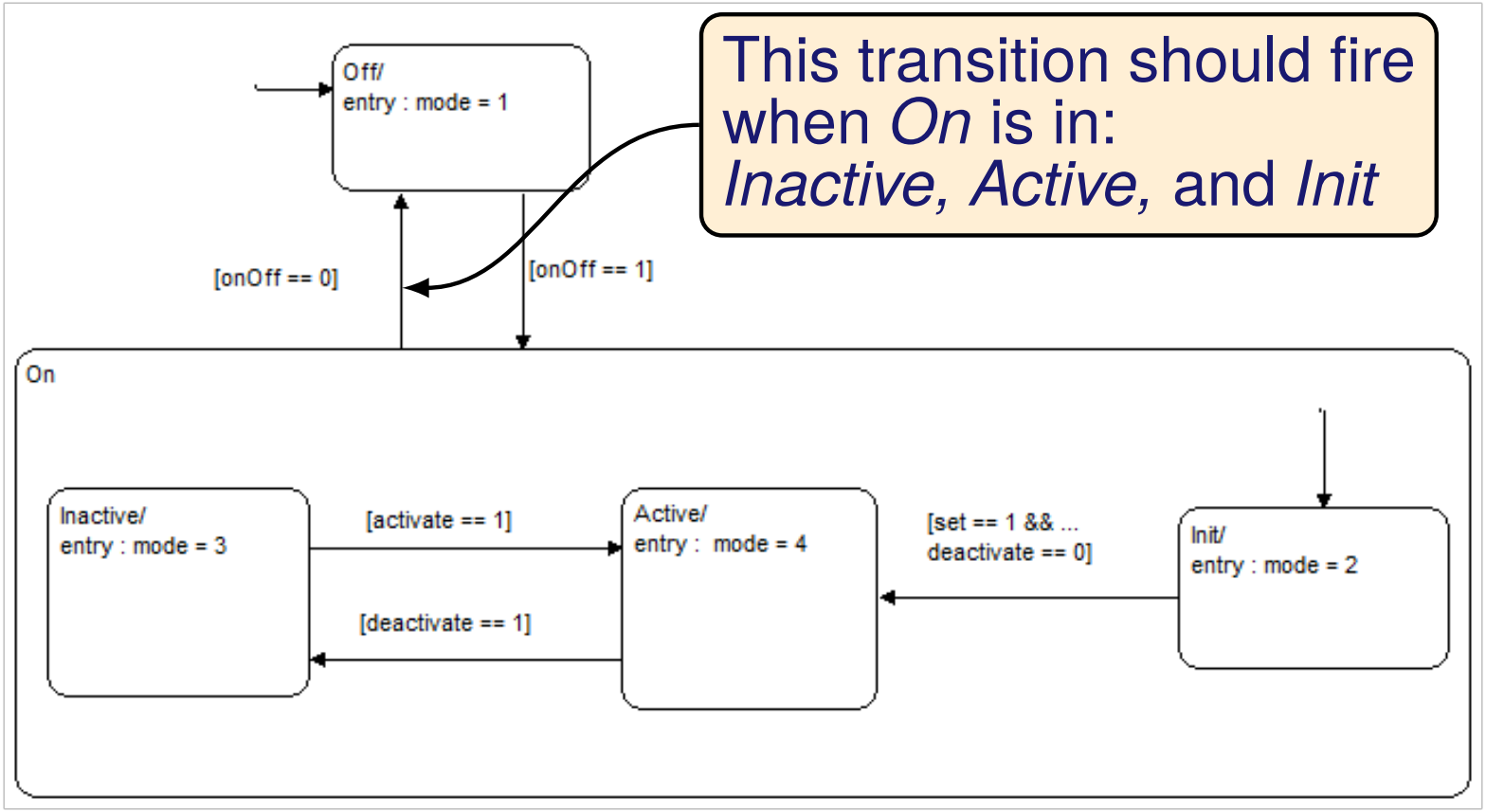


Reactive Systems, inc

Child State Exit via Parent Transition (CSEPT)

In Stateflow, for each transition exiting a state with child states, make sure that the transition causes each child state to exit.



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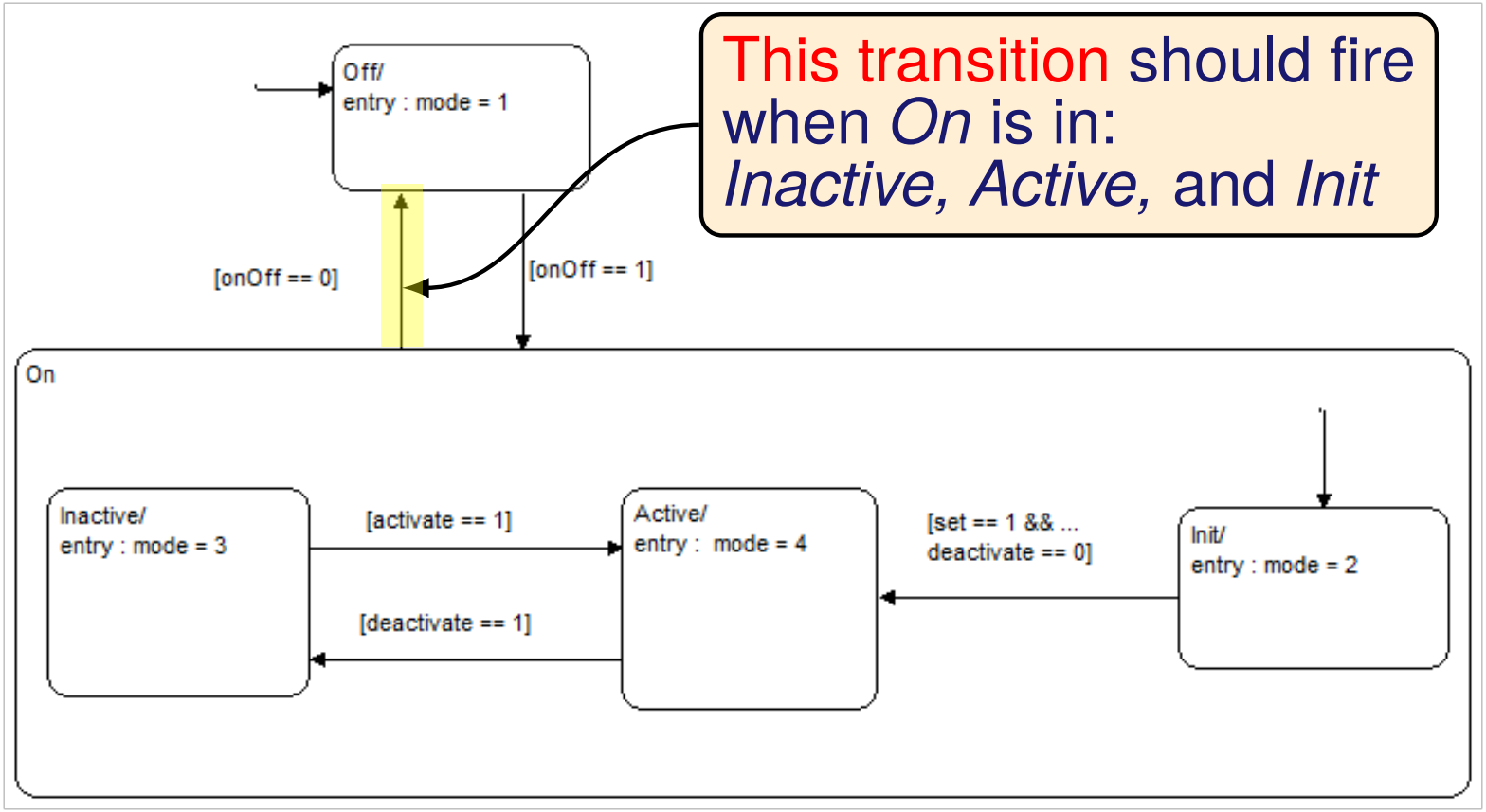

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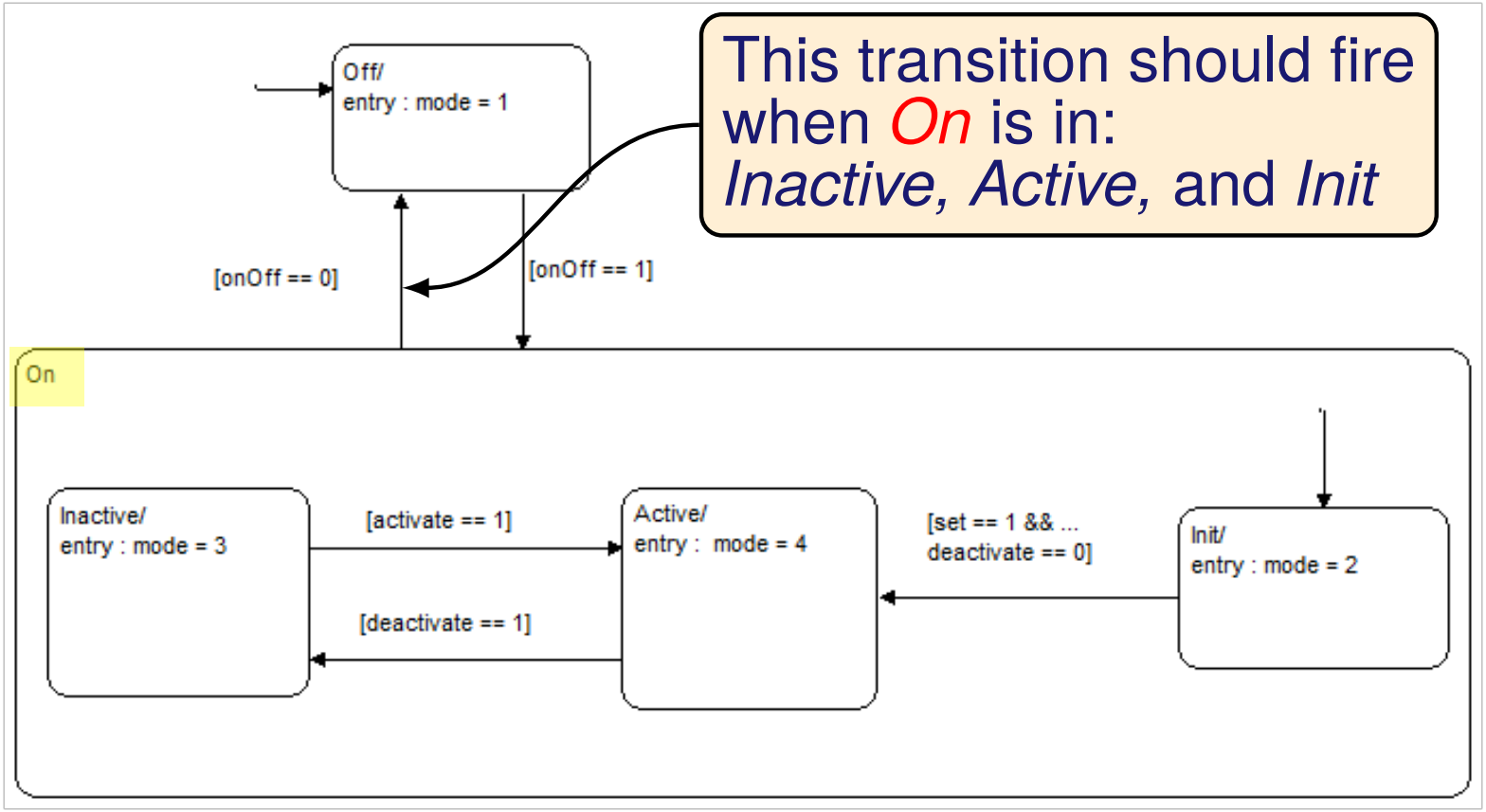

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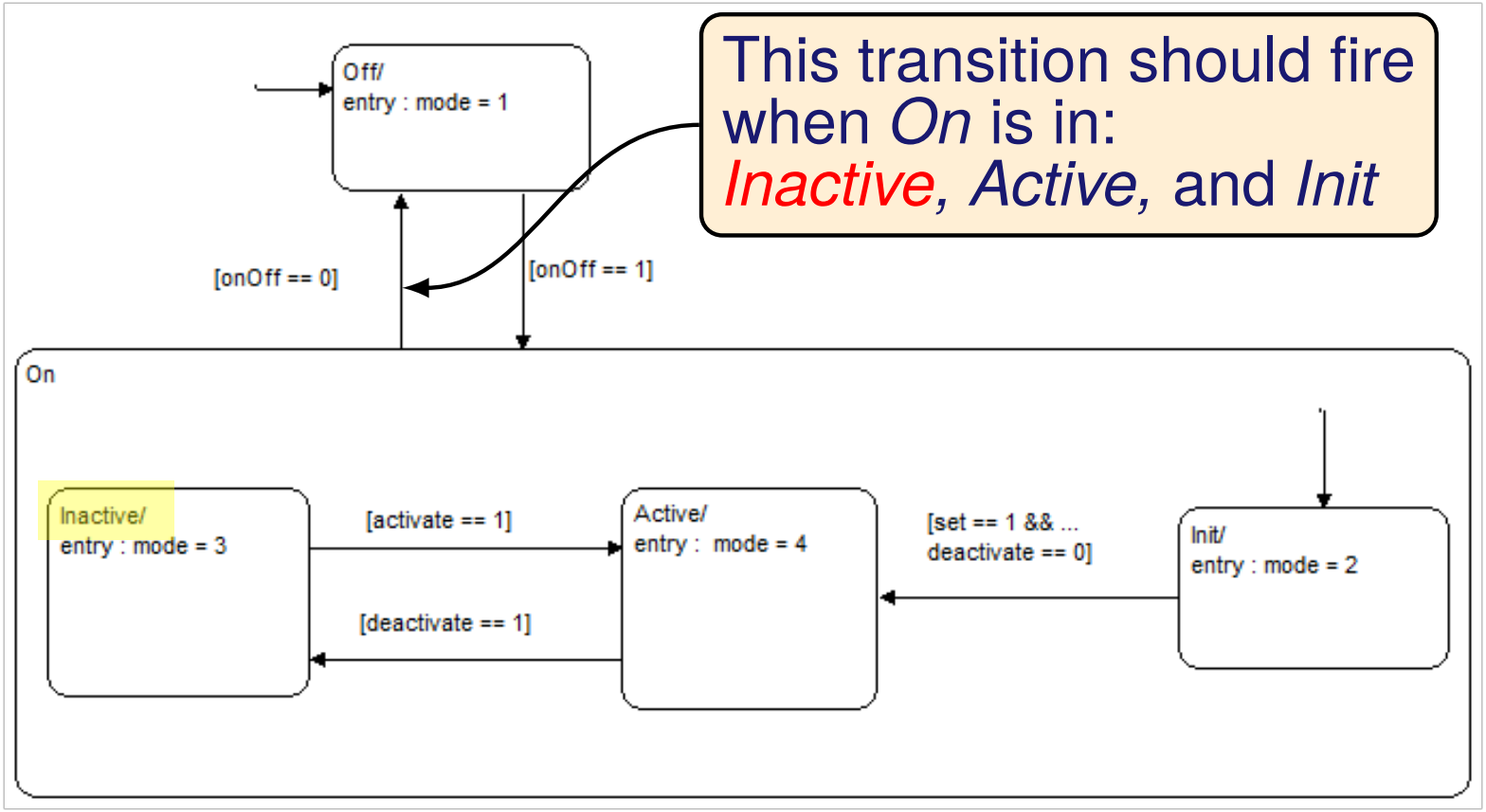

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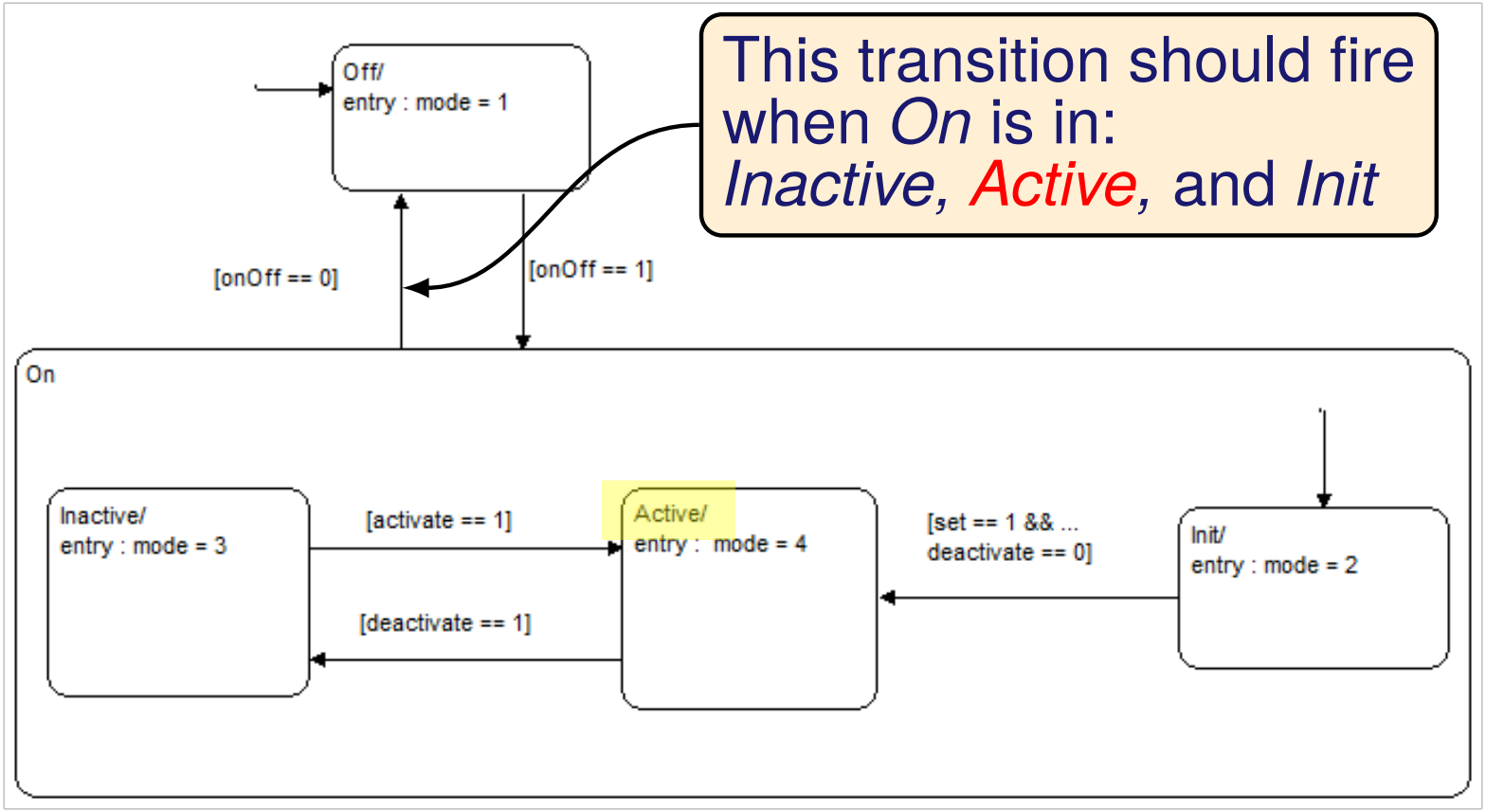

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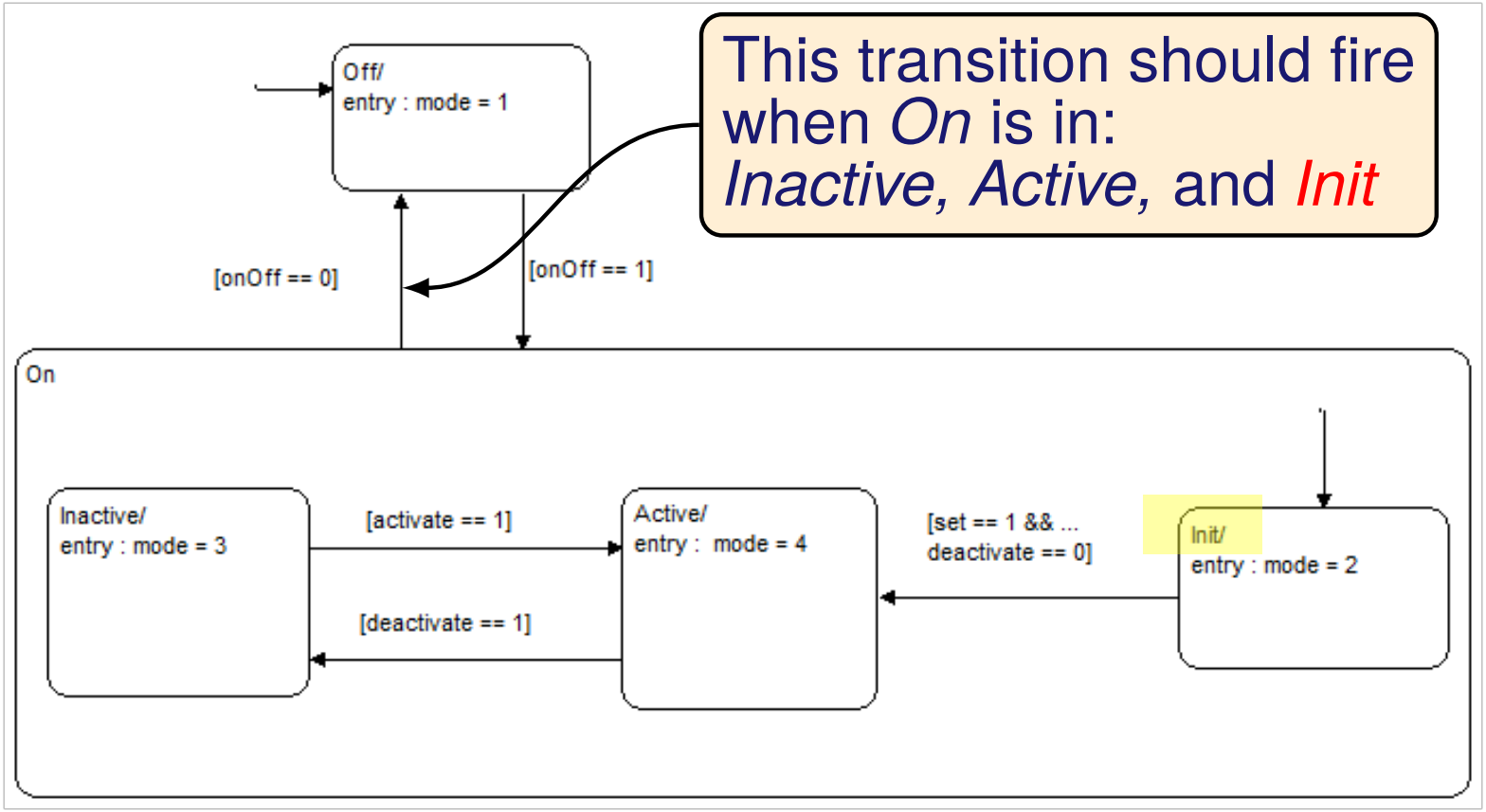

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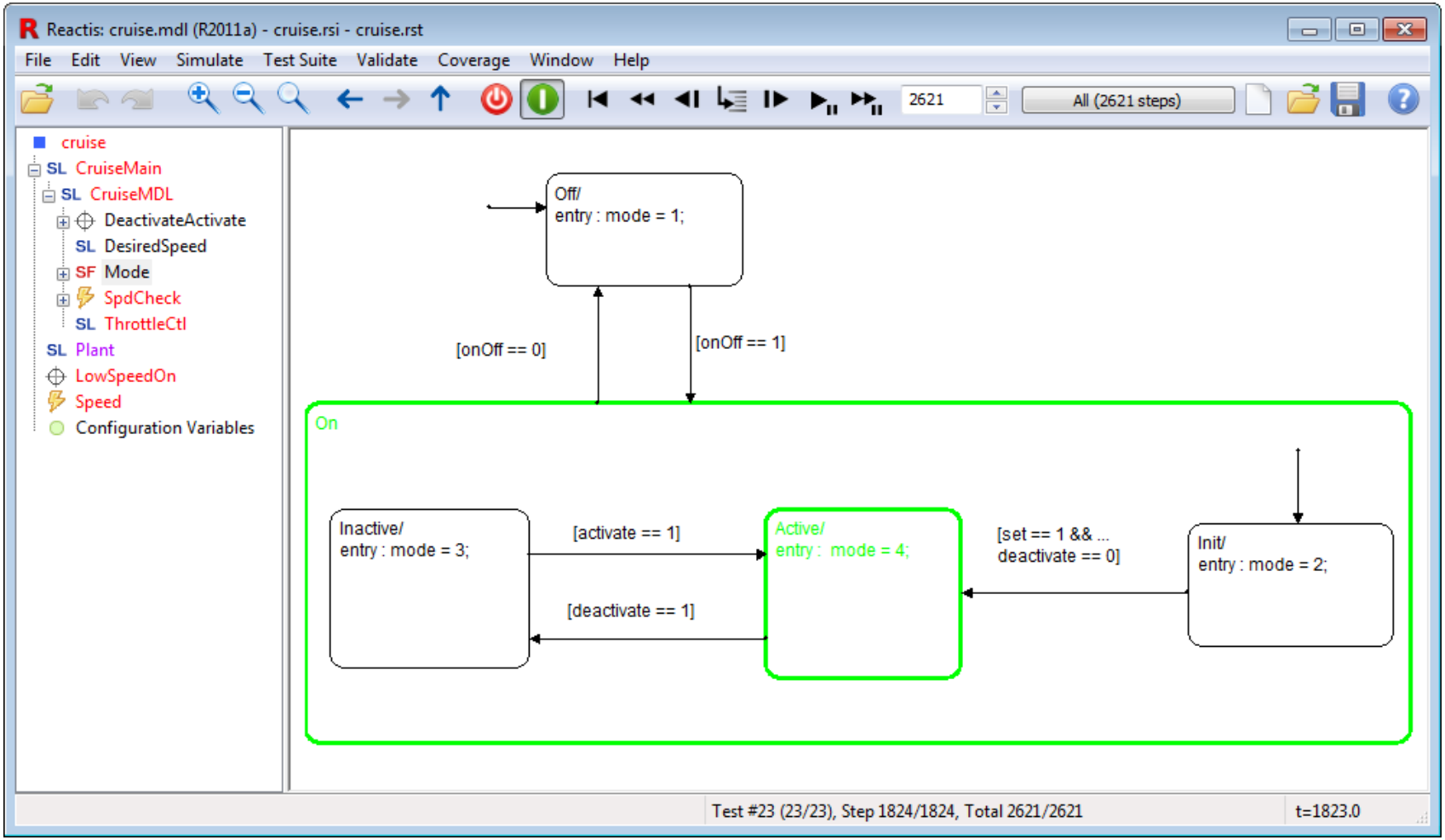

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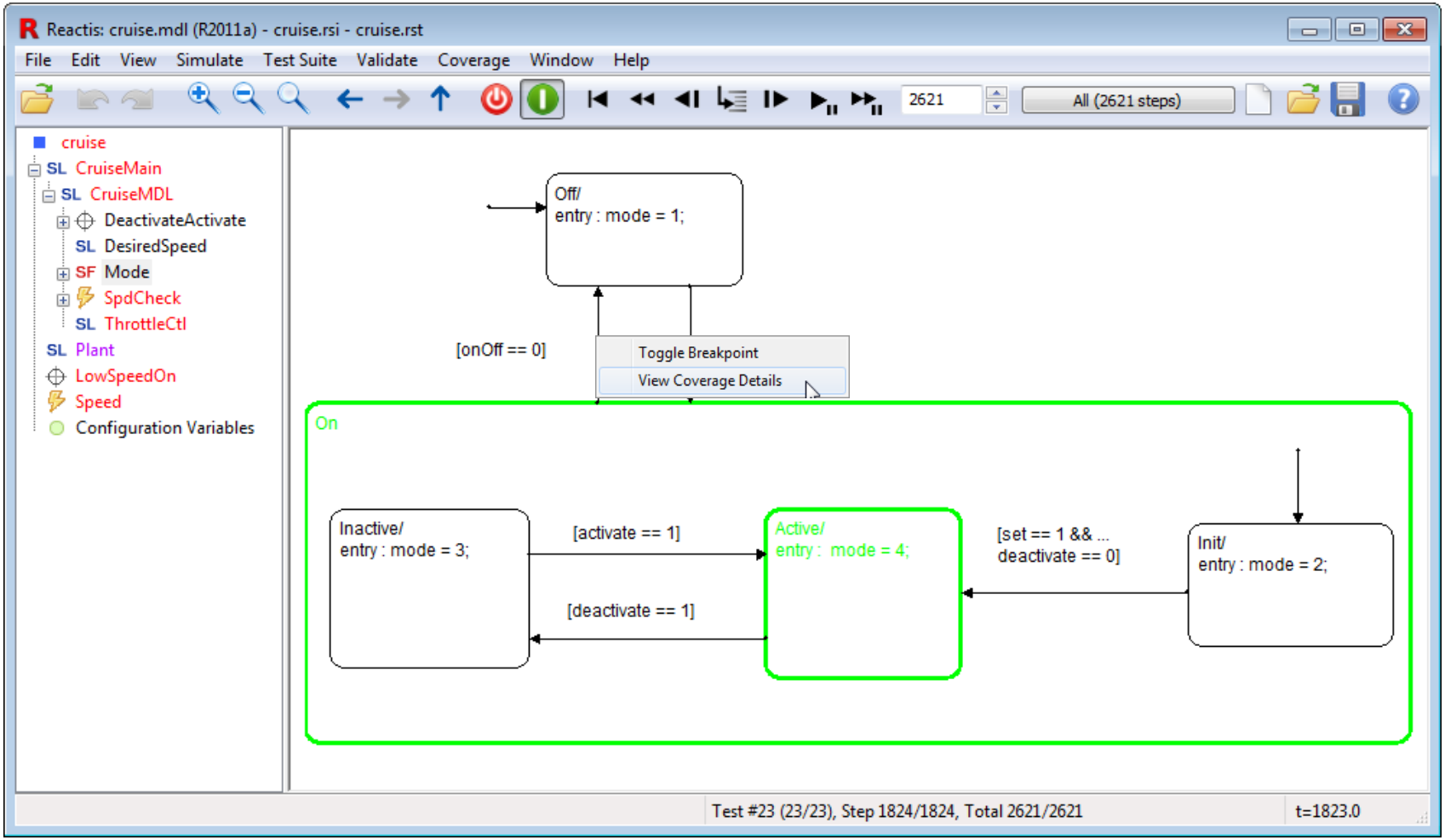

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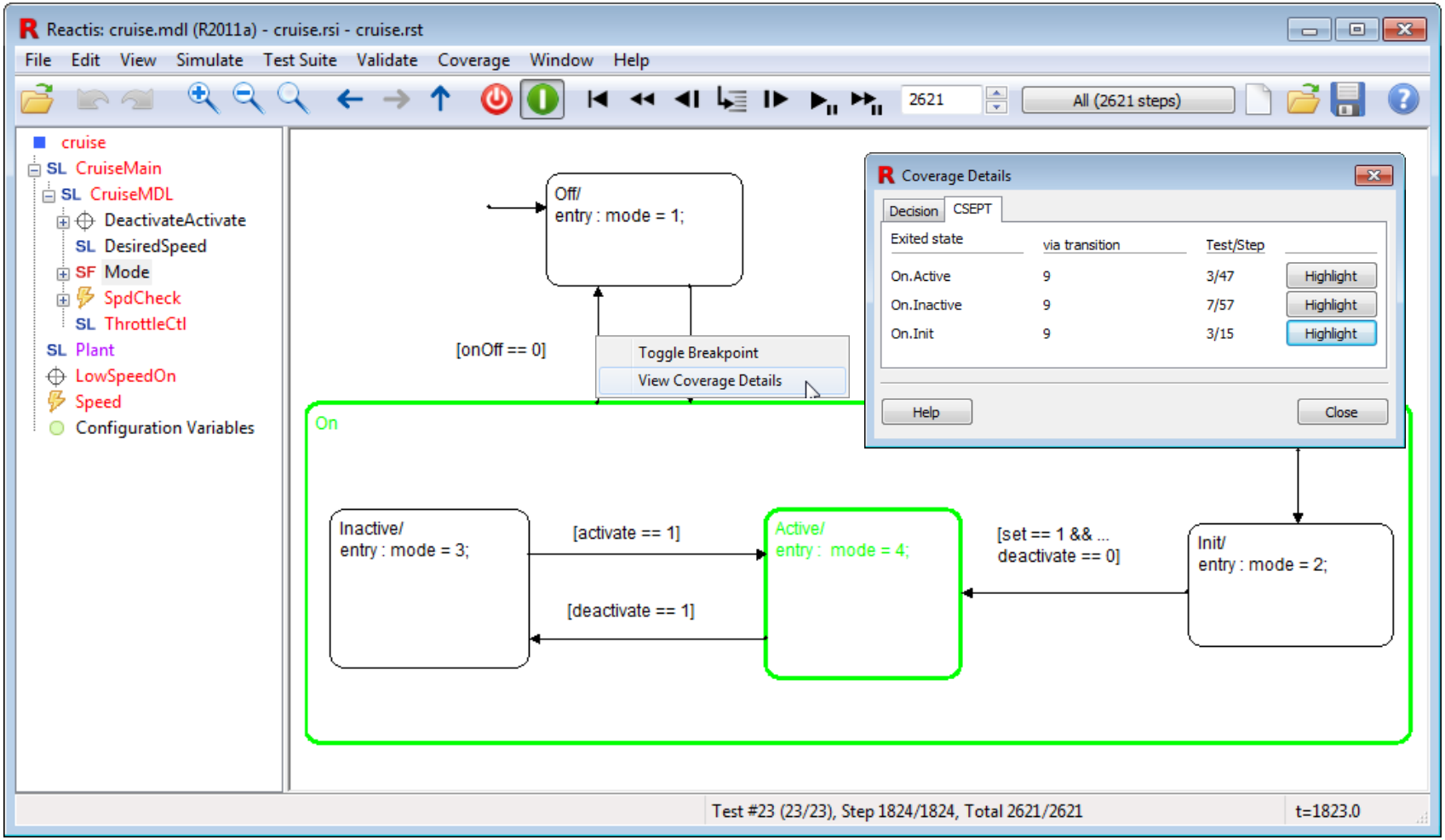

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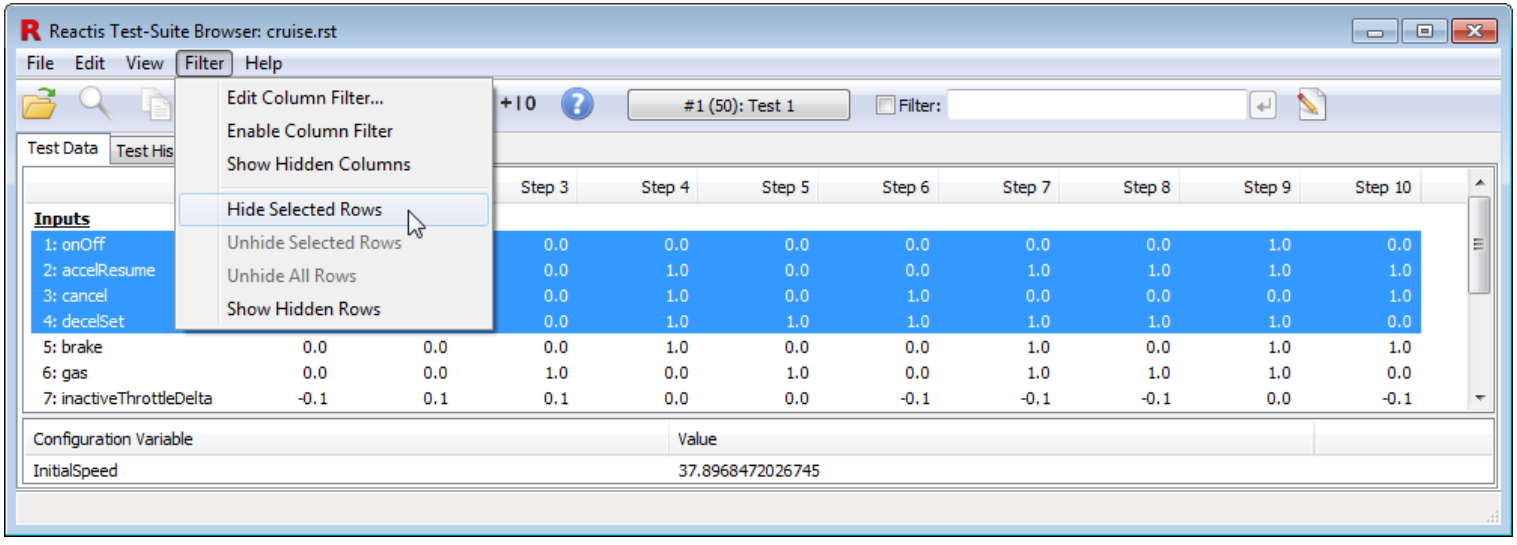
Test Suite Browser: Hide Rows



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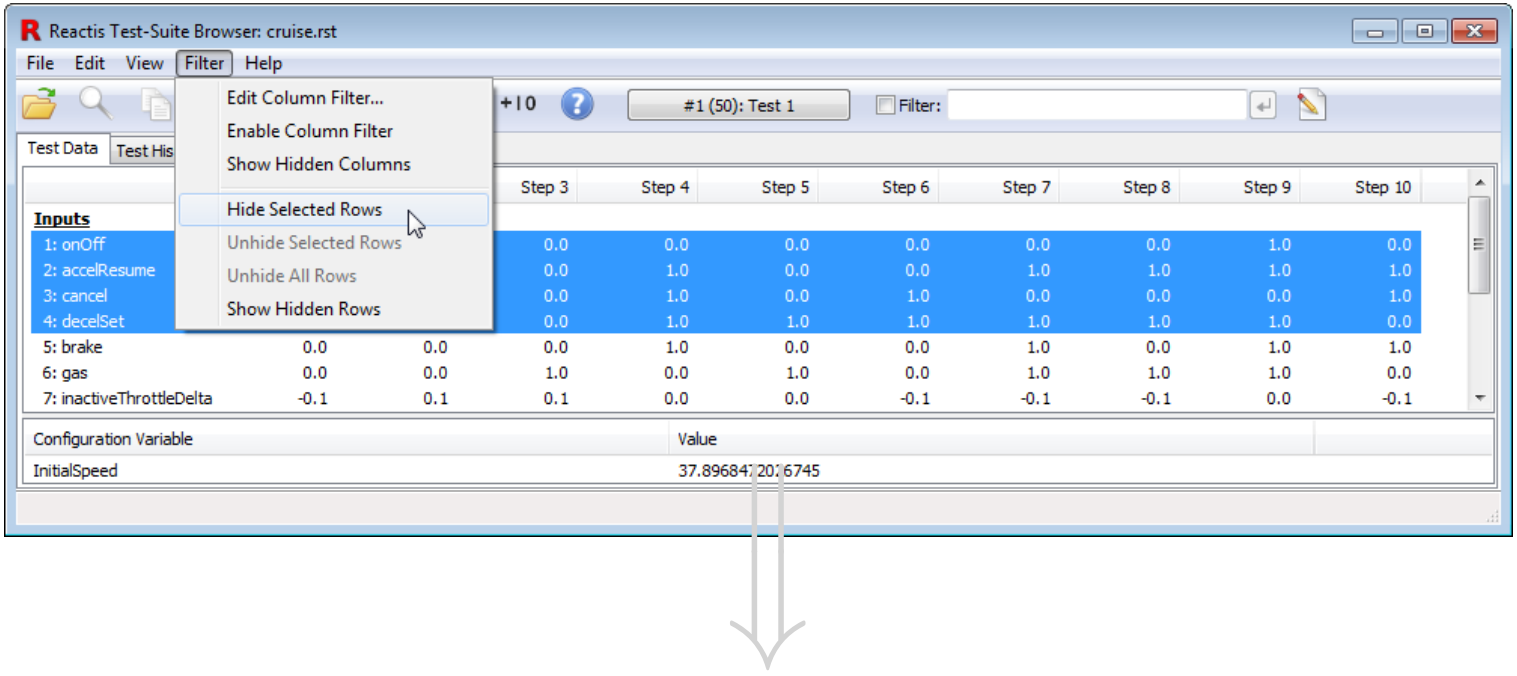

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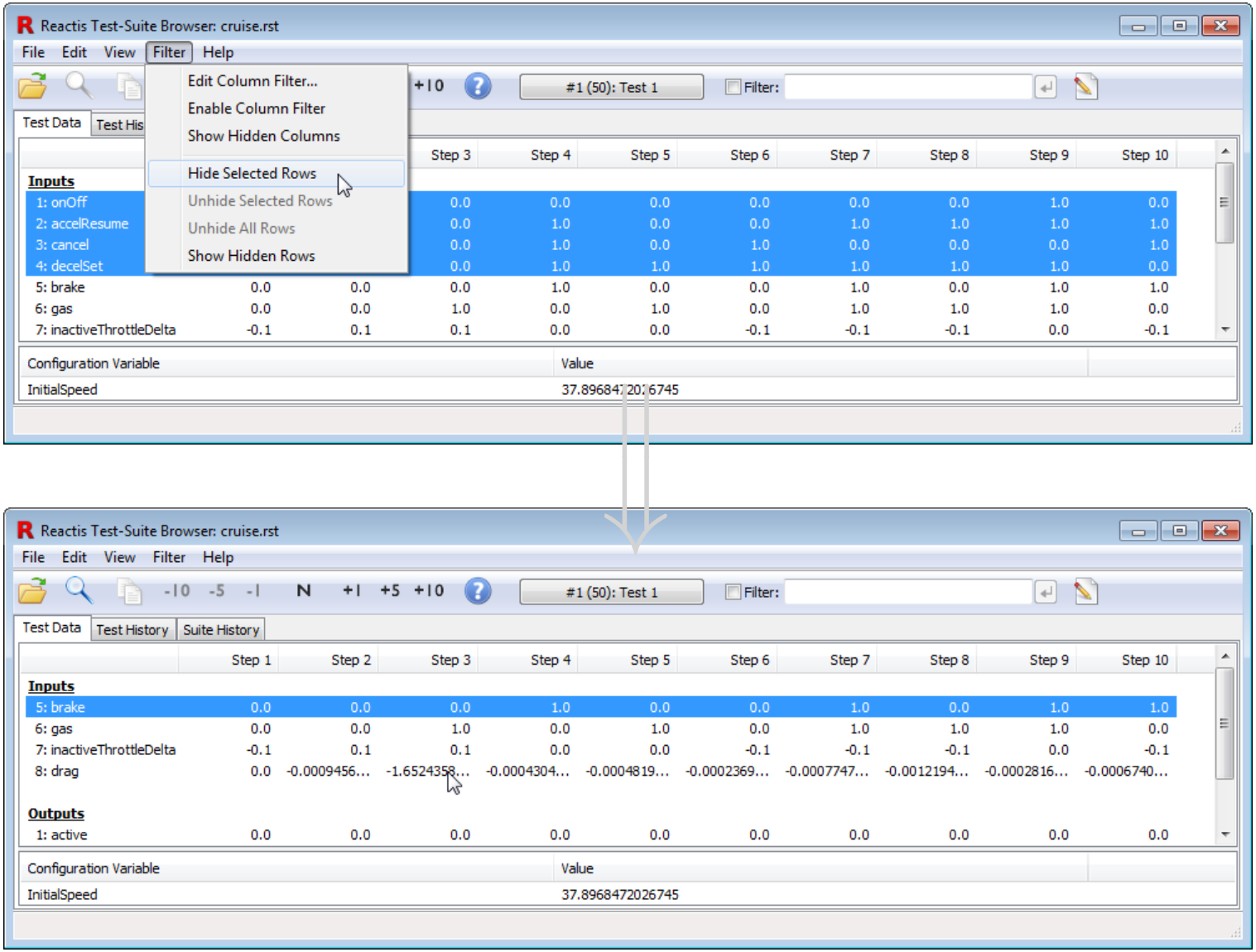

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Test Suite Browser: Hide Columns

Show only columns (test steps) in which brake is pressed.

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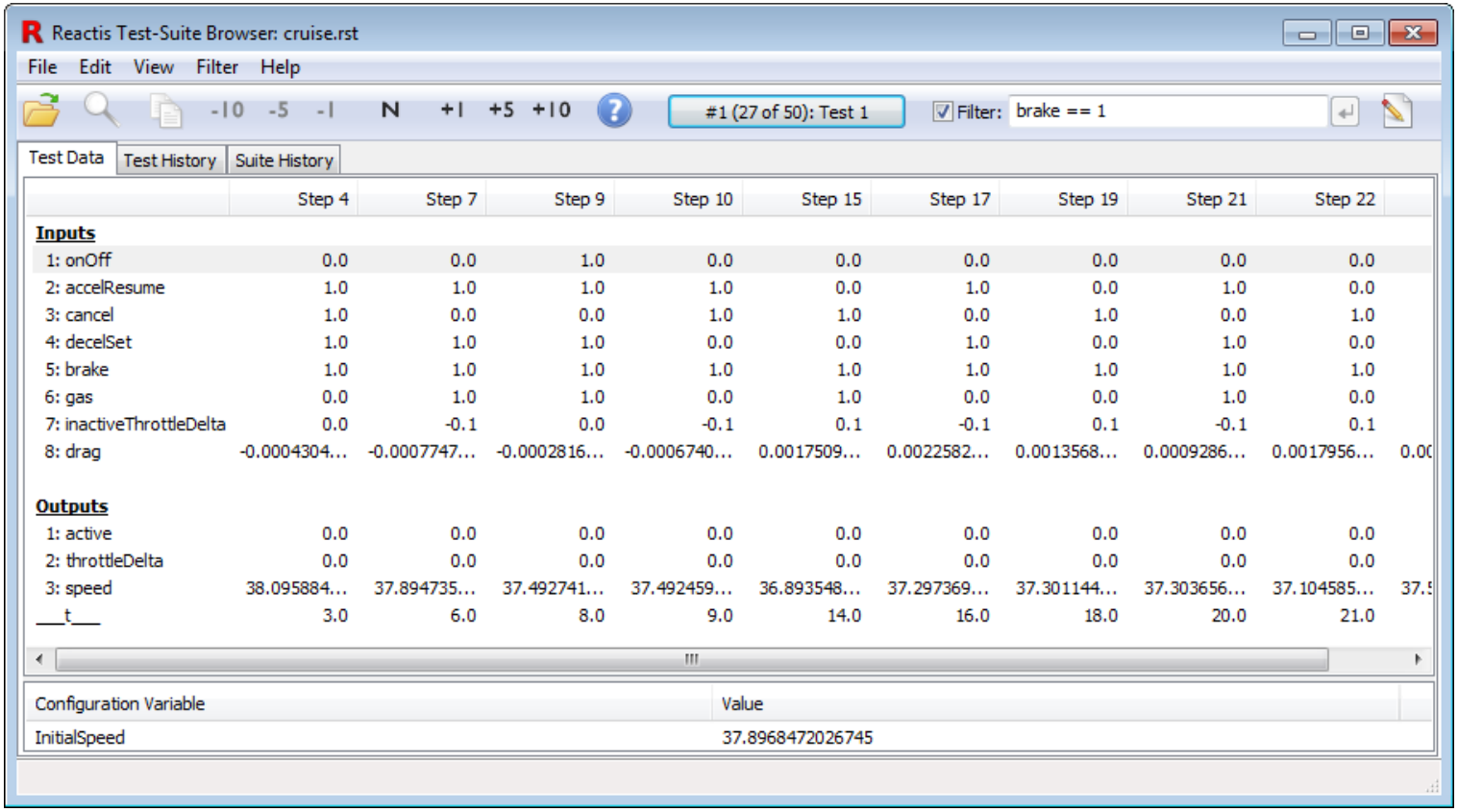

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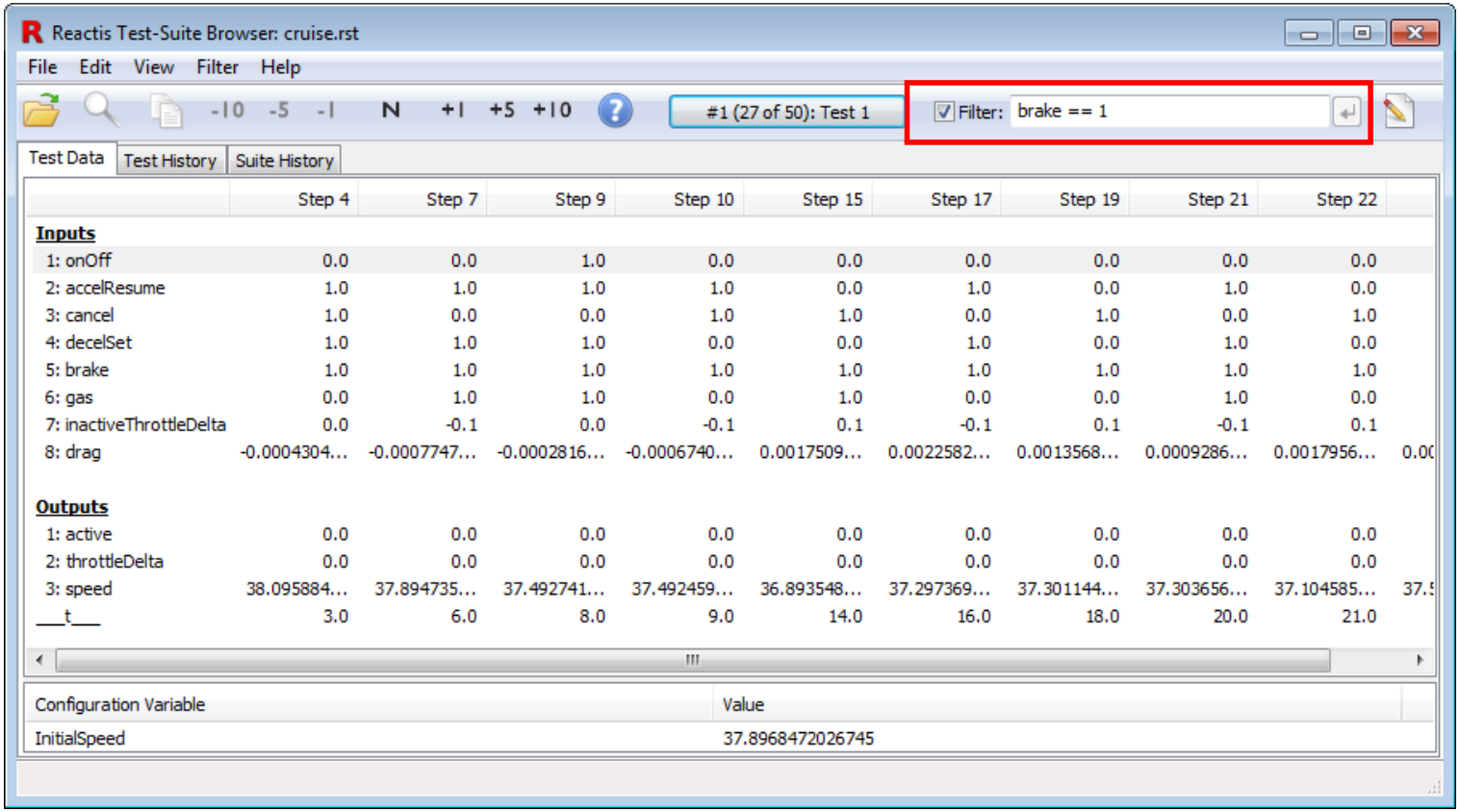

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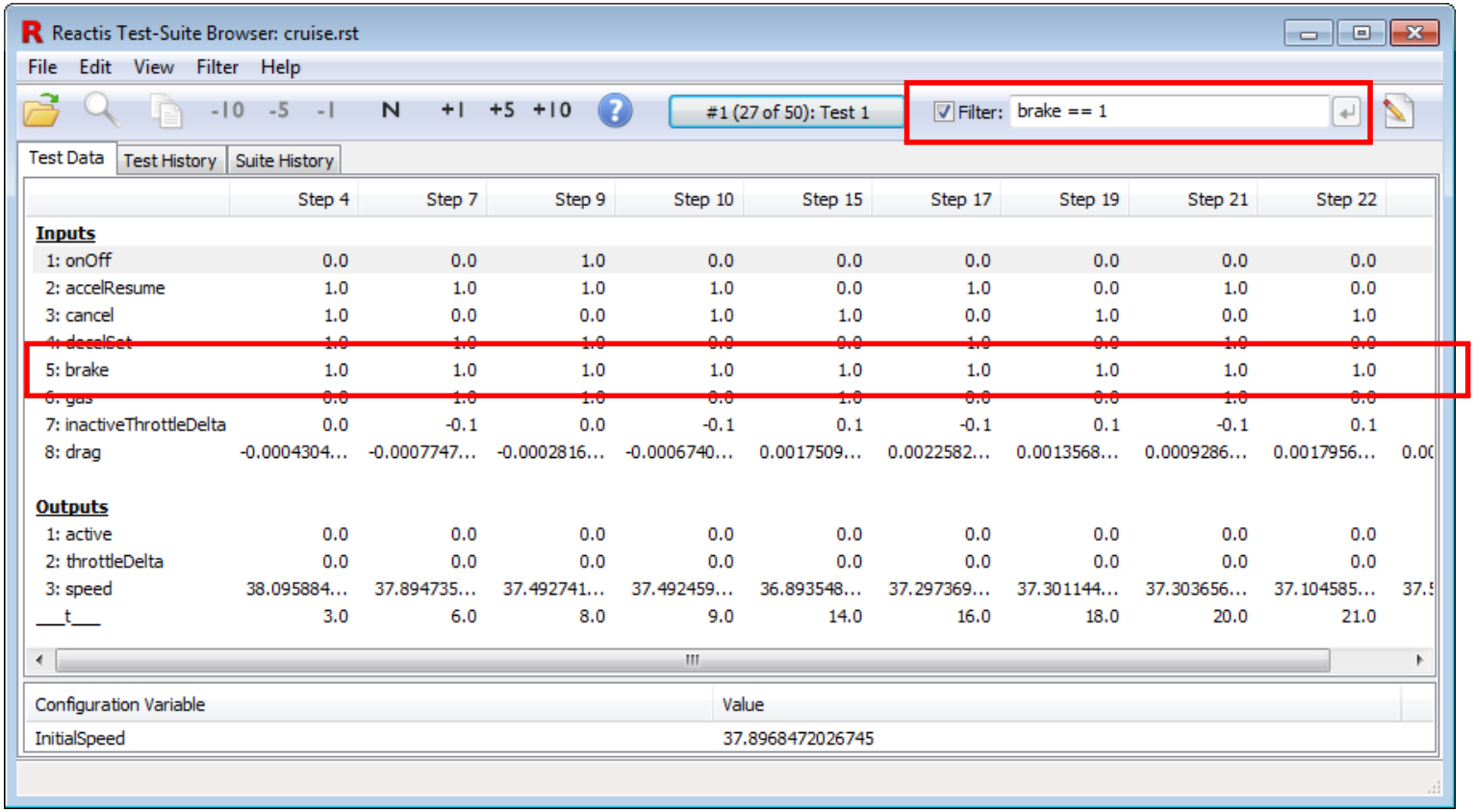

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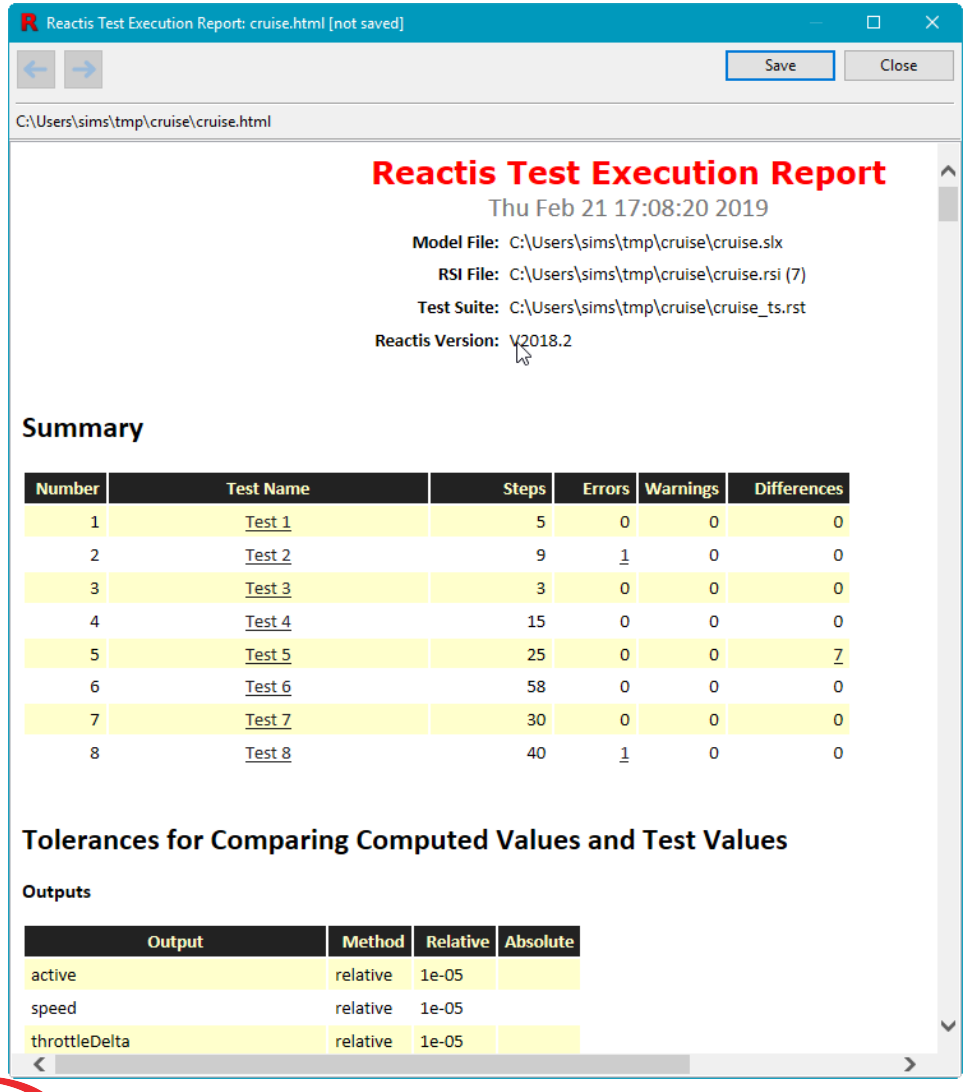
HTML Test Execution Report

Select *Simulate* → *Fast Run with Report*



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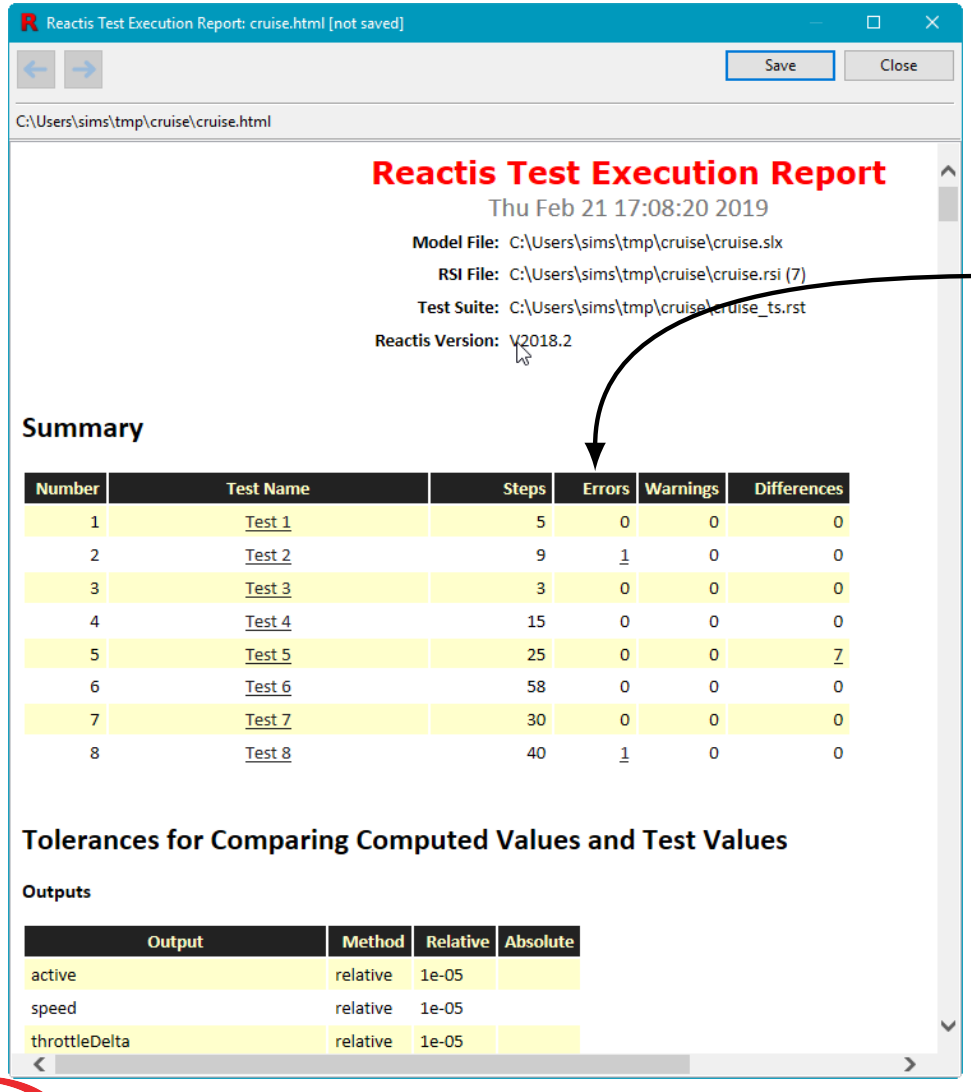

runtime errors in each test

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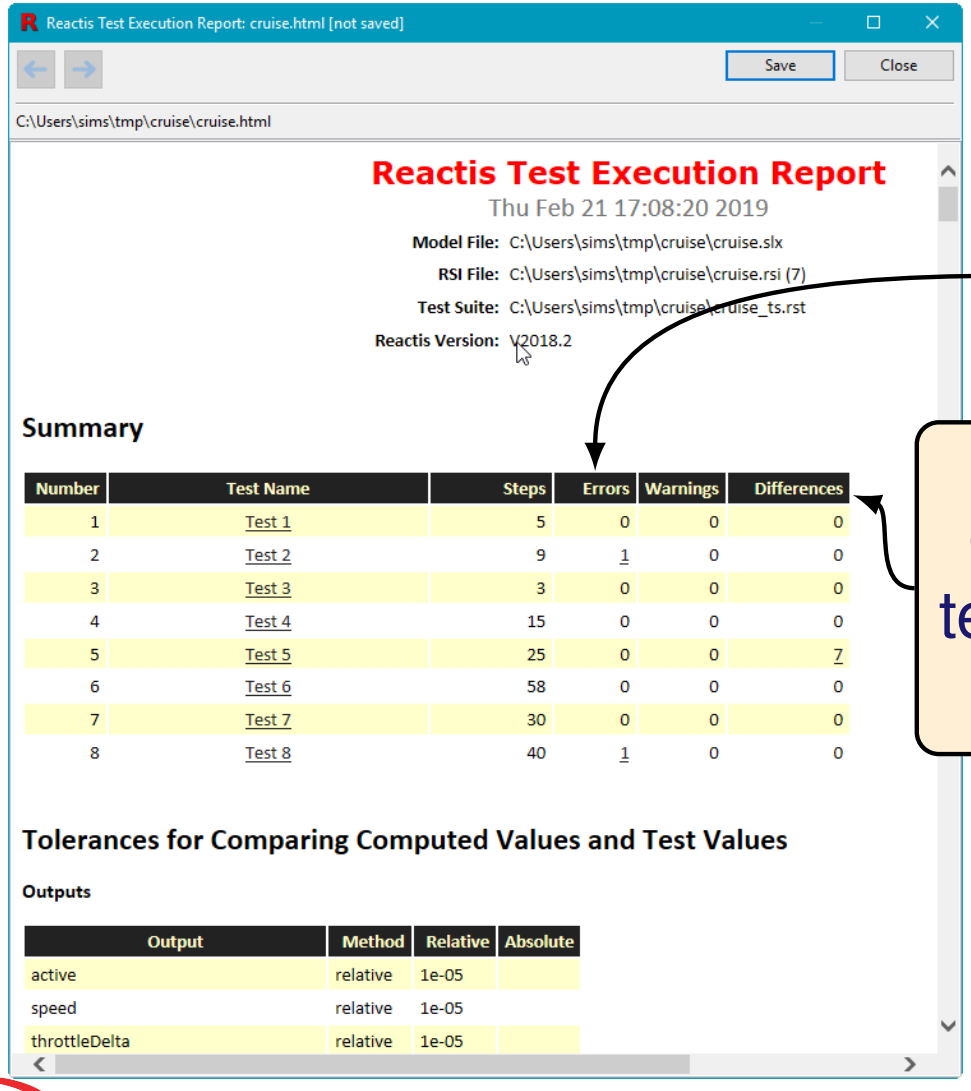

runtime errors in each test

differences between output values stored in test and those computed by model

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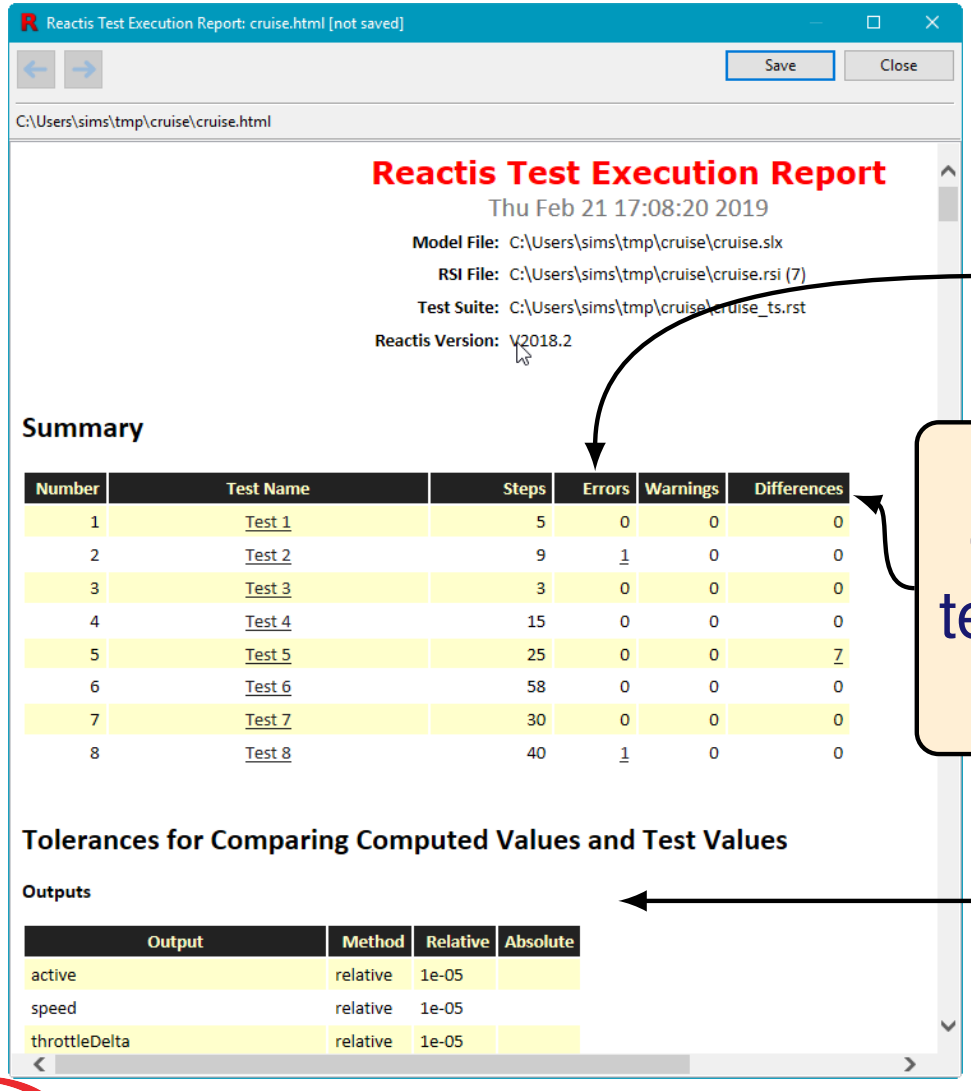

runtime errors in each test

differences between output values stored in test and those computed by model

Tolerances for comparing outputs

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HTML Test Execution Report

Details about each runtime error found:

Test 2

9 steps, 0 warnings, 1 error, 0 differences, Input Plots, Test Point Plots, Output Plots

Errors: [Test 2 | Report Summary]

Step	8
Message	Assertion Failure
Path	cruise / LowSpeedInactive

Input Plots [Open all | Close all | Help] [Test 2 | Report Summary]

+ accelResume
+ brake

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HTML Test Execution Report

Details about each difference found:

Test 5

25 steps, 0 warnings, 0 errors, 7 differences, Input Plots, Test Point Plots, Output Plots

7 Differences: [Test 5 | Report Summary]

Step	Outport/Test Point	Test Suite Value Computed Value	Difference	Tolerance
13	throttleDelta	0.001813667 0.0008136667432239597	0.00100000025677604	relative: 1E-5 => 8.13666743224E-9
14	throttleDelta	0.001787424 0.0007874238632131884	0.001000000136786811	relative: 1E-5 => 7.87423863213E-9
15	throttleDelta	0.001761425 0.0007614250627681567	0.0009999999372318435	relative: 1E-5 => 7.61425062768E-9
16	throttleDelta	0.001735668 0.0007356679707417629	0.001000000029258237	relative: 1E-5 => 7.35667970742E-9

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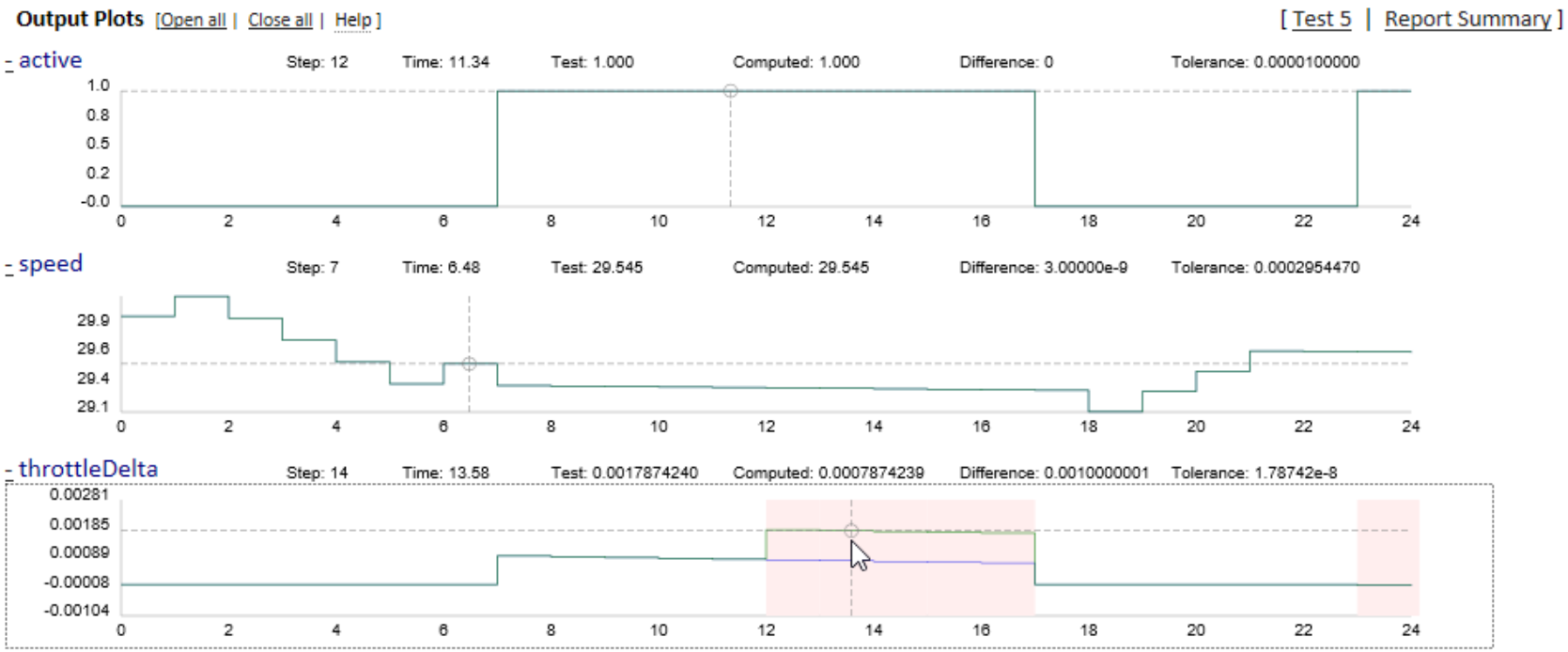
HTML Test Execution Report

Plots for each inport, outport, test point:



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HTML Test Execution Report

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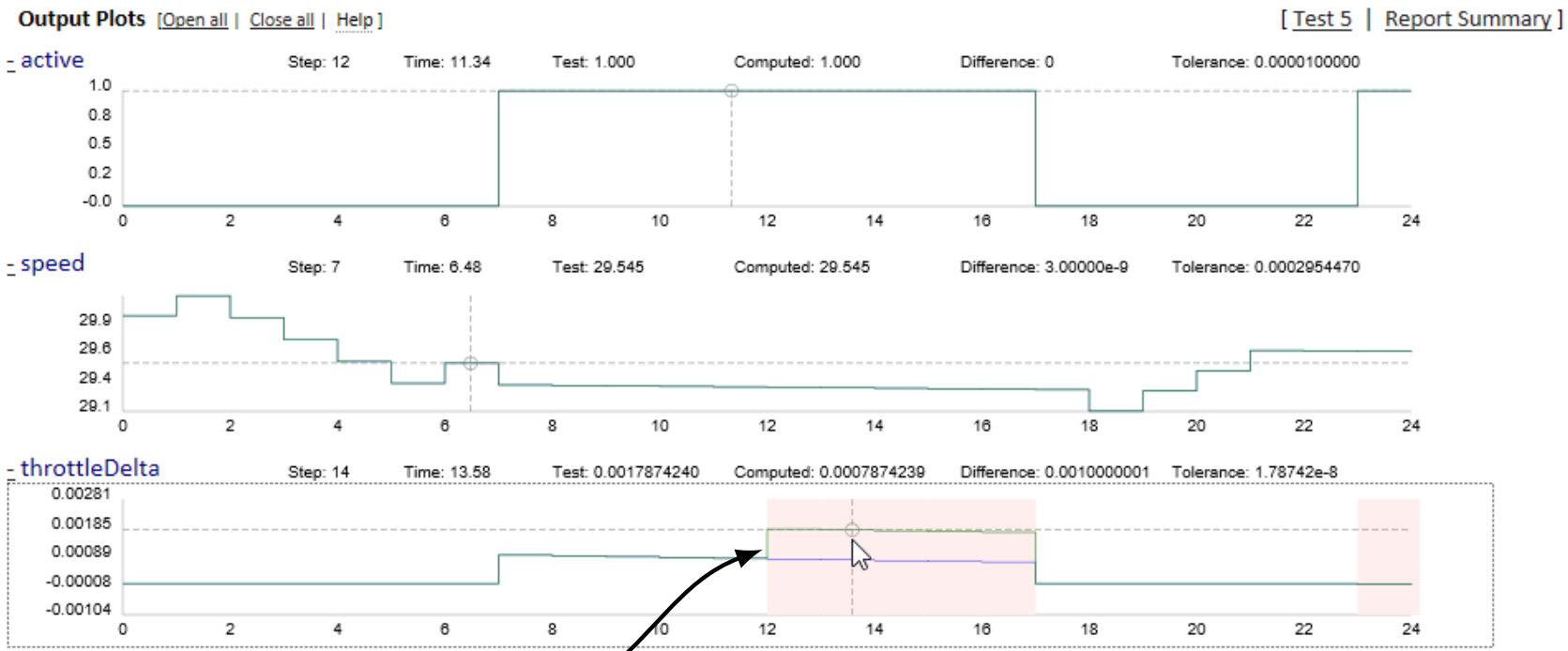

Differences highlighted in red

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HTML Test Execution Report

Detailed coverage information:

System: cruise / CruiseMain / **CruiseMDL**

	Local				Cumulative			
Coverage Metric	**Covered**	**Unreachable**	**Uncovered**		**Covered**	**Unreachable**	**Uncovered**	
Subsystem	4	0	0	100%	4	0	0	100%
Branch	14	0	0	100%	22	0	0	100%
Lookup Table	0	0	0	--	0	0	0	--
State	0	0	0	--	18	0	0	100%
Condition Action	0	0	0	--	25	0	1	96%

Branch	Relational Operator%b1	1/1
Branch	Relational Operator%b2	2/1
User-Defined Target	DeactivateActivate.done%u1	8/40
Assertion Violation	SpdCheck.ok%a1	8/34

Decision Details			Condition Details			MC/DC Details	
Decision	**True**	**False**	**Condition**	**True**	**False**	**True**	**False**
notd	2/3	1/1	Inport #1	1/1	2/3	F : 2/3	T : 1/1
deactivate	1/1	2/3	Inport #1	1/3	1/1	TFFF : 2/7	FFFF : 2/3
			Inport #2	1/2	1/1	FTFF : 2/5	FFFF : 2/3
			Inport #3	1/2	1/1	FFTF : 2/2	FFFF : 2/3
			Inport #4	1/1	2/1	FFFT : 1/1	FFFF : 2/3
activate1	2/3	1/1	Inport #1	2/3	1/1	TT : 2/3	FT : 1/4
			Inport #2	1/4	1/1	TT : 2/3	TF : 2/6
activate	1/4	1/1	Inport #1	1/2	1/1	TF : 1/4	FF : 1/1
			Inport #2	1/2	1/1	TF : 1/4	TT : 1/2

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Pause Simulation Mid-Step

- Previously, clicking “pause” button during simulation (not fast) would finish the current simulation step before pausing
- Could take a significant amount of time when simulating large models and/or C code
- Reactis now pauses immediately at the current mini-step

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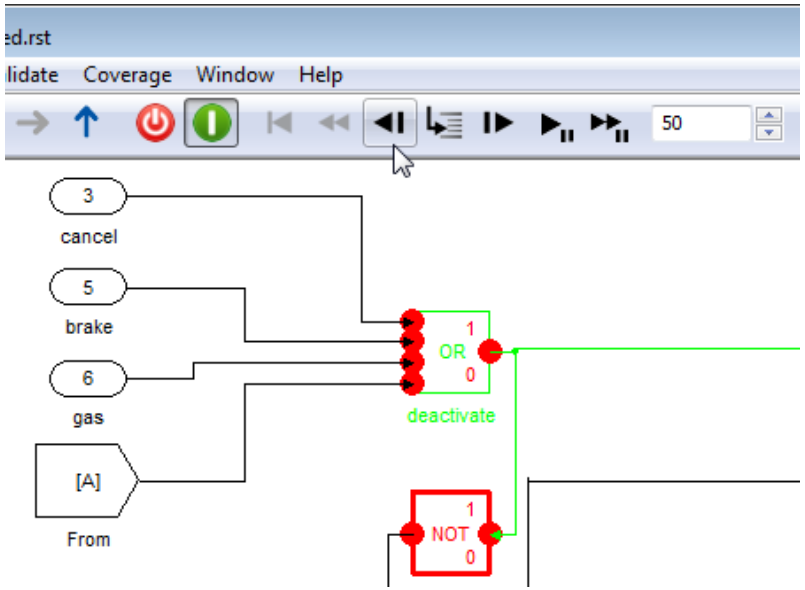
Back up Mid-Step



- Back up mid-step
- Previously had to complete step before backing up

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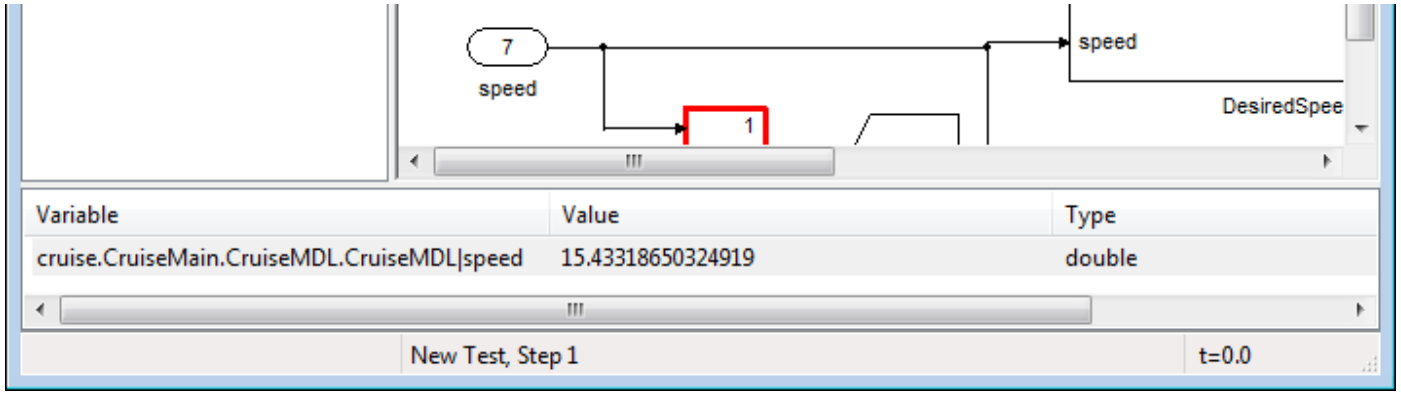
Set Significant Digits in Watch List



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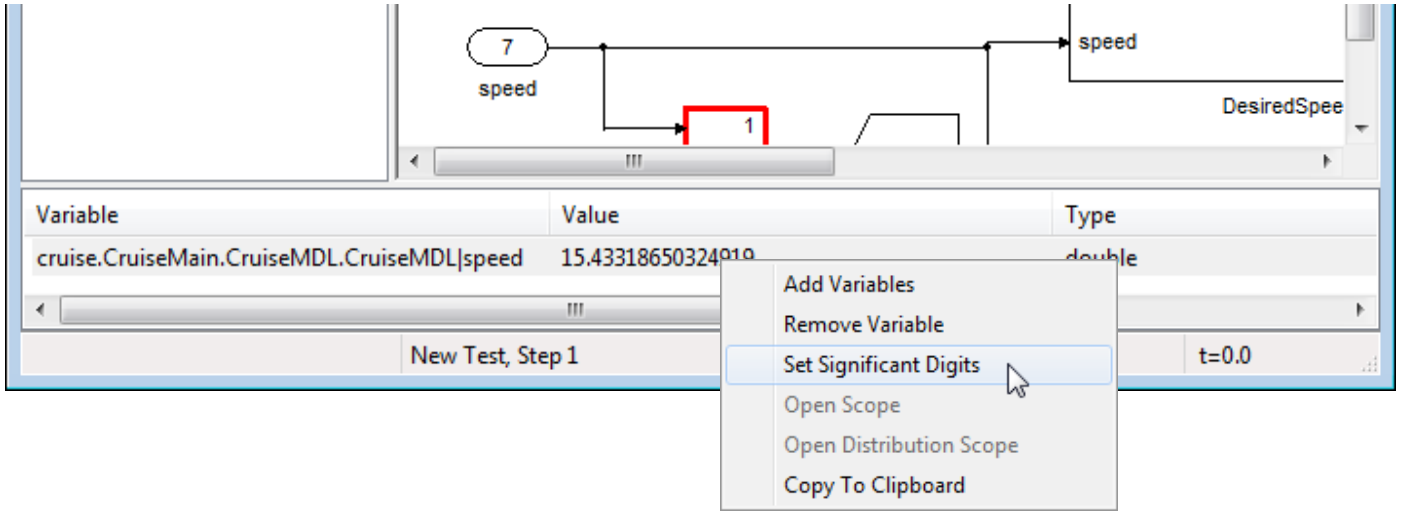

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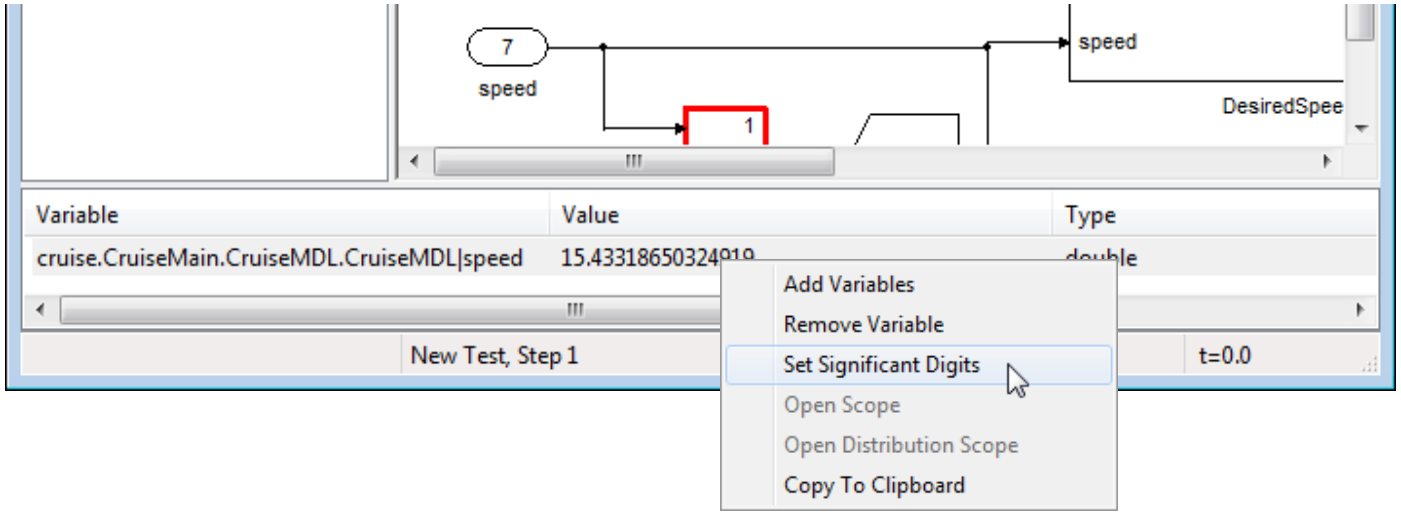

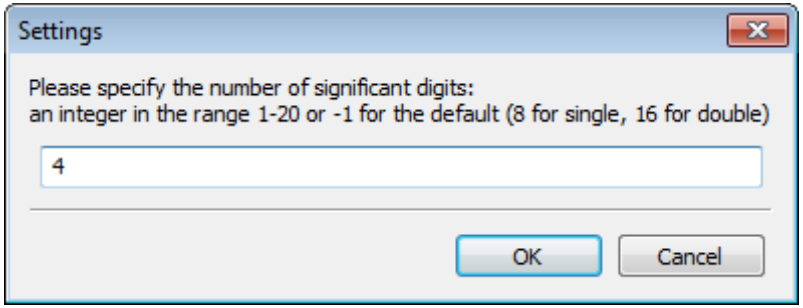

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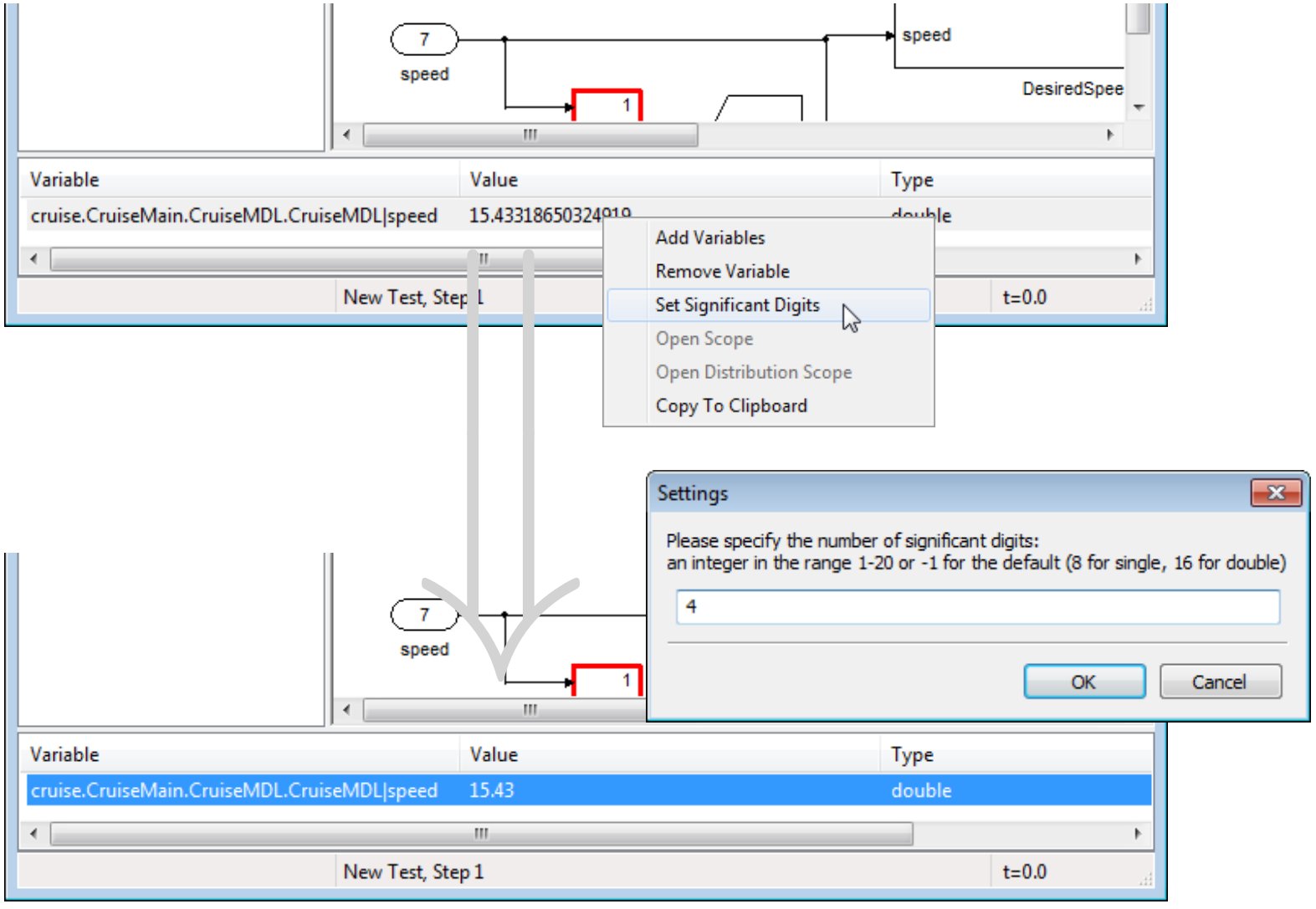

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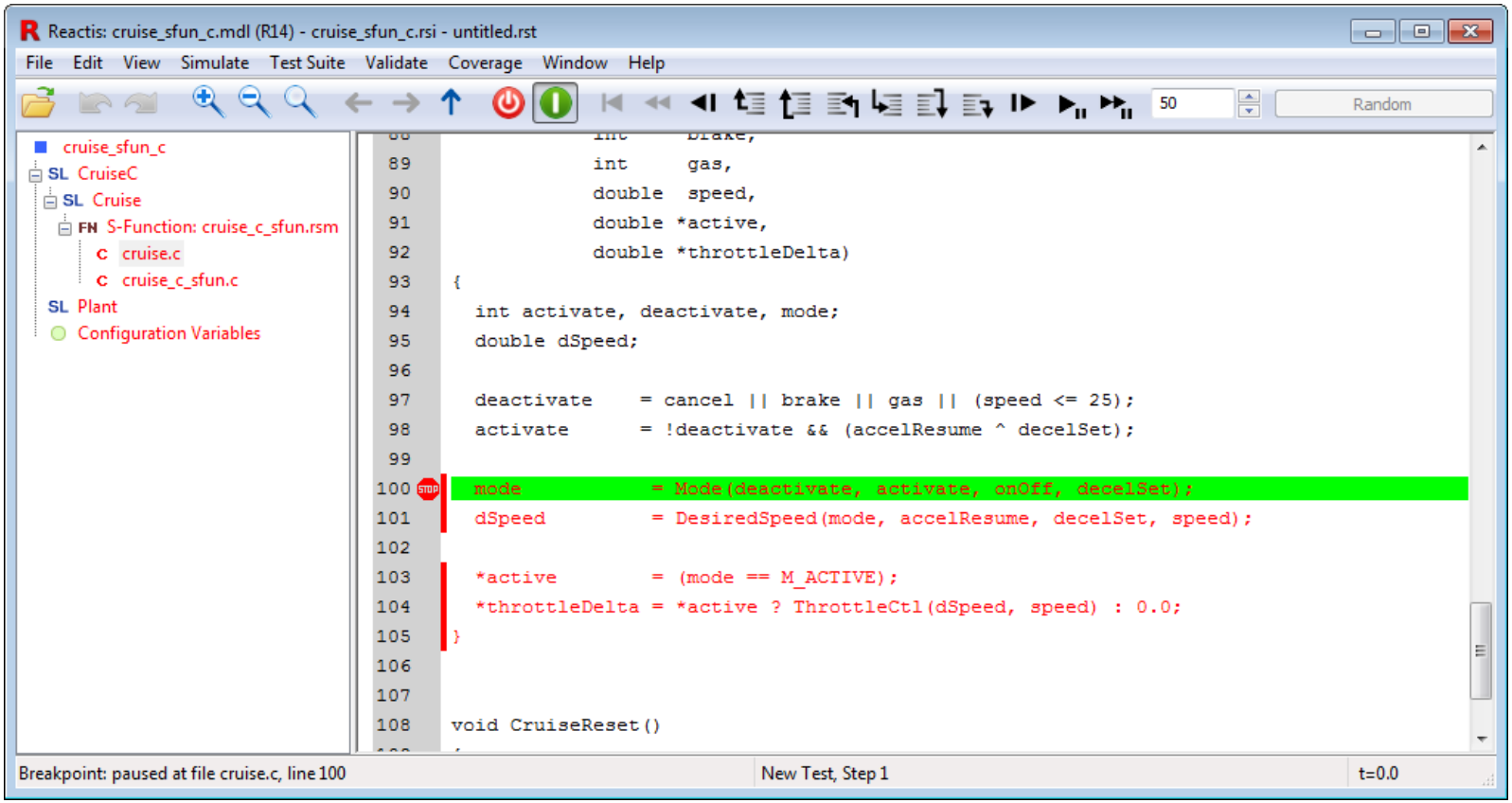
C Code Statement-Level Reverse Stepping



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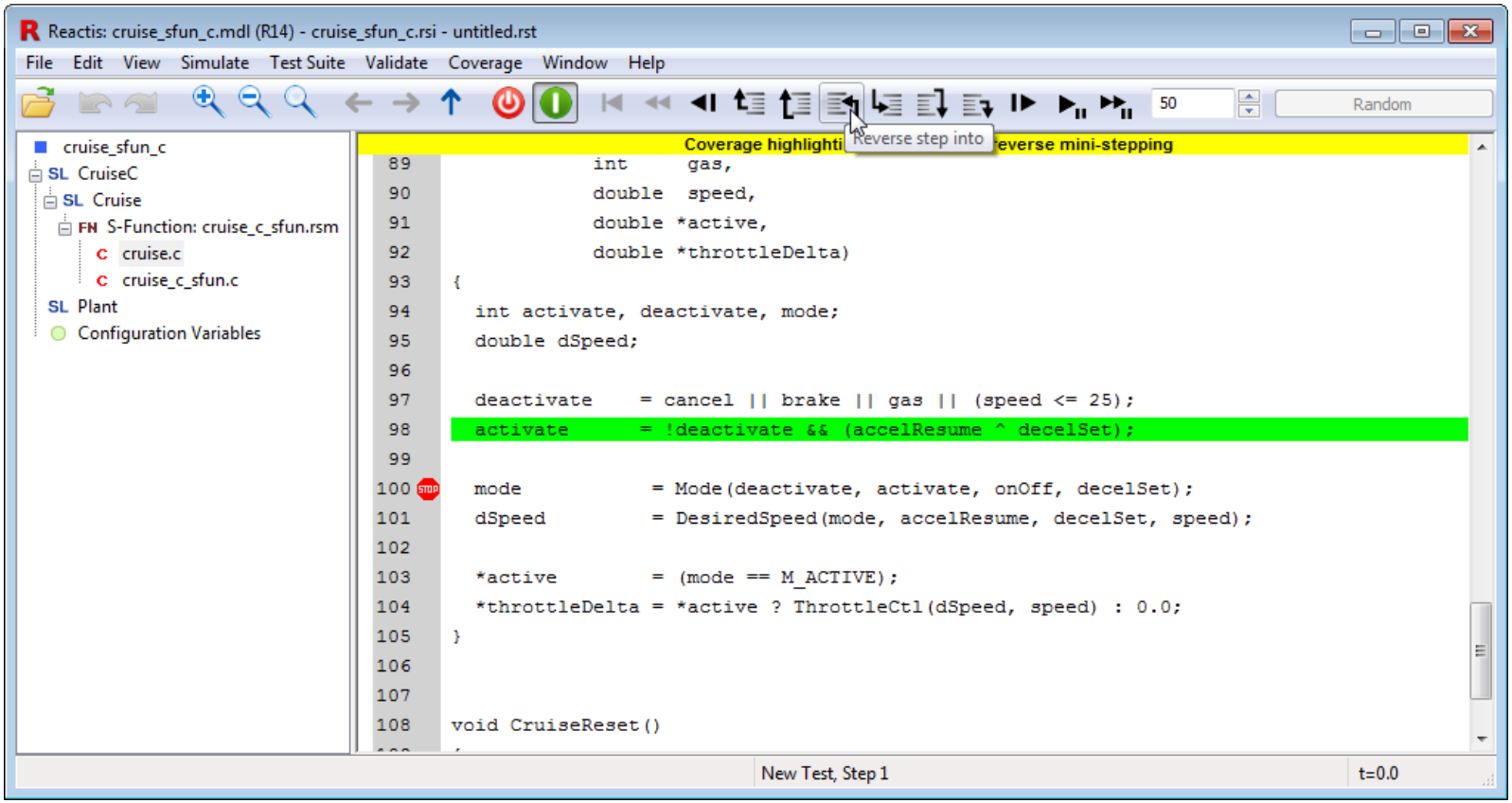

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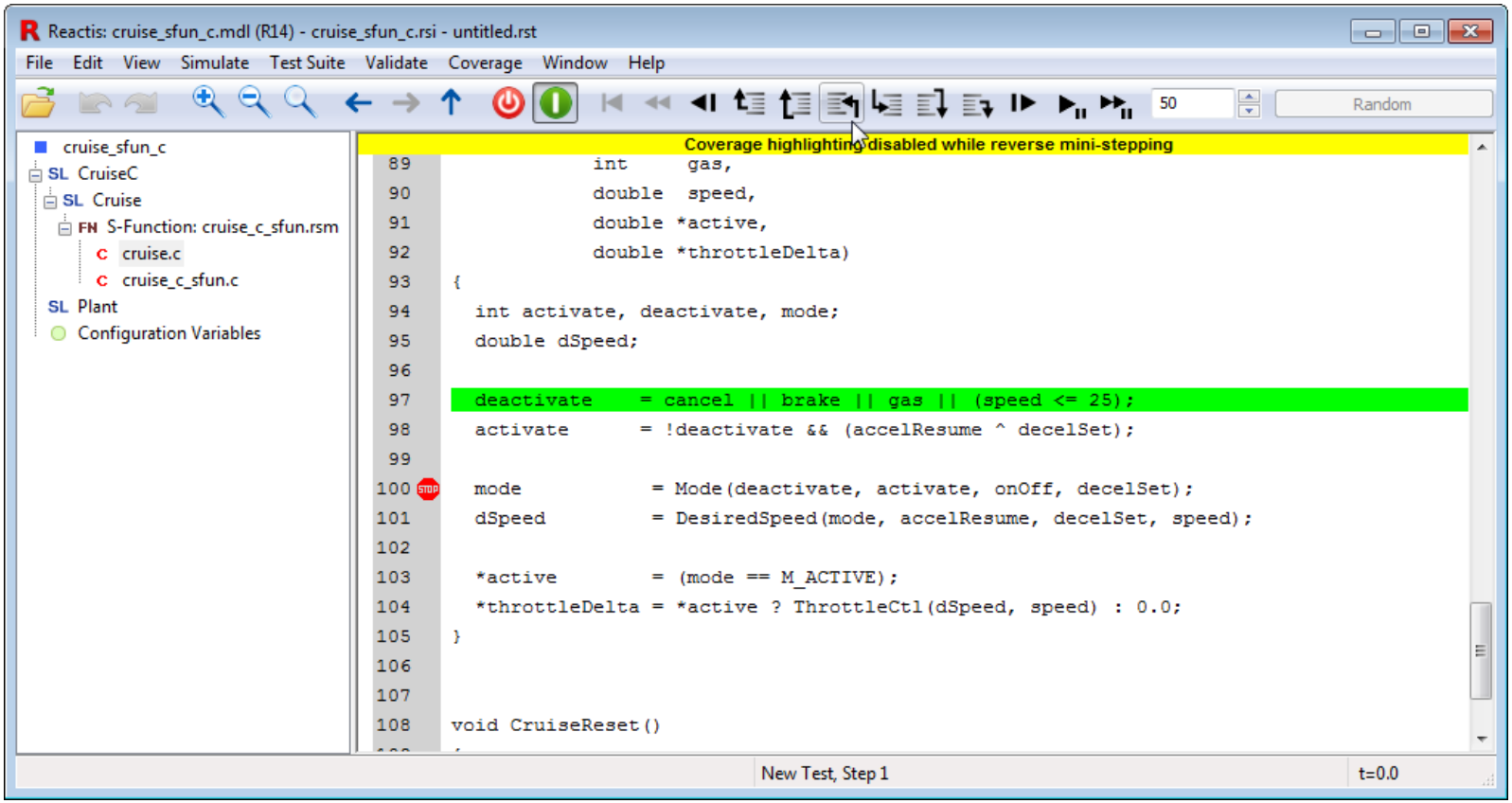

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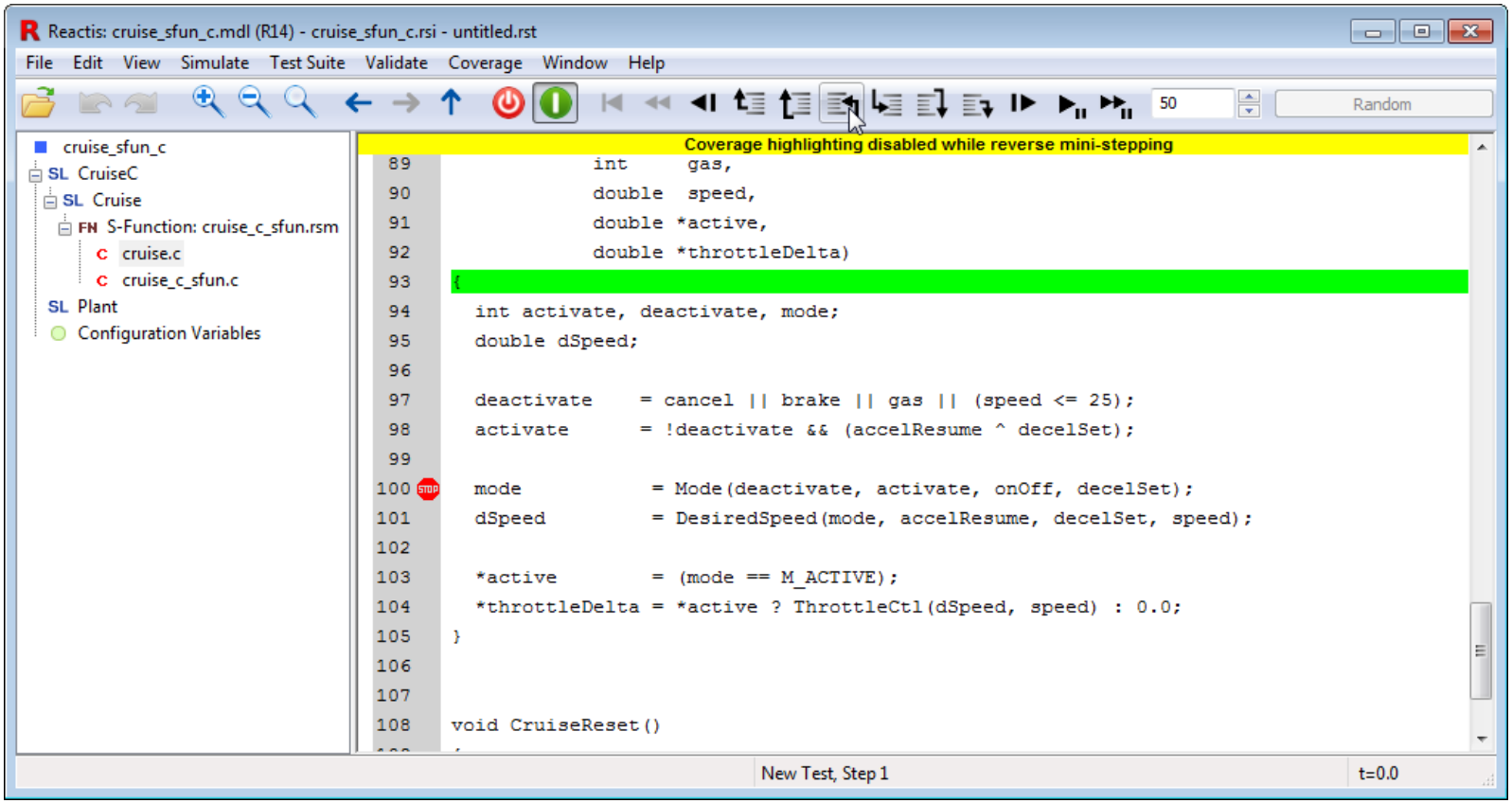

Reactive Systems, inc

Other Enhancements

- API Functions to add input constraints
- New implication operator in Validator Expression Objectives: A => B (A implies B)
- New *Load and Close* button in Tester results dialog combines the actions of the *Load* and *Close* buttons:
  - load newly-generated test suite in Reactis Simulator
  - close Tester results dialog

