Reactis V2016

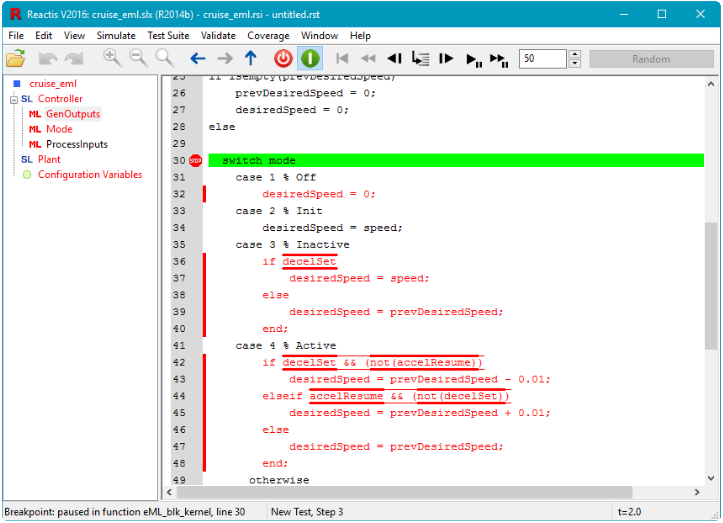
Released June 20, 2016

Reactive Systems, inc

New Simulink Support

- R2016a.
- Support for Simulink® data dictionaries.
- Use data dictionary entry as configuration variable.
- Support *Input port* setting for breakpoint data in Pre-Lookup block.
- Support *Input port* setting for table data in Interpolation block.
- Support Manual Switch block (current setting).

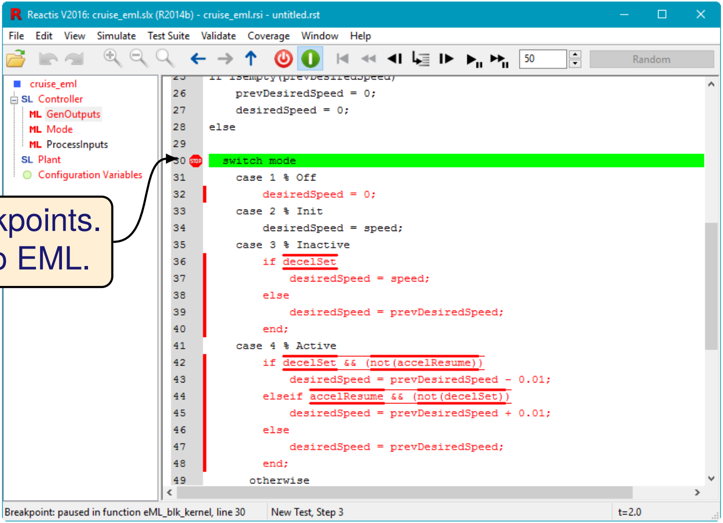
EML Plugin: Embedded MATLAB® Debugging



```
25   if isempty(prevDesiredSpeed)
26       prevDesiredSpeed = 0;
27       desiredSpeed = 0;
28   else
29
30    switch mode
31       case 1 % Off
32           desiredSpeed = 0;
33       case 2 % Init
34           desiredSpeed = speed;
35       case 3 % Inactive
36           if decelSet
37             desiredSpeed = speed;
38           else
39             desiredSpeed = prevDesiredSpeed;
40           end;
41       case 4 % Active
42           if decelSet && (not(accelResume))
43             desiredSpeed = prevDesiredSpeed - 0.01;
44           elseif accelResume && (not(decelSet))
45             desiredSpeed = prevDesiredSpeed + 0.01;
46           else
47             desiredSpeed = prevDesiredSpeed;
48           end;
49      otherwise
```

Breakpoint: paused in function eML_blk_kernel, line 30 | New Test, Step 3 | t=2.0

EML Plugin: Embedded MATLAB® Debugging



```
25  if isempty(prevDesiredSpeed)
26    prevDesiredSpeed = 0;
27    desiredSpeed = 0;
28  else
29
30   switch mode
31    case 1 % Off
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Breakpoint: paused in function eML_blk_kernel, line 30 | New Test, Step 3 | t=2.0

Set breakpoints.
Step into EML.

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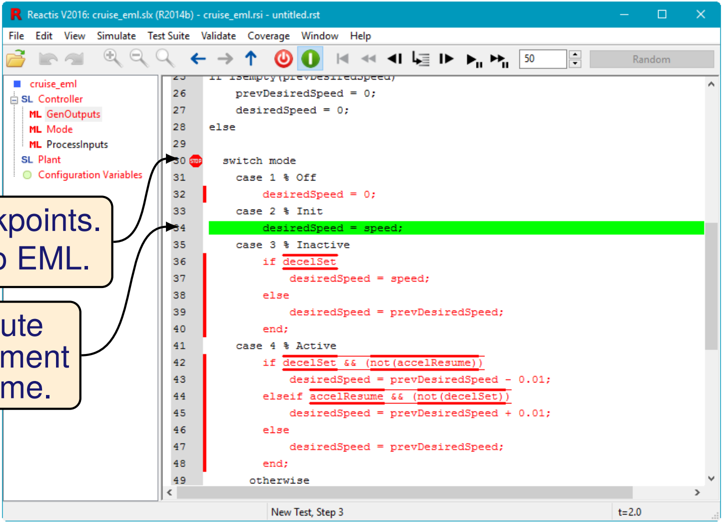
EML Plugin: Embedded MATLAB® Debugging



```
if isempty(prevDesiredSpeed)
    prevDesiredSpeed = 0;
    desiredSpeed = 0;
else

 switch mode
  case 1 % Off
    desiredSpeed = 0;
  case 2 % Init
    desiredSpeed = speed;
  case 3 % Inactive
    if decelSet
      desiredSpeed = speed;
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    elseif accelResume && (not(decelSet))
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    else
      desiredSpeed = prevDesiredSpeed;
    end;
   otherwise
```

Set breakpoints.
Step into EML.

Execute
1 statement
at a time.

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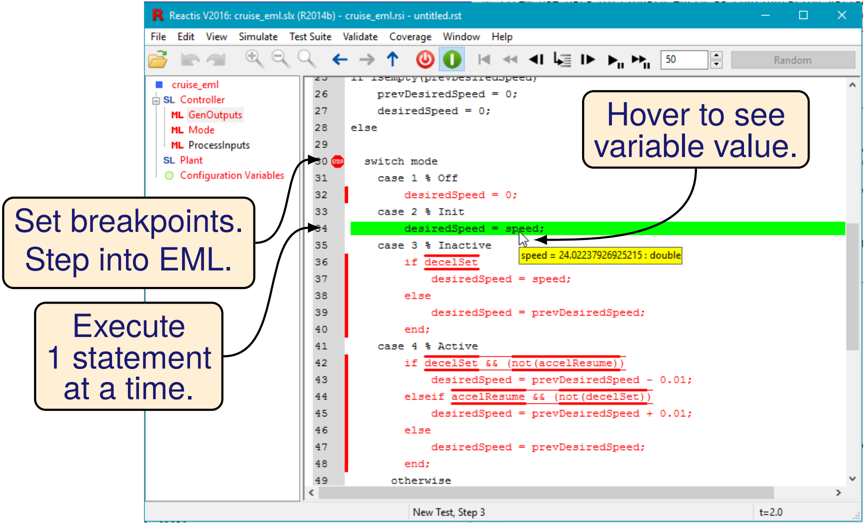
EML Plugin: Embedded MATLAB® Debugging


Reactis V2016: cruise_eml.slx (R2014b) - cruise_eml.rsi - untitled.rst
File Edit View Simulate Test Suite Validate Coverage Window Help
50
Random
cruise_eml
SL Controller
ML GenOutputs
ML Mode
ML ProcessInputs
SL Plant
Configuration Variables
STOP

```
if isempty(prevDesiredSpeed)
  prevDesiredSpeed = 0;
  desiredSpeed = 0;
else

 switch mode
  case 1 % Off
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      desiredSpeed = prevDesiredSpeed + 0.01;
    else
      desiredSpeed = prevDesiredSpeed;
    end;
   otherwise
```

speed = 24.02237926925215 : double

New Test, Step 3

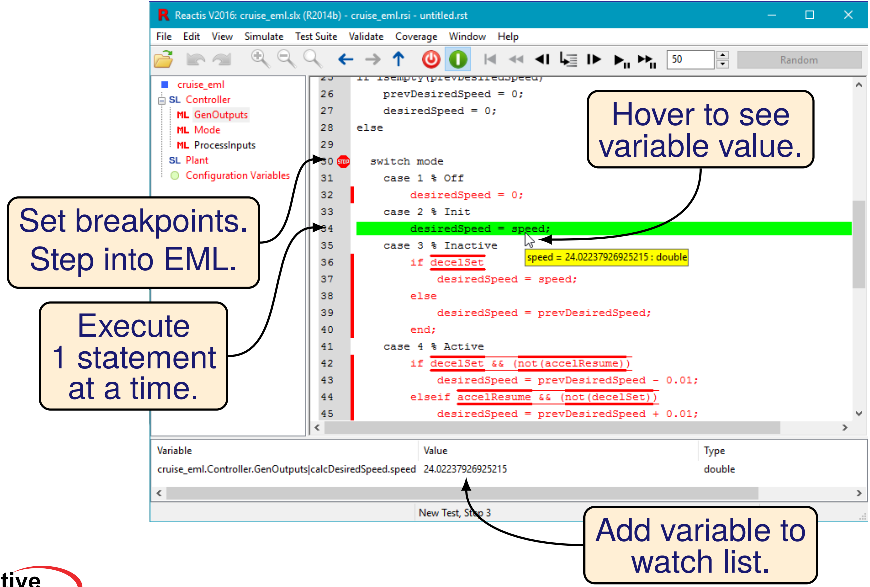
t=2.0

Hover to see variable value.

Set breakpoints. Step into EML.

Execute 1 statement at a time.

EML Plugin: Embedded MATLAB® Debugging



```
if isempty(prevDesiredSpeed)
  prevDesiredSpeed = 0;
  desiredSpeed = 0;
else

 switch mode
  case 1 % Off
    desiredSpeed = 0;
  case 2 % Init
    desiredSpeed = speed;
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      desiredSpeed = speed;
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    elseif accelResume && (not(decelSet))
      desiredSpeed = prevDesiredSpeed + 0.01;
```

speed = 24.02237926925215 : double

Variable	Value	Type
cruise_eml.Controller.GenOutputs|calcDesiredSpeed.speed	24.02237926925215	double

New Test, Step 3

Hover to see variable value.

Set breakpoints. Step into EML.

Execute 1 statement at a time.

Add variable to watch list.

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Reactis for C Plugin

- Assign pre-compiled library for use by Stateflow custom C code.
- Ignore incomplete variable or function declarations which are never used.
- The argument of a #include directive can now be a macro.
- Improved formatting of value shown when hovering on scalar character values and arrays of characters.
- Produce warnings instead of errors for GCC-style extended asm statements (the assembly code will be ignored).

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Other Enhancements

- Support for Windows 10.
- Option to use Z3 SMT Solver to improve the coverage of Tester-generated tests for some models and to improve the static analysis that identifies unreachable coverage targets.
- Allow comparing enumerated values of different types in Stateflow.
- Launch a quick HTML coverage report from the top-level Coverage menu.
- Option to export Booleans as integers in CSV file.

Other Enhancements

- Checkbox in Tester launch dialog to enable/disable pruning of tests after the random phase.
- Reactis now stores information about model's top-level output ports and their types in the .rsi file to facilitate automatic harness creation for Reactis for C and simplify back-to-back testing with Reactis and Reactis for C.

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Thank You!

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