Reactis V2012

Released June 14, 2012

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New Simulink Support

- MATLAB R2012a
- Initial support for Embedded MATLAB

  Simulink
  - MATLAB Function block (previously called Embedded MATLAB Function block)
  - Truth Table block

  Stateflow
  - MATLAB Functions
  - Truth Table functions with MATLAB language option

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Initial Embedded MATLAB Subset

- Types: double, single, logical
- Control flow
  - if statements
  - while loops
  - for loops
  - switch statements
- Logical operators
- Relational operators
- Math functions: +, −, *, /, ^, sin, cos, tan, asin, acos, atan, sinh, cosh, tanh, exp, log, log10, sqrt, fix, floor, ceil, round, sign, abs
- Matrix operations: transpose, addition, subtraction, multiplication, inv, zeros, ones, eye, diag
- Vector operations: size, min, max, length, sum, prod, dot
- Array indexing with scalars or vectors
- Colon notation: [min:max], [min:step:max]
- Functions and subfunctions
- Local and persistent variables

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Faster Model Initialization

- Optimizations improve initialization speed for models with:
  - Large amounts of data in the workspace
  - Very large search paths
- One automotive OEM model went from 30 to 2 minutes

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Use Precompiled C Libraries without Source Code

New feature will let you:

1. Compile a C library (using Reactis) (.rsls, .rsld)
2. Use the pre-compiled library in models without source code

Library will be treated as a black box:

- No coverage tracking
- No stepping into C code

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Improved Support for Buses

- Bus signal line drawing enhancements
- Graphical editor for constraints of top-level bus inputs
- Improved data monitoring:
  - See bus element names when hovering
  - Open watched variable or scope on bus element
- Improved import/export
  - CSV - bus (or vector) elements in separate columns
  - Import GUI to map bus elements
- runtests supports bus inputs
- Constant blocks with bus type

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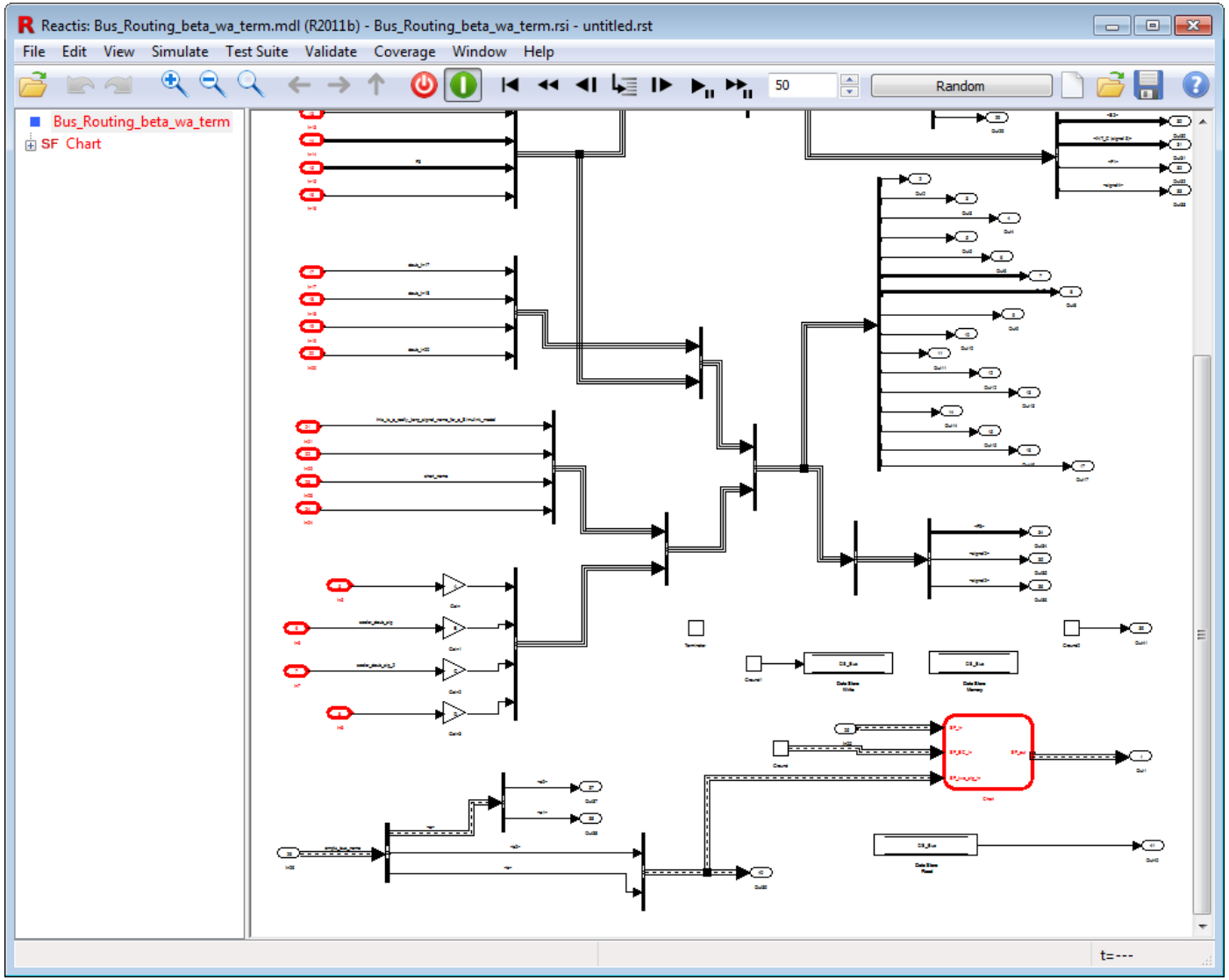
Bus Signal Line Drawing



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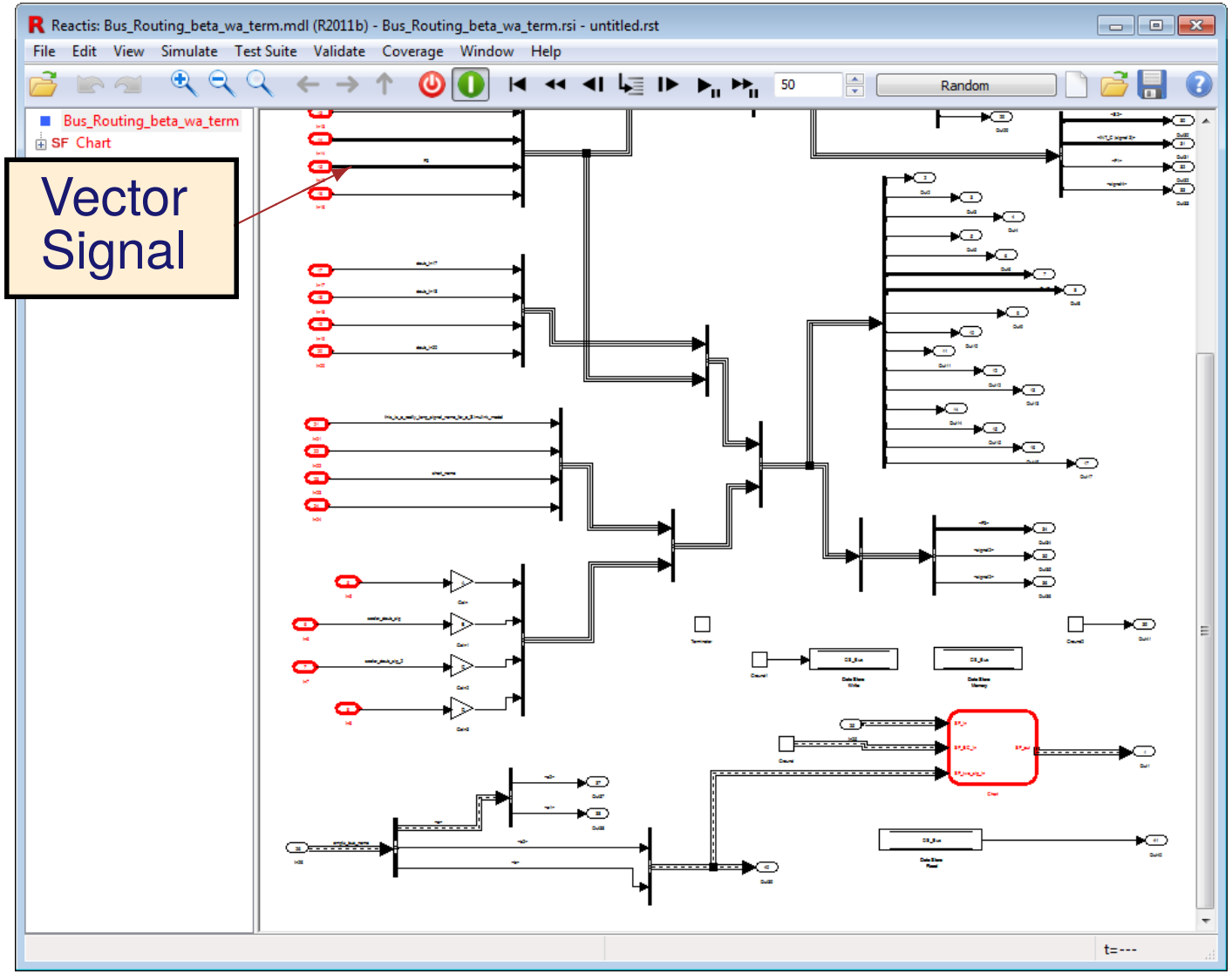
Bus Signal Line Drawing



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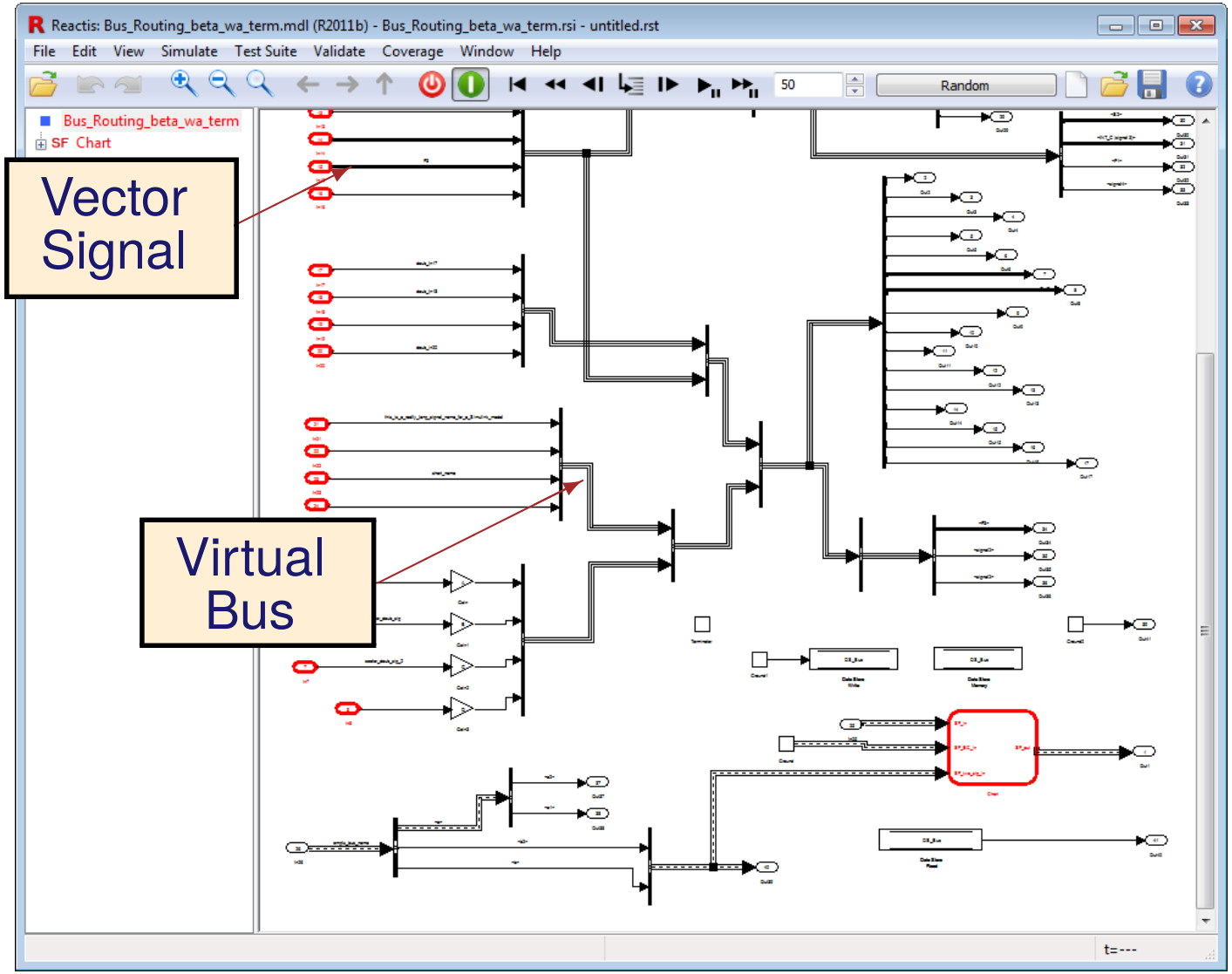
Bus Signal Line Drawing



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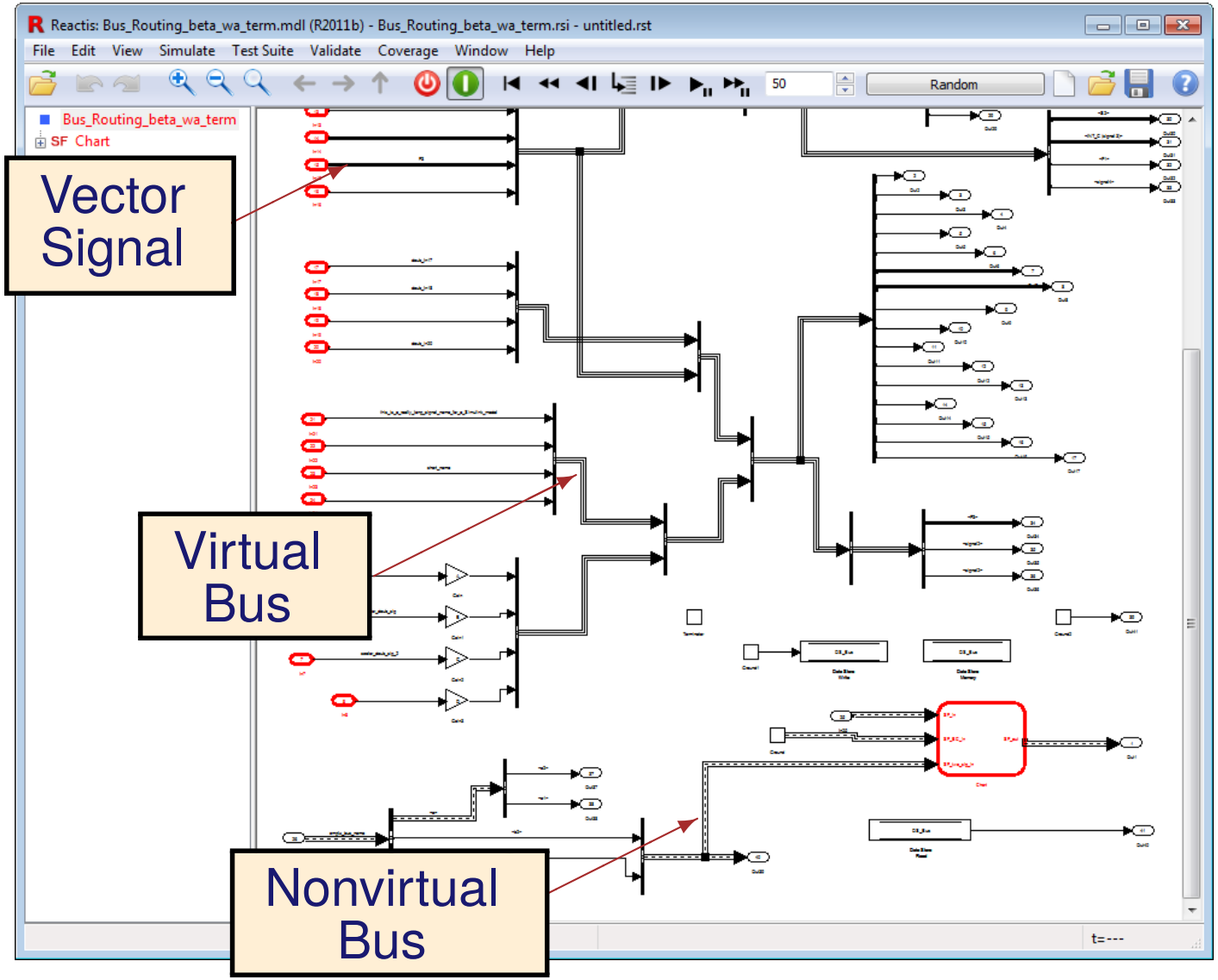
Bus Signal Line Drawing



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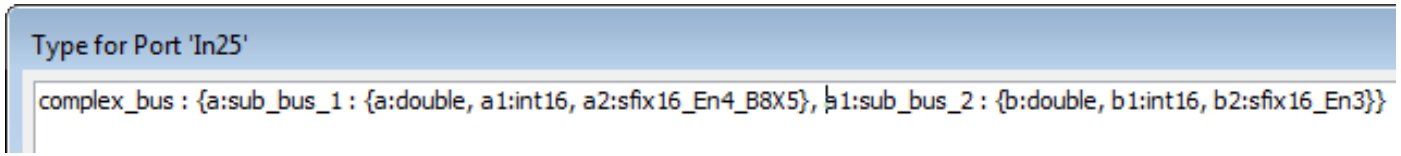
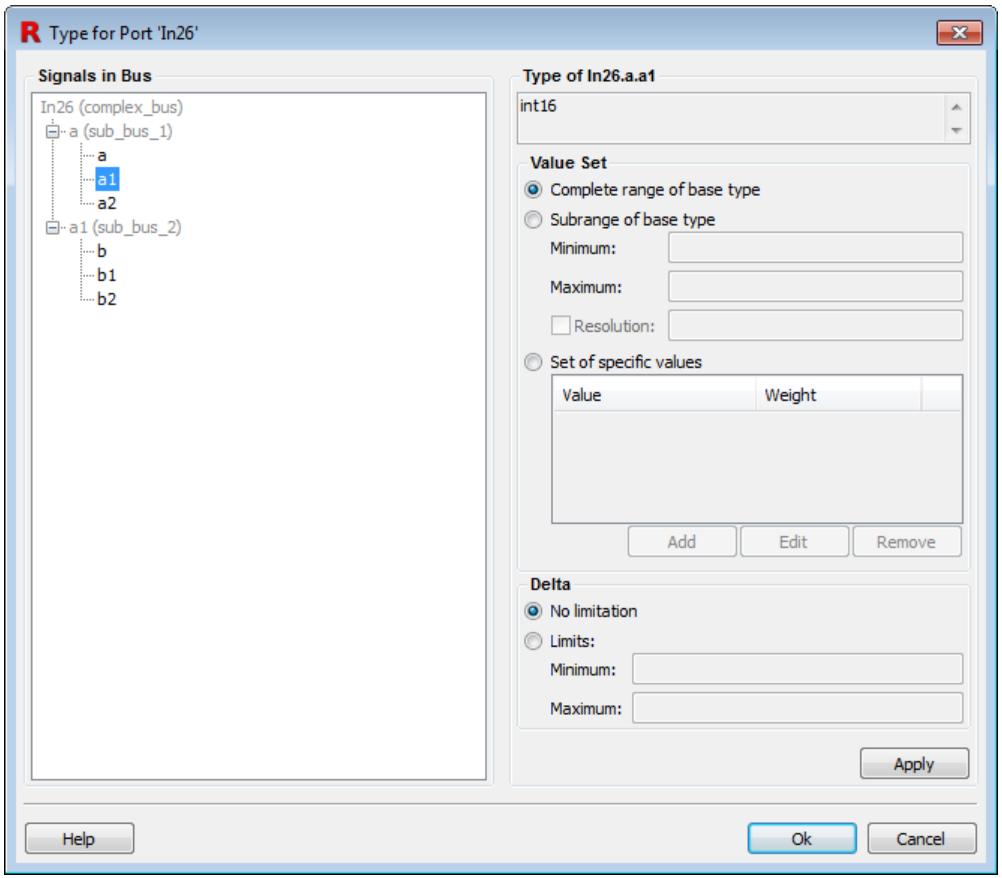
Type Editor for Top-Level Bus Inputs

Pre-V2012 had to edit bus inputs using text notation:



V2012 introduces graphical editor:



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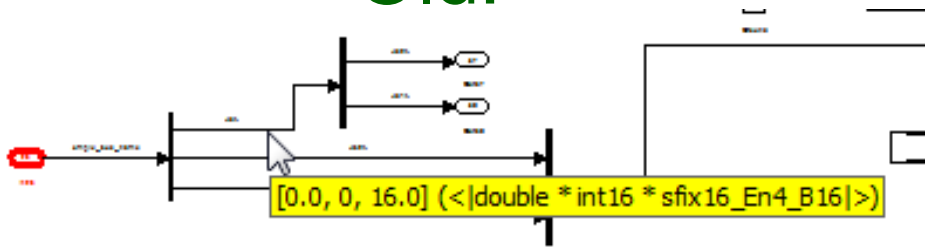
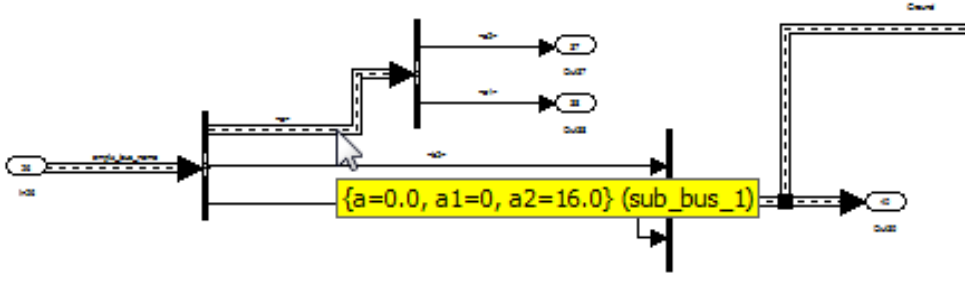
Improved Hover Display

Old:



New:



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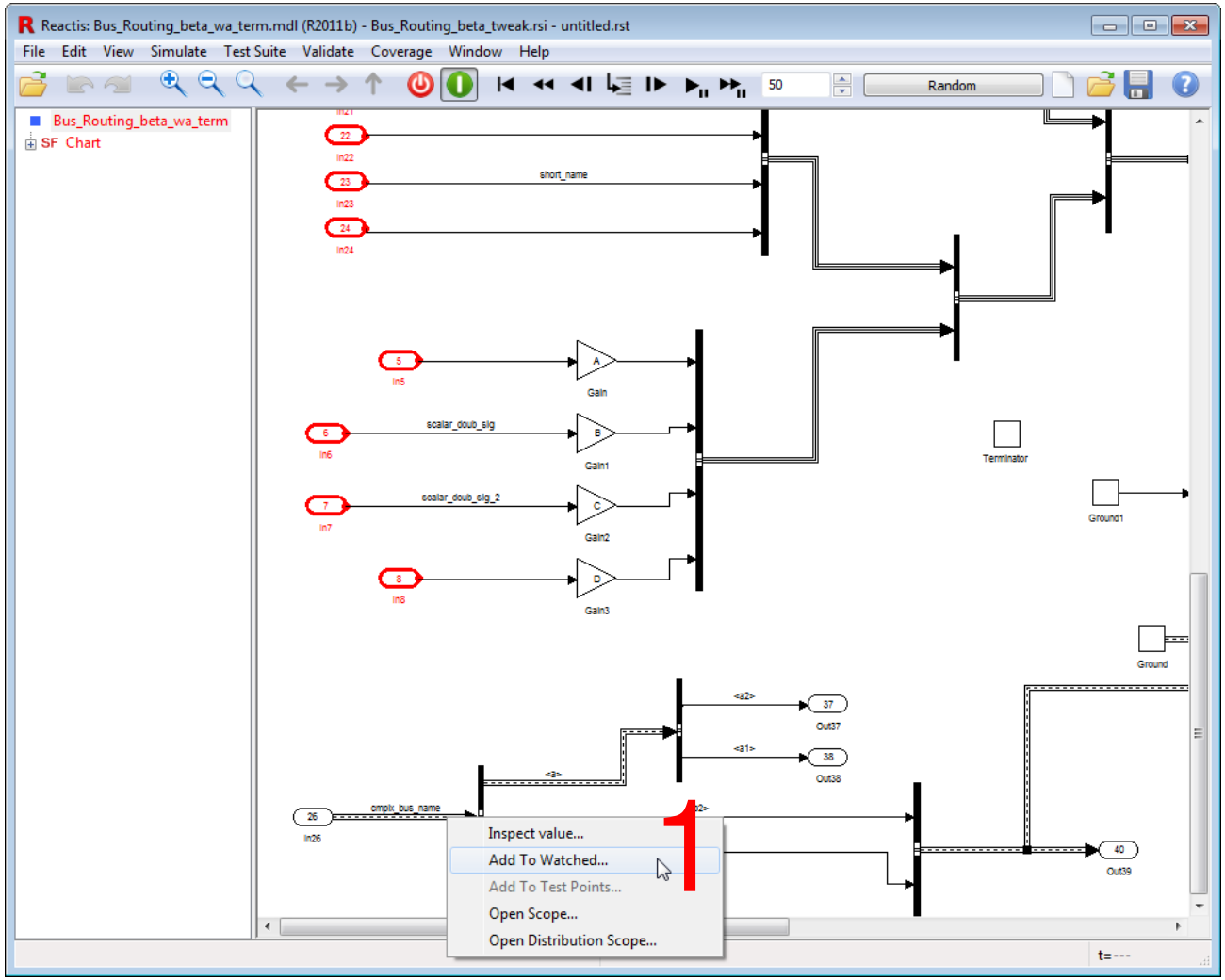
Add Individual Bus Elements to Watch List



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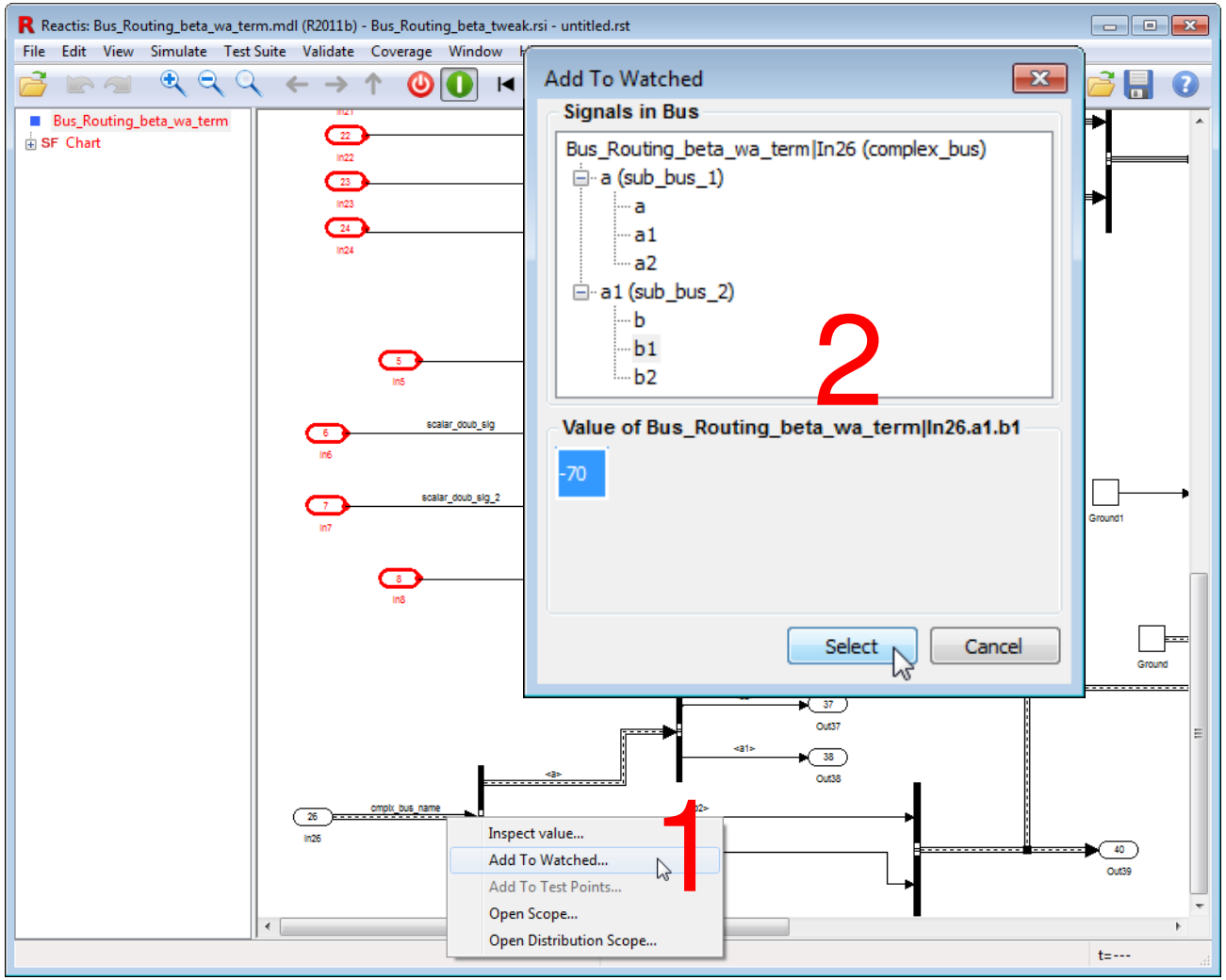

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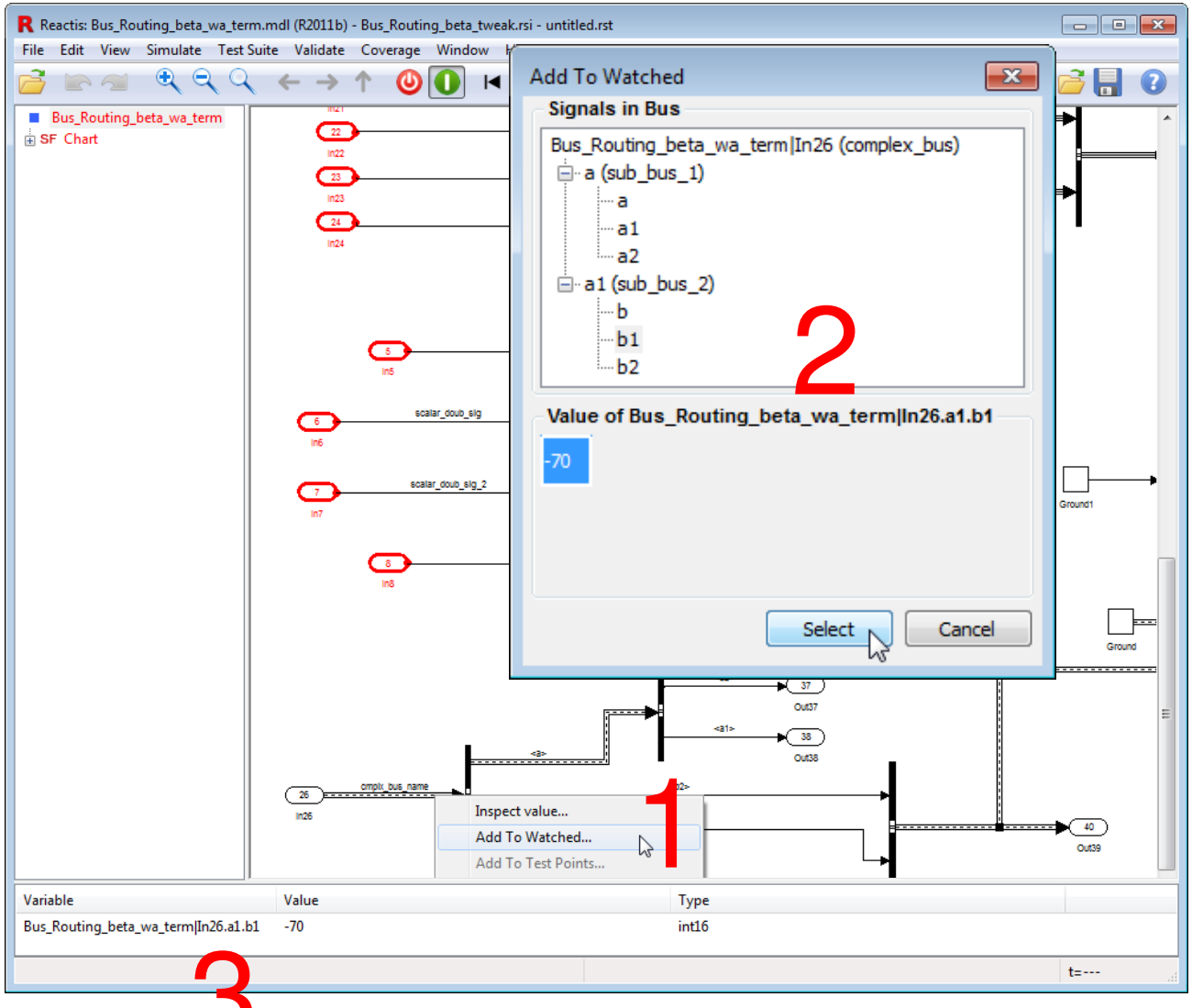

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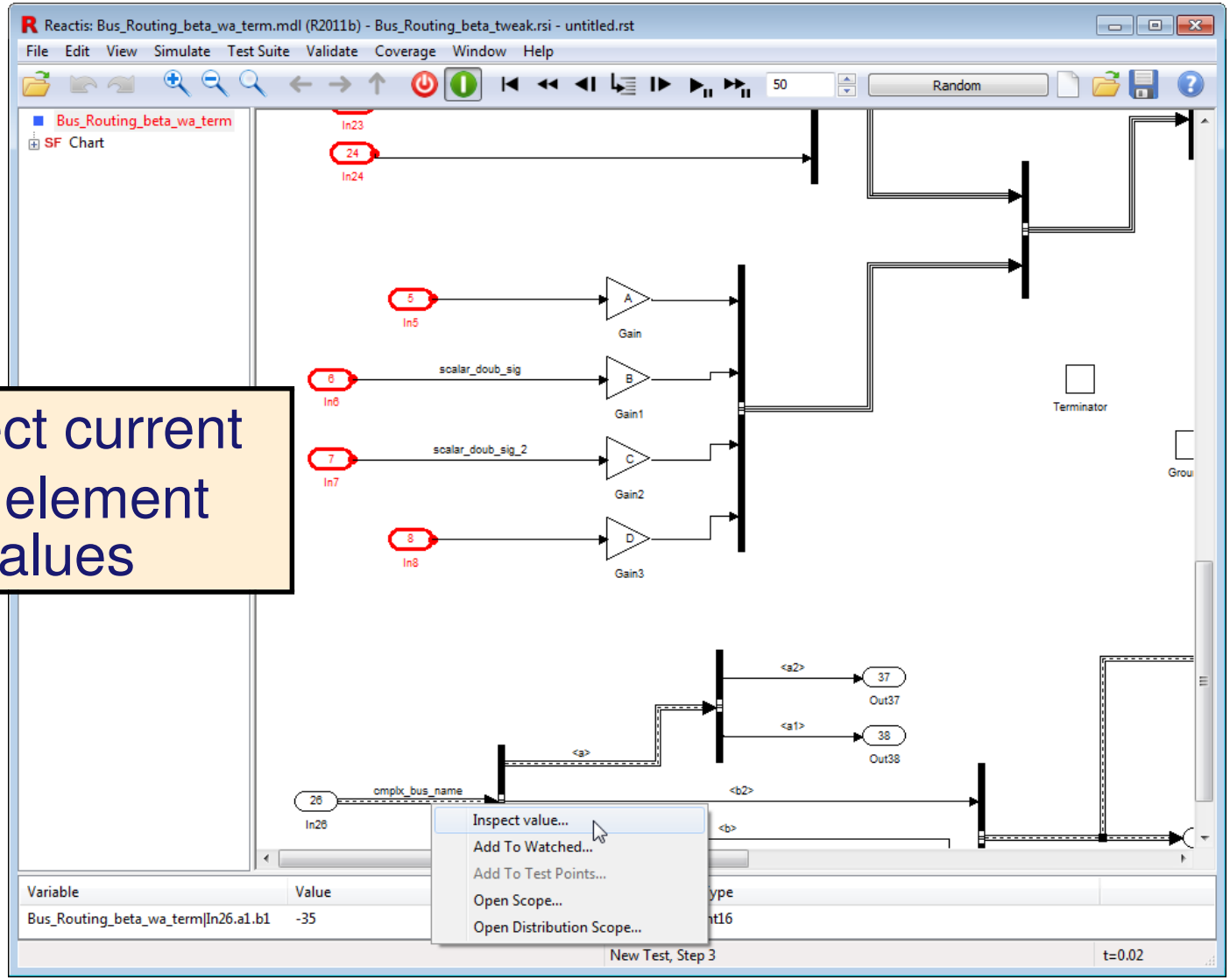
Inspect Value Dialog

Inspect current bus element values



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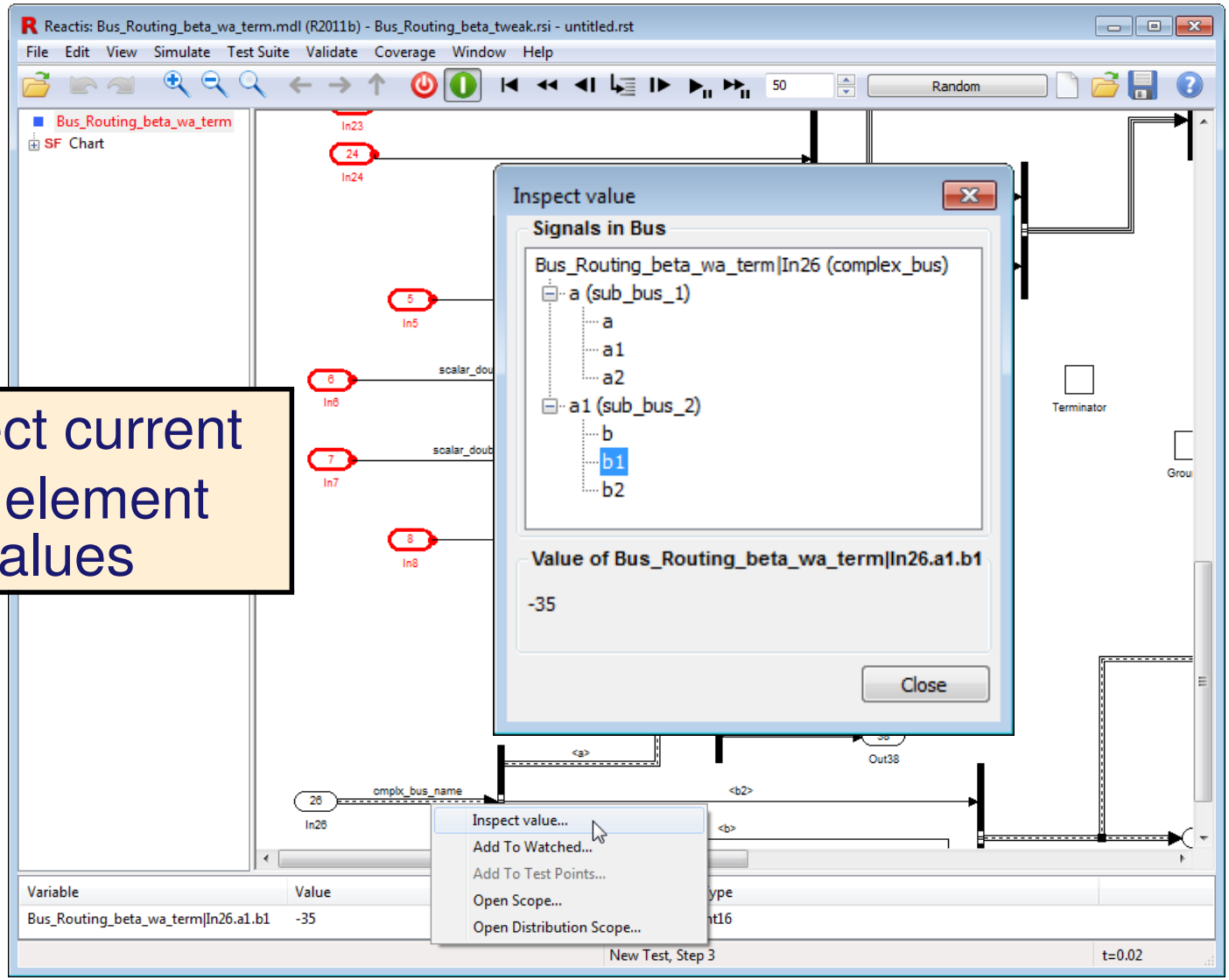

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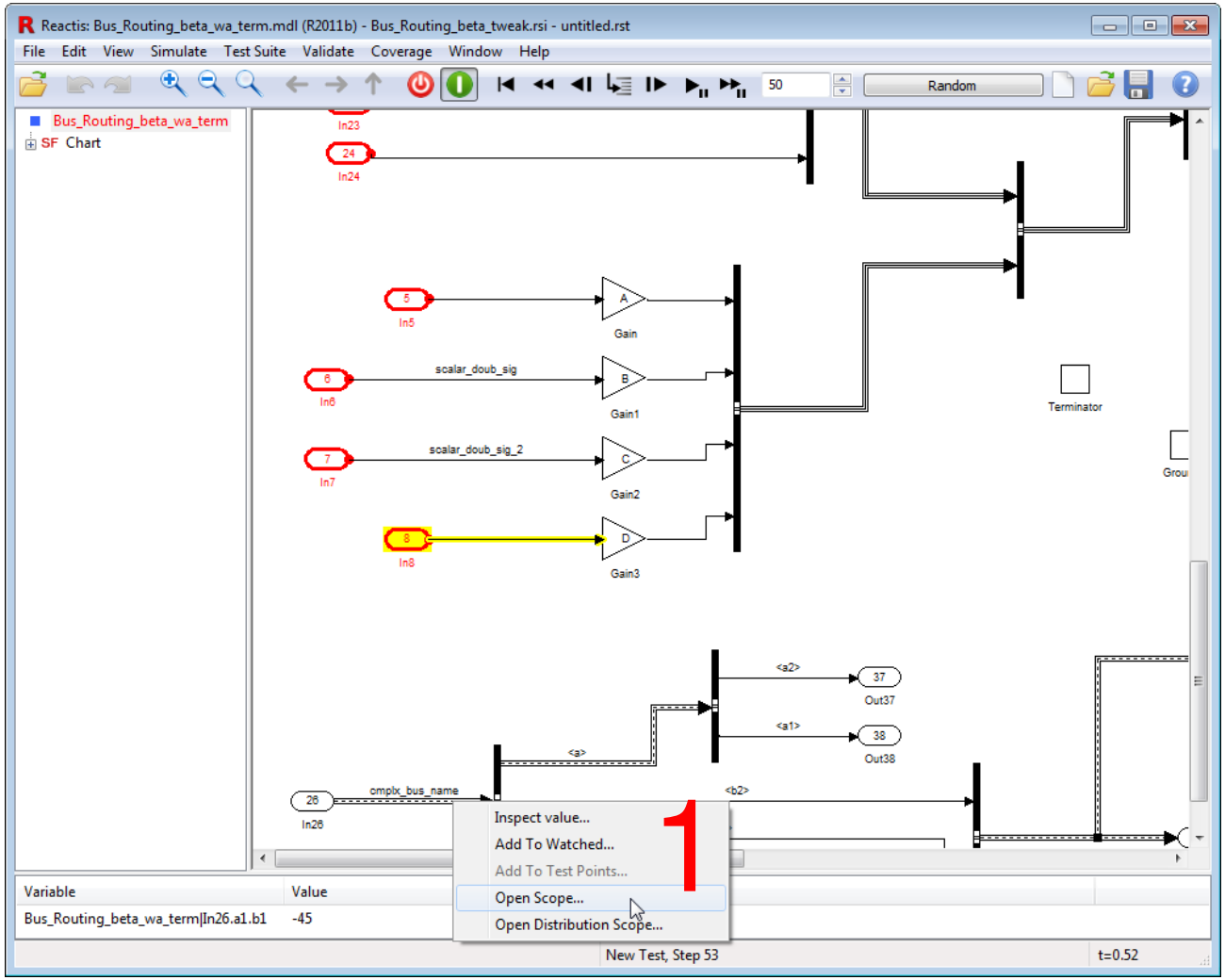
Open Scopes on Individual Bus Elements



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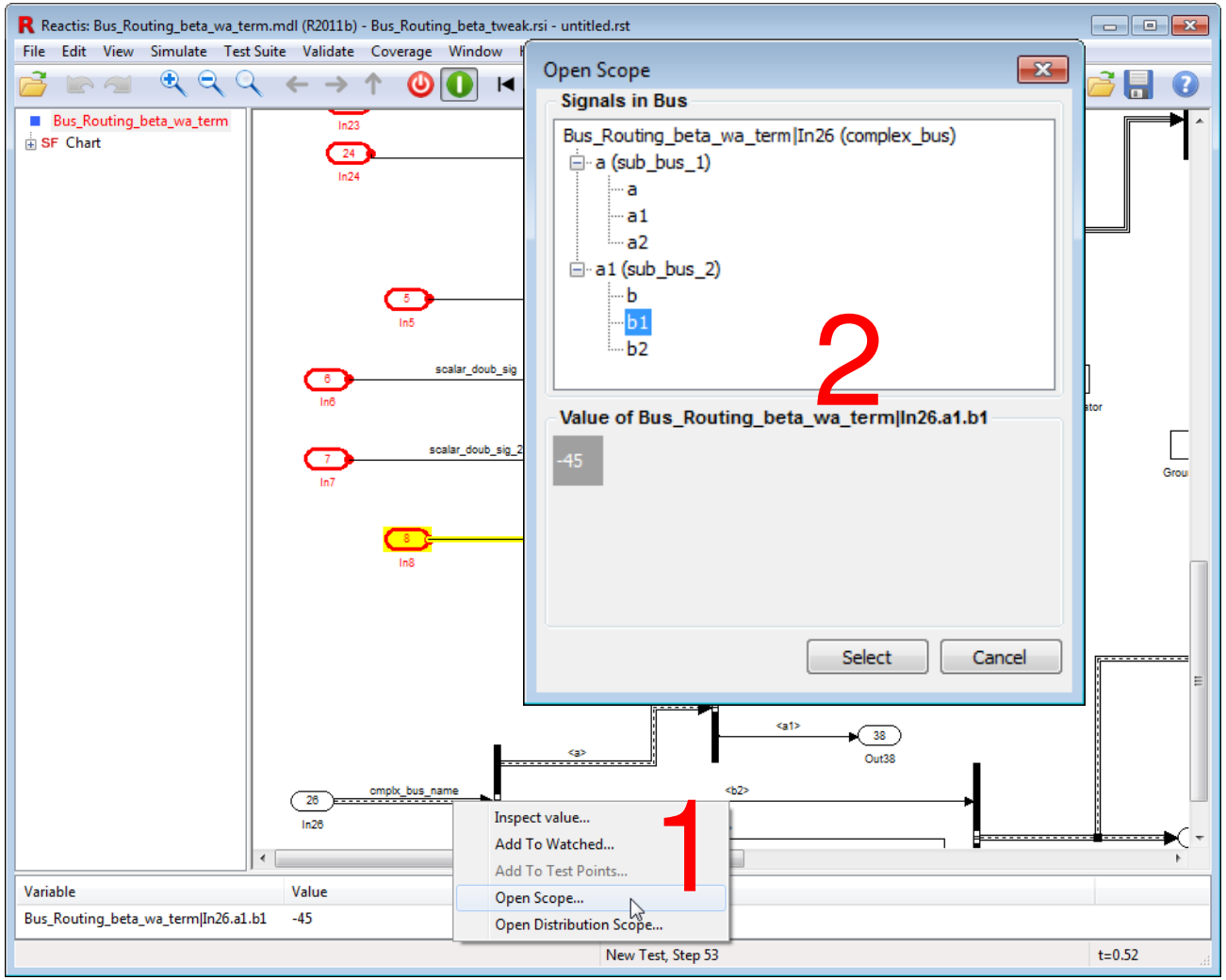

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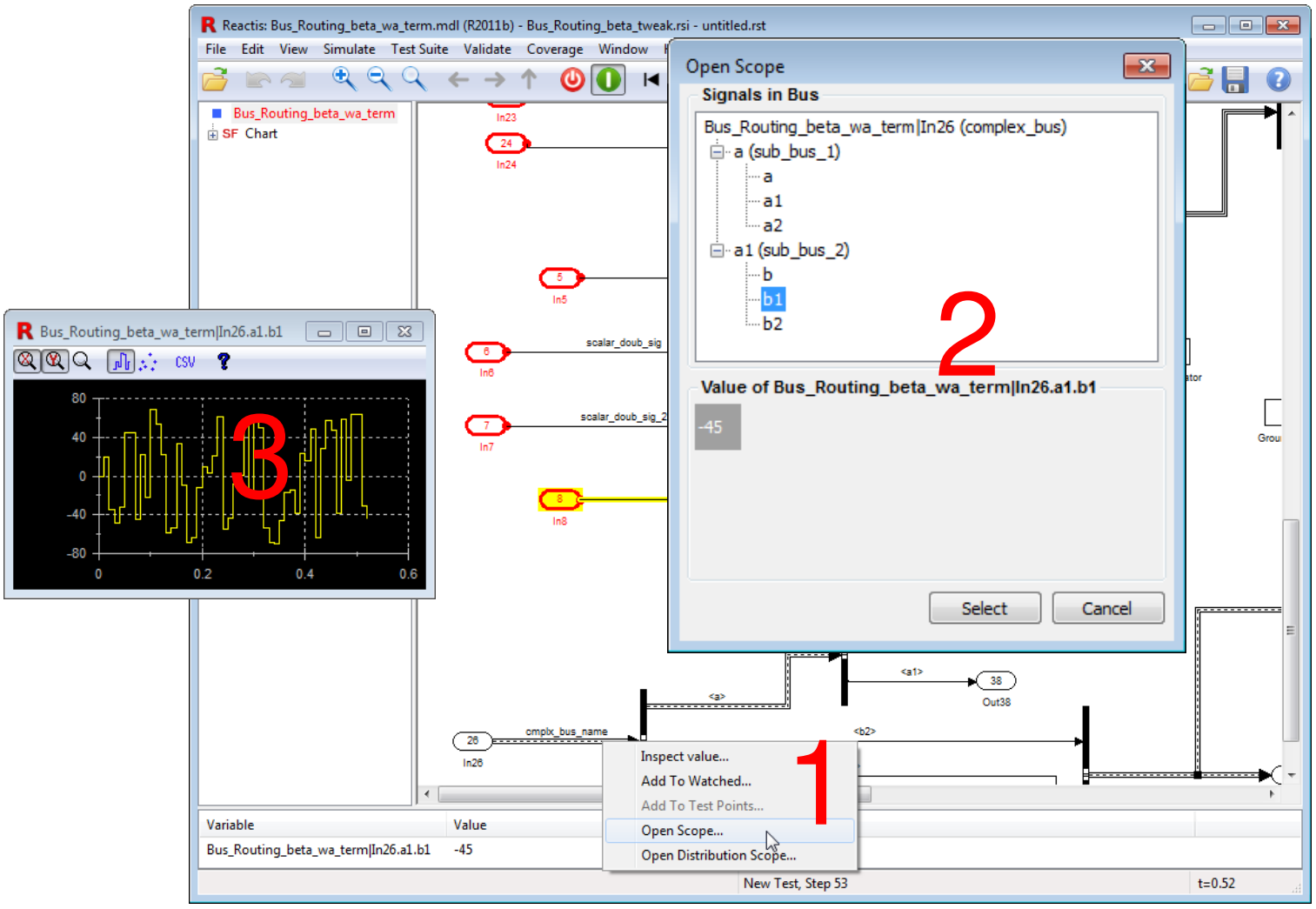

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Settings Reorganization

Global

- General tool settings, e.g. language used in GUI and documentation, license configuration.

Model-Specific

- Settings that affect model execution or testing, e.g. short-circuiting, flagging integer overflow or NaN.
- Model-specific settings stored in .rsi file, edited via Info File Editor.

Other Enhancements

- When using the Reactis for C Plugin, faster loading of S-Functions when source code does not change.
- Support Stateflow graphical functions that return multiple values.
- Specify fixed values for configuration variables during import.

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