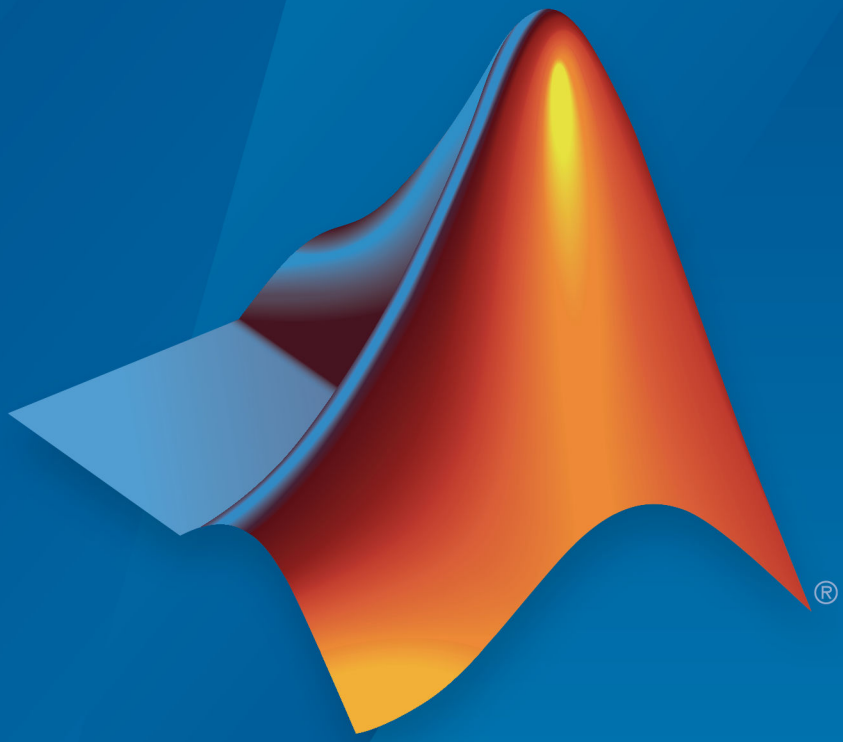
Simulink® Coverage™ Release Notes



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Simulink® Coverage™ Release Notes

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R2019a

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R2019a

Version: 4.3

New Features

Bug Fixes

Lookup table breakpoint value changes in coverage data

In R2019a, when you record coverage for multiple runs of a model with a lookup table, and then change the breakpoint values for the lookup table between runs, the coverage data from the previous runs is compatible with the updated model if the dimensions of the lookup table are the same as in the previous runs.

Simulink Coverage contextual tabs in the Simulink Toolstrip Tech Preview

In R2019a, you can turn on the Simulink® toolstrip. See “Simulink Toolstrip Tech Preview replaces menus and toolbars in the Simulink Desktop” (Simulink) for more details.

The Simulink toolstrip includes contextual tabs, which appear when you open the **Coverage Analyzer** app, under **Verification, Validation, and Test**. The Simulink Coverage™ contextual tab includes options for completing actions that apply only to Simulink Coverage. Documentation does not reflect the addition of the Simulink Coverage contextual tabs.

R2018b

Version: 4.2

New Features

Model Coverage Visualization: Gain enhanced perspective of coverage results through model highlighting and pop-ups within the Simulink Editor

The model coverage perspective allows you to hover over a model element and view a coverage summary for the model element in a tooltip. The **Coverage Details** window allows you to view detailed coverage information for model elements without leaving the Simulink Editor. For more information, see View Coverage Results in a Model.

Parallel Simulation Support: Accelerate coverage analysis through use of parsim

You can now leverage the `parsim` function to record model coverage for multiple simulation runs in parallel. For more information, see Record Coverage in Parallel Simulations by Using Parsim and parsim.

Stateflow Custom Code Support: Collect coverage on elements of Stateflow charts where C/C++ code is used

Simulink Coverage records code coverage for elements of Stateflow® charts where C/C++ code is used. For more information on how to enable custom code support, see Coverage for Custom C/C++ Code in Simulink Models.

C Caller Block Support: Perform code coverage analysis for custom C/C++ code in Simulink models

Simulink Coverage records code coverage for custom C/C++ code in C Caller blocks. For more information on how to enable custom code support, see Coverage for Custom C/C++ Code in Simulink Models.

Coverage Filtering API: Create filter rules for custom C/C++ code in normal mode and generated code in SIL or PIL modes

You can use model coverage commands to filter custom C/C++ code in normal mode and generated code in SIL or PIL modes. For more information, see `slcoverage.CodeSelector` and Automate Coverage Workflows.

R2018a

Version: 4.1

New Features

Fine-grained filtering for relational boundary metrics: Control coverage results for individual design elements

To achieve complete coverage when you record saturate on integer overflow coverage or relational boundary coverage for a model, you can exclude or justify incomplete coverage outcomes from the coverage report.

For more information on coverage filtering, see Create, Edit, and View Coverage Filter Rules. For more information on saturate on integer overflow coverage and relational boundary model coverage, see Types of Model Coverage.

Stateflow Just-In-Time (JIT) Compilation Mode: Reduce model update time when recording coverage

When you record coverage for Stateflow charts, Stateflow uses just-in-time (JIT) compilation technology to improve model update performance. For more information on JIT compilation technology, see Speed Up Simulation.

R2017b

Version: 4.0

New Features

Compatibility Considerations

Simulink Verification and Validation Packaging: Moved model and generated code coverage functionality and component verification functions such as slvnvmakeharness to Simulink Coverage

The model and generated code coverage functionalities and component verification functions of Simulink Verification and Validation™ have been transitioned to Simulink Coverage. For an introduction to the product, a basic Simulink Coverage workflow, and an outline of how Simulink Coverage fits into a systematic, end-to-end verification workflow, see the Getting Started with Simulink Coverage category. For coverage-related release notes for Simulink Verification and Validation prior to R2017b, see https://www.mathworks.com/help/releases/R2017a/slvnv/release-notes.html.

Coverage Filtering API: Filtering choices for coverage justifications that include specified decisions, conditions, and outcomes

You can use a command-line API to create filtering rules for blocks. Selection criteria for filtering includes filtering by individual block ID, filtering for all blocks of the same type, filtering certain decisions, conditions, and outcomes of a block, and more. You can also filter S-Function C++ code by code coverage outcome. For more information and examples, see Automate Coverage Workflows.

Logical Expressions in Assignment Statements: Record Condition and MCDC coverage for logical expressions in assignments in Stateflow and MATLAB Function Blocks

In models where logical expressions are assigned to variables – to break up complicated logic, to reuse common subexpressions, etc. – Simulink Coverage now records Condition and MCDC coverage for the logical expressions in assignment statements. For a detailed example of how Simulink Coverage records Condition and MCDC coverage for models where logical expressions are assigned to variables, see Coverage for MATLAB® Function Blocks.

Compatibility Considerations

Models that use logical expressions in assignment statements in Stateflow and MATLAB® Function blocks record an increased number of Condition and MCDC objectives than previously recorded.

Function and Function Call Coverage: Collect SIL & PIL coverage as required by ISO 26262

Simulink Coverage introduces two new metrics for measuring Statement coverage for code.

- Function Coverage: Function coverage determines whether all the functions of your code have been called during simulation.
- Function Call Coverage: Function call coverage determines whether all function calls in your code have been executed.

The new metrics are reported in the top-level Summary and in the Details section of the HTML Coverage Report when you record code coverage.