

# Simulink Performance Tools Release Notes

---

The “Simulink Performance Tools 1.3.2 Release Notes” on page 1-1 describe the changes introduced in the latest version of the Simulink Performance Tools. The following topic is discussed in these Release Notes:

- “Major Bug Fixes” on page 1-2

---

**Note** Simulink Performance Tools 3.2.1 requires R13SP1.

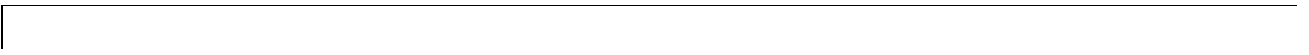
---

If you are upgrading from a version earlier than Version 1.2.1, you should also see these sections:

- “Simulink Performance Tools 1.3 Release Notes” on page 2-1
- “Simulink Performance Tools 1.2.1 Release Notes” on page 3-1
- “Simulink Performance Tools 1.2 Release Notes” on page 4-1
- “Simulink Performance Tools 1.1 Release Notes” on page 5-1
- “Simulink Performance Tools 1.0 Release Notes” on page 6-1

## Printing the Release Notes

If you would like to print the Release Notes, you can link to a PDF version.



## **Simulink Performance Tools 1.3.2 Release Notes**

---

**1**

<b>Major Bug Fixes</b> .....	<b>1-2</b>
------------------------------	------------

## **Simulink Performance Tools 1.3 Release Notes**

---

**2**

<b>Graphical Merge Tool No Longer Available</b> .....	<b>2-2</b>
---	------------

<b>Major Bug Fixes</b> .....	<b>2-3</b>
Simulink Accelerator Checks Out Embedded Coder License . .	<b>2-3</b>
Model Coverage Tool Reports Incorrect Results for If block . . .	<b>2-3</b>

## **Simulink Performance Tools 1.2.1 Release Notes**

---

**3**

<b>Major Bug Fixes</b> .....	<b>3-2</b>
------------------------------	------------

## **Simulink Performance Tools 1.2 Release Notes**

---

**4**

<b>New Features</b> .....	<b>4-2</b>
Model Coverage Tool Enhancements .....	<b>4-2</b>
<b>Platform Limitations for HP and IBM</b> .....	<b>4-4</b>
Limited Support Model Coverage Tool .....	<b>4-4</b>

## **Simulink Performance Tools 1.1 Release Notes**

---

### **5**

<b>New Features</b> .....	<b>4-2</b>
Model Coverage Tool .....	<b>4-2</b>

## **Simulink Performance Tools 1.0 Release Notes**

---

### **6**

<b>Introduction to the Simulink Performance Tools</b> .....	<b>5-2</b>
The Simulink Accelerator .....	<b>5-2</b>
The Model Coverage Tool .....	<b>5-2</b>
The Model Profiler .....	<b>5-2</b>

# Simulink Performance Tools 1.3.2 Release Notes

---

**Major Bug Fixes** . . . . . 1-2

## **Major Bug Fixes**

Simulink Performance Tools 3.2.1 includes important bug fixes made since Version 3.2.

If you are viewing these Release Notes in PDF form, please refer to the HTML form of the Release Notes, using either the Help browser or the MathWorks Web site and use the link provided.

If you are upgrading from a release earlier than Version 1.3, then you should also see “Major Bug Fixes” on page 2-3 of the Simulink Performance Tools 1.2 Release Notes.











# Simulink Performance Tools 1.3 Release Notes

---

<b>Graphical Merge Tool No Longer Available</b> . . . . .	2-2
<b>Major Bug Fix</b> . . . . .	2-3
Simulink Accelerator Checks Out Embedded Coder License . . . . .	2-3
Model Coverage Tool Reports Incorrect Results for If block . . . . .	2-3

## **Graphical Merge Tool No Longer Available**

The Graphical Merge tool for Simulink (also known as the Model Differencing/  
Merge tool) is no longer available.

## Major Bug Fixes

The following bug fix in Release 13 with Service Pack 1 addresses a previous problem that affected the Simulink Performance Tools.

### **Simulink Accelerator Checks Out Embedded Coder License**

In Simulink Performance Tools 1.2.1, running Simulink Accelerator would check out a Real-Time Workshop Embedded Coder license if one was present (but would not fail if one was not). This check-out has been eliminated.

### **Model Coverage Tool Reports Incorrect Results for If block**

In previous releases, the Model Coverage tool did not report correct coverage results for the If block in some cases. In particular, the results were correct only if the block's condition expression was input not equal to 0, i.e.,  $u1 \neq 0$ ,  $u2 \neq 0$ , etc. This release fixes this problem.



# Simulink Performance Tools 1.2.1 Release Notes

---

<b>Major Bug Fixes</b> . . . . .	3-2
----------------------------------	-----

### Major Bug Fixes

The Simulink Performance Tools 1.2.1 includes several bug fixes made since Version 1.2. This section describes the particularly important Version 1.2.1 bug fixes.

If you are viewing these Release Notes in PDF form, please refer to the HTML form of the Release Notes, using either the Help browser or the MathWorks Web site and use the link provided.



# Simulink Performance Tools 1.2 Release Notes

---

<b>New Features</b> . . . . .	4-2
Model Coverage Tool Enhancements . . . . .	4-2
<b>Platform Limitations for HP and IBM</b> . . . . .	4-4
Limited Support Model Coverage Tool . . . . .	4-4

# New Features

---

**Note** The Simulink Performance Tools 1.2 incorporates changes introduced in the Simulink Performance Tools 1.1.1, which was initially released in Web-downloadable form after Release 12.1 was released, but before Release 13. These Release Notes describe those changes, as well as changes introduced after Version 1.1.1.

---

If you are upgrading from a release earlier than Release 12.1, then you should also see “New Features” on page 5-2 in the Simulink Performance Tools 1.1 Release Notes.

## Model Coverage Tool Enhancements

Simulink Performance Tools 1.2 includes several enhancements to the Model Coverage Tool.

### Redesigned Coverage Settings Dialog Box

The redesign groups related settings into tabbed panes, thereby improving the readability of the settings.

### Multirun Coverage Reports

To display results for a series of runs, select **Cumulative runs** on the **Report** pane of the **Coverage Settings** dialog box.

### Coverage of Additional Objects

In addition to the blocks covered in previous releases, this release covers the following blocks:

- Discrete-Time Integrator  
Instrumented for decision coverage when saturation limits enabled.
- Fcn  
Instrumented for condition coverage when root operator is a logical operator (&&, ||, and !).

- **Rate Limiter**

Instrumented for decision coverage with respect to slew rates specified.

This release also extends coverage to Stateflow event and state temporal decisions

### **Cyclomatic Complexity Coverage**

The Model Coverage Tool now computes the cyclomatic complexity of covered objects and includes the result by default in the summary and detail sections of the coverage report. See “Coverage Analysis” in the online documentation for more information.

# Platform Limitations for HP and IBM

---

**Note** The Release 12.1 platform limitations for the Simulink Performance Tools for the HP and IBM platforms still apply to Release 13. Those limitations are summarized below.

---

## Limited Support Model Coverage Tool

On the HP and IBM platforms, you must use the command line commands, for example, `cvsim`, `cvtest`, and `cvhtml`, to generate and display coverage data. The tool displays coverage reports in your system's default browser. The hyperlinks from the report to the model do no work.

# Simulink Performance Tools 1.1 Release Notes

---

<b>New Features</b> . . . . .	5-2
Model Coverage Tool . . . . .	5-2

## New Features

This section introduces the new features and enhancements added in Simulink Performance Tools 1.1 since Simulink Performance Tools 1.0 (Release 12.0). The Model Coverage Tool was enhanced:

For an overview of the Simulink Performance Tools, see “Introduction to the Simulink Performance Tools” on page 6-2.

### Model Coverage Tool

This section describes features and enhancements added to the **Model Coverage Tool**.

#### Additional Coverage Types

This version adds the following types of coverage analysis:

- Condition coverage  
Examines blocks that output the logical combination of their inputs, e.g., the Logic block, and Stateflow transitions. A test case achieves full coverage if it causes each input to each instance of a logic block in the model and each condition on a transition to be true at least once during the simulation and false at least once during the simulation.
- Modified condition/decision coverage (MC/DC)  
Examines blocks that output the logical combination of their inputs, e.g., the Logic block, and Stateflow transitions to determine the extent to which the test case tests the independence of logical inputs and transition conditions.
- Look-up table (LUT) coverage  
Examines blocks, such as the Look-Up Table block, that output the result of looking up one or more inputs in a table of inputs and outputs, interpolating between or extrapolating from table entries as necessary. Lookup table coverage records the frequency that table lookups use at each interpolation interval.

See “Coverage Analysis” in the “Model Coverage Tool” section of Using Simulink for more information.

## Additional Covered Block Types

This version covers the following additional block types:

- Look-Up Table
- Look-Up Table (2-D)
- Combinatorial Logic
- For
- If
- Logic
- MinMax
- Relay
- SwitchCase
- While

See “Covered Blocks” in the “Model Coverage Tool” section of *Using Simulink* for more information.

## Additional Coverage Reporting Options

This version provides the following additional coverage reporting options:

- Include each test in the model summary
- Produce bar graphs in the model summary
- Use two color bar graphs
- Display hit/count ratio in the model summary
- Don't report fully covered model objects

See “HTML Settings” in the “Model Coverage Tool” section Using Simulink for more information.

## Hyperlink Enhancements

When you click a hyperlink to the model in a coverage report, the tool now opens the model, if it is not already open. Hyperlinks to the model in the coverage report now persist across Simulink sessions. This means that you no longer have to regenerate a report in order to use its hyperlinks.





# Simulink Performance Tools 1.0 Release Notes

---

<b>Introduction to the Simulink Performance Tools</b> . . . .	6-2
The Simulink Accelerator . . . . .	6-2
The Model Coverage Tool . . . . .	6-2
The Model Profiler . . . . .	6-2

## **Introduction to the Simulink Performance Tools**

The Simulink Performance Tools are an optional, separately priced, set of tools that enhance your Simulink development environment. The Simulink Performance Tools are new with Release 12. The Simulink Performance Tools consist of:

- The Simulink Accelerator
- The Model Coverage Tool
- The Model Profiler

### **The Simulink Accelerator**

The Simulink Accelerator speeds simulation of a Simulink model. It does this by first compiling a model into executable code, and then running the compiled version.

### **The Model Coverage Tool**

The Model Coverage Tool reports the extent to which simulation of a model exercises possible execution pathways through the model. See “Performance Tools” in the online help for Simulink.

### **The Model Profiler**

The Model Profiler generates and displays a profile of a simulation run. The profile shows how much time Simulink spent in each function required to simulate the model.