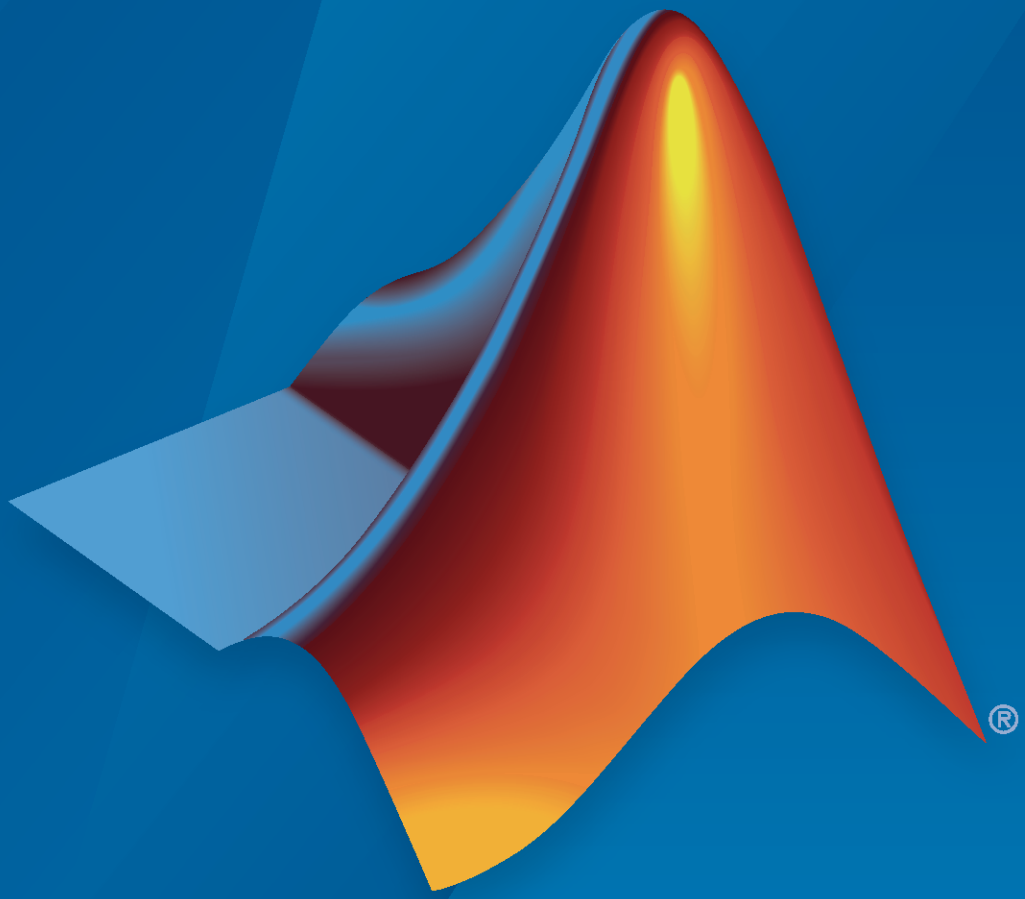
Simulink® Compiler™ Release Notes



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R2021a

Version: 1.2

New Features

Bug Fixes

Find All the Tunable Variables with simulink.compiler.getTunablevariables function

in R2021a, the function `simulink.compiler.getTunableVariables` enables you to find the names of all the tunable variables along with their nominal values. You can use `simulink.compiler.getTunableVariables` to find variables for simulations before and after deployment.

Export Simulink Models to FMUs with C Source Code

In R2021a, Simulink® Compiler™ enables you to export a Simulink model to FMU along with C source code. You can check **Save Source Code** in the **Export Model to FMU Co-Simulation** window or use the command line API, `exportToFMU2CS('mdlName','SaveSourceCodeToFMU','on')` to export the model to FMU with C source code.

Non-real Input and Output variables are now exported with discrete variability

During standalone FMU export, non-real input and output variables are exported with `discrete` variability, instead of `continuous` variability.

R2020b

Version: 1.1

New Features

Automatically Generate a MATLAB App for the Model

In R2020b, you can use the `simulink.compiler.genapp` function in Simulink Compiler to automatically generate a MATLAB® App, that can be compiled and deployed. The `simulink.compiler.genapp` function analyzes the Simulink Compiler model, creates its rapid accelerator simulation target ,and generates a MATLAB App. You can use the generated App to simulate the model in rapid accelerator simulation mode with different inputs, parameters, and initial conditions and to plot the results. For more information, see `simulink.compiler.genapp`.

Specify Runtime Callbacks in the Deployed Applications

In R2020b, you can specify callback functions for root inport blocks and root outport blocks, in the deployable applications. The callback functions are specified as MATLAB functions. Use the callback functions to set the values at the root inport blocks and to obtain the values at the root outport blocks at every step. With the callback functions, you can specify input data and view the progress of the simulation while the simulation is running, and view the progress of the simulations.

Win32 toolchain support: Generate 32-bit FMU with Microsoft Visual Studio Compilers

Simulink Compiler now supports exporting Co-simulation FMUs with 32-bit binaries. This enables the FMUs to run on legacy hardware.

R2020a

Version: 1.0

New Features

Introducing Simulink Compiler

Simulink Compiler enables you to share Simulink simulations as standalone executables. You can build the executables by packaging the compiled Simulink model and the MATLAB code used to set up, run, and analyze a simulation. Standalone executables can be complete simulation apps that use MATLAB graphics and UIs designed with MATLAB App Designer. To cosimulate with an external simulation environment, you can generate standalone Functional Mockup Unit (FMU) binaries that adhere to the Functional Mockup Interface (FMI) standard.

To provide browser-based access to your deployed simulation, you can create a web app and host it with MATLAB Web App Server™. Simulink simulations can be packaged into software components for integration with other programming languages (with MATLAB Compiler). Large-scale deployment to enterprise systems is supported through MATLAB Production Server™.

Supports sim Command API

Simulink Compiler only supports `sim` function syntax that takes `Simulink.SimulationInput` object and returns `Simulink.SimulationOutput` object.

Any APIs making a structural change to the model, such as `add_block`, `set_param` are not supported.

Export Models to FMU

As a part of Simulink Compiler now you can export models to Functional Mock-up Unit (FMU) that supports Co-Simulation in FMI version 2.0.