What's New in MapleSim™

Release 2016



The MapleSim[™] 2016 family of products includes a variety of improvements to streamline the user experience, expand modeling scope, and enhance connectivity with other tools.

MapleSim

User Experience

MapleSim 2016 provides numerous enhancements, both large and small, to provide a smoother, more streamlined user experience.

These improvements include:

- Collapsible task panes provide a larger model workspace, so you can see more of your model at once.
- Task panes, such as the component palettes pane and console window, can be set to appear automatically as needed and disappear again when the action is completed. As a result, panels always appear at optimum viewing size without taking up model space when they are not being used.
- Improved layout ensures the tools you need for your current task are available at your fingertips.
- New built-in Apps give you point-and-click access to powerful Maple[™]-based analysis and utility tools from within the MapleSim environment. Using these Apps, you can perform parameter sweeps, Monte Carlo simulations, code generation, and more, all without knowing, or even seeing, Maple.

- The new MapleSim App feature also allows you to deploy custom-built interactive applications to other MapleSim users in your organization, so they can access, explore and analyze your model with only minimal knowledge of MapleSim. These same applications can also be deployed over the web to non-MapleSim users using the MapleSim Server.
- New toolbar buttons corresponding to tasks in the contextsensitive menus offer alternative access to commonly used operations, to accommodate different preferences in working styles.
- A new search bar gives you a single point of access for searching the help pages, component libraries, examples, and models from the MapleSim Model Gallery on the Maplesoft web site, so you can quickly find exactly the resources you need.
- Redesigned interface icons offer improved scaling on high resolution monitors.

Contact Modeling

The built-in Multibody component library has been extended to include support for contact modeling. Over 15 new components allow you to quickly model contact between different objects in your model. Components cover a variety of surface shapes, including torus, sphere, and cylinder, allowing you to take into account the forces and torques at the contact points caused by penetration and friction.

Advanced Solver Options

MapleSim 2016 further expands the extensive collection of solver options in MapleSim that allow you to control the behavior of the simulation solvers.

- You can now set a minimum and maximum step size for variable-step solvers.
- The plot events option, which allows you to specify whether or not to calculate additional plot points when an event is triggered during the simulation, is now available for both fixed-step and variable-step solvers.
- A new option for variable-step solvers allows to you specify an initial rate hysteresis, which is used to set a minimum threshold rate for all event triggers at the start of the simulation.

MapleSim 2016 Add-ons

New Component Library! MapleSim Pneumatics Library[®] from Modelon

The MapleSim Pneumatics Library from Modelon lets you take advantage of the powerful, industry-tested component library from Modelon in your system-level designs. This library can be used in the modeling and simulation of pneumatic systems for system design, component sizing, and control design, with applications in construction equipment, machine design, commercial vehicle design, and more.

- Choose from over 90 components to model cylinders, motors, valves, nozzles, lumped volumes, lines, and sensors.
- Generate highly efficient, royalty-free simulation code suitable for real-time and in-the-loop simulations.
- Access underlying system equations for advanced analysis, parameter optimization, and visualization.
- For advanced applications, you can customize and extend components to suit your specific needs.
- Get started quickly with sample models that can be modified to form a starting point for your own designs.
- Rely on industry-tested components from Modelon, a leading provider of Modelica[®] libraries

Connectivity Add-ons

- The MapleSim CAD Toolbox has been extended to support the latest versions of Inventor[®], NX[®], SOLIDWORKS[®], CATIA[®] V5, Solid Edge[®], PTC[®] Creo Parametric[™], and more.
- The MapleSim Connector, which provides connectivity to Simulink®, now supports single precision export of S-functions so you can run your MapleSim models on hardware that only supports single precision.
- All MapleSim add-ons and connector products have been updated to take advantage of the computational power of Maple 2016.





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