SIEMENS

Siemens PLM Software

LMS Imagine.Lab System Synthesis

Enhancing system integration, configuration and architecture management

Benefits

- Significantly reduce the time and effort needed for system integration
- Enable the analysis of transverse system performance attributes (energy management, drivability, aircraft synthesis)
- Modularize system development for global distributed and concurrent development
- Use only a few generic reference architectures to generate and simulate multiple system simulation models

Today, systems engineering is based on a top-down approach in which product requirements define the functionality. You can simulate mechanical and controls subsystems to check that the selected architecture fits the original requirements. Starting with this process, LMS Imagine.Lab™ System Synthesis software provides a platform to configure and integrate plant and controls models into a logical view of the entire system for simulation. This system integration solution lets you author the most logical structure, configure it and integrate the various models as required for system simulation.

With LMS System Synthesis, system engineers and architects can seamlessly work on conceptual design and system architecture, integration and validation using data and models originating from multiple authoring applications, such as LMS Imagine.Lab Amesim™ software, Simulink and any application that supports the Functional Mockup Interface (FMI) standard for model exchange and co-simulation. By supporting system assembly, the end result is an executable system model ready for different test scenarios to validate and optimize overall system concepts.

LMS Imagine.Lab System Synthesis

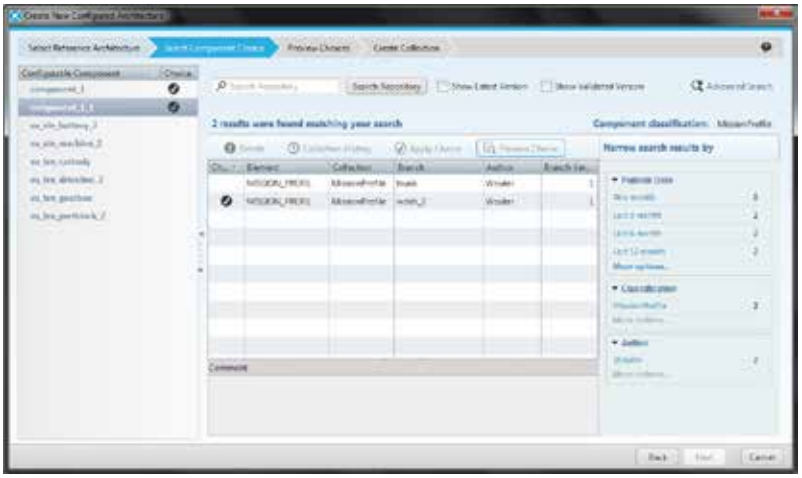
Features

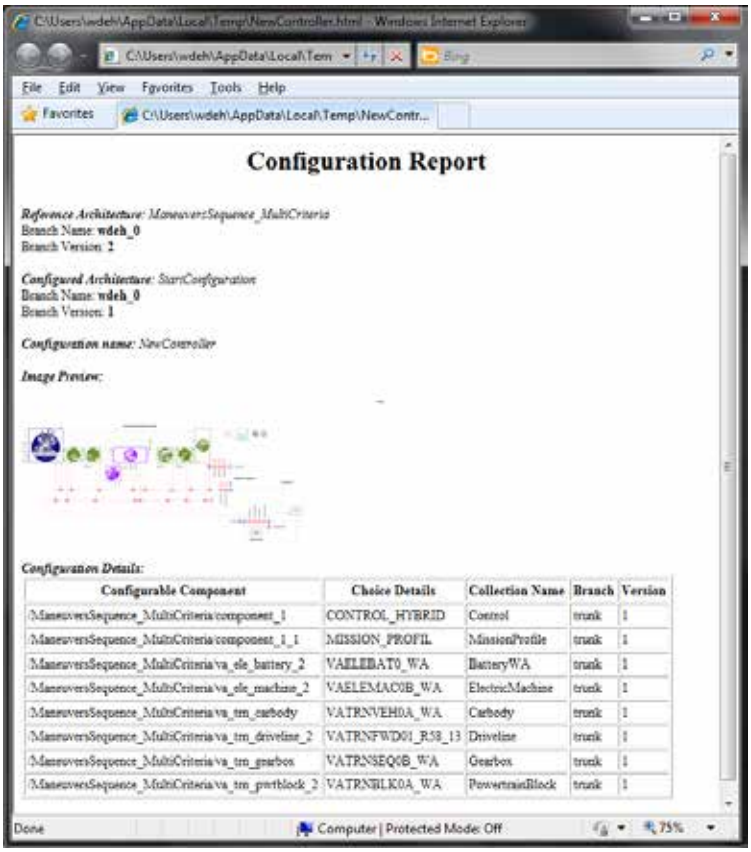
- Import of reference architecture models built in a SysML editor, in LMS Amesim or Simulink
- Support of multi-level heterogeneous configuration
- Configuration of architecture models based on LMS Amesim, Simulink or SysML
- Connection to LMS Sysdm and its model management features
- Open interface to pre- and post-simulation tools and scripts for managing process workflow
- CosiMate based co-simulation support

Import and configuration of system architecture

With LMS System Synthesis, importing and configuring system architectures becomes a straightforward task. You can easily import reference architecture models built in a SysML editor, LMS Amesim or Simulink. LMS System Synthesis enables you to store the reference architectures in a tool-neutral format, and add meta-information about the architecture that corresponds to requirements, test and usage cases.

Starting from these reference architecture models, LMS System Synthesis enables you to populate system configurations with behavioral models, using libraries and models stored in the central LMS Imagine.Lab™ Sysdm server. These models originate from LMS Amesim libraries, Simulink, Functional Mockup Units (FMUs), S-functions or a combination of the above. Once configurations have been made, it is still possible to propagate any changes in reference architecture to all these configurations.





Simulation of executable systems and design comparison

Once system configurations have been filled with models, LMS System Synthesis helps you create ready-for-simulation, executable systems, and run system simulations in the tool of your preference.

You can also create simulation run sets by selecting various configurations, use postprocessing scripts and configuration HTML reports to compare configurations and confront architecture choices to test design options.

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