scalexio\_configurationdesk

dSPACE – ConfigurationDesk

ConfigurationDesk

Configuration and Implementation Software for dSPACE SCALEXIO Hardware

HIL, real-time application, ECU, load, model

Product Information

ConfigurationDesk®

Neue Grafik „Screenshot\_ConfigurationDesk\_5-0\_131018.psd“

Configuration and implementation software for dSPACE SCALEXIO® Hardware

n Configure real-time applications graphically

n Manage signal paths between external devices (like ECUs or loads) and behavior model interfaces

n Implement behavior model code and I/O function code on dSPACE hardware

n Manage multicore applications

n NEW: Import of virtual ECUs

TAB 1

Application Fields

ConfigurationDesk is an intuitive, graphical configuration and implementation tool. It is ideal for handling HIL real-time applications based on dSPACE SCALEXIO hardware, and for implementing behavior models and I/O function code on dSPACE SCALEXIO hardware. You can define and document external devices such as ECUs and loads, including their signal properties (descriptions, electrical properties, failure simulation settings, load settings). ConfigurationDesk displays user-defined views of the signal path between the ECU pins/load pins and the behavior model interfaces.

TAB 2

The Benefits

With ConfigurationDesk, it is easy to implement the behavior model code (from MATLAB®/Simulink®/Simulink Coder™) and the I/O function code (from ConfigurationDesk) on the dSPACE SCALEXIO hardware. The entire build process for a real-time application is handled by ConfigurationDesk. Comprehensive documentation options and graphical displays give you great project transparency – a great advantage with large-scale HIL project especially. You can assemble and configure the project-specific hardware offline as a "virtual system", in other words, as a purely software-based configuration. A real-time application can be executed for test runs even if parts of the necessary (and configured) I/O hardware are not physically available. In addition, you can generate a Microsoft® Excel® file with information on the wiring harness and on external devices.

TAB 3

Configuration for Multicore Use

Large, complex models are distributed across multiple processor cores to ensure the simulation runs in real time. Two different workflows are possible for this. The first is to split the overall behavior model into separate Simulink® models that can be imported into ConfigurationDesk. One processor core is able to execute one model. The core-to-model assignment is done automatically by ConfigurationDesk, and the inter-model communication is configured in

ConfigurationDesk. In the second workflow, there is one overall Simulink® model, and a special Simulink block is used to specify which subsystems should be computed together on one processor core. The inter-model communication is transferred from Simulink® to ConfigurationDesk.

One processor core is always reserved for the communication to the host PC. The other cores can be used for behavior model calculation.

TAB 4

NEW: Importing Virtual ECUs

In ConfigurationDesk you can integrate virtual ECUs (V-ECUs) into a real-time application just like any other behavior models. With the SCALEXIO real-time hardware, V-ECUs can be simulated alone or in combination with real ECUs. The V-ECUs can contain CAN controllers to simulate CAN bus communication between the ECUs.

For information on generating V-ECUs, please refer to SystemDesk® V-ECU Generation Module.

Linkbox 🡪 ergänzen zu bestehenden Inhalten

SystemDesk V-ECU Generation Module https://www.dspace.com/en/pub/home/products/sw/system\_architecture\_software/systemdesk/systemdesk\_vecu\_generation.cfm