PRODUCT BRIEF

SILEXICA

SLX FOR ALMATHEA

The AMALTHEA model helps for a smooth integration of multiple applications on one platform. It is becoming more important as heterogeneous computers advance towards autonomous driving.

As an open platform, proven in the automotive sector by Bosch and its partners, it supports interoperability and extensibility and unifies data exchange in cross-organizational projects on embedded multicore systems.

AMALTHEA is growing in popularity as part of the solution for intelligent vehicles and it is now incorporated into the latest release of SLX.

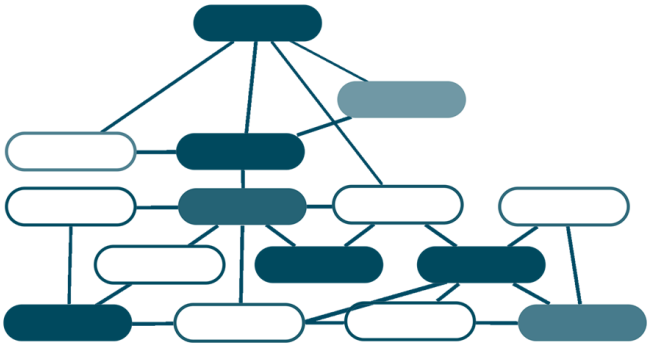
FEATURES AND CAPABILITIES

ANALYZE

ANALYZE CODE

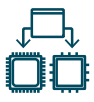
Optimal scheduling requires knowledge of the dependencies between functions and tasks and how often data is accessed. SLX can analyze your AMALTHEA model and put the results in the human domain.

- ***Task Data Dependencies***
  Find and display data dependencies across task boundaries
- ***Function Dependencies***
  Display data dependencies of functions assigned to a single task
- ***Interactive Dependency Graph***
  Graphically add or remove dependencies between functions to better fit the requirements of your project



AMALTHEA model import support

Runnable based scheduling optimization



AMALTHEA model export support

OPTIMIZE

OPTIMIZE

Function Based Scheduling

Function Level Parallelization speeds the execution of tasks without changing the properties of the original application. SLX implements a scheduling algorithm to distribute a task's functions among multiple processors, ensuring data-dependencies are satisfied.

The results can be visualized as Gantt charts and generated schedules can be applied to the system.

Power Optimized Parallelization

Combining the tool's Function Level Parallelism and Task Level Parallelism capabilities, SLX reduces the overall execution time of a system allowing changes to system voltage and frequency. Thus, reducing power consumption while still meeting system latency constraints. Alternatively, the increased capacity can be used to augment application features.

Power, performance, and memory-driven SW distribution

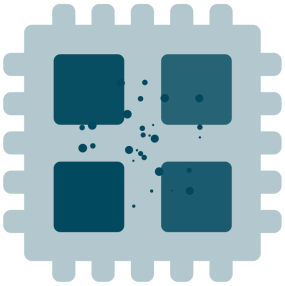
Optimized task schedules under tight timing constraints

Selection of DVFS power states to decrease peak and average power

INTEGRATE

INTEGRATION

SLX supports the export of AMALTHEA model to allow for seamless integration with 3rd party tools. AMALTHEA is a xml-based exchange format for embedded multi-core systems. The AMALTHEA format allows for storing both the software and hardware model of the system. The type of information stored in the model consists of Task, Runnable, Variable, Scheduler, OS, Memory and Microcontroller information.



THE SILEXICA SOLUTION

SLX improves your time-to-market, your feature set, and lowers costs and power.

Faster time to market

Mapping dependent code generation for multicores

AMALTHEA Model Export Support