

ARTELYS KALIS™

Constraint Programming Library

A high-performance and extensible
hybrid MIP/CP framework

Artelys Kalis is an innovative optimization framework consisting of a comprehensive set of modeling tools and search engines to solve real-world challenges:

- | High-level modeling language available in C++, Java, and Python
- | Specialized modeling language for scheduling and resource allocation
- | Fast & configurable search and constraint filtering algorithms
- | Integrated LP/MIP relaxation solver

An interactive and user-friendly hybrid MIP/CP framework

ARTELYS KALIS™
Constraint Programming Library

Key features

- Comprehensive library of constraints and search heuristics.
- Specialized modeling objects, constraints and search heuristics for scheduling and resource allocation problems.
- User-defined constraints, search heuristics and callbacks.
- Automatic generation of LP or MIP relaxations for faster optimization runs.
- **New! Multi-threaded optimization for multicore architectures.**

Problem classes solved by Kalis

- General mixed-integer nonlinear problems (MIP/MIN LP).
- Process planning and scheduling.
- Resource allocation and staff scheduling.
- Vehicle routing and supply chain design.

OPERATING SYSTEMS

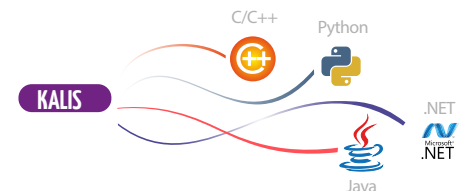


Windows



Linux

PROGRAMMING INTERFACES



Artelys Kalis documentation:

www.artelys.com/en/optimization-tools/kalis

Try Artelys Kalis for free

www.artelys.com/en/optimization-tools/kalis

Artelys develops and supports Kalis worldwide.

XPRESS KALIS™
Constraint Programming Library

Xpress Kalis is a Mosel module granting access to all Artelys Kalis functionalities within Xpress Mosel. Xpress Kalis is effective in solving many difficult classes of problems including highly combinatorial problems.

Key features

- Integrated in the Xpress Mosel language for faster and easier model prototyping and development.
- Available through Xpress Workbench modeling environment
- Syntax coloring.
- Model and search statistics.
- Search tree visualization.
- User-defined constraints, search heuristics and callbacks inside Xpress Mosel.
- Automatic generation of LP or MIP relaxations that can be solved with Xpress Optimizer for faster optimization runs.

Xpress Mosel is developed by Fico

FICO™

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