

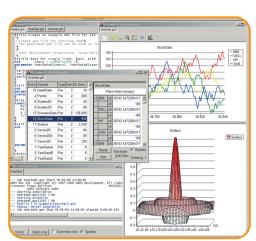


# **High-Level Modeling**

The General Algebraic Modeling System (GAMS) is a high-level modeling system for mathematical programming problems. GAMS is tailored for complex, large-scale modeling applications, and allows you to build large maintainable models that can be adapted quickly to new situations. Models are fully portable from one computer platform to another.

# **State-of-the-Art Solvers**

GAMS incorporates all major commercial and academic state-of-the-art solution technologies for a broad range of problem types.



GAMS Integrated Developer Environment for editing, debugging, solving models, and viewing data.

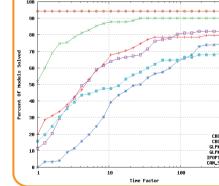
### **GAMS/COIN-OR**

In 2004 two linear mixed integer solvers from COIN-OR were introduced as part of the GAMS distribution. Since then, the COIN-OR/GAMS cooperation has resulted in various activities mutually beneficial to GAMS clients and the open source community.

- Ready to use COIN-OR solvers are part of the regular GAMS distribution (free of charge).
- Close collaboration with the Department of Mathematics at Humboldt-Universität zu Berlin results in the COIN-OR project GAMSlinks (https://projects.coin-or.org/GAMSlinks, project leader Stefan Vigerske), open-sourcing the linking code for all supported solvers.
- Addition of (mixed-integer) non-linear COIN-OR solvers to the GAMS distribution.
- Continuous performance improvement (see performance plot) of COIN-OR solvers.
- GAMSWorld QA tools (e.g. PAVER www.gamsworld.org/performance/paver) are being used to automate test and performance procedures, providing feedback to the COIN-OR community.
- Open source solvers part of the GAMS system: Bonmin (MINLP), Clp/Cbc (LP/MIP), Glpk (LP/MIP), and Ipopt (NLP).
- Support for popular platforms: Windows, MacOS, Linux, and Sun Solaris on Intel.







Performance Profile of LP Models from GamsWorld's LINLIB

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