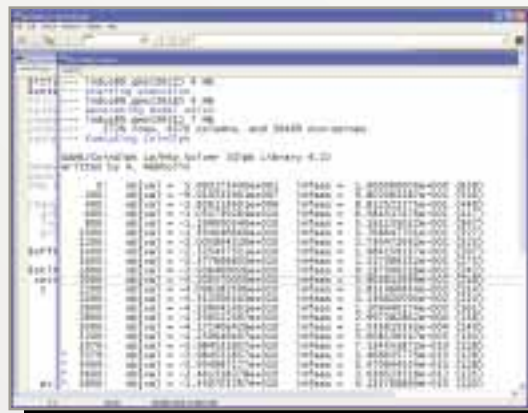# GAMS

Modeling for the Real World

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.

Multiple Model Types

GAMS allows the formulation of models in **many different problem classes**, including

- Linear (LP) and Mixed Integer Linear (MIP)
- Nonlinear (NLP) and Mixed Integer Nonlinear (MINLP)
- Mixed Complementary (MCP)
- Programs with Equilibrium Constraints (MPEC)
- Stochastic Linear Problems
- Constrained Nonlinear Systems (CNS)
- Conic Programming Problems

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

GAMS/COIN-OR Link

Recently, GAMS has added a link to the Computational Infrastructure Operations Research (COIN-OR). The COIN-OR project is an initiative to spur the development of open-source software for the operations research community.

The GAMS/COIN-OR link allows GAMS users to connect their customized solution approaches using the COIN-OR Open Solver Infrastructure (OSI) in a seamless manner.

The GAMS/COIN-OR Link for LP and MIP problems is available in source and free of charge with any licensed GAMS system.

GAMS/COIN-OR Glpk solve of GAMS Model Library model Indus89.gms.

COIN-OR Solvers

Potentially, all solvers connected to COIN-OR/OSI can be made available through the GAMS/COIN-OR link. Currently
- CoinGlpk: Gnu Linear Programming Kit
- CoinSbb: Simple branch and bound, a branch and cut code

are included in the latest Windows and Linux distributions. Please visit the GAMS/COIN web page at **http://www.gams.com/gamscoin** for details.

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