LogMIP

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1 Introduction

LogMIP 1.0 is a program for solving linear and nonlinear disjunctive programming problems involving binary variables and disjunction definitions for modeling discrete choices. While the modeling and solution of these disjunctive optimization problems has not yet reached the stage of maturity and reliability as LP, MIP and NLP modeling, these problems have a rich area of applications.

LogMIP 1.0 has been developed by A. Vecchietti, J.J. Gil and L. Catania at INGAR (Santa Fe-Argentina) and Ignacio E. Grossmann at Carnegie Mellon University (Pittsburgh-USA) and is composed of:

- a language compiler for the declaration and definition of disjunctions and logic constraints
- solvers for linear and non-linear disjunctive models (lmbigm, lmchull)

Those components are linked to GAMS. Both parts are supersets of GAMS language and solvers respectively. LogMIP is not independent of GAMS. Besides the disjunction and logic constraints declaration and definition, LogMIP needs the declaration and definitions of scalars, sets, tables, variables, constraints, equations, etc. made in GAMS language for the specifications and solution of a disjunctive problem.

LogMIP comes free of charge with any licensed GAMS system but needs a subsolver to solve the generated MIP/MINLP models.

For more information see

- Website: `http://www.logmip.ceride.gov.ar/`
- Documentation: `http://www.logmip.ceride.gov.ar/sites/default/files/logmip_manual.pdf`