Fifth Competition of Pseudo-Boolean Solvers (PB'10)
Call for Solvers and Benchmarks
`http://www.cril.univ-artois.fr/PB10/`

GOAL

Like the previous competitions (PB05, PB06, PB07 and PB09), the goal is to assess the state of the art in the field of pseudo-Boolean solvers and identify the best approaches to solving pseudo-Boolean constraints.

With a few simplifications, pseudo-Boolean constraints are defined on 0/1 variables by inequalities which enforce a sum of products of an integer and a variable to be greater or equal to a constant integer (e.g. $7a+2b+3c \geq 5$ with $a, b, c \in \{0, 1\}$). These constraints can be solved by several kinds of solvers: Integer Programming solvers, Constraint Satisfaction solvers or pseudo-Boolean solvers inheriting of Satisfiability techniques.

The competition consider both satisfaction and optimization problems expressed with pseudo-Boolean constraints.

IN A FEW LINES

Pseudo-Boolean constraints can be classified by several main criteria:

- linear or non linear constraints (non-linear constraints contain products of variables)

- defined on small integers (32 bits) or arbitrary precision integers

Several problems can be defined:

- decision problem

- optimization problems:

    - identifying a solution of the constraints which maximizes one (or several) linear or non-linear objective function(s)

    - identifying an interpretation which maximizes the number of satisfied constraints (Max-Satisfiability) or minimizes the cost of falsified constraints (Weighted Max-Satisfiability)

The 2010 edition of the competition introduces non-linear objective functions, maximum satifiability and weighted max-satisfiability of pseudo-Boolean constraints. Multi-objective optimization may be introduced if there is enough interest.

A solver is not required to support all kinds of constraints nor all kinds of problems to enter the competition.. Any solver (complete or incomplete) solving at least one of these problem for at least one kind of pseudo-Boolean constraint can enter the competition. Submitters will have to specify which kind of problem can be solved by their solver.

We encourage the submission of

- any kind of pseudo-Boolean instances

- any solver solving one or more kinds of pseudo-Boolean problem

Details about the input/output format as well as the rules of the competition can be found at

`http://cril.univ-artois.fr/PB10`

DEADLINES

Opening of the registration site at `http://www.cril.univ-artois.fr/PB10`	May 3, 2010
Deadline for submitting solvers and benchmarks	**May 30, 2010**
Final results availability	during the SAT 2010 conference

CONTACTS

Organizers may be reached at `pbeval@cril.univ-artois.fr`.