SMTInterpol

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Description

SMTInterpol is an SMT solver written in Java and available under LGPL v3. It supports the quantifier-free combination of the theories of uninterpreted functions, linear arithmetic over integers and reals, and arrays. Furthermore it can produce models, proofs, unsatisfiable cores, and interpolants. The solver reads input in SMTLIB format. It includes parsers for DIMACS, AIGER, and SMTLIB version 1.2 and 2.

The solver uses variants of standard algorithms for CNF conversion [PG86], congruence closure [NO05], Simplex [DdM06] and branch-and-cut [DDA09]. The array decision procedure is based on *weak equivalences* and was presented at the SMT workshop 2014. Theory combination is performed based on partial models produced by the theory solvers [dMB08].

The main focus of SMTInterpol is the application track where the incremental usage of the solver is required. This track simulates the typical application of SMTInterpol where a user asks multiple queries. Unfortunately, the interpolation engine [CHN13] of SMTInterpol which is the focus of the development team of SMTInterpol is not tested during SMT-COMP.

Competition Version

The version submitted to the SMT-COMP 2015 is a preliminary release of version 2.2. This release will include quantifier-free interpolation for the theory of arrays which is still missing in the current solver.

Further information about SMTInterpol can be found at

`http://ultimate.informatik.uni-freiburg.de/smtinterpol/`

The sources are available via GitHub

`https://github.com/juergenchrist/smtinterpol`

Magic Number: 2 072 868 739

References

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