STP

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1 Introduction

STP[1] is an efficient open source solver for QF_BV and arrays without extensionality. STP recursively simplifies bit-vector constraints, solves linear bit-vector equations, and then eagerly encodes them to CNF for solving. Array axioms are added as needed during an abstraction-refinement phase.

Two versions of STPs are submitted to STMCOMP 2015. Both are revision bff0edecbb7c08a of STP's publicly available source code repository [2]. The version with "-minisat-v15" uses MiniSat [3] revision 37dc6c67 set as default solver. The verison with "-cryptominisat4-v15" contains CryptoMiniSat4 [4] revision 24db9219b180 set as default solver.

2 Development history

STP was originally developed by Vijay Ganesh under the supervision of Professor David Dill. Later releases were developed by Trevor Hansen under the supervision of Peter Schachte and Harald Søndergaard. STP handles arbitrary precision integers using Steffen Beyer's library. STP encodes into CNF via the and-inverter graph package ABC of Alan Mishchenko [5].

Since SMT-COMP 2015 we have made great progress at cleaning up the STP repository and have significantly improved the underlying SAT solver, CryptoMiniSat4's performance. The STP repository now contains a large number of automated testing, buliding and deployment scripts. Further, it contains a large test suite and more inner self-checks through asserts. STP is being actively developed on GitHub.

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References

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