

# The Nuts and Bolts of Yices

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## Abstract

At a high-level, the architecture of many SMT solvers is well known. It is the combination of a SAT solver and one or more decision procedures called theory solvers. But how to effectively implement such a combination is rarely discussed in the literature. This talk will focus on implementation issues. We will discuss the practical integration of CDCL-based SAT solvers and theory solvers. We will present data structures and algorithms employed by the Yices SMT solver, and examine preprocessing and formula simplification, which have a significant impact on a solver's performance.

Yices is developed and distributed by SRI International. It is free for non-commercial use. Source and binaries are available at <http://yices.csl.sri.com>.