SMACK
SOFTWARE VERIFICATION TOOLCHAIN

http://smackcers.github.io

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C

C++

Rust

LLVM

LLVM IR

Analysis/Optimization (DSA)

llvm2bpl

Boogie code

lock pwn

Symbox oglix

Duality

Boogie

Corral

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SMACK

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FEATURES

- Enables fast verifier/language/translation prototyping
- Open source (documentation, simple installation)
- Translates large programs (100 KLOC of nasty C)
- Automatically checks assertions and memory safety
- Relatively easily plugs into existing build systems
- Supports concurrency (pthreads)
- Byte-precise memory modeling, on demand bit-vectors
- Preliminary support for floating-points
- Experimental support for deductive verification
  - Pre- and post-conditions, loop invariants

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