Incremental Compilation for Stratego

Whole-program compilation model



Stratego [1] is a DSL for program transformation based on term rewriting with programmable rewriting strategies. Named rules and strategies can be defined in multiple modules. Multiple definitions with the same name are merged as different options of the rule or strategy. This is an extensibility mechanism of the language.



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Cost of changing one strategy: Full compilation

Whole program compilation takes in all relevant files with Stratego modules. It parses all and builds a single internal model of the program. This is then used to generate a Java class for each strategy, and to generate two shared classes.

Dynamic linking compilation model



Our work: Static linking compilation model



Constructing Hybrid Incremental Compilers for Cross-Module Extensibility with an Internal Build System Jeff Smits, Gabriël Konat, Eelco Visser

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