

Modelica Based Parser Generator with Good Error Handling

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This paper describes the new OpenModelica Compiler-Compiler (OMCC) including a parser generator, OMCCp which is based on an LALR parser generator extended with advanced error handling facilities. It is implemented in the MetaModelica language with parsing tables generated by the tools Flex and Bison. It is integrated with the MetaModelica semantics specification language, based on operational semantics for generating executable compiler and interpreter modules.

The OMCCp parser generating part of OMCC has been used for the full Modelica language grammar as well as for the language extensions of MetaModelica, ParModelica, and Optimization specifications. It has been successfully tested on MSL models and on the OpenModelica test suite comprising more than 1200 example models. The generated parsers have reasonable performance compared to most other parser generators.

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