

The KIELER SCCharts Editor

A Modular Open-Source Modeling Suite with Automatic Diagram Synthesis

C | A | U

Kiel University

Faculty of Engineering

Department of Computer Science

```

schart AO {
  input bool A
  output bool O

  initial state _Init
  immediate do O = false go to _Depth

  state _Depth
  immediate if A go to _S
  immediate go to _Pause

  state _Pause
  go to _Depth

  state _S
  immediate do O = true go to Done

  final state Done
}
    
```

Linked textual/graphical navigation

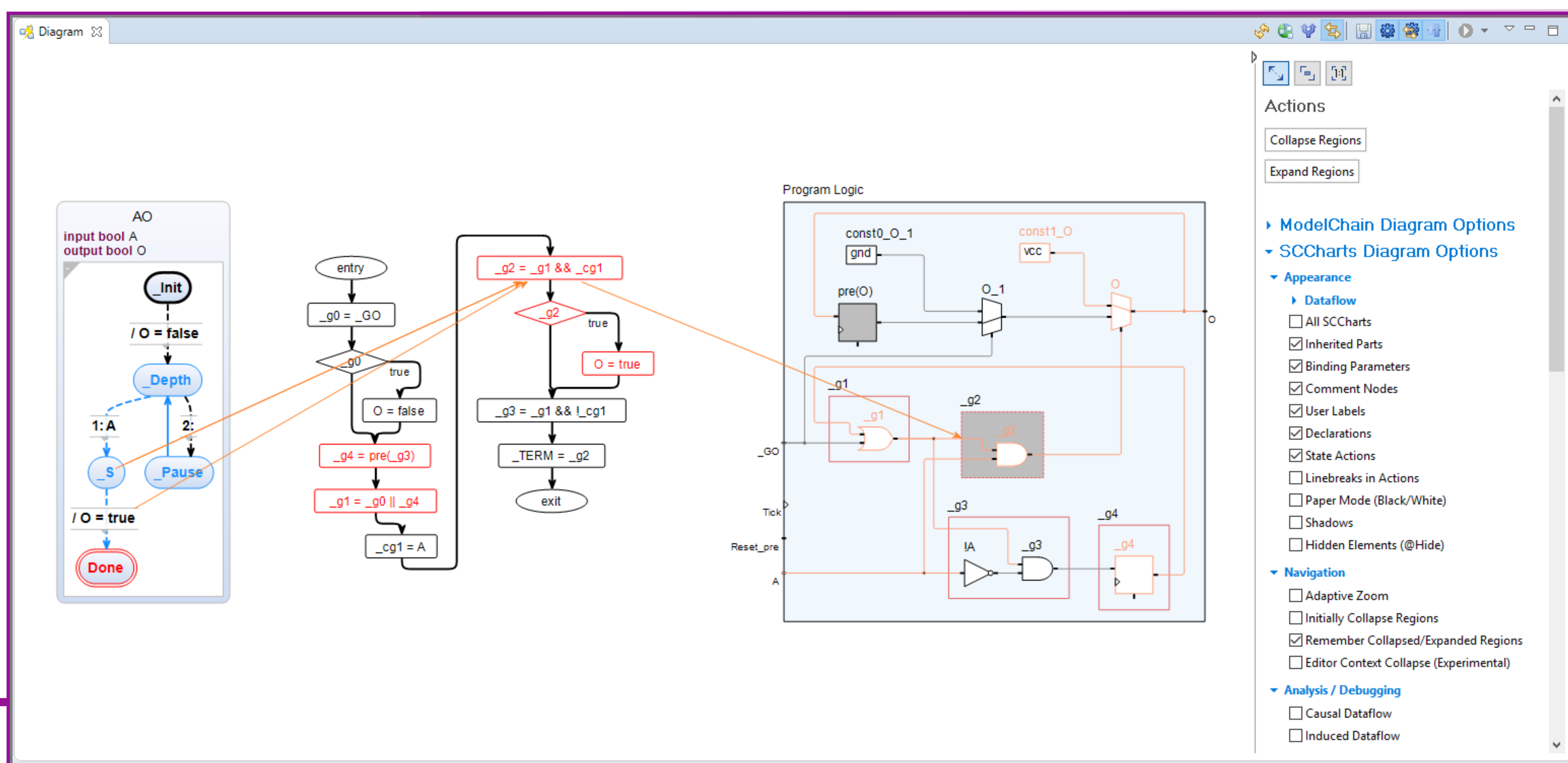
Modeler edits textual description

Arbitrary DSLs

Automatically synthesized diagrams

Layout provided by ELK

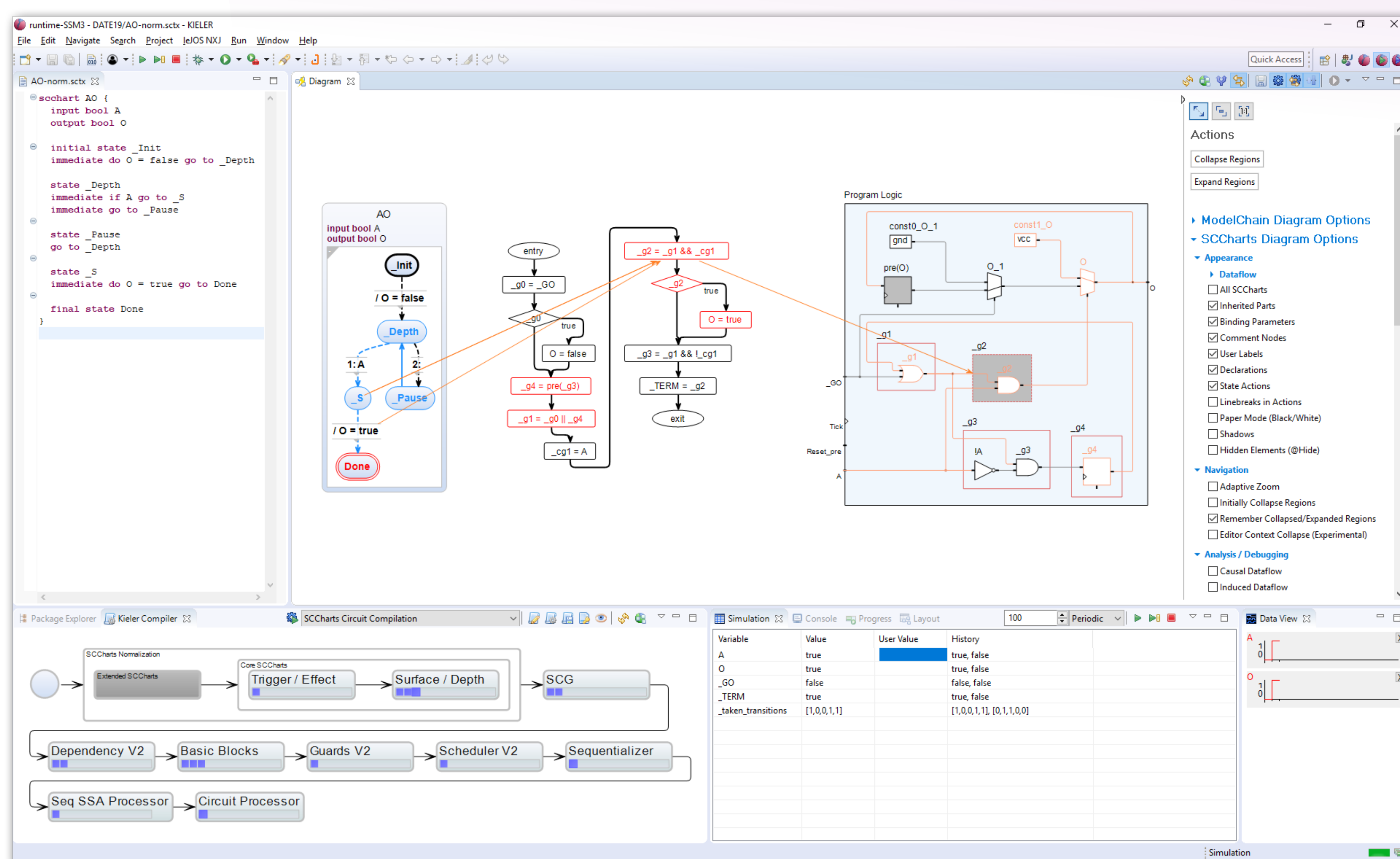
User-defined syntheses



Numerous diagram options

Debugging views

View filtering



Integrated tracing

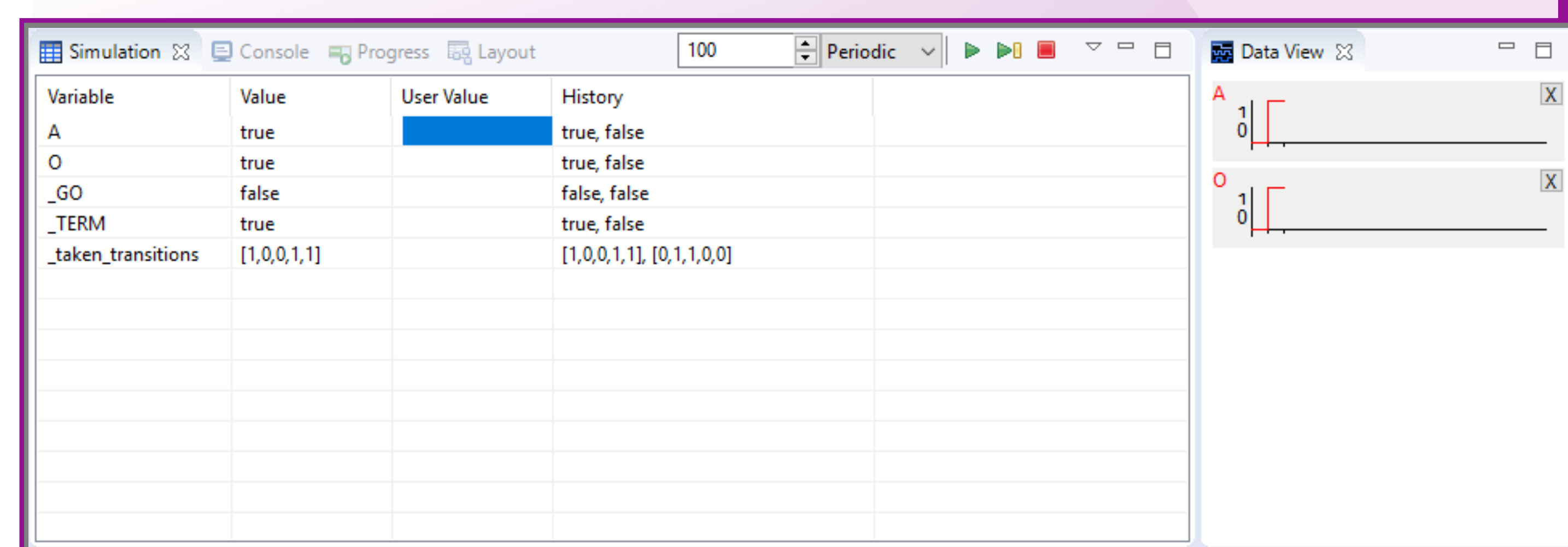
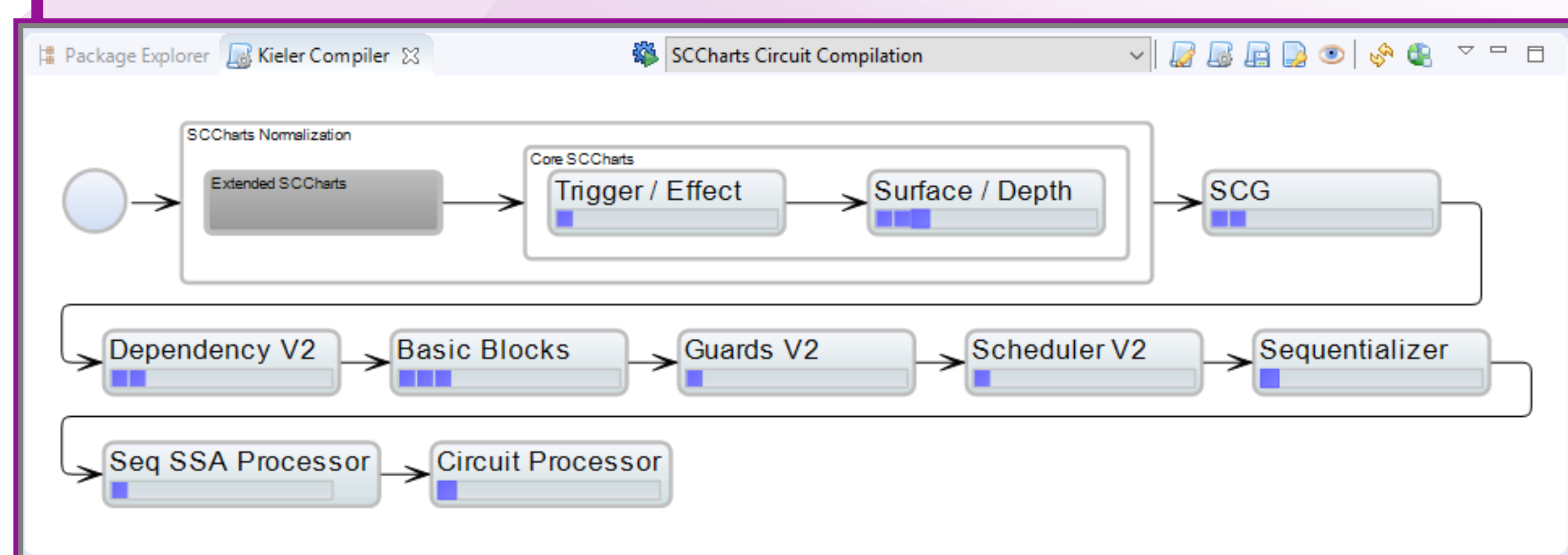
Fine-granular intermediate results

Arbitrary compilations/process systems

History/Data Visualization

Continuous/Step-wise execution

Integrated Simulation with highlighting



Contact Persons

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- [1] C. Motika, S. Smyth, R. v. Hanxleden. Compiling SCCharts - A Case-Study on Interactive Model-Based Compilation. In Proc. of the 6th International Symposium on Leveraging Applications of Formal Methods, Verification and Validation (ISoLA'14), Corfu, Greece, Oct. 2014.
- [2] F. Rybicki, S. Smyth, C. Motika, A. Schulz-Rosengarten, R. v. Hanxleden. Interactive Model-Based Compilation Continued - Interactive Incremental Hardware Synthesis for SCCharts. In Proc. of the 7th International Symposium on Leveraging Applications of Formal Methods, Verification and Validation (ISoLA'16), Corfu, Greece, Oct. 2016.
- [3] C. Schneider, M. Spönemann, and R. v. Hanxleden. Just model! - Putting automatic synthesis of node-link diagrams into practice. In Proc. of the 8th International Symposium on Visual Languages and Human-Centric Computing (VL/HCC '13), pages 75-82, San Jose, CA, USA, Sep. 2013.
- [4] S. Smyth, A. Schulz-Rosengarten, R. v. Hanxleden. Towards Interactive Compilation Models. In Proc. of the 8th International Symposium on Leveraging Applications of Formal Methods, Verification and Validation (ISoLA'18), Limassol, Cyprus, Oct. 2018.
- [5] R. v. Hanxleden, B. Duderstadt, C. Motika, S. Smyth, M. Mendler, J. Aguado, S. Mercer, O. O'Brien. SCCharts: Sequentially Constructive Statecharts for Safety-Critical Applications. In Proc. of ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI '14), Edinburgh, UK, June 2014.

The KIELER SCCharts Editor is part of



On the web:
<http://www.informatik.uni-kiel.de/rtsys/kieler>
<http://www.sccharts.com>