

## Irodalom

- [1] *Petri Net Markup Language*. <http://www.informatik.hu-berlin.de/top/pnml>.
- [2] H. R. Andersen. An introduction to binary decision diagrams. Lecture notes 49285, Technical University of Denmark, <http://www.it.dtu.dk/hra>, 1998.
- [3] A. J. Anderson. Data Flow Systems. In *Multiple Processing: A systems overview*, chapter 10, pages 441–488. Prentice Hall, UK, 1989.
- [4] K. R. Apt and D. C. Kozen. Limits for the automatic verification of finite-state concurrent systems. *Information Processing Letters*, 22:307–309, 1986.
- [5] M. Barnett, C. Campbell, W. Schulte, and M. Veanes. Specification, simulation and testing of COM components using abstract state machines. In R. Moreno-Díaz and A. Quesada-Arencibia, editors, *Formal Methods and Tools for Computer Science (Local Proceedings of Eurocast 2001)*, pages 266–270, Canary Islands, Spain, February 2001. Universidad de Las Palmas de Gran Canaria.
- [6] M. Barnett and W. Schulte. Contracts, components and their runtime verification on the .NET platform. *Journal of Systems and Software*, 2002.
- [7] G. Bella and E. Riccobene. A realistic environment for crypto-protocol analyses by ASMs. In U. Glässer and P. Schmitt, editors,

- Proc. 5th Int. Workshop on Abstract State Machines*, pages 127–138, Magdeburg, Germany, 1998.
- [8] M. Ben-Ari, Z. Manna, and A. Pnueli. The temporal logic of branching time. *Acta Informatica*, 20:207–226, 1983.
- [9] C. Bernardeschi, A. Bondavalli, and L. Simoncini. Dataflow Control Systems: An Example of Safety Validation. In *Proceedings of SAFE-COMP'93*, pages 9–20, Poznan, Poland, 1993.
- [10] C. Bernardeschi, A. Bondavalli, G. Csertán, I. Majzik, and L. Simoncini. Temporal Analysis of Data Flow Control Systems. *IFAC Automatica*, 38(2), 1997.
- [11] A. Bondavalli, M. Dal Cin, D. Latella, I. Majzik, A. Pataricza, and G. Savoia. Dependability analysis in the early phases of UML based system design. *International Journal of Computer Systems - Science & Engineering*, 16(5):265–275, 2001.
- [12] A. Bondavalli and L. Simoncini. Functional Paradigm for Designing Dependable Large-Scale Parallel Computing Systems. In *Proceedings of the International Symposium on Autonomous Decentralized Systems, ISADS '93*, pages 108–114, Kawasaki, Japan, 1993.
- [13] E. Börger, A. Cavarra, and E. Riccobene. An ASM semantics for UML activity diagrams. In *Proc. 8th International Conference AMAST 2000: Algebraic Methodology and Software Technology*, number 1816 in LNCS, pages 293–308, Iowa City, Iowa, USA, January 2000. Springer-Verlag.
- [14] E. Börger, A. Cavarra, and E. Riccobene. Modeling the dynamics of UML state machines. In Y. Gurevich, P. Kutter, M. Odersky, and L. Thiele, editors, *Abstract State Machines: Theory and Applications*, volume 1912 of LNCS, pages 223–241. Springer-Verlag, 2000.
- [15] E. Börger, U. Glässer, and W. Müller. The semantics of behavioral VHDL'93 descriptions. In *EURO-DAC'94. European Design Automation Conference with EURO-VHDL'94*, pages 500–505, Los Alamitos, California, USA, 1994. IEEE Computer Society Press.
- [16] E. Börger and D. Rosenzweig. The WAM — definition and compiler correctness. *Logic Programming: Formal Methods and Practical Applications*, pages 20–90, 1995.
- [17] E. Börger and R. Stärk. *Abstract State Machines. A method for High-Level System Design and Analysis*. Springer-Verlag, 2003.

- [18] P. Bottoni, A. Schürr, and G. Taentzer. Efficient parsing of visual languages based on critical pair analysis and contextual layered graph transformation. Technical report, University of Rome, 2000.
- [19] R. E. Bryant. Graph-based algorithms for Boolean function manipulation. *IEEE Transactions on Computers*, C-35(8), 1986.
- [20] J. R. Burch, E. M. Clarke, D. E. Long, K. L. McMillan, and D. L. Dill. Symbolic model checking for sequential circuit verification. *IEEE Transactions on Computer Aided Design of Integrated Circuits and Systems*, 13(4):401–424, April 1994.
- [21] R. Camposano. From Behavior to Structure: High-Level Synthesis. *IEEE Design & Test of Computers*, 7(5):8–19, Nov. 1979.
- [22] R. Camposano and W. Wolf, editors. *High-Level VLSI Synthesis*. Kluwer Academic Publishers, Norwell, Mass., 1991.
- [23] G. Chiola. GreatSPN User Manual, Version 1.3. Technical report, Dipartimento di Informatica, Università di Torino, Italy, September 1987.
- [24] G. Chiola. A Graphical Net Tool for Performance Analysis. In *Proceedings of the 3rd International Workshop on Modeling Techniques and Performance Evaluation*, March AFCET, Paris, France, 1987.
- [25] G. Ciardo, J. K. Muppala, and K. S. Trivedi. SPNP: Stochastic Petri Net Package. In *Proceedings of the International Conference on Petri Nets and Performance Models*, December Kyoto, Japan, 1989.
- [26] E. M. Clarke and I. A. Draghicescu. *Expressibility results for linear time and branching time logics*, volume 354 of *LNCS*, pages 428–437. Springer Verlag, 1988.
- [27] E. M. Clarke and E. A. Emerson. *Synthesis of synchronisation skeletons for branching time temporal logic*, volume 131 of *LNCS*. Springer Verlag, 1981.
- [28] E. M. Clarke, E. A. Emerson, and A. P. Sistla. Automatic verification of finite-state concurrent systems using temporal logic specifications. *ACM Transactions on Programming Languages and Systems*, 8(2):244–263, 1986.
- [29] E. M. Clarke, O. Grumberg, and D. A. Peled. *Model Checking*. MIT Press, Cambridge, Massachusetts, 1999.

- [30] E. M. Clarke and R. P. Kurshan. Computer-aided verification. *IEEE Spectrum*, 33(6):61–67, 1996.
- [31] A. Corradini, U. Montanari, F. Rossi, H. Ehrig, R. Heckel, and M. Löwe. In [88], chapter Algebraic Approaches to Graph Transformation — Part I: Basic Concepts and Double Pushout Approach, pages 163–245. World Scientific, 1997.
- [32] G. Csertán, G. Huszerl, I. Majzik, Z. Pap, A. Pataricza, and D. Varró. VIATRA: Visual automated transformations for formal verification and validation of UML models. In J. Richardson, W. Emmerich, and D. Wile, editors, *Proc. ASE 2002: 17th IEEE International Conference on Automated Software Engineering*, pages 267–270, Edinburgh, UK, September 23–27 2002. IEEE Press.
- [33] G. Csertán and A. Pataricza. On Diagnosability in HW-SW Codesign: A Case Study. In *Proceedings of the IEEE International Workshop on Embedded Fault-Tolerant Systems, EFTS’96*, Sept. Dallas, USA, 1996.
- [34] G. Csertán, A. Pataricza, P. Harang, O. Dobán, G. Biro, A. Dancsecz, and F. Friedler. BPM based robust E-Business application development. In *Proc EDCC-4 Fourth European Dependable Computing Conference*, volume 2485 of *LNCS*, pages 32–43, Toulouse, France, October 23–25 2002. Springer.
- [35] G. Csertán, A. Pataricza, and E. Selényi. Design for Testability with HW-SW Codesign. *Periodica Polytechnica*, 40(1):25–37, 1996.
- [36] B. P. Dave and N. K. Jha. COFTA: Hardware-Software Co-Synthesis of Heterogeneous Distributed Embedded Architectures for Low Overhead Fault Tolerance. In *Proceedings of the 27th IEEE International Conference on Fault-Tolerant Systems ,FTCS-27*, Dallas, Texas, USA, July 1997.
- [37] J. B. Dennis. Data flow computation. In M. Broy, editor, *Control Flow and Data Flow: Concepts of Distributed Programming*, volume F14 of *NATO ASI Series*, pages 345–397. Springer-Verlag, 1985.
- [38] J. Desel. *Petrinetze, Lineare Algebra und lineare Programmierung*, volume 26 of *Teubner-Texte zur Informatik*. B. G. Teubner Stuttgart-Leipzig, 1998.
- [39] H. Ehrig, G. Engels, H.-J. Kreowski, and G. Rozenberg, editors. *Handbook on Graph Grammars and Computing by Graph Transformations*, volume 1. World Scientific, 1997.

- tion, volume 2: Applications, Languages and Tools. World Scientific, 1999.
- [40] H. Ehrig, R. Heckel, M. Korff, M. Löwe, L. Ribeiro, A. Wagner, and A. Corradini. In [88], chapter Algebraic Approaches to Graph Transformation — Part II: Single pushout approach and comparison with double pushout approach, pages 247–312. World Scientific, 1997.
- [41] E. A. Emerson. Temporal and modal logic. In J. van Leeuwen, editor, *Handbook of Theoretical Computer Science, volume B, Formal Models and Semantics*, pages 995–1072. Elsevier, 1990.
- [42] H. G. *Design and Validation of Computer Protocols*. Prentice Hall, Englewood Cliffs, 1991.
- [43] H. J. Genrich. Predicate/Transition Nets. In G. Rozenberg, editor, *Advances in Petri Nets 1986, Lecture Notes on Computer Science*, volume 254, pages 207–247. Springer Verlag, 1986.
- [44] C. Ghezzi, D. Mandrioli, S. Morasca, and M. Pezzè. A Unified High Level Petri Net Formalism for Time-Critical Systems. *IEEE Transactions on Software Engineering*, 17(2):160–172, Februar 1991.
- [45] W. Goerigk, A. Dold, T. Gaul, G. Goos, A. Heberle, F. W. von Henke, U. Hoffmann, H. Langmaack, H. Pfeifer, H. Ruess, and W. Zimmermann. Compiler correctness and implementation verification: The Verifix approach. In P. Fritzon, editor, *Conference on Compiler Construction, Proc. Poster Session of CC'96*, Linköping, Sweden, 1996.
- [46] Y. Gurevich. *Specification and Validation Methods*, chapter Evolving Algebras 1993: Lipari Guide. Oxford University Press, 1995.
- [47] Y. Gurevich. The sequential ASM thesis. *Bulletin of the European Association for Theoretical Computer Science*, 67:93–124, 1999.
- [48] D. Harel. Statecharts: A visual formalism for complex systems. *Science of Computer Programming*, 8(3):231–274, June 1987.
- [49] D. Harel and E. Gery. Executable object modeling with statecharts. *IEEE Computer*, 30(7):31–42, July 1997.
- [50] D. Harel and A. Naamad. The STATEMATE semantics of statecharts. *ACM Transactions on Software Engineering and Methodology*, 5(4):293–333, 1996.
- [51] R. Heckel, J. M. Küster, and G. Taentzer. Confluence of typed attributed graph transformation systems. In A. Corradini, H. Ehrig,

- H.-J. Kreowski, and G. Rozenberg, editors, *Proc. ICGT 2002: First International Conference on Graph Transformation*, volume 2505 of *LNCS*, pages 161–176, Barcelona, Spain, October 7–12 2002. Springer.
- [52] A. Hein. *Conjoint Simulation — A Modeling Framework for Combined Performance and Dependability Analysis of Computer Systems*. Advances in Simulation. SCS-Europe, 1997.
- [53] G. J. Holzmann. The model checker SPIN. *IEEE Trans. on Software Engineering*, 23(5):279–295, May 1997.
- [54] J. Huggins and D. V. Campenhout. Specification and verification of pipelining in the ARM2 RISC microprocessor. *ACM Trans. Des. Autom. of Electron. Syst.*, 3(4):563–580, 1998.
- [55] ITU-T International Telecommunication Union. *SDL formal semantics definition*, annex f, itu-t recommendation z.100 edition, November 2000.
- [56] K. Jensen. Coloured Petri Net: A High Level Language for System Design and Analysis. In G. Rozenberg, editor, *Advances in Petri Nets 1990, Lecture Notes on Computer Science*, volume 483, pages 207–247. Springer Verlag, 1990.
- [57] B. Jonsson. A Fully Abstract Trace Model for Dataflow Networks. In *Proceedings of the 16th ACM symposium on POPL*, pages 155–165, Austin, Texas, 1989.
- [58] G. Kahn. The Semantics of a Simple Language for Parallel Programming. In *Proceedings of the IFIP '74*, pages 471–475. North Holland, 1974.
- [59] K. M. Kavi, B. P. Buckles, and U. Bhat. A Formal Definition of Dataflow Graph Models. *IEEE Transactions on Computers*, 35(11):940–948, November 1986.
- [60] K. M. Kavi and B. Shirazi. Dataflow architecture. *IEEE Potentials*, 11(3):27–30, Oct. 1992.
- [61] L. Lamport. The temporal logic of actions. *ACM Transactions on Programming Languages and Systems*, 16(3):872–923, 1994.
- [62] D. Latella, I. Majzik, and M. Massink. Automatic verification of UML statechart diagrams using the SPIN model-checker. *Formal Aspects of Computing*, 11(6):637–664, 1999.

- [63] D. Latella, I. Majzik, and M. Massink. Towards a formal operational semantics of UML statechart diagrams. In P. Ciancarini and R. Gorrieri, editors, *Proc. FMOODS'99, the Third IFIP International Conference on Formal Methods for Open Object-based Distributed Systems*, page (to appear). IFIP TC6?WG6.1, Kluwer, February 15-18, Florence, Italy 1999.
- [64] E. A. Lee. Consistency in Dataflow Graphs. *IEEE Transactions on Parallel and Distributed Systems*, 2(2):223–235, April 1991.
- [65] E. A. Lee and D. G. Messerschmitt. Synchronous Data Flow. *Proceeding of the IEEE*, 75(9):35–45, 1987.
- [66] R. R. Leitch, M. J. Chantler, Q. Shen, and G. M. Coghill. *Modeling Properties and Classification of Approaches*, 1994. Deliverable Report: D1, Mind project.
- [67] M. A. Marsan. Stochastic Petri Nets: An Elementary Introduction. In G. Rozenberg, editor, *Advances in Petri Nets 1991, Lecture Notes on Computer Science*, volume 424, pages 1–29. Springer Verlag, 1991.
- [68] M. A. Marsan and G. Chiola. On Petri Nets With Deterministic and Exponentially Distributed Firing Times. In G. Rozenberg, editor, *Advances in Petri Nets 1987, Lecture Notes on Computer Science*, volume 266, pages 132–145. Springer Verlag, 1987.
- [69] M. A. Marsan and G. Chiola. On Petri Nets With Deterministic and Exponential Transition Firing Times. In *Proceedings of the 7th European Workshop on Application and Theory of Petri Nets*, June Oxford, England, 1986.
- [70] J. Martinez and M. Silva. A simple and fast algorithm to obtain all invariants of a generalized petri net. In *Second European Workshop on Application and Theory of Petri Nets*, pages 411–421, 1981.
- [71] K. L. McMillan. *Symbolic Model Checking: An Approach to the State Explosion Problem*. Kluwer, 1993.
- [72] E. Mikk, Y. Lakhnech, and M. Siegel. Hierarchical automata as model for statecharts. In R. S. K. Euda, editor, *Proc. Third Asian Computing Science Conference (ASIAN'97)*, volume 1345 of *Lecture Notes in Computer Science*, pages 181–196. Springer Verlag, 1997.
- [73] M. K. Molly. *On the Integration of Delay and Throughput Measures in Distributed Processing Modells*. PhD thesis, UCLA, Los Angeles, CA, 1981.

- [74] T. Murata. Petri Nets: Properties, Analysis and Applications. *Proceedings of the IEEE*, 77(4):541–580, April 1989.
- [75] I. Ober. An ASM semantics for UML derived from the meta-model and incorporating actions. In E. Börger, A. Gargantini, and E. Riccobene, editors, *Abstract State Machines 2003: Advances in Theory and Applications*, volume 2589 of *LNCS*, pages 356–371. Springer-Verlag, 2003.
- [76] Object Management Group. *CWM: Common Warehouse Metamodel*. <http://www.omg.org>.
- [77] Object Management Group. *UML Profile for Schedulability, Performance and Time*. <http://www.omg.org>.
- [78] Object Management Group. *Unified Modeling Language Specification, version 1.4*, 2001.
- [79] Object Management Group. *Meta Object Facility Version 2.0*, 2003. <http://www.omg.org>.
- [80] A. Pataricza. From the general resource model to a general fault modeling paradigm? In *Workshop on Critical Systems Development with UML at UML 2002*, pages 114–115, Dresden, Germany, September 30 2002.
- [81] C. A. Petri. *Kommunikation mit Automaten*. Schriften des IIM Nr. 3, Institut für Instrumentelle Mathematik, Bonn, 1962.
- [82] A. Pnueli. The temporal logic of programs. In *Proc. 18th IEEE Symposium on Foundations of Computer Science*, pages 46–57, 1977.
- [83] A. Pnueli. A temporal logic of concurrent programs. *Theoretical Computer Science*, 13:45–60, 1981.
- [84] A. Prinz and B. Thalheim. Operational semantics of transactions. In X. Zhou and K.-D. Schewe, editors, *Proc. 14th Australian Database Conf. (ADC2003)*, *Australian Computer Science Communication*, volume 25, pages 169–179. Australian Computer Society, 2003.
- [85] J. Queille and J. Sifakis. Specification and verification of concurrent systems in CAESAR. In *Proc. Fifth ISP*, 1982.
- [86] C. V. Ramamorthy and G. S. Ho. Performance Evaluation of Asynchronous Concurrent Systems Using Petri Nets. *IEEE Transactions on Software Engineering*, 6(5):440–449, September 1980.



- [87] R. R. Razouk and C. V. Phelps. Performance Evaluation Using Timed Petri Nets. In *Proceedings of the 1984 International Conference on Parallel Processing*, pages 126–128. IEEE Computer Society Press, 1984.
- [88] G. Rozenberg, editor. *Handbook of Graph Grammars and Computing by Graph Transformations: Foundations*. World Scientific, 1997.
- [89] J. Rozenblit and K. Buchenrieder, editors. *Codesign*. IEEE Press, 1995.
- [90] J. M. Schoen, editor. *Performance and Fault Modeling with VHDL*. Prentice Hall, Englewood Cliffs, New Jersey, 1992.
- [91] A. Schürr, S. E. Sim, R. Holt, and A. Winter. The GXL Graph eXchange Language. <http://www.gupro.de/GXL/>.
- [92] J. Sifakis. *Use of Petri Nets for Performance Evaluation*. North-Holland, 1977.
- [93] M. Silva, E. Teurel, and J. M. Colom. Linear algebraic and linear programming techniques for the analysis of Place/Transition net systems. In G. R. W. Reisig, editor, *Lectures on Petri Nets I: Basic Models*, volume 1791 of *LNCS*, pages 309–373. Springer, 1998.
- [94] A. P. Sistla and E. M. Clarke. The complexity of propositional linear time temporal logics. *Journal of the ACM*, 32(3), 1985.
- [95] G. Taentzer. Towards common exchange formats for graphs and graph transformation systems. In J. Padberg, editor, *UNIGRA 2001: Uniform Approaches to Graphical Process Specification Techniques*, volume 44 (4) of *ENTCS*, April 2001.
- [96] R. Ubar. Multi-Level Test Generation and Fault Diagnosis in Digital Systems. Technical report, TIM3, 46, avenue Félix Viallet, F-38031 Grenoble, France, Mar. 1992.
- [97] W. P. M. van der Aalst and K. M. van Hee. *Workflow Management: Models, Methods, and Systems*. MIT Press, 2002.
- [98] W. P. M. van der Aalst and K. M. van Hee. *Workflow Management: Models, Methods, and Systems*. MIT Press, 2002.
- [99] M. Vardi. *An automata-theoretic approach to linear temporal logic*, volume 1043 of *LNCS*, pages 238–265. Springer Verlag, 1995.

- [100] M. Y. Vardi and P. Wolper. An automata-theoretic approach to automatic program verification. In *Proc. Logic in Computer Science*, 1986.
- [101] D. Varró. A formal semantics of UML Statecharts by model transition systems. In A. Corradini, H. Ehrig, H.-J. Kreowski, and G. Rozenberg, editors, *Proc. ICGT 2002: 1st International Conference on Graph Transformation*, volume 2505 of *LNCS*, pages 378–392, Barcelona, Spain, October 7–12 2002. Springer-Verlag.
- [102] D. Varró and A. Pataricza. VPM: A visual, precise and multilevel metamodeling framework for describing mathematical domains and UML. *Journal of Software and Systems Modelling*, 2(3):187–210, October 2003.
- [103] D. Varró, G. Varró, and A. Pataricza. Designing the automatic transformation of visual languages. *Science of Computer Programming*, 44(2):205–227, August 2002.
- [104] M. von der Beek. A comparison of statechart variants. *Lecture Notes in Computer Science*, 863:128–148, 1994.
- [105] K. Winter. *Model Checking Abstract State Machines*. PhD thesis, Technical University of Berlin, 2001.
- [106] World Wide Web Consortium. *MathML 2.0*. <http://www.w3c.org/Math>.