

1. About SoCLib design
 1. TLM-DT
 2. ISS design
 3. Fast CABA simulation
2. About studies evaluating modeling of hardware components
 1. NoC
 2. Caches
 3. Transactional Memories
3. Using SoCLib as virtual prototyping platform
 1. Middlewares
 2. Packet networks
 3. Operating Systems (Mutek - DNA/OS)
 4. Applications

About SoCLib design

TLM-DT

- Aline Vieira-de-Mello, Isaac Maia, Alain Greiner, François Pêcheux
Parallel Simulation of SystemC TLM 2.0 Compliant MPSoC on SMP Workstations
 At Date'10
- Emmanuel Viaud, François Pêcheux and Alain Greiner.
An efficient TLM/T modeling and simulation environment based on conservative parallel discrete event principles,
 In Proceedings of the conference on Design, automation and test in Europe, 2006, pp 94-99.

ISS design

- Nicolas Pouillon, Alexandre Becoulet, Aline Vieira-de-Mello, François Pêcheux, Alain Greiner
A Generic Instruction Set Simulator API for Timed and Untimed Simulation and Debug of MP2-SoCs
 At RSP'09, doi: 10.1109/RSP.2009.11 slides

Fast CABA simulation

- Marius Gligor, Frédéric Pétrot
Handling dynamic frequency changes in statically scheduled cycle-accurate simulation
 ASP-DAC 2011, pp 407-412, Yokohama, Japan.
- Richard Buchmann, Alain Greiner
A Fully Static Scheduling Approach for Fast Cycle Accurate SystemC Simulation of MPSoCs
 At ICM'07, doi: 10.1109/ICM.2007.4497671
- Richard Buchmann, Alain Greiner, Frédéric Pétrot.
Fast Cycle Accurate Simulation To Simulate Event-Driven Behavior.
 In International Conference on Electronic, Circuits and Systems, Cairo, Egypt, September 2004, pp. 37-40.

About studies evaluating modeling of hardware components

NoC

- Alain Greiner, Sami Taktak, Zhen Zhang
A Reconfigurable Routing Algorithm for a Fault-Tolerant 2D-Mesh Network-on-Chip
At [?DAC'08](#), doi: [?10.1145/1391469.1391584](#)

Caches

- Pierre Guironnet de Massas and Frédéric Pétrot.
Evaluation of the implementation cost of cache coherence protocols using omniscient actions,
In Design Automation for Embedded Systems, Vol. 14, n° 1, Springer, pp 21-42, mars 2010.
- Pierre Guironnet de Massas and Frédéric Pétrot.
Comparison of memory write policies for NoC based multicore cache coherent systems.
In Design Automation and Test in Europe, Munchen, Germany, Mar 2008. IEEE, pp. 997-1002.
- Frédéric Pétrot, Alain Greiner, Pascal Gomez.
On cache coherency and memory consistency issues in NoC based shared memory multiprocessor SoC architectures.
In 9th EUROMICRO Conference on Digital System Design, Dubrovnik, Croatia, August 2006, pp. 53-60.

Transactional Memories

- Quentin Meunier and Frédéric Pétrot.
Lightweight Transactional Memory Systems for NoCs Based Architectures : Design, Implementation and Comparison of Two Policies.
In Journal of Parallel and Distributed Computing, Elsevier, accepted for publication, february 2010.
- Quentin Meunier and Frédéric Pétrot.
Lightweight Transactional Memory Systems for Large Scale Shared Memory MPSoCs.
In 2009 Joint IEEE North-East Workshop on Circuits and Systems and TAISA Conference, Toulouse, France, june 2009. IEEE, pp 432-435.

Using SoCLib as virtual prototyping platform

Middleware

- Alain Greiner, Etienne Faure, Nicolas Pouillon, Daniela Genius
A Generic Hardware / Software Communication Middleware for Streaming Applications on Shared Memory Multi Processor Systems-on-Chip
At [?FDL'09](#), [?PDF](#)
- Daniela Genius, Etienne Faure, Nicolas Pouillon
Deploying a Telecommunication Application on Multiprocessor Systems-on-Chip
At [?DASIP'07](#), [?PDF](#)

- Quentin L. Meunier, Frédéric Pétrot, Jean-Louis Roch
Hardware/software support for adaptive work-stealing in on-chip multiprocessor
in Journal of Systems Architecture - Embedded Systems Design 56(8): 392-406 (2010)

Packet networks

- Daniela Genius, Alix Munier Kordon, Khoulood Zine el Abidine
A Buffer Space Optimal Solution for Re-establishing the Packet Order in a MPSoC Network Processor
At Europar'09 doi: [10.1007/978-3-642-03869-3_23](https://doi.org/10.1007/978-3-642-03869-3_23)

Operating Systems (Mutek - DNA/OS)

- Marius Gligor, Nicolas Fournel, Frédéric Pétrot.
Adaptive Dynamic Voltage and Frequency Scaling Algorithm for Symmetric Multiprocessor Architecture.
In Proceedings of the Euromicro Conference on Digital System Design, pages 613?616, Patras, Greece, aug. 2009.
- Xavier Guérin and Frédéric Pétrot.
A System Framework for the Design of Embedded Software Targeting Heterogeneous Multi-Core SoCs.
In Proceedings of the Application-specific Systems, Architectures and Processors conference, pages 153?160, Boston, MA, jul. 2009 (got a best paper award).

Applications

- Khaled Rahmouni, Frédéric Pétrot
Improving the tests coverage of a medium voltage protection device using system simulation approaches.
In Proceedings of the IEEE Symposium on Industrial Embedded Systems, pages 184-187, Trento, Italy, july 2010.
- Khaled Rahmouni, Patrice Gerin, Sébastien Chabanet, Frédéric Pétrot and Paul Pianu.
Modelling and Architecture Exploration of a Medium Voltage Protection Device.
In Proceedings of the IEEE Symposium on Industrial Embedded Systems, pages 46?49, Lausanne, Suisse, july 2009.
- Alain Greiner, Frédéric Pétrot, Mathieu Carrier, Mounir Benabdenbi, Roselyne Chotin-Avot, Raphaël Labayrade.
MP-SoC Architecture for an Obstacle Detection Application in Pre-Crash Situation.
Reconfigurable Communication Centric SoCs, July 2006, pp. 24?30.
- Alain Greiner, Frédéric Pétrot, Mathie Carrier, Mounir Benabdenbi, Roselyne Chotin-Avot, Raphaël Labayrade.
Mapping an obstacles detection, stereo vision-based, software application on a multi-processor System-on-Chip.
In IEEE Intelligent Vehicles Symposium, Tokyo, Japan, June 2006, pp. 370?376.