



SAFA Group

<http://www-sop.inria.fr/oasis/SAFA/>
October, the 12th, 2011,
Sophia-Antipolis

SAFA Annual Workshop on Formal Techniques (SAFA'2011)

Joint with SAME'2011

Invited Talk

Radu Mateescu, INRIA, Vasy team

*Model Checking and Performance Evaluation with CADP Illustrated on Shared-Memory
Mutual Exclusion Protocols*

Accepted papers

Multi-active Objects

Semantic Multi-view model for Low-Power

Mechanical Support for Efficient Dissemination on the CAN Overlay Network

A refinement approach to design and verification of on-chip communication protocols

Venue

SAFA'2011 is co-located with SAME'2011.

The workshop will take place at CICA, in "salle multimedia". CICA: Access:
<http://www.cica.fr/fr/plans/index.htm>

To attend SAFA, **you have to register to SAME'2011 (free registration)**:
<http://www.same-conference.org/>

At SAME'2011 registration desk, you will be given all usual conference material
(badge, proceedings, printed program, etc.).

Detailed program

13:30 Opening of the workshop

13:40 Invited talk, Radu Mateescu, INRIA, VASY team

Model Checking and Performance Evaluation with CADP Illustrated on Shared-Memory Mutual Exclusion Protocols

Abstract: Mutual exclusion protocols are an essential building block of concurrent shared-memory systems: indeed, such a protocol is required whenever a shared resource has to be protected against concurrent non-atomic accesses. Hence, many variants of mutual exclusion protocols exist, such as Peterson's or Dekker's well-known protocols. Although the functional correctness of these protocols has been studied extensively, relatively little attention has been paid to their non-functional aspects, such as their performance in the long run. In this paper, we report on experiments with the CADP toolbox for model checking and performance evaluation of mutual exclusion protocols using Interactive Markov Chains. Steady-state analysis provides an additional criterion for comparing protocols, which complements the verification of their functional properties. We also carefully re-examined the functional properties of these protocols, whose accurate formulation as temporal logic formulas in the action-based setting turns out to be quite involved.

14:30 Session 1

Multi-active Objects

Ludovic Henrio, Fabrice Huet, Zsolt Istvána, Gheorghe Sebestyén
INRIA – CNRS – I3S – Univ Nice Sophia Antipolis, Technical University of Cluj-Napoca

15:00 Coffee break

15:30 Session 2

Semantic Multi-view model for Low-Power

Carlos Gómez, Julien DeAntoni, Frédéric Mallet, Université de Nice-Sophia Antipolis

A refinement approach to design and verification of on-chip communication protocols

Hocine Mokrani, Rabéa Ameer-Boulifa, Institut Telecom, Telecom ParisTech

Mechanical Support for Efficient Dissemination on the CAN Overlay Network

Francesco Bongiovanni, Ludovic Henrio, INRIA Méditerranée – CNRS – I3S – Univ. de Nice Sophia-Antipolis

17:00 Discussion and closing