

COST STSM Scientific Report

Short Term Scientific Mission, COST Action IC1202 Timing Analysis on Code-Level

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Host: Christine Rochange, Institut de Recherche en Informatique de Toulouse, Universite Paul Sabatier, Toulouse(France), christine.rochange@irit.fr

Period: from 20/10/2013 to 26/10/2013

Place: Toulouse (France)

Reference code: COST-STSM-IC1202-15286

Purpose of Visit

The STSM aimed at the exploitation of opportunities of joint research projects on multinationals with professor Christine Rochange and her colleagues at the host institution.

Description of the Work Carried out During the STSM

The STSM provided an occasion to exchange information and ideas on topics of automatic WCET analysis of real-time parallel applications and research projects currently carried out by both parties. There was a presentation on scientific activities of the beneficiary and a number of brainstorming sessions were organized during the visit where different ideas on WCET analysis in parallel applications were discussed:

- Modelling of all possible critical section distribution situations for WCET situation estimation.
- Optimization possibilities of WCET situation modelling tools.
- Automatic WCET analysis of real-time parallel applications in loop situations.
- Estimation of critical section collision number in loop when a critical section in all threads has a constant execution time.

A modelling tool was created during the visit to implement different experiments with WCET estimation and drafts of future papers were started too.

Description of the Main Results Obtained

The main result of the STSM is the mutual knowledge of the research profiles and basis for future collaboration as connecting points of both institutions were identified, as well as both sides are willing to continue researches on these topics.

Future Collaboration with Host Institution

There is a plan to finish researches we started during the STSM to get desired results and to publish it by continuing the communication and discussions in the internet or other COST1202 meetings. Later collaboration will depend on success of the distance collaboration.

Foreseen Publications/Articles Resulting or to Result from the STSM

During the STSM a paper titled "Tight Analysis of Contention for Critical Sections in Parallel Real-Time Software" was prepared, however it requires more work to be finished.

Confirmation by the Host Institute of the Successful Execution of the Mission

On behalf of the host Institute, Institut de Recherche en Informatique de Toulouse, Université Paul Sabatier, I (Prof. C. Rochange) confirm the successful execution of the STSM by Dr. S. Ramanauskaite.

I hereby certify the successful execution of the assignments and duties that were proposed for Dr. S. Ramanauskaite during her stay at IRIT and under my direct supervision.

Other Comments

As beneficiary I would like to thank G. Daunys for proposal to join COST action IC1202 and to apply for the STSM. Greatly thanks to C. Rochange who agreed to accept me, provided a lot of useful knowledge and involved me into researches she and their colleagues are working on. As well thanks for all the persons in IRIT I meet during the STSM and had a pleasure to work with.

Beneficiary:

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