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ESA-P4S: PROARTIS for Space - Schedulability Analysis Techniques and Tools for Cached and Multicore Processors

Description

This project aimed to address a wide range of issues relating to time analysability of next generation space systems. The key challenge addressed how to use multicores in an effective way and achieving adequate levels of guarantee of the timing correctness. There were four main themes in the ITT:

- Choice of scheduling and schedulability analysis and their relation with timing analysis techniques in multicores.
- Incorporation of software randomisation at run time to enable probabilistic worst-case execution time analysis.
- Hardware support for observing timing behaviour. This included the provision of a data logger to capture timing data and hardware changes on-chip to support the data logger.
- Evaluation of performance and worst-case behaviour of NGMP advanced features.

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