Tertimuss
A Simulation Environment for Thermal-aware Real Time Multiprocessor Scheduling

This project is the result of a joint effort involving the GaZ group at the University of Zaragoza, Spain and the CINVESTAV - IPN Unidad Guadalajara, Mexico.

The peer website of this page at the CINVESTAV can be reached at this link.

As of today, we have released two simulation environments. TCPN-ThermalSim was our starting point, developed in MatLab® with Tertimuss being a complete rebuild in Python, which constitutes our current simulation tool.

- Tertimuss is a simulation environment for designing and testing Real Time multiprocessor schedulers subject to thermal constraints. It consists of four modules. The fist module allows the definition of the system (processors, tasks) and their parameters.

The second module automatically build a TCPN model, generating the state and thermal equations. The third module is for selecting, modifying or adding and parameterizing the scheduling algorithm. The fourth module allows the user to perform simulations and collect, process and plot results. The parameters of the tasks can be defined either manually or automatically (by means of the integrated UUnifast algorithm). You can subscribe to the public version of Tertimuss at https://github.com/uz-gaz/Tertimuss.
Related papers

- Rubio-Anguiano, Laura, Chils-Trabanco, Abel, Briz J.L., Ramírez-Treviño, Antonio - Maximizing utilization and minimizing migration in thermal-aware energy-efficient real-time multiprocessor scheduling. *IEEE Access*. Online ISSN: 2169-3536 - Print ISSN: 2169-3536 - To appear. Early access on line. DOI: https://doi.org/10.1109/ACCESS.2021.3086698

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