

# ARTES++ Travel Report

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## ECRTS 07 conference

19th Euromicro Conference on Real-Time Systems (ECRTS 07) is a forum aimed at covering state-of-the-art research and development in real-time computing including applications, infrastructure and hardware, software technologies, and system design and analysis. The conference was held in Pisa, Italy.

In parallel with the conference there were 3 additional workshops and tutorials;

- WCET 2007: Worst Case Execution Time Analysis.
- RTN 2007: Real-Time Networks.
- OSPERT 2007: Operating Systems Platforms for Embedded Real-Time Applications.
- Tutorial on MARTE: A New Standard for Modeling and Analysis of Real-Time and Embedded Systems

We planed to attend the OSPERT 2007 workshop, but unfortunately due to a flight problem we missed some presentations, however the presentations that we attended were interesting.

## Contributions

Moris' contribution to this conference was a work in progress paper titled **Independent Abstraction and Dynamic Slack Reclaiming in Hierarchical Real Time Open Systems**, and he gave a 5 minutes presentation. In this paper they showed the consequences of supporting independent abstraction on the CPU utilization. Independent abstraction is suitable for open systems where subsystems are developed and validated independently. They present their work in progress on dynamic slack reclamation, which keeps track of extra CPU allocations at run time. They are also investigating how to utilize those extra resources for supporting soft real-time tasks.

Huseyin's contribution to this conference was a work in progress paper titled **A Generalized Task Allocation Framework for Dependable Real-Time Systems**. This paper presents a framework which performs task allocation to the nodes of a distributed hardware under a wide range of allocation criteria.

There were many interesting papers and works, especially the following papers;

- **A Delay Composition Theorem for Real-Time Pipelines** by Praveen Jayachandran and Tarek Abdelzaher. This paper was selected as the best student paper. In this paper, they bound the end-to-end delay of a job in a multistage pipeline as a function of higher-priority job execution times on different stages.
- **The Global Feasibility and Schedulability of General Task Models on Multiprocessor Platforms** by Nathan Fisher and Sanjoy Baruah. In this paper, they derived near-optimal sufficient tests for determining whether a given collection of jobs can feasibly meet all deadlines upon a specified multiprocessor platform assuming job migration is permitted

- **On Controllability and Feasibility of Utilization Control in Distributed Real-Time Systems** by Xiaorui Wang, Yingming Chen, Chenyang Lu and Xenofon Koutsoukos. In this paper, they use the control approaches such as controllability and feasibility in to control multi-processor utilization of distributed real-time systems.

Our observation was that the following research topics “**Real time scheduling**” and “**multiprocessor scheduling**” are still popular in ECRTS while **wireless network scheduling** is getting more important.

**Overall impression** is that this conference was very good and useful and we have received many valuable comments during the poster session.

ECRTS is one of the most important European conferences in real time computing so it was a great opportunity to meet many researchers from several well known research groups.