Travel Report from OPODIS'03

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The trip

The trip went to Fort-de-France at Martinique which is an island in the French Caribbean. There I visited the 7th International Conference on Principles of Distributed Systems (OPODIS'03) which took place December 10-13. The conference was hosted at the Université Atilles-Guyane in their brand new facilities. The main purpose of the trip was to present my paper "A Lower-Bound Algorithm for Load Balancing in Real-Time Systems".

The conference

OPODIS is a pretty small conference - this year there were about 35 participants - which makes the tone very familiar and allows you to talk to everybody. As given by the name of the conference, the emphasis is on *principles* of distributed systems. Hence, the papers were rather theoretical and presented new models and algorithms/protocols rather than improvements/experiences of existing technology. (Not much on real-time aspects though.) Despite the rather low visibility of the conference I think the paper quality was similar to that of bigger conferences such as ICPP. (There were 19 accepted papers out of 61 submissions.)

The presentations

The conference featured three keynote speeches which all were very interesting. The first speech was by Neil Gersenfeld from The MIT Center for Bits and Atoms who talked about the problem of making really large distributed systems (like paintable computing) reliable. He pointed out that crashes in these kind of systems often is not due to a single point of failure but rather a lack of ability to understand/analyze/manage the complexity of the system. He also mentioned that the problem of reliability versus complexity was present even in the early days of computing and that papers on fault tolerance by e.g., von Neumann are still highly applicable. The second talk by Jo Ebergen from Sun Microsystem Laboratories also offered an historical outlook. The speech was about asynchronous (clockless) circuits and why they are interesting. Apparently, in the 1940s there was a debate on whether a clock is necessary or not. One of the most pro-clock persons was Alan Turing which is why all circuits since then have been clocked. However, the clock consumes about 30% of the energy and limits the speed to that of the slowest component. The talk included a live demo of a clocked versus a clockless system and proposed a "homework assignment" of how to construct an asynchronous pipeline. The third talk was by Maarten van Steen from Vrije Universiteit Amsterdam who spoke about self-management in very large systems. The keyword here was simplicity since too complicated algorithms will not scale with the system size. He also presented some experimental results (on web replication and caching) from his research group which showed that you can get pretty impressive results even with very simple algorithms.

The program included four tutorials (although the one on radio networks was cancelled). The remaining ones were self-stabilization, distributed computing and information security, and non-blocking synchronization. Although the topics of the tutorials were interesting, the level of the contents was perhaps not right. The first tutorial was hard to follow all the way if you did not know anything in advance. The second tutorial mainly discussed basic cryptography (that I already knew) and could have been more focused on the distributed systems part. The third tutorial was both easy to follow and contained (for me) new stuff but could perhaps have been even more technical considering the audience.

As for the papers, most of them were too far from my topic to be useful or understandable. You probably have to be more into communication to fully appreciate this conference as a real-time researcher.

About Martinique

Martinique is your typical tropical place with 28 degrees in both air and sea all year around. This also implies that you cannot expect the same kind of efficiency and infrastructure that you are used to, which may be annoying on a conference trip. On the other hand, not many places offer white sand beaches and clear waters just 20 minutes from downtown.

The future

Next OPODIS is planned to be held in the French alps in December 2004.