

LCR'02 Travel Report

Håkan Sundell
Department of Computing Science
Chalmers University of Technology

LCR'02: Sixth Workshop on Languages, Compilers and Run-time Systems for Scalable Computers

This workshop is held every second year and is mainly focused on the scalability of software solutions. In other words that means how well one can make programs run in as much parallel sense as possible. In the ideal case, doubling the number of processors should half the computation time. However this is not the case, so this workshop looks on methods to get higher scalability. This year it was taking part from 22-23 March 2002 and was held in Washington D.C., USA. Because of the organization, most of the participants were from the United States, especially around Maryland, although there were as well speakers from Germany, France, Spain and Japan. I was the only speaker from Scandinavia, the goal of my visit was to present the NOBLE software library, which has showed very good performance in scalability as well on real-time systems.

The acceptance procedure of the workshop is of the very fast kind. Short versions of the papers are submitted only one and a half month before the conference, and acceptance is reported only after two weeks. The proceedings including the full versions of the papers are made available several months after the workshop has occurred. The full papers of this workshop will be printed in the LNCS (Lecture Notes in Computing Science) series sometime this autumn. Because of the workshop characteristics of this conference, the audience might interrupt talks and discuss between themselves (sometimes not including the paper presenter who just keeps quiet!), although you have anyway to limit yourself to the scheduled time of 30 minutes. This can make life hard for especially new un-experienced students; some of them got interrupted for over 15 minutes, resulting in more or less corrupted talks. Keeping that experience in mind, I was quite nervous myself when having my talk. Although I had rehearsed several times before to keep the time, I now had to improvise when needed instead. The number of workshop participants was quite less than anticipated, even more surprising was that one of the head organizers never turned up at all as he had to visit some competing event. The number of people was about 40 the first day, lowering to 25 the next day, although the workshop always had interesting conversations going on. A good move from the organizers side was to end the conference with lunch, thus keeping the audience also through the very last talk.

The papers presented had overall high quality. They covered most topics, including new fields like power consumption in mobile computing. As on many other conferences, the Java language was used in most of the applications. One interesting paper was about extending the RMI for calling procedures in a distributed to also include groups, called GMI, in that way call the same procedure in parallel on several computers with just one call from the originator. What was particularly interesting for me was that this construction scaled well up to some point, after which the performance gain decreased significantly. This was probably caused by the overhead imposed by lock-based synchronization that was used. I talked to the author about instead using non-blocking synchronization, he admitted they had considered a bit although their experience with lock-free was that it was hard to implement correctly. This was good for me, as the goal for my visit was to make advertisement for my library containing several efficient implementations of lock-free and wait-free algorithms. My own talk was appreciated well, I got several interesting questions and people even suggested that I should incorporate the library into some internationally accepted standard library.

Washington D.C. is interesting from a tourists perspective if you haven't been there before. There are a lot of interesting things to see, including the White house and the Capitol. Otherwise it is a very boring city, there is a lot to see but only a little to do. Everywhere is federal buildings, each one greater than the other, but very few places to enjoy, almost no shops, no pubs, no restaurants. It seems obvious that people don't live in Washington City; they just work there. There are of course shops, but only in gallerias and only of the most exclusive kind (definitively not suitable for PhD-students). The only cheap thing that you can do is using the metro system; going to the airport, which is about 60 km away costs only about 14 Swedish crowns.