Karlsruher Institut für Technologie

KOLLOQUIUM

Informatik-Sonderkolloquium

Theory Meets Practice: It's about Time!

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Having a common notion of time is a basic building block in many networks and distributed systems. In sensor networks, for instance, time synchronization is needed for locating events by trilateration, or for establishing an efficient media access control. The problem is well-studied, both in theory and practice.

Nevertheless, several researchers have experienced and reported problems when trying to establish a common notion of time even in mid-scale networks. And also theoreticians all of a sudden started studying the problem again.

In my talk, I will discuss clock synchronization from a theoretical point of view (published at FOCS, PODC, and JACM), as well as from a practical point of view (published at IPSN and SenSys). Hopefully I can surprise the audience with some unexpected impossibility results, and new protocols that improve the state of the art considerably. As such clock synchronization may serve as a good example where theory meets practice.

I hope that the talk will be interesting to researchers with different backgrounds, such as networking, distributed systems, algorithms, or control theory.

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Ergänzungsbauten am Ring (50.20), SR 148, Adenauerring 2, 76131 Karlsruhe