Informatik-Kolloquium

Rheinisch-Westfälische Technische Hochschule Aachen
Lehrstuhl für Informatik I

EINLADUNG

Zeit: Mittwoch, 25. Juni 2003, 10.00 Uhr

Ort: Raum 4013, (Seminarraum Informatik I) Ahornstr.55

Referent: Professor Koichi Wada
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Department of Electrical and Computer Engineering

Titel: Algorithms of acknowledged broadcasting and gossiping in ad hoc radio networks

Abstract:

We consider the problem of distributed deterministic broadcasting and gossiping in synchronous radio networks whose topology and size are unknown. Radio networks can be modeled by directed graphs. It has been shown that there does not exist any algorithm of acknowledged radio broadcasting(ARB) on the model without a collision detection even if graphs are restricted to symmetric ones, where ARB is a broadcasting task in which a distinguished node(called source) transmits a source message to all nodes and it confirms that all nodes have received the source message. In this talk, on the model of radio networks with and/or without the collision detection. We consider several algorithms for ARB and acknowledged radio gossiping(ARG). We show a deterministic ARB algorithm for symmetric graphs in $O(r+ecc)$ time with the collision detection, where r is the length of the source message and ecc is the largest distance from the source to any other node. Also we show that we can construct algorithms of ARB and ARG for symmetric graphs and strongly connected graphs without the collision detection if the number of nodes is more than one.

Es laden ein: Die Dozenten der Informatik