عنوان مقاله:

Fault-tolerance Enhancement in Mobile Ad-hoc Networks Using Backup Nodes

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خلاصه مقاله:

Due to limitations in computing resources of mobile nodes, Mobile Ad-hocNetworks (MANETs) are very fault-prone. So far, redundancy at different levels ofthe network has been considered an efficient strategy to enhance the fault-toleranceof networks. Indeed, ad-hoc networks are extremely redundant; therefore, naturalredundancy to fault tolerance enhancement has a great impact on the networkperformance. In this paper,a fault tolerant algorithm for MANETs has beenproposed that by assigning backup node(s) to each node tries to increase in fault-tolerance. For this reason, the proposed algorithm chooses the backup nodes fromamong those nodes having the same movement route. The nodes movement routecan be determined or predicted through the backup nodes table. Choosing backupnodes is done based on the time of nodes adjacency. Experimental results taken fromNS-2 simulator indicate that in comparison to other algorithms, the proposedalgorithm increases by 1) the package delivery rate in relation to the percentage offault, and 2) the package delivery rate in relation to various mobile nodes` pausetime.

کلمات کلیدی:
Backup Nodes, Mobile Ad- hoc Networks, Fault-tolerance, Redundancy

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