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Adaptive Fault Tolerant Checkpointing Algorithm for Cluster Based Mobile Ad Hoc Networks (Conference Paper)

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Abstract

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Mobile Ad hoc NETWORK (MANET) is a type of wireless network consisting of a set of self-configured mobile hosts that can communicate with each other using wireless links without the assistance of any fixed infrastructure. This has made possible to create a distributed mobile computing application and has also brought several new challenges in distributed algorithm design. Checkpointing is a well explored fault tolerance technique for the wired and cellular mobile networks. However, it is not directly applicable to MANET due to its dynamic topology, limited availability of stable storage, partitioning and the absence of fixed infrastructure. In this paper, we propose an adaptive, coordinated and non-blocking checkpointing algorithm to provide fault tolerance in cluster based MANET, where only minimum number of mobile hosts in the cluster should take checkpoints. The performance analysis and simulation results show that the proposed scheme performs well compared to works related. © 2015 The Authors.

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