

A Multicopy Strategy for Improved Security Wireless Sensor Network

Authors : Tuğçe Yücel

Abstract : A Wireless Sensor Network(WSN) is a collection of sensor nodes which are deployed randomly in an area for surveillance. Efficient utilization of limited battery energy of sensors for increased network lifetime as well as data security are major design objectives for WSN. Moreover secure transmission of data sensed to a base station for further processing. Producing multiple copies of data packets and sending them on different paths is one of the strategies for this purpose, which leads to redundant energy consumption and hence reduced network lifetime. In this work we develop a restricted multi-copy multipath strategy where data move through 'frequently' or 'heavily' used sensors is copied by the sensor incident to such central nodes and sent on node-disjoint paths. We develop a mixed integer programming(MIP) model and heuristic approach present some preliminary test results.

Keywords : MIP, sensor, telecommunications, WSN

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