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RESEARCH ARTICLE

Trust Based Voting Scheme and Optimal Multipath Routing for Intrusion Tolerance in Wireless Sensor Network

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Abstract—Wireless sensor networks (WSNs) deployed in unattended environment energy recharging is difficult. WSN satisfy application specific QoS requirements i.e., reliability, timeliness, security and minimize energy consumption to prolong system useful lifetime with limited resources. The drawbacks of existing work include redundancy management scheme that did not addresses heavy query traffic. Ambiguity in multi-path routing decision is due to higher level of intrusion tolerance rate. The proposed work presented Trust Based Neighbor Weighted Voting Scheme to strengthen intrusion detection in WSN. It evaluates the dynamic radio range of neighbor nodes. Weight threshold is evaluated for marking the sensor node as normal node and malicious node. It discards the communication of internal malicious node by identifying lower weight votes of corresponding sensor node. It governs the best WSN settings in terms of redundancy level used for outsource multipart routing number of weighted votes intrusion invocation interval. WSN lifetime is maximized with trust based weighted voting and handles concurrent higher query traffic.

Keywords—Wireless Sensor Network; selective capture multipath routing; intrusion detection; lifetime maximization

Full Text: <http://www.ijcsmc.com/docs/papers/February2014/V3I2201445.pdf>