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RESEARCH ARTICLE

Self-optimization and Self-Protection (Transactional Security) in AODV Based Wireless Sensor Network

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Abstract— WSN technologies present significant potential in several application domains. Given the diverse nature of these domains, it is essential that WSNs perform in a reliable and robust fashion. This paper presents methods of integration of autonomic computing principles into WSNs. PSO based clustering for self-optimization and watch mechanism based method for self-protection from black hole attack has been presented in this paper, the paper proposes a novel approach for transactional security with chaos based AES cryptography. Results show that lifetime and throughput of wireless sensor network can be increased using this methods.

Index Terms—WSN; Self-Optimization; Self-Protection; PSO; Hierarchical Clustering; Black hole Attack

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