A Wormhole Attack Detection and Prevention Technique in Wireless Sensor Networks

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Abstract

Security is one of the major and important issues surrounding network sensors because of its inherent liabilities, i.e. physical size. Since network sensors have no routers, all nodes involved in the network must share the same routing protocol to assist each other for the transmission of packets. Also, its unguided nature in dynamic topology makes it vulnerable to all kinds of security attack, thereby posing a degree of security challenges. Wormhole is a prominent example of attacks that poses the greatest threat because of its difficulty in detecting and preventing. In this paper, we proposed a wormhole attach detection and prevention mechanism incorporated AODV routing protocol, using neighbour discovery and path verification mechanism. As compared to some preexisting methods, the proposed approach is effective and promising based on applied performance metrics.

References

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Index Terms

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Keywords

Wireless Sensor Networks, Wormhole Attack, AODV routing