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Analysis of Wormhole Attack in AODV based MANET Using OPNET Simulator

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Abstract: *Mobile ad hoc network (MANET) is a self-configuring network formed with wireless links by a collection of mobile nodes without using any fixed infrastructure or centralized management. The mobile nodes allow communication among the nodes by hop to hop basis and the forward packets to each other. Due to dynamic infrastructure-less nature and lack of centralized monitoring, the ad hoc networks are vulnerable to various attacks. The performance of network and reliability is compromised by attacks on ad hoc network routing protocols. In a wormhole attack an intruder creates a tunnel during the transmission of the data from one end-point of the network to the other end-point , making leading distant network nodes to believe that they are immediate neighbors' and communicate through the wormhole link. In this paper we have analyzed the effect of wormhole attack on AODV routing protocol based Mobile Ad-hoc Network using OPNET simulator using parameter like number of hops, delay, retransmission attempt, and data dropped.*

Keywords: AODV, MANET, OPNET, Wormhole attack

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