



SURVEY ARTICLE

MANET Attacks and their Countermeasures: A Survey

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Abstract— MANET “Mobile ad hoc network” is an autonomous system of mobile nodes connected by wireless links. Each node behaves as an end system, but also as a router to forward packets. Nodes can move freely, change locations and organize/configure themselves into a network. MANET poses challenges such as open peer-to-peer network architecture, shared wireless medium, stringent resource constraints and highly dynamic network topology. To accommodate the challenges special/proper routing protocols are necessary. Also choosing the algorithms needed to consider the network characteristics such as density, size and the mobility of the nodes. In MANETS establishing an optimal and efficient route between the communicating parties is the primary concern of the routing protocols. Any attack in routing phase may disrupt the communication, paralysing the entire network. So, security has become a primary concern in order to provide protected communication between mobile nodes in MANETS. Dependability and security aspects of MANET, such as jamming and eavesdropping are to be looked for users to perform protected peer-to-peer communication over multihop wireless channel. Security services such as authentication, integrity, non repudiation, confidentiality, key and trust management and access control must be provided a user depending on the application context.

A multifence security solution needed to achieve both bound protection and desirable network performance, considering all three security components prevention, detection and reaction.

Keywords— MANET; vulnerabilities; routing protocols; protocol stack; security; multifence security solution

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