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## Weighted Clustering Trust Model for Mobile Ad Hoc Networks Journal:

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M. Ashwin, S. Kamalraj, Mubarakali Azath

## Abstract

Mobile Adhoc Network (MANET) is a dynamic field that has acquired remarkable attention for its self-configuration and self-maintenance. It is composed of Mobile Nodes using radio links to form a network without any infrastructure. In MANETs, wireless nodes are allowed to move freely and can join/leave network. MANETs are extremely at risk to various misbehaviours due to reasons like absence of transmission infrastructures, dynamic network topologies, as well as short communicative range. For detecting as well as reducing misbehaviour, several trust management strategies were suggested for MANETs. MANETs trust migration is a level of belief according to nodes behaviour. This work investigated MANETs trust based clustering algorithm. A weighted clustering Trust model algorithm is proposed and impact of maliciousness and a cluster head selection algorithm is investigated. The simulations are conducted for without malicious nodes, 10 % malicious node and 20 % malicious node in the network with trust and without trust and for the proposed method. The packet delivery ratio improved by 16.18 % than 10 % malicious nodes with trust in the network compared with Trust model weighted clustering without malicious nodes for 40 nodes.