Abstract

In Mobile Ad-hoc Networks, the topology management is a crucial factor that plays a vital role to maintain the node cooperation and stability of the network in unpredicted movements of the nodes. Moreover, the resource consumption imposes problem with mobile nodes due to the variations of resource availability. The Intrusion Prevention System (IPS) offers more supportability for wired and wireless networks than ad-hoc networks besides, the IPS provides support for more trusted with low mobility ad-hoc networks. Nodes energy level is private information, so the nodes may behave selfishly and may not provide truthful information about it resource availability and avoids being a cluster head. The stability of the network topology may depend on smooth affiliations and re-affiliations of new node entering into the cluster. The clusterhead election process consumes more energy compared to energy required for data transfer. In this paper we propose MEC (Mobility, Energy and Credit) Clustering Algorithm in order to balance resource consumption among all nodes and enhance the network stability. The node with low mobility, trustiness and more remaining energy is elected as cluster head. Elected leader is responsible for providing IPS for the entire cluster. Our proposed algorithm provides incentives in the form of credits to encourage the nodes to honestly participate in the
leader election process and decrease the percentage of selfish nodes in the network.

References


Index Terms

Computer Science

Wireless
Topo plogy Management based Energy balancing model for IPS in MANET using MEC Clustering Algorithm

Keywords
Cost Of Analysis  Credit System  Incentives  Mobility  Staying Time  Remaining Energy  And Mec Algorithm