Abstract

Delay Tolerant Networks (DTNs) is a promising current research field that have captured a lot of attention. In DTN, an end-to-end path is not assured and packets are transmitted from a source node to a destination node by the use of store-carry-forward based routing. In case of DTN, a source node or an intermediary node accumulates the packets in its buffer and holds them at the time of moving around in the network. In the majority of routing protocols, each node is necessary to truthfully pass on information. On the other hand, in certain scenarios few nodes possibly will break this principle, and pass on information in a greedy manner with the intention of maximizing their individual gain. The majority of the current security mechanism doesn’t depend on the practice of swarm intelligence based process for selection of untrusted nodes and recognizes the behaviour of illegal nodes. With the aim of solving this complication, this work employs the practice of swarm intelligence method, an Artificial Bee Colony (ABC) based greedy behaviour, in order to match the messages where a smart Mobile Trusted Module (MTM) is launched to supervise the forwarding progression of messages buffered in the node for the purpose of preventing the greedy behaviour. The performance of the proposed protocol was assessed in terms of average relay time, average message delivery ratio and reward ratio. Results confirm that the proposed protocol can considerably enhance the average message delivery ratio, diminished delay time and condensed packet overhead ratio by
properly selecting the threshold values of forwarding counter and threshold hop counter.

References


Index Terms

Computer Science  Networks

Keywords

Delay tolerant networks  Greedy behaviour  Mobile trusted module  Artificial Bee Colony (ABC)