Abstract

Mobile Ad Hoc Network (MANET) consists of dynamic topology as nodes in the network are mobile, and connected via wireless links. Nodes within the cluster communicate directly. However, nodes communicate outside the cluster through a centralized node that is called a Cluster Head Gateway (CHG) [1]. As the number of nodes increases complexity of MANET
increases in various issues. Ad hoc wireless network is a dynamic multi-hop network, which is established by a group of mobile nodes on a shared wireless channel. The shared medium and the multi-hop nature of the wireless ad hoc networks pose fundamental challenges to the design of an effective resource allocation algorithm to maximize the aggregated utility of flows, maintaining basic fairness among the multiple flows. An elected Cluster Head Gateway (CHG) is assigned for communication with all other clusters. The centralized Cluster Head Gateway can become a bottleneck and possibly cause a lower connectivity for the clustering system. In this paper we propose a mechanism in which communication outside the cluster is distributed through separate Cluster Head Gateways in order to enhance the QoS of MANET. The CHGs should provide better QoS to than other MANET nodes within network. Now here the QoS deals with several parameters like Throughput, End-End Delay, Traffic Sent and Traffic Received. We also show that the increase in overall QoS and connectivity is by the increase/add Cluster Head Gateways. Additionally, the routing reliability to outside the cluster is increased since routes to different clusters use distinct Cluster Head Gateways. Finally, this paper conducts simulation experiments in the conditions where we using Multiple CHG to the nodes within a network.

Reference

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