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Title of the thesis: **Quality Of Service Issues in Mobile Ad Hoc Networks.**

ABSTRACT:

Mobile adhoc networks represent autonomous distributed systems that are zero configurable infrastructures less, fully distributed, and multi-hop in nature. Over the last several years, Mobile ad hoc networks have attracted considerable research attention in the general networking and performance community. This thesis addresses the key issues needed to meet the requirements in support of the adaptive QoS for Mobile adhoc networks; it contributes toward the design of a new adaptive quality of service (QoS) paradigm for Mobile adhoc networks. We address some of the key performance problems in the broader realm of Mobile adhoc networks. They include (1) An adaptive QoS framework and cluster based Routing protocol for mobile ad hoc networks, (2) Performance of clustered Routing Algorithm based on Energy consumption in mobile ad hoc networks, and (3) A cost efficient agile routing mechanism for Mobile adhoc networks.

We propose (1) Distributed Weight Cluster Algorithm (DWCA) protocol where nodes are self organize into clusters and each cluster is managed by a set of associates called head-set. Moreover, the energy efficient clusters are retained for a longer period of time; the energy efficient clusters are identified using heuristics-based approach.

(2) Performance of the DWCA clustered Routing Algorithm and other similar clustering Algorithm like WCA and LOWEST-ID based on minimum Energy consumption in mobile adhoc networks.

(3) Developing the hierarchical stable clustering architecture. The stable clustering architecture of MANET depends on the stability of Cluster_Head. Therefore to achieve stable QoS routing in MANET, we require good node stability based clustering routing protocol which provides a stable structure to the cluster so that uninterrupted communication can be achieved to a greater extent.

(4) Security of the proposed algorithm specially the security against Rushing Attack, a new type of attack on the Mobile Adhoc Network.

Chapter 1 deals with the Introduction and the current problems arise in the MANET. Chapter 2 deals with the different newly proposed Quality of Service Routing Protocols used in Ad hoc networks. In Chapter 3 we deal with the preliminaries in respect of achieving the quality of service with respect to various layers. In Chapter 4 we present a formation of the clusters. In chapter 5 we propose a new method of clustering algorithm to achieve the Quality of Service by using the minimum energy consumption. In Chapter 6 we present about routing procedure of the developed protocol. There is a very strong need to develop routing protocols in which the packet loss will be extremely low; rather ideally packet lossless routing protocol for such environment. In Chapter 7 we present about the security of the proposed Algorithm and find the simulation results of the various attacks mainly the new type of attack called the Rushing attack. In Chapter 8 we have set the various QoS parameters to evaluate the performance of the proposed new method of clustering.

Chapter 9 is about the Conclusion, Findings and Future scope.