A QOS-ORIENTED DISTRIBUTED ROUTING PROTOCOL FOR HYBRID WIRELESS NETWORKS

P.Anusiya[1]

M.E. Computer Science And Engineering

Surya Group Of Institutions

Vikiravandi,Villupuram

Mail id: ramyapurushothaman1@gmail.com

B. Lakshmi Devi[2]

Assistant Professor

Surya Group Of Institutions

Vikiravandi, Villupuram

Mail id: lakshmidevikamaraj@yahoo.co.in

Abstract - As wireless communication gains popularity, significant research has been devoted to supporting real-time transmission with stringent Quality of Service (QoS) requirements for wireless applications. At the same time, a wireless hybrid network that integrates a mobile wireless ad hoc network (MANET) and a wireless infrastructure network has been proven to be a better alternative for the next generation wireless networks. By directly adopting resource reservation-based QoS routing for MANETs, hybrids networks inherit invalid reservation and race condition problems in MANETs. How to guarantee the QoS in hybrid networks remains an open problem. In this paper, we propose a QoS-Oriented Distributed routing protocol (QOD) to enhance the QoS support capability of hybrid networks. Taking advantage of fewer transmission hops and anycast transmission features of the hybrid networks, QOD transforms the packet routing problem to a resource scheduling problem. QOD incorporates five algorithms: 1) a QoS-guaranteed neighbor selection algorithm to meet the transmission delay requirement, 2) a distributed packet scheduling algorithm to further reduce transmission delay, 3) a mobility-based segment resizing algorithm that adaptively adjusts segment size according to node mobility in order to reduce transmission time, 4) a traffic redundant elimination algorithm to increase the transmission throughput, and 5) a data redundancy elimination-based transmission algorithm to eliminate the redundant data to further improve the transmission QoS. Analytical and simulation results based on the random way-point model and the real human mobility model show that QOD can provide high QoS performance in terms of overhead, transmission delay, mobility-resilience, and scalability.