93. SUPPORTING QOS ORIENTED DYNAMIC AND EFFICIENT MULTI - CLASS ROUTING IN HYBRID NETWORK

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A hybrid wireless network (i.e., multi- hop cellular networks) have been proven to be a better network structure for the next generation wireless networks and can help to tackle the stringent end-to end QoS requirements of different applications. Hybrid networks synergistically combine infrastructure networks and MANETs to leverage each other. Hybrids networks inheritinvalid 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. We focus on the neighbor node selection for QoS-guaranteed transmission. QOD is the first work for QoS routing in hybrid networks. This project makes five contributions to reduce the transmission delay, to achieve fairness in packet forwarding and to improve the QOS of packet transmisson. Experimental results show that QOD can achieve high mobility-resilience, scalability, and contention reduction.

Index Terms—Hybrid wireless networks, multihop cellularnetworks, routing algorithms, quality of service.

ISBN 978-81-904760-6-5