

A QOS-ORIENTED DISTRIBUTED RESERVATION ROUTING PROTOCOL FOR HYBRID WIRELESS NETWORKS WITH NON QUALIFIED NEIGHBOR NODE SELECTION

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ABSTRACT-Wireless communication is one of the most vivacious areas in the communication field today. This technology is biggest contributions to mankind. Wireless communication involves the transmission of information over a distance without help of wires, cables or any other forms of electrical conductors. The wireless communication supports dedicated quality of service required for wireless applications. A hybrid wireless network is an extension to an infrastructure network, where a mobile host may connect to an access point (AP) using multi hop wireless routes via other mobile hosts. This paper proposes a simple, yet effective, method for nodes in MANETs to compute their available bandwidth in a distributed way. Based on this value, a QoS reservation mechanism is introduced for MANETs, allowing bandwidth allocation on a per flow basis. This allows nodes to select the highest possible transmission rate for exchanging data, independently for each neighbor. Our mechanism not only guarantees certain QoS levels, but also naturally distributes the traffic more evenly among network nodes (i.e. load balancing). The paper analyzes the applicability of the proposed mechanism over both proactive and reactive routing protocols, and extensions to such protocols are proposed whenever needed in order to improve their performance on ad-hoc networks.

Keywords: Wireless Ad-hoc Networks, Reservation Mechanism, QoS.

I. INTRODUCTION

The number of wireless Internet users are tripled world-wide in the last years[1]. Also Wi-Fi capable mobile devices including laptops and handheld devices like smartphone and tablet PC are increasing rapidly. Users wish to be always online and watch videos, play games, watch TV, make

long distance conferencing via wireless mobile devices. Wireless is a more modern alternative to traditional wired networking that relies on cables to connect networkable devices together. Wireless technologies are widely used in both home and business computer networks. Wireless networks have been developed with various wireless applications, which have been used in areas



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