

A Novel Gateway Location Algorithm for Wireless Mesh Networks

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Abstract : The Internet Gateway (IGW) has extra ability than a simple Mesh Router (MR) and the responsibility to route mostly the all traffic from Mesh Clients (MCs) to the Internet backbone however, IGWs are more expensive. Choosing strategic locations for the Internet Gateways (IGWs) best location in Backbone Wireless Mesh (BWM) precarious to the Wireless Mesh Network (WMN) and the location of IGW can improve a quantity of performance related problem. In this paper, we propose a novel algorithm, namely New Gateway Location Algorithm (NGLA), which aims to achieve four objectives, decreasing the network cost effective, minimizing delay, optimizing the throughput capacity, Different from existing algorithms, the NGLA increasingly recognizes IGWs, allocates mesh routers (MRs) to identify IGWs and promises to find a feasible IGW location and install minimum as possible number of IGWs while regularly conserving the all Quality of Service (QoS) requests. Simulation results showing that the NGLA outperforms other different algorithms by comparing the number of IGWs with a large margin and it placed 40% less IGWs and 80% gain of throughput. Furthermore the NGLA is easy to implement and could be employed for BWM.

Keywords : Wireless Mesh Network, Gateway Location Algorithm, Quality of Service, BWM

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