

***Abstract: Non-Root Based Decentralized Hybrid Wireless Mesh Protocol for Wireless Mesh Networks***

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**Abstract**

Wireless mesh networks is a type of mobile ad-hoc networks. In WMNs, all nodes are static or related with fixed position. WMNs have a default routing protocol, hybrid wireless mesh protocol, which is root constrained and tree-based proactive routing protocol. During reactive routing, it always initiates with PREQ broadcasting message. However, problems exist in this routing protocol, such as large overhead, low efficiency and long packet delay. Hence, to solve these issues, we propose a scheme which uses different root for different transmission, without the use of the fixed tree based hybrid wireless mesh protocol for IEEE802.11s. We call this method as decentralized hybrid wireless mesh protocol. In this paper, we did some modifications in the reactive and proactive routing mechanism such a way that the responsibility of mesh portal point is increased, and also made some modifications in root announcement scheme to solve the problems in the reactive routing protocol. We use NS-2 simulator to evaluate the performance of decentralized hybrid wireless mesh protocol compared with AODV, OLSR and hybrid wireless mesh protocol respectively.

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