

## ABSTRACT

*Manet (Mobile Ad Hoc Network) is a network of mobile devices connected by wireless links that can configure itself. In Manet, many routing protocols have been developed for multicasting. Multicast protocol in Manet can be divided into two criteria. The first criterion is classified on the routing method, that is proactive and reactive. The second criterion is classified on the protocol's basic structure that is tree-based and mesh-based.*

*In this paper, tree based and mesh-based protocol which routing method is reactive simulated using NS-2 as a simulator. MAODV representing tree-based protocol and PUMA representing mesh-based protocol.*

*The main purpose of this work is to evaluate the performance of both routing protocols on Manet based on : the addition of area, the addition of node's movement speed, the addition of traffic bit rate and the addition of multicast group size. Metric evaluation that evaluated each routing protocols performance in this work are Packet Delivery Ratio and Latency with performance measure of interests are the area, movement speed of nodes, the traffic bit rate and the multicast group size.*

*Based on simulation result in this work, it can be concluded that: PUMA has a better performance than MAODV for large areas, high levels of nodes mobility, and large number of multicast group members. MAODV has better performance than PUMA at high level of traffic bit rate. MAODV has a better latency than PUMA for all scenarios except for area accretion scenario. Only in the addition of area scenario, PUMA has a high latency better than MAODV.*

**Keywords :** Manet, mesh-based. multicasting, NS-2, reactive, tree-based