

ABSTRACT

Mobile Ad hoc Network is a network consisting of several wireless devices. Each wireless device or commonly referred to as a node can communicate with each other independently without any set boundaries. Each node on the MANET network acts as a host and router, which means that apart from functioning as a sender and receiver of data, the node also performs route searches so that packets can be sent to the destination node. The nodes on this network are always moving, causing the topology to be dynamic and making the paths between nodes change. Therefore, the right routing protocol is needed to find the best route and maintain route information so that communication can be established properly. In this study the routing protocol used is Ad hoc On-demand Distance Vector. This protocol is included in the classification of routing protocols that look for routes only if the source node requires transmitting a packet. This study examines the Quality of Service of the AODV routing protocol by analyzing the parameters of the Packet Delivery Ratio, packet loss, and end-to-end delay. Based on the research results, the PDR value decreases as the speed increases. The value of packet loss and end-to-end delay increases with increasing speed. This is caused by the faster the movement of nodes, the more route failures so that many packets are dropped and require more time for route rediscovery. The average value of the PDR parameter decreases as the packet size increases. The total packet loss value and the average end-to-end delay value increases as the packet size increases. This is because the larger the packet size will make the network traffic load to increase.

Keywords: MANET, reactive routing protocol, AODV, UDP, QoS.