

ABSTRACT

MANET is a wireless network that allows mobile nodes to communicate directly without the need for fixed infrastructure. One type of proactive routing protocol in MANET is the OLSR and DSDV protocols. Movement of nodes can affect the risk of disconnection between nodes and other nodes, which will affect the performance of the network on the network. Random walk movements reflect real-world scenarios where nodes move randomly. Assessing how OLSR and DSDV handle rapid and random topology changes is important to understand the efficiency and effectiveness of each protocol. This can help improve service quality, efficiency and reliability of the MANET network. This research aims to evaluate the performance of OLSR and DSDV routing protocols using random walk movements. This research will be carried out by simulating several scenarios with varying numbers of nodes, namely 20, 30, 40 and 50 nodes, using network simulator 3 software. The parameters to be measured include packet delivery ratio, throughput, delay and packet loss. The research results show that the Packet delivery ratio, throughput and packet loss performance of the two routing protocols are equally effective. However, the DSDV protocol routing delay parameter has a more effective value compared to the OLSR routing protocol. Where, the delay value in DSDV routing is 12,931ms while the OLSR routing protocol has a delay value of 15,903ms.

Keywords: MANET, OLSR, DSDV, Random Walk