

## **ABSTRACT**

*Mobile Ad hoc Network (MANET) is a network with nodes which are used as a router and has dynamic network infrastructure. Hence, nodes move frequently from and to this network. This case is so vulnerable to the attacks so that need a protocol which can make sure the packet can be sent safely.*

*In this research compared two MANET routing protocol performance, that is AODV (Ad hoc On Demand Distance Vector) and DSR (Dynamic Source Routing). Both of this protocol is given active attack. The active attacks are rushing attack, sinkhole attack, replay attack, and sybil attack.*

*These two protocol performance to active attack are tested using Network Simulator v2.34 (NS-2.34). By using random waypoint mobility pattern, number of nodes are 10, 15, and 20 nodes with speeds 15 m/s, 20 m/s, and 25 m/s. The performances are measured packet delivery ratio, average delay, average throughput, and routing overhead.*

*From the result known that the highest decrease packet delivery ratio by 16.4242% in sybil attack AODV protocol 15 nodes and speed 25 m/s , the highest decrease average delay in rushing attack with AODV protocol 20 nodes and speed 15 m/s sebesar 2968.3354 ms, the highest decrease throughput in sybil attack with DSR protocol 15 nodes and speed 25 m/s by 5.4949 Kbps and the highest decrease routing overhead in replay attack AODV protocol 15 nodes and speed 20 m/s by 243.1667%. Because of that, DSR is the best protocol to face rushing attack with 20 nodes and speed 25 m/s by throughput decrease 0.648%, to face sinkhole attack with DSR protocol in simulation 10 nodes and speed 15 m/s by the stabil packet delivery ratio , to face replay attack with DSR protocol in simulation 20 node and speed 20 m/s without delay decrease, and to face sybil attack with AODV protocol in simulation 20 nodes and speed 20 m/s by without routing overhead decrease.*

**Keywords :** MANET, Rushing, Sinkhole, Replay, Sybil, AODV,DSR