# ABSTRACT

Mobile Ad Hoc Network (MANET) is a network topology which not planned and not fixed, and without network infrastructures. Each node that has the wireless equipment has the ability to manage and organize independently. The function of the ad hoc network depends on the used of its routing protocol. Destination Sequenced Distance Vector (DSDV) is one of MANET routing protocols that is proactive. Zone Routing Protocol (ZRP) is also one of the MANET routing protocols, and it is a hybrid. Hybrid routing protocol combines between the type of proactive and reactive routing protocols.

This study to measure and compare the Quality of Service parameters (delay, jitter, throughput, and packet loss) between the two types of routing protocols mentioned above, DSDV and ZRP, and then analyze its performances. In this implementation using ant algorithms, i.e algorithms that are adopted from the behavior of ants and use AntNet-1.0 that was proposed by Gianni Caro and Marco Dorigo [3]. In this simulation, ant packets generated every one second, with a destination node is node 0.

From the simulation result is obtained that the addition of ant algorithms in the simulation script using DSDV protocol can improve throughput 2.68 %, decrease packet loss 3.09 %, increase delay 0.99 %, and also increase jitter 1.84%. While in the ZRP, the application of ant algorithms can not produce a better performances due to the zones impact that cause not every node in a network has information of the node 0 as destination of the ant packets that generated.

Key words : performances, MANET, DSDV, ZRP, Ant Algorithm