

## ***Abstract***

*Mobile IPv6 (MIPv6) is an internet protocol on IPv6 network that supports user mobility, so that the user stay connected to the Internet even though the user should move from one network to others. The process of network moving on MIPv6 is performed automatically so that the connection of user to the Internet continues to run well without interruption even if the user moves from the range of a network to the range of other networks or commonly called as handover. When the handover process takes a long time, it will be one that causes distrupction of connectivity and can even lead to the lost connection of mobile user. In the Mobile IPv6, there are several methods in the handover process, one of them is Fasthandover for Hierarchical MIPv6 or FHMIPv6.*

*The Final project is to compare the performance of FHMIPv6 and MIPv6 on the network Wireless Access in Vehicular Environments (WAVE) based on the change of velocity and the number of mobile nodes in the urban environment and the highway through simulations conducted with NS2. The test results show that the performance of FHMIPv6 is better than MIPv6. The increase of the handoff latency and delay as well as the decrease in throughput and PDR in the crowded environments occur in both of these protocol. The decrease performance also happends in high velocity of mobile node environment, but the result of testing on these change of velocity of mobile nodes scenarios show the value of a stable delay.*

*Keywords: Mobile IP, MIPv6, FHMIPv6.*