

ABSTRACT

Mobile IPv6 (MIPv6) is a mobility management protocol that enables the mobile node to always be connected while moving around IPv6 network coverage. The need for MIPv6 is important because a mobile device can not maintain connectivity with previous links when moving and changing IP addresses. The purpose of the mobility management protocol is that applications on the network can operate continuously on wireless or wired networks when the mobile node displaces the network.

In this final task, MIPv6 performance compare with Hierarchical Mobile IPv6 (HMIPv6) is used to see performance improvement can be done. This protocol performance is performed on Wireless Local Area Network (WLAN) coverage, while mobile node move from one WLAN to another WLAN and simulated with Network Simulator 2.

Performance parameters measured on the system are packet loss and handoff latency, on the mobile node side is the throughput with an increase in movement speed and the addition of the number of mobile nodes. The results showed that HMIPv6 did not improve the performance of the overall test parameters. In the first scenario, HMIPv6 performance against MIPv6 has lowered packet loss by 16.18%, increased handoff latency by 0.13% and reduced throughput by 3.01%. In the second scenario, the performance of HMIPv6 to MIPv6 has increased packet loss by 8.25%, decreasing handoff latency by 25.36% and reducing throughput by 1.49%.

Keywords: Mobile IPv6, mobility management, Hierarchical Mobile IPv6, Network Simulator 2.