

ABSTRACT

Today Internet has growth fast. This is shown by all logic address almost has been allocated in the internet. Changing of ipv4 address to ipv6 has been impact to the growth of multihoming. Multihoming that have been implemented in IPv4 use BGP routing and NAT. But, today IPv6 have come to change IPv4. The other side, multihoming that can be implemented in IPv6 is BGP and Shim6. Shim6 is one of the new protocol from development of IPv6 technology. This Shim6 protocol is one of protocol that work in host level. Shim6 is developed base on the problem of using multihoming BGP. The problem is, if the BGP multihoming growth fast, so it can make the speed of packet to deliver message in the core will be decrease and the router will need high memory to process the packet. So in this final project will test the performance of shim6 protocol in the IPv6 network.

In this final project has been analysed the performance of messages that delivered in the shim6 protocol. The other case, the network multihoming with shim6 will be compared with the network without Shim6. The comparassion is be done by observe the performance the failure recovery and the network quality. This research has been implemented in lab and use the services web when download and video streaming with unicast communication.

After the network with Shim6 have been tested. The worst of the throughput value for web and video streaming service still bigger than the value of standard that recommended from ITU-T series G1010. The delay for the bad condition to failover is 242.0711 ms. Whereas the amount of packet overhead to transfer data for 30 minutes is added 2136 bytes for establishment process and 72242 bytes for keepalive process.

Key Words: Home-based Multihoming, IPv6 and Shim6