

UNIVERSITI TEKNOLOGI MARA

**QUALITY OF SERVICE (QOS) BETWEEN IPv4 AND IPv6
ON MPLS LINUX PLATFORM**

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BACHELOR OF SCIENCE (Hons) DATA COMMUNICATION
AND NETWORKING**

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CERTIFICATION OF ORIGINALITY

This is certify that I am responsible for the work submitted in this project that the originality work is my own except as specified in the reference and acknowledgement and the original work contained herein have not been taken or done by unspecified sources or person.

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ABSTRACT

This research is all about performing evaluation of QoS between IPv4 and IPv6 with MPLS Linux tunneling method. IPv6, the next generation IP protocol is developed in order to overcome the shortage address experienced by IPv4 address space. IPv4 and IPv6 must be able to communicate in order to transport the IPv6 data stream over IPv4 network. Tunneling mechanism which is MPLS Linux tunneling is being used in order to transport the IPv6 data stream. Transporting IPv6 data over IPv4 network however deals with QoS issues which emphasize on the reliability and deliverable of data from source to destination. The main purpose of this research is to analyze both IPv4 and IPv6 QoS performance on top of MPLS platform in experimental environment using open source software. The next aim of the research is to compare the performance between IPv4 and IPv6 on top of MPLS platform. This research is done using a simulation of core network acting as the real core network environment. Some QoS metrics such as jitter, datagram loss, transfer rate and bandwidth will be measured using a benchmarking tool. The research conducted a quality of service measurement between both IPv4 and IPv6 on MPLS tunneling platform in order to evaluate the fair measurement performance.

Key words: IPv4, IPv6, MPLS, Quality of Service, open source

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