

ABSTRACT

ANALYSIS OF RIPNG and IS-IS PERFORMANCE ON IPv6 NETWORKS USING FREE RANGE ROUTING

By

Rizky Ade Satriya

20102158

IPv6 is the main focus in overcoming the limitations of IPv4 addresses and meeting the demands of rapid internet growth. In IPv6, choosing the right routing protocol will provide optimal and efficient performance. In this research, an analysis of the performance of two main routing protocols was carried out, namely RIPng (Router Information Protocol Next Generation) and IS-IS (Intermediate System - Intermediate System) in an IPv6 network environment using Free Range Routing as a routing platform. Testing is carried out with Quality of Service (QoS). QoS is a method used to measure how good a network service is. This research uses GNS3 (Graphical Network Simulator 3) software which is used to design the topology used. This research uses 6 Free Range Routing routers which are connected to each other and then uses Alpine Linux which is used as a server and client which has iPerf3 installed. Data packet delivery testing was carried out using iPerf3, where the data sent was in the form of TCP and UDP packets with data sizes of 512M, 1024M, and 1536M with data sending 10 times for each data load. From the test results it was found that IS-IS routing had a better QoS value compared to RIPng routing from the entire test.

Keyword : IPv6, IS-IS, QoS, RIPng, Routing Protocol