

ABSTRACT**ANALYSIS OF BGP AND OSPF ROUTING
PERFORMANCE ON IPv4 USING *FREE RANGE
ROUTING***

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Almost everyone uses computers to communicate in today's era of globalization, where computer networks are becoming increasingly powerful, resulting in chaotic traffic. By using routing protocols, traffic can be managed more directed. This research analyzes the performance of two main routing protocols in an IPv4 network environment using the Free Range Routing platform. BGP (Border Gateway Protocol) and OSPF (Open Shortest Path First) These protocols belong to the type of dynamic routing, and GNS3 (Graphical Network Simulator 3) is used to create and configure this routing using IPv4. One way to measure the quality of network services is Quality of Service (QoS). Six Free Range Routing routers collaborated on this research. Alpine Linux has been used both as a server and client and has iPerf3 installed which is used to test sending data packets. Data in the form of TCP and UDP packets with sizes of 10MB, 20MB, 30MB and 40MB are sent ten times for each data load. Overall, OSPF routing has better QoS values than BGP routing, according to test results.

Keywords: *IPv4, BGP, OSPF, Routing, QoS*