

ABSTRACT

PERFORMANCE ANALYSIS OF QoS (QUALITY OF SERVICE) ROUTING OSPF PROTOCOL USING FRROUTING ON GNS3

By

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Computer networks have evolved with time and the demand for timely, accurate, and reliable information services. A QoS (Quality of Service) system is necessary for computer networks to function effectively, which is an important consideration in computer networks. There are several elements that must be considered to achieve high network quality. There are various criteria that can be evaluated in QoS (Quality of Service), including throughput, delay, packet loss, and jitter. The GNS3 simulator is used in this study to simulate OSPF routing. This study also shows how OSPF routing works with IPv4 by applying it to a topology with 6 routers and using free range routing. QoS parameters such as throughput, delay, packet loss, and jitter have already carried out the testing phase with the TCP and UDP protocols testing 30 times and producing very good throughput values of < 100 Kbps, and also very good results for delay values of < 150 ms. While testing on packet loss and jitter only uses the UDP protocol with the result of testing the packet loss value is not optimal because it is > 24%, and the jitter value results are in a good category, namely <75 ms.

Keywords : QoS (Quality of Service), GNS3, OSPF, IPv4, Free Range Routing