

ABSTRACT

PERFORMANCE ANALYSIS OF IS-IS AND OSPF ROUTING PROTOCOLS ON FRRROUTING

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Data exchange Data exchange is getting better thanks to the rapid growth of technology. Computer networks allow data exchange, making computers able to communicate. So that computers can communicate with each other, a tool is needed to determine the path used, namely a router. The increase in technological infrastructure causes network service providers to compete to improve the quality and infrastructure of the services provided. In the process of sending data packets and selecting the fastest path, an appropriate routing protocol is needed. In this study, we analyze the IS-IS and OSPF routing protocols using FRRouting to compare the performance of routing protocols with throughput, delay, and packet loss parameters. This study uses simulation on GNS3. From the results of research on the TCP protocol, the overall throughput value of OSPF routing is higher than IS-IS of 52551.466 Kbps, the OSPF packet loss parameter is lower than IS-IS of 0.643%, and the routing delay parameter of the OSPF protocol is lower than IS-IS of 15.009 ms. Whereas for the UDP protocol, the overall throughput value of OSPF is lower than that of IS-IS by 0.403 kbps, for packet loss on both routing protocols, both have a packet loss value of 0%, for delay routing protocol, OSPF is lower than that of IS-IS by 1.6 ms. The conclusion of the research on the TCP network protocol parameter throughput, packet loss, and OSPF routing protocol delay is better than IS-IS for both categories having very good standards. On the UDP protocol, the IS-IS throughput parameter is better than OSPF, with both categories being sufficient. On the packet loss parameter, both routing protocols have a very good category. OSPF is better than IS-IS both have a very good category.

Keywords : routing protocol, IS-IS, OSPF, FRRouting