

ABSTRACT

Sending packets in a router network requires a routing protocol to determine the best path. One of the routing protocols that routers can use is EIGRP with the DUAL concept which has a feasible successor facility. EIGRP allows routers to perform faster-routing processes for path recovery in case of a packet delivery failure. This study aims to analyze the effect of using a feasible successor on the EIGRP routing protocol. The research uses VirtualBox as a hypervisor to run host os and GNS3 as network emulator. This study aims to determine the effect of using a feasible successor by linking down the main line when the client PC sends packets to the PC server. The test is measured based on the convergence time of delay, jitter, packet loss, and throughput. The results of the convergence test on the feasible successor path experience a faster time when sending ICMP packets of 128 Bytes with a convergence time of 35.7904 ms. In the packet loss parameter when testing the convergence time, the feasible successor path gets a value of 6.1947 % when sending packets of 1440 Bytes. The two path scenarios tested in the delay parameter got values below 150 ms according to the TIPHON standard. In the jitter parameter, the two path scenarios tested got values below 0 ms with a very good category according to the TIPHON standard. In the throughput parameter, the two path scenarios tested are categorized as very suitable for the TIPHON category because the available bandwidth values are only scaled, considering the limitations of GNS3.

Keywords: *Routing, EIGRP, DUAL, feasible successor, GNS3.*