**ABSTRACT**

IPv6 is an increasingly popular addressing protocol used in network development, currently used on layer 2 networks. At the lower layer called PHY, there is 802.11ax as one of the newest standards known as Wi-Fi 6/6E, a wireless network standard with MIMO and OFDMA as optimization features in terms of access capacity when compared to previous standards. At layer 3 transport, the application of the Split Horizon Strategy can be used to limit distribution overhead on Routing Information Protocol (RIP) between different networks (domains/sites) for relatively large network scales from 2 to 15 hops. The implementation of each protocol is not only used to "improve" the quality of performance on computer networks but can also be used as a way to "limit" the freedom of access to network interoperability. Restrictions can be used as a security strategy on the interoperability side of layers between domains/architectures, and used in research, one of which is stub-sub networks.

To optimize the convergence process in routing in RIPng (IPv6) using the Split Horizon Strategy on 802.11ax wireless networks. This research takes reference parameters including convergence, throughput, jitter, delay, packet loss, and other observed parameters. For the test itself, a network simulation scenario was carried out using NS-3 software and compared the performance between networks with and without the Split Horizon Strategy.

The target output of implementing the Split Horizon Strategy on RIPng (IPv6) 802.11ax wireless networks is expected to be a reference for new topology configurations in methods for improving performance in the EPN environment by reducing routing overhead and improving network stability in terms of performance, including by selecting appropriate protocols, and /or specification analysis because it will later affect QoS or other parameters such as convergence time which is often used in routing protocol analysis.

**Keywords**: Split Horizon Strategy, IPv6, 802.11ax, Stub, Enterprise Private Network, Interoperability, Computer Network