Abstract:-

In a computer network, the transmission of data is based on the routing protocol which selects the best routes between any two nodes. Different types of routing protocols are applied to specific network environment. Three typical types of routing protocol are chosen as the simulation samples: RIP, OSPF and EIGRP. RIP (Routing Information Protocol) is one of the oldest routing protocols still in service. Hop count is the metric that RIP uses and the hop limit limits the network size that RIP can support. OSPF (Open Shortest Path First) is the most widely used IGP (Interior Gateway Protocol) large enterprise networks. OSPF is based on the Shortest Path First (SPF) algorithm which is used to calculate the shortest path to each node. EIGRP Enhanced Interior Gateway Routing Protocol) is Cisco's proprietary routing protocol based on Diffusing Update Algorithm. EIGRP has the fastest router convergence among the three protocols would testing.

More detailed description of these three routing protocols would be included later. Would aim to analyze the performance of the three protocols such as their router convergence, convergence duration and sent traffic. In our project, would going to use OPNET to simulate RIP, OSPF and EIGRP in order to compare their attributes and performance. According to the convergence would find out which protocols are suitable for different sizes and types of network.