

## ABSTRACT

*In line with the development of increasingly sophisticated times, the role of the wider internet network to be used, the internet network needs to be adjusted so that bandwidth can be used as much as possible. In sending data requires the best and fastest route in order to support faster communication. Therefore we need a more sophisticated technology in checking the quality of data transmission when sending data called MultiProtocol Label Switching (MPLS). With so many improvements, providers are expected to be able to meet the needs of very diverse customers. A network needs to be monitored because there are often various problems such as broken lines or the equipment used is broken.*

*VRRP as a redundancy protocol is a solution to maintain a good network. This research was conducted in 3 Scenarios. Scenario 1 configures MPLS, scenario 2 configures VRRP which combines MPLS and VRRP and scenario 3 disconnects the master router to take over the backup router function into a master router by looking at the quality of sending data on a network.*

*The results obtained are able to make communication better by looking at the quality of network services that are seen more clearly for the flow of configuration. Because using MPLS technique makes traffic density can be added quickly. The role of VRRP as a redundancy protocol is also able to keep the data flowing even when there is damage to the path or the device used because the VRRP system uses a backup router as a backup router when there is damage to the master router.*

**Keywords:** *MPLS, VRRP, Router Backup.*