

## **ABSTRACT**

### **Techno-Economic Analysis of VoIP over MPLS Service Case Study on PT. X Bandung Region Metro Ethernet Network**

Currently, Indonesia has had a stable MPLS network for data services but voice services are still using TDM network. To achieve the NGN network, voice services will be integrated into the IP network supported by MPLS. Some of the problem is statement which proves that VoIP over MPLS service provide a bad quality.

Techno-economic analysis of VoIP over MPLS service conducted in this Thesis, technically made a comparison with a VoIP service using OSPF and DV. The network topology used is owned by PT. X Bandung and parameters tested are the packet loss, delay, jitter and throughput. Prediction of VoIP over MPLS service revenue that compared to revenue of PT. X Bandung conducted for economic analysis.

Technically VoIP over MPLS service provide QoS that consistent with ITU-T and Cisco standard so this service is feasible to be implemented in Bandung. Economically VoIP over MPLS service can help increase PT. X Bandung revenue. The advice for the future research is to use DiffServ-MPLS service and perform a more detailed economic calculations.

Key word : VoIP, MPLS, *packet loss, delay, jitter, throughput*, tekno ekonomi.