

## ABSTRACT

In this advance technology era, customer needs of high quality data transmission increase day by day. Because of that, every telecommunication operator tries to give the best service to its customers. But in its effort to give the best service, telecommunication operator has several obstacle such as high operational cost (very expensive equipment) that telecommunication operator must pay.

These problem are caused by almost all telecommunication operator use classic Synchronous Digital Hierarchy (SDH) between all nodes on telecommunication network. The classic Synchronous Digital Hierarchy has several obstacles such as high equipment price, inflexible bandwidth addition on customer. Based on problems above, so in this Final Project will research about planning of implementation Ethernet over SDH network on telecommunication operator which this network will support existing and new services.

The different between Ethernet over SDH and Classic SDH network is interface between CPE-Access Node or between nodes on network telecommunication are Ethernet. Ethernet over SDH has lower operational cost and make the network more efficient. Beside the advantages above, there is one more advantage such as Ethernet over SDH offer flexibility to add more bandwidth. Presently, this network hopefully will be a backbone network of data communication.

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