

## ABSTRACT

Today the technology development of telecommunication grows rapidly. It can be seen in the technology development of access network, such as copper local access network, radio local access network, fiber local access network. The purpose of the application of this technology is giving a better grade of service.

STO Majalaya has 8465 customers (8465 sst). They are shared with copper local access network and radio local access network. For now on there are 1855 waiting list. So STO Majalaya need to expand it's network to solve that problem. The disadvantage of the technology of copper and radio access local network is that they have limited service, because of that the technology of fiber access local is used to expand the network in STO Majalaya.

This final task research the planning of fiber local access network in STO Majalaya including demand forecasting, technology selection, tool requirement and kind of service. This planning uses Passive Optical Network (PON) technology. This technology consist of OLT, PS, ONU and fiber cable as it's transmittion. According to the next five years estimate, STO Majalaya will have 11.425 customers (11.425 sst). So this planning needs 31 ONU240 and 62 cores of fiber cable.