

ABSTRACT

Nowadays, the development of both communication and information world goes rapidly. It claims a good managed information system as well as the user's demand of technology on daily life that also develops every time, including multimedia services, so it requires a reliable communication system. The existing cable network that fulfills the multimedia services is the existing local copper access network, while the existing fiber optic network has not fulfilled multimedia services yet. This final project is designing a fiber optic network to fulfill multimedia services in STO Rajawali Bandung area.

In this final project, the writer will count the internet demand for each speedy classification, which is *light internet*, *medium internet*, and *heavy internet*. Then, we will get the usage bitrate so we will reconfigure devices on local fiber access network in order to be connected to ADSL network to fulfill multimedia demands. The demand's forecasting searched by using macro forecasting method and exponential method that has the smallest SEE (Standard Error) value.

The result of forecasting is needed 172736 Kbps usage bitrate and 56858.9 Kbps optimization bitrate. The device on local fiber access network is connected to DSLAM through *Gigabit Ethernet* channel.