

ABSTRACT

Access network implemented in interconnection service provider into subscriber in wide area communication network is needed a lot of cost in realization, installation, and maintenance. Therefore service provider trying to realize a cheap access network, reduce competition and make a new internet network access. This is one of the alternative issue solution, called Broadband PLC (Power Line Communications). BPLC access network is a telecommunications network using the Powerline distribution of electricity as a medium to transmitting data.

Network topology for a region are be different to the other regions. Some of the QoS parameters such as throughput, packet loss and delay depends to the distribution of customers, and to the residential customers. BPLC network access was from the base station, repeater, gateway, and a modem.

At the end of this made the task for BPLC network access planning-based power line distribution network using software Network Simulator and MapInfo Professional 8.0 to describe the location of customers, electric pole, bus shelter, and the PLC device. BPLC access network planning tasks in the end this is done for local area coverage depot Auto south Bandung.

The optimal condition in business user and residential user is using gateway 200 Mbps and modem 200 Mbps, the business user have *throughput* 127 Mbps, *delay* 1.634 ms, dan *packet loss* 1.455 % and the residential user have *throughput* 113,5 Mbps, *delay* 3.32 ms, dan *packet loss* 2.36 %.