ABSTRACT

High speed internet access, convenient, and cheap is a claim that must be provided by the telecommunications business. Development of costly new network is very high and almost 50% of the cost of development is used to access network [1]. This issue is one of the alternative solution, namely Broadband PLC (Power Line Communications). BPLC network access is a telecommunications network using the cable distribution of electricity as a medium for transmitting data.

Implementation of the access network BPLC need to pay attention to the network cable that already exists. Network topology for a region can be different from the other regions. Some of the QoS parameters such as throughput, packet loss and delay depending on the distribution of customers, and the type of residential customers. BPLC network access was from the base station, repeater, gateway, and a modem.

At the end of this made the task of planning network access BPLC-based powerline 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 Rawa Lumbu, Bekasi.

Design result simulated using software with Network Simulator 2. QoS parameters that is throughput 88,634 Mbps, packet loss 2,513%, and delay 5013 ms. Those parameters are eligible limit of ITU-T QoS so that the design is feasible to implement. Specification tool that is used is the gateway 200 Mbps, 200 Mbps modem and gigabit ethernet.

Keyword : power line communication, broadband power line, access network, QoS