

## ABSTRACT

Currently Broadband Powerline Communication (BPLC) can be used as an access network within the home. BPLC goes into the home network is supported by the latest BPLC standard, the HomePlug AV. So that the user now has alternative access network other than ethernet over twisted pair and wifi network. High-Definition Video (HDV) stream has begun to replace the standard definition video format streaming. HDV certainly require greater bandwidth for the streaming process. With BPLC that has HomePlug AV standards which have bandwidth up to 200 Mbps, is expected to become an alternative access network to users who will perform the HDV stream. With BPLC, installation of the access network between the server and the client will be easier because it uses electric power network.

In this final project, HDV streaming is implemented through a BPLC network with various scenarios and compared with conventional twisted pair network.

The measurement results show that overall performance of video streaming services on the BPLC network is the same well as the performance of video streaming services on the twisted pair cable network. This makes the BPLC network can be used as an alternative network for streaming video services. QoS measurement results in all scenarios meet the standards of "good", the packet loss is  $\leq 5\%$  (cisco) and delay is  $\leq 5$  second (cisco).

Keywords : Broadband Powerline Communication, High-Definition Video, streaming, HomePlug AV, QoS