ABSTRACT

In the context of learning students of SMK Telkom Bandung, Telecommunication Access Network Engineering Competencies, FTTH Subjects, one of the learning materials is IPTV. To provide an effective understanding, a prop that resembles a real IPTV system is needed.

In this Final Project a miniature model of iptv networks is built consisting of a service content provider part (headend) and a content distribution section to the IP network. The content provided consists of two types of services, namely live streaming content services by capturing terrestrial television broadcasts from uhf antennas through a Tuner TV card on a desktop PC and video on demand (VoD) services in the form of long movie video recordings. Distribution to the IP network is carried out using the VLC application which is streamed to a server that has been hosted on the smktelkom-bdg.com domain so that it can be accessed through the telkom smk web using a password.

System testing is carried out consisting of function tests and performance tests. The results of the function test show that all components in the use of the system can work according to plan. The performance test carried out consisted of a web access response speed which showed an average delay of 1.624328 ms, an average packet loss measurement of 4%, an average jitter of 2.49 ms and a throughtput of 5.99 Mbps. The value of the delay and packet loss parameters using the E-Model (ITU-T) obtained a MOS value: 4.47 including the "Good" category.

Keywords: *IPTV Server, Video On Demand, IP, Headend.*