ABSTRACT

In the telecommunication world, the communication technology develops to voice packet communication direction. *Voice over Internet Protocol* (VoIP) is a technology that bypasses traffic, voice, video, and data using access network, generally as wireline. If the VoIP usage is combinated to wifi so the user can communicate, from one place with unlimited distance, then pass through corporate internet network without burdened the extra cost.

In this final project, the writer will do research and the VoIP application usage analysis over Wi-Fi (VoWi-Fi) in CPE Laboratorium PT. TELKOM RISTI The research is done by measuring the VoIP parameters that influence the voice quality and delivery data, such as *one way delay, jitter, packet loss*, and *throughput*. This research is done from PC to PC using two scenarios to LAN according to codec variety that is used when measuring VoIP, that are *G.711 A-Law* codec *and G.711 μ-Law* codec using H.323 protocol. While in the WLAN network, we use six scenario to LOS condition and two scenarios to NLOS condition, and then to be compared.

As the result, VoIP performance values of WLAN network is quite same with the VoIP performance values to LAN network which means, those both values are fit to ITU-T standard. One way Delay at examination 4, that is test at WLAN LOS 10 meter and examination 12, that is WLAN NLOS 17 meter have highest value. By using same codec that is A-Law, which is each valuable 63,42732 ms and 63,02192 ms. Biggest Jitter is at examination 5 that is WLAN LOS condition 15 meter with A-Law codec is 11,3917 ms. At examination 4, that is test of WLAN 10 meter with A-Law codec the packet loss is biggest, that is 3,28 ms. At examination 6, WLAN LOS μ-Law 5 meter show lower throughput from is other, that is 0,1111 Mbps. At its practice in field, the signal is easy to drop. So that jam of delivery of data can happened when capturing.

Keywords : Wi-Fi, LOS, NLOS, VoIP, H.323