

## ABSTRACT

Development of Next Generation Network technology to offer a variety of alternative development that is intended to further optimize the use of network and mengefisienkan. IP Multimedia Subsystem (IMS) network architecture is packet-based switch / IP protocol that is supported by SIP and convergence communication network capable of fixed and mobile (fixed-mobile Convergence) offers a variety of services and multimedia services with the ease of operator and consumer. Specified by the Third Generation Partnership Project (3GPP/3GPP2) and now developed by the standardization body ETSI / TISPAN. The principle of technology is set session that arise for each service.

GSM as a technology provider that has the largest network on earth can not directly connect to the IMS network as the basis for the differences between technology circuit switch (CS) and packet switch (PS). General Packet Radio Service (GPRS) is the first step of the communication system based package that is integrated with the GSM system to a packet data network (internet).

In the end of this task has been implemented in the interworking between the GPRS network with a WLAN network based on IMS. Tests carried out by using the IMS services such as Video call. Packets from the GPRS user have emulated by SGSNemulator. Both the user and the GPRS network to WLAN registration to the IMS (P-CSCF and HSS). Implementation of this has been the analysis of the Quality of Service review of the delay, packet loss, jitter, and throughput of the distance and with or without background traffic.

From the results of the testing and performance analysis system, acquired the audio and video quality that can be quite acceptable. Maximum value of the parameters of QoS that is 21.3324 ms for the delay, maximum packet loss rate of 0132%. Results are still below the maximum limit distandarkan ITU-T and Cisco, and concluded this system to function properly.

**Keyword :** *IMS, GPRS, WLAN, SGSNemulator , QoS*