ABSTRACT

Kamailio is a VoIP server application with the SIP protocol which is open source under the GPL V2 license. As a VoIP server application, kamailio is quite good because it can support calls per second. Kamailio can be used to build large platforms for VoIP and real time communications. Kamailio can be used on systems with limited performance resources that can reach hundreds of calls per second.

In the Level Project entitled "Analysis of Voice Over Internet Protocol (VoIP) Server Design with Kamailio Open Source on Video Call Services", the implementation and analysis of VoIP server design was carried out by testing the speed of concurrent call services using kamailio compared to other VoIP applications such as FreePBX, as well as measuring Quality of Service (QoS) based on the calculation of delay and packet loss to determine the quality of video services.

In this Level Project testing, it was found that the smallest delay value was obtained from the kamailio server of 0.0029 ms and jitter with a value of 0.00003 ms. With the existence of a strong VoIP server that utilizes the existing data infrastructure, there is no need to waste additional costs for communication depending on the telecommunications operator. The QoS measurements carried out in this study were based on the ITU-T G.1010 standard.

Keywords: *VoIP, Video Call, FreePBX, QoS, Kamailio.*