ABSTRACT

Voice over IP (VoIP) is an alternative to telephone calls through the Internet, the protocol requires reliable delivery of data services so that users can communicate well, and H.323 and SIP protocols are two types of protocol used in its implementation. H.323 protocols already exist compared with the SIP protocol, which is where the H.323 and SIP protocols have different methods and quality between each other, to know the quality of both protocols, the need for a performance comparison between the H.323 protocol with SIP. In this study, a comparison of performance between H.323 to SIP by making a simulation on the OPNET Modeler 14.5. Simulations done using VoIP and video conferencing. From the simulation results in a VoIP service obtained an average delay of H.323 amounted to 0.06299 s, while the SIP of 0.06311 s, average jitter of H.323 by 0.0000112 s, while the SIP at 0, 0000125 s, average packet loss in H.323 at 0%, while the SIP of 0.24%. In a video conference service obtained an average delay of H.323 amounted to 0.00909 s, while the SIP of 0.00924 s, average jitter of H.323 for.000000000072 s, while the SIP for 0.00003168 s, average packet loss in H.323 at 0.5576%, while the SIP of 0.559%. From the simulation results are known parameters of delay, jitter, packet loss and throughput in the H.323 protocol is better than both the SIP protocol VoIP and video conferencing services, then as a whole the performance of H.323 is better than the performance of the SIP protocol.

Key Word: VoIP, H.323, SIP, OPNET Modeler 14.5.