

ABSTRACT

Convergence between network will generate a network that provides mobility and flexibility in progress. Next Generation Network development in the world of telecommunications networks towards to Internet Protocol system. This is in because of the flexibility provided by IP networks, as well as ease in the development of existing services to make the variety of services on offer. One service offered is a VoIP (Voice over Internet protocol). VoIP is telecommunication technology that is able to passing voice services into the IP network so as to make telecommunications links between users who are connected in an IP network.

One of the protocols used in VoIP signaling is IAX (Inter Asterisk Exchange). As the name implies, a protocol developed by the makers of Asterisk that offers features that are not provided by the H.323 and SIP protocols. Part of the problem can not be solved by the H.323 and SIP protocols can be overcome by IAX. VoIP technology is currently still in the process of development in order to compete with the PSTN, especially in terms of performance. One way to improve performance is by using techniques CRTP (compressed Real Time Protocol). With this technique, a header of RTP, UDP, and IP compressed / reduced from 44 bytes to 2-4 bytes.

In the implementation of this thesis is done using the technique of CRTP performance testing on a VoIP network using IAX protocol on the LAN network. Performance parameters to be searched include the QoS parameters (delay, throughput, jitter, packetloss) and MOS parameters.

As a result from analysis give information about performance of VOIP based on IAX protocol using CRTP. From the experimental results on without background traffic conditions shows that the value of the interarrival delay for voice service is still in the tolerance range sound quality standards ITU-T G.114 for 83.49251217 ms. Interarrival jitter ranged from 5.52138 to 49.4769 ms ms with an average value of 28.9169 ms. The average throughput percentage is 76.96%. For the amount of bandwidth per call is 16 Kbps. It can be concluded that the voice QoS values obtained are still in the existing standard. MOS values of respondents had an average of $2.975 \cong 3$ (rounded up) which shows good range.

Keyword : VoIP, Asterisk, IAX, CRTP