ABSTRACT

Communication is something very important today. Voice communication is not just a traditional telephone network via POTS or circuit switched network however it through a packet network, known as VoIP (Voice Over Internet Protocol).

VoIP communication with SIP (Session Initiation Protocol) is now a client and the server where the client if you want to make a VoIP connection then must apply through a VoIP server and then make links to other VoIP users who registered on that server. In this case the server actually serves only as a place to register and database client. What if a user wants to communicate but do not have VoIP SIP VoIP SIP server? In view of its own SIP is a communication peer-to-peer may be possible to become serverless. So the model of communication in a peer-to-peer performed in which a set of SIP VoIP users who want to communicate communicating with each other without using a VoIP server. In order for VOIP communication between SIP user one user to another can be used in P2P-SIP (Peer-to-peer SIP). In a communication peer-to-peer very closely with DHT (Distribution Hash Table) algorithm in the settings for client connecting and routing in a peer-to-peer network.

In this Final Task have been implemented P2P-SIP communications and network performance analysis of QoS include jitter, packet loss, throughput, Post Dial Delay (PDD) in the use of different DHT algorithms, namely Kademlia DHT algorithm and Bamboo DHT algorithm. Experimental results show that the QoS performance of VoIP services for P2P-SIP is still in tolerance of ITU-T standardization . Using Kademlia algorithm shows better results than using Bamboo algorithm in P2P-SIP

Keywords: Peer-to-peer, P2P-SIP, SIP, Distribution Hash Table