

ABSTRACT

Technology NGN (Next Generation Network) based softswitch at first into the technology trend, but now the users want to gain more ease, which is able to accommodate all services in a variety of different network access.

IP Multimedia Subsystem (IMS) is a telecommunications network architecture based on multimedia IP (Internet Protocol). This technology is one of the interconnect architecture developed by wireless and wire line technologies by offering a variety of multimedia services including voice, video, Internet protocol television and data. The principle of this technology is to control the sessions for every services.

In this thesis, the implementation of Open IMS for triple play services will be analyzed.

The analyses are measuring server performance by calculating the time of the signaling process. The time needed to process a packet invite signaling that is equal to 0,003608618 s and a maximum signaling time to sever process signals at busy hours with the background traffic 25 packets invite is 3,213037493 s. For voice call service, the time needed from the beginning to the end of a call for 30 seconds with background traffic a packet invite and background traffic 25 packet are 33,42198 s and 43,21318 s, with an average delay of each increase of 5 invite package is 5,763634 s. For the amount of packet loss when there is no background traffic and background traffic at 85 Mbps that is 0,019684 % and 9, 00043 %. As for the video call service, the time needed from the beginning to the end of a call for 30 seconds with background traffic a packet invite and background traffic 25 packet ms are 38,11811 s and 43,80107 s, with an average delay of each increase of 5 invite package is 4,2291276 s. For the amount of packet loss when there is no background traffic and background traffic at 85 Mbps that is 0,202021724 % and 9, 00043 %.. And the number of throughput for chat service without background traffic and with background traffic 85 Mbps is 619 packet and 2.525.770 packet.

Keyword: IMS, NGN, triple play.