

ABSTRACT

In the effort to optimization and efficiency telecommunication network, Next Generation Network (NGN) technology introduce the Internet Protocol Multimedia Subsystem (IMS) as development communication network alternative. IMS network have basic concept to integrating wireless and wireline network with various of service, such as voice or data, by principle with session for any different service.

In this final task, done performance analysis for VoIP and data communication in IMS with WLAN user network to analysis characteristic some QoS parameters. The kind of these parameter is delay, jitter, throughput, and packet loss with CBQ and FQ differential service, MPLS and non-MPLS usage, and also G. 729 and G. 726 VoIP standard.

The result from this simulation is that CBQ algorithm give good performance for real time traffic such as VoIP with high priority. FQ algorithm give good performance for data application with fair bandwidth sharing in the network. Beside that, MPLS algorithm usage give big influence for QoS performance, like delay, jitter, and packet loss. In the other hand, G. 729 VoIP standard give a better choise for bandwidth usage when it's compared with G. 726, but it give worse performance for delay, jitter, throughput, and packet loss.

Key word : IP Multimedia Subsystem (IMS), Voice over IP (VoIP), Wireless LAN, Quality of Service, MPLS, Diffserf, CBQ, FQ, G. 729, G. 726