

## ABSTRACT

Based on the structure, wireless network can be classified into two main categories, there are wireless networks with infrastructure and ad hoc (without infrastructure). Wireless networks with infrastructure have a simple configuration of the base station there is a certain coverage area and provide service to users who are in the coverage area. While wireless network ad hoc mode does not have infrastructure such as base station.

Mobile ad hoc network (MANET) is a wireless network of nodes that are not set for a particular topology. In this final task will be analyzed performance on MANET networks using OLSR protocol for VoIP services. Parameters to be analyzed are delay, jitter, and packet loss. MANET network which will consist of five node and VoIP applications are used with G.711 and GSM codec.

From this final assignment of measurement for scenario fix user obtained delay are 20,5 ms;20,1 ms;50,12 ms; 50,94 ms; obtained jitter are 12,7 ms;1,05 ms;88,46 ms;40,64 ms; obtained packet loss are 1,36%;2,28%;13,08%;0,88%; and obtained throughput are 82,03kbps;80,45kbps;68,33kbps;69,21kbps. For scenario mobile user obtained delay are 20,24 ms;23,59 ms;28,48ms;21,21ms; obtained jitter are 43,93ms;55,57ms;178,38ms;72,78ms; obtained packet loss are 2,92%;8,54%;23,12%;0,38%; obtained throughput are 86,97kbps;65,68kbps;66,46kbps;84,53kbps. For scenario fix user with GSM codec, obtained delay are 20,11ms;23,09ms;22,97ms;19,99ms; obtained jitter are 5,58ms;15,33ms;230,16ms;49,05ms; obtained packet loss are 0,5%;0,22%;8%;0%; obtained throughput are 29,36ms;30,01ms;33,82kbps;30,23kbps.

**Keyword: MANET, VoIP, MPR, OLSR, QoS**