

Voice over IP Quality of Service Evaluation for Mobile Ad Hoc Network in an Indoor Environment for Different Voice Codecs

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Abstract : In this paper, the performance and quality of Voice over IP (VoIP) calls carried over a Mobile Ad Hoc Network (MANET) which has a number of SIP nodes registered on a SIP Proxy are analyzed. The testing campaigns are carried out in an indoor corridor structure having a well-defined channel's characteristics and model for the different voice codecs, G.711, G.727 and G.723.1. These voice codecs are commonly used in VoIP technology. The calls' quality are evaluated using four Quality of Service (QoS) metrics, namely, mean opinion score (MOS), jitter, delay, and packet loss. The relationship between the wireless channel's parameters and the optimum codec is well-established. According to the experimental results, the voice codec G.711 has the best performance for the proposed MANET topology

Keywords : wireless channel modelling, Voip, MANET, session initiation protocol (SIP), QoS

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