New Signaling approach Improving the VoIP Quality of Service in Ad hoc Network

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Abstract

Mobile Ad Hoc NETworks (MANET) are autonomous networks composed of two or more mobile nodes with wireless communication capabilities, but they have no centralized infrastructure network.

VoIP is a technology that allows you to make voice calls using an Internet connection instead of a regular (or analogy) phone line. The quality of service on the VoIP network is spread over several parameters (jitter, MOS, end to end delay, and packet loss rate) which must be taken into account and studied properly during a simulation of a network adopting this technology, which is sensitive to disturbance and dynamic topologies such as ad hoc networks.

For this purpose, several studies have been conducted to improve the quality of voice conveyed via an ad hoc network known for its limited resources and constraints of a higher level.

This paper presents a new approach to H.323 signalling in an ad hoc network implementing
three Gatekeepers at a time, or the user calculates the distances separating the three
gatekeepers to decide to connect to the appropriate Gatekeeper which is the closest
geographically.

This new approach is simulated on Opnet Modeler that will calculate the parameters of the
obtained QoS and thus can compare them with the parameters of an H.323 signalling system
based on a single Gatekeeper.

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Index Terms

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