Variable Time-Scale Audio Streaming over 802.11 Inter-Vehicular Ad-Hoc Networks

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Abstract

This paper presents an analysis of audio streaming in an inter-vehicular network based on 802.11b wireless devices. In such a scenario characterized by strong link availability variations, we investigate the performance of an adaptive packet scheduling policy that adapts the inter-packet transmission interval to the channel conditions. Network simulations are used to evaluate the effects of varying the transmission time scale between zero, when the connection is not available, to as fast as possible when the channel is available and reliable. Results show that the proposed approach ensures high quality audio streaming among the nodes of the inter-vehicular network by heavily reducing the percentage of lost packets and with only a limited increase in the delay and jitter.