

Enhance video quality through VANET based on Transmit Packet Coding (TPC)

Omar A. Hammood¹, Mohd Nizam Mohmad Kahar¹, Muamer N. Mohammed¹, Waleed A. Hammood¹, Ayoob A. Ayoob³

¹Faculty of Comp. Syst. and Soft. Engineering,

University Malaysia Pahang, Kuantan 26300, Malaysia

²School of Electronic Information and Communications, Huazhong University of Science and Technology, Wuhan, 430074 .P.R.China

Corresponding Author's Email: omer_almajeed@yahoo.com

ABSTRACT: Vehicular networking has emerged with wireless technology concept that supports safety messaging exchange, route condition updates, and real-time video traffic information sharing. However, the high dynamic topology of Vehicular ad hoc networks (VANETs) is a great problem towards the satisfaction of the stringent demands for video streaming. Most VANET services support either multimedia or extremely beneficial features. The focus of this paper is on the improvement of VANET video quality through the performance of network solution using Transmit Packet Coding (TPC). We also

employed mathematical analysis and network simulation for the performance evaluation. The simulation of the different scenarios of VANET and dissemination of video content over this network environment using NS2 and MATLAB was carried out. The result showed the suitability of the proposed technique over different existing solutions toward effective and efficient techniques, in terms of delivery ratio and probability for video broadcasting over vehicular environments.

KEYWORDS: VANET; Video Dissemination; Quality of Service.