

35. CELLULAR OFFLOADING IN VEHICULAR NETWORKS USING DRE AQLGORITHM

Hareend R U1 A. Arul Prasath2

M.E Computer Science and Engineering , Assistant Professor

Arunai College of Engineering ,Tiruvannamalai

ruharend@gmail.com,arul.infotec@gmail.com

A new cross layer communication protocol for a vehicular internet access along the highways is introduced. The objective of the new Controlled Vehicular Internet Access (CVIA) protocol is to increase the end- to- end throughput also needs to achieve fairness in the bandwidth usage between the road side units. To achieve this goal, the CVIA protocol should eliminate the contention in relaying the packets over long distance. As CVIA create a single- hop vehicle clusters and it mitigates the hidden node problem by dividing the packets into segments and controlling the active time of each packets. Using an analytical throughput estimation model, the protocol parameters are fine tuned to provide fairness among road segments. Simulation results for the proposed CVIA protocol provides higher throughput and better fairness in multi- hop data delivery in vehicular networks when it is compared with IEEE 802.11p based protocols for transfer.

Index Terms—CVIA, cellular offloading, multi-hop data delivery, 802.11, ITS, DRE.

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