VTC2015-Spring: Glasgow ☐ Review

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Review submitted. Thanks!

Review for paper 94959

Paper title

Achieving Reliable and Efficient Message Broadcast in Vehicular Ad Hoc Networks using Network Coding Concept

Review deadline

December 14, 2014

Manuscript

184-94959-review.pdf (542 KB)

Reviewer

George Corser (modified on 27 Nov 15:05)

Assigner

<u>Javier Gozálvez</u> (assigned on 22 Nov 11:50)

Status

Completed

Review scores

After reviewing, **your comments will be shown anonymously to the authors**. If you have private comments to the TPC, you may <u>add a comment to the paper</u>.

As the reviewer, you can still <u>modify these answers</u>.

Relevance

5: Perfect match

Directly relevant to VTC

Novelty

3: Incremental

The research takes the well studied concept of network coding and applies it to VANET context.

Contribution



The paper has not sufficiently considered the following questions: How important are the results? What is the benefit of packet retransmission? Why is it necessary at all? Would basic safety messages (BSMs) be retransmitted, or only warnings and other message types? How big is m+1? How many hops? At some point, won't the number of hops overwhelm the wireless network with congestion? How long does it take for the on-board computers to process the XORs? What is the threshold where the cost of computer processing exceeds the value of error correction? The paper considers 200 vehicles in a highway topology, but what about intersections; cloverleafs; stadium parking lots?

Presentation



The writing is clear, the equations are laid out logically, and the figures are well presented. Examples of minor errors:

Page 1, top of column 2: However, these classical approaches for improving reliability only works (should be: "work") efficiently with one-to-one, unicast communication...

Fig. 1: CRER: Vehicle D perform (should be "performs") a bit-wise exclusive OR ...

Page 4, column 1, last sentence: ...and the simple error recovery scheme, Pl(S) (format error) can be determined by comparing the values ...

Recommendation



Results presented are founded in well-explicated theory. However, conclusions are based on simulation which may not manifest in practice. The paper would be better if it explicitly stated this limitation.

Comments

The paper may have been cut to 5 pages to save money. If so, in this case the cuts did not help the quality of paper. Still, it presents worthwhile reading, worthy of VTC.

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