A Multi-Channel IEEE 1609.4 and 802.11p EDCA Model for the Veins Framework

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Veins - Vehicles in Network Simulation

Features up to now

- Realistic movement patterns [1,2,3]
  - Crowd-Sourced Geo-data
  - Validated city-scale mobility by using SUMO [3]
  - Bidirectionally coupled simulation [1]

- Representation of the physical layer
  - Detailed interference computation

- Mac Layer?
  - 802.11b MiXiM models

1609.4, EDCA, 802.11p
Veins - Vehicles in Network Simulation

New! Full-Featured IEEE 1609.4 and IEEE 802.11p Mac Layer

Features

- The whole package (It makes a difference! [5])
- Detailed representation of the standard
  - Correct Timings and Parameter values
- Full EDCA functionality
- 1609.4 Channel Switching
- Computationally efficient
- 802.11p validated Bit Error Models [6]
- Full representation of the PHY packet format with all timings
- Open Source, available in Veins2.0rc2 at http://veins.car2x.org/

Veins - Vehicles in Network Simulation

What can I do with it?

- Simulation of multi-channel applications
- Safety application evaluation regarding 1609.4 latencies
- Protocol simulation with
  - Realistic throughput
  - Validated path loss models
- Play around and have fun with it
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Thanks!

See you at my poster!

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