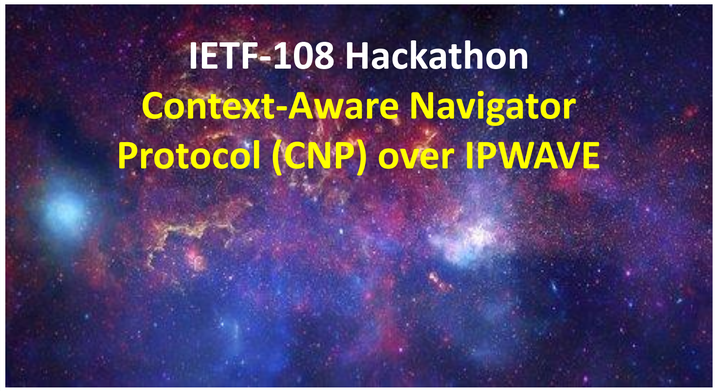
IP Wireless Access in Vehicular Environments (IPWAVE) Basic Protocols

Champion: Jaehoon Paul Jeong (SKKU)



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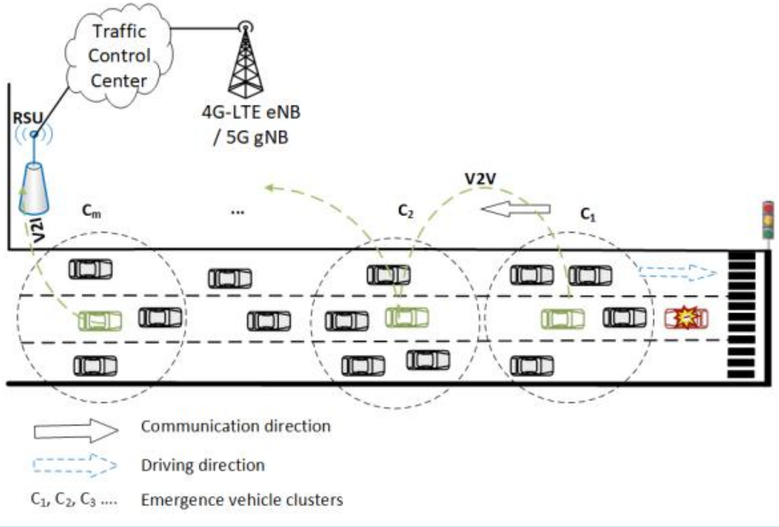
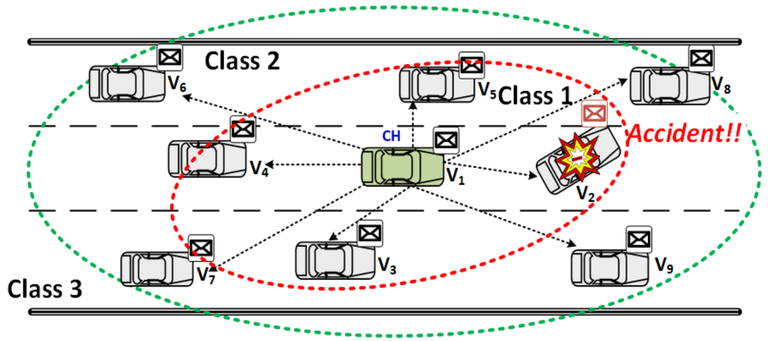
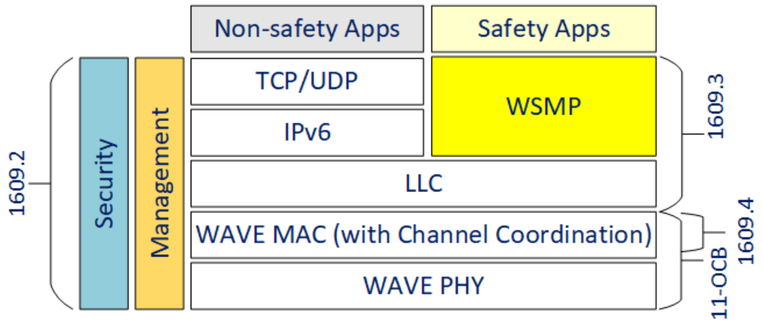
Vehicular Network Architecture



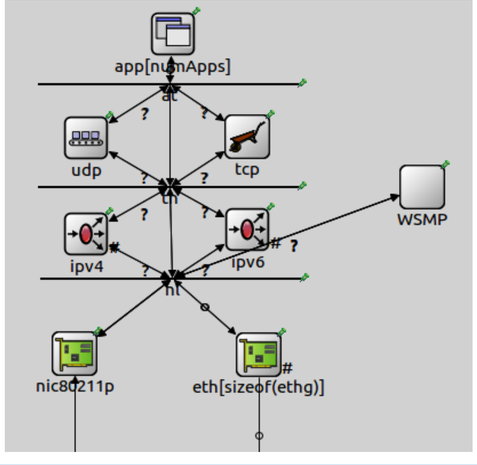
Context-Aware Navigator Protocol



WAVE Protocol Stack



Vehicle Structure in OMNeT++



Objectives:
- Demonstrate IPWAVE Basic Protocols
- Discover technology gaps for IPWAVE

Where to get source code:
- Git-hub open source: https://github.com/ipwave-hackathon-ietf

How to set up an environment:
- OS: Ubuntu 16.04
- OMNeT++: 5.4.1
- SUMO: 0.32.0
- Veins: 4.7.1
- INET Framework: 4.0.0

Implementation Contents:
- Proof of Concept (POC) of IPv6-Based Context-Aware Navigator Protocol
- IPv6 mobility information sharing for safe driving in roadways
- Coordinated path planning for obstacle and collision avoidance in roadways
- Efficient driving information exchange in IP-based vehicular networks
- Network-based coordinated driving environment sensing and perception
- Vehicular Simulations of IPWAVE with OMNeT++, SUMO, and VEINS

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