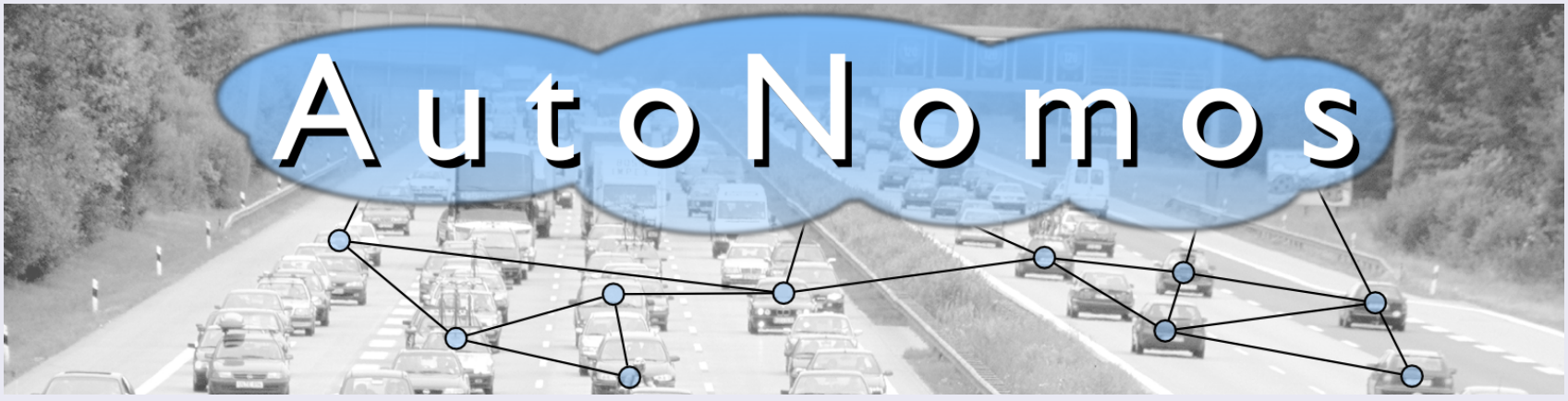

A Distributed and Self-Regulating Approach for Organizing a Large System of Mobile Objects

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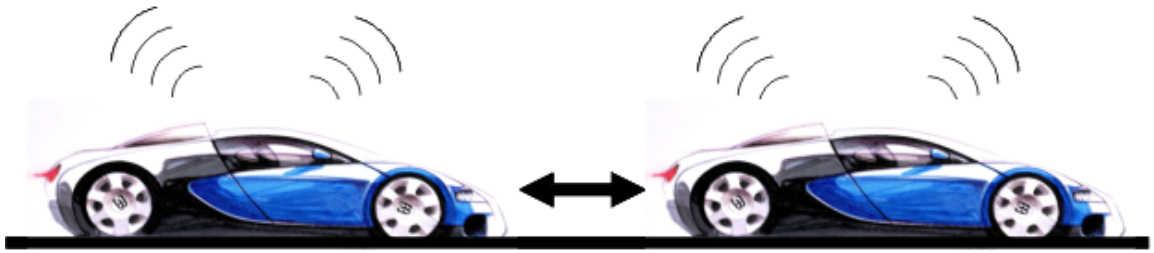
Goal

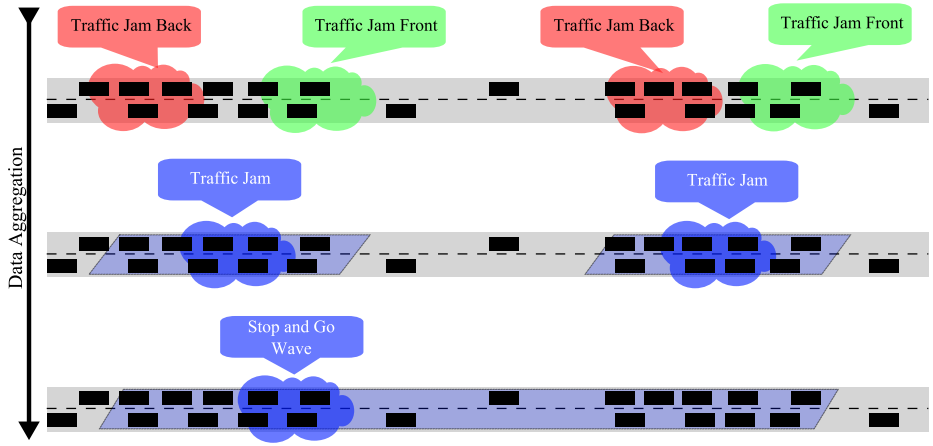
Improve traffic flow by car-to-car (C2C) communication.

- Cars as self-organizing entities
- Ad-hoc C2C communication
- Distributed algorithms
- Avoidance of centralized coordination and organization



Main Design Components

- Hovering Data Cloud (**HDC**): Mix of system of rules and data structure which is independent of physical carriers (e.g., vehicles)



- Organic Information Complex (**OIC**): Aggregation of information of several HDCs
- Advanced Distributed Strategy (**ADS**): Strategies pursued by equipped vehicles to deal with detected traffic phenomena

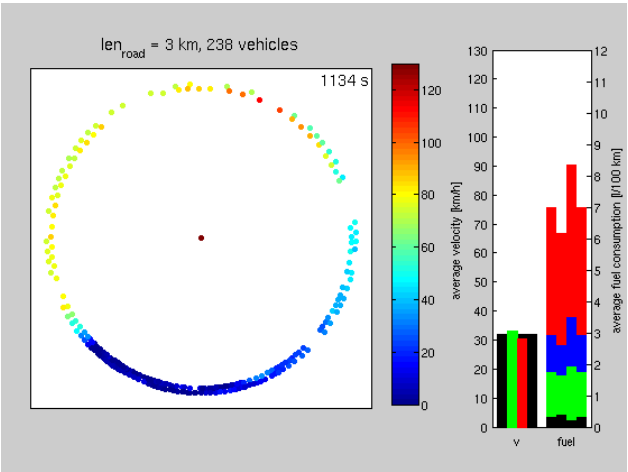
Jam-ADS

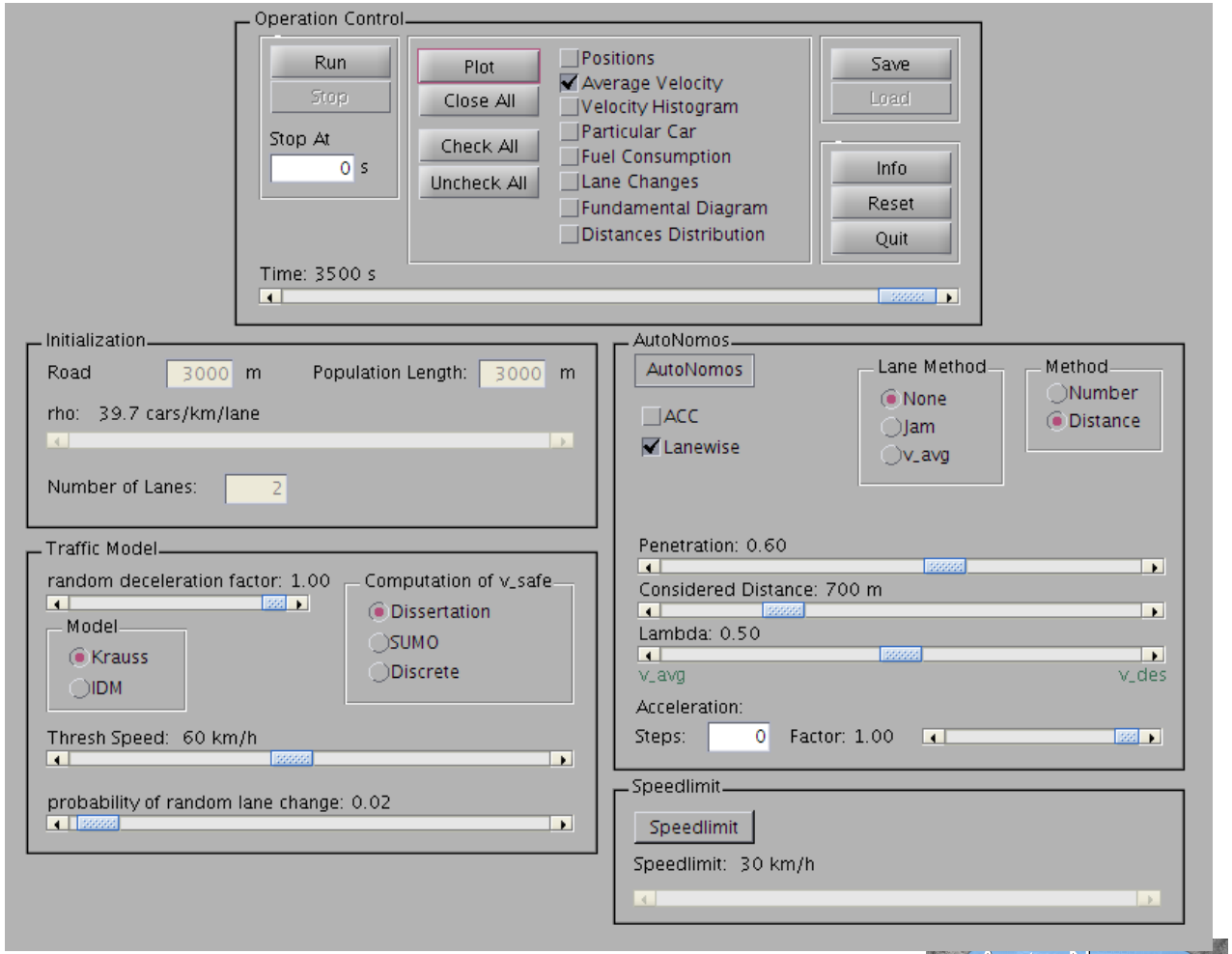
Goal Increase traffic flow on a highway while decreasing the fuel consumption

Idea Recommend a velocity which depends on average velocity of the cars ahead

AutoNomos-Simulator

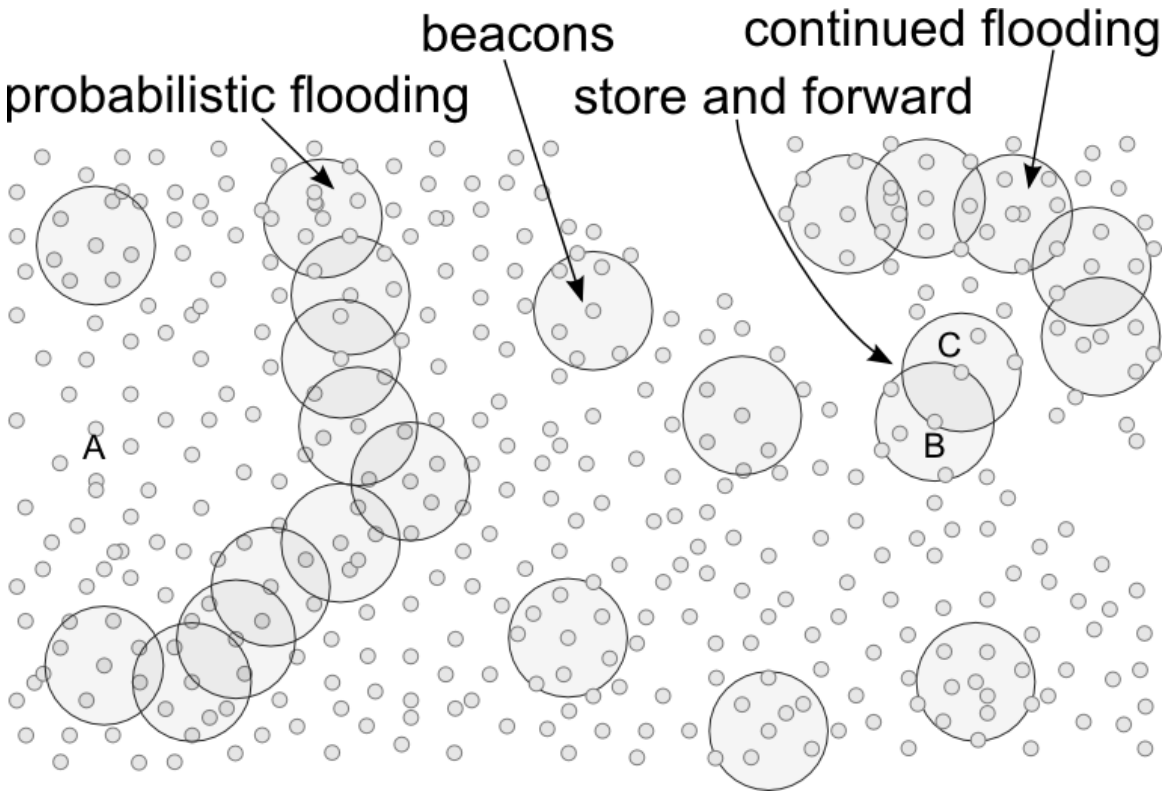
Implementation of Krauß and IDM model on a circular road,
interactive or script driven





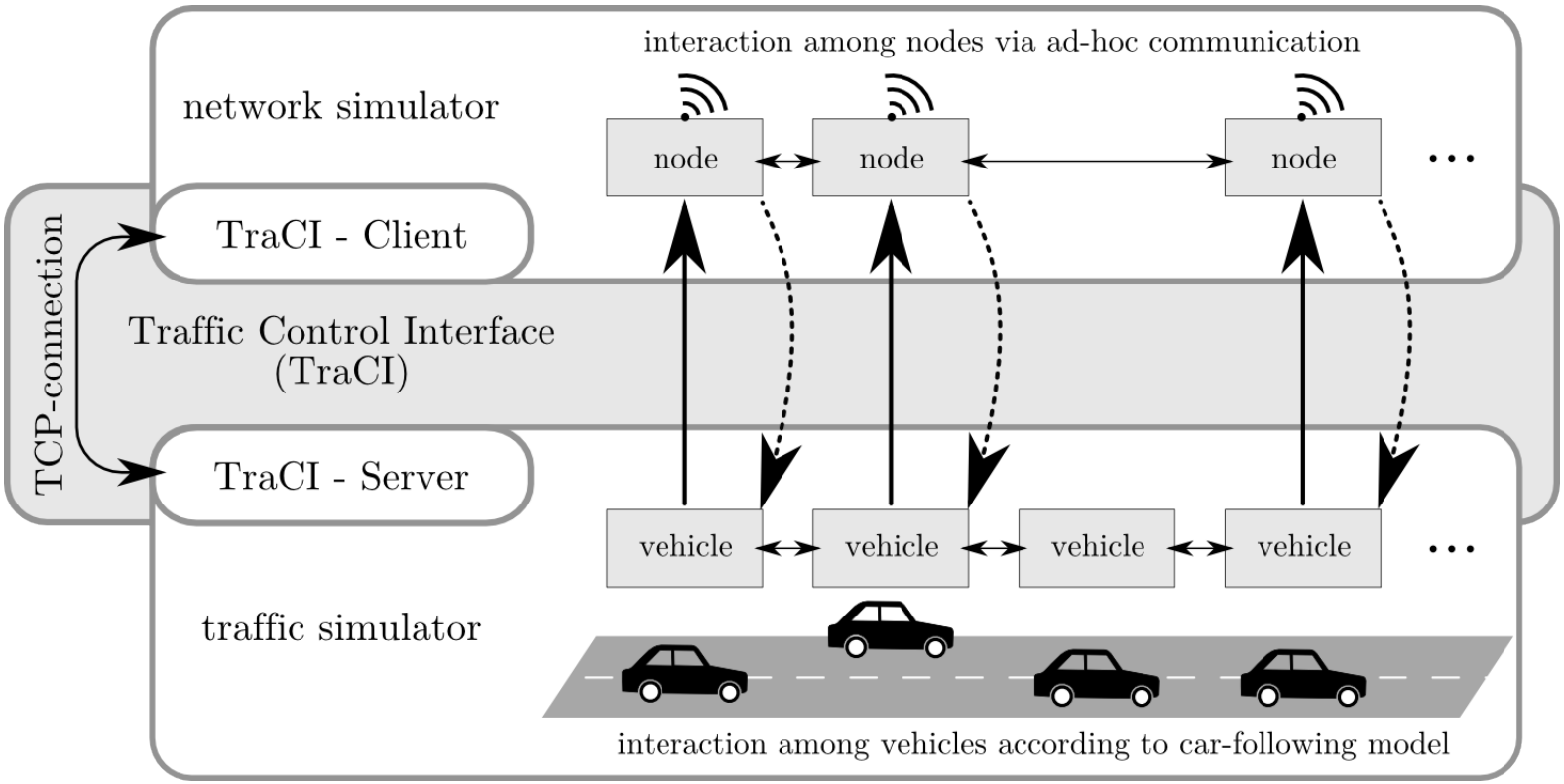
AutoCast

AutoCast: a robust protocol to disseminate data units among cars, scaling well for all traffic densities



TraCI

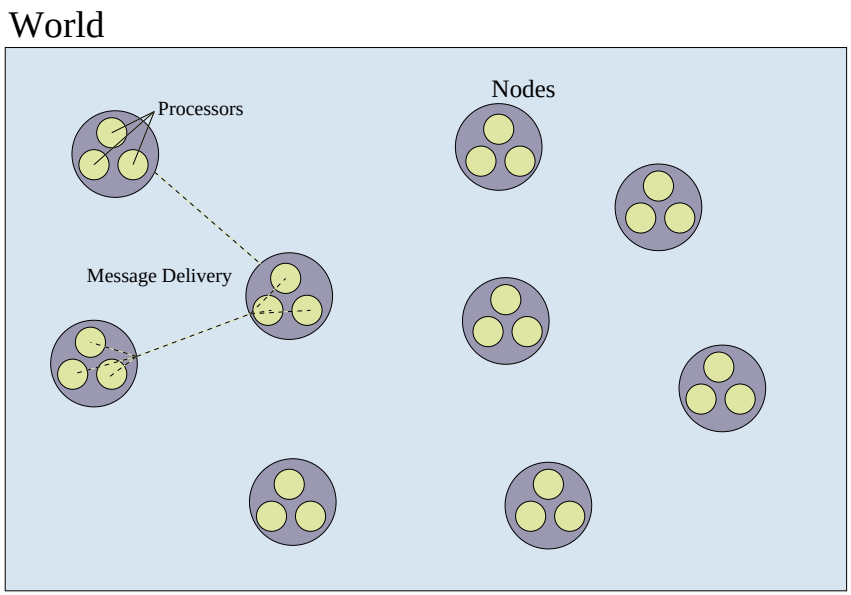
Connecting traffic and communication network simulator

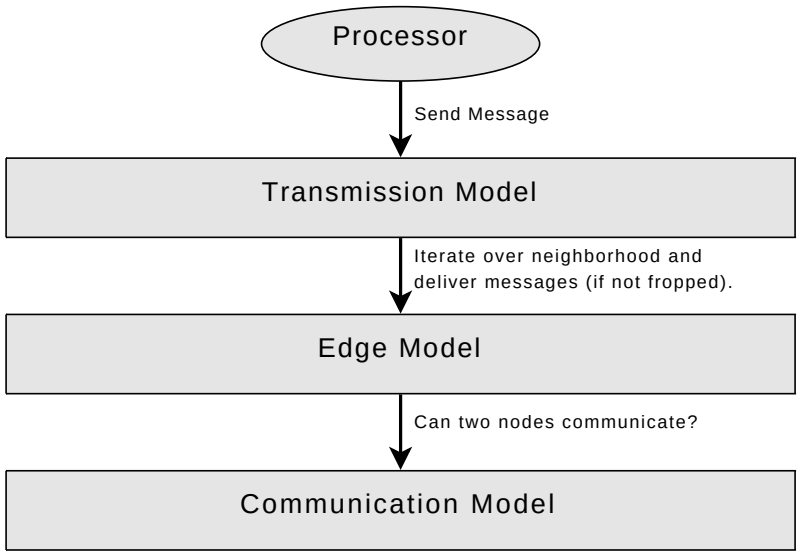


Shawn

Open source simulator for wireless sensor networks

- Abstracts the radio communication
- Independent plugins for processors and communication models





More at `shawn.sourceforge.net`