

SAFESPOT Use Case Speed Alert

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October 14th, 2009

Joint eSecurity WG / Article 29WG meeting

Context

Main objectives of SAFESPOT

- To develop or improve and assess the key enabling technologies
- To develop the Safety Margin Assistant (integrated application framework using the safety-related information provided by the network properly fused with the on board sensors and able to advise the driver in order to keep the vehicle as possible from emergency situations or to provide a proper warning when they occur)
- To define in common with other EC-projects an open, flexible and modular architecture

Context

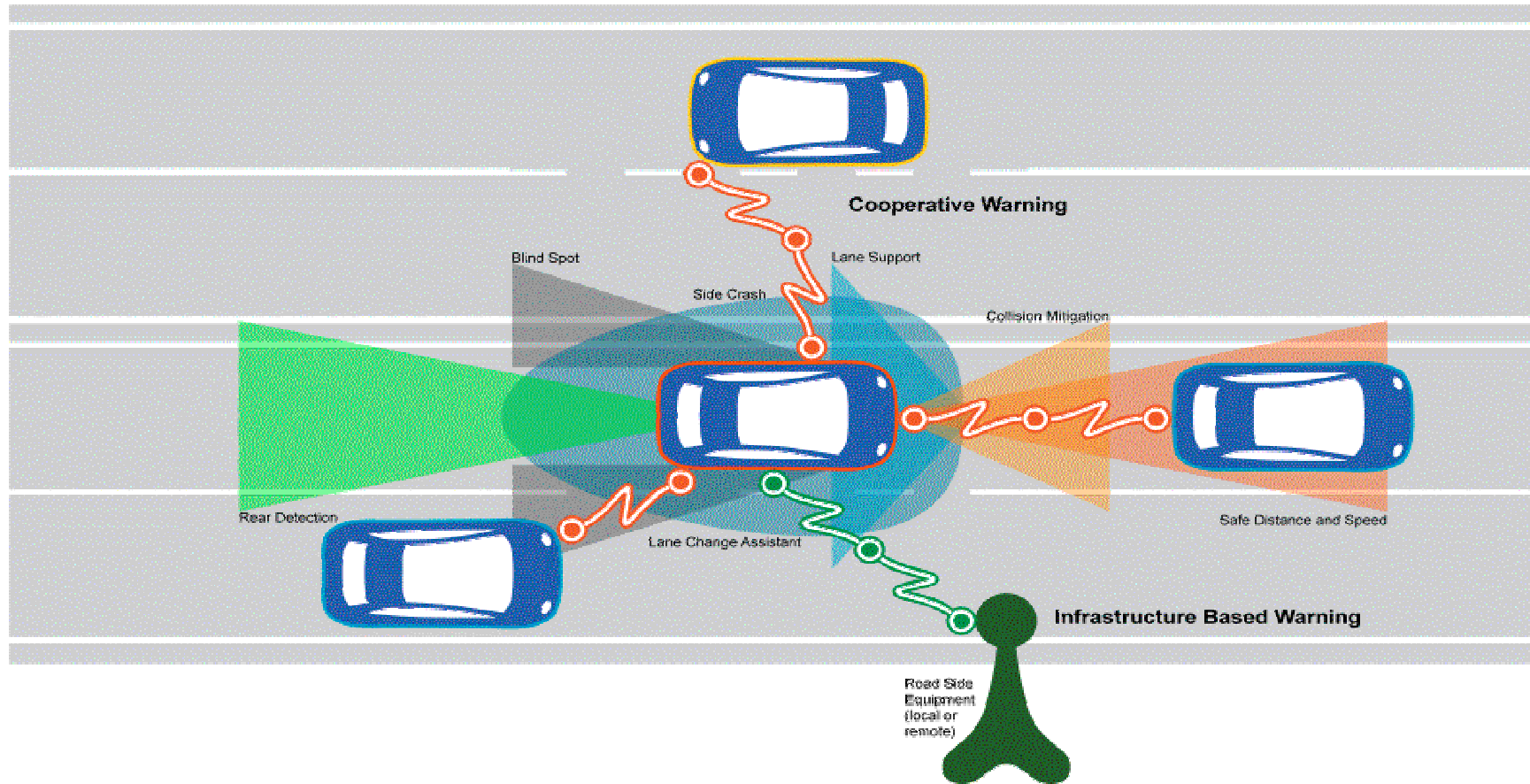
SAFESPOT architecture

- System is composed of a set of “nodes” (equipped vehicles or RSUs)
- Able to exchange information through short range wireless communication (IEEE802.11p.) called the VANET (Vehicle Ad-hoc Network) and to use this information in order to generate messages for the drivers
- A node runs applications using data provided by other nodes and/or by its own sensors
- Available data are collected in a multilayered Data Base named Local Dynamic Map (LDM)

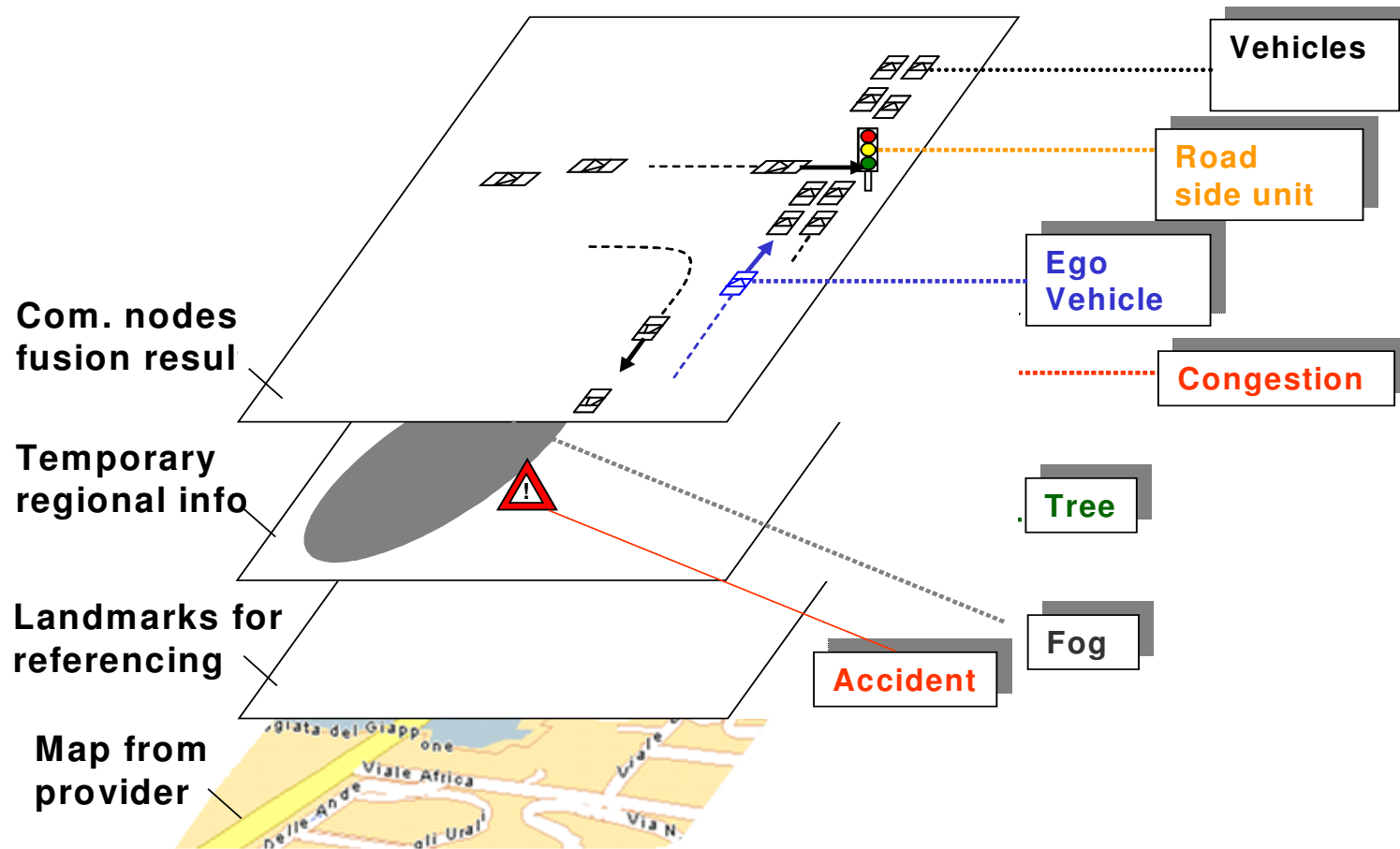
Speed Alert

The Speed Alert application aims at providing a recommended speed to drivers on the basis of real-time evaluation of parameters such as: the weather status, road surface conditions, topology of the road, traffic flow speed and any events like road works, traffic jams, and deviations.

SAFESPOT warning scenario



Local Dynamic Map



Messages, Storage and Access

Probe vehicles to RSU/other probe vehicles

- (fixed) Vehicle identifier for tracking on the LDM and the classification of generic type of a vehicle, which can be helpful for other sub applications or for special legal speed limit (alternatively vehicle identifier may be assigned by receiving equipment)
- Vehicle status data (location, speed, etc.)
- The vehicle path planning data (if the driver has set a given path on his vehicle navigation system) could be used in order to filter for possible problems.

Messages, Storage and Access

RSU to Probe Vehicles

- Data other probe vehicles
- Data other road users (gathered through infrastructure sensors or data communication)
- Dynamic information on road status and road geometry
- Speed limits

Messages, Storage and Access

- Data flows and processing in a VANET for SAFESPOT purposes: data are being processed on the LDM but are not stored for longer periods (they are only processed/stored as long as they are within the local geographical scope of the LDM)
- SAFESPOT applications as such do not require centralized storage of data

Data Controller and Policies

- Ad hoc nature (VANET) of SAFESPOT applications
- No central controller (VANET is a network of nodes)



Thank you for your attention !