ITEA 3

COMPETE
PROGRAMA OPERACIONAL FACTORES DE COMPETITIVIDADE

QUADRO DE REFERÊNCIA ESTRATÉGICO NACIONAL
PORTUGAL 2007.2013

UNIÃO EUROPEIA
Fundo Europeu de Desenvolvimento Regional

AGÊNCIA NACIONAL DE INOVAÇÃO

CarCoDe

Platform for Smart Car to Car Content Delivery

Results of CISTER Research Centre within CarCoDe project

A vehicular mobility model

- For simulations on inter-vehicular communication
- Both realistic and easy-to-use
- Included into the framework “network simulator 3”

"RoutesMobilityModel: easy realistic mobility simulation using external information services“, published at Workshop on ns-3 (WNS3 ‘15), Castelldefels, Spain, May 13th, 2015

Simulation module for in-network data processing

- To support distributed automotive applications
- Data are stored and processed by Road Side Units deployed in the area
- Used within framework “network simulator 3”

"A module for Data Centric Storage in ns-3“, published at Workshop on ns-3 (WNS3 ‘15), Castelldefels, Spain, May 13th, 2015

Simulation module for XDense architecture

- Vehicles can get data from many sensors
- Need to get data efficiently (low delay)
- Network-on-Chip architecture
- Used within framework “network simulator 3”

"A module for the XDense architecture in ns-3“, published at Workshop on ns-3 (WNS3 ‘15), Castelldefels, Spain, May 13th, 2015

Simulation module for FTT-SE protocol

- Protocol to be used for communication between CPUs present into a vehicle
- The module simulates Flexible Time-Triggered Switched Ethernet, a hard real-time protocol
- Used within framework “network simulator 3”

"A module for the FTT-SE protocol in ns-3“, published at Workshop on ns-3 (WNS3 ‘15), Castelldefels, Spain, May 13th, 2015

Technique for computation offload between smart phones and on-board computers

- Applications too complex for smart phones can be partially executed by CPUs on the vehicle
- To support high-performance vehicular applications

"Adaptive Offloading for Infotainment Systems“, published at 7th Workshop on AdaPtive and Reconfigurable Embedded Systems (APRES 2015), Seattle, USA, April 13, 2015

Protocol to disseminate data to vehicles

- Data are produced in the network (e.g.: traffic information provider)
- Orchestration of LTE and WAVE communication
- Data dissemination is efficient (low delay)

"Data Dissemination by Extending Publish/Subscribe to Vehicular Environments“, submitted to 13th IEEE/IFIP International Conference on Embedded and Ubiquitous Computing (EUC2015)

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CISTER - Research Center in Real-Time & Embedded Computing Systems

CarCoDe

Project leader
Arthur Lallet - Airbus DS, France

Email address project leader
arthur.lallet@cassidian.com

Project website
https://itea3.org/project/carcode.html