STIC - Automotive & Transport

DYNAMIC AND COLLABORATIVE WIRELESS NETWORK ARCHITECTURE FOR INTERNET OF MOBILES THINGS (IOMT)

BadZak technology brings to mobile user terminals (vehicles, pedestrians, bicycles, drones) an optimized access to cloud services. The optimized access is provided by setting dynamically an architecture of local collaborative wireless network.

ERGANEO
L'AVENIR EST FAIT D'AUDACE

PRESENTATION

The development of communication protocols between mobile connected objects (like vehicles) and the establishment of 5G have enabled the emergence of several applications such as the connected and autonomous car. Several communicating cars can form a so-called vehicular network where communication is not limited solely to exchanges between cars (V2V) but can also be established with infrastructure (V2I), or even pedestrians (V2P). However, in the connected vehicle industry, communication capacity between vehicles and storage capacity are limited. In addition, the traffic load in this type of network is heavy. BadZak technology respond to these limitations. BadZak scans available networks and terminals On-the-fly in order to provide the fastest, most reliable and resource-efficient connection.

Internet of Mobiles Things - V2X communication - Virtual backbone
Fog Computing - SDN : Software Defined Network - VANET

APPLICATIONS

- Traffic management
- Road safety
- Infotainment
- Target advertising
- Events (concert, sports, Olympics games)
- Industrial risk zones (Seveso areas)

COMPETITIVE ADVANTAGES

- Create dynamic services without any new additional network infrastructure deployment
- Create solutions and services supporting scalability (important number of devices) without impacting Quality of Services
- Enable the creation of new services based on geo-tracking
- Optimize the Quality of Service of the network (latency, response time, connection)
- Offer a better network coverage: reduced risk of network loss thanks to a Cloud / Network / Protocol independent solution (interoperability with several protocols: V2X, cellular, 2G, 3G, 3G+, 4G, 5G, Wifi)
- Reduce the use of cellular network link
- Enable to maintain and to keep continuity of services even if certain devices/objects have no access to cellular network

INTELLECTUAL PROPERTY

International Patent Application,
WO2019/110594
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PUBLICATIONS

A. Rachedi, H. Badis. BadZak: An hybrid architecture based on virtual backbone and software defined network for Internet of vehicles. IEEE International Conference on Communications, May 2018, Kansas City, United States

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DEVELOPMENT PHASE

- ☑ Technology validated in a relevent environment (TRL5)