International Journal of Distributed Sensor Networks

Special Issue on

Vehicular Delay Tolerant and Sensor Networks: Protocols and Applications

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During the past decade, delay tolerant networks (DTNs) and car 2 car communications (C2CC) have attracted much research attention. DTNs are specialized networks applicable to the environments where there is no direct connection between communicating nodes. DTNs characteristics include large delays, intermittent connectivity, various architectures, and high error rate. While the car 2 car communication technology enables vehicles to autonomously exchange data among each other, the main aim is to improve road safety and traffic flow. DTNs and C2CC offer a number of applications including wireless sensor networks for ecological monitoring, parking assistance and smart grid, ad hoc networks to disseminate information in roadway environments, and disaster recovery.

Recently, a special type of delay tolerant network called vehicular DTN (VDTN) has become an active research field since in near future cars are expected to be equipped with networking technologies offering a number of applications. VDTN has evolved from DTN and is formed by cars and any supporting fixed nodes such as sensor nodes mounted in future smart cars. In addition to VDTN, car 2 car communications have also been investigated in the past and still demand of protocols and applications is high. Since traditional communication protocols cannot be used directly in such environments, new architectures, models, and protocols are greatly demanded.

This special issue would like to solicit original contributions regarding recent developments and ideas in vehicular delay tolerant networks and car 2 car communications.

Potential topics include, but are not limited to:

- MAC, routing, and transport protocols for VDTNs/C2CC
- Car 2 car communication applications
- Vehicular delay tolerant network applications
- Vehicular delay tolerant network prototypes and architectures
- Car 2 car communication architectures
- Wireless and vehicular sensor networks
- Vehicular delay tolerant networks performance modeling and analysis
- Cross-layer design and optimization for vehicular DTNs/C2CC
- Reliability, availability, and fault tolerance in vehicular DTNs/C2CC
- VDTNs/C2CC real-world experiments
- Security and privacy issues in VDTNs/C2CC
- Resource allocation and QoS support in VDTNs/C2CC

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