

Vehicular Cloud Data Collection for Intelligent Transportation Systems

ABSTRACT:

The Internet of Things (IoT) envisions to connect billions of sensors to the Internet, in order to provide new applications and services for smart cities. IoT will allow the evolution of the Internet of Vehicles (IoV) from existing Vehicular Ad hoc Networks (VANETs), in which the delivery of various services will be offered to drivers by integrating vehicles, sensors, and mobile devices into a global network. To serve VANET with computational resources, Vehicular Cloud Computing (VCC) is recently envisioned with the objective of providing traffic solutions to improve our daily driving. These solutions involve applications and services for the benefit of Intelligent Transportation Systems (ITS), which represent an important part of IoV. Data collection is an important aspect in ITS, which can effectively serve online travel systems with the aid of Vehicular Cloud (VC). In this paper, we involve the new paradigm of VCC to propose a data collection model for the benefit of ITS. We show via simulation results that the participation of low percentage of vehicles in a dynamic VC is sufficient to provide meaningful data collection.