Providing Privacy Preserved and Trusted Location Services in Location based Services

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Abstract

Technological advances are changing the face of our society dramatically. New technology affects individuals countless ways, including the manner in which they interact with each other, with businesses, and with the government. Today's technology makes possible to accomplish many tasks more efficiently, i.e., providing various location based services to vehicle users over road network. Vehicles used location based services (LBSs, during their journey/ in road) to find the nearest location, point of interests etc. But these services do not come without costs, i.e., service providers request a little amount for that, plus some sensitive information of vehicles users. Due to its centralised and open nature to all, comes with a trust, privacy and security issues. To communication with service provider, we need a secure, authentic and trusted infrastructure. The target of Vehicle Ad-hoc Network (VANET) is achieving higher level of safety (i.e., to provide secure, trusted and privacy preserved communication) in the road network. The main aim of this paper is to propose a trust model for vehicular environment with desired level of privacy protection. This work contains two different modules. First, this work proposed a location...
privacy protection algorithm (for preserving privacy protection of moving objects during accessing location services), procedure of this algorithm; simulation results in detail. Second, it provides an algorithm to update trust value (in term of trust levels) for VANET users during accessing LBSs inside a mix zone. The results show that proposed method outperforms the existing privacy preservation method by effectively enhances privacy and trust against various adversaries. This work clearly explained the answer of following question “How to gain maximum location privacy preservation with positive trust in location based services?”

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Index Terms

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Keywords

Location Based Services; Privacy Protection; Trust Level; Vehicle Ad hoc Network; Location Privacy.