

Abstract: A SAP (Safe Authentication Protocol) design against a Sybil Attack on VANET

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Abstract

This paper proposes a SAP (Safe Authentication Protocol) design that provides vehicles with more safe transportation by safely exchanging the messages for the road situation and the traffic flow between vehicles and by detecting Sybil attack. This SAP uses the local certificate based on a session key as the method for the validation of IDs communicating between vehicles to detect a Sybil attack. Therefore, the local certificate based on a session key reduces the time to detect a Sybil attack and improves the performance of VANET by decreasing the message traffic between vehicles. In addition, Drivers drives safely with the reliable information of VANET and reduces traffic accidents.