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# Non-interactive Authentication Scheme Providing Privacy among Drivers in Vehicle-to- Vehicle Networks

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# Non-interactive Authentication Scheme Providing Privacy among Drivers in Vehicle-to-Vehicle Networks

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Abstract

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In this paper, we present a non-interactive authentication scheme providing privacy among drivers in vehicle-to-vehicle (V2V) communication networks. Where the drivers, who are members of V2V networks, are organized into groups. Each group has a shared public key between members. Additionally, each member has a private key provided by the Third Trusted Party (TTP). In our proposed scheme, we ensure driver's privacy by allowing members to change their own set of public keys frequently using the Digital Signature Algorithm (DSA). The TTP sends to each member a token of his original set of public keys. This member can find non-interactively a new token corresponding to the new set of public keys, and hence vehicles can exchange the safety critical information without requiring a control from the TTP. In case of a malicious behavior, the identity of the signer can be revealed only by the TTP.

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