

عنوان مقاله:

Privacy Preserving via Group Signature in Smart Grid

محل انتشار:

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نویسندگان:

Samaneh Hajy Mahdizadeh Zargar - Hajy Mahdizadeh Zargar

Mohammad.H Yaghmaee

خلاصه مقاله:

Smart grid is a new approach that significantly increases the efficiency of the entire electrical delivery system. The smart grid uses information technologies to improve how electricity travels from power plants to consumers, Allows consumers to interact with the grid and Integrates new and improved technologies into the operation of the grid. These techniques lead to some threats for the privacy of users. Since smart grid networks prepare detailed information and manage them to achieve a reliable network, such management might reveal users personal habits and behaviour. We propose a privacy-preserving anonymization scheme via group signature, named PPGS. PPGS uses a homomorphic Paillier cryptosystem technique for unsecure channels. We use data aggregation for efficient data communications from the user to the smart grid control center. PPGS also adopts the batch verification technique on group signature to reduce authentication costs. By using controllable likability property of the group signature, PPGS anonymous data can be used for data mining purposes without threatening the users privacy. PPGS has less computation and communication overhead than previous approaches

کلمات کلیدی:

Smart Grid, Privacy preserving, Group signature, homomorphic cryptosystem

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