

Energy Internet Smart Authentication



Overview

This study proposes a secure communication protocol specifically designed for smart grid environments, focusing on authentication, secret key establishment, symmetric encryption, and hash-based message authentication to provide confidentiality and integrity for. This study proposes a secure communication protocol specifically designed for smart grid environments, focusing on authentication, secret key establishment, symmetric encryption, and hash-based message authentication to provide confidentiality and integrity for. Energy Internet (EI) has emerged as a promising paradigm for integrating various smart grid technologies through the Internet to provide reliable and sustainable energy services. However, authentication between vehicle users and an aggregator may be vulnerable to various attacks due to the usage of wireless communications. This study proposes an enhanced two-factor authentication (2FA) scheme for IoT-enabled smart grids.

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The traditional authentication mechanism incurred higher computation and communication overhead, which is not applicable for terminal devices directly in Electr



To address these challenges, we propose a new authentication protocol based on Elliptic Curve Cryptography (ECC) that enables secure communication between EVs and charging stations ...



Development of a secure and lightweight cryptographic protocol that addresses the evolving needs of smart grid infrastructure while ensuring strong protection ...



Development of a secure and lightweight cryptographic protocol that addresses the evolving needs of smart grid infrastructure while ensuring strong protection against potential security threats, thereby ...



In this paper, we introduce the Energy-Efficient IoT Resilient Authentication Framework (EERAF), an innovative solution that leverages elliptic curve cryptography to facilitate secure ...



These issues inspire us to design a practical Chebyshev polynomials algorithm and then applied it to construct an energy efficient authentication scheme for smart grid environments.



With the vibrant development of the Internet, smart grids have been provided with a suitable environment to flourish. Smart meters record and transmit electricity consumption ...



This study proposes an enhanced two-factor authentication (2FA) scheme for IoT-enabled smart grids that ensures secure device identification, user verification, and reliable communication channels.



This paper proposes an enhanced mutual authentication protocol for IoT-based EI using blockchain technology. Our protocol builds on an existing smart grid authentication protocol and ...



Based on the cross-chain technology of the blockchain and the cuckoo filter, this paper proposes a cross-domain authentication scheme for Power Internet of Things. Firstly, a cross-chain ...



In this paper, we proposed a service security architecture based on authentication and authorization for constrained environments during collaborative tasks for Software Defined ...

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