Abstract

Smart Grid is a modern digital metering system that has been introduced to replace the traditional electricity infrastructure by collecting and utilizing information generated from different consumers automatically. Many researches have been conducted on the secure communication sessions to address the key issue of security in smart grid communication. Existing secure anonymous key distribution scheme for smart grid brings challenge such as key escrow problem in identity based encryption and identity based signature. In this paper we incorporate the first concept of certificateless in order to solve the key escrow problem that is found in identity based signature scheme and an identity based encryption scheme. Our proposed scheme achieves key escrow resilience which has not been achieved by previous work in this field.

References

1. Yan, Y., Qian, Y., Sharif, H. and Tipper, D. 2013 A Survey on Smart Grid Communication
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Infrastructures: Motivations, Requirements and Challenges, IEEE Comm. Smart Grid


12. H. Krawczyk, 2005. HMQV: A high-performance secure Diffie-Hellman protocol, in Proc. CRYPTO, Santa Barbara, CA, USA


19. Recommendation for Key Management, Part 1: General,

20. NIST Standard SP 800-57, 2007


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Index Terms

Computer Science  Security

Keywords

Certificateless, anonymity, Smart Grid, Smart Meters.