

Provably secure and lightweight identity-based authenticated data sharing protocol for cyber-physical cloud environment

ABSTRACT:

Secure and efficient file storage and sharing via authenticated physical devices remain challenging to achieve in a cyber-physical cloud environment, particularly due to the diversity of devices used to access the services and data. Thus in this paper, we present a lightweight identity-based authenticated data sharing protocol to provide secure data sharing among geographically dispersed physical devices and clients. The proposed protocol is demonstrated to resist chosen-cipher text attack (CCA) under the hardness assumption of decisional-Strong Diffie Hellman (SDH) problem. We also evaluate the performance of the proposed protocol with existing data sharing protocols in terms of computational overhead, communication overhead, and response time.

SYSTEM REQUIREMENTS:

HARDWARE REQUIREMENTS:

- System : Pentium i3 Processor.
- Hard Disk : 500 GB.
- Monitor : 15” LED
- Input Devices : Keyboard, Mouse
- Ram : 4 GB

SOFTWARE REQUIREMENTS:

- Operating system : Windows 10.
- Coding Language : Java
- Web Framework : Flask

REFERENCE:

Karati, R. Amin, S. H. Islam and K. -K. R. Choo, "Provably Secure and Lightweight Identity-Based Authenticated Data Sharing Protocol for Cyber-Physical Cloud Environment," in IEEE Transactions on Cloud

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