Abstract

Encryption provides strong security for databases. To develop a database encryption strategy, many factors must be taken into consideration. Organizations must balance between the requirement for security and the desire for excellent performance. In this paper a novel encryption algorithm is proposed "Reverse Encryption Algorithm (REA)". The proposed algorithm REA is simple and yet leads to a cipher. It has achieved security and is fast enough for most applications. REA algorithm is limiting the added time cost for encryption and decryption to not degrade the performance of a database system. Moreover, designing REA algorithm has enhanced security in data encryption. Besides, the secure and performance of the proposed encryption algorithm REA is evaluated and compare with the most common encryption algorithms. Experimental results show that the proposed encryption algorithm REA
outperforms other encryption algorithms at performance and security in databases. Overall, the proposed encryption algorithm REA achieves balance between the security and the efficiency.

References


Index Terms

Computer Science
Security

Keywords
Database security cryptographic algorithms and database encryption