Abstract

Information security depends on the strength of cryptographic algorithm and key. The generated keys must be so secure that there is no better way to break it. Design of such good key scheduling algorithm is crucial part in symmetric cryptosystem, which is used to create a number of subkeys, used in encryption/decryption process in block cipher. In this paper a methodology is proposed for generating keys using an alternate key scheduling algorithm of blowfish. However, Blowfish has some demerits including complex key scheduling algorithm, high computational cost and static substitution of S-box. Therefore such demerits are taken care to improve the performance of key generation algorithm of blowfish algorithm. This alternating key scheduling algorithm decreases the computational cost and uses the dynamic substitution of S-box. The effectiveness of the proposed scheme is verified by performing security analysis and also metrics evaluation.

Index Terms

Computer Science Algorithms

Keywords
An Alternate Key Scheduling Algorithm for Blowfish and its Performance Analysis

Blowfish, Key Scheduling Algorithm, S-box