ABSTRACT

One of the methods to securing data or information inside a document file is

cryptography. Cryptography is the study of technique to securing data

communication, without unauthorized access from third party. The data sent might be

general or secret information.

This final project is focused on designing a modification on Twofish

cryptography algorithm. The plaintext is encrypted and decrypted with normal

Twofish algorithm. Then the inputted plaintext will be encrypted and decrypted using

key modified of Twofish algorithm. The modification done is on the key. The key

inputted by user will act as the input for a formula, with output from Blum Blum

Shub.

From the testing results, the algorithm is having good performance. The

Avalanche Effect is between 0.41 - 0.63. The average encryption time for standard

Twofish is 19,375107 second, while The average encryption time for key modified

Twofish is 13,835254 second. From the result it can be known that the time used for

encryption with key modified Twofish algorithm is faster than standard Twofish

algorithm. The average memory used for standard Twofish is 17.06667 MB, while the

average memory used for key modified Twofish is 25.63333 MB. From the result it

can be known that while measuring the computation memory, the key modified

Twofish algorithm is using more memory.

Keywords: Text file, Cryptography, Twofish algorithm, Blum Blum Shub

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