CSE4003: Cyber Security
J-Component

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Title: Secure storage and data-flow in cloud computing and IoT.

Algorithm Used: Bifid Cipher

Research Paper:
MATLAB-Based Software Tool for Implementation of Bifid Ciphers

Reference:
http://delivery.acm.org/10.1145/3140000/3134333/p326-Borodzhieva.pdf?ip=157.50.8.164&id=3134333&acc=ACTIVE%20SERVICE&key=4D4702B0C3E38B35%2E4D4702B0C3E38B35%2EA39F3C0F9899D125%2E4D4702B0C3E38B35&CFID=843021782&CFTOKEN=79037734&__acm__=1513919919_f7814895baf5683f3b7fa56565d0b461

Abstract:
Cloud Storage is a service where data is remotely maintained, managed, and backed up. The service allows the users to store files online, so that they can access them from any location via the Internet. In recent days, almost everyone is moving towards cloud storage and cloud computing, According to a recent survey conducted with more than 800 business decision makers and users worldwide, the number of organizations gaining competitive advantage through high cloud adoption has almost doubled in the last few years and by 2017, the public cloud services market is predicted to exceed $244 billion.

People in their daily life use cloud storage for saving their private data. Hence, need for the data to be secured is much more than the same in case of local storage. There are concerns with the safety and privacy of important data stored remotely. Any compromise in data will automatically destroy the privacy, which is the fundamental right for human beings.

Why This Algorithm?

Bifid is a Lightweight Encryption Algorithm for Secure data transfer and storage.

The shortcomings of the cloud and IoT in terms of constrained devices are highlighted. There in fact exist some lightweight cryptography algorithms that does not always exploit security-efficiency trade-offs.

Therefore, we chose our topic to be security in storage and data-flow in cloud storage and cloud computing using this Algorithm. We hope our efforts in this project will be benefitial to society and public who have completely shifted their usage/storage/buisness to cloud computing.