International Journal of Computer Science Engineering
and Information Technology Research (IJCSEITR)
ISSN(P): 2249-6831; ISSN(E): 2249-7943
Vol. 4, Issue 4, Aug 2014, 59-68

A NEW APPROACH TOWARDS INFORMATION SECURITY BASED ON DNA CRYPTOGRAPHY

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ABSTRACT

Information security plays a vital role in this era. During the transmission of data different sorts of attacks may happen and effects on data. To ensure the confidentiality and authenticity of the secret information a lot of cryptographic approaches have developed and researchers are still working on it to provide better approach towards information security. Cryptography can be defined as a process of transforming the sender's message to a secret format that can only be understood by the intended receiver. The DNA cryptography is a new area to achieve higher level of information security, where different features of the actual human DNA are followed. In this paper an algorithm is proposed where a long and strong 256-bit key is generated and use for the round encryption. Moreover a better level of encryption technique has been carried out. For this, four round operations are performed between the plain text and the generated key. Later on the resultant cipher text is transformed to a DNA sequence and appends some extra information bits within that to provide better security in the message against the intruders attack.

KEYWORDS: Plain Text, Key, DNA Sequence, Nucleotide, Intermediate Cipher Text, Hash Mapping