THE SECURITY STANDARDS IN E-BANKING

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Abstract : The enormous change of information technology and the popularity of internet, blessed us with electronic commerce and E-Banking, both contributed in economic growth to a large extent. E-Banking is banking through internet, it is a service provided by banks all over the world. It transformed the traditional picture of banking into a modern service which facilitates with ATM (Automatic Teller Machines), telephonic banking, direct bill payments, electronic fund transfer (EFT) and revolutionary online banking (Poon 2008). In present scenario E-Commerce, E-Banking, E-Marketing, E-Learning are the most used application which are easy to use, saves time, money and satisfy users all requirements. E-Banking facilities bank user but at the same time privacy and security are the major issues of information technology. The core purpose of the paper to discuss the security and privacy standard of E-Banking.

INTRODUCTION

The information technology has revolutionized the picture of economy and the most affected sector is banking all over the world. The transformation from the traditional banking towards modern banking has been a 'leap' change. E-Banking has converted the banking sector by providing banking facilities using internet including e-mail, modems and mobile-banking. E-Banking provides transactional and informative services. It involves all banking customers to operate their bank accounts, perform transactions and to use informative services without visiting to the bank .5

E-Banking helped to increase speed of communication and transaction for bank users. At the same time security, privacy, availability, trust, authenticities are very important areas of E-Banking to fulfil user's desires. To protect customers account information from unauthorised access, a multilayered security architecture with fire walls, digital certification, encryption/ decryption and public key infrastructure (PKI).

OBJECTIVE OF THE PAPER: - THE MAIN OBJECTIVES OF THE PAPER ARE:

(1)To present the importance of E-Banking.
(2)To present the security standards for E-Banking.
(3)To discuss the contribution of E-Banking for economic growth.

Index Term: - E-Banking, Digital Signature, cryptography, secure socket layer, one time password
E-Banking:- E-Banking stands for all the medium of banking business and electronic operations of banks.
There are number of ways to conduct bank operations such as 'Pc Banking', 'Online Banking', 'Mobile Banking', 'Telephone Banking', 'Internet Banking'.

Classification of Banking
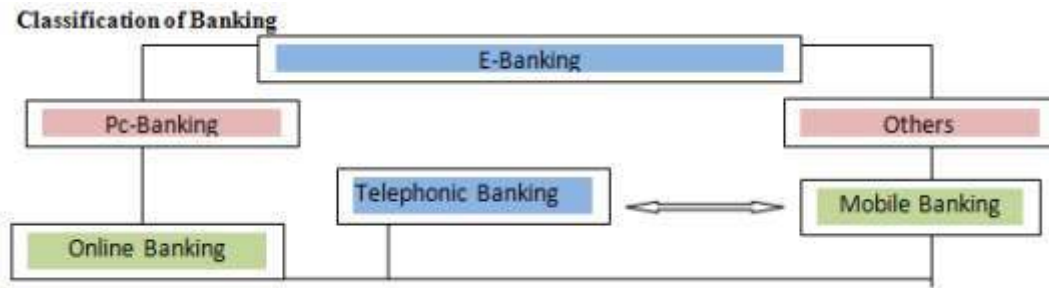
E-BANKING OFFERS:-

◆ 24/7 Services
◆ Access Account information
◆ Review and Pay Bills
◆ Funds Transfer
◆ Trade Security
◆ Information of due Bills
◆ Loan Payments
◆ Apply for Credit
◆ Apply for Mortgage
◆ Compare Insurance policies and prices
◆ Geographical convenience

The Key Component of Security concern:-
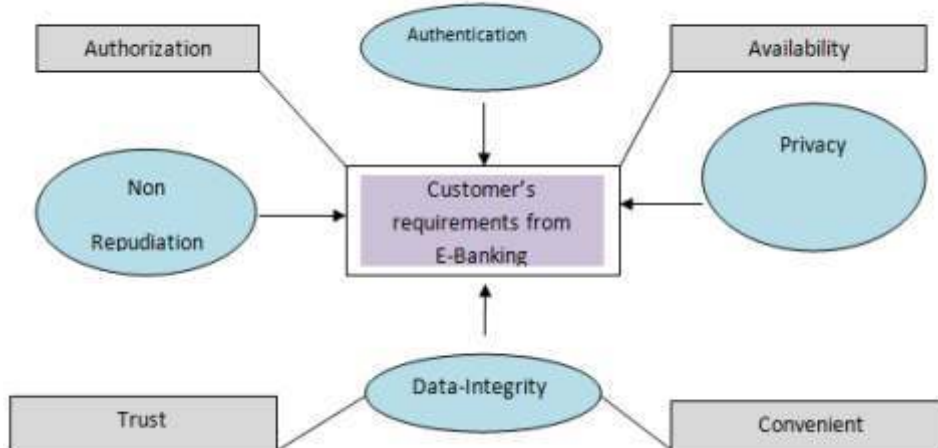
The assurance o identity of the person in a deal.
**Authorization: -** A party doing a transaction is authorized to do so.
Privacy: - The confidently of data and information relating to any deal.
Data Integrity: - Assurance that the data has not been altered.
Non-repudiation: - A party to deal cannot deny that it originated the communication or data.
To achieve the customer's requirement there is a need to design methods of authentication, under which customers can work without fear.
**Digital Signature: -** For the validation of electronic transactions, where documents are in electronic form, the authentication may be done by using 'Digital Signature'. It is an electronic signature based on PKI technology. Digital certificate is required or digital signature. A digital certificate consists of a public and private key, where public key is shared with everyone and private key is kept private. There keys are unique numbers and letters.

Variable Length (0005 of bites)
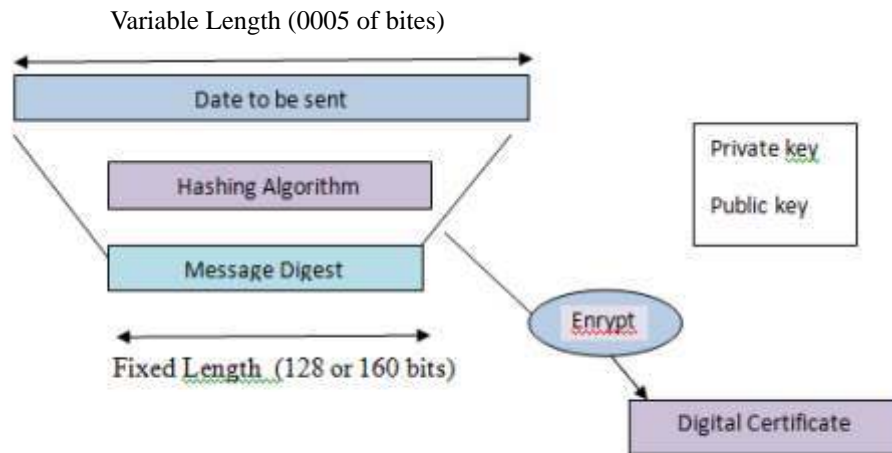
Digital Signature is different from the scanned signature, it provides: -

(a)That the document was actually sent by the sender
(b)That the document was not attend.
(c)That no one else can read the document.

Secure Socket Layer (SSL):- The Secure Socket Layer is also TLS (Transport Layer Security) – Layer is a computer networking protocol that manages sever authentication, client authentication an encrypted communication between server and client .The SSL protocol determines variables of the encryption for both the link and the data being transmitted. It facilitates sensitive information such as credit card numbers, social security numbers, and login credentials to be transmitted securely. It consist two layers handshake layer and record layer. It implements 128bits transmission encryption.
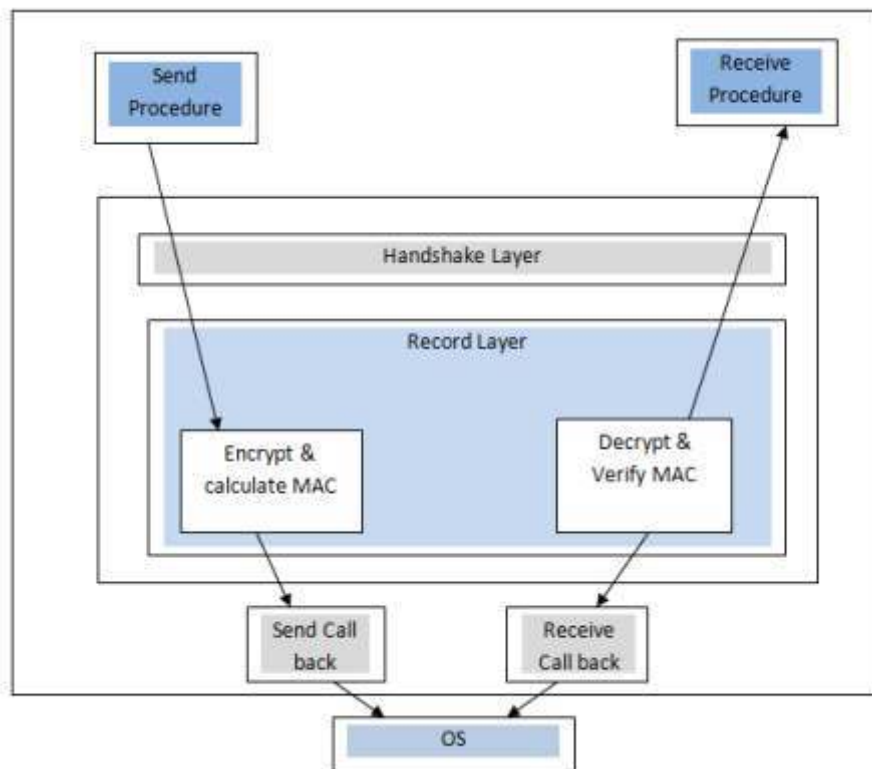
MAC- MESSAGE AUTHENTICATION CODE

SSL three important things for security
(1)Message integrity checking.
(2)Identity and authenticate server or communication.
(3)Privacy through Encryption.

 A onetime password is valid for only one login session or transaction, on a computer system or other digital device. (Wikipedia). It is based on HMAC SHA algorithm which is used to perform authentication, using hashing algorithm to convert a set of bytes to another set of bytes. The HMAC SHA algorithm uses a key, which is not accessible to a hawker. It enables to deploy two factor authentication and soft tokens, so that mobile employees can securely access critical information (06 quit, 26th May 2013).One time password is safer because you use them once only, so ever if any person gets it, will be useless because next time you login the required password will be different.

ONE-TIME PASSWORD CHARACTERISTICS:-

(1)The key is 20 digits.
(2)Password is only valid once and a very short time.
(3)Password is not reversible.
(4)It can send through SMS (Short Message Service)

CONCLUSION:-

The exponential growth of internet emerged with the new communication channels of the banking. E-Banking is the strongest pillar of the country's economy, so it should be safe, authentic, high quality with no failures operations. In E-Banking security and privacy standards need to be improved, only then the future of E-Banking can be bright. Information technology inventions always contribute to achieve all desired requirements of customers. The growing skills and invention of information technology helps in E-Banking development which is directly related to the economical development of the country.

GLOSSARY

(1)Hashing: - It is an algorithm by which a piece of data get convert into a number which represents the original.
(2)Public Key: - It refers to a cryptographic mechanism.
(3) Private Key: - It can only decrypt what the corresponding public key has encrypted.
(4)Handshake Layer: - A handshake occurs when a machine tries to use SSL connection.
(5)Token Key/ Soft Token: - Token Key/ Soft Token are a random binary value 16to 20 bytes long. It must be kept secure on server.
(6)Authentication: - A process that grants access to a local or remote computer system, a network or online information.

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