

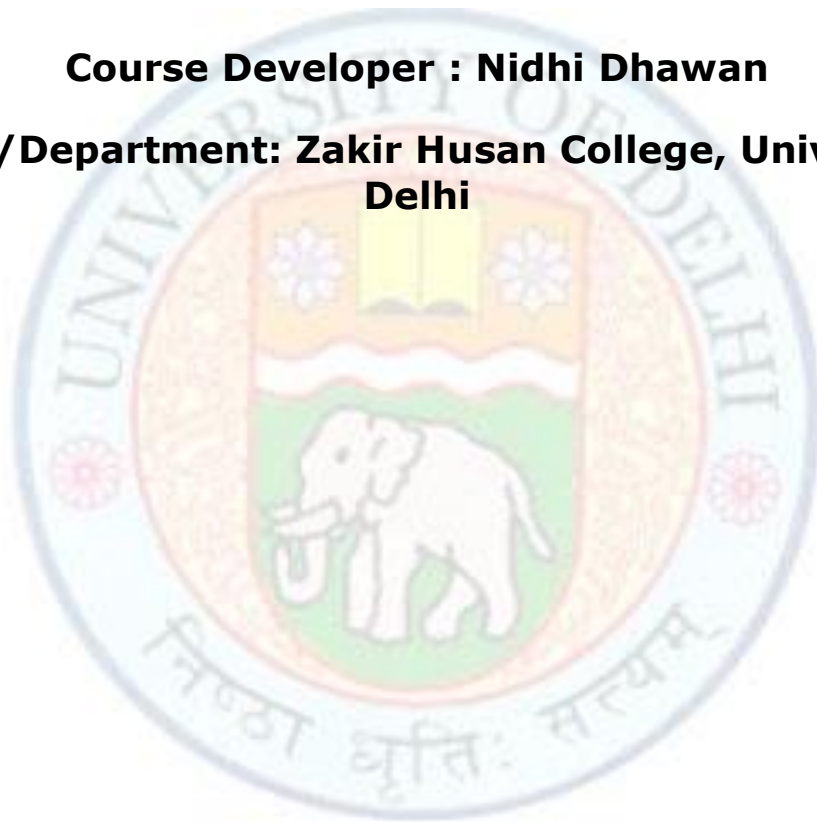
Electronic Records, E- Governance and Subscriber

Subject : Commerce

**Lesson : Electronic Records, E- Governance and
Subscriber**

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Electronic Records, E- Governance and Subscriber

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Electronic Records, E- Governance and Subscriber

Meaning of Electronic Record

According to sec 2(1)(t), "an electronic record means data, record or data generated, image or sound stored, received or sent in an electronic form or micro film or computer generated micro fiche".



Figure: Electronic Record

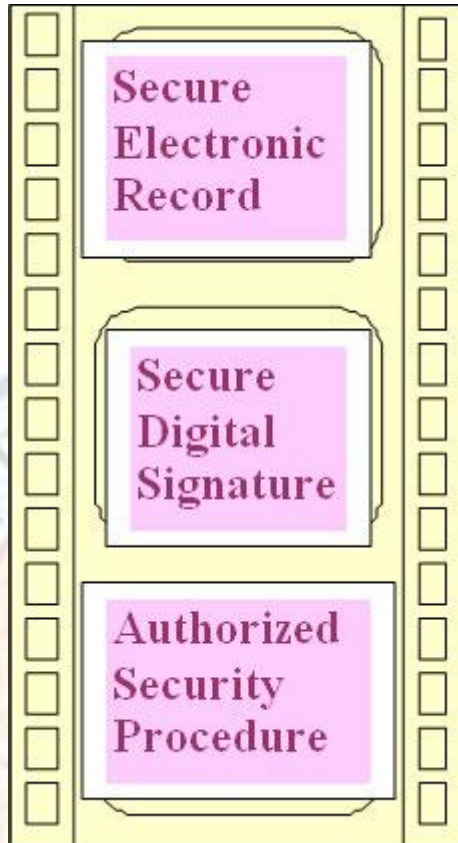
Both the public networks (internet) and private networks (intranet, extranet, etc) are open to virus attacks, thefts, hacking, and other forms of manipulations, and so, it is important to protect the technology infrastructure, and make it valuable for the users in terms of confidentiality, integrity, privacy and security.

The aim of the Act is to protect the information (electronic records and messages) by providing it a security and reliability so that they can be accepted as a valid basis for the determination of the legal rights and obligations between the two parties and for this purpose, **Section 14 deals with the secure electronic records and Section 15 deals with the secure digital signature.**

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Secure Electronic Record, Digital Signature and Authorized Digital

Procedure under the IT Act are enumerated below:



(A) Secure Electronic Records

Section 14 deals with, "as to when would an electronic record can be accepted as a secure record". It states that:

"Where any security procedure has been applied to an electronic record at a specific point of time, then such record shall be deemed to be secure electronic record from such point of time to the time of verification".



Figure: Actual Performance

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Section 14 therefore consists of the following ingredients:

It is a secured electronic record

It is the creation of secure electronic record by applying some security procedure such as the application of a digital signature.

It is the verification of this record by the person who receives it. It means that the receiver or the recipient has to verify that the record sent is retained without any alterations during the transmission of the record.

The electronic record is secured when any security procedure has been used on it, at the time of creating it, till its verification at the receiving end.

The following illustration explains this point:



Figure: Digital Signature

(B) Secure Digital Signature

Section 15 deals with, as to when would a digital signature can be accepted as a secure signature. It states that:

"If, by application of a security procedure agreed to by the parties concerned, it can be verified that a digital signature, at the time it was affixed, was-

- Unique to the subscriber affixing it;
- Capable of identifying such subscriber;
- Created in a manner or using a means under the exclusive control of the subscriber and is linked to the electronic record to which it relates in such a manner that if the electronic record was altered, the digital signature would be invalidated, then such digital signature shall be deemed to be a secure digital signature."

Section 15 therefore consists of the following ingredients:

There is a digital signature. Signature is signed by the subscriber. The subscriber, who signs it, has to be unique in nature, and is one who can be identified.

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The digital signature is fully under the exclusive control of the subscriber. Exclusive control means that any alteration in the electronic record would invalidate the digital signature.

The following illustration explains this point:

Illustration

Puja sends an e-mail to jyoti and puts her signature on it. This e-mail is a secure electronic mail, signed by puja and under her control Puja is the subscriber who has created the e-mail by applying the digital signature. Jyoti receives the e-mail without any changes in it. It means jyoti has received a secure electronic record.

Security procedure

Section 16 deals "with the technical procedure that subscriber must adopt to secure the records and the signatures. The Central Government prescribes the following security procedure with regard to commercial circumstances prevailing at the time when the procedure was used:

- The nature of the transaction;
- The level of sophistication of the parties with reference to their technological capacity;
- The volume of similar transactions engaged in by other parties;
- The availability of alternatives offered to but rejected by any party;
- The cost of alternative procedures; and
- The procedures in general use for similar types of transactions or communications."

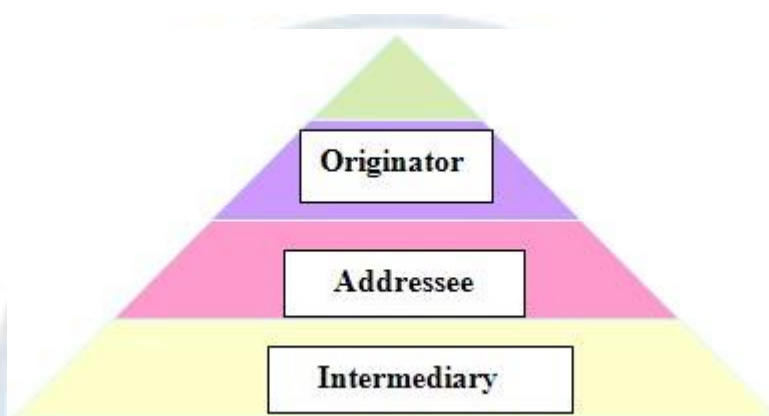
Electronic Records, E- Governance and Subscriber

Online Communication Process Involving Different Parties

The IT Act, 2000, has not amended or substituted the Indian Contract Act, 1872, in any manner, whatsoever. In order to form a valid electronic record, one still needs a 'promisor' and 'the promisee' ⁶⁴ The Act grants legal recognition to communication process involving computer, computer system and computer network by identifying attribution, acknowledgement, and dispatch of electronic records as key statutory provisions.

Parties involved in the communication process

The parties involved in the communication process are originator, addressee and the intermediary. These are discussed below:



The Originator Sec2(1)(za)- Originator means "a person who sends, generates, stores or transmits any electronic message or causes any electronic message to be sent, generated, stored or transmitted to any other person but does not include an intermediary".

Illustration

Lovely sends an electronic message generated and stored in his computer system to Sukumar. Lovely sends the message. Lovely, being the sender or generator of an electronic message, is the originator of the message.

The addressee Sec 2(1)(b) -Addressee means "a person who is intended by the originator to receive the electronic record but does not include any intermediary".

Illustration

In the above illustration, Sukumar was intended by Lovely, the originator, to receive the electronic message. Sukumar is the receiver of the message. He is an addressee to whom the message has been intended to be transmitted by lovely.

The intermediary Sec2(1)(w)-Intermediary means "any person, who, on behalf of another person, receives, stores or transmits that message or provides any service with respect to that message".

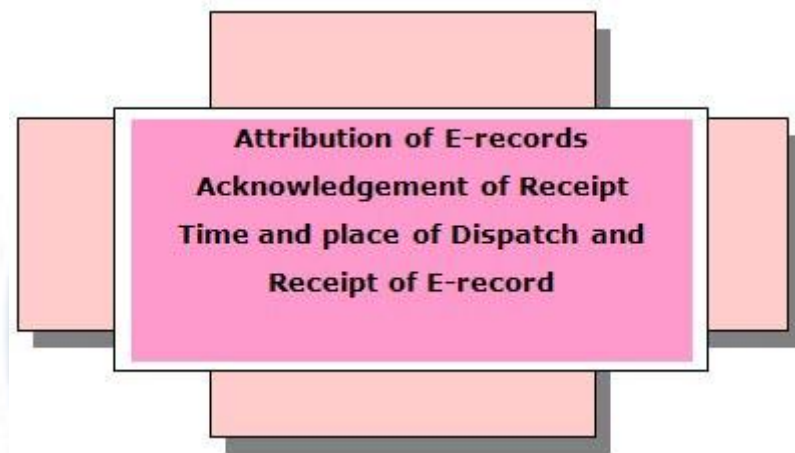
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An intermediary job is to receive, store or provides any service with respect to the message. **They perform the role of providing computer resources for storage and transmission of messages between the originator and the addressee.**

Illustration

From the above illustrations, it is clear that Lovely, the sender of the message is the originator. Sukumar, the reciever of the message, is the receiver of the message. Intermediary is the computer resource that has been used in between lovely and Sukumar for the purposes of storage and transmissions of the message.

The communication process through computer, computer system and computer network by originator, addressee and the intermediary involves the understanding of certain statutory key provisions related to attribution of electronic records, acknowledgement of receipt and time and place and dispatch and receipt of electronic record. These provisions are enumerated below:



Attribution of electronic records

According to Section 11 of the Act:

“An electronic record shall be attributed to the originator—

- If it was sent by the originator himself; or
- By a person who had the authority to act on behalf of the originator in respect of that electronic record; or
- By an information system programmed by a an originator or on behalf of the originator to operate automatically.”

Thus, Section 11 consists of the following ingredients:

The electronic record was indeed sent by the originator itself.

By simply ascribing that the sender is the originator of the electronic record may be wrong.

One may have to prove that electronic record is attributed to the originator itself.

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A person who had an authority to act on behalf of the originator can send an electronic record.

Illustration

Nitish, through an internet, received an offer in the computer program of the company, and he is interested in becoming the subscriber to an electronic magazine of a company. The subscription fee is Rs. 500 per month. Programmed computer sends an electronic reply to Nitish about the subscription fee, and he agrees to pay the same. The company is deemed to be the originator from the programmed computer under section 11 of the Act.

Acknowledgment of receipt

According to Section 12 of the Act, Acknowledgment of the receipt plays a very important role in the communication process involving computer, computer system and computer network.



Figure: Acknowledgment of receipt

(i) "Where the originator has not agreed with the addressee that the acknowledgment of receipt of electronic record be given in a particular form or by a particular method, an acknowledgment may be given by-

- Any communication by the addressee, automated or otherwise; or
- Any conduct of the addressee, sufficient to indicate to the originator that the electronic record has been received.

(ii) Where the originator has stipulated that the electronic record shall be binding only on receipt of an acknowledgment of such electronic record by him, then, unless the acknowledgment has been so received, the electronic record shall be deemed to have been never sent by the originator.

(iii) Where the originator has not stipulated that the electronic record shall be binding only on receipt of such acknowledgment, and the acknowledgment has not been received by the originator within the time specified or agreed or, if no time has been specified, or agreed to within a reasonable time, then the originator may give notice to the addressee stating that no acknowledgment has been received by him, and specifying a reasonable time by which the acknowledgment must be received by him, and if no acknowledgment is received within the aforesaid time limit, he may, after giving notice to the addressee, treat the electronic record as though it has never been sent."

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Section 12 consists of the following ingredients:

Acknowledgement procedures are to be used at the discretion of the originator.
Acknowledgement of electronic records by the addressee
Acknowledgement received by the originator within a reasonable time.
Acknowledgement does not mean acceptance. It only signifies that the message has been received.

"If the originator has not prescribed any method for the acknowledgement, the same may be sent in any form of communication by the addressee, or any conduct of the addressee, sufficient to indicate that the message has been received.

If the originator has specified the method of acknowledgement of electronic record, then it must be communicated in the same way, otherwise, it will be deemed as never sent.

If originator has not stipulated any conditions, as to the time and method of receiving the acknowledgement and at the same time, he has not received the acknowledgement also, then, the originator may specify the reasonable time by which the acknowledgement must be received by him. If still, he does not receive it then, after giving a due notice to the addressee, he can treat the electronic record as it has never been sent".

Time and place of dispatch and receipt of electronic record

Usually a detailed electronic transaction rules are always mentioned on the portals on the basis of which it is possible to initiate, conduct and concluded a transaction. A contract involves sending the proposal by the off error to the other party. The other party is the acceptor of the electronic record. This process involves the dispatch of the proposal and the receipt of the proposal by the party who sends it. If the other party accepts the proposal, the acceptance will be communicated to the proposer in the same way.



Figure: Dispatch and receipt of electronic record

Section 13 of the Act deals "with the manner and time when dispatch and receipt of an electronic record occur. It consists of the following sub clauses. These are enumerated below:

(i)Dispatch of electronic record means the transmission of the record by originator to the addressee and the dispatch of an electronic record occurs, "when it enters a computer resource outside the control of the originator", unless agreed to the contrary between the originator and the addressee.

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Computer resource outside the control of the originator includes the originator's e-mail servers, other servers including addressee and intermediary's e-mail servers. Dispatch means the successful communication of an electronic record to the intended addressee.

(ii) The time of receipt of an electronic record will be determined as follows: (a) if the person to whom the e-mail has been sent has a computer designated specially for the work of receiving electronic records

There are two conditions under this:

- When electronic record enters designated computer, and the receiver is using the resource.

Illustration

Bela sends a message to meena on 23rd Dec., 2008. Meena receives it on the computer designated to her in her office.

- When the electronic message to the addressee is not being used on the designated computer resource, but he is able to retrieve it.

Illustration

Mona sends an e-mail to alka on 5th Dec., 2008. She is in Chennai. She is not using her designated computer provided by her office, but she can retrieve it.

- If the person to whom the e-mail has been sent does not have a computer designated for receiving the electronic record, then the receipt occurs at the time when the electronic record is retrieved by the addressee.

Illustration

Neena sends an electronic record to the Rana on 12th Dec., 2008. Rana does not have a designated computer for retrieving the electronic record. He retrieves the record on a later date from some other computer. In this case the electronic record would be considered as retrieved by him on such later date.

(iii) The place of business is considered to be the place of dispatch of electronic record, and it is presumed that the electronic record has been received at the place of business of the addressee.

(iv) In electronic communication, the location of the information system, where the message is received by the addressee, may be far away from the location of the addressee himself, or it may even be unknown.

Therefore, the place of receipt of message has been determined to be the place which has a reasonable connection with the addressee himself. Addressee's place of business is the most reasonable place for this purpose.

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Illustration

Sukumar is in Mumbai but his information system where all the messages are received is in Delhi. His place of business is also Delhi. Shyam sends him the document. In such a situation, the place of receiving the message is the place having the reasonable connection with the Sukumar. Delhi, being the place of business will be considered as a place for dispatch and retrieval of the message.

(v) Place of business of the addressee have two parameters:

- If the originator or the addressee has more than one place of business, the principal place of business will be the place of business.
- If the originator or the addressee does not have a place of business, his usual place of residence shall be deemed to be the place of business; "Usual place of residence" means the place, where it is registered".

Electronic Governance

Electronic Governance refers to "the use of internet technology as a platform for exchanging information, providing services and transacting with citizens, businesses, and other arms of government. It is the governance by the government through procedures involving electronic communication".



Figure: Electronic Governance

The World Bank defines "e-governance as the use of information and communication technologies by Government agencies to transform relations with citizens, business and other arms of government. ." It has also been referred to as "**i-governance**, as it integrates people, processes, information and technology in the service of achieving governance objectives".

The primary delivery models used to facilitate the interaction are Between Government-to-Citizen (G2C), Government-to-Business (G2B) , called **e-services**

Between Government-to-Government (G2G) or the internal government operations, called **e-administration**

For improving external interactions called **e-society**.

Significance of Electronic Governance

The importance of e-governance is that it has provided technological advancement in services. The following points describe significance of electronic governance. These are enumerated below:

Electronic Records, E- Governance and Subscriber

E-governance provides much faster, convenient interaction between the government and its people.

It is dynamic and needs dynamic laws to keep pace with the technological advancement.

Internal efficiency is improved by E-Government measures that may be applied by the legislature, judiciary, or administration.

E-Governance focuses on the citizens requirement by accessing to government information, and services, 24*7.

E-Governance depends upon the effective use of Internet for accessing and retrieving information quickly and reasonably.

E-governance is beyond the scope of e-government. While e-government is defined as a mere delivery of government services and information to the public using electronic means, e-governance allows direct participation of constituents in government activities. (http://waterinfo.nic.in/news/egover_convergence.html?&lang=en_us&output=json)

The Act gives legal recognition to facilitate Electronic Governance

Sections 4-10 of the IT Act contain the provisions of electronic-governance. These are discussed below:

Legal recognition of electronic record

Section 4 of the IT Act deals with the legal recognition of the electronic record.



Figure: Legal Recognition

“Where any law provides that information or any other matter shall be in writing or in the typewritten or printed form, then, notwithstanding anything contained in such law, such requirement shall be deemed to have been satisfied if such information or matter is-

- Rendered or made available in an electronic form; and
- Accessible so as to be usable for a subsequent reference”.

Section 4 of the Act, therefore, consists of the following ingredients: Act has made electronic form as functional equivalent of writing that includes creating , sending and receiving any information in the computer system.

Illustration

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Sheena sends an e-mail to Prem on 7th Nov., 2008, giving her details of certain office procedures which must be satisfied. According to the legal provisions, the information could be accepted, either in printed form, or through a typewriter. Since sheena is sending the details through e-mail, according to section 4 of the Act, information will be acceptable by e-mail.

Legal recognition of digital signatures

Section 5 of the Act deals with the legal recognition of the digital signatures. It runs as follows:

“Where any law provides that information or any other matter shall be authenticated by affixing the signature or any document shall be signed or bear the signature of any person then, notwithstanding anything contained in such law, such requirement shall be deemed to have been satisfied, if such information or matter is authenticated by means of digital signature affixed in such manner as may be prescribed by the Central Government”.

Section 5 consists of the following ingredients:

Act has made digital signatures as functional equivalent of “handwritten signature”

Information must be authenticated by the digital signature as per the Central Government rules.

Illustration

Rishit sends an office document to Devansh on 15th Dec by affixing a digital signature on it in order to authenticate the document as required under the law. As per section 5 of the Act, Rishit has to authenticate the document to make it legally sound. Digital signatures are functional equivalent of handwritten signatures by law.

Section 6 of the Act deals with the use of electronic record and digital signature in Government and its agencies

(1) “Where any law provides for-

- The filing of any form, application or any other document with any office, authority, body or agency owned or controlled by the appropriate Government in a particular manner;
- The issue or grant of any license, permit, sanction or approval by whatever name called in a particular manner;
- The receipt or payment of money in a particular manner,

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Figure: Government

then, notwithstanding anything contained in any other law for the time being in force, such requirement shall be deemed to have been satisfied if such filing, issue, grant, receipt or payment, as the case may be, is effected by means of such electronic form as may be prescribed by the appropriate Government."

(2)"The appropriate Government may, for the purposes of sub-section (1), by rules, prescribe-

- The manner and format in which such electronic records shall be filed, created or issued;
- The manner or method of payment of any fee or charges for filing, creation or issue any electronic record under clause"

Illustration

Rachna is working in a Government organization for the last 10 years. She wants to renew her bank particulars. She has to apply in the particular format for that purpose and if required, has to pay a fee as specified for it.

Section 7 of the Act deals with the retention of electronic records

The following conditions are laid down under the Act for the same. These are explained below:

"If, by Law, any information is to be retained for any specific period then such information must be accessible for subsequent reference.

Information must be in a format in which it was originally generated.

The details related to the information showing its identification must also be retained, such as origin, date and time of the dispatch or receipt of electronic record.

Non- compliance of any aforesaid conditions may render the electronic record inadmissible in the court of law.

Any information, generated automatically solely for the purpose of enabling an electronic record to be dispatched or received, is non applicable under Section 7. Nothing in this section shall apply to any law that expressly provides for the retention of documents, records or information in the form of electronic records".

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Section 8 of the Act deals with the Publication of rule, regulation, etc., in Electronic Gazette

“Where any law provides that any rule, regulation, order, bye-law, notification or any other matter shall be published in the Official Gazette, then, such requirement shall be deemed to have been satisfied if such rule, regulation, order, bye-law, notification or any other matter is published in the Official Gazette or Electronic Gazette:

Provided that where any rule, regulation, order, bye-law, notification or any other matter is published in the Official Gazette or Electronic Gazette, the date of publication shall be deemed to be the date of the Gazette which was first published in any form”.

Section 10 of the Act deals with the Power of the Central Government to make rules in respect of digital signature

“The rules made by the Central Government in respect of digital signature are related to the type of digital signature, the manner and format in which the digital signature will be affixed by the subscriber and at the same time, it will also identify the person affixing it”.



Figure: Rules

The Act also aimed at securing the information by protecting its integrity, confidentiality and availability to the authorized user. So the rules related to the control processes and security are also prescribed.

Meaning

According to the IT Act, 2000, Subscriber “means a person in whose name the Digital Signature Certificate is issued. It is only after obtaining a digital signature certificate from the Certifying authority; a person will become entitled to legally use the digital signature”.

“Any person can make an application to the Certifying Authority for the issue of Digital Signature Certificate in such form as may be prescribed by the Central Government”.



Figure: Subscriber

Electronic Records, E- Governance and Subscriber

To become a subscriber the following steps will be required:

Approach the Registration Authority (RA)/ Local Registration Authority (LCA), of a licensed Certifying Authority with a request to issue a Digital Signature Certificate. Fill the application form for this purpose, and submit the necessary documents. Also select the kind of 'class' certificate required, and approach the authority to issue a digital signature certificate.

Enter into a 'Certifying Authority-Subscriber' Agreement.

Apply for signing key pair .

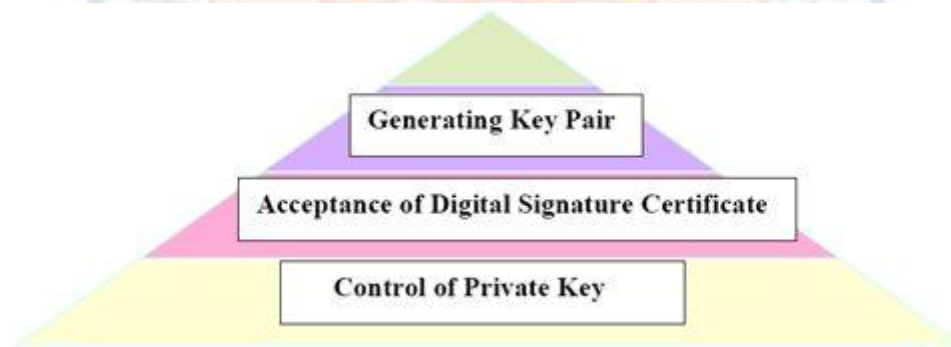
A digital signature certificate is generated by the Certifying Authority for the public key.

The Subscriber has to download the digital signature certificate from the website of the Certifying Authority, and verify its contents before accepting it.

The Subscriber verifies the contents of digital signature certificate before he accepts it.

Once he accepts, the certifying authority publishes the digital signature certificate in its repository.

Duties of Subscriber



There are three duties of the subscriber. These are the following:

Generating Key Pair

Acceptance of Digital Signature certificate

Control of private key

Each one of these is discussed:

(1) Section 40 deals with the Generating Key Pair

"Where any Digital Signature Certificate, the public key of which corresponds to the private key of that subscriber which is to be listed in the Digital Signature Certificate, has been accepted by a subscriber, then, the subscriber shall generate the key pair by applying the security procedure."

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Section 40 consists of the following ingredients:

Generating a signing Key pair (Private / public key).

The private and public key is generated confidentially, using the standards specified in the Act.

It is before the generation of a digital signature certificate by a certifying authority, the subscriber must generate a signing key pair successfully.

Illustration

Mohan, the subscriber of digital signature certificate has to generate a signing key pair (private/ public key) by applying a security procedure before receiving the digital signature certificate from the certifying authority. He generated the key pair. His public key would be listed in the digital signature certificate and corresponding private key will be known to him.

(2) Section 41 of the Act deals with the Acceptance of Digital Signature Certificate

"Acceptance of the digital signature certificate is directly related to its publication. It provides a reasonable opportunity for the subscriber to verify the contents of the digital signature certificate before he accepts it. Upon the acceptance of the issued digital signature certificate by the subscriber, the certifying authority will publish a signed copy of the digital signature certificate in a repository".

By accepting a Digital Signature Certificate the subscriber certifies to all the following information so that the user can rely on him. "The information that subscriber discloses is as follows:

- He holds the private key corresponding to the public key listed in the Digital Signature Certificate and is entitled to hold the same;
- All representations made by the subscriber to the Certifying Authority and all material relevant to the information contained in the Digital Signature Certificate are true;
- All information in the Digital Signature Certificate that is within the knowledge of the subscriber is true".

(3) Section 42 of the Act deals with the Control of private key

"It is the duty of the subscriber to prevent the disclosure of the private key. By accepting a certificate, the subscriber assumes a duty to retain control of the private key, and to take a reasonable precaution to prevent its loss, modification or unauthorized use. If

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private key is lost, then, the subscriber will communicate the same, without any delay, to the certifying authority in such a manner, as may be specified by the regulations:.

Summary

Electronic record-Meaning

- "It is the data, record or data generated, image or sound stored, received or sent in an electronic form or micro film or computer generated micro fiche".
- Aim of the Act is to protect the e-records and messages.
- Act provides for secure e-records(Sec14)
- Secure digital signatures(Sec15)
- Authorized security procedure

Communication process

- Valid e-record requires promisor and promise
- Legal recognition to communication process involving computer, computer system and computer network
- Parties involved in this process are originator, addressee and intermediary

Various provisions

- Attribution of e-records(sec 11)
- Acknowledgement of receipt(sec 12)
- Time and place of dispatch and receipt of electronic record(sec.13)

E-governance

- An application of Information Technology to the functioning of the Government
- Transforms the relations with citizens, business and other arms of the government.
- Primary models are e-services, e-administration, and e-society.

Act provides Legal recognition to facilitate e-governance

- Legal recognition of electronic records(Sec.4)
- Legal recognition of digital signatures (Sec. 5)
- Use of e-records and digital signatures in Government and its agencies(Sec.6)
- Retention of e-records(sec.7)
- Publication of rule, regulation, etc in e-gazette(sec.8)
- Power to make rules by Central Government in respect of digital signature(sec.10)

Subscriber-Introduction

- A person in whose name the Digital Signature Certificate is issued.
- Certifying authority issues a Digital Signature Certificate to the subscriber
- Any person can make an application to the Certifying Authority for the issue of DSC

Subscriber-Introduction

- Generating key pair (Sec.40)

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- Acceptance of Digital Signature Certificate (Sec.41)
- Control of private key (Sec 42)

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