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Automate bulk Signing Using Digital Signature Solution

Introduction to digital Signature

A digital signature is a mathematical scheme for demonstrating the authenticity of digital messages or documents. It is a virtual fingerprint that's unique to an individual and is employed to identify signers and secure data in digital documents. It is a type of electronic signature that ensures compliance with legal regulations by providing the validity and authenticity of a digital document and signer's identity. Digital signatures can provide proof of origin, time, identity, and status of a digital document. A signature confirms that the information emanated from the signer and has not been tampered with during transit.



What actually is a digital signature?

A digital signature is a kind of electronic signature where a mathematical algorithm is routinely used to validate the authenticity and integrity of a message (e.g., an email, a credit card transaction, or a digital document). Digital signatures create a virtual fingerprint that's unique to a private or entity and are used to identify users and protect the information in digital messages or documents and ensures no distortion occurs when in transit between signer and receiver. In emails, the email as a whole also becomes a part of the digital signature. Digital signatures are significantly more reliable and secure than other types of electronic signatures.



We understand the critical importance of **AUTHENTICATION & SECURITY**



Why digital signatures are considered so secure and compliance?

Digital signatures work using public-key cryptography. Public key cryptography is a cryptographic method that uses a key pair system, private and public. The private key encrypts the data and is available only to the signer. The public key decrypts the info concerning the digital document and is given to the receiver. However, both parties must have a registered digital certificate from an issuing certificate authority to attach the signer and their signature.



Public key cryptography ensures the safety , accuracy, and authenticity of the document. Encryption is the processes of encoding data send to the receiver in a form that can only be decoded by the receiver. Authentication is the process of validating the knowledge from the sender is genuine and has not been altered in transit. Just like each handwritten signatures are unique, every signer is given a singular digital identity from a trusted service provider. When the signer signs a document, the signer's identity is validated and therefore the signature is encrypted using public key infrastructure technology.

How does digital signatures work?

The mathematical algorithm generates a public key and a personal key that are linked to each other. When a signer electronically signs a document, the mathematical algorithm generates data pertaining to the signed document by the signer, and therefore the data is then encrypted. This data is also called a cryptographic hash. A hash function is a fixed-length string of numbers and letters generated from a mathematical algorithm. This generated string is unique to the file being hashed and is a one-way function, a computed hash cannot be reversed to find other files that may generate the same hash value. The signer has sole access to the private key and this private key is used to encrypt the document data.



The encrypted information or encrypted hash is then transmitted and can be decrypted only by the signer's public key. The receiver who receives the document also receives a replica of the signer's public key which is employed to decrypt the signature. A cryptographic hash is again generated on the receiver's side. Both cryptographic hashes are checked to validate its authenticity. The document is considered genuine if they match.

Importance of Digital Signature in a any Company

The digital signature should become a must have for companies which want to accelerate business processes and optimize operating costs. By incorporating digital signature processes, companies reduce also waiting time, providing copies to all or any parties involved in each transaction, creating files and at an equivalent time reinforcing data security thanks to digital encryption.

In this way, documents can't be read and modified by third parties thanks to the signatory identification, non-repudiation and integrity of the signed document. Speed, time and cost-saving also as being environment-friendly through a Paperless Process are some digital signature benefits.



Crucial need of Digital Signature during Covid19

Beyond many other business technical problems during COVID crisis, the normal physical signature has been a drag for companies, institutions and customers due to the impossibility of getting to offices in person, therefore the digital signature soon became essential.

Working remotely has become the new way of doing business, it has been both a challenge for companies and also an opportunity to implement digital work and business continuity. Thanks to the digital nature of e-Signature which offers parties flexibility and efficiency in executing documents, many operations are possible.



Digital Signature is essential for digital transformation

Digitize signature is additionally a consequence of the new way of living for the new digital consumer. People expect services available anywhere and anytime at the click of a button, this has been one of the most engines for digital transformation activation. Perhaps electronic banking is the most representative case of this revolution, digitization includes also the utilization of certificates and digital signatures, which allow us to enjoy secure services to carry out business and daily operations such as transactions, insurance policies, general form, etc...





Digital Signature advantages:

- Sign documents and services or products from anywhere and anytime (Remote Solution);
- Paperless process to streamline daily business management and administration ;
- Streamline workflows when multiple signatures are required;
- Automate the signing of multiple documents;
- Identify the signatories and guarantee data protection of documents information;
- Customer data protection;
- Embrace the environment by being eco-friendly without wasting paper.

Digital signatures benefits at work

- Time and Resources optimization;
- Rapidity to seal deals and agreements;
- Business Management Automation;
- Quick search of digital signed document;
- Usability;
- Legally Binding and Compliant.