A Study of Electronic Document Security

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Abstract—This paper is an overview of relevant document security issues and technologies, as well as to introduce the suite of document security solutions. This paper also summarizes implementations for document control and digital signatures to protect electronic documents. As organizations move more business processes online, protecting the confidentiality and privacy of information used during these processes, as well as providing authenticity and integrity, are essential. Because many automated processes rely on electronic documents that contain sensitive information, organizations must properly protect these documents. Many information security solutions attempt to protect electronic documents only at their storage location or during transmission. However, these solutions do not provide protection for the entire lifecycle of an electronic document. When the document reaches the recipient, the protection is lost, and the document can be intentionally or unintentionally forwarded to and viewed by unauthorized recipients. A significantly more effective solution is to protect a document by assigning security parameters that travel with it. Six criteria must be met in order to provide more effective protection for an electronic document throughout its lifecycle: Confidentiality, Authorization, Accountability, Integrity, Authenticity, and Non-repudiation. The two major security techniques used to establish these six document security criteria are document control and digital signatures. The Electronic suite of security solutions delivers document control and digital signature services that simplify the process of protecting sensitive electronic documents and forms. Organizations can easily integrate Electronic document security solutions into current business processes and enterprise infrastructure to support a wide range of simple and complex processes. The solutions dynamically protect electronic documents inside and outside the network, online and offline to provide persistent, end-to-end protection throughout an electronic document’s lifecycle.

Keywords—Confidentiality; Authorization; Accountability; Integrity; Authenticity; Non-repudiation