



InterPARES 2 Project

International Research on Permanent Authentic Records in Electronic Systems

Policy Cross-domain

Authenticity and Authentication in the Law

by Luciana Duranti
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Introduction

The purpose of this report is to illustrate how the legislation of North American, European and Asian countries interprets the concepts of authenticity and authentication, especially in relation to electronic records, in order to develop a policy framework for the long-term preservation of authentic electronic records that is consistent with the juridical context of those countries.

This report outlines its author's interpretation of the findings of the research presented in the following documents, which are posted on the InterPARES Web site on the policy page:

North America: Seth Dalby, "Authenticity/Authentication Definitions and Sources"¹

Europe: Fiorella Foscarini, "Authenticity and Authentication Issues in the Italian and European Legislation"²
Fiorella Foscarini, "Authenticity and Authentication Issues in the Spanish Legislation"³
Isabelle de Lamberterie, "Reflexions sur l'établissement e la conservation des actes authentiques"⁴

China: Sherry Xie, "The Concept of Authenticity in Chinese Legislation"⁵

These documents are very rich in content and extremely informative. Readers interested in policy issues are encouraged to read these other documents, because the interpretations and discussions in this report make necessary generalizations and cannot convey the nuances of each perspective.

¹ [http://www.interpares.org/display_file.cfm?doc=ip2\(policy\)authenticity_definitions-sources.pdf](http://www.interpares.org/display_file.cfm?doc=ip2(policy)authenticity_definitions-sources.pdf).

² [http://www.interpares.org/display_file.cfm?doc=ip2\(policy\)authenticity-authentication_it-eu.pdf](http://www.interpares.org/display_file.cfm?doc=ip2(policy)authenticity-authentication_it-eu.pdf).

³ [http://www.interpares.org/display_file.cfm?doc=ip2\(policy\)authenticity_SPAIN.pdf](http://www.interpares.org/display_file.cfm?doc=ip2(policy)authenticity_SPAIN.pdf).

⁴ [http://www.interpares.org/display_file.cfm?doc=ip2\(delamberterie\)_reflexions_etablissement_et_conservation_actes_authentiques.pdf](http://www.interpares.org/display_file.cfm?doc=ip2(delamberterie)_reflexions_etablissement_et_conservation_actes_authentiques.pdf).

⁵ [http://www.interpares.org/display_file.cfm?doc=ip2\(policy\)authenticity_legislation_CHINA.pdf](http://www.interpares.org/display_file.cfm?doc=ip2(policy)authenticity_legislation_CHINA.pdf).

The Concepts

In **North America**, all the examined legislation, regulations, legal dictionaries, and case law are based on a concept of record authenticity that is consistent with the concept defined by InterPARES 1. Thus, a record is authentic if it is what it claims to be, that is, if its identity (i.e., the whole of the attributes that uniquely identify it, such as the name of its author and its date) and integrity (i.e., its wholeness and soundness) can be either presumed or verified.⁶ The same can be stated for the concept of record authentication, which the juridical system considers to be both the process of establishing authenticity and the legal attestation of it as affixed to a record.⁷ Copies are considered authentic if they are authenticated by a public officer entitled to do so. Both authenticity and authentication are therefore linked to form.

In **Europe**, generally speaking, the concept of authenticity incorporates that of reliability in that the term is used with reference to trustworthiness of both the content of the record and the record as an entity. The presumption of authenticity is linked to provenance (records issued by a public office and records created by a public officer such as a notary in the sphere of private law are authentic—in France, the physical presence of a public officer either signing the record or witnessing the signature of the record is essential), to procedure (records made according to a prescribed procedure and registered in public offices are authentic) and form, especially extrinsic elements, like seals (records must include all the required elements of form, among which the signature is paramount). If a public record contains formal mistakes, its authenticity is assessed according to the procedure for private records, which, if contested, are considered authentic when recognised by the parties or legally verified (the final decision is made by a judge).

Authenticity is also presumed for records that are more than 30 years old if their legitimate custody since creation can be attested. In the absence of originals, copies made from the original by the office authorizing the issuing of the original or by its custodian are presumed authentic. All copies of public and private records made by their legitimate custodian are presumed authentic till proof to the contrary.

Authentic records have force of proof and the ability to produce consequences from the date that is affixed to them (this becomes important with electronic records).

Authentication is a declaration of authenticity that can be provided by any officer responsible for keeping the original of a record or an official copy.

Records that are part of files, series and fonds and entries that are part of registers are presumed authentic as part of an indivisible whole; that is, in consideration of their documentary context.

In **China**, the concept of authenticity appears to be equivalent to a combination of our concepts of authenticity and originality, especially with regard to completeness. An authentic record is one whose essential attributes (i.e. the persons concurring to its formation, author, addressee, writer, and the date of compilation, transmission and receipt) are identifiable, whose process of formation, maintenance and reproduction is rigorously controlled, whose content is registered, and whose form is complete

⁶ See Heather MacNeil and Anne Gilliland-Swetland, “Authenticity Task Force Report,” in *The Long-term Preservation of Electronic Records: The InterPARES Project*, pp.2 and 20. http://www.interpares.org/book/interpares_book_d_part1.pdf.

⁷ Ibidem, p. 2, See also Seth Dalby, “Authenticity/Authentication Definitions and Sources,” pp. 3, 5.

(including letterhead and seal). These rules seem to apply mostly to public records, but, given the pervasiveness of the Chinese record culture, it is likely that the private sector follows the same rules.

As to authentication, it was not possible to infer the meaning of the concept from the information in the report, where the term is only used in relation to electronic records; therefore authentication will be discussed in that context.

Authenticity and Authentication of Electronic Records

In **North America**, there appears to be a hiatus between United States and Canada as it regards the application of the concepts of authenticity and authentication to electronic records. In the United States, a direct link was established between authenticity and digital signature when, in the year 2000, President Bush signed legislation that directly echoed the European Union directive on digital signatures by decreeing the equivalence between a digital signature and a manuscript signature while at the same time establishing the principle of technological neutrality. In Canada, the Canada Evidence Act in the same year stated that the best evidence rule is satisfied by proof of the integrity of the system in which a record was made, received and/or maintained, thereby implicitly linking authenticity to security and control.⁸ However, the same act stated a couple of paragraphs later that authenticity is considered ensured by a secure digital signature based on a unique association with one signatory and capable of guaranteeing integrity if information.⁹ When the authenticity of a record is presumed, as it is in the two circumstances above, authentication is not required.

In **Europe**, the European Union issued in 1999 a directive about electronic signatures recommending European states to issue legislation prescribing that electronic records be not denied admissibility on the sole grounds that they are electronic, that the digital signature be considered equivalent to the manuscript one, that the technologies used to create and to keep records be interoperable, and that there be free choice of certification service providers. However, electronic signatures must fulfil specific requirements that ensure that it can be proven that they belong to the signatories and are under their exclusive control, and that the integrity of the record be protected and its absence revealed.¹⁰

Following the EU directive, several countries issued legislation on the use of digital signatures as means of ensuring the authenticity of records. A summary of their content follows.

Italy in 2000 issued a law stating that digitally signed records are presumed authentic. The same law also states that true copies of electronic records can be generated using a procedure that guarantees the production of an exact and durable reproduction having a stable, unchangeable content.¹¹ Authentication of any copy can be provided by any officer responsible for keeping the original of the record in question or a copy of it. In all public electronic records, the digital signature replaces any other signature, and it supplements and/or replaces for legal purposes the seals, stamps and any kind

⁸ Canada Evidence Act, Part I #31.1, 2, 3. This same section states that a printout satisfies the best evidence rule if it is acted or relied upon by its creator in the course of business.

⁹ *Ibidem*, #31.4. See Dalby, *cit.* pp. 55-56.

¹⁰ Fiorella Foscarini, "Authenticity and Authentication Issues in the Italian and European Legislation," pp. 14-20.

¹¹ *Ibidem*, p. 6.

of authenticating marks on private records. It is possible to carry out a substitutive preservation of electronic records by storing them on digital media, affixing to them a time reference and the digital signature of the preserver, and having the execution of the process properly witnessed.¹²

France established in its year 2000 legislation that electronic signatures are to be considered reliable and capable of guaranteeing the identity of the signatory till proof to the contrary. However, because a signature is a necessary component of a document, it cannot be dissociated from it. In addition, authentic electronic records must be subject to the same degree of formality required for authentic paper records and this means that a public officer must always witness the action attested in the record. The status of transmission of a record, that is, whether it is an original or a copy, must be designated by the public officer who is in charge of the creation and/or preservation of the record.¹³

Germany has not issued legislation in application of the EU directive. Its 1997 law on digital signatures does not deal with the legal value of the digital signature. It only defines the necessary infrastructure for it.

Austria in 2000 completely adopted the EU directive and issued legislation stating that the digital signature has the same effects as a manuscript signature except in those records for which the signature must be witnessed.

Belgium in 2000 issued legislation giving different degrees of authority to three different types of electronic signature. A record with a simple electronic signature must be accepted by a judge to be considered authentic. A record with a digital signature is considered authentic if the signature can only be attributed to one person and if it is capable of establishing the integrity of the record's content. A record with an advanced digital signature, that is, with a signature whose authenticity is guaranteed by a certification authority, is always considered authentic.

Spain in 1999 issued legislation that follows the EU directive as it regards the legal effects of digital signatures, and that specifies the roles and competences of certifying services. However, for electronic records carrying a digital signature there must be irrefutable proof of the integrity of the communication, there must be acknowledgment of receipt, and the integrity of the content must be proven.

Sweden in 2000 prescribed that a “qualified digital signature” based on a “qualified certificate” has the same legal effects as a manuscript signature. The meaning of “qualified” is clearly described in the law, and it does correspond to what the EU directive calls “advanced electronic signature”, that is a signature relying on encryption, public and private keys, a PKI environment, and certification.¹⁴

In summary, most European countries have issued legislation in application of the EU directive, have equated digital signatures with manuscript signatures as to function and legal effects, and have entrusted record authenticity to one formal element of the record, the signature. Interestingly, none of the countries' legislators seem to have noticed that a digital signature is not a signature, but a seal, and, as a consequence, the record that uses it as its only signature is not authentic (lacking the signature of the author), but simply authenticated. In addition, none of the legislators seems

¹² Ibidem, p. 11.

¹³ Lamberterie, “Reflexions sur l'établissement e la conservation des actes authentiques,” p. 43.

¹⁴ Ibidem, 63-83. See also Fiorella Foscarini, “Authenticity and Authentication Issues in the Spanish Legislation,” p. 9.

concerned by the issue of preservation of digital signatures, which are expected to remain permanently affixed to the record.

In China, a law of 2003 stated that administrative records can be in electronic form and cannot be prejudiced against solely because they are digital records. In 2004/5, the Electronic Signature Law was issued. According to such law, the electronic signature has the function of uniquely identifying the signatory and indicating its acknowledgement of the record content. There is no reference to the signature as a means of ensuring the integrity of the record. However, the law says that digital signatures, in addition to belonging and being under the exclusive control of the signatory, must allow for detection of changes to both the signature and the record.

The law lists specific authenticity requirements for electronic records. They say that the record must present its content effectively and must be capable of retrieval and consultation; that the integrity and stability of content must be ensured from the moment of creation except for changes in format due to technological migration and to annotations made to the record; and that the sender, recipient and time of transmission of the record must be identifiable. When assessing authenticity, one must assess the reliability of the means to make, store and transmit data, to keep content and to identify the sender. In addition, official records must be made according to prescribed typologies, forms, compilation rules, registration procedures, filing procedures, and reproduction processes.

It appears that, in the Chinese environment, record form is paramount as a means of ensuring and assessing authenticity. For example, only the electronic records that present red letterhead and seal have the same effectiveness as the paper records. To ensure that non-authorized persons can have access to red letterhead and seal, the computer room of each office must be protected by high security measures. In addition, to ensure that records are viewed in the same documentary form by everybody, the technology must be completely standardized.¹⁵

Conclusion

The concepts of authenticity and authentication are not substantially different from the ones described by InterPARES 1 in any of the jurisdictions examined. However, their application in the electronic environment does not correspond to the InterPARES view. Of all jurisdictions, the closest to the InterPARES position seems to be the Chinese jurisdiction. Certainly, the European emphasis on the digital signature as a necessary component of authenticity is very disturbing and constitutes our primary obstacle to the development of an effective preservation policy framework. In North America, the situation is fluid enough that we can actually go in any direction we choose without encountering any major obstacle.

¹⁵ Sherry Xie, "The Concept of Authenticity in Chinese Legislation."