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@ccess and preservation of electronic information: best practices and solutions
Civil law authenticity meets digital signatures — a report from the trenches

Jean-François Blanchette

Jean-François Blanchette received a BSc in computer science in 1995, a MSc in computer science with a specialisation in cryptography in 1997, both from the Université de Montréal, and a Ph.D. in social studies of science and technology from Rensselaer Polytechnic Institute in 2002. In 2001, he served on a task force mandated by the French Ministry of Justice to make proposals regarding the adaptation of authentic acts to electronic signatures. He is currently an associate researcher at the Research Centre on Public Law, at the University of Montreal, and serves on the Quebec Chamber of Notaries’ advisory committee on electronic authentic acts.

1. Introduction

The French Civil Code lays out precise rules for admissibility and weighing of evidence in litigation. The base rule is that French law requires that proof be pre-constituted, that is, parties must think in advance about proving their rights and/or obligations, by manufacturing a written document at the same time that the contract is concluded. Parties are free to conclude contracts by whatever means they choose — handshake, verbal agreement, signed documents, or telepathy for that matter — but they are required to produce signed documents if they want to prove those obligations in the context of litigation. Article 1341 of the Code articulates this fundamental requirement:

A written document must be established, either by a notary or as a private act, for any dealing over a sum or a value established by decree (before 1980, 50 FRF; currently 5 000 FRF), and no proof by testimony is admissible against or beyond the content of this document, nor with regard to what could have allegedly been said before, during, or since the writing of the document.

Calls for reform of such a system, founded on the primacy of paper-based writing, have been heard repeatedly since the end of the 1970s, when machine-based processing of information became the norm within the insurance and banking industry. An initial reform in 1980 granted admissibility to non-paper-based writing (especially microfilms), but did not attempt to define them. Throughout the 1980s and 1990s, the French legal community resounded with repeated calls for a more thorough re-examination of evidence law than had been afforded by the 1980 reform. Questions over the admissibility as written evidence of faxes, photocopies, and electronic messages led to conflict-ing jurisprudence which threatened the rationality and coherence of the French evidence regime. Both doctrinal analysis and jurisprudence were unanimous in arguing that the evidence system outlined in the Civil Code, founded on the primacy of paper-based writing, could not be interpreted so as to grant admissibility to writing which had been transmitted or stored in electronic form. In the late 1990s, the idea that the law could provide a useful mechanism for increasing consumer trust in electronic transactions and thus, e-commerce and e-government, has provided the impetus for the enactment of reform, both at the European and national level.

2. The electronic signature bill

The adaptation of the French evidence law system to electronic writing and electronic signatures was enacted on 13 March 2000, with the bill ‘regarding the adaptation of French evidence law to information technologies and electronic signatures.’ (1) The bill itself incorporates elements from three distinct sources: (1) a working group mandated in 1996 by the Ministry of Justice to reflect on the problem of ‘electronic proof.’ (2); (2) a commission of the Conseil d’état mandated in 1997 by the Prime Minister to reflect globally on the adaptation of the French legal and regulatory envi-

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ronment to the rise of information networks (3); (3) the parliamentary process (1999–2000) which introduced important amendments to the proposed draft bill.

The first working group’s most important conceptual contribution was to suggest that a system founded on the primacy of written proof could be smoothly adapted to the new context of electronic networks, by simply recognising that writing is independent of media:

Article 1316 — Documentary, or written, evidence, results from a series of letters, characters, numbers, or any other signs or symbols endowed with an intelligible signification, whatever their media or the means of their transmission.

Given this, electronic writing is not fundamentally different from paper-based writing and should enjoy the same evidential weight, when its origin and integrity can be properly ascertained:

Article 1316-1 — Electronic writing is admitted as evidence on the same terms as writing on paper media, provided that the person from which it emanates is duly identified and that it is drawn up and preserved under conditions sufficient to guarantee its integrity.

When it came to signatures however, the bill adopted a definition provided by the Conseil d’état, a definition meant to serve as a place holder for the European directive’s notion of ‘advanced electronic signatures’:

Article 1322-2 — The signature which is necessary to perfect a private act identifies the one who affixes it and manifests his consent to the obligations which flow from this act.

When it is electronic, it consists in the use of a trustworthy identification mechanism guaranteeing the link with the act to which the signature is attached. The trustworthiness of this mechanism is presumed, until proof of the contrary, when the signature is created, the identity of the signatory ensured, and the integrity of the act guaranteed, under conditions established by a decree from the Conseil d’état.

This application decree, published on March 31 2001, states that the trustworthiness of the electronic signature mechanism can be presumed when it ensures that the electronic signature ‘(a) is unique to the signatory; (b) is created using means which the signatory can keep under its sole control; (c) guarantee, with regard to the act to which it is attached, a link such that any subsequent modification to the act is detectable.’ That is, such an electronic signature provides for identification, non-repudiation (whatever this means), and integrity.

These definitions are meant to define a proper framework for electronic private acts, but leave electronic authentic acts out of their scope (4). The French notarial profession pushed for an amendment to be included to the draft bill, the addition of a second paragraph to Article 1317 of the Civil Code, which would now read:

Article 1317 — The authentic act is that one which has been received by public officers with the right to operate in the place where the act has been drafted, and with the required solemnities. It can be established on electronic media if it is drafted and preserved under conditions established by decree from the Conseil d’état.

The Senate Law Commission justified the move on the basis of expediency: while electronic authentic acts would clearly not become a reality in the close future, to seize the current occasion to define them in principle would save the Government another iteration of a somehow tedious legislative process. As the rapporteur explained, ‘we must not close the door to what will one day become electronic authenticity. The recourse to an administrative decree will make it possible to use electronic authentic acts as soon as the material conditions are right.’ That is, the proposed amendment made the principle of dematerialised authentic acts possible, while leaving the precise provisions for their proper production and care to forthcoming administrative decrees, to be updated as technological evolution required. Still, Elizabeth Guigou, Minister of Justice, warned that the ‘dematerialisation’ of authentic acts posed much greater challenges than that of private acts, in particular, with regard to their preservation:

Contrary to private acts, which must only be preserved for a maximal duration of 30 years, authentic acts must be preserved for an unlimited duration. Technological solutions must thus guarantee
The resulting legal framework for electronic evidence is thus now characterised by three main parameters:

• electronic writing (i.e., private acts) is admissible provided the conditions under which it has been created and preserved guarantee its integrity and its imputability. Once admitted as evidence, it carries the same weight as writing on paper;

• any electronic signature mechanism which identifies the signatory, manifests her consent, and guarantees a link with the document is acceptable to sign a private act. However, only ‘advanced electronic signatures’ will be automatically granted a presumption of trustworthiness;

• authentic acts (whose definition remains unchanged) are admissible in electronic form, when they have been drafted and archived under conditions yet to be defined.

3. The working group on electronic authentic acts

A mere two weeks after the law was enacted, a working group was formally convened by the Ministry of Justice on 31 March 2000, vested with a double mission: critical reflection on the concept of electronic authenticity and concrete propositions as a basis for drafting of the application decree. Its fundamental objective would be to ‘research the conditions for a new electronic formalism which could be substituted to the actual requirements associated with the paper media.’ In addition to the particular investigations which would have to be conducted for each category of authentic acts (decisions, records of civil status, notarised acts, etc.), the group was asked to focus particularly on the four following questions:

• How can the deep guarantees offered by authenticity (counsel of the parties, control of the expression of their consent, etc.) be preserved in the case of dematerialised acts?

• Under which conditions and following which forms can the electronic signature of the public officer and of the parties be affixed to authentic acts?

• How can the unlimited archiving and preservation of dematerialised authentic acts be insured?

• Under which conditions can ‘copies’ of dematerialised authentic acts be produced? What will be the evidential value of such copies?

The Ministry of Justice recognised that such questions were exceedingly complex and that their careful consideration would necessarily prove a lengthy process. Nevertheless, given that several of the legal professions (i.e., the notaries) had already begun to explore public-key infrastructures and certification services, and given the high symbolic charge which suffused the question of electronic authenticity, the Ministry suggested/requested that a preliminary report be submitted within six months — an incredibly short delay given the complexity and the elaborate character of the institutions in question. By and large, the working group was expected to simply adopt the definitions already provided by the first application decree, perhaps contributing to further defining the conditions for the deployment of such secure electronic signatures within the legal professions. The Civil Code defined ‘signatures’ and ‘electronic signatures’; the first application decree, ‘secure (i.e., advanced) electronic signatures.’ The second application decree would contextualise these definitions for the case of electronic authentic acts.
The legal professions entrusted with the production and care of authentic acts (e.g., notaries) also brought to the table infrastructural commitments. The Conseil supérieur du notariat (CSN) has invested heavily in a public-key infrastructure which, it claimed, fully met the framework provided by the Civil Code and the first application decree. As the President of the CSN ensured in a professional newsletter, the March 2000 law:

... introduces in the virtual world created by new technologies comparable dispositions to those which we have known for a long time in the traditional universe of contract law. Moreover, the explicit reference to authentic acts, desired by a unanimous parliament, strengthen the role of the notary, promoter of legal security, by widening this eminent mission to computerised transactions. One must see here a kind of recognition of the efforts of the profession, notably through its REAL network, to rapidly adapt to the information technology revolution. The door of the future is open, let’s begin walking on the new paths with confidence. (*)

While the representatives of the profession repeatedly pointed to the REAL network as an impressive demonstration of the readiness of the profession for the Information Age, it is still unclear which practical needs does the network answer, beyond showcasing the profession’s technological prowess? What would a rank-and-file notary gain by undergoing the laborious and costly process of subscribing to REAL, acquiring the signature card, and installing all necessary hardware and software? So far, the board of the Conseil supérieur du notariat has only offered vague promises: ‘Electronic messaging and related services will give us gains in productivity. These exchanges will be fully secure, thanks to our partner and system developer, “La Compagnie des signaux.”’ (*)

The REAL network had not been developed as a response to a practical problem, as no market for electronic transactions involving civil law authenticity has yet emerged.

In addition, the most fundamental question which faced the notarial profession with regard to the ‘dematerialisation’ of authentic acts hinged on the requirement for the parties to the act to physically appear in front of the notary, so that he can verify their free consent and their full understanding of the obligations incurred by them within the contract. As Pierre Catala explains:

The real difficulties with the application of new technologies to authentic acts are... not located either before the contract or after the contract. Even though solemnities are prescribed in both of these phases, they are formalities extrinsic to the production of the act. They are satellites of authenticity... The heart of the problem lies in the writing of the authentic title proper. The title draws its entire strength from the simultaneous presence of the parties and of the public officer (or of a habilitated clerk), so that the solemnities required by texts can be simultaneously accomplished. Authenticity cannot be accomplished without the physical presence of the contracting parties before the special witness habilitated to receive the act. Holding this as essential, it is around it which we must invent the possible adaptations of current formalism to future technologies. (*)

The physical presence of the notary and of the parties seems an incontrovertible element of the notarial ritual. Yet, the appeal of a ‘dematerialised’ authentic act hinges precisely on the possibility of concluding contracts at a distance, without the parties being physically present — e.g., concluding a real estate transaction without requiring all parties to physically meet. How can civil law authenticity be compatible with such a setting, given that its essence lies precisely on the physical appearance of parties in front of the notary? Early in the debates, representatives of the profession formulated what would become the official position of the profession: however electronic authentic acts would come to be defined, they would involve the physical presence of the notary, as this presence, this trusted witnessing of consent, lay at the very heart of the profession, in fact, was the very substance of authenticity. As one eminent notary stated:

the physical presence of the notary is essential to the authentic act; thus, the consent of the parties cannot be witnessed at a distance. If this principle must be modified to adapt the authentic act to the electronic medium, such a modification must then also apply to the paper media, since the concept of authenticity cannot be different according to the underlying media of the instrumentum.

The biggest problem which this argument faced was that the notarial profession had already sought to, in fact, succeeded in, breaching the principle of physical presence. In the early 1970s, it had successfully lobbied the Government so that the notarial contractual scene could be divided into two discreet moments, performed by two distinct authorised parties. The witnessing of the consent of the parties to the act could be entrusted to a specially authorised employee of the
Flour’s emphasis on the physical presence of the notary is understood as a technological response to the need for a more efficient and portable means of proof than the one founded on the availability of the original witnesses of the contractual scene. That is, it is a technology of virtualisation, as Béatrice Fraenkel explains: ‘To be able to forego witnesses to confirm a commitment means that the document which states such a commitment is no longer dependent on the physical existence of the contracting parties. It is sufficient that they have been present once, at the moment of its creation ... the legal effect of the document is no longer tied to the length of their lives... the legal instrument is even more independent of the formal circumstances surrounding a ceremony where statements, gestures, and manipulation of objects are all necessary that establish the legal effects of the contract. The scene of the modern contract is entirely different: it is writing which holds the central role, surrounded by the notary and the parties. And it is the affixing of autograph signatures which subsume the gestuality of bodies.’ Fraenkel, Béatrice, La signature, génère d’un signe. Paris: Gaillimard, 1992, p. 24.


Flour (Jacques (1972), ‘Sur une notion nouvelle d’authenticité (Commentaire des articles 11 et 12 du décret no. pp. 71-041 du 26 novembre 1971) (a),’ Defrenois 92, 977; (b),)

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For all of Flour’s criticism, the principle of clercs habilités remained. In retrospect, the breach it effected would come to seem innocuous in comparison with the implication of the March 2000 electronic signature bill, which proposed to tamper with the very core of notarial authenticity, the physical presence of the notary. For some, such tampering is inevitable, and the profession will just have to bite the bullet if it is to survive globalisation — especially in its concrete manifestation as European integration. The European Affairs Commission of the Union of Latin Law Notaries has stated that ‘it will fall to the notarial profession to decide ... if it must use (information technologies) as a simple means of communication or if it can consider using them for reception — and not only for production — of authentic acts.’ That is, either the profession will confine the role of information technologies to that of a sophisticated tool for the production and management of documents, or it will use them as a telecommunications tool whereby some configuration of distributed parties and notaries can perform a new contractual scene, a scene bearing little resemblance to what the profession has known before. The problem is how to design this new scene without losing the very soul of the profession — the trusted witness, authenticity and its special evidential value.

Physical presence — The report avoids any metaphysical confrontation over the meaning of physical presence, simply stating that ‘whatever the new possibilities which the electronic media offers with regard to witnessing consent at a distance, to modify the actual principle of the physical presence of the public officer would imply a questioning of the principle of authenticity which the legislator has not sought.’ It reiterates that the issue cannot be sidestepped as ‘the physical presence of the public officer cannot be reduced to a simple requirement for concluding contracts. It is of
the essence of the authentic act.’ If the French State wants to make the physical presence of the notary optional, it will have to get rid of authenticity as currently defined. To close any loophole, the report underlines that if the legislator eventually sees fit to modify the principle of physical presence for electronic authentic acts, it will have to do the same with regard to paper acts, since the 13 March law unequivocally affirms the equivalence of paper and electronic written proof.

Document — The report recognises that preserving the legibility and proof value of dematerialised authentic acts will likely lie beyond the ability of individual notaries, town halls or courthouses, and that more centralised forms of archiving will need to emerge. Any such centralisation will however significantly collide with the territorial and functional monopolies of public officers. The working group underlines that it has not been mandated to suggest any modifications to such privileges, and suggests that any such modifications will be more appropriate within the context of a general reorganisation of archival institutions. The report suggests that the preservation of electronic documents can and should be addressed from the beginning of the document production chain and that, ‘without wanting to sound too conservative,’ the development of hybrid archiving systems, mixing paper and electronic technologies, can provide a productive avenue.

Signature — Even after the Ministry of Justice’s request that the working group clarify its position with respect to ‘secure electronic signatures,’ the report has remained resolutely non-committal. With regard to the signature of the public officer, it has refused to define any specific requirement other than it be affixed by a physically present public officer. It underlines that the problem of ensuring the integrity of authentic acts should be dissociated from the question of signing them, and that further consideration relative to the problems of archiving ‘secure electronic signatures’ will be necessary before they can be deemed applicable to authentic acts.

**Conclusion**

At the doctrinal level, legal scholars have provided a definition of electronic writing which cleanly separates writing from media and means of transmission, thus enabling the passage from paper-based to electronic-based written proof with the least modifications to the logic of the system. At the level of practices however, media can hardly be considered in such abstract terms: however much writing may be independent from media, it is obviously always manifested through some particular one! In fact, rather than ‘dematerialised’ (as the expression goes in France), electronic writing has never been so dependent on its material environment — be it physical media, encoding format, software environment, hardware platforms, or network protocols — for both its legibility and its proof value.

Furthermore, the civil law culture of writing is also a culture of the media on which such writing is produced, distributed, read, archived. The procedures which detail the proper manufacturing of official written acts — for notaries, the 1971 decree ‘relative to the acts drawn up by notaries,’ for officers of civil status, the *Instruction générale relative à l’état civil* — depend not only on the materiality of such documents, but on the institutions entrusted with their production and care, and on the beliefs attached to their cultural, legal, and technical performance. These elements suggest that the design of new forms of written evidence suitable for the context of electronic networks will not emerge solely through technological solutions (such as the ‘advanced electronic signatures’ promoted through the European directive). Rather, as the case presented here clearly underlines, defining criteria for electronic authenticity is at once a legal, technical, institutional, and cultural problem. By foregrounding the role of digital signature technology at the expense of a more inclusive approach to document lifecycle management, the European directive on electronic signatures (and its transposition into various national laws) has created a highly restrictive framework for the conceptualisation and realisation of electronic archiving systems able to efficiently preserve both the legibility and proof value of documents. Drawing from its rich store of knowledge and experience, the archival community can help evolve such first-generation legal instruments into forms more appropriate to the practical realities of electronic information preservation.
La autenticidad de la ley civil resuelve las firmas digitales: un informe de las trincheras

Jean-François Blanchette

En el sistema francés de presentación de pruebas en los procedimientos civiles, se da prioridad a los documentos públicos, es decir, a los documentos redactados y firmados por un funcionario ministerial o público. Son documentos públicos, entre otros, los contratos firmados ante notario, los documentos de estado civil y las decisiones judiciales. La ley de marzo de 2000 sobre la firma electrónica dispone que los documentos públicos electrónicos son admisibles como prueba, a condición de que se hayan redactado y archivado en las condiciones que se precisarán posteriormente en un decreto de aplicación. En abril de 2000, el Ministerio de Justicia confió a un Grupo de Trabajo la misión de estudiar y presentar propuestas relativas a las condiciones prácticas aplicables a la redacción y el archivo de documentos públicos electrónicos. En esta exposición, presentaré las principales características de la adaptación de la legislación francesa en materia de presentación de pruebas a los documentos y a las firmas electrónicas, las distintas iniciativas de las profesiones jurídicas para informatizar los documentos públicos electrónicos y, finalmente, las conclusiones del Grupo de Trabajo encargado de estudiar las especificaciones de la redacción y el archivo de este tipo de actos, en particular el papel de las firmas digitales y la autenticidad en Derecho civil para asegurar las transacciones «desmaterializadas».

Die Zivilrechts-Authentizität trifft die digitale Signatur – ein „Frontreport“

Jean-François Blanchette

L’authenticité de la loi civile rencontre les signatures digitales: un rapport des tranchées

Jean-François Blanchette

Dans le système français d’administration de la preuve dans les procédures civiles, la priorité est donnée aux actes «authentiques», c’est-à-dire à des documents rédigés et signés par un officier ministériel ou public. Les actes authentiques sont, entre autres, les contrats reçus par notaire, les pièces d’état civil et les décisions de justice. La loi de mars 2000 sur les signatures électroniques dispose que les actes authentiques électroniques sont admissibles à titre de preuve, à condition qu’ils aient été rédigés et archivés dans les conditions qui seront précisées ultérieurement dans un décret d’application. En avril 2000, le ministère de la justice donnait mission à un groupe de travail d’étudier et de faire des propositions concernant les conditions pratiques applicables à la rédaction et à l’archivage d’actes authentiques électroniques. Dans cet exposé, je présenterai les principales caractéristiques de l’adaptation de la législation française sur l’administration de la preuve aux documents et aux signatures électroniques, les diverses initiatives des professions juridiques pour informatiser les actes authentiques électroniques et, enfin, les conclusions du groupe de travail chargé d’étudier les spécifications de la rédaction et de l’archivage de ce type d’actes — en particulier, le rôle des signatures numériques et l’authenticité en droit civil pour sécuriser les transactions «dématerialisées».