

# THE CONVERGENCE OF TECHNOLOGY AND THE LAW

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Technology and the law are becoming increasingly engaged in each other's realm; each changing the other.

The practice of law **itself** is being changed irrevocably by information technology. The first part of this paper will focus on this development and what it may mean.

In its turn, technology is creating new areas of the law. In the second part of this paper, two notable areas, electronic evidence and electronic commerce, will be reviewed in a general way. In the process of looking at electronic evidence and electronic commerce a number of subtopics, which are full-blown subjects in their own right, will come up. Reference to more detailed material about these subtopics will be offered.

And so on to the dance of technology and the law.

## Technology Is Changing the Practice of Law

To appreciate how profoundly and quickly technology has changed the practice of law, indeed all business; it is helpful to think back to the office of the 1970's. Then office technology was the electric typewriter, the electronic calculator, the photocopier, a Dictaphone and, in large firms, perhaps a Telex machine. This technology was in the main the responsibility of the secretary and other support staff.

Around 1985 the fax machine made its first real appearance and has been an essential piece of office equipment ever since. Also, at that time the word processor and personal computer became a familiar sight in legal and other offices. Again, in the main, it was the secretary and other support staff who were responsible for looking after this technology, excepting those few lawyers who took an interest in computers.

Then around 1995 personal computers became much more powerful and their prices became and continue to be increasingly more reasonable. With more powerful computers, software, like Microsoft Office, Corel Office or accounting programs became easier to use by people without any formal training or interest in computers.

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The appearance of these so-called “user-friendly” personal computers resulted in them showing up more and more on the lawyer’s desk thereafter.

Once lawyers learn the basics of the necessary word processing programs, it is generally easier and quicker for them to type and edit the material themselves. Scanners and optical recognition software make it possible for a lawyer to create long and complex documents, briefs and factums by themselves, if they have the skill and necessary hardware and software. Voice recognition software allows one to dictate and see the words appear on the screen, definitely an attractive feature.

CD ROMs allow legal research from the lawyer’s desktop computer to be conducted. As well, the software industry started in earnest to promote software specific to the legal profession, such as Amicus Attorney, PC Law, other accounting programs, litigation support programs and so forth.

The Internet made itself felt around 1995.

The most prevalent use of the Internet is e-mail. E-mail has become an alternate form of communication in the practice, but with a difference. Word or WordPerfect documents, for example Unanimous Shareholders’ Agreements, can be attached to e-mail and sent to a great number of clients or other lawyers, if needs be, fast, practically anywhere in the world, and returned with corrections, changes and the like by the various respondents. This certainly speeds up and improves the end result. Video conferencing on the Net is becoming increasingly more viable as time goes on too.

Of course, the Internet offers all manner of legal websites, from the very good to the not so good. The rules to evaluate the quality of the content of a book also apply to websites.

Many law firms now have their own websites for marketing and educational purposes. Some British lawyers even conduct a part of their practice on the Web. Governments, law schools, and legal associations have websites. Governments post statutes, regulations and judicial decisions on the Web if they wish, and some do. In fact, “judging” is offered at the Centre de Résolution des Conflits Cybernétique ([www.cybertribunal.org](http://www.cybertribunal.org)) in the form of mediation and arbitration of problems resulting “from use of the Internet”, such as “electronic commerce, competition, copyright, trademark, freedom of expression, privacy and many others ...”. Legal research can now be conducted on the Web, for free, (Supreme Court of Canada decisions) or for fee from Quicklaw or the National Law Reporter System Online and so forth. It appears there is little in the “real” legal world that cannot be done on the Web and all the players appear to be in the process of making an appearance.

In New Brunswick searches and filings under the *Personal Property Security Act* R. S.N.B. chapter P-7.1, which principally protects the lenders by securing their interest

against the title to personal property (like cars), has gone electronic, allowing searches and filings to be made by computer. Ultimately real property may be searched and title conveyed by electronically filing from the lawyer's office as well. E-filing systems for court pleadings are already being tested in Ontario. Law libraries now have to choose between books and electronic systems for the delivery of legal information of all sorts.

There is nothing that once was done on paper that cannot be done digitally on a computer and then some. One can envisage judges in future including pictures, sound bites of testimony, video clips and the like in their decisions; the judgments edited, stored on CD ROMs and posted on the Web, by the court. (Perhaps the private law book company lock on reporting judicial decisions paid for with tax dollars will be threatened.)

So what does this all mean to the practice of law? The lawyer will never have to leave their desk? Is the evolution of the lawyer into being both lawyer and legal secretary really progress?

First, lawyers, like the rest of the world, are inevitably going to have to learn how to use the computer. Unfortunately, at present, learning software is a task easier said than done. This takes a lot of time, which means money, and it may still be more economic for some lawyers to have someone else do the "technology" for them. However, this may not be the case when, perhaps in ten years, using a computer, in other words, its software to achieve various objectives, will have all the novelty using a pen has now. In fact, in recognition of this coming reality, the Law Society of New Brunswick is offering a section on what computer software may be useful in one's practice at its Bar Admission course this year.

Second, the days of a lawyer helpless without a secretary or other support staff to assist them are coming to a close. For example, the Legislative Drafting Branch of the Department of Justice of New Brunswick, which has about 15 or 16 lawyers, has only one or two secretaries. The lawyers do their own drafting on their own computer.

As stated in *A Survey of Legal Issues relating to the Security of Electronic Information* ([http://canada.justice.gc.ca/Commerce/index\\_en.html](http://canada.justice.gc.ca/Commerce/index_en.html)), ("*Survey of Legal Issues*") an excellent paper on law and technology prepared by lawyers of the Legal Issues Working Group of Information Technology Security Strategy Steering Committee of the federal government:

We are long familiar with robots replacing factory workers. We are becoming used to word processors and spreadsheet programs replacing secretaries and clerical staff. We have now entered an era where electronic mail, bulletin boards and conferences and management systems are replacing managers. We may be approaching the era when expert systems begin replacing professional managers.

Perhaps the era of expert systems replacing professionals has already started. In an editorial reported in the *National Post* on February 13, 1999 entitled "Burst the legal bubble", it was reported:

A Texas federal court judge has ruled that a new line of self-help legal software entitled "Quicken Family Lawyer" goes too far in providing legal assistance to consumers and amounts to an unauthorised practice of law in the state.

While the editorial acknowledged that courtroom skills could not be easily put on a "mere diskette", it stated, in effect, that a lot of legal work could be done by just about anyone, software in hand. And, doubtless, software can be developed to enable nonlawyers to achieve almost any legal task. The only question is whether the software will be economically feasible.

One can almost see of the computer making its way from the secretary's desk to the lawyer's desk, resulting in the secretary losing their job. And the computer is already on the public's desk, resulting in the lawyer losing their job.

However, the ability to do legal work does not necessarily mean people will want to do it. Even though there is plenty of information available about how to wire a house, most people still call the electrician.

The availability to the public and business of legal software and legal information on the Net will nonetheless raise the standard of practice of law inasmuch that lawyers will be facing much better informed (or misinformed) clients. Also this development will make it possible for business to enter into areas traditionally practised by lawyers, like conveyancing.

Third, this computer technology will probably make it easier for small firms to compete with large firms. Firms, big or small, will all be using basically the same software, have access to the same electronic legal research materials and world wide communications, and expensive staff support probably will not be as important as it once was.

However, while some lawyers embrace this change, others do not.

The other side of the equation is how new technology is changing the law.

### **New Law Created by the Technology**

Information technology is creating new law in the fields of evidence and electronic commerce, discussed in two sections below in a general way.

*Developments in the Law of Evidence*

Most businesses and law firms are computerized. This means that their records that earlier would have been all on paper are now being kept on computer or on paper and computer. While we all understand what records on paper are all about, perhaps the nature of electronic information, digital data, is not as clearly understood.

A summary of some of the important characteristics of digital data discussed in "Survey of Legal Issues" (op.cit.) at pages 1-4 to 1-8 is as follows:

- Anyone with access to the computer system in question "can delete or alter the information in ways that are undetectable, with the touch of a button". The implications are obvious.
- A new record can be created by anyone with access, but not saved.
- While an electronic record may be saved, it can still be lost for all time through deletion for more space; placement into a file the name of which is known only to the long departed employee fired two years ago; or the password to the file has been lost.
- The computer and the software necessary to access the electronic record may become obsolete or unusable. The data has been copied and recopied between old and newer systems so much that data has become unreadable.
- Digital tapes or diskettes may erode over time so as to be unusable. (Some say digital tapes must be recopied every year to keep the information.)
- Digital data may be or deleted by a "bug" in the computer program, an unintended program defect. Because programs are so complex their makers will not guarantee that "their products actually work" and the disclaimers accompanying such software attest to this lack of confidence in the product. The term, "Castles made of sand." comes to mind." Paper does not come with a disclaimer.
- Digital "documents" may be lost by accident or design, through computer crashes, "viruses" or hackers. Hopefully, back-up copies of digital documents have been made of the so-called "original."

As well, digital data can be easily copied, with the copy indistinguishable from the "original", if that has not been subsequently altered too. The copy can be put on diskette, tape CD or shipped virtually anywhere around the world by the Internet. As digital data includes pictures, video and sound, the impact of cheaply reproducible high quality digital copies of musical recordings and movies, virtually indistinguishable from the original, on copyright law is obvious.

At one time the movement of tremendous amounts of data would have meant moving vans full of filing cabinets. Now the same amount of data may be transported in a small briefcase with a number CD-ROM's inside or by the click of a computer

mouse. This is why privacy relating to personal data held in computer data banks has become such an issue of late.

The procedure initiating the discovery of records in civil litigation under Rule 31 of the New Brunswick Rules of Court is called, "Notice Requiring Affidavit of Documents". Rule 31.01 defines "document", among other things, as including "information recorded or stored by means of any devise," which doubtless includes computer records.

However there is more to the discovery of electronic data than meets the eye. See "Collecting Computer Based Evidence", The New York Law Journal January 26, 1998 by Joan E. Feldman and Rodger I. Kohn (<http://www.ljextra.com/practice/computer/0126ctevd.html>) and "Discovery of Electronic Evidence" by Alan Gahtan for a start. Perhaps the notice should be renamed "Notice Requiring Affidavit of Hard Drive, Diskettes, Backup Tapes, C.D. backups, E-mail and Paper Documents Too".

Obviously, electronic evidence; that is, for the most part computer printouts, is nonetheless being accepted as evidence in the courts. For example, computer printouts are routinely entered into evidence under the provisions of the *Canada Evidence Act* for business records, banking records and public records and under the equivalent sections of provincial Evidence Acts. However, while the courts are adapting the old laws to the new technology, there is uncertainty, particularly with admissibility and weight. (Uniform Law Conference of Canada ("ULC") Consultation Paper on the *Uniform Electronic Evidence Act*, <http://www.law.ualberta.ca/alri/ulc/current/eelev.htm> at pages 3 of 12 ("ULC *Electronic Evidence* Consultation Paper").

In 1996, New Brunswick passed the *Evidence Act on Electronically Stored Documents*, R.S.N.B. 1996 c. 52 ("ESDA"), (also sections 47.1 and section 47.2 under the *Evidence Act* R.S.N.B. c. E-11) which is concerned with the computer printout as evidence.

Section 47.1 says that a print-out of a document is admissible, as if the original, if it is proved that the original document is copied by and is electronically stored by a process of electronic imaging "in the course of an established practice" to keep a permanent record of the document. Also, the original paper document must no longer exist and the printout must be "a true copy of the original document." Proof of all the above may be given by affidavit by any person "who has knowledge or has informed himself or herself of the facts" requiring proof.

Section 47.2 deals with "a document that was created in electronic form" "in the normal course of business" and "recorded or stored electronically in order to keep a permanent record of the record." The printout is not admissible unless, "the contents of the document being tendered are as originally recorded and stored and have not been

altered." Proof of these elements may be from a person "who has knowledge, or who has informed himself or herself of the facts".

Notably, computer printouts of paper documents not imaged "in the course of an established practice" (section 47.1) and of computer created "documents" not made "in the normal course of business" (section 47.2) are not covered by these sections. This leaves other rules of evidence to apply to all those other computer printouts. Surely the law should be uniform in the treatment of all computer printouts as evidence. As well, these sections are limited to computer printouts and do not deal with other types of computer generated digital data, like pictures, video and sound.

Both section 47.1 and section 47.2 require that the party introducing the computer printout produce an affidavit specific to the section to make it admissible. What, in particular, are the "facts" the affiant must spell out in their affidavit to satisfy the requirements of these sections? Is a mere tracking of the words of the sections in the affidavits enough? If *anyone* with access to the computer system can alter data with the touch of a button, how can the person giving the affidavit, even one who "has informed himself or herself" ever know? Other possibilities may come to mind. These affidavits should be treated with a critical eye. Then, once admitted, evidence concerning weight may be brought to bear.

The Uniform Law Conference of Canada ("ULC"), <http://www.law.ualberta.ca/alri/ulc/index.htm> is an independent organization affiliated with the Canadian Bar Association composed of commissioners appointed by each provincial government for the purpose of promoting uniformity of legislation among the provinces. The ULC has developed the draft *Uniform Electronic Evidence Act* for the purpose of modernizing, clarifying and harmonizing the law on electronic evidence throughout Canada, which to date has patchwork legislation concerning it. In sum, the ULC *Uniform Electronic Evidence Act* proposes a "low barrier" for the electronic record "at the time of admission"; the abolition of the search for original records or some other format as good as an original, and clear authority of the court to judge the integrity of a record by the integrity of the system that produced such record, either for admissibility and weight, or for weight alone." ("ULC *Electronic Evidence Consultation Paper*" at page 11 of 12).

The ULC is critical of New Brunswick's approach to computer "imaged" documents (section 47.1 of the *Evidence Act*) in that the paper originals had *first* to be destroyed before imaged copies could be introduced into evidence. In its view the law should be "neutral as to the technology the people use to manage their records." (ULC *Electronic Evidence Consultation Paper*" at page 5 of 12)

As well, there is a problem with computer created "documents" (section 47.2 of the *Evidence Act*). The only apparent way to get reliable evidence that the *contents* of the electronic "document" in question is unaltered is by having the affiant inform himself or herself about the original contents of the "document" from the person who input it

in the first place. If so, why not have them give evidence at the trial? What if they do not remember? Must the affiant interview everyone with access to the system? The ULC approach first targets the reliability of the computer system itself for admissibility, not any particular “document” held in it.

As most people tend to accept the contents of a computer printout at face value, apparently because the “document” comes from a computer and so it must be true, these comments should be cause for concern.

### *Electronic Commerce*

The “mother” of electronic commerce, so to speak, is “Electronic Data Interchange” or EDI as it is usually called. In *Essentials of EDI Law*, EDI Council of Canada Publication (1992) (“EDI Law”) at page 9 the author, Peter Jones, offers the following definition of EDI:

Simply put, EDI is a process that allows computers of every stripe to talk to one another, exchanging data about business transactions that historically had been transmitted on paper. Currently, EDI provides the standard for common business forms such as invoices, purchase orders, shipment notices and debit and credit adjustments.

Usually EDI is requested by a large buyer, like the Pentagon or Chrysler, of its suppliers. Basically the purchase and sale of the supplies is made computer to computer with special software, without human intervention, over a dedicated network between the two parties called a Value Added Network. Of course this does away with a lot of paper and people in the purchasing and sales department. EDI has been a growing force in big business since the early 1980’s.

Unfortunately the businesses involved in an EDI arrangements run afoul of the many legal requirements for “writing, documents and signatures”, as may be required by the *Statute of Frauds* and other statutes. (*EDI Law* pp.35-38). To overcome such legal impediments to EDI, the parties make an EDI Trading Partnership Agreement which takes into account these legal shortcomings of these paperless transfers. There is little or no litigation concerning these Trading Partnership Agreements.

In 1993 the ULC received a report from Ontario entitled “Electronic Data Interchange : Legal Issues for Governments” which led to the ULC working on a Canadian *Uniform Electronic Commerce Act*, based on the United Nations Commission on International Trade Law (UNCITRAL) Model Law on Electronic Commerce (<http://www.un.or.at/uncitral/en-index.htm>). In the words of UNCITRAL, the intent of the UN Model Law is:

The Model Law, adopted in 1996, is intended to facilitate the use of modern means of communications and storage of information, such as electronic data interchange (EDI), electronic mail and teletype, with or without the use such support as the Internet. It is based on the establishment of a functional equivalent for paper-based concepts such as "writing", "signature" and "original". By providing standards by which the legal value of electronic messages can be assessed, the Model Law should play a significant role in enhancing the use of paperless communication. In addition to general norms, the Model Law also contains rules for electronic commerce in specific areas, such as carriage of goods.

([www.un.or.at/uncitral/en-index.html](http://www.un.or.at/uncitral/en-index.html))

Electronic commerce, as defined by the Electronic Commerce Task Force of the federal department of Industry Canada, is "the conduct of business activities by advanced communications and computer technologies." More specifically, electronic commerce includes EDI, electronic banking, cybershopping, advertising and marketing, electronic tax filing, other government services and online product and service delivery. About 80% of electronic commerce is business to business. While EDI is used extensively, the government sees the Internet as "the next source of growth." The government sees this growth because of two trends; namely, the globalization of the world economy and the shift to a knowledge-based economy. As well, it currently projects Internet commerce, which is growing exponentially, will be worth about \$653 billion by 2002 of which Canada, it is hoped, will have a share from \$13 billion to \$33 billion, depending on how successful Canada is in its strategy to obtain its market share.

For a good look at the legal issues involved with having a commercial website on the Internet, as well as other related issues, *Legal Issues Affecting Canadian Based Electronic Commerce Undertakings*, Dale A. J. Dietrich ([www.SmithLyons.ca/it/ecom](http://www.SmithLyons.ca/it/ecom)) is most illuminating.

The law we presently have presumes that paper will be the record of a transaction, often requiring notices in writing and so forth. The requirement of writing in the *Statute of Frauds* and the myriad references to the words "writing", "document", "signature" and "written notice" in federal and provincial laws come to mind. Thus, legal uncertainty arises with paperless transactions, the heart and soul of e-commerce.

The 1998 draft ULC *Uniform Electronic Commerce Act* deals with this legal uncertainty ([www.law.ualberta.ca/alri/ulc/current/euecaa.htm](http://www.law.ualberta.ca/alri/ulc/current/euecaa.htm)). Part 1 of the *Act* deals with electronic documents in the private sector. Basically, Part 1 says that an electronic document will have the same legal effect as a paper document, so long as certain conditions are met. A digital signature on an electronic document is to have the same legal effect as a signature on a paper document, if the law requires a signature. Part 2 deals with the public communicating with and paying the government electronically. Again, personal information in digital form can be reproduced and shipped around easily, without the person's knowledge. It does not take much imagination to see that

any person's privacy could be totally invaded if data banks were merged and "mined" for purposes, good or bad, to find as much about a person as possible.

The New Brunswick government recognized this problem with regard to personal information held by it and passed the *Protection of Personal Privacy Act* S.N.B. c. P-19.1 which was assented to in 1998. The data is to be held in accordance with a Statutory Code of Practice based on one developed by the *Canadian Standards Association's Model Code for the Protection of Personal Information* ("CSA Model Code"). In July, 1998 the government has released a discussion paper ([www.gov.nb.ca/legis/comite/priv-ii/P2e3.htm#anchor3htm](http://www.gov.nb.ca/legis/comite/priv-ii/P2e3.htm#anchor3htm)) with a view to extending privacy protection to personal data held by the private sector, with protection also based on the CSA Model Code. It is arguable whether the protection proffered by the CSA Model Code is sufficient, indeed, at best, illusory.

As part of the federal government's strategy to make Canada a world leader in electronic commerce, it introduced Bill C-54 (Order C-6 in 1999), called the *Personal Information Protection and Electronic Documents Act* in 1998. It correctly saw that members of the public are concerned with the potential of losing their privacy because of participating in e-commerce and so were shying away from it. Like the New Brunswick *Protection of Personal Privacy Act*, cited above, protection of personal data in the *private* sector under this Bill is to be in accordance with the CSA Model Code.

The federal government purports to extend the operation of the privacy provisions of Bill C-54 throughout Canada, apparently under its trade and commerce power. Of course, this flies in the face of the provinces' traditional power to legislate privacy of personal data, particularly in the private sector, under their property and civil rights power. However, if a province passes legislation substantially the same as the federal privacy law, the provincial law will be exempt from the federal law. (Again, New Brunswick currently has such a law under discussion.)

A Canada-wide approach is being taken by the federal government because data can be shipped virtually anywhere and a patchwork of provincial laws on privacy will not make Canada a desirable "place" for electronic commerce. The European Union is working on privacy laws as well. The prevention of the digital warehousing of Canadian personal information in jurisdictions with no privacy legislation whatsoever, as a practical matter, merits concern. How would anybody know? Only a uniform multilateral approach among all states seems to have any hope of actually effectively dealing with the problem, the true dimensions of which are hard to ascertain.

Further, Bill C-54 (C-6) also has many elements borrowed from the 1998 draft ULC *Uniform Electronic Commerce Act* in its provisions concerning electronic documents and signatures. It gives official status to the electronic version of the consolidated federal *Status and Regulations* and *Royal Gazette*, something New Brunswick should do as well.

An excellent in depth review of all the issues raised above, and others, may be found in *Solving Legal Issues In Electronic Commerce* by John D. Gregory forthcoming in the Canadian Business Law Journal.

### **Law and Technology Beyond Electronic Commerce**

Information technology is becoming an increasingly important part of the New Brunswick economy.

The New Brunswick Department of Commerce and Technology Information Secretariat, New Brunswick's states that the province's new private Information Technology ("IT") industry was created just over the past five years. The New Brunswick IT industry includes the production of software, multimedia, advanced training technology, electronic commerce (including Internet), telecommunications and geographic information systems (GIS). According to the Department's 1999 estimates, the IT industry is currently comprised about 267 companies, mostly small, (1-7 employees), with about 3300 jobs and an estimated payroll of \$113-132 million.

The legal profession must be able to properly provide legal services specific to this growing IT industry. Such skills include some knowledge of copyright, patent and trademark law. A laundry list of some activities an IT lawyer may be involved in include advice on the negotiation of all manner of agreements such as software development, software licensing, database licensing, value-added reseller agreements, on-line services, some knowledge of on-line banking; EDI and electronic commerce including the registration of the website domain names, website hosting and development agreements, jurisdictional and infringement claims. Fundamental to doing these things well is an understanding of the technology.

In addition, technology has not left other areas of the law alone. DNA evidence has made a significant change to the practice of criminal law. New reproductive technologies and euthanasia, driven by technology, have literally forced new issues of life and death upon society and ultimately its laws. Other examples will suggest themselves to you.

Law and technology are merging. The technology which is driving the changes in the law is also changing the practice of law itself. Technological change will forge ahead and people will charge into the opportunities opened up by it, whether the law is ready or not. And the legal profession will be expected to be equal to the challenges, whether it is ready or not.