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## **ELECTRONIC COMMERCE AND INTERNATIONAL LEGAL HARMONIZATION: TIME TO GO BEYOND FUNCTIONAL EQUIVALENCE?**

*by members of the UNCITRAL secretariat\**

### **INTRODUCTION**

Paper documents have been the basis for rules on form and evidence of legal acts in most countries. As electronic records promise to displace most of the paper being currently used, lawmakers around the world are moving to adapt legal rules to modern technologies. These measures require adequate international harmonization to avoid the creation of barriers to international electronic commerce through conflicting domestic standards.

As a global organization, the United Nations Commission on International Trade Law (UNCITRAL)<sup>1</sup> was chosen to propose uniform private law standards for electronic commerce. Several factors suggested that what was required were international solutions, rather than individual State initiatives. Those factors included the transnational nature of electronic commerce, and its disregard for traditional jurisdictional borders, together with the lack of domestic laws dealing with electronic commerce. The conclusion in favour of international harmonization was the logical approach for dealing with the legal implications of technological developments as a result of which, as it has been said, “markets are migrating from geographic space to cyberspace”.<sup>2</sup>

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\* This article is provided unedited by UNCTAD/UN-ECE as received from the authors. The views expressed in this article are personal views of members of the UNCITRAL secretariat. They do not necessarily reflect the views of the United Nations.

<sup>1</sup> UNCITRAL was established by the General Assembly of the United Nations in 1966, with the general mandate to promote harmonization and unification of international trade law. UNCITRAL has currently thirty-six member States elected by the General Assembly (as of the Fall of 2003, membership will be increased to sixty States). Membership is structured so as to be representative of the world's various geographic regions and its principal economic and legal systems. Members of the Commission are elected for terms of six years, the terms of half the members expiring every three years. In addition to member States, all other States and invited international organizations may participate as observers in the work of the Commission. UNCITRAL has implemented its mandate by developing texts on a number of topics including sale of goods, arbitration and conciliation, carriage of goods by sea, banking and finance law, procurement, cross-border insolvency and electronic commerce.

<sup>2</sup> Stephen J. Kobrin, “Economic Governance in an Electronically Networked Global Economy”, in R. Hall and T. Biersteker (eds.), *The Emergence of Private Authority: Forms of Private Authority and*

As a first step to that end UNCITRAL adopted in 1996 a Model Law on Electronic Commerce,<sup>3</sup> which was followed, five years later, by another model law dealing specifically with issues related to electronic signatures.<sup>4</sup> Both instruments, in particular the first model law, have been very successful and represent a broadly accepted basis for international legal harmonization.

## II. THE INFLUENCE OF THE MODEL LAWS AND THE QUESTIONS STILL OPEN

The choice of a model law<sup>5</sup> on electronic commerce, rather than, for example, an international convention or model contractual clauses, can be explained by a number of reasons.

UNCITRAL focused its work on promoting the modernization of *statutory* requirements that existed under domestic law. Already an earlier text, the 1985 UNCITRAL Recommendation on the Legal Value of Computer Records was addressed to governments.<sup>6</sup> However, the nature, type and magnitude of statutory obstacles to electronic commerce varied greatly in different legal systems. That diversity by itself called for a great degree of flexibility in introducing the necessary adjustments to existing laws. Those considerations clearly spoke against preparing an international convention at that time.

Even if the form of a convention was not chosen, it was clear that the work to be done by UNCITRAL had to be aimed at promoting the enactment of new legislation. Initial exploratory work had shown the need for a set of principles that would provide a basic legal framework for electronic commerce. Some legal issues associated with electronic communications could be addressed by contractual arrangements between the parties to the electronic commerce relationship. However, it was clear that contractual frameworks, such as trading partner agreements,<sup>7</sup> that

*Their Implications for Global Governance*, Cambridge University Press, 2002 (available at <http://www-management.wharton.upenn.edu/Kobrin/research/revision1.pdf>), p. 11.

<sup>3</sup> *UNCITRAL Model Law on Electronic Commerce with Guide to Enactment*, New York, 1999, United Nations publication, sales No. E.99.V.4 (also available from <http://www.uncitral.org/english/texts/electcom/ml-e-comm.htm>).

<sup>4</sup> *UNCITRAL Model Law on Electronic Signatures with Guide to Enactment*, New York, 2002, United Nations publication, sales No. E.02.V.8 (also available from <http://www.uncitral.org/english/texts/electcom/ml-elecsig-e.pdf>).

<sup>5</sup> A Model Law is a legislative text recommended to States for adoption as part of national law. In adopting the text of a model law, a State may tailor the text of the law to its needs and, if appropriate, modify or leave out some of its provisions. It is precisely this flexibility which might ensure greater acceptance of a model law than a convention dealing with the same subject matter. However, States would generally be invited to make as few changes as possible in adopting the model text into their legal systems, in order to achieve a satisfactory degree of unification and to provide certainty about the extent of unification.

<sup>6</sup> See the Report of the United Nations Commission on International Trade Law on the Work of its Eighteenth Session (Vienna, 3-21 June 1985), *Official Records of the General Assembly, Fortieth Session, Supplement No. 17* (U.N. document A/40/17), para. 360 (reproduced in *UNCITRAL Yearbook* (U. N. publication sales No. R.87.V.4), vol. XVI:1985, pp. 3-46).

<sup>7</sup> A trading partner agreement is an agreement used by parties that agree to exchange information electronically which is used to “structure the electronic communications relationship” by dealing with various issues that arise in the course of such communications, such as business issues that need to be made in structuring the communications relationship and a number of legal issues that are ordinarily addressed by the communications agreement (see Amelia Boss. “Electronic Data Interchange

were then being proposed for users of electronic commerce relied to a large extent upon the structures of local law, which made them inadequate for international use. Moreover, a purely contractual framework would not be sufficient to address mandatory requirements in national legislation relating to hand-written signatures, written records or form of legal acts, or to effectively provide rules enforceable against third parties.<sup>8</sup>

UNCITRAL's work took the form of a set of principles formulated in legislative language that would provide a basic legal framework for electronic commerce, with focus upon what was needed to *facilitate* rather than *regulate* electronic commerce. Through the application of the principle of functional equivalence,<sup>9</sup> the UNCITRAL Model Law advocated, as a first step, the adaptation of existing legal principles to the electronic commerce environment.

### A. INFLUENCE OF THE MODEL LAW

At the time it was completed, the Model Law was a unique instrument in a legal landscape where there was no existing body of law, whether uniform international law or national law, which comprehensively addressed the issues raised by electronic commerce. As such, the Model Law could be described as an instrument of "preventive" or "pre-emptive" harmonization: it led the process of development of law by providing universally acceptable solutions to the issues likely to arise, rather than being negotiated after practices and usage had already resulted in disparate laws and regulations. The challenge was to bring together countries of divergent economic capabilities, legal heritage and telecommunications infrastructures to develop common analyses of, and approaches to, new legal problems. That the challenge was successfully met can be gauged from the influence of the Model Law on electronic commerce legislation already adopted, or being developed, around the world.<sup>10</sup>

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Agreements: Private Contracting Toward a Global Environment", *Northwestern School of Law Journal of International Law & Business*, vol. 13 (Spring/Summer 1992), pp.31-70, at pp. 37-38 and the discussion of issues typically covered in trading partner agreements beginning at p. 45).

<sup>8</sup> See the summary of early international e-commerce initiatives and contractual standards in Eric A. Caprioli and Renaud Sorieul, "Le commerce international électronique: vers l'émergence de règles juridiques transnationales", *Journal du Droit International*, No. 2, 1997, pp. 323-393.

<sup>9</sup> Functional equivalence is the basic underlying principle of the Model Law. It involves an examination of the function fulfilled by traditional form requirements ("writing", "signature", "original", "dispatch", "receipt") and a determination as to how the same function could be transposed, reproduced or imitated in a dematerialized environment.

<sup>10</sup> As of June 2003, legislation implementing provisions of the Model Law has been adopted in (at least) the following countries: Australia (*Electronic Transactions Act 1999*); Bermuda (*Electronic Transactions Act 1999*); Colombia (*Ley Número 527 de 1999: "Ley de comercio electrónico"*); Ecuador (*Ley de comercio electrónico, firmas electrónicas y mensajes de datos* of 2002); France (*Loi n° 2000-230 du 13 mars 2000 portant adaptation du droit de la preuve aux technologies de l'information et relative à la signature électronique*); India (*Information Technology Act 2000*); Ireland (*Electronic Commerce Act 2000*); Jordan (*Electronic Transactions Law (No.85) of 2001*); Mexico (*Decreto por el que se reforman y adicionan diversas disposiciones del código civil para el distrito federal*, of 26 April 2000); Pakistan (*Electronic Transactions Ordinance 2002*); the Philippines (*Electronic Commerce Act 2000*); Republic of Korea (*Framework Law on Electronic Commerce 1999*); Singapore (*Electronic Transactions Act 1998*); Slovenia (*Zakonom o elektronskem poslovanju in elektronskem podpisu (Electronic Commerce and Electronic Signature Act) 2000*); New Zealand (*Electronic Transactions Act 2002*); Thailand (*Electronic Transactions Act 2002*); and Venezuela (*Decreto n° 1024 de 10 de febrero de 2001 - Ley sobre mensajes de datos y firmas electrónicas*). The Model Law has also been adopted in the Bailiwick of Guernsey (*Electronic*

The UNCITRAL Model Law on Electronic Commerce was followed in 2001 by another model law dealing specifically with issues related to electronic signatures, such as their legal effect, rules of conduct for the parties involved and cross-border issues.

The negotiation of the second model law proved to be more difficult, as member States could not easily reach a common understanding of the legal issues relating to various electronic signature techniques. While some of the signature legislation around the world had initially focused upon digital signature techniques used in the context of public key infrastructures (PKI),<sup>11</sup> it became increasingly clear that PKIs would be only one of several possible methods for electronic authentication. However, PKI models had strong supporters in governments less concerned with preserving party autonomy than with raising security levels. There were also differing views between the United States and members of the European Union (EU), but also between other States, as regards the adequate level of regulation of electronic signatures. The resulting consensus of the UNCITRAL Model Law on Electronic Signatures was a flexible set of rules to ensure the continuing usefulness and applicability of the Model Law and not to hinder the development of new techniques. The Model Law affirms the principle of party autonomy, and allows private agreements to be taken into account in assessing whether the nature of the authentication methods used is reasonable or “appropriate for the purpose” of the

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*Transactions (Guernsey) Law 2000*), the Bailiwick of Jersey (*Electronic Communications (Jersey) Law 2000*) and the Isle of Man (*Electronic Transactions Act 2000*), all Dependencies of the British Crown; in the UK overseas territory of Turks and Caicos (*Electronic Transactions Ordinance 2000*); and in the Hong Kong Special Administrative Region of China (*Electronic Transactions Ordinance 2000*). In the *United States*, the National Conference of Commissioners on Uniform State Law used the Model Law as a basis for the preparation of the *Uniform Electronic Transactions Act* (UETA) (The text of UETA and the official commentary is available at <http://www.law.upenn.edu/bll/ulc/fnact99/1990s/>), which was adopted in 1999 and has since been enacted by the (43) States of Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Hawaii, Idaho, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, West Virginia, Wyoming and the District of Columbia, with other States likely to adopt implementing legislation in the near future, including the State of Illinois, which had already enacted the UNCITRAL Model Law through the *Electronic Commerce Security Act 1998*. Updated information on the enactment of UETA may be found at <http://www.nccusl.org/uniformact>. A similar exercise has been conducted in *Canada*, where the Uniform Law Conference of Canada adopted in 1999 the *Uniform Electronic Commerce Act* (UECA) (available with official commentary at <http://www.chlc.ca/en/poam2/index.cfm?sec=1999&sub=1999ia>), which was since been enacted in a number of Provinces and Territories, including British Columbia, Manitoba, New Brunswick, New Foundland and Labrador, Nova Scotia, Prince Edward Island, Ontario, Saskatchewan and Yukon. The Province of Quebec enacted specific legislation (*Act to Establish a Legal Framework for Information Technology 2001*) which, although being broader in scope and drafted very differently, achieves many objectives of UECA and is generally consistent with the UNCITRAL Model Law. Updated information on the enactment of UECA may be found at <http://www.chlc.ca/en/cls/index.cfm?sec=4&sub=4b>.

<sup>11</sup> Such as the *Utah Digital Signature Act 1995* (Utah Code Annotated, §§ 46-3-101 to 46-3-504, the German *Digital Signatures Act 1997* (*Gesetz zur Digitalen Signatur* or *Signaturgesetz*, enacted as article 3 of *Gesetz zur Regelung der Rahmenbedingungen für Informations- und Kommunikationsdienste* or *Informations- und Kommunikationsdienste- Gesetz*, 13 June 1997); or the *Malaysian Digital Signature Act 1997*.

particular transactions to which they relate. The Model Law also offers basic provisions on cross-border recognition that aim at ensuring legal interoperability.

World-wide implementation of common standards will be essential for the smooth and seamless operation of electronic authentication. Within the EU, a high level of harmonization has been achieved by the EU Directive on Electronic Signatures,<sup>12</sup> which member States are enacting into domestic legislation. This, however, is the central difference between harmonization in the EU and global harmonization. Unlike the EU directives, UNCITRAL model laws are not binding upon States, which remain free to adopt them or not, or to expand or shorten their scope. Cross-border recognition of signatures and their supporting devices remains a largely unsettled issue.

## **B. IS FURTHER HARMONIZATION NEEDED?**

Already at the time of the drafting of the UNCITRAL Model Law on Electronic Signatures, there were calls for another round of legislation, an international convention on electronic commerce, to achieve further harmonization of national laws.<sup>13</sup> Underlying those proposals is the recognition that despite the wide acceptance of the UNCITRAL Model Law on Electronic Commerce, it cannot simply be assumed that its principles have already achieved universal application through domestic legislation. It is true that the United States and the EU have consistently stated that coordination of electronic commerce law on an international level is necessary in order to encourage development of industry online.<sup>14</sup> Legal analysis has shown, however, that, despite an acceptable degree of harmonization, “many of the proposed and current laws are mutually exclusive; others disagree on basic principles, despite the stated desire to coordinate the drafting of domestic laws”.<sup>15</sup>

Another justification for further work in the form of an international convention was that only a binding instrument could effectively remove obstacles to electronic commerce that might derive, for example, from form requirements contained in other international conventions.<sup>16</sup>

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<sup>12</sup> Directive 1999/93/EC of the European Parliament and of the Council of 13 December 1999 on a Community framework for electronic signatures (*Official Journal of the European Communities*, vol. L 13, 19 January 2000, p. 12).

<sup>13</sup> The United States proposed that UNCITRAL consider drafting an international convention on electronic transactions (see United States Government Working Group on Electronic Commerce, First Annual Report 15 (1998) (available in 2000 from <http://www.doc.gov/ecommerce/E-comm.pdf>).

<sup>14</sup> See, for instance, President William J. Clinton and Vice President Albert Gore, Jr., A Framework for Global Electronic Commerce 5 (1997) (available in 2000 from <http://www.iitf.nist.gov/eleccomm/ecom.htm>). “The legal framework supporting commercial transactions on the Internet”, it was said in the Joint statement on Electronic Commerce of the European Union and the United States of 5 December 1997, “should be governed by consistent principles across state, national, and international borders that lead to predictable results regardless of the jurisdiction in which a particular buyer or seller resides” (available in 2000 from <http://glinks.net/comdocs/eu/us.htm>).

<sup>15</sup> See Christopher T. Poggi, “Electronic Commerce Legislation An Analysis of European and American Approaches to Contract Formation”, *Virginia Journal of International Law*, vol. 41 (Fall 2000), pp. 224-277.

<sup>16</sup> See Legal Aspects of Electronic Commerce: Proposal by France, United Nations document A/CN.9/WG.IV/WP.93, 1 March 2001 (available at

Consistent with the aim of achieving a greater degree of legal harmonization, the suggestions to develop a new international instrument have arisen out of an assessment of the needs of electronic commerce in the light of practical experience. UNCITRAL's work on electronic commerce has focused, to date, on developing a set of legal principles that would provide a basic legal framework for communication through electronic means. The key element of that work has been to formulate criteria for functional equivalence. However, the growth in the use of electronic commerce has seen the emergence of a number of other legal issues that seem to require consideration and resolution. A number of those topics, such as privacy and taxation, are outside the trade law focus of UNCITRAL's mandate, but other issues, such as international electronic contracting fit well within UNCITRAL's traditional line of work.

The UNCITRAL Model Law on Electronic Commerce does not address aspects of contract formation and performance that may be affected by the ways in which electronic transactions are currently structured and by the ways in which those structures are being changed to facilitate electronic commerce. For example, does the fact that the contract is formed by interaction between a person and an automated information system ("electronic agent")<sup>17</sup> has any influence on the rules of contract formation? How should the law deal with mistakes and errors that may occur in the course of dealings between a person and an automated information system, or between two automated information systems? Also, should there be special rules governing offers of goods and services over open networks, for example as regards the availability and accessibility of contract terms? How do international conventions on trade-related matters, whose field of application is typically conceived in strictly geographical terms, apply to electronic commerce transactions, in which national boundaries are increasingly fluid? And how to meet documentary and other formal requirements that might be provided in such conventions?

Needless to say, proposals to deal with these issues in a new international instrument were met with some skepticism from circles concerned with the dangers of excessive or rigid State-driven regulation, who warned against the possible disadvantages of limiting party autonomy through an international binding instrument.<sup>18</sup> The narrow scope of this paper does not allow for a discussion of the various arguments in favour and against State regulation of electronic commerce and Internet activities.<sup>19</sup> It is

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[http://www.uncitral.org/english/workinggroups/wg\\_ec/wp-93e.pdf](http://www.uncitral.org/english/workinggroups/wg_ec/wp-93e.pdf).

<sup>17</sup> An "electronic agent" has been defined in the United States Uniform Electronic Transactions Act as "a computer program or an electronic or other automated means used independently to initiate an action or respond to electronic records or performances in whole or in part, without review or action by an individual" (UETA, *supra*, note 10 § 2(6); a similar definition is also used in section 19 of the Uniform Electronic Commerce Act of Canada (*ibid.*)).

<sup>18</sup> See, for example, the comments by an expert group set up by the International Chamber of Commerce to consider the desirability of an international uniform instrument on electronic contracting by UNCITRAL ("Electronic contracting: provisions for a draft convention - Comments by the International Chamber of Commerce", 11 December 2001, U. N. document A/CN.9/WG.IV/WP.96; available at [http://www.uncitral.org/english/workinggroups/wg\\_ec/wp-96e.pdf](http://www.uncitral.org/english/workinggroups/wg_ec/wp-96e.pdf)).

<sup>19</sup> See Timothy D. Casey and Jeff Magenau, "A Hybrid Model of Self-regulation and Governmental Regulation of Electronic Commerce", *Santa Clara Computer and High Technology Law Journal*, vol. 19 (2002), pp.1-36, at p.23. The authors point out that "belief in the continued existence of self-regulation may simply be an unrealistic expectation in many areas of electronic commerce. Congress,

sufficient to point out the complementary nature of legislation and contractual rules in private law matters, a fact that has traditionally been recognized by UNCITRAL, which has upheld party autonomy in nearly all its instruments.<sup>20</sup> However, party autonomy has its limits, since “[a]n offer posted on the Internet is open to everyone everywhere, and it is difficult to know another party’s location, especially when the contract will be performed entirely electronically. Yet it can be difficult or nearly impossible to tailor one’s online practices to conform to the laws of every state and nation in which one could conceivably be haled into court. These difficulties impose serious legal transaction and litigation costs as well, especially for small online businesses.”<sup>21</sup>

Following a series of studies and other preparatory work undertaken by its secretariat, UNCITRAL is currently considering two topics in the area of electronic commerce: a possible international convention to deal with selected issues of electronic contracting,<sup>22</sup> and proposals for removing legal obstacles to electronic commerce in existing international trade-related instruments.<sup>23</sup> Thus far, the UNCITRAL Working Group<sup>24</sup> on Electronic Commerce has devoted four sessions to the consideration of these topics.<sup>25</sup> This paper discusses some of the main issues

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which once chanted the mantra ‘we’re not going to regulate the Internet,’ has changed its tune and proposed and implemented a whole slew of new invasive regulations. Additionally, doubts can be raised about the effectiveness of industry self-regulation. The case of Toysmart.com, which attempted, as part of its bankruptcy proceeding, to sell its customer lists in violation of its own privacy policy, suggests some of the ways that self-regulation can break down. A cause of particular dismay for advocates of self-regulation was the failure of third party certification agency TRUSTe to stop one of its licensees from violating their agreement” (*ibid.*, p.28-29).

<sup>20</sup> See example, United Nations Convention on Contracts for the International Sale of Goods, done at Vienna, on 11 April 1980 (“the United Nations Sales Convention”) (United Nations, *Treaty Series*, vol. 1489, No. 25567, p. 3, also available from <http://www.uncitral.org/english/texts/sales/CISG.htm>), article 6; UNCITRAL Model Law on Electronic Commerce (*supra*, note 3), article 4; UNCITRAL Model Law on Electronic Signatures (*supra*, note 4), article 5.

<sup>21</sup> Christopher Poggi, *supra*, note 15, p. 233.

<sup>22</sup> The latest published version of the preliminary draft convention is contained in the Annex to the Note by the Secretariat on Electronic Contracting of 24 March 2003, U. N. document A/CN.9/WG.IV/WP.100 (available from [http://www.uncitral.org/english/workinggroups/wg\\_ec/wp-101-e.pdf](http://www.uncitral.org/english/workinggroups/wg_ec/wp-101-e.pdf)). A revised version is due to be released by October 2003.

<sup>23</sup> See “Legal barriers to the development of electronic commerce in international instruments relating to international trade”, Note by the Secretariat, 11 February 2002, U. N. document A/CN.9/WG.IV/WP.94, [http://www.uncitral.org/english/workinggroups/wg\\_ec/wp-94e.pdf](http://www.uncitral.org/english/workinggroups/wg_ec/wp-94e.pdf).

<sup>24</sup> UNCITRAL Working Groups are composed of representatives from member and observer States, who may be government officials, academics, practicing lawyers or other experts, depending upon the subject matter. UNCITRAL also invites international, governmental and non-governmental organizations to participate in its meetings as observers (in electronic commerce, this included organizations such as the United Nations Conference on Trade and Development (UNCTAD), the World Intellectual Property Organization (WIPO), the Organization for Economic Cooperation and Development (OECD), the European Union, the Commonwealth Secretariat, the African Development Bank, the International Chamber of Commerce (ICC), the International Bar Association (IBA), the Internet Law and Policy Forum). Observer States and organizations traditionally take an active role in the preparation of UNCITRAL instruments.

<sup>25</sup> See Reports of the Working Group on Electronic Commerce on the Work of its Thirty-eighth session (New York, 12-23 March 2001), U. N. document A/CN.9/484 (<http://www.uncitral.org/english/sessions/unc/unc-34/acn-484e.pdf>); *ibid.*, Thirty-ninth session (New York, 14-15 March 2002), U. N. document A/CN.9/509 (<http://www.uncitral.org/english/sessions/unc/unc-35/509e.pdf>); *ibid.*, Fortieth session (Vienna, 14-18 October 2002), U. N. document A/CN.9/527 (<http://www.uncitral.org/english/sessions/unc/unc-36/acn9-527-e.pdf>); and *Ibid.*, Forty-first session (New York, 5-9 May 2003), U. N. document

related to the first project.

### III. SCOPE FOR HARMONIZATION OF ELECTRONIC CONTRACTING ISSUES

The term “electronic contracting” has been used to refer to the formation of contracts by means of electronic communications, or “data messages”, to use the terminology of the UNCITRAL Model Law on Electronic Commerce.<sup>26</sup> As such, “electronic contracting” is “a method for forming agreements, not a subset based upon any specialized subject matter”.<sup>27</sup> Indeed, so-called “electronic contracts” are not “fundamentally different from paper-based contracts”.<sup>28</sup> Nevertheless, electronic commerce does not fully reproduce contracting patterns used on contract formation through more traditional means. Thus, some adaptation of traditional rules on contract formation may be needed to accommodate the needs of electronic commerce.

The UNCITRAL Model Law on Electronic Commerce addresses some basic issues relating to electronic contracting: For example, article 11 addresses the formation and validity of contracts and the form in which an offer and acceptance may be expressed; article 13 deals with attribution of data messages; article 14 with the use of acknowledgements of receipt; and article 15 provides default rules for determining the time and place of dispatch and receipt of data messages.

However, given its “instrumental” approach, the Model Law carefully avoided dealing with substantive law issues, including some that are particularly relevant for international transactions. Some of the issues being proposed for consideration in a new international instrument are discussed below.

#### A. FACILITATING A DETERMINATION OF PARTIES’ LOCATION

In times of expanding commerce and increasing use of electronic communications,<sup>29</sup> it has become all the more important for traders to ascertain reasonably quickly some key contractual issues such as whether a valid and enforceable contract has been

A/CN.9/528 (<http://www.uncitral.org/english/sessions/unc/unc-36/acn9-528-e.pdf>).

<sup>26</sup> Article 2, subparagraph (a) of the Model Law defines “data message” as “information generated, sent, received or stored by electronic, optical or similar means including, but not limited to, electronic data interchange (EDI), electronic mail, telegram, telex or telecopy.”

<sup>27</sup> Donnie, L. Kidd, Jr. and William Daughtrey, Jr., “Adapting Contract Law to Accommodate Electronic Contracts”, *Rutgers Computer and Technology Law Journal*, vol. 26, pp. 215-276, at p. 269, who write further that “[...] an electronic contract is not a special type of contract, but a method of contracting. A special type of contract is identified by the subject matter of the contract rather than the manner in which the contract is formed” (at footnote 239).

<sup>28</sup> Shawn Pompian, “Is the Statute of Frauds Ready for Electronic Contracting?”, *Virginia Law Review*, vol. 85, pp. 1477-1503, at p. 1479.

<sup>29</sup> Despite the various difficulties related to measuring electronic commerce (see “Measuring Electronic Commerce” in United Nations Conference on Trade and Development (UNCTAD), *E-Commerce and Development Report 2001*, United Nations Publication Sales No. E.01.II.D.30, p. 3), electronic commerce already accounted for nearly one-fifth of shipments in the manufacturing industries in the year 2001 in the United States (see <http://www.census.gov/eos/www/ebusiness614.htm>). The Gartner Group’s estimate indicates that business-to-business (B2B) electronic commerce will generate \$7.3 trillion worth of sales transactions worldwide by 2004 (“B2B May Hit \$7.3 Trillion by 2004,” *The Industry Standard*, 27 January 2000, cited in <http://www-1.ibm.com/industries/retail/doc/content/casestudy/85739101.html>).

concluded, or whether the authentication method they use will be upheld in court. Expert legal advice would anticipate some of these questions by drafting appropriate contractual terms. But even skilfully drafted contracts would not obviate the need for determining the governing law of the contract, that is, whether the contract is covered by any existing international treaty and, if not, which domestic law applies, even if for no other purpose than excluding its application.

Electronic commerce, in particular when it is conducted through open networks such as the Internet may not offer clear evidence of the geographic location of the parties. This, in turn, increases the difficulty of determining the law applicable to the contract they negotiate, as discussed below.

### **1. Parties' location, international conventions and conflict-of- laws**

Most international commercial law conventions have their field of application circumscribed to "international" transactions. The international character of a contract may be defined in a variety of ways. The solutions adopted both at the national and international levels range from more general criteria such as the contract having "significant connections with more than one State", or relating "to international commerce" to more concrete factors, such as the fact that the parties have their "places of business" or habitual residence in different countries<sup>30</sup>. Where a party has more than one place of business, those instruments refer to the place that has the closest relationship to the contract and its performance.<sup>31</sup>

Where the parties to a contract concluded electronically clearly indicate the location of their relevant place of business, that indication is to be taken into account as an important criterion, if not the most important one, in determining the "international" character of a contract.<sup>32</sup> In that situation, electronic contracting hardly differs from the case where the contract is concluded by more traditional means, for instance, where a party with more than one place of business indicates which of them has the closest link to the contract. But this rule is of little help where no such indication has been made.

Similar difficulties arise under domestic rules on conflicts of law, which often use notions commonly found in international conventions (for example, "place of

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<sup>30</sup> For example, United Nations Sales Convention (*supra*, note 20), article 1, paragraph (1); Convention on the Limitation Period in the International Sale of Goods, done in New York, on 14 June 1974 (United Nations, *Treaty Series*, vol. 1511, No. 26119, p. 1, also available from <http://www.uncitral.org/english/texts/sales/limit-conv.htm>), article 2, subparagraph (a); and article 1, subparagraph (a) of the United Nations Convention on Independent Guarantees and Stand-by Letters of Credit, done in New York on 11 December 1995 (*Official Records of the General Assembly, Fiftieth Session, Supplement No. 17 (A/50/640 and Corr.1)*, annex, available from <http://www.uncitral.org/english/texts/payments/guarantees.htm>). See also, UNIDROIT Convention on International Financial Leasing (Ottawa, 1988), article 3, subparagraph 1(a) (<http://www.unidroit.org/english/conventions/c-leas.htm>); UNIDROIT Convention on International Factoring (Ottawa, 1988), article 2, subparagraph 1(a) (<http://www.unidroit.org/english/conventions/c-fact.htm>).

<sup>31</sup> E.g. United Nations Sales Convention, article 10(a); United Nations Limitation Convention, article 2(c); United Nations Guarantees Convention, article 4, paragraph (2), subparagraph (a); UNIDROIT Convention on International Financial Leasing, article 3, paragraph 2; UNIDROIT Convention on International Factoring, article 2, paragraph 2.

<sup>32</sup> For instance, under the United Nations Sales Convention.

business”, or a place having the “closest connection with a contract or its performance”). Additional problems may also result from rules of private international law that refer to the place of conclusion of the contract as a connecting factor. Transmission protocols of data message usually record certain information that make it possible to trace the route taken by the data message through various information systems until it reaches the addressee. However, transmission protocols do not usually indicate where the addressee is physically located.

## **2. Possible solutions to enhance legal certainty**

The likelihood of parties engaging in transactions without conclusive evidence of each other’s geographic location is believed to have increased with technological advancements such as web-based contracting schemes. Hence the interest in exploring ways of enhancing legal certainty for transactions over open networks.

If the relevant place of business has not been clearly indicated by the parties before or at the time of conclusion of the contract, the question arises as to whether there exist circumstances from which the location of the relevant place of business can be inferred and which might be used to establish a legal presumption of a party’s location.

### *(a) Location of information systems*

Even if transmission protocols of electronic communications do not usually indicate where the parties are located, they often include a number of other types of apparently objective information, such as IP addresses,<sup>33</sup> domain names<sup>34</sup> or information pertaining to intermediary information systems. So the question arises as to what value, if any, could be attached to such information, for the purpose of determining the physical location of the parties. It may be tempting to let a machine answer a factual question automatically, but such an answer may turn out to be of little value in law.

Generally, elements such as the location of the equipment and technology supporting an information system or the places from which such system may be accessed cannot be regarded as controlling. The location of the equipment and of its supporting technology may not be adequate factors, since they do not provide sufficient indication as to the ultimate parties to the contract, may change over time, and are often not known or not apparent to the parties during their communications.<sup>35</sup> Neither is the fact that the management and operation of an information system may be entirely outsourced or run by a third party. For example, a contract made on behalf of the seller may be automatically concluded with the buyer by the computer of the information services provider (ISP) that hosts the seller’s web site. Reliance on the location of equipment may thus lead to the undesirable result of linking a contract to

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<sup>33</sup> The Internet Protocol (IP) address is 32-bit number (128 according to IP version 6) that identifies each sender or receiver of information that is sent in packets across the Internet.

<sup>34</sup> A domain name is a name assigned to a numerical IP functioning as part of an Uniform Resource Locator (URL).

<sup>35</sup> Tana Pistorius, “Contract Formation: a Comparative Perspective of the Model Law on Electronic Commerce”, *The Comparative and International Law Journal of Southern Africa*, vol. 30 (2002), pp. 129-156, at p. 146.

a geographic location that, although related to the path followed by the electronic messages exchanged by the parties, bears perhaps little or no relationship to their actual location.<sup>36</sup> Another undesirable result might be that a person's place of business, when negotiating a contract electronically, might end up being different from the same person's place of business when negotiating through other means.<sup>37</sup>

Nevertheless, it is conceivable that electronic commerce and the "new economy" may involve activities that are entirely or predominantly carried out through the use of information systems, without a fixed "establishment"<sup>38</sup> or without any connection to a physical location other than, for instance, the registration of its articles of incorporation at a given registry. It has been argued that it might not be reasonable to apply to these so-called "virtual companies" the same criteria traditionally used to determine a person's place of business. In other words: Is it appropriate to give legal significance to the location of the equipment and technology supporting the information system or the places from which such system may be accessed in order to establish where such a "virtual company" has its place of business? At least within the framework of UNCITRAL's current discussions, however, member States are not inclined to depart from established criteria linked to the notion of "place of business".<sup>39</sup>

*(b) Domain names and electronic addresses*

Another related question is the extent to which the address from which the electronic messages were sent could be taken into account to determine a party's location, so that in the case of addresses linked to domain names connected to specific countries (such as addresses ending with ".at" for Austria, ".nz" for New Zealand, etc.) the party could be presumed to have its place of business in the corresponding country.

The problem with this apparently simple presumption is that depending on the country's system for assigning domain names it may have little practical value, since an e-mail address or a domain name could not automatically be regarded as the

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<sup>36</sup> The need to retain the same definitions that are used for off-line transactions is also mentioned in the Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market (*Official Journal of the European Communities* L 17, 17/07/2000 p. 0001-016), where it is stated that "[t]he place at which a service provider is established should be determined in conformity with the case-law of the Court of Justice according to which the concept of establishment involves the actual pursuit of an economic activity through a fixed establishment for an indefinite period; [...] the place of establishment of a company providing services via an Internet website is not the place at which the technology supporting its website is located or the place at which its website is accessible but the place where it pursues its economic activity; [...]"

<sup>37</sup> The risks of establishing a dual regime for business, depending on the media being used, has been one of the main concerns expressed by the International Chamber of Commerce in connection with UNCITRAL's current work on electronic contracting (see document A/CN.9/WG.IV/WP.96 (*supra*, note 18); see also the note by the Secretariat of 25 February 2003 transmitting subsequent comments on UNCITRAL's work by a task force established by the International Chamber of Commerce (U. N. document A/CN.9/WG.IV/WP.101, available at [http://www.uncitral.org/english/workinggroups/wg\\_ec/wp-101-e.pdf](http://www.uncitral.org/english/workinggroups/wg_ec/wp-101-e.pdf)).

<sup>38</sup> Thibault Verbiest and Maxime Le Borne, "*Le fonds de commerce virtuel : une réalité juridique ?*" (<http://www.droit-technologie.org>), 24 May 2002.

<sup>39</sup> See U. N. document A/CN.9/509 (*supra*, note 25), paras. 51-54 and 56-59; see also U. N. document A/CN.9/528 (*ibid.*), para. 93.

functional equivalent of the physical location of a party's place of business.<sup>40</sup> Moreover, in certain branches of business it is common for companies to offer goods or services through various regional web sites bearing domain names linked to countries where such companies do not have a "place of business" in the traditional sense of the term.<sup>41</sup> Furthermore, goods being ordered from any such web site might be delivered from warehouses maintained for the purpose of supplying a particular region, which might be physically located in a country other than those linked to the domain names involved. Furthermore, telecommunications technology makes it possible to operate information systems from nearly anywhere in the world, which reduces even further the evidential value of e-mail addresses and domain names.<sup>42</sup> Another, perhaps even more important argument, is the fact that the system of assigning domain names for Internet sites has not been conceived in strictly geographical terms, which is evident from the use of domain names and e-mail addresses that do not show any link to a particular country, as in the cases of "generic" top-level domains<sup>43</sup> such as ".com" or ".net".

*(c) Conclusion: back to the off-line world*

The above discussion has shown that peripheral information related to electronic messages, such as IP address, domain names or the geographic location of information systems, despite their apparent objectivity, has little, if any, conclusive value for determining the physical location of the parties.

Accordingly, the default rules on place of receipt and dispatch of a data messages in article 15 of the UNCITRAL Model Law on Electronic Commerce disregard elements such as domain names or location of information systems and refer back to the notion of "place of business". The reasons for this choice should be obvious: a party should not be regarded as being located in two different places depending on the media used for negotiating various contracts. Another important argument is that the path followed by a message should not be relevant for purposes of contract formation, much the same way as traditional contract law is not concerned with the

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<sup>40</sup> According to the Internet Corporation for Assigned Names and Numbers (ICANN), the assignment of Top Level Domain (TLDs) names including a country code ("ccTLDs") is "delegated to designated managers, who operate the ccTLDs according to local policies that are adapted to best meet the economic, cultural, linguistic, and legal circumstances of the country or territory involved" (<http://www.icann.org/tlds/>). Needless to say, each country develops its own detailed rules for assigning domain names within its jurisdiction. The Swedish domain name registration system, for instance, seems to require proof of a company's claim to the domain name and its link to the country, whereas more "liberal" systems, such as in Germany, only require the existence of a "contact person" in the country (see Frederik Roos, " 'First come, Not Served': Domain Name Regulation in Sweden", *International Review of Law Computers and technology*, vol. 17, No. 1, pp. 63-72, at p. 70).

<sup>41</sup> The domain "www.amazon.at" (Austria), for example, automatically redirects the customer to the domain "www.amazon.de" (Germany) from which the orders are processed. There is neither an "establishment" nor a phone book entry for "Amazon" in Austria (<http://www.otb.at/servlet/at.herold.sp.servlet.SPHomeServlet>).

<sup>42</sup> Tania Pistorius offers a good illustration of this problem: "It is thus naïve to assume that an e-mail message from 'company@plc.uk' accepting an offer was actually sent from the United Kingdom. Such e-mail could have been sent by mobile communications from a place crossing the Atlantic or from a beach in Hawaii." ("Formation of Internet Contracts: An Analysis of the Contractual and Security Issues", *South African Mercantile Law Journal*, vol. 11 (1999), pp. 282-299, at p. 290).

<sup>43</sup> "Generic" TLDs are registered directly through an the ICANN-accredited registrars (for further information on the system, see <http://www.iana.org/cctld/cctld.htm>).

route taken by postal mail after it is sent by the originator and before it reaches the addressee. It is the origin and destination that matter and these should not be different in the on-line and off-line worlds.

Nevertheless, one of the central concerns of the UNCITRAL Working Group on Electronic Commerce since its initial discussion of issues raised by electronic contracting has been the need for enhancing legal certainty and predictability. This might be achieved by uniform rules that facilitate a determination, among other factors, of the international or domestic character of a contract and the place of its formation. The Working Group felt that it would be generally desirable to formulate uniform international provisions offering elements that allowed the parties to ascertain beforehand the location of their counterparts.<sup>44</sup> One possibility being considered by the Working Group might be to require the parties to electronic transactions to clearly indicate the location of their relevant places of business.<sup>45</sup> This apparently candid proposition, however, has raised a number of questions, such as the extent to which such a duty, which does not exist for international paper-based transactions, might result in a duality of legal regimes. Another question concerns the possible legal consequences of missing or inaccurate information and how an international uniform instrument on electronic contracting could deal with that issue without unduly interfering with the underlying contract law.<sup>46</sup>

## **B. ISSUES RELATED TO THE FORMATION OF INTERNATIONAL CONTRACTS**

Issues related to the formation of international contracts may be divided into two broad categories: (a) general issues of contract formation as provided under contract law; and (b) issues specific to contracting through electronic means or that may be rendered particularly conspicuous by the use of modern means of communication.

For the first category, the central question is how traditional notions such as offer and acceptance, timing of communications, and receipt and dispatch of offer and acceptance may be transposed to an electronic environment. These are, for the most part, issues of functional equivalence and will not be discussed in detail here. The second category, which is more important in the present context, includes questions that, although not entirely new, go beyond the simple issue of functional equivalence. They include, for example, the appropriate legal regime for electronic commerce transactions, the effect of pre-contractual information messages, legal treatment of fully automated systems used in e-commerce, mistake and error, as well as additional rights and obligations that might be imposed upon parties using such systems, over and above what would be normally expected in a paper-based negotiating scenario. The paradigm against which these issues will be tested is the United Nations Sales Convention, as one of the most successful international instruments in the area of uniform commercial law.<sup>47</sup>

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<sup>44</sup> U. N. document A/CN.9/484 (*supra*, note 25), para.103.

<sup>45</sup> The latest draft of the preliminary draft convention on electronic contracting (United Nations document A/CN.9/WG.IV/WP. 100 (*supra*, note 22), Annex), reflects that idea in its articles 7 and 15.

<sup>46</sup> See U. N. document A/CN.9/509 (*supra*, note 25), paras. 44-50 and 62-65; see also U.N. document A/CN.9/528 (*ibid.*), paras. 83-91.

<sup>47</sup> As of 8 July 2003, the United Nations Sales Convention had been ratified by a total of 62 States, including the following: Argentina, Australia, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Burundi, Canada, Chile, China, Colombia, Croatia, Cuba, Czech Republic, Denmark,

## 1. Offers and invitations to treat

Article 14, paragraph (1) of the United Nations Sales Convention provides that a proposal for concluding a contract that is addressed to one or more specific persons constitutes an offer if it is sufficiently definite and indicates the intention of the offeror to be bound in case of acceptance. Whether the parties negotiate by e-mail, electronic data interchange (EDI)<sup>48</sup> or through more traditional means, the nature and legal effect of their communications will be established by their intention.

Paragraph (2) of article 14 provides, however, that a proposal other than one addressed to one or more specific persons is to be considered merely as an invitation to make offers, unless the contrary is clearly indicated by the person making the proposal. In a paper-based environment, advertisements in newspapers, radio and television, catalogues, brochures or price lists are generally regarded as invitations to submit offers (according to some legal writers, even in those cases where they are directed to a specific group of customers), since in these cases the intention to be bound is considered to be lacking.<sup>49</sup>

If the notion of “offer” as traditionally known under sales law is transposed to an electronic environment, a company that advertises its goods or services on the Internet or through other open networks should be considered as merely inviting those who access the site to make offers. Thus, an offer of goods or services through the Internet would not *prima facie* constitute a binding offer.<sup>50</sup>

Ecuador, Egypt, Estonia, Finland, France, Georgia, Germany, Greece, Guinea, Honduras, Hungary, Iceland, Iraq, Israel, Italy, Kyrgyzstan, Latvia, Lesotho, Lithuania, Luxembourg, Mauritania, Mexico, Mongolia, Netherlands, New Zealand, Norway, Peru, Poland, Republic of Moldova, Romania, Russian Federation, Saint Vincent and the Grenadines, Serbia and Montenegro, Singapore, Slovakia, Slovenia, Spain, Sweden, Switzerland, Syrian Arab Republic, Uganda, Ukraine, United States of America, Uruguay, Uzbekistan, Zambia (see <http://www.uncitral.org/english/status/status-e.htm>).

<sup>48</sup> The Working Party on Facilitation of International Trade Procedures (WP.4) of the Economic Commission for Europe, which is the United Nations body responsible for the development of UN/EDIFACT technical standards has defined “Electronic Data Interchange” as “the electronic transfer from computer to computer of information using an agreed standard to structure the information.” This definition is also used in article 2 of the UNCITRAL Model law on Electronic Commerce.

<sup>49</sup> John Honnold, *Uniform Law for International Sales under the 1980 United Nations Convention*, 2<sup>nd</sup> ed., Kluwer, Deventer, 1991, pp. 195-196; von Cammerer/Schlechtriem, *Kommentar zum einheitlichen UN-Kaufrecht*, 2<sup>nd</sup> ed., München 1995, Art. 14, Nos. 13-15, at pp. 144-146; Peter Schlechtriem, *Commentary on the UN Convention on the International Sale of Goods (CISG)*, Clarendon Press, Oxford, 1998, Art. 14, Nos. 13-15, at pp. 111-112; Heinrich Honsell (ed.), *Kommentar zum UN-Kaufrecht*, Springer, Berlin-Heidelberg-New York, 1997, Art. 14, Nos. 17-19, at p. 121; Fritz Enderlein and Dietrich Maskow, *International Sales Law*, Oceana, New York London Rome, 1992, p. 83; Maria del Pilar Perales Viscasillas, *La formación del contrato de compraventa internacional de mercaderías*, Valencia, 1996, p. 289. A few commentators argue, however, that catalogue mailings addressed to named recipients might be regarded as binding offers, since such mailings could not be regarded as being to “non-specified persons” (Vicent Heuzé, *La vente internationale de marchandises*, L.G.D.J., Paris, 2000, No. 175 at p. 156; see also Bernard Audit, *La vente internationale de marchandises*, L.G.D.J., Paris, 1990, No. 62, at p. 58 and Jean Thieffry and Chantal Granier, *La vente internationale*, 2<sup>nd</sup> ed., Centre Français du commerce Extérieur, Paris, 1992, p. 89).

<sup>50</sup> Jens Werner, “E-Commerce.CO.UK - Local Rules in a Global Net: Online Business Transactions and the Applicability of Traditional English Contract Law Rules”, *International Journal of Communications Law and Policy*, Issue 6 (Winter 2000/2001), pp. 1-10, at p.5. This is the conclusion

The difficulty that arises in this context is how to strike a balance between a trader's possible intention of being bound by an offer (or the lack thereof), on the one hand, and the protection of relying parties acting in good faith, on the other hand. The Internet makes it possible to address specific information to a virtually unlimited number of persons and current technology permits contracts to be concluded nearly instantly, or at least creates the impression that a contract has been instantly concluded.

In legal literature, it has been suggested that the "invitation-to-treat" paradigm should not be blindly transposed to an Internet environment. One possible criterion for distinguishing between a binding offer and an invitation to treat may be based on the nature of the applications used by the parties. Legal writings on electronic contracting have proposed a distinction between web sites offering goods or services through interactive applications and those that use non-interactive applications. If a web site only offers information about a company and its products, and any contact with potential customers lies outside the electronic medium, there would be little difference to a conventional advertisement. However, an Internet web site that uses interactive applications may enable negotiation and immediate conclusion of a contract (in the case of virtual goods even immediate performance). Legal writings on electronic commerce have proposed that such interactive applications might be regarded as an offer "open for acceptance while stocks last", as opposed to an "invitation to treat".<sup>51</sup>

This proposition is at least at first sight appealing and apparently consistent with legal thinking for traditional transactions. Indeed, the notion of offers to the public that are binding upon the offeror "while stocks last" is recognized also for international sales transactions.<sup>52</sup> However, the potentially unlimited reach of the Internet and the risk of errors in electronic communications, including in posting price and other product information on a web site, compounded with the use of automatic reply functions without an opportunity for review and correction of errors, seem to call for caution.<sup>53</sup>

Ultimately, this discussion involves a question of risk allocation: should the seller be bound by its "offer" because it created the impression of a binding offer and did not indicate otherwise? Or should the buyer bear the risk of possibly forfeiting other business opportunities as a result of his reliance on what appeared to be a binding offer? The discussions in the UNCITRAL Working Group on Electronic Commerce have shown the difficulty of achieving a consensus on an acceptable risk allocation.

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at which two German courts have arrived recently (see *infra*, note 106).

<sup>51</sup> Christoph Glatt, "Comparative Issues in the Formation of Electronic Contracts", *International Journal of Law and Information Technology*, vol. 6 (Spring 1998), pp. 34-68, p.50.

<sup>52</sup> von Caemmerer/Schlechtriem (*supra*, note 49), p. 144; Maria del Pilar Perales Viscasillas (*supra*, note 49), p. 295 and the example of Spanish legislation given in footnote 41.

<sup>53</sup> Jens Werner (*supra*, note 50), highlights the practical importance of the distinction between invitations to treat and offers with the following example: "[...] e-tailer Argos offered by mistake a Sony TV for £ 3.00 instead of £ 299.99. People who spotted the bargain placed numerous orders for TVs which would constitute an acceptance (and thus conclude a contract) if the webadvertisement of Argos could be regarded as a genuine offer." (p.5).

Arguments in favour of attaching a default presumption of binding intention to the use of interactive applications have invoked the aim of enhancing legal certainty in international transactions. It has been said that parties acting upon offers of goods or services made through interactive contract applications might be led to assume that offers made through such systems were firm offers and that by placing an order they might be validly concluding a binding contract at that point in time. Those parties, it was said, should be able to rely on such a reasonable assumption in view of the potentially significant economic consequences of contract frustration, in particular in connection with purchase orders for securities, commodities or other items with highly fluctuating prices. A default rule might help enhance transparency in trading practices by encouraging business entities to state clearly whether or not they accepted to be bound by acceptance of offers of goods or services or whether they were only extending invitations to make offers.

The countervailing view is that attaching a presumption of binding intention to the use of interactive contracting applications would be detrimental for sellers holding a limited stock of certain goods, if the seller were to be liable to fulfil all purchase orders received from a potentially unlimited number of buyers. Also, that kind of rule would run counter business practice, as companies offering goods or services on the Internet typically indicate in their web sites that they are not bound by those advertisements.<sup>54</sup>

Thus far, the latter position seems to be prevailing. Yet, the discussion is not closed, also in view of the relationship between this issue and questions related to mistake and errors (see below).

## 2. Time of contract formation

Rules on contract formation often distinguish between “instantaneous” and “non-instantaneous” communications of offer and acceptance or between communications exchanged among parties present at the same place at the same time (*inter praesentes*) or communications exchanged at distance (*inter absentes*). Typically, unless the parties engage in “instantaneous” communication or are negotiating face-to-face, a contract will be formed when an “offer” to conclude the contract has been expressly or tacitly “accepted” by the party or parties to whom it was addressed.

Leaving aside the possibility of contract formation through performance or other actions implying acceptance,<sup>55</sup> which usually involves finding of facts, the controlling factor for contract formation is the moment at which an acceptance of an offer becomes effective. There are currently four main theories for determining the moment at which an acceptance becomes effective under general contract law, although they are rarely applied in pure form or for all situations.<sup>56</sup>

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<sup>54</sup> See U. N. document A/CN.9/509 (*supra*, note 25), paras. 81-82; see also U. N. document A/CN.9/528 (*ibid.*), paras. 116-117.

<sup>55</sup> See the commentary to article 2.6 of the *UNIDROIT Principles of International Commercial Contracts* (Unidroit, Rome, 1994).

<sup>56</sup> See the overview of the existing common law and civil law rules on contract formation in Maria del Pilar Perales Viscasillas (*supra*, note 49), pp. 178 and ff.; see also, “Recent Development Relating to CISG: Contract Conclusion under CISG”, *The Journal of Law and Commerce*, vol. 16 ( Spring 1997), pp. 315-344.

Pursuant to the “declaration” theory,<sup>57</sup> a contract is formed when the offeree produces some external manifestation of his intent to accept the offer, even though this may not yet be known to the offeror. According to the “mailbox rule”, which is traditionally applied in most common law jurisdictions,<sup>58</sup> but also in countries belonging to the civil law tradition<sup>59</sup> an acceptance of an offer is effective upon dispatch by the offeree (for example, by placing a letter in a mailbox). In turn, under the “reception” theory, which has been adopted in several civil law jurisdictions,<sup>60</sup> the acceptance becomes effective when it reaches the offeror. Lastly, the “information” theory requires knowledge of the acceptance for a contract to be formed.<sup>61</sup> Of all these theories, the “mailbox rule” and the reception theory are the most commonly applied for business transactions.

In some legal systems, both theories are used, according to the context.<sup>62</sup> Other combinations are also possible, as seems to be the case in legal systems where the notion of “receipt” is understood not only as a question of *time* but also as a question of *form* or maybe even *content* of the communication of acceptance. Thus, for example, the rules of the German Civil Code<sup>63</sup> on the legal effect of legally relevant communications (*Willenserklärung*) upon their “receipt” (*Zugang*), have been understood by German doctrine and case law to the effect that a communication has not only to reach the addressee’s sphere of control (*Machtbereich*) but it also has to be in such a form that ensures the possibility for the addressee to become aware of it (*Möglichkeit der Kenntnisnahme*). The latter element has been further unfolded into various substantive requirements, such as, for example, accessibility of the language of the communication.<sup>64</sup>

The United Nations Sales Convention<sup>65</sup> adopted the “reception” theory as a general rule.<sup>66</sup> Under the Convention, a contract is concluded “at the moment when an

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<sup>57</sup> Which seems to be followed in Switzerland and Italy, at least for non-commercial contracts.

<sup>58</sup> The mailbox rule was first adopted by the King’s Bench in 1818, so as to avoid the need for successive confirmations of receipt as that might continue “*ad infinitum*” (see *Adams v. Lindsell*, 160 Eng. Rep. 250 (K.B. 1818)). Despite some criticism, the mailbox rule has been nearly unanimously adopted in common law jurisdictions (see the references in Paul Fasciano, Internet Electronic Mail: a Last Bastion for the Mailbox Rule, *Hofstra Law Review*, vol. 25, no. 3 (Spring 1997), pp. 971-1003, at footnote 20).

<sup>59</sup> For instance, Argentina (*Código Civil*, art. 1154) and Brazil (*Código Civil*, art. 434).

<sup>60</sup> Such as in Germany (*Bürgerliches Gesetzbuch (BGB)*, § 130); Austria (*Allgemeines Bürgerliches Gesetzbuch*, art. 862); Italy (*Codice Civile*, art. 1335); Switzerland (*Code Civil Suisse*, art. 5).

<sup>61</sup> For instance, Spain (*Código Civil*, art. 1262) and Venezuela (*Código de Comercio*, art. 120, para. 1).

<sup>62</sup> This seems to be the case in France, where the Commercial Chamber of the *Cour de cassation*, in a judgment of 7 January 1981, affirmed the dispatch theory, but commentators continue to maintain the validity of the receipt theory (*Revue trimestrielle de droit civil*, 1981, p. 849-850, note by François Chabas).

<sup>63</sup> BGB, § 130(1).

<sup>64</sup> Transposed to the context of the United Nations sales Convention, this requirement has led to the conclusion, for example, that standard contract conditions could not be relied upon if they have been sent in a language different from the one used during the negotiations (*Amtsgericht (AG) Kehl*, 6 October 1995, available from <http://cisgw3.law.pace.edu/cases/951006g1.html>).

<sup>65</sup> But also the *UNIDROIT Principles of International Commercial Contracts* (*supra*, note 55), as follows from the combined reading of articles 2.1 and 2.6(2).

<sup>66</sup> However, “dispatch” is also relevant for the operation of a number of provisions of the Convention, such article 19, paragraph 2 (notice of objection to additional terms proposed by offeree); article 20

acceptance of an offer becomes effective”,<sup>67</sup> which happens when “the indication of assent reaches the offeror”.<sup>68</sup> For the purposes of the Convention’s provisions on contract formation, an offer, declaration of acceptance or any other indication of intention “reaches” the addressee “when it is made orally to him or delivered by any other means to him personally, to his place of business or mailing address or, if he does not have a place of business or mailing address, to his habitual residence.”<sup>69</sup>

The notion of “receipt”, has been understood by commentators to mean a point in time when the communication enters the *sphere of control* of the addressee. Up to that time, the originator of the communication (in case of acceptance, the offeree) must ensure that the communication reaches the addressee and that it arrives within the required time. Where the notion of “dispatch” is relevant, the crucial moment is when the communication leaves the sphere of control of the originator. From that moment on, the originator would be relieved of the risk of loss or delay in the communication, with which instead the addressee would be concerned.

These considerations are equally important for the formation of contracts through electronic communications. Indeed, despite some early suggestions that contract negotiation through electronic means, in particular in an EDI environment, replicate the pattern of “face-to-face” or “instantaneous” communications,<sup>70</sup> the exchange of electronic messages, at least when e-mail techniques are used, seems to be more analogous to exchange of postal correspondence.<sup>71</sup>

What are, however, the equivalents in electronic commerce of “dispatch” and “receipt”? Article 15 of the UNCITRAL Model Law on Electronic Commerce contains default rules on time and place of receipt and dispatch of data messages that are meant to supplement national rules on dispatch and receipt by transposing them to an electronic environment. Those provisions seem to be sufficiently flexible to cover both those cases where electronic communication appears to be instantaneous, and those where electronic messaging mirrors traditional mail.

Article 15, paragraph 1, of the Model Law defines the time of *dispatch* of a data message as the time when the data message enters an “information system”<sup>72</sup> placed “outside the control of the originator”,<sup>73</sup> which may be the information system of an

(period of time for acceptance); article 21 (conditions for effectiveness of late acceptance).

<sup>67</sup> United Nations Sales Convention, article 23.

<sup>68</sup> *Ibid.*, article 18, paragraph 2.

<sup>69</sup> *Ibid.*, article 24.

<sup>70</sup> For example, Michael S. Baum and Henry H. Perritt, Jr., *Electronic Contracting, Publishing and EDI Law*, New York, Wiley Law publications, 1991, p. 323, no. 6.8. The authors however recognize various factual circumstances that might lead to a different conclusion, such as “a certain non-instantaneous characteristic of computerized offers and acceptances, regardless of whether mailboxes or store-and-forward techniques are used in the transmission.”

<sup>71</sup> “Despite common belief, [the transmission of Internet electronic mail] does not take place in a substantially instantaneous manner. Rather, it will typically take minutes, hours or in some cases days.” (Paul Fasciano, *supra*, note 58, pp. 1000-1001).

<sup>72</sup> “Information system” is a defined term under Article 2, subparagraph (f) of the Model Law and means “a system for generating, sending, receiving, storing or otherwise processing data messages.” Depending on the factual situation, this may indicate “a communications network, and in other instances could include an electronic mailbox or even a telecopier” (*Guide to Enactment*, para. 40).

<sup>73</sup> The notion of “control” over an information system should not be understood as requiring the information system to be located on the premises of the addressee, since “location of information

intermediary or an information system of the addressee. Under this provision, a data message should not be considered to be dispatched if it merely reached the information system of the addressee but failed to enter it.<sup>74</sup>

For the time of *receipt*, paragraph 2 of the same article distinguishes between a few factual situations: (a) Where the addressee designates a specific information system, which may or may not be his own, for the receipt of a message, the data message is deemed to have been received when it *enters the designated system*;<sup>75</sup> (b) If the data message is sent to an information system of the addressee that is not the designated system, “receipt” occurs when the data message is *retrieved by the addressee*; and (c) If the addressee has not designated an information system, receipt occurs when the data message *enters an information system of the addressee*.

For both the definition of dispatch and that of receipt, a data message *enters* an information system at the time when it becomes available for processing within that information system. It is not necessary that the recipient know that the message was received, and there is no additional requirement that the recipient actually read or even access the message. If it reaches the recipient’s “mailbox”, receipt has occurred. Whether the data message is intelligible or usable by the addressee is intentionally outside the purview of the Model Law, which does not intend to overrule provisions of national law under which receipt of a message may occur at the time when the message enters the sphere of the addressee, irrespective of whether the message is intelligible or usable by the addressee.<sup>76</sup>

At the domestic level, this point seems to be the subject of varying interpretation. There seems to be little disagreement around the proposition that, from a purely *factual* point of view, the moment at which a message enters an information system within the addressee’s control or enters an information system outside the sender’s control represent the evident electronic equivalents of the “sphere of control” tests used under both the “reception” and the “mailbox” rules. However, in implementing the Model Law, some jurisdictions have included additional requirements for the

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systems is not an operative criterion under the Model Law” (ibid.).

<sup>74</sup> It should be noted that the Model Law, as pointed out in its *Guide to Enactment*, “does not expressly address the question of possible malfunctioning of information systems as a basis for liability. In particular, where the information system of the addressee does not function at all or functions improperly or, while functioning properly, cannot be entered into by the data message (e.g. in the case of a fax that is constantly occupied), dispatch under the Model Law does not occur. It was felt during the preparation of the Model Law that the addressee should not be placed under the burdensome obligation to maintain its information system functioning at all times by way of a general provision”(para. 104).

<sup>75</sup> By “designated information system”, the Model Law refers to a system that has been specifically chosen by a party, for instance in the case where an offer expressly specifies the address to which acceptance should be sent. Paragraph 102 of the *Guide to Enactment* of the Model Law clarifies that a “mere indication of an electronic mail or telecopy address on a letterhead or other document should not be regarded as express designation of one or more information systems”.

<sup>76</sup> The *Guide to Enactment* adds that the Model Law is also not intended “to run counter to trade usage, under which certain encoded messages are deemed to be received even before they are usable by, or intelligible for, the addressee. It was felt that the Model Law should not create a more stringent requirement than currently exists in a paper-based environment, where a message can be considered to be received even if it is not intelligible for the addressee or not intended to be intelligible to the addressee (e.g. where encrypted data is transmitted to a depository for the sole purpose of retention in the context of intellectual property rights protection)” ( para. 103).

effectiveness of “dispatch” and “receipt”.

The United States Uniform Electronic Transactions Act (UETA),<sup>77</sup> for instance, provides that an electronic record is deemed to have been sent if it was addressed properly,<sup>78</sup> to a system from which the recipient is able to retrieve the record,<sup>79</sup> and was “in a form capable of being processed” by the recipient’s system.<sup>80</sup> The UETA provisions on receipt of data messages mirror these requirements.<sup>81</sup> All these additions as compared to the Model Law were intended to protect a recipient against a sender’s claims that an electronic message was sent (or received) when it was neither properly addressed nor in a form the sender could retrieve or use.

As has been rightly pointed out,<sup>82</sup> the emphasis in the Model Law is on *timing*. Thus, for the Model Law, the message enters a system when it is available for processing, “whether or not it can in fact be processed.” For UETA, on the other hand, proper dispatch requires that the recipient should be able to retrieve the record from the system, and that the message was sent in a form that his system could process. Nonetheless, “there is arguably no inconsistency between the UETA and the Model Law” to the extent that the Model Law “defers to national law on the ‘processability’ issue”.<sup>83</sup> The formulation of the Model Law may be criticized for not offering mandatory criteria for assessing the effectiveness of a data message other than the time of dispatch and receipt. However, such economy has the advantage of objectivity and avoids the possibly undesirable implications of using concepts such as “readable”, “intelligible”, “usable” or “accessible”.

The proposals for an international instrument on electronic contracting currently being considered by UNCITRAL have followed closely the structure and formulation of article 15 of the UNCITRAL Model Law on Electronic Commerce. This was a natural choice that had the additional advantage of its compatibility with article 24 of the United Nations Sales Convention.<sup>84</sup>

Precisely this point, however, has caused extensive debate in UNCITRAL’s deliberations of a new instrument on electronic contracting.<sup>85</sup> Besides questions concerning the rationale and need for distinguishing between designated and non-designated systems, much of the controversy has focused on the criticism that the rule of article 15 of the Model Law is excessively rigid because the entry of a message in the addressee’s system or another system designated by the addressee does not always allow the conclusion that the addressee is capable of accessing the message. It has been proposed that the notion of “entry” should be rendered more

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<sup>77</sup> *Supra*, note 10.

<sup>78</sup> UETA § 15(a)(1).

<sup>79</sup> UETA § 15(a)(1).

<sup>80</sup> UETA § 15(a)(2).

<sup>81</sup> UETA § 15(b)(1) and (2).

<sup>82</sup> Amelia H. Boss, “The Uniform Electronic Transactions Act in a Global Environment”, *Idaho Law Review*, vol. 37 (2001), pp. 275-351, at p. 328.

<sup>83</sup> *Ibid.*.

<sup>84</sup> Siegfried Eisele, “E-Commerce and the CISG: Formation, Formalities and Validity”, *Vindobona Journal of International Commercial Law and Arbitration*, vol. 6, no. 2 (2002), pp. 305-320, at 310-311.

<sup>85</sup> For a summary of the discussions on this issue, see A/CN.9/509 (*supra*, note 25), paras. 93-98; and A/CN.9/528 (*ibid.*), paras. 141-151.

flexible by adding the notion of “accessibility” of the data message, which would be given when the message is capable of being “processed and retrieved by the addressee.”<sup>86</sup> One the variants of proposals would link the receipt to “the time when the retrieval of that data message by the addressee” could “normally be expected”.<sup>87</sup>

This formulation is similar to the formulation used to implement the EU Electronic Commerce Directive in *Germany*.<sup>88</sup> The reference to the time when the addressee could “normally be expected” to “retrieve” seems, however, a step away from the accepted notion of “availability” of the message for processing within an information system, as an objective test, toward a more subjective approach.<sup>89</sup> Indeed, using the time when retrieval of the data message by the addressee could “normally be expected” as a criterion for establishing when receipt occurs may ultimately mean that the “receipt” of a data message requires for instance, its delivery to the addressee during normal working hours, as a person might not be “normally expected” to “retrieve” business messages at any other time.<sup>90</sup>

There may be several arguments for the reasonableness of such a rule within the confines of domestic law. However, there are obvious difficulties in transposing such a system to the context of an international uniform law instrument. Commentators of the United Nations Sales Convention have observed that the notion of “reach” in article 24 of the Convention was made dependent upon “external, easily provable facts” and of relieving the originator of the “risk of defective communications of a declaration within the recipient’s organizational sphere”; circumstances which indicated that the provisions of article 24 should be interpreted to the effect that “they generally do not require an opportunity for the recipient to gain awareness of the declaration.”<sup>91</sup> Other ways of applying the article, for example, by attempting to take “national public holidays and customary working hours” into consideration, were said to soon “lead to problems and to legal uncertainty in a law governing international situations.”<sup>92</sup>

Default rules on dispatch and receipt of messages should aim at establishing a fair allocation of risks and responsibilities between originator and addressee. In principle, it should not be difficult to reach international consensus on the principle that a person who manages an information system, or designates a specific information system for the receipt of data messages, even if it is a system operated by a third party, should bear the risk of loss or delay of messages that effectively entered that system. Where no system has been designated, the rule should be such that it would allow a judge or arbitrator called to decide upon a dispute on the time of receipt of a data message to apply a test of reasonableness to the choice of an information system

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<sup>86</sup> A/CN.9/509, *ibid.*, para. 94 and 96.

<sup>87</sup> A/CN.9/528, *ibid.*, para. 148.

<sup>88</sup> “*Bestellung und Empfangsbestätigung [...] gelten als zugegangen, wenn die Parteien, für die sie bestimmt sind, sie unter gewöhnlichen Umständen abrufen können.*” (BGB § 321e(1)).

<sup>89</sup> Which, was one of the reasons why there was not sufficient support for incorporating the notion of “accessibility” in UNCITRAL’s work in this form (see A/CN.9/528, *supra*, note 25, para. 149).

<sup>90</sup> On-line legal information sites in Germany expressly subject the legal effect of an e-mail to reception during normal working hours, which is the rule in Germany for correspondence delivered to postal mailboxes (see [http://www.e-commercerecht.de/content/vertrag\\_534.html](http://www.e-commercerecht.de/content/vertrag_534.html); [http://www.itechc.de/content/ebus\\_re2.htm](http://www.itechc.de/content/ebus_re2.htm)).

<sup>91</sup> Peter Schlechtriem (*supra*, note 49), p. 167.

<sup>92</sup> *Ibid.*.

by the originator in the absence of a clear designation by the addressee.

### **C. NATURE OF CONTRACT: CLASSIFICATION PROBLEMS AND “VIRTUAL GOODS”**

One particularly difficult question concerns the appropriate legal treatment for contracts involving products that can be digitalized and electronically delivered and how to treat such products for trade purposes. Software has been identified as a good example of where the intersection between the category of goods and services has become increasingly blurred. In the past, these types of products merely crossed physical borders embodied on a tangible medium, and while new means of delivery have developed, the underlying characteristic of the product has not. Today, these products can flow across global networks and can be permanently retained on an end-user's computer, and still retain the underlying function as if they were sent in physical form.

It would be desirable if international transactions involving these various projects were covered by uniform legal regimes, rather than being subject to a myriad of domestic laws. Yet, unification and harmonization of private law are fragmentary. In fact, only international contracts *for the sale of goods* are subject to a truly universal uniform legal regime under the United Nations Sales Convention, which is only applicable to contracts for the international sale of “goods”. The Convention however, does not include a definition of what is to be considered as “goods”. It is generally accepted that the Convention embodies a rather conservative concept of “goods”, as it is considered both in legal writings and case law to apply basically to moveable tangible goods. Thus, according to most commentators intangible rights, such as patent rights, trademarks, copyrights, a quota of a limited liability company, as well as know-how, are not to be considered “goods”.<sup>93</sup> However, considerable argument exists concerning the appropriate classification of software and other computer-related information.

#### **1. Classification issues under private law**

As with most concepts in the United Nations Sales Convention, in order to ensure uniformity, the concept of “goods” is to be understood “autonomously”, that is, not in the light of any particular domestic legal system. This conclusion flows from article 7 of the Convention, which reminds the interpreter of the international origin of the Convention and the need to ensure uniformity in its interpretation. Domestic courts and scholars, however, are known for being inclined to read international uniform law instruments through the glasses of their respective legal systems.<sup>94</sup> While the conclusions reached by courts and commentators in any given jurisdiction may be the one that best fits its legal tradition, or even the best possible interpretation for the uniform law provision, the goal of uniformity is hardly served by discrepant interpretation, as can be seen from a brief overview of the debate concerning the

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<sup>93</sup> Franco Ferrari, *Vendita internazionale di beni mobili*, vol. 1, pp. 52-53, in Scialoja/Branca (eds.) *Commentario del Codice Civile*, Bologna, Zanicheli, 1994.

<sup>94</sup> The “Homeward Trend” refers to the “inclination of people to assimilate new ideas by relating them to the old ideas with which they are most familiar. Here, it indicates the likelihood that many people will read the text of the Convention as a mirror image of article 2 of the United State’s (sic) Uniform Commercial Code.” L. Scott Primak, “Computer Software: Should the U.N. Convention on Contracts for the International Sale of Goods Apply? A Contextual Approach to the Question”, *Computer Law Journal*, vol. XI, No. 2 (April 1991), pp. 197-231, at p. 205).

interpretation of article 2 of the United Nations Sales Convention in a few selected countries.

(a) *Germany*

For a number of years now, *German* courts have regarded software as “goods”<sup>95</sup> and have applied German sales law to transactions involving standard software<sup>96</sup>, even where the software is downloaded directly to the buyer’s hard disk<sup>97</sup>. The decisive test has been whether the buyer had the right to keep and use the software without limitation after having paid the price, irrespective of whether or not the software is incorporated in a tangible medium.<sup>98</sup> Legal writings have followed suit and considered sales law at least *mutatis mutandis* applicable to the purchase of standard software.<sup>99</sup> Some authors expressly affirm the equivalence between software and “goods” (*Ware*),<sup>100</sup> although some scholars regard the incorporation into a tangible medium (disk) as an essential element for such analogy.<sup>101</sup>

Against that background, it is not surprising that German courts have also taken the view that the sale of software can be covered by the United Nations Sales Convention as well. In *obiter dictum*, a German court of appeal stated that the sale of standard software could be considered a sale of goods, at least where the software was not custom-made.<sup>102</sup> A German court of first instance reached the same result in a later case.<sup>103</sup> Most *German*<sup>104</sup> and *Austrian*<sup>105</sup> commentators have also affirmed the applicability of the United Nations Sales Convention to software sales, at least as

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<sup>95</sup> BGH LM H. M /1993 § 631 BGB NR. 73 at II. 2. b.

<sup>96</sup> Bundesgerichtshof (BGH) 4 November 1987, BGHZ 102, p. 135 (at 144).

<sup>97</sup> BGHZ 109, p. 97.

<sup>98</sup> *Ibid.*, pp. 99-100.

<sup>99</sup> Abbo Junker, *Computerrecht, Gewerblicher Rechtsschutz, Mängelhaftung, Arbeitsrecht*, Baden-Baden, Nomos Verlag, 1988, p 165 No. 352; Heinrich Dörner and Dirk Ehlers, *Rechtsprobleme der EDV*, Neuwied – Frankfurt, Metzner, 1989; pp. 13 and ff.; Friederich Graf von Westphalen and Ulrich Seidel, *Aktuelle Rechtsfragen der Software-Vertrags- und Rechtspraxis*, 3rd ed., Köln, Verlag Kommunikationsforum Recht, Wirtschaft, Steuern, 1992, p. 12.

<sup>100</sup> M. Michael König, “Software (Computerprogramme) als Sache und deren Erwerb als Sachkauf,” *Neue Juristische Wochenschrift* (NJW), 1993, p. 3121 at pp. 3121 and 3124; Rigo Wenning, *Die Behandlung von Standardsoftware im Wiener Übereinkommen über den Warenkauf von 1980*, <http://www.uni-sb.de/~wenning/unku95.html> (visited in July 2003), at II. 3.

<sup>101</sup> von Westphalen/Seidel (*supra*, note 98).

<sup>102</sup> Oberlandesgericht (OLG) Koblenz, 17 September 1993, *Recht der internationalen Wirtschaft* 1993, p. 934 = CLOUT case n. 281 (English abstract available from.

<http://www.uncitral.org/english/clout/abstract/abst-26.pdf>).

<sup>103</sup> Landgericht (LG) München, 8 February 1995, HKO 24667/93 = CLOUT case No. 131 (available in German from <http://www.jura.uni-freiburg.de/ipr1/cisg/urteile/text/203.htm>).

<sup>104</sup> Burghard Piltz, *Internationales Kaufrecht, Das UN-Kaufrecht (Wiener Übereinkommen von 1980) in praxisorientierter Darstellung*, p. 30 No.48; G. Beate Czerwenka, *Rechtsanwendungsprobleme im internationalen Kaufrecht - Das Kollisionsrecht bei grenzüberschreitenden Kaufverträgen und der Anwendungsbereich der internationalen Kaufrechtsübereinkommen*, Berlin, Duncker & Humblot, 1988, p. 148; Michael Bothe and Wolfgang Kilian, *Rechtsfragen grenzüberschreitender Datenflüsse*, Köln, Schmidt, 1992, p. 370; von Cammerer/Schlechtriem (*supra*, note 49), Art. 1 No. 21; Ulrich Magnus, *Wiener UN-Kaufrecht (CISG)*, Art 1 CISG No. 44, in Julius von Staudinger (ed.), *Kommentar zum Bürgerlichen Gesetzbuch mit Einführungsgesetz und Nebengesetzen*, Band II, 12<sup>th</sup> ed., Berlin, Schweitzer, 1994.

<sup>105</sup> Martin Karollus, *UN-Kaufrecht, Eine systematische Darstellung für Studium und Praxis*, Wien - New York, Springer, 1991, p. 21

long as they are embodied on a tangible medium.<sup>106</sup>

(b) *France*

The applicability of the Convention to software transactions does not seem to have been put to test before *French* courts, and the position of French commentators is not clear. For purely domestic contacts, French courts seem to pay more attention to the parties' intention in each concrete case rather than to abstract classifications. The result, however, accommodates both those who categorically reject<sup>107</sup> the notion of "sales" of software to those who are willing to accept it, at least in respect of standard software incorporated on a tangible medium.<sup>108</sup>

As regards the United Nations Sales Convention, there is sufficient agreement concerning the exclusion of intangible goods ("*biens immatériels*") from its scope of application.<sup>109</sup> Even though the French text of the Convention uses the plain term "*marchandises*", rather than the technical, and somewhat narrower, expression "*biens mobiliers corporels*", which was used in French text of the Convention's predecessor instrument, the Hague Uniform Sales Law,<sup>110</sup> it is generally accepted that the Convention applies to "tangible movable goods". Nevertheless, there are also advocates for a broader interpretation of the notion of "goods" under the United Nations Sales Convention so as to encompass at least standard software.<sup>111</sup>

(c) *Other civil-law jurisdictions*

The applicability of the United Nations Sales Convention to software sales, at least when embodied in a tangible medium, and for the same reasons that have influenced the debate in Germany, has also been affirmed in other countries with a similar tradition of private law, such as *Italy*.<sup>112</sup>

The same conclusion has also been proposed in *Mexico*, where, however, software

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<sup>106</sup> Peter Schlechtriem, "Uniform Sales Law – The Experience with Uniform Sales Law in the Federal Republic of Germany", *Juridisk Tidskrift* (1991/92), pp. 1-28 "There are certainly good reasons to enlarge the sphere of application of the Convention by understanding the concept of goods liberally not literally, but as far as I remember from the Vienna Conference, there was a strong conviction among many delegations that the sale and transfer problems of intellectual property and the like were not within the mandate of the Conference. This alone, of course, cannot answer the question whether computer software can be regarded as movables. It is a problem much dealt with in German literature not only in regard to the application of sales law provisions but also in regard to product liability. If the contract concerns so-called standard software, i.e. a program not designed especially to meet a specific customer's demands, and if this program is recorded on a disk or tape, one could argue that the object of the sale falls under the Convention since it is movable and therefore 'goods'."

<sup>107</sup> See the critical analysis of French case law by Michel Vivant *et alii* (*Droit de l'informatique et des réseaux*, Lamy, Paris, 1999, nos. 813- 833 and nos. 969-994).

<sup>108</sup> For instance, Jérôme Huet and Herbert Maisl, *Droit de l'informatique et des télécommunications*, Litec, Paris, 1989, no. 461.

<sup>109</sup> Vincent Heuzé (supra, note 49), No. 5, at pp. 5-6.

<sup>110</sup> *Convention portant loi uniforme sur la vente internationale des objets mobiliers corporels* ("Convention Relating to a Uniform Law on the International sale of Goods (The Hague, 1 July 1964), available from <http://www.unidroit.org/french/conventions/c-ulis.htm>).

<sup>111</sup> For instance, Jean Thieffry and Chantal Granier (supra, note 49), p. 39; and Vincent Heuzé (supra, note 49, at nos. 22 and 84), who, however, emphasizes the need for an analysis of the adequacy of the substantive provisions of the Convention for dealing with software transactions, which he concedes.

<sup>112</sup> See, for example, Franco Ferrari (supra, note 93), pp.52-53.

transmitted electronically has been said to fall outside the scope of the Convention, since it can be assimilated to electricity, which is expressly excluded from the Convention.<sup>113</sup>

*(d) United Kingdom*

Although the *United Kingdom* is not a Contracting Party to the United Nations Sales Convention, the position taken by British courts on the matter may be indicative of the way in which other common law jurisdictions, including States that have ratified the Convention, might approach the problem. *St Albans City and District Council v. International Computer Ltd* was the first case to address the issue of electronic software.<sup>114</sup> In that case, an employee of the software vendor went to the premises of the other party and installed software on a computer system. The court considered whether electronic software constituted a “good” under the Sale of Goods Act of 1979. Focusing on the definition of a good, which is “all personal [...] chattels other than things in action and money,”<sup>115</sup> the court concluded that software without a disk was not a good. Since the employee of the software vendor personally installed the software rather than delivering it on a disk, the court concluded that the software contract is not the sale of a good.

*(e) United States*

As could be expected in the country with the world’s largest software industry and the largest domestic market for electronic commerce, the discussion over the classification of “virtual goods” in the *United States* has been extensive, although not entirely settled. As was the case in other countries, the focus of the discussion in the United States has been on definition of software for purposes of domestic law. At the outset, the question was raised in connection with the application of tax law, when IBM announced in 1969 that it was separating the pricing of its software and services from the pricing of its hardware.<sup>116</sup> For the taxing authorities and ultimately the courts, the key question posed by IBM’s action was whether such detached software was tangible personal property and therefore taxable, or intangible intellectual property not subject to taxation. In answering that question, two opposing lines of authority emerged: one asserting that software is essentially tangible, and the other declaring it intangible. By the early 1990s, the tension between the opposing camps was such “that the cases did not even agree as to which was the majority view” although a survey of available decisions indicated that the arguments for software as an “intangible” were prevailing.<sup>117</sup>

When transposed to the context of private law, however, the debate eventually led to the conclusion that, despite its inherently intangible nature, software should be

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<sup>113</sup> Diego Ricardo Galán Barrera, *El ámbito de aplicación en la Convención de las Naciones Unidas sobre los Contratos de Compraventa de Mercaderías*, Part 2 (<http://cisg.tij.uia.mx/ambito03.html>).

<sup>114</sup> *St Albans City and District Council v. International Computer Ltd.*, 4, *All England Law Reports*, 1996, pp. 481-494.

<sup>115</sup> *Ibid.* (quoting the Sale of Goods Act 1979 and Supply of Goods and Services Act 1982).

<sup>116</sup> For an account of the evolution of the debate, see James Moge, “How Technology Has Affected the Legal System: Software as UCC Goods: a Critical Look”, *Howard Law Journal*, vol. 34 (1991), p. 299.

<sup>117</sup> *Ibid.*, p. 300.

regarded as “goods” for the purpose of Article 2 of the Uniform Commercial Code (UCC), dealing with sales of “goods”. At least initially, this was justified by the tangibility of the medium in which software was stored, much the same way as books or music records.<sup>118</sup> But the more passionate advocates of extending UCC Article 2 treatment to computer software regarded the analogy between software and books or records as superficial and ultimately irrelevant, the important characteristics of a good for UCC application being “movability, transferability, and identification at the time of sale.”<sup>119</sup>

American commentators of the United Nations Sales Convention pointed out that the classification of computer software under the Convention was a “borderline case” that had led to much controversy as software seemed “difficult to distinguish from an exceedingly compact book or phonograph record.”<sup>120</sup> Other writers expressly affirmed the applicability of the Convention, on the basis of its legislative history, inner logic and purpose, and in light of comparative law, stressing also the benefits of the Convention’s uniform regime for international software transactions.<sup>121</sup>

(e) *Conclusion*

At a time “when the Internet has created an unquestionable need for harmony in international contract law”, the goal of uniformity as regards the legal treatment of software “is but a distant dream for the international community.”<sup>122</sup>

Most of the debate under domestic law took place before the exponential development of the Internet during the mid-to-late 1990s. Technological evolution showed, however, that software and other “virtual goods” could be transmitted entirely online, without the need for storage in any tangible medium. Continued application of the tangibility test would eventually mean that transactions involving the same software might be qualified differently depending on whether the software is downloaded from a web site or purchased over the counter. An indicator of this dichotomy, which may have practical consequences for domestic private law, but also for the applicability of international uniform instruments, is the definition of nearly all conceivable types of on-line transactions as “services” for the purposes of the European internal market.<sup>123</sup>

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<sup>118</sup> Note, “Computer Programs as Goods Under the U.C.C.”, *Michigan Law Review*, vol. 77, issue 4, (1979), pp. 1149-1165, at pp. 1150-51; Duncan M. Davidson, *Protecting Computer Software: A Comprehensive Analysis*, *Arizona State Law Journal*, 1983, pp. 611-784.

<sup>119</sup> Bonna Lynn Horovitz, “Computer Software as a Good under the Uniform Commercial Code: Taking a Byte out of the Intangibility Myth”, *Boston University Law Review*, vol. 65 (January 1985), pp. 129-164, at p. 152. The author’s summarizes her position as follows: “Whether computer programs are classified as tangible or intangible should ultimately be irrelevant to the decision of UCC applicability. While the UCC does distinguish between goods and things in action, excluding the latter from coverage, software, no matter how it is classified, should not fall within this exclusion. Software is unlike other intangibles. It is unlike intangible legal rights, intangible laws and principles, and intangible assets. A program is intangible in the sense that it cannot be touched or felt, but not in the sense that it cannot be moved and identified to a contract.” (ibid., at p. 162).

<sup>120</sup> John Honnold (supra, note 49), p. 56.

<sup>121</sup> L. Scott Primak (supra, note 94), pp. 197-231.

<sup>122</sup> So the conclusion of Trevor Cox, *Chaos Versus Uniformity: the Divergent Views of Software in the International Community* (<http://www.cisg.law.pace.edu/cisg/biblio/cox.html>).

<sup>123</sup> The rather complex system established by the European Directives is based on the notion of “Information Society service”, which is understood as meaning “any service normally provided for

## 2. The WTO discussions: “goods”, “services” or “something else”?

As if the divergences among (and sometimes within) domestic systems were not sufficient, the private law discussion has a trade-policy and public international law counterpart that renders it even more intricate.

Recognizing that Global Electronic Commerce is growing and creating new opportunities for trade, Trade Ministers at the Second Ministerial Conference of World Trade Organization (WTO), which took place in Geneva from 17 to 20 May 1998, adopted a declaration,<sup>124</sup> to commence a work programme on the subject in the General Council of the WTO, for making recommendations to the following Ministerial Conference.

One of the first issues raised by member States concerns the classification of “virtual goods” for the purposes of the existing multilateral trade regime, namely how electronic transmissions should be characterized, that is, as goods, services or something else. This is a question of significant practical and economic importance, as the types of commitments and extent of liberalization vary greatly between trade in goods under the General Agreement on Tariffs and Trade (GATT) and the regime established by General Agreement on Trade in Services (GATS). While the generally held view is that goods ordered electronically but delivered physically would continue to attract the existing disciplines of WTO, unresolved issues remain in cases of electronic delivery of goods and services. Some of these issues are being discussed in the various bodies of the WTO including in the Council for Trade in Services, Council for Trade in Goods, Council on Trade-related Aspects of Intellectual Property Rights (TRIPS Council) and the Committee for Trade and Development.

Although it appears that most States recognized that a large majority of e-commerce activities corresponded to services (such as financial or professional services), there has been extensive argument about how to classify certain specific electronic transmissions or deliveries, in particular the electronic equivalents of CDs, photos, postcards, video tapes, software, video games, books.

Most *developing countries* seem to be concerned that ensuring the openness of electronic commerce will exacerbate the technological gap between them and developed countries. There are also fears that they might become mere consumers of e-commerce goods and services, rather than providers. Some countries also oppose the idea of open e-commerce in order to preserve the prerogative to regulate the flow

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remuneration, at a distance, by electronic means and at the individual request of a recipient of services”, except for a few exceptions such as radio and television broadcasting (see article 1, paragraph 2 and the indicative list of activities not covered by the definition in Appendix V, Directive 98/34/EC of the European Parliament and of the Council of 22 June 1998 laying down a procedure for the provision of information in the field of technical standards and regulations (*Official Journal of the European Communities* vol. L 204, 21 July 1998, pp. 37-48), as amended by Directive 98/48/EC of the European Parliament and of the Council of 20 July 1998, *Official Journal of the European Communities* vol. L 217, 5 August 1998, pp. 18-26.).

<sup>124</sup> WTO Document WT/MIN(98)/DEC/02, available from [http://www.wto.org/english/tratop\\_e/ecom\\_e/mindec1\\_e.htm](http://www.wto.org/english/tratop_e/ecom_e/mindec1_e.htm)

of foreign goods, services, and culture within their boundaries. Thus, developing countries are generally inclined to regard transactions involving “virtual goods” as trade in services. Some of them would even prefer to see “virtual goods” treated as trade in intellectual property rights,<sup>125</sup> a category that would offer least in terms of market access and trade liberalization.

While most developed countries want to ensure that there will be no future barriers to electronic commerce, because they are often the providers of services that are delivered electronically, their positions are not exactly uniform. The *European Union* maintains the position that the fact that information and instructions can be put and transmitted on a physical support does not transform them into goods for the purpose of the WTO regimes. While the physical support (e.g. the disk) itself is seen as a good, and is, therefore, subject to GATT rules, the provision of the corresponding service should remain subject to the GATS.<sup>126</sup>

Other developed countries such as *Japan*<sup>127</sup> and the *United States*,<sup>128</sup> seem to focus on the result of maximum possible liberalization rather than on the classification of various types of transactions. But at least at earlier stages of the WTO discussions, the United States openly advocated the classification of e-commerce as trade in goods.<sup>129</sup>

However divergent the views of States may be, at least the position of the world’s largest software producer is clear: States should keep treating software embedded on a tangible medium as “goods”; they should neither create a category of “virtual goods” for on-line software transmissions, nor reclassify them as trade in “services”, but rather build upon the TRIPs regime.<sup>130</sup> The United States Council for International Business (USCIB) is somewhat less emphatic, but points out that its members “do not support, at least at this juncture, a determination that differentiates a physical delivery of a product as a good and an electronic delivery of a product as a service.”<sup>131</sup>

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<sup>125</sup> See Communication of Indonesia and Singapore, WTO document WT/GC/W/247, 9 July 1999 (available in July 2003 from [http://www.wto.org/english/tratop\\_e/ecom\\_e/ecom\\_e.htm](http://www.wto.org/english/tratop_e/ecom_e/ecom_e.htm)).

<sup>126</sup> Thus, “there is no reason to artificially turn the electronic delivery of a service into a good so as to bring it under the scope of the GATT 1994” (see Submission from the European Communities, WTO document WT/GC/W/497, 9 May 2003 (ibid.)).

<sup>127</sup> Japan “agrees that the GATS disciplines should be applied to the acts of supplying digital contents by electronic means. However, as it is not entirely clear what disciplines should be applied to the digital contents themselves, for example, software, further consideration is needed. Such consideration should be directed so that the GATT principles of the most-favoured-nation treatment, national treatment and the general elimination of quantitative restrictions will apply to such digital contents” (Communication from Japan, WTO document WT/GC/W/253, 14 July 1999 (ibid.)).

<sup>128</sup> “[...] the means of delivery of such products may change but the downloadable products’ functional characteristics do not change merely by a difference in delivery. Trade rules or commitments should not prejudice which business model is optimal for developing or delivering these products. Thus, the focus should not be on how to classify these products, but rather how to treat them for trade purposes with the goal being the most liberal treatment irrespective of how such products are classified.” (Submission from the United States, WTO document WT/GC/W/493/Rev.1, 8 July 2003 (ibid.)).

<sup>129</sup> See contribution by the United States, WTO Document WT/GC/16, 12 February 1999 (ibid.).

<sup>130</sup> See “WTO and Electronic Commerce: Issues for World Trade, A Microsoft White Paper”, 8 September 1999 (<http://www.microsoft.com/issues/essays/11-15wto-b.asp>).

<sup>131</sup> “USCIB Response to the European Commission Questionnaire on the Services Aspects of the WTO Work Programme on Electronic Commerce”, 30 June 1999 (available in July 2003 from

The divergence among countries is significant, as are the economic interests involved in the WTO discussions, which is why the participating States do not seem to be anywhere near reaching a workable consensus on this matter. This situation has repercussions for a private law classification of so-called “virtual goods”, be it in a new international instrument, or in respect of existing ones, such as the United Nations Sales Convention. Arguably, States might be concerned that any classification arrived at for the purpose of private commercial law might be invoked as a precedent that could preempt their positions at trade negotiations such as those underway within WTO.

It is actually not surprising that after having being proposed as a topic for future work that might be undertaken by the UNCITRAL Working Group on Electronic Commerce,<sup>132</sup> the issue of classification and legal treatment of “virtual” or “digitalized goods” from the perspective of the United Nations Sales Convention is not currently under consideration.<sup>133</sup>

### 3. Neither goods nor services: is there room for something else?

The above discussion has focused on the divergent views concerning the applicability of uniform sales laws to software-related transactions and to sales of other “virtual goods”. The current extent of discord on this point leaves little hope for an international consensus in the near future. But even if this question remains unsettled, there are other alternatives that States could explore if there is a perceived need for uniform rules on transactions involving “virtual goods”.

One possible option might be to consider the development of a separate legal regime for software-related transactions and to “sales” of other “virtual goods”. This alternative has been proposed in view of the possible inadequacy of the United Nations Sales Convention to deal with software transactions.<sup>134</sup> One recurrent issue has been the question of whether sales law is indeed appropriate for contracts involving on-line databases, artificial intelligence systems, software, multimedia, and Internet trade in information, where the emphasis is not upon tangible goods, but upon intangibles and rights in those intangibles. Commentators criticize in fact the use of the expression “software sales” as being misleading, since transactions in

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<http://www.uscib.org/index.asp?documentID=1318>)

<sup>132</sup> See Report of the United Nations Commission on International Trade Law on the Work of its Thirty-third Session, (*Official Records of the General Assembly, Fifty-fifth session, Supplement No. 17 (A/55/17)*), para. 384.

<sup>133</sup> The report of UNCITRAL on the work of its 36<sup>th</sup> annual session, refers to the Working Group’s understanding that its work was not concerned “with the question of whether and to what extent ‘virtual goods’ were or should be covered by the United Nations Convention on Contracts for the International Sale of Goods” (*Ibid., Fifty-eighth session, Supplement No. 17 (A/58/17)*), para. 214).

<sup>134</sup> Marcus G. Larson writes that “[f]orcing an addendum to the CISG raises the specter of consumer goods being relevant to the Vienna Convention - which is a highly unlikely prospect in light of its drafting history. Therefore, the logical course is the pursuit of an international convention on computer software transactions and information licensing which would be a separate entity from the CISG. This distinction will allow the drafters to include consumer transactions in this convention without tinkering with the existing CISG provisions” (“Comment: Applying Uniform Sales Law to International Software Transactions: the Use of the CISG, Its Shortcomings, and a Comparative Look at How the Proposed UCC Article 2b Would Remedy Them,” *Tulane Journal of International and Comparative Law*, vol. 5 (Spring 1997), pp. 445-488, at p. 487).

software and “virtual goods” take the form of licenses, not sales.<sup>135</sup>

One of the original proposals for future work by UNCITRAL which were made in 1999 was to consider “the extent to which uniform rules could be extrapolated from the United Nations Sales Convention to govern dealings in services or ‘virtual goods’, that is, items (such as software) that might be purchased and delivered in cyberspace.”<sup>136</sup> If pursued to its ultimate consequences, that proposal might have involved the preparation of a new set of rules to deal with those transactions that might have obviated the need for their private law classification as either “goods” or “services”.

Such was the course that the law in the United States seemed on the verge of taking at that time. Since the mid-1990s, the National Conference of Commissioners for Uniform State Laws (NCCUSL) and the American Law Institute (ALI) had been involved in drafting various proposals for a new Article 2B of the Uniform Commercial Code (UCC). The motivation for the work was the perception that UCC Article 2, which deals with sales of goods, fits poorly with licensing of software and other computer information.

That project was not uncontroversial, though. From the beginning, the proposed new article 2B of the UCC was subject to criticism by academics, consumer groups and industry representatives.<sup>137</sup> The critics focused on the extent to which the proposed statute expanded the power and scope of contracts over existing law, especially with respect to its treatment of mass-market licenses. Critics also argued that the proposed uniform law interfered with the operation of numerous federal laws, including those relating to intellectual property, bankruptcy, and in particular, consumer protection.<sup>138</sup> On 7 April 1999, the ALI and NCCUSL announced that they were abandoning the attempt to make the proposal part of the UCC. Instead, the NCCUSL announced that it was moving forward with a freestanding uniform act, the Uniform Computer Information Transactions Act (UCITA), which was eventually adopted by NCCUSL on 29 July 1999.

The advocates of UCITA stress that the Act went a long way to clarify the law governing computer information transactions and established a coherent basis of contract law tailored for the types of transactions that characterized the information

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<sup>135</sup> Michel Vivant *et alii* (see above, footnote 107).

<sup>136</sup> Report of the United Nations Commission on International Trade Law on the Work of its Thirty-third Session, *Official Records of the General Assembly, Fifty-fifth session, Supplement No. 17* U.N. document U.N. document (A/55/17), para. 384.

<sup>137</sup> For an overview of the debate, see Maureen A. O’Rourke, “Progressing Towards a Uniform Commercial Code for Electronic Commerce or Racing Towards Nonuniformity?”, *Berkeley Technology Law Journal*, vol. 14 (Spring 1999), pp. 635-658.

<sup>138</sup> Michael Froomkin concludes his analysis of draft Article 2B as follows: “Article 2B’s enormously ambitious strategy of providing a full regime for the sale and delivery of licenses in information resembles one of these self-installing software suites. While some of the rules regarding electronic contracting may be defensible, or even sensible, the total package makes a series of policy choices, especially those displacing consumer law for online transactions and enacting a national law on non-repudiation for digital signature-based e-commerce which do not seem to be required to achieve the end of rationalizing the law of information licenses (“Article 2B as Legal Software for Electronic Contracting - Operating System or Trojan Horse?” *Berkeley Technology Law Jour* (Fall 1998), vol. 13, pp. 1023-1062, at p. 1061).

industry. Furthermore, UCITA was said to address some long-standing legal issues related to software and computer information transactions, such as the debate over the validity of “shrink-wrap” licenses.<sup>139</sup> UCITA further addressed issues of formation and terms of contracts, transfer of rights and interests, performance, warranties, and remedies. However, to protect the computer information owner, UCITA clearly established the relationship between selling a copy of computer information, and retaining the underlying intellectual property rights in the computer information.

However, despite some initial enthusiasm about UCITA, there is growing opposition to its implementation, mainly out of a perception of UCITA as being an enforcement mechanism for software developers to the detriment of consumer interests.<sup>140</sup> Over time, the arguments have evolved into a discussion of whether a new body of contract law is at all necessary for computer information, the information industry, and the Internet.<sup>141</sup>

From an international perspective, the controversy around UCITA is unfortunate. Leaving aside the controversial content of many of its provisions, UCITA had the merit of offering a number of well-conceived and ingenious solutions for handling novel issues. UCITA ended the debate surrounding whether software is a good or service by creating a third conceptual category called “computer information”, recognizing the fact that “there are similarities as well as differences between information and goods contracts.”<sup>142</sup> Even if one would disagree with the merits of its solutions, it is undeniable that UCITA could have served as a useful introduction to electronic contracting issues that might be addressed, in addition to those already included in the UNCITRAL Model Law, on a global scale.

Its failure to prosper in the United States, however, throws a negative light on UCITA as a whole and makes it hard to promote even its less contentious provisions as a source of inspiration for international uniform law.<sup>143</sup> Seen against this background, it is not difficult to understand the decision by the UNCITRAL Working Group to put aside any proposals for developing “a substantive law framework” for transactions involving “virtual goods”.<sup>144</sup>

#### D. AUTOMATED INFORMATION SYSTEMS

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<sup>139</sup> UCITA’s recognition of “shrink-wrap” licenses alone would have sufficed for some commentators as grounds for rejecting the act (for example, Roger E. Schechter, “The Unfairness of Click-on Software Licenses”, *Wayne Law Review*, vol. 46 (Winter 2000), p. 1735).

<sup>140</sup> For an overview of the criticism, see Bruce H. Kobayashi and Larry E. Ribstein (“Uniformity, Choice of Law and Software Sales”, *George Mason Law Review*, vol. 8 (Winter 1999), pp. 261-306). The authors attribute part of UCITA’s failure to its drafting process. After analyzing costs and benefits of the uniform law process, offer the alternative of contractual choice of law as a better solution (at p. 294)

<sup>141</sup> Gregory E. Maggs, “The Waning Importance of Revisions to U.C.C. Article 2”, *Notre Dame Law Review*, vol. 78 (January 2003), pp. 595-628.

<sup>142</sup> Amelia Boss, “Taking UCITA on the Road: What Lessons Have We Learned?”, *Roger Williams University Law Review*, vol. 7, pp. 167-213, at p. 173.

<sup>143</sup> “It is highly unlikely that UCITA would ever be found amenable to wholesale adoption on the international level.” (Ibid., p. 199).

<sup>144</sup> Report of the United Nations Commission on International Trade Law on the Work of its Thirty-sixth Session, *Official Records of the General Assembly, Fifty-eighth session, Supplement No. 17* U.N. document (A/58/17), para. 214.

Automated computer systems, sometimes called “electronic agents” are being increasingly used in electronic commerce and have caused scholars, in particular in the United States, to revisit traditional common law theories of contract formation to assess their adequacy to contracts that come into being without human intervention.<sup>145</sup>

### *1. Attribution issues*

Existing uniform law conventions do not seem in any way to preclude the use of automated systems, for example, for issuing purchase orders or processing purchase applications. This seems to be the case in connection with the United Nations Sales Convention, which allows the parties to create their own rules,<sup>146</sup> for example, in an EDI trading partner agreement regulating the use of “electronic agents”. The UNCITRAL Model Law also lacks a specific rule on the matter. While nothing in the Model Law seems to create obstacles to the use of fully automated systems, the Model Law does not deal specifically with those systems, except for the general rule on attribution in article 13, paragraph 2, subparagraph (b).<sup>147</sup>

Thus, other issues related to “electronic agents”, beyond the questions of attribution or non-repudiation, were mentioned as possible candidates for a third round of international legal harmonization. In an early discussion of the matter, the UNCITRAL Working Group on Electronic Commerce was of the view that, while the expression “electronic agent” had been used for purposes of convenience, the analogy between an automated system and a sales agent was not appropriate. General principles of agency law (for example, principles involving limitation of liability as a result of the faulty behaviour of the agent) could not be used in connection with the operation of such systems. The Working Group was also of the view that, as a general principle, the person (whether a natural person or a legal entity) on whose behalf a computer was programmed should ultimately be responsible for any message generated by the machine.<sup>148</sup>

Nevertheless, it is arguable that it might be useful for a new international instrument to make it clear that the actions of automated systems programmed and used by people will bind the user of the system, regardless of whether human review of a particular transaction has occurred.

At present, the attribution of actions of automated information systems to a person or legal entity is based on the paradigm that an automated information system is capable of performing only within the technical strictures of its preset programming. However, at least in theory it is conceivable that future generations of automated information systems may be created with the ability to act autonomously, and not just automatically. That is, through developments in artificial intelligence, a

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<sup>145</sup> See Anthony J. Bellia Jr., “Contracting With Electronic Agents”, *Emory Law Journal*, vol. 50 (Fall 2001), p. 1047-1092.

<sup>146</sup> United Nations Sales Convention, article 9.

<sup>147</sup> Article 13, paragraph 2, subparagraph (b) of the Model law provide that as between the originator and the addressee, a data message is deemed to be that of the originator if it was sent “by an information system programmed by, or on behalf of, the originator to operate automatically.”

<sup>148</sup> See U.N. document A/CN.9/484 (*supra*, note 25), paras. 106-107.

computer may be able to “learn through experience, modify the instructions in their own programs, and even devise new instructions.”<sup>149</sup> This possibility has led some commentators in the United States to go as far as advocating the attribution of at least some elements of legal personality to automated computer systems<sup>150</sup> or to a transposition of the general theory of agency to computer transactions.<sup>151</sup>

Such radical propositions have been criticized as offering a poor basis of acceptability to other legal systems. Civil lawyers, for example, would rather resort to general principles of law, such as “reliance” and “good faith”, to establish the link between the computer and the person on whose behalf it functions.<sup>152</sup> Commentators from other common law jurisdictions seem less enthusiastic about imposing liability upon machines and point to the flexibility of general common law principles, such as *consensus ad idem*, to accommodate the role of computers in contract formation.<sup>153</sup>

It is in any event unlikely that work undertaken by UNCITRAL could go beyond a recognition of automated information systems, as UNCITRAL has thus far categorically rejected the idea of conferring rights and obligations upon computers and other machines.<sup>154</sup>

## 2. Treatment of mistake and error

Closely related to the use of automated computer systems is the question of treatment of mistakes and errors in electronic commerce. Since the UNCITRAL Model Law on Electronic Commerce is not concerned with substantive issues that arise in contract formation, it does not deal with the consequences of mistake and error in electronic contracting.

However, recent uniform legislation enacting the Model Law, such as the Uniform Electronic Commerce Act of Canada (UECA) and the United States Uniform Electronic Transactions Act (UETA) contain provisions dealing with errors made by natural persons when dealing with an automated computer system of another person. The relevant provision in UECA (section 22) and in UETA (section 10) set forth the conditions under which a natural person is not bound by a contract in the event that the person made a material error.

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<sup>149</sup> Allen and Widdison, “Can Computers Make Contracts?” *Harvard Journal of Law and Technology* vol. 9 (Winter 1996), pp. 25-52.

<sup>150</sup> For instance, Lawrence B. Solum, “Legal Personhood for Artificial Intelligences”, *North Carolina Law Review*, vol. 70 (1992), pp. 1231-1287; Leon E. Wein, “The Responsibility of Intelligent Artifacts: Toward an Automated Jurisprudence”, *Harvard Journal of Law & Technology*, vol. 6 (1992), pp. 103-154.

<sup>151</sup> David D. Wong, “The Emerging Law of Electronic Agents: E-Commerce and Beyond,” *Suffolk University Law Review*, vol. 33 (1999), pp. 83-106.

<sup>152</sup> See Jean-Francois Lerouge, “The Use of Electronic Agents Questioned under Contractual Law: Suggested Solutions on a European and American Level”, *John Marshall Journal of Computer & Information Law*, vol. 18 (Winter 1999), pp. 403-433.

<sup>153</sup> C.C. Nicoll, “Can Computers Make Contracts?”, *The Journal of Business Law*, January 1998, pp. 35-49, at p. 42.

<sup>154</sup> The Guide to Enactment of the Model Law (*supra*, note 3) cautions that “[the] Model Law should not be misinterpreted as allowing for a computer to be made the subject of rights and obligations. Data messages that are generated automatically by computers without direct human intervention should be regarded as ‘originating’ from the legal entity on behalf of which the computer is operated.” (para. 35).

The rationale for provisions such as those contained in the UECA and in UETA seems to be the relatively higher risk of human errors being made in transactions involving a natural person, on the one hand, and an automated computer system, on the other, as compared to transactions that involve only natural persons. Errors made by the natural person in such a situation might become irreversible once acceptance is dispatched.

In favour of formulating a substantive rule on the consequences of computer errors, it could be said that other international texts, such as the *UNIDROIT Principles of International Commercial Contracts*, deal with the consequences of errors for the validity of the contract, albeit restrictively (see articles 3.5 and 3.6). However, a counter-argument could be that a provision of this type would interfere with well-established notions of contract law and might not be appropriate in the context of an instrument specifically concerned with electronic commerce, in view of the risk of duplication of legal regimes.<sup>155</sup>

A slightly different approach might be to envisage only provisions that promote best business practices, such as provisions that would induce businesses to make available procedures for detecting and correcting errors in electronic contract negotiation, without dealing with the consequences of errors for the validity of the contract. The EU Electronic Commerce Directive creates such an obligation for providers of “information society services”.<sup>156</sup>

Another issue that has been proposed for consideration by UNCITRAL is whether a new international instrument should deal with errors made by the automated system itself. At its initial discussion of this issue, the UNCITRAL Working Group on Electronic Commerce was of the view that errors made by any such system should ultimately be attributable to the persons on whose behalf they operated. Nevertheless, the Working Group recognized that there might be circumstances that justified a mitigation of that principle, such as when an automated system generated erroneous messages in a manner that could not have reasonably been anticipated by the person on whose behalf the messages were sent. It was suggested that elements to be taken into account when considering possible limitations for the responsibility of the party on whose behalf the system was operated included the extent to which the party had control over the software or other technical aspects used in programming such automated system.<sup>157</sup>

The complexity of the issues involved can be illustrated by two very similar cases where the German courts arrived at diametrically opposing results.<sup>158</sup>

Both cases related to sales of goods erroneously offered over the Internet for a price below the price intended by the seller. Both cases involved interactive applications that generated automatic replies from the seller stating that the customer’s “order”

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<sup>155</sup> This has been the repeated position of the International chamber of Commerce (*supra*, note 37).

<sup>156</sup> *Supra*, note 36, Article 11, paragraph 2.

<sup>157</sup> See U.N. document A/CN.9/484 (*supra*, note 25), para. 108.

<sup>158</sup> Oberlandesgericht Frankfurt, 20 November 2002, *JurPC - Internet Zeitschrift für Rechtsinformatik*, *JurPC WebDok* 91/2003 (<http://www.jurpc.de/rechtspr/20030091.htm>); Landgericht Köln, 16 April 2003, *JurPC Web-Dok* 138/2003 (<http://www.jurpc.de/rechtspr/20030138.htm>).

(*Auftrag*) would be immediately “carried out” (*ausgeführt*). In both cases it surmises the errors were computer-made and had occurred during processing and posting the seller’s information on web sites maintained by an independent Internet services provider. In both cases the courts affirmed the principle that automated communications were attributable to the persons on whose behalf the system had been programmed and on whose names the message were sent. Both courts regarded the advertisement of goods via the Internet as a mere invitation to treat (*invitatio ad offerendum*) and considered that a binding contract would only come into being once the seller had accepted the buyer’s bid (offer). Both courts further affirmed the legal value of the messages sent by the automatic reply function as binding expressions of intention (*Willenserklärung*) and valid acceptances for purposes of contract formation.

Nevertheless, the *Oberlandesgericht Frankfurt* found that the pricing error in the Internet advertisement vitiated the seller’s acceptance and rendered it invalid.<sup>159</sup> The *Landgericht Köln*, in turn, regarded the invitation to treat expressed through the Internet advertisement as a separate legal act from the eventual acceptance of the buyer’s offer, so that the error in the first instance did not affect the validity of the seller’s acceptance.<sup>160</sup>

While some factual differences between the two cases might have influenced their outcome,<sup>161</sup> the discrepancy between the judgements results essentially from clearly conflicting views regarding the allocation of risks for malfunctioning of commercial web sites.

### 3. Unconscionable terms, battle of the forms

One additional question concerning contract formation that comes about through the intervention, in whole or in part, of automated computer systems, is the binding effect of contract terms displayed on a video screen but not necessarily expected by a party; and the legal effect of the incorporation by reference of contractual clauses accessible through a “hypertext link”. Directly related to these questions is the issue of “battle of the forms”, which may be a serious problem in the context of electronic transactions, in particular where fully automated systems are used and no means are provided for reconciling conflicting contractual terms.

Neither of these issues are dealt with in the UNCITRAL Model Law on Electronic Commerce. Article 5 *bis* of the Model Law contains a general provision intended to uphold the legal effect of information incorporated by reference. However, the

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<sup>159</sup> “Die unrichtige Übermittlung der ‘invitation ad offerendum’ wirkte bei der infolge der entsprechenden Programmierung automatisch erstellten und dann an den Rechner des Klägers elektronisch übermittelten Annahmeerklärung der Beklagten noch fort.” (<http://www.jurpc.de/rechtspr/20030091.htm>).

<sup>160</sup> “Eine auf diesen Irrtum gestützte Anfechtung kommt gleichwohl nicht in Betracht, weil der Irrtum nach dem klägerischen Sachvortrag allenfalls bei der Einstellung der Preisangaben ins Internet, nicht aber zum massgeblichen Zeitpunkt der Abgabe der Willenserklärung vorgelegen hat.” (<http://www.jurpc.de/rechtspr/20030138.htm>).

<sup>161</sup> Such as, the fact that in the *Frankfurt* case the erroneously advertised price represented 1% of the ordinary value of the product, whereas in the *Köln* case the court found that the price, which arguably fell some 50% below the ordinary market price, was “not extraordinary” (*keine Seltenheit*) for an internet sale.

Model Law does not deal in detail with matters of contract law. Furthermore, neither the Model Law nor the United Nations Sales Convention expressly provide a solution for the well-known problem of “battle of the forms”.<sup>162</sup>

However, the magnitude of the problem and the profound differences, (both in policy and approach), in the manner in which these issues are addressed under domestic laws<sup>163</sup> seem to present insurmountable obstacles for international harmonization.

#### **E. SPECIAL OBLIGATIONS FOR WEB SITE OWNERS?**

Except for purely oral transactions, most contracts negotiated through traditional means would result in some tangible record of the transaction to which the parties can refer in case of doubt or dispute. In electronic contracting, such record, which may exist as a data message, may only be temporarily retained or may be available only to the party through whose information system the contract was concluded. Thus, some recent legislation on electronic commerce, such as the EU Electronic Commerce Directive,<sup>164</sup> requires that a person offering goods or services through information systems accessible to the public should provide means for storage or printing of the contract terms. This obligation is combined with that person’s obligation to disclose some minimum information when negotiating electronically.

The rationale for creating such specific obligations seems to be the interest of enhancing legal certainty, transparency and predictability in international transactions concluded by electronic means. The use of the Internet in international trade has become a reality and is expected to increase. It has made it possible for parties in different countries having little or even no prior knowledge or information about one another to enter into contracts nearly instantaneously. Thus, it may not be unreasonable to require certain information to be provided or technical means to be offered in order to make available contract terms in a way that allows for their storage and reproduction, in the absence of a prior agreement between the parties, such as a trading partner agreement or other type of agreements.

No similar obligations exist under the United Nations Sales Convention or most international instruments dealing with commercial contracts. The UNCITRAL Working Group has been faced with the question of whether, as a matter of principle, it should propose specific obligations for parties conducting business electronically that may not exist when they contract through more traditional means. One objection to the inclusion of disclosure obligations in a new international uniform law instrument has been that the consequences of a party failing to comply with any such obligation would have to be considered and well defined.<sup>165</sup>

The experience with the EU Electronic Commerce Directive, which imposes certain disclosure obligations for providers of “information society services” but does not

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<sup>162</sup> The United Nations Sales Convention offers an implicit solution for the question in article 19 (2). Specific rules on the matter can be found in the UNIDROIT Principles (see *supra*, note 55).

<sup>163</sup> An overview of the differences between American and European law can be found in James R. Maxeiner, “Standard Terms Contracting in the Global Electronic Age: European Alternatives”, *Yale Journal of International Law*, vol. 28, No. 1 (Winter 2003), pp. 109-182.

<sup>164</sup> *Supra*, note 36, Article 10, paragraph 1.

<sup>165</sup> See ICC comments, U.N. document A/CN.9/WG.IV/WP.96 (*supra*, note 18), Annex, at p. 6.

prescribe what the consequences are if they fail to do so has been said to create considerable legal uncertainty.<sup>166</sup> This seems indeed to be the case, as EU member States have provided a variety of different consequences, which range from administrative fines to contract law sanctions, such as the customer's right to withdraw from the contract, generating what has been called an "unfortunate"<sup>167</sup> divergence.

But what kind of sanctions could be contemplated in a uniform commercial law instrument? On the one hand, rendering commercial contracts invalid or unenforceable for failure to comply with disclosure obligations may be an undesirable and unreasonably intrusive solution. On the other hand, providing for other types of sanctions, such as tort liability or administrative sanctions, would probably be outside the scope of the work that UNCITRAL has thus far done.

The views within the UNCITRAL Working Group are thus far divided between two groups. On the one side are those who believe that obligations to disclose certain information should be left for international industry standards or guidelines, or, at the national level, for regulatory regimes governing the provision of online services, especially under consumer protection regulations, but should not be included in an international convention dealing with electronic contracting.<sup>168</sup> On the other side are those who believe that disclosure obligations of certain basic information about a business entity would promote good business practices and enhance confidence in electronic commerce.<sup>169</sup>

## CONCLUSION

Ideally, companies and consumers using the Internet to purchase or offer goods or services should be able to determine without an inordinate amount of investigation whether or not a contract has been validly concluded, whether the authentication method they use will be upheld in court, whether the contract is covered by any existing international treaty and, if not, to determine the law that will govern the transaction.

Working on a binding international consensus on all these matters will take time and effort, but there seems to be no real way around it in a globalized economy. The years to come will show how far governments are willing or able to go to achieve global uniformity for e-commerce law.

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<sup>166</sup> Ibid.

<sup>167</sup> Jane Kaufmann Winn and Jens Haubold, "Electronic promises: contract law reform and e-commerce in a comparative perspective", *European Law Review*, vol. 27 (October 2000), pp. 567-588, at p.576.

<sup>168</sup> See U.N. document A/CN.9/509 (*supra*, note 25), para.63.

<sup>169</sup> Ibid., para. 64.