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Possible future work on electronic commerce

Report of the Working Group on Electronic Commerce on its thirty-eighth session

(New York, 12-23 March 2001)

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I. Introduction

1. The United Nations Commission on International Trade Law (UNCITRAL), at its thirtieth session, in 1997, endorsed the conclusions reached by the Working Group on Electronic Commerce at its thirty-first session with respect to the desirability and feasibility of preparing uniform rules on issues of digital signatures and certification authorities and possibly on related matters (A/CN.9/437, paras. 156 and 157). The Commission entrusted the Working Group with the preparation of uniform rules on the legal issues of digital signatures and certification authorities.[1] The Working Group began the preparation of uniform rules for electronic signatures at its thirty-second session (January 1998) on the basis of a note by the Secretariat (A/CN.9/WG.IV/WP.73). At its thirty-first session, in 1998, the Commission had before it the report of the Working Group (A/CN.9/446). The Commission noted that the Working Group, throughout its thirty-first and thirty-second sessions, had experienced manifest difficulties in reaching a common understanding of the new legal issues that had arisen from the increased use of digital and other electronic signatures. However, it was generally felt that the progress achieved so far indicated that the draft uniform rules on electronic signatures were progressively being shaped into a workable structure. The Commission reaffirmed the decision it had taken at its thirtieth session as to the feasibility of preparing such uniform rules and noted with satisfaction that the Working Group had become generally recognized as a particularly important international forum for the exchange of views regarding the legal issues of electronic commerce and for the preparation of solutions to those issues.[2]

2. The Working Group continued its work at its thirty-third (July 1998) and thirty-fourth (February 1999) sessions on the basis of notes by the Secretariat (A/CN.9/WG.IV/WP.76, A/CN.9/WG.IV/WP.79 and A/CN.9/WG.IV/WP.80). At its thirty-second session, in 1999, the Commission had before it the reports of the Working Group on the work of those two sessions (A/CN.9/454 and A/CN.9/457, respectively). While the Commission generally agreed that significant progress had been made in the understanding of the legal issues of electronic signatures, it was also felt that the Working Group had been faced with difficulties in building a consensus as to the legislative policy on which the uniform rules should be based. After discussion, the Commission reaffirmed its earlier decisions as to the feasibility of preparing such uniform rules and expressed its confidence that more progress could be accomplished by the Working Group at its forthcoming sessions. While it did not set a specific time frame for the Working Group to fulfil its mandate, the Commission urged the Group to proceed expeditiously with the completion of the draft uniform rules. An appeal was made to all delegations to renew their commitment to active participation in the building of a consensus with respect to the scope and content of the draft uniform rules.[3]

3. The Working Group continued its work at its thirty-fifth (September 1999) and thirty-sixth (February 2000) sessions on the basis of notes by the Secretariat (A/CN.9/WG.IV/WP.82 and A/CN.9/WG.IV/WP.84). At its thirty-third session (2000), the Commission had before it the report of the Working Group on the work of those two sessions (A/CN.9/465 and A/CN.9/467, respectively). It was noted that the Working Group, at its thirty-sixth session, had adopted the text of articles 1 and 3-12 of the uniform rules. Some issues remained to be clarified as a result of the decision by the Working Group to delete the notion of enhanced electronic signature from the draft uniform rules. Concern was expressed that, depending on the decisions to be made by the Working Group with respect to articles 2 and 13, the remainder of the draft provisions might need to be re-examined to avoid creating a situation where the standard set by the uniform rules would apply equally to electronic signatures that ensured a high level of security and to low-value certificates that might be used in the context of electronic communications that were not intended to carry significant legal effect.

4. After discussion, the Commission expressed its appreciation for the efforts made by the Working Group and the progress achieved in the preparation of the draft uniform rules on electronic signatures. The Working Group was urged to complete its work with respect to the draft uniform rules at its thirty-seventh session and to review the draft Guide to Enactment to be prepared by the Secretariat.[4]

5. At its thirty-seventh session (September 2000), the Working Group discussed the issues of electronic signatures on the basis of a note by the Secretariat (A/CN.9/WG.IV/WP.84) and the draft articles adopted

by the Working Group at its thirty-sixth session (A/CN.9/467, annex).

6. After discussing draft articles 2 and 12 (numbered 13 in document A/CN.9/WG.IV/WP.84) and considering consequential changes in other draft articles, the Working Group adopted the substance of the draft articles in the form of the draft UNCITRAL Model Law on Electronic Signatures. The text of the draft Model Law is annexed to the report of the thirty-seventh session of the Working Group (A/CN.9/483).

7. The Working Group discussed the draft Guide to Enactment of the draft Model Law on the basis of notes by the Secretariat (A/CN.9/WG.IV/WP.86 and Add.1). The Secretariat was requested to prepare a revised version of the draft Guide reflecting the decisions made by the Working Group, based on the various views, suggestions and concerns that had been expressed at the thirty-seventh session. Owing to lack of time, the Working Group did not complete its deliberations regarding the draft Guide to Enactment. It was agreed that some time should be set aside by the Working Group at its thirty-eighth session for completion of that agenda item. It was noted that the draft UNCITRAL Model Law on Electronic Signatures, together with the draft Guide to Enactment, would be submitted to the Commission for review and adoption at its thirty-fourth session, to be held in Vienna from 25 June to 13 July 2001 (A/CN.9/483, paras. 21-23).

8. At its thirty-third session, in 2000, the Commission held a preliminary exchange of views regarding future work in the field of electronic commerce. Three topics were suggested as indicating possible areas where work by the Commission would be desirable and feasible. The first dealt with electronic contracting, considered from the perspective of the United Nations Convention on Contracts for the International Sale of Goods ("the United Nations Sales Convention"),[5] which was generally felt to constitute a readily acceptable framework for online contracts dealing with the sale of goods. It was pointed out that, for example, additional studies might need to be undertaken to determine 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. It was widely felt that, in undertaking such studies, careful attention would need to be given to the work of other international organizations such as the World Intellectual Property Organization (WIPO) and the World Trade Organization (WTO).

9. The second topic was dispute settlement. It was noted that the Working Group on Arbitration had already begun discussing ways in which current legal instruments of a statutory nature might need to be amended or interpreted to authorize the use of electronic documentation and, in particular, to do away with existing requirements regarding the written form of arbitration agreements. It was generally agreed that further work might be undertaken to determine whether specific rules were needed to facilitate the increased use of online dispute settlement mechanisms. In that context, it was suggested that special attention might be given to the ways in which dispute settlement techniques such as arbitration and conciliation might be made available to both commercial parties and consumers. It was widely felt that the increased use of electronic commerce tended to blur the distinction between consumers and commercial parties. However, it was recalled that, in a number of countries, the use of arbitration for the settlement of consumer disputes was restricted for reasons involving public policy considerations and might not easily lend itself to harmonization by international organizations. It was also felt that attention should be paid to the work undertaken in that area by other organizations, such as the International Chamber of Commerce (ICC), the Hague Conference on Private International Law and WIPO, which was heavily involved in dispute settlement regarding domain names on the Internet.

10. The third topic was dematerialization of documents of title, in particular in the transport industry. It was suggested that work might be undertaken to assess the desirability and feasibility of establishing a uniform statutory framework to support the development of contractual schemes currently being set up to replace traditional paper-based bills of lading by electronic messages. It was widely felt that such work should not be restricted to maritime bills of lading, but should also envisage other modes of transportation. In addition, outside the sphere of transport law, such a study might also deal with issues of dematerialized securities. It was pointed out that the work of other international organizations on those topics should also be monitored.

11. After discussion, the Commission welcomed the proposal to undertake studies on the three topics. While no decision as to the scope of future work could be made until further discussion had taken place in the Working Group on Electronic Commerce, the Commission generally agreed that, upon completing the preparation of the draft Model Law on Electronic Signatures, the Working Group would be expected, in the context of its general advisory function regarding the issues of electronic commerce, to examine, at its thirty-eighth session, some or all of the above-mentioned topics, as well as any additional topic, with a view to making more specific proposals for future work by the Commission at its thirty-fourth session (Vienna, 25 June-13 July 2001). It was agreed that work to be carried out by the Working Group could involve consideration of several topics in parallel as well as preliminary discussion of the contents of possible uniform rules on certain aspects of the above-mentioned topics.

12. Particular emphasis was placed by the Commission on the need to ensure coordination of work among the various international organizations concerned. In view of the rapid development of electronic commerce, a considerable number of projects with possible impact on electronic commerce were being planned or undertaken. The Secretariat was requested to carry out appropriate monitoring and to report to the Commission as to how the function of coordination was being fulfilled to avoid duplication of work and ensure harmony in the development of the various projects. The area of electronic commerce was generally regarded as one in which the coordination mandate given to UNCITRAL by the General Assembly could be exercised with particular benefit to the global community and deserved corresponding attention from the Working Group and the Secretariat.[6]

13. The Working Group on Electronic Commerce, which was composed of all States members of the Commission, held its thirty-eighth session in New York from 12 to 23 March 2001. The session was attended by representatives of the following States members of the Working Group: Algeria, Argentina, Australia, Austria, Brazil, Bulgaria, Burkina Faso, Cameroon, China, Colombia, Egypt, Fiji, Finland, France, Germany, Honduras, Hungary, India, Iran (Islamic Republic of), Italy, Japan, Kenya, Lithuania, Mexico, Nigeria, Russian Federation, Singapore, Spain, Sudan, Thailand, Uganda, United Kingdom of Great Britain and Northern Ireland and United States of America.

14. The session was attended by observers from the following States: Andorra, Azerbaijan, Bangladesh, Belgium, Canada, Côte d'Ivoire, Czech Republic, Ecuador, Greece, Indonesia, Iraq, Ireland, Jordan, Libyan Arab Jamahiriya, Morocco, New Zealand, Norway, Panama, Peru, Philippines, Poland, Portugal, Republic of Korea, Saudi Arabia, Senegal, Sierra Leone, Sweden, Switzerland, Syrian Arab Republic, the former Yugoslav Republic of Macedonia, Tunisia, Turkey, Uruguay and Venezuela.

15. The session was also attended by observers from the following international organizations:

(a) United Nations system

United Nations Educational, Scientific and Cultural Organization (UNESCO)

World Bank

World Intellectual Property Organization (WIPO)

(b) Intergovernmental organizations

African Development Bank (ADB)

European Commission

(c) International non-governmental organizations invited by the Commission

American Bar Association

Arab Society of Certified Accountants

Asian Clearing Union

Cairo Regional Centre for International Commercial Arbitration

International Maritime Committee (CMI)

Inter-American Bar Association

International Chamber of Commerce (ICC)

Society for Worldwide Interbank Financial Telecommunication

Union internationale des avocats

Union internationale du notariat latin

16. The Working Group elected the following officers:

Chairman: Jacques Gauthier (Canada, elected in his personal capacity)

Rapporteur: A. K. Chakravarti (India)

17. The Working Group had before it the following documents:

(a) Provisional agenda (A/CN.9/WG.IV/WP.87);

(b) Note by the Secretariat containing a revised Guide to Enactment of the draft UNCITRAL Model Law on Electronic Signatures (A/CN.9/WG.IV/WP.88);

(c) Notes by the Secretariat on:

(i) Possible topics for future work by UNCITRAL in the field of electronic commerce: possible convention to remove obstacles to electronic commerce in existing international conventions (A/CN.9/WG.IV/WP.89);

(ii) Dematerialization of documents of title (A/CN.9/WG.IV/WP.90);

(iii) Electronic contracting (A/CN.9/WG.IV/WP.91);

(d) A proposal by France (A/CN.9/WG.IV/WP.93).

In addition, copies of the note by the Secretariat regarding the issues of bills of lading and other maritime transport documents (A/CN.9/WG.IV/WP.69) that had been before the Working Group at its thirtieth session (1996) were supplied for ease of reference.

18. The Working Group adopted the following agenda:

1. Election of officers.
2. Adoption of the agenda.
3. Draft Guide to Enactment of the UNCITRAL Model Law on Electronic Signatures.
4. Possible future work by UNCITRAL in the field of electronic commerce.
5. Other business.
6. Adoption of the report.

II. Deliberations and decisions

19. The Working Group reviewed the draft Guide to Enactment of the UNCITRAL Model Law on Electronic Signatures. The decisions and deliberations of the Working Group with respect to the Guide are reflected in section III below. The Secretariat was requested to prepare a revised version of the Guide, based on those deliberations and decisions. It was noted that the Guide would be presented for final review and adoption by the Commission at its thirty-fourth session, together with the text of the draft Model Law, as approved by the Working Group at its thirty-seventh session.

20. The Working Group discussed possible suggestions for future work with respect to the legal issues of electronic commerce on the basis of the notes prepared by the Secretariat (A/CN.9/WG.IV/WP.89, A/CN.9/WG.IV/WP.90 and A/CN.9/WG.IV/WP.91) of the proposal by France (A/CN.9/WG.IV/WP.93), and on the basis of an oral report presented by the Secretariat regarding the issues of online dispute resolution. The deliberations and conclusions of the Working Group with respect to those issues are reflected in section IV below.

III. Draft Guide to Enactment of the UNCITRAL Model Law on Electronic Signatures

21. The Working Group expressed overall satisfaction with the structure and contents of the draft Guide to Enactment contained in part two of the annex to document A/CN.9/WG.IV/WP.88. The Working Group was invited to submit in writing to the Secretariat any non-controversial or editorial changes for consideration. The Working Group then proceeded with a paragraph-by-paragraph review of the draft guide.

22. With respect to paragraph 3, doubts were expressed as to whether the words “legal (as well as technical) interoperability is essential” appropriately reflected current practice. The view was expressed that technical interoperability, while it constituted a desirable objective, should not be regarded as a theoretical prerequisite for cross-border use of electronic signatures. It was stated, for example, that certain biometric devices were used satisfactorily in an

international context without being interoperable with digital signature devices. As to the concept of "legal interoperability", it was pointed out that it might be better formulated using more traditional terminology, such as "harmonization of legal rules". While the suggestion was made that all references to "interoperability" should be deleted from paragraph 3, the prevailing view was that mentioning technical interoperability as a means of facilitating cross-border uses of electronic signatures was important in view of recent technical developments in many countries that were geared to achieving such interoperability. After discussion, it was agreed that the words at the end of paragraph 3 should read along the lines of "legal harmony as well as technical interoperability is a desirable objective".

23. With respect to paragraph 5, a question was raised as to the meaning of the words "a media-neutral environment". It was recognized that those words as used in the UNCITRAL Model Law on Electronic Commerce reflected the principle of non-discrimination between information supported by a paper medium and information communicated or stored electronically. It was generally agreed, however, that the draft UNCITRAL Model Law on Electronic Signatures should equally reflect the principle that no discrimination should be made among the various techniques that might be used to communicate or store information electronically, a principle that was often referred to as "technology neutrality". The Secretariat was requested to prepare wording that would adequately explain those two principles.

24. With respect to paragraphs 8 and 9, it was generally felt that further explanations should be given as to the meaning of the terms "functional equivalence" and "electronic data interchange". The Secretariat was requested to prepare appropriate explanations that could be drawn from the UNCITRAL Model Law on Electronic Commerce and its Guide to Enactment.

25. With respect to paragraph 25, the Working Group noted that additional information regarding the history of the draft Model Law would need to be added after completion of the text by the Commission. It was widely felt that no attempt should be made to produce a more concise version of the historical section contained in paragraphs 12-25, a section that adequately reflected the various steps taken in the preparation of the Model Law.

26. With respect to paragraph 26, the view was expressed that language should be added in the guide to make it clear that the new Model Law was without prejudice to existing rules of private international law. It was agreed that wording should be introduced to that effect after the first sentence of paragraph 26, together with a reference to paragraph 131, which expressed a similar idea in the context of article 7, paragraph 3, of the new Model Law.

27. With respect to paragraph 27, it was suggested that stronger expression should be given to the idea that "in order to achieve a satisfactory degree of harmonization and certainty, it is recommended that States make as few changes as possible in incorporating the new Model Law into their legal systems". It was generally agreed that additional words should be introduced at the end of the sentence along the following lines: ", and that they take due regard of its basic principles, including technology neutrality, non-discrimination between domestic and foreign electronic signatures, party autonomy and the international origin of this Model Law".

28. Various proposals were made with respect to paragraph 28. One proposal was that, in view of the changes introduced in paragraph 27, paragraph 28 should be deleted as unnecessary and likely to undermine the acceptability of the new Model Law. It was widely felt, in response, that paragraph 28 was useful and adequately reflected various views that had been expressed in the preparation of the new Model Law. As a matter of drafting, another proposal was that the words "the Model Law offers guidance" should be replaced with the words "certain provisions of the Model Law offer guidance" to avoid suggesting that the Model Law dealt exclusively with public key infrastructures (PKI). Under yet another proposal, the phrase "three distinct functions that may be involved in any type of electronic signature (i.e. creating, certifying and relying on an electronic signature)" should be amended to indicate that there existed electronic signatures (including digital signatures) that did not rely on a function of certification. Accordingly, it was suggested that the above-mentioned phrase should be redrafted along the following lines: "two distinct functions that are involved in any type of electronic signature (i.e. creating and relying on an electronic signature), and a third function involved in certain types of electronic signatures (i.e. certifying an electronic signature)". That suggestion was accepted in

substance by the Working Group. A further proposal was that the words "three separate entities" did not sufficiently reflect the fact that the three functions considered in paragraph 28 could be served not only by less than three distinct persons but also by more than three parties, for example, where various aspects of the certification function were shared between different entities. After discussion, it was agreed that the words "three or more separate entities" should be used. The Secretariat was requested to review the text of paragraph 28 to ensure that it adequately covered situations where more or less than three separate entities were involved.

29. With respect to paragraph 29, it was generally agreed that a cross-reference should also be made to paragraph 65 as one of the sections of the guide where the relationship between the new Model Law and article 7 of the UNCITRAL Model Law on Electronic Commerce is discussed. In that context, the view was expressed that, where a provision of the new Model Law was derived from an article of the UNCITRAL Model Law on Electronic Commerce (e.g. article 6 of the new Model Law and article 7 of the UNCITRAL Model Law on Electronic Commerce), the guide should make it abundantly clear that only the most recent provision should be enacted.

30. With respect to paragraph 32, it was agreed that the words "key issuer or key subscriber", as used to define the "signatory function", should be deleted in order not to suggest that a signatory should necessarily be a key subscriber or a key issuer. As regards the words "those three functions are common to all PKI models", it was agreed that the text of paragraph 32 should be brought in line with paragraph 28 to refer separately to the two functions that were common to all PKI models (i.e. signing and relying on the electronic signature) and the third function that was characteristic of some PKI models (i.e. the certification function). It was also felt that the text of paragraph 32 should mirror the reference to "three or more separate entities" introduced in paragraph 28.

31. With respect to paragraph 35, it was agreed that the words "to those preparing legislation on electronic signatures" should be deleted.

32. With respect to paragraph 38, it was agreed that the word "ideally" should be deleted so as not to suggest negative implications of electronic signatures on data privacy. As a matter of drafting, it was generally felt that the words "virtually infeasible" should be replaced with "virtually impossible", to ensure consistency with the wording used in paragraph 40.

33. With respect to paragraph 42, the view was expressed that the indication that a digital signature was "useless if permanently disassociated from the message" merely stated the obvious and could also apply to handwritten signatures. It was suggested that the guide should better reflect the idea that the digital signature was technically invalid or inoperable if permanently disassociated from the message. After discussion, the Working Group decided that the word "useless" should be replaced with the word "inoperable".

34. With respect to paragraph 45, it was stated that the reference to "a high degree of confidence" would not adequately cover the situation where low-value certificates were used. With a view to covering all types of certificates, it was agreed that the last sentence of paragraph 45 should refer more generally to "a degree of confidence". As a matter of drafting, the Working Group decided that the words "to send keys" should be replaced with the words "to make keys available".

35. With respect to paragraph 47, it was decided that the words "public key encryption" should be replaced with "public key cryptography". In that context, the Secretariat was requested to review the use of the notions of encryption and cryptography throughout the Guide to ensure that both words were used adequately and consistently.

36. With respect to paragraph 48, it was suggested that the Guide should recognize that, under the laws of some States, a presumption of attribution of electronic signatures to a particular signatory could be established through publication of the statement referred to in paragraph 48 in an official bulletin or in a document recognized as "authentic" by public authorities. To that effect, it was decided that a sentence should be inserted in paragraph 48 along the following lines: "The form and the legal effectiveness of such a statement is governed by the law of the enacting State."

37. With respect to paragraph 49, the view was expressed that the Guide should not suggest that reliance on third parties was necessarily the only solution to establish confidence in digital signatures.

Accordingly, it was agreed that the opening words of paragraph 48 should read "One type of solution to some of these problems …" and that a final sentence should be added along the following lines: "Other solutions include, for example, certificates issued by relying parties." As a matter of drafting, it was suggested that the term "trusted third party" in the Guide should be replaced with the more neutral term "third party". It was explained that, in certain countries, the notion of "trusted third party" was a term of art used only to describe the narrowly defined activity of those entities which performed key escrow functions in the context of specific uses of cryptography for confidentiality purposes.

38. With respect to paragraph 50, the Working Group was reminded of the need to review the use of the notions of encryption and cryptography throughout the Guide to ensure that both words were used adequately and consistently (see A/CN.9/WG.IV/XXXVIII/CRP.1/ Add.1, para. 15). Concern was expressed that some of the elements listed among the factors of confidence that would result from the establishment of a PKI were not relevant to the sphere of electronic signatures. In particular, it was suggested that the references to cryptography as used for confidentiality purposes and to interoperability of encryption systems should be deleted. After discussion, the Working Group decided to delete those two references (listed as points 3 and 4 on the first list contained in para. 50). In the same vein, it was suggested that the list of services typically offered by PKIs to provide confidence should not refer to "deciding which users will have which privileges on the system", since such a decision pertained to the realm of system management and not to the building of confidence. In addition, it was pointed out that the reference to the provision of "non-repudiation services" in the context of a PKI was unclear. After discussion, it was decided that those two references (listed as points 4 and 8 on the second list contained in para. 50) should be deleted.

39. With respect to paragraph 52, doubts were expressed as to whether the Guide should mention the issue of Governments possibly retaining access to encrypted information. The view was expressed that point 6 should be deleted since it might reflect negatively on the role of Governments regarding the use of cryptography. The prevailing view, however, was that the issue was worth mentioning as an element of the context in which a PKI might develop, although that issue was not dealt with in the Model Law. It was decided that, in order to better focus on the legal regime of cryptography, point 6 should be rephrased along the following lines: "whether government authorities should have the right to gain access to encrypted information".

40. With respect to paragraph 53, the discussion focused on the last sentence of the paragraph. The view was expressed that the word "assurance" was misleading, since it might be read as a reference to a form of strict legal assurance or irrebuttable presumption that the digital signature had been created by the signatory mentioned in the certificate. It was suggested that the opening words of the sentence should read: "If such verification is successful, a level of assurance is provided technically ...". Doubts were expressed as to whether the last words of the sentence ("and that the corresponding message had not been modified since it was digitally signed") should be retained. In favour of deletion of those last words, it was stated that verification of the integrity of the information was an attribute of the hash function and not of the digital signature in and of itself. The view was expressed that, in order to better reflect the operation of the hash function, the end of the sentence should be replaced with the following: "and that the portion of the message used in the hash function had not been modified since it was digitally signed". The prevailing view, however, was that verification of integrity of data messages through a hash function was a feature commonly found in digital signature practice. Accordingly, it was decided that the last sentence of paragraph 53 should read along the following lines: "If such verification is successful, a level of assurance is provided technically that the digital signature was created by the signatory and that the portion of the message used in the hash function (and, consequently, the corresponding data message) had not been modified since it was digitally signed." In addition, it was decided that the Guide should be reviewed to ensure that, wherever possible, the concept of "holder of the public key named in the certificate" should be replaced with that of "signatory".

41. With respect to paragraph 54, it was suggested that the Guide should recognize that, under the laws of some States, a way of building trust in the digital signature of the certification service provider might be to publish the public key of the certification service provider in an official bulletin (see A/CN.9/WG.IV/

XXXVIII/CRP.1/Add.1, para. 16). That suggestion was accepted by the Working Group. In the context of that discussion, it was generally felt that, in finalizing the Guide, every effort should be made to ensure consistency in terminology. For example, the term "certification authority" should be replaced, where appropriate, with the term "certification service provider".

42. With respect to paragraph 57, the view was expressed that the words "Immediately upon suspending or revoking a certificate, the certification authority is generally expected to publish notice" might place an excessive burden on the certification service provider. In addition, it was stated that such publication might contradict the obligations of the certification service provider in the context of legislation protecting data privacy. After discussion, it was decided that the opening words of the last sentence of paragraph 57 should read: "Immediately upon suspending or revoking a certificate, the certification service provider may be expected to publish ...".

43. With respect to paragraph 60, the Working Group agreed that, among other requirements to be met by a certification service provider, the last sentence should mention the obligation of the certification service provider to act in accordance with the representations made by it with respect to its policies and practices, as envisaged in article 9, paragraph 1 (a).

44. With respect to paragraph 62, it was suggested that the third sentence in subparagraph 3 should be deleted. Another suggestion was that the word "proves" in subparagraph 7 should be replaced with wording along the lines of "provides a level of technical assurance". Yet another suggestion was that, in subparagraph 10, the opening sentence should read as follows: "Where the certification process is resorted to, the relying party obtains a certificate from the certification service provider (including through the signatory or otherwise), which confirms the digital signature on the signatory's message." A further suggestion was that the second sentence of subparagraph 10 should be deleted. Those suggestions were adopted by the Working Group. As regards terminology, it was generally agreed that the terms "sender" and "recipient" should be replaced with "signatory" and "relying party".

45. With respect to paragraph 67, it was generally agreed that, in order not to suggest that the new Model Law would provide solutions suitable for all "closed" systems, the words "and as model contractual provisions" should be rephrased along the lines of "and, where appropriate, as model contractual provisions".

46. With respect to paragraph 69, the suggestion was made that the Guide should place more emphasis on the use of voluntary technical standards. Accordingly, it was suggested that the following should be added at the end of the paragraph:

> "Commercial practice has a long-standing reliance on the voluntary technical standards process. Such technical standards form the bases of product specifications, of engineering and design criteria and of consensus for research and development of future products. To assure the flexibility such commercial practice relies on, to promote open standards with a view to facilitating interoperability and to support the objective of cross-border recognition (as described in article 12), States may wish to give due regard to the relationship between any specifications incorporated in or authorized by national regulations, and the voluntary technical standards process."

That suggestion was adopted by the Working Group.

47. With respect to paragraph 70, it was suggested that tort law should be listed among the bodies of law not expressly dealt with by the Model Law.

48. With respect to paragraph 72, the Working Group generally felt that the functions of handwritten signatures were adequately dealt with in paragraph 29. As a consequence, it was agreed that the paragraph should read along the following lines: "Article 7 is based on the recognition of the functions of a signature in a paper-based environment, as described in paragraph 29."

49. With respect to paragraph 76, the view was expressed that the Guide should better reflect that the Model Law was not intended to establish two different classes or categories of electronic signatures. After discussion, it was generally agreed that the second sentence ("The effect of the Model Law is to recognize two categories of electronic signatures.") should be replaced with the following: "Depending on the time at which certainty is achieved as to the recognition of an electronic signature as functionally equivalent to a

handwritten signature, the Model Law establishes two distinct regimes." For similar reasons, it was agreed that the words "(sometimes referred to as 'enhanced', 'secure' or 'qualified' electronic signatures)" should be deleted. As to the references to "The first and broader category" and "The second and narrower category", it was decided that a better rendition of the policy underpinning the Model Law would require that the text read as follows: "The first and broader regime is that described in article 7 of the UNCITRAL Model Law on Electronic Commerce. It recognizes any 'method' … The second and narrower regime is that created by the new Model Law. It contemplates methods of electronic signature …"

50. With respect to paragraph 78, the Working Group agreed that, with a view to explaining why the signatory should exercise care regarding the signature data, wording along the following lines should be inserted: "The digital signature in itself does not guarantee that the person who has in fact signed is the signatory. At best, the digital signature provides assurance that it is attributable to the signatory." In that context, the view was expressed that the guide should refer consistently to "signature creation data" and not to "signature device".

51. With respect to paragraph 80, it was generally felt that, by reference to article 9, paragraph 1 (c) (ii), the words "the person who is identified in the certificate had control of the signature device at the time of signing" should be replaced with the words "the signatory that is identified in the certificate had control of the signature creation data at the time when the certificate was issued". It was also felt that, in view of the fact that the certification service provider would not necessarily deal directly with the relying party, the words "In its dealings with the relying party" should be replaced with "For the benefit of the relying party".

52. With respect to paragraph 82, it was suggested that the opening words should refer to "criteria for the legal recognition of electronic signatures" and not merely to "the legal recognition of electronic signatures". Another suggestion was that the illustrative list of technologies provided in the paragraph should also mention symmetric cryptography. As to the operation of biometrics, it was suggested that the list should elaborate along the following lines: "biometric devices (enabling the identification of individuals by their physical characteristics, whether by hand or face geometry, fingerprint reading, voice recognition or retina scan, etc.)". Yet another suggestion was that the list should mention signature dynamics. Further suggestions were that the list should mention the possible use of "tokens" as a way of authenticating data messages through a smart card or other device held by the signatory and indicate that the various techniques listed could be used in combination to reduce systemic risk. Those suggestions were adopted by the Working Group.

53. At the close of the discussion of paragraph 82, it was suggested that a subsection should be added to section IV to reflect non-discrimination and recognition of foreign certificates as one of the main features of the Model Law. The Secretariat was requested to prepare wording to that effect, based on the deliberations of the Working Group regarding article 12.

54. With respect to paragraph 87, the view was expressed that the reference to "media-neutral rules" was inappropriate and should be replaced with a mention of "technology-neutral rules". It was generally felt that the focus of the new Model Law was on "technology neutrality" (i.e. non-discrimination between the various techniques used for the transmission and storage of information in an electronic environment). However, it was also felt that media neutrality (i.e. non-discrimination between paper-based and electronic techniques) should be mentioned as one of the objectives of the new Model Law. After discussion, it was decided that the words "media-neutral" should read "media-neutral and technology-neutral". It was suggested that the penultimate sentence of the paragraph should read as follows: "In the preparation of the Model Law, the principle of technology neutrality was observed by the UNCITRAL Working Group on Electronic Commerce, although it was aware that 'digital signatures', that is, those electronic signatures obtained through the application of dual-key cryptography, were a particularly widespread technology." The suggestion was objected to on the grounds that the role of public key cryptography should not be overemphasized. It was also suggested that the word "promising" should be substituted for "widespread". It was furthermore explained that authentication techniques such as those based on the use of personal identification numbers (PINs) or unauthenticated signatures based on

contractual arrangements could be regarded as more widespread than public key cryptography. The prevailing view, however, was that, in view of the importance of public key cryptography, the word "widespread" should be retained. The penultimate sentence was amended as initially suggested. As to the last sentence, in view of the fact that none of the provisions of the Model Law expressly altered the traditional rules governing handwritten signatures, the Working Group agreed that the sentence should be deleted.

55. With respect to paragraph 91, it was generally felt that the reference to "a duality of regimes" in the last sentence should be clarified to avoid suggesting that a particular technological approach was being used, based on various classes of electronic signatures. The Secretariat was requested to introduce wording to make it abundantly clear that the "duality" to be avoided would be the result of discrimination between electronic signatures used domestically and electronic signatures used in the context of international trade transactions.

56. With respect to paragraph 94, as a matter of drafting, it was generally felt that the words "The term 'certificate' … differs little" should be made clearer through the addition of the words "other than being in electronic rather than paper form".

57. With respect to paragraph 96, the view was expressed that the role of the certificate as establishing a link between the public key and the signatory should be made clearer. It was suggested that the paragraph should read along the following lines:

> "In the context of electronic signatures that are not digital signatures, the term 'signature creation data' is intended to designate those secret keys, codes or other elements which, in the process of creating an electronic signature, are used to provide a secure link between the resulting electronic signature and the person of the signatory. For example, in the context of electronic signatures based on biometric devices, the essential element would be the biometric indicator, such as a fingerprint or retina-scan data. The description covers only those core elements which should be kept confidential to ensure the quality of the signature process, to the exclusion of any other element that, although it might contribute to the signature process, could be disclosed without jeopardizing the reliability of the resulting electronic signature.
>
> "On the other hand, in the context of digital signatures relying on asymmetric cryptography, the core operative element that could be described as 'linked to the signatory' is the cryptographic key pair. In the case of digital signatures, both the public and the private key are linked to the person of the signatory. Since the prime purpose of a certificate, in the context of digital signatures, is to confirm the link between the public key and the signatory (see paras. 53-56 and 62, subpara. 10, above), it is also necessary that the public key be certified as belonging to the signatory.
>
> "While only the private key is covered by this description of 'signature creation data', it is important to state, for the avoidance of doubt, that in the context of digital signatures the definition of 'certificate' in article 2, subparagraph (b), should be taken to include the confirming of the link between the signatory and the signatory's public key.
>
> "Also among the elements not to be covered by this description is the text being electronically signed, although it also plays an important role in the signature-creation process (through a hash function or otherwise). Article 6 expresses the idea that the signature creation data should be linked to the signatory and to no other person (A/CN.9/483, para. 75)."

The Working Group agreed with the substance of the suggested text.

58. With respect to paragraph 118, the Working Group decided that the reference to "enhanced electronic signature" should be deleted. Accordingly, it was agreed that the first sentence should read along the following lines: "In order to provide certainty as to the legal effect resulting from the use of an electronic signature as defined under article 2, paragraph 3, expressly establishes the legal effects that would result from the conjunction of certain technical characteristics of an electronic signature."

59. With respect to paragraph 121, the Working Group was reminded of the need to ensure consistency in the use of the notion of "signature creation data".

60. With respect to paragraph 122, as a matter of drafting, it was generally agreed that the words “the time at which the signature is created” should be replaced with the words “the time of signing”. It was also agreed that reference should be made in that paragraph to paragraph 102 and that consistency should be ensured between the way in which the two paragraphs referred to the agent of the signatory.

61. With respect to paragraph 123, it was generally agreed that the third sentence (“Where a signature is used to sign a document, the idea of the integrity of the document is inherent in the use of the signature.”) should be deleted as superfluous. As a matter of drafting, it was agreed that the words “to emphasize that” in the second sentence should be replaced with the words “to emphasize the notion that”.

62. With respect to paragraph 124, the view was expressed that the last sentence (“In any circumstances, the effect of subparagraph (d) would be to create a functional equivalent to an original document.”) was too broadly stated. The Working Group decided that it should be replaced with the following: “In certain jurisdictions, the effect of subparagraph (d) may be to create a functional equivalent to an original document.” It was also agreed that the title of the paragraph should be deleted.

63. At the close of the discussion of the portion of the draft Guide dealing with article 6, several suggestions were made for the insertion of additional paragraphs. One suggestion was that explanations should be provided in the Guide as to the role and operation of article 6, paragraph 4. It was stated that the Guide should make it clear that article 6, paragraph 4, was intended to provide a legal basis for the commercial practice under which many commercial parties would regulate by contract their relationships regarding the use of electronic signatures. Appropriate wording should also be introduced to indicate that article 6, paragraph 4 (b), did not limit the possibility to rebut the presumption contemplated in article 6, paragraph 3. Another suggestion was that explanations should be provided in the Guide as to the role of paragraph 5 of article 6. It was proposed that such explanations be drawn from a combination of paragraphs 51 and 52 of the Guide to Enactment of the UNCITRAL Model Law on Electronic Commerce. Those suggestions were adopted by the Working Group.

64. With respect to paragraph 128, it was widely felt that the words “presumptions or substantive” should be deleted.

65. With respect to paragraph 129, it was decided that, to avoid suggesting that an entity dealing with the validation of electronic signatures would normally be established as a state authority, the word “always” should be deleted.

66. With respect to paragraph 130, it was decided that the word “official” should be deleted. Among the organizations listed as developing standards, it was agreed that the regional accreditation bodies operating under the aegis of the International Organization for Standardization and the World Wide Web Consortium should be mentioned. A suggestion was made to add a reference to “de facto standards” alongside industry practices and trade usages. That suggestion was objected to on the grounds that the notion of “de facto standards” was insufficiently clear and probably covered by the notion of industry practices and trade usages. As a matter of drafting, it was agreed that the word “also” should be deleted from the last sentence.

67. With respect to paragraph 132, it was suggested that wording from paragraph 139 should be replicated in the context of article 8 to indicate that “the authors of the Model Law took care not to require from a signatory a degree of diligence or trustworthiness that bears no reasonable relationship to the purposes for which the electronic signature or certificate is used. The Model Law thus favours a solution that links the obligations set forth in article 8 to the production of legally significant electronic signatures (A/CN.9/483, para. 117).” That suggestion was adopted by the Working Group. Concern was expressed that the last sentence of paragraph 132 did not make it clear whether article 8, in asserting the liability of the signatory, deviated from the general rules governing such liability. It was stated that doubts might exist, in particular, as to whether the effect of article 8 was to create strict liability or whether exonerating factors such as the conduct of the other parties could be invoked by the signatory. With a view to making it abundantly clear that the effect of article 8 was merely to establish the principle of the signatory’s liability, without dealing with any of the consequences that might be derived from that principle under the law applicable, it was agreed that the last sentence should read along the following lines: “The principle of the

signatory's liability for failure to comply with paragraph 1 is set forth in paragraph 2; the extent of such liability for failure to abide by that code of conduct is left to the law applicable outside the Model Law (see para. 136 below)."

68. In the context of the review of paragraph 134, a concern was expressed that the rule contained in article 8, paragraph 1 (b), might be difficult to operate in practice. The Working Group noted that that concern might need to be further discussed by the Commission.

69. With respect to paragraph 136, a suggestion was made to replace the words "liability should attach" with the words "liability might attach", and the words "the signature data holder should be held liable" with the words "the signature data holder could be held liable". That suggestion was objected to on the grounds that the Guide should not disregard the substance of the rule contained in article 8. As a matter of drafting, it was agreed that the word "held" should be deleted. The view was stated that the language of the text of article 8, paragraph 2, as elaborated upon by the draft Guide with respect to liability, would lead to a result contrary to market expectations and contrary to most developing practices and would be a significant problem for acceptability of the provisions of the Guide.

70. With respect to paragraph 137, it was generally agreed that the last sentence should be deleted as superfluous. The view was expressed that the words "legal effect" might not lead, by themselves, to the necessary differentiation between standards applicable to lower-value signatures, as compared with higher-value signatures.

71. With respect to paragraph 138, it was suggested that a second sentence should be inserted along the following lines: "It is important to note that, in the case of digital signatures, it must also be possible to ascertain the association of the signatory with the public key, as well as with the private key." That suggestion was adopted by the Working Group. Another suggestion was that the entire paragraph should be made "subject to article 5". It was stated that, in some jurisdictions, article 9 could be read as derogating to the general rule expressed in article 5. The prevailing view, however, was that article 5 had expressed in sufficiently broad terms the principle that contractual derogation to the Model Law was acceptable. It was widely felt that the only effect of restating the principle of article 5 in the context of certain provisions of the Model Law would be to weaken the effect of that principle as to the remainder of the Model Law. A view was stated that the language of the text of article 9, as elaborated upon by the Guide, would set up standards that were not based on market practice and were not employed by any major certification service provider, could not be met and would set barriers to the enactment of the Model Law. Under that view, the matter would need to be reconsidered by the Commission.

72. With respect to paragraph 139, as a matter of drafting, it was agreed that the words "the authors of the Model Law took care not to require" should be replaced with the words "the Model Law does not require".

73. With respect to paragraph 140, it was generally felt that the first sentence should be deleted as superfluous. Accordingly, the opening words of the paragraph should read: "Paragraph 2 leaves it up to national law ...".

74. With respect to paragraph 141, the view was expressed that no reference should be made to earlier discussions in the Working Group. The prevailing view, however, was that explanations should be given in that paragraph as to the reasoning followed by the Working Group when it adopted article 9, paragraph 2. In order not to overemphasize the role of certification service providers, it was agreed that the second sentence ("In the preparation of the Model Law, it was observed that suppliers of certification services performed intermediary functions that were fundamental to electronic commerce and that the question of the liability of such professionals would not be sufficiently addressed by adopting a single provision along the lines of paragraph 2") should be replaced as follows: "In the preparation of the Model Law, it was observed that the question of the liability of certification service providers would not be sufficiently addressed by adopting a single provision along the lines of paragraph 2." The view was expressed that the Guide should make it clear that, where a certification service provider operated under the laws of a foreign State, possible limitations to the liability of the certification service provider should be assessed by reference to the law of that foreign State. More generally, it was stated that, in determining the recoverable loss in the enacting State, weight should be

given to the liability regime governing the operation of the certification service provider in the foreign State designated by the relevant conflict-of-laws rule. It was generally agreed that appropriate mention should be made in the Guide of the need to take into account the rules governing limitation of liability in the State where the certification service provider was established or in any other State whose law would be applicable under the relevant conflict-of-laws rule. In line with that discussion, it was agreed that the words "In assessing the loss" should be replaced with the words "In assessing the liability".

75. With respect to paragraph 146, a suggestion was made that wording along the following lines should be inserted as a penultimate sentence: "These requirements are not intended to require the observation of limitations, or verification of information, not readily accessible to the relying party." Another suggestion was that a general statement should be inserted in the paragraph along the following lines: "The consequences of failure by the relying party to comply with the requirements of article 11 are governed by the law applicable outside the Model Law." Those suggestions were adopted by the Working Group. The view was expressed that, if the language in article 11 was also used in articles 8, paragraph 2, and 9, paragraph 2, it would obviate significant problems, and that this issue would need to be reconsidered by the Commission at its next session.

76. With respect to paragraph 147, it was suggested that the words "recognized as legally effective" and "an electronic signature is legally effective" should be replaced with the words "recognized as capable of being legally effective" and "an electronic signature is capable of being legally effective", respectively. That suggestion was adopted by the Working Group. Another suggestion was that the following should be added after paragraph 147: "Paragraph 1 (a) and (b), in respect of electronic signatures, is not intended to affect the application to electronic signatures of any provisions of other national or international laws under which legal effects or consequences of a signature might depend on, or arise from, where the signature is made or where the signatory has its place of business." That suggestion was objected to on the grounds that it did not sufficiently reflect the basic principle embodied in article 12, under which non-discrimination should entail that equal treatment should be given by the law of the enacting State to domestic and foreign certificates. Accordingly, foreign certificates would not necessarily be treated according to the laws of their country of origin. In the context of that discussion, another suggestion was made that the Guide should indicate that a principle of reciprocity should govern the recognition of the legal effectiveness of foreign certificates. It was generally agreed, however, that reciprocity was not a dimension of article 12. After discussion, the two suggestions were not accepted by the Working Group.

77. With respect to paragraph 150, it was suggested that the second sentence should be reformulated along the following lines: "Depending on their respective level of reliability, certificates and electronic signatures may produce varying legal effects, both domestically and abroad." It was generally agreed that the suggested wording appropriately reflected a practice where even certificates that were sometimes referred to as "low-level" or "low-value" certificates might, in certain circumstances (e.g. where parties had agreed contractually to use such instruments), produce legal effect. A question was raised as to the notion of "certificates of the same type". It was generally agreed that a difficulty might arise in the interpretation of the notion of "equivalence between certificates of the same type", as to whether it referred to certificates of the same hierarchical level or to certificates that performed comparable functions, for example by ensuring commensurate levels of security. After discussion it was agreed that the words "certificates of the same type" should be replaced with words along the lines of "functionally comparable certificates".

78. The Working Group found the remainder of paragraphs 1-155 of the draft Guide to be acceptable in substance. The Secretariat was requested to review all the provisions of the Guide to ensure consistency regarding both substance and terminology.

IV. Possible future work

79. The Working Group was reminded that the Commission, at its thirty-second session, in 1999, had taken note of a recommendation adopted on 15 March 1999 by the Centre for the Facilitation of Procedures and Practices for Administration, Commerce and Transport (CEFACT) (now the Centre for Trade Facilitation and Electronic Business) of the Economic Commission for Europe that UNCITRAL should

consider the actions necessary to ensure that references to "writing", "signature" and "document" in conventions and agreements relating to international trade allowed for electronic equivalents. The Working Group was also reminded that the Commission, at its thirty-third session, in 2000, had held a preliminary exchange of views regarding future work in the field of electronic commerce. The topics on which the Commission agreed that preliminary studies should be undertaken included electronic contracting, considered from the perspective of the United Nations Sales Convention, and dispute settlement and dematerialization of documents of title and negotiable instruments.

80. Prior to considering concrete proposals for future work in the above areas, the working group was informed about the status of work currently being done by the Secretariat or other working groups pursuant to mandates given to them by the Commission. It was noted that the Working Group on Arbitration was considering ways in which current legal instruments of a statutory nature might need to be amended or interpreted to authorize the use of electronic documentation and, in particular, to liberalize existing requirements regarding the written form of arbitration agreements. It was pointed out that online dispute settlement mechanisms were relatively recent and it remained to be seen whether specific rules were needed to facilitate their use. It was also noted that the Secretariat, in cooperation with CMI, was conducting a broad investigation of legal issues arising out of gaps left by existing national laws and international conventions in the area of the international carriage of goods by sea (a summary of that work is contained in document A/CN.9/476). Those issues included questions such as the functioning of bills of lading and seaway bills, the relation of those transport documents to the rights and obligations between the seller and the buyer of the goods and the legal position of the entities that provided financing to a party to the contract of carriage. Lastly, the Working Group was informed that the Secretariat, pursuant to a request by the Commission, was finalizing a study on issues related to security interests, which was expected to address questions that arose in connection with registry systems of non-possessory security interests. The Working Group was reminded that the International Institute for the Unification of Private Law (Unidroit) was working on a project concerning substantive law issues related to securities intermediaries and that it was important to avoid overlap with those efforts. The Working Group took note of those developments.

A. Legal barriers to the development of electronic commerce in international instruments relating to international trade

81. The Working Group noted that, in response to the recommendation adopted by CEFACT on 15 March 1999, the Secretariat had commissioned a study of the public international law issues that would be raised by the actions necessary to ensure that references to "writing", "signature" and "document" in conventions and agreements relating to international trade allowed for electronic equivalents. In the study, it was suggested that the most efficient technique for updating, under optimum conditions of speed and coverage, the definitions contained in all the different instruments inventoried in the survey conducted by CEFACT would appear to be the conclusion, at the initiative of UNCITRAL, of an interpretative agreement in simplified form for the purpose of specifying and supplementing the definitions of the terms "signature", "writing" and "document" in all existing and future international instruments, irrespective of their legal status. It was further suggested that the effectiveness of such an agreement and its widest possible coverage could be encouraged through a General Assembly resolution and through recommendations issued, in particular, by the Organisation for Economic Cooperation and Development (OECD) and the General Council of WTO. The Working Group also noted a proposal by France that the Commission should prepare an international treaty allowing for electronic equivalents of writing, signatures and documents in international trade and not merely an interpretative instrument (A/CN.9/WG.IV/WP.93).

82. The Working Group heard expressions of doubt about the need for and feasibility of undertaking future work along the lines proposed in the documentation before the Working Group. It was stated that an attempt to amend existing treaties to accommodate the use of electronic means of communication might be a daunting task given the large number of international instruments and their varying nature. It was further stated that the UNCITRAL Model Law on Electronic Commerce already provided adequate guidance for

interpreting legal requirements such as “writing”, “signature” and “original” and that, to the extent that many jurisdictions were in the process of adopting legislation on electronic commerce, there was no need for an international instrument of the type under consideration.

83. The prevailing view within the Working Group, however, was that, although the UNCITRAL Model Law on Electronic Commerce was a useful basis for modernizing domestic legislation or interpreting international instruments, the legal barriers to the development of electronic commerce posed by international instruments, in particular multilateral treaties and conventions, required special attention. It was pointed out that in many jurisdictions treaty obligations had precedence over internal legislation. Where an international instrument posed obstacles to the use of electronic means of communication, such obstacles could only be removed by another international instrument of the same hierarchical nature.

84. It was generally agreed that, if feasible, a single international instrument would be preferable to individual amendments to the various treaties and conventions in question. The views varied, however, as to the nature of the instrument that should be prepared. One line of thought was that it would be preferable to draw up a recommendation, conceivably to be adopted by the General Assembly, in which States would be invited to ensure that existing requirements such as “writing”, “signature” and “original” in international treaties and conventions were interpreted in a manner that accommodated their electronic equivalents. The countervailing view was that, given its non-binding nature, such a recommendation would not be sufficient to ensure the degree of legal certainty required by parties engaging in international transactions.

85. In the course of its deliberations, the Working Group noted that the survey of international instruments that had been conducted by CEFACT covered a wide range of international instruments and that requirements such as “writing”, “signature” and “original” did not necessarily have the same meaning or serve the same purpose in all of those instruments. It was also noted that, for the purpose of fully enabling the use of electronic means of communication, other notions frequently used in international instruments should also be examined, such as the notions of “[contract] formation”, “receipt”, “delivery”, “certified” and similar notions. Particular attention, it was said, should be given in that connection to the specific area or industry governed by each instrument.

86. Having considered the various views expressed, the Working Group agreed to recommend to the Commission to undertake work towards the preparation of an appropriate international instrument or instruments to remove those legal barriers to the use of electronic commerce which might result from international trade law instruments. It was also agreed that further study should be undertaken to enable the Working Group to recommend a particular course of action. In particular, the Working Group agreed to recommend to the Commission that the Secretariat should be requested to carry out a comprehensive survey of possible legal barriers to the development of electronic commerce in international instruments, including, but not limited to, those instruments already mentioned in the CEFACT survey. Such a study should aim at identifying the nature and context of such possible barriers with a view to enabling the Working Group to formulate specific recommendations for an appropriate course of action. The study should be carried out by the Secretariat with the assistance of outside experts and in consultation with relevant international governmental and non-governmental organizations.

B. Transfer of rights in tangible goods and other rights

87. The Working Group used as a basis for its deliberations a note by the Secretariat containing a preliminary study of legal issues related to the use of electronic means of communication for transferring or creating rights in tangible goods and transferring or creating other rights (A/CN.9/WG.IV/WP.90) and an earlier note by the Secretariat on legal issues related to the development of electronic substitutes for maritime bills of lading (A/CN.9/WG.IV/WP.69).

88. There was general agreement within the Working Group on the importance of the topics under consideration and the usefulness of examining possible electronic substitutes or alternatives for paper-based documents of title and other forms of dematerialized instruments that represented or incorporated rights in tangible goods or rights having monetary value. The views differed, however, as to the particular issues that

should be considered and the priority to be assigned to them.

89. According to one view, the question of the transferability of rights in tangible goods or other rights in an electronic environment touched upon numerous issues, such as property law, in which legal systems varied greatly. It was stated that legal questions related to the establishment of electronic registries or similar systems for transferring rights in tangible goods, recording security interests or transferring other rights were not a suitable area of work, since many jurisdictions did not have such registries and were not contemplating their establishment. Given the difficulties of attempting to develop harmonized solutions in such a broad area, issues related to transferability of rights could only lend themselves to meaningful work in narrowly defined, specific areas. One such area related to possible electronic substitutes or alternatives for paper-based documents of title and other forms of dematerialized instruments that represented or incorporated rights in tangible goods. Another area was the role of intermediaries in trading of investment securities. As regards the latter area, however, it was also stated that it might be overly ambitious to attempt to achieve consensus on substantive law issues in view of the great disparities between existing solutions in various legal systems. That difficulty, it was added, had become apparent in the course of the work being done by the Hague Conference on Private International Law towards the preparation of an international instrument on the law applicable to the taking of investment securities as collateral.

90. Another view was that it would be useful for the Working Group to examine issues related to the establishment of registries or other methods of achieving negotiability of rights through electronic means with a view to devising appropriate systems for publicizing the transfer of rights in tangible goods, security interests or other rights. As the world economy became increasingly integrated, the creation of such systems might be a helpful mechanism for enhancing legal certainty in cross-border transactions, in particular financial transactions, thus facilitating access of countries across the globe, in particular developing ones, to international capital markets.

91. In that connection, the Working Group was reminded of the current work being carried out by the Secretariat in the area of security interests, including security attaching to inventory goods, which was expected to address questions that arose in connection with registry systems of non-possessory security interests. It was suggested that the consideration by the Working Group of issues related to the establishment of electronic registries for the creation and transfer of rights in goods and other rights might usefully complement the work in the area of security interests.

92. Furthermore, it was said that an analysis of issues related to transferability of rights in an electronic environment could usefully complement the work of the Commission in the area of transport law. It was pointed out that, as a result of the current work being carried out by the Secretariat in cooperation with CMI, the Commission was expected to undertake work towards the development of a comprehensive new international regime for the international carriage of goods by sea. Thus, an analysis by the Working Group of legal issues related to the creation of electronic substitutes for paper-based transport documents would be a meaningful contribution to that other project, as it might result in the development of specific electronic commerce-focused provisions that might, at an appropriate time, become an integral part of that new international regime expected to be developed by the Commission. The Working Group's particular expertise in the area of electronic commerce might be used to design specific solutions that could be integrated into that other project at an appropriate stage.

93. The Working Group considered at some length the various views that were expressed. It was generally agreed that further study was needed in order for the Working Group to define in more precise terms the scope of future work in the area. The Working Group therefore agreed to recommend to the Commission that the Secretariat be requested to study further the issues related to transfer of rights, in particular rights in tangible goods, by electronic means and mechanisms for publicizing and keeping a record of acts of transfer or creation of security interests in such goods. The study should examine the extent to which electronic systems for transferring rights in goods could affect the rights of third parties. The study should also consider the interface between electronic substitutes for documents of title and financial documentation used in international trade, by giving attention to efforts currently under way to replace paper-based documents,

such as letters of credit and bank guarantees, with electronic messages.

C. Possible future work in the field of electronic contracting

94. The Working Group used as a basis for its deliberations a note by the Secretariat containing a preliminary study of legal issues related to electronic contracting from the perspective of the United Nations Sales Convention (A/CN.9/WG.IV/WP.91).

1. General comments

95. It was generally agreed that issues related to electronic contracting were suitable for future work by the Working Group, given the already pressing need for internationally harmonized solutions. Such work, it was stated, should probably not be aimed in substance at amending the text of the United Nations Sales Convention, which was considered to be suitable, in general terms, not only to contracts concluded via traditional means, but also to contracts concluded electronically. However, it was widely felt that, although the United Nations Sales Convention could be interpreted in a way that would make it respondent to the specific characteristics of electronic contracting, the extensive recourse to interpretation would increase the risk of disharmony in the legal solutions that might be given to electronic contracting issues. Such possible disharmony, combined with the unpredictability and the slow development of judicial interpretation, might jeopardize the harmonization effect, which had been the result of the wide adoption of the United Nations Sales Convention. In view of the urgent need for the introduction of the legal rules that would be needed to bring certainty and predictability to the international regime governing Internet-based and other electronic commerce transactions, the view was expressed that the Working Group should initially focus its attention on issues raised by electronic contracting in the area of international sales of tangible goods. In that process, efforts should be made to avoid unduly interfering with domestic regimes for the sale of goods. Broadening the scope of such work so as to include transactions involving goods other than tangible goods, such as the so-called "virtual goods" or rights in data, was an avenue that should be approached with caution, given the uncertainty of achieving consensus on a harmonized regime. Whether the new instrument to be prepared to address specifically the issues of electronic contracting would cover only the sales contract or whether it would address more generally the general theory of contracts, it was agreed that it should avoid any negative interference with the well-established regime of the United Nations Sales Convention.

2. Internationality of transactions

96. The Working Group noted that the United Nations Sales Convention applied only to contracts that were concluded between parties having their places of business in different countries. The requirement of "internationality" was "to be disregarded" under article 1, paragraph 2, "whenever [it] does not appear either from the contract or from any dealings between, or from information disclosed by, the parties at any time before or at the conclusion of the contract". In the absence of a clear indication of the parties' places of business, the question arose as to whether there existed circumstances from which the location of the relevant place of business could be inferred.

97. Against that background, the Working Group proceeded to consider which elements, in an electronic environment, were suitable for inferring the place of business of the parties. One possible solution, it was noted, might be to take into account the address from which the electronic messages were sent. For example, where a party used an address linked to a domain name connected to a specific country (such as addresses ending with ".at" for Austria, ".nz" for New Zealand, etc.), it could be argued that the place of business should be located in that country. Thus, a sales contract concluded between a party using an electronic (e)-mail address that designated a specific country and a party using an e-mail address that designated a different country would have to be considered international.

98. However, that proposition was criticized on the ground that an e-mail address or a domain name could not be automatically regarded as the functional equivalent, in an electronic environment, to the physical location of a party's place of business. It was common in certain branches of business for companies to offer goods or services through various regional web sites bearing domain names linked to countries where such companies did not have a "place of business" in the traditional sense of the term. Furthermore, goods being ordered from any such web site might be

delivered from warehouses maintained for the purpose of supplying a particular region and that might be physically located in a country other than those linked to the domain names involved.

99. It was pointed out, in that connection, that the system of assigning domain names for Internet sites had not been originally conceived in strictly geographical terms, which was evident from the use of domain names and e-mail addresses that did not show any link to a particular country, as in those cases where an address was a top-level domain such as .com or .net, for example.

100. In the course of the Working Group's deliberations, there was growing awareness of the limitations of regarding domain names and e-mail addresses alone as controlling factors for determining internationality in the Internet environment. The Working Group was also reminded of the need to devise rules that took into account the particular architecture of the Internet and did not require substantial changes in the systems currently being used. Bearing in mind those considerations, the Working Group engaged in a free exchange of views on possible avenues for further analysis.

101. One possibility offered for discussion was to establish a presumption of internationality for transactions conducted over the Internet, unless the parties clearly indicated their places of business as being located in the same country. Such a presumption could be conceived as a default rule combined with a positive obligation, for parties trading over the Internet, to clearly state their places of business. It was argued that the absence of a clear reference to a place of business could be construed to the effect that the party did not want to be located in any specific country or might want to be accessible universally. Such an approach could be combined with article 1, paragraph 2, of the United Nations Sales Convention, provided it could be presumed that anybody contracting electronically with a party that did not disclose its place of business could not have been unaware of the fact that it was contracting "internationally".

102. However, that proposition was objected to on the ground that it would result in a treatment of Internet-based sales transactions that differed from the treatment given to sales transactions conducted by more traditional means, in respect of which no such presumption of internationality existed. Furthermore, the proposed approach gave rise to the question as to whether the parties should be allowed to freely select the regime governing their transactions by choosing the place they declared to be their place of business. Such a situation was seen as undesirable, to the extent that it made it possible for the parties to transform purely domestic transactions into international ones, only for the purpose of avoiding the application of the law of a particular country.

103. The Working Group was mindful of the need to consider fully the implications of the various proposals that were made. Nevertheless, it was generally felt within the Working Group that, in the interest of achieving predictability as to the law applicable to sales transactions conducted over the Internet, it would be desirable to devise rules that allowed for a positive determination of the "place of business" of the parties for those cases where the contract was concluded electronically. That might include a positive obligation for the parties to disclose their places of business, combined with a set of default rules making it possible to settle the issue of internationality on the basis of relevant factors, in the absence of sufficient indication to that effect by the parties. In establishing such factors, every effort should be made to avoid creating a situation where any given party would be considered as having its place of business in one country when contracting electronically and in another country when contracting by more traditional means.

104. The Working Group agreed that further studies should be undertaken regarding the possible contents of a definition of "place of business" for the purposes of electronic commerce transactions. Such a study should consider, in particular, how notions commonly found in legal literature with respect to the place of business in traditional commerce, such as "stability" or "autonomous character" of the place of business, could be transposed into cyberspace. While upholding the "functional equivalence" approach taken in the UNCITRAL Model Law on Electronic Commerce, the Working Group did not exclude the possibility of having to resort to more innovative legal thinking to address issues raised by the question of internationality in connection with Internet transactions.

3. Parties to the sales transaction

105. The Working Group noted that the United Nations Sales Convention did not define the concept of "party" to a sales transaction, an issue that was left for applicable domestic law. In that context, the Working Group proceeded to consider the question of whether the increasing use of fully automated systems, for example to issue purchase orders, required an adaptation of the concept of "party" to meet the needs of electronic commerce. The Working Group further considered the question of whether such an automated system might be regarded as an electronic equivalent of an agent, as traditionally understood in contract law, and whether the party on whose behalf such an automated system was used could invoke the same defences that a party contracting through an agent could invoke under contract law.

106. At the outset of its deliberations, the Working Group noted that the issue of the "electronic agent" had been discussed by the Working Group in the context of the preparation of the UNCITRAL Model Law on Electronic Commerce. On that occasion, the Working Group had taken the view that the parties should have the possibility to freely organize any automated communication scheme. However, it had been generally felt that a computer should not become the subject of any right or obligation (see the Guide to Enactment of the UNCITRAL Model Law on Electronic Commerce, para. 35). The Working Group upheld that earlier position and was of the view that, in the context of contract formation, the use of fully automated systems for commercial transactions should not alter traditional rules on contract formation and legal capacity.

107. The Working Group was further 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 entirely appropriate and that 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 reiterated its earlier understanding that, as a general principle, the person (whether a natural or legal one) on whose behalf a computer was programmed should ultimately be responsible for any message generated by the machine.

108. 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 system was operated. 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. It was also suggested that the Working Group should consider, in that context, whether and to what extent an automated system provided an opportunity for the parties contracting through such a system to rectify errors made during the contracting process.

4. Criteria of applicability of the United Nations Sales Convention

109. The Working Group noted that in order for the United Nations Sales Convention to be applicable to an international sales contract, not only must the parties have their place of business in different countries, but those countries must also be contracting States to the Convention at a given time (art. 100). Where that criterion of applicability set forth in article 1, paragraph 1 (a), was not met, the rules of private international law of the forum must lead to the law of a contracting State, as indicated in article 1, paragraph 1 (b).

110. Mindful of the difficulties of formulating a workable definition of "place of business" in an electronic environment, the Working Group paused to consider the desirability of looking more closely at the place of conclusion of a sales contract as a connecting factor.

111. It was pointed out that articles 11-15 of the UNCITRAL Model Law on Electronic Commerce contained a number of provisions that, when applied in conjunction with traditional concepts used in the context of contract formation, allowed for a determination of the place where a contract was concluded, when that question arose in connection with a particular transaction. However, those provisions in the Model Law did not contain a positive indication of the place at which a contract should be deemed to be concluded. Consequently, they might not always allow the parties to ascertain beforehand where the contract had been concluded. It was suggested that, in the interest of

ensuring predictability and enhancing legal certainty, it would be useful for the Working Group to consider developing positive criteria for the determination of the place of conclusion of contracts in an electronic environment.

112. In response to that suggestion, it was said that determining the place of conclusion of contracts was of particular importance for the application of rules of private international law, but was of lesser relevance for the application of substantive rules of contract law, which were the focus of the Working Group's attention. The view was expressed that the Working Group would be well advised to avoid entering into the area of private international law, which was said to be best left for other organizations with particular expertise in that area.

113. The prevailing view within the Working Group, however, was that it would be appropriate for it to formulate specific rules of private international law if that became necessary to clarify issues of contract formation in an electronic environment. Although the focus of its work was not on private international law issues, the Commission had taken a flexible approach in that regard and had not hesitated to formulate appropriate solutions for issues of private international law that arose in connection with specific topics in its programme of work. As regards the particular issue under consideration, the Working Group agreed, however, that the place of conclusion of a contract, as traditionally understood in private international law, might not provide sufficient basis for a workable solution in an electronic environment and that other, more modern concepts, such as the notion of centre of gravity of a contract or other related notions, might also be considered. Particular attention should be given to the ways in which such issues were being addressed in practice, especially in standard contract terms currently in use in international trade.

5. Notions of "goods" and "sales contract"

114. The Working Group noted that the United Nations Sales Convention applied only to contracts for the international sale of "goods", a term that had traditionally been understood to apply basically to movable tangible goods, thus excluding intangible assets, such as patent rights, trademarks, copyrights, a quota of a limited liability company, as well as know-how. Against that background, the Working Group discussed the question of whether and to what extent the future instrument under consideration by the Working Group should cover transactions involving goods other than tangible movable goods, such as so-called "virtual goods" (for example, software, music or movie files or other information obtainable in electronic format).

115. There was general agreement within the Working Group that existing international instruments, notably the United Nations Sales Convention, did not cover a variety of transactions currently made online and that it might be useful to develop harmonized rules to govern international transactions other than sales of movable tangible goods in the traditional sense. The Working Group proceeded to consider what elements should be taken into account to define the scope of application of such a new international regime.

116. It was generally agreed within the Working Group that, in developing international rules for electronic contracting, a distinction should be drawn between sales and licensing contracts. In the first case, title to the goods passed from the seller to the buyer, whereas in the second case the purchaser only acquired a limited right to use the product, under conditions laid down in the licence agreement. Whether or not the products were the subject of exclusive intellectual property rights, such as copyrights, was not always essential for that distinction, since even non-copyrighted information could be the subject of a licence agreement, as was the case with information accessible online to subscribers of certain online databases or web sites. On the other hand, some transactions involving copyrighted goods, such as software, could in some cases be regarded as sales, where the particular software was incorporated in a tangible good, for example, a navigation software in an automobile, as long as the software was not being licensed separately.

117. A further distinction to be drawn, it was said, was between contracts for the sale of goods and contracts for the provision of services, even though it was recognized that, in practice, it was not always possible to draw a clear line between those types of transactions. It was pointed out that the existence of a tangible medium that could be referred to as a "good" was not always a sufficient factor for establishing such a distinction. Clear examples of the difficulty of distinguishing between goods and services could be

found in transactions involving entertainment articles such as music or video records. The sale online of articles such as minidiscs or videotapes would usually be regarded as a sale of goods, whereas the offering of online broadcasts of movies, television shows or music concerts would seem to fall into the category of services. However, modern technology also offered the possibility of purchasing digitalized music or video files that could be downloaded directly from the seller's web site, without delivery of any tangible medium. In such cases, the intent of the parties had to be more closely examined in order to determine whether the transaction involved goods or services.

118. The Working Group was also reminded of the ongoing discussions under the auspices of WTO as to whether cross-border electronic commerce transactions should be regarded as transactions involving trade in goods or trade in services. It was agreed that, although the perspective from which WTO treated the question might not coincide with that of the Commission, the views expressed within the Working Group should not prejudice the outcome of the deliberations within WTO.

6. Consumer purpose of the sales contract

119. The Working Group was reminded that, according to its article 2, subparagraph (a), the United Nations Sales Convention did not apply to sales "of goods bought for personal, family or household use, unless the seller, at any time before or at the conclusion of the contract, neither knew nor ought to have known that the goods were bought for any such use".

120. There was general agreement that any instrument that might be prepared by UNCITRAL in the field of electronic contracting should not focus on consumer protection issues. However, it was felt that keeping commercial and consumer issues completely separate in the context of electronic contracting might be difficult. It was pointed out that, in electronic selling, the contact between seller and buyer might be so minimal that it would be impossible for the seller to know whether the prospective buyer was a consumer. It was also pointed out that, in view of the many similarities between consumers and certain small businesses that would technically qualify as "merchants", maintaining a tight distinction between the two categories might be questionable policy. In that context, it was stated that the words "ought to have known" in article 2, subparagraph (a), of the United Nations Sales Convention might be difficult to apply in practice to electronic transactions. More generally, the view was expressed that the notion of "consumer" underlying the provision of article 2, subparagraph (a), might insufficiently reflect recent developments of consumer legislation in certain countries or regions.

121. Various views were expressed as to the manner in which a future instrument dealing with electronic contracting should deal with the issues of consumers. One view was that two separate instruments might need to be prepared dealing separately with consumer and commercial transactions. Another view, which was widely shared in the Working Group, was that the future instrument should deal with the issues of consumers in much the same way as article 1 of the UNCITRAL Model Law on Electronic Commerce did. The prevailing view was that further efforts should be made towards clarifying the notion of "consumer transactions" to better understand whether a distinction based on the consumer or commercial purpose of the transaction was workable in practice.

122. After discussion, the Working Group came to the preliminary conclusion that, in undertaking studies as to the possible scope of a future instrument on electronic contracting, attention should not focus on consumer protection issues. However, in view of the practical difficulty of distinguishing certain consumer transactions from commercial transactions, the issues arising in the context of consumer transactions should also be borne in mind. In any event, even if consumer transactions were eventually excluded from the scope of the instrument, further consideration should be given to defining "consumer" for the purpose of determining the scope of the instrument. In that respect, it was widely felt that the description of consumer transactions contained in article 2, subparagraph (a), of the United Nations Sales Convention might need to be reconsidered with a view to better reflecting electronic commerce practice.

7. Form requirements under the United Nations Sales Convention

123. The Working Group discussed whether contracting States that have made a declaration under article 96 should be encouraged to withdraw such declarations. A widely shared view was that such a development was desirable and would have positive

effects on both the development of electronic commerce and the unification of international trade law under the United Nations Sales Convention. The view was expressed, however, that such reservations should not necessarily be regarded as obstacles to the use of electronic commerce, provided that domestic law was sufficiently flexible to accommodate a broad definition of the written form requirement. It was generally agreed that the matter might lend itself to further examination in the context of the general work to be undertaken with respect to the removal of legal barriers to the development of electronic commerce in international instruments relating to international trade (see A/CN.9/WG.IV/XXXVIII/CRP.1/Add.4).

8. Formation of contracts: general issues

124. In the context of the discussion of the issues related to the formation of contracts, the Working Group resumed its deliberations as to whether a future international instrument on electronic contracting should be limited in scope to sales contracts or whether it should address more broadly the general issues of contract theory as applied to electronic commerce (see A/CN.9/WG.IV/XXXVIII/CRP.1/Add.8). It was generally agreed that, while examining the sales contract in the light of the United Nations Sales Convention was an appropriate starting point, the project to be undertaken should be aimed at providing predictable solutions to the broader issues of contract formation in general. While no recommendation could be made at such an early stage as to whether the instrument should eventually be prepared as an entirely new text or as a protocol to the United Nations Sales Convention, it was widely felt that the working assumption in the preparation of the instrument should be that of a stand-alone convention dealing broadly with the issues of contract formation in electronic commerce. Among possible issues to be touched upon in the instrument, the questions of contract formation through offer and acceptance, location of the parties, timing of communications, receipt and dispatch theory, the treatment of mistake or error and incorporation by reference were generally regarded as useful suggestions. In that context, the attention of the Working Group was drawn to the need to avoid duplicating the work of other organizations active in the field. The Secretariat was requested to monitor such efforts by other international organizations. It was generally felt that any project that might be aimed at the production of guidelines or general principles for application in the sphere of electronic contracting (such as possible new chapters of the Unidroit Principles of International Commercial Contracts) would be usefully supplemented by efforts of UNCITRAL to codify non-binding (or "soft law") rules in the form of an international convention aimed at increasing the certainty and predictability of the legal rules governing electronic commerce.

9. Formation of contracts: offer and acceptance

125. It was generally agreed that further analysis of electronic commerce practices should be undertaken to determine how such practices would fit in the existing legal framework of offer and acceptance. It was pointed out that electronic commerce made it possible to address specific information to multiple parties. Such information might not easily fit into the established distinctions between what might constitute an "offer" and what should be interpreted as an "invitation to treat". The parallel between online catalogues and online shopping malls, on the one hand, and the legal solutions developed in connection with catalogues and shopping malls in traditional commerce, on the other, would also need to be studied.

126. As to how consent could be manifested in online transactions, it was widely felt that the following issues, among others, might need to be studied: the acceptance and binding effect of contract terms displayed on a video screen but not necessarily expected by a party; the ability of the receiving party to print the general conditions of a contract; record retention; and the incorporation by reference of contractual clauses accessible through a hyperlink. It was pointed out that in the software industry the solutions developed concerning the acceptance of the contents of a licence agreement through opening of the package containing the tangible support of the software (a situation often referred to as a "shrink-wrap agreement") could not necessarily be replicated with respect to online delivery of the software, where agreement to the terms of the licence contract was requested from the customer prior to the conclusion of the contract (a situation often referred to as a "click-wrap agreement"). After discussion, the Working Group agreed that the expression of consent through clicking would require particular attention. A note of caution was struck, however, as to the need to maintain a technology-neutral approach to the issues of online

contract formation. While attention should be given to the various techniques through which consent might be expressed online, the rules to be developed should be sufficiently general to stand the test of—at least some—technological change. In addition, it was pointed out that a future regime of online contracting should pay attention to the situation where communication techniques used in the formation of contracts combined electronic and paper-based features. In that context, the relationship between the use of signatures and the expression of consent might need to be studied further.

10. Formation of contracts: receipt and dispatch

127. With respect to the issues of receipt and dispatch in the formation of distance contracts, it was generally agreed that any future legal instrument should preserve a degree of flexibility to endorse the use of electronic commerce techniques both in the situation where electronic communication was instantaneous and in the situation where electronic messaging was more akin to the use of traditional mail.

D. Survey of enactment of the UNCITRAL Model Law on Electronic Commerce

128. At the close of its preliminary discussion of the possible scope and contents of a future instrument on electronic contracting, the Working Group was of the view that its future work would be facilitated if detailed information could be provided as to the level of enactment of the various provisions of the UNCITRAL Model Law on Electronic Commerce. In that context it was suggested that those national statutory provisions should be identified which were sufficiently close to the Model Law for them to be considered enactments of the UNCITRAL Model Law. The Secretariat was requested to seek detailed information from member States and observers as to the form in which the general provisions of the UNCITRAL Model Law on Electronic Commerce had been enacted or were being considered for enactment in the respective countries.

129. It was recalled that the Commission had established the system for the collection and dissemination of case law on UNCITRAL texts (CLOUT) and that the system covered enactments of all texts resulting from the work of the Commission, including the UNCITRAL Model Law on Electronic Commerce.[7] That system depended on the collection of relevant decisions by national correspondents and preparation of abstracts by them in one of the official languages of the United Nations. It was considered that, since a number of countries had enacted legislation based on the Model Law, it would be desirable to report on court or arbitral decisions interpreting such national legislation. It was said that publication of abstracts of such decisions would help promote the UNCITRAL Model Law on Electronic Commerce and foster its uniform interpretation. The Working Group appealed to Governments to provide assistance to the Secretariat in obtaining information about decisions interpreting their legislation based on the UNCITRAL Model Law on Electronic Commerce.

E. Online dispute settlement

130. The Working Group noted that issues related to mechanisms for online dispute settlement were receiving increasing attention in various forums, as there was a generally felt need to offer parties to electronic commerce transactions efficient and speedy ways for solving their disputes. That need was magnified by the difficulties related to asserting jurisdiction over Internet transactions and determining the applicable law. However, notwithstanding such wide and strong interest in the topic, concrete attempts to establish online dispute settlement mechanisms were, in practice, only incipient and their results of varying degree of satisfaction.

131. The mechanism for domain name dispute resolution that had been set up by the Internet Corporation for Assigned Names and Numbers (ICANN) was mentioned as one of the few examples of a successful functioning mechanism. However, it was pointed out that the functioning of the ICANN system was facilitated by the very limited scope of the disputes that it handled, namely, only disputes involving the assignment of domain names. Furthermore, as a self-enforcing dispute settlement mechanism, the ICANN system was not faced with the difficulties linked with the enforcement of decisions made in the context of certain non-judicial dispute settlement mechanisms.

132. The Working Group was of the view that, given the importance of the topic and the wide number of

international organizations, both governmental and intergovernmental, that had ongoing projects in the area of online dispute resolution, such as ICC, the Hague Conference on Private International Law, OECD and WIPO, it would be appropriate for the Secretariat to monitor such work, and for the Commission to take such steps, as it might deem appropriate to ensure a coordinated approach.

133. It was widely felt that the relatively limited experience with online dispute settlement mechanisms made it difficult to agree at such an early stage on the exact shape of future work on the topic. It was noted that the Working Group on Arbitration had already begun discussing ways in which current legal instruments of a statutory nature might need to be amended or interpreted to do away with existing requirements regarding the written form of arbitration agreements. It was generally agreed that the Working Group should stand ready to provide its expertise to the Working Group on Arbitration at an appropriate stage. It was also agreed that a study should be prepared to examine the UNCITRAL Model Law on International Commercial Arbitration, as well as the UNCITRAL Arbitration Rules, with a view to assessing their appropriateness for meeting the specific needs of online arbitration.

F. Relative priority of future work topics

134. The Working Group agreed to recommend to the Commission that work towards the preparation of an international instrument dealing with certain issues in electronic contracting be begun on a priority basis. At the same time, it was agreed to recommend to the Commission that the Secretariat be entrusted with the preparation of the necessary studies concerning three other topics considered by the Working Group, namely: (a) a comprehensive survey of possible legal barriers to the development of electronic commerce in international instruments, including, but not limited to, those instruments already mentioned in the CEFACT survey; (b) a further study of the issues related to transfer of rights, in particular, rights in tangible goods, by electronic means and mechanisms for publicizing and keeping a record of acts of transfer or the creation of security interests in such goods; and (c) a study discussing the UNCITRAL Model Law on International Commercial Arbitration, as well as the UNCITRAL Arbitration Rules, to assess their appropriateness for meeting the specific needs of online arbitration.

135. The Working Group was mindful of the limited resources available to the Commission's secretariat and acknowledged that it might not be feasible to expect those additional studies to be prepared before the thirty-fifth session of the Commission.

Notes

[1] *Official Records of the General Assembly, Fifty-second Session, Supplement No. 17* (A/52/17), paras. 249-251.

[2] Ibid., *Fifty-third Session, Supplement No. 17* (A/53/17), paras. 207-211.

[3] Ibid., *Fifty-fourth Session, Supplement No. 17* (A/54/17), paras. 308-314.

[4] Ibid., *Fifty-fifth Session, Supplement No. 17* (A/55/17), paras. 380-383.

[5] See *Official Records of the United Nations Conference on Contracts for the International Sale of Goods, Vienna, 10 March-11 April 1980* (Unitd Nations publication, Sales No. 81.IV.3).

[6] *Official Records of the General Assembly, Fifty-fifth Session, Supplement No. 17* (A/55/17), paras. 384-388.

[7] For a recent report on the system, see *Official Records of the General Assembly, Fifty-fifth Session, Supplement No. 17* (A/55/17), paras. 413-415.