United Nations A/CN.9/936

General Assembly

Distr.: General
27 April 2018

Original: English

United Nations Commission on International Trade Law
Fifty-first session
New York, 25 June–13 July 2018

Report of Working Group IV (Electronic Commerce) on the work of its fifty-sixth session (New York, 16–20 April 2018)

Contents

V.18-02756 (E) 300418 020518

Please recycle

I. Introduction

1. At its forty-ninth session, in 2016, the Commission confirmed its decision that the Working Group could take up work on the topics of identity management (IdM) and trust services as well as of cloud computing upon completion of the work on the draft Model Law on Electronic Transferable Records. The Commission was of the view that it would be premature to prioritize between the two topics. It was mentioned that priority should be based on practical needs rather than on how interesting the topic was or the feasibility of work. The Secretariat, within its existing resources, and the Working Group were asked to continue to update and conduct preparatory work on the two topics including their feasibility in parallel and in a flexible manner and report back to the Commission so that it could make an informed decision at a future session, including the priority to be given to each topic.[1] At its fiftieth session, in 2017, the Commission reaffirmed that mandate and requested the Secretariat to consider convening expert group meetings as it deemed necessary to expedite the work in both areas and ensure the productive use of conference resources by the Working Group. States and international organizations were invited to share with the Working Group and the Secretariat their expertise in the relevant areas of work.[2]

2. The Working Group considered both topics at its fifty-fourth and fifty-fifth sessions. In the area of cloud computing, the Working Group decided to recommend to the Commission the preparation of a checklist of major issues that contracting parties might wish to address in cloud services contracts (A/CN.9/902, para. 15). In the area of IdM and trust services, the Working Group identified the legal recognition and mutual recognition of IdM and trust services as the goals of the work of UNCITRAL in that area (A/CN.9/902, para. 45) and agreed that party autonomy, technological neutrality, functional equivalence (with special considerations applicable to IdM) and non-discrimination would guide that work (A/CN.9/902, paras. 52 and 63). The Working Group asked the Secretariat to revise document A/CN.9/WG.IV/WP.143 by including definitions and concepts listed in paragraph 20 of document A/CN.9/WG.IV/WP.144 (A/CN.9/902, para. 92).

3. In preparation for the fifty-sixth session of the Working Group, the Secretariat convened an expert group meeting on contractual aspects of cloud computing in Vienna on 20 and 21 November 2017 and an expert group meeting on legal aspects of IdM and trust services in Vienna on 23 and 24 November 2017. (For further background information, see A/CN.9/WG.IV/WP.147, paras. 6–8 and 14–16.)

II. Organization of the session

4. The Working Group, composed of all States members of the Commission, held its fifty-sixth session in New York from 16 to 20 April 2018. The session was attended by representatives of the following States members of the Working Group: Argentina, Armenia, Austria, Brazil, Burundi, Canada, Chile, China, Cyprus, Czechia, Denmark, France, Germany, Greece, Honduras, Hungary, India, Indonesia, Israel, Italy, Japan, Kenya, Lebanon, Libya, Mexico, Nigeria, Panama, Philippines, Republic of Korea, Romania, Russian Federation, Singapore, Spain, Thailand, Turkey, United States of America and Venezuela (Bolivarian Republic of).

5. The session was also attended by observers from the following States: Algeria, Belgium, Dominican Republic, Iraq, Norway, Saudi Arabia, Sudan and Syrian Arab Republic.

6. The session was also attended by observers from the Holy See and the European Union.

[1] *Official Records of the General Assembly, Seventy-first Session, Supplement No. 17* (A/71/17), paras. 235 and 353.

[2] Ibid., *Seventy-second Session, Supplement No. 17* (A/72/17), para. 127.

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

(a) *United Nations system*: World Bank;

(b) *International non-governmental organizations*: American Bar Association (ABA), the China Society of Private International Law (CSPIL), Grupo Latinoamericano de Abogados para el Derecho del Comercio Internacional (GRULACI), Global System for Mobile Communications Association (GSMA), International Association of Young Lawyers (AIJA), Jerusalem Arbitration Centre (JAC), Law Association for Asia and the Pacific (LAWASIA), Moot Alumni Association (MAA) and Union Internationale du Notariat (UINL).

8. The Working Group elected the following officers:

Chairperson: Ms. Giusella Dolores FINOCCHIARO (Italy)

Rapporteur: Sra. Ligia C. GONZÁLEZ LOZANO (Mexico)

9. The Working Group had before it the following documents: (a) annotated provisional agenda (A/CN.9/WG.IV/WP.147); (b) a draft checklist of main contractual aspects of cloud computing contracts (A/CN.9/WG.IV/WP.148); (c) a note by the Secretariat containing updates on the preparatory work held by the Secretariat on IdM and trust services (A/CN.9/WG.IV/WP.149); (d) a note containing revised definitions of terms and concepts relevant to identity management and trust services (A/CN.9/WG.IV/WP.150); and (e) a proposal by the United States on contractual aspects of cloud computing (A/CN.9/WG.IV/WP.151).

10. The Working Group adopted the following agenda:

1. Opening of the session.
2. Election of officers.
3. Adoption of the agenda.
4. Contractual aspects of cloud computing.
5. Legal issues related to identity management and trust services.
6. Technical assistance and coordination.
7. Other business.
8. Adoption of the report.

III. Deliberations and decisions

11. The Working Group held a reading of the draft checklist of main contractual aspects of cloud computing contracts contained in document A/CN.9/WG.IV/WP.148, taking into account comments on the draft submitted by the United States (A/CN.9/WG.IV/WP.151). The Working Group requested the Secretariat to revise the text reflecting the deliberations and decisions of the Working Group at the session, found in chapter IV of this report, and to submit a revised text for review and approval by the Commission. The recommendations of the Working Group to the Commission on agenda item 4 may be found in paragraphs 17 and 44 of this report.

12. The Working Group continued consideration of legal issues related to IdM and trust services on the basis of notes by the Secretariat (A/CN.9/WG.IV/WP.149 and A/CN.9/WG.IV/WP.150). The deliberations and decisions of the Working Group on legal issues related to IdM and trust services are found in chapter V of this report. The recommendations of the Working Group to the Commission on agenda item 5 may be found in paragraph 95 of this report.

IV. Contractual aspects of cloud computing

A. Comments on a draft checklist contained in document A/CN.9/WG.IV/WP.148

1. General comments (form of the work and drafting style)

13. The Working Group expressed appreciation to the experts who contributed to the preparation of the draft contained in document A/CN.9/WG.IV/WP.148 and to the Secretariat. It was indicated that the draft covered most issues that were intended to be covered. The prevailing view was that providing an explanation of main issues arising in connection with cloud computing contracts would be essential for the document to be helpful. The view was also expressed that the Working Group could consider inserting additional explanations where useful.

14. The Working Group recalled its decision to prepare a checklist of main contractual issues related to cloud computing contracts, which should not provide guidance on best practices or recommendations (A/CN.9/902, para. 15). The Working Group reaffirmed its decision that the document should not favour a particular contracting party or recommend a particular course of action on legal or practical issues. It was explained that a fully neutral and descriptive style would be appropriate in the light of rapidly evolving practices and delicate issues involved. The Secretariat was requested to revise the draft in light of those considerations.

15. The Working Group noted that, although some existing UNCITRAL documents could be used as a model for preparing a checklist, no UNCITRAL text was entitled "checklist". The suggestion was made to entitle the document "notes" in order not to convey a message that the preparation of a simple list of issues relevant to contracting parties, without any explanation of those issues, was intended. The Working Group agreed to refer to the document as "Notes on main issues of cloud computing contracts".

16. The Working Group discussed the Secretariat's suggestion that the document could be prepared as an online reference tool, which would allow presenting its content in a more-user friendly way and updating it more rapidly when necessary. Questions were raised on how that approach would differ from the existing policy on posting UNCITRAL texts on the UNCITRAL website, how the online content would be kept up to date and how the feedback from readers would be analysed and presented to UNCITRAL for further improvement of the tool. In that respect, it was explained that, while all UNCITRAL documents were already available electronically, it was possible to envisage different types of interactive documents.

17. The view was expressed that the Working Group would need to consider in due time ways of keeping the document comprehensive and relevant. Some delegations found the suggestion attractive in the light of that need. Several delegations acknowledged that preparing an online reference tool would constitute a significant departure from the existing policy on posting UNCITRAL texts on the UNCITRAL website as reproductions of printed documents. It was noted that the suggested approach would have broader implications. For those reasons, those delegations expressed the need to analyse further details as well as budgetary and other implications. After discussion, the Working Group recommended to the Commission to request the Secretariat to prepare a note setting out considerations relating to the preparation of the suggested online reference tool.

2. Introduction (paras. 1–7)

18. No comments were made with respect to that part of the document.

3. Part One. Main pre-contractual aspects (paras. 8–29)

19. The Working Group agreed: (a) to replace in paragraphs 11 and 15 and elsewhere, references to "assurances" with references to "contractual commitments";

(b) to highlight in paragraphs 10 and 11 that compliance with data localization requirements set forth in applicable law would be of paramount importance for the parties, and that the contract could not override those requirements; (c) to replace in paragraph 15(h) the word “evidence” with another term, such as “information”; (d) to replace in paragraph 15(i) the phrase “financial standing” with “financial viability”; and (e) to add a reference to risks arising from the insufficient isolation of data and other content in cloud computing infrastructure.

20. In response to the suggestion to move paragraphs 17 and 18 to part two, the view was expressed that it was desirable to highlight intellectual property (IP) infringement risks and associated costs among issues to be assessed at the pre-contractual stage. It was explained that unsophisticated parties in developing countries might be particularly unaware that IP infringement might indeed arise because of the move of data and other content to the cloud.

4. Part Two. Drafting a contract (paras. 30–172)

21. With respect to section A, the Working Group agreed: (a) to delete the last sentence in paragraph 30; (b) to redraft paragraph 36 to the effect that applicable law may require a contract in paper form for specific purposes, such as tax purposes, although that would not be considered a desirable practice in light of the general goal to promote the use of electronic means; and (c) to add in paragraph 38 a reference to the effects of the termination of the contract.

22. With respect to section B, the Working Group agreed: (a) to redraft the second sentence in paragraph 39 to the effect that the applicable law would specify the information needed to ascertain the legal personality of a business entity and its capacity to enter into a contract; and (b) to delete paragraph 40.

23. With respect to section C, the Working Group agreed: (a) to clarify in paragraph 42 that the phrase “applicable standards” referred to technical, and not legal standards; (b) to redraft paragraph 43 to indicate that different commitments (i.e. obligations of result or of best efforts) could be agreed upon depending on circumstances, including the value of the contract, and that the type of commitment would have implications on the burden of proof in case of dispute; (c) to highlight in paragraph 43 that the formulation of performance parameters may require the involvement of information technology (IT) specialists; (d) to shorten the examples provided after paragraph 43, in particular by deleting explanations of terms and concepts appearing elsewhere; (e) to add in paragraph 48 that attention should be given to the fact that in a few jurisdictions the law could impose duties on the provider as regards the content hosted on its cloud infrastructure, e.g. the duty to report illegal material to public authorities, which might have privacy and other ramifications, and that the provider would be unable to transfer those duties to the customer and to end-users by acceptable use policies (AUP) or otherwise; (f) to reflect in paragraph 49 that AUP may restrict not only the type of content that may be placed on the cloud but also the customer’s right to give access to data and other content placed on the cloud to third parties (e.g. nationals of certain countries or persons included in sanctions lists); (g) to delete the second sentence in paragraph 54; and (h) to replace “would” with “could” in the last sentence of paragraph 64. The question was raised under which applicable law content placed on the cloud would be considered illegal.

24. With respect to section D, the Working Group agreed: (a) to delete the phrase “non-binding” in paragraph 80 and elsewhere where that qualifier was used with reference to contractual terms; and (b) in paragraphs 79–81, to consider replacing the phrase “data deletion” with the phrase “data erasure” or describing the term “data deletion” in the Glossary. The point was made that the same term should be used throughout the document.

25. No comments were made with respect to section E.

26. With respect to section F, it was agreed that paragraph 92 should be moved from that section to section G.

27. With respect to section G, the Working Group agreed: (a) to delete the last sentence in paragraph 99; (b) to move paragraphs 100 and 101 from that section to a separate section that would be entitled “Suspension of services”; (c) to add in paragraphs 102–103 or in other appropriate sections of the document a discussion of consequences for the customer, such as migration costs, arising from unilateral changes of the terms and conditions of the contract by the provider; and (d) to replace the phrase “contractual documents” with the phrase “different documents forming the contract” in paragraph 102. The suggestion to delete the last sentence of paragraph 98 did not gain support.

28. With respect to section H, the Working Group agreed to eliminate repetitions in paragraphs 108–111 and better illustrate issues relating to “back-to-back” contracts. In that respect, it was mentioned that alignment of linked contracts would be necessary not only for data protection purposes but also for ensuring confidentiality, compliance with data localization requirements and safeguards in case of insolvency, among others.

29. With respect to section I, the Working Group agreed: (a) to delete reference to “security incidents” in the second sentence of paragraph 114; (b) to redraft paragraph 118 to convey that clauses containing disclaimers and limitations of liability, if agreed upon by the parties, would need to be included in the contract, and that the applicable law might impose additional form or other requirements for the validity and enforceability of those clauses; and (c) to add an informative example at the end of paragraph 121 along the following lines “Waiver of liability in cases where the customer has no control or ability to effect security may be found abusive”.

30. No comments were made with respect to section J.

31. With respect to section K, the Working Group agreed: (a) to redraft paragraph 131 by eliminating recommendations contained therein; and (b) to redraft the first sentence of paragraph 136 as follows: “Certain modifications to the contract by the provider may not be acceptable to the customer and may justify termination of the contract.”

32. With respect to section L, the Working Group agreed to redraft paragraph 147 to convey that the provider should not be expected in all cases to offer proactive assistance with migrating customer’s data back to the customer or to another provider, but should ensure that migration was possible and simple. With respect to the same section, the Working Group noted that a consequential change would need to be made in paragraph 148 to reflect the modifications to be made in the section on data deletion (see para. 24 above).

33. With respect to section M, the Working Group agreed to add a subsection on online dispute resolution (ODR) in the light of the relevance and importance of ODR to resolution of disputes arising from cloud computing transactions and taking into account UNCITRAL’s work in that area.

34. No comments were made with respect to sections N, O and P.

35. With respect to section Q, the Working Group agreed to delete the last sentence in paragraph 170.

36. The suggestion was made to repeat the content of paragraph 15 in part two of the document as the elements listed therein were relevant at both pre-contractual and contract drafting stages. The other view was that some of the items listed in that paragraph were already discussed in part two, and that the Secretariat might consider adding in that part the discussion of other relevant items. The Working Group requested the Secretariat to add the discussion of other relevant items in part two.

5. Glossary

37. Concerns were raised about the translation of some terms, such as cloud computing, IaaS and public cloud, to Russian. Assistance was offered with finding the correct terminology in the area of cloud computing in the Russian language.

38. With respect to the term "Acceptable use policy (AUP)", it was suggested that the phrase "according to the applicable law" be added at the end of the description of that term in the Glossary. Another suggestion was to delete the examples from that description or, alternatively, expand them to encompass other content that, although not illegal or prohibited by law, could not be placed in the cloud under the terms of the AUP. The Working Group decided to delete examples from the description of the term.

39. The Secretariat was requested: (a) to spell out all abbreviated terms used for the first time in the Glossary; (b) to improve the description of the term "cloud computing services"; (c) to consider including a separate description of the term "data subject" (currently that term appeared in the description of the term "personal data"); (d) to shorten the description of the term "lock-in" by moving some elements from that description to paragraphs 19 to 21 and inserting in that description references to those paragraphs; (e) to refer in the description of the term "personal data" to both sensitive and non-sensitive data; (f) to insert the term "personal" before the word "data" at the end of the description of "personal data processing", and to retain the words "personal data" before the word "processing" in that same description; (g) to add the description of the term "security incident"; and (h) to replace the last part of the description of the term "Service Level Agreement (SLA)", reading "how they should be delivered (the **performance parameters**)", with the phrase "the level of service expected or to be achieved under the contract (the **performance parameters**)".

40. The suggestion was to quote in the Glossary well-known cloud computing terms, such as IaaS or PaaS, from applicable international technical standards. The other view was that, although it was important to ensure compliance of all descriptions of the terms listed in the Glossary with the definitions found in international technical standards, descriptions in the Glossary should be easily understandable also by non-specialists. The Secretariat was requested to retain in the Glossary descriptions of technical terms frequently used in the text to facilitate understanding of the document. The Secretariat was also requested to ensure compliance of those descriptions with the definitions of relevant terms in international technical standards.

41. In response to the suggestion to add a description of the term "due diligence" in the Glossary and to convey therein that undertaking due diligence might be important for both contracting parties, the view was expressed that the substantive concerns underlying the proposal should be addressed in the main part of the text and not in the Glossary. The Secretariat was requested to keep providers' perspectives in mind when revising section B of part one. In particular, the point was made that the provider might be interested in verifying the customer's standing vis-à-vis criteria listed in paragraph 15.

B. Recommendation to the Commission as regards further work in the area of cloud computing

42. The Secretariat was requested to revise the draft document reflecting deliberations at the session. Various views were expressed on whether a revised draft should be further considered by the Working Group. After discussion, the prevailing view was that it should not be, and that a recommendation should be made to the Commission that the final document would be issued as a Secretariat document in the light of the limited involvement of the Working Group in drafting the document. However, the appropriateness of issuing the document as a Secretariat work product after the Working Group's detailed consideration of the draft and ensuing instructions to the Secretariat on its revision was questioned.

43. The Working Group also considered whether to recommend to the Commission any further work in the area of cloud computing. Private international law issues were highlighted as important issues to consider. The Working Group recalled its decision taken at the fifty-fifth session (see para. 14 above) and reaffirmed at the current session that no guidance on best practices or recommendations should be provided. The prevailing view was that it was not feasible and desirable to undertake further work in that area. The point was made that the draft document raised a number of legal issues that would need to be further analysed, and that proposals for future work might be made in the future on that basis.

44. The Working Group decided to recommend to the Commission to review the document to be prepared by the Secretariat and authorize its publication or issuance in the form of an online reference tool, in both cases as a work product of the Secretariat. The point was made that appropriate amount of time would need to be allocated for discussion of the document by the Commission. It was indicated that, taking into account the need to revise and translate the document, such discussion might take place at the earliest during the fifty-second session of the Commission, in 2019. The understanding was that the Commission, when considering the document, might decide to refer the draft back to the Working Group for further consideration.

V. Legal issues related to identity management and trust services (A/CN.9/WG.IV/WP.149 and A/CN.9/WG.IV/WP.150)

A. General comments

45. The Secretariat introduced working papers A/CN.9/WG.IV/WP.149 and A/CN.9/WG.IV/WP.150. The Secretariat in particular reported on the main conclusions of the expert group meeting held in Vienna, on 23 and 24 November 2017, and invited the Working Group to consider the issues listed in paragraph 32 of document A/CN.9/WG.IV/WP.149.

46. The Working Group agreed to proceed with the consideration of issues listed in paragraph 32.

B. Consideration of legal aspects of IdM and trust services

47. The Working Group considered paragraph 32(a) of document A/CN.9/WG.IV/WP.149. Several delegations pointed to the lack of cross-border recognition as a main legal obstacle to the broader use of IdM and trust services that could be addressed by the Working Group. It was explained that the need to identify business partners in a legally enforceable manner was of paramount importance to promote trade across borders. However, it was added, lack of legal harmonisation, e.g. when laws referred to different definitions and attributed different legal effects, prevented mutual legal recognition of IdM and trust services.

48. The Working Group also recognized the need to achieve technical interoperability for removing obstacles to the use of IdM and trust services across borders, at the same time agreeing that those aspects would be outside the work of UNCITRAL in this field.

49. While acknowledging the importance of functional equivalence and other fundamental principles that guided UNCITRAL work in the area of electronic commerce, the view was also expressed that the Working Group should not limit itself to the task of removing legal obstacles by formulating functional equivalence rules like those already found in existing UNCITRAL texts. It was suggested that the formulation of substantive rules might be unavoidable. However, it was also indicated that future work should focus on cross-border aspects and respect existing national rules. In response, doubts were expressed about the feasibility of non-interfering with

domestic processes since identity schemes were determined domestically. It was added that developing countries may particularly benefit from further guidance on both national and international legal aspects of IdM and trust services.

50. Reference was made to document A/CN.9/WG.IV/WP.144 that was before the Working Group at its fifty-fifth session. The Working Group was invited to use that document as a road map for discussion. Support was expressed for starting substantive deliberations on levels of assurance and the principle of proportionality of security before other legal issues. It was indicated that level of assurance was a notion relevant for both IdM and trust services.

51. Doubts were expressed about the desirability of referring to the notion of levels of assurance in the commercial context where establishing minimum criteria for trust could be sufficient. The need to respect freedom of parties in choosing identification mechanisms in business transactions and allocating risks accordingly was emphasized. Concern was expressed that levels of assurances might interfere with such freedom, in particular, if strict compliance was requested. (For further discussion of levels of assurance, see paras. 54–56, 76–77 and 80–82 below). The Working Group was invited to consider existing international instruments aimed at ensuring mutual recognition of legal effects across borders in the paper environment, such as the Convention Abolishing the Requirement of Legalisation for Foreign Public Documents (The Hague, 5 October 1961) (the "Apostille Convention")[3] and the Protocol on Uniformity of Powers of Attorney which are to be Utilized Abroad (Washington, 17 February 1940),[4] which might offer guidance on minimum elements for cross-border mutual recognition of IdM and trust services.

52. With respect to the scope of the work and the question raised in paragraph 32(b) of document A/CN.9/WG.IV/WP.149, the difficulty of distinguishing between commercial and non-commercial, and public and private aspects in the IdM and trust services context was acknowledged. While there was broad agreement that the mandate of UNCITRAL pertained to trade and that the main goal of possible future work should therefore focus on enabling commercial transactions, several delegations expressed the view that distinctions based on the nature of the participants and the type of transaction should be avoided given the possibility of using public IdM and trust services for commercial transactions and, conversely, of using commercial IdM and trust services for public transactions. It was indicated that IdM schemes could be used for a broad range of purposes, including regulatory compliance. In that respect, it was recalled that a significant obstacle to cross-border trade arose in the context of paperless trade facilitation from the limited acceptance of foreign IdM and trust services by public authorities. It was added that UNCITRAL texts on electronic commerce found frequent application in non-commercial transactions. The point was also made that entities and transactions could be characterized differently in different jurisdictions.

53. Reference was made to the relationship between identification and electronic signatures also in light of existing practices of using electronic signatures for identification purposes. It was indicated that identification was a generic assertion of identity, while electronic signatures were a trust service aiming at fulfilling specific functions based on the intention of the signatory. Hence, it was explained, while electronic signatures linked an entity with its identity, they should not be used to establish identity.

54. The Working Group considered the following questions: (a) how are levels of assurance defined?; (b) was definition of levels of assurance a legal or a technical exercise?; (c) who would verify compliance with the asserted level of assurance?; and (d) who would be liable in case of failure to comply? It was generally agreed that those questions were of fundamental importance.

[3] United Nations, *Treaty Series*, vol. 527, No. 7625, p. 189.
[4] United Nations, *Treaty Series*, vol. 161, No. 487, p. 230.

55. It was indicated that levels of assurance had both legal and technical aspects. The view was expressed that UNCITRAL should refer to existing or future definitions of levels of assurance and in any case refrain from engaging in technical work.

56. As regards verification of levels of assurance, reference was made to various mechanisms, including independent auditing or certification, oversight by public authorities, and self-regulation.

57. The view was expressed that the liability regime was a complex matter involving delicate policy choices, which could influence significantly the development of the IdM and trust services market. Different options to address that issue were described. It was indicated that liability matters could be dealt with in applicable national law, which should be easily identifiable. Alternatively, it was said that compliance with commonly agreed requirements and rules could exempt the complying IdM and trust service provider from liability or lead to reversing the burden of proof. However, concerns were raised that under that approach commercial parties could face significant economic losses without recourse against service providers. It was also indicated that public IdM and trust services providers could be exempted from liability under national law. Reference was made to the use of insurance as well as to the relevance of private international law issues when discussing liability in a cross-border context.

58. The Working Group identified the following issues as relevant for future work on legal aspects of IdM and trust services: (a) scope; (b) definitions; (c) mutual legal recognition requirements and mechanisms, possibly differentiated for IdM schemes and for trust services; (d) certification of IdM schemes; (e) levels of assurance of IdM schemes; (f) liability; (g) institutional cooperation mechanisms; (h) transparency, including disclosure duties with respect to services offered and notification of security breaches; (i) no new obligation to identify; (j) data retention; and (k) supervision of service providers. It was said that the list of identified topics was open-ended.

59. It was noted that, while the issues identified might be relevant for advancing the consideration of the topic, no assumption should be made on the possible form of a final product. It was also indicated that caution should be exercised when discussing certain identified issues so as to avoid introducing regulatory requirements. It was suggested that it could be useful to consider which issues were relevant for all parties involved and which for service providers only.

60. The Working Group recalled the relevance of general principles, including party autonomy (see para. 2 above).

C. Main topics identified by the Working Group for further discussion

1. Scope of the work

61. The Working Group agreed that future work should pursue the general goal of promoting international trade and that the scope of that work should be the facilitation of the cross-border use of IdM and trust services.

62. It was indicated that future work should focus on business-to-business transactions, and that certain business-to-government and government-to-government transactions relevant for international trade, such as cross-border single windows for customs operations, might be further considered.

63. It was suggested that future work should deal with the identification of individuals and business entities involved in cross-border trade, without excluding certain entities relevant for commercial activities that might not have distinct legal personality.

64. Different views were expressed on whether identification of objects should also be covered by the work. The prevailing view was that it should not since objects did not have legal personality and could not be held autonomously liable. It was

understood that the Working Group might consider explaining reasons for excluding the identification of objects from its work. However, the view was also expressed that identification did not require autonomous legal personality.

65. Another view was that the consideration of identification of objects could take place after the Working Group dealt with that of persons, if policy discussions related to Internet of things, artificial intelligence, blockchain and smart contracts suggested doing so.

66. Recognizing that the aim of the work should be to facilitate trade, the view was expressed that no technical barriers to trade should inadvertently be created by the work in this field.

2. General principles

67. The Working Group reaffirmed that the following overarching principles would guide the work on the topic: technological neutrality, party autonomy, non-discrimination against the use of electronic means and functional equivalence (see para. 2 above).

68. It was indicated that functional equivalence in the IdM context would need to be considered in a broader sense and not restricted to identification duties. It was noted that one consequence of the adoption of that principle was the necessity to respect substantive law, namely well-established identification rules in the paper-based environment. It was recalled that UNCITRAL provisions applying the principle of functional equivalence to trust services already existed. It was noted that application of functional equivalence might depend on the ultimate form of any instrument to be prepared by the Working Group.

69. The importance of the principle of technological neutrality was stressed also in light of the experience of jurisdictions that had enacted legislation favouring particular technical standards and technology and subsequently amended it. It was added that, in application of that principle, guidance on minimum system requirements should refer to system properties and not to specific technologies.

70. Different views were expressed on the need to refer to economic neutrality, also referred to as system model neutrality, as a principle for the work on the topic. Some delegations explained that that notion should be further considered as it was particularly relevant for business decisions. It was suggested that another dimension of economic neutrality would need to be taken into account, namely avoiding imposing unjustified costs for access to IdM schemes and trust services. Other delegations indicated that the principle required further illustration before discussion.

71. Reference was made to the principle of proportionality. Several delegations requested additional clarifications on its possible content. It was indicated that the principle referred to the choice by the user of IdM schemes and trust services adequate for its needs. It was added that proportionality was related to party autonomy.

72. It was recalled that party autonomy was subject to limitations set out in mandatory applicable law.

73. The Working Group was also invited to consider the principle of reciprocity, in particular in the context of its discussion of mutual legal recognition.

3. Definitions

74. Reference was made to documents A/CN.9/WG.IV/WP.144 and A/CN.9/WG.IV/WP.150, which contained useful definitions. It was indicated that terminology to be used in future work on IdM and trust services should comply with internationally established definitions, in particular those of the International Telecommunication Union (ITU). The attention of the Working Group was brought to definitions being elaborated by the United Nations and the World Bank in the context of the implementation of Sustainable Development Goal (SDG) target 16.9 on legal

identity. It was suggested that future discussions should consider whether the definition of "trust services" should be open-ended.

4. Mutual recognition requirements and mechanisms

75. There was agreement that discussion of mutual recognition requirements and mechanisms was necessary to address the cross-border use of IdM and trust services. It was suggested that that discussion should extend to legal consequences for non-compliance with those requirements.

76. It was explained that that discussion should focus on creating a set of rules for schemes and services so as to promote trust in them. It was added that a decentralized approach should be considered as particularly suitable to operate at the global level. It was further explained that trust could be promoted by describing the elements of the process, which included levels of assurance and independent audits. It was indicated that a discussion on possible differences between mutual recognition requirements and mechanisms applicable respectively to IdM schemes and to trust services could take place at a later stage and refer to use cases.

77. In response, doubts were expressed on whether establishing generic levels of assurance was a prerequisite for mutual recognition, taking into account that mutual recognition was not always necessary in commercial transactions and, when necessary, it would be context specific and would not necessarily require reference to levels of assurance. Hence, it was added, parties' reliance was always relevant for commercial transactions, while recognition by a central authority was not. The concern was expressed that demanding strict compliance with the requirements associated with levels of assurance could hinder trade. It was also questioned that the Working Group was well-equipped to work on levels of assurance in the light of the technical issues involved. In response, it was observed that some regions had already succeeded in that endeavour. (For discussion of levels of assurance, see also paras. 50–51 and 54–56 above and paras. 80–82 below.)

5. Certification of IdM and trust services schemes

78. Relevance of certification, accreditation and independent audits to both IdM and trust services was recognized. The degree of that relevance, it was explained, would depend on the type of instrument to be prepared by the Working Group.

79. A close link between certification and liability (see section 7 below) and certification and supervision of service providers (see section 12 below) was acknowledged. It was indicated that future discussions on the topic could refer to the possibility of requiring independent audits for higher levels of assurance, but that such requirement should not infringe the principle of technological neutrality. In that respect, it was indicated that an independent audit would certify the processes and means used in IdM and trust services systems but not require the use of any particular technology or method.

6. Levels of assurance for IdM and trust services

80. The Working Group recalled its consideration of levels of assurance in the context of mutual recognition (see paras. 76–77 above). The view was expressed that the topic could be considered either as stand-alone or in the context of mutual recognition, provided that its fragmented and repetitive consideration was avoided.

81. It was said that, while it was useful to consider the notion of level of assurance in future discussions on IdM, one possible outcome of that discussion might be the establishment of a single level of assurance. In response, it was said that in practice the levels of assurance "substantial" and "high" were frequently used. It was added that a discussion on the number of levels of assurance was premature.

82. It was indicated that it could be useful to distinguish the notion of level of assurance, to be applied to IdM schemes, and that of qualification, relevant for trust services. It was explained that, while level of assurance referred to the quality of the

identification procedure, qualification referred to the implementation of the trust service. It was added that the two notions had different requirements and nature and were not necessarily related in practical use. It was noted that both notions were relevant for future deliberations. It was indicated that matters to be discussed in relation to those notions included their legal effects and the generic description of their requirements, which should be outcome-based in order to preserve technological neutrality.

7. Liability

83. There was broad agreement on the relevance of liability matters for future work on IdM and trust services.

84. One possibility to be discussed was that liability would fall under national law. It was indicated that in such case applicable law in cross-border transactions should be identified, and that a discussion of forum shopping could be relevant in that context.

85. Another possibility was the preparation of legislative or non-legislative texts on liability of IdM and trust services, which could discuss, among others: which entities should be liable (issuers, providers, other parties), taking into account special liability regimes for public entities; the possibility to limit liability of parties complying with predetermined requirements; statutory mechanisms to limit liability, e.g. by exemption or reversal of burden of proof; and contractual limitations of liability.

86. It was noted that in certain cases it could not be easy to identify a liable entity, e.g. when using distributed ledger technology for timestamping. It was explained that in those cases the system could create trust despite the absence of a central service provider.

8. Institutional cooperation mechanisms

87. The Working Group considered whether institutional cooperation mechanisms would be relevant to future discussions on legal aspects of IdM and trust services. It was indicated that those mechanisms could involve both public and private entities. The importance of cooperation among parties involved in IdM and trust services was emphasized. The desirability of dealing with federated identity management systems in this framework or elsewhere was mentioned.

9. Transparency

88. The Working Group identified the principle of transparency as relevant for future discussions on IdM and trust services. The importance of guidance on that principle for developing countries was stressed. It was indicated that one relevant aspect of that principle pertained to duties of disclosure with respect to the services offered and their quality.

89. Notification of security breaches was also identified as a relevant aspect of the principle of transparency. In that respect, it was noted that security breach notifications had elements in common with data breach notifications, but also significant differences. It was added that useful examples of mechanisms going beyond mere notification in case of security breach existed.

10. No new obligation to identify

90. It was emphasized that the consideration of legal aspects of IdM and trust services was not intended to interfere with substantive laws and in particular to create obligations to identify where such obligations did not already exist under applicable law or contract. It was indicated that discussions on that topic should not imply that a decision to prepare a legislative text had already been made.

11. Data retention

91. The importance of harmonisation and interoperability of data retention regimes for cross-border trade was emphasized. Questions were raised on whether data retention should be considered in future discussions on IdM and trust services and, if so, under which perspective. It was indicated that one aspect of that topic related to data protection, which raised particularly complex issues. It was added that another aspect related to data storage and archiving, which could be considered a trust service. In that context, reference was made to the possible discussion of an obligation to preserve information necessary for legal proceedings. Yet another relevant aspect identified related to portability of archives.

12. Supervision of service providers

92. Reference was made to the possible discussion of supervision of service providers as a stand-alone topic. It was indicated that supervision was a useful mechanism to increase trust in service providers, in particular in developing countries. It was added that public law aspects, such as regulatory compliance, might also deserve further consideration.

93. Caution was expressed against introducing regulatory requirements. The possibility of considering supervision in the framework of independent audits was mentioned, and the link with liability matters highlighted (see paras. 79 and 83–86 above).

94. The desirability of discussing not only centralised supervision, but also independent third-party evaluation as well as self-regulation was mentioned. Recent legislative developments favouring independent evaluation were mentioned. It was indicated that the distributed nature of certain systems might pose challenges to supervision.

D. Recommendation to the Commission as regards further work in the area of IdM and trust services

95. The Working Group recalled its recommendations to the Commission as regards the work on cloud computing (see paras. 17 and 44 above). Taking into account that the Working Group completed the work in that area, the Working Group recommended to the Commission that it should request the Working Group to conduct work on legal issues relating to IdM and trust services with a view to preparing a text aimed at facilitating cross-border recognition of IdM and trust services, on the basis of the principles and discussing the issues identified by the Working Group at its fifty-sixth session.

VI. Technical assistance and coordination

96. The Working Group heard an oral report by the Secretariat on technical assistance and cooperation activities undertaken since the oral report by the Secretariat at the previous session of the Working Group. Reference was made, in particular, to activities relating to promoting the adoption of the United Nations Convention on the Use of Electronic Communications in International Contracts (New York, 23 November 2005)[5] and of the UNCITRAL Model Law on Electronic Transferable Records,[6] including in cooperation with other United Nations entities such as the United Nations Economic Commission for Europe (UN/ECE), the United Nations Economic and Social Commission for Asia and the Pacific (UN/ESCAP) and the United Nations Conference on Trade and Development (UNCTAD). Appreciation was expressed for the information provided and the

[5] United Nations, *Treaty Series*, vol. 2898, No. 50525.
[6] United Nations publication, Sales No. E.17.V.5.

activities undertaken by the Secretariat on technical assistance and cooperation in the area of electronic commerce law.

VII. Other business

97. The Working Group took note of dates tentatively allocated to the Working Group for its future sessions before the fifty-second session of UNCITRAL in 2019 (19–23 November 2018 and 8–12 April 2019). The Working Group agreed that, subject to the decision of UNCITRAL, the usual pattern of two sessions per year should be maintained to allow the Working Group to continue making progress in the discussion of legal issues related to IdM and trust services. The understanding was that the Secretariat might decide to convene expert group meetings, if necessary and subject to availability of resources, between regular sessions of the Working Group.

98. The delegations intending to submit proposals for consideration by the Working Group were requested to alert the Secretariat as soon as possible to allow timely forecasting those proposals. It was noted that the timely submission would allow States' consideration of proposals before sessions.