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Contents

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I. Introduction

1. Background information on the work of the Working Group on legal issues related to identity management (IdM) and trust services may be found in working paper A/CN.9/WG.IV/WP.156, paragraphs 6–15. Following the Working Group's recommendation (A/CN.9/936, para. 95), the Commission requested the Working Group to conduct work on legal issues related to IdM and trust services with a view to preparing a text aimed at facilitating cross-border recognition of IdM and trust services.[1]

II. Organization of the session

2. The Working Group, composed of all States members of the Commission, held its fifty-eighth session in New York from 8 to 12 April 2019. The session was attended by representatives of the following States members of the Working Group: Austria, Brazil, Bulgaria, Canada, China, Colombia, Czechia, France, Germany, Honduras, India, Indonesia, Iran (Islamic Republic of), Israel, Italy, Japan, Kenya, Kuwait, Libya, Panama, Philippines, Poland, Republic of Korea, Romania, Russian Federation, Singapore, Spain, Switzerland, Thailand, Turkey, Uganda, United Kingdom of Great Britain and Northern Ireland and United States of America.

3. The session was also attended by observers from the following States: Algeria, Bahamas, Belgium, Chad, Cuba, Democratic Republic of the Congo, Dominican Republic, Equatorial Guinea, Guinea, Iraq, Malta, Mozambique, Niger, Saudi Arabia, Senegal, Sudan, Sweden and Syrian Arab Republic.

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

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

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

(b) *Intergovernmental organizations*: World Customs Organization;

(c) *International non-governmental organizations*: Alumni Association of the Willem C. Vis International Commercial Arbitration Moot (MAA), American Bar Association (ABA), China International Economic and Trade Arbitration Commission (CIETAC), International Association of Young Lawyers (AIJA), Law Association for Asia and the Pacific (LAWASIA), European Law Students' Association (ELSA) and International Union of Notaries (UINL).

6. The Working Group elected the following officers:

Chairperson: Ms. Giusella Dolores FINOCCHIARO (Italy)

Rapporteur: Mr. Tomás KOZÁREK (Czechia)

7. The Working Group had before it the following documents: (a) annotated provisional agenda (A/CN.9/WG.IV/WP.156); (b) a note by the Secretariat containing draft provisions on the cross-border recognition of IdM and trust services (A/CN.9/WG.IV/WP.157); and (c) a note by the Secretariat containing explanatory remarks on the draft provisions (A/CN.9/WG.IV/WP.158).

8. The Working Group adopted the following agenda:

1. Opening of the session.

2. Election of officers.

[1] *Official Records of the General Assembly, Seventy-third Session, Supplement No. 17* (A/73/17), para. 159.

3. Adoption of the agenda.

4. Legal issues related to identity management and trust services.

5. Technical assistance and coordination.

6. Other business.

7. Adoption of the report.

III. Deliberations and decisions

9. The Working Group continued consideration of legal issues related to IdM and trust services on the basis of the documents listed in paragraph 7 above. The deliberations and decisions of the Working Group on that topic are found in chapter IV of this report.

IV. Legal issues related to identity management and trust services

10. The Working Group was reminded that the mandate received from the Commission related to facilitating cross-border legal recognition of IdM and trust services to promote trust in the use of those services. It was added that mutual recognition could also improve market transparency and increase competition of service providers, which could be beneficial for users.

11. The Working Group was invited to proceed its deliberations on this matter on the basis of the draft provisions contained in document A/CN.9/WG.IV/WP.157. It was pointed out that those draft provisions had an illustrative value and were meant to assist in discussing concrete aspects of IdM and trust services. It was indicated that the draft provisions and the accompanying explanatory remarks contained in document A/CN.9/WG.IV/WP.158 fulfilled a request made by the Working Group at its fifty-seventh session (A/CN.9/965, para. 130). The Working Group agreed to discuss first the scope of application of the draft provisions (draft art. 1) and issues relating to IdM (draft arts. 8 to 13).

12. Many delegations welcomed the revised draft as a useful guide for discussion. However, it was said that the draft provisions exceeded the mandate given by the Working Group in two respects. First, it was noted that they were too detailed and touched upon matters, such as uniform interpretation, that went beyond the identification of key issues. Second, it was added that the draft provisions could be read as implying the development of a legislative text, e.g. a treaty or a model law, while the final form of the work product had not yet been discussed. In that respect, it was indicated that a discussion on form was usually held at a more advanced stage of work and should therefore be postponed.

A. Draft article 1

13. The Working Group considered draft article 1 as set out in document A/CN.9/WG.IV/WP.157.[2]

14. With respect to paragraph 1, it was indicated that option A was inspired by provisions found in UNCITRAL treaties while option B was inspired by provisions found in UNCITRAL model laws and in legal guidance documents.

15. The view was expressed that option A was narrower in scope than option B. It was also said that option A should refer to the location not only of the parties to the

[2] The report contained in documents A/CN.9/WG.IV/LVIII/CRP.1 and Add.1-4 and approved by the Working Group reproduced the text of the relevant draft provisions set out in document A/CN.9/WG.IV/WP.157. For editorial reasons, the text of those provisions is omitted.

commercial transactions but also that of the service providers. Support was expressed for retaining option B and deleting option A.

16. In comparing the two options, it was noted that the term "commercial activities" was broader than the term "commercial transactions". It was explained that, in a commercial context, identification needs were not limited to transactions. It was also noted that the concept of "use" was broader than the concept of "cross-border recognition". It was suggested that elements of the two options should be combined to achieve a broad scope. In that respect, it was added that reference should be made not only to "use" but also to the "operation" of IdM and trust services.

17. The view was expressed that a reference to "credentials" was appropriate as it implied the recognition of IdM systems. It was also noted that certain identification methods could operate without reference to credentials or systems, by using information available elsewhere, and that this should be reflected in the draft provision.

18. It was also suggested that the scope of application could be defined by reference to IdM and trust services, following an approach similar to that taken in the eIDAS Regulation,[3] and relying on the definitions of those terms contained in draft article 4.

19. With respect to paragraph 2, it was indicated that the inclusion of trade-related government services was appropriate since those services were increasingly relevant for international trade, and public entities could themselves be service providers. However, the view was also expressed that the meaning of the term "trade-related government services" was unclear and that it would be useful to clarify the types of services covered by that term, particularly given that some language versions of paragraph 2 suggested a broader application of IdM in "public services".

20. In response, it was said that the product of the work of the Working Group should be compatible with the use of IdM across a broad range of sectors so as to reduce the need for multiple systems and credentials. In that regard, it was added that a reference to the use of IdM outside a purely commercial setting, as indicated in footnote 2 of document A/CN.9/WG.IV/WP.157, was appropriate, and that paragraph 2 could be made more acceptable by making the provision optional, so that countries could choose to extend the scope of the instrument or to limit it to paragraph 1.

21. It was indicated that the draft provisions made inconsistent reference to the notions of "subject" and "object", since paragraph 3 referred to verifying the identity of physical and digital objects, while other draft provisions referred only to physical and legal persons as subjects of identification. It was said that objects were necessarily under the control of a physical or legal person as only persons could have rights and obligations and therefore be identified. In that regard, it was added that the identification of an object necessarily resulted in the identification of its owner, i.e. a physical or legal person. It was also said that a discussion of identification of objects was premature and could divert the attention of the Working Group from discussing the more urgent issue of the identification of the owners responsible for the objects.

22. A countervailing view was expressed that objects were increasingly relevant for commercial transactions and that therefore they should not be excluded from the scope of the draft provisions, at least not at this early stage. It was added that paragraph 3 was concerned with identification and not with allocation of liability, and that identification as such did not require legal personality.

23. The Working Group agreed that: paragraph 1 should be redrafted by adding elements of option A to option B to achieve a broad scope; paragraph 2 should convey the possibility of using the work product for needs outside purely commercial settings; paragraph 3 should be deleted, and a discussion on identification of objects

[3] Regulation (EU) No. 910/2014 of the European Parliament and of the Council of 23 July 2014 on electronic identification and trust services for electronic transactions in the internal market and repealing Directive 1999/93/EC.

should take place in conjunction with the consideration of trust services (see paras. 148 and 149 below).

B. Draft article 8

24. The Working Group next considered draft article 8 as set out in document A/CN.9/WG.IV/WP.157.

25. It was explained that the two options drafted for draft article 8 were not mutually exclusive in their substance and that, while not expressly mentioned, both options were a formulation of the principle of functional equivalence. It was also explained that the options had their origins in a draft provision proposed by the Secretariat (A/CN.9/WG.IV/WP.153, para. 29) and in drafting proposals put forward at the fifty-seventh session of the Working Group (A/CN.9/965, paras. 77–78).

26. A question was raised as to whether option A was necessarily a functional equivalence provision. Specifically, it was noted that the "certain method" could refer to electronic identification, in which case, option A was more about recognition of other forms of electronic identification, and therefore about the interoperability of different IdM systems.

27. In a similar vein, it was noted that the options were complementary. As such, it was suggested that the two options be merged into a single provision. A contrary view was expressed that the two options were not complementary. In that regard, the point was made that the "certain method" in option A could refer to paper-based or other non-electronic identification procedure, and therefore that option A was broader than option B.

28. A point of clarification was made that the reference in both options to a requirement of "law" was primarily a reference to the requirements of commercial law, and not to regulatory requirements, such as those found in the areas of money-laundering and banking regulation. A countervailing view was expressed that neither option necessarily implied a reference to identification for the purposes of regulatory compliance. It was also recalled that the work of the Working Group was not only concerned with identification as required by law, but also identification as carried out by commercial parties acting out of business need. The point was made that a reference to the requirements of law included the requirements of contract law, and therefore to requirements in the form of contractual obligations.

29. Some concerns were raised with the reference in option B to identification performed where the parties so "wish". One concern was that the reference to the "wishes" of a party was ambiguous and inappropriate in a legal text. Another concern was that option B refers to the wishes of *all* parties, which necessarily implies a narrower scope of application as compared to option A, which refers to individual parties. The view was expressed that a narrower scope for a legal recognition provision was not desirable.

30. A concern was raised that, in its current form, option A might apply to permit the use of IdM in cases where domestic legislation laid down a specific procedure for identification, thereby ousting that procedure. In a similar vein, it was recommended that the Working Group avoid dealing with what was *sufficient* to identify a subject in any particular situation, as this entered into the field of substantive law, which was not the domain of the Working Group. A query was also raised as to the meaning of "legal effect" in option B.

31. With reference to footnote 17 of document A/CN.9/WG.IV/WP.157, a view was expressed that it was not necessary to extend draft article 8 to circumstances where the law *permitted* a party to identify a subject, as this was not an issue in practice (see also paras. 114–115 below).

32. Overall, a preference was expressed for option A over option B.

33. Some doubts were raised as to whether the principle of functional equivalence was appropriate to the recognition of IdM. In this regard, it was explained that identification in an online environment did not always have an offline equivalent. It was also explained that identification was a function in itself, and that therefore it did not make sense to apply the principle of functional equivalence to identification. The point was made that electronic identification could be more reliable than non-electronic identification.

34. The point was also made that a provision on functional equivalence was not necessary in an instrument dealing with the cross-border recognition of IdM. Cross-border recognition was concerned with the reliability of a foreign IdM system, which in turn was to be determined by reference to specified criteria, including levels of assurance. Accordingly, it was suggested that draft article 8 not be included and replaced with the substance of draft article 19. As a compromise, it was suggested that a provision on functional equivalence could be included as a general principle in chapter II of the draft instrument. The core of chapter III would then focus on the criteria for determining the reliability of an IdM system, and therefore the eligibility of the system for cross-border recognition.

35. A countervailing view was expressed that a provision on functional equivalence still served a purpose, and that it would be premature to remove draft article 8. In this regard, it was recalled that the cross-border recognition of electronic signatures, addressed in article 12 of the UNCITRAL Model Law on Electronic Signatures ("MLES"),[4] was not based on standalone criteria for reliability but rather on the principle of functional equivalence, as stated in article 6 MLES. It was also noted that a provision on functional equivalence drew attention to what existing law required, and therefore served to focus the work of the Working Group on the legal aspects of IdM.

36. It was suggested that the work of the Working Group should focus not only on the recognition of foreign IdM, but also on assisting States to establish a domestic legal regime for IdM, thereby promoting digital inclusion. In response to this suggestion, it was noted that it might suffice to make reference to this objective in the recitals. It was also noted that the form of the instrument might be decisive on whether it was necessary or appropriate to address this objective. It was added that, if such an objective were to be addressed in the draft instrument, draft article 1 should be reviewed so as not to limit the scope of application to circumstances where the parties had their places of business in different States.

37. It was noted that a provision on functional equivalence could serve as the basis for provisions establishing a domestic legal regime for IdM, and that draft articles 9 to 11 of the draft instrument were predicated on an assumption to that effect. Alternatively, it was suggested that this objective could still be achieved without a provision on functional equivalence by establishing criteria for the reliability of an identification method that applied regardless of the form of that method (electronic or non-electronic); assessing an electronic identification method and a non-electronic identification method against those criteria would effectively establish the functional equivalence between the two methods.

38. The question was raised as to how this reliability assessment would be carried out, and whether it necessitated a centralized body. Opposition was expressed to the idea of having a centralized body, noting that it was not the domain for UNCITRAL to establish supranational bodies to assess compliance. The point was made that it was possible for the draft instrument to leave it to individual enacting States to determine how compliance with the criteria for reliability would be assessed. It was further pointed out that compliance of an IdM system with those criteria for the purposes of satisfying the domestic legal regime in one State would facilitate the recognition of the system in another enacting State.

[4] United Nations publication, Sales No. E.02.V.8.

39. The Working Group agreed that the draft provisions should deal both with cross-border recognition and with standards for promoting domestic IdM systems.

40. The Working Group continued its consideration of draft article 8 on the basis of the following text:

> Where the law or a party requires the identification of a subject [in accordance with a certain method], that requirement is met with respect to IdM if a reliable method is used to verify the relevant attributes of the subject in accordance with these draft provisions.

41. It was explained that, by replacing the words "in accordance with the same level as assured by that method" with the words "in accordance with these draft provisions", the redrafted provision removed the requirement for a functional equivalence analysis. It was also explained that, by retaining the words "in accordance with a certain method" the provision applied where the law required not only non-electronic identification but also electronic identification. These words were in square brackets to indicate that their inclusion was subject to further discussion. It was further suggested that the words "in accordance with these draft provisions" should be replaced with a reference to the relevant provisions, tentatively identified as draft articles 9, 10 and 11.

42. It was suggested that the words "to verify the relevant attributes of the subject" be substituted with the words "to identify the subject". It was noted that, under the draft definition of "identification" contained in draft article 4(b), verification was only one component of the notion of identification, while all components of that notion were relevant under draft article 8.

43. It was said that additional discussion was needed to clarify whether draft article 8 could satisfy regulatory requirements, or alternatively to make it clear that the draft article was concerned with requirements arising out of general contract law or evidentiary requirements.

44. It was suggested that the bracketed words "in accordance with a certain method" be deleted. It was indicated that, in the context of the draft provision, those words could be interpreted as imposing a duty to accept electronic identification even when the parties had agreed or required paper-based identification. This would be contrary to the principle of the voluntary use of IdM and trust services contained in draft article 3.

45. In response, it was said that the words "in accordance with a certain method" had been inserted at the Working Group's fifty-seventh session (A/CN.9/965, para. 77) in order to include a reference to the notion of levels of assurance among legal requirements for identification, and that it was therefore desirable to reflect on that notion before making a decision on deleting those words. It was added that draft article 8 was an enabling provision and should not to be interpreted as imposing a duty to use electronic identification.

46. The view was expressed that the word "method" might be misleading in the context of the draft provision, since it denoted different ways to identify. The suggestion was made to use the phrase "in accordance with a certain policy" instead, which more clearly referred to varying levels of assurance sought by the parties (i.e. low, medium or high level). In response, it was said that the legal implications of referring to "policy" should be further considered. It was noted that the notion of "method" had been used in several UNCITRAL texts on electronic commerce and its meaning was well-settled, while the notion of "policy" was novel and its meaning unclear. It was suggested that the word "method" was more appropriate. In that respect, it was suggested that the types of policy could be clarified.

47. The question was raised whether draft article 8 should continue to assume functional equivalence between electronic and non-electronic identification. In response, it was said that it was useful to consider moving beyond the principle of functional equivalence, which had been formulated to address issues arising from

legal notions related to the use of paper as a medium. The view was reiterated that it was very challenging, if not impossible, to establish functional equivalence between electronic and non-electronic identification given the different methods and procedures involved. For instance, the notion of varying levels of assurance, which was common in electronic identification, could not be used in a paper-based environment.

48. In reply, it was indicated that a provision on functional equivalence was useful because not all identification took place electronically, and that different levels of confidence or assurance of identification applied equally to paper-based identification. Moreover, functional equivalence could be particularly useful in assisting countries with a lower level of use of electronic identification means. It was added that a provision on functional equivalence was needed to ensure that no new substantive rules were imposed, which was an assumption underlying the work of the Working Group. Hence, it was suggested that a provision on functional equivalence be retained.

49. The Working Group agreed to retain the following text of draft article 8 for future consideration:

> Where the law or a party requires the identification of a subject [in accordance with a certain [method][policy]], that requirement is met with respect to IdM if a reliable method is used to identify the subject in accordance with articles 9, 10 and 11.

C. Draft articles 9 and 10

50. The Working Group considered draft articles 9 and 10 as set out in document A/CN.9/WG.IV/WP.157.

51. It was noted that draft articles 9 and 10 covered matters that were the core focus of the work of the Working Group on the recognition of IdM. It was explained that they were based on articles 6 MLES. Draft article 9 established the criteria for reliability of an IdM system and implied a burden on the party claiming reliability to prove that those criteria were satisfied. Draft article 10 then raised a rebuttable presumption that an IdM system was reliable if certain conditions were met, which effectively shifted the burden of proof to the party denying reliability.

52. It was explained that draft article 9 facilitated an ex post approach to determining the reliability of IdM systems. It was further explained that, typically, an ex post determination would occur, for instance, when someone challenged the validity of a transaction and alleged a lack of identification of one of the parties, or the invalidity thereof. The reliability of the identification method would then be assessed by the adjudicator of the dispute, which, depending on the jurisdiction, could include a court, tribunal, other public authority, or industry body.

53. It was pointed out that the current wording of the chapeau of draft article 9 might be interpreted as requiring that all the factors listed therein be considered in determining the reliability of an IdM system. That was not the case, however, and it was emphasized that the list of factors was both illustrative and non-exhaustive. In some cases, for instance, the parties' agreement should be the controlling factor, and, in the interest of legal predictability, should not be overruled by other factors. In other cases, however, a contractual agreement could well be subject to certain legislative requirements. In yet other cases, a contractual agreement might be of little relevance, e.g., where a third party was challenging the identification carried out by one of the parties. The Working Group, therefore, agreed to replace the word "including" with the words "which may include" to introduce the list of relevant factors (in line with the preamble of article 12(a) of the UNCITRAL Model Law on Electronic Transferable Records ("MLETR")).[5]

[5] United Nations publication, Sales No. E.17.V.5.

54. In response to a question concerning the nature of bodies that supervised or certified IdM systems, it was indicated that supervision and certification were activities that could be carried out by both private and public entities, as well as by private-public partnerships.

55. It was suggested to add the following factors to the list in draft article 9:

(d) The extent to which the relevant attributes associated with a subject have been verified;

(e) Whether a recognized international standard has been followed;

(f) The usual business practice or customs for such transactions between the parties;

(g) Any operational rules relevant to the assessment of reliability.

It was suggested that draft article 9 should also refer to regional standards.

56. With respect to the proposed new draft subparagraph (e), it was noted that draft article 11(2) also contained a reference to international standards. It was suggested that draft article 11(2) be deleted if subparagraph (e) were retained. In response, it was explained that draft subparagraph (e) referred to operating standards of IdM systems while draft article 11(2) referred to standards used for the determination of reliability of IdM systems, and that therefore both references should be retained.

57. It was noted that the proposed new draft subparagraph (f) was concerned with the course of dealings between the parties in addition to, or in absence of, a formal agreement and therefore that this factor logically followed immediately subparagraph (a) of draft article 9.

58. With respect to proposed new draft subparagraph (g), it was noted that the proposed factor was found verbatim in article 12(a)(i) of the MLETR. It was indicated that other factors in article 12(a) of the MLETR might be relevant in determining the reliability of an IdM system, such as the existence of a declaration by a supervisory body (subparagraph (vi) of article 12(a)), and any applicable industry standard (subparagraph (vii) of article 12(a)).

59. There was agreement that the title of draft article 9 did not correctly reflect its content, since contractual agreements and the other factors listed therein were not strictly speaking “standards”. It was suggested that the draft article instead be entitled “Determination of reliability”, acknowledging that the title of draft article 10 would need to be revisited as a consequence of this amendment.

60. The Working Group held an extensive discussion on the relationship between draft articles 9, 10 and 11, and heard various suggestions for combining them. It was stated that the ex post approach contemplated in draft article 9 did not promote legal certainty, since the parties to a transaction would have no means of determining in advance whether the identification method used would ultimately be regarded as reliable. It was indicated that an ex ante approach provided a higher level of predictability of the legal status of IdM systems and was preferable. The prevailing view, however, was that the current draft instrument already offered the possibility of an ex ante determination of reliability through draft article 11; it was up to the parties, if they so wished, to choose a method determined in advance as being reliable, but the draft instrument should not limit their choice only to pre-approved methods. It was also explained that the ex post approach was particularly effective in some jurisdictions and industries and that litigation involving the use of that approach was rare and mostly related to cases of repudiation of a contract. It was added that the determination of the reliability of a particular method under an ex ante approach should not impede legal recognition of other methods.

61. It was indicated that the ex ante and ex post approaches were not mutually exclusive but complementary, and that the Working Group should retain both, as had been done in other UNCITRAL texts as well as in other texts on electronic commerce of broad application. It was suggested that the draft instrument should not prioritize

one approach over the other. It was explained that parties to a transaction could determine the type of applicable test by choosing a method falling under one of the approaches.

62. It was noted that draft article 10(1) offered alternative wording. The first alternative established a "safe harbour" provision by which an IdM system would be deemed to be reliable. The second alternative established a rebuttable presumption. Differing views were expressed on which alternative was preferable. It was noted that a "safe harbour" would produce greater legal certainty for IdM system operators.

63. A question was raised as to whether the criteria and conditions in articles 9 and 10 applied equally to an ex post and ex ante approach. It was suggested that an ex post approach might lend itself to broader criteria and conditions, whereas an ex ante approach might call for a narrower focus, with greater attention to international standards. A countervailing view was expressed that an ex ante approach should allow the relevant body to consider a wider range of criteria or conditions.

64. Another question was raised as to the meaning of the bracketed text in subparagraphs (a), (b) and (c) of draft article 10. It was emphasized that a presumption should only be raised in clearly defined and objectively determinable circumstances, and it was noted that current draft did not achieve this. It was explained that the brackets did not signify that it would be for each enacting State to describe the matters listed therein. Rather, the brackets were designed to invite the Working Group to elaborate the matters described within the brackets in more detail. It was acknowledged that this task could potentially lead to a long list of minimum standards, prescribed in a greater level of detail than those matters listed in article 12 of the MLETR. It was queried whether it would be possible to define these minimum standards in a way that had regard to the evolving nature of IdM and was consistent with the principle of technology neutrality. The view was expressed that it would be possible to elaborate the matters described within the brackets without compromising these objectives.

65. The Working Group was invited to consider whether the range of matters listed in draft article 10 was appropriate. In response, it was suggested that one additional matter would be the characteristics of the IdM system, which covered the function of the system, how it was implemented, and the existence of any qualifications as to levels of assurance. Another matter would be whether the IdM system was referable to an established trust framework. Yet another matter was the binding representations made by the IdM system operator.

66. It was also observed that the logic in the split of matters between the three paragraphs in draft article 10(1) was not clear. In that regard, it was suggested the auditing of IdM systems was a matter for subparagraph (b).

67. The Working Group decided that it was premature to describe the matters to be listed in draft article 10. Instead, it requested that the Secretariat prepare concrete proposals, in consultation with relevant experts, for consideration at its next session. In this regard, the Working Group invited members and observers to provide the Secretariat with information on existing technical standards and operational guidelines. In this regard, the relevance of the work of the International Telecommunications Union in this field was stressed. It was also emphasized that the Secretariat should not limit its consideration to information submitted by members and observers.

D. Draft article 11

68. The Working Group considered draft article 11 as set out in document A/CN.9/WG.IV/WP.157.

69. The concern was expressed that the reference to draft article 8 contained in paragraph 1 could lead to a determination of reliability even if the conditions set out in draft article 10 were not met. For that reason, it was suggested that a reference to

draft article 10 should be inserted into paragraph 1 of draft article 11. However, the view was also expressed that draft article 10 itself referred to draft article 8, which was the key provision, and that it would be unusual to refer in article 11 to article 8 both directly and indirectly via article 10.

70. It was indicated that the use of the word "determination" both in draft article 9 and in draft article 11 could lead to confusion between the two provisions. It was suggested that the word "designation" be used instead in draft article 11.

71. It was noted that draft article 11 aimed to establish a "safe harbour". It was suggested that consideration be given to the consequences of not designating an IdM system due to the lack of a designating body, as well as the consequences of a designation that was not consistent with international standards, or only consistent with some.

72. There was some concern about the apparent vagueness of the bracketed words "A person, organ or authority, whether public or private, specified by the enacting State". In particular, it was felt that the reference to "organ" was unclear. It was suggested that the words "competent body" should be used instead. A question was also raised as to whether one of the parties to the relevant transaction could be seen as a "person" performing determination functions under draft article 11. In response, it was explained that the bracketed words "A person, organ or authority, whether public or private, specified by the enacting State" were contained in article 7 MLES, and that caution should be exercised when departing from existing UNCITRAL legislative texts. In order to clarify the bracketed words, the Working Group agreed to reproduce the entire corresponding phrase in article 7 of the MLES and insert the words "as competent" after "enacting State" in draft article 11.

73. With respect to paragraph 2, it was cautioned that reference to international standards could prevent innovation, hinder flexibility, and affect countries that were not in a position to comply with them. It was added that the draft provisions aimed at addressing both cross-border and domestic use of IdM systems, and that therefore domestic standards could also be relevant. Another view was that a discussion on standards would be premature pending further discussion of the matters dealt with in draft article 10.

74. A question was raised as to the nature of standards referred to in paragraph 2. In response, it was said that, as already indicated (para. 56 above), those standards related to determining reliability of IdM systems, while standards referred to in draft article 9 related to operating IdM systems. It was stressed that the outcome of a determination process, be it ex post or ex ante, should be the same in different countries, and that uniformity of outcome would promote confidence in the similarity of IdM systems and, ultimately, trust. Reference was made to standard ISO 17065, on "Conformity assessment – Requirements for bodies certifying products, processes and services", as a relevant standard in this regard.

75. The view was reiterated that no decision had been made on the final form of the work product and concerns were expressed that certain observations might presuppose that decision.

76. The Working Group agreed to: replace the words "determine" and "determination" in draft article 11 with the words "designate" and "designation", respectively; include the words "as competent" after "enacting State" in paragraph 1; insert a reference to article 10 at the end of paragraph 1; and insert the words "for assessing the reliability of IdM systems" at the end of paragraph 2.

E. Draft article 12

77. The Working Group considered draft article 12 as set out in document A/CN.9/WG.IV/WP.157.

78. It was explained that draft article 12 was inspired by the eIDAS Regulation. It was indicated that the provision was of particular importance to assess risk and ensure security of IdM systems.

79. However, it was also said that caution should be used in introducing new obligations and regulatory requirements that could predetermine the form and structure of IdM systems. It was said that the relationship between the obligations contained in draft article 12 and cross-border IdM recognition was unclear. It was also said that identity could be attributed or managed by non-specialized providers. The example of the use of social media credentials for single sign-on was given. The question was asked whether those operators should also fall under the scope of application of the provisions. In response, it was noted that article 4 (f) defined "IdM system operator" as a person that "operates an IdM system", that is "a set of processes to manage the identification, authentication [and authorization] of subjects in an online context", which was not meant to cover non-specialized providers.

80. It was suggested that the word "operator" be replaced with the word "provider", as system operators were mainly concerned with hardware and software. It was further suggested that paragraph 1 should also refer to an obligation of the system operator to maintain the integrity, confidentiality and privacy of IdM processes.

81. It was explained that IdM system operators could provide not only credentials but also, and primarily, direct attribution of identity, and that therefore the words "identity and, if required or necessary" should be inserted before the words "identity credentials" in paragraph 1. It was also suggested that the term "appropriate person" be replaced with "right person".

82. The attention of the Working Group was drawn to a potential conflict between the obligation in draft article 12(1)(a) and draft article 8. It was indicated that an IdM system operator could meet the requirements for reliability for the purposes of draft article 8 regardless of whether the appropriate person had been identified, as required in draft article 12(1)(a). To address that concern, it was suggested to insert the following subparagraph 1(c): "Manage the credentials in accordance with an information security management system". The importance was also stressed about maintaining a link between article 12 and the conditions in draft article 10.

83. It was suggested that paragraph 1 be further expanded to include an obligation to ensure accountability and non-repudiation of actions of IdM system users; to safely store information related to issuing, suspending and revoking identity credentials; and to ensure traceable auditing records.

84. It was suggested that paragraph 2 be expanded to include an obligation to remedy any breach of security or loss of integrity; to re-establish cross-border identification without delay; and to withdraw services if the breach or loss could not be remedied within a certain time frame. It was also suggested that the obligations in paragraph 2 might also be triggered where the breach or loss affected the reliability of cross-border authentication processes.

85. It was said that the word "immediately" should replace the words "without delay" in paragraph 2. It was explained that security breaches were complex events, and that their full consequences might not be immediately apparent. Therefore, it was suggested that it would not be appropriate to specify a certain number of days for notification of security breaches.

86. It was noted that, while draft article 2 excluded privacy and data protection from the scope of the draft provisions, draft article 12 contained detailed provisions on data breach notification, and that this might lead to multiple layers of data protection obligations. In that respect, it was also noted that, while security breaches and privacy breaches could be related, they could also occur independently. It was questioned whether privacy and data protection should be addressed by the Working Group.

87. With respect to paragraph 3, it was suggested that different consequences should be foreseen depending on whether the breach was remedied or not. It was also noted

that the notion of "significant breach" was not found in all jurisdictions. Clarifications were sought on its content.

88. It was indicated that paragraph 4, unlike other paragraphs of draft article 12, contained obligations for users and not for system operators. It was suggested that the paragraph be redrafted so as to set forth an obligation for system operators to act upon notification of breaches by users, which might include investigating the situation, suspending the affected services, and remedying the situation. It was also suggested that another obligation could be established for a system operator to inform the user fully and accurately about the limitations and consequences arising from the use of the services.

89. It was explained that it was not unprecedented for UNCITRAL instruments on electronic commerce to impose obligations on users. Attention was drawn to article 8 of the MLES in this regard. It was suggested that a separate article should deal with the obligations of users. It was indicated that additional user obligations could be identified, for instance with respect to changes in identity information to be communicated to operators.

90. In response, it was said that it could be difficult for users to be aware of breaches other than loss of credentials, and that user obligations were best dealt with in contractual agreements with IdM system operators. The view was also expressed that imposing an obligation on users was excessive, and might impact negatively on achieving the Sustainable Development Goals as they relate to digital inclusion.

91. Reference was made to footnote 26 of document A/CN.9/WG.IV/WP.157, which invited the Working Group to consider defining the notion of "user". It was noted that the term "user" was ambiguous, and could apply to a person which was either the "subject" (as that term was defined in draft article 4(i)) or the "relying party" (as that term was defined in draft article 4(h)). It was noted that the MLES also imposed obligations on the relying party.

92. It was proposed that a new provision dealing with the obligations of subjects could be based on paragraph 4 of article 12 with the chapeau replaced with the following:

> The subject shall comply with the instructions provided by the IdM provider to avoid unauthorized use of the identity credentials or authentication processes. The subject shall, in particular, notify the IdM system operator if: …

93. In response, a question was raised as to the implications of imposing an obligation on the subject to do something that it might already be contractually obliged to do. It was observed that, in some jurisdictions, domestic law may render unenforceable contractual terms on a user where they are unconscionable or unfair, and that, in some jurisdictions, these issues remained unresolved or untested. The point was made that a potential overlap between UNCITRAL instruments and contractual obligations was already found in article 9(1)(a) of the MLES, which imposed an obligation on the certification service provider to act in accordance with representations made by it with respect to its policies and practices, matters which would ordinarily be covered by contract. It was further noted that some of these concerns could be addressed by including a provision based on the second sentence of article 1 of the MLES, which preserves the operation of any rule of law intended for the protection of consumers.

94. A note of caution was raised about using the MLES as inspiration for provisions dealing with the obligations of subjects, given differences between the subject matter dealt with in the MLES on the one hand, and IdM and trust services on the other.

95. A few suggestions were made to modify the proposed new provision. First, it was suggested that the word "reasonable" be inserted before "instructions". Second, it was suggested that the obligation could be softened by picking up some of the qualifications in article 8(1) of the MLES. For instance, it was proposed that the

obligation to notify would only be triggered if the signatory had knowledge that the identity credentials or authentication processes had been compromised.

96. It was proposed that a new provision dealing with the obligations of relying parties could be inspired by article 11 of the MLES. In addition to the matters covered in that article, it was suggested that this provision could include an obligation to notify the IdM system operator if the relying party knew or reasonably believed that the identity credentials or authentication processes had been compromised. It was agreed that further discussion on the obligations of relying parties could be postponed to the discussion on trust services.

97. The Working Group agreed to: replace the word "operator" with the word "provider"; insert a reference in paragraph 1 to an obligation of the system operator to maintain integrity, confidentiality and privacy of IdM processes; replace the words "without delay" with "immediately"; delete the bracketed words "and, in any event, within […] days after having become aware of it"; and redraft paragraph 4 so as to contain an obligation for the system operator to act upon notification of breaches. Additional obligations could be considered by the Working Group at a future session.

F. Draft article 13

98. The Working Group considered draft article 13 as set out in document A/CN.9/WG.IV/WP.157.

99. With respect to paragraph 1, a preference was given to using the expression "be liable" instead of "bear the legal consequences". It was also suggested that the paragraph not be limited to liability for failing to comply with obligations under the draft instrument, as other obligations – notably contractual obligations – were relevant. It was added that these obligations would need to be specified.

100. It was suggested that, rather than refer to "liability that may arise under law", the opening of article 13 should refer to national or applicable law. Additionally, it was noted that the Working Group should avoid any suggestion of establishing a dual liability regime. It was queried whether the type of liability covered by paragraph 1 was not already addressed under national law, specifically tort and contract law, and therefore whether the paragraph was even needed. In response, the view was expressed supporting the inclusion of a provision on the liability of IdM system operators. The point was also made that some IdM systems were operated by governments, and that their liability should continue to be governed by any special liability regime under national law.

101. The Working Group agreed to retain paragraph 1, redrafted as follows:

> The IdM system operator shall be liable for damage caused intentionally or negligently to any person due to a failure to comply with its obligations arising out of the provision of IdM services.

102. With respect to paragraph 2, some doubts were raised as to its meaning. It was explained that the provision picks up language in article 9(1)(d)(ii) of the MLES.

103. With respect to paragraph 3, a query was raised as to the meaning of "applicable identity management standards" and "identity trust framework".

104. A view was expressed that, rather than exempting the IdM system operator from liability altogether, paragraph 3 should only serve to reduce liability. According to another view, article 13 was likely to be inconsistent with national law prohibiting the contractual limitation of liability for failure to perform an essential obligation of a contract. For this reason, it was proposed that paragraph 3 – and therefore paragraph 4 – be deleted.

105. Some support was expressed for paragraph 3 so far as it established a "safe harbour" that would encourage participation in the market.

106. The Working Group agreed that paragraphs 2 to 4 required further discussion.

107. A suggestion was made to consider a provision that dealt with matters for which liability could not be contractually excluded under national law. A starting point for this was the performance of essential obligations under a contract for the provision of IdM services. The Working Group requested the Secretariat to draw up such a list for consideration at its next session.

G. Draft article 14

108. The Working Group considered draft article 14 as set out in document A/CN.9/WG.IV/WP.157.

109. It was explained that the draft provision on electronic signatures was based on existing UNCITRAL texts while other provisions of draft article 14, except paragraph 3, were not. It was added that ensuring authenticity of data was a function that could be dealt with in the context of electronic signatures or as a separate trust service.

110. The question was asked whether the list of trust services should be exhaustive or open-ended, and if a provision generically enabling the use of trust services should be inserted in the draft provisions.

111. It was said that an open-ended list of trust services and a general provision on trust services were desirable as they could accommodate future developments. However, it was also indicated that an open-ended list and a general provision on trust services were not desirable given that functional equivalence provisions needed to relate to a function, which, in that case, would not exist or could not be identified.

112. The suggestion was made to move to the beginning of article 14 the concept expressed in the current draft article 6 with the following adjusted wording:

> An information that is exchanged, verified or authenticated by use of, or with support of, a trust service that meets the requirements of [this article] shall not be denied legal effect, validity or enforceability solely on the grounds that it is in electronic form or that it is not supported by a designated reliable trust service pursuant to article 16.

113. It was explained that the suggested text, which was based on the formulation of the principle of non-discrimination against the use of electronic means contained in article 5 of the Model Law on Electronic Commerce ("MLEC"),[6] aimed at providing legal effect to all trust services and not only to those explicitly recognized by the law. Moreover, that provision could also accommodate a future decision by the Working Group as to whether to allow for other categories of trust services not expressly listed in the draft article as long as they met relevant reliability criteria.

114. It was added that the suggested provision would apply both when the use of a trust service was required and when parties could agree to do so without any legislative requirement. Noting that each paragraph contained the opening words "Where the law requires", it was asked whether reference to a legal requirement was appropriate, given that the law often did not require the activities for which trust services were provided, but parties were free to engage in those activities if so desired. In that respect, it was suggested that a distinction should be drawn between cases when the law set forth mandatory procedures, which were to be satisfied with functional equivalence provisions, and when the law permitted parties to agree on own procedures. It was recalled that the MLETR used the words "requires or permits" to refer to both possibilities, although several of these provisions of the MLETR do not address the consequence where the law permits a possibility.

115. Broad support was expressed for the suggestion. The Working Group asked the Secretariat to prepare a draft provision on that basis, clarifying that the provision

[6] United Nations publication, Sales No. E.99.V.4.

would need to provide clear guidance where the law requires as well as permits conduct.

1. Electronic signatures

116. With respect to paragraph 1, some support was expressed for retaining option A. However, the prevailing view was that option B should be retained as it was broader and more detailed and could therefore provide additional guidance.

117. It was indicated that the words "as reliable as appropriate" contained in paragraph 1(b)(i) of option B were vague and could pose interpretive challenges. It was added that those words could allow the recognition of trust services that did not comply with the reliability requirements set forth in draft article 15. It was stressed that cross-border legal recognition required predictability that could be obtained only by assessing reliability against a predetermined list of elements. For that reason, it was suggested that the words "as reliable as appropriate" should be replaced with the word "reliable", or that the word "reliable" be inserted before the word "method" in paragraph 1(a) of option B. It was also suggested that draft article 14(1) should cross-refer to draft article 15, and that this could be achieved by including a new subparagraph 1(b)(iii) with the words "reliable in accordance with article 15".

118. In the same line, it was suggested that a provision should be inserted in paragraph 1(b) of option B to accommodate ex ante evaluation of reliability of trust services. It was also suggested that verification of the intention associated with the signature should be carried out by a third party and not by the party that expressed the intention.

119. In response, it was explained that the words "as reliable as appropriate" were needed as they aimed at allowing broad discretion in selecting the trust services most appropriate for the parties' needs and the level of assurance they envisaged for their transaction. It was noted that those words were contained in UNCITRAL texts and their meaning was well-settled. It was added that, in order to address similar concerns, a provision corresponding to subparagraph 1(b)(ii) of option B was inserted in article 9, paragraph 3 of the United Nations Convention on the Use of Electronic Communications in International Contracts (New York, 2005) ("ECC").[7]

120. It was also said that draft article 15 did not establish a list of qualified trust services but only associated a presumption to trust services meeting certain requirements, and that it did not imply that trust services not meeting those requirements were not reliable. In fact, it was added, most electronic signatures used nationally and internationally did not meet the requirements of article 15. Accordingly, it was suggested that draft article 14(1) not include a cross-reference to draft article 15. In response, the point was made that the subparagraphs of paragraph (1)(b) in option B were alternative not cumulative, and that the inclusion of any new subparagraph referring to article 15 or to an ex ante approach would not restrict the ability to rely on subparagraph (i) or apply an ex post approach.

121. The point was made that chapter IV, like chapter III, was structured on the basis of the MLES, and that therefore it already accommodated an ex ante approach through draft article 16. It was said that the Working Group should retain both approaches and that the current structure of chapter IV should be retained. The view was also expressed that, regardless of the approach, the same criteria should be used for reliability and cross-border recognition.

122. It was suggested that option B for paragraph 1 did not address the function of "perpetuation" of electronic signatures, i.e. the ability to verify the signature at a later point in time. Accordingly, it was suggested that the words "in a way that a third party can later verify that intention" should be added at the end of paragraph 1(a). In response, it was noted that the ability to carry out later verification was a necessary

[7] United Nations, *Treaty Series*, vol. 2898, No. 50525, p. 3.

quality of electronic signatures, and that therefore the proposed addition was unnecessary.

123. As a general point, it was suggested that the Working Group reflect on the implications of making changes to formulations of rules on electronic signatures as already settled in existing UNCITRAL texts. At the same time, it was noted that, if the rules were proven not to be fit for purpose, they needed to be reformulated. Ultimately, the Working Group decided that it was premature to take a position on the wording of draft article 14(1).

2. Electronic seals

124. Different views were heard with respect to the possibility of treating the electronic seal as a discrete trust service or as a subset of electronic signatures.

125. It was explained that the eIDAS Regulation introduced a clear distinction between electronic signatures and electronic seals: electronic signatures were used to sign, i.e. to express will with respect to information in a manner that could not be repudiated, while electronic seals ensured origin and integrity of a data message but not an expression of will. It was also explained that electronic seals had been introduced to overcome challenges related to the use of electronic signatures in large organizations and arising from the link between an electronic signature and a natural person. Thus, it was added, electronic seals could be used only by legal persons. However, it was further explained that a common business practice saw the use of hybrid methods combining electronic signatures and electronic seals.

126. It was recalled that the goal of the work of the Working Group was to enable cross-border recognition and that it was therefore useful to recognize electronic seals, although those trust services were available only in certain jurisdictions. On the other hand, it was said that electronic seals performed the same functions of signatures, i.e. to attribute information to certain subjects. It was added that the legal notion of "seal" had different implications in different jurisdictions and reference to that notion should be avoided.

127. It was explained that UNCITRAL texts on electronic commerce did not refer to the notion of electronic seal because the notion of integrity, which is relevant for electronic seal, was dealt with in UNCITRAL texts in the context of the requirements for the functional equivalence of the notion of original. It was added that, while the notion of electronic signature in UNCITRAL texts did not require assurance of integrity, article 6 subparagraph (3)(d) MLES recognized the possibility that certain electronic signatures could also provide assurance of integrity of the related information.

128. After discussion, the Working Group agreed to ask the Secretariat to insert a provision on electronic seals in the draft provisions.

3. Electronic timestamps

129. There was broad support for including a provision on electronic timestamps.

130. It was suggested that the bracketed words "certain documents, records or information" in draft article 14(2) be replaced with the word "data". In response, it was said that the term "information" was preferable, as it implied data that was presented in an organized manner. It was also noted that the term "data" might be interpreted narrowly as only including raw data in a database. The Working Group agreed not to delete the bracketed words, but to include a reference to data after the word "information".

131. It was suggested that integrity of information was an important function of timestamping and that this be reflected in draft article 14(2). At the same time, it was noted that this was not the case in all jurisdictions. After discussion, the Working Group agreed to incorporate a requirement of integrity into the draft provision on

electronic timestamps along the lines of article 6(3)(d) MLES. As such, it would be presented as an optional function of electronic timestamps.

132. It was suggested that, in order to properly associate time and date with an electronic communication, draft article 14(2) require the timestamp to use Coordinated Universal Time (UTC). A concern was raised that this could be seen as UNCITRAL taking a position on the use of UTC. As a compromise, it was suggested that the provision require the timestamp to specify the time zone used. A further concern was raised that such a requirement might conflict with the principle of technology neutrality. The point was also made that the requirement might be unnecessary as, without specifying a particular place or time zone, the time stamp would not, as a matter of fact, be associating time and date with the electronic communication, and would therefore not satisfy the requirements of draft article 14(2). Nevertheless, the Working Group agreed to incorporate a requirement to specify a time zone into the draft provision.

133. The point was made that there were parallels between electronic timestamp services and electronic proof of presence services. It was suggested that the latter services be considered separately for the time being.

134. A query was raised whether draft article 14(2) and other paragraphs of draft article 14 that were based on the formulation in option A for paragraph (1) should be redrafted along the lines of option B for paragraph (1), given the prevailing view in support of that option. In response, it was noted that option B was specific to electronic signatures, as evidenced by the fact that the other functional equivalence rules in the ECC (on which option B was based) were not drafted along similar lines. The Working Group requested that the Secretariat prepare alternative drafting for the other paragraphs of draft article 14 along the lines of option B for paragraph (1).

4. Electronic archiving

135. A concern was raised that draft article 14(3) might not adequately address data migration. It was added that a solution might be to incorporate elements from article 9(5) ECC, which acknowledges that, in the course of migrating data, changes may arise in the normal course of the archiving process.

136. A further concern was raised that, if the opening phrase of draft article 14(3) were given a broad interpretation, it might be considered to apply to information that by law constituted the mandatory content of negotiable instruments such as promissory notes.

137. A query was raised about the meaning of the word “format” in subparagraph (b), and a concern that this might conflict with the principle of technology neutrality by fixing the format of data being archived. In response, it was noted that article 14(3) was based on article 10 of the MLEC, which used the term “format” but allowed for the use of different formats in the process of retaining data message (as explained in paragraph 73 of document A/CN.9/WG.IV/WP.158).

138. It was asked whether there was any legal significance attached to the fact that the title of article 10 of the MLEC referred to “retention” of data messages, while draft article 14(3) referred to electronic “archiving”. In response, it was explained that the difference in titles was not substantive, and merely reflected the fact that the MLEC was concerned with satisfying legal requirements (i.e., the legal requirement to retain documents), while the draft instrument under consideration was concerned with trust services provided to satisfy those requirements (i.e., electronic archiving).

5. Electronic registered delivery services

139. It was observed that electronic registered delivery services were not concerned with the method of transmission, and therefore that the words “to transmit [the electronic communication]” in draft article 14(4) should be replaced with “for the provision of the service”. A query was also raised whether identification of the sender might be an element of the trust service.

140. It was suggested that draft article 14(4) should apply *either* to proof of dispatch *or* to proof of receipt (rather than to the two concepts cumulatively). At the same time, it was indicated that the concept of "delivery" implied not only proof of dispatch but also proof of receipt, and that further discussion on the meaning of the concept was needed. It was also suggested that further consideration be given to the concepts of "dispatch" and "receipt".

141. In response, it was suggested that draft article 14(4) might be redrafted to incorporate elements of article 10 ECC, which defines the concepts of "dispatch" and "receipt" in an electronic context. It was added that, by doing so, it might be unnecessary to include identification as an element of the trust service as the definition of these concepts already included attribution of the "originator" and the "addressee" of the electronic communication. It was further suggested that the reference to transmission in the draft article be replaced with a reference to an assurance of the integrity of the communication from the time of dispatch until the time of receipt. The Working Group agreed for article 14(4) to be redrafted to incorporate elements of article 10 ECC.

6. Website authentication

142. It was noted that website authentication services offered more than just the identification of the website owner. At the same time, it was noted that other authentication concerning content on website should not be confused with authentication of the website itself.

143. A question was raised as to what it meant to "link" a website owner to a website, as provided for in draft article 14(5). It was added that a separate requirement to establish such a link might be unnecessary as the link would ordinarily be established by identifying the website owner.

144. It was suggested that the Working Group might consider expanding draft article 14(5) so as to provide for the identification of physical and digital objects.

7. Electronic escrow

145. It was said that electronic escrow services were common and particularly useful for business, but that they were not also trust services.

146. On the other hand, it was also said that electronic escrow services applied to various types of digital assets and other electronic information such as payment orders and software codes. However, a functional equivalence rule might not be suitable for electronic escrows.

147. The Working Group asked the Secretariat to provide a definition of "electronic escrow" as well as examples of its use for further consideration.

8. Identification of objects

148. It was said that identification of physical and digital objects was an important matter for trade. In practice, however, manufacturers and owners decided how to identify objects on the basis of their risk assessment, and that it would be undesirable to regulate that matter.

149. In the same line, it was indicated that identification of objects was, in fact, identification of the subjects owning those objects and responsible for them. However, the view was also expressed that identification of owners of objects was not always possible, and that, even when possible, additional legal issues may arise. The Working Group agreed not to consider identification of objects as a discrete trust service.

H. Draft article 15

150. It was noted that article 15 needed to be expanded so as to apply to other trust services covered by the draft instrument. It was also noted that some elements of article 15 might not reflect current practices. For instance, with regard to subparagraph (b), it was explained that signature creation data could be under the control of a third party.

151. It was suggested that article 15 reflect additional criteria such as the conservation of electronic signatures and the ability to verify the electronic signatures at a later point in time (see also para. 122 above).

I. Draft articles 16 and 17

152. The Working Group agreed, in principle, that the amendments that it agreed to make to draft articles 11 and 12 (see paras. 76 and 97 above) be made, as applicable, to draft articles 16 and 17, respectively, and that the amended draft provisions be discussed at its next session.

153. With respect to draft article 17(2), it was noted that, for some trust services such as website authentication, it might be difficult for the trust service provider to comply with an obligation to notify all relying parties.

V. Technical assistance and coordination

154. The Secretariat provided a short oral report on technical assistance activities. It was added that the Secretariat continued in promoting the adoption, use and uniform interpretation of UNCITRAL texts on electronic commerce, including by assisting in drafting and by reviewing legislation.

155. It was also said that the Secretariat continued to carry out work in the field of paperless trade facilitation in cooperation with other concerned organizations, namely the United Nations Economic and Social Commission for Asia and the Pacific (UN/ESCAP). Related work regarded the possible and actual use of UNCITRAL texts on electronic transactions and electronic signatures for the implementation of free trade agreements.

156. The Working Group welcomed the report of the Secretariat. It was stressed that promotional activities were essential to ensure that legislative work would bring expected benefits.

VI. Other business

157. The Secretariat informed the Working Group that, in line with the mandate received from the Commission at its fifty-first session, in 2018 (A/73/17, para. 253 (b)), a series of meetings on various aspects of the digital economy were being organized. It was reported that an expert meeting on data as a commodity had been co-organized with the French Ministry for Europe and Foreign Affairs and the Institut des Hautes Études sur la Justice and had taken place on 15 March 2019 at the premises of the Organization for Economic Cooperation and Development in Paris. It was added that an expert group meeting on smart contracts, artificial intelligence (AI), fintech and blockchain was being co-organized with Unidroit and would take place on 6–7 May 2019 in Rome. It was further said that a workshop on several aspects of the digital economy, including IdM and trust services, cross-border data flows, smart contracts and AI, and paperless trade facilitation was being organized with the Colombian Ministerio de Tecnologías de la Información y las Comunicaciones, with the involvement of the Organization of American States and of the Inter-American Development Bank, and that the workshop would take place on 5 June 2019 in

Bogotá. It was recalled that a report on the outcome of those meetings would be submitted to the Commission for consideration at its fifty-second session, in 2019. States and other organizations were invited to take part in those events and to contact the Secretariat for more information.

158. The Working Group welcomed the report on the exploratory work of the Secretariat on legal issues of the digital economy. It was indicated that early discussion of possible future work was beneficial. It was also suggested that the Working Group might be able to work on multiple topics simultaneously. In response, it was said that it was advisable to focus on the current project, which required significant resources and attention.