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**United Nations Commission  
 on International Trade Law**  
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**Possible future work on electronic commerce – Proposal of  
 the United States of America on electronic transferable  
 records\***
**Contents**

	<i>Paragraphs</i>	<i>Page</i>
1. Sectoral application. . . . .	6-9	3
2. Subject matter – electronic transferable records. . . . .	10-13	3
3. The challenges of electronic transferable records. . . . .	14-16	4
4. Concept of “control” as a replacement for possession . . . . .	17-18	5
(a) Establishing control . . . . .	19-20	5
(b) How might a system “reliably establish” identity of person in control . . . . .	21-22	6
5. Using “designation” to address the “uniqueness” requirement . . . . .	23-24	7
6. Existing work. . . . .	25-28	7
7. Recommendations regarding work to be done by the Commission. . . . .	29	9

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\* The late submission of the document reflects the date on which the proposal was communicated to the Secretariat.



1. In the present international commercial environment, there is a significant opportunity for businesses to improve greatly their efficiency and productivity by migrating to the use of electronic transferable records – that is, electronic transferable (negotiable and non-negotiable) instruments and electronic documents of title. As businesses adapt to the capabilities made available to them by new technologies, there will be an increasing need for transferable records that are compatible with these business methods.
2. This area of the law, however, continues to be unresolved. There is, quite simply, no broad international consensus on how to go about establishing systems that will support legally reliable electronic transferable records. Moreover, there is no broad agreement as to the methods by which electronic transferable records can be implemented, and the legal and risk issues that such a move would entail. There is for example not yet agreement as to how to deal with third-party rights. Achieving progress in this subject by UNCITRAL might be one of the most significant things that can be done to promote electronic commerce.
3. In December 2000, the Secretariat prepared a paper for Working Group IV entitled “**Possible future work on electronic commerce: Transfer of rights in tangible goods and other rights**” (A/CN.9/WG.IV/WP.90).<sup>1</sup> This paper was prepared in contemplation of the completion of its work on the **Model Law on Electronic Signatures** in 2001,<sup>2</sup> and identified and explained many issues involved in this subject. The Commission decided first to have Working Group IV address fundamental issues relating to electronic contracting, and it proceeded with a project to develop the **Convention on the Use of Electronic Communications in International Contracts**,<sup>3</sup> which was completed in 2005.
4. There has been some progress in the development of specific applications of electronic transferable records. The Commission has prepared the **United Nations Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea**,<sup>4</sup> which addresses aspects of electronic transferable records in that environment. Our proposal also cites other international examples of electronic transferable record work. Some domestic examples are drawn from practice in the United States, simply as a way to initiate discussion. If the Commission authorizes the Secretariat to expand this work, examples and experience of other States and regions would be included.
5. In light of the success UNCITRAL has demonstrated in building a global legal foundation and vocabulary with respect to the fundamental issues of electronic signatures and electronic contracting, we believe that it is now time for UNCITRAL to apply its considerable expertise to a wider range of applications of electronic commerce, and accordingly to address the equivalent global legal foundation issues surrounding electronic transferable records.

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<sup>1</sup> Available at

[www.uncitral.org/uncitral/en/commission/working\\_groups/4Electronic\\_Commerce.html](http://www.uncitral.org/uncitral/en/commission/working_groups/4Electronic_Commerce.html).

<sup>2</sup> United Nations publication, Sales No. E.02.V.8, available at

[www.uncitral.org/uncitral/en/uncitral\\_texts/electronic\\_commerce/2001Model\\_signatures.html](http://www.uncitral.org/uncitral/en/uncitral_texts/electronic_commerce/2001Model_signatures.html).

<sup>3</sup> United Nations publication, Sales No. E.07.V.2, available at

[www.uncitral.org/uncitral/en/uncitral\\_texts/electronic\\_commerce/2005Convention.html](http://www.uncitral.org/uncitral/en/uncitral_texts/electronic_commerce/2005Convention.html).

<sup>4</sup> General Assembly Resolution A/RES/63/122, Annex, available at

[http://www.uncitral.org/uncitral/en/uncitral\\_texts/transport\\_goods/2008rotterdam\\_rules.html](http://www.uncitral.org/uncitral/en/uncitral_texts/transport_goods/2008rotterdam_rules.html).

## 1. Sectoral application

6. This paper briefly outlines some basic principles and considerations of electronic transferability that the Commission might wish to consider addressing in a future project. These principles will serve as a foundation to a wide spectrum of applications. In addition, UNCITRAL might wish to assist sectors in understanding how best to develop approaches to electronic transferable records that meet their needs.

7. It is important to keep in mind that applications of electronic transferable records will vary by sector and possibly within sectors and business applications as well, because particular applications entail a different set of parties, industries, technologies, system architectures and, therefore, attendant risks. This has always been true for successful systems. Indeed, traditional paper cheques themselves utilize a combination of “tokens” (the negotiable instrument) and “registries” (e.g., the bank account). These terms are further described below.

8. Electronic transferable records may, for example, have differing requirements depending on the application, for authentication, security, access by third parties, conversion from electronic to paper (and vice-versa), system cost constraints, transaction ranges, volumes and scalability, mobility, negotiability, party capabilities, automated transaction processing, timeliness and transaction finality, single registries vs. multiple registries (and interoperability and transfers between systems), fraud risk, evidentiary and regulatory concerns. In addressing these factors, many sectors will rely to a significant extent on private system rules, with associated legislation to address such areas as third-party property rights.

9. These differing requirements serve to emphasize the need for clarification of the fundamental considerations in this area, as well as the need to rationalize approaches to solving specific problems. Accordingly, we believe that the Working Group should focus at a high level on the common problems and approaches in establishing a viable electronic transferable record system. It should develop basic principles and considerations that will be common to all unique implementation systems, and offer a means to allow the specific needs of each system to be adequately addressed. It can then refine these principles with respect to particular sectors, as appropriate.

## 2. Subject matter – electronic transferable records

10. For the purposes of this paper and as adopted in some laws in order to avoid implications of terms used in prior practice, an **electronic transferable record** may be considered an electronic equivalent of a transferable instrument (negotiable or non-negotiable) or transferable document.

- **Transferable instruments** are financial instruments that permit transfer of the instrument to persons who are not parties to the underlying transaction. They may contain an unconditional promise to pay a fixed amount of money to the holder of the instrument, or an order to a third party to pay the holder of the instrument. Examples of transferable instruments include promissory notes, drafts, cheques, and certificates of deposit. They may also include chattel paper (e.g. retail instalment sales contracts, promissory notes secured by an interest in personal property, and equipment leases).

- **Transferable documents**, also called documents of title, include transport documents, bills of lading, dock warrants, dock receipts, warehouse receipts, or orders for the delivery of goods, and also any other documents which in the regular course of business or financing are treated as adequately evidencing that the person in possession of it is entitled to receive, hold, and dispose of the document and the goods it covers (subject to any defences to enforcement of the document).
- **Negotiable instruments and documents** are a subset of transferable instruments and documents for which the transferee may, under certain circumstances, obtain better title than the transferor. This permits the instrument or document to be transferred in commerce independent of the underlying obligation, for which information may be unobtainable due to remoteness of the underlying transaction.

11. Today, both transferable instruments and transferable documents typically exist as paper documents (jointly referred to as “transferable paper”). Each of these types of paper documents evidence an obligation owed by the person issuing the paper document to another person named in the document. For example, a promissory note evidences an obligation to repay a debt. A negotiable warehouse receipt represents an obligation by the warehouse operator to deliver goods stored in the warehouse to the owner of the receipt.

12. Documents comprising transferable paper “reify” the obligations they represent; that is, physical delivery of the paper document itself to the transferee, coupled with the transferor’s signed declaration of an intent to transfer (either written on the document or attached to it), may constitute evidence of the transferee’s right to enforce the underlying obligation. Stated differently, title to transferable paper (and the rights it comprises) passes by endorsement and delivery of the original paper document, and the transferee in good faith and for a consideration of value may acquire title against the whole world, subject to relevant defences.

13. Thus, three characteristics of transferable paper are relevant: (1) **uniqueness** – i.e., there must be a single unique document (or token) that represents the value inherent in the transferable paper and that can be transferred to an assignee, (2) **possession** – i.e., possession of the unique document (or token) is what is used to determine who is entitled to the value represented therein, and (3) **ownership** – i.e., good title to the instrument by the holder, often indicated by means of a signature or endorsement.

### 3. The challenges of electronic transferable records

14. One of the most significant challenges faced in updating or adapting transferable paper legal regimes to accommodate electronic transferable records is replicating the need for uniqueness of the document (or token) that represents the value/obligation, and identifying the person who is considered to have possession of that document and thus the owner of the value it represents. Current developments may suggest solutions different than those focused on at an earlier phase of electronic commerce.

15. An electronic record – even if electronically signed – generally can be copied, bit-for-bit, in a way that creates a copy identical to the first and indistinguishable

from it. Thus, absent special measures or widespread application of technologies not today in common use, there is little certainty that an electronic record is unique. Furthermore, many of the methods currently used to create and store electronic records render irrelevant or misleading the concept of a unique “original”. For example, electronic records are often held in storage as dynamic files – the record that is accessed and viewed is actually composed of a dataset, which is specific to the transaction, and a document template that may be propagated with data from the dataset and may be used with thousands of transactions. The “complete” record does not exist, as a unitary file, until it is accessed. The component parts are only then assembled for viewing or printing. When access is terminated, so is the “complete” record.

16. While these concerns have, in the past, been considered a difficult problem in the creation of a legal framework for electronic transferable records, recent approaches (such as registries, indemnity provisions, and the like) have pointed the way to potential solutions. For example, difficulties in achieving uniqueness call for not only solving issues technologically, but for some sectors would need to rest also on wide application of those technologies and at an acceptable cost commercially. Recent progress on data storage and retrievability at costs lower than previously experienced make electronic registries more feasible which could avoid the need to achieve low-cost uniqueness.

#### **4. Concept of “control” as a replacement for possession**

17. In some transferable record legal models, the concept of “control” over an electronic record is used instead of possession. Specifically, control serves as the substitute for delivery, endorsement and possession of a transferable promissory note or transferable document of title.

18. In a paper environment, possession of transferable paper is generally required in order to become entitled to enforce the document. The purpose of the possession requirement is to protect the maker or drawer from multiple liability on the same instrument. Possession is important not because tangible paper tokens are per se valuable, but because only one person can be in possession of a tangible object at one time. If a computer system can be set up to prevent claims of ownership of an electronic transferable record by more than one person at a time, then a possession requirement for the instrument may be unnecessary.

##### **(a) Establishing control**

19. Legal systems using “control” as a replacement for “possession” often specifically recognize that the control requirements may be satisfied through the use of a trusted third-party registry system. In the United States, it has been noted that “A system relying on a third-party registry is likely the *most effective way* to satisfy the requirements ... that the Transferable Record remain unique, identifiable and unalterable, while also providing the means to assure that the transferee is clearly noted and identified.”<sup>5</sup> But there may also be technological approaches to achieve the same goal.

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<sup>5</sup> Uniform Electronic Transactions Act (UETA) Section 16, Official Comment 3 (emphasis added).

20. Because it has been seen as a substitute for the possession requirement in the paper world, the concept of “control” is typically defined in a manner that focuses on the identity of the person entitled to enforce the transferable record. For example, under United States law: “A person has control of a Transferable Record if a system employed for evidencing the transfer of interests in the Transferable Record reliably establishes that person as the person to which the Transferable Record was issued or transferred.”<sup>6</sup> The key point is that a system, whether involving third-party registry or technological safeguards, must be shown to reliably establish the identity of the person entitled to payment or delivery of goods.<sup>7</sup>

**(b) How might a system “reliably establish” identity of person in control**

21. In general, two basic approaches have been advanced to establish the identity of the person to whom the transferable record was issued or transferred.

*(i) Person identified in electronic transferable record itself (Token Model)*

Under the first approach (the Token Model), the identity of the owner of the electronic transferable record is contained in the electronic record itself, and changes in ownership (e.g., assignments) are noted by modifications directly to the electronic transferable record. With this approach, “reliably establishing” the owner of the electronic transferable record requires the system to maintain careful control over the electronic record itself, as well as the process for transfers of control. In other words, like transferable paper, there may be a need for technological or security safeguards to ensure the existence of a unique “single authoritative copy”, that cannot be copied or altered,<sup>8</sup> and that can be referenced to determine the identity of the owner (as well as the terms of the note itself). Achieving this goal may also require a means to identify all other copies of the electronic transferable record as “not authoritative” in order to provide assurance that they cannot be used for fraudulent or improper purposes (e.g., transferring copies to multiple unsuspecting buyers who take in good faith). Otherwise, even accurate copies of the electronic transferable record may pose a risk. Thus, in this kind of system, the concept of control often focuses on security for a single copy of the electronic transferable record.

*(ii) Person identified in a separate registry (Registry Model)*

Under the second approach (the Registry Model), the identity of the owner of the electronic transferable record is contained in a separate independent third-party registry. With this approach, “reliably establishing” the owner of the electronic transferable record requires careful control over the registry, and the uniqueness of a copy of the electronic transferable record itself becomes less important. The electronic transferable record merely contains a reference to the registry where the identity of the owner can be found and does not change over time.

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<sup>6</sup> UETA § 16 (b); 15 U.S.C. § 7021 (b).

<sup>7</sup> UETA Section 16, Official Comment 3.

<sup>8</sup> This might be accomplished by the technology used to create the record (which may not yet exist), or by keeping the record under very tight security such that no one can access it to copy or modify it.

22. With this approach, the concern regarding multiple accurate copies of the electronic transferable record is not necessarily present, since ownership is not determined by possession of the copy itself, and transfer does not involve altering or indorsing those copies.<sup>9</sup> The primary concern regarding the copies of the electronic transferable record is that there be a mechanism to determine whether any particular copy is accurate (i.e., that its integrity is intact) so that anyone viewing the copy is on notice as to where the owner is identified, and so that the true owner identified in the registry can enforce it. Thus, in this kind of system, the concept of control and associated security concerns focus primarily on the registry rather than the electronic transferable record itself.

## 5. Using “designation” to address the “uniqueness” requirement

23. Signed electronic records do not inherently possess a characteristic of uniqueness when used with most current technologies. To address this issue, some legal systems take the view that, in the electronic environment, it is not necessary that the electronic record possess an intrinsic characteristic that makes it a truly “unique” electronic record in the sense that identical copies cannot exist. Instead they focus on a characteristic that distinguishes one electronic copy from other copies. That characteristic can presumably be intrinsic to the record itself (if and when the technology is available), or can be provided by designation.

24. One approach is to recognize that the characteristics associated with uniqueness can also be established by designation (e.g., within a computer system), rather than by anything intrinsic to the electronic transferable record itself. To that end, some legal systems permit the use of information systems that have been designed to keep track of the record through the use of something like a registry, and that restrict access to the record or control the input process to authorized persons only. Other systems focus on technology, process or agreement. For example, an authoritative copy stored within a controlled-access system may be provided with a unique control number, or be held in a specified server or other location that makes it distinguishable from other copies.

## 6. Existing work

25. In the past few years there have been several legal and commercial efforts to address the use of a variety of different electronic records.

26. The **legal efforts** include work by UNCITRAL, the Hague Conference on Private International Law, the Organization of American States (OAS), as well as the domestic law of a number of States.

- The **UNCITRAL Model Law on Electronic Commerce (1996)**<sup>10</sup> addresses issues pertaining to carriage of goods and transport documents in Articles 16 and 17, including transferable rights. In particular, Article 17 (3) allows for a personal right or obligation to be represented by a data message, provided a

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<sup>9</sup> In some systems, the registry also holds the authoritative copy as well as the identity of the person in control of it. In other systems, the registry simply holds only the digital signature of the authoritative copy, which is then available to verify the integrity of any copy the person in control later seeks to enforce.

<sup>10</sup> United Nations publication, Sales No. E.99.V.4, available at [www.uncitral.org/uncitral/en/uncitral\\_texts/electronic\\_commerce/1996Model.html](http://www.uncitral.org/uncitral/en/uncitral_texts/electronic_commerce/1996Model.html).

reliable method is used to render the data message unique. Article 17 (5) permits conversion from electronic data messages to paper, provided the data message has been terminated and a statement of such termination is included in the paper replacement document.

- At the Hague Conference on Private International Law, the **2006 Convention on the Law Applicable to Certain Rights in respect of Securities held with an Intermediary** deals with intangible securities held by an intermediary.<sup>11</sup>
- The Organization of American States (OAS) has pursued a number of initiatives related to the transfer of rights in tangible goods in recent years that involve the potential use of electronic communications. In 2002 the OAS adopted the **Inter-American Uniform Through Bill of Lading for the International Carriage of Goods by the Road (Negotiable)**,<sup>12</sup> which provides for the possibility of electronic signatures, as well as other signature types, if authorized by applicable law. In 2002 the OAS also adopted a **Model Inter-American Law on Secured Transactions**,<sup>13</sup> including an **Annex, Uniform Inter-American Rules for Electronic Documents and Signatures**<sup>14</sup> which supports the use of electronic communications technologies for both the Inter-American Uniform Through Bill of Lading for the International Carriage of Goods by the Road (Negotiable) and the Model Inter-American Law on Secured Transactions.
- In the United States, several current laws support electronic transferable instruments and electronic documents of title. **Article 7 of the Uniform Commercial Code (UCC), on Documents of Title** (covering warehouse receipts, bills of lading and other documents of title) includes recognition of electronic documents of title, **Article 8 of the UCC on Investment Securities** includes parallels to the 2006 Hague Convention, cited above, **Article 9 of the UCC on Secured Transactions** includes recognition of electronic chattel paper, and the **Uniform Electronic Transactions Act (UETA)** and the **Electronic Signatures in Global and National Commerce Act (E-SIGN)** recognize electronic transferable records.
- In addition, Unidroit's **Convention on International Interests in Mobile Equipment** (the "Cape Town Convention")<sup>15</sup> establishes an electronic registry system for the registration of international interests in equipment with no fixed location in order to give notice of their existence to third parties and enable the creditor to preserve its priority against subsequently registered interests, as

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<sup>11</sup> Hague Conference on Private International Law, Convention on the Law Applicable to Certain Rights in respect of Securities held with an Intermediary, available at [www.hcch.net/index\\_en.php?act=conventions.text&cid=72](http://www.hcch.net/index_en.php?act=conventions.text&cid=72). Legal issues in transferable records are also being considered by UN/CEFACT, see [www.unece.org/cefact](http://www.unece.org/cefact).

<sup>12</sup> Inter-American Uniform Through Bill of Lading for the International Carriage of Goods by the Road (Negotiable), available at <http://www.oas.org/DIL/CIDIP-VI-billoflading-Eng.htm>.

<sup>13</sup> Available at [www.oas.org/DIL/CIDIP-VI-securedtransactions\\_Eng.htm](http://www.oas.org/DIL/CIDIP-VI-securedtransactions_Eng.htm). This Model Law was approved by the Plenary meeting of delegates on 8 February 2002 as resolution CIDIP-VI/RES.5/02, which can be accessed at [www.oas.org/main/main.asp?sLang=E&sLink=http://www.oas.org/dil/](http://www.oas.org/main/main.asp?sLang=E&sLink=http://www.oas.org/dil/). The Model Law itself may be accessed (in Spanish and English) at [www.oas.org/dil/Annex\\_cidipviRES.%205-02.pdf](http://www.oas.org/dil/Annex_cidipviRES.%205-02.pdf).

<sup>14</sup> Available at [www.oas.org/main/main.asp?sLang=E&sLink=http://www.oas.org/dil/](http://www.oas.org/main/main.asp?sLang=E&sLink=http://www.oas.org/dil/).

<sup>15</sup> Available at [www.unidroit.org/english/conventions/mobile-equipment/main.htm](http://www.unidroit.org/english/conventions/mobile-equipment/main.htm).

well as against unregistered interests and the debtor's insolvency administrator.

27. **Commercial efforts** include a variety of projects, such as the following:

- The Association of National Numbering Agencies (ANNA) has issued Guidelines for its International Securities Identification Numbering (ISIN) system under ISO6166.<sup>16</sup> Each ISIN is a 12-character number that uniquely identifies a security. The most recent update to the Guidelines provides more explicit explanations of corporate actions applying on physical certificates compared to a paperless environment.
- The Comité Maritime International,<sup>17</sup> has developed Rules for Electronic Bills of Lading.<sup>18</sup>
- Bolero<sup>19</sup> has developed a neutral platform enabling paperless trading between buyers, sellers, and their logistics service and bank partners.
- The United States Mortgage Industry Standards Maintenance Organization has done extensive work regarding electronic promissory notes and electronic mortgages,<sup>20</sup> and established an electronic registry system for electronic promissory notes.
- The United States Motor Vehicle Dealership Financing Industry has developed Electronic Chattel Paper Standards for Electronic Motor Vehicle Retail Sale and Lease Contracts.<sup>21</sup>

28. These efforts highlight the value that UNCITRAL can bring to this topic: (i) to define and develop consistency in underlying principles, (ii) to raise the general level of understanding of electronic transferable record considerations for users and the global community, (iii) to build on the experiences of others, and (iv) to minimize unnecessary duplication of effort.

## 7. Recommendations regarding work to be done by the Commission

29. We propose that UNCITRAL undertake a project to identify the basic issues and define the fundamental principles that must be addressed to develop workable

<sup>16</sup> ISIN Guidelines (Version 7, June 2004), available at [www.anna-web.com/neu/ISO\\_6166/ISIN\\_Guidelines\\_Version\\_7\\_%20June\\_2004.pdf](http://www.anna-web.com/neu/ISO_6166/ISIN_Guidelines_Version_7_%20June_2004.pdf); ISIN allocation rules for debt instruments issued under Rule 144A and Regulation S, available at [www.anna-web.com/neu/ISO\\_6166/ISIN\\_Guidelines\\_AnnexA\\_RegS\\_144A.pdf](http://www.anna-web.com/neu/ISO_6166/ISIN_Guidelines_AnnexA_RegS_144A.pdf).

<sup>17</sup> "Comité Maritime International". It is a non-governmental not-for-profit international organization established in Antwerp in 1897, the object of which is to contribute by all appropriate means and activities to the unification of maritime law in all its aspects. To this end it shall promote the establishment of national associations of maritime law and shall cooperate with other international organizations. See [www.comitemaritime.org](http://www.comitemaritime.org).

<sup>18</sup> Available at [www.comitemaritime.org/cmidoocs/rulesebla.html](http://www.comitemaritime.org/cmidoocs/rulesebla.html).

<sup>19</sup> Available at [www.bolero.net/](http://www.bolero.net/).

<sup>20</sup> Available at [www.mismo.org](http://www.mismo.org).

<sup>21</sup> See, e.g., [www.spers.org/EFSCconference/TomBuitewegElectronicChattelPaper.htm](http://www.spers.org/EFSCconference/TomBuitewegElectronicChattelPaper.htm). In addition, the United States cotton industry has begun to use electronic cotton warehouse receipts, following an amendment to the United States Warehouse Act (7 U.S.C. 259 (c)) and regulations by the United States Department of Agriculture making electronic warehouse receipts equivalent to paper receipts. See, e.g., [http://southwestfarmpress.com/mag/farming\\_electronic\\_warehouse\\_receipts/](http://southwestfarmpress.com/mag/farming_electronic_warehouse_receipts/).

international legal systems for electronic transferable records, and to assist States in developing domestic systems that affect international commerce. Presumably, other aspects of electronic transferable records that have not been extensively dealt with in this paper will be addressed, as appropriate. Such work will likely focus to some extent on the use of electronic registries, but should recognize that specific solutions will vary based on sector and application requirements. The project would include a clear set of high-level principles that can be incorporated in any international system for transferable records. Additional guidance could be provided to assist States, international organizations, and industries to assess the legal risks as well as the options available to them, and to help them through the process of crafting approaches to transferability best suited to their needs and the needs of global commerce. If appropriate, following this phase, consideration could then be given to the possible need for and feasibility of elaborating additional instruments that could promote commerce and trade by boosting the effectiveness of electronic records.

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