

# A Study on the Clause of Uniform Commercial Code for Electronic Bills of Lading

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## Abstract

In 2003, the Uniform Commercial Code(UCC) which is a kind of model law to unify commercial law between several states in US was amended to use electronic document of title including bill of lading. It is the second following the Australia legislation in 1996. Also, the Korean government amended Commercial Act and made the Presidential Decree for using electronic bill of lading in 2008.

In this paper the authors reveal the characteristics of the clause of UCC for electronic bill of lading. The characteristics of the clause are on the technical neutrality of the signature, the possibility of reissuance in alternative medium, and adoption of the concept of "control." It helps to suggest some implications for Korean government authority.

The authors suggest the amendment of the Presidential Decree to the Korean government authority to use additionally digital signature authorized by non Korean government such as VeriSign. It will activate the use of electronic bill of lading issued by Korea repository out of Korea.

Key Words : UCC, electronic bill of lading, paperless trade, e-Trade

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## I . Introduction

Since the early 1990's, the Korean government has made constant efforts including such as "trade automation project" and "3 years project for e-trade Korea 2007" to realize e-trade<sup>1)</sup>. As a result of the efforts, in 1991, 『Act on Trade Automation』 was legislated and it was amended wholly into 『act on promotion of electronic trade』 in 2005.

The ultimate goal of these efforts is realization of electronic negotiation that is able to exchange electronic documents in international transaction under the letter of credit. There are so many exchanging documents in international trade but bill of lading is the only one as document of title. Possession of Bill of lading is amounted in law to the possession of the goods which is revealed on the bill of lading.

Electronic bill of lading has been considered as an important matter in order to realize paperless trade. However, it is not able to realize without legislation or recognition of trade custom for electronic bill of lading. In addition, establishing recognition of trade custom that is able to use electronic bill of lading needs several decades. Therefore, the efforts for realization of electronic bill of lading are focused in legislation.

In Australia, Sea Carriage Documents Act<sup>2)</sup> and the revised Carriage of Goods by Sea Act(1991) expressly provides electronic bill of lading for the first time in the world. In USA, amended Uniform Commercial Code<sup>3)</sup> permit using electronic document of title including bill of lading in 2003. The Korean government also amended Commercial Act to use electronic bill of lading in 2007 and enacted its implementing Presidential Decree in June 2008.

There has been a great deal of research on the legislation for e-Trade or electronic bill of lading.<sup>4)</sup> However,

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1) e-Trade is regarded as paperless trade in this study.

2) Australia has six states and two territories. The six states are New South Wales, Queensland, South Australia, Tasmania, Victoria, and Western Australia. The two mainland territories are the Northern Territory and the Australian Capital Territory. All states and territories except Australian Capital Territory enact Sea Carriage Documents Act from 1996 to 1998.

3) Article 7

4) The electronic bill of lading have been studied extensively during last two decades. In Korea, Kim, an-sik(1990) initiated a study on trade process using EDI. The author found some studies regarding electronic bill of lading such as followed. Regarding legal issues, Hong-Jin Park(2007), Hyo-sin Kim(2007), Sun-Jun Kang(2005)(2006), Wan-Yong Jung(2005), Yong-Deok Kim(2004), Jae-Yeol Kwon(2003), Kyug-Yung Jung(2003), Seok-Beom Choi (1994)(1999)(2001), and In-Hyun Kim(2000) was found. Regarding strategy and way of introduction of electronic bill of lading, Seok-Beom Choi(1997)(2004)(2006), Won-Jin Kang & Sang-Hyun Jo(2005), Kwang-Myung Woo(2003), Byung-Soo Ahn(2007), Sang-Jin Lee(2008) and Yong-Deok Kim(2002) was found. Regarding functions and characteristics of bill of lading, Seok-Beom Choi(2000)(2004)(2005), Won-Jin Kang(2000), Suk-Jae Park & Geon-Hun Shin(2001) was found. Out of Korea, Ian Waledn & Nigel Savage(1989), Ian Waledn(1991) studied on legal issues of EDI which is based on electronic bill of lading. Peter Jones(1993) studied on legal issues of electronic bill of lading. A.N. Yiannopoulos(1995), Richard Brett Kelly(1992), George F. Chandler III(1989) studied on dematerialization of shipping documents including electronic bill of lading. Boris Kozolchyk, a letter of credit specialist, has studied on electronic bill of lading as a part of shipping documents also. Kenjiro Egashira(1988)(1990)(1991), a Japanese jurist, has studied on electronic Sea waybill. Satoshi Niibori(1991), suggested electronic bill of lading as an alternative against bill of lading's crisis by his doctoral thesis. Ryohei Asaoka(1998), insisted that

the clause of UCC for electronic document of title including electronic bill of lading has not been studied in Korea despite of the importance. In this paper we shall examine what is the characteristics of the amended UCC and how adopted the states the amended UCC to use electronic document of title including bill of lading in their statute.

Thus, the first purpose of this paper is to reveal the characteristics of the clause of UCC for electronic bill of lading. The second purpose is to suggest to Korean government authority that how can they amend an inappropriate legislation for electronic bill of lading.

This paper consists of five sections. After the introduction, section II will review the present state of the adoption of the amended UCC for electronic document of title including bill of lading. Section III will compare the clause of UCC with the Australian and the Korean legislations. Section IV will seek for characteristics of article 7 of UCC. Finally, section V will close the discussion by pointing and suggesting some implications that Korean government should consider for using electronic bill of lading.

## II. The present state of adoption of the amended UCC in 2003

### 1. Sketching out the general features of entire UCC and Article 7 of it

There are different commercial codes in each state of United States of America. It had been obstacle for interstates commercial transaction. In 1952, to overcome this problem, the American Law Institute (ALI) and the National Conference of Commissioners on Uniform State Laws (NCCUSL) promulgated Uniform Commercial Code(UCC). However, UCC is not a positive act, but a kind of model law.

In fact, the Uniform Commercial Code has been enacted in all of the 50 states. The code has been enacted as well as District of Columbia, the Commonwealth of Puerto Rico, Guam and the U.S. Virgin Islands. However Louisiana has enacted the code without the provisions of the Article 2. Louisiana preferred to maintain its own civil law tradition for governing the sale of goods.<sup>5)</sup> The code consists of 11 Articles such as table 1.

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electronic bill of lading is a result of improvement of the international trade process.

5) [http://en.wikipedia.org/wiki/Uniform\\_Commercial\\_Code](http://en.wikipedia.org/wiki/Uniform_Commercial_Code) May 24, 2009

〈Table 1〉 The Articles of Uniform Commercial code

Article & Title		
1 General Provisions	2 Sales	2A Leases
3 Negotiable Instruments	4 Bank Deposits	4A Funds Transfers
5 Letters of Credit	6 Bulk Transfers and Bulk Sales	7 Warehouse Receipts and Bills of lading
8 Investment Securities	9 Secured Transactions	

Source : Cornell University Law School, <http://www.law.cornell.edu/uniform/ucc.html>

Article 7 of UCC consists of 6 parts. It deals with warehouse receipts, bills of lading and other documents of title. It is tabulated as follows.

〈Table 2〉 The Contents of Articles 7 of Uniform Commercial Code

PART 1. GENERAL
§ 7-101. Short Title. § 7-102. Definitions and Index of Definitions. § 7-103. Relation of Article to Treaty, Statute. § 7-104. Negotiable and Nonnegotiable Document of Title. § 7-105. Reissuance in Alternative Medium. § 7-106. Control of Electronic Document of Title.
PART 2. WAREHOUSE RECEIPTS: SPECIAL PROVISIONS
§7-201. Who May Issue a Warehouse Receipt; Storage Under Government Bond. § 7-202. Form of Warehouse Receipt; Essential Terms; Optional Terms. § 7-203. Liability for Non-receipt or Misdescription. § 7-204. Duty of Care; Contractual Limitation of Warehouseman's Liability. § 7-205. Title Under Warehouse Receipt Defeated in Certain Cases. § 7-206. Termination of Storage at Warehouseman's Option. § 7-207. Goods Must Be Kept Separate; Fungible Goods. § 7-208. Altered Warehouse Receipts. § 7-209. Lien of Warehouseman. § 7-210. Enforcement of Warehouseman's Lien.
PART 3. BILLS OF LADING: SPECIAL PROVISIONS
§ 7-301. Liability for Non-receipt or Misdescription; "Said to Contain"; "Shipper's Load and Count"; Improper Handling. § 7-302. Through Bills of Lading and Similar Documents. § 7-303. Diversion; Reconsignment; Change of Instructions.

<p>§ 7-304. Bills of Lading in a Set.</p> <p>§ 7-305. Destination Bills.</p> <p>§ 7-306. Altered Bills of Lading.</p> <p>§ 7-307. Lien of Carrier.</p> <p>§ 7-308. Enforcement of Carrier's Lien.</p> <p>§ 7-309. Duty of Care; Contractual Limitation of Carrier's Liability.</p>
<b>PART 4. WAREHOUSE RECEIPTS AND BILLS OF LADING: GENERAL OBLIGATIONS</b>
<p>§ 7-401. Irregularities in Issue of Receipt or Bill or Conduct of Issuer.</p> <p>§ 7-402. Duplicate Receipt or Bill; Overissue.</p> <p>§ 7-403. Obligation of Warehouseman or Carrier to Deliver; Excuse.</p> <p>§ 7-404. No Liability for Good Faith Delivery Pursuant to Receipt or Bill.</p>
<b>PART 5. WAREHOUSE RECEIPTS AND BILLS OF LADING: NEGOTIATION AND TRANSFER</b>
<p>§ 7-501. Form of Negotiation and Requirements of "Due Negotiation".</p> <p>§ 7-502. Rights Acquired by Due Negotiation.</p> <p>§ 7-503. Document of Title to Goods Defeated in Certain Cases.</p> <p>§ 7-504. Rights Acquired in the Absence of Due Negotiation; Effect of Diversion; Seller's Stoppage of Delivery.</p> <p>§ 7-505. Indorser Not a Guarantor for Other Parties.</p> <p>§ 7-506. Delivery Without Indorsement: Right to Compel Indorsement.</p> <p>§ 7-507. Warranties on Negotiation or Transfer of Receipt or Bill.</p> <p>§ 7-508. Warranties of Collecting Bank as to Documents.</p> <p>§ 7-509. Receipt or Bill: When Adequate Compliance With Commercial Contract.</p>
<b>PART 6. WAREHOUSE RECEIPTS AND BILLS OF LADING: MISCELLANEOUS PROVISIONS</b>
<p>§ 7-601. Lost and Missing Documents.</p> <p>§ 7-602. Attachment of Goods Covered by a Negotiable Document.</p> <p>§ 7-603. Conflicting Claims; Interpleaded.</p>

Source : Cornell University Law School, <http://www.law.cornell.edu/ucc/7/>

## 2. Major changes of article 7 of UCC in 2003

According to the prefatory note of the proposed revisions to uniform commercial code article 7—documents of title by the NCCUSL and the ALI, the objectives of amendment of article 7 are twofold. The first one is to provide a framework for the further development of electronic documents of title. The another one is to update the article for modern times in light of state, federal and international developments. For this reason, each section of article 7 has been reviewed to determine its suitability given modern practice, the need for medium and gender

neutrality, and modern statutory drafting.

Section 7-105 and section 7-106 are the major changes of article 7 of UCC in 2003. The former section 7-105 provided that the courts could apply a rule from Parts 2 and 3 by analogy to a situation not explicitly covered in the provisions on warehouse receipts or bills of lading when it was appropriate. The NCCUSL and the ALI judged that this is an unexceptional proposition and need not be stated explicitly in the statute. Thus it has been deleted.<sup>6)</sup> New section 7-105 provides the minimum requirements that need to be fulfilled in order to give effect to the substitute document issued in the alternate medium. In this section, the rules for electronic documents of title are the same or as similar as possible to the rules for tangible documents of title. Also, rules that reference documents of title or bills of lading without a designation to “electronic” or “tangible” apply to documents of title in either medium. As with the tangible negotiable documents of title, the electronic negotiable documents of title may be negotiated and duly negotiated.

Section 7-106 is inserted newly in article 7 of UCC. It sets forth the concept of “control” which is the integration of the electronic document of title scheme. The definition of "control" is adapted from the Uniform Electronic Transactions Act § 16<sup>7)</sup> on "Transferable Records" and from Uniform Commercial Code § 9-105<sup>8)</sup>

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6) NCCUSL and ALI, *DRAFT FOR APPROVAL PROPOSED REVISIONS TO UNIFORM COMMERCIAL CODE, ARTICLE 7—DOCUMENTS OF TITLE*, August 2003, p. 3.

7) SECTION 16. TRANSFERABLE RECORDS.

(a) In this section, "transferable record" means an electronic record that:

(1) would be a note under [Article 3 of the Uniform Commercial Code] or a document under [Article 7 of the Uniform Commercial Code] if the electronic record were in writing; and

(2) the issuer of the electronic record expressly has agreed is a transferable record.

(b) 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.

(c) A system satisfies subsection (b), and a person is deemed to have control of a transferable record, if the transferable record is created, stored, and assigned in such a manner that:

(1) a single authoritative copy of the transferable record exists which is unique, identifiable, and, except as otherwise provided in paragraphs (4), (5), and (6), unalterable;

(2) the authoritative copy identifies the person asserting control as:

(A) the person to which the transferable record was issued; or

(B) if the authoritative copy indicates that the transferable record has been transferred, the person to which the transferable record was most recently transferred;

(3) the authoritative copy is communicated to and maintained by the person asserting control or its designated custodian;

(4) copies or revisions that add or change an identified assignee of the authoritative copy can be made only with the consent of the person asserting control;

(5) each copy of the authoritative copy and any copy of a copy is readily identifiable as a copy that is not the authoritative copy; and

(6) any revision of the authoritative copy is readily identifiable as authorized or unauthorized.

(d) Except as otherwise agreed, a person having control of a transferable record is the holder, as defined in [Section 1-201(20) of the Uniform Commercial Code], of the transferable record and has the same rights and defenses as a holder of an equivalent record or writing under [the Uniform Commercial Code], including, if the applicable statutory requirements under [Section 3-302(a), 7-501, or 9-308 of the Uniform Commercial Code] are satisfied, the rights and defenses of a holder in due course, a holder to which a negotiable document of title has been duly negotiated, or a purchaser, respectively. Delivery, possession, and indorsement are not required to obtain or exercise any of the rights under this subsection.

(e) Except as otherwise agreed, an obligor under a transferable record has the same rights and defenses as an equivalent

concerning control of electronic chattel paper. Control of an electronic document of title is the conceptual equivalent to possession and endorsement of a tangible document of title. The other changes are tabulated as follows.

<Table 3> The changes of articles 7 of Uniform Commercial Code

Section	Change
7-102	New definitions of “carrier,” “good faith,” “record,” “sign” and “shipper.”
7-103 and 7-309	Deletion of references to tariffs or filed classifications given the deregulation of the affected industries.
7-104	Clarifying the rules regarding when a document is nonnegotiable.
Former 7-105	Making clear when rules apply just to warehouse receipts or bills of lading. Thus eliminate the need for former section 7-105.

Source : Edited by the authors from NCCUSL and ALI, op. cit., pp. 1-3.

### 3. Adopting states of article 7 of UCC in 2003

Each state enacted the article 7 of UCC in 2003 in their statutes. However, the adopting way of the article is not same respectively. Some states adopted the article as it is while some states adopted the article with some reservation. And some states does not adopt the article yet. The present situation of the adopting article 7 of UCC in 2003 is tabulated as follows.(May 2009)

obligor under equivalent records or writings under [the Uniform Commercial Code].

(f) If requested by a person against which enforcement is sought, the person seeking to enforce the transferable record shall provide reasonable proof that the person is in control of the transferable record. Proof may include access to the authoritative copy of the transferable record and related business records sufficient to review the terms of the transferable record and to establish the identity of the person having control of the transferable record.

<http://www.law.upenn.edu/bll/archives/ulc/fnact99/1990s/ueta99.htm> May 25, 2009

#### 8) § 9-105. CONTROL OF ELECTRONIC CHATTEL PAPER.

A secured party has control of electronic chattel paper if the record or records comprising the chattel paper are created, stored, and assigned in such a manner that:

(1) a single authoritative copy of the record or records exists which is unique, identifiable and, except as otherwise provided in paragraphs (4), (5), and (6), unalterable;

(2) the authoritative copy identifies the secured party as the assignee of the record or records;

(3) the authoritative copy is communicated to and maintained by the secured party or its designated custodian;

(4) copies or revisions that add or change an identified assignee of the authoritative copy can be made only with the participation of the secured party;

(5) each copy of the authoritative copy and any copy of a copy is readily identifiable as a copy that is not the authoritative copy; and

(6) any revision of the authoritative copy is readily identifiable as an authorized or unauthorized revision.

<http://www.law.cornell.edu/ucc/9/article9.htm#s9-105> May 25, 2009

〈Table 4〉 Adopted states of article 7 of Uniform Commercial Code in 2003

Reserved some definition	State
Reserved the definition of "good faith" and "record" in §7-102	Arizona
	Delaware
	Maryland
	Minnesota
	Nevada
	New Mexico
	North Carolina
	South Carolina
	Texas
Reserved the definition of "record" in §7-102.	Arkansas
Same as the UCC	Alabama
	California
	Colorado
	Hawaii
	Idaho
	Indiana
	Montana
	Nebraska
	New Hampshire
	North Dakota
	Oklahoma
	Rhode Island
	Tennessee
	Utah
Virginia	
West Virginia	

Source : Edited by the authors from each state's site (May 2009)

In the authors opinion, the reason that some states adopted article 7 with reserve the definitions of "good faith" and "record" are to avoid confusion of applying these concept. "Good faith" is the obligation to observe reasonable commercial standards of fair dealing.<sup>9)</sup> It is hard to define what is "reasonable." And the definition of "record"

9) NCCUSL and ALI, *op. cit.*, p. 6.



is provided in Section 9-102 already. The legislators of the states seemed to avoid the definition once again.

### Ⅲ. Comparison among other legislations

So far, there are only three legislations of electronic bills of lading in the world. Australia, US and Korea have the legislations. However, there are some differences among these legislations. These differences may be resulted from different legal framework<sup>10)</sup>, attitude of legislation<sup>11)</sup> and practical infrastructure.<sup>12)</sup> The authors hope to find the implications from comparison among these legislations. Hence, the authors would like to draw a comparison among article 7 of UCC(U.S.), Sea-Carriage Documents Act 1997(Tasmania State, Australia) and Presidential decree on electronic bill of lading(Korea).

#### 1. Scope of application

In Australia, Sea-Carriage Documents Act regulated sea-carriage documents, such as bills of lading, sea waybill and ship's delivery order. In Korea, the Commercial Act regulated bills of lading and sea waybill .However, in US, UCC regulated documents of title, that is, bill of lading and warehouse receipt.

<Table 5> Comparison of Scope of application

Scope of application	
US	Documents of title - Bills of lading, Warehouse receipt
AU	Sea-Carriage documents -Bills of lading, Sea waybill, Ship's delivery order
KR	-Bills of lading, Sea waybill

Source : Edited by the authors from each country's act.

10) Australia and US are classified as the region under the Anglo-American law, while Korea is classified as the region under the continental civil law.

11) Korean law is conservative while Australian and US law are progressive.

12) In Korea, there are digital signature authorized by government while in Australia and US there are digital signature authorized by private company such as VeriSgn.

## 2. Transfer of the rights

In Australia, all rights under the contract of carriage in relation to which a sea-carriage document is given are transferred to each successive lawful holder of the bill. In this case, the lawful holder means a person as follows.

1) A person who has come into possession of the bill, in good faith, as the consignee of the goods, by virtue of being identified in the bill. 2) A person who has come into possession of the bill, in good faith, as a result of the completion, by delivery of the bill of any endorsement of the bill; or in the case of a bearer bill, of any other transfer of the bill. 3) A person who would be the lawful holder of the bill under above paragraph 1) or 2) had not the person come into possession of the bill as the result of a transaction effected at a time when possession of the bill no longer gave a right (as against the carrier) to possession of the goods.

In Korea, upon the request of holder of the right by electronic application attached electronic bill of lading, the electronic bills of lading repository transfer the right to endorsee after registered title registry. Unless the endorsee refuse the transfer, the endorsee became a new holder of electronic bill of lading.

In US, the transfer of right of electronic bill of lading means the transfer of the control of it. The "control" is given to a person who evidenced by a system employed for evidencing the transfer of interests in the electronic document reliably establishes that person as the person to which the electronic document was issued or transferred.

<Table 6> Comparison of Transfer of rights

Transfer of rights	
US	Control of electronic document of title (Section 7-106)
AU	Transfer of rights (Article 7)
KR	Assignment of electronic bills of lading (Article 8)

Source : Written by the authors from each country's act.

## 3. Reissuance in alternative medium

In Australia, the Sea-Carriage Documents Act doesn't state about the possibility of reissuance on alternative medium and impossibility of it also. However, it seems possible because of the act applied each tangible or intangible bill of lading.

In Korea, if once the paper bill of lading issued, it is not able to reissue in electronic bill of lading. However, the electronic bill of lading is able to reissue in paper bill of lading by request of holder. The electronic bill of lading repository reissue upon the request to the holder.

In US, bill of lading is able to reissue in alternative medium tangible and electronic. It is stated at section 7-105.

<Table 7> Comparison of Reissuance in alternative medium

Reissuance in alternative medium	
US	<p>SECTION 7-105. REISSUANCE IN ALTERNATIVE MEDIUM.</p> <p>- The forward part of the section 7-105 is omitted. -</p> <p>(c) Upon request of a person entitled under a tangible document of title, the issuer of the tangible document may issue an electronic document of title as a substitute for the tangible document if:</p> <ol style="list-style-type: none"> <li>(1) the person entitled under the tangible document surrenders possession of the document to the issuer; and</li> <li>(2) the electronic document when issued contains a statement that it is issued in substitution for the tangible document.</li> </ol> <p>(d) Upon issuance of the electronic document of title in substitution for a tangible document of title in accordance with subsection (c):</p> <ol style="list-style-type: none"> <li>(1) the tangible document ceases to have any effect or validity; and</li> <li>(2) the person that procured issuance of the electronic document warrants to all subsequent persons entitled under the electronic document that the warrantor was a person entitled under the tangible document when the warrantor surrendered possession of the tangible document to the issuer.</li> </ol>
AU	There is no reference to reissue.
KR	<ol style="list-style-type: none"> <li>1. If the repository was requested by the holder of the right to the title to transform into paper, then the repository should issue paper bill of lading. In this case, the signature made by electronically deemed as the signature specified the provision of paragraph 1 of article 853 of the Commercial Act.</li> <li>2. The repository should write the history of assignment on the back side of the paper bill of lading.</li> <li>3. The history of the preceding sub paragraph 3 have the same legal effect as endorsement.</li> <li>4. If the repository issued the paper bill of lading according to provision of preceding sub paragraph 1, the repository entry to the title registry the fact that transformed into paper and then close the title registry and notify it to the carrier by electronic document.</li> <li>5. The facts written on the bill of lading which was transformed and issued by the repository deem that it was warranty by the repository.</li> </ol>

Source : Edited by the authors from each country's act

#### 4. The issuer of electronic bill of lading

In Australia, the Carriage of Goods by Sea Act 1991 prescribe a sea carriage document is issued when a data

message is generated in a way that constitutes issue of the document within the system being used by the parties to the relevant contract of carriage. Hence the issuer is carrier even the owner of the system being used by the parties to the relevant contract of carriage.

In Korea, the issuer of electronic bill of lading is electronic bill of lading repository designated by government. In this case the issuer is a manager of the electronic bill of lading.

In US, the issuer of electronic bill of lading is carrier. In this case the system being used by the parties to the relevant contract of carriage is owned and managed by carrier.

<Table 8> Comparison of the Issuer of electronic bill of lading

The issuer of electronic bill of lading	
US	Carrier
AU	Carrier
KR	Electronic bill of lading repository designated by government

Source : Written by the authors from each legislations

## IV. Characteristics of article 7 of UCC

### 1. The technical neutrality of the electronic signature

In electronic transaction, there are four different issues to ensure safe transaction: privacy, authenticity, integrity and non-repudiation. It commonly abbreviated to "PAIN."

Privacy ensures that only the sender and the intended recipient of an encrypted message can read the content of that message. To ensure privacy, a security solution must ensure that no one can see, access, or use private information exchanged in electronic transaction.<sup>13)</sup>

Integrity means that the message exchanged between sender and receiver is not changed during transmission. If the message is altered in any way during transmission, the parties should be detected the alteration.

Authentication is the act confirming the identity of a person who send or receive a electronic message. In the real world, the way of authentication is presenting a passport to prove who's who.

13) TELECOMMUNICATIONS DEVELOPMENT ASIA-PACIFIC,  
[http://www.tdap.co.uk/uk/archive/billing/bill\(phonecom\\_9912\).html](http://www.tdap.co.uk/uk/archive/billing/bill(phonecom_9912).html) May 27, 2009

Non-repudiation is a way to guarantee that a party to a transaction cannot falsely claim that they did not participate in that transaction. In the real world, hand-written signatures are used to ensure non-repudiation.

A sign is used to provide solution for the problems of "PAIN" in real world and cyber world. However, the sign used cyber world have multiple name and meanings. The one that most popular used word is the "electronic signature." It means an electronic sound, symbol, or process, attached to or logically associated with a contract or other record and executed or adopted by a person with the intent to sign the record.<sup>14)</sup> It is the same definition that is provided UETA Sec. 2 (8). The other one is "digital signature." It is a kind of electronic signature based on Public Key Infrastructure(PKI). It is able to provide solution for the problems of "PAIN". However the electronic signature include all kinds of signatures that based on other methods such as personal identification numbers, digitized versions of handwritten signatures, and clicking on "OK-box."

According to article 7-102 (11), the "Sign" means, with present intent to authenticate or adopt a record to execute or adopt a tangible symbol or to attach to or logically associate with the record an electronic sound, symbol, or process.<sup>15)</sup> It is not meant a certain signature such digital signature. Hence, all types of electronic signature can adopt as a "sign" in electronic document title include bills of lading provided that is satisfied the requirements of the article 7-102 (11).

## 2. The possibility of reissuance in another medium

The section 7-105 allows for documents of title issued in one medium to be reissued in another medium. This is the unique thing that is not able to find in other legislations. This section applies to not only negotiable documents but also nonnegotiable documents. This section sets forth minimum requirements for giving the reissued document effect and validity.<sup>16)</sup> The issuer is not required<sup>17)</sup> to issue a document in an alternative medium and if the issuer chooses to do so, it may impose additional requirements. According to the preliminary comments, because a document of title imposes obligations on the issuer of the document, it is imperative for the issuer to be the one who issues the substitute document in order for the substitute document to be effective and valid.<sup>18)</sup>

The request that reissue in another medium must be made to the issuer by the person who entitled to enforce the document of title. And the person who want to reissue in another medium must surrender possession or control

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14) US Electronic Signatures in Global and National Commerce Act 2000, Sec. 106 (5)

15) UNCITRAL, *UNCITRAL Model Law on Electronic Signatures with Guide to Enactment 2001*, p. 21.

16) UCC Section 7-105 (a), (c)

17) The word 'may' used in this section. UCC article 7-105 (a) Upon request of a person entitled under an electronic document of title, the issuer of the electronic document may issue a tangible document of title as a substitute for the electronic document if:..., UCC article 7-105 (c) Upon request of a person entitled under a tangible document of title, the issuer of the tangible document may issue an electronic document of title as a substitute for the tangible document if: ...

18) NCCUSL and ALI, *op. cit.*, p. 12.

of the original document to the issuer.<sup>19)</sup> The reissued document must have a notation that it has been issued as a substitute for the original document.<sup>20)</sup> These minimum requirements must be met in order to give the substitute document effect and validity. If these minimum requirements are not met for issuance of a substitute document of title, the original document of title continues to be effective and valid.<sup>21)</sup> According to the preliminary comments, if the minimum requirements imposed by this section are met, in addition to any other requirements that the issuer may impose, the substitute document will be the document that is effective and valid.<sup>22)</sup>

In spite of the absence of provisions in this Section, to protect parties who subsequently take the substitute document of title, the person who want to issue the substitute document warrants that the person was a person entitled under the original document at the time it surrendered possession or control of the original document to the issuer. This warranty is modeled after the warranty found in Section 4-209.<sup>23)</sup>

### 3. The adoption of the concept of "Control"

The section 7-106 defines "control" for electronic documents of title. It derives from the Uniform Electronic Transactions Act § 16 on transferable records. The concept of control embodied in this section provides the legal framework for developing systems for electronic documents of title. The control of an electronic document of title substitutes for the concept of endorsement and possession in the tangible document of title context. A person with an electronic document of title can deliver the document by voluntarily transferring control as like a person with a tangible document of title can deliver the document by voluntarily transferring possession and endorsement. It means that the repository is not needed under the article 7 of UCC. A carrier can issue electronic bill of lading or tangible bill of lading depending on the circumstances.

Pursuant to section 7-106 (a), a person has control of an electronic document of title, if a system employed

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19) UCC Section 7-105 (a)(1), (c)(1)

20) UCC Section 7-105 (a)(2), (c)(2)

21) NCCUSL and ALI, *op. cit.*, p. 12.

22) *ibid.*

23) UCC Section 4-209. ENCODING AND RETENTION WARRANTIES.

(a) A person who encodes information on or with respect to an item after issue warrants to any subsequent collecting bank and to the payor bank or other payor that the information is correctly encoded. If the customer of a depository bank encodes, that bank also makes the warranty.

(b) A person who undertakes to retain an item pursuant to an agreement for electronic presentment warrants to any subsequent collecting bank and to the payor bank or other payor that retention and presentment of the item comply with the agreement. If a customer of a depository bank undertakes to retain an item, that bank also makes this warranty.

(c) A person to whom warranties are made under this section and who took the item in good faith may recover from the warrantor as damages for breach of warranty an amount equal to the loss suffered as a result of the breach, plus expenses and loss of interest incurred as a result of the breach.

for evidencing the transfer of interests in the electronic document reliably establishes that person as the person to which the electronic document was issued or transferred. The requirement for recognizing the system which provides Section 7-106(a) and considering the person who has control of an electronic document of title are as follows.<sup>24)</sup>

The document is created, stored, and assigned in such a manner that:

- (1) a single authoritative copy of the document exists which is unique, identifiable, and, except as otherwise provided in paragraphs (4), (5), and (6), unalterable;
- (2) the authoritative copy identifies the person asserting control as:
  - (A) the person to which the document was issued; or (B) if the authoritative copy indicates that the document has been transferred, the person to which the document was most recently transferred;
- (3) the authoritative copy is communicated to and maintained by the person asserting control or its designated custodian;
- (4) copies or amendments that add or change an identified assignee of the authoritative copy can be made only with the consent of the person asserting control;
- (5) each copy of the authoritative copy and any copy of a copy is readily identifiable as a copy that is not the authoritative copy; and
- (6) any amendment of the authoritative copy is readily identifiable as authorized or unauthorized.

## V. Implications and Conclusions

Up to now we have looked at Article 7 of UCC focused on electronic bill of lading. It was referred to twenty-six states as a model in their legislation. The significant implications of article 7 of UCC concerned with electronic bill of lading are as follows.

The first implication is the neutrality of signature. The article 7 of UCC does not prescribe certain technology or solution for signature. The article 7 just defines the meaning of sign as follows. "Sign" means, with present intent to authenticate or adopt a record: (A) to execute or adopt a tangible symbol; or (B) to attach to or logically associate with the record an electronic sound, symbol, or process. It is same position as the Australia act has. In Korea only the digital signature authorized by government is allowed to request issuance and assignment of the electronic bill of lading. It means that all parties concerned with the electronic bill of lading have to use the digital signature authorized by Korean government even the party located out of Korea. Hence, now in US, the

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24) UCC Section 7-106 (b)

electronic bill of lading issued by the Korea repository is lawful. On the other hand, the electronic bill of lading issued by the US carrier does not take legal effect in Korea.

The second implication is the possibility of reissuance in alternative medium. The article 7 of UCC allowed reissuance in alternative medium. It means that the paper bill of lading can be transformed into electronic bill of lading and the reverse can be transformed too. It is important to use electronic bill of lading in transitional period. In these days, some parties can not use electronic bill of lading because of insufficient readiness while some parties want to use it. If all parties had to use electronic bills of lading only for transaction, the electronic bill of lading could not use until all parties get ready for using it. Therefore, the possibility of reissuance in any alternative medium is appropriate function in this stage.

The third implication is the issuer of electronic bill of lading. According to the article 7 of UCC, the electronic bill of lading was issued by a carrier. We can find the relevant clause in section 7-102(a)(2)<sup>25)</sup> and 7-105. The clauses prescribe that the issuer of tangible(electronic) document may issue electronic(tangible) document upon request of a person entitled under a tangible(electronic) document of title. It is the same position as the Australia act has. However, it is different from the Korean legislations which prescribe that the electronic bill of lading repository designated by government issues it upon request of a carrier by electronic documents attached the carrier's digital signature authorized government. It has an advantage of simplicity to use electronic bill of lading that the carrier who is an issuer of paper bill of lading is the issuer of the electronic bill of lading also. However, it has an disadvantage that a carrier who is the issuer of the electronic bill of lading as a party of electronic bill of lading can be doubted about the neutrality. Nonetheless, US and Australia adopted the carrier as an issuer of electronic bill of lading. The authors guess it is resulted from the legal system different than Korea.

From the above implications, the authors can conclude as follows. In order to use electronic bill of lading issued by the Korean repository, all parties including the party who located out of Korea should use the digital signature authorized by Korean government according to the Presidential Decree. It is allowed only the digital signatures authorized by Korean government to issue and transfer. However, the party who do not have Korean nationality can not get the digital signature authorized by Korean government. Hence the provision of Presidential Decree that allowed only the digital signature authorized by Korean government is operated as an obstacle to use of the electronic bill of lading issued by Korean repository.

To solve this problem, two ways can be considered. The one is amendment of the Digital Signature Act. However, the act is applied to all transactions using digital signature. Therefore, the amendment of the act can influence not only electronic bill of lading transaction but also all transactions using digital signature. Accordingly, it is not an appropriate measure.

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25) (2) "Carrier" means a person that issues a bill of lading.



The another one is amendment of the Presidential Decree for using electronic bill of lading to use additionally digital signature authorized by non Korean government such as VeriSign. It can apply to only the electronic bill of lading transaction in order to participate the foreign parties. However the safety of digital signature is guaranteed by the repository as like as the signature authorized by the Korean government.

Hence, the authors insist that the Korean authority should amend the Presidential Decree for using electronic bill of lading to use additionally digital signature authorized by non Korean government provided the repository guarantee the digital signature to be safe.

## References

- Ahn, Byung Soo, "A Study on the Ways of Realization of e-B/L in Korea", *International Commerce and Information Review*, Vol.9, No.4, Korea Association for International Commerce and Information, 2007. (Korean)
- Ahn, Chul Kyung & Kim, Yong Duk, "Legal Issues and Tasks in the E-Trade Documents associated with the Shipping," *The Journal of Shipping & Logistics*, Vol.41, The Korean Association of Shipping and Logistics, 2004. (Korean)
- Choi, Seok Beom, "A Study of Electronic Bill of Lading," *The Journal of Shipping & Logistics*, Vol.18, The Korean Association of Shipping and Logistics, 1994. (Korean)
- \_\_\_\_\_, "A Study on the Introduction of Electronic Bills of Lading in Korea," *The Journal of Korea Research Society for Customs*, Vol.7, No.2, Korea Research Society for Customs, 2006. (Korean)
- \_\_\_\_\_, "A Study on the Nature of the Electronic Letter of Credit Transaction and the Presentation of the Documents," *International Commerce and Information Review*, Vol.2, No.1, Korea Association for International Commerce and Information, 2000. (Korean)
- \_\_\_\_\_, "A Study on the Legal Preparation for the Introduction of Electronic Bill of Lading in the Days of Global Electronic Trading," *KOREA TRADE REVIEW*, Vol.24, No.1, Korea Trade Research Association, 1999. (Korean)
- \_\_\_\_\_, "A Study on the Operational Model of Electronic Bill of Lading," *KOREA TRADE REVIEW*, Vol.22, No.3, Korea Trade Research Association, 1997. (Korean)
- \_\_\_\_\_, "The Problems and Solutions in the Pilot Test of Electronic Bill of Lading," *International Commerce and Information Review*, Vol.6, No.3, Korea Association for International

- Commerce and Information, 2004. (Korean)
- \_\_\_\_\_, "A Study on the Legal Effects of the Negotiability of Electronic Bills of Lading - Laying Stress on the Bolero Bill of Lading," *The Journal of Shipping & Logistics*, Vol.33, The Korean Association of Shipping and Logistics, 2001. (Korean)
- \_\_\_\_\_ & Kim, Tae Hwan, "Implications in Case Study on the Electronic Bills of Lading," *International Commerce and Information Review*, Vol.7, No.1, Korea Association for International Commerce and Information, 2005. (Korean)
- \_\_\_\_\_ & Shen, Reng Guang, "A Study on the Establishment of Master Plan on the Operation of the Electronic Bill of Lading in Korea," *International Commerce and Information Review*, Vol. 6, No.1, Korea Association for International Commerce and Information, 2004. (Korean)
- Chung, Wan Yong, "A Study on the Proposed Amendment of Maritime Law relating to Information Technology," 2005 Summer Seminar Papers, *The Journal of Korea Commercial Law Association*, Vol.24, No.2, Korea Commercial Law Association, 2005. (Korean)
- Jeong, Gyeong Yeong, "A Legal Study on the Introduction of Electronic Bills of Lading," *COMMERCIAL CASES REVIEW*, Vol.15, Korea Commercial Cases Association, 2003 (Korean)
- Kang, Sun Joon, "A Study on the introduction of Bolero Bill of Lading," 2005 Winter Seminar Papers, *The Journal of Korea Commercial Law Association*, Korea Commercial Law Association, Vol.25, No.1, 2006, (Korean)
- \_\_\_\_\_, "A Study on the find way to enact The Individual Act relating to the Electronic Bill of Lading", *COMMERCIAL CASES REVIEW*, Vol.18, No.4, Korea Commercial Cases Association, 2005. (Korean)
- Kang, Won Jin & Jo, Sang Hyeon, "Applications on the Electronic Bill of Lading in International Trade Transactions," *International Commerce and Information Review*, Vol.7, No.4, Korea Association for International Commerce and Information, 2005 (Korean)
- Kim, An-Sik, *New international trade system*, Bubmunsa, 1990. (Korean)
- Kim, Hyo Shin, "A Study on Legal Issues in Relation to Introduction of the Electronic Bill of Lading," *The Journal of Korea Commercial Law Association*, Korea Commercial Law Association, Vol.26, No.2, 2007 (Korean)
- Kim, Yong Duck & Lim, Kyung Beom, "A Study on the Electronic B/L and the Electronic Payment Systems," *Shipping and Logistics : Theory and Pracitce*, Vol. 4, The Korean Association of Shipping and Logistics, 2002 (Korean)
- Kwon, Jae-Yeol, "Legal Aspects of a Bolero Bill of Lading," *The Journal of Korea Commercial Law Association*, Vol.21, No.4., Korea Commercial Law Association, 2003 (Korean)

- 
- Lee, Sang Jin, "A study on the Implementation of e-B/L for the Dissemination of Global e-Trade," *International Commerce and Information Review*, Vol.10, No.1, Korea Association for International Commerce and Information, 2008. (Korean)
- Park, Hong Jin, "A Study on Adopting Electronic Bill of Lading," *Journal of Korean Law*, Vol.27, The Korean Law Association, 2007. (Korean)
- Park, Seok Jae & Shin, Gun Hoon, "A Study of the BOLERO System," *THE JOURNAL OF THE KOREAN MARITIME LAW ASSOCIATION*, Vol.23, No.2, The Korea Maritime Law Association, 2001 (Korean)
- Woo, Kwang Myung, "A Study on Devices for Activating the use of Electronic Bills of Lading," *Journal of Korea Trade Research Association*, Vol.9, No.1, Korea Trade Research Association, 2003. (Korean)
- Asaoka, Ryohei, "Making of Trade Customs and Practice for the Age of Electronic Commerce," *The Waseda commercial review*, Vol. 376, The Institute for Research International Commerce of Waseda University, Mar. 1998..(Japanese)
- Egashira, Kenjiro, "About the CMI rules for Electronic Bills of Lading," *The report of the Japanese Maritime Law Association*, Vol. 34., 1990.(Japanese)
- Niibory, Satoshi, *The theory and practice of international trade*, Mituryoushobo, 1993. (Japanese)
- Chandler III, G. F., "The Electronic Transmission of Bills of Lading," *Journal of Maritime Law and Commerce*, Vol. 20., No. 4, 1989.
- Jones, P., *EDI: The New Transport Revolution*, EDICC, 1993.
- Kelly, R.B., "The CMI Charts a Course on the Sea of Electronic Data Interchange : Rules for Electronic Bills of Lading," *Tulane Maritime Law Journal*, Vol. 16, spring 1992.
- Kozolchyk, B., "Evolution and Present State of the Ocean Bill of Lading from a Banking Law Perspective," *Journal of Maritime Law and Commerce*, Vol. 23, No. 2, April 1992.
- \_\_\_\_\_, "The Paperless Letter of Credit and Related Documents of Title," *Law and Contemporary Problems*, Summer 1992.
- NCCUSL and ALI, *DRAFT FOR APPROVAL PROPOSED REVISIONS TO UNIFORM COMMERCIAL CODE, ARTICLE 7-DOCUMENTS OF TITLE*, August 2003
- Savage, N. and Walden, I., "International trade Law and UNCID," *EDI and Law*, Blenheim Online, 1989.
- Walden, I. and Savage, N., "The Legal Problems of Paperless Transactions," *The Journal of Business*, 1989.
- Yiannopoulos, A.N., "XIVTH INTERNATIONAL CONGRESS OF COMPARATIVE LAW: CURRENT DEVELOPMENTS CONCERNING THE FORM OF BILLS OF LADING," *Ocean Bills of Lading : Traditional Forms, Substitutes, and EDI Systems*, Kluwer Law International, 1995.
- <http://www.law.upenn.edu/bll/archives/ulc/fnact99/1990s/ueta99.htm> 25 May, 2009
- <http://www.law.cornell.edu/ucc/9/article9.htm#s9-105> 25, May, 2009
- [http://www.tdap.co.uk/uk/archive/billing/bill\(phonecom\\_9912\).html](http://www.tdap.co.uk/uk/archive/billing/bill(phonecom_9912).html) 27 May, 2009
- Korea Commercial Act (Act No. 8581 3 Aug., 2007)
- Korea Presidential Decree for using electronic bill of lading (Presidential Decree No. 20829, 20 June, 2008)

Tasmania State, Australia, Sea-Carriage Documents Act 1997 (Act No. 5 of 1997)

UNCITRAL, UNCITRAL Model Law on Electronic Signatures with Guide to Enactment 2001

US Electronic Signatures in Global and National Commerce Act 2000

US Uniform Commercial Code 2003

US Uniform Electronic Transactions Act 1999