EDI Bills of Lading: Beyond Negotiability

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In recent years international commerce has witnessed a process of dematerialisation that has seen traditional paper-based documents being increasingly replaced by documents using electronic technology although not without some difficulty along the way. This shift to a paperless environment, which is comprehensively described as ‘electronic commerce’, has served the need to contain costs, reduce time of performance of international transactions and, to some debatable extent, reduce the risk of fraud due to the susceptibility of paper-based business. The development of Electronic Data Interchange (EDI) has enabled standard business documents to be transmitted via computer networks. This capability has inevitably had an impact on the shipping industry. An increasing number of transnational corporations are implementing EDI non-negotiable bills of lading such as waybills with relatively few problems. EDI Negotiable bill of lading, however, have encountered some difficulty in fulfilling the requirement of transferability. This feature is fundamental for a bill of lading acting as a document of title permitting the sale of the cargo in transit. A negotiable bill of lading must be, inter alia, “freely transferable without notice.”

Of the various attempts made to dematerialise ‘order’ bills of lading, some have failed to achieve essential negotiability others have made significant steps forward toward the ‘complete electronic’ goal. Furthermore, essential negotiability may not be the only constraint for a successful global development of EDI technology applied to international trade. This article will discuss three leading contenders, from the Chase Manhattan Bank’s Seaborne Trade Documentation System (SEADOCS) Project to the Comité Maritime International (CMI) model to finish with the latest Bolero Project which represent the turning point in the development of e-commerce documentation. Brief consideration will also be given to other factors which may contribute to this objective.

The development of EDI straight bills of lading

Non-negotiable bills of lading are favoured in the case of straight consignments and bulk cargoes where there is no need to on-sell the shipment afloat. This kind of documents perform only two of the three main functions of a negotiable bill of lading, namely evidence of the contract of carriage and receipt of the goods. The possession of the bill does not represent title to the goods, therefore straight bills cannot act as security, since nothing in law prevents the shipper to sell the goods in transit to another party. In terms of EDI documents solution to this problem is represented by the development of the Cargo Key Receipt (CKR), designed by Prof. Kurt Grönfors of Gothenburg University in cooperation with Swedish shipping companies and SWEPRO to overcome some inadequacies, especially the sea waybill inability to serve as collateral in documentary credit transactions.

1 Interestingly, it would seem that ‘negotiability’ and ‘transferability’ are two distinct concepts that English Law appears to confuse. A bill of lading, although sharing some characteristics of a ‘negotiable’ instrument such as transferability by endorsement, is not a negotiable title in the real sense in that it cannot confer to the transferee a better title. For an interesting discussion see: Caslav Pejovic Documents of Title in Carriage of Goods by Sea J.B.L. 2001, SEP, 461-488
2 A non-negotiable bill of lading is not capable of conferring proprietary title to the holder: Soproma v Marine & Animal By Products Corporation [1966] 1 Lloyd’s Rep. 367
3 Richardson, Dudley 1991 Richardson's guide to negotiable instruments Butterworth at 19
4 designed by Prof. Kurt Grönfors of Gothenburg University in cooperation with Swedish shipping companies and SWEPRO to overcome some inadequacies, especially the sea waybill inability to serve as collateral in documentary credit transactions

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In general, Banks accept non-negotiable bills of lading if they meet the requirements of the credit agreement, indeed the use of non-negotiable bills of lading has been often encouraged. The importance of ‘straight’ documents led the Working Party on Facilitation of International Trade Procedures (WP.4) to adopt Recommendation No 12, encouraging their use to avoid delays of late arrival of the negotiable documents, with added costs and risks, and to facilitate the introduction of an ‘Automated Data Processing’ system, today known as EDI. The preamble of the ICC Incoterms 1990 also asserts that nowadays “a considerable simplification of documentary practices has been achieved” and that the employment of alternative documents such as ‘sea waybills’ and ‘freight receipts’ is quite satisfactory and the use of these documents should be encouraged in the case of CIF and CFR contracts where the buyer does not wish to on-sell the shipment by surrendering documents.

Yet in practice, there are a number of factors which maintain the predominance of negotiable bills of lading for many trades. Perhaps at the outset there is the attitude of credit institutions, mainly banks, to insist on the surrendering by the shipper to the institution of the original full set of bills were the bank to secure the shipment through documentary credit. Secondly there is a general lack of recognition until recently of non-negotiable bills of lading both by the UCP and by the Incoterms and the fact that the CMI Rules on electronic bills lack the force of international convention, such as the Warsaw Convention for straight airway bills.

The 1986 SEADOCS Project

SEADOCS was the first significant attempt to apply electronic technology to the carriage of goods by sea. The project, managed by London based SeaDocs Registry Ltd on the joint initiative of Chase Manhattan Bank and the International Association of Independent Tanker Owners (INTERTANKO) had among its primary goals the protection of the victims involved by fraudulent alteration of paper bills of lading in the oil trading business. SeaDocs Ltd attempted to simulate a negotiable bill of lading using a central registry, held by Chase Manhattan Bank, to record the phases in the passage of property of the shipment.

The shipper would release a paper bill of lading which SeaDocs Ltd held as an agent for all the parties. An electronic key code would be released to the shipper who was required to electronically communicate to SeaDocs Ltd his intention to negotiate the bill.

The shipper would then provide the buyer/endorsee with a portion of the code, upon SeaDocs Ltd ensuring the accuracy of the information received, the buyer/endorsee would be enlisted into the registry as the ‘legal owner’ of the cargo. He would thus be issued with an electronically generated bill of lading enabling him to take delivery at the docks.

SEADOCS failed for a series of both practical and legal reasons. Firstly, it was not free from paper documents, rather it was heavily dependent on them both on shipping and on delivery and the $500 cost of each operation was in addition to the costs of the traditional paper system. Secondly, it was difficult to pinpoint risk and liability in the case of an error to any of the parties, with serious repercussion on the cost of insurance. Further, other banks were...
understandably dissatisfied with one of their main competitors’ exclusive access to the registry. The major legal concern was, however, that SEADOCS failed to achieve true negotiability, as the change in ownership involved communication both to the carrier and to endorsees.

The project demonstrated, though, that the idea of dematerialising negotiable bills of lading was achievable through a system based on a central registry.

The CMI model

CMI Rules for Electronic Bills of Lading 1990 are an addition to the United Nations Rules for Electronic Data Interchange (UN/EDIFACT). They have no force of law but, unlike SEADOCS, can freely be incorporated in the contract. Their incorporation would prevent the parties to claim a defence that the bill of lading is not in writing. While the Rules are intended to govern all aspects of electronic bills of lading, Rule 6 clearly states that “The Contract of Carriage shall be subject to any international convention or national law which would have been compulsorily applicable if a paper bill of lading had been issued.” Although the use of the rules have, arguably, had an impact to the manner of handling EDI bills of lading on an international scale, it is evident that the Hague Visby Rules, for instance, will continue to govern negotiable bills of lading. The Rules leave the parties freedom of choice as to the format of messaging to adopt, although Rule 3(b) encourages the use of UN/EDIFACT.

CMI, also in 1991, published the Uniform Rules for Sea Waybills which have not encountered any major conceptual problems in their application to non negotiable bills of lading. The only major area of concern was the lack of security of ownership as a result of the shipper’s apparent ability to change the name of the consignee at any time before delivery. This problem is dealt with in Rule 6 (Right of Control) which provides that the shipper can irrevocably renounce such a right at the time of the issue of the bill, giving thus more security to banks financing the transaction.

UK law has given specific legal status to non negotiable bills of lading in section 1(3) Carriage of Goods by Sea Act 1992 (CoGSA) which makes provision for “Any document which is not a bill of lading” but acts as a receipt for the goods, as evidence of the contract of carriage and identifies the consignee as for the underlying contract. Moreover, section 1(5) recognises the development of EDI transactions providing that the Secretary of State may make provision for the application of the Act to the issue of documents governed by “telecommunication system or any other information technology.”

The CMI Rules for Electronic Bills of Lading do not provide for the use of a central registry such as in SEADOCS and as it will be seen in Bolero. In fact, the working of the CMI model reflects the steps in the paper based transaction, where the carrier notifies the receiving of the goods electronically to the shipper. Under Rule 4(d) this ‘receipt message’ sent by the carrier has the “same force and effect as if the receipt message were contained in a paper bill of lading” and the information in it contained must include:

(i) the name of the shipper,
(ii) the description of the goods, with any representations and reservations,
(iii) the date and place of the receipt of the goods,

\[^{14}\text{Laryea, E.T. Bolero Electronic Trade System – An Australian Perspective 2001 JIBL, 16(1), 4-11}\]
\[^{15}\text{and not of EDI in general}\]
\[^{16}\text{Hague Rules in the U.S.}\]
\[^{17}\text{supra at FN4}\]
\[^{18}\text{which works in a like manner to the Cargo Key Receipt, supra.}\]
\[^{19}\text{intra}\]
\[^{20}\text{or to any other party entitled}\]

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(iv) a reference to the carrier’s terms and conditions of carriage and
(v) the Private Key\textsuperscript{21} to be used in subsequent Transmissions,\textsuperscript{22} such as in the case of a traditional paper based bill of lading.

Subsequent endorsements and transfers of the ‘virtual bill of lading’ are made possible through the use of a ‘Private Key’\textsuperscript{23} distinctive to each holder, to which the Rules give a broad definition\textsuperscript{24} in order to facilitate the adoption of developing technology, enabling the holder to take delivery of the shipment. The transfer, however, is only possible by notification to the carrier which, as said, acts as central registry, who will have to transmit a message of confirmation to the new owner. This system inevitably meant a non compliance with the requirement of transferability ‘without notice’.\textsuperscript{25} Further, it created an area of uncertainty in that carriers would have been privy to each transfer, on the one hand having knowledge of the identity of each transferee and on the other hand carrying a potentially heavy burden of liability in the case of a loss due, for instance, to a failure of the system.\textsuperscript{26} Other legal concerns have been identified in the failure of the Rules to make provision for a failure system and in the lack of reference to what constitutes receipt of an offer or acceptance.\textsuperscript{27}

Although CMI model has not been successful in achieving ‘essential negotiability’, it has played an important role in giving birth to subsequent attempts such as Bolero.

**Bolero, the Real Step Forward**

The Bolero Project seems to provide answers to a number of legal concerns raised by the SEADOCs project and the CMI model. The Project, which has received backing from the European Commission, is an initiative of the International Chamber of Commerce (ICC) and is jointly owned by the Through Transport Club (TTC) and the Society for Worldwide Inter Bank Financial Telecommunications (SWIFT). Bolero Association Limited (BAL) is one of the two separately owned companies and includes Bolero.net, the provider that governs Bolero Bills of Lading. Operators wishing to use the system must first join BAL which is appointed as an agent for the purpose of entering into the contract regulated by the Bolero Rule Book. The system is governed by English law and gives England jurisdiction in the case of disputes.

The prominent feature of the Project is the Rule Book which gives contractual force to the formal agreement between users and between BAL and each single user.\textsuperscript{28} Under its regime, all signatory users agree to treat the Bolero digital messages as if they were in writing, particularly with regard to the carrier’s representations as to quantity, description and state of the goods\textsuperscript{29} and not to challenge the validity of documents electronically encrypted by Bolero.\textsuperscript{30} The whole structure is maintained by a Trusted Third Party (TTP) which acts as arbitrator.

The system is essentially governed by two registries: the Core Messaging Platform (BCMP) where users communicate electronically with each other and the Title Registry (BTR) which keeps a record of all Bolero Bill of Lading holders and the transfer in the ownership, regulating therefore the parties rights and liabilities.

\textsuperscript{21} a ‘Private Key’ is one of the two keys used in public key cryptography. The private key is known only to the owner who uses it to sign and decrypt messages.
\textsuperscript{22} Rule 4(b)
\textsuperscript{23} in Rule 2
\textsuperscript{24} see FN 3
\textsuperscript{25} the Rules do not contain any provision that govern the carrier’s liability.
\textsuperscript{27} Rule 2.1.1(1)
\textsuperscript{28} Rule 3.1.3 which relies on the principle of novation and attornment to transfer contractual rights under the BBL
\textsuperscript{29} Rule 2.2.2(3)
A typical transaction starts from the carrier issuing a Bolero Bill of Lading to the shipper by transmitting a message to the BCMP using a unique digital signature. If the BCMP is satisfied as to the authenticity of sender and recipient electronic signatures, it will forward a confirming message to the carrier and a Bolero Bill of Lading to the shipper who will be the party with the legal title in the cargo.

If the shipper wishes to transfer the Bolero Bill of Lading to a third party, such as a buyer or a bank, he will inform electronically the BCMP which will verify the shipper’s electronic signature and check the message for authenticity against the BTR.

If all parameters match, the new owner of the Bolero Bill of Lading will be listed into the BTR as the last holder in time of the BBL with title to the goods. The procedure is repeated for each subsequent operation until delivery, where the ‘legal owner’ of the Bolero Bill of Lading will be able to claim the property in the cargo by identifying himself at the docks.

The whole sequence of events reflects the stages in the paper based transaction, except the addition of the Title Registry which records each transfer of the ownership of the Bolero Bill of Lading. This extra element does not infringe the requirement of free negotiability ‘without notice’. No human authorisation to the transfer is ever required. Indeed, the system of validation against the BTR of each transferee/endorsee’s details represent an invaluable safeguard against the practice of forging documents.

Furthermore, a detailed study commissioned by BAL and carried out by Allen & Overy and Richards Butler has indicated that the system is not in conflict with international conventions such as the Hamburg Rules or the Hague Visby Rules in terms of the carriage of goods by sea but it may encounter difficulties with road transport contracts because of the specific requirement for writing under the Convention on the Contract for the International Carriage of Goods by Road 1956 (CMR).

**Legal Implications**

On the legislative front much has been done to favour the growth of EDI environment business. In UK for instance, the **Electronic Communications Act 2000** has implemented the **EU Electronic Signature Directive 1999/93/EC** which enables legal documents to be signed on-line and allows electronic signatures to be admissible as evidence in court. The **EU Electronic Commerce Directive 2000/31/EC** which was due to become law in the UK by the 17th of January 2002 (now delayed) is also aimed at boosting confidence in e-commerce by imposing certain obligations on those who generally trade on-line, including thus providers of e-services such as Bolero.net. In terms of the latter, it would appear that the BCMP provision for an immediate and automated acknowledgment of receipt of a communication will comply with Article 11 of the Directive.

Article 12, on the other hand, relieves e-service providers from liability about the content and the transmission of data stored where they act as “mere conduit”, provided that the server (a) does not initiate the transmission, (b) does not select the receiver of the transmission and (c)
does not select or modify the information contained in the transmission. There are
suggestions, however, that the BCMP which could choose not to transmit data on the basis of
non-authenticity of the received information, could fall outside Article 12.  

Bolero.net as the future of paperless global trade?

A growing number of corporations are joining Bolero.net. They all seem positive about their
experience. At the time of writing no litigation involving the use of BBL has been
commenced. However, it should be noted that signatory corporations tend to be of medium to
large size, therefore not representing yet the ‘wide range’ of operators aimed by Bolero.net. These
complimentary corporations run relatively straightforward operations which do not
involve a long chain of transactions such as in the case of the small commodity market which
still relies heavily on the paper based bill of lading.

Once established that ‘negotiability’ is achievable, it remains to be seen to what extent
operators across the globe will rely on EDI technology to conduct their day to day business.
One legal concern is that, while Bolero allows switching back to paper bill of lading
whenever one of the parties is unable to continue the EDI transaction, there is not possibility
to return to EDI mode. Similarly, a procedure whereby a transaction which starts off in paper
format can be converted mid-voyage is not permitted under the Bolero system. To this extent,
the development of an IT global network will be an essential prerequisite to the expansion of
Bolero.net or like systems.

The approach of the legislators will also have an enormous impact on the success of EDI
transactions on a global scale. Some jurisdictions, such as Singapore, have already achieved a
remarkable level of usage of Information Technology at different levels, from the large
corporation to the smaller firm to Government linked corporations. Giant Orient Overseas
Container Line (OOCL) claims that in 1999 have conducted 39.7 per cent of their business
with Singapore via Internet, against 13.2 per cent conducted with the UK. This has also been
achievable through the Singapore Government’s active promotion of Electronic Commerce as
early as the 1980’s with plans such as the Information and Communications Technology 21
(InfoComm21) which aim was to “develop Singapore into a vibrant and dynamic global
infocomm capital with a thriving and prosperous e-economy and a pervasive and infocomm-
savvy e-society” It remains to be seen whether other jurisdictions where e-commerce strains
to progress, particularly within the European Community, will follow this approach.

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38 See Bolero.net comment page at http://www.bolero.net/overview/what_say/
39 thus more likely to run safer and swifter commercial operation in the first place
40 such as Norwegian Statoil, Japanese Mitsui & Co and others
41 in the case of Bolero through contractual agreement
42 for instance by reason of the different level of development in IT across the globe, which represents one of the
major stumbling blocks in the growth of E-Commerce in general terms
43 Source Hong Kong Shipper’s Council at http://www.tdctrade.com/shippers/10/02logistics/log_02.html
44 International Council for Information Technology in Government Administration (ICA) http://www.ica-it.org/conf34/roundtable/singapore.pdf

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