

Interoperability of eBL Solution Providers

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CargoX

Bill of Lading

- The document – the reason for the carriers from Genova in 14th century for the issue of the document mistrust transport actors. At the same time, traders from the Maghreb were resolving this mistrust *ad personam*.
- Three functions of BL:
 - Receipt of goods
 - Evidence of the contract of carriage
 - Document of title (negotiable if to order or to bearer)

Bill of lading

- The BL is considered to symbolise the goods and its transfer leads to the transfer of the rights to the cargo.
- Sir Frederick Pollock: The key [and the bill of lading] is not a symbol in the sense of representing the goods, but the delivery of the key [and of a bill of lading] gives the transferee a power over the goods which he had not before, and at the same time is an emphatic declaration (which being by manual act, instead of words, may be called symbolic) that the transferor intends no longer to meddle with the goods.
- Bowen L.J. in his famous *dictum*: describes the bill of lading as “the key to the warehouse, floating or fixed”. Importantly, however, although the transfer of a bill of lading (like the transfer of a key to a warehouse) is capable of transferring symbolic possession of the goods and the transfer raises a presumption of an intention to transfer such possession, it does not follow that all transfers of bills of lading necessarily transfer symbolic possession of the goods. Ultimately, the presumptions raised by the transfer of a bill of lading are capable of being rebutted by evidence of a contrary intention.

LEGAL VALIDITY AND RECOGNITION OF eBL

- Contractual solutions (applicable within one solution provider ecosystem)
- Mandatory law (i.e. international or domestic act that solves open legal questions):
 - International instrument: e.g. e Rotterdam Rules (2008). Is it likely to happen?
 - Domestic Law: e.g. adoption of MLETR based act (Electronic Trade Documents Act, England)

Hague Rules 1924

- Article 1 (b) "Contract of carriage" applies only to contracts of carriage covered by a bill of lading or any similar document of title, in so far as such document relates to the carriage of goods by sea, including any bill of lading or any similar document as aforesaid issued under or pursuant to a charter party from the moment at which such bill of lading or similar document of title regulates the relations between a carrier and a holder of the same.

eBill of Lading

- The Hamburg Rules 1978: the possibility of electronic signature of a BL.
- The CMI Rules for Electronic Bills of Lading 1990.
- UNCITRAL's Model Law on Electronic Commerce 1996 and later Model Law on Electronic Signatures
- Rotterdam Rules 2009
- BIMCO adopted a standalone Electronic Bill of Lading Clause in 2014
- UNCITRAL's Model Law on Electronic Transferable Records from 2017 (some principles):
 - A. Functional equivalence & technological neutrality
 - B. Requirements of singularity and control
 - C. BL has to be: original & unique
 - D. Non-discrimination of foreign electronic transferable records

BIMCO standalone Electronic Bill of Lading Clause

The clause provides that at the charter's option the bills of lading, waybills, or delivery orders referred to in the charter party in electronic form shall have the same effect as their paper equivalent, that charterers shall subscribe/use an International group of P&I clubs (IG P&I) approved system and that charterers agree to hold the ship-owners harmless of additional liability for the use of an electronic system if such a liability does not arise from the shipowner's negligence.



Approval of system of electronic BL – why is it essential

International Group of P&I clubs
Requirements for Electronic trading system
providers

- These requirements form the generic specifications for electronic trading system providers seeking International Group of P&I Clubs Approval.
- If the eBL was issued by approved eBL provider then the P&I will cover the claims out of the eBL.

IG P&I requirements

1. The system must be able to accomplish a transfer of title, rights, and liabilities (endorsement as a matter of law).
2. There must be a signature provision whereby the parties agree that an electronic signature is a valid signature.
3. A mechanism is necessary whereby parties must agree not to dispute that the e-bill is a bill of lading.
4. A mechanism is necessary whereby users can sue and be sued.
5. The system must ensure that treaties, conventions, and national laws which ordinarily apply to a paper bill of lading are applicable as if the e-bill were a paper bill.

IG P&I requirements

6. The operator/system provider must accept liability in case of system failure.
7. The system must allow for clausuring, accomplishment, and rejection of the e-bill.
8. There must be sufficient evidence of the terms of the contract of carriage.
9. The system must expressly exclude application of the Contracts (Rights of Third Parties) Act of 1999.
10. The operator or system provider must carry adequate limits of liability in their insurance to cover liabilities arising from system fault or failure of any nature.

IG P&I CIRCULAR LETTER



Available eBL services with IG P&I approval

1. The Bolero electronic version of paper with the use of legal rulebook and technology that can replicate the functions of the traditional paper BL.
2. essDOCS (Electronic Shipping Solutions) the company offers the BL a system called CargoDocs eB/Ls. CargoDocs is a web-based platform. The digitalization, creation and approval of electronic original documents: through DocHub and the exchange and legal transfer via DocEx.
3. E-Title Authority Pte Ltd: provides contractual validity through a multilateral agreement to title transfers. Title transfers are made possible by peer-to-peer technology.
4. Global Share S.A. (the edoxOnline) provides the industry with a collaborative digital platform to streamline the issuance of shipping and commercial documents.
5. WAVE: distributed ledger network using blockchain technology to enable the parties in carriage and sales contract to issue, exchange, and sign different documents. They do not use a central server or registry.
6. The CargoX created the first blockchain eBL in history. The CargoX platform enables blockchain document transfer (BDT), and the company aims to build digital trust between trading companies in a mistrusting digital environment.
7. TradeLens. TradeLens is a company jointly developed by Maersk and IBM. It uses a blockchain-based infrastructure as a platform for issuing, transferring and surrendering eBLs. The eBL is issued digitally by carriers to a shipper as a structured document. The transaction recorded on the blockchain.
8. IQAX Limited got approved by IG P&I on 17 February 2022: IQAX is a subsidiary of Orient Overseas International Ltd. – group companies: OOCL Logistics and OOCL.
9. Secro is a platform that operates as a SaaS, facilitating secure collaboration among traders, shippers, maritime agents, and other representatives and financial service providers in real-time. Clients digitally create, e-sign, and exchange the most common trade documents, including transferable and non-transferable bills of lading. Secro also offers tools for contract execution. The Secro platform utilizes data encryption and is built on private blockchain technology. Secro Inc. is an independent private company headquartered in the USA and owned by venture capital investors. The IG P&I approved the system in November 2022.



Legal challenges

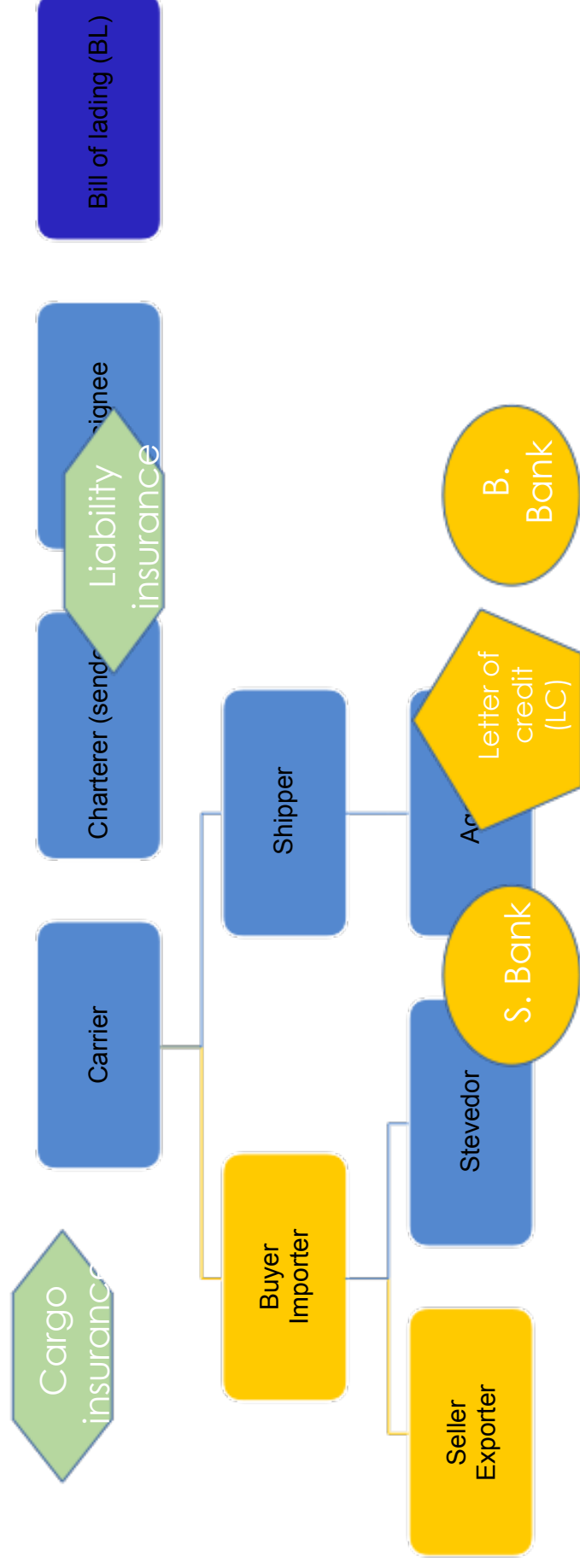
The functions of RL and different players in different contexts and legal relations B2B, B2C

2. B2C

There are different players from different background that use the bit of buying and all have to agree to use eLL

1. B2B

Participants in the contract of carriage of goods (maritime) and sales contract



DCSA: Digital Container Shipping Association

- In 2019 DCSA was established for digital transformation of the container shipping industry and to prepare IT standards that would enable interoperability of technology solutions across the industry (what about house BL)
- purpose is to facilitate digital interconnectivity and exchange of data
- Standards:
- 2.1 of Track & Trace Interface standards,
- Just-in-time port call interface standards with API definitions,
- DCSA Interface Standard for the Bill of Lading and Bylaws on Electronic Bills of Lading,
- some other standards are still under construction



DCSA bylaws on eBLs

DCSA:

- Is an independent organisation
- has the mission of establishing standards for a common IT, technology and business foundation that is:
 - vendor-neutral,
 - technology-agnostic,*
 - non-competitive and
- therefore, enables interoperable solutions that make shipping services easy to use, flexible, efficient, reliable and environmentally friendly.
- DCSA is a non-profit organization.
- DCSA B/L standards are aligned with the UN/CEFACT (United Nations Centre for Trade Facilitation and Electronic Business)

*Agnostic, in an information technology (IT) context, refers to something that is generalized so that it is interoperable among various systems. The term can refer not only to software and hardware, but also to business processes or practices.



Interoperability

Interoperability of eBL solution providers

Interoperability of eBL solution providers

- Last year idea:
 - The legal part of interoperability would be achieved with the alignment of legal basis of each eBL provider with DCSA Bylaws or adoption of DCSA Bylaws
 - DCSA is closely working with IG P&I to get their approval of Bylaws.
 - This idea is on hold now.

DCSA Bylaws Idea

DCSA eBL Interoperability Workshop 19-20 July 2022

- It is a crucial milestone for the interoperability of platforms (solution providers).
- There were present the representatives of: 6 eBL solution providers, some shipping companies, IG of P&I clubs, BIMCO, FIATA, SWIFT.
- Some important issues that were addressed: the role of DCSA bylaws, the relation between the originating platform and subsequent platform, implication for users, validity of transfer of eBL through different platforms, non repudiation and non discrimination among platforms.

MULTILATERAL SOLUTION PROVIDER INTEROPERABILITY AGREEMENT (MSPIA)

- The DCSA idea of the legal basis of the interoperability is a multilateral agreement signed among the solution providers – “The SP CLUB”
- Scope of the MSPIA: the general terms and conditions enabling and supporting secure and authenticated transfers of electronic Bills of Lading (eBLs) from a User on one Solution Provider Application to another User on another Solution Provider Application.
- The MSPIA does not enter into user – solution provider relationship, the content or use of eBL.
- The interoperability is only possible between solution providers that enable eBLs that are functionally and legally equivalent to paper Bills of Lading

MSPIA

- Technology & system-neutral.
- Should be interpreted together with the DCSA “eBL Technical Standards” document.
- The changes of solution providers’s legal basis for the eBL does not affect MSPIA.

SP (platform) – USER RELATONSHIP

- Interoperability is intended as an added service to the existing services: such as the creation, issuance, control, endorsement, transfer, and presentation/surrender of the eBL in accordance with the Bylaws of the Solution Provider.
- Bylaws is a generic name for the requirements, terms, conditions, processes, procedures, agreements, however named, of the Solution Provider that i.a. makes the eBL functionally and legally equivalent to a paper Bill of Lading: the usual example being rulebook and terms and conditions.
- Addition or annex (standardized) to existing bylaws governing the solution provider – user legal relationship.
- DCSA eBL Interoperability Standards.

Intriguing Legal Challenges

- Identity
- the endorsement chain: Where should it be recorded?
- The possibility of split of title and possession v. “control” concept:
 - the title and possession of an eBL can always be transferred together in container shipping. The combination of title and possession is called ‘control’.
 - the split between title and possession is relevant for some cases (e.g. where the bank only holds the eBL as collateral).

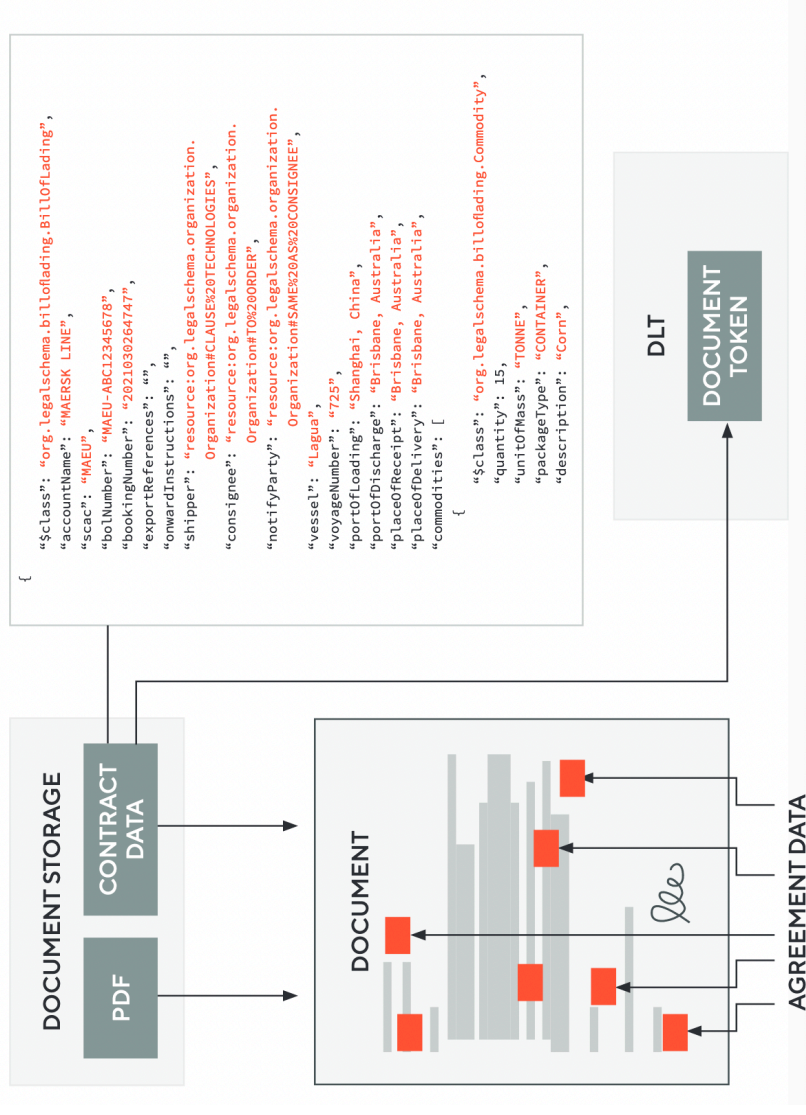
THE FORMAT OF TRANSFERABLE DOCUMENT

- The question of the format of transferable document is proposed to be solved by JSON (JavaScript Object Notation) format of eBL.
- This way there is a standardized eBL created in a shape that can be transferred from one ecosystem (eBL provider) to another.
- How will that be possible – through API (An application programming interface) – will existing solution providers allow that.
- Commercial part might be the hardest nut to crack. Different eBL providers have different business models: subscription, every transfer is payable, only creator of eBL pays...

Structured Data Format

- JSON is one of the structured data format: it is an open standard file format and data interchange format that uses human-readable text to store and transmit data objects consisting of attribute–value pairs and arrays (or other serializable values).
- With structured data format different eBL service providers are able to “understand” each other.

Human-readable document and machine-readable document



The eBL is both in:

1. human-readable PDF form, like a traditional BL, and in
2. machine-readable form as structured data.

- Both are stored in a file storage medium.
- This storage medium may be local storage, a distributed storage medium, or a hybrid of the two.
- The structured data is then passed into a smart contract-based token on a distributed ledger network.
- The eBL data includes the substantive details of the BL along with a unique identifier (a cryptographic hash) representing the content of the data.

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- Taken together with the address of the token, this data provides a single, unique, representation of the eBL capable of exclusive possession.
 - the content of the eBL and the instance of the eBL are uniquely identifiable.
 - The smart contract provides a tokenised representation of the eBL capable of being transferred between parties on the distributed ledger system. In doing so, the eBL can be shown to be exclusively possessed by the holder of the token that references the eBL data.



BL as a Hash



- <https://xorbin.com/tools/sha256-hash-calculator>
- Bill of lading
- 04113acec86004535144fd62f3e935a3978e4183955c07
- Electronic Bill of lading
- F6d7d9b65b933c6dcd32f0ea03f4fc9287ac83da2ca8cf



Paper workflow replication in eBL



- Under the equivalency of BL and eBL is understood the complete system replication.



"Thank you. I eagerly anticipate your feedback and comments."

This revised sentence maintains a thankful tone while also conveying an enthusiastic readiness to receive comments or feedback. Let me know if there's anything else you would like to enhance or revise!

(by chatgpt)