



Digital Container Shipping Association (DCSA)

**DCSA Interface Standard for the Bill of
Lading 1.0 – Reading Guide**

March, 2021

Purpose of this Reading Guide



This reading guide will allow readers of the Interface Standard for the Bill of Lading of the Digital Container Shipping Association (DCSA) to understand what the context of it is, what you can expect from it, and what you can achieve with it.

1 What is the **context** of the DCSA Interface Standard for the Bill of Lading?

2 What can you **expect** from the DCSA Interface Standard for the Bill of Lading?

3 What can you **achieve** with the DCSA Interface Standard for the Bill of Lading?



What is the context of the DCSA Information Model 3.0?

Digital Container Shipping Association (DCSA)



The DCSA Industry Blueprint 3.0 is one of the main initiatives and publications of the DCSA.

VISION

The vision of DCSA (Digital Container Shipping Association) is to shape the digital future of container shipping by being the industry's collective voice. Together with our members, DCSA works towards alignment and standardisation of IT and non-competitive business practices. Our aim is to move the industry forward by setting frameworks for effective and universally adoptable standards and exploring possibilities for innovation. We are vendor neutral and technology agnostic to enable widespread adoption of DCSA standards.

MEMBERS

The Digital Container Shipping Association has the following members: CMA-CGM, Evergreen, Hapag-Lloyd, HMM, Maersk, MSC, ONE, Yang Ming and ZIM.

DCSA Members



Purpose of the DCSA Interface standards for the the Bill of Lading



A technology-agnostic interface standard was developed to set the stage for future facilitation of standardization and digitization throughout the industry with a special focus on the Bill of Lading.

PURPOSE

1. Standards support a **common view across the industry** in relation to processes, events and messages, facilitating industry standardization and digitization efforts. They are about the definition and alignment of terms, entities and attributes and are designed to support a common shared understanding of concepts, terms and rules of the business.
2. Additionally, a clearly defined DCSA Interface Standard for the Bill of Lading adds to **the foundation on which future DCSA standards will be defined and developed** such as the project tracks of IoT, blockchain or cybersecurity. It can serve as a baseline for industry players to initiate the required steps towards the next level of container shipping. Per se, it is a publication that is subject to regular updates.



What can you expect from the DCSA Interface Standard for the Bill of Lading?

Approach to the DCSA Interface Standard for the Bill of Lading



Any published standard will be made publicly available on the website of the DCSA. During the development of standards, it will likewise be possible for interested parties to obtain selected materials and to learn about upcoming standard publication(s) via the website DCSA.org.

Review of business perspectives

DCSA Industry Blueprint & Glossary of Terms 3.0

Existing Standards, incl. DCSA Information Model 3.0

Use-case description and Baseline requirements document

Carrier SME expertise

- DCSA Industry Blueprint & Glossary of Terms 3.0
- Alignment of processes and business terms
- Existing standards, incl. DCSA Information Model 3.0
- Assessment regarding reuse, enhancement or rework of existing standards
- Use-case and Baseline requirements
- Setting the scope for standardisation
- Carrier SME expertise
- Industry knowledge is key to understanding the domain

DCSA Interface Standard for the Bill of Lading

DCSA Interface Standard for the Bill of Lading

DCSA Interface Standard for the Bill of Lading

Final draft for steerco approval

February 24, 2021

Purpose

This document provides the DCSA interface standard for the bill of lading as applied in container shipping. It details user cases, standardises the fundamental information exchanged between shippers and carriers to support the process of preparing and issuing a bill of lading regardless of the channel used, i.e. physical or digital (the latter is referred to as the eBL). The standard also applies to the Sea Waybill.

Scope of the DCSA Interface Standard for the Bill of Lading



The DCSA Interface Standard for the Bill of Lading is complemented by this reading guide, the DCSA Information Model 3.0, the DCSA Industry Blueprint 3.0, DCSA Glossary of Terms 3.0 and OpenAPI definitions.

DCSA Interface Standard for the Bill of Lading

The objective of the DCSA Interface Standard for the Bill of Lading is to standardise the fundamental information provided across the industry through the Bill of Lading interfaces. This standard assumes a limited scope of actors:

- Carriers
- Shippers



DCSA Interface Standard for the Bill of Lading
Final draft for steveco approval
February 24, 2021

Purpose
This document provides the DCSA Interface Standard for the Bill of Lading as applied to container shipping. It includes core data identification, identification, identification, identification and identification of shipping and container to support the process of preparing and issuing a Bill of Lading regardless of the transport mode (i.e. physical or digital). (For later reference to the full text, the standard also applies to the Sea Waybill.)

DCSA Interface Standard for the Bill of Lading Reading Guide

This document is recommended to read before starting to use the DCSA Interface Standard for the Bill of Lading. The Reading Guide has been created to facilitate proper use and understanding of the DCSA Interface Standard for the Bill of Lading and to make clear its limitations.

DCSA Glossary of Terms 3.0

The glossary is used to support the reader with definitions and explanations of the business terms used for **track and trace, operational vessel schedules and (e)BL** in the documents. It ensures that all readers interpret the terms in the same way.

DCSA Industry Blueprint 3.0

The Industry Blueprint 3.0 provides insights on as-is carrier processes with special focus on **track and trace, operational vessel schedules and (e)BL**. Thus, it comprises processes related to the movement of a container from one location to another and related eDocumentation processes.

DCSA Information Model 3.0

The DCSA Information Model 3.0 comprises elements not only relevant for track and trace and operational vessel schedules but also the Bill of Lading. It is based on the DCSA Industry Blueprint 3.0 and other resources available at DCSA.org

DCSA Event Naming Convention and Event Structure Definitions 1.0

To align terminology across the industry, the DCSA has developed a naming convention, which sets the standard for naming as well as understanding of customer facing **track and trace** events.

Open API definitions

OpenAPI definitions following the DCSA Information Model 3.0 and in particular the DCSA Interface Standard for the Bill of Lading will be published on DCSA.org and DCSA-org SwaggerHub.

Content of the DCSA Interface Standard for the Bill of Lading



The DCSA Interface Standard for the Bill of Lading comprises standards both for push and pull models of interfaces.

It provides standardized key UML diagrams and lists of inputs and outputs. The symbols used are explained in the appendices of this reading guide. Below you can find selected diagrams serving as examples. The complete list of all diagrams can be found in the DCSA interface Standard for the Bill of Lading.

Pull Model

Use case diagram

Activity diagram

List of inputs & outputs

Input Name	Description
Transport document type	REQUIRED. Specifies the type of transport document (a Bill of Lading (BOL) or a Sea Waybill (SWB))

Push Model

Use case diagrams

Output

If the posting of the Shipping Instruction was successful, the carrier will respond with a success message, indicating that the Shipping Instruction is received, and that the SI document status is RECEIVED. If the posting is unsuccessful, the shipper will receive an error message, including the reason (for instance highlighting the missing fields). A unique identifier for the Shipping Instruction is generated by the carrier's system: <Shipping Instruction ID> and passed back to shipper

9

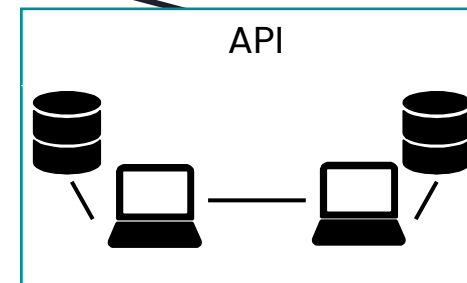
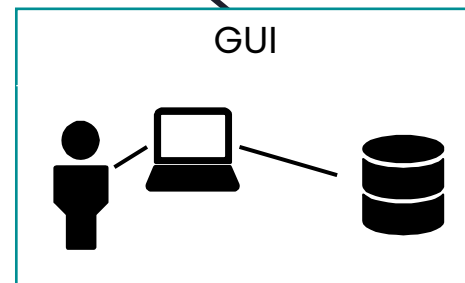
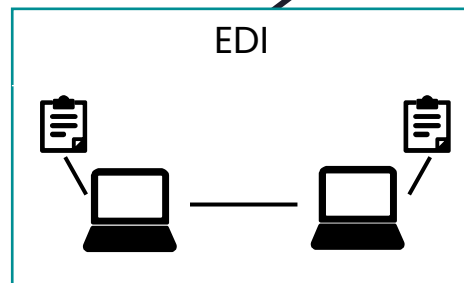
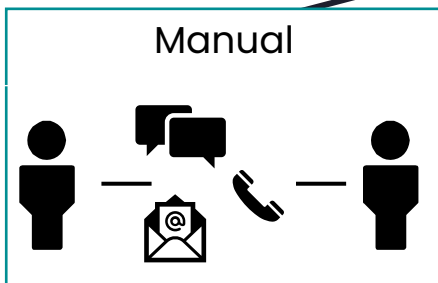


What can you achieve with the DCSA Interface Standards for the Bill of Lading?

DCSA Interface Standard for the Bill of Lading is technology agnostic



The DCSA Interface Standard for the Bill of Lading aims at standardizing the communication between data consumer and data provider and it is agnostic towards the messaging media.



- Be consistent and aligned in the usage of DCSA terminology in calls and emails
- Update to UN/CEFACT EDI latest version
- Mapping to existing standards
- Enhance UX on eBL portals
- Align data elements to be exchanged through an API
- Build on top of OpenAPI definitions

More details about the DCSA Interface Standard for the Bill of Lading



1

DCSA SwaggerHub

Endpoints definitions for the DCSA Interface Standard for the Bill of Lading will be published on [DCSA SwaggerHub](#) and then available to the general audience and developers in particular for usage and comments.

2

Versioning

DCSA OpenAPI definitions on SwaggerHub are being versioned in accordance with the semantic [versioning scheme](#). There are many ways a version can be represented in an API implementation. The API provider compliant with the DCSA specifications is welcome to support multiple methods of representing versions. However, every provider should at least support URI based versioning. More details on [DCSA GitHub](#).

3

Error handling

Error messages should be implemented based on an underlying technology standard. For instance, HTTP error codes should be used in case implementation is in the form of REST APIs. They are defined in [RFC2616](#). Similarly, for EDI based implementations, error codes should follow an existing standard, i.e., UN/CEFACT and EDIFACT. More information can be found [here](#) on DCSA SwaggerHub.



Feedback

Contribution



The DCSA Industry Blueprint will be expanded with more data elements as DCSA continues to standardise the inter-operational aspects of the container shipping industry. This will be done based on our ongoing collaboration with industry stakeholders.

Creation process

The DCSA Industry Blueprint has been created in collaboration with some of the world's largest shipping companies. The collection and consolidation of data documentation was carried out by the DCSA. The DCSA Industry Blueprint aims to create a representation of industry data references, data descriptions and data relationships.

Suggested improvements

The DCSA Industry Blueprint is an evolving document, which will change as processes and best practise across the industry change.

For this reason, DCSA is always interested in feedback that can improve the quality of published work and drive standardisation and digitalisation going forward.

If you have any feedback or input, please click 'Contact' on our web site.



www.dcsa.org



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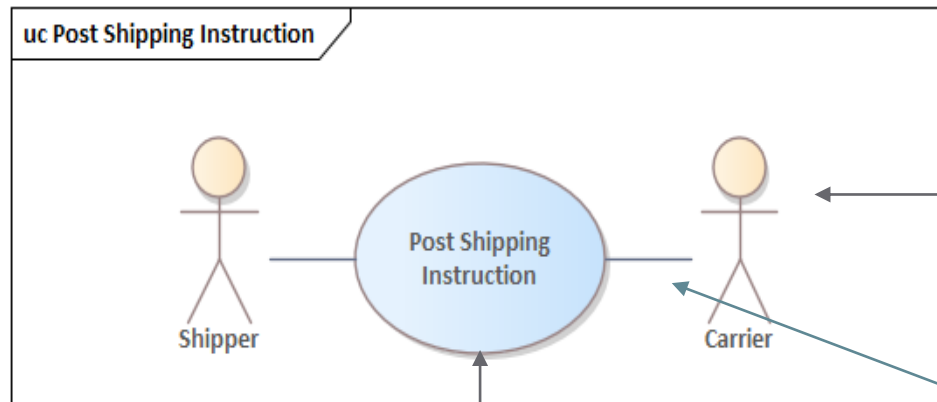
Appendices

Appendix 1



Legend on the DCSA Interface Standard for the Bill of Lading

USE CASE DIAGRAM



Actor

An actor is a user of the system. A user can refer to many entities, such as a human being but also a machine or another (sub-) system. In our example, the actors represent the stakeholders.

Association

An association is used to indicate a relationship between two elements.

Use case

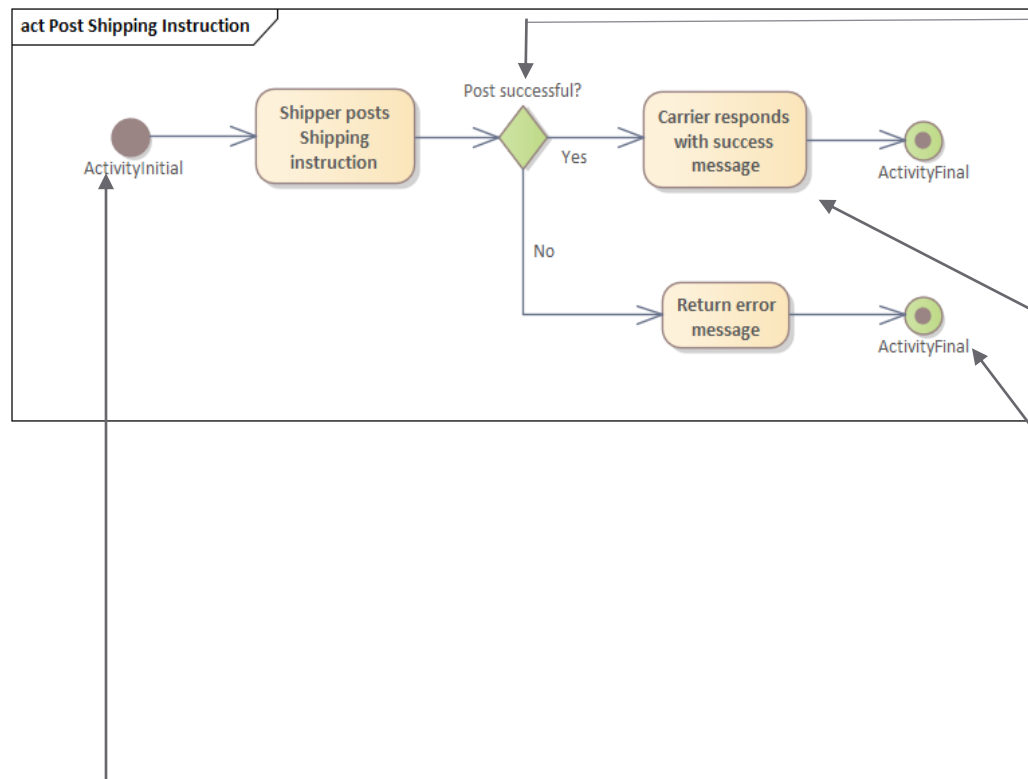
A use case is an element in UML modelling used to describe how a user of a system interacts with the system to perform a task. In our example the use case is "retrieve operational vessel schedule information".

Appendix 2



Legend on the DCSA Interface Standard for the Bill of Lading

ACTIVITY DIAGRAM



Decision

Decision element is used to highlight a condition: if a condition holds true, then processing continues one way. It is marked in green colour in this example.

Activity

An activity reflects the data flow of a process and specifies a sequence of behaviour. An activity is shown as a round-cornered rectangle enclosing all the actions, control flows and other elements that make up the activity.

Flow final

The flow final node is depicted as a circle with a cross inside. The flow final node denotes the end of a single control flow.

Initial

An initial or start node is depicted by a large black spot.



Thank you

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