Digital Container Shipping Association (DCSA)

DCSA Interface Standard for Operational Vessel Schedules 1.0
Reading Guide

July 2020

Purpose of this Reading Guide

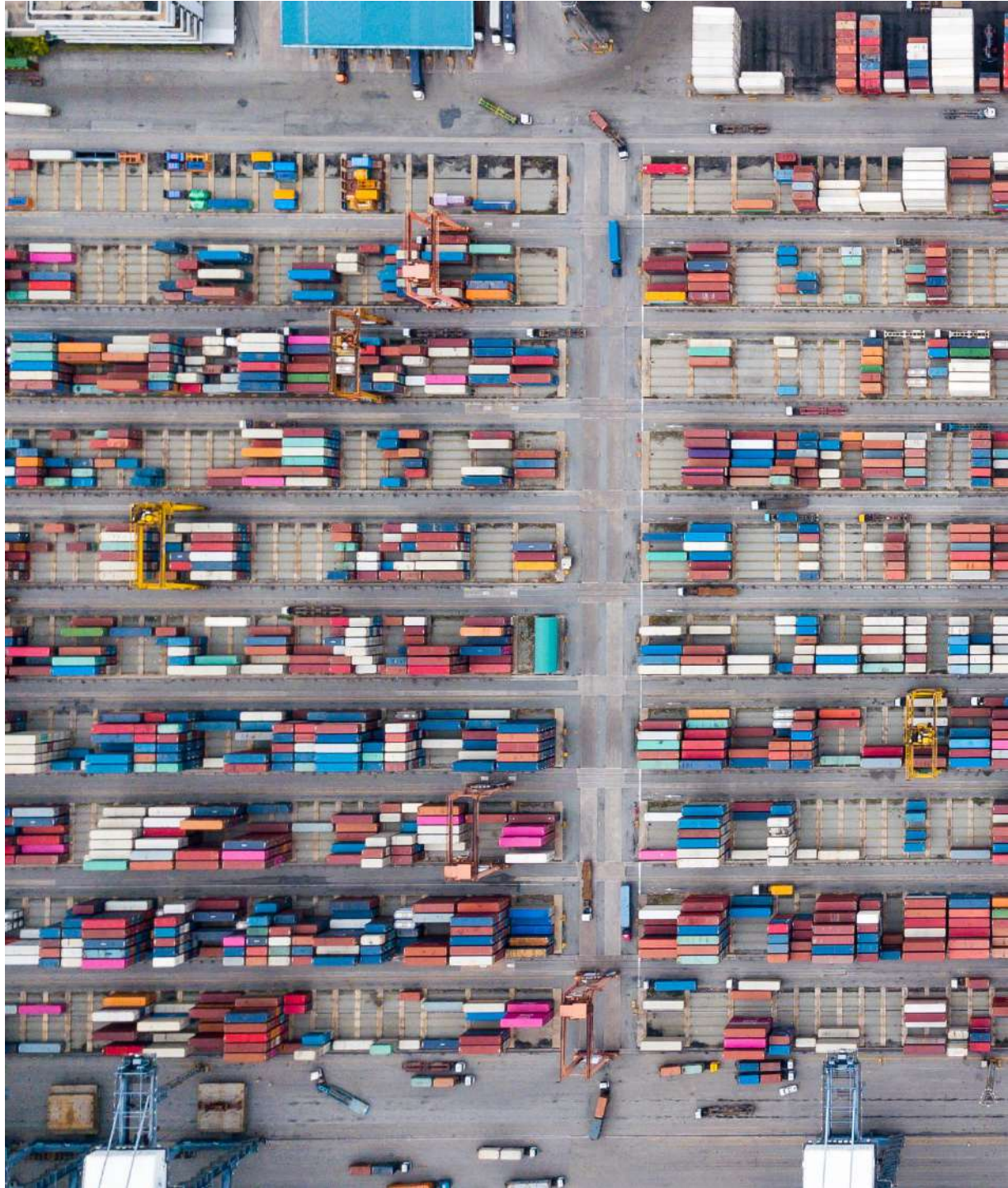
This reading guide will allow readers of the DCSA Interface Standard for Operational Vessel Schedules 1.0 to understand what the context of it is, what you can expect from it, and what you can achieve with it.

1 What is the **context** of the DCSA Interface Standard for Operational Vessel Schedules 1.0?

2 What can you **expect** from the DCSA Interface Standard for Operational Vessel Schedules 1.0?

3 What can you **achieve** with the DCSA Interface Standard for Operational Vessel Schedules 1.0?

What is the context of the DCSA Interface Standard for Operational Vessel Schedules 1.0?



Digital Container Shipping Association (DCSA)

The DCSA Interface Standard for Operational Vessel Schedules 1.0 is the result of a combined effort between DCSA and its member carriers.

VISION

The vision of the DCSA is to pave the way for interoperability in the container shipping industry through digitization and standardization. It is the DCSA's mission to represent, lead and serve the container shipping industry for safer, more secure and efficient operations of container shipping companies. The project of the DCSA Interface Standard for Operational Vessel Schedules 1.0 in particular aims at increasing the level of common standards and at designing a common language for processes, events, and messages for operational vessel schedules.

MEMBERS

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

Purpose of the DCSA Interface Standard for Operational Vessel Schedules 1.0

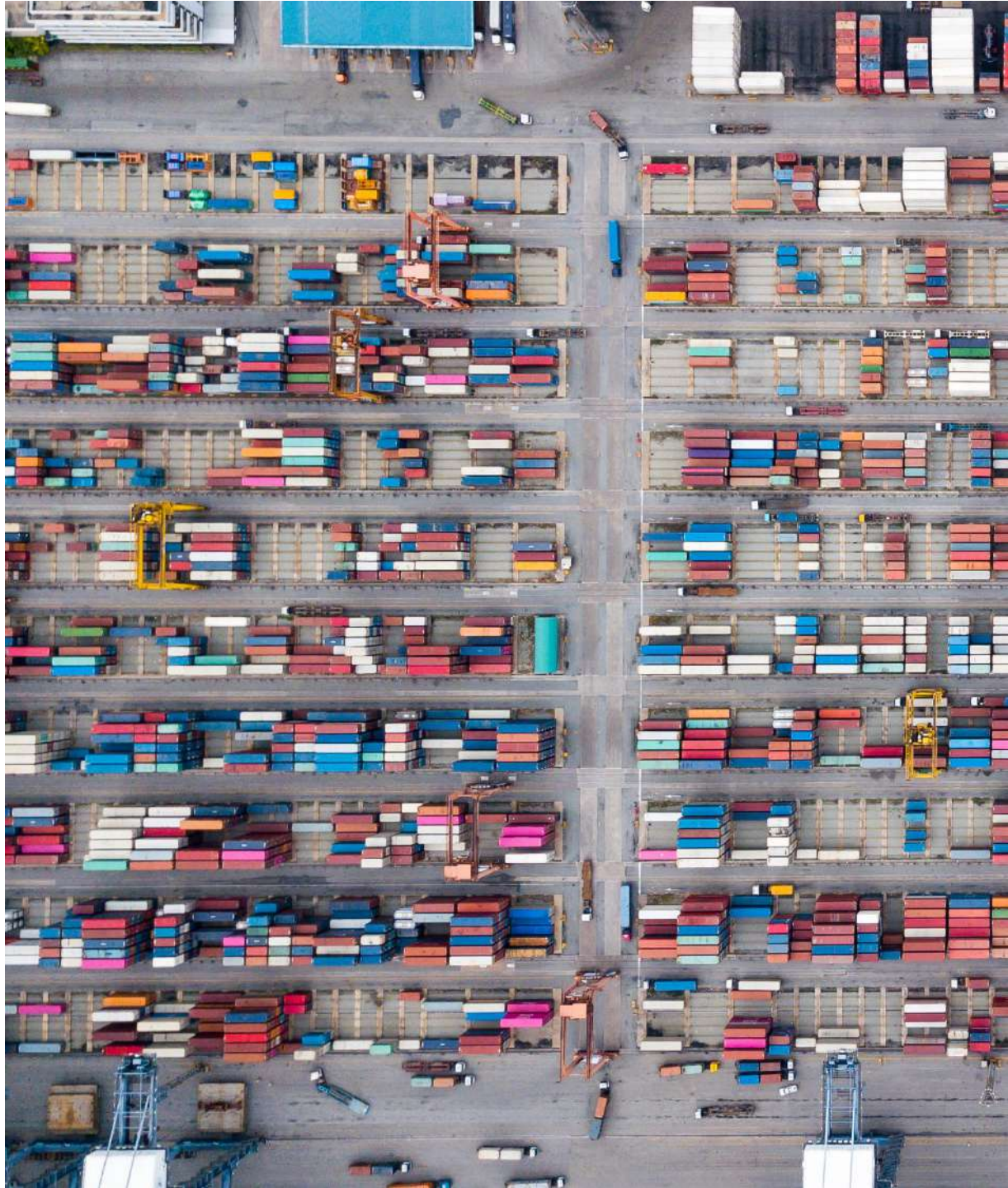
This technology-agnostic interface standard has been developed to facilitate standardisation and digitisation of the container shipping industry, with a special focus on operational vessel schedules.

PURPOSE

1. Standards support a **common view across the industry** in relation to processes, milestones, events and messages, facilitating industry standardisation and digitisation efforts. Developing standards requires the definition and alignment of terms, entities and attributes based on a shared understanding of concepts, activities and rules of the business.

2. Additionally, a clearly defined DCSA Interface Standard for Operational Vessel Schedules 1.0 adds to **the foundation on which future DCSA standards will be defined and developed**, such as IoT, blockchain and cybersecurity. While it is a first publication and subject to regular updates, it can serve as a baseline for industry stakeholders to initiate their own efforts towards digitalisation.

What can you expect from the DSCA Interface Standards for Operational Vessel Schedules 1.0?

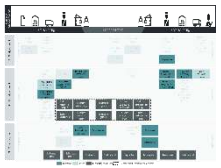


Approach to the DCSA Interface Standard for Operational Vessel Schedules 1.0

The DCSA Interface Standard for Operational Vessel Schedules 1.0 has been built to fulfil operational vessel schedule interface requirements. Existing standards relevant to the industry were also taken into account.

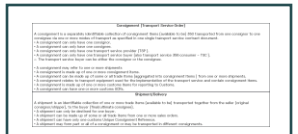
Review of business perspectives

DCSA Glossary of Terms 2.0
DCSA Schedule Definitions 1.0



Existing Standards

Use case Description & Baseline, Requirements document



Carrier SME Expertise

DCSA Glossary of Terms 2.0 & DCSA Schedule Definitions 1.0

Alignment of processes and business terms

Existing standards from DCSA or others

Assessment around reuse, enhancement or rework of existing standards

Use case & baseline requirements

Setting the scope for standardisation

Carrier SME expertise

Industry knowledge is key to understanding the domain

DCSA Interface Standard for Operational Vessel Schedules 1.0

DCSA Interface Standard for Operational Vessel Schedules 1.0

Scope of the DCSA Interface Standard for Operational Vessel Schedules 1.0

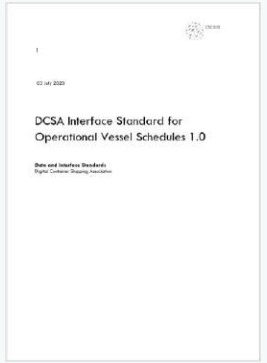
The DCSA Interface Standard for Operational Vessel Schedules 1.0 is complemented by this reading guide, the DCSA Schedule Definitions 1.0, the DCSA Information Model 2.0, the DCSA Glossary of Terms 2.0 and OpenAPI definitions.

DCSA Interface Standard for Operational Vessel Schedules 1.0

The objective of the DCSA Interface Standard for Operational Vessel Schedules 1.0 is to standardise the information provided through operational vessel schedule interfaces. This standard assumes a limited scope of actors:

- VSA parties consisting of vessel operators & vessel partners
- Operational 3rd parties (i.e. parties that provide services to the vessel)

Commercial 3rd parties are not in scope for this release.



DCSA Interface Standard for Operational Vessel Schedules 1.0 Reading Guide

This document is recommended to read before starting to use the DCSA Information Model 2.0. The Reading Guide has been created to facilitate proper use and understanding of the DCSA Information Model 2.0 and to make clear its limitations.

DCSA Information Model 2.0

The DCSA Information Model 2.0 comprises elements relevant for track and trace and operational vessel schedules. It is based on the DCSA Schedule Definitions 1.0 and other resources available at DCSA.org.

DCSA Schedule Definitions 1.0

This document aims to standardise the terminology and definitions with respect to communication of operational deep-sea (inter-regional) vessel schedules between VSA partners.

DCSA Industry Blueprint 2.0

The Industry Blueprint 2.0 provides insights into as-is carrier processes with special focus on track and trace and operational vessel schedules. Thus, it comprises processes related to the movement of a container from one location to another.

DCSA Glossary of Terms 2.0

The glossary is used to support the reader with definitions and explanations of the business terms used in the DCSA documents to ensure that all readers interpret the terms in the same way.

OpenAPI definitions

OpenAPI definitions following the DCSA Information Model 1.0, and in particular the DCSA Interface Standard for Operational Vessel Schedules 1.0, will be published on DCSA.org and DCSA-org SwaggerHub.

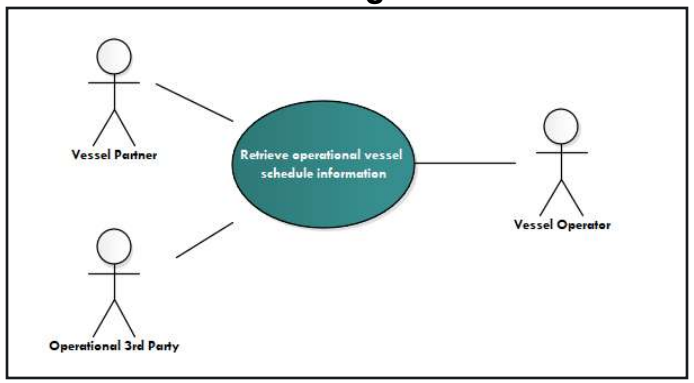
Content of the DCSA Interface Standard for Operational Vessel Schedules 1.0

The DCSA Interface Standard for Operational Vessel Schedules 1.0 comprises standards both for push and pull models of interfaces.

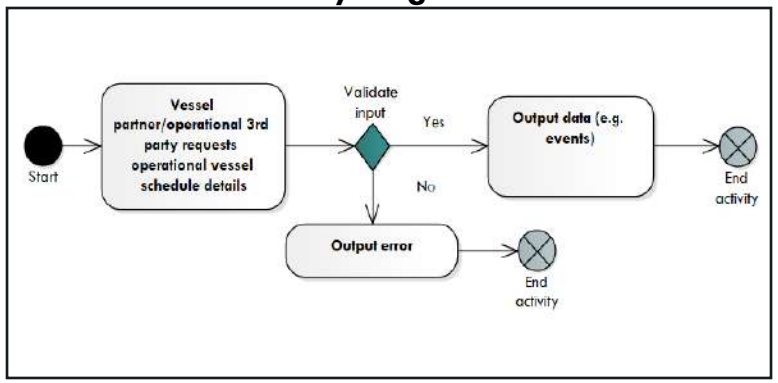
It provides standardised key UML diagrams and lists of inputs and outputs. The symbols used are explained in the appendices of this reading guide. Below you can find selected diagrams serving as **examples.** The complete list of all diagrams can be found in the DCSA Interface Standard for Operational Vessel Schedules 1.0.

Pull Model

Use case diagram



Activity diagram

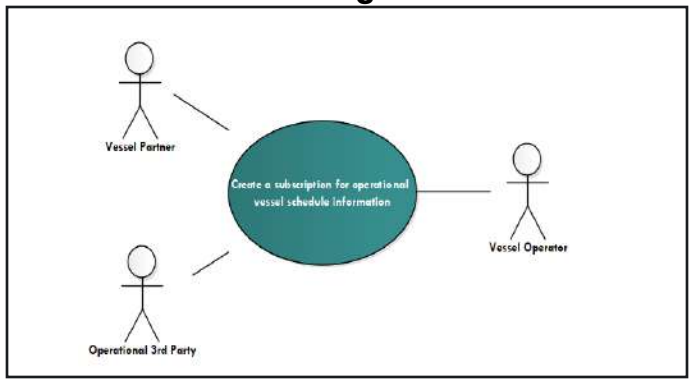


List of inputs & outputs

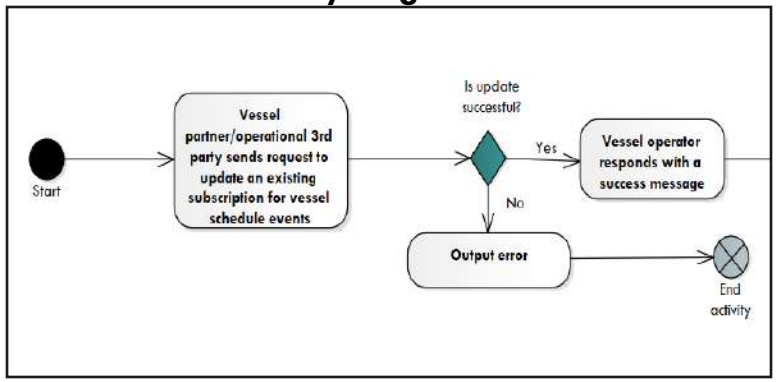
Input Name	Description
Vessel IMO number	OPTIONAL. The identifier of the vessel for which schedule information should be sent.

Push Model

Use case diagrams



Activity diagrams

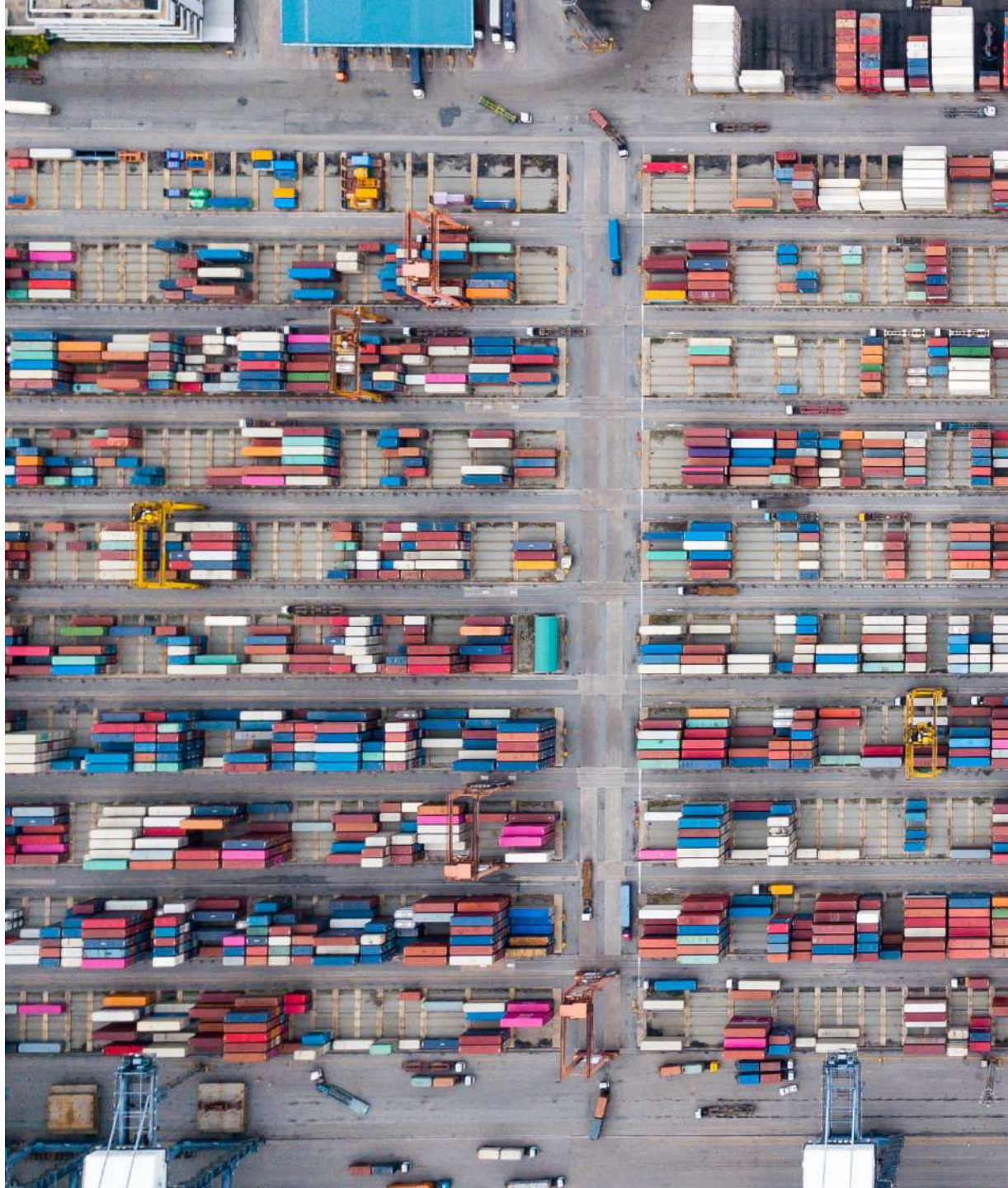


List of inputs & outputs

Output Name	Description
Vessel operator carrier code	REQUIRED. The identifier of the vessel operator publishing the event.

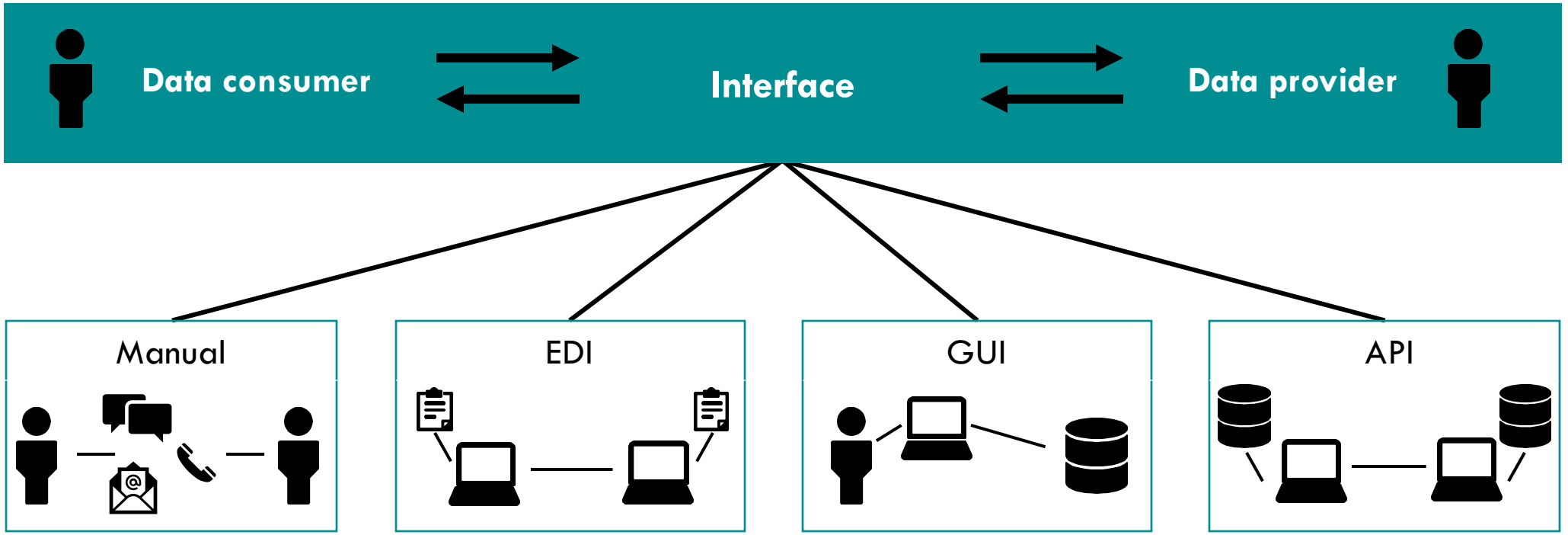
Examples

What can you achieve with the DCSA Interface Standard for Operational Vessel Schedules 1.0?



DCSA Interface Standard for Operational Vessel Schedules is technology agnostic

The DCSA Interface Standard for Operational Vessel Schedules 1.0 aims to standardise communication between the 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 Operational Vessel Schedules portals
- Align data elements to be exchanged through an API
- Build on top of OpenAPI definitions

More details about the DCSA Interface Standard for Operational Vessel Schedules

1

DCSA SwaggerHub

Endpoint definitions for the DCSA Interface Standard for Operational Vessel Schedules 1.0 will be published on DCSA SwaggerHub and then available to the general audience and developers in particular for usage and comments.

2

Versioning

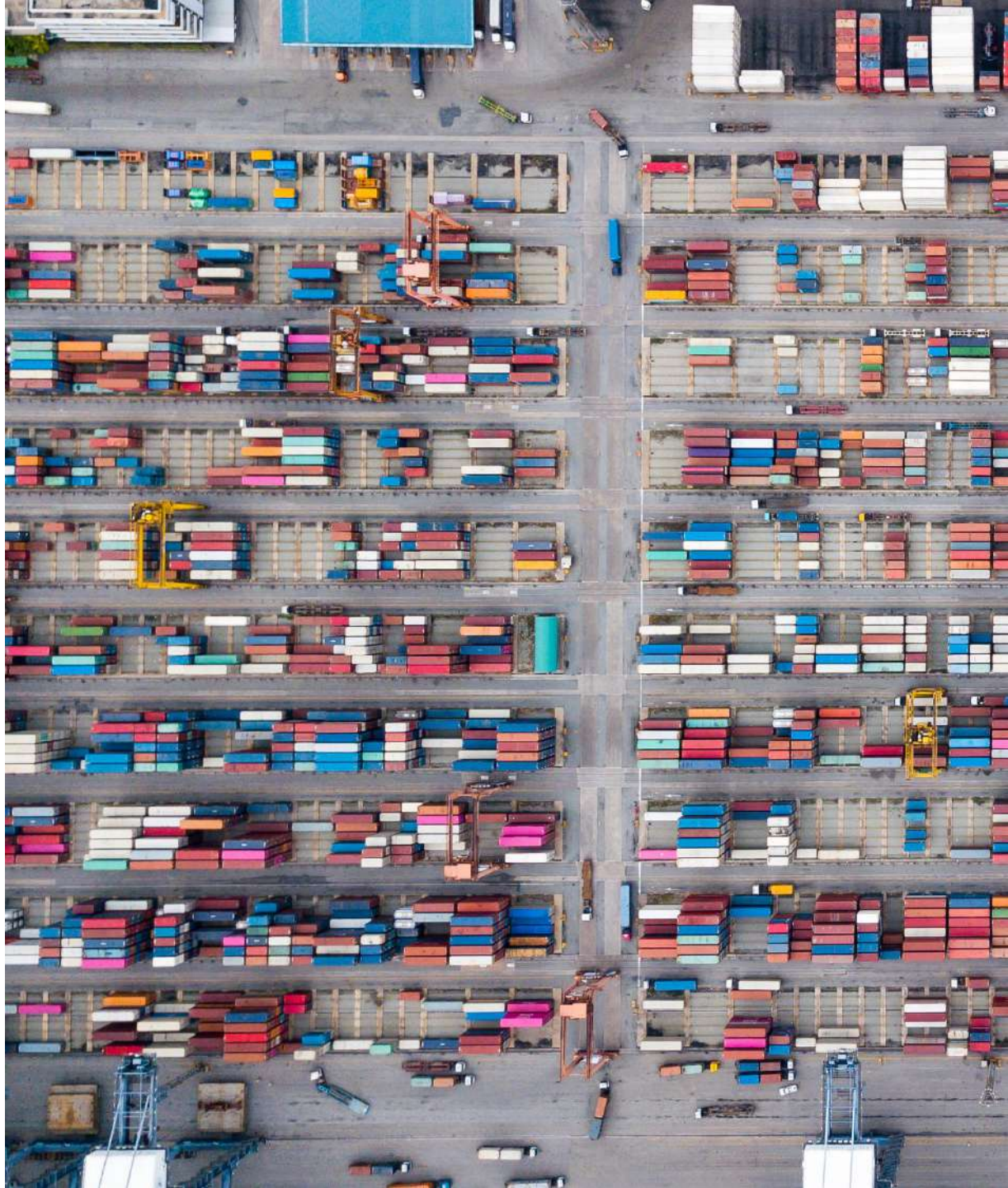
DCSA OpenAPI definitions on SwaggerHub are being versioned in accordance with the semantic versioning scheme. There are many ways a version can be represented in an API implementation. API providers that are compliant with DCSA specifications are welcome to support multiple methods of representing versions. 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 if the implementation is in the form of REST APIs. Error codes are defined in RFC2616. Similarly, for EDI-based implementations, error codes should follow an existing standard, i.e., UN/EDIFACT. More information can be found here on DCSA SwaggerHub.

Feedback



Contribute

The DCSA Interface Standard for Operational Vessel Schedules 1.0 will be expanded with more data elements as we continue 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 Interface Standard for Operational Vessel Schedules 1.0 has been created in collaboration with some of the world's largest shipping companies. The collection and consolidation of interface documentation was carried out by DSCA. The DCSA Interface Standard for Operational Vessel Schedules 1.0 aims to create a representation of processes across all carriers.

Suggested improvements

The DCSA Interface Standard for Operational Vessel Schedules 1.0 is an evolving document, which will change as processes and best practises across the industry change.

For this reason, DCSA is always interested in feedback, which can increase the quality of published work and drive standardisation and digitsation going forward.

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

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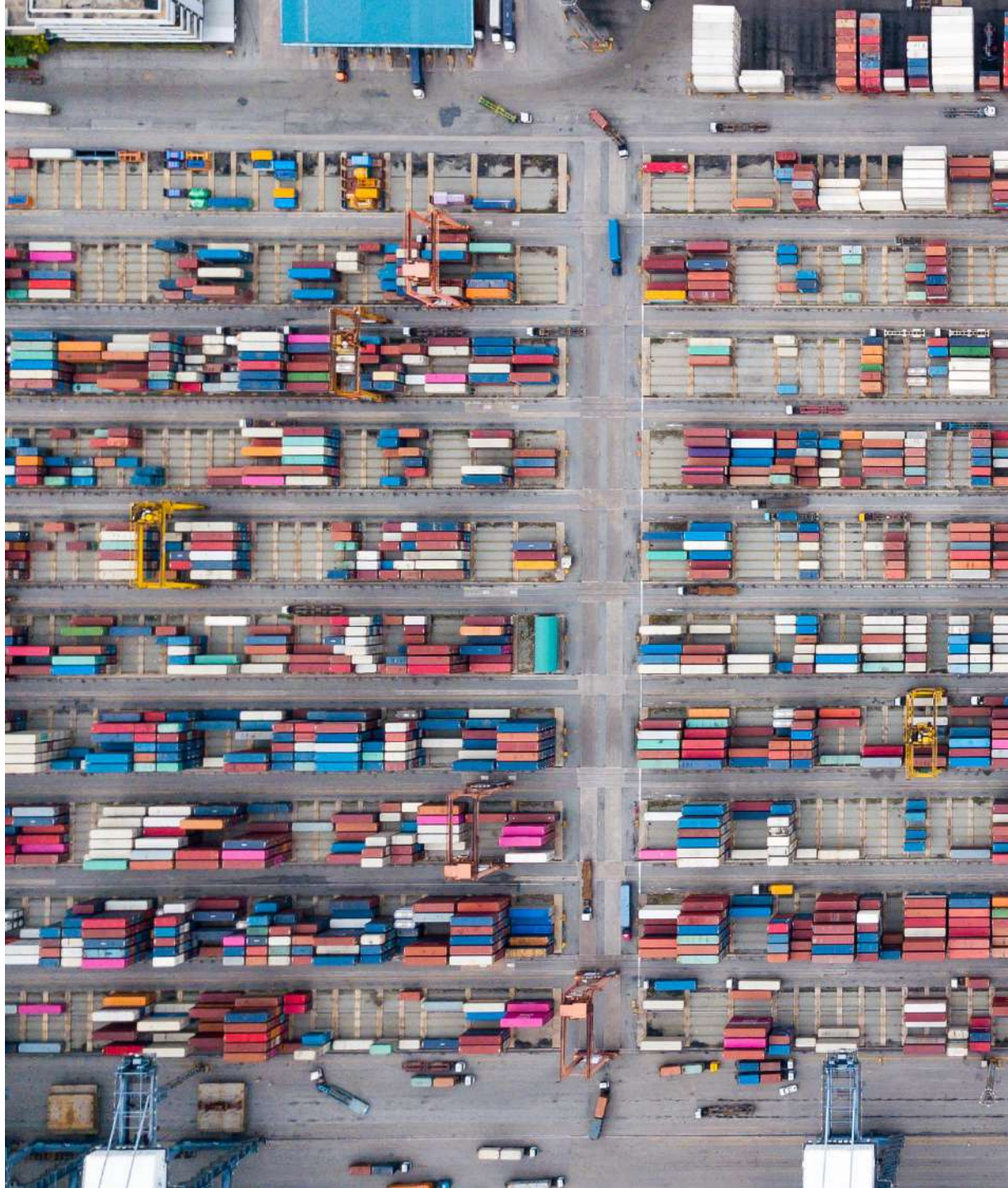
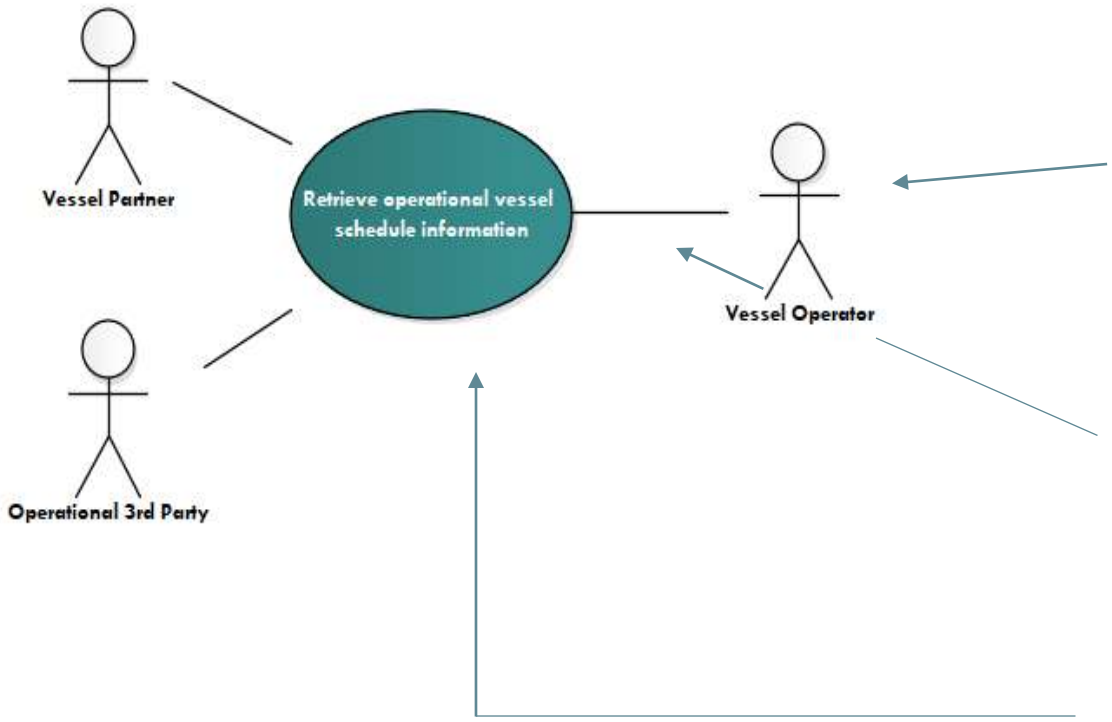
Appendices



Appendix I

Legend for the DCSA Interface Standard for Operational Vessel Schedules 1.0

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.

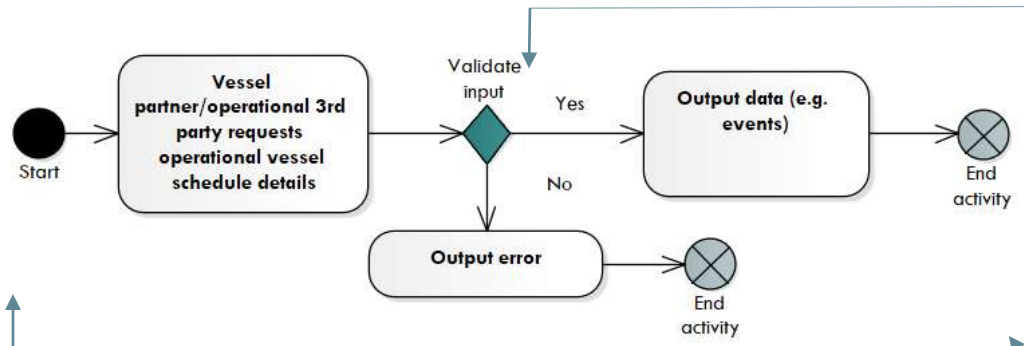
Use case

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 II

Legend for the DCSA Interface Standard for Operational Vessel Schedules 1.0

ACTIVITY DIAGRAM



Decision

A decision element is used to highlight a condition: if a condition holds true, then processing continues one way. The true condition is marked in green 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 encompassing all 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

Legal disclaimer