



Operational Vessel Schedule Definitions

For VSA services

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TABLE OF CONTENTS

1	Scope	3
2	Schedule Definitions	4
2.1	Vessel Schedule data elements	5
2.2	Schedule reliability standards	5
3	Definition of schedule exceptions.....	8
3.1	Port Omission	8
3.2	Planned (foreseen) cut and run operation	8
3.3	Unplanned (unforeseen) cut and run operation	8
3.4	Inducement call (ad hoc call)	8
3.5	Port call swap.....	8
3.6	Blank Sailing	8
4	Port Call Time Definitions.....	9
4.1	Ship Arrival & Departure times	9

1 SCOPE

This document aims to standardize the terminology and definitions with respect to communication of operational deep-sea (inter-regional) vessel schedules between vessel sharing agreement (VSA) partners. This means that the following schedule types are NOT addressed in this document:

- Commercial schedules
- Feeder schedules
- Individual carrier operated services, i.e. not part of a VSA

The purpose is to facilitate standardization and accuracy in partner communication, and hence reduce the pain-points that have been raised in this area by carriers.

Not all VSAs (or carriers) apply ALL processes, but for the sake of completeness, the full process definitions have been published.

The purpose is to standardize what partners communicate and when (and to whom) with respect to operational vessel schedules and related exception-management.

The definitions and time specifications are meant to add context to the vessel schedule process maps.

2 SCHEDULE DEFINITIONS

SCHEDULE	DEFINITION	PUBLISHING
Proforma Schedule (PS)	Consists of the final port rotation with the planned time of arrival and departure for each port call. Partners agree/define the first load port of a region/voyage.	Not published. To be agreed prior to commencement of the service.
Master Schedule (MS)	A long-term view of the agreed Proforma Schedule including proforma dates of call, cycle and agreed vessel sequence. The Master Schedule is fixed at a certain date and is to be used as a reference.	Not published.
Long Term Schedule (LTS)	An updated schedule, based on the final Proforma Schedule, including specific vessel & voyage number, to be published at least 12 weeks ahead of commencement of the individual voyage. It incorporates planned dry-dockings, vessel lay bys, phase-in/out of vessels, etc.	To be published before the commencement of each service. Provides sailings 12 to 14 weeks ahead
Regional (RS) / Coastal (CS) Schedule	The updated schedule, based on the Long Term Schedule, that will be issued prior to arrival at the first port of call in another region. Includes estimated port/terminal issues and any intended corrective actions to bring the schedule back to Long Term Schedule, i.e. port omissions, speeding up, etc. An updated schedule will normally be published if a vessel deviates more than 12 hours from LTS or from the latest published RS/CS. RS/CS can be published daily/weekly.	Recommended to be published latest 24 hours after departure from the previous region

Operational schedules should be updated in “real-time” between VSA partners, as changes materialize. Timelines for publication of customer-facing changes (on websites, portals etc.) should be agreed between VSA partners.

It is recommended that Blank Sailings, i.e., where an entire voyage is cancelled by the VSA partners after publication in LTS or CS, will have all port calls “blanked”, but the voyage number will be retained for internal cost allocation/reporting purposes.

For short-haul services (e.g. intra-regional services) the regional/coastal schedule process will not apply.

2.1 Vessel Schedule data elements

Member carriers have agreed on a minimum set of data elements that should be present when sharing operational schedules. Furthermore, it was agreed that three versions of a schedule can exist – Planned, Estimated and Actual, as follows:

- Planned is equal to the Long Term Schedule with a published rotation and named vessel. In cases where a vessel has not yet been nominated, it will be displayed as TBD.
- Estimated is equal to actual voyage data and could result from updates to the Regional Schedule sent by partners
- Actual is equal to the actual timestamp of the scheduled event as published by the partner

Vesselschedule element	Element definition	Standard to use for element	Data format	Data format specification
VesselName	The name of the Vessel given by the VesselOperator.	Provided by Operator	Varchar(35)	
VesselMO Number	The unique reference for a registered Vessel. The reference is the International Maritime Organization (MO) number, also sometimes known as the Lloyd's register code.	MO number	Numeric (7)	
Voyage Number	The identifier of the Voyage. The identifier is vesseloperator specific.	TBD	Varchar(6)	DCSA to design a globally unique voyage identifier. Additional voyage numbers can be added for internal use between carriers
VesselOperator	The name of the company operating the Vessel.	SCAC or SM DG Code	TBD	We will follow P1 definition
Location Code	Location Code identifies a location in the sense of a city/a town/a village, being the smallest administrative area existing as defined by the competent national authority in each country. Location Code is a 3-character code e.g. ANR for Antwerp.	UN-LOCODES	Char(5)	The values used concur with the ISO 3166 alpha-2 Country Code. In the next three digits indicates 3-character code for the represented area within the country.
Port Terminal Code	The identifier of the locational context of the vessel, which is being reported on, at a Terminal level.	SM DG Code	Varchar(6)	
Port station arrival	The date and time of arrival at port station.	Timestamp	Datetime	In the format 'YYYYMMDDHHMMSS' and time zone in local time as per ISO 8601
Arrival Berthed	The date and time of arrival at berth and first line ashore.	Timestamp	Datetime	In the format 'YYYYMMDDHHMMSS' and time zone in local time as per ISO 8601
Departure Time	The date and time of Departure and the last mooring has been released (Vessel).	Timestamp	Datetime	In the format 'YYYYMMDDHHMMSS' and time zone in local time as per ISO 8601
Generated Schedule Time	The date and time at which the latest version of the vesselschedule was published.	Timestamp	Datetime	In the format 'YYYYMMDDHHMMSS' and time zone in local time as per ISO 8601
VesselSchedule Change Remark	Explanation of the reason behind the schedule change. The change remark should only be communicated when sending a new version of a schedule and not for the first publication.	SM DG Code	Varchar(4)	Based on Standard reason codes in FTSAI and TPFREP EDFACT messages established by SM DG

2.2 Schedule reliability standards

- The 'schedule reliability score' is calculated by dividing the number of port call arrivals at berth performed 'on time' by the total number of calls for the same period.

- The port call is considered performed 'on time' if arrival at berth is within -/+24 hours compared to the Long Term or Regional Schedule berth time. Measurement should be made on the basis of a "rolling" frozen view of the Regional Schedule 14 days in advance of the port call if different from the Long Term Schedule. If only date (and not time) is communicated in the schedules, a default arrival time of midnight local time will be set.

Clarification: "Berth time" is defined as "First line ashore" (in line with the definition of arrival in the customer track and trace events definition - Event Structure Definitions 1.0) at the first terminal called in the port. In case of multiple terminals called in one port, only the first terminal will be counted.

- The port call is not considered 'on-time' if delay at berth is more than 24 hours, or if the call occurs more than 24 hours earlier, regardless of the reason for the delay.
- The call is not considered 'on-time' if it is not performed (port is omitted), and if this port omission was not reflected in the Regional Schedule a minimum of 14 days before planned arrival.
- Inducement (ad hoc) calls are included in the measurements but always counted as 'on-time' if they are performed as published in the Regional Schedule a minimum of 14 days before planned arrival.
- Seasonal cancellations and holiday closures are not counted towards measurements in cases where they are agreed prior to the start of the voyage (start of loading at the previous region). This means that the Master/Long Term Schedule will need to be updated prior to the start of the voyage, for the actual arrival to be measured against the adjusted expected arrival time. "Start of voyage" is defined as the departure date in the first operative port of loading.

For shared services, schedule reliability should be measured both per individual vessel operator and at service level:

> Individual vessel operator view: use only the vessel operator's schedule, e.g., if operator A has 5 vessels and operator B has 3 vessels in a given service, then reliability for A is measured based on the performance of 5 vessels; for B it is measured based on 3 vessels. In both cases it is measured in all ports, which are called in by the respective service.

> Service view: aggregate the reliabilities per operator (two in above example) and apply this to the service (including slot charterers). As an example - *Total Service reliability 66%: Carrier A 80% (10 calls – 8 calls in) / Carrier B 50% (8 calls – 4 calls in).*

- Time assignment
 - > A port call is assigned to the reporting period (for example to the month) by the day of actual arrival at berth.
 - > A service is assigned to the reporting period by the departure date in the first operative port of loading in a voyage.

Definition of Delay

Average delay of LATE vessels:

This is the average delay of LATE vessels, meaning that only vessels which are late are considered in this figure. This average does not contain any vessel arrivals that were either on-time or early.

Average delay of ALL vessels:

This is the average delay of ALL vessel arrivals, both those that are late, as well as those that

are on-time or early. This means that the delays of the LATE vessels are effectively "diluted" by the early and on-time arrivals. This figure could also be negative, meaning that on average the vessels arrived early.

Calculation example:

If minus (-) means a vessel arriving early and plus (+) means a delay, and we have five vessels on a service arriving [-4, +3, -1, +2, -1], then the average delay of LATE vessel would be $(2+3)/2=2.5$ days, the delay of ALL vessels would be $(-4+3-1+2-1)/5 = -0,2$ days, while the schedule reliability would be $2/5= 40\%$, as only "on-time" arrivals are considered in this calculation

- The above definitions will be commonly and evenly applied to all ports, carriers and alliances, independent of their size or throughput.

3 DEFINITION OF SCHEDULE EXCEPTIONS

Schedule exceptions occur if/when a vessel is unable to maintain the intended schedule due to unforeseen events (e.g. weather, port congestion, technical issues etc.).

3.1 Port Omission

When a ship does not call at a port included in the Long Term Schedule that was planned at the start of the voyage.

3.2 Planned (foreseen) cut and run operation

When a port call is reduced in time and move counts due to foreseen delay/congestion.

3.3 Unplanned (unforeseen) cut and run operation

When a ship terminates its discharge/loading operations prematurely due to unforeseen events.

3.4 Inducement call (ad hoc call)

An additional port call made on a specific voyage that was not originally included in the Long Term Schedule.

3.5 Port call swap

When the vessel port call rotation is changed after publication of the Long Term Schedule.

3.6 Blank Sailing

When an already announced voyage is cancelled. In this case, the voyage number is retained, and planned port calls are “blanked”.

4 PORT CALL TIME DEFINITIONS

The following port call time definitions are existing standards established by the international taskforce for port call optimization in association with UK Hydrographic Office & GS1 (the authority for supply chain standards). The definitions have also been endorsed by their industry partners (Container lines & ports) and many international bodies (IHMA, IAPH, BIMCO, ICS, INTERCARGO, IHO, IALA, Marine Traffic, UK P&I, Lloyds List Intelligence, Nautical Institute, Green Award, STM).

The timestamp definitions are within IMO's Convention on the Facilitation of International Maritime Traffic (FAL Convention) and Compendium on Facilitation and Electronic Business. They are also aligned with the Mariners Handbook (NP100 SOLAS) and the Just in Time Arrival Guide of the IMO Global Industry Alliance.

The purpose is to streamline port call planning and execution and hence reduce unnecessary waiting time. By aligning DCSA definitions with international standards, we avoid confusion when communicating timestamps with partners.

To provide clarity, the arrival and departure times of ships, as well as start and completion times of services, should all follow the same sequence:

1. "Estimated"
2. "Requested"
3. "Planned"
4. "Actual"

As an example, here is the ship departure sequence from a berth.

The ship advises the Port Authority of the ship's ETD Berth (Estimated Time of Departure from the Berth), which depends on the Estimated Time of Completion of all services.

The Port Authority then provides an RTD Berth (Requested Time of Departure from the Berth), considering the ship's clearance & conditions, as well as availability of fairway/nautical services.

The ship advises the PTD Berth (Planned Time of Departure from the Berth) when she confirms the departure time, considering the ship's draft and departure procedure.

When the ship leaves the Berth, it is the ATD Berth (Actual Time of Departure from the Berth).

4.1 Ship Arrival & Departure times

This section contains definitions for the specification of planned and actual arrival and departure events within a location.

The exact geographical location, such as VTS, Pilot Boarding Station or a specific Berth, is added after the time acronym, e.g., ETA Pilot Boarding Station.

For the purpose of operational vessel schedule data elements, only VTS, Pilot Boarding Station or Berth is relevant. However, there may be additional locations introduced as part of the port call optimization project.

The time format is **Local Time** in the following table.

TIME	DEFINITION	FORMAT
ETA-Location – Estimated Time of Arrival - Location	The Date/Time when a vessel estimates it will arrive at a specified location	YYYY-MM-DD HH:MM
RTA-Location – Requested Time of Arrival – Location	The Date/Time when a vessel is requested to arrive at a specified location	YYYY-MM-DD HH:MM
PTA-Location – Planned Time of Arrival- Location	The Date/Time when a vessel confirms to arrive at a specified location	YYYY-MM-DD HH:MM
ATA-Location – Actual Time of Arrival - Location	The Date/Time when a vessel arrives at a specified location	YYYY-MM-DD HH:MM

TIME	DEFINITION	FORMAT
ETD - Location– Estimated Time of Departure - Location	The Date/Time when a vessel estimates it will depart from a specified location	YYYY-MM-DD HH:MM
RTD- Location – Requested Time of Departure – Location	The Date/Time when a vessel is requested to depart from a specified location	YYYY-MM-DD HH:MM
PTD - Location – Planned Time of Departure - Location	The Date/Time when a vessel confirms to depart from a specified location	YYYY-MM-DD HH:MM
ATD - Location– Actual Time of Departure - Location	The Date/Time when a vessel departs from a specified location	YYYY-MM-DD HH:MM