



# **PORT CALL MESSAGE STANDARD**

**VER 0.5**

**PRESENTED AT ENAV19, 2016-09-19**

# Outline

- ☐ Background
- ☐ The needs
- ☐ Processes
- ☐ Timestamps
- ☐ Objective of port call message
- ☐ Structure of port call message
- ☐ Test beds and next step



# E-navigation

IMO e-navigation is defined as:

*“the **harmonized collection, integration, exchange**, presentation and analysis of **marine information** on board and ashore by electronic means to enhance **berth to berth** navigation and related services for safety and security at sea and protection of the marine environment.”\**

\*Annex 7, DEVELOPMENT OF AN E-NAVIGATION STRATEGY  
IMPLEMENTATION PLAN Report of the Correspondence Group on e-  
navigation, Submitted by Norway, NCSR 1/28 March 2014



Co-financed by the European Union  
Connecting Europe Facility





# Maritime Service Portfolios (MSP) (I)

“As part of the improved provision of services to vessels through e-navigation, MSPs have been identified as the means of **providing electronic information in a harmonised way**”

The following six areas have been identified for the delivery of MSPs:

- .1 **port areas and approaches;**
- .2 coastal waters and confined or restricted areas;
- .3 open sea and open areas;
- .4 areas with offshore and/or infrastructure developments;
- .5 Polar areas; and
- .6 other remote areas. “\*

\*Annex 7, DEVELOPMENT OF AN E-NAVIGATION STRATEGY  
IMPLEMENTATION PLAN      Report of the Correspondence Group on e-  
navigation, Submitted by Norway, NCSR 1/28 March 2014



Co-financed by the European Union  
Connecting Europe Facility



# Maritime Service Portfolios (MSP) (II)

**MSP 1: VTS Information Service**

**MSP 6: Pilotage Service**

**MSP 7: Tugs Service**

**MSP 4: Local Port Service**

- “Provision of LPS is designed to improve port safety and **co-ordination of port services** within the port community by **dissemination of port information** to vessels and berth or terminal operators. It is mainly concerned with the management of the port, by the supply of **information on berth and port conditions**.”\*

\*Annex 7, DEVELOPMENT OF AN E-NAVIGATION STRATEGY IMPLEMENTATION PLAN Report of the Correspondence Group on e-navigation, Submitted by Norway, NCSR 1/28 March 2014



Co-financed by the European Union  
Connecting Europe Facility

# The needs

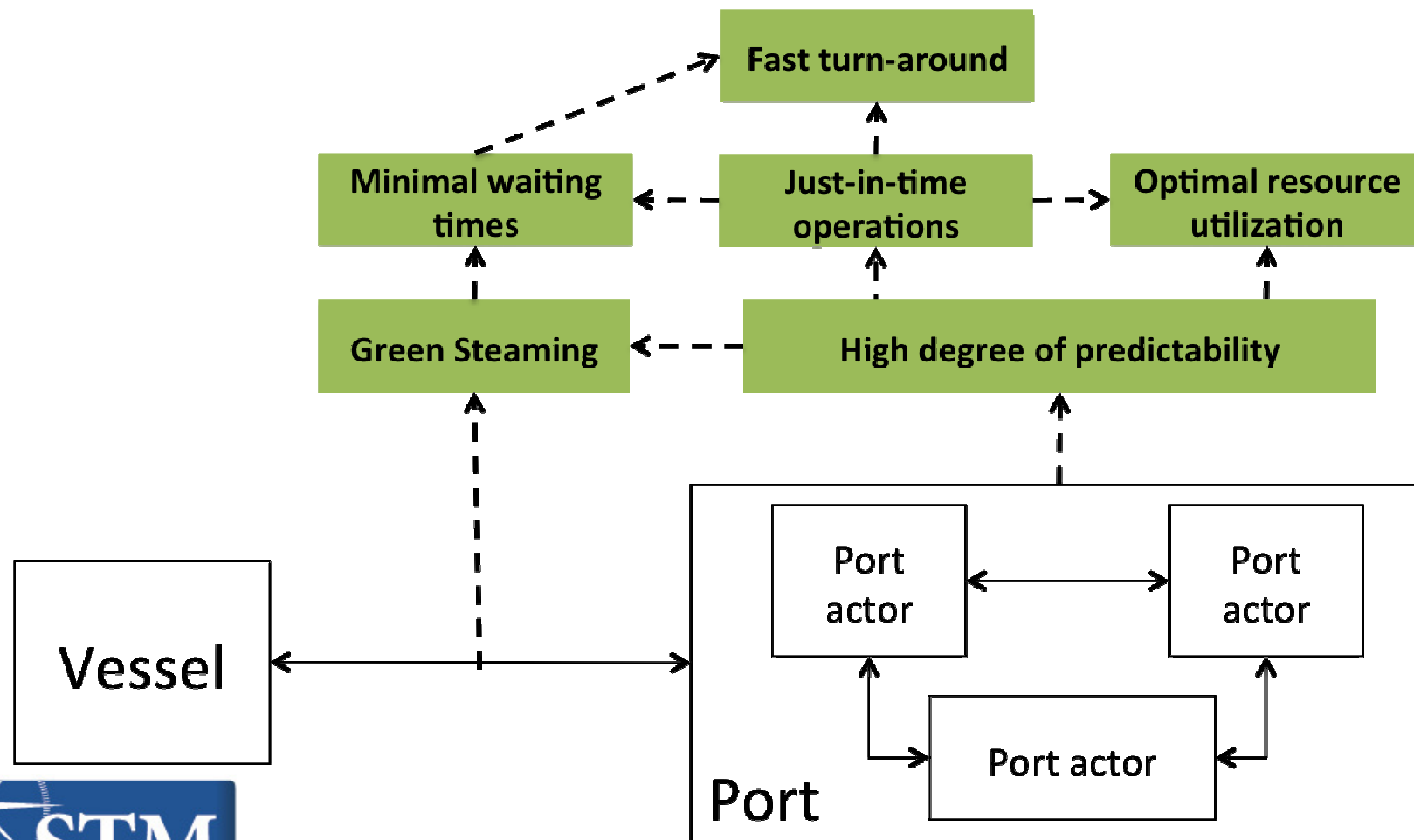
An optimized port call is when the vessel reaches an agreed location at a specific time and all necessary facilities and services are ready to receive the vessel ensuring an optimal turn around in the port

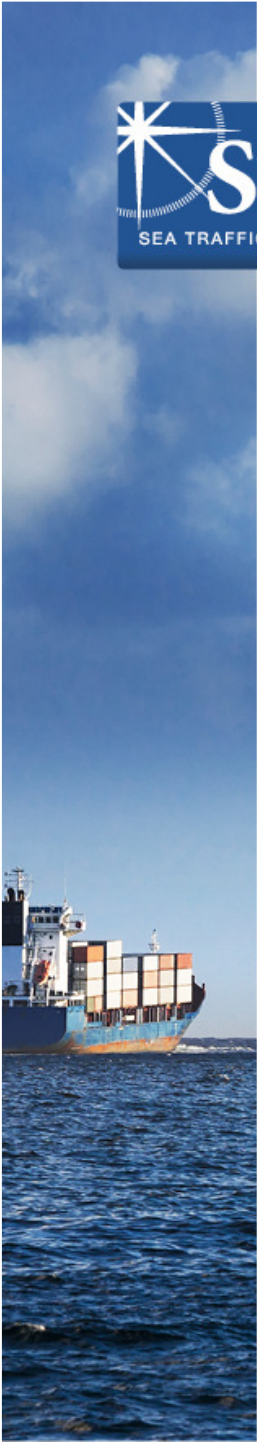
- Increased need for inter-operability between actors engaged in port calls
- A digital platform that enables structured sharing of timestamps between involved actors and provides situational awareness for actors' decision-making
- Today, no standards exists for exchanging timestamp messages related to port call enabling enhanced situational awareness



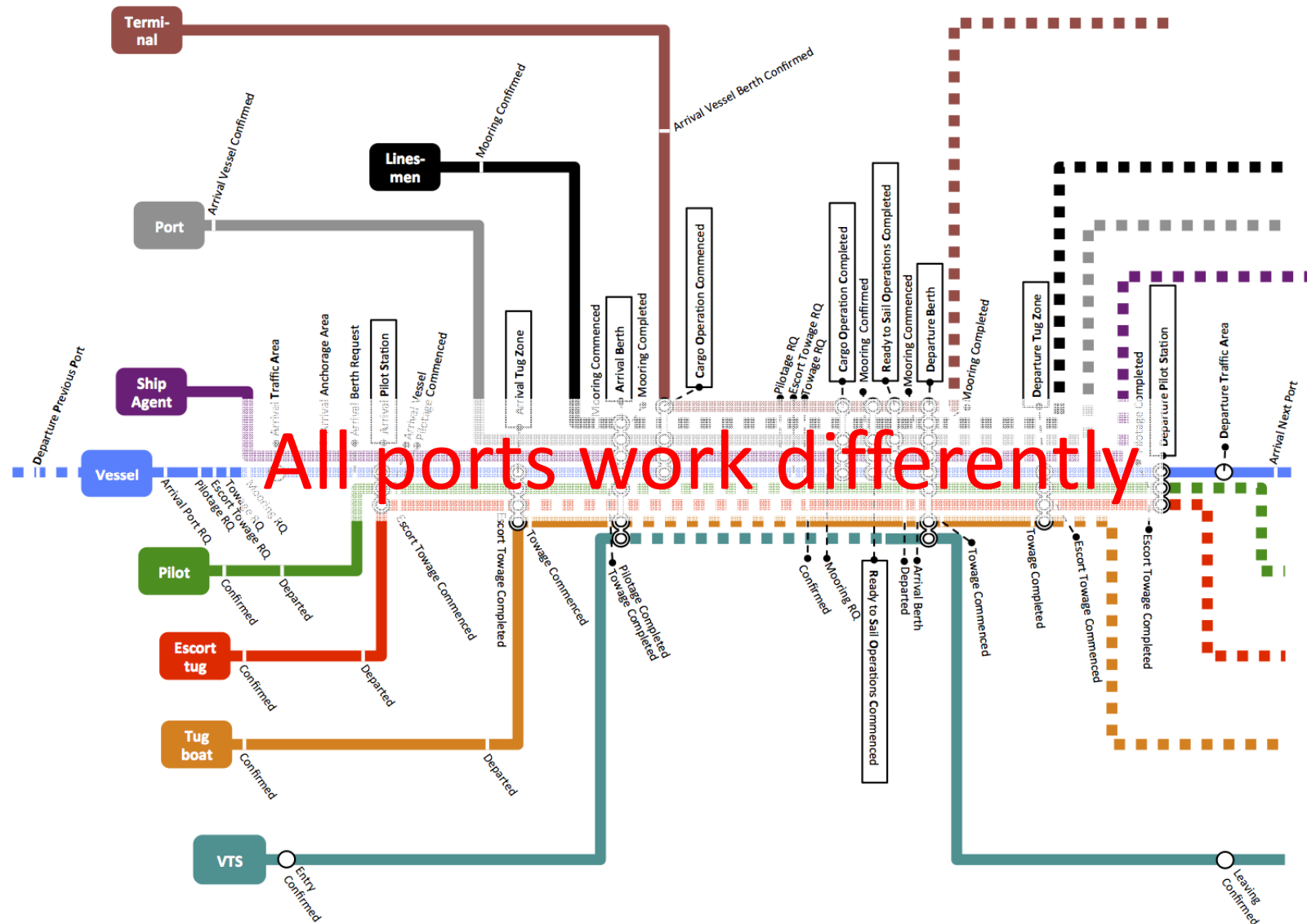
Co-financed by the European Union  
Connecting Europe Facility

# Desired effects from enhanced sharing of timestamps





# All ports work differently





# Timestamps of today

- **Examples:**
  - Estimated Time of Arrival
  - Actual Time of Berth
  - Pilot on-board
  - All fast
  - Cargo operations completed
  - Estimated Time of Departure
  - All loose
  - etc.



Co-financed by the European Union  
Connecting Europe Facility

# Objective of the Port Call Message

- Standardized message formats are necessary to achieve synchronized operations among actors
- The scope is exchange of timestamped data for ship-to-port interaction, port-actor interaction, and port-to-port interaction
- The port call message regulates the format and structure of the information that is being shared

## **Builds on:**

- Generic port call process nomenclature based on business logic and contextual knowledge
- Timestamp standard (time type + state type) covering all relevant states



# PORT CALL MESSAGE STANDARD

Is built upon and  
has been a source  
for the development of

Is applied in  
approaches for

PORT call  
synchronization

PORT call  
optimization

Has been reviewed  
and is of use for

Maritime authorities, Port authorities and  
other port actors, BIMCO,  
Shipping companies, Service Providers,  
(Bridge) Equipment suppliers,  
Platform providers, Standardization  
organizations (like GS1)



Co-financed by the European Union  
Connecting Europe Facility

## ANY OTHER BUSINESS

Information concerning the development of uniform definitions of ship port operations  
in support of safe, efficient and sustainable transport logistics

Submitted by International Harbour Masters' Association, BIMCO, International  
Association of Ports and Harbors, International Bulk Terminals Association, ICHCA  
International Ltd., International Marine Contractors Association, InterManager,  
International Port Community Systems Association, International Parcel Tankers  
Association, International Transport Workers' Federation, World Nuclear Transport  
Institute

### SUMMARY

*Executive summary:* Open electronic platforms and digital applications assisting ports  
and ship managers improve the efficiency of operations are under  
development but this development has been hampered by the  
absence of internationally agreed definitions of ship port  
operations. This paper provides information about industry  
discussions to develop agreed descriptors of events during a ship's  
arrival, stay and departure in port.

*Strategic direction:* 8

*High-level action:* 8.0.3

*Planned output:* No related provisions

*Action to be taken:* Paragraph 16

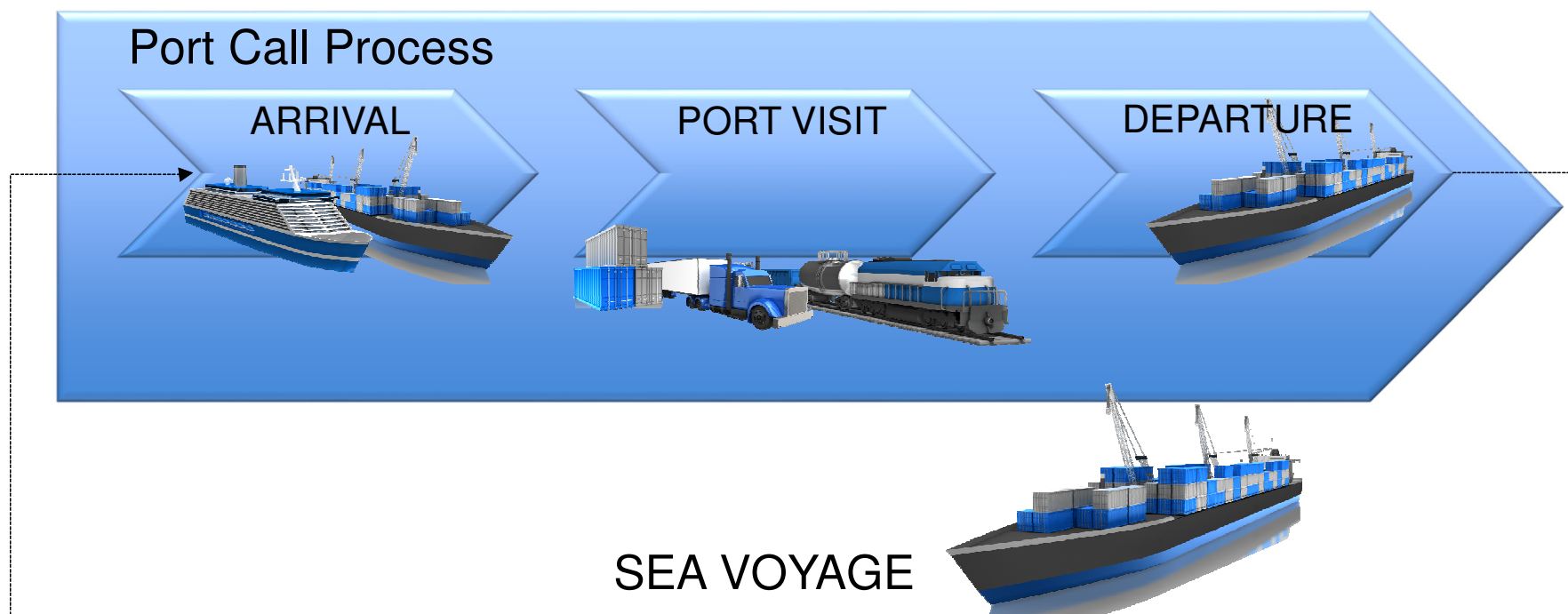
*Related documents:* FAL Convention (2005 Amendments); FAL 38/5/2

### Introduction

1 Shipping worldwide makes use of identical events in their log books, regardless of  
the type of ship. These events have never been defined, formalized or brought in line with  
the definitions of events that are used in ports. The intention is to harmonise understanding  
of events both onboard and onshore related to the arrival, stay and departure of the ship in  
port and in the port approach. Computer software and digital applications using uniform  
events will result in more streamlined processes between ship and port.

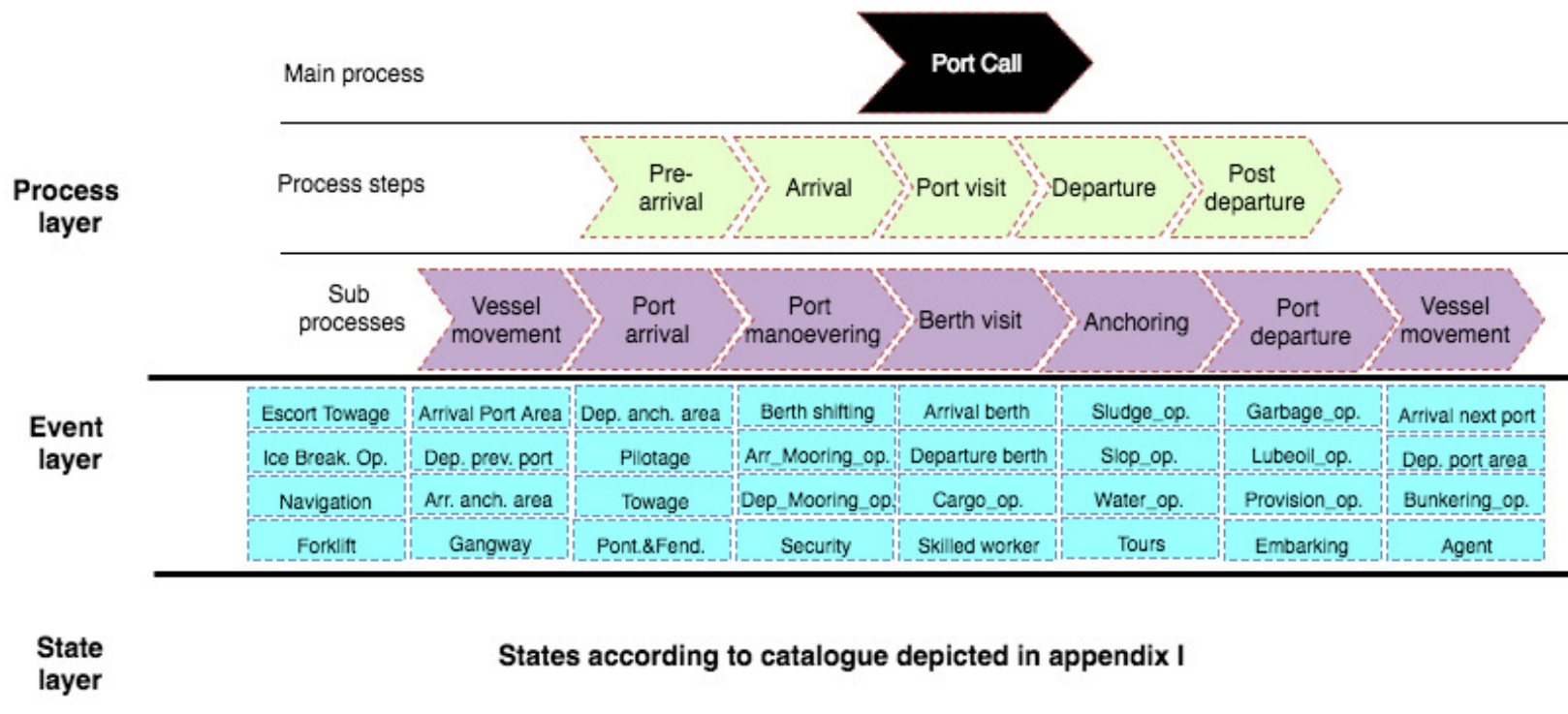
2 A common understanding of ship port operations will enable electronic message  
formats to be developed that will be understood by all parties.

# The Structure of the Port Call Process

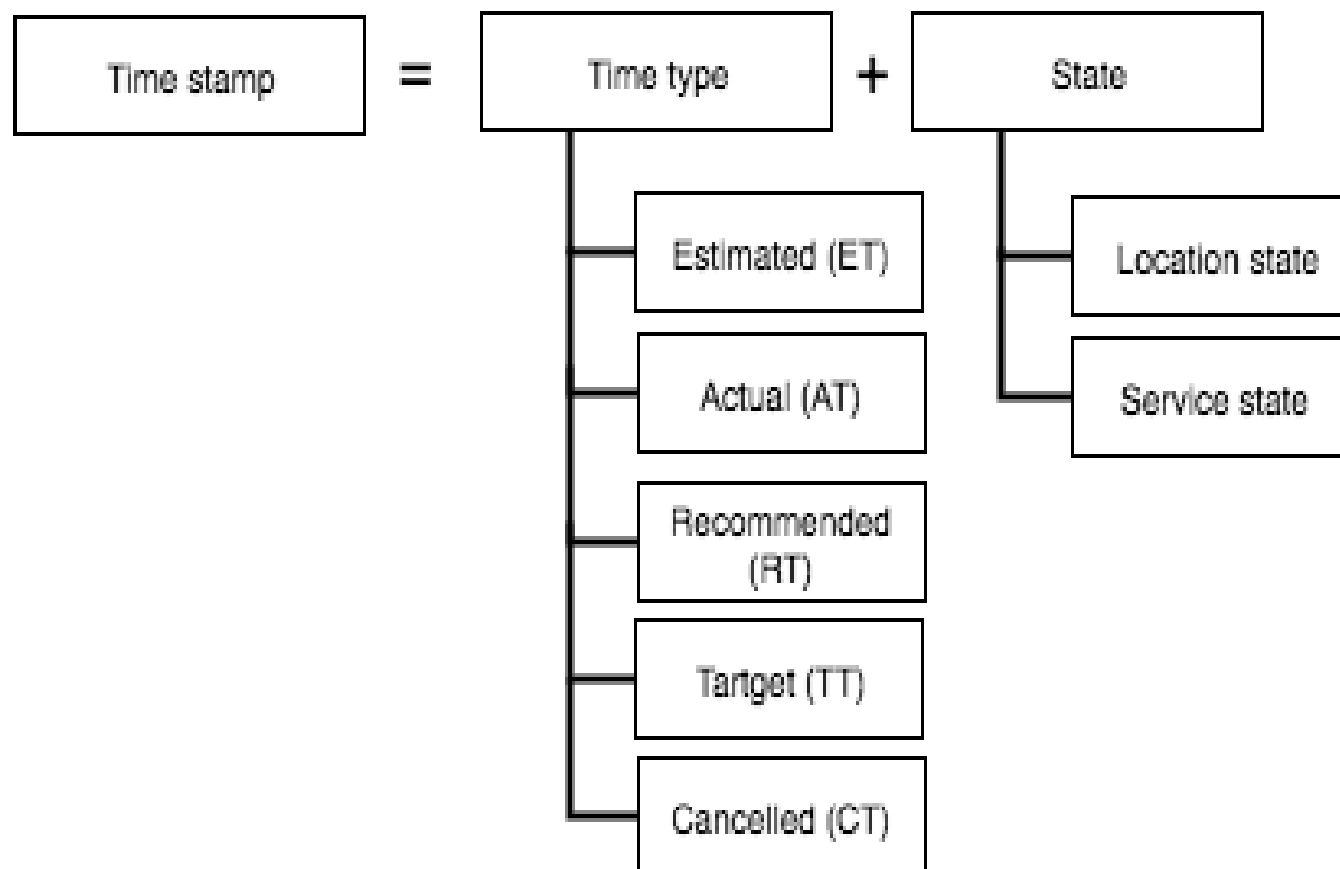




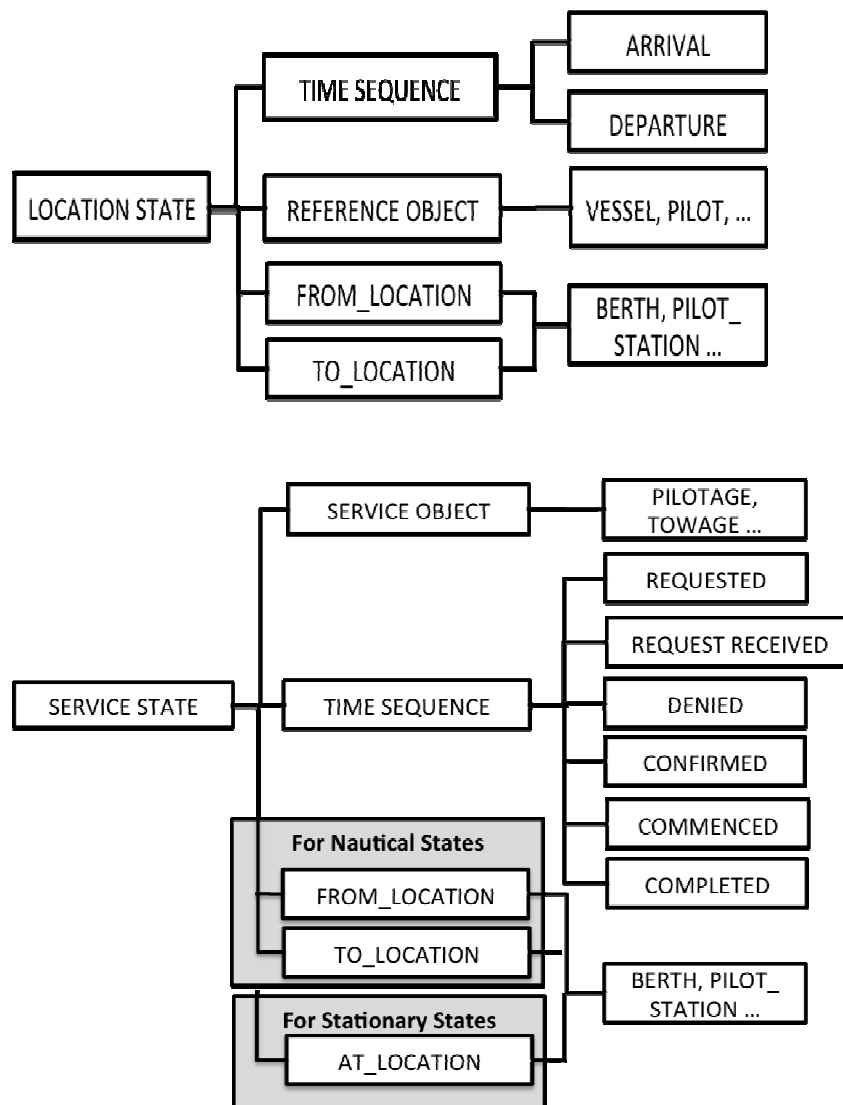
# Port Call layered model



# Structure of a timestamp

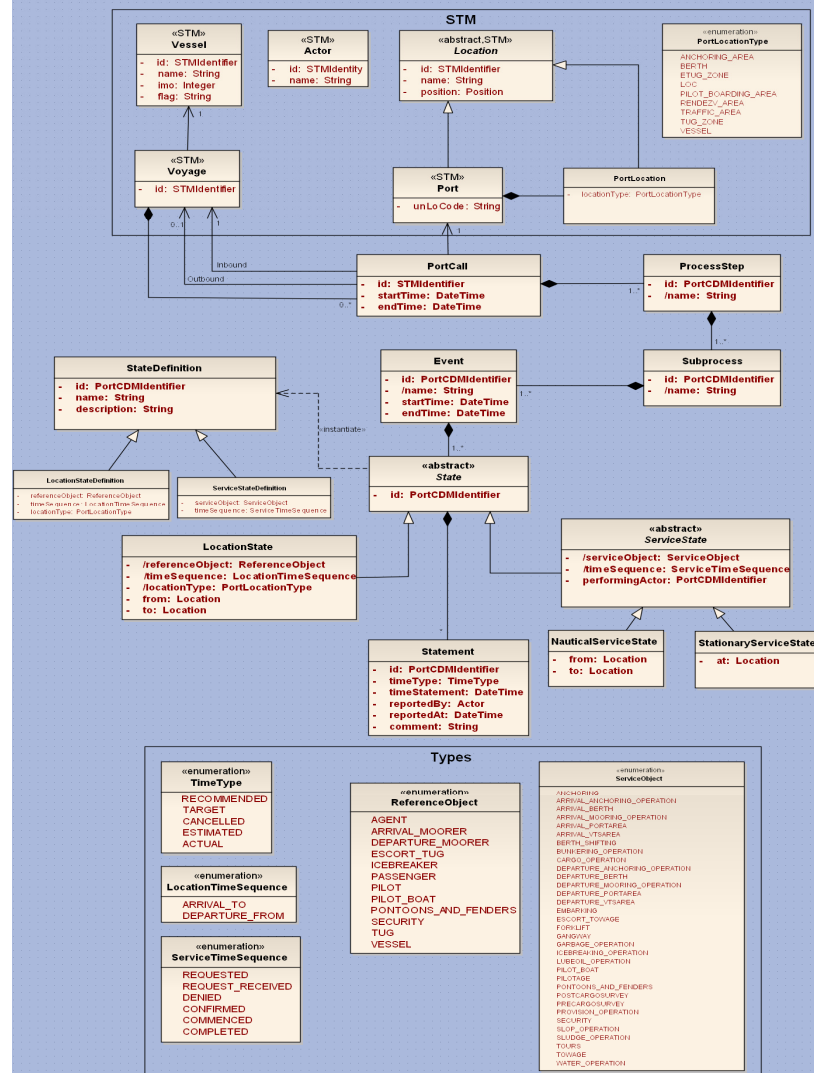


# Location State and Service State



# Port Call Data Model

PortCDM Data Model  
Version 0.0.14 -- 2016-09-02





# Port Call Message

State Type

Time Sequence

Reference Object

Service Object

Location

Port Call Id

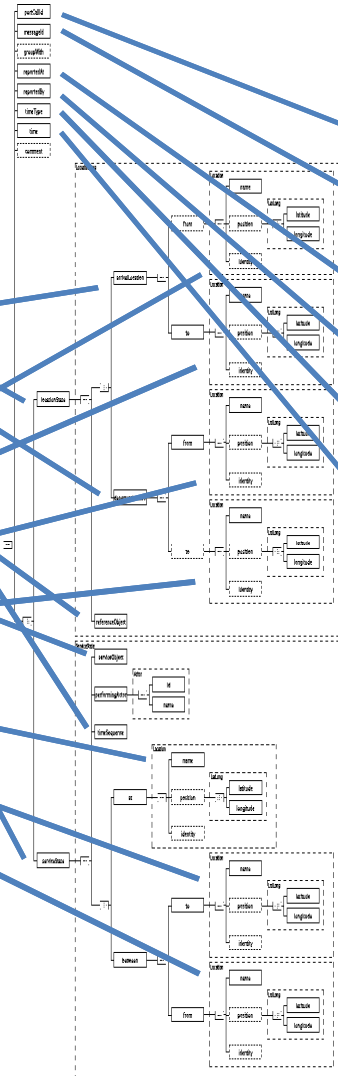
Message Id

Reported at

Reported by

Time Type

Time



# The next step

- Further anchoring and validation of the port call message (ongoing)
- Test beds:
  - To be used in real-life tests in the validation of PortCDM applications in 13 ports (2016 – 2018)
- Elaborate the relationship to contemporary standardization efforts:
  - S-100 product specification
  - Route exchange format (RTZ)
  - Single Window message standard
  - EPCIS (GS1)
  - etc.



# Test beds



# Conclusions

- The port call process is a complex sequence of activities
- The basic unit of analysis is the timestamp
- Increased need for precision in timestamp communication
- The more information about states, the better possibility to coordinate for the purpose of optimization and synchronization

The Committee is invited to note the information and consider this input when discussing ship-to-shore interaction







**THINK DIFFERENT**  
**MAKE THINGS HAPPEN**  
**MAKE A DIFFERENCE**



**For questions do not hesitate to contact:**

**Mikael Lind**

Viktorias Swedish ICT  
[Mikael.Lind@viktorias.se](mailto:Mikael.Lind@viktorias.se)



Co-financed by the European Union  
Connecting Europe Facility