

**IALA S-211**

**Product Specification**

**Draft 1.0.0 – 28 March 2019**

IALA Port Call Message Product Specification

Annex E

Application Schema Documentation

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Table of Contents

1 PortCDM 1.0.0 1

1.1 PortCallMessageFormat diagram 1

1.2 pcmf 2

1.2.1 Entity 2

1.2.1.1 Entity diagram 2

1.2.1.2 atLocation 3

1.2.1.3 fromLocation 3

1.2.1.4 toLocation 4

1.2.1.5 locationReferenceObject 4

1.2.1.6 serviceObject 6

1.2.1.7 timeSequence 11

1.2.1.8 timeType 12

1.2.1.9 locationTimeSequence 13

1.2.2 Identifier 14

1.2.2.1 Identifier diagram 14

1.2.2.2 comment 15

1.2.2.3 LocalJobIdentifier 15

1.2.2.4 LocalPortCallIdentifier 15

1.2.2.5 LocationIdentifier 15

1.2.2.6 MRN 16

1.2.2.7 PortCallIdentifier 16

1.2.2.8 PortCallMessageIdentifier 16

1.2.2.9 text 16

1.2.2.10 URN 17

1.2.2.11 UUID 17

1.2.2.12 VesselIdentifier 17

1.2.3 Payload 18

1.2.3.1 Payload diagram 18

1.2.3.2 administrationState 18

1.2.3.3 betweenLocations 20

1.2.3.4 locationState 21

1.2.3.5 messageOperation 22

1.2.3.6 serviceState 23

1.2.3.7 messageOperationName 25

1.2.4 Port-call-message 26

1.2.4.1 Port-call-message diagram 26

1.2.4.2 PortCallMessage 26

1.3 vendorExtension 29

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# PortCDM 1.0.0

Package in package 'S-211'

PortCDM 1.0.0

Version 1.0.0 Phase 1.0 Proposed

raphaelm created on 31-Mar-2019. Last modified 31-Mar-2019

## PortCallMessageFormat diagram

Class diagram in package 'PortCDM 1.0.0'

PortCallMessageFormat

Version 1.0.0

crossover created on 31-Mar-2019. Last modified 01-Apr-2019



1. PortCallMessageFormat

## pcmf

Package in package 'PortCDM 1.0.0'

pcmf

Version 1.0.0 Phase 1.0 Proposed

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### Entity

Package in package 'pcmf'

XSD generated from this package must be updated to:

* where appropriate, use the user defined types derived from xs:string instead of the S-100 core type (see the userDefinedType tags on attributes)
* import the S-100 profile (or the GML 3.2 schemas) and set the geometry property to pointPropertyType

Entity

Version 1.0.0 Phase 1.0 Proposed

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#### Entity diagram

Class diagram in package 'Entity'

Entity

Version 1.0.0

crossover created on 31-Mar-2019. Last modified 31-Mar-2019



1. Entity

#### atLocation

Class «ComplexAttributeType» in package 'Entity'

**The location where a stationary service is performed**

atLocation

Version 1.0.0 Phase 1.0 Proposed

crossover created on 31-Mar-2019. Last modified 31-Mar-2019

| ATTRIBUTES |
| --- |
| locationMRN : URN Public  Location identifier, based on MRN. This can be either a specific identifier for an identified physical location or a type-only identifier for a logical location, such as BERTH  *pattern* = [uU][rR][nN]:[mM][rR][nN]:[sS][tT][mM]:[lL][oO][cC][aA][tT][iI][oO][nN]:[A-Za-z]{5}:  (ANCHORING\_AREA|BERTH|ETUG\_ZONE|PILOT\_BOARDING\_AREA|RENDEZV\_AREA|TUG\_ZONE|VTS\_AREA|HOME\_BASE|BOUY):.+  Properties:  maxOccurs = 1  minOccurs = 1  userDefinedType = LocationIdentifier  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| terminal : URN Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  definition TBD  pattern = [uU][rR][nN]:[mM][rR][nN]:[iI][pP][cC][dD][mM][cC]:[tT][eE][rR][mM][iI][nN][aA][lL]:[A-Za-z]{5}:.+  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |

#### fromLocation

Class «ComplexAttributeType» in package 'Entity'

The departure location

fromLocation

Version 1.0.0 Phase 1.0 Proposed

crossover created on 31-Mar-2019. Last modified 31-Mar-2019

| ATTRIBUTES |
| --- |
| locationMRN : URN Public  Location identifier, based on MRN. This can be either a specific identifier for an identified physical location or a type-only identifier for a logical location, such as BERTH  *pattern* = [uU][rR][nN]:[mM][rR][nN]:[sS][tT][mM]:[lL][oO][cC][aA][tT][iI][oO][nN]:[A-Za-z]{5}:  (ANCHORING\_AREA|BERTH|ETUG\_ZONE|PILOT\_BOARDING\_AREA|RENDEZV\_AREA|TUG\_ZONE|VTS\_AREA|HOME\_BASE|BOUY):.+  Properties:  maxOccurs = 1  minOccurs = 1  userDefinedType = LocationIdentifier  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| terminal : URN Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  definition TBD  pattern = [uU][rR][nN]:[mM][rR][nN]:[iI][pP][cC][dD][mM][cC]:[tT][eE][rR][mM][iI][nN][aA][lL]:[A-Za-z]{5}:.+  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |

#### toLocation

Class «ComplexAttributeType» in package 'Entity'

The arrival location

toLocation

Version 1.0.0 Phase 1.0 Proposed

crossover created on 31-Mar-2019. Last modified 31-Mar-2019

| ATTRIBUTES |
| --- |
| locationMRN : URN Public  Location identifier, based on MRN. This can be either a specific identifier for an identified physical location or a type-only identifier for a logical location, such as BERTH  *pattern* = [uU][rR][nN]:[mM][rR][nN]:[sS][tT][mM]:[lL][oO][cC][aA][tT][iI][oO][nN]:[A-Za-z]{5}:  (ANCHORING\_AREA|BERTH|ETUG\_ZONE|PILOT\_BOARDING\_AREA|RENDEZV\_AREA|TUG\_ZONE|VTS\_AREA|HOME\_BASE|BOUY):.+  Properties:  maxOccurs = 1  minOccurs = 1  userDefinedType = LocationIdentifier  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| terminal : URN Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  definition TBD  pattern = [uU][rR][nN]:[mM][rR][nN]:[iI][pP][cC][dD][mM][cC]:[tT][eE][rR][mM][iI][nN][aA][lL]:[A-Za-z]{5}:.+  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |

#### locationReferenceObject

Class «S100\_Codelist» in package 'Entity'

The entity that the time stamp concerns that changes location upon a timestamp of a location state

locationReferenceObject

Version 1.0.0 Phase 1.0 Proposed

crossover created on 31-Mar-2019. Last modified 31-Mar-2019

| ATTRIBUTES |
| --- |
| AGENT : Public = 1  The reference object of the agent (as the representative of the shipping company) as arriving to or departing from a particular location  [ Is static True. Containment is Not Specified. ] |
| BUNKER\_VESSEL : Public = 2  The reference object of the bunkering vessel (as the vessel carrying bunker and performing bunkering operations) as arriving to or departing from a particular location  [ Is static True. Containment is Not Specified. ] |
| ESCORT\_TUG : Public = 3  The reference object of the escort tug boat (as the conductor of escort tug operations) as arriving to or departing from a particular location  [ Is static True. Containment is Not Specified. ] |
| FRESH\_WATER\_VESSEL : Public = 4  The reference object of the fresh water vessel (as the vessel carrying water and performing water operations) as arriving to or departing from a particular location  [ Is static True. Containment is Not Specified. ] |
| GANGWAY : Public = 5  The reference object of the gangway (the gangway as being used for entering / departing to/from the vessel) as being arrived and/or departed  [ Is static True. Containment is Not Specified. ] |
| ICEBREAKER : Public = 6  The reference object of the ice breaker (as the conductor of ice breaking operations) as arriving to or departing from a particular location  [ Is static True. Containment is Not Specified. ] |
| MOORER : Public = 7  The reference object of the moorer (as the conductor of mooring and/or unmooring operations) as arriving to or departing from a particular location  [ Is static True. Containment is Not Specified. ] |
| PASSENGER : Public = 8  The reference object of the passenger (as the person(s) being transported by the vessel) as arriving to or departing from a particular location  [ Is static True. Containment is Not Specified. ] |
| PILOT : Public = 9  The reference object of the pilot (as the conductor of pilotage operations) as arriving to or departing from a particular location  [ Is static True. Containment is Not Specified. ] |
| PILOT\_BOAT : Public = 10  The reference object of the pilot boat (as the transport boat for pilots being brought to/from ships before / after pilotage) as being arrived and/or departed  [ Is static True. Containment is Not Specified. ] |
| PONTOONS\_AND\_FENDERS : Public = 11  The reference object of pontoons and fenders (as the necessary equipment for making a berth being brought to/from the berth) as being arrived and/or departed  [ Is static True. Containment is Not Specified. ] |
| SECURITY : Public = 12  The reference object of security (as the conductor of security operations) as arriving to or departing from a particular location  [ Is static True. Containment is Not Specified. ] |
| SLOP\_VESSEL : Public = 13  The reference object of the slop vessel (as the conductor of slop operations) as arriving to or departing from a particular location  [ Is static True. Containment is Not Specified. ] |
| SLUDGE\_VESSEL : Public = 14  The reference object of the sludge vessel (as the conductor of sludge operations) as arriving to or departing from a particular location  [ Is static True. Containment is Not Specified. ] |
| SURVEYOR : Public = 15  The reference object of the surveyor (as the conductor of inspection, pre- and port cargo survey operations) as being arrived and/or departed  [ Is static True. Containment is Not Specified. ] |
| TUG : Public = 16  The reference object of the tug boat (as the conductor of towage) as arriving to or departing from a particular location  [ Is static True. Containment is Not Specified. ] |
| VESSEL : Public = 17  The reference object of the vessel itself (as the conductor of the port visit to realize the purpose of call) as arriving to or departing from a particular location  [ Is static True. Containment is Not Specified. ] |

#### serviceObject

Class «S100\_Codelist» in package 'Entity'

The reference to a particular service in service state and administration state messages

serviceObject

Version 1.0.0 Phase 1.0 Proposed

Eivind Mong created on 31-Mar-2019. Last modified 31-Mar-2019

| ATTRIBUTES |
| --- |
| ANCHORING : Public = 1  The service object of anchoring (from when the vessel has dropped anchor, until anchor away) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| ARRIVAL\_ANCHORING\_OPERATION : Public = 2  The service object of arrival anchoring operations (From preparing until the anchor is dropped) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| ARRIVAL\_BERTH : Public = 3  The service object of arrival berth (preparing and tying the vessel until it is all fast) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| ARRIVAL\_PORTAREA : Public = 4  The service object of arrival port area (passing the port area limit when arriving to the port) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| ARRIVAL\_VTSAREA : Public = 5  The service object of arrival VTS area (passing the VTS area limit when arriving to the VTS area) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| BERTH\_SHIFTING : Public = 6  The service object of berth shifting (initiating and conducting a berth shift) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| BERTH\_VISIT : Public = 7  The service object of berth visit (initiating and conducting a berth visit) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| BUNKERING\_OPERATION : Public = 8  The service object of bunkering operations (initiating and conducting bunkering) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| CARGO\_OPERATION : Public = 9  The service object of cargo operations (initiating and conducting cargo operations) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| CARGO\_SURVEY : Public = 10  The service object of cargo survey (initiating and conducting cargo survey) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| DEPARTURE\_ANCHORING\_OPERATION : Public = 11  The service object of departure anchoring operations (the process of preparing anchor away until the vessel is ready to steam) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| DEPARTURE\_BERTH : Public = 12  The service object of departure berth (preparing and releasing the vessel until it is all loose) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| DEPARTURE\_PORTAREA : Public = 13  The service object of departure port area (passing the port area limit when leaving the port) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| DEPARTURE\_VTSAREA : Public = 14  The service object of departure VTS area (passing the VTS area limit when leaving from the VTS area) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| EMBARKING : Public = 15  The service object of embarking from the ship (preparing and embark passenger to the vessel) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| ESCORT\_TOWAGE : Public = 16  The service object of escort towage (initiating and conducting escort towage) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| FORKLIFT : Public = 17  The service object of forklift operations (initiating and conducting the movement of the forklift) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| GANGWAY\_OPERATION : Public = 18  The service object of the gangway operations (initiating and conducting the movement of the gangway with the endstate as being ready for use) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| GARBAGE\_OPERATION : Public = 19  The service object of garbage operations (initiating and conducting garbage operations) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| ICEBREAKING\_OPERATION : string Public = 20  The service object of ice breaking operations (initiating and conducting ice breaking operations) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| INSPECTION : Public = 21  The service object of inspections (initiating and conducting inspection of cargo) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| LOADING\_OPERATION : Public = 22  The service object of loading operations (initiating and conducting loading operations) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| LUBEOIL\_OPERATION : Public = 23  The service object of lubeoil operations (initiating and conducting lubeoil operations) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| MOORING\_OPERATION : Public = 24  The service object of mooring operations (initiating and conducting arrival mooring operations) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| PILOT\_BOAT\_OPERATION : Public = 25  The service object of pilotboat operations (initiating and conducting movement of the pilotboat from point A to point B) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| PILOTAGE : Public = 26  The service object of pilotage (initiating and conducting pilot operations) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| PONTOONS\_AND\_FENDERS\_OPERATION : Public = 27  The service object of pontoons and fenders operation (initiating and delivering pontoons and fenders ready to be used) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| PORT\_VISIT : Public = 28  The service object of port visit (initiating and conducting the port visit according to the purpose of call) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| POSTCARGOSURVEY : Public = 29  The service object of post cargo survey (initiating and conducting survey of the cargo after cargo operations has been performed) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| PRECARGOSURVEY : Public = 30  The service object of pre cargo survey (initiating and conducting survey of the cargo prior cargo operations) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| PROVISION\_OPERATION : Public = 31  The service object of provision operations (initiating and conducting provision operations) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| READYTOSAIL\_OPERATION : Public = 32  The service object of ready to sail operations (initiating and preparing the vessel to be ready to sail) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| SECURITY\_OPERATION : Public = 33  The service object of security operations (initiating and conducting security operations upon vessel's berth visit) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| SLOP\_OPERATION : Public = 34  The service object of slop operations (initiating and conducting slop operations) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| SLUDGE\_OPERATION : Public = 35  The service object of sludge operations (initiating and conducting sludge operations) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| TOURS : Public = 36  The service object of tours (initiating and conducting of tours for cruise passengers) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| TOWAGE : Public = 37  The service object of towage (initiating and conducting tug operations) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| UNLOADING\_OPERATION : Public = 38  The service object of unloading operations (initiating and conducting unloading operations) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| UNMOORING\_OPERATION : Public = 39  The service object of unmooring operations (initiating and conducting departure mooring operations) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| WATER\_OPERATION : Public = 40  The service object of water operations (initiating and conducting water being brought to the vessel) as being commenced and/or completed  [ Is static True. Containment is Not Specified. ] |
| CRANE\_OPERATION : Public = 41  TBD  [ Is static True. Containment is Not Specified. ] |
| RAMP\_OPERATION : Public = 42  TBD  [ Is static True. Containment is Not Specified. ] |

#### timeSequence

Enumeration in package 'Entity'

The component of a state (as location, service, administrative state) regulating the communicative intent of the state (such as arrived, departed, commenced, completed, requested, request received, confirmed, denied, cancelled)

timeSequence

Version 1.0.0 Phase 1.0 Proposed

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| CONNECTORS |
| --- |
| Trace «trace» Source -> Destination  From: timeSequence : Enumeration, Public  To: locationTimeSequence : Enumeration, Public |
| Trace «trace» Source -> Destination  From: timeSequence : Enumeration, Public  To: serviceTimeSequence : Enumeration, Public |
| Trace «trace» Source -> Destination  From: timeSequence : Enumeration, Public  To: administrationTimeSequence : Enumeration, Public |

| ATTRIBUTES |
| --- |
| CANCELLED : Public = 1  The time sequence (of an administrative state) to cancel a service [service object] by performing actor  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| CONFIRMED : Public = 2  The time sequence (of an administrative state) to confirm a service [service object] by performing actor  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| DENIED : Public = 3  The time sequence (of an administrative state) to deny a service [service object] by performing actor  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| REQUESTED : Public = 4  The time sequence (of an administrative state) to request a service [service object] by the client  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| REQUEST\_RECEIVED : Public = 5  The time sequence (of an administrative state) to tell that the request of a service [service object] has been received by performing actor  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| COMMENCED : Public = 6  The time sequence (of a service state) to tell that the service delivery is planned to / has been initiated  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| COMPLETED : Public = 7  The time sequence (of a service state) to tell that the service delivery is planned to / has been concluded  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| ARRIVAL\_TO : Public = 8  The time sequence (of a location state) to tell that a reference object is planned to / has arrived to a particular location  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| DEPARTURE\_FROM : Public = 9  The time sequence (of a location state) to tell that a reference object is planned to / has departed from a particular location  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

#### timeType

Enumeration in package 'Entity'

The time dimension of a time stamp combined with the state expressing intentions, recommendations or outcomes

timeType

Version 1.0.0 Phase 1.0 Proposed

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| ATTRIBUTES |
| --- |
| ESTIMATED : Public = 1  The time type for expressing assessed time of occurrence  [ Is static True. Containment is Not Specified. ] |
| ACTUAL : Public = 2  The timetype for expressing the actual time of occurrence  [ Is static True. Containment is Not Specified. ] |
| PLANNED : Public = 3  The timetype for expressing planned time of occurence  [ Is static True. Containment is Not Specified. ] |
| RECOMMENDED : Public = 4  The timetype for expressing recommended time of occurrence  [ Is static True. Containment is Not Specified. ] |
| REQUIRED : Public = 5  TBD  [ Is static True. Containment is Not Specified. ] |

#### locationTimeSequence

Enumeration in package 'Entity'

locationTimeSequence

Version 1.0.0 Phase 1.0 Proposed

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| CONNECTORS |
| --- |
| Trace «trace» Source -> Destination  From: timeSequence : Enumeration, Public  To: locationTimeSequence : Enumeration, Public |

| ATTRIBUTES |
| --- |
| ARRIVAL\_TO : Public = 8  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| DEPARTURE\_FROM : Public = 9  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

### Identifier

Package in package 'pcmf'

In the S-100 compatible model, the Identifier package contains convenience datatypes used in the XML schema but not the "official" application schema, which uses only the datatypes defined in S-100. Note that some items may have more than one pattern and the additional ones may have to be added manually.

Identifier

Version 1.0.0 Phase 1.0 Proposed

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#### Identifier diagram

Class diagram in package 'Identifier'

This diagram was prepared for model development purposes. Not intended for printing in the specification.

Identifier

Version 1.0.0

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1. Identifier

#### comment

Class «XSDsimpleType» in package 'Identifier'

Restriction of string type limiting the maximum length.

comment

Version 1.0.0 Phase 1.0 Proposed

raphaelm created on 31-Mar-2019. Last modified 31-Mar-2019

Extends string

| OUTGOING STRUCTURAL RELATIONSHIPS |
| --- |
| Generalization from «XSDsimpleType» comment to «XSDsimpleType» string  [ Direction is 'Source -> Destination'. ] |

#### LocalJobIdentifier

Class «XSDsimpleType» in package 'Identifier'

Port call identifier, based on MRN. First element of the NSS should be the UN/Locode of the port

LocalJobIdentifier

Version 1.0.0 Phase 1.0 Proposed

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Extends string

#### LocalPortCallIdentifier

Class «XSDsimpleType» in package 'Identifier'

Local Port call identifier, based on MRN. First element of the NSS should be the UN/Locode of the port, second element is a data source id and the third is the port call id of the data source external system

LocalPortCallIdentifier

Version 1.0.0 Phase 1.0 Proposed

crossover created on 31-Mar-2019. Last modified 31-Mar-2019

Extends string

#### LocationIdentifier

Class «XSDsimpleType» in package 'Identifier'

Location identifier, based on MRN. This can be either a specific identifier for an identified physical location or a type-only identifier for a logical location, such as BERTH

LocationIdentifier

Version 1.0.0 Phase 1.0 Proposed

crossover created on 31-Mar-2019. Last modified 31-Mar-2019

Extends string

#### MRN

Class «XSDsimpleType» in package 'Identifier'

Marine Resource Name identifier, based on URN. Note that the NID, including the mrn: prefix can be no more than 31 characters long

MRN

Version 1.0.0 Phase 1.0 Proposed

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Extends string

#### PortCallIdentifier

Class «XSDsimpleType» in package 'Identifier'

Port call identifier, based on MRN. First element of the NSS should be the 5 character UN/Locode of the port

PortCallIdentifier

Version 1.0.0 Phase 1.0 Proposed

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Extends string

#### PortCallMessageIdentifier

Class «XSDsimpleType» in package 'Identifier'

Port call message identifier, based on MRN and UUID.

PortCallMessageIdentifier

Version 1.0.0 Phase 1.0 Proposed

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Extends string

#### text

Class «XSDsimpleType» in package 'Identifier'

The "text" data type of S-100. Should be replaced by the XML builtin string type in the XML schemas.

text

Version 1.0.0 Phase 1.0 Proposed

raphaelm created on 31-Mar-2019. Last modified 31-Mar-2019

Extends string

| OUTGOING STRUCTURAL RELATIONSHIPS |
| --- |
| Generalization from «XSDsimpleType» text to «XSDsimpleType» string  [ Direction is 'Source -> Destination'. ] |

#### URN

Class «XSDsimpleType» in package 'Identifier'

Uniform Resource Name (URN). Note that the NID prefix can be no more than 31 characters long

URN

Version 1.0.0 Phase 1.0 Proposed

crossover created on 31-Mar-2019. Last modified 31-Mar-2019

Extends string

#### UUID

Class «XSDsimpleType» in package 'Identifier'

UUID

Version 1.0.0 Phase 1.0 Proposed

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Extends string

#### VesselIdentifier

Class «XSDsimpleType» in package 'Identifier'

Vessel identifier, based on MRN. Can be either IMO or MMSI based

VesselIdentifier

Version 1.0.0 Phase 1.0 Proposed

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Extends string

### Payload

Package in package 'pcmf'

Actions required in XSD:

Replace S-100 types with user defined types where appropriate, after schema generation. See the userDefinedType tags on attributes.

Ensure the XOR ("one or the other") constraints attached to sub-attributes are implemented in the XSD.

Constrain timeSequence values inline.

Payload

Version 1.0.0 Phase 1.0 Proposed

raphaelm created on 31-Mar-2019. Last modified 31-Mar-2019

#### Payload diagram

Class diagram in package 'Payload'

Payload

Version 1.0.0

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1. Payload

#### administrationState

Class «ComplexAttributeType» in package 'Payload'

Describes a time related data point for a service administration event, such as a request made, received, confirmed or denied.

administrationState

Version 1.0.0 Phase 1.0 Proposed

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| OUTGOING STRUCTURAL RELATIONSHIPS |
| --- |
| Aggregation from «ComplexAttributeType» administrationState to «FeatureType» PortCallMessage  [ Direction is 'Source -> Destination'. ] |

| INCOMING STRUCTURAL RELATIONSHIPS |
| --- |
| Aggregation from «ComplexAttributeType» betweenLocations to «ComplexAttributeType» administrationState  [ Direction is 'Source -> Destination'. ] |

| ATTRIBUTES |
| --- |
| serviceObject : serviceObject Public  The reference to a particular service in service state and administration state messages  Properties:  maxOccurs = 1  minOccurs = 1  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| performingActor : URN Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  The actor performing action related to the service referenced in service object  Properties:  maxOccurs = 1  minOccurs = 0  userDefinedType = MRN  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| timeSequence : timeSequence Public  The component of a state (as location, service, administrative state) regulating the communicative intent of the state (such as arrived, departed, commenced, completed, requested, request received, confirmed, denied, cancelled)  Properties:  maxOccurs = 1  minOccurs = 1  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| effectiveTime : dateTime Public  The instant at which the information or condition becomes effective.  Properties:  maxOccurs = 1  minOccurs = 1  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| windowBefore : text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Time offset, before a given time.  In minus hours and minutes (HH:MM)  Properties:  maxOccurs = 1  minOccurs = 0  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| windowAfter : text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Time offset, after a given time.  In plus hours and minutes (HH:MM)  Properties:  maxOccurs = 1  minOccurs = 0  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| atLocation : atLocation Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  The location where a stationary service is performed  [ Stereotype is «complexAttribute». Is static True. Containment is Not Specified. ] |

#### betweenLocations

Class «ComplexAttributeType» in package 'Payload'

The two locations between which a nautical service is performed

betweenLocations

Version 1.0.0 Phase 1.0 Proposed

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| OUTGOING STRUCTURAL RELATIONSHIPS |
| --- |
| Aggregation from «ComplexAttributeType» betweenLocations to «ComplexAttributeType» serviceState  [ Direction is 'Source -> Destination'. ] |
| Aggregation from «ComplexAttributeType» betweenLocations to «ComplexAttributeType» serviceState  [ Direction is 'Source -> Destination'. ] |
| Aggregation from «ComplexAttributeType» betweenLocations to «ComplexAttributeType» administrationState  [ Direction is 'Source -> Destination'. ] |
| Aggregation from «ComplexAttributeType» betweenLocations to «ComplexAttributeType» administrationState  [ Direction is 'Source -> Destination'. ] |

| ATTRIBUTES |
| --- |
| toLocation : toLocation Public  The arrival location  [ Stereotype is «complexAttribute». Is static True. Containment is Not Specified. ] |
| fromLocation : fromLocation Public  The departure location  [ Stereotype is «complexAttribute». Is static True. Containment is Not Specified. ] |

#### locationState

Class «ComplexAttributeType» in package 'Payload'

Describes a time related data point for an arrival to or departure from a specified location.

locationState

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| OUTGOING STRUCTURAL RELATIONSHIPS |
| --- |
| Aggregation from «ComplexAttributeType» locationState to «FeatureType» PortCallMessage  [ Direction is 'Source -> Destination'. ] |

| ATTRIBUTES |
| --- |
| referenceObject : locationReferenceObject Public  The entity that the time stamp concerns that changes location upon a timestamp of a location state  Properties:  maxOccurs = 1  minOccurs = 1  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| effectiveTime : dateTime Public  The instant at which the information or condition becomes effective.  Properties:  maxOccurs = 1  minOccurs = 1  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| windowBefore : text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Time offset, before a given time.  In minus hours and minutes (HH:MM)  Properties:  maxOccurs = 1  minOccurs = 0  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| windowAfter : text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Time offset, after a given time.  In plus hours and minutes (HH:MM)  Properties:  maxOccurs = 1  minOccurs = 0  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| timeType : timeType Public  The time dimension of a time stamp combined with the state expressing intentions, recommendations or outcomes  Properties:  maxOccurs = 1  minOccurs = 1  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| timeSequence : timeSequence Public  The component of a state (as location, service, administrative state) regulating the communicative intent of the state (such as arrived, departed, commenced, completed, requested, request received, confirmed, denied, cancelled)  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| fromLocation : fromLocation Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  The departure location  [ Stereotype is «complexAttribute». Is static True. Containment is Not Specified. ] |
| toLocation : toLocation Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  The arrival location  [ Stereotype is «complexAttribute». Is static True. Containment is Not Specified. ] |

#### messageOperation

Class «ComplexAttributeType» in package 'Payload'

Administrative operations on previously sent messages. This can be used to flag a previous message as withdrawn, to allow for correction of errors in previous messages

messageOperation

Version 1.0.0 Phase 1.0 Proposed

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| OUTGOING STRUCTURAL RELATIONSHIPS |
| --- |
| Aggregation from «ComplexAttributeType» messageOperation to «FeatureType» PortCallMessage  [ Direction is 'Source -> Destination'. ] |

| ATTRIBUTES |
| --- |
| messageOperationName : messageOperationName Public  Operation to be performed on port call message  Properties:  maxOccurs = 1  minOccurs = 1  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| messageId : URN Public  Port call message identifier, based on MRN and UUID.  pattern = [uU][rR][nN]:[mM][rR][nN]:[sS][tT][mM]:[pP][oO][Rr][tT][cC][dD][mM]:[mM][eE][sS][sS][aA]  [gG][eE]:[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-4[0-9a-fA-F]{3}-[8-9a-bA-B][0-9a-fA-F]{3}-[0-9a-fA-F]{12}  length = 64  Properties:  maxOccurs = 1  minOccurs = 1  userDefinedType = PortCallMessageIdentifier  userDefinedType = PortCallMessageIdentifier  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |

#### serviceState

Class «ComplexAttributeType» in package 'Payload'

Describes a time related data point for a service.

serviceState

Version 1.0.0 Phase 1.0 Proposed

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| OUTGOING STRUCTURAL RELATIONSHIPS |
| --- |
| Aggregation from «ComplexAttributeType» serviceState to «FeatureType» PortCallMessage  [ Direction is 'Source -> Destination'. ] |

| INCOMING STRUCTURAL RELATIONSHIPS |
| --- |
| Aggregation from «ComplexAttributeType» betweenLocations to «ComplexAttributeType» serviceState  [ Direction is 'Source -> Destination'. ] |

| ATTRIBUTES |
| --- |
| serviceObject : serviceObject Public  The reference to a particular service in service state and administration state messages  Properties:  maxOccurs = 1  minOccurs = 1  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| performingActor : URN Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  The actor performing action related to the service referenced in service object  Properties:  maxOccurs = 1  minOccurs = 0  userDefinedType = MRN  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| timeSequence : timeSequence Public  The component of a state (as location, service, administrative state) regulating the communicative intent of the state (such as arrived, departed, commenced, completed, requested, request received, confirmed, denied, cancelled)  Properties:  maxOccurs = 1  minOccurs = 1  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| effectiveTime : dateTime Public  The instant at which the information or condition becomes effective.  Properties:  maxOccurs = 1  minOccurs = 1  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| windowBefore : text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Time offset, before a given time.  In minus hours and minutes (HH:MM)  Properties:  maxOccurs = 1  minOccurs = 0  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| windowAfter : text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Time offset, after a given time.  In plus hours and minutes (HH:MM)  Properties:  maxOccurs = 1  minOccurs = 0  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| timeType : timeType Public  The time dimension of a time stamp combined with the state expressing intentions, recommendations or outcomes  Properties:  maxOccurs = 1  minOccurs = 1  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| atLocation : atLocation Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  The location where a stationary service is performed  [ Stereotype is «complexAttribute». Is static True. Containment is Not Specified. ] |

#### messageOperationName

Enumeration in package 'Payload'

Operation to be performed on port call message

messageOperationName

Version 1.0.0 Phase 1.0 Proposed

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| ATTRIBUTES |
| --- |
| WITHDRAW : string Public = 1  The action to withdraw a time stamp (Used when a time stamp has been reported incorrectly ).  [ Is static True. Containment is Not Specified. ] |

### Port-call-message

Package in package 'pcmf'

Replace S-100 types with user defined types where appropriate, after schema generation. See the userDefinedType tags on attributes.

Port-call-message

Version 1.0.0 Phase 1.0 Proposed

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#### Port-call-message diagram

Class diagram in package 'Port-call-message'

Port-call-message

Version 1.0.0

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1. Port-call-message

#### PortCallMessage

Class «FeatureType» in package 'Port-call-message'

A message for communicating all relevant port call information between ship and port, ship to ship, or shore authorities

PortCallMessage

Version 1.0.0 Phase 1.0 Proposed

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| CONSTRAINTS |
| --- |
| Invariant. either portCallId or portCode must be encoded  [ Approved, Weight is 0. ] |

| INCOMING STRUCTURAL RELATIONSHIPS |
| --- |
| Aggregation from «ComplexAttributeType» serviceState to «FeatureType» PortCallMessage  [ Direction is 'Source -> Destination'. ] |
| Aggregation from «ComplexAttributeType» administrationState to «FeatureType» PortCallMessage  [ Direction is 'Source -> Destination'. ] |
| Aggregation from «ComplexAttributeType» vendorExtension to «FeatureType» PortCallMessage  [ Direction is 'Source -> Destination'. ] |
| Aggregation from «ComplexAttributeType» messageOperation to «FeatureType» PortCallMessage  [ Direction is 'Source -> Destination'. ] |
| Aggregation from «ComplexAttributeType» locationState to «FeatureType» PortCallMessage  [ Direction is 'Source -> Destination'. ] |

| ATTRIBUTES |
| --- |
| portCallId : URN Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Port call identifier, based on MRN. First element of the NSS should be the 5 character UN/Locode of the port  pattern = [uU][rR][nN]:([mM][rR][nN]):[sS][tT][mM]:[pP][oO][Rr][tT][cC][dD][mM]:[pP][oO][rR][tT]\_[cC]  [aA][lL][lL]:[A-Za-z]{5}:[A-Za-z0-9()+,\-.:=@;$\_!\*'%/?#]+  length <= 120  Properties:  maxOccurs = 1  minOccurs = 0  userDefinedType = LocalJobIdentifier  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| localPortCallId : URN Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Local Port call identifier, based on MRN. First element of the NSS should be the UN/Locode of the port, second element is a data source id and the third is the port call id of the data source external system.  *pattern* = [uU][rR][nN]:[mM][rR][nN]:[sS][tT][mM]:[pP][oO][Rr][tT][cC][dD][mM]:[lL][oO][cC][aA][lL]\_[pP]  [oP][rR][tT]\_[cC][aA][lL][lL]:[A-Za-z]{5}:[A-Za-z0-9()+,\-.=@;$\_!\*'%/?#]+:[A-Za-z0-9()+,\-.=@;$\_!\*'%/?#]+  *length* <= 120  Properties:  maxOccurs = 1  minOccurs = 0  userDefinedType = LocalPortCallIdentifier  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| localJobId : URN Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Port call identifier, based on MRN. First element of the NSS should be the UN/Locode of the port  pattern = [uU][rR][nN]:[mM][rR][nN]:[sS][tT][mM]:[pP][oO][Rr][tT][cC][dD][mM]:[lL][oO][cC][aA][lL]\_[jJ]  [oO][bB]:[A-Za-z0-9()+,\-.=@;$\_!\*'%/?#]+:[A-Za-z0-9()+,\-.=@;$\_!\*'%/?#]+  length <= 120  Properties:  maxOccurs = 1  minOccurs = 0  userDefinedType = LocalJobIdentifier  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| vesselId : URN Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Vessel identifier, based on MRN. Can be either IMO or MMSI based  *pattern* = [uU][rR][nN]:[mM][rR][nN]:[sS][tT][mM]:[vV][eE][sS][sS][eE][lL]:([iI][mM][oO]:[0-9]{7}|[mM]  [mM][sS][iI]:[0-9]{9})  Properties:  maxOccurs = 1  minOccurs = 0  userDefinedType = VesselIdentifier  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| messageId : URN Public  Port call message identifier, based on MRN and UUID.  *pattern* = [uU][rR][nN]:[mM][rR][nN]:[sS][tT][mM]:[pP][oO][Rr][tT][cC][dD][mM]:[mM][eE][sS][sS][aA]  [gG][eE]:[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-4[0-9a-fA-F]{3}-[8-9a-bA-B][0-9a-fA-F]{3}-[0-9a-fA-F]{12}  *length* = 64  Properties:  maxOccurs = 1  minOccurs = 1  userDefinedType = PortCallMessageIdentifier  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| reportedAt : dateTime Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Time when a time stamp was reported  Properties:  maxOccurs = 1  minOccurs = 0  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| reportedBy : text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Entity that reported a time stamp  Properties:  maxOccurs = 1  minOccurs = 0  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| comment : text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Comment regarding an entity obvious from context  Comment is limited to a maximum of 200 characters. Please note that since the encoding is UTF-8, this means a maximum of 800 bytes in this field.    Properties:  length = 200  maxOccurs = 1  minOccurs = 0  userDefinedType = comment  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| incomingVoyage : URN Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| outgoingVoyage : URN Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |
| portCode : text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  **portCode is the UN/Locode of the port this message is pertaining to**  **Maximum 5 characters**  Properties:  maxOccurs = 1  minOccurs = 0  [ Stereotype is «simpleAttribute». Is static True. Containment is Not Specified. ] |

## vendorExtension

Class «ComplexAttributeType» in package 'PortCDM 1.0.0'

Vendor specific schema extension to an exchange format.

vendorExtension

Version 1.0.0 Phase 1.0 Proposed

Eivind Mong created on 31-Mar-2019. Last modified 31-Mar-2019

| OUTGOING STRUCTURAL RELATIONSHIPS |
| --- |
| Aggregation from «ComplexAttributeType» vendorExtension to «FeatureType» PortCallMessage  [ Direction is 'Source -> Destination'. ] |

| ATTRIBUTES |
| --- |
| extensionVendor : URN Public  An identifier of a vendor that extends an exchange format.  [ Is static True. Containment is Not Specified. ] |
| schemaNamespace : URN Public  Namespace established for a specific schema.  [ Is static True. Containment is Not Specified. ] |
| XMLExtension : text Public  An XML format string that is intended as an extension of a main schema.  [ Is static True. Containment is Not Specified. ] |