

**IALA S-212**

**Product Specification**

**Draft 0.6.3 – November 2020**

VTS Digital Information Service Product Specification

Annex E

Application Schema Documentation

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# VTS Digital Information Service Data Model v0.6.3

Package in package '01. VTS Digital Information Service Data Model'

VTS Digital Information Service Data Model v0.6.3

Version 0.6.3 Phase 1.0 Proposed

khj created on 2020-06-23. Last modified 2020-06-23

| LINKS TO OTHER PACKAGES | |
| --- | --- |
| Abstraction from 'VTS Digital Information Service Data Model v0.6.3' Package to 'VTS Digital Information Service Data Model v0.6.1' Package | Direction: Source -> Destination |

## Realization from the S-100 General Feature Model diagram

Class diagram in package 'VTS Digital Information Service Data Model v0.6.3'

Realization from the S-100 General Feature Model

Version 0.6.3

KHJ created on 2020-06-23. Last modified 2020-06-23



1. Realization from the S-100 General Feature Model

## relationship between VTS Digital Information Service and Other Product Specification diagram

Package diagram in package 'VTS Digital Information Service Data Model v0.6.3'

relationship between VTS Digital Information Service and Other Product Specification

Version 0.6.3

KHJ created on 2020-06-23. Last modified 2020-06-23



1. relationship between VTS Digital Information Service and Other Product Specification

## VTS Digital Information Service Model diagram

Class diagram in package 'VTS Digital Information Service Data Model v0.6.3'

VTS Digital Information Service Model

Version 0.6.3

KHJ created on 2020-06-23. Last modified 2020-08-14



1. VTS Digital Information Service Model

## Information Type

## ContactDetails

Class «InformationType» in package 'VTS Digital Information Service Data Model v0.6.3'

Information on how to reach a person or organisation by postal, internet, telephone, telex and radio systems.

ContactDetails

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: ContactDetails : Class, Public  To: ContactDetails : Class, Public |

| ATTRIBUTES |
| --- |
| communicationChannel : text Public  Multiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )  A channel number assigned to a specific radio frequency, frequencies or frequency band.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| telecommunications : telecommunications Public  Multiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «ComplexAttribute». Is static True. Containment is Not Specified. ] |

| ASSOCIATIONS | |
| --- | --- |
| Association (direction: Source -> Destination) shipContact  Contact Information Related to Ships | |
| Source: Public theContactProvider (Class) VTSDigitalInformationServiceMessage «FeatureType»  Cardinality: [1] | Target: Public theContactDetails (Class) ContactDetails «InformationType»  Cardinality: [0..1] |

## Feature Type

## Accident

Class «FeatureType» in package 'VTS Digital Information Service Data Model v0.6.3'

Class to communicate own vessel accident information. The purpose of this class is to provide emergency information about ship accidents prior to VTS communication.

Accident

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: Accident : Class, Public  To: Accident : Class, Public |

| ATTRIBUTES |
| --- |
| assistanceDetail : text Public  Multiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )  To describe how to respond to an accident.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| geometry : GM\_Point Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  The location of the ship's accident or where it was promised to meet with the doctor/boat/helicopter due to medical request.  [ Stereotype is «SpatialAttribute». Is static True. Containment is Not Specified. ] |
| medicalAssistanceAmongTypesOfAccidents : boolean Public  When requesting medical assistance among the types of accidents (true=request)  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| medicalAssistanceDetail : medicalAssistanceDetail Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «ComplexAttribute». Is static True. Containment is Not Specified. ] |
| notUnderCommandDetail : notUnderCommandDetail Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «ComplexAttribute». Is static True. Containment is Not Specified. ] |
| nUCAmongTypesOfAccidents : boolean Public  When vessel control is difficult (true=request)  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| sARAmongTypesOfAccidents : boolean Public  When requesting SAR(search and rescue) of the type of accident (true=requested)  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| SARDetail : SARDetail Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «ComplexAttribute». Is static True. Containment is Not Specified. ] |

| ASSOCIATIONS | |
| --- | --- |
| Association (direction: Source -> Destination) relatedShip  Ship related information | |
| Source: Public informationProvidedFor (Class) VTSDigitalInformationServiceMessage «FeatureType»  Cardinality: [1]  someone who uses information | Target: Public provideInformation (Class) Accident «FeatureType»  Cardinality: [0..\*]  A person who provides information. |

## Conditions

Class «FeatureType» in package 'VTS Digital Information Service Data Model v0.6.3'

Class for transmitting environmental conditions and navigational conditions, etc. within the VTS Area.

Conditions

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

Extends VTSAreaInformation

| OUTGOING STRUCTURAL RELATIONSHIPS |
| --- |
| Generalization from «FeatureType» Conditions to «FeatureType» VTSAreaInformation  [ Direction is 'Source -> Destination'. ] |

| INCOMING STRUCTURAL RELATIONSHIPS |
| --- |
| Generalization from «FeatureType» EnvironmentalConditions to «FeatureType» Conditions  [ Direction is 'Source -> Destination'. ] |
| Generalization from «FeatureType» NavigationalConditions to «FeatureType» Conditions  [ Direction is 'Source -> Destination'. ] |

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: Conditions : Class, Public  To: Conditions : Class, Public |

## EnvironmentalConditions

Class «FeatureType» in package 'VTS Digital Information Service Data Model v0.6.3'

Environmental condition Information in the VTS Area from VTS Operator. Use S-412 to get information.

EnvironmentalConditions

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

Extends Conditions

| OUTGOING STRUCTURAL RELATIONSHIPS |
| --- |
| Generalization from «FeatureType» EnvironmentalConditions to «FeatureType» Conditions  [ Direction is 'Source -> Destination'. ] |

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: EnvironmentalConditions : Class, Public  To: EnvironmentalConditions : Class, Public |

| ATTRIBUTES |
| --- |
| messageIdentifierForEnvironmentalConditions : text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Attribute for include environmental conditions of S-412 Weather Overlay.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| validDateTime : dateTime Public  The time, expressed in Universal Time Coordinated (UTC) for which an object and its attributes are valid or for which an observation was recorded. Using the value of S-412.S412\_FeatureType.validDateTime  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

## EnvironmentalWarning

Class «FeatureType» in package 'VTS Digital Information Service Data Model v0.6.3'

Environmental warning Information in the VTS Area from VTS Operator. Use S-412 to get information.

EnvironmentalWarning

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: EnvironmentalWarning : Class, Public  To: EnvironmentalWarning : Class, Public |

| ATTRIBUTES |
| --- |
| messageIdentifierForEnvironmentalWarning : text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Attribute for include environmental warning information of S-412 Weather Overlay.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| validDateTime : dateTime Public  The time, expressed in Universal Time Coordinated (UTC) for which an object and its attributes are valid or for which an observation was recorded. Using the value of S-412.S412\_FeatureType.validDateTime  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

| ASSOCIATIONS | |
| --- | --- |
| Association (direction: Unspecified) reference | |
| Source: Public refers (Class) WarningDetail «FeatureType»  Cardinality: [1] | Target: Public referred (Class) EnvironmentalWarning«FeatureType»  Cardinality: [0..\*] |

## NavigationalAssistance

Class «FeatureType» in package 'VTS Digital Information Service Data Model v0.6.3'

This class is intended to send navigation support results, A Navigational Assistance is a service that provides essential and timely navigational information to assist in the on board navigational decision?making process and to monitor its effects.

NavigationalAssistance

Version 1.0 Phase 1.0 Proposed

khj created on 2020-06-30. Last modified 2020-06-30

| ATTRIBUTES |
| --- |
| adviceMessage : text Public  Multiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )  Recommendations to ships.  Ex. advise a ship to alter the course, speed, advise a ship to close up/drop back on/from another vessel, advise a ship to keep clear from area/position.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| instructionMessage : text Public  Multiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )  Instructions to be followed by the ship  ex. Instruct a ship to keep clear from area/position.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| navigationalInformation : navigationalInformation Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «ComplexAttribute». Is static True. Containment is Not Specified. ] |
| warningMessage : text Public  Multiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )  Warnings that require attention on the ship.  ex Diverging from the recommended track towards dangerous wrecks, obstacles not otherwise promulgated; diving operations; vessels not under command; etc.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

| ASSOCIATIONS | |
| --- | --- |
| Association (direction: Source -> Destination) relatedShip | |
| Source: Public informationProvidedFor (Class) VTSDigitalInformationServiceMessage «FeatureType»  Cardinality: [1] | Target: Public provideInformation (Class) NavigationalAssistance «FeatureType»  Cardinality: [0..1] |

## NavigationalConditions

Class «FeatureType» in package 'VTS Digital Information Service Data Model v0.6.3'

Navigation conditions in the VTS Area from VTS Operator. Use S-127 to get information.

NavigationalConditions

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

Extends Conditions

| OUTGOING STRUCTURAL RELATIONSHIPS |
| --- |
| Generalization from «FeatureType» NavigationalConditions to «FeatureType» Conditions  [ Direction is 'Source -> Destination'. ] |

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: NavigationalConditions : Class, Public  To: NavigationalConditions : Class, Public |

| ATTRIBUTES |
| --- |
| messageIdentifierForNavigationalCondition : text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Attribute for include navigational conditions of S-127 Marine Traffic Management.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| navigationalConditionAreaName : navigationalConditionAreaName Public  Multiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )  Identification of the location name used as a source for obtain navigational Warning from S-127. Using the value of S-127.FeatureType.featureName  [ Stereotype is «ComplexAttribute». Is static True. Containment is Not Specified. ] |
| significantFeatureReference : text Public  Multiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )  reference of the MRN identifier of the significant feature(s)  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

## NavigationalEquipmentCondition

Class «FeatureType» in package 'VTS Digital Information Service Data Model v0.6.3'

NavigationalEquipmentCondition

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: NavigationalEquipmentCondition : Class, Public  To: NavigationalEquipmentCondition : Class, Public |

| ATTRIBUTES |
| --- |
| availableElectronicNavigationAids : text Public  Multiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )  Lists available electronic navigation aids such as GNSS, Loran, LRIT, DGPS, AIS, RACON.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| compassSystem : equipmentCondition Public  Indicates abnormal condition of compasses, the operating sensor of the vessel  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| electronicPositionFixing : equipmentCondition Public  A system for detecting and determining the position of vessel, where electronic transceiver units communicate with at least two fixed transceiver stations to perform a constant position determination of movable objects within a delimited area.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| engineTelegraph : equipmentCondition Public  A communications device used on a vessel for the mariner on the bridge to order engineers in the engine room to power the vessel at a certain desired speed.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| mooringWinchesAndLines : equipmentCondition Public  A mooring system prevents the ship from drifting away from a berth and holds the ship in position in relation to the shore loading / discharging equipments, which may have limited freedom of movement. Mooring lines may also assist in heaving the ship alongside a berth or another ship and can be used to assist in unberthing. A mooring winch is an integral part of the mooring system.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| numberOfPowerUnitsInUse : text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  The number of the Power unit you are using.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| radarEquipment : radarEquipment Public  Multiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «ComplexAttribute». Is static True. Containment is Not Specified. ] |
| rateOfTurnIndicator : integer Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  An indicating device that show Rate of turn for the vessel heading.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| RPMPitchIndicator : equipmentCondition Public  An indicating device that shows RPM pitch of the vessel using variable RPM pitch system.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| rudderIndicator : equipmentCondition Public  An indicating device that shows angle of the rudder installed on the vessel  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| speedLog : equipmentCondition Public  A navigation tool mariners use to estimate the speed of a vessel through water.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| steeringGear : equipmentCondition Public  The mechanism by which the steering controls of a vehicle are connected to a part, such as a pair of wheels or a rudder, that causes the vessel to turn  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| VHFEquipment : equipmentCondition Public  Marine VHF radio equipment installed on all large ships and most seagoing small craft. It is used for a wide variety of purposes, including summoning rescue services and communicating with harbours, locks, bridges and marinas.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| whistles : equipmentCondition Public  A sound-making device equipped to the vessel. The mariners uses the horn to warn others of the vessel's approach or presence, or to communicate his intentions.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

| ASSOCIATIONS | |
| --- | --- |
| Association (direction: Source -> Destination) relatedShip  Ship related information | |
| Source: Public informationProvidedFor (Class) VTSDigitalInformationServiceMessage «FeatureType»  Cardinality: [1]  someone who uses information | Target: Public provideInformation (Class) NavigationalEquipmentCondition «FeatureType»  Cardinality: [0..1]  A person who provides information. |

## NavigationalWarning

Class «FeatureType» in package 'VTS Digital Information Service Data Model v0.6.3'

Navigation warning in the VTS Area from VTS Operator. Use S-124 to get information.

NavigationalWarning

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: NavigationalWarning : Class, Public  To: NavigationalWarning : Class, Public |

| ATTRIBUTES |
| --- |
| geometry : PointCurveOrSurface Public  Multiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )  Location to provide Navigational Warning in VTS Area.  Using the value of S-124.S124\_FeatureType.geometry  [ Stereotype is «SpatialAttribute». Is static True. Containment is Not Specified. ] |
| messageIdentifierForNavigationalWarning : text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Attribute for include of S-124 Navigational Warning.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| navigationalWarningAreaName : navigationalWarningAreaName Public  Multiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )  Identification of the location name used as a source for obtain navigational Warning from S-124.  Using the value of S-124.S124\_FeatureType.featureName  [ Stereotype is «ComplexAttribute». Is static True. Containment is Not Specified. ] |

| ASSOCIATIONS | |
| --- | --- |
| Association (direction: Unspecified) reference | |
| Source: Public refers (Class) WarningDetail «FeatureType»  Cardinality: [1] | Target: Public referred (Class) NavigationalWarning «FeatureType»  Cardinality: [0..\*] |

## SendingAccidentInformationInVTSArea

Class «FeatureType» in package 'VTS Digital Information Service Data Model v0.6.3'

Class that contains information to inform the surrounding vessel of accident information or information about the vessel requesting assistance

SendingAccidentInformationInVTSArea

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

Extends Warning

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

| OUTGOING STRUCTURAL RELATIONSHIPS |
| --- |
| Generalization from «FeatureType» SendingAccidentInformationInVTSArea to «FeatureType» Warning  [ Direction is 'Source -> Destination'. ] |

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: SendingAccidentInformationInVTSArea : Class, Public  To: SendingAccidentInformationInVTSArea : Class, Public |

| ATTRIBUTES |
| --- |
| accidentAlarmType : accidentAlarmType Public  Type of alarm that occurs in connection with a ship accident  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| accidentDetail : text Public  Multiplicity: ( [1..\*], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| accidentShipInformation : accidentShipInformation Public  Multiplicity: ( [1..\*], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «ComplexAttribute». Is static True. Containment is Not Specified. ] |
| geometry : PointOrSurface Public  [ Stereotype is «SpatialAttribute». Is static True. Containment is Not Specified. ] |

## ShipDynamic

Class «FeatureType» in package 'VTS Digital Information Service Data Model v0.6.3'

dynamic information/information that may change or change when a ship is operated in one voyage

ShipDynamic

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: ShipDynamic : Class, Public  To: ShipDynamic : Class, Public |

| ATTRIBUTES |
| --- |
| bunkerInformation : bunkerInformation Public  Multiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «ComplexAttribute». Is static True. Containment is Not Specified. ] |
| categoryOfStatement : categoryOfStatement Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  the current state of operation of a ship  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| geometry : GM\_Point Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  ship's position  [ Stereotype is «SpatialAttribute». Is static True. Containment is Not Specified. ] |
| heading : real Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Heading of the target in degrees.  units: deg  Range: 0~360  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| messageIdentifierForRoute : text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Attribute for include of S-421 IEC Route Plan Exchange Format.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| movementPurpose : movementPurpose Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Purpose for which ship movements have occurred of the ship  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| routeName : text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Identification of the route used as a source for obtain navigation information from S-421.  Using the value of S-421.Route.routeInfoName  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| routeVersion : integer Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Identification of the route used as a source for obtain navigation information from S-421.  Using the value of S-421.RouteHistory.routeHistoryEditionNo  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| shipSpeed : shipSpeed Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «ComplexAttribute». Is static True. Containment is Not Specified. ] |

| ASSOCIATIONS | |
| --- | --- |
| Association (direction: Source -> Destination) relatedShip  Ship related information | |
| Source: Public informationProvidedFor (Class) VTSDigitalInformationServiceMessage «FeatureType»  Cardinality: [1]  someone who uses information | Target: Public provideInformation (Class) ShipDynamic «FeatureType»  Cardinality: [0..1]  A person who provides information. |

## ShipInformation

Class «FeatureType» in package 'VTS Digital Information Service Data Model v0.6.3'

Static information/information that does not change when a ship is operated in one voyage

ShipInformation

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: ShipInformation : Class, Public  To: ShipInformation : Class, Public |

| ATTRIBUTES |
| --- |
| callSign : text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  The designated call-sign of a radio station, pilot, ....  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| cargoInformation : cargoInformation Public  Multiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «ComplexAttribute». Is static True. Containment is Not Specified. ] |
| categoryOfVessel : categoryOfVessel Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Classification of vessels by function or use.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| flagState : ISO3166-2 Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  a country in which a ship belongs the right to be raised  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| IMONo : text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  The International Maritime Organization (IMO) number is a unique reference for ships, registered ship owners and management companies. IMO numbers were introduced to improve maritime safety and security and to reduce maritime fraud. They consist of the three letters "IMO" followed by unique seven-digit numbers, assigned under the International Convention for the Safety of Life at Sea (SOLAS).  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| ISPSLevel : ISPSLevel Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Classification of ISPS security levels according to the ISPS Code.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| MMSICode : text Public  The Maritime Mobile Service Identity (MMSI) Code is formed of a series of ninedigits which are transmitted over the radio path in order to uniquely identify ship stations, ship earth stations,coast stations, coast earth stations, and group calls. These identities are formed in such a way that theidentity or part thereof can be used by telephone and telex subscribers connected to the generaltelecommunications network principally to call ships automatically. (Adapted from Appendix 43 of theInternational Telecommunications Union Radio Regulations).  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| numberOfPassenger : integer Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| portStateControl : text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Port State Control (PSC) is the inspection of foreign ships in other national ports by PSC officers (inspectors) for the purpose of verifying that the competency of the master and officers on board, and the condition of the ship and its equipment comply with the requirements of international conventions (e.g. SOLAS, MARPOL, STCW, etc.) and that the vessel is manned and operated in compliance with applicable international law.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| shipCrew : shipCrew Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «ComplexAttribute». Is static True. Containment is Not Specified. ] |
| vesselName : vesselName Public  [ Stereotype is «ComplexAttribute». Is static True. Containment is Not Specified. ] |
| vesselsMeasurements : vesselsMeasurements Public  Multiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «ComplexAttribute». Is static True. Containment is Not Specified. ] |

| ASSOCIATIONS | |
| --- | --- |
| Association (direction: Source -> Destination) relatedShip  Ship related information | |
| Source: Public informationProvidedFor (Class) VTSDigitalInformationServiceMessage «FeatureType»  Cardinality: [1]  someone who uses information | Target: Public provideInformation (Class) ShipInformation «FeatureType»  Cardinality: [0..1]  A person who provides information. |

## VTSAreaInformation

Class «FeatureType» in package 'VTS Digital Information Service Data Model v0.6.3'

Class for transmitting environmental and warning information, accident information, condition(navigational, environmental) etc. within the VTS Area.

VTSAreaInformation

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| INCOMING STRUCTURAL RELATIONSHIPS |
| --- |
| Generalization from «FeatureType» Conditions to «FeatureType» VTSAreaInformation  [ Direction is 'Source -> Destination'. ] |
| Generalization from «FeatureType» Warning to «FeatureType» VTSAreaInformation  [ Direction is 'Source -> Destination'. ] |

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: VTSAreaInformation : Class, Public  To: VTSAreaInformation : Class, Public |

| ASSOCIATIONS | |
| --- | --- |
| Association (direction: Source -> Destination) relatedVTSArea | |
| Source: Public informationProvidedFor (Class) VTSDigitalInformationServiceMessage «FeatureType»  Cardinality: [1]  someone who uses information | Target: Public provideInformation (Class) VTSAreaInformation «FeatureType»  Cardinality: [0..\*]  A person who provides information. |

## VTSDigitalInformationServiceMessage

Class «FeatureType» in package 'VTS Digital Information Service Data Model v0.6.3'

Classes for distinguishing information that is sent.

Manage requests, responses to requests, and results of service requests, or distinguish which information is transmitted from Broadcasting information.

Ships can be reported to VTS in this class and transmitted with requested information, while VTS can transmit with answer information in this class.

VTSDigitalInformationServiceMessage

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

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

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: VTSDigitalInformationServiceMessage : Class, Public  To: VTSDigitalInformationServiceMessage : Class, Public |

| ATTRIBUTES |
| --- |
| acknowledgementCode : acknowledgementCode Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Identifier to verify normal reception for each message sent.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| administrationState : administrationState Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «ComplexAttribute». Is static True. Containment is Not Specified. ] |
| locationState : locationState Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «ComplexAttribute». Is static True. Containment is Not Specified. ] |
| messageIdentifier : text Public  A unique identifier distinguishing one message from another  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| messageMarkers : messageMarkers Public  The purpose of a message used to facilitate communication between ships.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| MMSICode : text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  The Maritime Mobile Service Identity (MMSI) Code is formed of a series of ninedigits which are transmitted over the radio path in order to uniquely identify ship stations, ship earth stations,coast stations, coast earth stations, and group calls. These identities are formed in such a way that theidentity or part thereof can be used by telephone and telex subscribers connected to the generaltelecommunications network principally to call ships automatically. (Adapted from Appendix 43 of theInternational Telecommunications Union Radio Regulations).  [ 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.  [ 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.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| requestReplyInformtion : requestReplyInformtion Public  Multiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )  Category of information requested by ships within VTS Area Or a category of information provided to a ship at the request of a ship or at the discretion of the VTS.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| shipMRN : URN Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  MRN is a naming scheme that can uniquely identify any maritime resource on a global scale.  shipMRN is the unique value given to the ship.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| VTSOperatorAssignment : VTSOperatorAssignment Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «ComplexAttribute». Is static True. Containment is Not Specified. ] |

| ASSOCIATIONS | |
| --- | --- |
| Association (direction: Source -> Destination) relatedShip  Ship related information | |
| Source: Public informationProvidedFor (Class) VTSDigitalInformationServiceMessage «FeatureType»  Cardinality: [1]  someone who uses information | Target: Public provideInformation (Class) Accident «FeatureType»  Cardinality: [0..\*]  A person who provides information. |
| Association (direction: Source -> Destination) shipContact  Contact Information Related to Ships | |
| Source: Public theContactProvider (Class) VTSDigitalInformationServiceMessage «FeatureType»  Cardinality: [1] | Target: Public theContactDetails (Class) ContactDetails «InformationType»  Cardinality: [0..1] |
| Association (direction: Source -> Destination) relatedShip  Ship related information | |
| Source: Public informationProvidedFor (Class) VTSDigitalInformationServiceMessage «FeatureType»  Cardinality: [1]  someone who uses information | Target: Public provideInformation (Class) NavigationalEquipmentCondition «FeatureType»  Cardinality: [0..1]  A person who provides information. |
| Association (direction: Source -> Destination) relatedShip | |
| Source: Public informationProvidedFor (Class) VTSDigitalInformationServiceMessage «FeatureType»  Cardinality: [1] | Target: Public provideInformation (Class) NavigationalAssistance «FeatureType»  Cardinality: [0..1] |
| Association (direction: Source -> Destination) relatedShip  Ship related information | |
| Source: Public informationProvidedFor (Class) VTSDigitalInformationServiceMessage «FeatureType»  Cardinality: [1]  someone who uses information | Target: Public provideInformation (Class) ShipInformation «FeatureType»  Cardinality: [0..1]  A person who provides information. |
| Association (direction: Source -> Destination) relatedVTSArea | |
| Source: Public informationProvidedFor (Class) VTSDigitalInformationServiceMessage «FeatureType»  Cardinality: [1]  someone who uses information | Target: Public provideInformation (Class) VTSAreaInformation «FeatureType»  Cardinality: [0..\*]  A person who provides information. |
| Association (direction: Source -> Destination) relatedShip  Ship related information | |
| Source: Public informationProvidedFor (Class) VTSDigitalInformationServiceMessage «FeatureType»  Cardinality: [1]  someone who uses information | Target: Public provideInformation (Class) ShipDynamic «FeatureType»  Cardinality: [0..1]  A person who provides information. |

## Warning

Class «FeatureType» in package 'VTS Digital Information Service Data Model v0.6.3'

Class for transmitting environmental and warning information, accident information, etc. within the VTS Area.

Warning

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

Extends VTSAreaInformation

| OUTGOING STRUCTURAL RELATIONSHIPS |
| --- |
| Generalization from «FeatureType» Warning to «FeatureType» VTSAreaInformation  [ Direction is 'Source -> Destination'. ] |

| INCOMING STRUCTURAL RELATIONSHIPS |
| --- |
| Generalization from «FeatureType» SendingAccidentInformationInVTSArea to «FeatureType» Warning  [ Direction is 'Source -> Destination'. ] |
| Generalization from «FeatureType» WarningDetail to «FeatureType» Warning  [ Direction is 'Source -> Destination'. ] |

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: Warning : Class, Public  To: Warning : Class, Public |

## WarningDetail

Class «FeatureType» in package 'VTS Digital Information Service Data Model v0.6.3'

Classes for detailed information on environmental and warning information within the VTS area.

WarningDetail

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

Extends Warning

| OUTGOING STRUCTURAL RELATIONSHIPS |
| --- |
| Generalization from «FeatureType» WarningDetail to «FeatureType» Warning  [ Direction is 'Source -> Destination'. ] |

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: WarningDetail : Class, Public  To: WarningDetail : Class, Public |

| ASSOCIATIONS | |
| --- | --- |
| Association (direction: Unspecified) reference | |
| Source: Public refers (Class) WarningDetail «FeatureType»  Cardinality: [1] | Target: Public referred (Class) NavigationalWarning «FeatureType»  Cardinality: [0..\*] |
| Association (direction: Unspecified)  reference | |
| Source: Public refers (Class) WarningDetail «FeatureType»  Cardinality: [1] | Target: Public referred (Class) EnvironmentalWarning «FeatureType»  Cardinality: [0..\*] |

## Enumeration

## accidentAlarmType

Enumeration in package 'VTS Digital Information Service Data Model v0.6.3'

Type of alarm that occurs in connection with a ship accident

accidentAlarmType

Version 0.6.3 Phase 1.0 Proposed

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| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: accidentAlarmType : Enumeration, Public  To: accidentAlarmType : Enumeration, Public |

| ATTRIBUTES |
| --- |
| SAR : Public = 1  search and rescue  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| NUC : Public = 2  Not Under Commnand  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| traffic accident : Public = 3  an accident on more than one ship  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

## acknowledgementCode

Enumeration in package 'VTS Digital Information Service Data Model v0.6.3'

acknowledgementCode

Version 0.6.3 Phase 1.0 Proposed

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| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: acknowledgementCode : Enumeration, Public  To: acknowledgementCode : Enumeration, Public |

| ATTRIBUTES |
| --- |
| ACK : Public = 1  Positive Acknowledge  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| NACK : Public = 2  Negative Acknowledge  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

## bunkerType

Enumeration in package 'VTS Digital Information Service Data Model v0.6.3'

Ship Fuel Oil Type

bunkerType

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: bunkerType : Enumeration, Public  To: bunkerType : Enumeration, Public |

| ATTRIBUTES |
| --- |
| Fuel Oil : Public = 1  Fuel oil (also known as heavy oil, marine fuel or furnace oil) is a fraction obtained from petroleum distillation, either as a distillate or a residue. In general terms, fuel oil is any liquid fuel that is burned in a furnace or boiler for the generation of heat or used in an engine for the generation of power, except oils having a flash point of approximately 42 캜 (108 캟) and oils burned in cotton or wool-wick burners. Fuel oil is made of long hydrocarbon chains, particularly alkanes, cycloalkanes, and aromatics. The term fuel oil is also used in a stricter sense to refer only to the heaviest commercial fuel that can be obtained from crude oil, i.e., heavier than gasoline and naphtha.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Marine Diesel Oil : Public = 2  Marine Diesel Oil (MDO) is a type of fuel oil and is a blend of gasoil and heavy fuel oil, with less gasoil than intermediate fuel oil used in the maritime field. Marine Diesel Oil is also called "Distillate Marine Diesel".[1] MDO is widely used by medium speed and medium/high speed marine diesel engines. It is also used in the larger low speed and medium speed propulsion engine which normally burn residual fuel.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Marine Gas Oil : Public = 3  Marine gasoil (MGO) describes marine fuels that consist exclusively of distillates. Distillates are all those components of crude oil that evaporate in fractional distillation and are then condensed from the gas phase into liquid fractions. Marine gasoil usually consists of a blend of various distillates. Marine gasoil is similar to diesel fuel, but has a higher density. Unlike heavy fuel oil (HFO), marine gasoil does not have to be heated during storage.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Other : Public = 4  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

## categoryOfCargo

Enumeration in package 'VTS Digital Information Service Data Model v0.6.3'

Classification of the different types of cargo that a ship may be carrying.

categoryOfCargo

Version 0.6.3 Phase 1.0 Proposed

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| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: categoryOfCargo : Enumeration, Public  To: categoryOfCargo : Enumeration, Public |

| ATTRIBUTES |
| --- |
| bulk : Public = 1  Normally dry cargo which is transported to and from the vessel on conveyors or grabs.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| container : Public = 2  One of a number of standard sized cargo carrying units, secured using standard corner attachments and bar.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| general : Public = 3  Break bulk cargo normally loaded by crane.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| liquid : Public = 4  Any cargo loaded by pipeline  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| passenger : Public = 5  A fee paying traveller  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| livestock : Public = 6  Live animals carried in bulk  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| dangerous or hazardous : Public = 7  Dangerous or hazardous cargo as described by the IMO International Maritime Dangerous Goods code.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

## categoryOfDangerousOrHazardousCargo

Enumeration in package 'VTS Digital Information Service Data Model v0.6.3'

Classification of dangerous goods or hazardous materials based on the International Maritime Dangerous Goods Code (IMDG Code).

categoryOfDangerousOrHazardousCargo

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: categoryOfDangerousOrHazardousCargo : Enumeration, Public  To: categoryOfDangerousOrHazardousCargo : Enumeration, Public |

| ATTRIBUTES |
| --- |
| IMDG Code Class 1 Div. 1.1 : Public = 1  Explosives, Division 1: substances and articles which have a mass explosion hazard  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| IMDG Code Class 1 Div. 1.2 : Public = 2  Explosives, Division 2: substances and articles which have a projection hazard but not a mass explosion hazard  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| IMDG Code Class 1 Div. 1.3 : Public = 3  Explosives, Division 3: substances and articles which have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| IMDG Code Class 1 Div. 1.4 : Public = 4  Explosives, Division 4: substances and articles which present no significant hazard  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| IMDG Code Class 1 Div. 1.5 : Public = 5  Explosives, Division 5: very insensitive substances which have a mass explosion hazard  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| IMDG Code Class 1 Div. 1.6 : Public = 6  Explosives, Division 6: extremely insensitive articles which do not have a mass explosion hazard  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| IMDG Code Class 2 Div. 2.1 : Public = 7  Gases, flammable gases  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| IMDG Code Class 2 Div. 2.2 : Public = 8  Gases, non-flammable, non-toxic gases  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| IMDG Code Class 2 Div. 2.3 : Public = 9  Gases, toxic gases  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| IMDG Code Class 3 : Public = 10  flammable liquids  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| IMDG Code Class 4 Div. 4.1 : Public = 11  flammable solids, self-reactive substances and desensitized explosives  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| IMDG Code Class 4 Div. 4.2 : Public = 12  substances liable to spontaneous combustion  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| MDG Code Class 4 Div. 4.3 : Public = 13  substances which, in contact with water, emit flammable gases  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| IMDG Code Class 5 Div. 5.1 : Public = 14  oxidizing substances  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| IMDG Code Class 5 Div. 5.2 : Public = 15  organic peroxides  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| IMDG Code Class 6 Div. 6.1 : Public = 16  toxic substances  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| IMDG Code Class 6 Div. 6.2 : Public = 17  infectious substances  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| IMDG Code Class 7 : Public = 18  Radioactive material  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| IMDG Code Class 8 : Public = 19  Corrosive substances  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| IMDG Code Class 9 : Public = 20  Miscellaneous dangerous substances and articles  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| armful Substances in packaged form : Public = 21  Harmful substances are those substances which are identified as marine pollutants in the International Maritime Dangerous Goods Code (IMDG Code). Packaged form is defined as the forms of containment specified for harmful substances in the IMDG Code.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

## categoryOfStatement

Enumeration in package 'VTS Digital Information Service Data Model v0.6.3'

the current state of operation of a ship

categoryOfStatement

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: categoryOfStatement : Enumeration, Public  To: categoryOfStatement : Enumeration, Public |

| ATTRIBUTES |
| --- |
| sailing : Public = 1  the normal state of sailing of a ship  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| anchorage : Public = 2  To anchor(a vessel)in a buoyant place so that it can be safely anchored.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| berthing : Public = 3  Attaching a vessel to a wharf or jetty.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

## equipmentCondition

Enumeration in package 'VTS Digital Information Service Data Model v0.6.3'

equipmentCondition

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: equipmentCondition : Enumeration, Public  To: equipmentCondition : Enumeration, Public |

| ATTRIBUTES |
| --- |
| not installed : Public = 1  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| normal : Public = 2  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| abnormal : Public = 3  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

## ISPSLevel

Enumeration in package 'VTS Digital Information Service Data Model v0.6.3'

Classification of ISPS security levels according to the ISPS Code.

ISPSLevel

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: ISPSLevel : Enumeration, Public  To: ISPSLevel : Enumeration, Public |

| ATTRIBUTES |
| --- |
| ISPS Level 1 : Public = 1  The level for which minimum appropriate protective security measures shall be maintained at all times.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| ISPS Level 2 : Public = 2  The level for which appropriate additional protective security measures shall be maintained for a period of time as a result of heightened risk of a security incident.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| ISPS Level 3 : Public = 3  The level for which further specific protective security measures shall be maintained for a limited period of time when a security incident is probable or imminent, although it may not be possible to identify the specific target.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

## kindOfMedicalAssistance

Enumeration in package 'VTS Digital Information Service Data Model v0.6.3'

Medical Support Request Type

kindOfMedicalAssistance

Version 0.6.3 Phase 1.0 Proposed

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| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: kindOfMedicalAssistance : Enumeration, Public  To: kindOfMedicalAssistance : Enumeration, Public |

| ATTRIBUTES |
| --- |
| boat for hospital transfer : Public = 1  transport a patient to a hospital by boat  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| radio medical advice : Public = 2  Get medical assistance through voice support from a doctor  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| helicopter with doctor : Public = 3  Transfer of the patient to a hospital via a helicopter accompanied by the doctor.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

## messageMarkers

Enumeration in package 'VTS Digital Information Service Data Model v0.6.3'

The purpose of a message used to facilitate communication between ships.

messageMarkers

Version 0.6.3 Phase 1.0 Proposed

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| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: messageMarkers : Enumeration, Public  To: messageMarkers : Enumeration, Public |

| ATTRIBUTES |
| --- |
| Instruction : Public = 1  This indicates that the following message implies the intention of the sender to influence others by a Regulation.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Advice : Public = 2  This indicates that the following message implies the intention of the sender to influence others by a Recommendatio  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Warning : Public = 3  This indicates that the following message implies the intention of the sender to inform others about danger.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Information : Public = 4  This indicates that the following message is restricted to observed facts, situations, etc..  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Question : Public = 5  This indicates that the following message is of an interrogative character.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Answer : Public = 6  This indicates that the following message is the reply to a previous question.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Request : Public = 7  This indicates that the following message is asking for action from others with respect to the vessel.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Intention : Public = 8  This indicates that the following message informs others about immediate navigational action intended to be taken.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

## movementPurpose

Enumeration in package 'VTS Digital Information Service Data Model v0.6.3'

Purpose for which ship movements have occurred of the ship

movementPurpose

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: movementPurpose : Enumeration, Public  To: movementPurpose : Enumeration, Public |

| ATTRIBUTES |
| --- |
| sailing : Public = 1  the normal state of sailing of a ship  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| anchorage : Public = 2  To anchor(a vessel)in a buoyant place so that it can be safely anchored.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| berthing : Public = 3  Attaching a vessel to a wharf or jetty.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| passing : Public = 4  Passing the VTS area without berthing/anchorage at this port  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

## notUnderCommandCause

Enumeration in package 'VTS Digital Information Service Data Model v0.6.3'

the cause of a vessel not under command

notUnderCommandCause

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: notUnderCommandCause : Enumeration, Public  To: notUnderCommandCause : Enumeration, Public |

| ATTRIBUTES |
| --- |
| engine : Public = 1  ship's engine abnormality  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| steering gear : Public = 2  ship's steering gear abnormality  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| propeller : Public = 3  ship's propeller abnormality  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

## radarType

Enumeration in package 'VTS Digital Information Service Data Model v0.6.3'

radarType

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: radarType : Enumeration, Public  To: radarType : Enumeration, Public |

| ATTRIBUTES |
| --- |
| x-Band : Public = 1  The x-band radar can detect close-range objects clearly because of its short wavelength and high frequency, with a 3cm wavelength of radio waves and a range of 9300-9500MHz.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| s-band : Public = 2  The s-band radar has a wavelength of 10cm and a range of 2900-3100MHz of frequency, and is used for distance detection because it recognizes two objects on the base as one object and makes the objects come together and appear as one on the radar screen.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

## rescueEquipment

Enumeration in package 'VTS Digital Information Service Data Model v0.6.3'

Types of rescue equipment installed on ships

rescueEquipment

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: rescueEquipment : Enumeration, Public  To: rescueEquipment : Enumeration, Public |

| ATTRIBUTES |
| --- |
| SART : Public = 1  Search And RescueRadar Transponder  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| EPIRB : Public = 2  Emergency Position Indicating Radio Beacon  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| DSC : Public = 3  Digital Selective Calling  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

## speedReference

Enumeration in package 'VTS Digital Information Service Data Model v0.6.3'

Indicates the type of speed measurement

speedReference

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: speedReference : Enumeration, Public  To: speedReference : Enumeration, Public |

| ATTRIBUTES |
| --- |
| other : Public = 1  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| speed over ground : Public = 2  The vessel's actual speed, determined by dividing the distance between successive fixes by the time between the fixes  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| speed through water : Public = 3  he vessel's actual speed, determined by substracting the speed over ground by the current speed  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

## speedUnits

Enumeration in package 'VTS Digital Information Service Data Model v0.6.3'

The units for description of speed.

speedUnits

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: speedUnits : Enumeration, Public  To: speedUnits : Enumeration, Public |

| ATTRIBUTES |
| --- |
| metres per second : Public = 1  metres per second  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Kilometres per hour : Public = 2  kilometres per hour  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Miles Per Hour : Public = 3  miles per hour  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Nautical Miles Per Hour (Knots) : Public = 4  nautical miles per hour (knots)  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

## requestReplyInformtion

Enumeration in package 'VTS Digital Information Service Data Model v0.6.3'

requestReplyInformtion

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-07-02

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: requestReplyInformtion : Enumeration, Public  To: requestInformtion : Enumeration, Public |

| ATTRIBUTES |
| --- |
| Environmental conditions(meteo) : Public = 1  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Environmental conditions(hydrographical) : Public = 2  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Environmental conditions(warnings) : Public = 3  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Navigational conditions(warnings) : Public = 4  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Navigational conditions(limitations) : Public = 5  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Navigational conditions(status) : Public = 6  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Navigational conditions(geographical information) : Public = 7  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Navigational assistance : Public = 8  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Ship information for navigational assistance : Public = 9  VTS has received information on the status of ships required to assist in navigation of ships.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

## timeSequence

Enumeration in package 'VTS Digital Information Service Data Model v0.6.3'

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 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: timeSequence : Enumeration, Public  To: timeSequence : 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 'VTS Digital Information Service Data Model v0.6.3'

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

timeType

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: timeType : Enumeration, Public  To: timeType : Enumeration, Public |

| ATTRIBUTES |
| --- |
| Estimated : Public = 1  The time type for expressing assessed time of occurrence.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Actual : Public = 2  The timetype for expressing the actual time of occurrence.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Planned : Public = 3  The timetype for expressing planned time of occurrence.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Recommended : Public = 4  The timetype for expressing recommended time of occurrence.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Required : Public = 5  Use of facility, waterway, or service is required.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

## vesselsCharacteristics

Enumeration in package 'VTS Digital Information Service Data Model v0.6.3'

Characteristics of vessels

vesselsCharacteristics

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: vesselsCharacteristics : Enumeration, Public  To: vesselsCharacteristics : Enumeration, Public |

| ATTRIBUTES |
| --- |
| length overall : Public = 1  The maximum length of the ship (L.O.A.).  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| length at waterline : Public = 2  The ship's length measured at the waterline (L.W.L.).  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| breadth : Public = 3  The width or beam of the vessel.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| draught : Public = 4  The depth of water necessary to float a vessel fully loaded.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| displacement tonnage : Public = 6  A measurement of the weight of the vessel, usually used for warships. (Merchant ships are usually measured based on the volume of cargo space; see tonnage). Displacement is expressed either in long tons of 2,240 pounds or metric tonnes of 1,000 kg. Since the two units are very close in size (2,240 pounds = 1,016 kg and 1,000 kg = 2,205 pounds), it is common not to distinguish between them. To preserve secrecy, nations sometimes misstate a warship's displacement.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| displacement tonnage, light : Public = 7  The weight of the ship excluding cargo, fuel, ballast, stores, passengers, and crew, but with water in the boilers to steaming level.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| displacement tonnage, loaded : Public = 8  The weight of the ship including cargo, passengers, fuel, water, stores, dunnage and such other items necessary for use on a voyage, which brings the vessel down to her load draft.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| deadweight tonnage : Public = 9  The difference between displacement, light and displacement, loaded. A measure of the ship's total carrying capacity.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| gross tonnage : Public = 10  The entire internal cubic capacity of the ship expressed in tons of 100 cubic feet to the ton, except certain spaces with are exempted such as: peak and other tanks for water ballast, open forecastle bridge and poop, access of hatchways, certain light and air spaces, domes of skylights, condenser, anchor gear, steering gear, wheel house, galley and cabin for passengers.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| net tonnage : Public = 11  Obtained from the gross tonnage by deducting crew and navigating spaces and allowances for propulsion machinery.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| panama canal/universal measurement system net tonnage : Public = 12  the Panama Canal/Universal Measurement System (PC/UMS) is based on net tonnage, modified for Panama Canal purposes. PC/UMS is based on a mathematical formula to calculate a vessel's total volume; a PC/UMS net ton is equivalent to 100 cubic feet of capacity.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| suez canal net tonnage : Public = 13  the Suez Canal Net Tonnage (SCNT) is derived with a number of modifications from the former net register tonnage of the Moorsom System and was established by the International Commission of Constantinople in its Protocol of 18 December 1873. It is still in use, as amended by the Rules of Navigation of the Suez Canal Authority, and is registered in the Suez Canal Tonnage Certificate.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

## vesselsCharacteristicsUnit

Enumeration in package 'VTS Digital Information Service Data Model v0.6.3'

the unit used for vessel characteristics attribute

vesselsCharacteristicsUnit

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: vesselsCharacteristicsUnit : Enumeration, Public  To: vesselsCharacteristicsUnit : Enumeration, Public |

| ATTRIBUTES |
| --- |
| metric ton : Public = 3  The tonne or metric ton (U.S.), often redundantly referred to as a metric tonne, is a unit of mass equal to 1,000 kg (2,205 lb) or approximately the mass of one cubic metre of water at four degrees Celsius. It is sometimes abbreviated as mt in the United States, but this conflicts with other SI symbols. The tonne is not a unit in the International System of Units (SI), but is accepted for use with the SI. In SI units and prefixes, the tonne is a megagram (Mg). The Imperial and US customary units comparable to the tonne are both spelled ton in English, though they differ in mass. Pronunciation of tonne (the word used in the UK) and ton is usually identical, but is not too confusing unless accuracy is important as the tonne and UK long ton differ by only 1.6.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| ton : Public = 4  Long ton (weight ton or imperial ton) is the name for the unit called the "ton" in the avoirdupois or Imperial system of measurements, as used in the United Kingdom and several other Commonwealth countries. It has been mostly replaced by the tonne, and in the United States by the short ton. One long ton is equal to 2,240 pounds (1,016 kg) or 35 cubic feet (0.9911 m3) of salt water with a density of 64 lb/ft?(1.025 g/ml). It has some limited use in the United States, most commonly in measuring the displacement of ships, and was the unit prescribed for warships by the Washington Naval Treaty?for example battleships were limited to a mass of 35,000 long tons (36,000 t; 39,000 ST).  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| short ton : Public = 5  The short ton is a unit of weight equal to 2,000 pounds (907.18474 kg). In the United States it is often called simply ton without distinguishing it from the metric ton (tonne, 1,000 kilograms) or the long ton (2,240 pounds / 1,016.0469088 kilograms); rather, the other two are specifically noted. There are, however, some U.S. applications for which unspecified tons normally means long tons (for example, Navy ships) or metric tons (world grain production figures).Both the long and short ton are defined as 20 hundredweights, but a hundredweight is 100 pounds (45.359237 kg) in the U.S. system (short or net hundredweight) and 112 pounds (50.80234544 kg) in the Imperial system (long or gross hundredweight).  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| gross ton : Public = 6  Gross tonnage (GT) is a function of the volume of all ship's enclosed spaces (from keel to funnel) measured to the outside of the hull framing. There is a sliding scale factor. So GT is a kind of capacity-derived index that is used to rank a ship for purposes of determining manning, safety and other statutory requirements and is expressed simply as GT, which is a unitless entity, even though its derivation is tied to the cubic meter unit of volumetric capacity.Tonnage measurements are now governed by an IMO Convention (International Convention on Tonnage Measurement of Ships, 1969 (London-Rules)), which applies to all ships built after July 1982. In accordance with the Convention, the correct term to use now is GT, which is a function of the moulded volume of all enclosed spaces of the ship.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| net ton : Public = 7  Net tonnage (NT) is based on a calculation of the volume of all cargo spaces of the ship. It indicates a vessel’s earning space and is a function of the moulded volume of all cargo spaces of the ship.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| suez canal net tonnage : Public = 9  The Suez Canal Net Tonnage (SCNT) is derived with a number of modifications from the former net register tonnage of the Moorsom System and was established by the International Commission of Constantinople in its Protocol of 18 December 1873. It is still in use, as amended by the Rules of Navigation of the Suez Canal Authority, and is registered in the Suez Canal Tonnage Certificate.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

## Complex Attribute Type

## accidentShipCargoInformation

DataType «ComplexAttributeType» in package 'VTS Digital Information Service Data Model v0.6.3'

Details of cargo loaded on a accident ship

accidentShipCargoInformation

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: accidentShipCargoInformation : DataType, Public  To: accidentShipCargoInformation : DataType, Public |

| ATTRIBUTES |
| --- |
| categoryOfCargo : categoryOfCargo Public  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| categoryOfDangerousOrHazardousCargo : categoryOfDangerousOrHazardousCargo Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| loadWeight : real Public  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

## accidentShipInformation

DataType «ComplexAttributeType» in package 'VTS Digital Information Service Data Model v0.6.3'

Identification information of the vessel requested for rescue or in an accident and information related to the vessel

accidentShipInformation

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: accidentShipInformation : DataType, Public  To: accidentShipInformation : DataType, Public |

| ATTRIBUTES |
| --- |
| accidentShipCargoInformation : accidentShipCargoInformation Public  Multiplicity: ( [1..\*], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «ComplexAttribute». Is static True. Containment is Not Specified. ] |
| accidentShipMMSICode : text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Identifier of the ship in the accident(MMSI Code)  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| accidentShipMRN : URN Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Identifier of the ship in the accident(MRN)  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| accidentShipName : accidentShipName Public  [ Stereotype is «ComplexAttribute». Is static True. Containment is Not Specified. ] |

## accidentShipName

DataType «ComplexAttributeType» in package 'VTS Digital Information Service Data Model v0.6.3'

The name of the accident ship can be expressed in various languages.

accidentShipName

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: accidentShipName : DataType, Public  To: accidentShipName : DataType, Public |

| ATTRIBUTES |
| --- |
| displayName : boolean Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| language : ISO639-3 Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| name : text Public  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

## administrationState

DataType «ComplexAttributeType» in package 'VTS Digital Information Service Data Model v0.6.3'

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

administrationState

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: administrationState : DataType, Public  To: administrationState : DataType, Public |

| ATTRIBUTES |
| --- |
| atLocation : atLocation Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «ComplexAttribute». Is static True. Containment is Not Specified. ] |
| effectiveTime : dateTime Public  The instant at which the information or condition becomes effective.  [ 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.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| serviceObject : serviceObject Public  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| timeSequence : timeSequence Public  [ 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.  [ 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.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

## atLocation

DataType «ComplexAttributeType» in package 'VTS Digital Information Service Data Model v0.6.3'

The location where a stationary service is performed.

atLocation

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: atLocation : DataType, Public  To: atLocation : DataType, Public |

| 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.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| terminal : URN Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Terminal identifier.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

## bunkerInformation

DataType «ComplexAttributeType» in package 'VTS Digital Information Service Data Model v0.6.3'

Ship Fuel Oil Remaining Information

bunkerInformation

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: bunkerInformation : DataType, Public  To: bunkerInformation : DataType, Public |

| ATTRIBUTES |
| --- |
| bunkerType : bunkerType Public  [ 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  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| quantity : real Public  Ship Fuel Oil Remaining  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

## cargoInformation

DataType «ComplexAttributeType» in package 'VTS Digital Information Service Data Model v0.6.3'

Details of cargo loaded on a ship

cargoInformation

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: cargoInformation : DataType, Public  To: cargoInformation : DataType, Public |

| ATTRIBUTES |
| --- |
| categoryOfCargo : categoryOfCargo Public  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| categoryOfDangerousOrHazardousCargo : categoryOfDangerousOrHazardousCargo Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| loadWeight : real Public  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

## categoryOfVessel

DataType «S\_100 Codelist» in package 'VTS Digital Information Service Data Model v0.6.3'

Classification of vessels by function or use.

categoryOfVessel

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: categoryOfVessel : DataType, Public  To: categoryOfVessel : DataType, Public |

| ATTRIBUTES |
| --- |
| bulk carrier : Public = 4  A vessel designed to carry bulk solid material.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| container carrier : Public = 2  A vessel designed to carry ISO containers.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| fishing vessel : Public = 8  A vessel designed to catch or hunt fish.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| general cargo vessel : Public = 1  A vessel which is designed for carrying general cargo, e.g. boxes, sacks.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| jack-up exploration or project installation : Public = 15  An exploration or project installation with legs which can be raised and lowered. The legs are raised when the installation is repositioned. When stationary the legs are lowered to the sea floor and the working platform is raised clear of the sea surface  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| light recreational : Public = 13  A pleasure boat or watercraft, or an excursion vessel used for short cruises such as whale watching  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| livestock carrier : Public = 16  A vessel designed to carry large quantities of live animals.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| passenger vessel : Public = 5  a vessel designed to carry passengers; often a cruise ship  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| refrigerated cargo vessel : Public = 7  a vessel designed to carry refrigerated cargo  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| roll-on roll-off : Public = 6  a vessel designed to allow road vehicles to be driven on and off; often a ferry  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| semi-submersible offshore installation : Public = 14  An installation which is designed to float at all times and which is normally anchored in position when deployed in the offshore gas and oil industry.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| service : Public = 9  a vessel which provides a service such as a tug, anchor handler, survey or supply vessel  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| sport fishing : Public = 17  A vessel used in fishing for pleasure or competition.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| tanker : Public = 3  a vessel designed to carry bulk liquid or gas, including LPG and LNG  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| towed or pushed composite unit : Public = 11  either a tug and tow, or any combination of a tug providing propulsion to barges or vessels secured ahead or alongside  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| tug and tow : Public = 12  a combination of tug(s) and non-powered tow(s)  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| warship : Public = 10  a vessel designed for the conduct of military operations  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

## fromLocation

DataType «ComplexAttributeType» in package 'VTS Digital Information Service Data Model v0.6.3'

The departure location.

fromLocation

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: fromLocation : DataType, Public  To: fromLocation : DataType, Public |

| 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.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| terminal : URN Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Terminal identifier.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

## locationState

DataType «ComplexAttributeType» in package 'VTS Digital Information Service Data Model v0.6.3'

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

locationState

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: locationState : DataType, Public  To: locationState : DataType, Public |

| ATTRIBUTES |
| --- |
| effectiveTime : dateTime Public  The instant at which the information or condition becomes effective.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| fromLocation : fromLocation Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «ComplexAttribute». Is static True. Containment is Not Specified. ] |
| referenceObject : referenceObject Public  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| timeSequence : timeSequence Public  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| timeType : timeType Public  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| toLocation : toLocation Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «ComplexAttribute». 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.  [ 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.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

## medicalAssistanceDetail

DataType «ComplexAttributeType» in package 'VTS Digital Information Service Data Model v0.6.3'

Details of Medical Support Requests

medicalAssistanceDetail

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: medicalAssistanceDetail : DataType, Public  To: medicalAssistanceDetail : DataType, Public |

| ATTRIBUTES |
| --- |
| doctorInVessel : boolean Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Whether or not there are doctors in the ship.  true: a doctor on board a ship  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| healthCondition : text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Briefly write the health status of the person requesting medical assistance  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| kindOfMedicalAssistance : kindOfMedicalAssistance Public  Medical Support Request Type  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| timeForMeeting : dateTime Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Time to meet a doctor or boat/helicopter  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

## navigationalConditionAreaName

DataType «ComplexAttributeType» in package 'VTS Digital Information Service Data Model v0.6.3'

Identification of the location name used as a source for obtain navigational Condition from S-127

navigationalConditionAreaName

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: navigationalConditionAreaName : DataType, Public  To: navigationalConditionAreaName : DataType, Public |

| ATTRIBUTES |
| --- |
| displayName : boolean Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| language : ISO639-3 Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| name : text Public  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

## navigationalInformation

DataType «ComplexAttributeType» in package 'VTS Digital Information Service Data Model v0.6.3'

Navigation information of individual ships in danger, including ship's course and position information.

navigationalInformation

Version 1.0 Phase 1.0 Proposed

khj created on 2020-06-30. Last modified 2020-06-30

| ATTRIBUTES |
| --- |
| navigationInDanger : text Public  Multiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )  provide information related to navigating into a channel/fairway/lane  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| proximityToDanger : text Public  Multiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )  range and bearing from fixed objects, fairway/channel or way-points; proximity to navigational hazards.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

## navigationalWarningAreaName

DataType «ComplexAttributeType» in package 'VTS Digital Information Service Data Model v0.6.3'

Identification of the location name used as a source for obtain navigational Warning from S-124

navigationalWarningAreaName

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: navigationalWarningAreaName : DataType, Public  To: navigationalWarningAreaName : DataType, Public |

| ATTRIBUTES |
| --- |
| displayName : boolean Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| language : ISO639-3 Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| name : text Public  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

## notUnderCommandDetail

DataType «ComplexAttributeType» in package 'VTS Digital Information Service Data Model v0.6.3'

Explain what is required in the vessel not under command

notUnderCommandDetail

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: notUnderCommandDetail : DataType, Public  To: notUnderCommandDetail : DataType, Public |

| ATTRIBUTES |
| --- |
| notUnderCommandCause : notUnderCommandCause Public  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| tugRequest : boolean Public  Whether a tugboat is requested to tow a vessel.  true: Requests tugboat.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

## onBoardCrews

DataType «ComplexAttributeType» in package 'VTS Digital Information Service Data Model v0.6.3'

Detailed information of the crew on board the ship (excluding the captain)

onBoardCrews

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: onBoardCrews : DataType, Public  To: onBoardCrews : DataType, Public |

| ATTRIBUTES |
| --- |
| crewName : text Public  Name of the crew aboard the ship.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| crewRank : text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Rank of the crew aboard the ship.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| crewTelephoneNumber : text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  the telephone number of the crew on board the ship  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

## radarEquipment

DataType «ComplexAttributeType» in package 'VTS Digital Information Service Data Model v0.6.3'

A detection system that uses radio waves to determine the range, angle, or velocity of objects. Radio waves (pulsed or continuous) from the transmitter reflect off the object and return to the receiver, giving information about the object's location and speed.

radarEquipment

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: radarEquipment : DataType, Public  To: radarEquipment : DataType, Public |

| ATTRIBUTES |
| --- |
| abnormalRadar : text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  A status indicates that RADAR is not available.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| radarARPA : boolean Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  The system that can calculate the tracked object's course, speed and closest point of approach (CPA), thereby knowing if there is a danger of collision with the other ship or landmass. ( Automatic Radar Plotting Aid )  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| radarType : radarType Public  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

## referenceObject

DataType «S\_100 Codelist» in package 'VTS Digital Information Service Data Model v0.6.3'

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

referenceObject

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: referenceObject : DataType, Public  To: referenceObject : DataType, Public |

| ATTRIBUTES |
| --- |
| 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  [ Stereotype is «enum». 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  [ Stereotype is «enum». 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  [ Stereotype is «enum». 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  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

## SARDetail

DataType «ComplexAttributeType» in package 'VTS Digital Information Service Data Model v0.6.3'

Explanation of situations in which search and rescue is required

SARDetail

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: SARDetail : DataType, Public  To: SARDetail : DataType, Public |

| ATTRIBUTES |
| --- |
| abandonVesselOrNot : boolean Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  To leave a vessel in a situation in which one must give up in the face of an unavoidable situation.  true: abandon vessel  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| numberOfInjuredPerson : integer Public  the number of people injured in an accident  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| numberOfLifeboat : integer Public  The number of lifeboats installed on a vessel  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| numberOfLifecraft : integer Public  The number of lifecrafts installed on a vessel  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| occurredTime : dateTime Public  the time of the accident  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| rescueEquipment : rescueEquipment Public  Multiplicity: ( [1..\*], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

## ServiceObject

DataType «S\_100 Codelist» in package 'VTS Digital Information Service Data Model v0.6.3'

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

serviceObject

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: serviceObject : DataType, Public  To: serviceObject : DataType, Public |

| 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  [ Stereotype is «enum». 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  [ Stereotype is «enum». 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  [ Stereotype is «enum». 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  [ Stereotype is «enum». 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  [ Stereotype is «enum». 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  [ Stereotype is «enum». 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  [ Stereotype is «enum». 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  [ Stereotype is «enum». 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  [ Stereotype is «enum». 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  [ Stereotype is «enum». 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  [ Stereotype is «enum». 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  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

## shipCrew

DataType «ComplexAttributeType» in package 'VTS Digital Information Service Data Model v0.6.3'

Information of the crew aboard the ship

shipCrew

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: shipCrew : DataType, Public  To: shipCrew : DataType, Public |

| ATTRIBUTES |
| --- |
| captainTelephoneNumber : text Public  the captain's telephone number  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| numberOfCrew : integer Public  the number of sailors aboard a ship.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| onBoardCrews : onBoardCrews Public  Multiplicity: ( [1..\*], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «ComplexAttribute». Is static True. Containment is Not Specified. ] |

## shipSpeed

DataType «ComplexAttributeType» in package 'VTS Digital Information Service Data Model v0.6.3'

Ship's speed information

shipSpeed

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: shipSpeed : DataType, Public  To: shipSpeed : DataType, Public |

| ATTRIBUTES |
| --- |
| speedReference : speedReference Public  Indicates the type of speed measurement  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| speedUnits : speedUnits Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  The units for description of speed.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| speedValue : real Public  ship speed value  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

## telecommunications

DataType «ComplexAttributeType» in package 'VTS Digital Information Service Data Model v0.6.3'

A means or channel of communicating at a distance by electrical or electromagnetic means such as telegraphy, telephony, or broadcasting.

telecommunications

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: telecommunications : DataType, Public  To: telecommunications : DataType, Public |

| ATTRIBUTES |
| --- |
| contactInstructions : text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| telcomCarrier : text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  The name of a provider or type of carrier for a telecommunication service. This service may include land line based, shore based or satellite based radio connections.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| telecommunicationIdentifier : text Public  An identifier, such as words, numbers, letters, symbols, or any combination of those used to establish a contact to a particular person, organisation or service.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| telecommunicationService : telecommunicationService Public  Multiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )  Methods to communicate between involved parties over a distance.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

## telecommunicationService

DataType «S\_100 Codelist» in package 'VTS Digital Information Service Data Model v0.6.3'

Methods to communicate between involved parties over a distance.

telecommunicationService

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: telecommunicationService : DataType, Public  To: telecommunicationService : DataType, Public |

| ATTRIBUTES |
| --- |
| Data : Public = 4  Facts or information used usually to calculate, analyze, or plan something.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Email : Public = 8  Messages and other data exchanged between individuals using computers in a network.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Facsimile : Public = 2  A system of transmitting and reproducing graphic matter (as printing or still pictures) by means of signals sent over telephone lines.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| SMS : Public = 3  Short Message Service ? a form of text messaging communication on phones and mobile phones.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Streamed Data : Public = 5  Data that is constantly received by and presented to an end-user while being delivered by a provider.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Telegraph : Public = 7  An apparatus, system or process for communication at a distance by electric transmission over wire.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Telex : Public = 6  A system of communication in which messages are sent over long distances by using a telephone system and are printed by using a special machine (called a teletypewriter).  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |
| Voice : Public = 1  The transfer or exchange of information by using sounds that are being made by mouth and throat when speaking.  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

## toLocation

DataType «ComplexAttributeType» in package 'VTS Digital Information Service Data Model v0.6.3'

The arrival location

toLocation

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: toLocation : DataType, Public  To: toLocation : DataType, Public |

| 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.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| terminal : URN Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Terminal identifier.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

## vesselName

DataType «ComplexAttributeType» in package 'VTS Digital Information Service Data Model v0.6.3'

The name of the ship can be expressed in various languages.

vesselName

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: vesselName : DataType, Public  To: vesselName : DataType, Public |

| ATTRIBUTES |
| --- |
| displayName : boolean Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| language : ISO639-3 Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| name : text Public  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

## vesselsMeasurements

DataType «ComplexAttributeType» in package 'VTS Digital Information Service Data Model v0.6.3'

Values, discovered by measuring, that correpond to vessel's characteristics.

vesselsMeasurements

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: vesselsMeasurements : DataType, Public  To: vesselsMeasurements : DataType, Public |

| ATTRIBUTES |
| --- |
| vesselsCharacteristics : vesselsCharacteristics Public  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| vesselsCharacteristicsUnit : vesselsCharacteristicsUnit Public  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| vesselsCharacteristicsValue : real Public  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

## VTSOperatorAssignment

DataType «ComplexAttributeType» in package 'VTS Digital Information Service Data Model v0.6.3'

Results of items requested by vessel to VTS Operator

VTSOperatorAssignment

Version 0.6.3 Phase 1.0 Proposed

KHJ created on 2020-06-23. Last modified 2020-06-23

| CONNECTORS |
| --- |
| Abstraction «trace» Source -> Destination  From: VTSOperatorAssignment : DataType, Public  To: VTSOperatorAssignment : DataType, Public |

| ATTRIBUTES |
| --- |
| assignment : boolean Public  Approval result for items requested by vessel to VTS Operator  true: approval/false: deny  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| assignmentComment : text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  FreeText for the approval result of the item requested by the vessel to the VTS Operator  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |
| waitingTime : dateTime Public  Time the vessel can perform the requested item to the VTS Operator  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |