S-127

NIPWG5 – 12-16 March 2018

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Sponsored by IHO
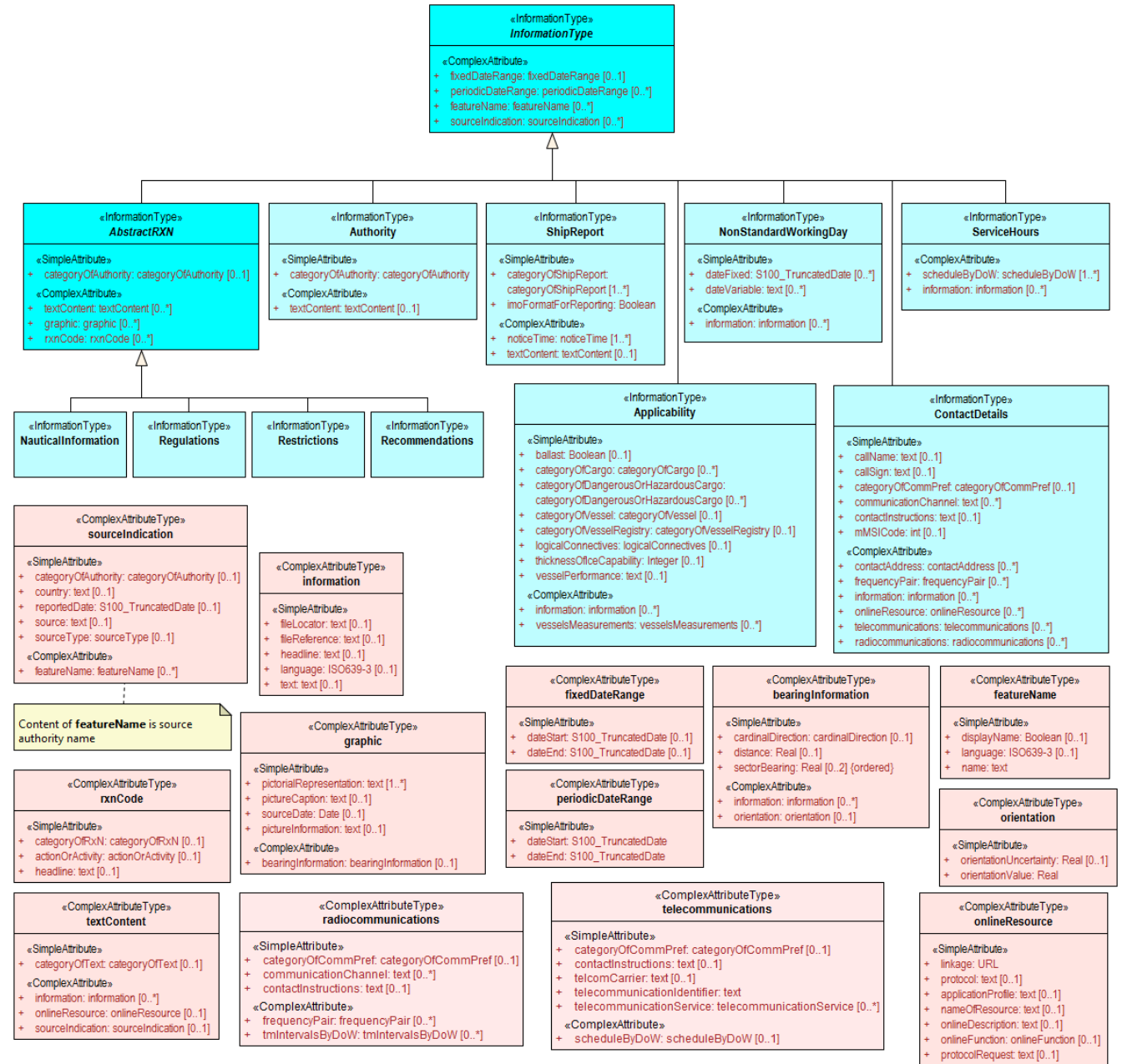
Overview

- Overview of S-127 Application Schema
- Routeing measure alternative models
  - Alternatives: (1) Simple; (2) Middle detail; (3) Full S-101
  - Criteria
  - Encoding instructions
- Pilot services and areas
  - NPUB defined pilot service as an area feature, S-101 has just pilotage district and pilot boarding place
- Line vs. area features in general, and ASLs in particular
- Underkeel clearance areas
  - NGA paper and NGA-suggested attributes
- Static vs. dynamic information availability
  - Related to UKC in S-127, but a general solution is proposed
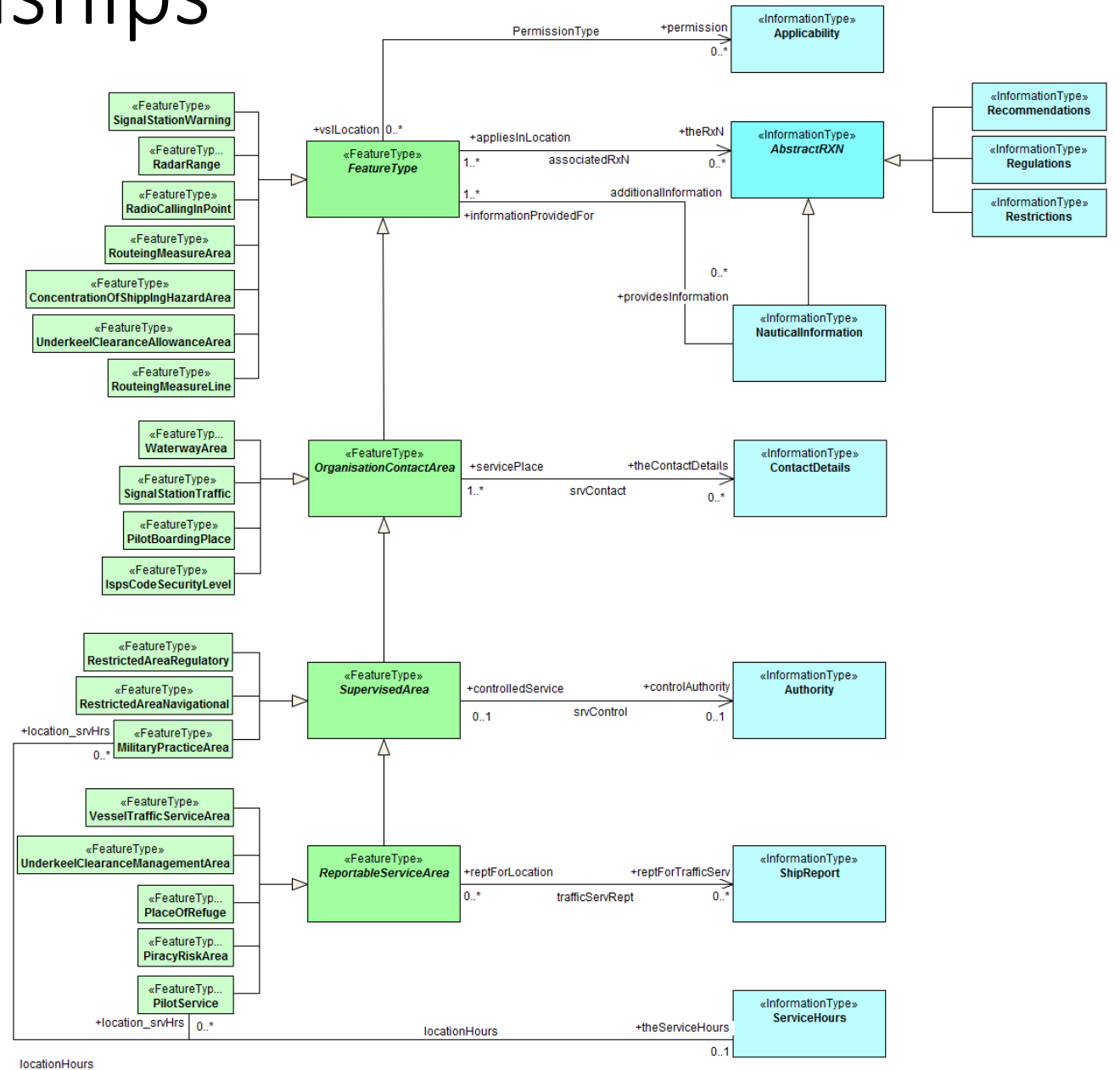- Addendum: NPUB Product Specifications - Feature assignment update

Overview of model

- Feature types – revision of the NIPWG4 draft model
  - Root abstract feature type, like S-122 and S-123: FeatureType
  - Added features: Concentration of Shipping Hazard; Piracy Risk; Pilot District (from S-101).
  - Underkeel Management Area divided into Underkeel Management (dynamic) and Underkeel Allowance (static)
  - RestrictedArea -> Regulatory and Navigational (from S-101)
  - Tracks and routes – 3 alternatives of varying complexity
    - Pick one at this meeting
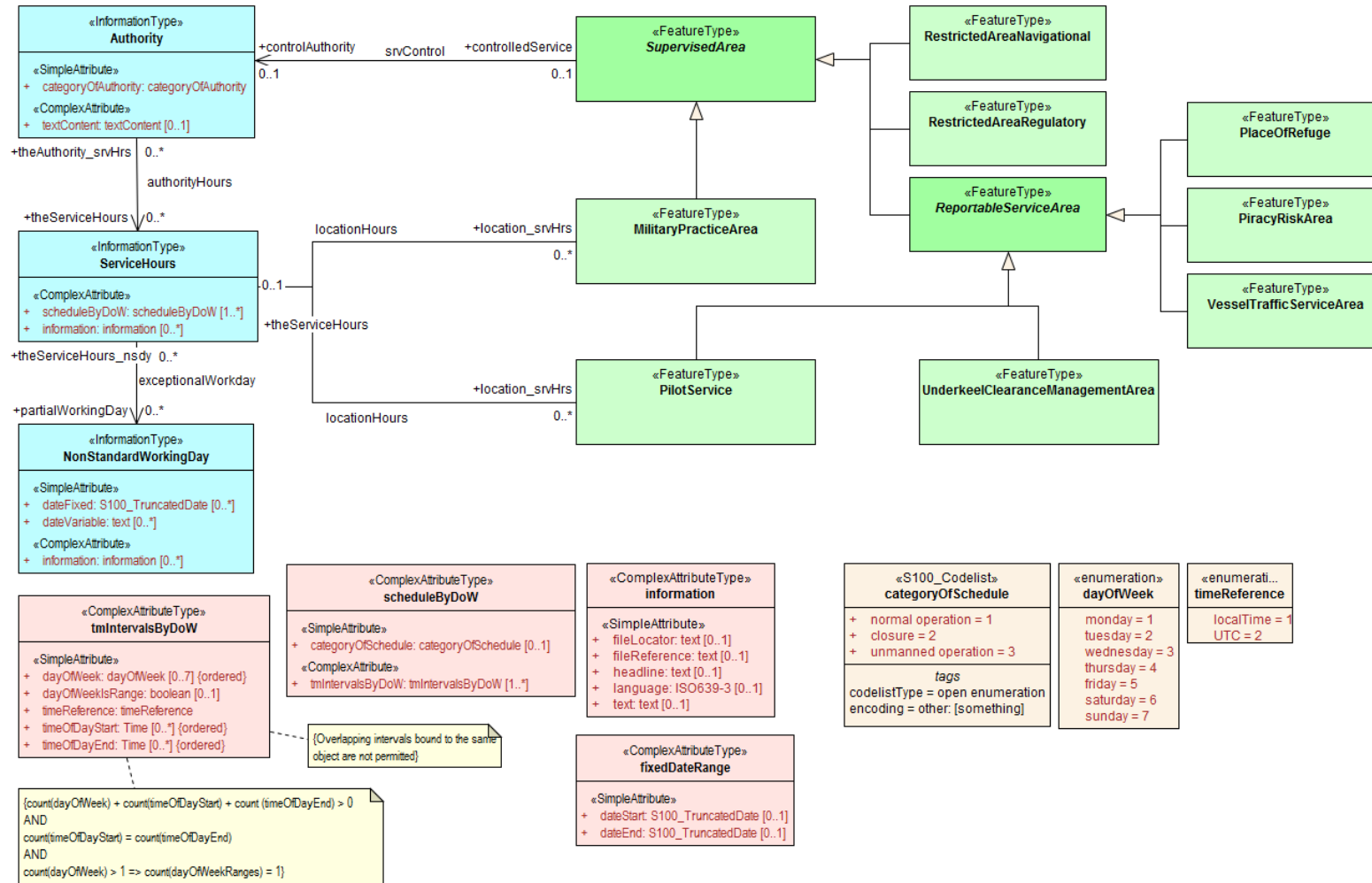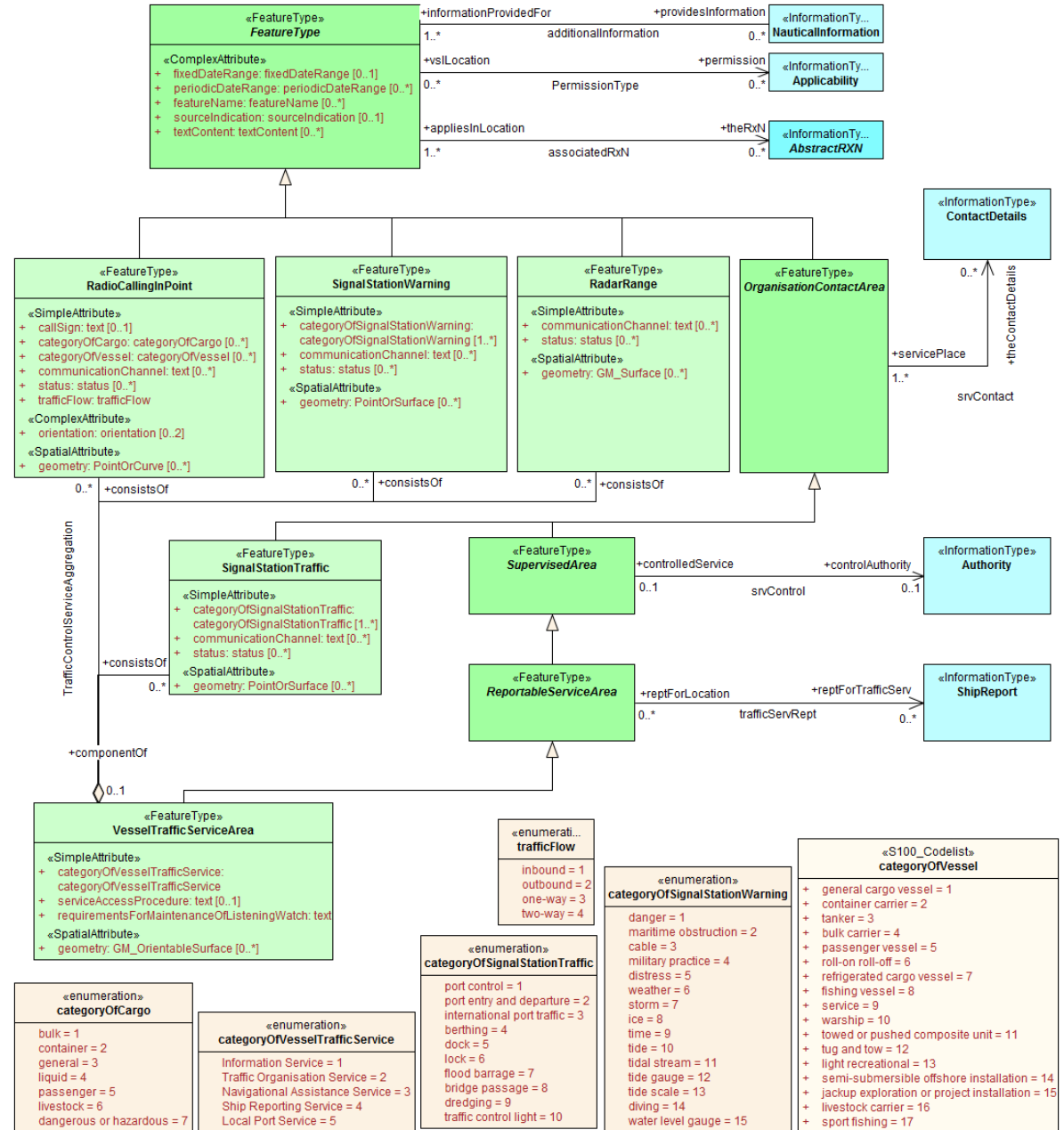- Information types – as in S-122 & S-123

«FeatureType» S-127 Geometry *(from S-127 V0.1)*

S-127 Metadata *(from S-127 V0.1)*

«use»

«FeatureType» FeatureType

It is permissible for a feature instance to have no geometry if it is associated to a feature instance that does have geometry.

always static

«FeatureType» RadioCallingInPoint
0..* +consistsOf

«FeatureType» SignalStationWarning
0..* +consistsOf

«FeatureType» RadarRange
0..* +consistsOf

«FeatureType» OrganisationContactArea

«FeatureType» ConcentrationOfShippingHazardArea

«FeatureType» PilotageDistrict
+serviceArea
0..1 +componentOf
1..*

«FeatureType» UnderkeelClearanceAllowanceArea

«FeatureType» RouteingMeasureArea

«FeatureType» RouteingMeasureLine

TrafficControlServiceAggregation

«FeatureType» SignalStationTraffic
+consistsOf
0..*

«FeatureType» IspsCodeSecurityLevel

«FeatureType» SupervisedArea

«FeatureType» WaterwayArea

«FeatureType» PilotBoardingPlace
0..*

PilotageDistrictAssociation

+consistsOf
0..1

«FeatureType» ReportableServiceArea

«FeatureType» MilitaryPracticeArea

«FeatureType» RestrictedAreaRegulatory

«FeatureType» RestrictedAreaNavigational

+serviceArea

serviceProvisionArea

dynamicWaterlevel generalized to dynamicResource which is also used to indicate dynamic UKC information availability.

+componentOf
0..1

«FeatureType» VesselTrafficServiceArea

«FeatureType» PlaceOfRefuge

«FeatureType» PiracyRiskArea

«FeatureType» UnderkeelClearanceManagementArea

«FeatureType» PilotService
+serviceProvider
0..*

0..* +serviceProvider

Information types

Feature/Info relationships

Supervising organizations and working times

VTS areas and related features

«FeatureType»
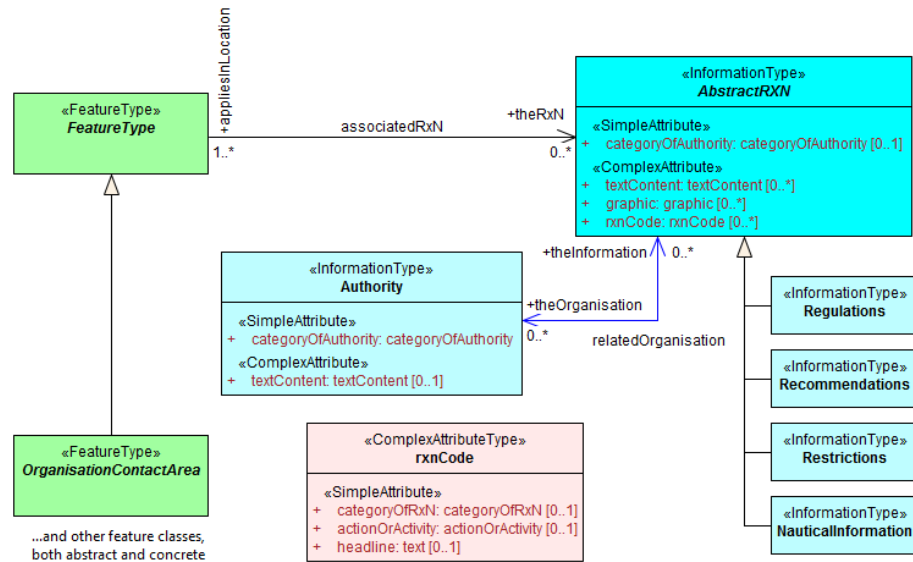*FeatureType*

«ComplexAttribute»
+ fixedDateRange: fixedDateRange [0..1]
+ periodicDateRange: periodicDateRange [0..*]
+ featureName: featureName [0..*]
+ sourceIndication: sourceIndication [0..1]
+ textContent: textContent [0..*]

+informationProvidedFor   +providesInformation
1..*   additionalInformation   0..*

«InformationTy...»
NauticalInformation

+vslLocation   +permission
0..*   PermissionType   0..*

«InformationTy...»
Applicability

+appliesInLocation   +theRxN
1..*   associatedRxN   0..*

«InformationTy...»
AbstractRXN

«InformationType»
ContactDetails

«FeatureType»
RadioCallingInPoint

«SimpleAttribute»
+ callSign: text [0..1]
+ categoryOfCargo: categoryOfCargo [0..*]
+ categoryOfVessel: categoryOfVessel [0..*]
+ communicationChannel: text [0..*]
+ status: status [0..*]
+ trafficFlow: trafficFlow
«ComplexAttribute»
+ orientation: orientation [0..2]
«SpatialAttribute»
+ geometry: PointOrCurve [0..*]

«FeatureType»
SignalStationWarning

«SimpleAttribute»
+ categoryOfSignalStationWarning:
  categoryOfSignalStationWarning [1..*]
+ communicationChannel: text [0..*]
+ status: status [0..*]
«SpatialAttribute»
+ geometry: PointOrSurface [0..*]

«FeatureType»
RadarRange

«SimpleAttribute»
+ communicationChannel: text [0..*]
+ status: status [0..*]
«SpatialAttribute»
+ geometry: GM_Surface [0..*]

«FeatureType»
OrganisationContactArea

+servicePlace
1..*   srvContact

0..*   +theContactDetails

0..* +consistsOf   0..* +consistsOf   0..* +consistsOf

TrafficControlServiceAggregation

«FeatureType»
SignalStationTraffic

«SimpleAttribute»
+ categoryOfSignalStationTraffic:
  categoryOfSignalStationTraffic [1..*]
+ communicationChannel: text [0..*]
+ status: status [0..*]
«SpatialAttribute»
+ geometry: PointOrSurface [0..*]

«FeatureType»
SupervisedArea

+controlledService   +controlAuthority
0..1   srvControl   0..1

«InformationType»
Authority

+consistsOf
0..*

«FeatureType»
ReportableServiceArea

+reptForLocation   +reptForTrafficServ
0..*   trafficServRept   0..*

«InformationType»
ShipReport

+componentOf
0..1

«FeatureType»
VesselTrafficServiceArea

«SimpleAttribute»
+ categoryOfVesselTrafficService:
  categoryOfVesselTrafficService
+ serviceAccessProcedure: text [0..1]
+ requirementsForMaintenanceOfListeningWatch: text
«SpatialAttribute»
+ geometry: GM_OrientableSurface [0..*]

«enumerati...»
trafficFlow

inbound = 1
outbound = 2
one-way = 3
two-way = 4

«enumeration»
categoryOfSignalStationWarning

danger = 1
maritime obstruction = 2
cable = 3
military practice = 4
distress = 5
weather = 6
storm = 7
ice = 8
time = 9
tide = 10
tidal stream = 11
tide gauge = 12
tide scale = 13
diving = 14
water level gauge = 15

«S100_Codelist»
categoryOfVessel

+ general cargo vessel = 1
+ container carrier = 2
+ tanker = 3
+ bulk carrier = 4
+ passenger vessel = 5
+ roll-on roll-off = 6
+ refrigerated cargo vessel = 7
+ fishing vessel = 8
+ service = 9
+ warship = 10
+ towed or pushed composite unit = 11
+ tug and tow = 12
+ light recreational = 13
+ semi-submersible offshore installation = 14
+ jackup exploration or project installation = 15
+ livestock carrier = 16
+ sport fishing = 17

«enumeration»
categoryOfSignalStationTraffic

port control = 1
port entry and departure = 2
international port traffic = 3
berthing = 4
dock = 5
lock = 6
flood barrage = 7
bridge passage = 8
dredging = 9
traffic control light = 10

«enumeration»
categoryOfCargo

bulk = 1
container = 2
general = 3
liquid = 4
passenger = 5
livestock = 6
dangerous or hazardous = 7

«enumeration»
categoryOfVesselTrafficService

Information Service = 1
Traffic Organisation Service = 2
Navigational Assistance Service = 3
Ship Reporting Service = 4
Local Port Service = 5

Other areas

- Concentration of shipping
- ISPS Security level
- Military practice
- Piracy Risk
- Place of Refuge
- Restricted areas (related to traffic management)
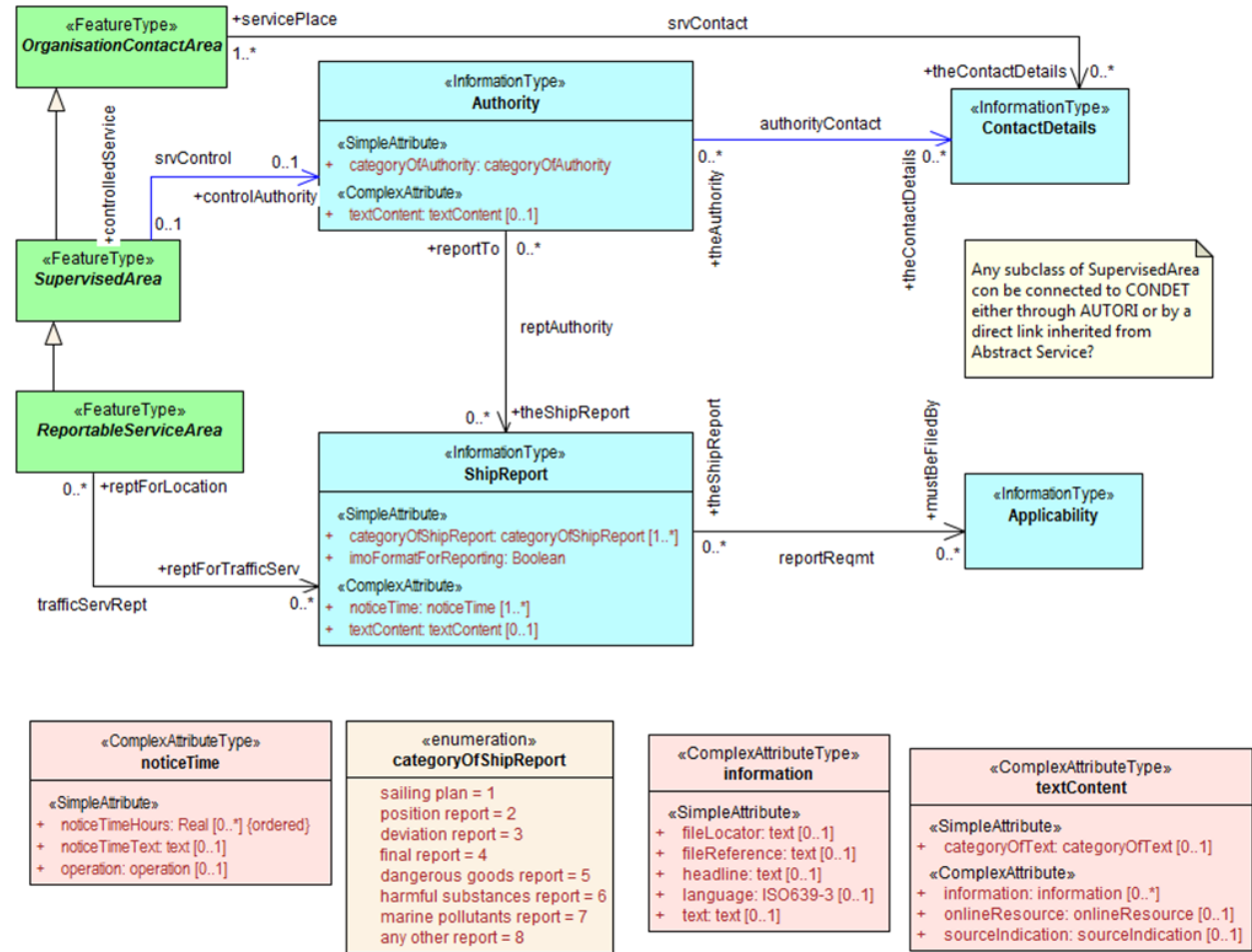
Other feature/info associations


Regulations for specific areas   Reporting

Routeing measures Alternative models

- Includes tracks and routes
- Simple model – single feature class
  - Boundaries; type of measure, track, or route as a category attribute
  - "Summary" of ENC location information, acting as an indication of the location and an attachment point for notes, regulations, etc. information about the measure;
  - Combine geometries of relevant S-101 features to obtain boundaries for S-127
- Full S-101 model - most of the "Tracks and Routes" features from S-101, except radar line, radar station, ferry route
- Medium model – separate features for different types of routeing measures
  - Combine geometries of relevant S-101 features, as in the simple model
  - Add some thematic attributes that are specific to the type of measure

Routeing measure A – simple model
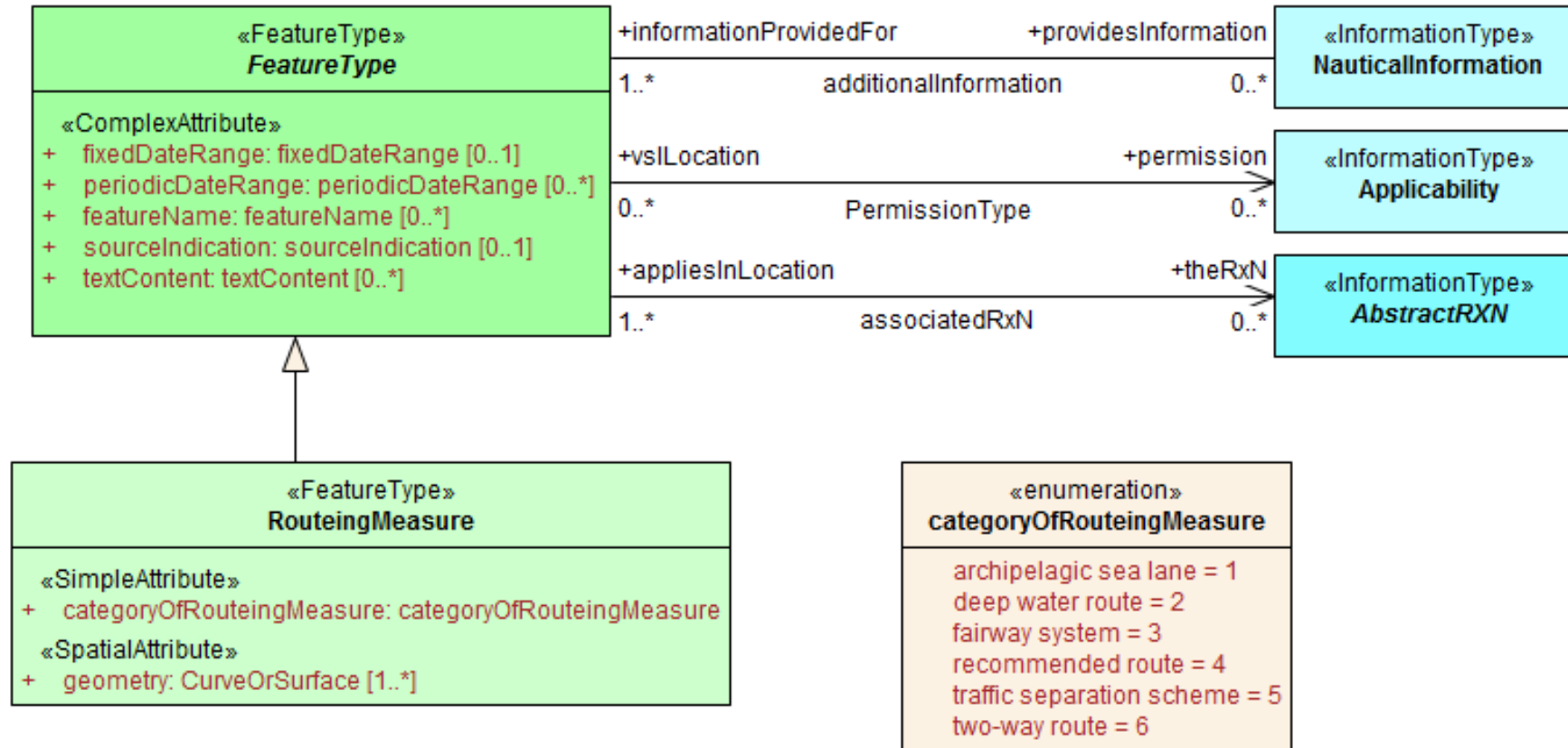
Routeing measure B – medium model
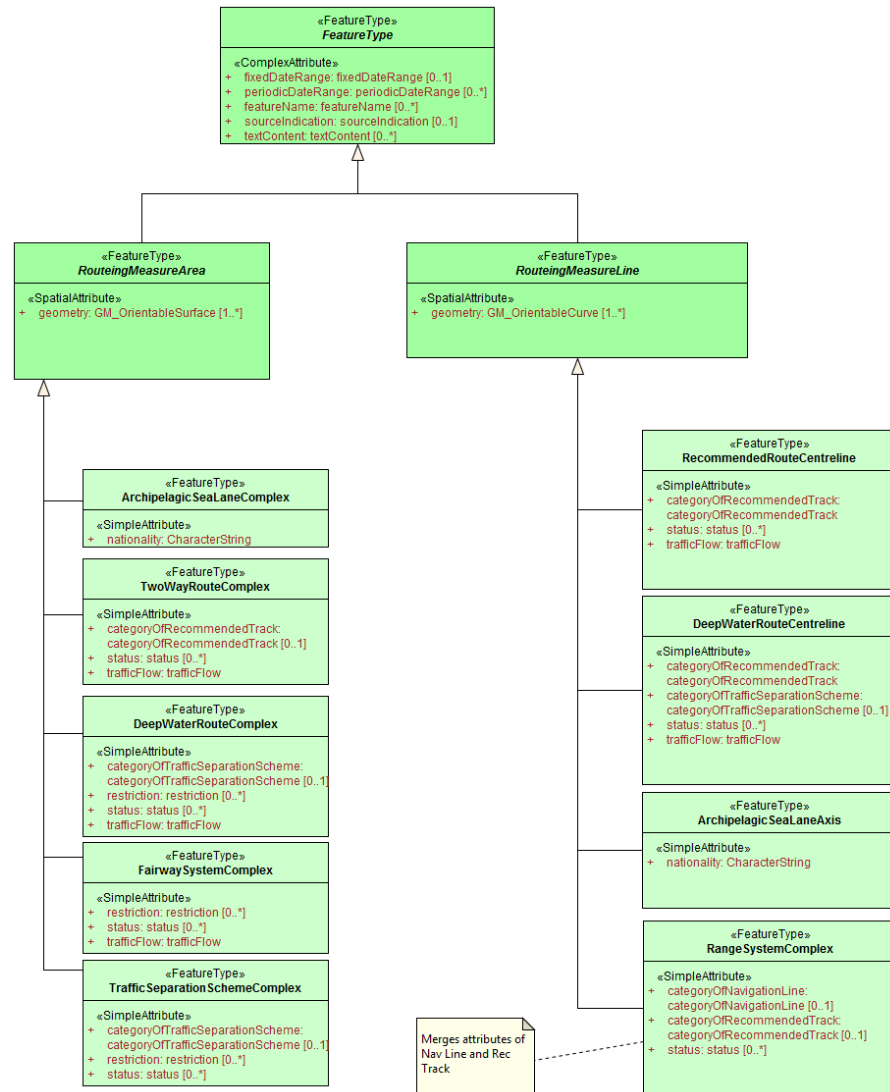
If specific attributes (e.g., categoryOfTrafficSeparationScheme, nationality, trafficFlow) will be needed for portrayal or some other reason, this approach is needed.

The attributes of the subclasses are selected from the attributes of the corresponding Aggregate and component classes from S-101. "Selected" based on whether they may be relevant to S-127.
Q1: Are they all needed?
Q2: Are any others needed?

Routeing measure C – S-101 model

S-101 features used			S-101 features not used
Navigation line	Recommended traffic lane part	Traffic separation scheme boundary	Ferry route
Recommended track	Deep water route centreline	Traffic separation scheme crossing	Radar line
Range system	Deep water route part	Traffic separation scheme roundabout	Radar station
Fairways	Deep water route	Traffic separation scheme	
Fairway systems	Inshore traffic zone	Archipelagic sea lane area	
Recommended route centreline	Precautionary area	Archipelagic sea lane axis	
Two-way route part	Traffic separation scheme lane part	Archipelagic sea lane	
Two-way route	Traffic separation zone	Radio calling in point	
	Traffic separation line	Radar range	

Pilot Services

- S-101 defines Pilot boarding Place and Pilotage District, and the association between them (Pilot District Association).
- NIPWG Wiki defines Pilot Service.
- De-duplicate?
  - remove Pilotage District from S-127
  - merge Pilot Service into the other 2 features
  - make Pilot Service an information type
  - leave as is
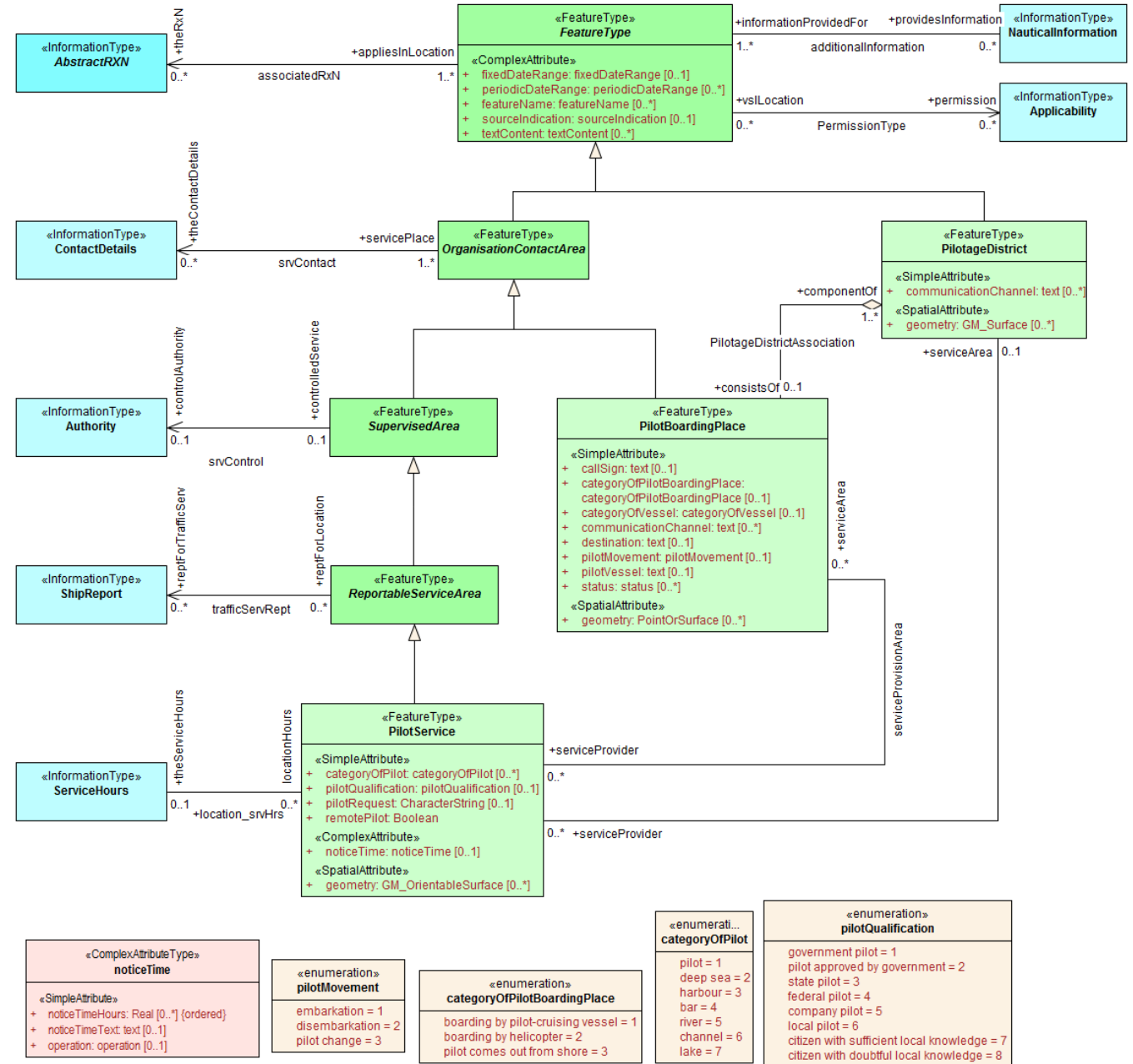
Line features for tracks and routes

- Areas preferred – but are they always available?
  - S-101 DCEG 15.13.1: "If it is required to encode the centreline of a Deep Water route, the width of which is not explicitly defined, it must be done using the feature Deep Water Route Centreline."
- Archipelagic sea lanes – only 1 place (so far) – Indonesia
  - [ASL Axis] corresponds to the "centerline" of the Archipelagic Sea Land (ASL). There is no defining of width of the ASL (similar to 1.9—DeepWaterRouteCenterline). However, while the ASL is not mandatory, the following transit recommendations apply:
    - Do not deviate more than 25 miles from the axis of the ASL.
    - If island(s) border the ASL, vessels may not navigate closer than 10% of the distance between the nearest point of land and the axis of the ASL.
- Options:
  - Compel encoders to define boundaries
  - Let them encode lines if areas are not available.
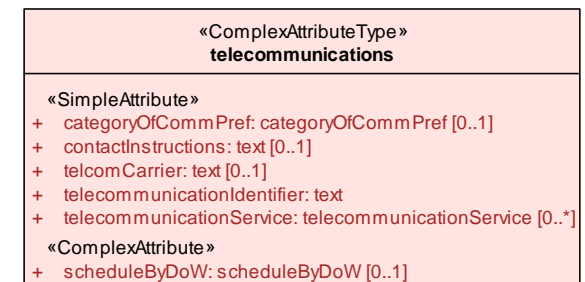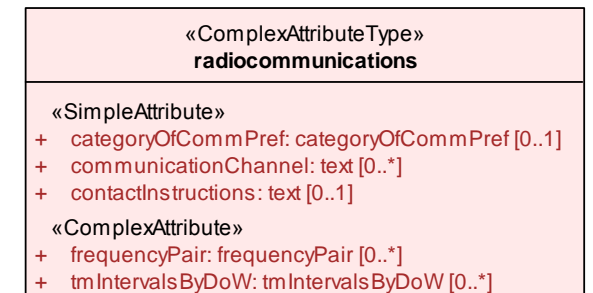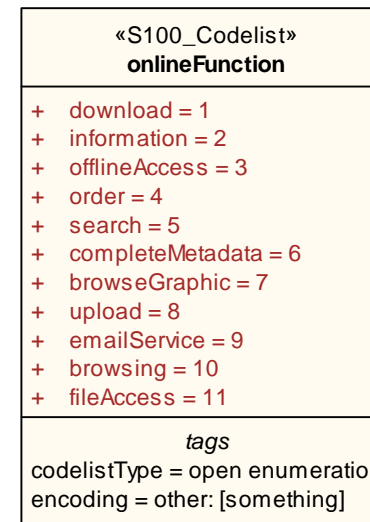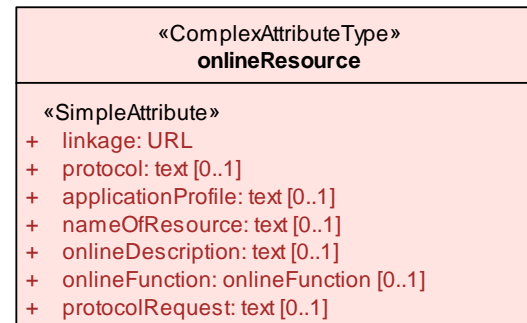
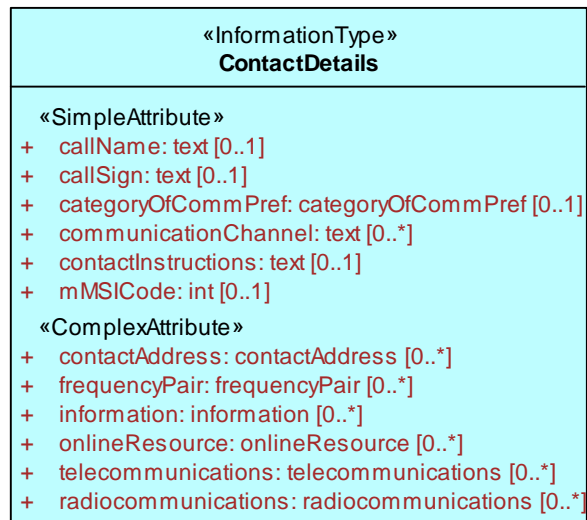# Underkeel clearance and dynamic water level
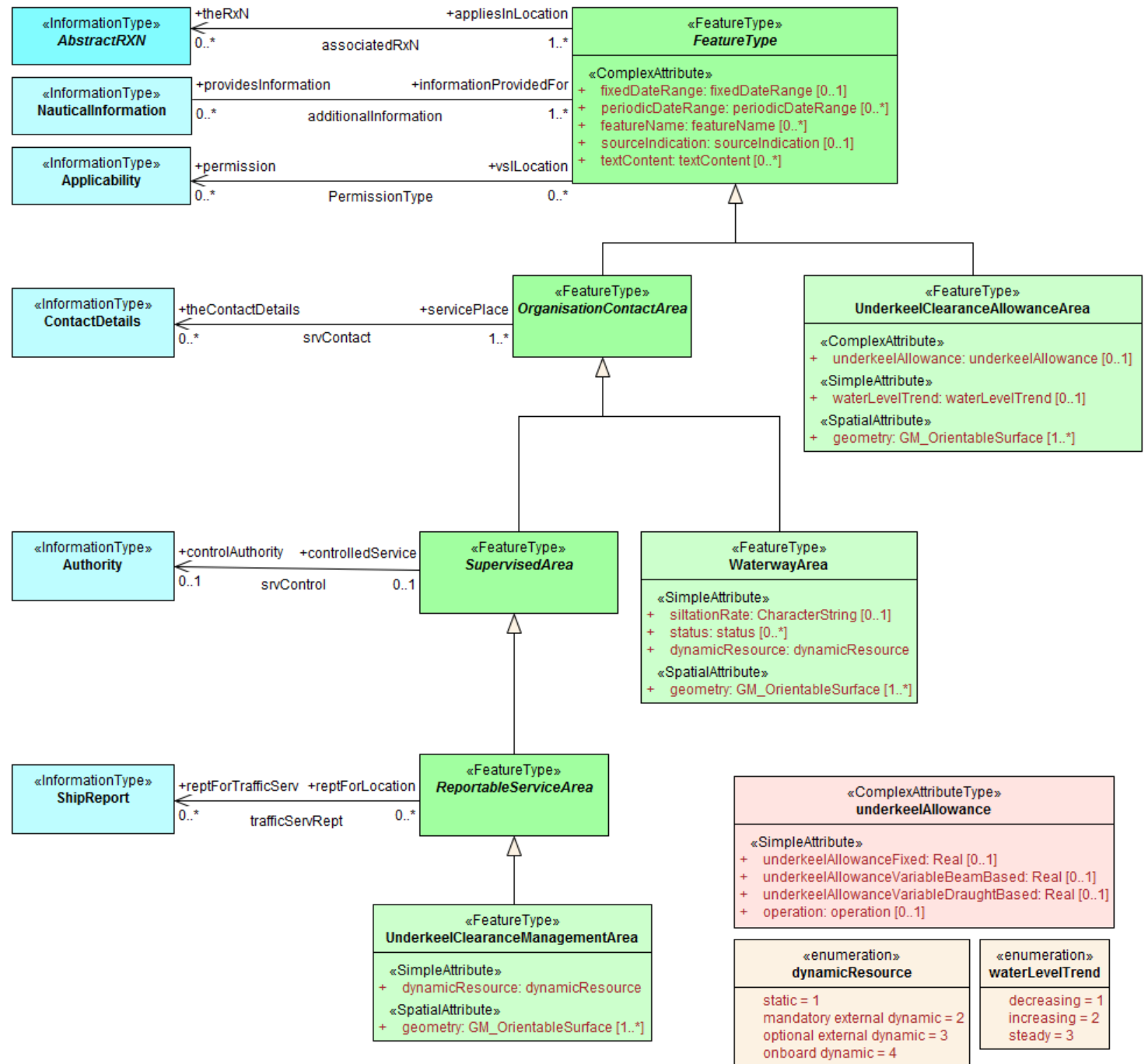
Dynamic information

- Modelled by an attribute indicating the type of information resource, and a link to a ContactDetails where the dynamic info can be obtained.
  - CONDET to encode source and how to access it e.g., in the onlineResource complex attribute
  - New attribute dynamicResource – see table below for listed values and definitions

Value	Definition	Requirement
static	The information is static, or a source of up-to-date information is unavailable or unknown.	None – vessels can use the water level or clearance information encoded in the feature.
mandatory external dynamic	An external source of up-to-date information is available and interaction with it to obtain up-to-date information is required.	The external source must be encoded in an associated ContactDetails. Vessels are required to access this external source for up-to-date information.
optional external dynamic	An external source of up-to-date information is available but interaction with it to obtain up-to-date information is not required.	The external source must be encoded in an associated ContactDetails. Vessels are not required to access this external source.
onboard dynamic	Up-to-date information may be computed using only onboard resources.	No external source is encoded. Vessels are required to compute water level or clearance information using onboard software. The controlling authority may specify the allowed software.

Dynamic information – likely resources

- The full CONDET model is available.
- Dynamic resources will probably be online resources or radiocommunications.
  - Part of the CONDET model is shown below

«InformationType»
ContactDetails

«SimpleAttribute»
+ callName: text [0..1]
+ callSign: text [0..1]
+ categoryOfCommPref: categoryOfCommPref [0..1]
+ communicationChannel: text [0..*]
+ contactInstructions: text [0..1]
+ mMSICode: int [0..1]
«ComplexAttribute»
+ contactAddress: contactAddress [0..*]
+ frequencyPair: frequencyPair [0..*]
+ information: information [0..*]
+ onlineResource: onlineResource [0..*]
+ telecommunications: telecommunications [0..*]
+ radiocommunications: radiocommunications [0..*]

«ComplexAttributeType»
onlineResource

«SimpleAttribute»
+ linkage: URL
+ protocol: text [0..1]
+ applicationProfile: text [0..1]
+ nameOfResource: text [0..1]
+ onlineDescription: text [0..1]
+ onlineFunction: onlineFunction [0..1]
+ protocolRequest: text [0..1]

«S100_Codelist»
onlineFunction

+ download = 1
+ information = 2
+ offlineAccess = 3
+ order = 4
+ search = 5
+ completeMetadata = 6
+ browseGraphic = 7
+ upload = 8
+ emailService = 9
+ browsing = 10
+ fileAccess = 11

tags
codelistType = open enumeration
encoding = other: [something]

«ComplexAttributeType»
radiocommunications

«SimpleAttribute»
+ categoryOfCommPref: categoryOfCommPref [0..1]
+ communicationChannel: text [0..*]
+ contactInstructions: text [0..1]
«ComplexAttribute»
+ frequencyPair: frequencyPair [0..*]
+ tmIntervalsByDoW: tmIntervalsByDoW [0..*]

«ComplexAttributeType»
telecommunications

«SimpleAttribute»
+ categoryOfCommPref: categoryOfCommPref [0..1]
+ contactInstructions: text [0..1]
+ telcomCarrier: text [0..1]
+ telecommunicationIdentifier: text
+ telecommunicationService: telecommunicationService [0..*]
«ComplexAttribute»
+ scheduleByDoW: scheduleByDoW [0..1]

Enumerations and Codelists

«enumeration» restriction
- anchoring prohibited = 1
- anchoring restricted = 2
- fishing prohibited = 3
- fishing restricted = 4
- trawling prohibited = 5
- trawling restricted = 6
- entry prohibited = 7
- entry restricted = 8
- dredging prohibited = 9
- dredging restricted = 10
- diving prohibited = 11
- diving restricted = 12
- no wake = 13
- area to be avoided = 14
- construction prohibited = 15
- discharging prohibited = 16
- discharging restricted = 17
- industrial or mineral exploration/development prohibited = 18
- industrial or mineral exploration/development restricted = 19
- drilling prohibited = 20
- drilling restricted = 21
- removal of historical artifacts prohibited = 22
- cargo transhipment (lightering) prohibited = 23
- dragging prohibited = 24
- stopping prohibited = 25
- landing prohibited = 26
- speed restricted = 27
- swimming prohibited = 28

«enumeration» status
- permanent = 1
- occasional = 2
- recommended = 3
- not in use = 4
- periodic/intermittent = 5
- reserved = 6
- temporary = 7
- private = 8
- mandatory = 9
- extinguished = 11
- illuminated = 12
- historic = 13
- public = 14
- synchronised = 15
- watched = 16
- un-watched = 17
- existence doubtful = 18
- buoyed = 28

«enumeration» sourceType
- law or regulation = 1
- official publication = 2
- mariner report, confirmed = 7
- mariner report, not confirmed = 8
- industry publications and reports = 9
- remotely sensed images = 10
- photographs = 11
- products issued by HO services = 12
- news media = 13
- traffic data = 14

«enumeration» jurisdiction
- international = 1
- national = 2
- national sub-division = 3

«enumeration» membership
- included = 1
- excluded = 2

«S100_Codelist» onlineFunction
+ download = 1
+ information = 2
+ offlineAccess = 3
+ order = 4
+ search = 5
+ completeMetadata = 6
+ browseGraphic = 7
+ upload = 8
+ emailService = 9
+ browsing = 10
+ fileAccess = 11

«enumeration» logicalConnectives
- logical conjunction = 1
- logical disjunction = 2

«enumeration» cardinalDirection
- N = 1
- NNE = 2
- NE = 3
- ENE = 4
- E = 5
- ESE = 6
- SE = 7
- SSE = 8
- S = 9
- SSW = 10
- SW = 11
- WSW = 12
- W = 13
- WNW = 14
- NW = 15
- NNW = 16

«enumeration» operation
- largest value = 1
- smallest value = 2

«enumeration» timeReference
- localTime = 1
- UTC = 2

«enumeration» dayOfWeek
- monday = 1
- tuesday = 2
- wednesday = 3
- thursday = 4
- friday = 5
- saturday = 6
- sunday = 7

«S100_Codelist» actionOrActivity
+ navigating with a pilot = 1
+ entering port = 2
+ leaving port = 3
+ berthing = 4
+ slipping = 5
+ anchoring = 6
+ weighing anchor = 7
+ transiting = 8
+ overtaking = 9
+ reporting = 10
+ working cargo = 11
+ landing = 12
+ diving = 13
+ fishing = 14
+ discharging overboard = 15
+ passing = 16

tags
codelistType = open enumeration
encoding = other: [something]

«enumeration» vesselsCharacteristicsUnit
- metre = 1
- foot = 2
- metric ton = 3
- ton = 4
- short ton = 5
- gross ton = 6
- net ton = 7
- Panama Canal/Universal Measurement System net tonnage = 8
- Suez Canal Net Tonnage = 9
- none = 10
- cubic metres = 11
- Suez Canal Gross Tonnage = 12

«enumeration» comparisonOperator
- greater than = 1
- greater than or equal to = 2
- less than = 3
- less than or equal to = 4
- equal to = 5
- not equal to = 6

«enumeration» vesselsCharacteristics
- length overall = 1
- length at waterline = 2
- breadth = 3
- draught = 4
- height = 5
- displacement tonnage = 6
- displacement tonnage, light = 7
- displacement tonnage, loaded = 8
- deadweight tonnage = 9
- gross tonnage = 10
- net tonnage = 11
- Panama Canal/Universal Measurement System net tonnage = 12
- Suez Canal net tonnage = 13
- Suez Canal gross tonnage = 14

«S100_Codelist» telecommunicationService
+ voice = 1
+ facsimile = 2
+ sms = 3
+ data = 4
+ streamedData = 5
+ telex = 6
+ telegraph = 7
+ email = 8

tags
codelistType = open enumeration
encoding = other: [something]

«S100_Codelist» categoryOfVessel
+ general cargo vessel = 1
+ container carrier = 2
+ tanker = 3
+ bulk carrier = 4
+ passenger vessel = 5
+ roll-on roll-off = 6
+ refrigerated cargo vessel = 7
+ fishing vessel = 8
+ service = 9
+ warship = 10
+ towed or pushed composite unit = 11
+ tug and tow = 12
+ light recreational = 13
+ semi-submersible offshore installation = 14
+ jackup exploration or project installation = 15
+ livestock carrier = 16
+ sport fishing = 17

tags
codelistType = open enumeration
encoding = other: [something]

«enumeration» categoryOfAuthority
- customs = 1
- border control = 2
- police = 3
- port = 4
- immigration = 5
- health = 6
- coast guard = 7
- agricultural = 8
- military = 9
- private company = 10
- maritime police = 11
- environmental = 12
- fishery = 13
- finance = 14
- maritime = 15

«enumeration» categoryOfRestrictedArea
- nature reserve = 4
- bird sanctuary = 5
- game reserve = 6
- seal sanctuary = 7
- historic wreck area = 10
- research area = 20
- fish sanctuary = 22
- ecological reserve = 23
- environmentally sensitive sea area = 27
- particularly sensitive sea area = 28
- coral sanctuary = 31
- recreation area = 32
- military area = 9
- navigational aid safety zone = 12
- minefield = 5
- waiting area = 19
- swinging area = 25
- disengagement area = 29
- port security area = 30
- offshore safety zone = 1

«enumeration» categoryOfVesselTrafficService
- Information Service = 1
- Traffic Organisation Service = 2
- Navigational Assistance Service = 3
- Ship Reporting Service = 4
- Local Port Service = 5

«enumeration» categoryOfDangerousOrHazardousCargo
- IMDG Code Class 1 Div. 1.1 = 1
- IMDG Code Class 1 Div. 1.2 = 2
- IMDG Code Class 1 Div. 1.3 = 3
- IMDG Code Class 1 Div. 1.4 = 4
- IMDG Code Class 1 Div. 1.5 = 5
- IMDG Code Class 1 Div. 1.6 = 6
- IMDG Code Class 2 Div. 2.1 = 7
- IMDG Code Class 2 Div. 2.2 = 8
- IMDG Code Class 2 Div. 2.3 = 9
- IMDG Code Class 3 = 10
- IMDG Code Class 4 Div. 4.1 = 11
- IMDG Code Class 4 Div. 4.2 = 12
- IMDG Code Class 4 Div. 4.3 = 13
- IMDG Code Class 5 Div. 5.1 = 14
- IMDG Code Class 5 Div. 5.2 = 15
- IMDG Code Class 6 Div. 6.1 = 16
- IMDG Code Class 6. Div. 6.2 = 17
- IMDG Code Class 7 = 18
- IMDG Code Class 8 = 19
- IMDG Code Class 9 = 20
- Harmful Substances in packaged form = 21

«enumeration» categoryOfShipReport
- sailing plan = 1
- position report = 2
- deviation report = 3
- final report = 4
- dangerous goods report = 5
- harmful substances report = 6
- marine pollutants report = 7
- any other report = 8

«S100_Codelist» categoryOfSchedule
+ normal operation = 1
+ closure = 2
+ unmanned operation = 3

tags
codelistType = open enumeration
encoding = other: [something]

«S100_Codelist» categoryOfRxN
+ navigation = 1
+ communication = 2
+ environmental protection = 3
+ wildlife protection = 4
+ security = 5
+ customs = 6
+ cargo operation = 7
+ refuge = 8
+ natural resources or exploitation = 9
+ port = 10
+ finance = 11
+ agriculture = 12

tags
codelistType = open enumeration
encoding = other: [something]

«enumeration» categoryOfCargo
- bulk = 1
- container = 2
- general = 3
- liquid = 4
- passenger = 5
- livestock = 6
- dangerous or hazardous = 7

«enumeration» categoryOfCommPref
- preferred calling = 1
- alternate calling = 2
- preferred working = 3
- alternate working = 4

«enumeration» categoryOfVesselRegistry
- domestic = 1
- foreign = 2

«enumeration» categoryOfRelationship
- prohibited = 1
- not recommended = 2
- permitted = 3
- recommended = 4
- required = 5
- not required = 6

«enumeration» categoryOfText
- abstract or summary = 1
- extract = 2
- full text = 3

---

new in S-127

«enumeration» categoryOfNavigationLine
- clearing line = 1
- transit line = 2
- leading line bearing a recommended track = 3

«enumeration» categoryOfRecommendedTrack
- based on a system of fixed marks = 1
- not based on a system of fixed marks = 2

«enumeration» categoryOfSignalStationWarning
- danger = 1
- maritime obstruction = 2
- cable = 3
- military practice = 4
- distress = 5
- weather = 6
- storm = 7
- ice = 8
- time = 9
- tide = 10
- tidal stream = 11
- tide gauge = 12
- tide scale = 13
- diving = 14
- water level gauge = 15

«enumeration» categoryOfConcentrationOfShippingHazardArea
- concentration of merchant shipping = 1
- concentration of recreational vessels = 2
- concentration of fishing vessels = 3
- concentration of military vessels = 4

«enumeration» categoryOfRouteingMeasure
- archipelagic sea lane = 1
- deep water route = 2
- fairway system = 3
- recommended route = 4
- traffic separation scheme = 5
- two-way route = 6

«enumeration» categoryOfSignalStationTraffic
- port control = 1
- port entry and departure = 2
- international port traffic = 3
- berthing = 4
- dock = 5
- lock = 6
- flood barrage = 7
- bridge passage = 8
- dredging = 9
- traffic control light = 10

«enumeration» categoryOfPilot
- pilot = 1
- deep sea = 2
- harbour = 3
- bar = 4
- river = 5
- channel = 6
- lake = 7

«enumeration» categoryOfMilitaryPracticeArea
- torpedo exercise area = 2
- submarine exercise area = 3
- firing danger area = 4
- mine-laying practice area = 5
- small arms firing range = 6

«enumeration» categoryOfTrafficSeparationScheme
- IMO - adopted = 1
- not IMO - adopted = 2

«enumeration» categoryOfPilotBoardingPlace
- boarding by pilot-cruising vessel = 1
- boarding by helicopter = 2
- pilot comes out from shore = 3

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new in S-127

«enumeration» ispsLevel
- ISPS Level 1 = 1
- ISPS Level 2 = 2
- ISPS Level 3 = 3

«enumeration» pilotMovement
- embarkation = 1
- disembarkation = 2
- pilot change = 3

«enumeration» pilotQualification
- government pilot = 1
- pilot approved by government = 2
- state pilot = 3
- federal pilot = 4
- company pilot = 5
- local pilot = 6
- citizen with sufficient local knowledge = 7
- citizen with doubtful local knowledge = 8

«enumeration» trafficFlow
- inbound = 1
- outbound = 2
- one-way = 3
- two-way = 4

«enumeration» dynamicResource
- static = 1
- mandatory external dynamic = 2
- optional external dynamic = 3
- onboard dynamic = 4

«enumeration» preferenceOfPilotBoardingPlace
- primary = 1
- alternate = 2

«enumeration» waterLevelTrend
- decreasing = 1
- increasing = 2
- steady = 3

Other parts - like S-122 and S-123
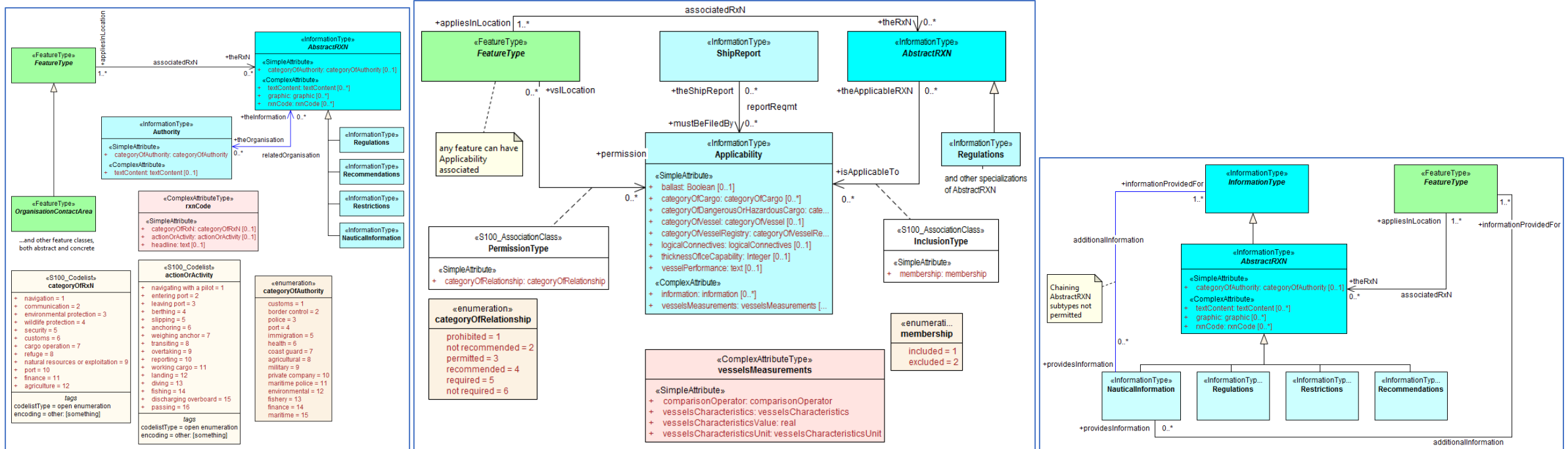
Regulations, etc., for specific features

Regulations, etc., according to vessel characteristics

Uncategorized supplementary information

Addendum: Distribution of data objects to product specifications

- Group discussion - How should the types assignment matrix defined in 2012-2013 be updated?
    - Added S-122 (Marine Protected Areas)
    - VTS and Pilot areas included in S-127 (Marine Traffic Management)
    - NAVAREA/METAREA, NAVTEX area, GMDSS area, and INMARSAT area are in S-123 (Radio services)
    - Other revisions to the assignment matrix?