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| Model ReportS-128 ModelVersion ● Proposed |
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Table of Contents

S-128 Model 3

S-128 package diagram 3

S-128 data model diagram 4

GM\_Geometry 4

S100\_Contact 6

S100\_ProducingAgency 6

S100\_ProductSpecification 7

AbstractS100Type 7

S100\_FeatureType 8

S100\_InformationType 8

S101\_DatasetDiscoveryMetadata 9

AbstractChartProduct 11

AbstractGeoNauticalProduct 12

AbstractNauticalProduct 13

Distributor 14

PrintInformation 14

ProducingInformation 16

ProductName 17

ProductTypeCode 18

S128\_ENCProduct 19

S128\_NonStdGeoNauticalProduct 20

S128\_NonStdNauticalProduct 21

S128\_PaperChartProduct 21

S128\_StdGeoNauticalProduct 22

S128\_StdNauticalProduct 23

ThematicMapType 24

ChartType 25

DistributeStatus 25

PrintSize 26

ProducingType 26

# S-128 Model

Package in package 'S128'

S-128 Model

Version Phase 1.0 Proposed

KHOA created on 2016-08-11. Last modified 2016-08-11

## S-128 package diagram

Class diagram in package 'S-128 Model'

S-128 package

Version 1.0

KHOA created on 2016-08-11. Last modified 2016-11-17



1. S-128 package

### S-128 data model diagram

Class diagram in package 'S128'

S-128 data model

Version 1.0

KHOA created on 2016-08-11. Last modified 2016-11-25



1. S128 data model

### GM\_Geometry

Class in package 'S100\_Geometry'

GM\_Geometry

Version 1.0 Phase 1.0 Proposed

eivind.mong created on 2016-08-29. Last modified 2016-08-29

| INCOMING STRUCTURAL RELATIONSHIPS |
| --- |
|  Aggregation from GM\_Surface to GM\_Geometry[ Direction is 'Source -> Destination'. ]GM\_Geometry class is the container class relationship of GM\_Surface classes. |
|  Aggregation from GM\_Point to GM\_Geometry[ Direction is 'Source -> Destination'. ]GM\_Geometry class is the container class relationship of GM\_Point classes. |
|  Aggregation from GM\_Curve to GM\_Geometry[ Direction is 'Source -> Destination'. ]GM\_Geometry class is the container class relationship of GM\_Curve classes. |

| ASSOCIATIONS |
| --- |
|  Association (direction: Unspecified) Associated relationship between GM\_Geometry class and SC\_CRS class |
| Source: Public (Class) GM\_Geometry  | Target: Public (Class) SC\_CRS  |
|  Association (direction: Unspecified) Associated relationship between GM\_Geometry class and S100\_FeatureType class |
| Source: Public (Class) GM\_Geometry Cardinality: [1..\*] | Target: Public (Class) S100\_FeatureType «FeatureType» |
|  Association (direction: Unspecified) Associated relationship between GeometryDescription class and GM\_Geometry class |
| Source: Public (Class) GeometryDescription «InformationType» | Target: Public (Class) GM\_Geometry  |

### S100\_Contact (Contact Info.)

Class «ComplexAttributeType» in package 'S100'

S100\_Contact

Version 1.0 Phase 1.0 Proposed

 created on 2016-11-15. Last modified 2016-11-25

| ATTRIBUTES |
| --- |
|  organization : Public[ Is static False. Containment is Not Specified. ]Organization name |
|  phone : PublicMultiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )[ Is static False. Containment is Not Specified. ]Organization phone number |
|  address : PublicMultiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )[ Is static False. Containment is Not Specified. ]Organization address |

### S100\_ProducingAgency (Nautical product producing agency info.)

Class «ComplexAttributeType» in package 'S100'

S100\_ProducingAgency

Version 1.0 Phase 1.0 Proposed

 created on 2016-11-15. Last modified 2016-11-25

| ATTRIBUTES |
| --- |
|  organisationName : Public[ Is static False. Containment is Not Specified. ] Nautical product producing agency name  |
|  contactInfo : Public[ Is static False. Containment is Not Specified. ]Nautical product producing agency phone number |
|  role : Public[ Is static False. Containment is Not Specified. ]Role of Nautical product producing agency  |

### S100\_ProductSpecification(Version info. of Nautical product)

Class «ComplexAttributeType» in package 'S100'

S100\_ProductSpecification

Version 1.0 Phase 1.0 Proposed

 created on 2016-11-08. Last modified 2016-11-25

| ATTRIBUTES |
| --- |
|  name : Public[ Is static False. Containment is Not Specified. ]Nautical product name |
|  version : Public[ Is static False. Containment is Not Specified. ]Version No. of Nautical product |
|  date : Public[ Is static False. Containment is Not Specified. ]Production date of Nautical product |

### AbstractS100Type

Class «Generic S100 Type» in package 'S100'

AbstractS100Type

Version 1.0 Phase 1.0 Proposed

raphaelm created on 2016-08-29. Last modified 2016-08-29

| INCOMING STRUCTURAL RELATIONSHIPS |
| --- |
|  Generalization from «FeatureType» S100\_FeatureType to «Generic S100 Type» AbstractS100Type[ Direction is 'Source -> Destination'. ]The common feature of S100\_FeatureType class is generalized into AbstractS100Type class. |
|  Generalization from «InformationType» S100\_InformationType to «Generic S100 Type» AbstractS100Type[ Direction is 'Source -> Destination'. ]The common feature of S100\_InformationType class is generalized into AbstractS100Type class. |

| ASSOCIATIONS |
| --- |
|  Association (direction: Unspecified) AbstractS100Type class is the recursive relationship. |
| Source: Public (Class) AbstractS100Type «Generic S100 Type» | Target: Public (Class) AbstractS100Type «Generic S100 Type»Cardinality: [0..\*] |
|  Association (direction: Unspecified) AbstractS100Type class is the recursive relationship. |
| Source: Public (Class) AbstractS100Type «Generic S100 Type» | Target: Public (Class) AbstractS100Type «Generic S100 Type»Cardinality: [0..\*] |

### S100\_FeatureType

Class «FeatureType» in package 'S100'

S100\_FeatureType

Version 1.0 Phase 1.0 Proposed

raphaelm created on 2016-08-29. Last modified 2016-08-29

Extends AbstractS100Type

| OUTGOING STRUCTURAL RELATIONSHIPS |
| --- |
|  Generalization from «FeatureType» S100\_FeatureType to «Generic S100 Type» AbstractS100Type[ Direction is 'Source -> Destination'. ]The common feature of S100\_FeatureType class is generalized into AbstractS100Type class. |

| INCOMING STRUCTURAL RELATIONSHIPS |
| --- |
|  Generalization from «FeatureType» AbstractGeoNauticalProduct to «FeatureType» S100\_FeatureType[ Direction is 'Source -> Destination'. ]The common feature of AbstractGeoNauticalProduct class is generalized into S100\_FeatureType class. |
|  Generalization from «FeatureType» AbstractChartProduct to «FeatureType» S100\_FeatureType[ Direction is 'Source -> Destination'. ]The common feature of AbstractChartProduct is generalized into S100\_FeatureType class. |

| ASSOCIATIONS |
| --- |
|  Association (direction: Unspecified) GM\_Geometry class is the member reference relationship to the S100\_FeatureType class. |
| Source: Public (Class) GM\_Geometry Cardinality: [1..\*] | Target: Public (Class) S100\_FeatureType «FeatureType» |

### S100\_InformationType

Class «InformationType» in package 'S100'

S100\_InformationType

Version 1.0 Phase 1.0 Proposed

raphaelm created on 2016-08-29. Last modified 2016-11-14

Extends AbstractS100Type

| OUTGOING STRUCTURAL RELATIONSHIPS |
| --- |
|  Generalization from «InformationType» S100\_InformationType to «Generic S100 Type» AbstractS100Type[ Direction is 'Source -> Destination'. ]The common feature of S100\_InformationType class is generalized into AbstractS100Type class. |

| INCOMING STRUCTURAL RELATIONSHIPS |
| --- |
|  Generalization from «InformationType» AbstractNauticalProduct to «InformationType» S100\_InformationType[ Direction is 'Source -> Destination'. ]The common feature of AbstractNauticalProduct class is generalized into S100\_InformationType class. |
|  Generalization from «InformationType» ProducingInformation to «InformationType» S100\_InformationType[ Direction is 'Source -> Destination'. ]The common feature of ProducingInformation class is generalized into S100\_InformationType class. |

### S101\_DatasetDiscoveryMetadata

Class in package 'S101'

S101\_DatasetDiscoveryMetadata

Version 1.0 Phase 1.0 Proposed

S101 created on 2016-11-15. Last modified 2016-11-25

| ATTRIBUTES |
| --- |
|  fileName : S100XC:fileName Public[ Is static False. Containment is Not Specified. ]Data name |
|  filePath : S100XC:filePath Public[ Is static False. Containment is Not Specified. ]Data storage location |
|  description : S100XC:description Public[ Is static False. Containment is Not Specified. ]Data description |
|  dataProtection : S100XC:dataProtection Public[ Is static False. Containment is Not Specified. ]Data recovery point |
|  digitalSignature : S100XC:digitalSignature Public[ Is static False. Containment is Not Specified. ]Data digital signature |
|  copyright : S100XC:copyright Public[ Is static False. Containment is Not Specified. ]Data copyright information |
|  classification : S100XC:classification Public[ Is static False. Containment is Not Specified. ]Data classification |
|  purpose : S100XC:purpose Public[ Is static False. Containment is Not Specified. ]Purpose of data utilization |
|  specificUsage : S100XC:specificUsage Public[ Is static False. Containment is Not Specified. ]Data usage |
|  editionNumber : S100XC:editionNumber Public[ Is static False. Containment is Not Specified. ]Data edition identification number |
|  updateNumber : S100XC:updateNumber Public[ Is static False. Containment is Not Specified. ]Data update identification number |
|  updateApplicationDate : S100XC:updateApplicationDate Public[ Is static False. Containment is Not Specified. ]S/W update date |
|  issueDate : S100XC:issueDate Public[ Is static False. Containment is Not Specified. ]Data issue date |
|  productSpecification : S100XC:productSpecification Public[ Stereotype is «complexAttribute». Is static False. Containment is Not Specified. ]Data version information |
|  producingAgency : S100XC:producingAgency Public[ Stereotype is «complexAttribute». Is static False. Containment is Not Specified. ]Product producing agency information |
|  maximumDisplayScale : S100XC:maximumDisplayScale Public[ Is static False. Containment is Not Specified. ]Data display scale |
|  horizontalDatumReference : S100XC:horizontalDatumReference Public[ Is static False. Containment is Not Specified. ]Horizontal standard coordinate system |
|  horizontalDatumValue : S100XC:horizontalDatumValue Public[ Is static False. Containment is Not Specified. ]Horizontal standard coordinate  |
|  verticalDatum : S100XC:verticalDatum Public[ Is static False. Containment is Not Specified. ]Vertical datum |
|  soundingDatum : S100XC:soundingDatum Public[ Is static False. Containment is Not Specified. ]Sounding datum (DL : Datum Level)  |
|  dataType : S100XC:dataType Public[ Is static False. Containment is Not Specified. ]Data type information |
|  dataTypeVersion : S100XC:dataTypeVersion Public[ Is static False. Containment is Not Specified. ]Data type version information |
|  dataCoverage : S100XC:dataCoverage PublicMultiplicity: ( [1..\*], Allow duplicates: 0, Is ordered: False )[ Stereotype is «complexAttribute». Is static False. Containment is Not Specified. ]Data measurement scope |
|  comment : S100XC:comment Public[ Is static False. Containment is Not Specified. ]Data comment information |
|  S100\_19115DatasetMetadata : S100XC:S100\_19115DatasetMetadata Public[ Stereotype is «complexAttribute». Is static False. Containment is Not Specified. ]S100\_19115 meta data set information |

### AbstractChartProduct(Chart)

Class «FeatureType» in package 'S128'

AbstractChartProduct

Version 1.0 Phase 1.0 Proposed

KHOA created on 2016-08-27. Last modified 2016-11-15

Extends S100\_FeatureType

| OUTGOING STRUCTURAL RELATIONSHIPS |
| --- |
|  Generalization from «FeatureType» AbstractChartProduct to «FeatureType» S100\_FeatureType[ Direction is 'Source -> Destination'. ]The common feature of AbstractChartProduct class is generalized into S100\_FeatureType class. |

| INCOMING STRUCTURAL RELATIONSHIPS |
| --- |
|  Generalization from «FeatureType» S128\_ENCProduct to «FeatureType» AbstractChartProduct[ Direction is 'Source -> Destination'. ]The common feature of S128\_ENCProduct class is generalized into AbstractChartProduct class. |
|  Generalization from «FeatureType» S128\_PaperChartProduct to «FeatureType» AbstractChartProduct[ Direction is 'Source -> Destination'. ]The common feature of S128\_PaperChartProduct class is generalized into AbstractChartProduct class. |

| ATTRIBUTES |
| --- |
|  chartNumber : ProductName PublicMultiplicity: ( [1..\*], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Chart number : Product name |
|  productType : ProductTypeCode Public[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Product reference information (Chart type) |
|  productFormat : ProducingType PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Chart structure code (Data type : Paper chart - Raster, Vector / ENC - Vector (APP, e-book, etc.)) |
|  information : ProducingInformation Public[ Stereotype is «complexAttribute». Is static False. Containment is Not Specified. ]Chart production information |
|  notice : CharacterString PublicMultiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Chart caution article |
|  status : DistributeStatus PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Chart distributor information (Supply : ex. Chart Production, Withdrawn, ENC Production, ENC Withdrawn) |

| ASSOCIATIONS |
| --- |
|  Association (direction: Unspecified) ProducingInformation class is the member reference relationship to AbstractChartProduct class. |
| Source: Public (Class) ProducingInformation «InformationType»Cardinality: [1] | Target: Public (Class) AbstractChartProduct «FeatureType» |

### AbstractGeoNauticalProduct(Location-based Nautical product)

Class «FeatureType» in package 'S128'

AbstractGeoNauticalProduct

Version 1.0 Phase 1.0 Proposed

KHOA created on 2016-11-25. Last modified 2016-11-25

Extends S100\_FeatureType

| OUTGOING STRUCTURAL RELATIONSHIPS |
| --- |
|  Generalization from «FeatureType» AbstractGeoNauticalProduct to «FeatureType» S100\_FeatureType[ Direction is 'Source -> Destination'. ]The common feature of AbstractGeoNauticalProduct class is generalized into S100\_FeatureType class. |

| INCOMING STRUCTURAL RELATIONSHIPS |
| --- |
|  Generalization from «FeatureType» S128\_NonStdGeoNauticalProduct to «FeatureType» AbstractGeoNauticalProduct[ Direction is 'Source -> Destination'. ]The common feature of S128\_NonStdGeoNauticalProduct class is generalized into AbstractGeoNauticalProduct class. |
|  Generalization from «FeatureType» S128\_StdGeoNauticalProduct to «FeatureType» AbstractGeoNauticalProduct[ Direction is 'Source -> Destination'. ]The common feature of S128\_StdGeoNauticalProduct class is generalized into AbstractGeoNauticalProduct class. |

| ATTRIBUTES |
| --- |
|  productName : ProductName PublicMultiplicity: ( [1..\*], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Nautical production name (Product name) |
|  productType : ProductTypeCode Public[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Nautical product reference information (Product type) |
|  contact : S100\_Contact PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )[ Stereotype is «complexAttribute». Is static False. Containment is Not Specified. ]Nautical product producing agency contact information |
|  information : ProducingInformation Public[ Stereotype is «complexAttribute». Is static False. Containment is Not Specified. ]Nautical product producing information |

| ASSOCIATIONS |
| --- |
|  Association (direction: Unspecified) ProducingInformation class is the member reference relationship to AbstractGeoNauticalProduct class. |
| Source: Public (Class) ProducingInformation «InformationType»Cardinality: [1] | Target: Public (Class) AbstractGeoNauticalProduct «FeatureType» |

### AbstractNauticalProduct(Information-based Nautical product)

Class «InformationType» in package 'S128'

AbstractNauticalProduct

Version 1.0 Phase 1.0 Proposed

KHOA created on 2016-08-27. Last modified 2016-11-25

Extends S100\_InformationType

| OUTGOING STRUCTURAL RELATIONSHIPS |
| --- |
|  Generalization from «InformationType» AbstractNauticalProduct to «InformationType» S100\_InformationType[ Direction is 'Source -> Destination'. ]The common feature of AbstractNauticalProduct class is generalized into S100\_InformationType class. |

| INCOMING STRUCTURAL RELATIONSHIPS |
| --- |
|  Generalization from «InformationType» S128\_NonStdNauticalProduct to «InformationType» AbstractNauticalProduct[ Direction is 'Source -> Destination'. ]The common feature of S128\_NonStdNauticalProduct class is generalized into AbstractNauticalProduct class. |
|  Generalization from «InformationType» S128\_StdNauticalProduct to «InformationType» AbstractNauticalProduct[ Direction is 'Source -> Destination'. ]The common feature of S128\_StdNauticalProduct class is generalized into AbstractNauticalProduct class. |

| ATTRIBUTES |
| --- |
|  productName : ProductName PublicMultiplicity: ( [1..\*], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Nautical product name (Product name) |
|  productType : ProductTypeCode Public[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Nautical product reference information (Product type) |
|  contact : S100\_Contact PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )[ Stereotype is «complexAttribute». Is static False. Containment is Not Specified. ]Nautical product producing agency contact information |
|  information : ProducingInformation Public[ Stereotype is «complexAttribute». Is static False. Containment is Not Specified. ]Nautical product producing information |

| ASSOCIATIONS |
| --- |
|  Association (direction: Unspecified) ProducingInformation class is the member reference relationship to AbstractNauticalProduct class. |
| Source: Public (Class) ProducingInformation «InformationType»Cardinality: [1] | Target: Public (Class) AbstractNauticalProduct «InformationType» |

### Distributor(Distributor information)

Class «ComplexAttributeType» in package 'S128'

Distributor

Version 1.0 Phase 1.0 Proposed

KHOA created on 2016-09-22. Last modified 2016-11-25

| ATTRIBUTES |
| --- |
|  region : CharacterString PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Distribution region (Product distributor per region) |
|  distributorName : CharacterString Public[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Distributor name (Provider name) |
|  contactInfo : S100\_Contact PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Distributor phone number (Product) |
|  price : CharacterString PrivateMultiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Price (Product) |

### PrintInformation(Printing information)

Class «ComplexAttributeType» in package 'S128'

PrintInformation

Version 1.0 Phase 1.0 Proposed

KHOA created on 2016-08-28. Last modified 2016-11-25

| ATTRIBUTES |
| --- |
|  printNation : CharacterString PublicPrinting nationPrinting nation : Name of country printing the product (ex. REPUBLIC OF KOREA)[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ] |
|  printAgency : CharacterString PublicPrinting agencyName of printing agency (ex. Local name : 국립해양조사원 / English name: Hydrographic and Oceanographic Administration)[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ] |
|  printYear : CharacterString Public[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Printing date (Year) Printing year : Year of printing (ex. 2014)  |
|  printWeek : int PublicPrinting date (Weekly)Printing week (Weekly) (ex. 1~52 Weeks) [ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ] |
|  rePrintNation : CharacterString PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False ) Reprinting nation Reprinting nation (ex. 대한민국 / REPUBLIC OF KOREA)  [ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ] |
|  rePrintEdition : CharacterString PublicReprinting statusPrinting (Reprinting) status (ex. 2010년 3월 제2인쇄 / 영문 : 2nd Reprinted, Mar. 2010)  [ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ] |
|  printSize : PrintSize PublicPrinting paper size : Full Size(109.2 x 78.8m), 1/2(A Half of the full size), 1/4(A Quarter of the full size) [ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ] |

### ProducingInformation(Producing information)

Class «InformationType» in package 'S128'

ProducingInformation

Version 1.0 Phase 1.0 Proposed

KHOA created on 2016-08-11. Last modified 2016-11-25

Extends S100\_InformationType

| OUTGOING STRUCTURAL RELATIONSHIPS |
| --- |
|  Generalization from «InformationType» ProducingInformation to «InformationType» S100\_InformationType[ Direction is 'Source -> Destination'. ]The common feature of ProducingInformation class is generalized into S100\_InformationType class. |

| ATTRIBUTES |
| --- |
|  description : S100:description PublicMultiplicity: ( [1..\*], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Data description |
|  dataProtection : S100:dataProtection PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Data recovery point |
|  copyright : S100:copyright PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Data copyright information |
|  editionNumber : S100:editionNumber PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Data edition identification number |
|  updateNumber : S100:updateNumber PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Data update identification number |
|  updateApplicationDate : S100:updateApplicationDate PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]S/W update date |
|  issueDate : S100:issueDate PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Data issue date |
|  producingAgency : S100\_ProducingAgency PublicMultiplicity: ( [1..\*], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Data version information |
|  producerNation : CharacterString PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Data producing nation |
|  producerCode : CharacterString PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Data producing code : National code for ENC (ex. 대한민국-KR) |
|  producingType : ProducingType PublicMultiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Data structure code |

| ASSOCIATIONS |
| --- |
|  Association (direction: Unspecified) Member reference relationship between ProducingInformation class and AbstractChartProduct class |
| Source: Public (Class) ProducingInformation «InformationType»Cardinality: [1] | Target: Public (Class) AbstractChartProduct «FeatureType» |
|  Association (direction: Unspecified) Member reference relationship between ProducingInformation class and AbstractGeoNauticalProduct class |
| Source: Public (Class) ProducingInformation «InformationType»Cardinality: [1] | Target: Public (Class) AbstractGeoNauticalProduct «FeatureType» |
|  Association (direction: Unspecified) Member reference relationship between ProducingInformation class and AbstractNauticalProduct class |
| Source: Public (Class) ProducingInformation «InformationType»Cardinality: [1] | Target: Public (Class) AbstractNauticalProduct «InformationType» |

### ProductName(Product name information)

Class «ComplexAttributeType» in package 'S128'

ProductName

Version 1.0 Phase 1.0 Proposed

KHOA created on 2016-09-21. Last modified 2016-11-25

| ATTRIBUTES |
| --- |
|  name : CharacterString Public[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Product name |
|  language : ISO839-3 Public[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Product producing language |

### ProductTypeCode(Product type code information)

Class «codeList» in package 'S128'

ProductTypeCode

Version 1.0 Phase 1.0 Proposed

KHOA created on 2016-09-21. Last modified 2016-11-25

| ATTRIBUTES |
| --- |
|  Paper Chart : Public[ Is static False. Containment is Not Specified. ]Paper chart referenced |
|  Electronic Nauticalal Chart : Public[ Is static False. Containment is Not Specified. ]ENC referenced |
|  Bathymetry Attributed Grid : Public[ Is static False. Containment is Not Specified. ]Sounding grid referenced |
|  Coast Guard Light List : Public[ Is static False. Containment is Not Specified. ]Coast guard light list referenced |
|  Practical Navigator : Public[ Is static False. Containment is Not Specified. ]Nautical chart referenced |
|  Coast Pilots : Public[ Is static False. Containment is Not Specified. ]Coast pilots referenced  |
|  List of Lights : Public[ Is static False. Containment is Not Specified. ]List of lights referenced |
|  Sailing Directions : Public[ Is static False. Containment is Not Specified. ]Sailing directions referenced |
|  World Port Index : Public[ Is static False. Containment is Not Specified. ]World port index referenced |
|  Distances Between Ports : Public[ Is static False. Containment is Not Specified. ]Port distance table |
|  ECDIS and ENC Reference : Public[ Is static False. Containment is Not Specified. ]ECDIS / ENC referenced  |

### S128\_ENCProduct(ENC)

Class «FeatureType» in package 'S128'

S128\_ENCProduct

Version 1.0 Phase 1.0 Proposed

KHOA created on 2016-08-23. Last modified 2016-11-25

Extends AbstractChartProduct

| OUTGOING STRUCTURAL RELATIONSHIPS |
| --- |
|  Generalization from «FeatureType» S128\_ENCProduct to «FeatureType» AbstractChartProduct[ Direction is 'Source -> Destination'. ]The common feature of S128\_ENCProduct class is generalized into AbstractChartProduct class. |

| ATTRIBUTES |
| --- |
|  identifier : S100:identifier Public[ Stereotype is «complexAttribute». Is static False. Containment is Not Specified. ]ENC identification number |
|  metadataLanguage : S100\_Contact Public[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Meta data written language |
|  exchangeCatalogueName : S100:exchangeCatalogueName Public[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Modified catalogue name  |
|  exchangeCatalogueDescription : S100:exchangeCatalogueDescription PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Modified catalogue description |
|  productSpecification : S100\_ProductSpecification Public[ Stereotype is «complexAttribute». Is static False. Containment is Not Specified. ]ENC version information |
|  exchangeCatalogueComment : S100:exchangeCatalogueComment PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Modified catalogue comment |
|  publicKeys : S100:publicKeys PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]ENC open identification code |
|  sourceMedia : S100:sourceMedia PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Data source |
|  replacedData : S100:replacedData PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Data modification information |
|  usageBand : CharacterString PublicMultiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Stage per scale |
|  S101\_DatasetDiscoveryMetadata : S101\_DatasetDiscoveryMetadata PublicMultiplicity: ( [1..\*], Allow duplicates: 0, Is ordered: False )[ Stereotype is «complexAttribute». Is static False. Containment is Not Specified. ]ENC meta data information |

### S128\_NonStdGeoNauticalProduct(Location-based Non-standard nautical product)

Class «FeatureType» in package 'S128'

S128\_NonStdGeoNauticalProduct

Version 1.0 Phase 1.0 Proposed

KHOA created on 2016-11-25. Last modified 2016-11-25

Extends AbstractGeoNauticalProduct

| OUTGOING STRUCTURAL RELATIONSHIPS |
| --- |
|  Generalization from «FeatureType» S128\_NonStdGeoNauticalProduct to «FeatureType» AbstractGeoNauticalProduct[ Direction is 'Source -> Destination'. ]The common feature of S128\_NonStdGeoNauticalProduct class is generalized into AbstractGeoNauticalProduct class. |

| ATTRIBUTES |
| --- |
|  productNumber : CharacterString Public[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Nautical product identification number (Product number) |
|  dataType : S100:dataType PublicMultiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Nautical product type information |
|  printSize : PrintSize PublicMultiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Paper size code |
|  target : CharacterString PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Purpose of Nautical product utilization |
|  thematicMapType : ThematicMapType PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Nautical product theme code |
|  distributor : Distributor PublicMultiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )[ Stereotype is «complexAttribute». Is static False. Containment is Not Specified. ]Nautical product distribution information (Provider information) |

### S128\_NonStdNauticalProduct(Non-standard nautical product)

Class «InformationType» in package 'S128'

S128\_NonStdNauticalProduct

Version 1.0 Phase 1.0 Proposed

KHOA created on 2016-08-27. Last modified 2016-11-25

Extends AbstractNauticalProduct

| OUTGOING STRUCTURAL RELATIONSHIPS |
| --- |
|  Generalization from «InformationType» S128\_NonStdNauticalProduct to «InformationType» AbstractNauticalProduct[ Direction is 'Source -> Destination'. ]The common feature of S128\_NonStdNauticalProduct class is generalized into AbstractNauticalProduct class. |

| ATTRIBUTES |
| --- |
|  productNumber : CharacterString Public[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Nautical product identification number (Product number) |
|  dataType : S100:dataType PublicMultiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Nautical product type information |
|  printSize : PrintSize PublicMultiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Paper size code |
|  target : CharacterString PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Purpose of nautical product utilization |
|  thematicMapType : ThematicMapType PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Nautical product theme code |
|  distributor : Distributor PublicMultiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )[ Stereotype is «complexAttribute». Is static False. Containment is Not Specified. ]Nautical product distributor information (Provider information) |

### S128\_PaperChartProduct(Paper chart)

Class «FeatureType» in package 'S128'

S128\_PaperChartProduct

Version 1.0 Phase 1.0 Proposed

KHOA created on 2016-11-10. Last modified 2016-11-25

Extends AbstractChartProduct

| OUTGOING STRUCTURAL RELATIONSHIPS |
| --- |
|  Generalization from «FeatureType» S128\_PaperChartProduct to «FeatureType» AbstractChartProduct[ Direction is 'Source -> Destination'. ]The common feature of S128\_PaperChartProduct class is generalized into AbstractChartProduct class. |

| ATTRIBUTES |
| --- |
|  intChartUsage : boolean PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]International chart usage (International chart scale) |
|  frameDimensions : CharacterString PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Paper chart dimensions (Length \* Width) |
|  publication\_Month : CharacterString Public[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Paper chart printing date (Month) |
|  chartType : ChartType Public[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Paper chart usage code |
|  compilationScale : CharacterString Public[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Paper chart standard scale |
|  distributor : Distributor PublicMultiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )[ Stereotype is «complexAttribute». Is static False. Containment is Not Specified. ]Paper chart distributor information |
|  printInformation : PrintInformation PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )[ Stereotype is «complexAttribute». Is static False. Containment is Not Specified. ]Chart printing information |

### S128\_StdGeoNauticalProduct(Location-based Standard compliance of S-100 standard nautical product)

Class «FeatureType» in package 'S128'

S128\_StdGeoNauticalProduct

Version 1.0 Phase 1.0 Proposed

KHOA created on 2016-11-25. Last modified 2016-11-25

Extends AbstractGeoNauticalProduct

| OUTGOING STRUCTURAL RELATIONSHIPS |
| --- |
|  Generalization from «FeatureType» S128\_StdGeoNauticalProduct to «FeatureType» AbstractGeoNauticalProduct[ Direction is 'Source -> Destination'. ]The common feature of S128\_StdGeoNauticalProduct class is generalized into AbstractGeoNauticalProduct class. |

| ATTRIBUTES |
| --- |
|  identifier : S100:identifier Public[ Stereotype is «complexAttribute». Is static False. Containment is Not Specified. ]Nautical product identification number |
|  productSpecification : S100\_ProductSpecification Public[ Stereotype is «complexAttribute». Is static False. Containment is Not Specified. ]Nautical product version information |
|  metadataLanguage : S100:metadataLanguage Public[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Meta data written language |
|  exchangeCatalogueName : S100:exchangeCatalogueName Public[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Modified catalogue name |
|  exchangeCatalogueDescription : S100:exchangeCatalogueDescription Public[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Modified catalogue description  |
|  exchangeCatalogueComment : S100:exchangeCatalogueComment Public[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Modified catalogue comment |
|  publicKeys : S100:publicKeys Public[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ] Nautical product open identification code |
|  sourceMedia : S100:sourceMedia Public[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ] Data source |
|  replacedData : S100:replacedData Public[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Data modification information |

### S128\_StdNauticalProduct(Standard compliance of S-100 standard nautical product)

Class «InformationType» in package 'S128'

S128\_StdNauticalProduct

Version 1.0 Phase 1.0 Proposed

KHOA created on 2016-11-15. Last modified 2016-11-25

Extends AbstractNauticalProduct

| OUTGOING STRUCTURAL RELATIONSHIPS |
| --- |
|  Generalization from «InformationType» S128\_StdNauticalProduct to «InformationType» AbstractNauticalProduct[ Direction is 'Source -> Destination'. ]The common feature of S128\_StdNauticalProduct class is generalized into AbstractNauticalProduct class. |

| ATTRIBUTES |
| --- |
|  identifier : S100:identifier Public[ Stereotype is «complexAttribute». Is static False. Containment is Not Specified. ]Nautical product identification number |
|  productSpecification : S100\_ProductSpecification Public[ Stereotype is «complexAttribute». Is static False. Containment is Not Specified. ]Nautical product version information |
|  metadataLanguage : S100:metadataLanguage Public[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Meta data written language |
|  exchangeCatalogueName : S100:exchangeCatalogueName Public[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Modified catalogue name |
|  exchangeCatalogueDescription : S100:exchangeCatalogueDescription PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Modified catalogue description |
|  exchangeCatalogueComment : S100:exchangeCatalogueComment PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Modified catalogue comment |
|  publicKeys : S100:publicKeys PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Nautical product open identification code |
|  sourceMedia : S100:sourceMedia PublicMultiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Data source |
|  replacedData : S100:replacedData Public[ Stereotype is «simpleAttribute». Is static False. Containment is Not Specified. ]Data modification information |

### ThematicMapType(Nautical product thematic map code)

Enumeration «enumeration» in package 'S128'

ThematicMapType

Version 1.0 Phase 1.0 Proposed

KHOA created on 2016-09-22. Last modified 2016-11-25

| ATTRIBUTES |
| --- |
|  forNautical : Public[ Stereotype is «enum». Is static False. Containment is Not Specified. ]For nautical purpose |
|  notNauticalal : Public[ Stereotype is «enum». Is static False. Containment is Not Specified. ]For non-nautical purpose |

### ChartType(Chart-purpose code)

Enumeration «enumeration» in package 'S128'

ChartType

Version 1.0 Phase 1.0 Proposed

KHOA created on 2016-08-28. Last modified 2016-11-15

| ATTRIBUTES |
| --- |
|  INT\_CHART : Public = 1International chart[ Stereotype is «enum». Is static False. Containment is Not Specified. ] |
|  FISHERY\_CHART : Public = 2Fishery chart[ Stereotype is «enum». Is static False. Containment is Not Specified. ] |
|  SPECIAL\_CHART : Public = 3Special chart[ Stereotype is «enum». Is static False. Containment is Not Specified. ] |
|  PROVISION\_CHART : Public = 4Provision chart[ Stereotype is «enum». Is static False. Containment is Not Specified. ] |

### DistributeStatus(Distribution type code)

Enumeration «enumeration» in package 'S128'

DistributeStatus

Version 1.0 Phase 1.0 Proposed

KHOA created on 2016-08-28. Last modified 2016-11-15

| ATTRIBUTES |
| --- |
|  production : Public = 1[ Stereotype is «enum». Is static False. Containment is Not Specified. ]Revision |
|  withdrawn : Public = 2[ Stereotype is «enum». Is static False. Containment is Not Specified. ]Discontinuation  |

### PrintSize(Paper size code)

Enumeration «enumeration» in package 'S128'

PrintSize

Version 1.0 Phase 1.0 Proposed

KHOA created on 2016-08-28. Last modified 2016-11-15

| ATTRIBUTES |
| --- |
|  PRINTSIZE\_FULL : Public = 1Paper size(full size paper)Full size(1092 x 78.8m)[ Stereotype is «enum». Is static False. Containment is Not Specified. ] |
|  PRINTSIZE\_HALF : Public = 2Paper size(1/2 of full size paper)1/2 (A Half of the full size)[ Stereotype is «enum». Is static False. Containment is Not Specified. ] |
|  PRINTSIZE\_QUARTER : Public = 3Paper size(1/4 of full size paper)1/4(A quarter of the full size)[ Stereotype is «enum». Is static False. Containment is Not Specified. ] |

### ProducingType(Production structure code)

Enumeration «enumeration» in package 'S128'

ProducingType

Version 1.0 Phase 1.0 Proposed

KHOA created on 2016-08-28. Last modified 2016-11-15

| ATTRIBUTES |
| --- |
|  Raster Data : Public = 1 [ Stereotype is «enum». Is static False. Containment is Not Specified. ]Raster Data |
|  Vector Data : Public = 2[ Stereotype is «enum». Is static False. Containment is Not Specified. ]Vector Data |
|  Paper : Public = 3[ Stereotype is «enum». Is static False. Containment is Not Specified. ]Paper |
|  Book : Public = 4[ Stereotype is «enum». Is static False. Containment is Not Specified. ]Book |
|  E-Book : Public = 5[ Stereotype is «enum». Is static False. Containment is Not Specified. ]E-Book |
|  APP : Public = 6[ Stereotype is «enum». Is static False. Containment is Not Specified. ]Software |