# Schema documentation for Granule.xsd

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# Resource hierarchy:

**Legend:** *Import*, *Include*, *Redefine*, *Override*, *Cycle detected*

Granule.xsd

MetadataCommon.xsd

# Namespace: ""

## Schema(s)

### Main schema `Granule.xsd`

| | | |
|---|---|---|
| Namespace | No namespace | |
| Properties | attribute form default: | `unqualified` |
| | element form default: | `qualified` |

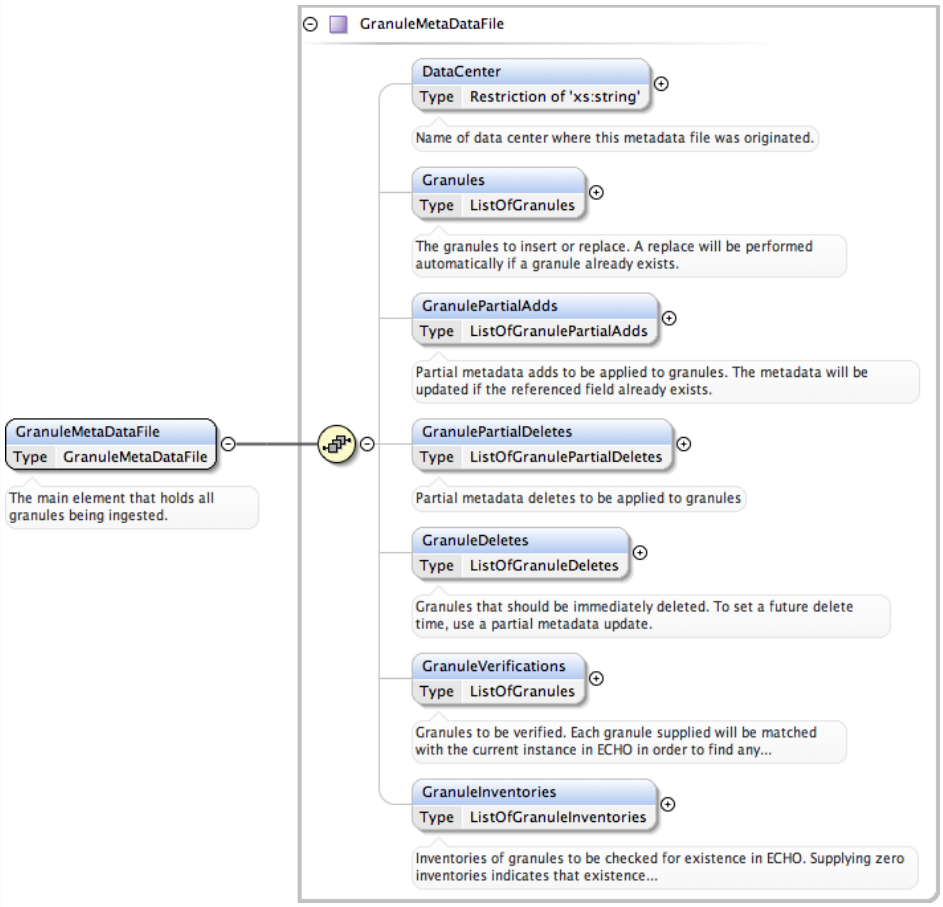
### Included schema `MetadataCommon.xsd`

| | | |
|---|---|---|
| Namespace | No namespace | |
| Properties | attribute form default: | `unqualified` |
| | element form default: | `qualified` |

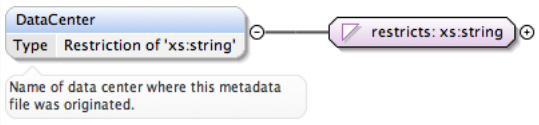
## Element(s)

### Element `GranuleMetaDataFile`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | `The main element that holds all granules being ingested.` |

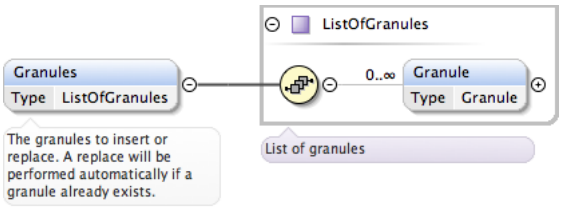
| | |
|---|---|
| Diagram |  |
| Type | GranuleMetaDataFile |
| Properties | content: `complex` |
| Model | DataCenter{0,1} , Granules{0,1} , GranulePartialAdds{0,1} , GranulePartialDeletes{0,1} , GranuleDeletes{0,1} , GranuleVerifications{0,1} , GranuleInventories{0,1} |
| Children | DataCenter, GranuleDeletes, GranuleInventories, GranulePartialAdds, GranulePartialDeletes, GranuleVerifications, Granules |
| Instance | `<GranuleMetaDataFile>`<br>`  <DataCenter>{0,1}</DataCenter>`<br>`  <Granules>{0,1}</Granules>`<br>`  <GranulePartialAdds>{0,1}</GranulePartialAdds>`<br>`  <GranulePartialDeletes>{0,1}</GranulePartialDeletes>`<br>`  <GranuleDeletes>{0,1}</GranuleDeletes>`<br>`  <GranuleVerifications>{0,1}</GranuleVerifications>`<br>`  <GranuleInventories>{0,1}</GranuleInventories>`<br>`</GranuleMetaDataFile>` |
| Source | `<xs:element name="GranuleMetaDataFile" type="GranuleMetaDataFile">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The main element that holds all granules being ingested.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element `GranuleMetaDataFile / DataCenter`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | `Name of data center where this metadata file was originated.` |
| Diagram |  |
| Type | restriction of xs:string |
| Properties | content: `simple` |

| | | |
|---|---|---|
| | minOccurs: | 0 |
| Facets | minLength | 1 |
| | maxLength | 80 |
| Source | <xs:element name="DataCenter" minOccurs="0"><br>  <xs:annotation><br>  <xs:documentation>Name of data center where this metadata file was originated.</xs:documentation><br>  </xs:annotation><br>  <xs:simpleType><br>  <xs:restriction base="xs:string"><br>  <xs:minLength value="1"/><br>  <xs:maxLength value="80"/><br>  </xs:restriction><br>  </xs:simpleType><br></xs:element> | |

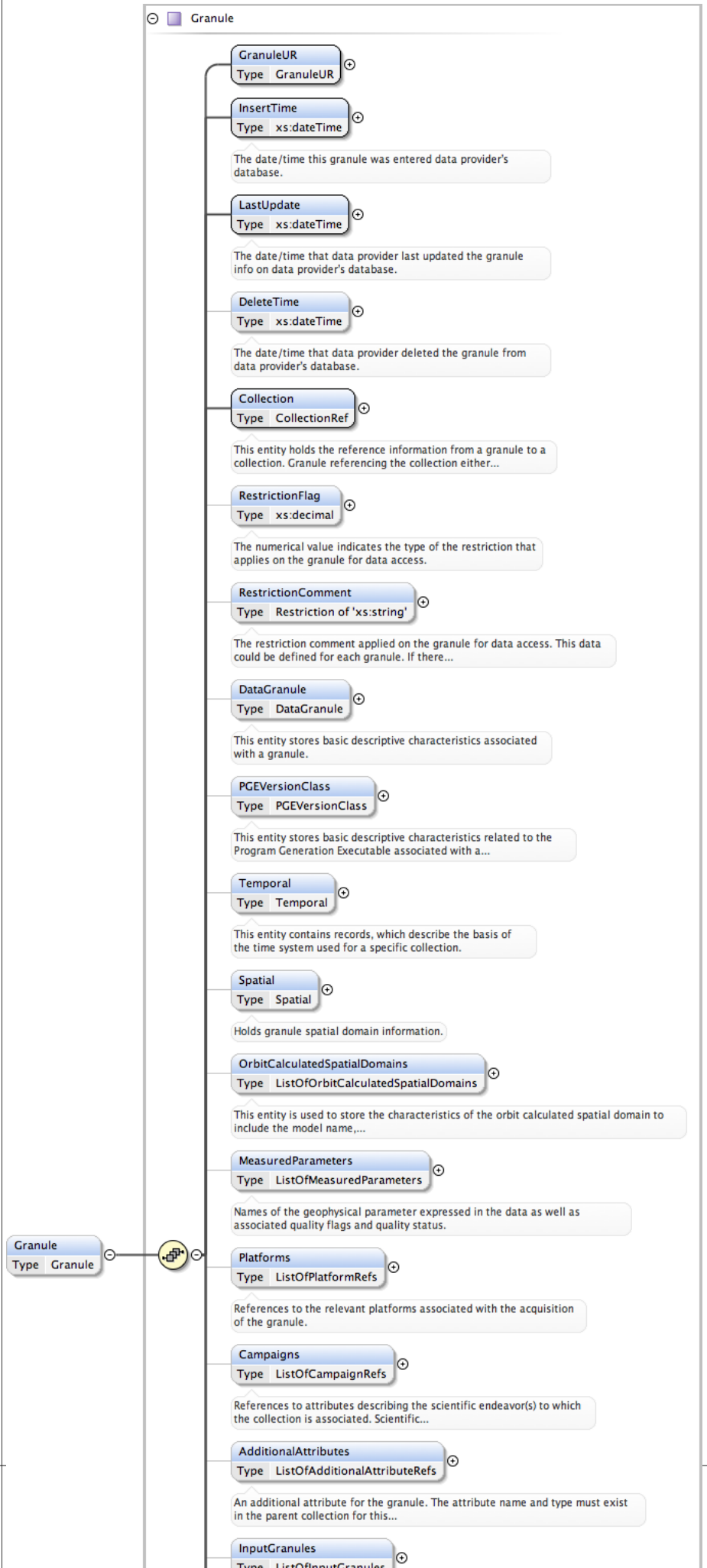
## Element GranuleMetaDataFile / Granules

| | |
|---|---|
| Namespace | No namespace |
| Annotations | The granules to insert or replace. A replace will be performed automatically if a granule already exists. |
| Diagram |  |
| Type | ListOfGranules |
| Properties | content: complex |
| | minOccurs: 0 |
| Model | Granule* |
| Children | Granule |
| Instance | <Granules><br>  <Granule>{0,unbounded}</Granule><br></Granules> |
| Source | <xs:element minOccurs="0" name="Granules" type="ListOfGranules"><br>  <xs:annotation><br>  <xs:documentation>The granules to insert or replace. A replace will be performed automatically if a granule already exists.</xs:documentation><br>  </xs:annotation><br></xs:element> |

## Element ListOfGranules / Granule

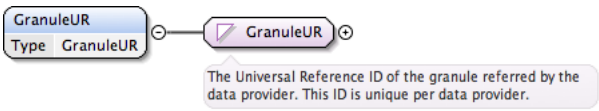
| | |
|---|---|
| Namespace | No namespace |

Diagram


Granule
Granule
Type Granule
GranuleUR
Type GranuleUR
InsertTime
Type xs:dateTime
The date/time this granule was entered data provider's database.
LastUpdate
Type xs:dateTime
The date/time that data provider last updated the granule info on data provider's database.
DeleteTime
Type xs:dateTime
The date/time that data provider deleted the granule from data provider's database.
Collection
Type CollectionRef
This entity holds the reference information from a granule to a collection. Granule referencing the collection either...
RestrictionFlag
Type xs:decimal
The numerical value indicates the type of the restriction that applies on the granule for data access.
RestrictionComment
Type Restriction of 'xs:string'
The restriction comment applied on the granule for data access. This data could be defined for each granule. If there...
DataGranule
Type DataGranule
This entity stores basic descriptive characteristics associated with a granule.
PGEVersionClass
Type PGEVersionClass
This entity stores basic descriptive characteristics related to the Program Generation Executable associated with a...
Temporal
Type Temporal
This entity contains records, which describe the basis of the time system used for a specific collection.
Spatial
Type Spatial
Holds granule spatial domain information.
OrbitCalculatedSpatialDomains
Type ListOfOrbitCalculatedSpatialDomains
This entity is used to store the characteristics of the orbit calculated spatial domain to include the model name,...
MeasuredParameters
Type ListOfMeasuredParameters
Names of the geophysical parameter expressed in the data as well as associated quality flags and quality status.
Platforms
Type ListOfPlatformRefs
References to the relevant platforms associated with the acquisition of the granule.
Campaigns
Type ListOfCampaignRefs
References to attributes describing the scientific endeavor(s) to which the collection is associated. Scientific...
AdditionalAttributes
Type ListOfAdditionalAttributeRefs
An additional attribute for the granule. The attribute name and type must exist in the parent collection for this...
InputGranules

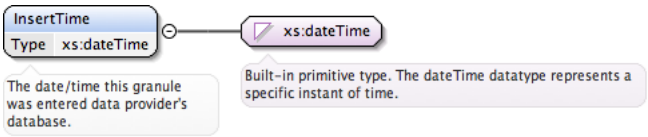
| | |
|---|---|
| Type | Granule |
| Properties | content: `complex`<br>minOccurs: `0`<br>maxOccurs: `unbounded` |
| Model | GranuleUR , InsertTime , LastUpdate , DeleteTime{0,1} , Collection , RestrictionFlag{0,1} , RestrictionComment{0,1} , DataGranule{0,1} , PGEVersionClass{0,1} , Temporal{0,1} , Spatial{0,1} , OrbitCalculatedSpatialDomains{0,1} , MeasuredParameters{0,1} , Platforms{0,1} , Campaigns{0,1} , AdditionalAttributes{0,1} , InputGranules{0,1} , TwoDCoordinateSystem{0,1} , Price{0,1} , OnlineAccessURLs{0,1} , OnlineResources{0,1} , Orderable , DataFormat{0,1} , Visible{0,1} , CloudCover{0,1} , (AssociatedBrowseImages{0,1} \| AssociatedBrowseImageUrls{0,1}) |
| Children | AdditionalAttributes, AssociatedBrowseImageUrls, AssociatedBrowseImages, Campaigns, CloudCover, Collection, DataFormat, DataGranule, DeleteTime, GranuleUR, InputGranules, InsertTime, LastUpdate, MeasuredParameters, OnlineAccessURLs, OnlineResources, OrbitCalculatedSpatialDomains, Orderable, PGEVersionClass, Platforms, Price, RestrictionComment, RestrictionFlag, Spatial, Temporal, TwoDCoordinateSystem, Visible |
| Instance | `<Granule>`<br>`  <GranuleUR>{1,1}</GranuleUR>`<br>`  <InsertTime>{1,1}</InsertTime>`<br>`  <LastUpdate>{1,1}</LastUpdate>`<br>`  <DeleteTime>{0,1}</DeleteTime>`<br>`  <Collection>{1,1}</Collection>`<br>`  <RestrictionFlag>{0,1}</RestrictionFlag>`<br>`  <RestrictionComment>{0,1}</RestrictionComment>`<br>`  <DataGranule>{0,1}</DataGranule>`<br>`  <PGEVersionClass>{0,1}</PGEVersionClass>`<br>`  <Temporal>{0,1}</Temporal>`<br>`  <Spatial>{0,1}</Spatial>`<br>`  <OrbitCalculatedSpatialDomains>{0,1}</OrbitCalculatedSpatialDomains>`<br>`  <MeasuredParameters>{0,1}</MeasuredParameters>`<br>`  <Platforms>{0,1}</Platforms>`<br>`  <Campaigns>{0,1}</Campaigns>`<br>`  <AdditionalAttributes>{0,1}</AdditionalAttributes>`<br>`  <InputGranules>{0,1}</InputGranules>`<br>`  <TwoDCoordinateSystem>{0,1}</TwoDCoordinateSystem>`<br>`  <Price>{0,1}</Price>`<br>`  <OnlineAccessURLs>{0,1}</OnlineAccessURLs>`<br>`  <OnlineResources>{0,1}</OnlineResources>`<br>`  <Orderable>{1,1}</Orderable>`<br>`  <DataFormat>{0,1}</DataFormat>`<br>`  <Visible>{0,1}</Visible>`<br>`  <CloudCover>{0,1}</CloudCover>`<br>`  <AssociatedBrowseImages>{0,1}</AssociatedBrowseImages>`<br>`  <AssociatedBrowseImageUrls>{0,1}</AssociatedBrowseImageUrls>`<br>`</Granule>` |
| Source | `<xs:element maxOccurs="unbounded" name="Granule" type="Granule" minOccurs="0"/>` |

## Element `Granule / GranuleUR`

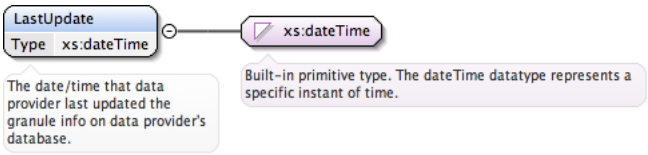
| | |
|---|---|
| Namespace | No namespace |
| Diagram |  |
| Type | GranuleUR |
| Properties | content: `simple` |
| Facets | minLength `1`<br>maxLength `250` |
| Source | `<xs:element name="GranuleUR" type="GranuleUR">`<br>`</xs:element>` |

## Element `Granule / InsertTime`

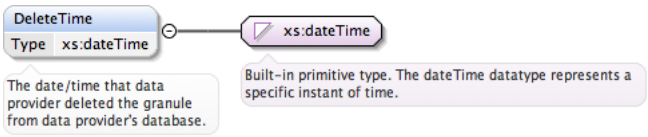
| | |
|---|---|
| Namespace | No namespace |
| Annotations | `The date/time this granule was entered data provider's database.` |

| | |
|---|---|
| Diagram |  |
| Type | xs:dateTime |
| Properties | content: simple |
| Source | `<xs:element name="InsertTime" type="xs:dateTime">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The date/time this granule was entered data provider's database.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element Granule / LastUpdate

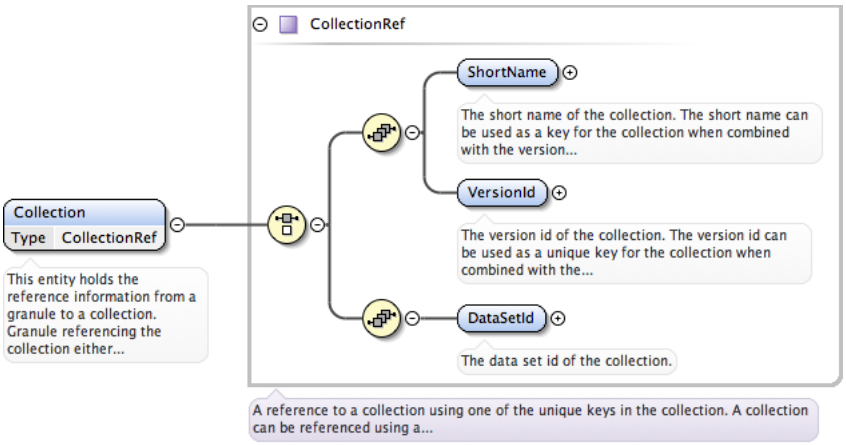
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The date/time that data provider last updated the granule info on data provider's database. |
| Diagram |  |
| Type | xs:dateTime |
| Properties | content: simple |
| Source | `<xs:element name="LastUpdate" type="xs:dateTime">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The date/time that data provider last updated the granule info on data provider's database.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element Granule / DeleteTime

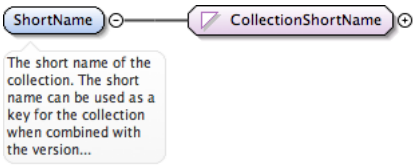
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The date/time that data provider deleted the granule from data provider's database. |
| Diagram |  |
| Type | xs:dateTime |
| Properties | content: simple<br>minOccurs: 0 |
| Source | `<xs:element minOccurs="0" name="DeleteTime" type="xs:dateTime">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The date/time that data provider deleted the granule from data provider's database.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element Granule / Collection

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity holds the reference information from a granule to a collection. Granule referencing the collection either |

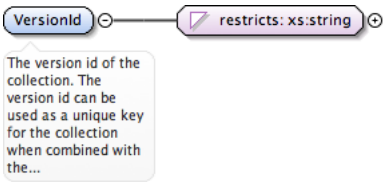
| | |
|---|---|
| | by collection short name and collection version or by collection dataset ID. |
| Diagram |   |
| Type | CollectionRef |
| Properties | content: complex |
| Model | (ShortName , VersionId) \| (DataSetId) |
| Children | DataSetId, ShortName, VersionId |
| Instance | `<Collection>`<br>`  <ShortName>{1,1}</ShortName>`<br>`  <VersionId>{1,1}</VersionId>`<br>`  <DataSetId>{1,1}</DataSetId>`<br>`</Collection>` |
| Source | `<xs:element name="Collection" type="CollectionRef">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity holds the reference information from a granule to a collection. Granule referencing the collection either by collection short name and collection version or by collection dataset ID.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element CollectionRef / ShortName

| | |
|---|---|
| Namespace | No namespace |
| Annotations | The short name of the collection. The short name can be used as a key for the collection when combined with the version id. |
| Diagram |   |
| Type | CollectionShortName |
| Properties | content: simple |
| Facets | minLength 1<br>maxLength 85 |
| Source | `<xs:element name="ShortName" type="CollectionShortName">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The short name of the collection. The short name can be used as a key for the collection when combined with the version id.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element CollectionRef / VersionId

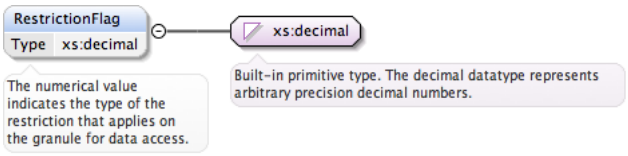
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The version id of the collection. The |

| | |
|---|---|
| | version id can be used as a unique key for the collection when combined with the short name. |
| Diagram |   |
| Type | restriction of xs:string |
| Properties | content: simple |
| Facets | maxLength 80 |
| Source | `<xs:element name="VersionId">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The version id of the collection. The version id can be used as a unique key for the collection when combined with the short name.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:maxLength value="80"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` |

## Element CollectionRef / DataSetId

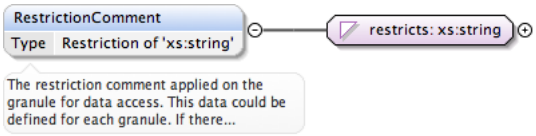
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The data set id of the collection. |
| Diagram | |
| Type | restriction of xs:string |
| Properties | content: simple |
| Facets | minLength 1<br>maxLength 1030 |
| Source | `<xs:element name="DataSetId">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The data set id of the collection.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:maxLength value="1030"/>`<br>`  <xs:minLength value="1"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` |

## Element Granule / RestrictionFlag

| | |
|---|---|
| Namespace | No namespace |
| Annotations | The numerical value indicates the type of the restriction that applies on the granule for data access. |
| Diagram |   |
| Type | xs:decimal |
| Properties | content: simple<br>minOccurs: 0 |

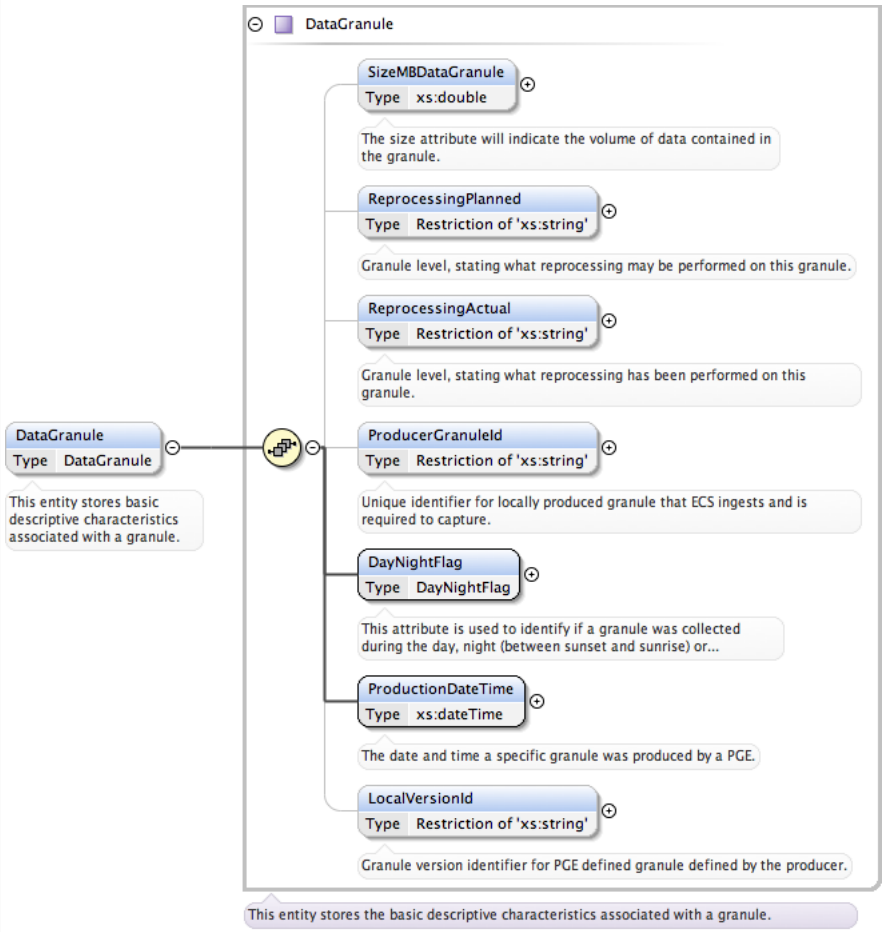
| | |
|---|---|
| Source | `<xs:element minOccurs="0" name="RestrictionFlag" type="xs:decimal">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The numerical value indicates the type of the restriction that applies on the granule for data access.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element `Granule / RestrictionComment`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | The restriction comment applied on the granule for data access. This data could be defined for each granule. If there is no restriction comment given for the granule, the restriction comment of its primary collection will be used if applicable. |
| Diagram |  |
| Type | restriction of xs:string |
| Properties | content: `simple`<br>minOccurs: `0` |
| Facets | minLength `1`<br>maxLength `1024` |
| Source | `<xs:element minOccurs="0" name="RestrictionComment">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The restriction comment applied on the granule for data access. This data could be defined for each granule. If there is no restriction comment given for the granule, the restriction comment of its primary collection will be used if applicable.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:maxLength value="1024"/>`<br>`  <xs:minLength value="1"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` |

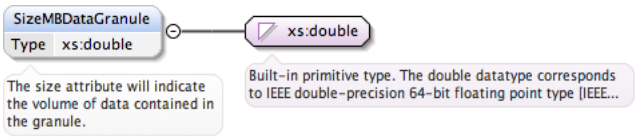
## Element `Granule / DataGranule`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity stores basic descriptive characteristics associated with a granule. |

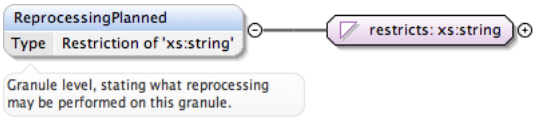
| | |
|---|---|
| Diagram |  |
| Type | DataGranule |
| Properties | content: complex<br>minOccurs: 0 |
| Model | SizeMBDataGranule{0,1} , ReprocessingPlanned{0,1} , ReprocessingActual{0,1} , ProducerGranuleId{0,1} , DayNightFlag , ProductionDateTime , LocalVersionId{0,1} |
| Children | DayNightFlag, LocalVersionId, ProducerGranuleId, ProductionDateTime, ReprocessingActual, ReprocessingPlanned, SizeMBDataGranule |
| Instance | `<DataGranule>`<br>`  <SizeMBDataGranule>{0,1}</SizeMBDataGranule>`<br>`  <ReprocessingPlanned>{0,1}</ReprocessingPlanned>`<br>`  <ReprocessingActual>{0,1}</ReprocessingActual>`<br>`  <ProducerGranuleId>{0,1}</ProducerGranuleId>`<br>`  <DayNightFlag>{1,1}</DayNightFlag>`<br>`  <ProductionDateTime>{1,1}</ProductionDateTime>`<br>`  <LocalVersionId>{0,1}</LocalVersionId>`<br>`</DataGranule>` |
| Source | `<xs:element minOccurs="0" name="DataGranule" type="DataGranule">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity stores basic descriptive characteristics associated with a granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element DataGranule / SizeMBDataGranule

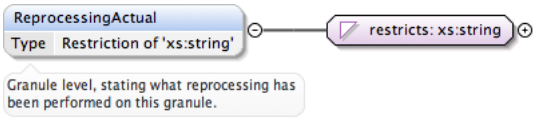
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The size attribute will indicate the volume of data contained in the granule. |

| | |
|---|---|
| Diagram |  |
| Type | xs:double |
| Properties | content: simple<br>minOccurs: 0 |
| Source | `<xs:element minOccurs="0" name="SizeMBDataGranule" type="xs:double">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The size attribute will indicate the volume of data contained in the`<br>` granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element DataGranule / ReprocessingPlanned

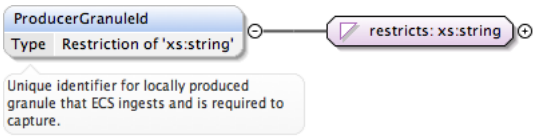
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Granule level, stating what reprocessing may be performed on this granule. |
| Diagram |  |
| Type | restriction of xs:string |
| Properties | content: simple<br>minOccurs: 0 |
| Facets | minLength 1<br>maxLength 80 |
| Source | `<xs:element minOccurs="0" name="ReprocessingPlanned">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Granule level, stating what reprocessing may be performed on this granule.</`<br>`xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:minLength value="1"/>`<br>`  <xs:maxLength value="80"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` |

## Element DataGranule / ReprocessingActual

| | |
|---|---|
| Namespace | No namespace |
| Annotations | Granule level, stating what reprocessing has been performed on this granule. |
| Diagram |  |
| Type | restriction of xs:string |
| Properties | content: simple<br>minOccurs: 0 |
| Facets | minLength 1<br>maxLength 80 |
| Source | `<xs:element minOccurs="0" name="ReprocessingActual">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Granule level, stating what reprocessing has been performed on this granule.</`<br>`xs:documentation>` |

```
  </xs:annotation>
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:minLength value="1"/>
      <xs:maxLength value="80"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
```

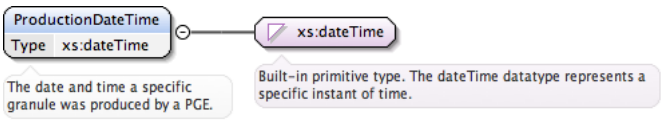
## Element DataGranule / ProducerGranuleId

| | |
|---|---|
| Namespace | No namespace |
| Annotations | Unique identifier for locally produced granule that ECS ingests and is required to capture. |
| Diagram |   |
| Type | restriction of xs:string |
| Properties | content: simple<br>minOccurs: 0 |
| Facets | minLength 1<br>maxLength 128 |
| Source | `<xs:element minOccurs="0" name="ProducerGranuleId">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Unique identifier for locally produced granule that ECS ingests and is required to capture.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:minLength value="1"/>`<br>`  <xs:maxLength value="128"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` |

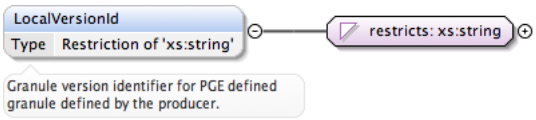
## Element DataGranule / DayNightFlag

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This attribute is used to identify if a granule was collected during the day, night (between sunset and sunrise) or both. |
| Diagram | |
| Type | DayNightFlag |
| Properties | content: simple |
| Facets | enumeration DAY<br>enumeration NIGHT<br>enumeration BOTH<br>enumeration UNSPECIFIED |
| Source | `<xs:element name="DayNightFlag" type="DayNightFlag">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This attribute is used to identify if a granule was collected during the day, night (between sunset and sunrise) or both.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element DataGranule / ProductionDateTime

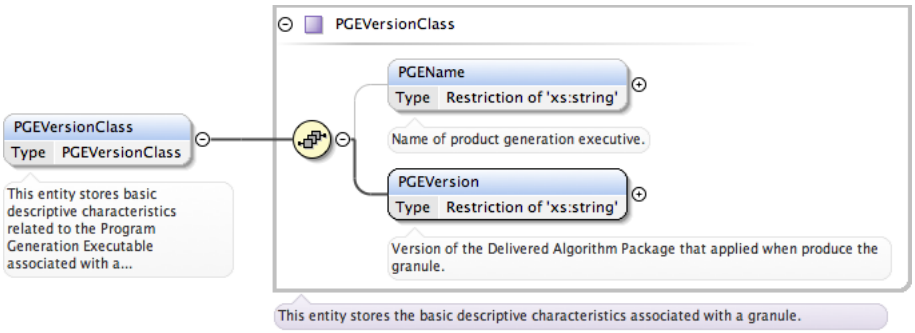
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The date and time a specific granule was produced by a PGE. |
| Diagram |  |
| Type | xs:dateTime |
| Properties | content: simple |
| Source | `<xs:element name="ProductionDateTime" type="xs:dateTime">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The date and time a specific granule was produced by a PGE.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element DataGranule / LocalVersionId

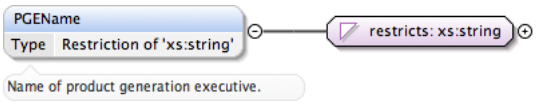
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Granule version identifier for PGE defined granule defined by the producer. |
| Diagram |  |
| Type | restriction of xs:string |
| Properties | content: simple<br>minOccurs: 0 |
| Facets | minLength 1<br>maxLength 80 |
| Source | `<xs:element minOccurs="0" name="LocalVersionId">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Granule version identifier for PGE defined granule defined by the producer.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:minLength value="1"/>`<br>`  <xs:maxLength value="80"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` |

## Element Granule / PGEVersionClass

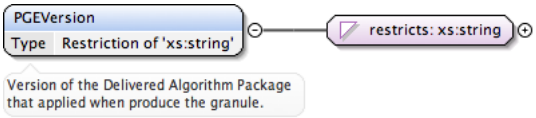
| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity stores basic descriptive characteristics related to the Program Generation Executable associated with a granule. |

| | |
|---|---|
| Diagram |  |
| Type | PGEVersionClass |
| Properties | content: complex<br>minOccurs: 0 |
| Model | PGEName{0,1} , PGEVersion |
| Children | PGEName, PGEVersion |
| Instance | `<PGEVersionClass>`<br>`  <PGEName>{0,1}</PGEName>`<br>`  <PGEVersion>{1,1}</PGEVersion>`<br>`</PGEVersionClass>` |
| Source | `<xs:element minOccurs="0" name="PGEVersionClass" type="PGEVersionClass">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity stores basic descriptive characteristics related to the Program Generation Executable associated with a granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element PGEVersionClass / PGEName

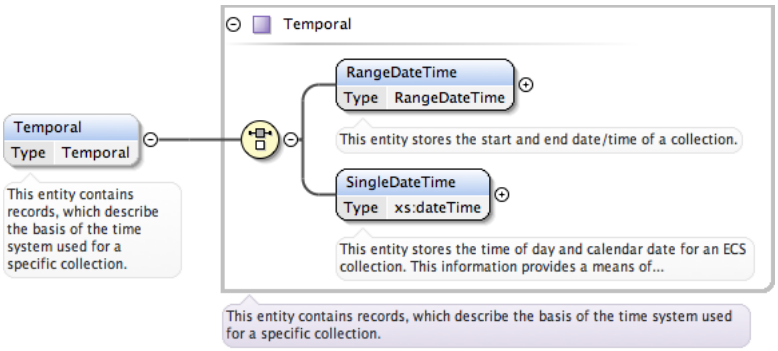
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Name of product generation executive. |
| Diagram |  |
| Type | restriction of xs:string |
| Properties | content: simple<br>minOccurs: 0 |
| Facets | minLength 1<br>maxLength 1024 |
| Source | `<xs:element minOccurs="0" name="PGEName">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Name of product generation executive.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:minLength value="1"/>`<br>`  <xs:maxLength value="1024"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` |

## Element PGEVersionClass / PGEVersion

| | |
|---|---|
| Namespace | No namespace |
| Annotations | Version of the Delivered Algorithm Package that applied when produce the granule. |
| Diagram |  |

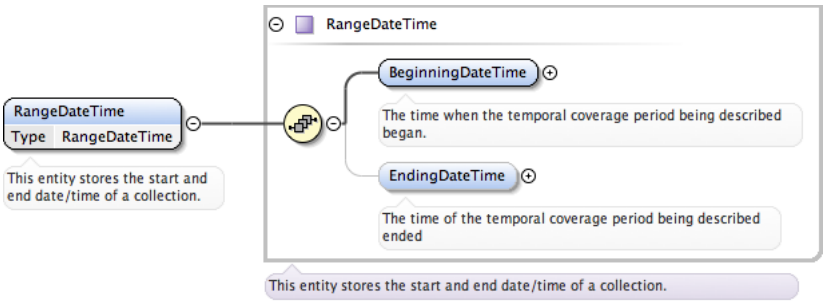
| | |
|---|---|
| Type | restriction of xs:string |
| Properties | content: `simple` |
| Facets | minLength `1`<br>maxLength `10` |
| Source | `<xs:element name="PGEVersion">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Version of the Delivered Algorithm Package that applied when produce the granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:minLength value="1"/>`<br>`  <xs:maxLength value="10"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` |

## Element `Granule / Temporal`

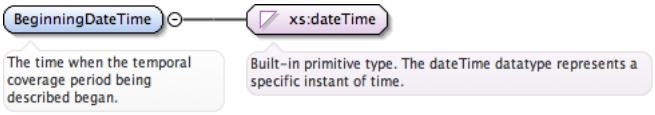
| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity contains records, which describe the basis of the time system used for a specific collection. |
| Diagram |  |
| Type | Temporal |
| Properties | content: `complex`<br>minOccurs: `0` |
| Model | RangeDateTime \| SingleDateTime |
| Children | RangeDateTime, SingleDateTime |
| Instance | `<Temporal>`<br>`  <RangeDateTime>{1,1}</RangeDateTime>`<br>`  <SingleDateTime>{1,1}</SingleDateTime>`<br>`</Temporal>` |
| Source | `<xs:element minOccurs="0" name="Temporal" type="Temporal">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity contains records, which describe the basis of the time system used for a specific collection.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element `Temporal / RangeDateTime`

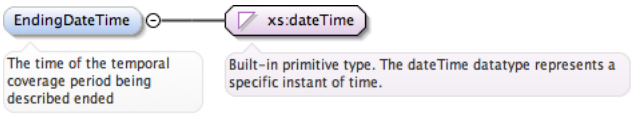
| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity stores the start and end date/time of a collection. |

| | |
|---|---|
| Diagram |  |
| Type | RangeDateTime |
| Properties | content: complex |
| Model | BeginningDateTime , EndingDateTime{0,1} |
| Children | BeginningDateTime, EndingDateTime |
| Instance | `<RangeDateTime>`<br>`  <BeginningDateTime>{1,1}</BeginningDateTime>`<br>`  <EndingDateTime>{0,1}</EndingDateTime>`<br>`</RangeDateTime>` |
| Source | `<xs:element name="RangeDateTime" type="RangeDateTime">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity stores the start and end date/time of a collection.</`<br>`xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

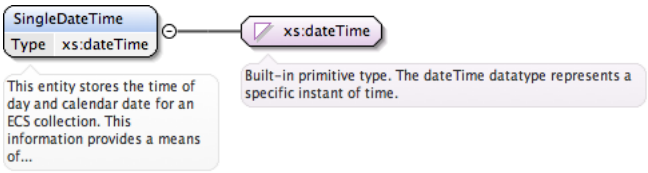
## Element RangeDateTime / BeginningDateTime

| | |
|---|---|
| Namespace | No namespace |
| Annotations | The time when the temporal coverage period being described began. |
| Diagram |  |
| Type | xs:dateTime |
| Properties | content: simple |
| Source | `<xs:element name="BeginningDateTime" type="xs:dateTime">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The time when the temporal coverage period being described began.</`<br>`xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

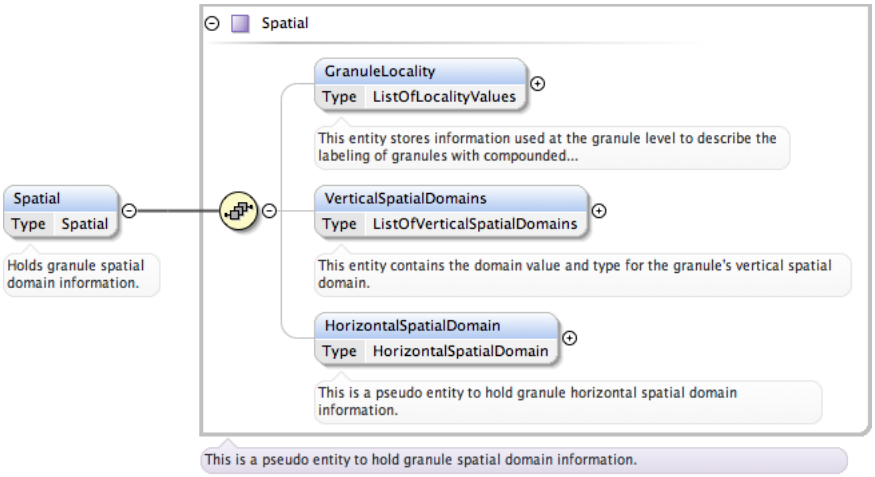
## Element RangeDateTime / EndingDateTime

| | |
|---|---|
| Namespace | No namespace |
| Annotations | The time of the temporal coverage period being described ended |
| Diagram |  |
| Type | xs:dateTime |
| Properties | content: simple<br>minOccurs: 0 |
| Source | `<xs:element minOccurs="0" name="EndingDateTime" type="xs:dateTime">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The time of the temporal coverage period being described ended</`<br>`xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element Temporal / SingleDateTime

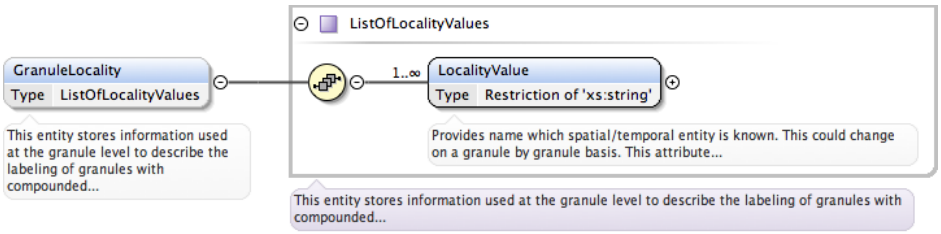
| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity stores the time of day and calendar date for an ECS collection. This information provides a means of encoding a single date and time for a granule occurring at that time or during the period covered by the time (e.g. one-day for a single date excluding the time within the day). |
| Diagram |   |
| Type | xs:dateTime |
| Properties | content: simple |
| Source | `<xs:element name="SingleDateTime" type="xs:dateTime">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity stores the time of day and calendar date for an ECS collection. This information provides a means of encoding a single date and time for a granule occurring at that time or during the period covered by the time (e.g. one-day for a single date excluding the time within the day).</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element Granule / Spatial

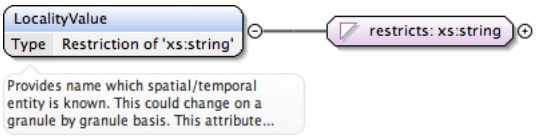
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Holds granule spatial domain information. |
| Diagram |   |
| Type | Spatial |
| Properties | content: complex<br>minOccurs: 0 |
| Model | GranuleLocality{0,1} , VerticalSpatialDomains{0,1} , HorizontalSpatialDomain{0,1} |
| Children | GranuleLocality, HorizontalSpatialDomain, VerticalSpatialDomains |
| Instance | `<Spatial>`<br>`  <GranuleLocality>{0,1}</GranuleLocality>`<br>`  <VerticalSpatialDomains>{0,1}</VerticalSpatialDomains>`<br>`  <HorizontalSpatialDomain>{0,1}</HorizontalSpatialDomain>`<br>`</Spatial>` |
| Source | `<xs:element minOccurs="0" name="Spatial" type="Spatial">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Holds granule spatial domain information.</xs:documentation>` |

```
  </xs:annotation>
</xs:element>
```

## Element `Spatial / GranuleLocality`

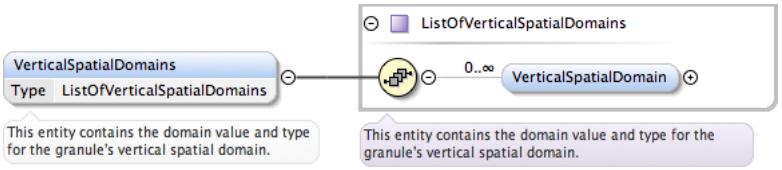
| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity stores information used at the granule level to describe the labeling of granules with compounded time/space text values and which are subsequently used to define more phenomenological-based granules, thus the locality type and description are contained. |
| Diagram |   |
| Type | ListOfLocalityValues |
| Properties | content: complex<br>minOccurs: 0 |
| Model | LocalityValue+ |
| Children | LocalityValue |
| Instance | `<GranuleLocality>`<br>`  <LocalityValue>{1,unbounded}</LocalityValue>`<br>`</GranuleLocality>` |
| Source | `<xs:element minOccurs="0" name="GranuleLocality" type="ListOfLocalityValues">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity stores information used at the granule level to describe the labeling of granules with compounded time/space text values and which are subsequently used to define more phenomenological-based granules, thus the locality type and description are contained.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element `ListOfLocalityValues / LocalityValue`

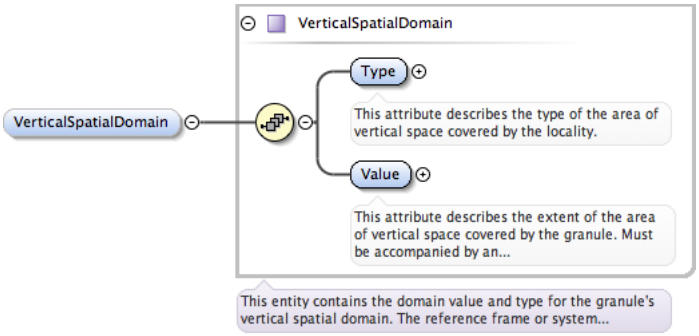
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Provides name which spatial/temporal entity is known. This could change on a granule by granule basis. This attribute is paralleled by the AggregationType which applies at the collection level although locality has a more restricted usage. Several locality measures could be included in each granule. |
| Diagram |   |
| Type | restriction of xs:string |
| Properties | content: simple<br>maxOccurs: unbounded |
| Facets | minLength 1<br>maxLength 1024 |
| Source | `<xs:element maxOccurs="unbounded" name="LocalityValue">`<br>`  <xs:annotation>` |

```
    <xs:documentation>Provides name which spatial/temporal entity is known. This could change on a
 granule by granule basis. This attribute is paralleled by the AggregationType which applies at the
 collection level although locality has a more restricted usage. Several locality measures could be
 included in each granule.</xs:documentation>
  </xs:annotation>
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:maxLength value="1024"/>
      <xs:minLength value="1"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
```

## Element Spatial / VerticalSpatialDomains

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity contains the domain value and type for the granule's vertical spatial domain. |
| Diagram |   |
| Type | ListOfVerticalSpatialDomains |
| Properties | content: complex<br>minOccurs: 0 |
| Model | VerticalSpatialDomain* |
| Children | VerticalSpatialDomain |
| Instance | `<VerticalSpatialDomains>`<br>`  <VerticalSpatialDomain>{0,unbounded}</VerticalSpatialDomain>`<br>`</VerticalSpatialDomains>` |
| Source | `<xs:element minOccurs="0" name="VerticalSpatialDomains" type="ListOfVerticalSpatialDomains">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity contains the domain value and type for the granule's vertical spatial domain.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element ListOfVerticalSpatialDomains / VerticalSpatialDomain

| | |
|---|---|
| Namespace | No namespace |
| Diagram |   |
| Type | VerticalSpatialDomain |
| Properties | content: complex<br>minOccurs: 0<br>maxOccurs: unbounded |
| Model | Type , Value |
| Children | Type, Value |
| Instance | `<VerticalSpatialDomain>`<br>`  <Type>{1,1}</Type>` |

```
  <Value>{1,1}</Value>
</VerticalSpatialDomain>
```

Source

```
<xs:element minOccurs="0" maxOccurs="unbounded" name="VerticalSpatialDomain"
 type="VerticalSpatialDomain"/>
```

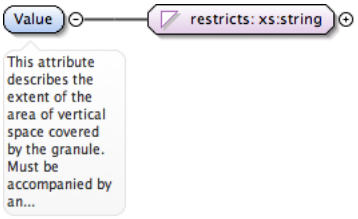
## Element `VerticalSpatialDomain / Type`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This attribute describes the type of the area of vertical space covered by the locality. |
| Diagram | |
| Type | restriction of xs:string |
| Properties | content: simple |
| Facets | minLength 1<br>maxLength 80 |

Source

```
<xs:element name="Type">
  <xs:annotation>
    <xs:documentation>This attribute describes the type of the area of vertical space covered by the
 locality.</xs:documentation>
  </xs:annotation>
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:maxLength value="80"/>
      <xs:minLength value="1"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
```

## Element `VerticalSpatialDomain / Value`

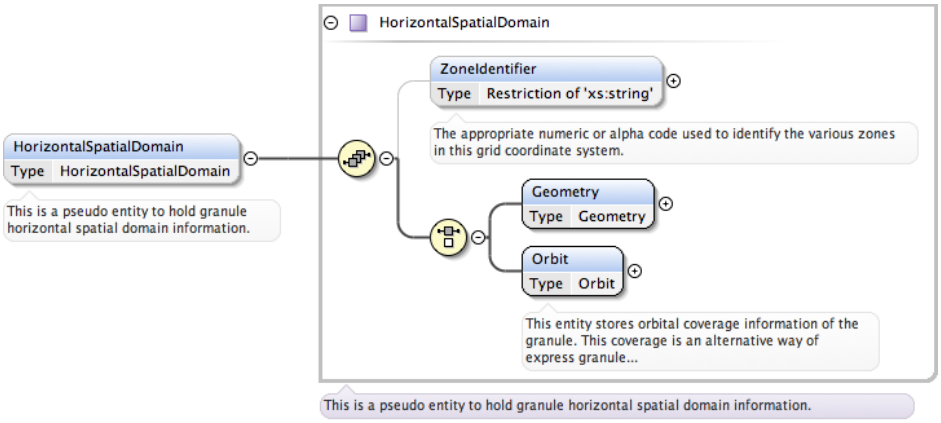
| | |
|---|---|
| Namespace | No namespace |
| Annotations | This attribute describes the extent of the area of vertical space covered by the granule. Must be accompanied by an Altitude Encoding Method description. The datatype for this attribute is the value of the attribute VerticalSpatialDomainType. The unit for this attribute is the value of either DepthDistanceUnits or AltitudeDistanceUnits. |
| Diagram |   |
| Type | restriction of xs:string |
| Properties | content: simple |
| Facets | minLength 1<br>maxLength 80 |

Source

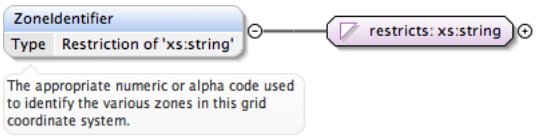
```
<xs:element name="Value">
  <xs:annotation>
    <xs:documentation>This attribute describes the extent of the area of vertical space covered by
 the granule. Must be accompanied by an Altitude Encoding Method description. The datatype for this
 attribute is the value of the attribute VerticalSpatialDomainType. The unit for this attribute is
 the value of either DepthDistanceUnits or AltitudeDistanceUnits.</xs:documentation>
  </xs:annotation>
  <xs:simpleType>
    <xs:restriction base="xs:string">
```

```
      <xs:maxLength value="80"/>
      <xs:minLength value="1"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
```

## Element Spatial / HorizontalSpatialDomain

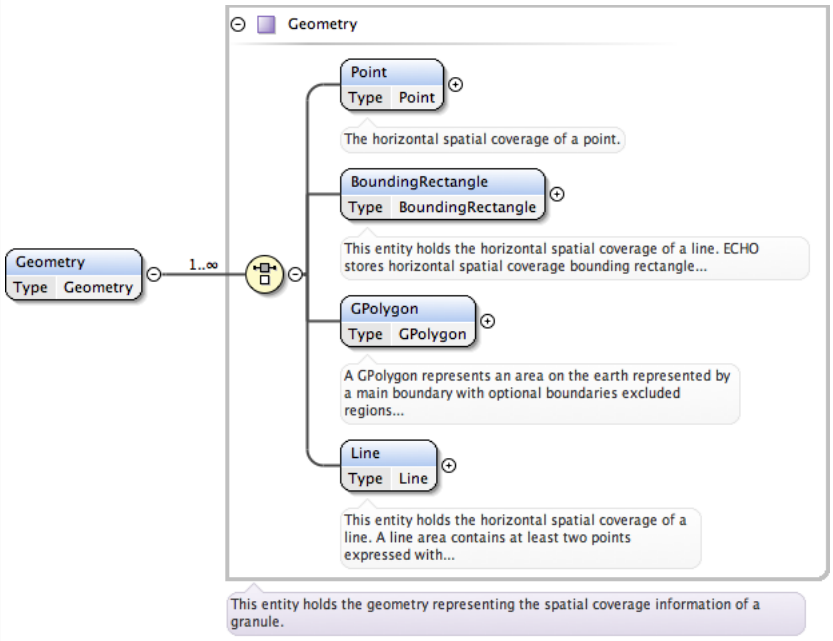
| | |
|---|---|
| Namespace | No namespace |
| Annotations | This is a pseudo entity to hold granule horizontal spatial domain information. |
| Diagram |   |
| Type | HorizontalSpatialDomain |
| Properties | content: complex<br>minOccurs: 0 |
| Model | ZoneIdentifier{0,1} , (Geometry \| Orbit) |
| Children | Geometry, Orbit, ZoneIdentifier |
| Instance | `<HorizontalSpatialDomain>`<br>`  <ZoneIdentifier>{0,1}</ZoneIdentifier>`<br>`  <Geometry>{1,1}</Geometry>`<br>`  <Orbit>{1,1}</Orbit>`<br>`</HorizontalSpatialDomain>` |
| Source | `<xs:element minOccurs="0" name="HorizontalSpatialDomain" type="HorizontalSpatialDomain">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This is a pseudo entity to hold granule horizontal spatial domain`<br>` information.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element HorizontalSpatialDomain / ZoneIdentifier

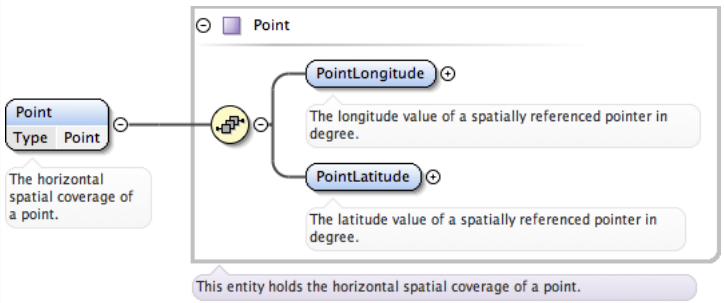
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The appropriate numeric or alpha code used to identify the various zones in this grid coordinate system. |
| Diagram |   |
| Type | restriction of xs:string |
| Properties | content: simple<br>minOccurs: 0 |
| Facets | minLength 1<br>maxLength 80 |
| Source | `<xs:element minOccurs="0" name="ZoneIdentifier">`<br>`  <xs:annotation>` |

```
    <xs:documentation>The appropriate numeric or alpha code used to identify the various zones in
 this grid coordinate system.</xs:documentation>
  </xs:annotation>
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:maxLength value="80"/>
      <xs:minLength value="1"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
```

## Element HorizontalSpatialDomain / Geometry

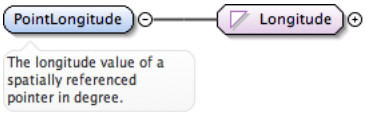
| | |
|---|---|
| Namespace | No namespace |
| Diagram |   |
| Type | Geometry |
| Properties | content: complex |
| Model | Point \| BoundingRectangle \| GPolygon \| Line |
| Children | BoundingRectangle, GPolygon, Line, Point |
| Instance | `<Geometry>`<br>`  <Point>{1,1}</Point>`<br>`  <BoundingRectangle>{1,1}</BoundingRectangle>`<br>`  <GPolygon>{1,1}</GPolygon>`<br>`  <Line>{1,1}</Line>`<br>`</Geometry>` |
| Source | `<xs:element name="Geometry" type="Geometry"/>` |

## Element Geometry / Point

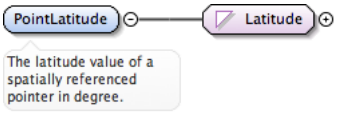
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The horizontal spatial coverage of a point. |
| Diagram |   |

| | |
|---|---|
| Type | Point |
| Properties | content: complex |
| Model | PointLongitude , PointLatitude |
| Children | PointLatitude, PointLongitude |
| Instance | `<Point>`<br>`  <PointLongitude>{1,1}</PointLongitude>`<br>`  <PointLatitude>{1,1}</PointLatitude>`<br>`</Point>` |
| Source | `<xs:element name="Point" type="Point">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The horizontal spatial coverage of a point.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element Point / PointLongitude

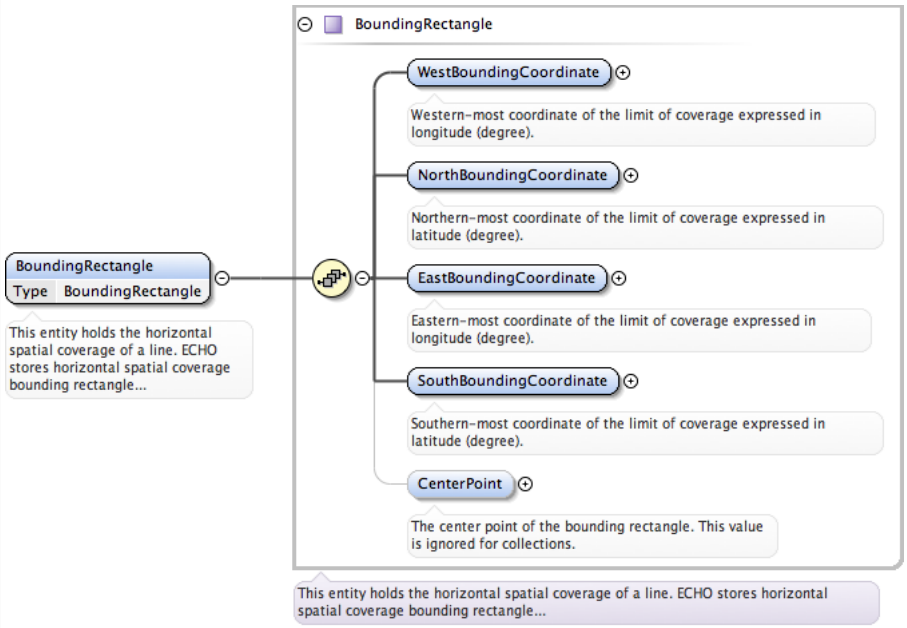
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The longitude value of a spatially referenced pointer in degree. |
| Diagram |  |
| Type | Longitude |
| Properties | content: simple |
| Facets | maxInclusive 180.0<br>minInclusive -180.0 |
| Source | `<xs:element name="PointLongitude" type="Longitude">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The longitude value of a spatially referenced pointer in degree.</`<br>`xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element Point / PointLatitude

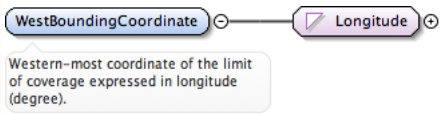
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The latitude value of a spatially referenced pointer in degree. |
| Diagram |  |
| Type | Latitude |
| Properties | content: simple |
| Facets | maxInclusive 90.0<br>minInclusive -90.0 |
| Source | `<xs:element name="PointLatitude" type="Latitude">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The latitude value of a spatially referenced pointer in degree.</`<br>`xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element Geometry / BoundingRectangle

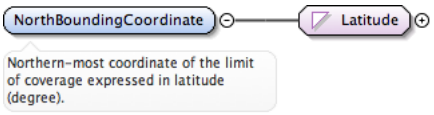
| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity holds the horizontal spatial coverage<br>of a line. ECHO stores<br>horizontal spatial coverage bounding |

| | |
|---|---|
| | rectangle type information using oracle spatial type expression as a four points polygon. |
| Diagram |   |
| Type | BoundingRectangle |
| Properties | content: complex |
| Model | WestBoundingCoordinate , NorthBoundingCoordinate , EastBoundingCoordinate , SouthBoundingCoordinate , CenterPoint{0,1} |
| Children | CenterPoint, EastBoundingCoordinate, NorthBoundingCoordinate, SouthBoundingCoordinate, WestBoundingCoordinate |
| Instance | `<BoundingRectangle>`<br>`  <WestBoundingCoordinate>{1,1}</WestBoundingCoordinate>`<br>`  <NorthBoundingCoordinate>{1,1}</NorthBoundingCoordinate>`<br>`  <EastBoundingCoordinate>{1,1}</EastBoundingCoordinate>`<br>`  <SouthBoundingCoordinate>{1,1}</SouthBoundingCoordinate>`<br>`  <CenterPoint>{0,1}</CenterPoint>`<br>`</BoundingRectangle>` |
| Source | `<xs:element name="BoundingRectangle" type="BoundingRectangle">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity holds the horizontal spatial coverage of a line. ECHO stores horizontal spatial coverage bounding rectangle type information using oracle spatial type expression as a four points polygon.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

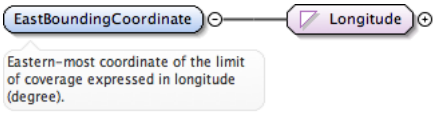
## Element BoundingRectangle / WestBoundingCoordinate

| | |
|---|---|
| Namespace | No namespace |
| Annotations | Western-most coordinate of the limit of coverage expressed in longitude (degree). |
| Diagram |   |
| Type | Longitude |
| Properties | content: simple |
| Facets | maxInclusive 180.0<br>minInclusive -180.0 |
| Source | `<xs:element name="WestBoundingCoordinate" type="Longitude">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Western-most coordinate of the limit of coverage expressed in longitude (degree).</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

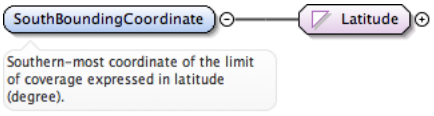
## Element BoundingRectangle / NorthBoundingCoordinate

| | |
|---|---|
| Namespace | No namespace |
| Annotations | Northern-most coordinate of the limit of coverage expressed in latitude (degree). |
| Diagram |   |
| Type | Latitude |
| Properties | content: simple |
| Facets | maxInclusive 90.0<br>minInclusive -90.0 |
| Source | `<xs:element name="NorthBoundingCoordinate" type="Latitude">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Northern-most coordinate of the limit of coverage expressed in latitude (degree).</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

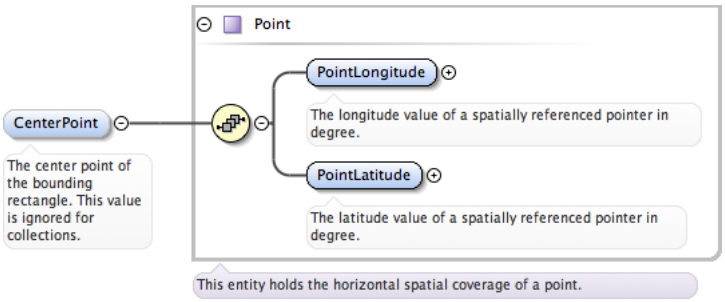
## Element BoundingRectangle / EastBoundingCoordinate

| | |
|---|---|
| Namespace | No namespace |
| Annotations | Eastern-most coordinate of the limit of coverage expressed in longitude (degree). |
| Diagram |   |
| Type | Longitude |
| Properties | content: simple |
| Facets | maxInclusive 180.0<br>minInclusive -180.0 |
| Source | `<xs:element name="EastBoundingCoordinate" type="Longitude">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Eastern-most coordinate of the limit of coverage expressed in longitude (degree).</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

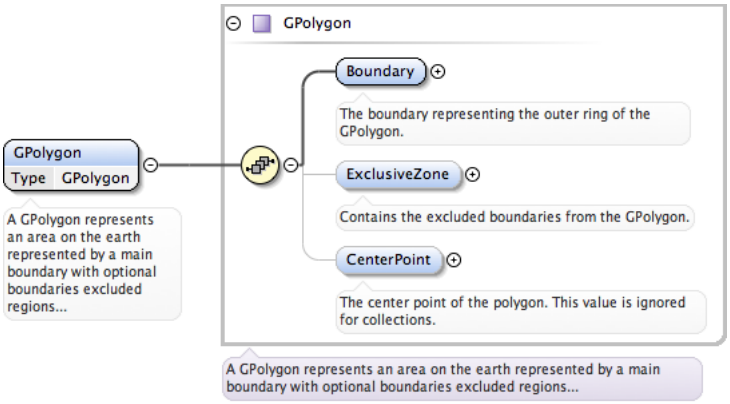
## Element BoundingRectangle / SouthBoundingCoordinate

| | |
|---|---|
| Namespace | No namespace |
| Annotations | Southern-most coordinate of the limit of coverage expressed in latitude (degree). |
| Diagram |   |
| Type | Latitude |
| Properties | content: simple |
| Facets | maxInclusive 90.0<br>minInclusive -90.0 |
| Source | `<xs:element name="SouthBoundingCoordinate" type="Latitude">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Southern-most coordinate of the limit of coverage expressed in latitude (degree).</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element BoundingRectangle / CenterPoint

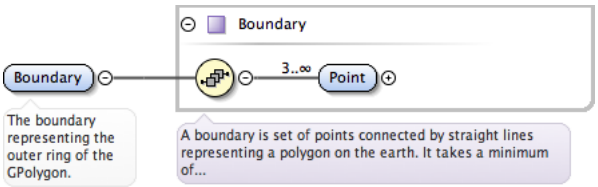
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The center point of the bounding rectangle. This value is ignored for collections. |
| Diagram |  |
| Type | Point |
| Properties | content: complex<br>minOccurs: 0 |
| Model | PointLongitude , PointLatitude |
| Children | PointLatitude, PointLongitude |
| Instance | `<CenterPoint>`<br>`  <PointLongitude>{1,1}</PointLongitude>`<br>`  <PointLatitude>{1,1}</PointLatitude>`<br>`</CenterPoint>` |
| Source | `<xs:element minOccurs="0" name="CenterPoint" type="Point">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The center point of the bounding rectangle. This value is ignored for`<br>` collections.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element Geometry / GPolygon

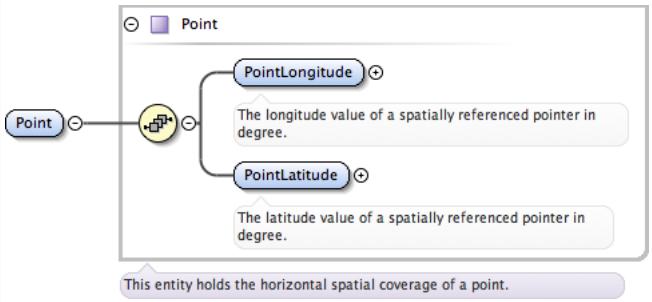
| | |
|---|---|
| Namespace | No namespace |
| Annotations | A GPolygon represents an area on the earth<br>represented by a main boundary<br>with optional boundaries excluded<br>regions from the main boundary. |
| Diagram |  |
| Type | GPolygon |
| Properties | content: complex |
| Model | Boundary , ExclusiveZone{0,1} , CenterPoint{0,1} |
| Children | Boundary, CenterPoint, ExclusiveZone |
| Instance | `<GPolygon>`<br>`  <Boundary>{1,1}</Boundary>`<br>`  <ExclusiveZone>{0,1}</ExclusiveZone>`<br>`  <CenterPoint>{0,1}</CenterPoint>`<br>`</GPolygon>` |

| | |
|---|---|
| Source | `<xs:element name="GPolygon" type="GPolygon">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A GPolygon represents an area on the earth represented by a main boundary with optional boundaries excluded regions from the main boundary.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element GPolygon / Boundary

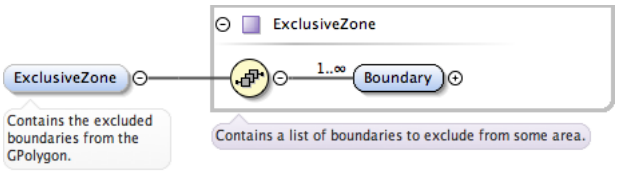
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The boundary representing the outer ring of the GPolygon. |
| Diagram |  |
| Type | Boundary |
| Properties | content: complex |
| Model | Point{3,unbounded} |
| Children | Point |
| Instance | `<Boundary>`<br>`  <Point>{3,unbounded}</Point>`<br>`</Boundary>` |
| Source | `<xs:element name="Boundary" type="Boundary">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The boundary representing the outer ring of the GPolygon.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element Boundary / Point

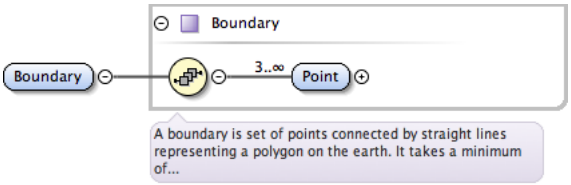
| | |
|---|---|
| Namespace | No namespace |
| Diagram |  |
| Type | Point |
| Properties | content: complex<br>minOccurs: 3<br>maxOccurs: unbounded |
| Model | PointLongitude , PointLatitude |
| Children | PointLatitude, PointLongitude |
| Instance | `<Point>`<br>`  <PointLongitude>{1,1}</PointLongitude>`<br>`  <PointLatitude>{1,1}</PointLatitude>`<br>`</Point>` |
| Source | `<xs:element minOccurs="3" maxOccurs="unbounded" name="Point" type="Point"/>` |

## Element GPolygon / ExclusiveZone

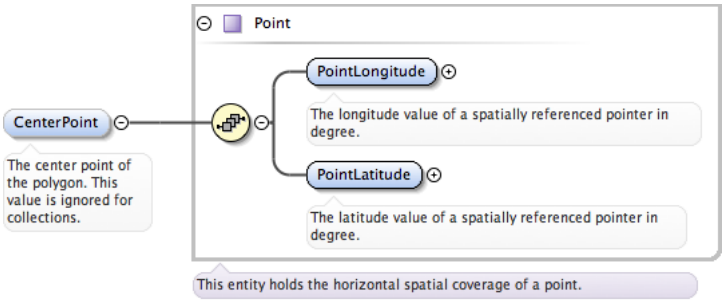
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Contains the excluded boundaries from the |

| | |
|---|---|
| | GPolygon. |
| Diagram |  |
| Type | ExclusiveZone |
| Properties | content: complex<br>minOccurs: 0 |
| Model | Boundary+ |
| Children | Boundary |
| Instance | `<ExclusiveZone>`<br>`  <Boundary>{1,unbounded}</Boundary>`<br>`</ExclusiveZone>` |
| Source | `<xs:element minOccurs="0" name="ExclusiveZone" type="ExclusiveZone">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Contains the excluded boundaries from the GPolygon.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element ExclusiveZone / Boundary

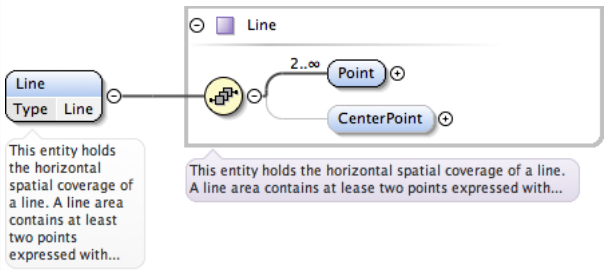
| | |
|---|---|
| Namespace | No namespace |
| Annotations | |
| Diagram |  |
| Type | Boundary |
| Properties | content: complex<br>maxOccurs: unbounded |
| Model | Point{3,unbounded} |
| Children | Point |
| Instance | `<Boundary>`<br>`  <Point>{3,unbounded}</Point>`<br>`</Boundary>` |
| Source | `<xs:element maxOccurs="unbounded" name="Boundary" type="Boundary">`<br>`  <xs:annotation>`<br>`  <xs:documentation/>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element GPolygon / CenterPoint

| | |
|---|---|
| Namespace | No namespace |
| Annotations | The center point of the polygon. This value is ignored for collections. |
| Diagram |  |

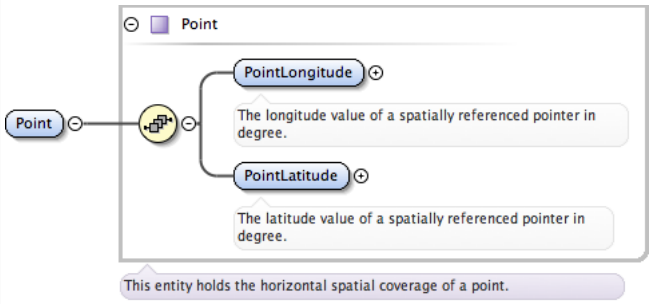
| | |
|---|---|
| Type | Point |
| Properties | content: complex<br>minOccurs: 0 |
| Model | PointLongitude , PointLatitude |
| Children | PointLatitude, PointLongitude |
| Instance | `<CenterPoint>`<br>`  <PointLongitude>{1,1}</PointLongitude>`<br>`  <PointLatitude>{1,1}</PointLatitude>`<br>`</CenterPoint>` |
| Source | `<xs:element minOccurs="0" name="CenterPoint" type="Point">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The center point of the polygon. This value is ignored for collections.</`<br>`xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element Geometry / Line

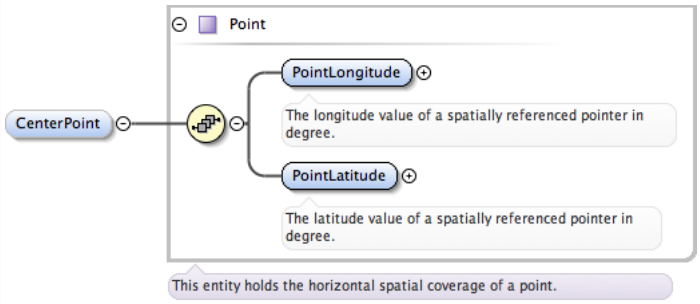
| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity holds the horizontal spatial coverage of a line. A line area contains at least two points expressed with (PointLongitude, PointLatitude). A Line entity forms with at least two Point entity. ECHO stores horizontal spatial coverage Line type information using oracle spatial type expression. |
| Diagram |  |
| Type | Line |
| Properties | content: complex |
| Model | Point{2,unbounded} , CenterPoint{0,1} |
| Children | CenterPoint, Point |
| Instance | `<Line>`<br>`  <Point>{2,unbounded}</Point>`<br>`  <CenterPoint>{0,1}</CenterPoint>`<br>`</Line>` |
| Source | `<xs:element name="Line" type="Line">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity holds the horizontal spatial coverage of a line. A line area contains at least two points expressed with (PointLongitude, PointLatitude). A Line entity forms with at least two Point entity. ECHO stores horizontal spatial coverage Line type information using oracle spatial type expression.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element Line / Point

| | |
|---|---|
| Namespace | No namespace |

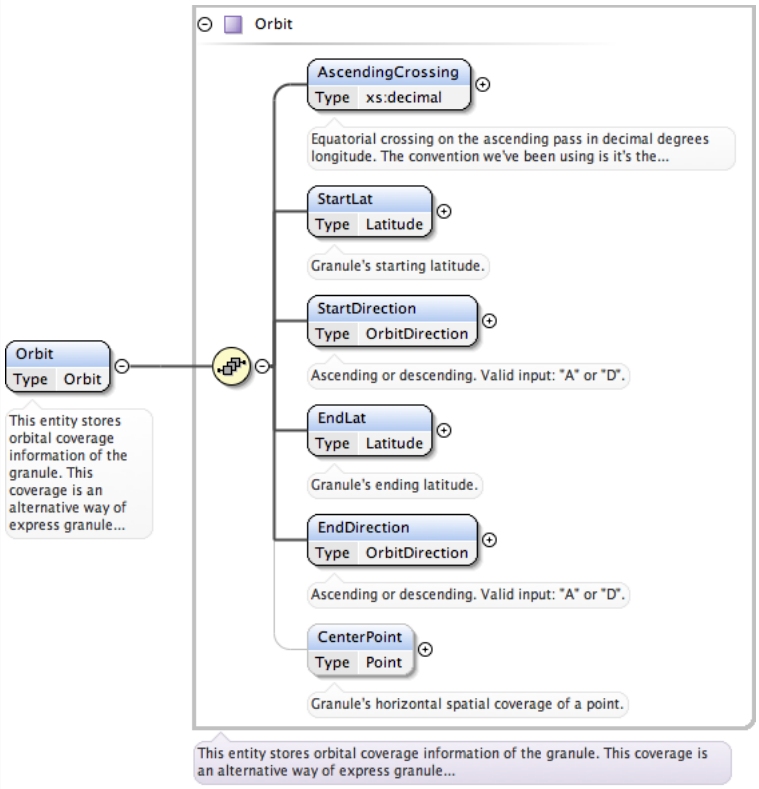
| | |
|---|---|
| Diagram |  |
| Type | Point |
| Properties | content: complex<br>minOccurs: 2<br>maxOccurs: unbounded |
| Model | PointLongitude , PointLatitude |
| Children | PointLatitude, PointLongitude |
| Instance | `<Point>`<br>`  <PointLongitude>{1,1}</PointLongitude>`<br>`  <PointLatitude>{1,1}</PointLatitude>`<br>`</Point>` |
| Source | `<xs:element minOccurs="2" maxOccurs="unbounded" name="Point" type="Point"/>` |

## Element Line / CenterPoint

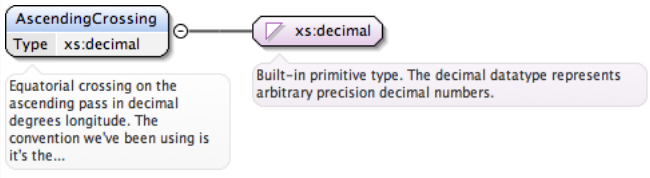
| | |
|---|---|
| Namespace | No namespace |
| Diagram |  |
| Type | Point |
| Properties | content: complex<br>minOccurs: 0 |
| Model | PointLongitude , PointLatitude |
| Children | PointLatitude, PointLongitude |
| Instance | `<CenterPoint>`<br>`  <PointLongitude>{1,1}</PointLongitude>`<br>`  <PointLatitude>{1,1}</PointLatitude>`<br>`</CenterPoint>` |
| Source | `<xs:element minOccurs="0" name="CenterPoint" type="Point"/>` |

## Element HorizontalSpatialDomain / Orbit

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity stores orbital coverage information of the granule. This coverage is an alternative way of express granule spatial coverage. This information supports orbital backtrack search apply on granule. |

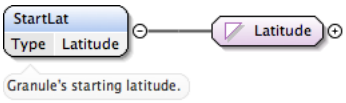
| | |
|---|---|
| Diagram |  |
| Type | Orbit |
| Properties | content: `complex` |
| Model | AscendingCrossing , StartLat , StartDirection , EndLat , EndDirection , CenterPoint{0,1} |
| Children | AscendingCrossing, CenterPoint, EndDirection, EndLat, StartDirection, StartLat |
| Instance | `<Orbit>`<br>`  <AscendingCrossing>{1,1}</AscendingCrossing>`<br>`  <StartLat>{1,1}</StartLat>`<br>`  <StartDirection>{1,1}</StartDirection>`<br>`  <EndLat>{1,1}</EndLat>`<br>`  <EndDirection>{1,1}</EndDirection>`<br>`  <CenterPoint>{0,1}</CenterPoint>`<br>`</Orbit>` |
| Source | `<xs:element name="Orbit" type="Orbit">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity stores orbital coverage information of the granule. This coverage is an alternative way of express granule spatial coverage. This information supports orbital backtrack search apply on granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element `Orbit / AscendingCrossing`

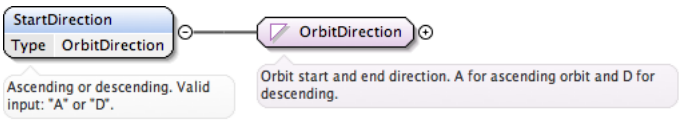
| | |
|---|---|
| Namespace | No namespace |
| Annotations | `Equatorial crossing on the ascending pass in decimal degrees longitude. The convention we've been using is it's the first included ascending crossing if one is included, and the prior ascending crossing if none is included (e.g. descending half orbits).` |
| Diagram |  |

| | |
|---|---|
| Type | xs:decimal |
| Properties | content: simple |
| Source | `<xs:element name="AscendingCrossing" type="xs:decimal">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Equatorial crossing on the ascending pass in decimal degrees longitude. The convention we've been using is it's the first included ascending crossing if one is included, and the prior ascending crossing if none is included (e.g. descending half orbits).</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

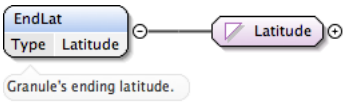
## Element Orbit / StartLat

| | |
|---|---|
| Namespace | No namespace |
| Annotations | Granule's starting latitude. |
| Diagram |  |
| Type | Latitude |
| Properties | content: simple |
| Facets | maxInclusive 90.0<br>minInclusive -90.0 |
| Source | `<xs:element name="StartLat" type="Latitude">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Granule's starting latitude.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element Orbit / StartDirection

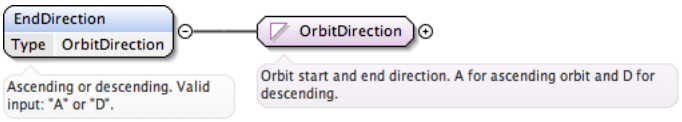
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Ascending or descending. Valid input: "A" or "D". |
| Diagram |  |
| Type | OrbitDirection |
| Properties | content: simple |
| Facets | enumeration A<br>enumeration D |
| Source | `<xs:element name="StartDirection" type="OrbitDirection">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Ascending or descending. Valid input: "A" or "D".</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element Orbit / EndLat

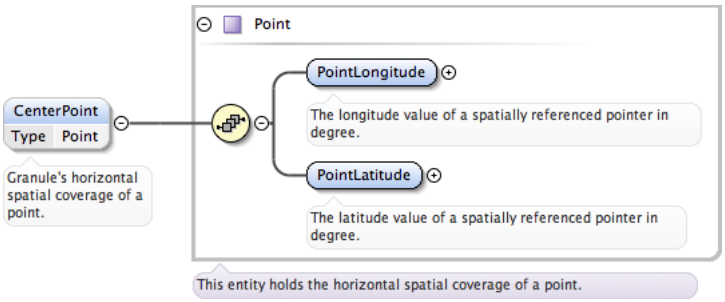
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Granule's ending latitude. |
| Diagram |  |
| Type | Latitude |
| Properties | content: simple |
| Facets | maxInclusive 90.0<br>minInclusive -90.0 |

| | |
|---|---|
| Source | `<xs:element name="EndLat" type="Latitude">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Granule's ending latitude.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element `Orbit / EndDirection`

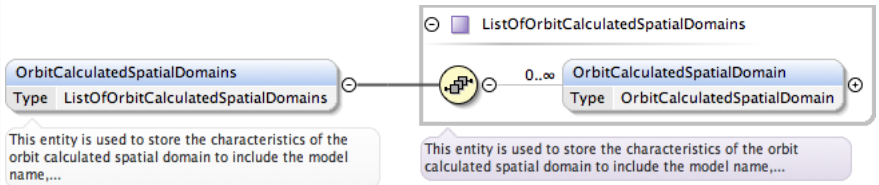
| | |
|---|---|
| Namespace | No namespace |
| Annotations | `Ascending or descending. Valid input: "A" or "D".` |
| Diagram |  |
| Type | OrbitDirection |
| Properties | content: `simple` |
| Facets | enumeration `A`<br>enumeration `D` |
| Source | `<xs:element name="EndDirection" type="OrbitDirection">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Ascending or descending. Valid input: "A" or "D".</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element `Orbit / CenterPoint`

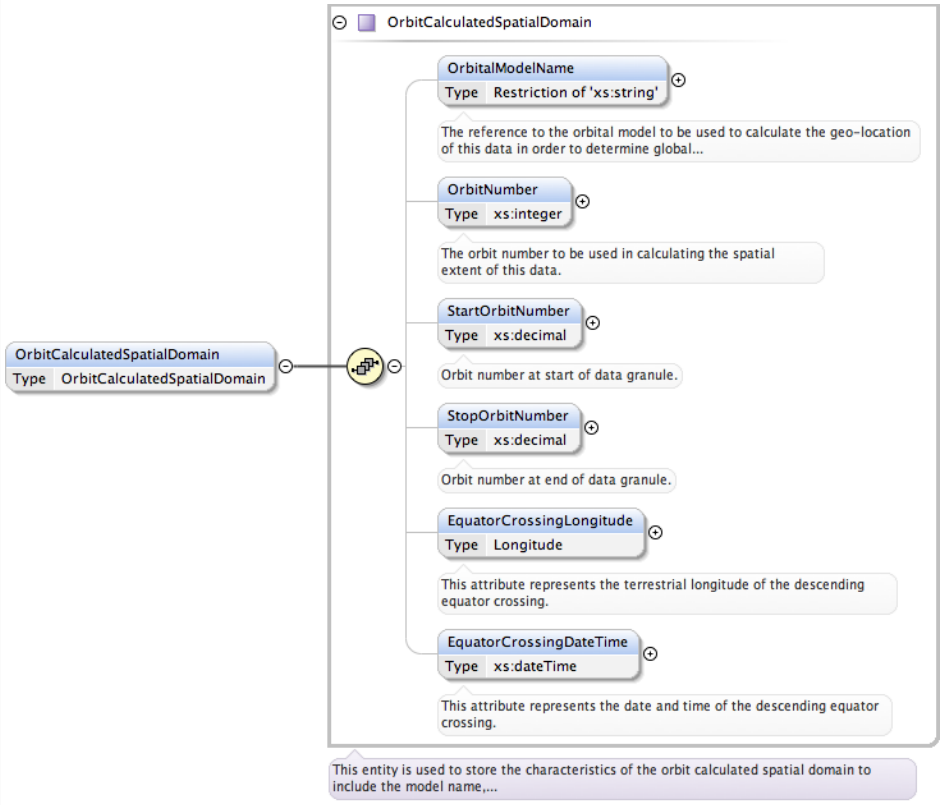
| | |
|---|---|
| Namespace | No namespace |
| Annotations | `Granule's horizontal spatial coverage of a point.` |
| Diagram |  |
| Type | Point |
| Properties | content: `complex`<br>minOccurs: `0` |
| Model | PointLongitude , PointLatitude |
| Children | PointLatitude, PointLongitude |
| Instance | `<CenterPoint>`<br>`  <PointLongitude>{1,1}</PointLongitude>`<br>`  <PointLatitude>{1,1}</PointLatitude>`<br>`</CenterPoint>` |
| Source | `<xs:element minOccurs="0" name="CenterPoint" type="Point">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Granule's horizontal spatial coverage of a point.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element `Granule / OrbitCalculatedSpatialDomains`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | `This entity is used to store the characteristics of the orbit calculated spatial domain to include the model name, orbit number, start and stop orbit number, equator crossing date and` |

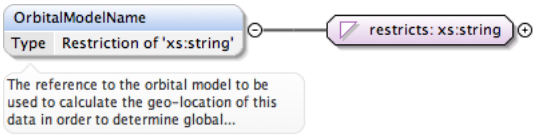
| | |
|---|---|
| | time, and equator crossing longitude. |
| Diagram |  |
| Type | ListOfOrbitCalculatedSpatialDomains |
| Properties | content: complex<br>minOccurs: 0 |
| Model | OrbitCalculatedSpatialDomain* |
| Children | OrbitCalculatedSpatialDomain |
| Instance | `<OrbitCalculatedSpatialDomains>`<br>`  <OrbitCalculatedSpatialDomain>{0,unbounded}</OrbitCalculatedSpatialDomain>`<br>`</OrbitCalculatedSpatialDomains>` |
| Source | `<xs:element minOccurs="0" name="OrbitCalculatedSpatialDomains"`<br>`  type="ListOfOrbitCalculatedSpatialDomains">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity is used to store the characteristics of the orbit calculated spatial domain to include the model name, orbit number, start and stop orbit number, equator crossing date and time, and equator crossing longitude.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element ListOfOrbitCalculatedSpatialDomains / OrbitCalculatedSpatialDomain

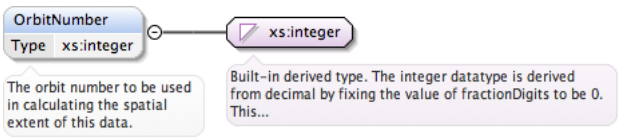
| | |
|---|---|
| Namespace | No namespace |
| Diagram |  |
| Type | OrbitCalculatedSpatialDomain |
| Properties | content: complex<br>minOccurs: 0<br>maxOccurs: unbounded |
| Model | OrbitalModelName{0,1} , OrbitNumber{0,1} , StartOrbitNumber{0,1} , StopOrbitNumber{0,1} , EquatorCrossingLongitude{0,1} , EquatorCrossingDateTime{0,1} |

| | |
|---|---|
| Children | EquatorCrossingDateTime, EquatorCrossingLongitude, OrbitNumber, OrbitalModelName, StartOrbitNumber, StopOrbitNumber |
| Instance | `<OrbitCalculatedSpatialDomain>`<br>`  <OrbitalModelName>{0,1}</OrbitalModelName>`<br>`  <OrbitNumber>{0,1}</OrbitNumber>`<br>`  <StartOrbitNumber>{0,1}</StartOrbitNumber>`<br>`  <StopOrbitNumber>{0,1}</StopOrbitNumber>`<br>`  <EquatorCrossingLongitude>{0,1}</EquatorCrossingLongitude>`<br>`  <EquatorCrossingDateTime>{0,1}</EquatorCrossingDateTime>`<br>`</OrbitCalculatedSpatialDomain>` |
| Source | `<xs:element maxOccurs="unbounded" name="OrbitCalculatedSpatialDomain"`<br>` type="OrbitCalculatedSpatialDomain" minOccurs="0"/>` |

## Element OrbitCalculatedSpatialDomain / OrbitalModelName

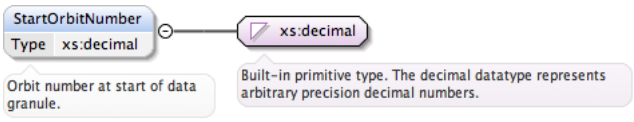
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The reference to the orbital model to be used to calculate the geo-location of this data in order to determine global spatial extent. |
| Diagram |  |
| Type | restriction of xs:string |
| Properties | content: simple<br>minOccurs: 0 |
| Facets | minLength 1<br>maxLength 80 |
| Source | `<xs:element minOccurs="0" name="OrbitalModelName">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The reference to the orbital model to be used to calculate the geo-location of this data in order to determine global spatial extent.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:minLength value="1"/>`<br>`  <xs:maxLength value="80"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` |

## Element OrbitCalculatedSpatialDomain / OrbitNumber

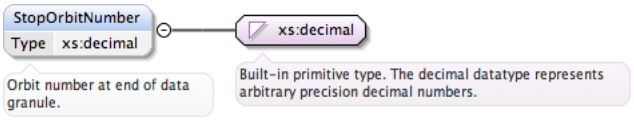
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The orbit number to be used in calculating the spatial extent of this data. |
| Diagram |  |
| Type | xs:integer |
| Properties | content: simple<br>minOccurs: 0 |
| Source | `<xs:element minOccurs="0" name="OrbitNumber" type="xs:integer">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The orbit number to be used in calculating the spatial extent of this data.</`<br>`xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element OrbitCalculatedSpatialDomain / StartOrbitNumber

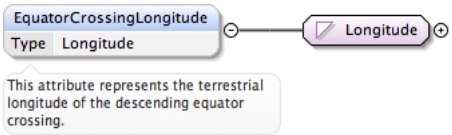
| | |
|---|---|
| Namespace | No namespace |

| | |
|---|---|
| Annotations | Orbit number at start of data granule. |
| Diagram |   |
| Type | xs:decimal |
| Properties | content: simple<br>minOccurs: 0 |
| Source | `<xs:element minOccurs="0" name="StartOrbitNumber" type="xs:decimal">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Orbit number at start of data granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element OrbitCalculatedSpatialDomain / StopOrbitNumber

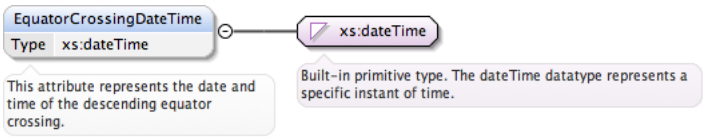
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Orbit number at end of data granule. |
| Diagram |   |
| Type | xs:decimal |
| Properties | content: simple<br>minOccurs: 0 |
| Source | `<xs:element minOccurs="0" name="StopOrbitNumber" type="xs:decimal">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Orbit number at end of data granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element OrbitCalculatedSpatialDomain / EquatorCrossingLongitude

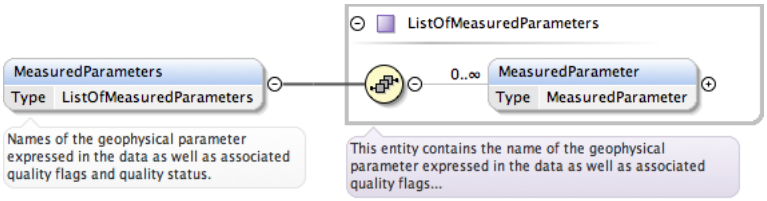
| | |
|---|---|
| Namespace | No namespace |
| Annotations | This attribute represents the terrestrial longitude of the descending equator crossing. |
| Diagram |   |
| Type | Longitude |
| Properties | content: simple<br>minOccurs: 0 |
| Facets | maxInclusive 180.0<br>minInclusive -180.0 |
| Source | `<xs:element minOccurs="0" name="EquatorCrossingLongitude" type="Longitude">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This attribute represents the terrestrial longitude of the descending equator crossing.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element OrbitCalculatedSpatialDomain / EquatorCrossingDateTime

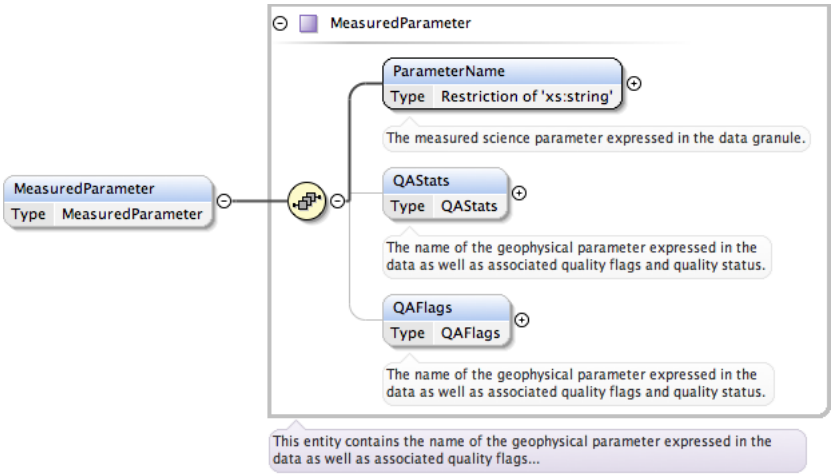
| | |
|---|---|
| Namespace | No namespace |
| Annotations | This attribute represents the date and time of the descending equator crossing. |

| | |
|---|---|
| Diagram |  |
| Type | xs:dateTime |
| Properties | content: simple<br>minOccurs: 0 |
| Source | `<xs:element minOccurs="0" name="EquatorCrossingDateTime" type="xs:dateTime">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This attribute represents the date and time of the descending equator crossing.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element `Granule / MeasuredParameters`

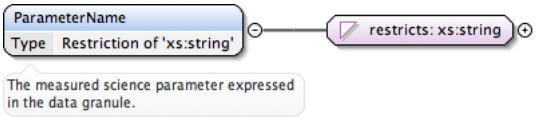
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Names of the geophysical parameter expressed in the data as well as associated quality flags and quality status. |
| Diagram |  |
| Type | ListOfMeasuredParameters |
| Properties | content: complex<br>minOccurs: 0 |
| Model | MeasuredParameter* |
| Children | MeasuredParameter |
| Instance | `<MeasuredParameters>`<br>`  <MeasuredParameter>{0,unbounded}</MeasuredParameter>`<br>`</MeasuredParameters>` |
| Source | `<xs:element minOccurs="0" name="MeasuredParameters" type="ListOfMeasuredParameters">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Names of the geophysical parameter expressed in the data as well as associated quality flags and quality status.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element `ListOfMeasuredParameters / MeasuredParameter`

| | |
|---|---|
| Namespace | No namespace |
| Diagram |  |

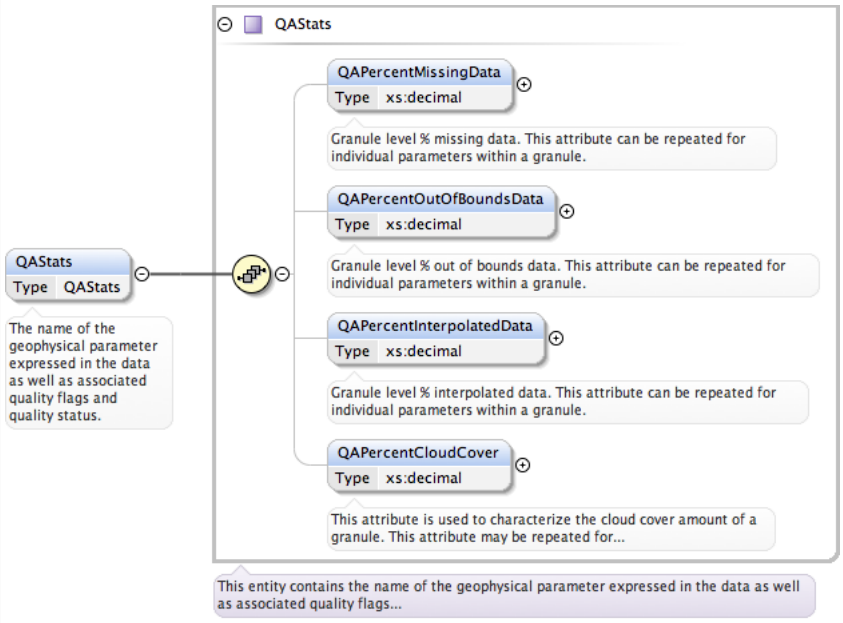
| | |
|---|---|
| Type | MeasuredParameter |
| Properties | content: complex<br>minOccurs: 0<br>maxOccurs: unbounded |
| Model | ParameterName , QAStats{0,1} , QAFlags{0,1} |
| Children | ParameterName, QAFlags, QAStats |
| Instance | `<MeasuredParameter>`<br>`  <ParameterName>{1,1}</ParameterName>`<br>`  <QAStats>{0,1}</QAStats>`<br>`  <QAFlags>{0,1}</QAFlags>`<br>`</MeasuredParameter>` |
| Source | `<xs:element maxOccurs="unbounded" name="MeasuredParameter" type="MeasuredParameter" minOccurs="0"/>` |

## Element MeasuredParameter / ParameterName

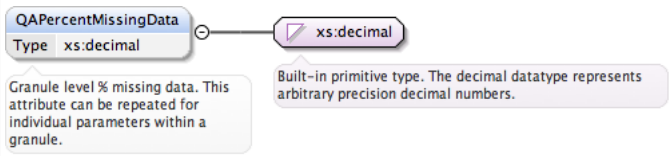
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The measured science parameter expressed in the data granule. |
| Diagram |  |
| Type | restriction of xs:string |
| Properties | content: simple |
| Facets | minLength 1<br>maxLength 250 |
| Source | `<xs:element name="ParameterName">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The measured science parameter expressed in the data granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:maxLength value="250"/>`<br>`  <xs:minLength value="1"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` |

## Element MeasuredParameter / QAStats

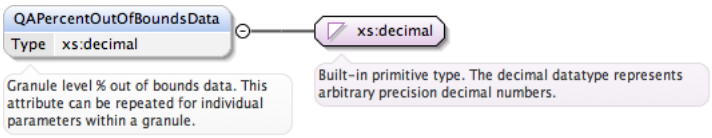
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The name of the geophysical parameter expressed in the data as well as associated quality flags and quality status. |

| | |
|---|---|
| Diagram |  |
| Type | QAStats |
| Properties | content: complex<br>minOccurs: 0 |
| Model | QAPercentMissingData{0,1} , QAPercentOutOfBoundsData{0,1} , QAPercentInterpolatedData{0,1} , QAPercentCloudCover{0,1} |
| Children | QAPercentCloudCover, QAPercentInterpolatedData, QAPercentMissingData, QAPercentOutOfBoundsData |
| Instance | `<QAStats>`<br>`  <QAPercentMissingData>{0,1}</QAPercentMissingData>`<br>`  <QAPercentOutOfBoundsData>{0,1}</QAPercentOutOfBoundsData>`<br>`  <QAPercentInterpolatedData>{0,1}</QAPercentInterpolatedData>`<br>`  <QAPercentCloudCover>{0,1}</QAPercentCloudCover>`<br>`</QAStats>` |
| Source | `<xs:element minOccurs="0" name="QAStats" type="QAStats">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The name of the geophysical parameter expressed in the data as well as`<br>` associated quality flags and quality status.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

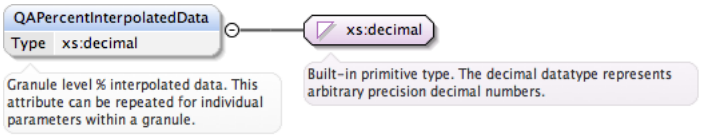
## Element QAStats / QAPercentMissingData

| | |
|---|---|
| Namespace | No namespace |
| Annotations | Granule level % missing data. This attribute can<br>be<br>repeated for individual parameters within a granule. |
| Diagram |  |
| Type | xs:decimal |
| Properties | content: simple<br>minOccurs: 0 |
| Source | `<xs:element minOccurs="0" name="QAPercentMissingData" type="xs:decimal">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Granule level % missing data. This attribute can be repeated for individual`<br>` parameters within a granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

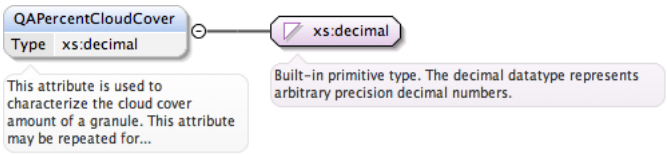
## Element QAStats / QAPercentOutOfBoundsData

| | |
|---|---|
| Namespace | No namespace |
| Annotations | Granule level % out of bounds data. This attribute can be repeated for individual parameters within a granule. |
| Diagram |   |
| Type | xs:decimal |
| Properties | content: simple<br>minOccurs: 0 |
| Source | `<xs:element minOccurs="0" name="QAPercentOutOfBoundsData" type="xs:decimal">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Granule level % out of bounds data. This attribute can be repeated for individual parameters within a granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element QAStats / QAPercentInterpolatedData

| | |
|---|---|
| Namespace | No namespace |
| Annotations | Granule level % interpolated data. This attribute can be repeated for individual parameters within a granule. |
| Diagram |   |
| Type | xs:decimal |
| Properties | content: simple<br>minOccurs: 0 |
| Source | `<xs:element minOccurs="0" name="QAPercentInterpolatedData" type="xs:decimal">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Granule level % interpolated data. This attribute can be repeated for individual parameters within a granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element QAStats / QAPercentCloudCover

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This attribute is used to characterize the cloud cover amount of a granule. This attribute may be repeated for individual parameters within a granule. (Note - there may be more than one way to define a cloud or it's effects within a product containing several parameters; i.e. this attribute may be parameter specific) |
| Diagram |   |
| Type | xs:decimal |

| | | |
|---|---|---|
| Properties | content: | simple |
| | minOccurs: | 0 |

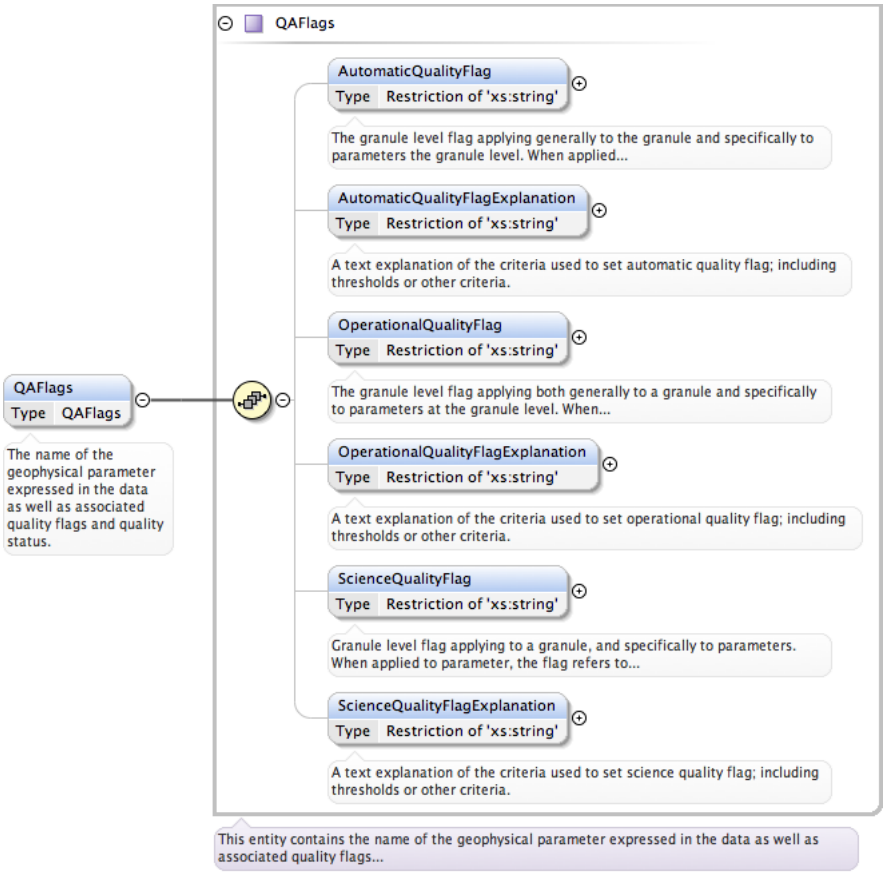
Source

```
<xs:element minOccurs="0" name="QAPercentCloudCover" type="xs:decimal">
  <xs:annotation>
    <xs:documentation>This attribute is used to characterize the cloud cover amount of a granule.
 This attribute may be repeated for individual parameters within a granule. (Note - there may be
 more than one way to define a cloud or it's effects within a product containing several parameters;
 i.e. this attribute may be parameter specific)</xs:documentation>
  </xs:annotation>
</xs:element>
```

## Element MeasuredParameter / QAFlags

| | |
|---|---|
| Namespace | No namespace |
| Annotations | The name of the geophysical parameter expressed in the data as well as associated quality flags and quality status. |

Diagram




| | | |
|---|---|---|
| Type | QAFlags | |
| Properties | content: | complex |
| | minOccurs: | 0 |
| Model | AutomaticQualityFlag{0,1} , AutomaticQualityFlagExplanation{0,1} , OperationalQualityFlag{0,1} , OperationalQualityFlagExplanation{0,1} , ScienceQualityFlag{0,1} , ScienceQualityFlagExplanation{0,1} | |
| Children | AutomaticQualityFlag, AutomaticQualityFlagExplanation, OperationalQualityFlag, OperationalQualityFlagExplanation, ScienceQualityFlag, ScienceQualityFlagExplanation | |

Instance

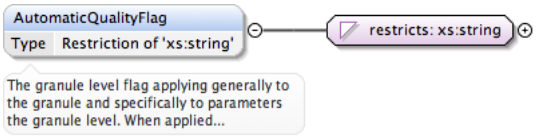
```
<QAFlags>
  <AutomaticQualityFlag>{0,1}</AutomaticQualityFlag>
  <AutomaticQualityFlagExplanation>{0,1}</AutomaticQualityFlagExplanation>
  <OperationalQualityFlag>{0,1}</OperationalQualityFlag>
  <OperationalQualityFlagExplanation>{0,1}</OperationalQualityFlagExplanation>
  <ScienceQualityFlag>{0,1}</ScienceQualityFlag>
  <ScienceQualityFlagExplanation>{0,1}</ScienceQualityFlagExplanation>
</QAFlags>
```

Source

```
<xs:element minOccurs="0" name="QAFlags" type="QAFlags">
  <xs:annotation>
```

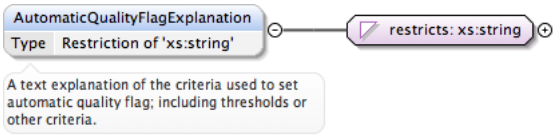
```
    <xs:documentation>The name of the geophysical parameter expressed in the data as well as
 associated quality flags and quality status.</xs:documentation>
  </xs:annotation>
</xs:element>
```

## Element QAFlags / AutomaticQualityFlag

| | |
|---|---|
| Namespace | No namespace |
| Annotations | The granule level flag applying generally to the granule and specifically to parameters the granule level. When applied to parameter, the flag refers to the quality of that parameter for the granule (as applicable). The parameters determining whether the flag is set are defined by the developer and documented in the Quality Flag Explanation. |
| Diagram |   |
| Type | restriction of xs:string |
| Properties | content: simple<br>minOccurs: 0 |
| Facets | minLength 1<br>maxLength 80 |
| Source | |

```
<xs:element minOccurs="0" name="AutomaticQualityFlag">
  <xs:annotation>
    <xs:documentation>The granule level flag applying generally to the granule and specifically to
 parameters the granule level. When applied to parameter, the flag refers to the quality of that
 parameter for the granule (as applicable). The parameters determining whether the flag is set are
 defined by the developer and documented in the Quality Flag Explanation.</xs:documentation>
  </xs:annotation>
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:minLength value="1"/>
      <xs:maxLength value="80"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
```

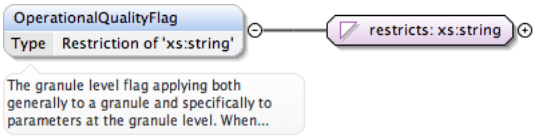
## Element QAFlags / AutomaticQualityFlagExplanation

| | |
|---|---|
| Namespace | No namespace |
| Annotations | A text explanation of the criteria used to set automatic quality flag; including thresholds or other criteria. |
| Diagram |   |
| Type | restriction of xs:string |
| Properties | content: simple<br>minOccurs: 0 |
| Facets | minLength 1<br>maxLength 2048 |
| Source | |

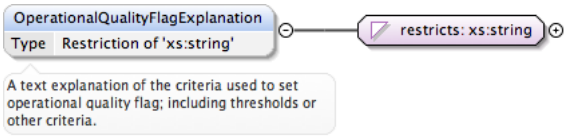
```
<xs:element minOccurs="0" name="AutomaticQualityFlagExplanation">
  <xs:annotation>
    <xs:documentation>A text explanation of the criteria used to set automatic quality flag;
 including thresholds or other criteria.</xs:documentation>
  </xs:annotation>
```

```
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:minLength value="1"/>
      <xs:maxLength value="2048"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
```

## Element QAFlags / OperationalQualityFlag

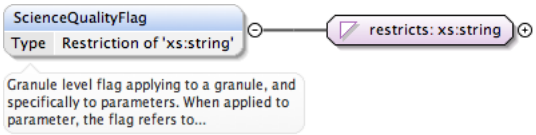
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The granule level flag applying both generally to a granule and specifically to parameters at the granule level. When applied to parameter, the flag refers to the quality of that parameter for the granule (as applicable). The parameters determining whether the flag is set and documented in the QualityFlagExplanation. |
| Diagram |   |
| Type | restriction of xs:string |
| Properties | content: simple<br>minOccurs: 0 |
| Facets | minLength 1<br>maxLength 80 |
| Source | `<xs:element minOccurs="0" name="OperationalQualityFlag">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The granule level flag applying both generally to a granule and specifically to parameters at the granule level. When applied to parameter, the flag refers to the quality of that parameter for the granule (as applicable). The parameters determining whether the flag is set are defined by the developers and documented in the QualityFlagExplanation.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:minLength value="1"/>`<br>`  <xs:maxLength value="80"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` |

## Element QAFlags / OperationalQualityFlagExplanation

| | |
|---|---|
| Namespace | No namespace |
| Annotations | A text explanation of the criteria used to set operational quality flag; including thresholds or other criteria. |
| Diagram |   |
| Type | restriction of xs:string |
| Properties | content: simple<br>minOccurs: 0 |
| Facets | minLength 1<br>maxLength 2048 |
| Source | `<xs:element minOccurs="0" name="OperationalQualityFlagExplanation">` |

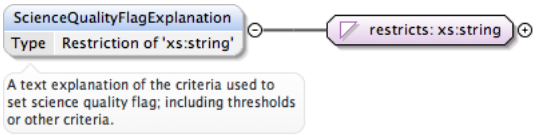
```
  <xs:annotation>
    <xs:documentation>A text explanation of the criteria used to set operational quality flag;
 including thresholds or other criteria.</xs:documentation>
  </xs:annotation>
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:minLength value="1"/>
      <xs:maxLength value="2048"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
```

## Element QAFlags / ScienceQualityFlag

| | |
|---|---|
| Namespace | No namespace |
| Annotations | Granule level flag applying to a granule, and specifically to parameters. When applied to parameter, the flag refers to the quality of that parameter for the granule (as applicable). The parameters determining whether the flag is set are defined by the developers and documented in the Quality Flag Explanation. |
| Diagram |   |
| Type | restriction of xs:string |
| Properties | content: simple<br>minOccurs: 0 |
| Facets | minLength 1<br>maxLength 80 |
| Source | |

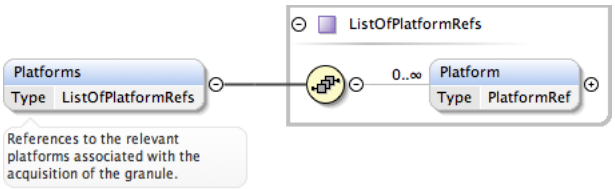
```
<xs:element minOccurs="0" name="ScienceQualityFlag">
  <xs:annotation>
    <xs:documentation>Granule level flag applying to a granule, and specifically to parameters.
 When applied to parameter, the flag refers to the quality of that parameter for the granule (as
 applicable). The parameters determining whether the flag is set are defined by the developers and
 documented in the Quality Flag Explanation.</xs:documentation>
  </xs:annotation>
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:minLength value="1"/>
      <xs:maxLength value="80"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
```

## Element QAFlags / ScienceQualityFlagExplanation

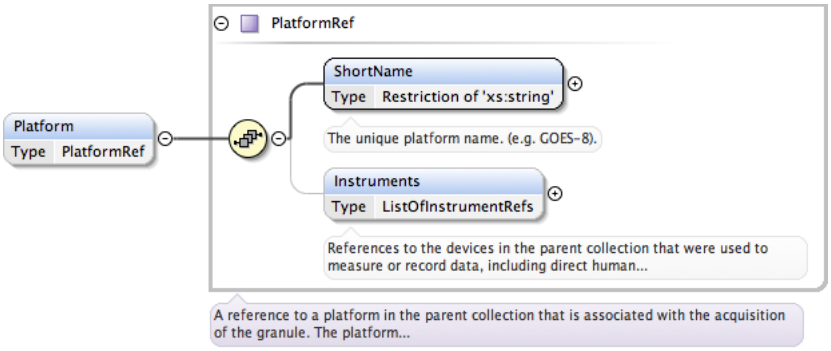
| | |
|---|---|
| Namespace | No namespace |
| Annotations | A text explanation of the criteria used to set science quality flag; including thresholds or other criteria. |
| Diagram |   |
| Type | restriction of xs:string |
| Properties | content: simple<br>minOccurs: 0 |
| Facets | minLength 1<br>maxLength 2048 |

| | |
|---|---|
| Source | `<xs:element minOccurs="0" name="ScienceQualityFlagExplanation">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A text explanation of the criteria used to set science quality flag; including thresholds or other criteria.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:minLength value="1"/>`<br>`  <xs:maxLength value="2048"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` |

## Element `Granule / Platforms`

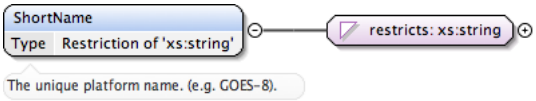
| | |
|---|---|
| Namespace | No namespace |
| Annotations | `References to the relevant platforms associated with the acquisition of the granule.` |
| Diagram |  |
| Type | ListOfPlatformRefs |
| Properties | content: `complex`<br>minOccurs: `0` |
| Model | Platform* |
| Children | Platform |
| Instance | `<Platforms>`<br>`  <Platform>{0,unbounded}</Platform>`<br>`</Platforms>` |
| Source | `<xs:element minOccurs="0" name="Platforms" type="ListOfPlatformRefs">`<br>`  <xs:annotation>`<br>`  <xs:documentation>References to the relevant platforms associated with the acquisition of the granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element `ListOfPlatformRefs / Platform`

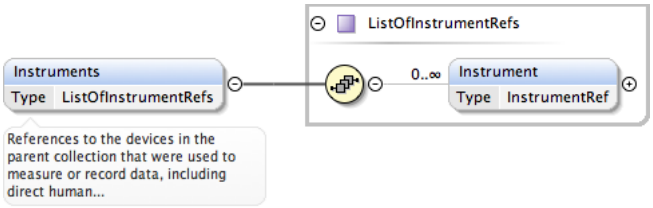
| | |
|---|---|
| Namespace | No namespace |
| Diagram |  |
| Type | PlatformRef |
| Properties | content: `complex`<br>minOccurs: `0`<br>maxOccurs: `unbounded` |
| Model | ShortName , Instruments{0,1} |
| Children | Instruments, ShortName |
| Instance | `<Platform>` |

| | |
|---|---|
| | `<ShortName>{1,1}</ShortName>`<br>`<Instruments>{0,1}</Instruments>`<br>`</Platform>` |
| Source | `<xs:element name="Platform" type="PlatformRef" minOccurs="0" maxOccurs="unbounded">`<br>`</xs:element>` |

## Element PlatformRef / ShortName

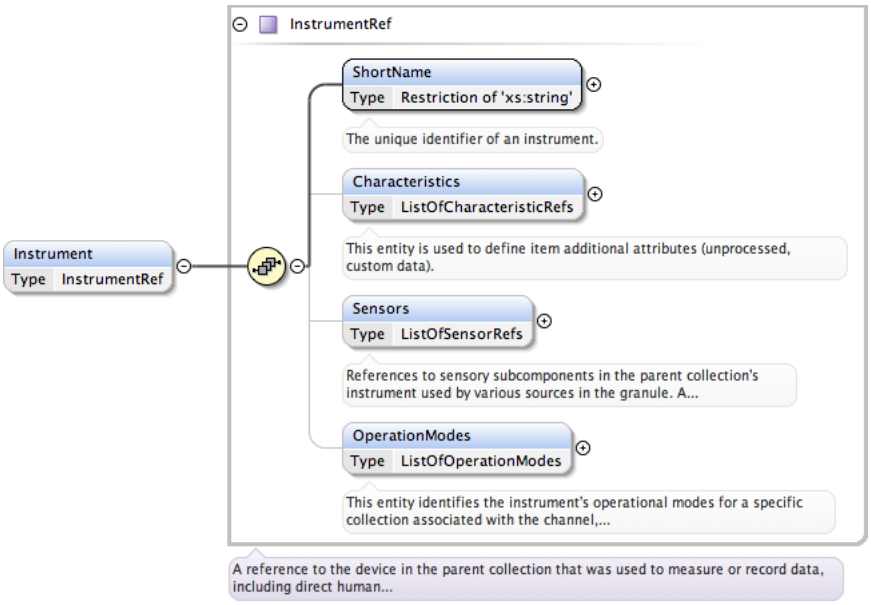
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The unique platform name. (e.g. GOES-8). |
| Diagram |  |
| Type | restriction of xs:string |
| Properties | content: simple |
| Facets | minLength 1<br>maxLength 80 |
| Source | `<xs:element name="ShortName">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The unique platform name. (e.g. GOES-8).</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:minLength value="1"/>`<br>`  <xs:maxLength value="80"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` |

## Element PlatformRef / Instruments

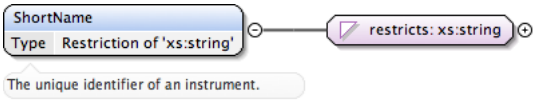
| | |
|---|---|
| Namespace | No namespace |
| Annotations | References to the devices in the parent collection that were used to measure or record data, including direct human observation. |
| Diagram |  |
| Type | ListOfInstrumentRefs |
| Properties | content: complex<br>minOccurs: 0 |
| Model | Instrument* |
| Children | Instrument |
| Instance | `<Instruments>`<br>`  <Instrument>{0,unbounded}</Instrument>`<br>`</Instruments>` |
| Source | `<xs:element minOccurs="0" name="Instruments" type="ListOfInstrumentRefs">`<br>`  <xs:annotation>`<br>`  <xs:documentation>References to the devices in the parent collection that were used to measure`<br>` or record data, including direct human observation.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element ListOfInstrumentRefs / Instrument

| | |
|---|---|
| Namespace | No namespace |

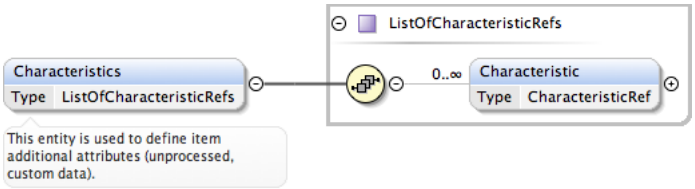
| | |
|---|---|
| Diagram |  |
| Type | InstrumentRef |
| Properties | content: complex<br>minOccurs: 0<br>maxOccurs: unbounded |
| Model | ShortName , Characteristics{0,1} , Sensors{0,1} , OperationModes{0,1} |
| Children | Characteristics, OperationModes, Sensors, ShortName |
| Instance | `<Instrument>`<br>`  <ShortName>{1,1}</ShortName>`<br>`  <Characteristics>{0,1}</Characteristics>`<br>`  <Sensors>{0,1}</Sensors>`<br>`  <OperationModes>{0,1}</OperationModes>`<br>`</Instrument>` |
| Source | `<xs:element name="Instrument" type="InstrumentRef" minOccurs="0" maxOccurs="unbounded">`<br>`</xs:element>` |

## Element InstrumentRef / ShortName

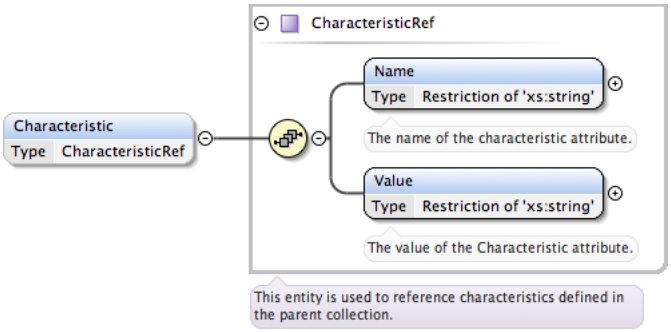
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The unique identifier of an instrument. |
| Diagram |  |
| Type | restriction of xs:string |
| Properties | content: simple |
| Facets | minLength 1<br>maxLength 80 |
| Source | `<xs:element name="ShortName">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The unique identifier of an instrument.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:minLength value="1"/>`<br>`  <xs:maxLength value="80"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` |

## Element InstrumentRef / Characteristics

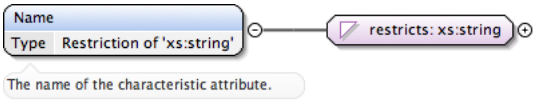
| | |
|---|---|
| Namespace | No namespace |

| | |
|---|---|
| Annotations | This entity is used to define item additional attributes (unprocessed, custom data). |
| Diagram |  |
| Type | ListOfCharacteristicRefs |
| Properties | content: complex<br>minOccurs: 0 |
| Model | Characteristic* |
| Children | Characteristic |
| Instance | `<Characteristics>`<br>`  <Characteristic>{0,unbounded}</Characteristic>`<br>`</Characteristics>` |
| Source | `<xs:element minOccurs="0" name="Characteristics" type="ListOfCharacteristicRefs">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity is used to define item additional attributes (unprocessed, custom data).</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element ListOfCharacteristicRefs / Characteristic

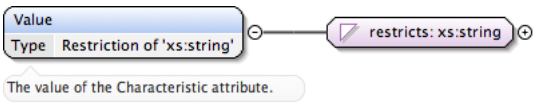
| | |
|---|---|
| Namespace | No namespace |
| Diagram |  |
| Type | CharacteristicRef |
| Properties | content: complex<br>minOccurs: 0<br>maxOccurs: unbounded |
| Model | Name , Value |
| Children | Name, Value |
| Instance | `<Characteristic>`<br>`  <Name>{1,1}</Name>`<br>`  <Value>{1,1}</Value>`<br>`</Characteristic>` |
| Source | `<xs:element minOccurs="0" maxOccurs="unbounded" name="Characteristic" type="CharacteristicRef"/>` |

## Element CharacteristicRef / Name

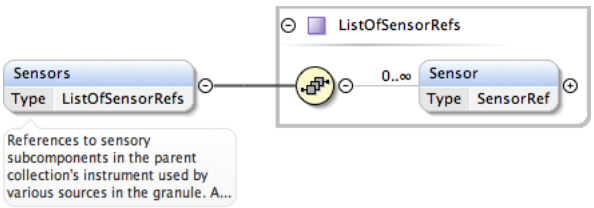
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The name of the characteristic attribute. |
| Diagram |  |
| Type | restriction of xs:string |

| | | |
|---|---|---|
| Properties | content: | simple |
| Facets | minLength | 1 |
| | maxLength | 80 |
| Source | <xs:element name="Name"><br>  <xs:annotation><br>  <xs:documentation>The name of the characteristic attribute.</xs:documentation><br>  </xs:annotation><br>  <xs:simpleType><br>  <xs:restriction base="xs:string"><br>  <xs:maxLength value="80"/><br>  <xs:minLength value="1"/><br>  </xs:restriction><br>  </xs:simpleType><br></xs:element> | |

## Element CharacteristicRef / Value

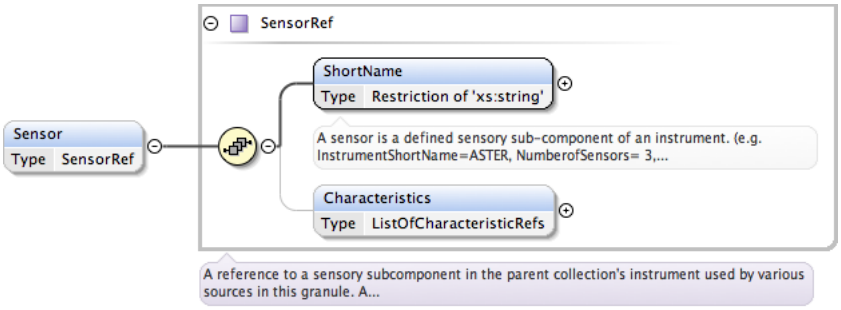
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The value of the Characteristic attribute. |
| Diagram |  |
| Type | restriction of xs:string |
| Properties | content: simple |
| Facets | minLength 1 |
| | maxLength 80 |
| Source | <xs:element name="Value">  <xs:annotation>  <xs:documentation>The value of the Characteristic attribute.</xs:documentation>  </xs:annotation>  <xs:simpleType>  <xs:restriction base="xs:string">  <xs:minLength value="1"/>  <xs:maxLength value="80"/>  </xs:restriction>  </xs:simpleType> </xs:element> |

## Element InstrumentRef / Sensors

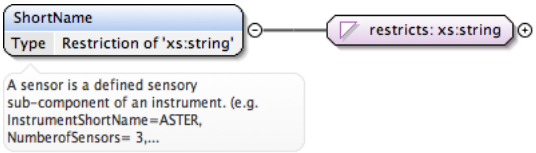
| | |
|---|---|
| Namespace | No namespace |
| Annotations | References to sensory subcomponents in the parent collection's instrument used by various sources in the granule. A sensor reference may contain characteristics specific to the granule. |
| Diagram |  |
| Type | ListOfSensorRefs |
| Properties | content: complex |
| | minOccurs: 0 |
| Model | Sensor* |
| Children | Sensor |
| Instance | <Sensors>  <Sensor>{0,unbounded}</Sensor> </Sensors> |

| | |
|---|---|
| Source | `<xs:element minOccurs="0" name="Sensors" type="ListOfSensorRefs">`<br>`  <xs:annotation>`<br>`  <xs:documentation>References to sensory subcomponents in the parent collection's instrument used by various sources in the granule. A sensor reference may contain characteristics specific to the granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element ListOfSensorRefs / Sensor

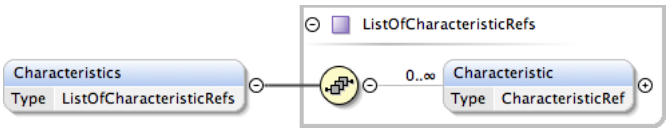
| | |
|---|---|
| Namespace | No namespace |
| Diagram |  |
| Type | SensorRef |
| Properties | content: complex<br>minOccurs: 0<br>maxOccurs: unbounded |
| Model | ShortName , Characteristics{0,1} |
| Children | Characteristics, ShortName |
| Instance | `<Sensor>`<br>`  <ShortName>{1,1}</ShortName>`<br>`  <Characteristics>{0,1}</Characteristics>`<br>`</Sensor>` |
| Source | `<xs:element name="Sensor" type="SensorRef" minOccurs="0" maxOccurs="unbounded">`<br>`</xs:element>` |

## Element SensorRef / ShortName

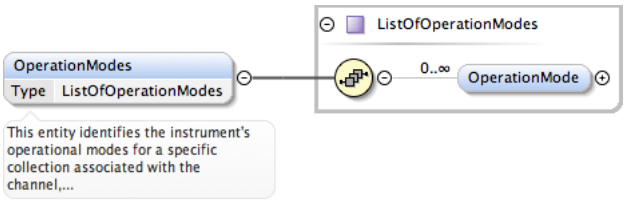
| | |
|---|---|
| Namespace | No namespace |
| Annotations | A sensor is a defined sensory sub-component of an instrument. (e.g. InstrumentShortName=ASTER, NumberofSensors= 3, SensorShortName= SWIR, SensorShortName= TIR, SensorShortName= VNIR) In cases where the Instrument has a single Sensor or the Instrument and Sensor are synonymous then both attributes should be populated. (e.g. AVHRR). Sensors cannot exist without Instruments. |
| Diagram |  |
| Type | restriction of xs:string |
| Properties | content: simple |
| Facets | minLength 1<br>maxLength 80 |
| Source | `<xs:element name="ShortName">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A sensor is a defined sensory sub-component of an instrument. (e.g. InstrumentShortName=ASTER, NumberofSensors= 3, SensorShortName= SWIR, SensorShortName= TIR, SensorShortName= VNIR) In cases where the Instrument has a single Sensor or the Instrument and` |

```
 Sensor are synonymous then both attributes should be populated. (e.g. AVHRR). Sensors cannot exist
 without Instruments.</xs:documentation>
  </xs:annotation>
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:minLength value="1"/>
      <xs:maxLength value="80"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
```

## Element SensorRef / Characteristics

| | |
|---|---|
| Namespace | No namespace |
| Diagram |  |
| Type | ListOfCharacteristicRefs |
| Properties | content: complex<br>minOccurs: 0 |
| Model | Characteristic* |
| Children | Characteristic |
| Instance | `<Characteristics>`<br>`  <Characteristic>{0,unbounded}</Characteristic>`<br>`</Characteristics>` |
| Source | `<xs:element minOccurs="0" name="Characteristics" type="ListOfCharacteristicRefs"/>` |

## Element InstrumentRef / OperationModes

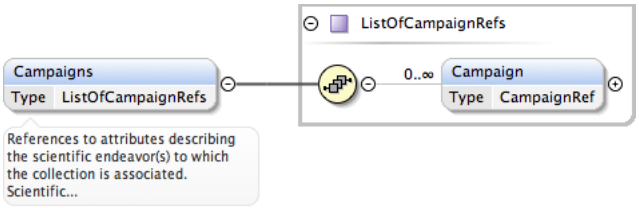
| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity identifies the instrument's operational modes for a specific collection associated with the channel, wavelength, and FOV (e.g., launch, survival, initialization, safe, diagnostic, standby, crosstrack, biaxial, solar calibration). |
| Diagram |  |
| Type | ListOfOperationModes |
| Properties | content: complex<br>minOccurs: 0 |
| Model | OperationMode* |
| Children | OperationMode |
| Instance | `<OperationModes>`<br>`  <OperationMode>{0,unbounded}</OperationMode>`<br>`</OperationModes>` |
| Source | `<xs:element minOccurs="0" name="OperationModes" type="ListOfOperationModes">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity identifies the instrument's operational modes for a`<br>` specific collection associated with the channel, wavelength, and FOV (e.g., launch, survival,`<br>` initialization, safe, diagnostic, standby, crosstrack, biaxial, solar calibration).</`<br>`xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element ListOfOperationModes / OperationMode

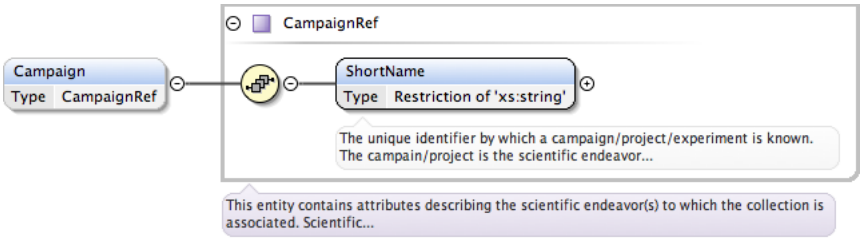
| | |
|---|---|
| Namespace | No namespace |

| | |
|---|---|
| Diagram | |
| Type | restriction of xs:string |
| Properties | content: `simple`<br>minOccurs: `0`<br>maxOccurs: `unbounded` |
| Facets | minLength `1`<br>maxLength `20` |
| Source | `<xs:element minOccurs="0" maxOccurs="unbounded" name="OperationMode">`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:maxLength value="20"/>`<br>`  <xs:minLength value="1"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` |

## Element `Granule / Campaigns`

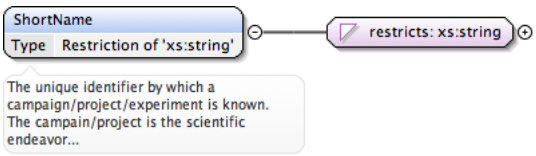
| | |
|---|---|
| Namespace | No namespace |
| Annotations | `References to attributes describing the scientific endeavor(s) to which the collection is associated. Scientific endeavors include campaigns, projects, interdisciplinary science investigations, missions, field experiments, etc.` |
| Diagram |   |
| Type | ListOfCampaignRefs |
| Properties | content: `complex`<br>minOccurs: `0` |
| Model | Campaign* |
| Children | Campaign |
| Instance | `<Campaigns>`<br>`  <Campaign>{0,unbounded}</Campaign>`<br>`</Campaigns>` |
| Source | `<xs:element minOccurs="0" name="Campaigns" type="ListOfCampaignRefs">`<br>`  <xs:annotation>`<br>`  <xs:documentation>References to attributes describing the scientific endeavor(s) to which the collection is associated. Scientific endeavors include campaigns, projects, interdisciplinary science investigations, missions, field experiments, etc.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element `ListOfCampaignRefs / Campaign`

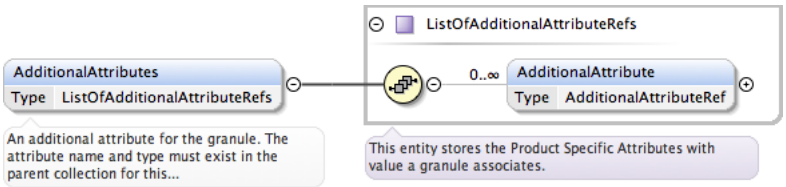
| | |
|---|---|
| Namespace | No namespace |
| Diagram |   |

| | |
|---|---|
| Type | CampaignRef |
| Properties | content: complex<br>minOccurs: 0<br>maxOccurs: unbounded |
| Model | ShortName |
| Children | ShortName |
| Instance | `<Campaign>`<br>`  <ShortName>{1,1}</ShortName>`<br>`</Campaign>` |
| Source | `<xs:element name="Campaign" type="CampaignRef" minOccurs="0" maxOccurs="unbounded">`<br>`</xs:element>` |

## Element CampaignRef / ShortName

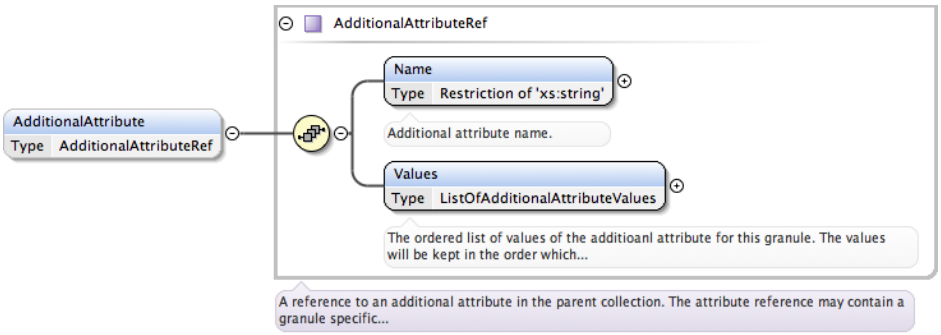
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The unique identifier by which a campaign/project/experiment is known. The campain/project is the scientific endeavor associated with the acquisition of the collection. Collections may be associated with multiple campaigns. |
| Diagram |  |
| Type | restriction of xs:string |
| Properties | content: simple |
| Facets | minLength 1<br>maxLength 80 |
| Source | `<xs:element name="ShortName">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The unique identifier by which a campaign/project/experiment is known. The campain/project is the scientific endeavor associated with the acquisition of the collection. Collections may be associated with multiple campaigns.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:maxLength value="80"/>`<br>`  <xs:minLength value="1"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` |

## Element Granule / AdditionalAttributes

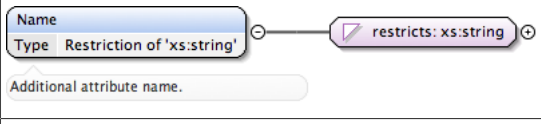
| | |
|---|---|
| Namespace | No namespace |
| Annotations | An additional attribute for the granule. The attribute name and type must exist in the parent collection for this granule. Additional attributes are the same as PSAs. |
| Diagram |  |
| Type | ListOfAdditionalAttributeRefs |
| Properties | content: complex |

| | |
|---|---|
| | minOccurs: 0 |
| Model | AdditionalAttribute* |
| Children | AdditionalAttribute |
| Instance | `<AdditionalAttributes>`<br>`  <AdditionalAttribute>{0,unbounded}</AdditionalAttribute>`<br>`</AdditionalAttributes>` |
| Source | `<xs:element name="AdditionalAttributes" type="ListOfAdditionalAttributeRefs" minOccurs="0">`<br>`  <xs:annotation>`<br>`  <xs:documentation>An additional attribute for the granule. The attribute name and type must exist in the parent collection for this granule. Additional attributes are the same as PSAs.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element ListOfAdditionalAttributeRefs / AdditionalAttribute

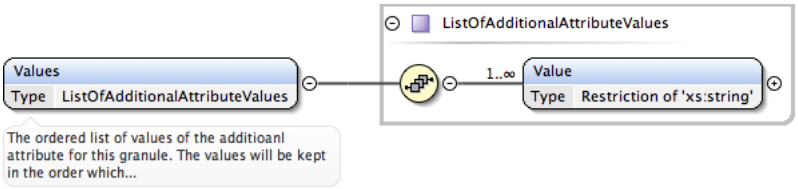
| | |
|---|---|
| Namespace | No namespace |
| Diagram |  |
| Type | AdditionalAttributeRef |
| Properties | content: complex<br>minOccurs: 0<br>maxOccurs: unbounded |
| Model | Name , Values |
| Children | Name, Values |
| Instance | `<AdditionalAttribute>`<br>`  <Name>{1,1}</Name>`<br>`  <Values>{1,1}</Values>`<br>`</AdditionalAttribute>` |
| Source | `<xs:element maxOccurs="unbounded" name="AdditionalAttribute" type="AdditionalAttributeRef" minOccurs="0"/>` |

## Element AdditionalAttributeRef / Name

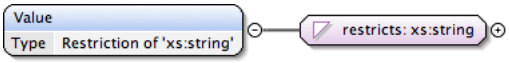
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Additional attribute name. |
| Diagram |  |
| Type | restriction of xs:string |
| Properties | content: simple |
| Facets | minLength 1<br>maxLength 80 |
| Source | `<xs:element name="Name">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Additional attribute name.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">` |

```
      <xs:maxLength value="80"/>
      <xs:minLength value="1"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
```

## Element AdditionalAttributeRef / Values

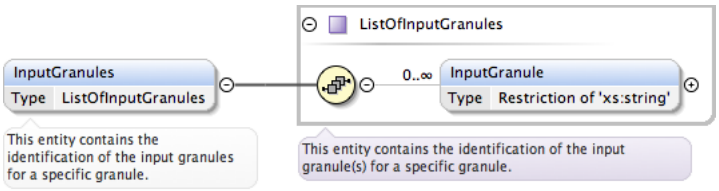
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The ordered list of values of the additioanl attribute for this granule. The values will be kept in the order which they appear. |
| Diagram |   |
| Type | ListOfAdditionalAttributeValues |
| Properties | content: complex<br>minOccurs: 1<br>maxOccurs: 1 |
| Model | Value+ |
| Children | Value |
| Instance | `<Values>`<br>`  <Value>{1,unbounded}</Value>`<br>`</Values>` |
| Source | `<xs:element minOccurs="1" maxOccurs="1" name="Values" type="ListOfAdditionalAttributeValues">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The ordered list of values of the additioanl attribute for this granule. The values will be kept in the order which they appear.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element ListOfAdditionalAttributeValues / Value

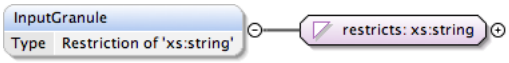
| | |
|---|---|
| Namespace | No namespace |
| Diagram |   |
| Type | restriction of xs:string |
| Properties | content: simple<br>minOccurs: 1<br>maxOccurs: unbounded |
| Facets | minLength 1<br>maxLength 500 |
| Source | `<xs:element name="Value" minOccurs="1" maxOccurs="unbounded">`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:maxLength value="500"/>`<br>`  <xs:minLength value="1"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` |

## Element Granule / InputGranules

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity contains the identification of the input granules for a specific granule. |

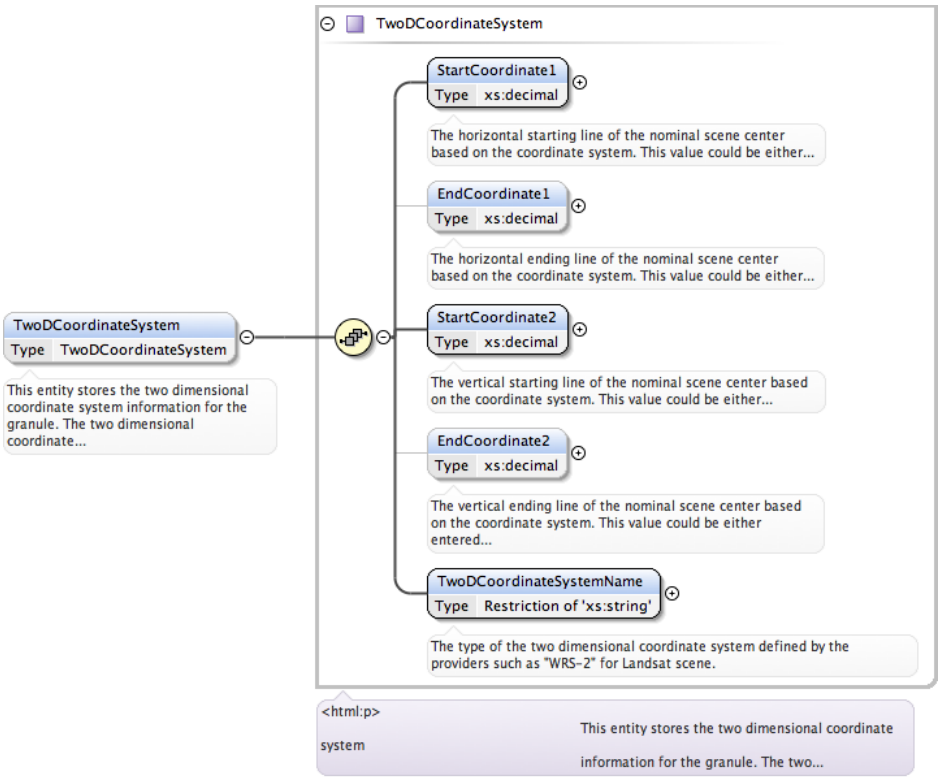
| | |
|---|---|
| Diagram |  |
| Type | ListOfInputGranules |
| Properties | content: complex<br>minOccurs: 0 |
| Model | InputGranule* |
| Children | InputGranule |
| Instance | `<InputGranules>`<br>`  <InputGranule>{0,unbounded}</InputGranule>`<br>`</InputGranules>` |
| Source | `<xs:element minOccurs="0" name="InputGranules" type="ListOfInputGranules">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity contains the identification of the input granules for a specific granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element `ListOfInputGranules / InputGranule`

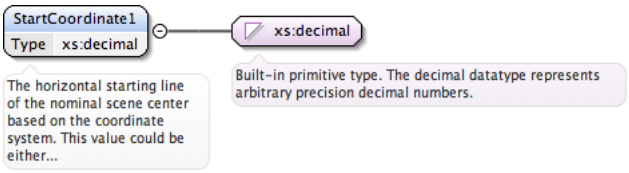
| | |
|---|---|
| Namespace | No namespace |
| Diagram |  |
| Type | restriction of xs:string |
| Properties | content: simple<br>minOccurs: 0<br>maxOccurs: unbounded |
| Facets | minLength 1<br>maxLength 255 |
| Source | `<xs:element maxOccurs="unbounded" name="InputGranule" minOccurs="0">`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:minLength value="1"/>`<br>`  <xs:maxLength value="255"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` |

## Element `Granule / TwoDCoordinateSystem`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity stores the two dimensional coordinate system information for the granule. The two dimensional coordinate system information is an alternative way to express granule's spatial coverage based on a certain two dimensional coordinate system defined by the providers. |

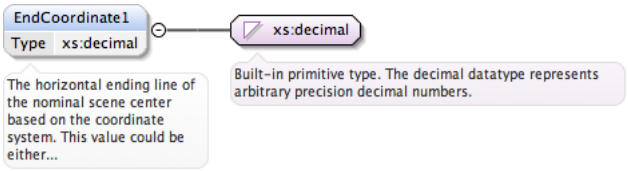
| | |
|---|---|
| Diagram |  |
| Type | TwoDCoordinateSystem |
| Properties | content: complex<br>minOccurs: 0 |
| Model | StartCoordinate1 , EndCoordinate1{0,1} , StartCoordinate2 , EndCoordinate2{0,1} , TwoDCoordinateSystemName |
| Children | EndCoordinate1, EndCoordinate2, StartCoordinate1, StartCoordinate2, TwoDCoordinateSystemName |
| Instance | `<TwoDCoordinateSystem>`<br>`<StartCoordinate1>{1,1}</StartCoordinate1>`<br>`<EndCoordinate1>{0,1}</EndCoordinate1>`<br>`<StartCoordinate2>{1,1}</StartCoordinate2>`<br>`<EndCoordinate2>{0,1}</EndCoordinate2>`<br>`<TwoDCoordinateSystemName>{1,1}</TwoDCoordinateSystemName>`<br>`</TwoDCoordinateSystem>` |
| Source | `<xs:element minOccurs="0" name="TwoDCoordinateSystem" type="TwoDCoordinateSystem">`<br>`<xs:annotation>`<br>`<xs:documentation>This entity stores the two dimensional coordinate system information for the granule. The two dimensional coordinate system information is an alternative way to express granule's spatial coverage based on a certain two dimensional coordinate system defined by the providers.</xs:documentation>`<br>`</xs:annotation>`<br>`</xs:element>` |

## Element TwoDCoordinateSystem / StartCoordinate1

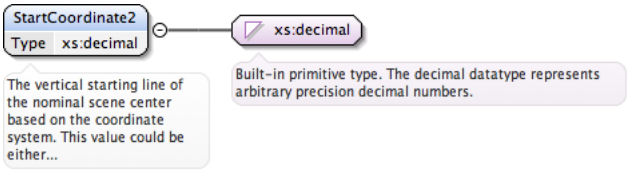
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The horizontal starting line of the nominal scene center<br>based on the coordinate system. This value could be either<br>entered directly as part of metadata or extracted from PSA value<br>based on a pre-defined PSA name. |
| Diagram |  |
| Type | xs:decimal |

| | |
|---|---|
| Properties | content: simple |
| Source | `<xs:element name="StartCoordinate1" type="xs:decimal">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The horizontal starting line of the nominal scene center based on the coordinate system. This value could be either entered directly as part of metadata or extracted from PSA value based on a pre-defined PSA name.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element TwoDCoordinateSystem / EndCoordinate1

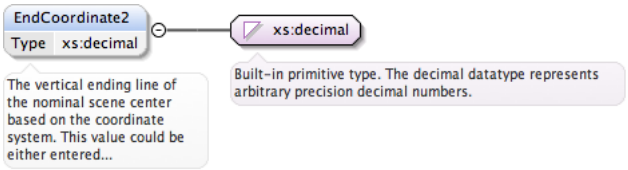
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The horizontal ending line of the nominal scene center based on the coordinate system. This value could be either entered directly as part of metadata or extracted from PSA value based on a pre-defined PSA name. |
| Diagram |  |
| Type | xs:decimal |
| Properties | content: simple<br>minOccurs: 0 |
| Source | `<xs:element minOccurs="0" name="EndCoordinate1" type="xs:decimal">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The horizontal ending line of the nominal scene center based on the coordinate system. This value could be either entered directly as part of metadata or extracted from PSA value based on a pre-defined PSA name.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element TwoDCoordinateSystem / StartCoordinate2

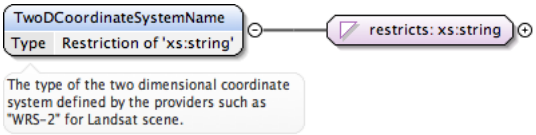
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The vertical starting line of the nominal scene center based on the coordinate system. This value could be either entered directly as part of metadata or extracted from PSA value based on a pre-defined PSA name. |
| Diagram |  |
| Type | xs:decimal |
| Properties | content: simple |
| Source | `<xs:element name="StartCoordinate2" type="xs:decimal">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The vertical starting line of the nominal scene center based on the coordinate system. This value could be either entered directly as part of metadata or extracted from PSA value based on a pre-defined PSA name.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element TwoDCoordinateSystem / EndCoordinate2

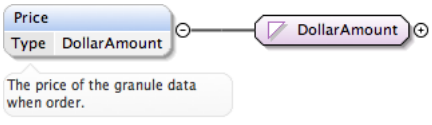
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The vertical ending line of the nominal scene center |

| | |
|---|---|
| | based on the coordinate system. This value could be either entered directly as part of metadata or extracted from PSA value based on a pre-defined PSA name. |
| Diagram |   |
| Type | xs:decimal |
| Properties | content: simple<br>minOccurs: 0 |
| Source | `<xs:element minOccurs="0" name="EndCoordinate2" type="xs:decimal">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The vertical ending line of the nominal scene center based on the coordinate system. This value could be either entered directly as part of metadata or extracted from PSA value based on a pre-defined PSA name.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element TwoDCoordinateSystem / TwoDCoordinateSystemName

| | |
|---|---|
| Namespace | No namespace |
| Annotations | The type of the two dimensional coordinate system defined by the providers such as "WRS-2" for Landsat scene. |
| Diagram |   |
| Type | restriction of xs:string |
| Properties | content: simple |
| Facets | minLength 1<br>maxLength 80 |
| Source | `<xs:element name="TwoDCoordinateSystemName">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The type of the two dimensional coordinate system defined by the providers such as "WRS-2" for Landsat scene.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:minLength value="1"/>`<br>`  <xs:maxLength value="80"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` |

## Element Granule / Price

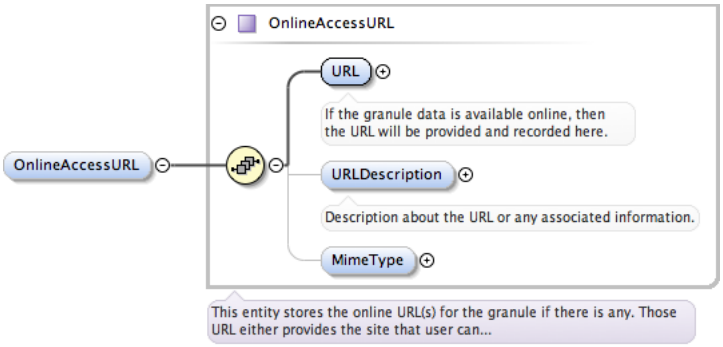
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The price of the granule data when order. |
| Diagram |   |
| Type | DollarAmount |
| Properties | content: simple<br>minOccurs: 0 |
| Facets | totalDigits 9 |

| | |
|---|---|
| | fractionDigits 2 |
| Source | `<xs:element minOccurs="0" name="Price" type="DollarAmount">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The price of the granule data when order.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element `Granule / OnlineAccessURLs`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity stores the online URL(s) for the collections if there is any. Those URLs either provide the site where the user can obtain collection data or give the further instruction of obtaining the collection data. |
| Diagram | |
| Type | ListOfOnlineAccessURLs |
| Properties | content: complex<br>minOccurs: 0 |
| Model | OnlineAccessURL* |
| Children | OnlineAccessURL |
| Instance | `<OnlineAccessURLs>`<br>`  <OnlineAccessURL>{0,unbounded}</OnlineAccessURL>`<br>`</OnlineAccessURLs>` |
| Source | `<xs:element minOccurs="0" name="OnlineAccessURLs" type="ListOfOnlineAccessURLs">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity stores the online URL(s) for the collections if there is any.`<br>` Those URLs either provide the site where the user can obtain collection data or give the further`<br>` instruction of obtaining the collection data.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element `ListOfOnlineAccessURLs / OnlineAccessURL`

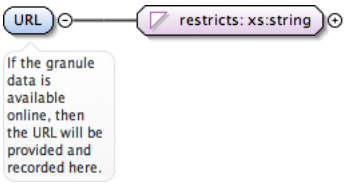
| | |
|---|---|
| Namespace | No namespace |
| Diagram |  |
| Type | OnlineAccessURL |
| Properties | content: complex<br>minOccurs: 0<br>maxOccurs: unbounded |
| Model | URL , URLDescription{0,1} , MimeType{0,1} |
| Children | MimeType, URL, URLDescription |
| Instance | `<OnlineAccessURL>` |

```
  <URL>{1,1}</URL>
  <URLDescription>{0,1}</URLDescription>
  <MimeType>{0,1}</MimeType>
</OnlineAccessURL>
```

Source

```
<xs:element minOccurs="0" maxOccurs="unbounded" name="OnlineAccessURL" type="OnlineAccessURL"/>
```

## Element OnlineAccessURL / URL

| | |
|---|---|
| Namespace | No namespace |
| Annotations | If the granule data is available online, then the URL will be provided and recorded here. |
| Diagram |   |
| Type | restriction of xs:string |
| Properties | content: simple |
| Facets | minLength 1<br>maxLength 1024 |

Source

```
<xs:element name="URL">
  <xs:annotation>
    <xs:documentation>If the granule data is available online, then the URL will be provided and
 recorded here.</xs:documentation>
  </xs:annotation>
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:maxLength value="1024"/>
      <xs:minLength value="1"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
```

## Element OnlineAccessURL / URLDescription

| | |
|---|---|
| Namespace | No namespace |
| Annotations | Description about the URL or any associated information. |
| Diagram | |
| Type | restriction of xs:string |
| Properties | content: simple<br>minOccurs: 0 |
| Facets | maxLength 4000 |

Source

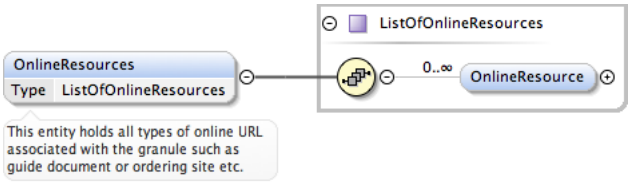
```
<xs:element minOccurs="0" name="URLDescription">
  <xs:annotation>
    <xs:documentation>Description about the URL or any associated information.</xs:documentation>
  </xs:annotation>
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:maxLength value="4000"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
```

## Element OnlineAccessURL / MimeType

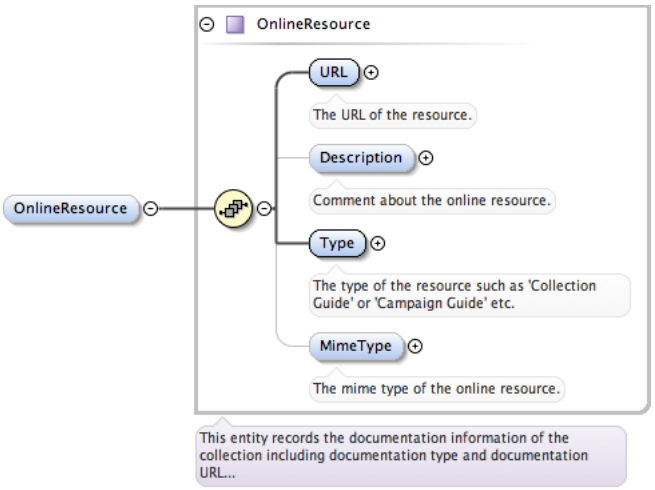
| | |
|---|---|
| Namespace | No namespace |
| Diagram | |

| | |
|---|---|
| Type | restriction of xs:string |
| Properties | content: `simple`<br>minOccurs: `0` |
| Facets | maxLength `50` |
| Source | `<xs:element minOccurs="0" name="MimeType">`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:maxLength value="50"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` |

## Element `Granule / OnlineResources`

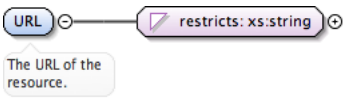
| | |
|---|---|
| Namespace | No namespace |
| Annotations | `This entity holds all types of online URL associated with the granule such as guide document or ordering site etc.` |
| Diagram |  |
| Type | ListOfOnlineResources |
| Properties | content: `complex`<br>minOccurs: `0` |
| Model | OnlineResource* |
| Children | OnlineResource |
| Instance | `<OnlineResources>`<br>`  <OnlineResource>{0,unbounded}</OnlineResource>`<br>`</OnlineResources>` |
| Source | `<xs:element minOccurs="0" name="OnlineResources" type="ListOfOnlineResources">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity holds all types of online URL associated with the granule such as guide document or ordering site etc.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element `ListOfOnlineResources / OnlineResource`

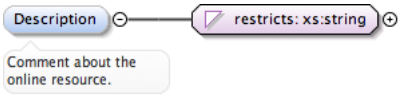
| | |
|---|---|
| Namespace | No namespace |
| Diagram |  |
| Type | OnlineResource |

| | | |
|---|---|---|
| Properties | content: | complex |
| | minOccurs: | 0 |
| | maxOccurs: | unbounded |
| Model | URL , Description{0,1} , Type , MimeType{0,1} | |
| Children | Description, MimeType, Type, URL | |
| Instance | `<OnlineResource>`<br>`  <URL>{1,1}</URL>`<br>`  <Description>{0,1}</Description>`<br>`  <Type>{1,1}</Type>`<br>`  <MimeType>{0,1}</MimeType>`<br>`</OnlineResource>` | |
| Source | `<xs:element minOccurs="0" maxOccurs="unbounded" name="OnlineResource" type="OnlineResource"/>` | |

## Element OnlineResource / URL

| | |
|---|---|
| Namespace | No namespace |
| Annotations | The URL of the resource. |
| Diagram |  |
| Type | restriction of xs:string |
| Properties | content: simple |
| Facets | minLength 1<br>maxLength 1024 |
| Source | `<xs:element name="URL">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The URL of the resource.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:maxLength value="1024"/>`<br>`  <xs:minLength value="1"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` |

## Element OnlineResource / Description

| | |
|---|---|
| Namespace | No namespace |
| Annotations | Comment about the online resource. |
| Diagram |  |
| Type | restriction of xs:string |
| Properties | content: simple<br>minOccurs: 0 |
| Facets | maxLength 4000 |
| Source | `<xs:element minOccurs="0" name="Description">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Comment about the online resource.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:maxLength value="4000"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` |

## Element OnlineResource / Type

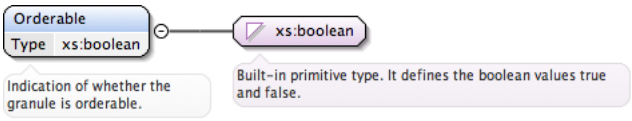
| | |
|---|---|
| Namespace | No namespace |

| | |
|---|---|
| Annotations | The type of the resource such as 'Collection Guide' or 'Campaign Guide' etc. |
| Diagram | |
| Type | restriction of xs:string |
| Properties | content: simple |
| Facets | minLength 1<br>maxLength 50 |
| Source | `<xs:element name="Type">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The type of the resource such as 'Collection Guide' or 'Campaign Guide' etc.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:maxLength value="50"/>`<br>`  <xs:minLength value="1"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` |

## Element OnlineResource / MimeType

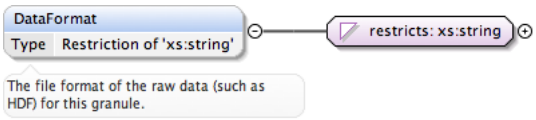
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The mime type of the online resource. |
| Diagram | |
| Type | restriction of xs:string |
| Properties | content: simple<br>minOccurs: 0 |
| Facets | maxLength 50 |
| Source | `<xs:element minOccurs="0" name="MimeType">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The mime type of the online resource.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:maxLength value="50"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` |

## Element Granule / Orderable

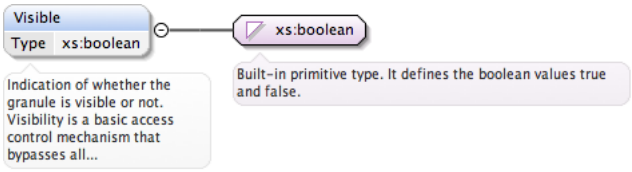
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Indication of whether the granule is orderable. |
| Diagram |  |
| Type | xs:boolean |
| Properties | content: simple |
| Source | `<xs:element name="Orderable" type="xs:boolean">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Indication of whether the granule is orderable.</xs:documentation>`<br>`  </xs:annotation>` |

```
</xs:element>
```

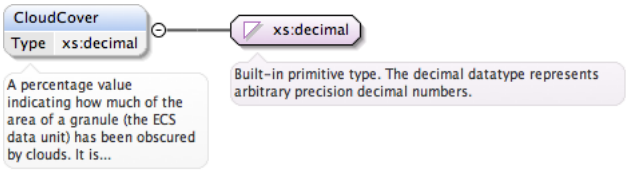
## Element Granule / DataFormat

| | |
|---|---|
| Namespace | No namespace |
| Annotations | The file format of the raw data (such as HDF) for this granule. |
| Diagram |   |
| Type | restriction of xs:string |
| Properties | content: simple<br>minOccurs: 0 |
| Facets | minLength 1<br>maxLength 80 |
| Source | `<xs:element minOccurs="0" name="DataFormat">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The file format of the raw data (such as HDF) for this granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:minLength value="1"/>`<br>`  <xs:maxLength value="80"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` |

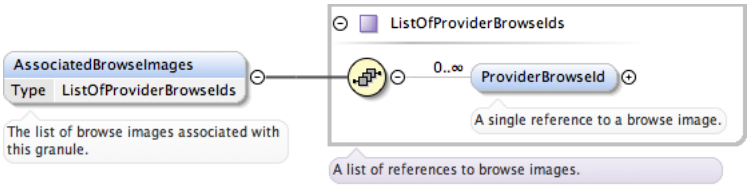
## Element Granule / Visible

| | |
|---|---|
| Namespace | No namespace |
| Annotations | `<p>Indication of whether the granule is visible or not. Visibility is a basic access control mechanism that bypasses all ACL rules. If a granule is not visible, only users with the owning provider role will be able to see the item. All other users will not see the item no matter what ACL permissions are in place.</p>`<br>`<p>If group based permissions are needed, use the restriction flag field instead of visibility. Normally visibility is used when an item is first ingested. Making the item not visible allows the provider time to install any ACL rules or order options required before users will see the item. Visibility is more commonly set at the collection level than the granule level. If a collection is not visible, none of the granules in the collection will be visible.</p>` |
| Diagram |   |
| Type | xs:boolean |
| Properties | content: simple<br>minOccurs: 0 |
| Source | `<xs:element name="Visible" type="xs:boolean" minOccurs="0">`<br>`  <xs:annotation>`<br>`  <xs:documentation>`<br>`  <p>Indication of whether the granule is visible or not. Visibility is a basic access control mechanism that bypasses all ACL rules. If a granule is not visible, only users with the owning provider role will be able to see the item. All other users will not see the item no matter what ACL permissions are in place.</p>`<br>`  <p>If group based permissions are needed, use the restriction flag field instead of visibility. Normally visibility is used when an item is first ingested. Making the item not visible allows the provider time to install any ACL rules or order options required before users will see the item. Visibility is more commonly set at the collection level than the granule level. If a collection is not visible, none of the granules in the collection will be visible.</p>`<br>`  </xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

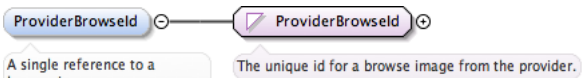
## Element Granule / CloudCover

| | |
|---|---|
| Namespace | No namespace |
| Annotations | A percentage value indicating how much of the area of a granule (the ECS data unit) has been obscured by clouds. It is worth noting that there are many different measures of cloud cover within the ECS data holdings and that the cloud cover parameter that is represented in the DataPool is specific to Data Set. |
| Diagram |   |
| Type | xs:decimal |
| Properties | content: simple<br>minOccurs: 0 |
| Source | `<xs:element name="CloudCover" type="xs:decimal" minOccurs="0">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A percentage value indicating how much of the area of a granule (the ECS data unit) has been obscured by clouds. It is worth noting that there are many different measures of cloud cover within the ECS data holdings and that the cloud cover parameter that is represented in the DataPool is specific to Data Set.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element Granule / AssociatedBrowseImages

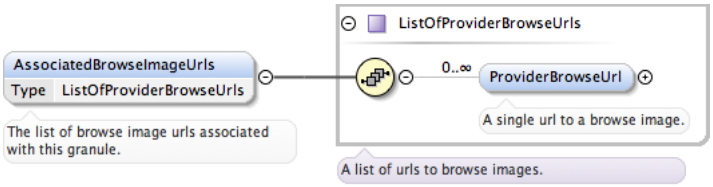
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The list of browse images associated with this granule. |
| Diagram |   |
| Type | ListOfProviderBrowseIds |
| Properties | content: complex<br>minOccurs: 0 |
| Model | ProviderBrowseId* |
| Children | ProviderBrowseId |
| Instance | `<AssociatedBrowseImages>`<br>`  <ProviderBrowseId>{0,unbounded}</ProviderBrowseId>`<br>`</AssociatedBrowseImages>` |
| Source | `<xs:element name="AssociatedBrowseImages" type="ListOfProviderBrowseIds" minOccurs="0">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The list of browse images associated with this granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element ListOfProviderBrowseIds / ProviderBrowseId

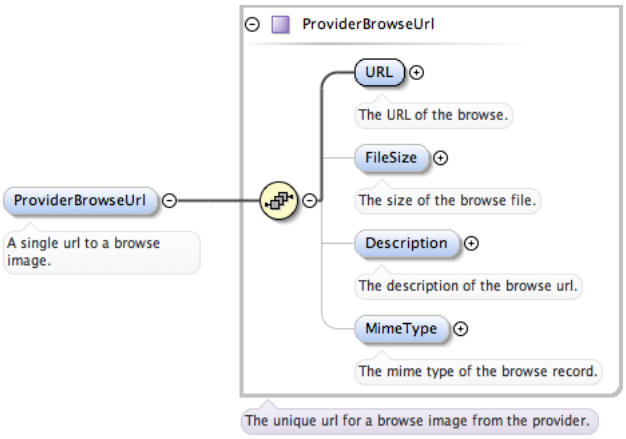
| | |
|---|---|
| Namespace | No namespace |
| Annotations | A single reference to a browse image. |
| Diagram |   |

| | |
|---|---|
| Type | ProviderBrowseId |
| Properties | content: simple<br>minOccurs: 0<br>maxOccurs: unbounded |
| Facets | minLength 1<br>maxLength 255 |
| Source | `<xs:element name="ProviderBrowseId" type="ProviderBrowseId" minOccurs="0" maxOccurs="unbounded">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A single reference to a browse image.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element Granule / AssociatedBrowseImageUrls

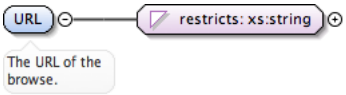
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The list of browse image urls associated with this granule. |
| Diagram |  |
| Type | ListOfProviderBrowseUrls |
| Properties | content: complex<br>minOccurs: 0 |
| Model | ProviderBrowseUrl* |
| Children | ProviderBrowseUrl |
| Instance | `<AssociatedBrowseImageUrls>`<br>`  <ProviderBrowseUrl>{0,unbounded}</ProviderBrowseUrl>`<br>`</AssociatedBrowseImageUrls>` |
| Source | `<xs:element name="AssociatedBrowseImageUrls" type="ListOfProviderBrowseUrls" minOccurs="0">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The list of browse image urls associated with this granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element ListOfProviderBrowseUrls / ProviderBrowseUrl

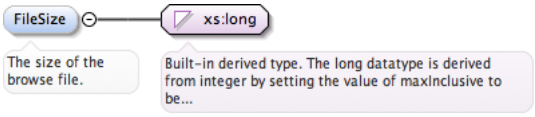
| | |
|---|---|
| Namespace | No namespace |
| Annotations | A single url to a browse image. |
| Diagram |  |
| Type | ProviderBrowseUrl |
| Properties | content: complex |

| | | |
|---|---|---|
| | minOccurs: | 0 |
| | maxOccurs: | unbounded |
| Model | URL , FileSize{0,1} , Description{0,1} , MimeType{0,1} | |
| Children | Description, FileSize, MimeType, URL | |
| Instance | `<ProviderBrowseUrl>`<br>`  <URL>{1,1}</URL>`<br>`  <FileSize>{0,1}</FileSize>`<br>`  <Description>{0,1}</Description>`<br>`  <MimeType>{0,1}</MimeType>`<br>`</ProviderBrowseUrl>` | |
| Source | `<xs:element name="ProviderBrowseUrl" type="ProviderBrowseUrl" minOccurs="0" maxOccurs="unbounded">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A single url to a browse image.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` | |

## Element ProviderBrowseUrl / URL

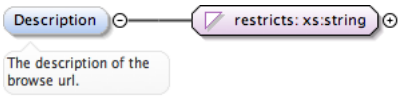
| | | |
|---|---|---|
| Namespace | No namespace | |
| Annotations | The URL of the browse. | |
| Diagram |  | |
| Type | restriction of xs:string | |
| Properties | content: | simple |
| Facets | minLength | 1 |
| | maxLength | 1024 |
| Source | `<xs:element name="URL">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The URL of the browse.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:maxLength value="1024"/>`<br>`  <xs:minLength value="1"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` | |

## Element ProviderBrowseUrl / FileSize

| | | |
|---|---|---|
| Namespace | No namespace | |
| Annotations | The size of the browse file. | |
| Diagram |  | |
| Type | xs:long | |
| Properties | content: | simple |
| | minOccurs: | 0 |
| Source | `<xs:element name="FileSize" type="xs:long" minOccurs="0">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The size of the browse file.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` | |

## Element ProviderBrowseUrl / Description

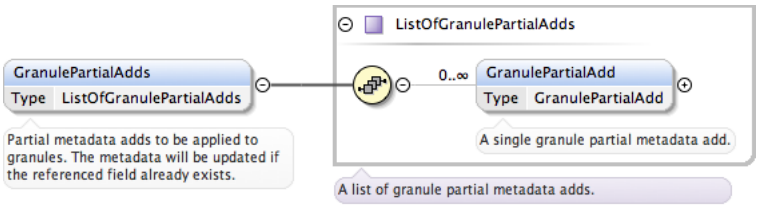
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The description of the browse url. |

| | |
|---|---|
| Diagram |  |
| Type | restriction of xs:string |
| Properties | content: simple<br>minOccurs: 0 |
| Facets | minLength 1<br>maxLength 4000 |
| Source | `<xs:element name="Description" minOccurs="0">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The description of the browse url.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:maxLength value="4000"/>`<br>`  <xs:minLength value="1"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` |

## Element ProviderBrowseUrl / MimeType

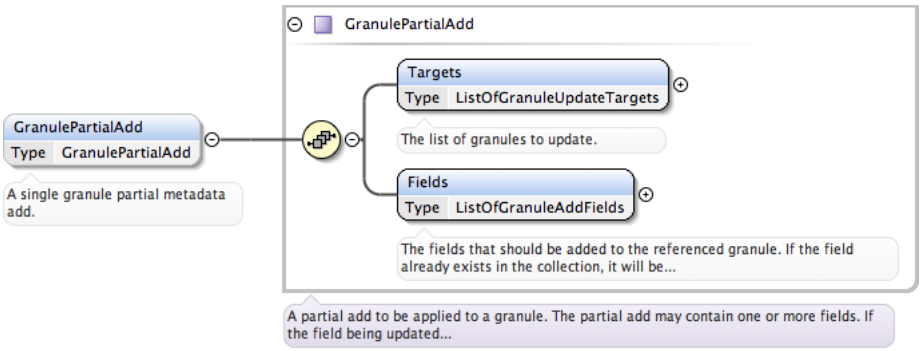
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The mime type of the browse record. |
| Diagram | |
| Type | restriction of xs:string |
| Properties | content: simple<br>minOccurs: 0 |
| Facets | maxLength 50 |
| Source | `<xs:element minOccurs="0" name="MimeType">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The mime type of the browse record.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:maxLength value="50"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` |

## Element GranuleMetaDataFile / GranulePartialAdds

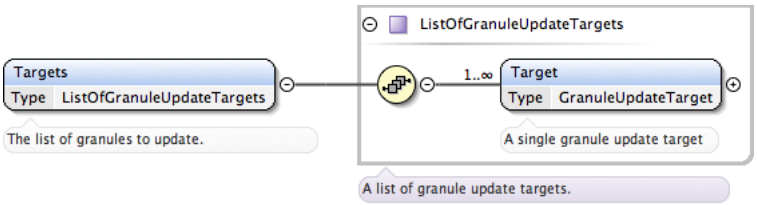
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Partial metadata adds to be applied to granules.<br>The metadata<br>will be updated if the referenced field already<br>exists. |
| Diagram |  |
| Type | ListOfGranulePartialAdds |
| Properties | content: complex<br>minOccurs: 0 |
| Model | GranulePartialAdd* |

| | |
|---|---|
| Children | GranulePartialAdd |
| Instance | `<GranulePartialAdds>`<br>`  <GranulePartialAdd>{0,unbounded}</GranulePartialAdd>`<br>`</GranulePartialAdds>` |
| Source | `<xs:element name="GranulePartialAdds" type="ListOfGranulePartialAdds" minOccurs="0">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Partial metadata adds to be applied to granules. The metadata will be updated if the referenced field already exists.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element `ListOfGranulePartialAdds / GranulePartialAdd`

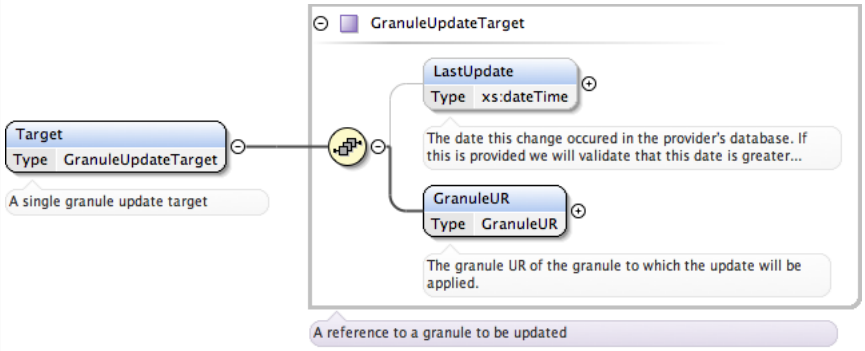
| | |
|---|---|
| Namespace | No namespace |
| Annotations | `A single granule partial metadata add.` |
| Diagram |  |
| Type | GranulePartialAdd |
| Properties | content: `complex`<br>minOccurs: `0`<br>maxOccurs: `unbounded` |
| Model | Targets , Fields |
| Children | Fields, Targets |
| Instance | `<GranulePartialAdd>`<br>`  <Targets>{1,1}</Targets>`<br>`  <Fields>{1,1}</Fields>`<br>`</GranulePartialAdd>` |
| Source | `<xs:element name="GranulePartialAdd" type="GranulePartialAdd" minOccurs="0" maxOccurs="unbounded">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A single granule partial metadata add.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element `GranulePartialAdd / Targets`

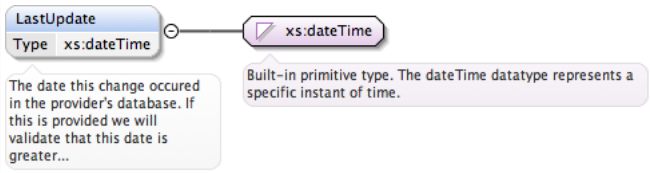
| | |
|---|---|
| Namespace | No namespace |
| Annotations | `The list of granules to update.` |
| Diagram |  |
| Type | ListOfGranuleUpdateTargets |
| Properties | content: `complex` |
| Model | Target+ |
| Children | Target |
| Instance | `<Targets>`<br>`  <Target>{1,unbounded}</Target>` |

| | |
|---|---|
| | `</Targets>` |
| Source | `<xs:element name="Targets" type="ListOfGranuleUpdateTargets">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The list of granules to update.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

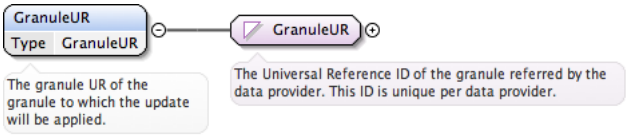
## Element `ListOfGranuleUpdateTargets / Target`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | `A single granule update target` |
| Diagram |  |
| Type | GranuleUpdateTarget |
| Properties | content: `complex`<br>maxOccurs: `unbounded` |
| Model | LastUpdate{0,1} , GranuleUR |
| Children | GranuleUR, LastUpdate |
| Instance | `<Target>`<br>`  <LastUpdate>{0,1}</LastUpdate>`<br>`  <GranuleUR>{1,1}</GranuleUR>`<br>`</Target>` |
| Source | `<xs:element name="Target" type="GranuleUpdateTarget" maxOccurs="unbounded">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A single granule update target</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

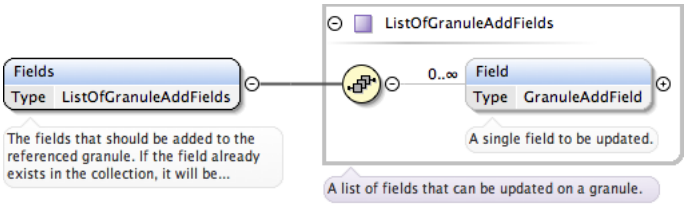
## Element `GranuleUpdateTarget / LastUpdate`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | `The date this change occured in the provider's database.`<br>`If this is provided we will validate that this date is greater`<br>`than or equal to the date in the granule. The granule's last update data will be updated with this value.` |
| Diagram |  |
| Type | xs:dateTime |
| Properties | content: `simple`<br>minOccurs: `0` |
| Source | `<xs:element name="LastUpdate" type="xs:dateTime" minOccurs="0">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The date this change occured in the provider's database. If this is provided we will validate that this date is greater than or equal to the date in the granule. The granule's last update data will be updated with this value.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element GranuleUpdateTarget / GranuleUR

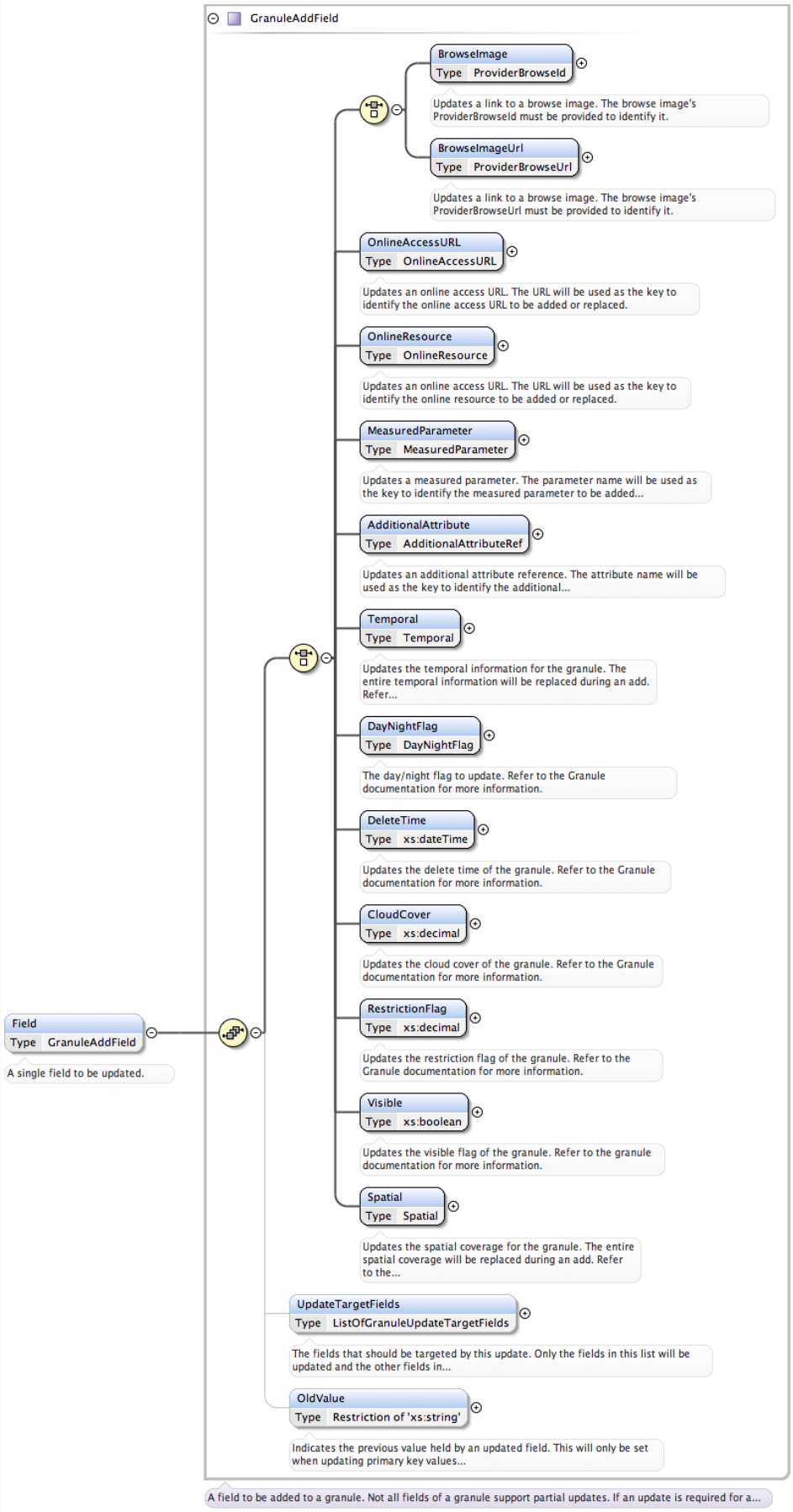
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The granule UR of the granule to which the update will be applied. |
| Diagram |   |
| Type | GranuleUR |
| Properties | content: simple |
| Facets | minLength 1<br>maxLength 250 |
| Source | `<xs:element name="GranuleUR" type="GranuleUR">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The granule UR of the granule to which the update will be applied.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element GranulePartialAdd / Fields

| | |
|---|---|
| Namespace | No namespace |
| Annotations | The fields that should be added to the referenced granule. If the field already exists in the collection, it will be updated or replaced. |
| Diagram |   |
| Type | ListOfGranuleAddFields |
| Properties | content: complex |
| Model | Field* |
| Children | Field |
| Instance | `<Fields>`<br>`  <Field>{0,unbounded}</Field>`<br>`</Fields>` |
| Source | `<xs:element name="Fields" type="ListOfGranuleAddFields">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The fields that should be added to the referenced granule. If the field already exists in the collection, it will be updated or replaced.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element ListOfGranuleAddFields / Field

| | |
|---|---|
| Namespace | No namespace |
| Annotations | A single field to be updated. |

| | |
|---|---|
| Diagram |  |
| Type | GranuleAddField |

| | | |
|---|---|---|
| Properties | content: | complex |
| | minOccurs: | 0 |
| | maxOccurs: | unbounded |
| Model | (BrowseImage \| BrowseImageUrl \| OnlineAccessURL \| OnlineResource \| MeasuredParameter \| AdditionalAttribute \| Temporal \| DayNightFlag \| DeleteTime \| CloudCover \| RestrictionFlag \| Visible \| Spatial) , UpdateTargetFields{0,1} , OldValue{0,1} | |
| Children | AdditionalAttribute, BrowseImage, BrowseImageUrl, CloudCover, DayNightFlag, DeleteTime, MeasuredParameter, OldValue, OnlineAccessURL, OnlineResource, RestrictionFlag, Spatial, Temporal, UpdateTargetFields, Visible | |

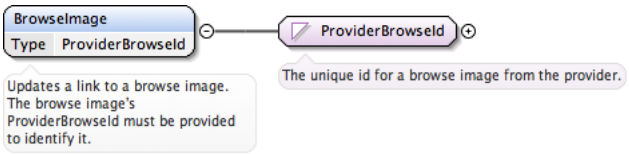
Instance

```
<Field>
  <BrowseImage>{1,1}</BrowseImage>
  <BrowseImageUrl>{1,1}</BrowseImageUrl>
  <OnlineAccessURL>{1,1}</OnlineAccessURL>
  <OnlineResource>{1,1}</OnlineResource>
  <MeasuredParameter>{1,1}</MeasuredParameter>
  <AdditionalAttribute>{1,1}</AdditionalAttribute>
  <Temporal>{1,1}</Temporal>
  <DayNightFlag>{1,1}</DayNightFlag>
  <DeleteTime>{1,1}</DeleteTime>
  <CloudCover>{1,1}</CloudCover>
  <RestrictionFlag>{1,1}</RestrictionFlag>
  <Visible>{1,1}</Visible>
  <Spatial>{1,1}</Spatial>
  <UpdateTargetFields>{0,1}</UpdateTargetFields>
  <OldValue>{0,1}</OldValue>
</Field>
```

Source

```
<xs:element name="Field" type="GranuleAddField" minOccurs="0" maxOccurs="unbounded">
  <xs:annotation>
    <xs:documentation>A single field to be updated.</xs:documentation>
  </xs:annotation>
</xs:element>
```

## Element GranuleAddField / BrowseImage

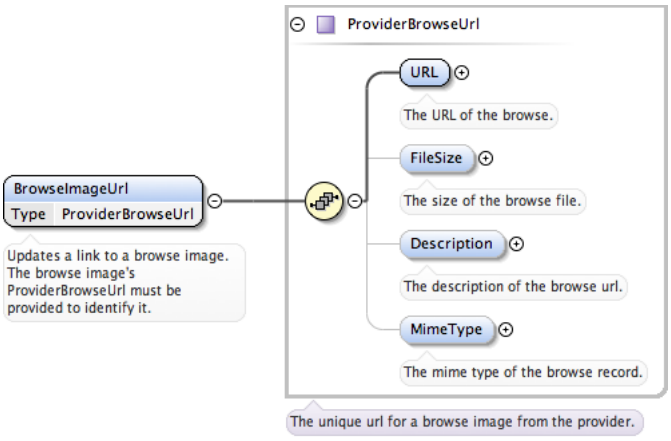
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Updates a link to a browse image. The browse image's ProviderBrowseId must be provided to identify it. |
| Diagram |   |
| Type | ProviderBrowseId |
| Properties | content: simple |
| Facets | minLength 1 |
| | maxLength 255 |

Source

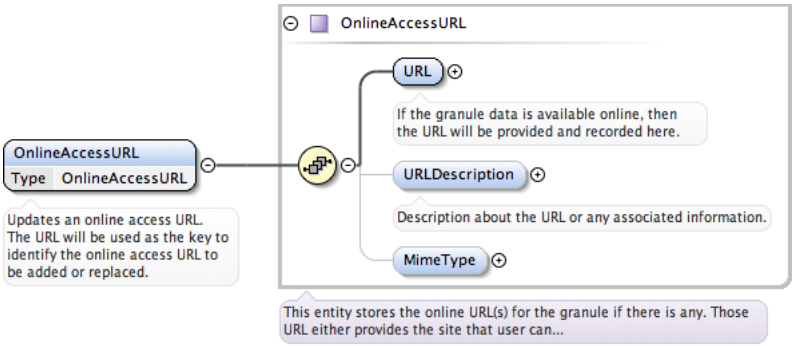
```
<xs:element name="BrowseImage" type="ProviderBrowseId">
  <xs:annotation>
    <xs:documentation>Updates a link to a browse image. The browse image's ProviderBrowseId must be
 provided to identify it.</xs:documentation>
  </xs:annotation>
</xs:element>
```

## Element GranuleAddField / BrowseImageUrl

| | |
|---|---|
| Namespace | No namespace |
| Annotations | Updates a link to a browse image. The browse image's ProviderBrowseUrl must be provided to identify it. |

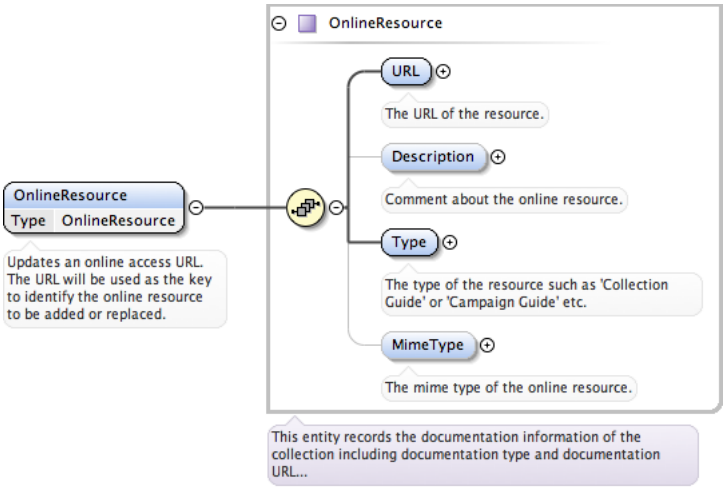
| | |
|---|---|
| Diagram |  |
| Type | ProviderBrowseUrl |
| Properties | content: `complex` |
| Model | URL , FileSize{0,1} , Description{0,1} , MimeType{0,1} |
| Children | Description, FileSize, MimeType, URL |
| Instance | `<BrowseImageUrl>`<br>`  <URL>{1,1}</URL>`<br>`  <FileSize>{0,1}</FileSize>`<br>`  <Description>{0,1}</Description>`<br>`  <MimeType>{0,1}</MimeType>`<br>`</BrowseImageUrl>` |
| Source | `<xs:element name="BrowseImageUrl" type="ProviderBrowseUrl">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Updates a link to a browse image. The browse image's ProviderBrowseUrl must be provided to identify it.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element `GranuleAddField / OnlineAccessURL`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | `Updates an online access URL. The URL will be used as the key to identify the online access URL to be added or replaced.` |
| Diagram |  |
| Type | OnlineAccessURL |
| Properties | content: `complex` |
| Model | URL , URLDescription{0,1} , MimeType{0,1} |
| Children | MimeType, URL, URLDescription |
| Instance | `<OnlineAccessURL>`<br>`  <URL>{1,1}</URL>`<br>`  <URLDescription>{0,1}</URLDescription>`<br>`  <MimeType>{0,1}</MimeType>`<br>`</OnlineAccessURL>` |
| Source | `<xs:element name="OnlineAccessURL" type="OnlineAccessURL">`<br>`  <xs:annotation>` |

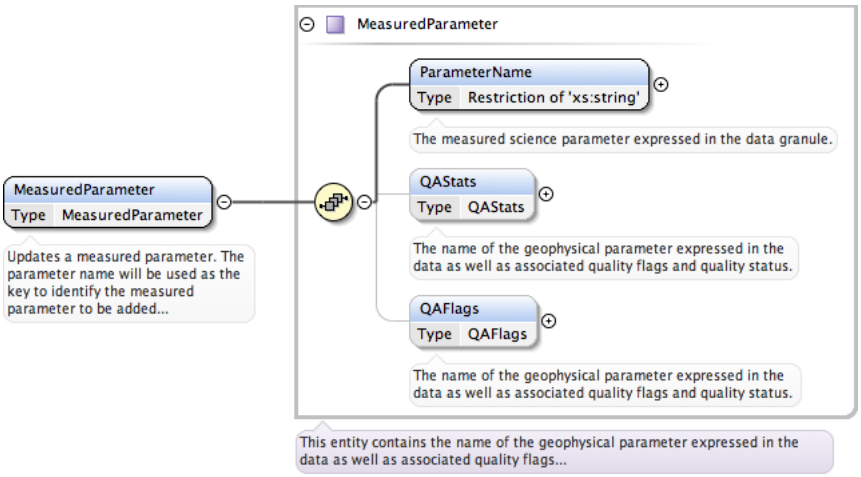
```
    <xs:documentation>Updates an online access URL. The URL will be used as the key to identify the
 online access URL to be added or replaced.</xs:documentation>
  </xs:annotation>
</xs:element>
```

## Element GranuleAddField / OnlineResource

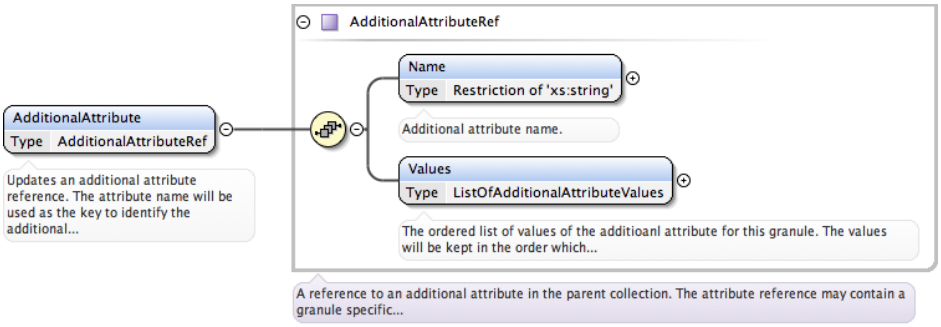
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Updates an online access URL. The URL will be used as the key to identify the online resource to be added or replaced. |
| Diagram |   |
| Type | OnlineResource |
| Properties | content: complex |
| Model | URL , Description{0,1} , Type , MimeType{0,1} |
| Children | Description, MimeType, Type, URL |
| Instance | `<OnlineResource>`<br>`  <URL>{1,1}</URL>`<br>`  <Description>{0,1}</Description>`<br>`  <Type>{1,1}</Type>`<br>`  <MimeType>{0,1}</MimeType>`<br>`</OnlineResource>` |
| Source | `<xs:element name="OnlineResource" type="OnlineResource">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Updates an online access URL. The URL will be used as the key to identify the online resource to be added or replaced.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element GranuleAddField / MeasuredParameter

| | |
|---|---|
| Namespace | No namespace |
| Annotations | Updates a measured parameter. The parameter name will be used as the key to identify the measured parameter to be added or replaced.The entire measured parameter will be added or replaced. |

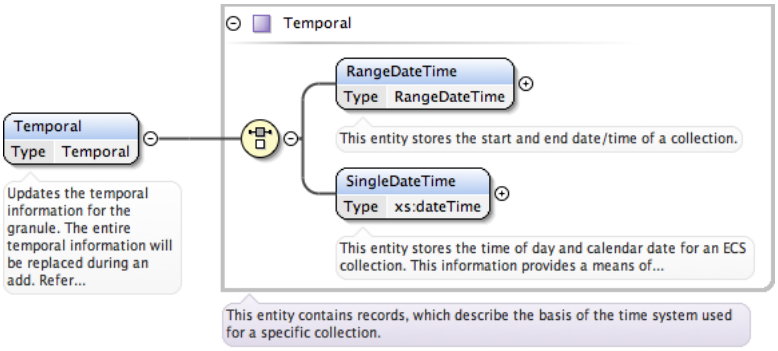
| | |
|---|---|
| Diagram |  |
| Type | MeasuredParameter |
| Properties | content: complex |
| Model | ParameterName , QAStats{0,1} , QAFlags{0,1} |
| Children | ParameterName, QAFlags, QAStats |
| Instance | `<MeasuredParameter>`<br>`  <ParameterName>{1,1}</ParameterName>`<br>`  <QAStats>{0,1}</QAStats>`<br>`  <QAFlags>{0,1}</QAFlags>`<br>`</MeasuredParameter>` |
| Source | `<xs:element name="MeasuredParameter" type="MeasuredParameter">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Updates a measured parameter. The parameter name will be used as the key to identify the measured parameter to be added or replaced.The entire measured parameter will be added or replaced.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element `GranuleAddField / AdditionalAttribute`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | Updates an additional attribute reference. The attribute name will be used as the key to identify the additional attribute reference to be added or replaced.The entire additional attribute reference will be added or replaced. |
| Diagram |  |
| Type | AdditionalAttributeRef |
| Properties | content: complex |
| Model | Name , Values |
| Children | Name, Values |
| Instance | `<AdditionalAttribute>`<br>`  <Name>{1,1}</Name>`<br>`  <Values>{1,1}</Values>` |

| | |
|---|---|
| | `</AdditionalAttribute>` |
| Source | `<xs:element name="AdditionalAttribute" type="AdditionalAttributeRef">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Updates an additional attribute reference. The attribute name will be used as the key to identify the additional attribute reference to be added or replaced.The entire additional attribute reference will be added or replaced.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element `GranuleAddField / Temporal`

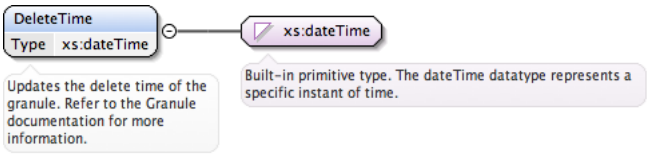
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Updates the temporal information for the granule. The entire temporal information will be replaced during an add. Refer to the Granule documentation for more information. |
| Diagram |  |
| Type | Temporal |
| Properties | content: complex |
| Model | RangeDateTime \| SingleDateTime |
| Children | RangeDateTime, SingleDateTime |
| Instance | `<Temporal>`<br>`  <RangeDateTime>{1,1}</RangeDateTime>`<br>`  <SingleDateTime>{1,1}</SingleDateTime>`<br>`</Temporal>` |
| Source | `<xs:element name="Temporal" type="Temporal">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Updates the temporal information for the granule. The entire temporal information will be replaced during an add. Refer to the Granule documentation for more information.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element `GranuleAddField / DayNightFlag`

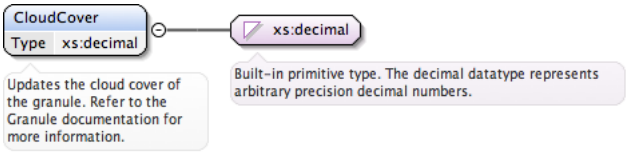
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The day/night flag to update. Refer to the Granule documentation for more information. |
| Diagram | |
| Type | DayNightFlag |
| Properties | content: simple |
| Facets | enumeration: DAY<br>enumeration: NIGHT<br>enumeration: BOTH<br>enumeration: UNSPECIFIED |
| Source | `<xs:element name="DayNightFlag" type="DayNightFlag">`<br>`  <xs:annotation>` |

```
    <xs:documentation>The day/night flag to update. Refer to the Granule documentation for more
 information.</xs:documentation>
  </xs:annotation>
</xs:element>
```

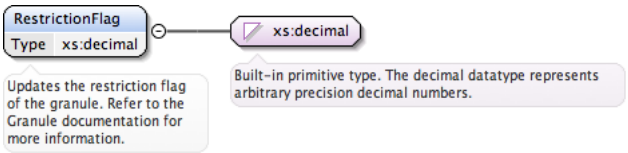
## Element GranuleAddField / DeleteTime

| | |
|---|---|
| Namespace | No namespace |
| Annotations | Updates the delete time of the granule.<br>Refer to<br>the Granule documentation for more<br>information. |
| Diagram |  |
| Type | xs:dateTime |
| Properties | content: simple |
| Source | `<xs:element name="DeleteTime" type="xs:dateTime">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Updates the delete time of the granule. Refer to the Granule documentation for more information.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element GranuleAddField / CloudCover

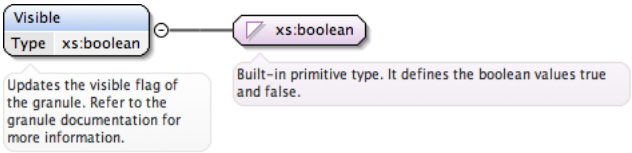
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Updates the cloud cover of the granule.<br>Refer to<br>the Granule documentation for more<br>information. |
| Diagram |  |
| Type | xs:decimal |
| Properties | content: simple |
| Source | `<xs:element name="CloudCover" type="xs:decimal">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Updates the cloud cover of the granule. Refer to the Granule documentation for more information.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element GranuleAddField / RestrictionFlag

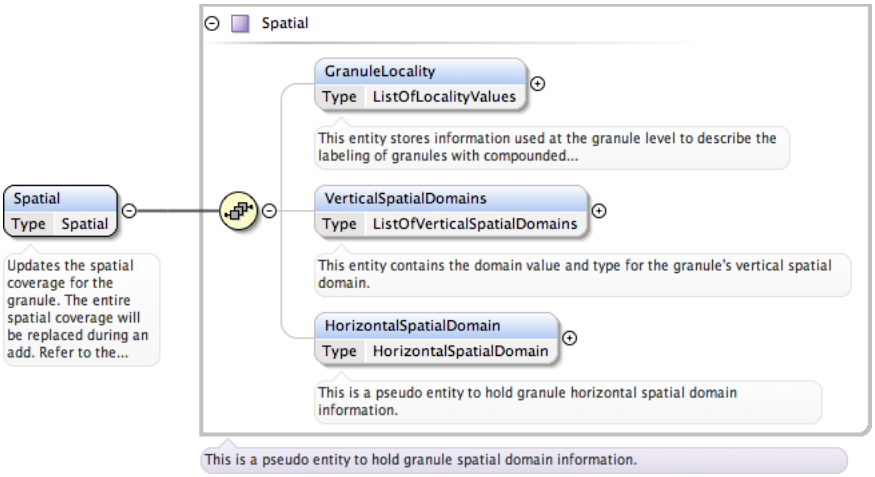
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Updates the restriction flag of the granule.<br>Refer to the Granule documentation for more<br>information. |
| Diagram |  |
| Type | xs:decimal |
| Properties | content: simple |
| Source | `<xs:element name="RestrictionFlag" type="xs:decimal">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Updates the restriction flag of the granule. Refer to the Granule documentation for more information.</xs:documentation>` |

```
  </xs:annotation>
</xs:element>
```

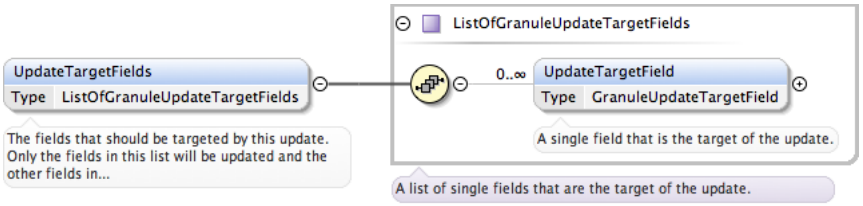
## Element GranuleAddField / Visible

| | |
|---|---|
| Namespace | No namespace |
| Annotations | Updates the visible flag of the granule. Refer to the granule documentation for more information. |
| Diagram |   |
| Type | xs:boolean |
| Properties | content: simple |
| Source | `<xs:element name="Visible" type="xs:boolean">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Updates the visible flag of the granule. Refer to the granule documentation for more information.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

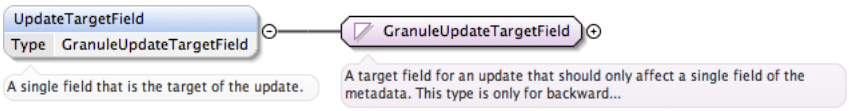
## Element GranuleAddField / Spatial

| | |
|---|---|
| Namespace | No namespace |
| Annotations | Updates the spatial coverage for the granule. The entire spatial coverage will be replaced during an add. Refer to the Granule documentation for more information. |
| Diagram |   |
| Type | Spatial |
| Properties | content: complex |
| Model | GranuleLocality{0,1} , VerticalSpatialDomains{0,1} , HorizontalSpatialDomain{0,1} |
| Children | GranuleLocality, HorizontalSpatialDomain, VerticalSpatialDomains |
| Instance | `<Spatial>`<br>`  <GranuleLocality>{0,1}</GranuleLocality>`<br>`  <VerticalSpatialDomains>{0,1}</VerticalSpatialDomains>`<br>`  <HorizontalSpatialDomain>{0,1}</HorizontalSpatialDomain>`<br>`</Spatial>` |
| Source | `<xs:element name="Spatial" type="Spatial">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Updates the spatial coverage for the granule. The entire spatial coverage will be replaced during an add. Refer to the Granule documentation for more information.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element GranuleAddField / UpdateTargetFields

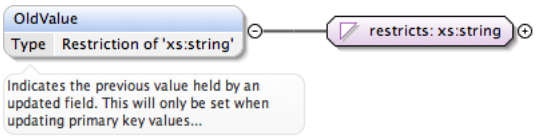
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The fields that should be targeted by this update. Only the fields in this list will be updated and the other fields in the added element will be ignored. This element is only for backward compatibility and should not be used for new development. This field will be removed in the future. |
| Diagram |  |
| Type | ListOfGranuleUpdateTargetFields |
| Properties | content: complex<br>minOccurs: 0 |
| Model | UpdateTargetField* |
| Children | UpdateTargetField |
| Instance | `<UpdateTargetFields>`<br>`  <UpdateTargetField>{0,unbounded}</UpdateTargetField>`<br>`</UpdateTargetFields>` |
| Source | `<xs:element name="UpdateTargetFields" type="ListOfGranuleUpdateTargetFields" minOccurs="0">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The fields that should be targeted by this update. Only the fields in this list will be updated and the other fields in the added element will be ignored. This element is only for backward compatibility and should not be used for new development. This field will be removed in the future.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element ListOfGranuleUpdateTargetFields / UpdateTargetField

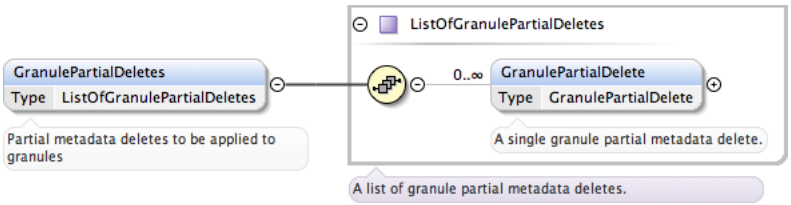
| | |
|---|---|
| Namespace | No namespace |
| Annotations | A single field that is the target of the update. |
| Diagram |  |
| Type | GranuleUpdateTargetField |
| Properties | content: simple<br>minOccurs: 0<br>maxOccurs: unbounded |
| Facets | enumeration URL<br>enumeration VALUE<br>enumeration NAME<br>enumeration MIME_TYPE<br>enumeration DESCRIPTION<br>enumeration TYPE<br>enumeration AUTO_QUALITY_FLAG<br>enumeration AUTO_QUALITY_FLAG_EX<br>enumeration OP_QUALITY_FLAG<br>enumeration OP_QUALITY_FLAG_EX<br>enumeration SCIENCE_QUALITY_FLAG<br>enumeration SCIENCE_QUALITY_FLAG_EX |
| Source | `<xs:element name="UpdateTargetField" type="GranuleUpdateTargetField" minOccurs="0"`<br>` maxOccurs="unbounded">` |

```
  <xs:annotation>
    <xs:documentation>A single field that is the target of the update.</xs:documentation>
  </xs:annotation>
</xs:element>
```

## Element GranuleAddField / OldValue

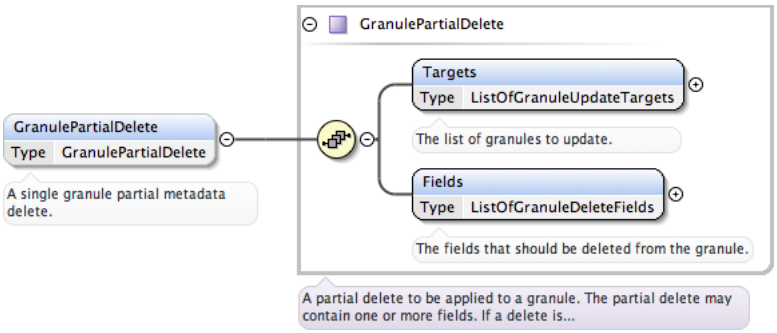
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Indicates the previous value held by an updated field. This will only be set when updating primary key values explicitly using the UpdateTargetFields. This element is only for backward compatibility and should not be used for new development. This field will be removed in the future. |
| Diagram |   |
| Type | restriction of xs:string |
| Properties | content: simple<br>minOccurs: 0 |
| Facets | minLength 1 |
| Source | `<xs:element name="OldValue" minOccurs="0">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Indicates the previous value held by an updated field. This will only be set when updating primary key values explicitly using the UpdateTargetFields. This element is only for backward compatibility and should not be used for new development. This field will be removed in the future.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:minLength value="1"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` |

## Element GranuleMetaDataFile / GranulePartialDeletes

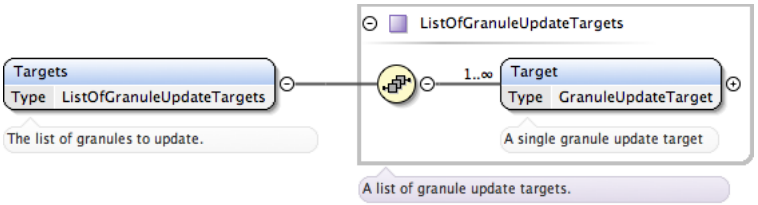
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Partial metadata deletes to be applied to granules |
| Diagram |   |
| Type | ListOfGranulePartialDeletes |
| Properties | content: complex<br>minOccurs: 0 |
| Model | GranulePartialDelete* |
| Children | GranulePartialDelete |
| Instance | `<GranulePartialDeletes>`<br>`  <GranulePartialDelete>{0,unbounded}</GranulePartialDelete>`<br>`</GranulePartialDeletes>` |
| Source | `<xs:element name="GranulePartialDeletes" type="ListOfGranulePartialDeletes" minOccurs="0">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Partial metadata deletes to be applied to granules</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element ListOfGranulePartialDeletes / GranulePartialDelete

| | |
|---|---|
| Namespace | No namespace |

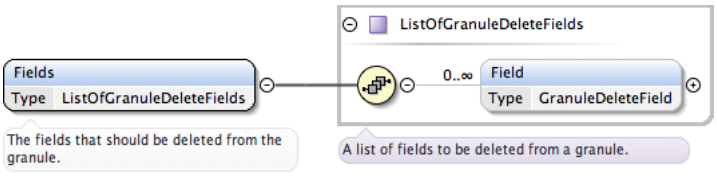
| | |
|---|---|
| Annotations | A single granule partial metadata delete. |
| Diagram |  |
| Type | GranulePartialDelete |
| Properties | content: complex<br>minOccurs: 0<br>maxOccurs: unbounded |
| Model | Targets , Fields |
| Children | Fields, Targets |
| Instance | `<GranulePartialDelete>`<br>`  <Targets>{1,1}</Targets>`<br>`  <Fields>{1,1}</Fields>`<br>`</GranulePartialDelete>` |
| Source | `<xs:element name="GranulePartialDelete" type="GranulePartialDelete" minOccurs="0"`<br>` maxOccurs="unbounded">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A single granule partial metadata delete.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element GranulePartialDelete / Targets

| | |
|---|---|
| Namespace | No namespace |
| Annotations | The list of granules to update. |
| Diagram |  |
| Type | ListOfGranuleUpdateTargets |
| Properties | content: complex |
| Model | Target+ |
| Children | Target |
| Instance | `<Targets>`<br>`  <Target>{1,unbounded}</Target>`<br>`</Targets>` |
| Source | `<xs:element name="Targets" type="ListOfGranuleUpdateTargets">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The list of granules to update.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element GranulePartialDelete / Fields

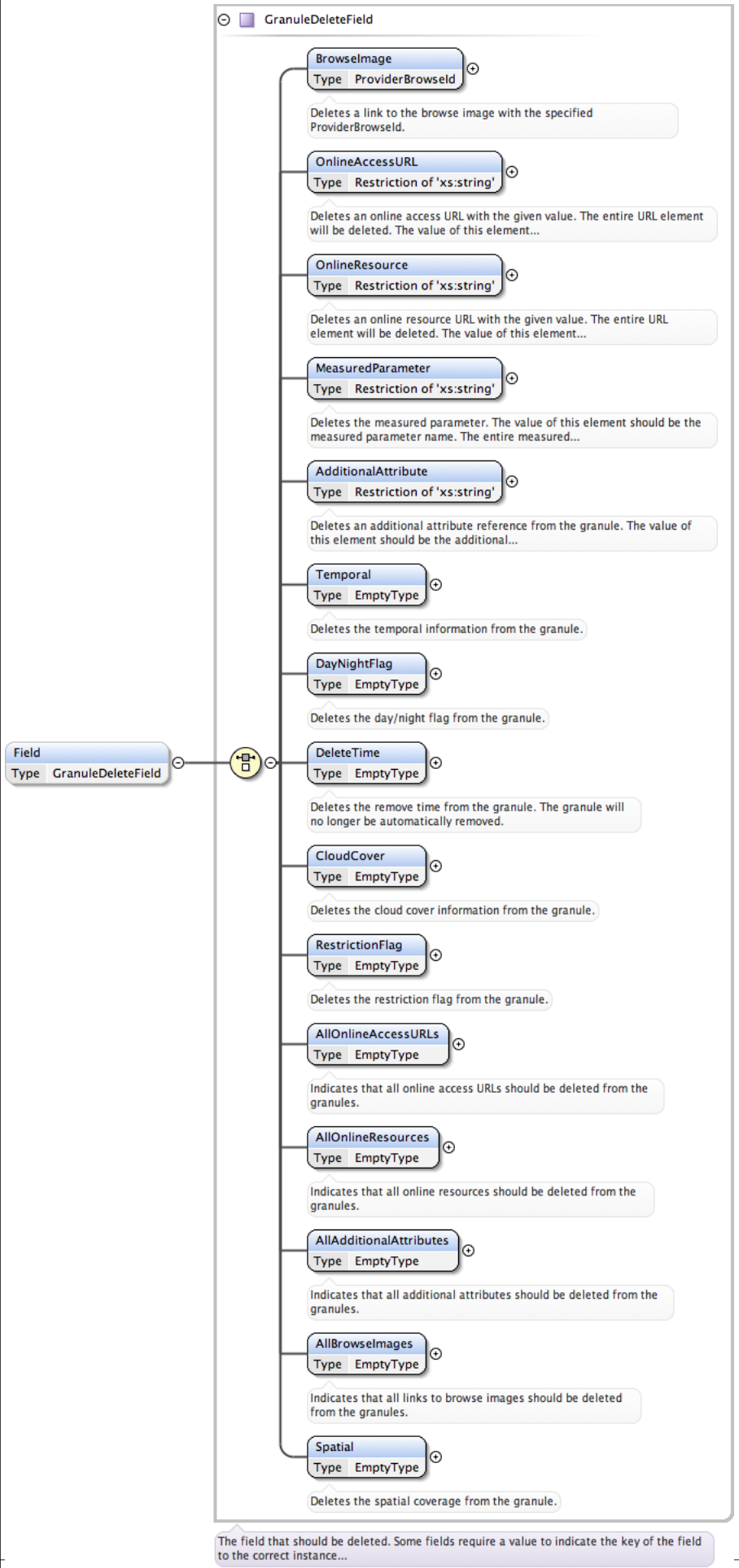
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The fields that should be deleted from the granule. |

| | |
|---|---|
| Diagram |  |
| Type | ListOfGranuleDeleteFields |
| Properties | content: `complex` |
| Model | Field* |
| Children | Field |
| Instance | `<Fields>`<br>`  <Field>{0,unbounded}</Field>`<br>`</Fields>` |
| Source | `<xs:element name="Fields" type="ListOfGranuleDeleteFields">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The fields that should be deleted from the granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element `ListOfGranuleDeleteFields / Field`

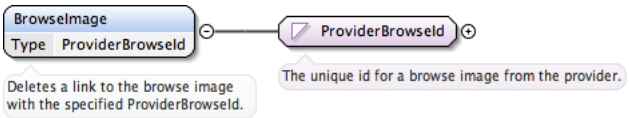
| | |
|---|---|
| Namespace | No namespace |

Diagram

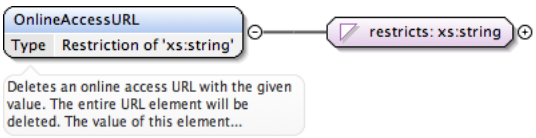

GranuleDeleteField
Field
Type GranuleDeleteField
BrowseImage
Type ProviderBrowseId
Deletes a link to the browse image with the specified ProviderBrowseId.
OnlineAccessURL
Type Restriction of 'xs:string'
Deletes an online access URL with the given value. The entire URL element will be deleted. The value of this element...
OnlineResource
Type Restriction of 'xs:string'
Deletes an online resource URL with the given value. The entire URL element will be deleted. The value of this element...
MeasuredParameter
Type Restriction of 'xs:string'
Deletes the measured parameter. The value of this element should be the measured parameter name. The entire measured...
AdditionalAttribute
Type Restriction of 'xs:string'
Deletes an additional attribute reference from the granule. The value of this element should be the additional...
Temporal
Type EmptyType
Deletes the temporal information from the granule.
DayNightFlag
Type EmptyType
Deletes the day/night flag from the granule.
DeleteTime
Type EmptyType
Deletes the remove time from the granule. The granule will no longer be automatically removed.
CloudCover
Type EmptyType
Deletes the cloud cover information from the granule.
RestrictionFlag
Type EmptyType
Deletes the restriction flag from the granule.
AllOnlineAccessURLs
Type EmptyType
Indicates that all online access URLs should be deleted from the granules.
AllOnlineResources
Type EmptyType
Indicates that all online resources should be deleted from the granules.
AllAdditionalAttributes
Type EmptyType
Indicates that all additional attributes should be deleted from the granules.
AllBrowseImages
Type EmptyType
Indicates that all links to browse images should be deleted from the granules.
Spatial
Type EmptyType
Deletes the spatial coverage from the granule.
The field that should be deleted. Some fields require a value to indicate the key of the field to the correct instance...

| | |
|---|---|
| Type | GranuleDeleteField |
| Properties | content: `complex`<br>minOccurs: `0`<br>maxOccurs: `unbounded` |
| Model | BrowseImage \| OnlineAccessURL \| OnlineResource \| MeasuredParameter \| AdditionalAttribute \| Temporal \| DayNightFlag \| DeleteTime \| CloudCover \| RestrictionFlag \| AllOnlineAccessURLs \| AllOnlineResources \| AllAdditionalAttributes \| AllBrowseImages \| Spatial |
| Children | AdditionalAttribute, AllAdditionalAttributes, AllBrowseImages, AllOnlineAccessURLs, AllOnlineResources, BrowseImage, CloudCover, DayNightFlag, DeleteTime, MeasuredParameter, OnlineAccessURL, OnlineResource, RestrictionFlag, Spatial, Temporal |
| Instance | `<Field>`<br>`  <BrowseImage>{1,1}</BrowseImage>`<br>`  <OnlineAccessURL>{1,1}</OnlineAccessURL>`<br>`  <OnlineResource>{1,1}</OnlineResource>`<br>`  <MeasuredParameter>{1,1}</MeasuredParameter>`<br>`  <AdditionalAttribute>{1,1}</AdditionalAttribute>`<br>`  <Temporal>{1,1}</Temporal>`<br>`  <DayNightFlag>{1,1}</DayNightFlag>`<br>`  <DeleteTime>{1,1}</DeleteTime>`<br>`  <CloudCover>{1,1}</CloudCover>`<br>`  <RestrictionFlag>{1,1}</RestrictionFlag>`<br>`  <AllOnlineAccessURLs>{1,1}</AllOnlineAccessURLs>`<br>`  <AllOnlineResources>{1,1}</AllOnlineResources>`<br>`  <AllAdditionalAttributes>{1,1}</AllAdditionalAttributes>`<br>`  <AllBrowseImages>{1,1}</AllBrowseImages>`<br>`  <Spatial>{1,1}</Spatial>`<br>`</Field>` |
| Source | `<xs:element name="Field" type="GranuleDeleteField" minOccurs="0" maxOccurs="unbounded"/>` |

## Element GranuleDeleteField / BrowseImage

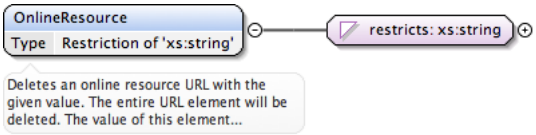
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Deletes a link to the browse image with the specified ProviderBrowseId. |
| Diagram |  |
| Type | ProviderBrowseId |
| Properties | content: `simple` |
| Facets | minLength `1`<br>maxLength `255` |
| Source | `<xs:element name="BrowseImage" type="ProviderBrowseId">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Deletes a link to the browse image with the specified ProviderBrowseId.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element GranuleDeleteField / OnlineAccessURL

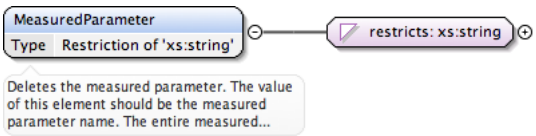
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Deletes an online access URL with the given value. The entire URL element will be deleted. The value of this element should be the URL. |
| Diagram |  |
| Type | restriction of xs:string |
| Properties | content: `simple` |

| | |
|---|---|
| Facets | minLength 1<br>maxLength 1024 |
| Source | `<xs:element name="OnlineAccessURL">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Deletes an online access URL with the given value. The entire URL element will be deleted. The value of this element should be the URL.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:minLength value="1"/>`<br>`  <xs:maxLength value="1024"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` |

## Element GranuleDeleteField / OnlineResource

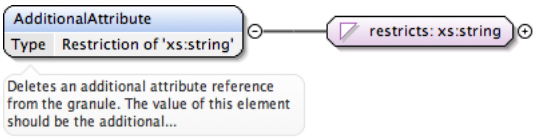
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Deletes an online resource URL with the given value. The entire URL element will be deleted. The value of this element should be the URL. |
| Diagram |  |
| Type | restriction of xs:string |
| Properties | content: simple |
| Facets | minLength 1<br>maxLength 1024 |
| Source | `<xs:element name="OnlineResource">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Deletes an online resource URL with the given value. The entire URL element will be deleted. The value of this element should be the URL.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:minLength value="1"/>`<br>`  <xs:maxLength value="1024"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`</xs:element>` |

## Element GranuleDeleteField / MeasuredParameter

| | |
|---|---|
| Namespace | No namespace |
| Annotations | Deletes the measured parameter. The value of this element should be the measured parameter name. The entire measured parameter will be deleted. |
| Diagram |  |
| Type | restriction of xs:string |
| Properties | content: simple |
| Facets | minLength 1<br>maxLength 250 |
| Source | `<xs:element name="MeasuredParameter">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Deletes the measured parameter. The value of this element should be the measured parameter name. The entire measured parameter will be deleted.</xs:documentation>` |

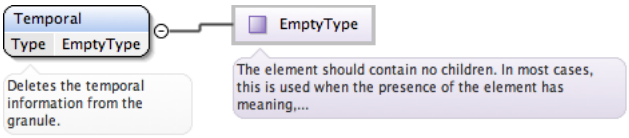
```
  </xs:annotation>
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:minLength value="1"/>
      <xs:maxLength value="250"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
```

## Element GranuleDeleteField / AdditionalAttribute

| | |
|---|---|
| Namespace | No namespace |
| Annotations | Deletes an additional attribute reference from the granule. The value of this element should be the additional attribute name. |
| Diagram |  |
| Type | restriction of xs:string |
| Properties | content: simple |
| Facets | minLength 1<br>maxLength 80 |
| Source | |

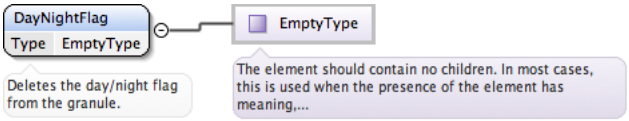
```
<xs:element name="AdditionalAttribute">
  <xs:annotation>
    <xs:documentation>Deletes an additional attribute reference from the granule. The value of this
 element should be the additional attribute name.</xs:documentation>
  </xs:annotation>
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:minLength value="1"/>
      <xs:maxLength value="80"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
```

## Element GranuleDeleteField / Temporal

| | |
|---|---|
| Namespace | No namespace |
| Annotations | Deletes the temporal information from the granule. |
| Diagram |  |
| Type | EmptyType |
| Properties | content: complex |
| Source | |

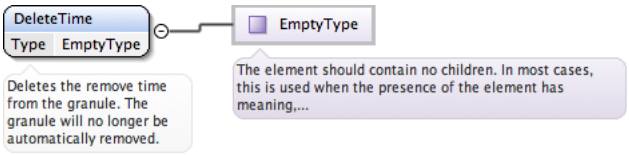
```
<xs:element name="Temporal" type="EmptyType">
  <xs:annotation>
    <xs:documentation>Deletes the temporal information from the granule.</xs:documentation>
  </xs:annotation>
</xs:element>
```

## Element GranuleDeleteField / DayNightFlag

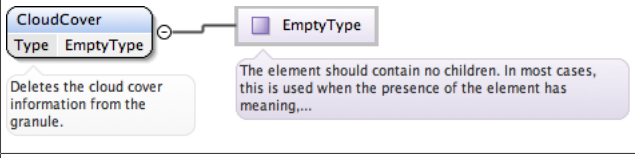
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Deletes the day/night flag from the granule. |
| Diagram |  |

| | |
|---|---|
| Type | EmptyType |
| Properties | content: complex |
| Source | `<xs:element name="DayNightFlag" type="EmptyType">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Deletes the day/night flag from the granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

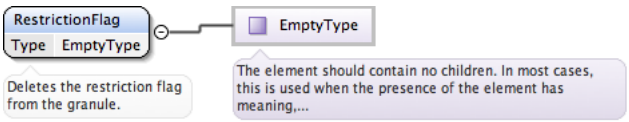
## Element GranuleDeleteField / DeleteTime

| | |
|---|---|
| Namespace | No namespace |
| Annotations | Deletes the remove time from the granule. The granule will no longer be automatically removed. |
| Diagram |  |
| Type | EmptyType |
| Properties | content: complex |
| Source | `<xs:element name="DeleteTime" type="EmptyType">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Deletes the remove time from the granule. The granule will no longer be`<br>` automatically removed.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

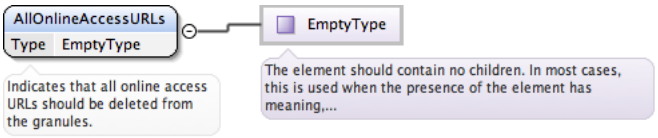
## Element GranuleDeleteField / CloudCover

| | |
|---|---|
| Namespace | No namespace |
| Annotations | Deletes the cloud cover information from the granule. |
| Diagram |  |
| Type | EmptyType |
| Properties | content: complex |
| Source | `<xs:element name="CloudCover" type="EmptyType">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Deletes the cloud cover information from the granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

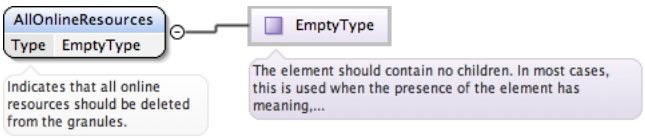
## Element GranuleDeleteField / RestrictionFlag

| | |
|---|---|
| Namespace | No namespace |
| Annotations | Deletes the restriction flag from the granule. |
| Diagram |  |
| Type | EmptyType |
| Properties | content: complex |
| Source | `<xs:element name="RestrictionFlag" type="EmptyType">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Deletes the restriction flag from the granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

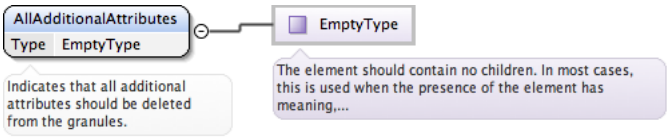
## Element GranuleDeleteField / AllOnlineAccessURLs

| | |
|---|---|
| Namespace | No namespace |
| Annotations | Indicates that all online access URLs should be deleted from the granules. |
| Diagram |   |
| Type | EmptyType |
| Properties | content: complex |
| Source | `<xs:element name="AllOnlineAccessURLs" type="EmptyType">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Indicates that all online access URLs should be deleted from the granules.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element GranuleDeleteField / AllOnlineResources

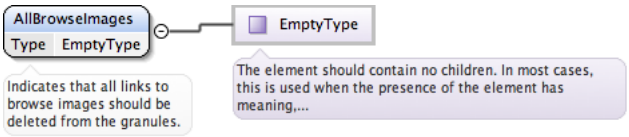
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Indicates that all online resources should be deleted from the granules. |
| Diagram |   |
| Type | EmptyType |
| Properties | content: complex |
| Source | `<xs:element name="AllOnlineResources" type="EmptyType">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Indicates that all online resources should be deleted from the granules.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element GranuleDeleteField / AllAdditionalAttributes

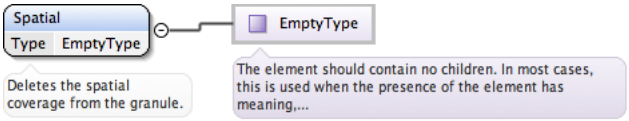
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Indicates that all additional attributes should be deleted from the granules. |
| Diagram |   |
| Type | EmptyType |
| Properties | content: complex |
| Source | `<xs:element name="AllAdditionalAttributes" type="EmptyType">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Indicates that all additional attributes should be deleted from the granules.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element GranuleDeleteField / AllBrowseImages

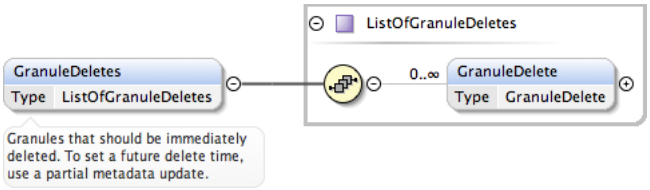
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Indicates that all links to browse images should be deleted from the granules. |

| | |
|---|---|
| Diagram |  |
| Type | EmptyType |
| Properties | content: complex |
| Source | `<xs:element name="AllBrowseImages" type="EmptyType">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Indicates that all links to browse images should be deleted from the granules.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element GranuleDeleteField / Spatial

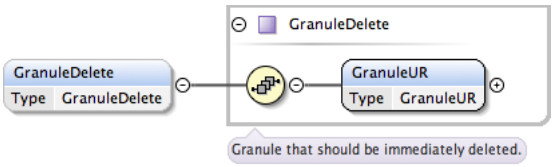
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Deletes the spatial coverage from the granule. |
| Diagram |  |
| Type | EmptyType |
| Properties | content: complex |
| Source | `<xs:element name="Spatial" type="EmptyType">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Deletes the spatial coverage from the granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element GranuleMetaDataFile / GranuleDeletes

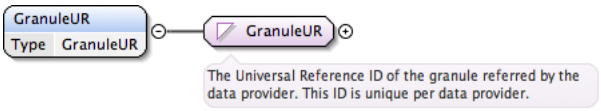
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Granules that should be immediately deleted. To set a future delete time, use a partial metadata update. |
| Diagram |  |
| Type | ListOfGranuleDeletes |
| Properties | content: complex<br>minOccurs: 0 |
| Model | GranuleDelete* |
| Children | GranuleDelete |
| Instance | `<GranuleDeletes>`<br>`  <GranuleDelete>{0,unbounded}</GranuleDelete>`<br>`</GranuleDeletes>` |
| Source | `<xs:element minOccurs="0" name="GranuleDeletes" type="ListOfGranuleDeletes">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Granules that should be immediately deleted. To set a future delete time, use a partial metadata update.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element ListOfGranuleDeletes / GranuleDelete

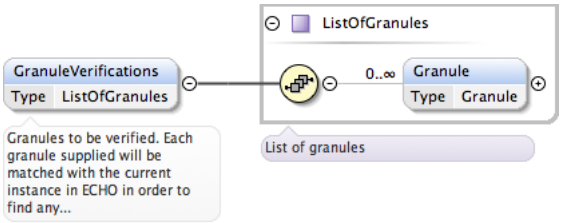
| | |
|---|---|
| Namespace | No namespace |

| | |
|---|---|
| Diagram |  |
| Type | GranuleDelete |
| Properties | content: complex<br>minOccurs: 0<br>maxOccurs: unbounded |
| Model | GranuleUR |
| Children | GranuleUR |
| Instance | `<GranuleDelete>`<br>`  <GranuleUR>{1,1}</GranuleUR>`<br>`</GranuleDelete>` |
| Source | `<xs:element maxOccurs="unbounded" name="GranuleDelete" type="GranuleDelete" minOccurs="0"/>` |

## Element GranuleDelete / GranuleUR

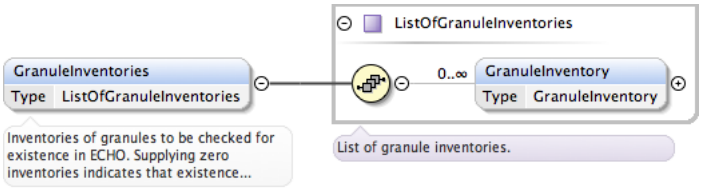
| | |
|---|---|
| Namespace | No namespace |
| Diagram |  |
| Type | GranuleUR |
| Properties | content: simple |
| Facets | minLength 1<br>maxLength 250 |
| Source | `<xs:element name="GranuleUR" type="GranuleUR"/>` |

## Element GranuleMetaDataFile / GranuleVerifications

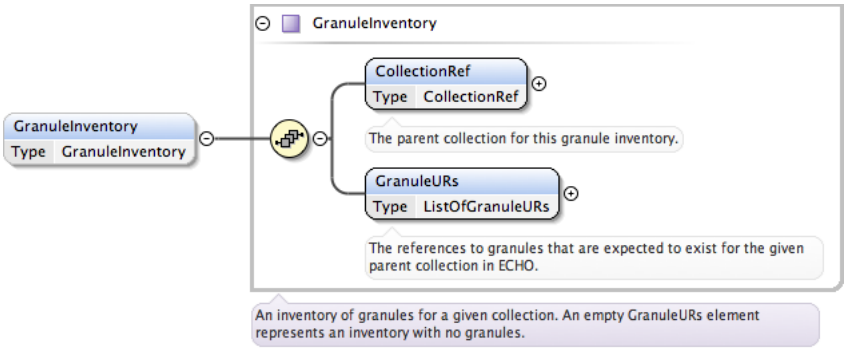
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Granules to be verified. Each granule supplied will be matched with the current instance in ECHO in order to find any metadata mismatches. The supplied granules will then be inserted or replaced. |
| Diagram |  |
| Type | ListOfGranules |
| Properties | content: complex<br>minOccurs: 0 |
| Model | Granule* |
| Children | Granule |
| Instance | `<GranuleVerifications>`<br>`  <Granule>{0,unbounded}</Granule>`<br>`</GranuleVerifications>` |
| Source | `<xs:element minOccurs="0" name="GranuleVerifications" type="ListOfGranules">` |

```
  <xs:annotation>
    <xs:documentation>Granules to be verified. Each granule supplied will be matched with the
 current instance in ECHO in order to find any metadata mismatches. The supplied granules will then
 be inserted or replaced.</xs:documentation>
  </xs:annotation>
</xs:element>
```

## Element GranuleMetaDataFile / GranuleInventories

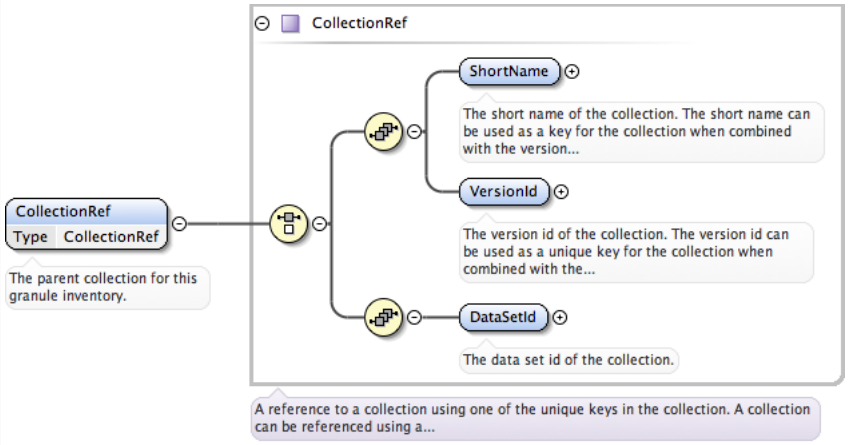
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Inventories of granules to be checked for existence in ECHO. Supplying zero inventories indicates that existence checking should be skipped. |
| Diagram |   |
| Type | ListOfGranuleInventories |
| Properties | content: complex<br>minOccurs: 0 |
| Model | GranuleInventory* |
| Children | GranuleInventory |
| Instance | `<GranuleInventories>`<br>`  <GranuleInventory>{0,unbounded}</GranuleInventory>`<br>`</GranuleInventories>` |
| Source | `<xs:element minOccurs="0" name="GranuleInventories" type="ListOfGranuleInventories">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Inventories of granules to be checked for existence in ECHO. Supplying zero inventories indicates that existence checking should be skipped.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element ListOfGranuleInventories / GranuleInventory

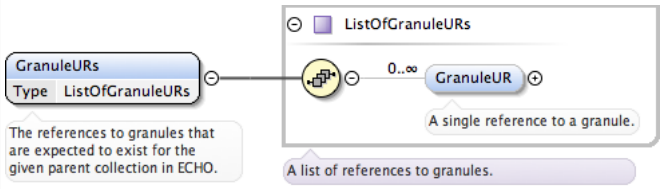
| | |
|---|---|
| Namespace | No namespace |
| Diagram |   |
| Type | GranuleInventory |
| Properties | content: complex<br>minOccurs: 0<br>maxOccurs: unbounded |
| Model | CollectionRef , GranuleURs |
| Children | CollectionRef, GranuleURs |
| Instance | `<GranuleInventory>`<br>`  <CollectionRef>{1,1}</CollectionRef>`<br>`  <GranuleURs>{1,1}</GranuleURs>`<br>`</GranuleInventory>` |

| | |
|---|---|
| Source | `<xs:element maxOccurs="unbounded" name="GranuleInventory" type="GranuleInventory" minOccurs="0"/>` |

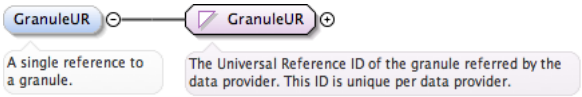
## Element `GranuleInventory / CollectionRef`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | The parent collection for this granule inventory. |
| Diagram |  |
| Type | CollectionRef |
| Properties | content: complex |
| Model | (ShortName , VersionId) \| (DataSetId) |
| Children | DataSetId, ShortName, VersionId |
| Instance | `<CollectionRef>`<br>`  <ShortName>{1,1}</ShortName>`<br>`  <VersionId>{1,1}</VersionId>`<br>`  <DataSetId>{1,1}</DataSetId>`<br>`</CollectionRef>` |
| Source | `<xs:element name="CollectionRef" type="CollectionRef">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The parent collection for this granule inventory.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element `GranuleInventory / GranuleURs`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | The references to granules that are expected to exist for the given parent collection in ECHO. |
| Diagram |  |
| Type | ListOfGranuleURs |
| Properties | content: complex |
| Model | GranuleUR* |
| Children | GranuleUR |
| Instance | `<GranuleURs>`<br>`  <GranuleUR>{0,unbounded}</GranuleUR>`<br>`</GranuleURs>` |
| Source | `<xs:element name="GranuleURs" type="ListOfGranuleURs">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The references to granules that are expected to exist for the given parent`<br>` collection in ECHO.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

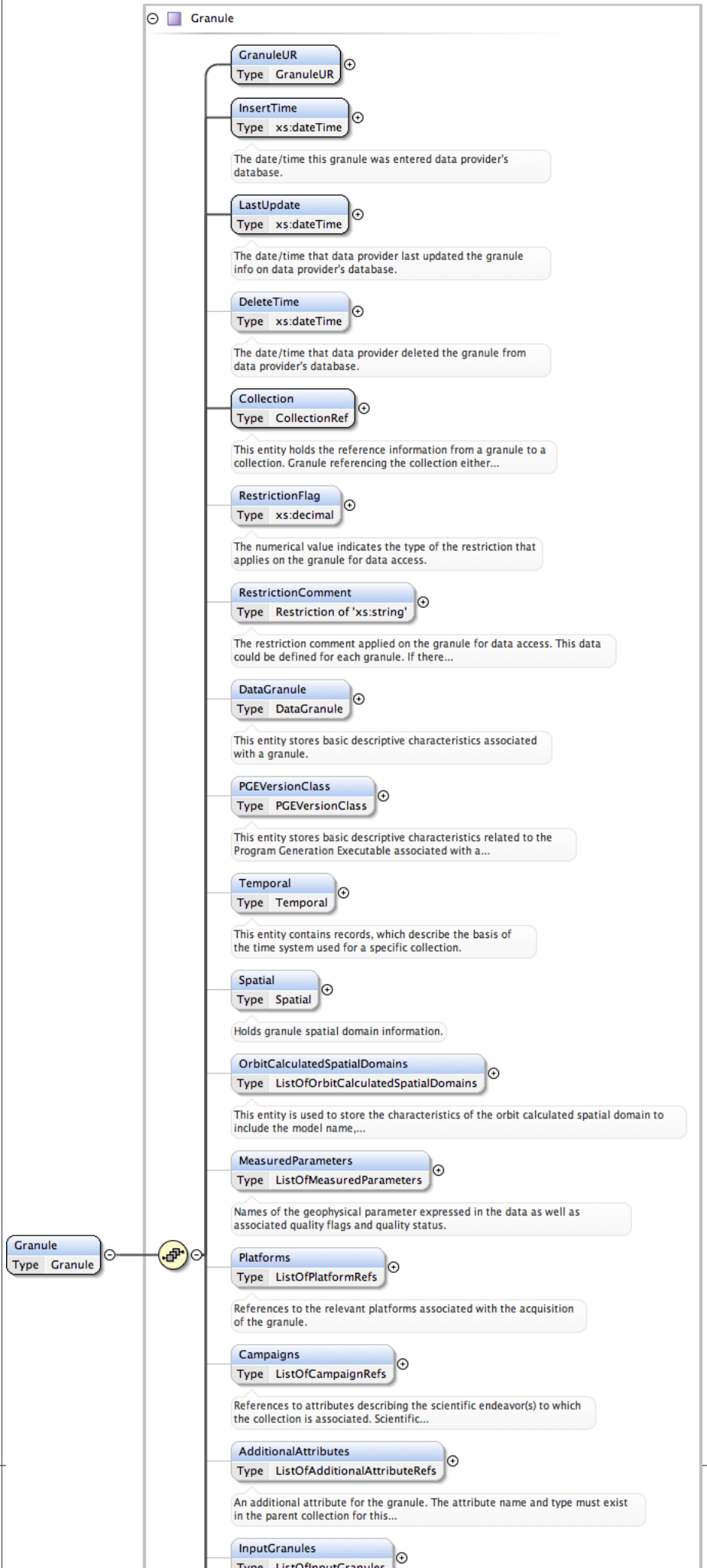
## Element `ListOfGranuleURs / GranuleUR`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | `A single reference to a granule.` |
| Diagram |   |
| Type | GranuleUR |
| Properties | content: `simple`<br>minOccurs: `0`<br>maxOccurs: `unbounded` |
| Facets | minLength `1`<br>maxLength `250` |
| Source | `<xs:element name="GranuleUR" type="GranuleUR" minOccurs="0" maxOccurs="unbounded">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A single reference to a granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

## Element `Granule`

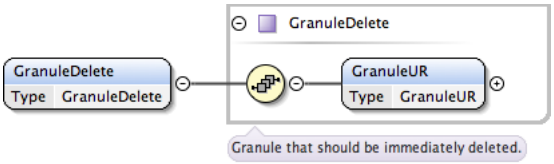
| | |
|---|---|
| Namespace | No namespace |

Diagram

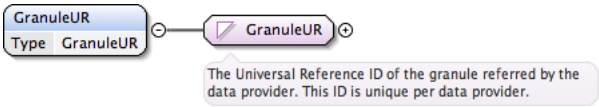

Granule
Granule
Type Granule
GranuleUR
Type GranuleUR
InsertTime
Type xs:dateTime
The date/time this granule was entered data provider's database.
LastUpdate
Type xs:dateTime
The date/time that data provider last updated the granule info on data provider's database.
DeleteTime
Type xs:dateTime
The date/time that data provider deleted the granule from data provider's database.
Collection
Type CollectionRef
This entity holds the reference information from a granule to a collection. Granule referencing the collection either...
RestrictionFlag
Type xs:decimal
The numerical value indicates the type of the restriction that applies on the granule for data access.
RestrictionComment
Type Restriction of 'xs:string'
The restriction comment applied on the granule for data access. This data could be defined for each granule. If there...
DataGranule
Type DataGranule
This entity stores basic descriptive characteristics associated with a granule.
PGEVersionClass
Type PGEVersionClass
This entity stores basic descriptive characteristics related to the Program Generation Executable associated with a...
Temporal
Type Temporal
This entity contains records, which describe the basis of the time system used for a specific collection.
Spatial
Type Spatial
Holds granule spatial domain information.
OrbitCalculatedSpatialDomains
Type ListOfOrbitCalculatedSpatialDomains
This entity is used to store the characteristics of the orbit calculated spatial domain to include the model name,...
MeasuredParameters
Type ListOfMeasuredParameters
Names of the geophysical parameter expressed in the data as well as associated quality flags and quality status.
Platforms
Type ListOfPlatformRefs
References to the relevant platforms associated with the acquisition of the granule.
Campaigns
Type ListOfCampaignRefs
References to attributes describing the scientific endeavor(s) to which the collection is associated. Scientific...
AdditionalAttributes
Type ListOfAdditionalAttributeRefs
An additional attribute for the granule. The attribute name and type must exist in the parent collection for this...
InputGranules

| | |
|---|---|
| Type | Granule |
| Properties | content: complex |
| Model | GranuleUR , InsertTime , LastUpdate , DeleteTime{0,1} , Collection , RestrictionFlag{0,1} , RestrictionComment{0,1} , DataGranule{0,1} , PGEVersionClass{0,1} , Temporal{0,1} , Spatial{0,1} , OrbitCalculatedSpatialDomains{0,1} , MeasuredParameters{0,1} , Platforms{0,1} , Campaigns{0,1} , AdditionalAttributes{0,1} , InputGranules{0,1} , TwoDCoordinateSystem{0,1} , Price{0,1} , OnlineAccessURLs{0,1} , OnlineResources{0,1} , Orderable , DataFormat{0,1} , Visible{0,1} , CloudCover{0,1} , (AssociatedBrowseImages{0,1} \| AssociatedBrowseImageUrls{0,1}) |
| Children | AdditionalAttributes, AssociatedBrowseImageUrls, AssociatedBrowseImages, Campaigns, CloudCover, Collection, DataFormat, DataGranule, DeleteTime, GranuleUR, InputGranules, InsertTime, LastUpdate, MeasuredParameters, OnlineAccessURLs, OnlineResources, OrbitCalculatedSpatialDomains, Orderable, PGEVersionClass, Platforms, Price, RestrictionComment, RestrictionFlag, Spatial, Temporal, TwoDCoordinateSystem, Visible |
| Instance | `<Granule>`<br>`  <GranuleUR>{1,1}</GranuleUR>`<br>`  <InsertTime>{1,1}</InsertTime>`<br>`  <LastUpdate>{1,1}</LastUpdate>`<br>`  <DeleteTime>{0,1}</DeleteTime>`<br>`  <Collection>{1,1}</Collection>`<br>`  <RestrictionFlag>{0,1}</RestrictionFlag>`<br>`  <RestrictionComment>{0,1}</RestrictionComment>`<br>`  <DataGranule>{0,1}</DataGranule>`<br>`  <PGEVersionClass>{0,1}</PGEVersionClass>`<br>`  <Temporal>{0,1}</Temporal>`<br>`  <Spatial>{0,1}</Spatial>`<br>`  <OrbitCalculatedSpatialDomains>{0,1}</OrbitCalculatedSpatialDomains>`<br>`  <MeasuredParameters>{0,1}</MeasuredParameters>`<br>`  <Platforms>{0,1}</Platforms>`<br>`  <Campaigns>{0,1}</Campaigns>`<br>`  <AdditionalAttributes>{0,1}</AdditionalAttributes>`<br>`  <InputGranules>{0,1}</InputGranules>`<br>`  <TwoDCoordinateSystem>{0,1}</TwoDCoordinateSystem>`<br>`  <Price>{0,1}</Price>`<br>`  <OnlineAccessURLs>{0,1}</OnlineAccessURLs>`<br>`  <OnlineResources>{0,1}</OnlineResources>`<br>`  <Orderable>{1,1}</Orderable>`<br>`  <DataFormat>{0,1}</DataFormat>`<br>`  <Visible>{0,1}</Visible>`<br>`  <CloudCover>{0,1}</CloudCover>`<br>`  <AssociatedBrowseImages>{0,1}</AssociatedBrowseImages>`<br>`  <AssociatedBrowseImageUrls>{0,1}</AssociatedBrowseImageUrls>`<br>`</Granule>` |
| Source | `<xs:element name="Granule" type="Granule"/>` |

## Element GranuleDelete

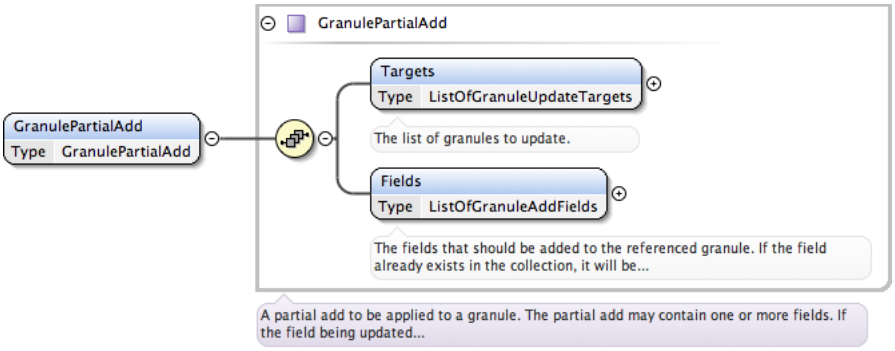
| | |
|---|---|
| Namespace | No namespace |
| Diagram |  |
| Type | GranuleDelete |
| Properties | content: complex |
| Model | GranuleUR |
| Children | GranuleUR |
| Instance | `<GranuleDelete>`<br>`  <GranuleUR>{1,1}</GranuleUR>`<br>`</GranuleDelete>` |
| Source | `<xs:element name="GranuleDelete" type="GranuleDelete"/>` |

## Element GranuleUR

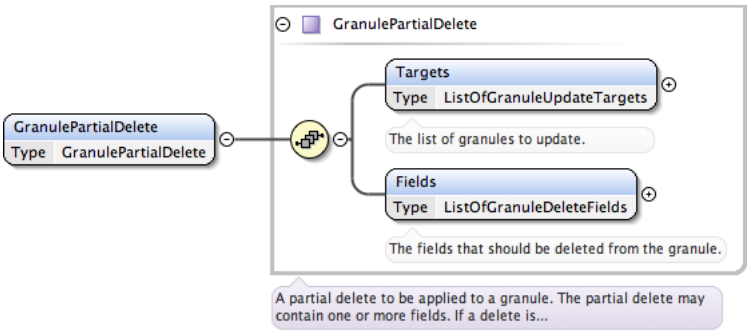
| | |
|---|---|
| Namespace | No namespace |
| Diagram |  |

| | |
|---|---|
| Type | GranuleUR |
| Properties | content: simple |
| Facets | minLength 1<br>maxLength 250 |
| Source | `<xs:element name="GranuleUR" type="GranuleUR"/>` |

## Element GranulePartialAdd

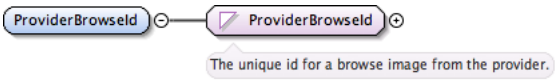
| | |
|---|---|
| Namespace | No namespace |
| Diagram |  |
| Type | GranulePartialAdd |
| Properties | content: complex |
| Model | Targets , Fields |
| Children | Fields, Targets |
| Instance | `<GranulePartialAdd>`<br>`  <Targets>{1,1}</Targets>`<br>`  <Fields>{1,1}</Fields>`<br>`</GranulePartialAdd>` |
| Source | `<xs:element name="GranulePartialAdd" type="GranulePartialAdd"/>` |

## Element GranulePartialDelete

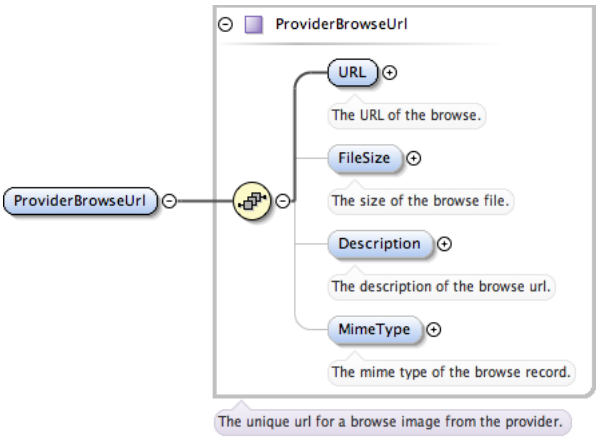
| | |
|---|---|
| Namespace | No namespace |
| Diagram |  |
| Type | GranulePartialDelete |
| Properties | content: complex |
| Model | Targets , Fields |
| Children | Fields, Targets |
| Instance | `<GranulePartialDelete>`<br>`  <Targets>{1,1}</Targets>`<br>`  <Fields>{1,1}</Fields>`<br>`</GranulePartialDelete>` |
| Source | `<xs:element name="GranulePartialDelete" type="GranulePartialDelete"/>` |

## Element ProviderBrowseElement / ProviderBrowseId

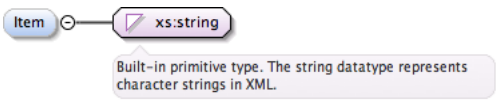
| | |
|---|---|
| Namespace | No namespace |

| | |
|---|---|
| Diagram |  |
| Type | ProviderBrowseId |
| Properties | content: `simple` |
| Facets | minLength `1`<br>maxLength `255` |
| Source | `<xs:element name="ProviderBrowseId" type="ProviderBrowseId"/>` |

## Element `ProviderBrowseElement / ProviderBrowseUrl`

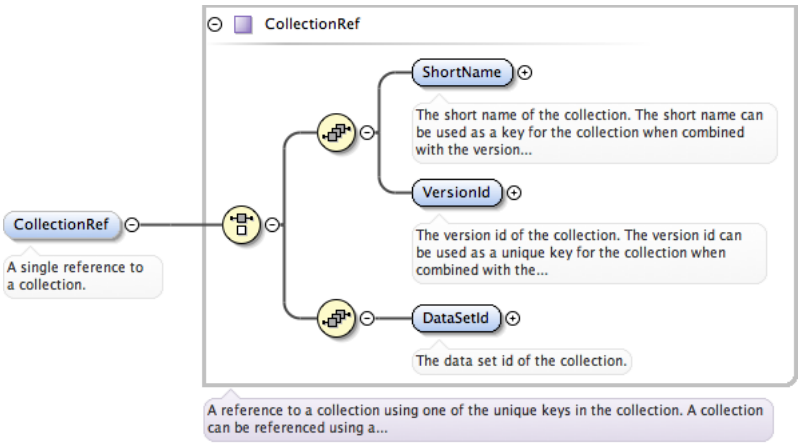
| | |
|---|---|
| Namespace | No namespace |
| Diagram |  |
| Type | ProviderBrowseUrl |
| Properties | content: `complex` |
| Model | URL , FileSize{0,1} , Description{0,1} , MimeType{0,1} |
| Children | Description, FileSize, MimeType, URL |
| Instance | `<ProviderBrowseUrl>`<br>`  <URL>{1,1}</URL>`<br>`  <FileSize>{0,1}</FileSize>`<br>`  <Description>{0,1}</Description>`<br>`  <MimeType>{0,1}</MimeType>`<br>`</ProviderBrowseUrl>` |
| Source | `<xs:element name="ProviderBrowseUrl" type="ProviderBrowseUrl"/>` |

## Element `ListOfStrings / Item`

| | |
|---|---|
| Namespace | No namespace |
| Diagram |  |
| Type | xs:string |
| Properties | content: `simple`<br>minOccurs: `0`<br>maxOccurs: `unbounded` |
| Source | `<xs:element minOccurs="0" maxOccurs="unbounded" name="Item" type="xs:string"/>` |

## Element `ListOfCollectionRefs / CollectionRef`

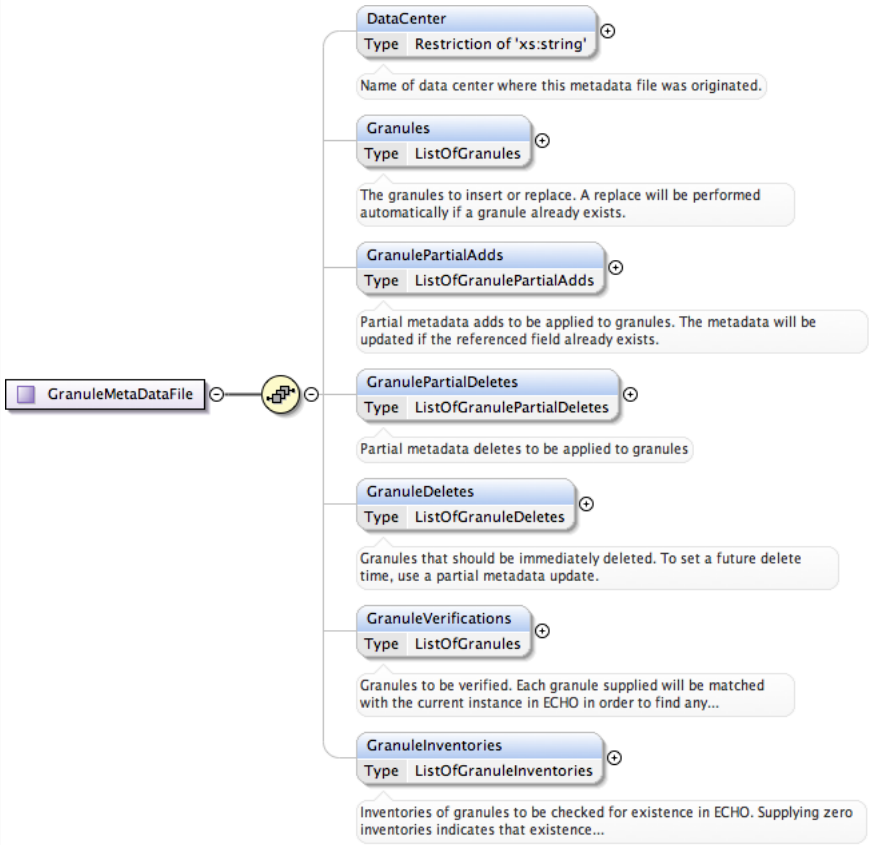
| | |
|---|---|
| Namespace | No namespace |
| Annotations | `A single reference to a collection.` |

| | |
|---|---|
| Diagram |  |
| Type | CollectionRef |
| Properties | content: complex<br>minOccurs: 0<br>maxOccurs: unbounded |
| Model | (ShortName , VersionId) \| (DataSetId) |
| Children | DataSetId, ShortName, VersionId |
| Instance | `<CollectionRef>`<br>`  <ShortName>{1,1}</ShortName>`<br>`  <VersionId>{1,1}</VersionId>`<br>`  <DataSetId>{1,1}</DataSetId>`<br>`</CollectionRef>` |
| Source | `<xs:element name="CollectionRef" type="CollectionRef" minOccurs="0" maxOccurs="unbounded">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A single reference to a collection.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:element>` |

# Complex Type(s)

## Complex Type `GranuleMetaDataFile`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | |

| | |
|---|---|
| Diagram |  |
| Used by | Element GranuleMetaDataFile |
| Model | DataCenter{0,1} , Granules{0,1} , GranulePartialAdds{0,1} , GranulePartialDeletes{0,1} , GranuleDeletes{0,1} , GranuleVerifications{0,1} , GranuleInventories{0,1} |
| Children | DataCenter, GranuleDeletes, GranuleInventories, GranulePartialAdds, GranulePartialDeletes, GranuleVerifications, Granules |

Source

```
<xs:complexType name="GranuleMetaDataFile">
  <xs:annotation>
    <xs:documentation/>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="DataCenter" minOccurs="0">
      <xs:annotation>
        <xs:documentation>Name of data center where this metadata file was originated.</
xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:minLength value="1"/>
          <xs:maxLength value="80"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
    <xs:element minOccurs="0" name="Granules" type="ListOfGranules">
      <xs:annotation>
        <xs:documentation>The granules to insert or replace. A replace will be performed
 automatically if a granule already exists.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="GranulePartialAdds" type="ListOfGranulePartialAdds" minOccurs="0">
      <xs:annotation>
        <xs:documentation>Partial metadata adds to be applied to granules. The metadata will be
 updated if the referenced field already exists.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="GranulePartialDeletes" type="ListOfGranulePartialDeletes" minOccurs="0">
      <xs:annotation>
        <xs:documentation>Partial metadata deletes to be applied to granules</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="GranuleDeletes" type="ListOfGranuleDeletes">
      <xs:annotation>
```

```
        <xs:documentation>Granules that should be immediately deleted. To set a future delete time,
 use a partial metadata update.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="GranuleVerifications" type="ListOfGranules">
      <xs:annotation>
        <xs:documentation>Granules to be verified. Each granule supplied will be matched with the
 current instance in ECHO in order to find any metadata mismatches. The supplied granules will then
 be inserted or replaced.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="GranuleInventories" type="ListOfGranuleInventories">
      <xs:annotation>
        <xs:documentation>Inventories of granules to be checked for existence in ECHO. Supplying
 zero inventories indicates that existence checking should be skipped.</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

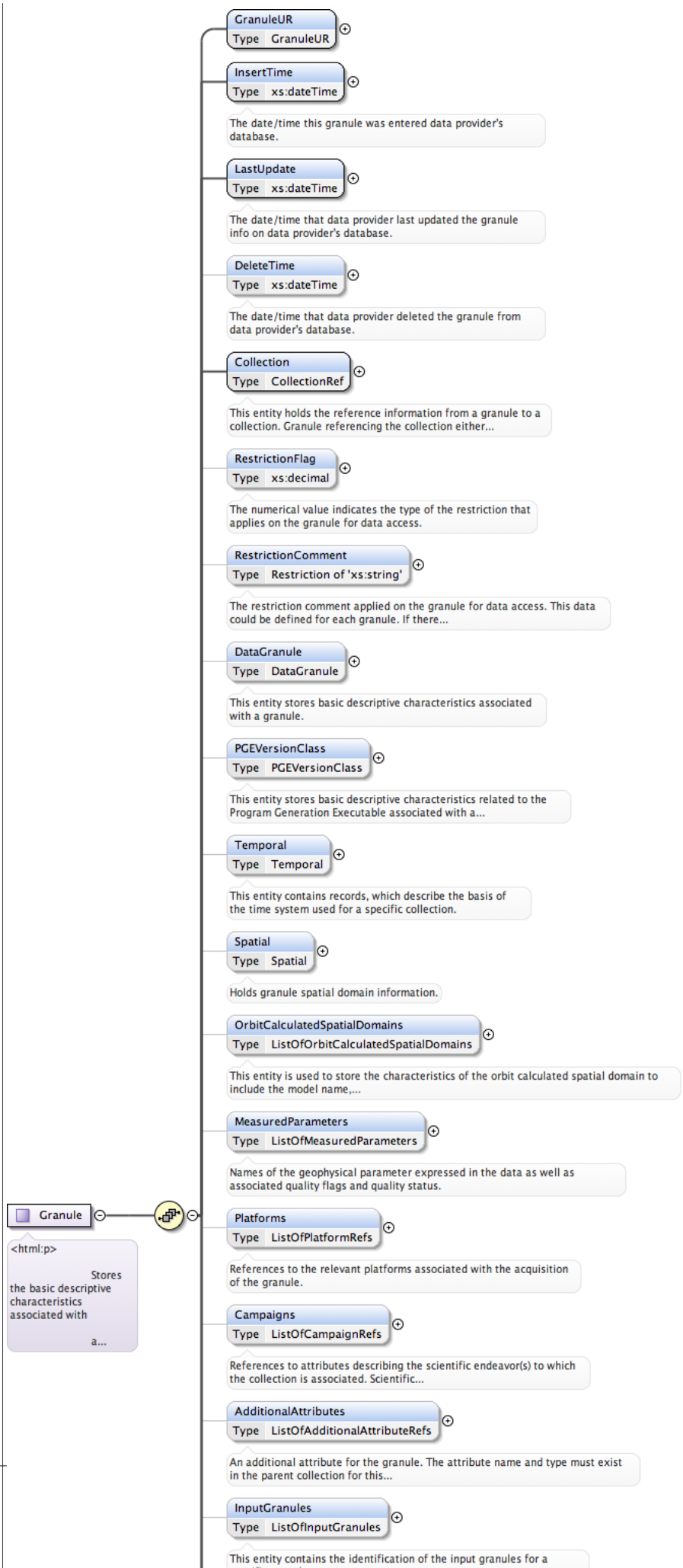
## Complex Type `ListOfGranules`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | `List of granules` |
| Diagram | |
| Used by | Elements GranuleMetaDataFile/GranuleVerifications, GranuleMetaDataFile/Granules |
| Model | Granule* |
| Children | Granule |
| Source | `<xs:complexType name="ListOfGranules">`<br>`  <xs:annotation>`<br>`  <xs:documentation>List of granules</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element maxOccurs="unbounded" name="Granule" type="Granule" minOccurs="0"/>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

## Complex Type `Granule`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | `<html:p>Stores the basic descriptive characteristics associated with a granule.</html:p>`<br>`<html:p>Adopted from Release B Science Data Processing Segment (SDPS) for the ECS Project. Refer to 311-CD-008-001 May 15, 1996. Additional attributes been added for book keeping information.</html:p>` |

Diagram


GranuleUR
Type GranuleUR
InsertTime
Type xs:dateTime
The date/time this granule was entered data provider's database.
LastUpdate
Type xs:dateTime
The date/time that data provider last updated the granule info on data provider's database.
DeleteTime
Type xs:dateTime
The date/time that data provider deleted the granule from data provider's database.
Collection
Type CollectionRef
This entity holds the reference information from a granule to a collection. Granule referencing the collection either...
RestrictionFlag
Type xs:decimal
The numerical value indicates the type of the restriction that applies on the granule for data access.
RestrictionComment
Type Restriction of 'xs:string'
The restriction comment applied on the granule for data access. This data could be defined for each granule. If there...
DataGranule
Type DataGranule
This entity stores basic descriptive characteristics associated with a granule.
PGEVersionClass
Type PGEVersionClass
This entity stores basic descriptive characteristics related to the Program Generation Executable associated with a...
Temporal
Type Temporal
This entity contains records, which describe the basis of the time system used for a specific collection.
Spatial
Type Spatial
Holds granule spatial domain information.
OrbitCalculatedSpatialDomains
Type ListOfOrbitCalculatedSpatialDomains
This entity is used to store the characteristics of the orbit calculated spatial domain to include the model name,...
MeasuredParameters
Type ListOfMeasuredParameters
Names of the geophysical parameter expressed in the data as well as associated quality flags and quality status.
Granule
<html:p>
Stores the basic descriptive characteristics associated with
a...
Platforms
Type ListOfPlatformRefs
References to the relevant platforms associated with the acquisition of the granule.
Campaigns
Type ListOfCampaignRefs
References to attributes describing the scientific endeavor(s) to which the collection is associated. Scientific...
AdditionalAttributes
Type ListOfAdditionalAttributeRefs
An additional attribute for the granule. The attribute name and type must exist in the parent collection for this...
InputGranules
Type ListOfInputGranules
This entity contains the identification of the input granules for a

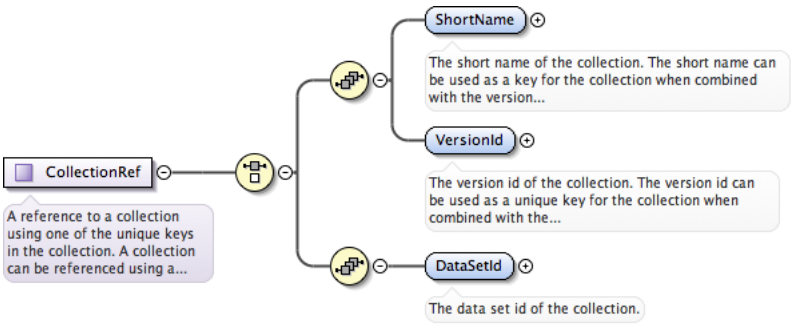
| | |
|---|---|
| Used by | Elements Granule, ListOfGranules/Granule |
| Model | GranuleUR , InsertTime , LastUpdate , DeleteTime{0,1} , Collection , RestrictionFlag{0,1} , RestrictionComment{0,1} , DataGranule{0,1} , PGEVersionClass{0,1} , Temporal{0,1} , Spatial{0,1} , OrbitCalculatedSpatialDomains{0,1} , MeasuredParameters{0,1} , Platforms{0,1} , Campaigns{0,1} , AdditionalAttributes{0,1} , InputGranules{0,1} , TwoDCoordinateSystem{0,1} , Price{0,1} , OnlineAccessURLs{0,1} , OnlineResources{0,1} , Orderable , DataFormat{0,1} , Visible{0,1} , CloudCover{0,1} , (AssociatedBrowseImages{0,1} \| AssociatedBrowseImageUrls{0,1}) |
| Children | AdditionalAttributes, AssociatedBrowseImageUrls, AssociatedBrowseImages, Campaigns, CloudCover, Collection, DataFormat, DataGranule, DeleteTime, GranuleUR, InputGranules, InsertTime, LastUpdate, MeasuredParameters, OnlineAccessURLs, OnlineResources, OrbitCalculatedSpatialDomains, Orderable, PGEVersionClass, Platforms, Price, RestrictionComment, RestrictionFlag, Spatial, Temporal, TwoDCoordinateSystem, Visible |
| Source | |

```
<xs:complexType name="Granule">
  <xs:annotation>
    <xs:documentation>
      <html:p>Stores the basic descriptive characteristics associated with a granule.</html:p>
      <html:p>Adopted from Release B Science Data Processing Segment (SDPS) for the ECS Project.
 Refer to 311-CD-008-001 May 15, 1996. Additional attributes been added for book keeping
 information.</html:p>
    </xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="GranuleUR" type="GranuleUR">
    </xs:element>
    <xs:element name="InsertTime" type="xs:dateTime">
      <xs:annotation>
        <xs:documentation>The date/time this granule was entered data provider's database.</
xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="LastUpdate" type="xs:dateTime">
      <xs:annotation>
        <xs:documentation>The date/time that data provider last updated the granule info on data
 provider's database.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="DeleteTime" type="xs:dateTime">
      <xs:annotation>
        <xs:documentation>The date/time that data provider deleted the granule from data provider's
 database.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="Collection" type="CollectionRef">
      <xs:annotation>
        <xs:documentation>This entity holds the reference information from a granule to a
 collection. Granule referencing the collection either by collection short name and collection
 version or by collection dataset ID.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="RestrictionFlag" type="xs:decimal">
      <xs:annotation>
        <xs:documentation>The numerical value indicates the type of the restriction that applies on
 the granule for data access.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="RestrictionComment">
      <xs:annotation>
        <xs:documentation>The restriction comment applied on the granule for data access. This data
 could be defined for each granule. If there is no restriction comment given for the granule, the
 restriction comment of its primary collection will be used if applicable.</xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:maxLength value="1024"/>
          <xs:minLength value="1"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
    <xs:element minOccurs="0" name="DataGranule" type="DataGranule">
      <xs:annotation>
        <xs:documentation>This entity stores basic descriptive characteristics associated with a
 granule.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="PGEVersionClass" type="PGEVersionClass">
      <xs:annotation>
        <xs:documentation>This entity stores basic descriptive characteristics related to the
 Program Generation Executable associated with a granule.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="Temporal" type="Temporal">
```

```
      <xs:annotation>
        <xs:documentation>This entity contains records, which describe the basis of the time system
 used for a specific collection.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="Spatial" type="Spatial">
      <xs:annotation>
        <xs:documentation>Holds granule spatial domain information.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="OrbitCalculatedSpatialDomains"
 type="ListOfOrbitCalculatedSpatialDomains">
      <xs:annotation>
        <xs:documentation>This entity is used to store the characteristics of the orbit calculated
 spatial domain to include the model name, orbit number, start and stop orbit number, equator
 crossing date and time, and equator crossing longitude.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="MeasuredParameters" type="ListOfMeasuredParameters">
      <xs:annotation>
        <xs:documentation>Names of the geophysical parameter expressed in the data as well as
 associated quality flags and quality status.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="Platforms" type="ListOfPlatformRefs">
      <xs:annotation>
        <xs:documentation>References to the relevant platforms associated with the acquisition of
 the granule.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="Campaigns" type="ListOfCampaignRefs">
      <xs:annotation>
        <xs:documentation>References to attributes describing the scientific endeavor(s) to which
 the collection is associated. Scientific endeavors include campaigns, projects, interdisciplinary
 science investigations, missions, field experiments, etc.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="AdditionalAttributes" type="ListOfAdditionalAttributeRefs" minOccurs="0">
      <xs:annotation>
        <xs:documentation>An additional attribute for the granule. The attribute name and type must
 exist in the parent collection for this granule. Additional attributes are the same as PSAs.</
xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="InputGranules" type="ListOfInputGranules">
      <xs:annotation>
        <xs:documentation>This entity contains the identification of the input granules for a
 specific granule.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="TwoDCoordinateSystem" type="TwoDCoordinateSystem">
      <xs:annotation>
        <xs:documentation>This entity stores the two dimensional coordinate system information for
 the granule. The two dimensional coordinate system information is an alternative way to express
 granule's spatial coverage based on a certain two dimensional coordinate system defined by the
 providers.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="Price" type="DollarAmount">
      <xs:annotation>
        <xs:documentation>The price of the granule data when order.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="OnlineAccessURLs" type="ListOfOnlineAccessURLs">
      <xs:annotation>
        <xs:documentation>This entity stores the online URL(s) for the collections if there is any.
 Those URLs either provide the site where the user can obtain collection data or give the further
 instruction of obtaining the collection data.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="OnlineResources" type="ListOfOnlineResources">
      <xs:annotation>
        <xs:documentation>This entity holds all types of online URL associated with the granule such
 as guide document or ordering site etc.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="Orderable" type="xs:boolean">
      <xs:annotation>
        <xs:documentation>Indication of whether the granule is orderable.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="DataFormat">
      <xs:annotation>
```

```
        <xs:documentation>The file format of the raw data (such as HDF) for this granule.</
xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:minLength value="1"/>
          <xs:maxLength value="80"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
    <xs:element name="Visible" type="xs:boolean" minOccurs="0">
      <xs:annotation>
        <xs:documentation>
          <p>Indication of whether the granule is visible or not. Visibility is a basic access
 control mechanism that bypasses all ACL rules. If a granule is not visible, only users with the
 owning provider role will be able to see the item. All other users will not see the item no matter
 what ACL permissions are in place.</p>
          <p>If group based permissions are needed, use the restriction flag field instead of
 visibility. Normally visibility is used when an item is first ingested. Making the item not visible
 allows the provider time to install any ACL rules or order options required before users will see
 the item. Visibility is more commonly set at the collection level than the granule level. If a
 collection is not visible, none of the granules in the collection will be visible.</p>
        </xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="CloudCover" type="xs:decimal" minOccurs="0">
      <xs:annotation>
        <xs:documentation>A percentage value indicating how much of the area of a granule (the ECS
 data unit) has been obscured by clouds. It is worth noting that there are many different measures
 of cloud cover within the ECS data holdings and that the cloud cover parameter that is represented
 in the DataPool is specific to Data Set.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:choice>
      <xs:element name="AssociatedBrowseImages" type="ListOfProviderBrowseIds" minOccurs="0">
        <xs:annotation>
          <xs:documentation>The list of browse images associated with this granule.</
xs:documentation>
        </xs:annotation>
      </xs:element>
      <xs:element name="AssociatedBrowseImageUrls" type="ListOfProviderBrowseUrls" minOccurs="0">
        <xs:annotation>
          <xs:documentation>The list of browse image urls associated with this granule.</
xs:documentation>
        </xs:annotation>
      </xs:element>
    </xs:choice>
  </xs:sequence>
</xs:complexType>
```

## Complex Type `CollectionRef`

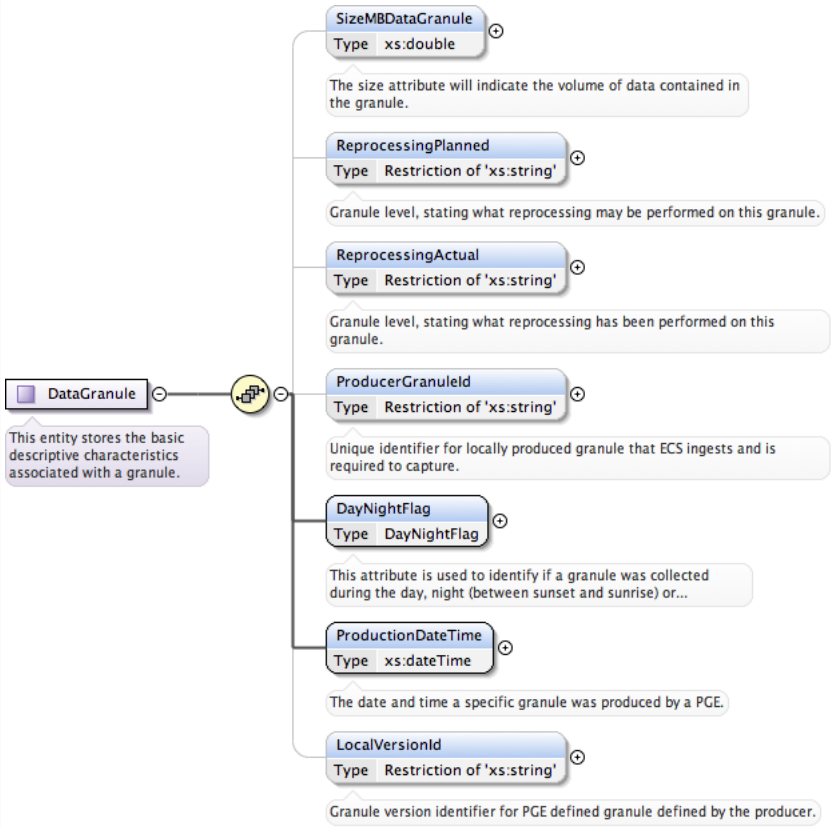
| | |
|---|---|
| Namespace | No namespace |
| Annotations | A reference to a collection using one of the unique keys in the collection. A collection can be referenced using a combination of the short name and version id or the dataset id. Setting only one of short name and version id without the other is not a valid collection reference. |
| Diagram |   |
| Used by | Elements Granule/Collection, GranuleInventory/CollectionRef, ListOfCollectionRefs/CollectionRef |
| Model | (ShortName , VersionId) \| (DataSetId) |
| Children | DataSetId, ShortName, VersionId |
| Source | `<xs:complexType name="CollectionRef">` |

```
 <xs:annotation>
   <xs:documentation>A reference to a collection using one of the unique keys in the collection. A
 collection can be referenced using a combination of the short name and version id or the dataset
 id. Setting only one of short name and version id without the other is not a valid collection
 reference.</xs:documentation>
 </xs:annotation>
 <xs:choice>
   <xs:sequence>
     <xs:element name="ShortName" type="CollectionShortName">
       <xs:annotation>
         <xs:documentation>The short name of the collection. The short name can be used as a key
 for the collection when combined with the version id.</xs:documentation>
       </xs:annotation>
     </xs:element>
     <xs:element name="VersionId">
       <xs:annotation>
         <xs:documentation>The version id of the collection. The version id can be used as a unique
 key for the collection when combined with the short name.</xs:documentation>
       </xs:annotation>
       <xs:simpleType>
         <xs:restriction base="xs:string">
           <xs:maxLength value="80"/>
         </xs:restriction>
       </xs:simpleType>
     </xs:element>
   </xs:sequence>
   <xs:sequence>
     <xs:element name="DataSetId">
       <xs:annotation>
         <xs:documentation>The data set id of the collection.</xs:documentation>
       </xs:annotation>
       <xs:simpleType>
         <xs:restriction base="xs:string">
           <xs:maxLength value="1030"/>
           <xs:minLength value="1"/>
         </xs:restriction>
       </xs:simpleType>
     </xs:element>
   </xs:sequence>
 </xs:choice>
</xs:complexType>
```

## Complex Type `DataGranule`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity stores the basic descriptive characteristics associated with a granule. |

Diagram



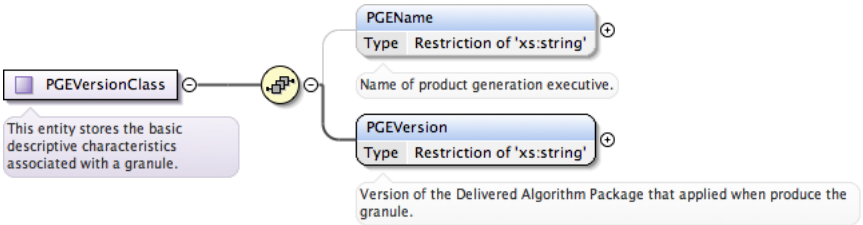

| | |
|---|---|
| Used by | Element Granule/DataGranule |
| Model | SizeMBDataGranule{0,1} , ReprocessingPlanned{0,1} , ReprocessingActual{0,1} , ProducerGranuleId{0,1} , DayNightFlag , ProductionDateTime , LocalVersionId{0,1} |
| Children | DayNightFlag, LocalVersionId, ProducerGranuleId, ProductionDateTime, ReprocessingActual, ReprocessingPlanned, SizeMBDataGranule |

Source

```
<xs:complexType name="DataGranule">
  <xs:annotation>
    <xs:documentation>This entity stores the basic descriptive characteristics associated with a
 granule.</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element minOccurs="0" name="SizeMBDataGranule" type="xs:double">
      <xs:annotation>
        <xs:documentation>The size attribute will indicate the volume of data contained in the
 granule.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="ReprocessingPlanned">
      <xs:annotation>
        <xs:documentation>Granule level, stating what reprocessing may be performed on this
 granule.</xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:minLength value="1"/>
          <xs:maxLength value="80"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
    <xs:element minOccurs="0" name="ReprocessingActual">
      <xs:annotation>
        <xs:documentation>Granule level, stating what reprocessing has been performed on this
 granule.</xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:minLength value="1"/>
          <xs:maxLength value="80"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
    <xs:element minOccurs="0" name="ProducerGranuleId">
```

```
      <xs:annotation>
        <xs:documentation>Unique identifier for locally produced granule that ECS ingests and is
 required to capture.</xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:minLength value="1"/>
          <xs:maxLength value="128"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
    <xs:element name="DayNightFlag" type="DayNightFlag">
      <xs:annotation>
        <xs:documentation>This attribute is used to identify if a granule was collected during the
 day, night (between sunset and sunrise) or both.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="ProductionDateTime" type="xs:dateTime">
      <xs:annotation>
        <xs:documentation>The date and time a specific granule was produced by a PGE.</
xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="LocalVersionId">
      <xs:annotation>
        <xs:documentation>Granule version identifier for PGE defined granule defined by the
 producer.</xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:minLength value="1"/>
          <xs:maxLength value="80"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

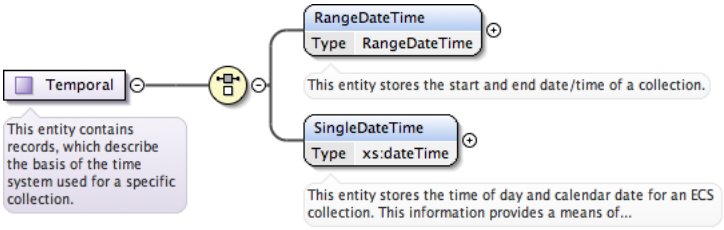
## Complex Type `PGEVersionClass`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity stores the basic descriptive characteristics associated with a granule. |
| Diagram |   |
| Used by | Element Granule/PGEVersionClass |
| Model | PGEName{0,1} , PGEVersion |
| Children | PGEName, PGEVersion |
| Source | |

```
<xs:complexType name="PGEVersionClass">
  <xs:annotation>
    <xs:documentation>This entity stores the basic descriptive characteristics associated with a
 granule.</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element minOccurs="0" name="PGEName">
      <xs:annotation>
        <xs:documentation>Name of product generation executive.</xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:minLength value="1"/>
          <xs:maxLength value="1024"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
    <xs:element name="PGEVersion">
      <xs:annotation>
        <xs:documentation>Version of the Delivered Algorithm Package that applied when produce the
 granule.</xs:documentation>
```

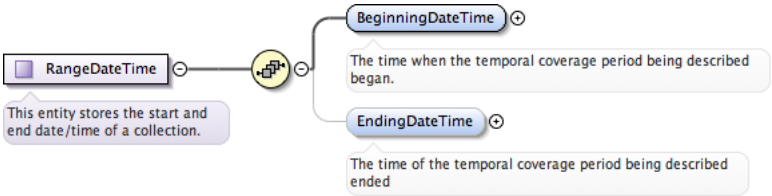
```
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:minLength value="1"/>
          <xs:maxLength value="10"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

## Complex Type `Temporal`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity contains records, which describe the basis of the time system used for a specific collection. |
| Diagram |   |
| Used by | Elements Granule/Temporal, GranuleAddField/Temporal |
| Model | RangeDateTime \| SingleDateTime |
| Children | RangeDateTime, SingleDateTime |
| Source | |

```
<xs:complexType name="Temporal">
  <xs:annotation>
    <xs:documentation>This entity contains records, which describe the basis of the time system used
 for a specific collection.</xs:documentation>
  </xs:annotation>
  <xs:choice>
    <xs:element name="RangeDateTime" type="RangeDateTime">
      <xs:annotation>
        <xs:documentation>This entity stores the start and end date/time of a collection.</
xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="SingleDateTime" type="xs:dateTime">
      <xs:annotation>
        <xs:documentation>This entity stores the time of day and calendar date for an ECS
 collection. This information provides a means of encoding a single date and time for a granule
 occurring at that time or during the period covered by the time (e.g. one-day for a single date
 excluding the time within the day).</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:choice>
</xs:complexType>
```

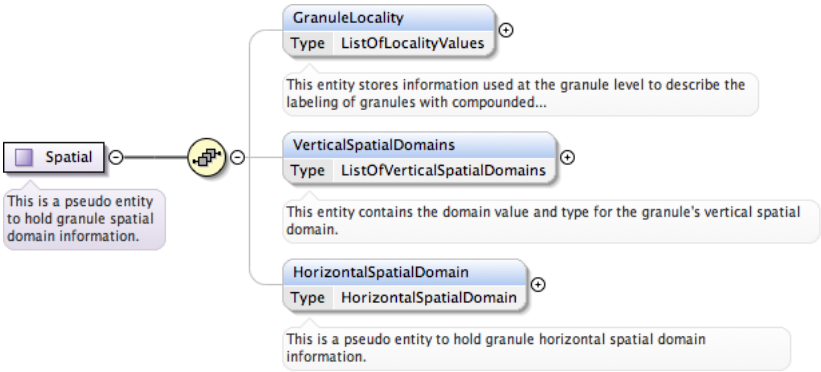
## Complex Type `RangeDateTime`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity stores the start and end date/time of a collection. |
| Diagram |   |
| Used by | Element Temporal/RangeDateTime |
| Model | BeginningDateTime , EndingDateTime{0,1} |
| Children | BeginningDateTime, EndingDateTime |
| Source | |

```
<xs:complexType name="RangeDateTime">
  <xs:annotation>
```

```
    <xs:documentation>This entity stores the start and end date/time of a collection.</
xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="BeginningDateTime" type="xs:dateTime">
      <xs:annotation>
        <xs:documentation>The time when the temporal coverage period being described began.</
xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="EndingDateTime" type="xs:dateTime">
      <xs:annotation>
        <xs:documentation>The time of the temporal coverage period being described ended</
xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

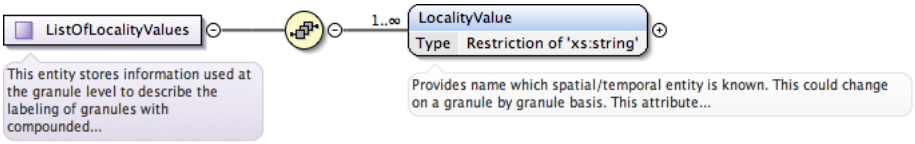
## Complex Type `Spatial`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This is a pseudo entity to hold granule spatial domain information. |
| Diagram |   |
| Used by | Elements Granule/Spatial, GranuleAddField/Spatial |
| Model | GranuleLocality{0,1} , VerticalSpatialDomains{0,1} , HorizontalSpatialDomain{0,1} |
| Children | GranuleLocality, HorizontalSpatialDomain, VerticalSpatialDomains |
| Source | |

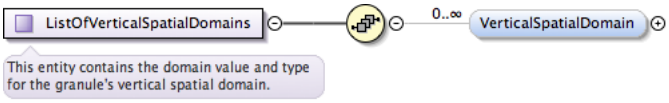
```
<xs:complexType name="Spatial">
  <xs:annotation>
    <xs:documentation>This is a pseudo entity to hold granule spatial domain information.</
xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element minOccurs="0" name="GranuleLocality" type="ListOfLocalityValues">
      <xs:annotation>
        <xs:documentation>This entity stores information used at the granule level to describe
 the labeling of granules with compounded time/space text values and which are subsequently
 used to define more phenomenological-based granules, thus the locality type and description are
 contained.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="VerticalSpatialDomains" type="ListOfVerticalSpatialDomains">
      <xs:annotation>
        <xs:documentation>This entity contains the domain value and type for the granule's vertical
 spatial domain.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="HorizontalSpatialDomain" type="HorizontalSpatialDomain">
      <xs:annotation>
        <xs:documentation>This is a pseudo entity to hold granule horizontal spatial domain
 information.</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

## Complex Type `ListOfLocalityValues`

| | |
|---|---|
| Namespace | No namespace |

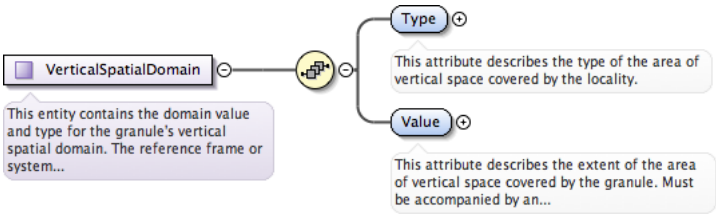
| | |
|---|---|
| Annotations | This entity stores information used at the granule level to describe the labeling of granules with compounded time/space text values and which are subsequently used to define more phenomenological-based granules, thus the locality type and description are contained. |
| Diagram |   |
| Used by | Element Spatial/GranuleLocality |
| Model | LocalityValue+ |
| Children | LocalityValue |
| Source | `<xs:complexType name="ListOfLocalityValues">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity stores information used at the granule level to describe the labeling of granules with compounded time/space text values and which are subsequently used to define more phenomenological-based granules, thus the locality type and description are contained.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element maxOccurs="unbounded" name="LocalityValue">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Provides name which spatial/temporal entity is known. This could change on a granule by granule basis. This attribute is paralleled by the AggregationType which applies at the collection level although locality has a more restricted usage. Several locality measures could be included in each granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:maxLength value="1024"/>`<br>`  <xs:minLength value="1"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`  </xs:element>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

## Complex Type `ListOfVerticalSpatialDomains`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity contains the domain value and type for the granule's vertical spatial domain. |
| Diagram |   |
| Used by | Element Spatial/VerticalSpatialDomains |
| Model | VerticalSpatialDomain* |
| Children | VerticalSpatialDomain |
| Source | `<xs:complexType name="ListOfVerticalSpatialDomains">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity contains the domain value and type for the granule's vertical spatial domain.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element minOccurs="0" maxOccurs="unbounded" name="VerticalSpatialDomain" type="VerticalSpatialDomain"/>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

## Complex Type `VerticalSpatialDomain`

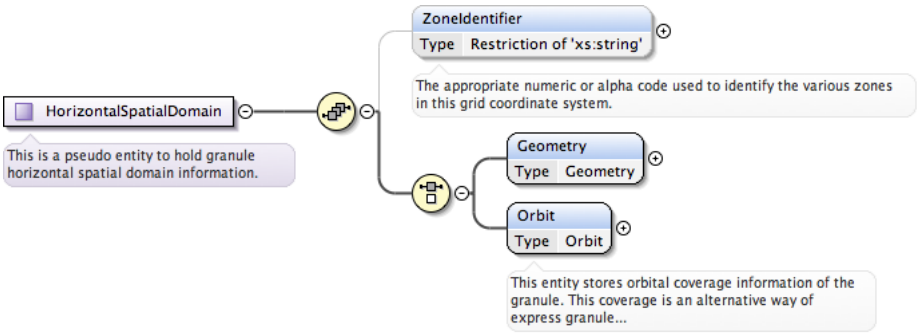
| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity contains the domain value and type for the granule's vertical spatial domain.<br>The reference frame or system from which altitude or |

| | |
|---|---|
| | depths are measured. The term 'altitude' is used instead of the common term 'elevation' to conform to the terminology in Federal Information Processing Standards 70-1 and 173. The information contains the datum name, distance units and encoding method, which provide the definition for the system. |
| Diagram |  |
| Used by | Element ListOfVerticalSpatialDomains/VerticalSpatialDomain |
| Model | Type , Value |
| Children | Type, Value |
| Source | |

```
<xs:complexType name="VerticalSpatialDomain">
  <xs:annotation>
    <xs:documentation>This entity contains the domain value and type for the granule's vertical
 spatial domain. The reference frame or system from which altitude or depths are measured. The term
 'altitude' is used instead of the common term 'elevation' to conform to the terminology in Federal
 Information Processing Standards 70-1 and 173. The information contains the datum name, distance
 units and encoding method, which provide the definition for the system.</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="Type">
      <xs:annotation>
        <xs:documentation>This attribute describes the type of the area of vertical space covered by
 the locality.</xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:maxLength value="80"/>
          <xs:minLength value="1"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
    <xs:element name="Value">
      <xs:annotation>
        <xs:documentation>This attribute describes the extent of the area of vertical space covered
 by the granule. Must be accompanied by an Altitude Encoding Method description. The datatype for
 this attribute is the value of the attribute VerticalSpatialDomainType. The unit for this attribute
 is the value of either DepthDistanceUnits or AltitudeDistanceUnits.</xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:maxLength value="80"/>
          <xs:minLength value="1"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

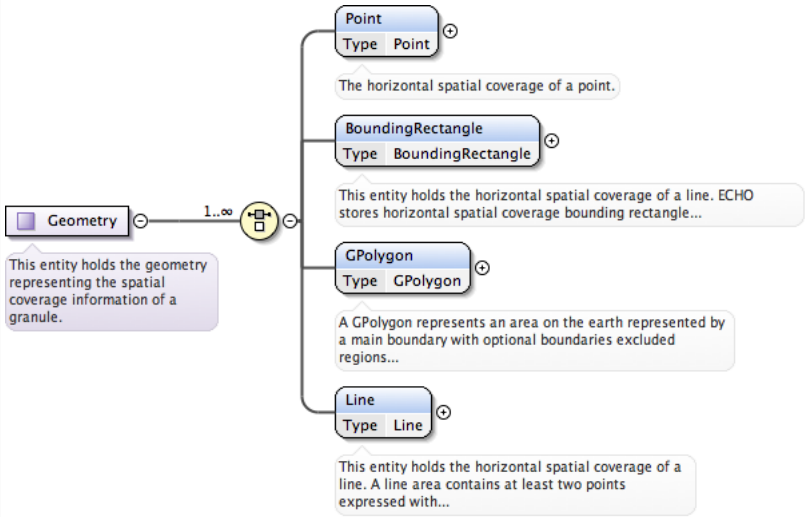
## Complex Type `HorizontalSpatialDomain`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This is a pseudo entity to hold granule horizontal spatial domain information. |

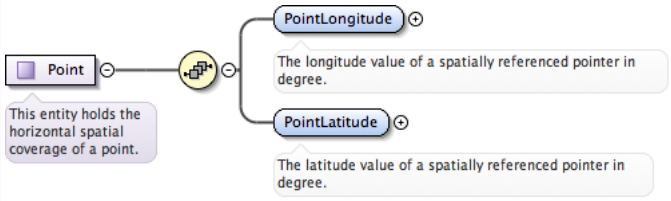
| | |
|---|---|
| Diagram |  |
| Used by | Element Spatial/HorizontalSpatialDomain |
| Model | ZoneIdentifier{0,1} , (Geometry \| Orbit) |
| Children | Geometry, Orbit, ZoneIdentifier |
| Source | `<xs:complexType name="HorizontalSpatialDomain">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This is a pseudo entity to hold granule horizontal spatial domain information.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element minOccurs="0" name="ZoneIdentifier">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The appropriate numeric or alpha code used to identify the various zones in this grid coordinate system.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:maxLength value="80"/>`<br>`  <xs:minLength value="1"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`  </xs:element>`<br>`  <xs:choice>`<br>`  <xs:element name="Geometry" type="Geometry"/>`<br>`  <xs:element name="Orbit" type="Orbit">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity stores orbital coverage information of the granule. This coverage is an alternative way of express granule spatial coverage. This information supports orbital backtrack search apply on granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`  </xs:element>`<br>`  </xs:choice>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

## Complex Type `Geometry`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | `This entity holds the geometry representing the spatial coverage information of a granule.` |

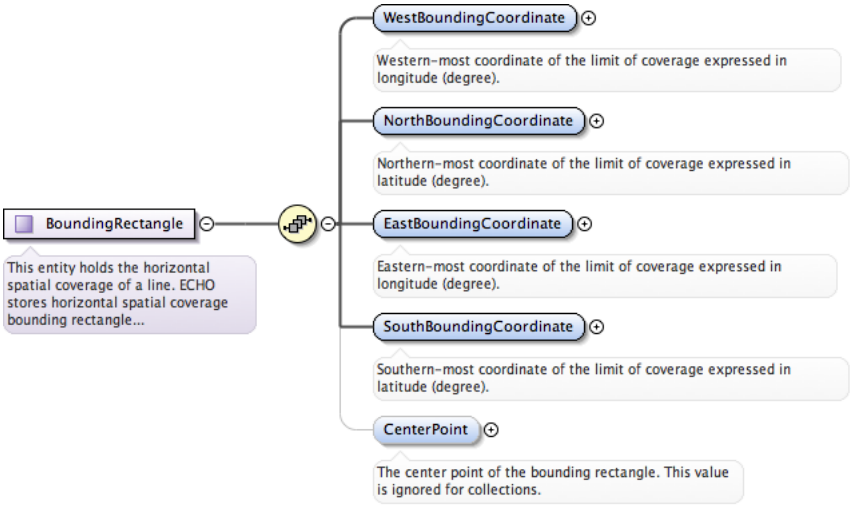
| | |
|---|---|
| Diagram |  |
| Used by | Element HorizontalSpatialDomain/Geometry |
| Model | Point \| BoundingRectangle \| GPolygon \| Line |
| Children | BoundingRectangle, GPolygon, Line, Point |
| Source | `<xs:complexType name="Geometry">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity holds the geometry representing the spatial coverage information of a granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:choice maxOccurs="unbounded">`<br>`  <xs:element name="Point" type="Point">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The horizontal spatial coverage of a point.</xs:documentation>`<br>`  </xs:annotation>`<br>`  </xs:element>`<br>`  <xs:element name="BoundingRectangle" type="BoundingRectangle">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity holds the horizontal spatial coverage of a line. ECHO stores horizontal spatial coverage bounding rectangle type information using oracle spatial type expression as a four points polygon.</xs:documentation>`<br>`  </xs:annotation>`<br>`  </xs:element>`<br>`  <xs:element name="GPolygon" type="GPolygon">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A GPolygon represents an area on the earth represented by a main boundary with optional boundaries excluded regions from the main boundary.</xs:documentation>`<br>`  </xs:annotation>`<br>`  </xs:element>`<br>`  <xs:element name="Line" type="Line">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity holds the horizontal spatial coverage of a line. A line area contains at least two points expressed with (PointLongitude, PointLatitude). A Line entity forms with at least two Point entity. ECHO stores horizontal spatial coverage Line type information using oracle spatial type expression.</xs:documentation>`<br>`  </xs:annotation>`<br>`  </xs:element>`<br>`  </xs:choice>`<br>`</xs:complexType>` |

## Complex Type `Point`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | `This entity holds the horizontal spatial coverage of a point.` |
| Diagram |  |

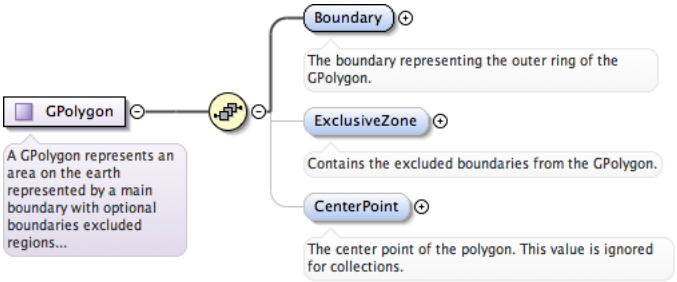
| | |
|---|---|
| Used by | Elements Boundary/Point, BoundingRectangle/CenterPoint, GPolygon/CenterPoint, Geometry/Point, Line/CenterPoint, Line/Point, Orbit/CenterPoint |
| Model | PointLongitude , PointLatitude |
| Children | PointLatitude, PointLongitude |
| Source | `<xs:complexType name="Point">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity holds the horizontal spatial coverage of a point.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element name="PointLongitude" type="Longitude">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The longitude value of a spatially referenced pointer in degree.</xs:documentation>`<br>`  </xs:annotation>`<br>`  </xs:element>`<br>`  <xs:element name="PointLatitude" type="Latitude">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The latitude value of a spatially referenced pointer in degree.</xs:documentation>`<br>`  </xs:annotation>`<br>`  </xs:element>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

## Complex Type `BoundingRectangle`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity holds the horizontal spatial coverage of a line. ECHO stores horizontal spatial coverage bounding rectangle type information using oracle spatial type expression as a four points polygon. TODO possible merge with collection but collection does not have CenterPoint |
| Diagram |  |
| Used by | Element Geometry/BoundingRectangle |
| Model | WestBoundingCoordinate , NorthBoundingCoordinate , EastBoundingCoordinate , SouthBoundingCoordinate , CenterPoint{0,1} |
| Children | CenterPoint, EastBoundingCoordinate, NorthBoundingCoordinate, SouthBoundingCoordinate, WestBoundingCoordinate |
| Source | `<xs:complexType name="BoundingRectangle">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity holds the horizontal spatial coverage of a line. ECHO stores horizontal spatial coverage bounding rectangle type information using oracle spatial type expression as a four points polygon. TODO possible merge with collection but collection does not have CenterPoint</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element name="WestBoundingCoordinate" type="Longitude">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Western-most coordinate of the limit of coverage expressed in longitude (degree).</xs:documentation>`<br>`  </xs:annotation>`<br>`  </xs:element>`<br>`  <xs:element name="NorthBoundingCoordinate" type="Latitude">`<br>`  <xs:annotation>` |

```
        <xs:documentation>Northern-most coordinate of the limit of coverage expressed in latitude
 (degree).</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="EastBoundingCoordinate" type="Longitude">
      <xs:annotation>
        <xs:documentation>Eastern-most coordinate of the limit of coverage expressed in longitude
 (degree).</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="SouthBoundingCoordinate" type="Latitude">
      <xs:annotation>
        <xs:documentation>Southern-most coordinate of the limit of coverage expressed in latitude
 (degree).</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="CenterPoint" type="Point">
      <xs:annotation>
        <xs:documentation>The center point of the bounding rectangle. This value is ignored for
 collections.</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

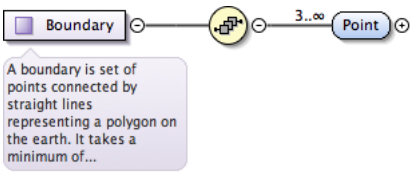
## Complex Type `GPolygon`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | A GPolygon represents an area on the earth represented by a main boundary with optional boundaries excluded regions from the main boundary. |
| Diagram |   |
| Used by | Element Geometry/GPolygon |
| Model | Boundary , ExclusiveZone{0,1} , CenterPoint{0,1} |
| Children | Boundary, CenterPoint, ExclusiveZone |
| Source | |

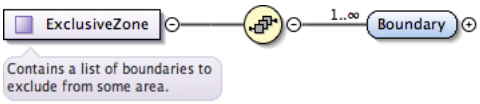
```
<xs:complexType name="GPolygon">
  <xs:annotation>
    <xs:documentation>A GPolygon represents an area on the earth represented by a main boundary with
 optional boundaries excluded regions from the main boundary.</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="Boundary" type="Boundary">
      <xs:annotation>
        <xs:documentation>The boundary representing the outer ring of the GPolygon.</
xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="ExclusiveZone" type="ExclusiveZone">
      <xs:annotation>
        <xs:documentation>Contains the excluded boundaries from the GPolygon.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="CenterPoint" type="Point">
      <xs:annotation>
        <xs:documentation>The center point of the polygon. This value is ignored for collections.</
xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

## Complex Type `Boundary`

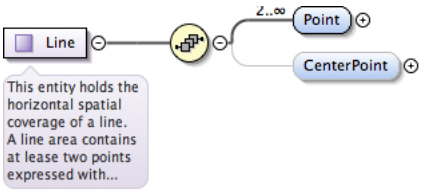
| | |
|---|---|
| Namespace | No namespace |

| | |
|---|---|
| Annotations | A boundary is set of points connected by straight lines representing a polygon on the earth. It takes a minimum of three points to make a boundary. Points must be specified in clockwise order. |
| Diagram |  |
| Used by | Elements ExclusiveZone/Boundary, GPolygon/Boundary |
| Model | Point{3,unbounded} |
| Children | Point |
| Source | `<xs:complexType name="Boundary">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A boundary is set of points connected by straight lines representing a polygon on the earth. It takes a minimum of three points to make a boundary. Points must be specified in clockwise order.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element minOccurs="3" maxOccurs="unbounded" name="Point" type="Point"/>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

## Complex Type `ExclusiveZone`

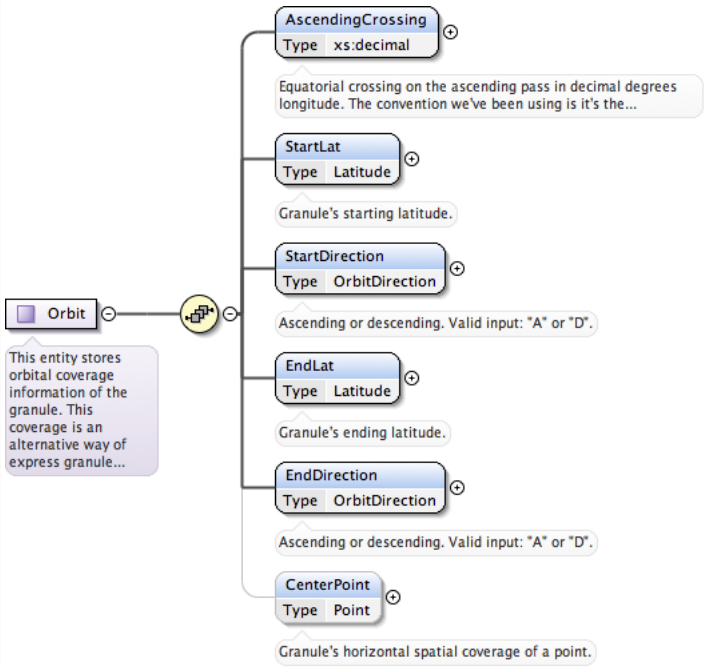
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Contains a list of boundaries to exclude from some area. |
| Diagram |  |
| Used by | Element GPolygon/ExclusiveZone |
| Model | Boundary+ |
| Children | Boundary |
| Source | `<xs:complexType name="ExclusiveZone">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Contains a list of boundaries to exclude from some area.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element maxOccurs="unbounded" name="Boundary" type="Boundary">`<br>`  <xs:annotation>`<br>`  <xs:documentation/>`<br>`  </xs:annotation>`<br>`  </xs:element>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

## Complex Type `Line`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity holds the horizontal spatial coverage of a line. A line area contains at lease two points expressed with (PointLongitude, PointLatitude). A Line entity forms with at least two Point entity. ECHO stores horizontal spatial coverage Line type information using oracle spatial type expression. |
| Diagram |  |
| Used by | Element Geometry/Line |

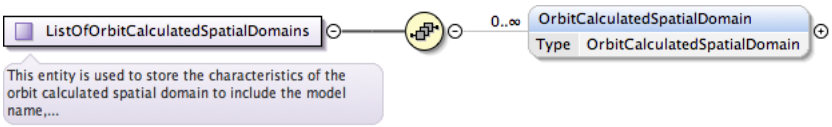
| | |
|---|---|
| Model | Point{2,unbounded} , CenterPoint{0,1} |
| Children | CenterPoint, Point |
| Source | <xs:complexType name="Line"><br>  <xs:annotation><br>  <xs:documentation>This entity holds the horizontal spatial coverage of a line. A line area contains at lease two points expressed with (PointLongitude, PointLatitude). A Line entity forms with at least two Point entity. ECHO stores horizontal spatial coverage Line type information using oracle spatial type expression.</xs:documentation><br>  </xs:annotation><br>  <xs:sequence><br>  <xs:element minOccurs="2" maxOccurs="unbounded" name="Point" type="Point"/><br>  <xs:element minOccurs="0" name="CenterPoint" type="Point"/><br>  </xs:sequence><br></xs:complexType> |

## Complex Type `Orbit`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity stores orbital coverage information of the granule.<br>This coverage is an alternative way of express granule spatial<br>coverage. This information supports orbital backtrack search apply on granule. |
| Diagram |  |
| Used by | Element HorizontalSpatialDomain/Orbit |
| Model | AscendingCrossing , StartLat , StartDirection , EndLat , EndDirection , CenterPoint{0,1} |
| Children | AscendingCrossing, CenterPoint, EndDirection, EndLat, StartDirection, StartLat |
| Source | <xs:complexType name="Orbit"><br>  <xs:annotation><br>  <xs:documentation>This entity stores orbital coverage information of the granule. This coverage is an alternative way of express granule spatial coverage. This information supports orbital backtrack search apply on granule.</xs:documentation><br>  </xs:annotation><br>  <xs:sequence><br>  <xs:element name="AscendingCrossing" type="xs:decimal"><br>  <xs:annotation><br>  <xs:documentation>Equatorial crossing on the ascending pass in decimal degrees longitude. The convention we've been using is it's the first included ascending crossing if one is included, and the prior ascending crossing if none is included (e.g. descending half orbits).</xs:documentation><br>  </xs:annotation><br>  </xs:element><br>  <xs:element name="StartLat" type="Latitude">><br>  <xs:annotation><br>  <xs:documentation>Granule's starting latitude.</xs:documentation><br>  </xs:annotation> |

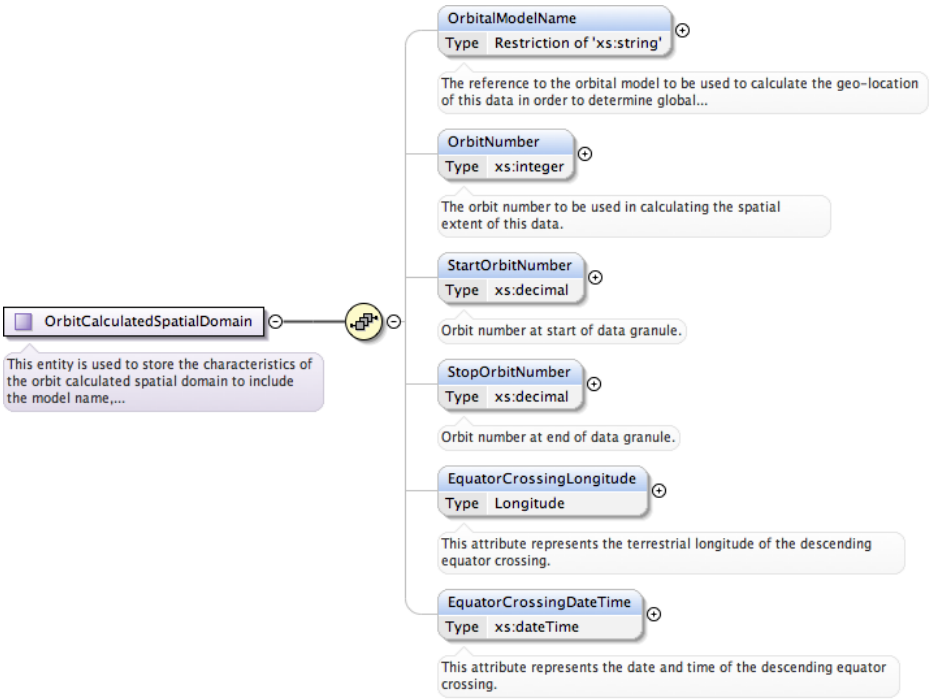
```
    </xs:element>
    <xs:element name="StartDirection" type="OrbitDirection">
      <xs:annotation>
        <xs:documentation>Ascending or descending. Valid input: "A" or "D".</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="EndLat" type="Latitude">
      <xs:annotation>
        <xs:documentation>Granule's ending latitude.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="EndDirection" type="OrbitDirection">
      <xs:annotation>
        <xs:documentation>Ascending or descending. Valid input: "A" or "D".</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="CenterPoint" type="Point">
      <xs:annotation>
        <xs:documentation>Granule's horizontal spatial coverage of a point.</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

## Complex Type `ListOfOrbitCalculatedSpatialDomains`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity is used to store the characteristics of the orbit calculated spatial domain to include the model name, orbit number, start and stop orbit number, equator crossing date and time, and equator crossing longitude. |
| Diagram |   |
| Used by | Element Granule/OrbitCalculatedSpatialDomains |
| Model | OrbitCalculatedSpatialDomain* |
| Children | OrbitCalculatedSpatialDomain |
| Source | `<xs:complexType name="ListOfOrbitCalculatedSpatialDomains">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity is used to store the characteristics of the orbit calculated spatial domain to include the model name, orbit number, start and stop orbit number, equator crossing date and time, and equator crossing longitude.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element maxOccurs="unbounded" name="OrbitCalculatedSpatialDomain" type="OrbitCalculatedSpatialDomain" minOccurs="0"/>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

## Complex Type `OrbitCalculatedSpatialDomain`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity is used to store the characteristics of the orbit calculated spatial domain to include the model name, orbit number, start and stop orbit number, equator crossing date and time, and equator crossing longitude. |

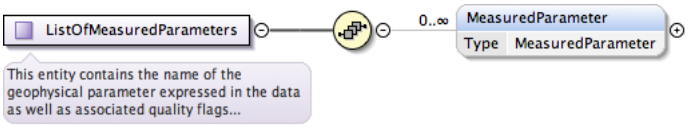
| | |
|---|---|
| Diagram |  |
| Used by | Element ListOfOrbitCalculatedSpatialDomains/OrbitCalculatedSpatialDomain |
| Model | OrbitalModelName{0,1} , OrbitNumber{0,1} , StartOrbitNumber{0,1} , StopOrbitNumber{0,1} , EquatorCrossingLongitude{0,1} , EquatorCrossingDateTime{0,1} |
| Children | EquatorCrossingDateTime, EquatorCrossingLongitude, OrbitNumber, OrbitalModelName, StartOrbitNumber, StopOrbitNumber |

Source

```
<xs:complexType name="OrbitCalculatedSpatialDomain">
  <xs:annotation>
    <xs:documentation>This entity is used to store the characteristics of the orbit calculated
 spatial domain to include the model name, orbit number, start and stop orbit number, equator
 crossing date and time, and equator crossing longitude.</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element minOccurs="0" name="OrbitalModelName">
      <xs:annotation>
        <xs:documentation>The reference to the orbital model to be used to calculate the geo-
location of this data in order to determine global spatial extent.</xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:minLength value="1"/>
          <xs:maxLength value="80"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
    <xs:element minOccurs="0" name="OrbitNumber" type="xs:integer">
      <xs:annotation>
        <xs:documentation>The orbit number to be used in calculating the spatial extent of this
 data.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="StartOrbitNumber" type="xs:decimal">
      <xs:annotation>
        <xs:documentation>Orbit number at start of data granule.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="StopOrbitNumber" type="xs:decimal">
      <xs:annotation>
        <xs:documentation>Orbit number at end of data granule.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="EquatorCrossingLongitude" type="Longitude">
      <xs:annotation>
        <xs:documentation>This attribute represents the terrestrial longitude of the descending
 equator crossing.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="EquatorCrossingDateTime" type="xs:dateTime">
      <xs:annotation>
```

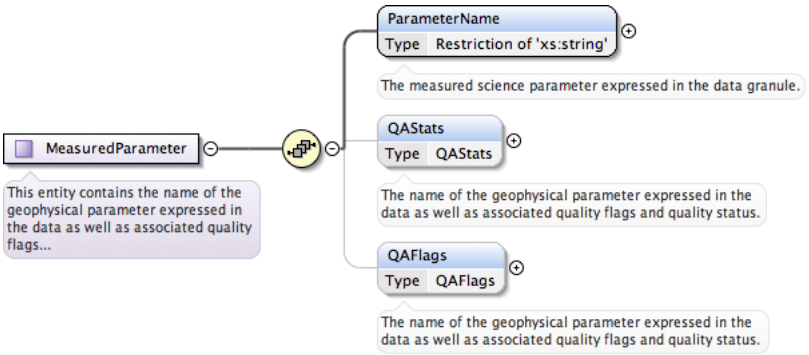
```
        <xs:documentation>This attribute represents the date and time of the descending equator
 crossing.</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

## Complex Type `ListOfMeasuredParameters`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity contains the name of the geophysical parameter expressed in the data as well as associated quality flags and quality status. The quality status contains measures of quality for the granule. The parameters used to set these measures are not preset and will be determined by the data producer. Each set of measures can occur many times either for the granule as a whole or for individual parameters. The quality flags contain the science, operational and automatic quality flags which indicate the overall quality assurance levels of specific parameter values within a granule. |
| Diagram |   |
| Used by | Element Granule/MeasuredParameters |
| Model | MeasuredParameter* |
| Children | MeasuredParameter |
| Source | `<xs:complexType name="ListOfMeasuredParameters">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity contains the name of the geophysical parameter expressed in the data as well as associated quality flags and quality status. The quality status contains measures of quality for the granule. The parameters used to set these measures are not preset and will be determined by the data producer. Each set of measures can occur many times either for the granule as a whole or for individual parameters. The quality flags contain the science, operational and automatic quality flags which indicate the overall quality assurance levels of specific parameter values within a granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element maxOccurs="unbounded" name="MeasuredParameter" type="MeasuredParameter" minOccurs="0"/>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

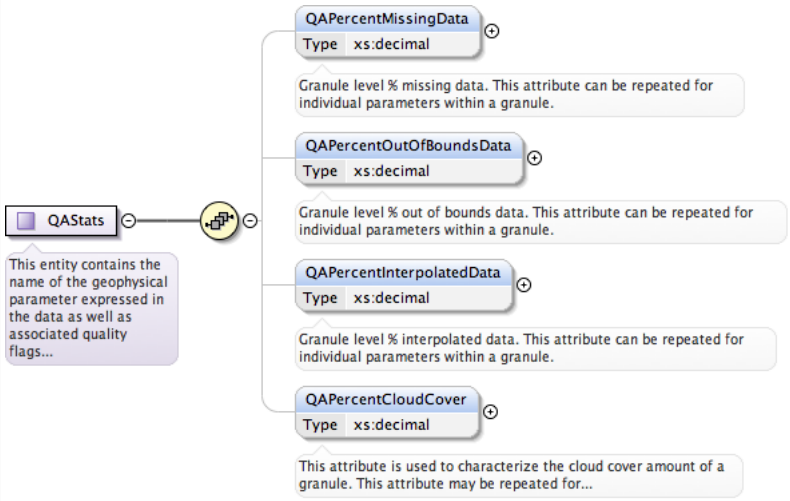
## Complex Type `MeasuredParameter`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity contains the name of the geophysical parameter expressed in the data as well as associated quality flags and quality status. The quality status contains measures of quality for the granule. The parameters used to set these measures are not preset and will be determined by the data producer. Each set of measures can occur many times either for the granule as a whole or for individual parameters. The quality flags contain the science, operational and automatic quality flags which indicate the overall quality assurance levels of specific parameter values within a granule. |

| | |
|---|---|
| Diagram |  |
| Used by | Elements GranuleAddField/MeasuredParameter, ListOfMeasuredParameters/MeasuredParameter |
| Model | ParameterName , QAStats{0,1} , QAFlags{0,1} |
| Children | ParameterName, QAFlags, QAStats |
| Source | `<xs:complexType name="MeasuredParameter">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity contains the name of the geophysical parameter expressed in the data as well as associated quality flags and quality status. The quality status contains measures of quality for the granule. The parameters used to set these measures are not preset and will be determined by the data producer. Each set of measures can occur many times either for the granule as a whole or for individual parameters. The quality flags contain the science, operational and automatic quality flags which indicate the overall quality assurance levels of specific parameter values within a granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element name="ParameterName">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The measured science parameter expressed in the data granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:maxLength value="250"/>`<br>`  <xs:minLength value="1"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`  </xs:element>`<br>`  <xs:element minOccurs="0" name="QAStats" type="QAStats">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The name of the geophysical parameter expressed in the data as well as associated quality flags and quality status.</xs:documentation>`<br>`  </xs:annotation>`<br>`  </xs:element>`<br>`  <xs:element minOccurs="0" name="QAFlags" type="QAFlags">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The name of the geophysical parameter expressed in the data as well as associated quality flags and quality status.</xs:documentation>`<br>`  </xs:annotation>`<br>`  </xs:element>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

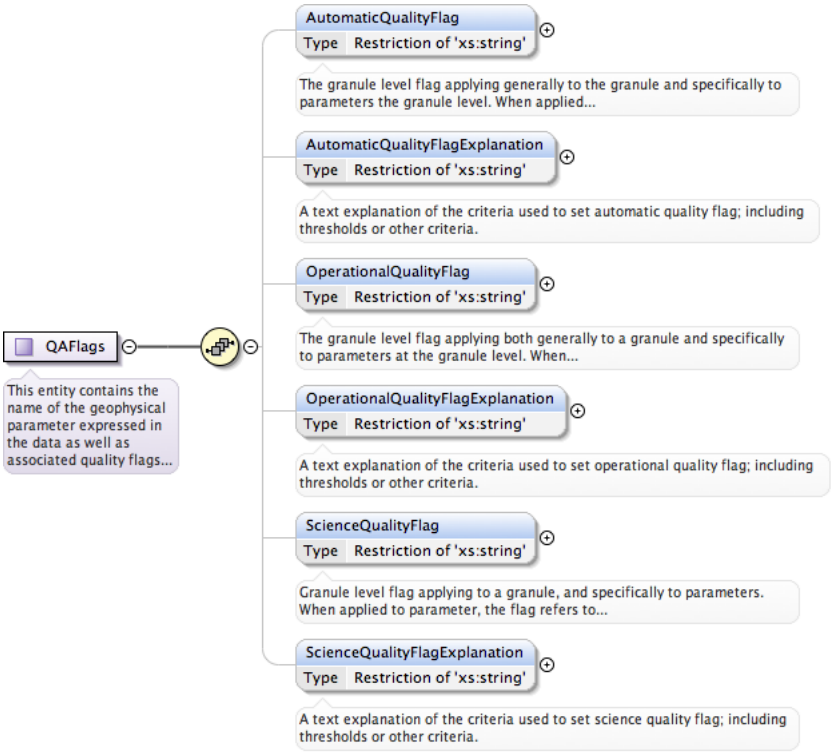
## Complex Type `QAStats`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity contains the name of the geophysical parameter expressed in the data as well as associated quality flags and quality status. The quality status contains measures of quality for the granule. The parameters used to set these measures are not preset and will be determined by the data producer. Each set of measures can occur many times either for the granule as a whole or for individual parameters. The quality flags contain the science, operational and automatic quality flags which indicate the overall quality assurance levels of specific parameter values within a granule. |

| | |
|---|---|
| Diagram |  |
| Used by | Element MeasuredParameter/QAStats |
| Model | QAPercentMissingData{0,1} , QAPercentOutOfBoundsData{0,1} , QAPercentInterpolatedData{0,1} , QAPercentCloudCover{0,1} |
| Children | QAPercentCloudCover, QAPercentInterpolatedData, QAPercentMissingData, QAPercentOutOfBoundsData |
| Source | <xs:complexType name="QAStats"><br><xs:annotation><br><xs:documentation>This entity contains the name of the geophysical parameter expressed in the data as well as associated quality flags and quality status. The quality status contains measures of quality for the granule. The parameters used to set these measures are not preset and will be determined by the data producer. Each set of measures can occur many times either for the granule as a whole or for individual parameters. The quality flags contain the science, operational and automatic quality flags which indicate the overall quality assurance levels of specific parameter values within a granule.</xs:documentation><br></xs:annotation><br><xs:sequence><br><xs:element minOccurs="0" name="QAPercentMissingData" type="xs:decimal"><br><xs:annotation><br><xs:documentation>Granule level % missing data. This attribute can be repeated for individual parameters within a granule.</xs:documentation><br></xs:annotation><br></xs:element><br><xs:element minOccurs="0" name="QAPercentOutOfBoundsData" type="xs:decimal"><br><xs:annotation><br><xs:documentation>Granule level % out of bounds data. This attribute can be repeated for individual parameters within a granule.</xs:documentation><br></xs:annotation><br></xs:element><br><xs:element minOccurs="0" name="QAPercentInterpolatedData" type="xs:decimal"><br><xs:annotation><br><xs:documentation>Granule level % interpolated data. This attribute can be repeated for individual parameters within a granule.</xs:documentation><br></xs:annotation><br></xs:element><br><xs:element minOccurs="0" name="QAPercentCloudCover" type="xs:decimal"><br><xs:annotation><br><xs:documentation>This attribute is used to characterize the cloud cover amount of a granule. This attribute may be repeated for individual parameters within a granule. (Note - there may be more than one way to define a cloud or it's effects within a product containing several parameters; i.e. this attribute may be parameter specific)</xs:documentation><br></xs:annotation><br></xs:element><br></xs:sequence><br></xs:complexType> |

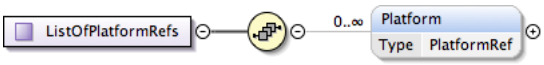
## Complex Type QAFlags

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity contains the name of the geophysical parameter expressed in the data as well as associated quality flags and quality status. The quality status contains measures of quality for the granule. The parameters used to set these measures are not preset and will be determined by the data producer. Each set of |

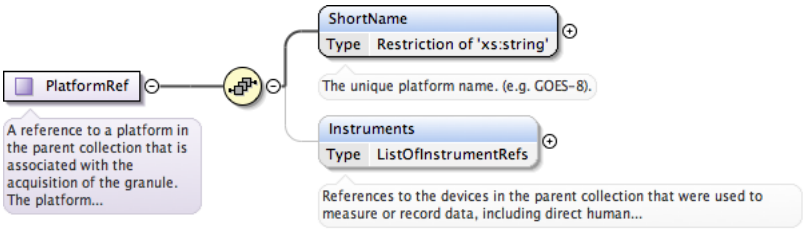
| | |
|---|---|
| | measures can occur many times either for the granule as a whole or for individual parameters. The quality flags contain the science, operational and automatic quality flags which indicate the overall quality assurance levels of specific parameter values within a granule. |
| Diagram |  |
| Used by | Element MeasuredParameter/QAFlags |
| Model | AutomaticQualityFlag{0,1} , AutomaticQualityFlagExplanation{0,1} , OperationalQualityFlag{0,1} , OperationalQualityFlagExplanation{0,1} , ScienceQualityFlag{0,1} , ScienceQualityFlagExplanation{0,1} |
| Children | AutomaticQualityFlag, AutomaticQualityFlagExplanation, OperationalQualityFlag, OperationalQualityFlagExplanation, ScienceQualityFlag, ScienceQualityFlagExplanation |
| Source | `<xs:complexType name="QAFlags">`<br>`<xs:annotation>`<br>`<xs:documentation>`This entity contains the name of the geophysical parameter expressed in the data as well as associated quality flags and quality status. The quality status contains measures of quality for the granule. The parameters used to set these measures are not preset and will be determined by the data producer. Each set of measures can occur many times either for the granule as a whole or for individual parameters. The quality flags contain the science, operational and automatic quality flags which indicate the overall quality assurance levels of specific parameter values within a granule.`</xs:documentation>`<br>`</xs:annotation>`<br>`<xs:sequence>`<br>`<xs:element minOccurs="0" name="AutomaticQualityFlag">`<br>`<xs:annotation>`<br>`<xs:documentation>`The granule level flag applying generally to the granule and specifically to parameters the granule level. When applied to parameter, the flag refers to the quality of that parameter for the granule (as applicable). The parameters determining whether the flag is set are defined by the developer and documented in the Quality Flag Explanation.`</xs:documentation>`<br>`</xs:annotation>`<br>`<xs:simpleType>`<br>`<xs:restriction base="xs:string">`<br>`<xs:minLength value="1"/>`<br>`<xs:maxLength value="80"/>`<br>`</xs:restriction>`<br>`</xs:simpleType>`<br>`</xs:element>`<br>`<xs:element minOccurs="0" name="AutomaticQualityFlagExplanation">`<br>`<xs:annotation>`<br>`<xs:documentation>`A text explanation of the criteria used to set automatic quality flag; including thresholds or other criteria.`</xs:documentation>`<br>`</xs:annotation>`<br>`<xs:simpleType>` |

```
        <xs:restriction base="xs:string">
          <xs:minLength value="1"/>
          <xs:maxLength value="2048"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
    <xs:element minOccurs="0" name="OperationalQualityFlag">
      <xs:annotation>
        <xs:documentation>The granule level flag applying both generally to a granule and
 specifically to parameters at the granule level. When applied to parameter, the flag refers to
 the quality of that parameter for the granule (as applicable). The parameters determining whether
 the flag is set are defined by the developers and documented in the QualityFlagExplanation.</
xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:minLength value="1"/>
          <xs:maxLength value="80"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
    <xs:element minOccurs="0" name="OperationalQualityFlagExplanation">
      <xs:annotation>
        <xs:documentation>A text explanation of the criteria used to set operational quality flag;
 including thresholds or other criteria.</xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:minLength value="1"/>
          <xs:maxLength value="2048"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
    <xs:element minOccurs="0" name="ScienceQualityFlag">
      <xs:annotation>
        <xs:documentation>Granule level flag applying to a granule, and specifically to parameters.
 When applied to parameter, the flag refers to the quality of that parameter for the granule (as
 applicable). The parameters determining whether the flag is set are defined by the developers and
 documented in the Quality Flag Explanation.</xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:minLength value="1"/>
          <xs:maxLength value="80"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
    <xs:element minOccurs="0" name="ScienceQualityFlagExplanation">
      <xs:annotation>
        <xs:documentation>A text explanation of the criteria used to set science quality flag;
 including thresholds or other criteria.</xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:minLength value="1"/>
          <xs:maxLength value="2048"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

## Complex Type `ListOfPlatformRefs`

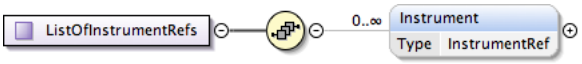
| | |
|---|---|
| Namespace | No namespace |
| Diagram |   |
| Used by | Element Granule/Platforms |
| Model | Platform* |
| Children | Platform |
| Source | `<xs:complexType name="ListOfPlatformRefs">`<br>`  <xs:sequence>`<br>`  <xs:element name="Platform" type="PlatformRef" minOccurs="0" maxOccurs="unbounded">`<br>`  </xs:element>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

## Complex Type `PlatformRef`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | A reference to a platform in the parent collection that is associated with the acquisition of the granule. The platform must exist in the parent collection. For example, Platform types may include (but are not limited to): ADEOS-II, AEM-2, AM-1, Aqua, Aura, BALLOONS, BUOYS, C-130, DEM, DMSP-F1, ERS-1, GOES-10, LANDSAT-1, METEOSAT-2, NIMBUS-2, NOAA-6, TERRA, TRMM, etc. |
| Diagram |   |
| Used by | Element ListOfPlatformRefs/Platform |
| Model | ShortName , Instruments{0,1} |
| Children | Instruments, ShortName |
| Source | |

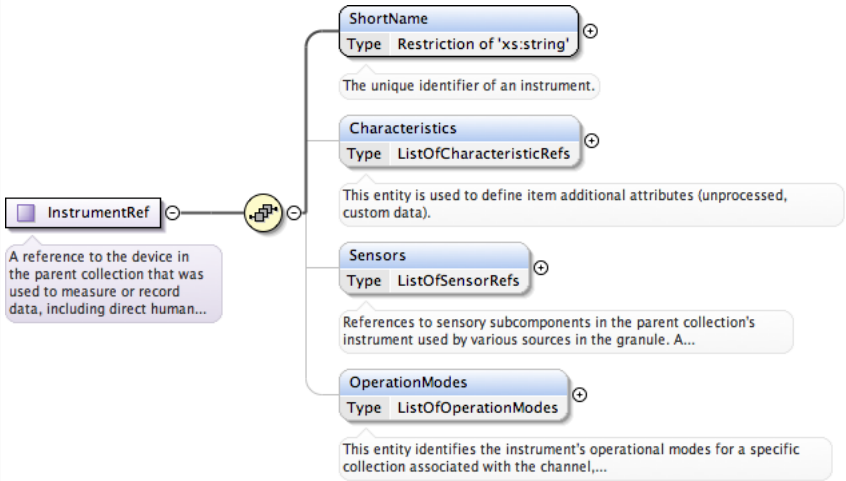
```
<xs:complexType name="PlatformRef">
  <xs:annotation>
    <xs:documentation>A reference to a platform in the parent collection that is associated with the
 acquisition of the granule. The platform must exist in the parent collection. For example, Platform
 types may include (but are not limited to): ADEOS-II, AEM-2, AM-1, Aqua, Aura, BALLOONS, BUOYS,
 C-130, DEM, DMSP-F1, ERS-1, GOES-10, LANDSAT-1, METEOSAT-2, NIMBUS-2, NOAA-6, TERRA, TRMM, etc.</
xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="ShortName">
      <xs:annotation>
        <xs:documentation>The unique platform name. (e.g. GOES-8).</xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:minLength value="1"/>
          <xs:maxLength value="80"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
    <xs:element minOccurs="0" name="Instruments" type="ListOfInstrumentRefs">
      <xs:annotation>
        <xs:documentation>References to the devices in the parent collection that were used to
 measure or record data, including direct human observation.</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

## Complex Type `ListOfInstrumentRefs`

| | |
|---|---|
| Namespace | No namespace |
| Diagram |   |
| Used by | Element PlatformRef/Instruments |
| Model | Instrument* |
| Children | Instrument |
| Source | |

```
<xs:complexType name="ListOfInstrumentRefs">
  <xs:sequence>
    <xs:element name="Instrument" type="InstrumentRef" minOccurs="0" maxOccurs="unbounded">
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

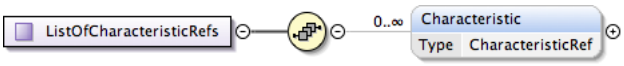
## Complex Type `InstrumentRef`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | A reference to the device in the parent collection that was used to measure or record data, including direct human observation. In cases where instruments have a single sensor or the instrument and sensor are used synonymously (e.g. AVHRR) the both Instrument and Sensor should be recorded. The Sensor information is represented by child entities. The instrument reference may contain granule specific characteristics and operation modes. These characteristics and modes are not checked against the referenced instrument. |
| Diagram |   |
| Used by | Element ListOfInstrumentRefs/Instrument |
| Model | ShortName , Characteristics{0,1} , Sensors{0,1} , OperationModes{0,1} |
| Children | Characteristics, OperationModes, Sensors, ShortName |
| Source | |

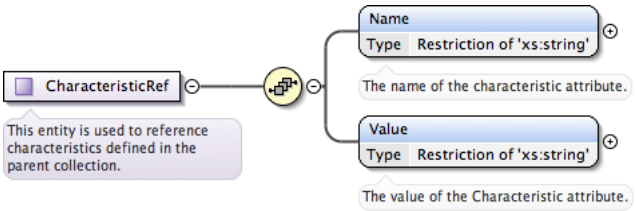
```
<xs:complexType name="InstrumentRef">
  <xs:annotation>
    <xs:documentation>A reference to the device in the parent collection that was used to measure or
 record data, including direct human observation. In cases where instruments have a single sensor or
 the instrument and sensor are used synonymously (e.g. AVHRR) the both Instrument and Sensor should
 be recorded. The Sensor information is represented by child entities. The instrument reference may
 contain granule specific characteristics and operation modes. These characteristics and modes are
 not checked against the referenced instrument.</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="ShortName">
      <xs:annotation>
        <xs:documentation>The unique identifier of an instrument.</xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:minLength value="1"/>
          <xs:maxLength value="80"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
    <xs:element minOccurs="0" name="Characteristics" type="ListOfCharacteristicRefs">
      <xs:annotation>
        <xs:documentation>This entity is used to define item additional attributes (unprocessed,
 custom data).</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="Sensors" type="ListOfSensorRefs">
      <xs:annotation>
        <xs:documentation>References to sensory subcomponents in the parent collection's instrument
 used by various sources in the granule. A sensor reference may contain characteristics specific to
 the granule.</xs:documentation>
      </xs:annotation>
    </xs:element>
```

```
    <xs:element minOccurs="0" name="OperationModes" type="ListOfOperationModes">
      <xs:annotation>
        <xs:documentation>This entity identifies the instrument's operational modes for a
 specific collection associated with the channel, wavelength, and FOV (e.g., launch, survival,
 initialization, safe, diagnostic, standby, crosstrack, biaxial, solar calibration).</
xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

## Complex Type `ListOfCharacteristicRefs`

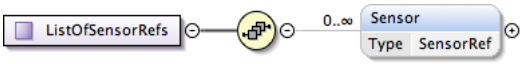
| | |
|---|---|
| Namespace | No namespace |
| Diagram |   |
| Used by | Elements InstrumentRef/Characteristics, SensorRef/Characteristics |
| Model | Characteristic* |
| Children | Characteristic |
| Source | `<xs:complexType name="ListOfCharacteristicRefs">`<br>`  <xs:sequence>`<br>`  <xs:element minOccurs="0" maxOccurs="unbounded" name="Characteristic" type="CharacteristicRef"/>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

## Complex Type `CharacteristicRef`

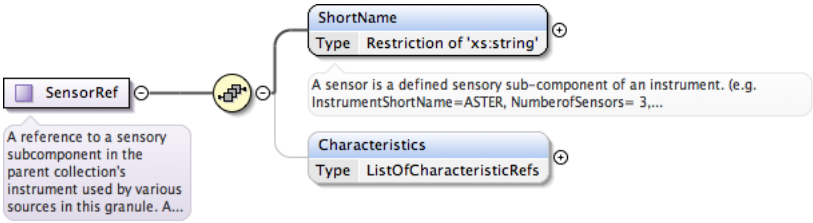
| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity is used to reference characteristics defined in the parent collection. |
| Diagram |   |
| Used by | Element ListOfCharacteristicRefs/Characteristic |
| Model | Name , Value |
| Children | Name, Value |
| Source | `<xs:complexType name="CharacteristicRef">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity is used to reference characteristics defined in the parent`<br>` collection.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element name="Name">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The name of the characteristic attribute.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:maxLength value="80"/>`<br>`  <xs:minLength value="1"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`  </xs:element>`<br>`  <xs:element name="Value">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The value of the Characteristic attribute.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:minLength value="1"/>`<br>`  <xs:maxLength value="80"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`  </xs:element>` |

```
  </xs:sequence>
</xs:complexType>
```

## Complex Type `ListOfSensorRefs`

| | |
|---|---|
| Namespace | No namespace |
| Diagram |  |
| Used by | Element InstrumentRef/Sensors |
| Model | Sensor* |
| Children | Sensor |
| Source | `<xs:complexType name="ListOfSensorRefs">`<br>`  <xs:sequence>`<br>`  <xs:element name="Sensor" type="SensorRef" minOccurs="0" maxOccurs="unbounded">`<br>`  </xs:element>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

## Complex Type `SensorRef`

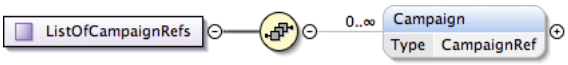
| | |
|---|---|
| Namespace | No namespace |
| Annotations | A reference to a sensory subcomponent in the parent collection's instrument used by various sources in this granule. A sensor reference may contain characteristics specific to the granule. These characteristics are not checked against the referenced sensor. |
| Diagram |  |
| Used by | Element ListOfSensorRefs/Sensor |
| Model | ShortName , Characteristics{0,1} |
| Children | Characteristics, ShortName |
| Source | `<xs:complexType name="SensorRef">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A reference to a sensory subcomponent in the parent collection's instrument used by various sources in this granule. A sensor reference may contain characteristics specific to the granule. These characteristics are not checked against the referenced sensor.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element name="ShortName">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A sensor is a defined sensory sub-component of an instrument. (e.g. InstrumentShortName=ASTER, NumberofSensors= 3, SensorShortName= SWIR, SensorShortName= TIR, SensorShortName= VNIR) In cases where the Instrument has a single Sensor or the Instrument and Sensor are synonymous then both attributes should be populated. (e.g. AVHRR). Sensors cannot exist without Instruments.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:minLength value="1"/>`<br>`  <xs:maxLength value="80"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`  </xs:element>`<br>`  <xs:element minOccurs="0" name="Characteristics" type="ListOfCharacteristicRefs"/>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

## Complex Type `ListOfOperationModes`

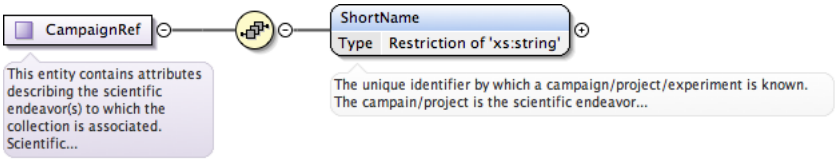
| | |
|---|---|
| Namespace | No namespace |

| | |
|---|---|
| Diagram | |
| Used by | Element InstrumentRef/OperationModes |
| Model | OperationMode* |
| Children | OperationMode |
| Source | `<xs:complexType name="ListOfOperationModes">`<br>`  <xs:sequence>`<br>`  <xs:element minOccurs="0" maxOccurs="unbounded" name="OperationMode">`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:maxLength value="20"/>`<br>`  <xs:minLength value="1"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`  </xs:element>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

## Complex Type `ListOfCampaignRefs`

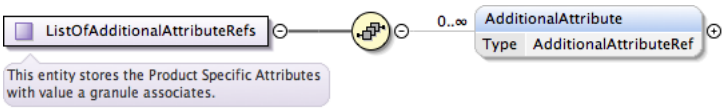
| | |
|---|---|
| Namespace | No namespace |
| Diagram |  |
| Used by | Element Granule/Campaigns |
| Model | Campaign* |
| Children | Campaign |
| Source | `<xs:complexType name="ListOfCampaignRefs">`<br>`  <xs:sequence>`<br>`  <xs:element name="Campaign" type="CampaignRef" minOccurs="0" maxOccurs="unbounded">`<br>`  </xs:element>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

## Complex Type `CampaignRef`

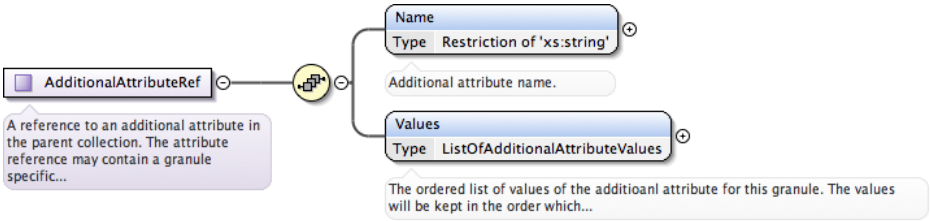
| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity contains attributes describing the scientific endeavor(s) to which the collection is associated. Scientific endeavors include campaigns, projects, interdisciplinary science investigations, missions, field experiments, etc. Seems to be a reference to one that exists at collection level. |
| Diagram |  |
| Used by | Element ListOfCampaignRefs/Campaign |
| Model | ShortName |
| Children | ShortName |
| Source | `<xs:complexType name="CampaignRef">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity contains attributes describing the scientific endeavor(s) to which the collection is associated. Scientific endeavors include campaigns, projects, interdisciplinary science investigations, missions, field experiments, etc. Seems to be a reference to one that exists at collection level.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element name="ShortName">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The unique identifier by which a campaign/project/experiment is known. The campain/project is the scientific endeavor associated with the acquisition of the collection. Collections may be associated with multiple campaigns.</xs:documentation>` |

```
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:maxLength value="80"/>
          <xs:minLength value="1"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

## Complex Type `ListOfAdditionalAttributeRefs`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity stores the Product Specific Attributes with value a granule associates. |
| Diagram |   |
| Used by | Element Granule/AdditionalAttributes |
| Model | AdditionalAttribute* |
| Children | AdditionalAttribute |
| Source | `<xs:complexType name="ListOfAdditionalAttributeRefs">`<br>`<xs:annotation>`<br>`<xs:documentation>This entity stores the Product Specific Attributes with value a granule associates.</xs:documentation>`<br>`</xs:annotation>`<br>`<xs:sequence>`<br>`<xs:element maxOccurs="unbounded" name="AdditionalAttribute" type="AdditionalAttributeRef" minOccurs="0"/>`<br>`</xs:sequence>`<br>`</xs:complexType>` |

## Complex Type `AdditionalAttributeRef`

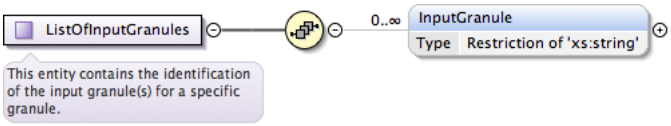
| | |
|---|---|
| Namespace | No namespace |
| Annotations | A reference to an additional attribute in the parent collection. The attribute reference may contain a granule specific value that will override the value in the parent collection for this granule. An attribute with the same name must exist in the parent collection. |
| Diagram |   |
| Used by | Elements GranuleAddField/AdditionalAttribute, ListOfAdditionalAttributeRefs/AdditionalAttribute |
| Model | Name , Values |
| Children | Name, Values |
| Source | `<xs:complexType name="AdditionalAttributeRef">`<br>`<xs:annotation>`<br>`<xs:documentation>A reference to an additional attribute in the parent collection. The attribute reference may contain a granule specific value that will override the value in the parent collection for this granule. An attribute with the same name must exist in the parent collection.</xs:documentation>`<br>`</xs:annotation>`<br>`<xs:sequence>`<br>`<xs:element name="Name">`<br>`<xs:annotation>` |

```
        <xs:documentation>Additional attribute name.</xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:maxLength value="80"/>
          <xs:minLength value="1"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
    <xs:element minOccurs="1" maxOccurs="1" name="Values" type="ListOfAdditionalAttributeValues">
      <xs:annotation>
        <xs:documentation>The ordered list of values of the additioanl attribute for this granule.
 The values will be kept in the order which they appear.</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

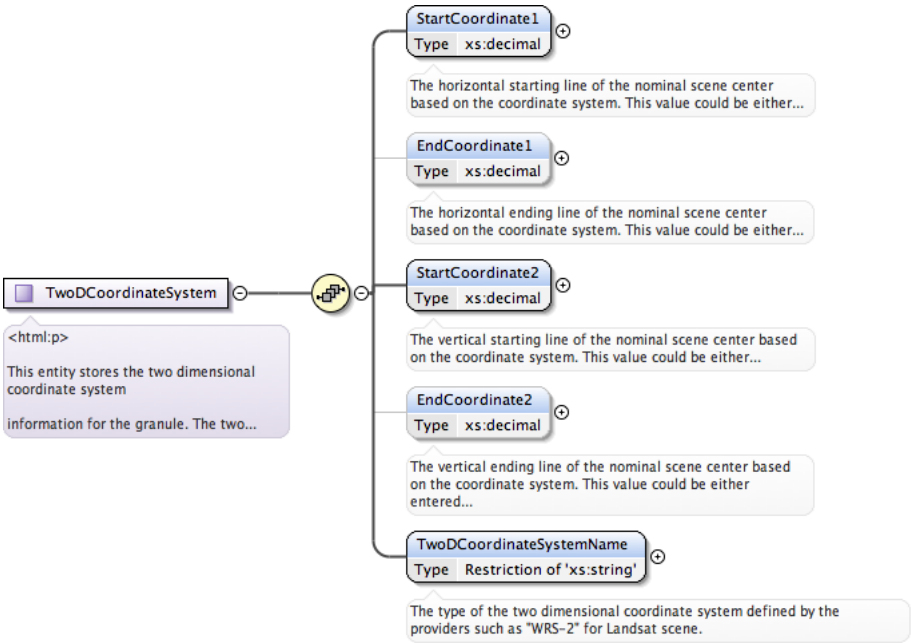
## Complex Type `ListOfAdditionalAttributeValues`

| | |
|---|---|
| Namespace | No namespace |
| Diagram | |
| Used by | Element AdditionalAttributeRef/Values |
| Model | Value+ |
| Children | Value |
| Source | `<xs:complexType name="ListOfAdditionalAttributeValues">`<br>`  <xs:sequence>`<br>`  <xs:element name="Value" minOccurs="1" maxOccurs="unbounded">`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:maxLength value="500"/>`<br>`  <xs:minLength value="1"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`  </xs:element>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

## Complex Type `ListOfInputGranules`

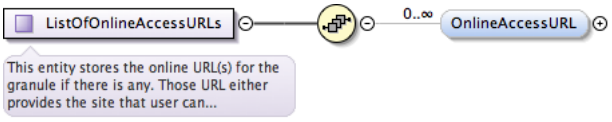
| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity contains the identification of the<br>input granule(s)<br>for a specific granule. |
| Diagram |   |
| Used by | Element Granule/InputGranules |
| Model | InputGranule* |
| Children | InputGranule |
| Source | `<xs:complexType name="ListOfInputGranules">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity contains the identification of the input granule(s) for a specific`<br>` granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element maxOccurs="unbounded" name="InputGranule" minOccurs="0">`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:minLength value="1"/>`<br>`  <xs:maxLength value="255"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`  </xs:element>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

## Complex Type TwoDCoordinateSystem

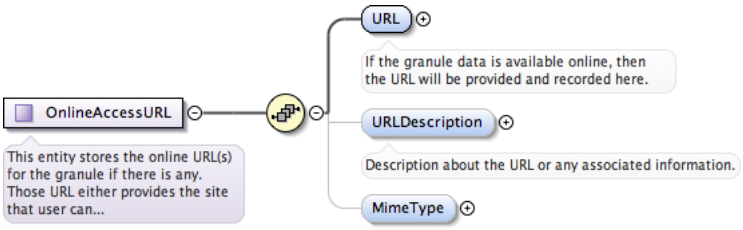
| | |
|---|---|
| Namespace | No namespace |
| Annotations | <html:p>This entity stores the two dimensional coordinate system information for the granule. The two dimensional coordinate system information is an alternative way to express granule's spatial coverage based on a certain two dimensional coordinate system defined by the providers.</html:p><br><html:p>The following discussion on Landsat's PATH/ROW is an example of grid information. The Path is the longitudinal center line of a Landsat scene corresponding to the center of an orbital track that represented by grid Y lines.</html:p><br><html:p>The Row is the Latitudinal center line of a Landsat scene that corresponding to grid X lines. The indication of the two dimensional coordinate system type is "WRS-2". The two dimensional coordinate system information can be used to designate a geographic search for a nominal scene center.</html:p> |
| Diagram |  |
| Used by | Element Granule/TwoDCoordinateSystem |
| Model | StartCoordinate1 , EndCoordinate1{0,1} , StartCoordinate2 , EndCoordinate2{0,1} , TwoDCoordinateSystemName |
| Children | EndCoordinate1, EndCoordinate2, StartCoordinate1, StartCoordinate2, TwoDCoordinateSystemName |
| Source | `<xs:complexType name="TwoDCoordinateSystem">`<br>`<xs:annotation>`<br>`<xs:documentation>`<br>`<html:p>This entity stores the two dimensional coordinate system information for the granule. The two dimensional coordinate system information is an alternative way to express granule's spatial coverage based on a certain two dimensional coordinate system defined by the providers.</html:p>`<br>`<html:p>The following discussion on Landsat's PATH/ROW is an example of grid information. The Path is the longitudinal center line of a Landsat scene corresponding to the center of an orbital track that represented by grid Y lines.</html:p>`<br>`<html:p>The Row is the Latitudinal center line of a Landsat scene that corresponding to grid X lines. The indication of the two dimensional coordinate system type is "WRS-2". The two dimensional coordinate system information can be used to designate a geographic search for a nominal scene center.</html:p>`<br>`</xs:documentation>`<br>`</xs:annotation>`<br>`<xs:sequence>`<br>`<xs:element name="StartCoordinate1" type="xs:decimal">`<br>`<xs:annotation>`<br>`<xs:documentation>The horizontal starting line of the nominal scene center based on the coordinate system. This value could be either entered directly as part of metadata or extracted from PSA value based on a pre-defined PSA name.</xs:documentation>`<br>`</xs:annotation>`<br>`</xs:element>`<br>`<xs:element minOccurs="0" name="EndCoordinate1" type="xs:decimal">`<br>`<xs:annotation>`<br>`<xs:documentation>The horizontal ending line of the nominal scene center based on the coordinate system. This value could be either entered directly as part of metadata or extracted from PSA value based on a pre-defined PSA name.</xs:documentation>`<br>`</xs:annotation>`<br>`</xs:element>`<br>`<xs:element name="StartCoordinate2" type="xs:decimal">`<br>`<xs:annotation>` |

```
        <xs:documentation>The vertical starting line of the nominal scene center based on the
 coordinate system. This value could be either entered directly as part of metadata or extracted
 from PSA value based on a pre-defined PSA name.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element minOccurs="0" name="EndCoordinate2" type="xs:decimal">
      <xs:annotation>
        <xs:documentation>The vertical ending line of the nominal scene center based on the
 coordinate system. This value could be either entered directly as part of metadata or extracted
 from PSA value based on a pre-defined PSA name.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="TwoDCoordinateSystemName">
      <xs:annotation>
        <xs:documentation>The type of the two dimensional coordinate system defined by the providers
 such as "WRS-2" for Landsat scene.</xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:minLength value="1"/>
          <xs:maxLength value="80"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

## Complex Type `ListOfOnlineAccessURLs`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity stores the online URL(s) for the granule if there is any. Those URL either provides the site that user can obtain granule data or give the further instruction of obtaining the granule data. |
| Diagram |   |
| Used by | Element Granule/OnlineAccessURLs |
| Model | OnlineAccessURL* |
| Children | OnlineAccessURL |
| Source | `<xs:complexType name="ListOfOnlineAccessURLs">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity stores the online URL(s) for the granule if there is any. Those URL either provides the site that user can obtain granule data or give the further instruction of obtaining the granule data.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element minOccurs="0" maxOccurs="unbounded" name="OnlineAccessURL" type="OnlineAccessURL"/>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

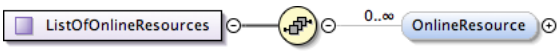
## Complex Type `OnlineAccessURL`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity stores the online URL(s) for the granule if there is any. Those URL either provides the site that user can obtain granule data or give the further instruction of obtaining the granule data. |
| Diagram |   |
| Used by | Elements GranuleAddField/OnlineAccessURL, ListOfOnlineAccessURLs/OnlineAccessURL |
| Model | URL , URLDescription{0,1} , MimeType{0,1} |
| Children | MimeType, URL, URLDescription |

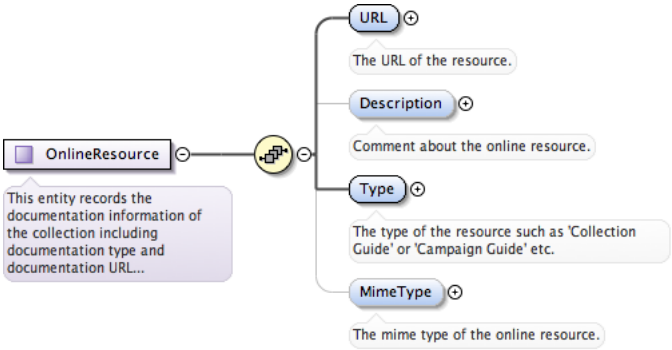
Source

```
<xs:complexType name="OnlineAccessURL">
  <xs:annotation>
    <xs:documentation>This entity stores the online URL(s) for the granule if there is any. Those
 URL either provides the site that user can obtain granule data or give the further instruction of
 obtaining the granule data.</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="URL">
      <xs:annotation>
        <xs:documentation>If the granule data is available online, then the URL will be provided and
 recorded here.</xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:maxLength value="1024"/>
          <xs:minLength value="1"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
    <xs:element minOccurs="0" name="URLDescription">
      <xs:annotation>
        <xs:documentation>Description about the URL or any associated information.</
xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:maxLength value="4000"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
    <xs:element minOccurs="0" name="MimeType">
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:maxLength value="50"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

## Complex Type `ListOfOnlineResources`

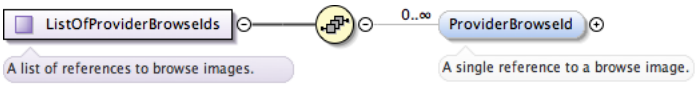
| | |
|---|---|
| Namespace | No namespace |
| Diagram |   |
| Used by | Element Granule/OnlineResources |
| Model | OnlineResource* |
| Children | OnlineResource |
| Source | `<xs:complexType name="ListOfOnlineResources">`<br>`  <xs:sequence>`<br>`  <xs:element minOccurs="0" maxOccurs="unbounded" name="OnlineResource" type="OnlineResource"/>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

## Complex Type `OnlineResource`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity records the documentation information of the collection including documentation type and documentation URL where apply etc. |
| Diagram |   |

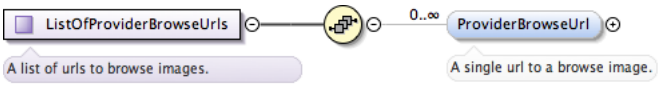
| | |
|---|---|
| Used by | Elements GranuleAddField/OnlineResource, ListOfOnlineResources/OnlineResource |
| Model | URL , Description{0,1} , Type , MimeType{0,1} |
| Children | Description, MimeType, Type, URL |
| Source | `<xs:complexType name="OnlineResource">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity records the documentation information of the collection including documentation type and documentation URL where apply etc.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element name="URL">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The URL of the resource.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:maxLength value="1024"/>`<br>`  <xs:minLength value="1"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`  </xs:element>`<br>`  <xs:element minOccurs="0" name="Description">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Comment about the online resource.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:maxLength value="4000"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`  </xs:element>`<br>`  <xs:element name="Type">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The type of the resource such as 'Collection Guide' or 'Campaign Guide' etc.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:maxLength value="50"/>`<br>`  <xs:minLength value="1"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`  </xs:element>`<br>`  <xs:element minOccurs="0" name="MimeType">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The mime type of the online resource.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:maxLength value="50"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`  </xs:element>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

## Complex Type `ListOfProviderBrowseIds`

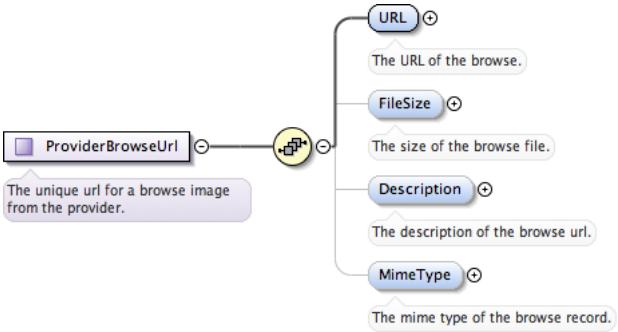
| | |
|---|---|
| Namespace | No namespace |
| Annotations | `A list of references to browse images.` |
| Diagram |  |
| Used by | Element Granule/AssociatedBrowseImages |
| Model | ProviderBrowseId* |
| Children | ProviderBrowseId |
| Source | `<xs:complexType name="ListOfProviderBrowseIds">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A list of references to browse images.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element name="ProviderBrowseId" type="ProviderBrowseId" minOccurs="0" maxOccurs="unbounded">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A single reference to a browse image.</xs:documentation>` |

```
      </xs:annotation>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

## Complex Type `ListOfProviderBrowseUrls`

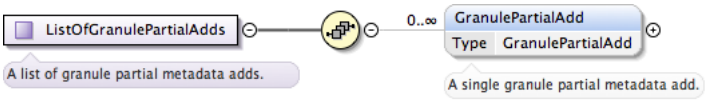
| | |
|---|---|
| Namespace | No namespace |
| Annotations | `A list of urls to browse images.` |
| Diagram |   |
| Used by | Element Granule/AssociatedBrowseImageUrls |
| Model | ProviderBrowseUrl* |
| Children | ProviderBrowseUrl |
| Source | `<xs:complexType name="ListOfProviderBrowseUrls">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A list of urls to browse images.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element name="ProviderBrowseUrl" type="ProviderBrowseUrl" minOccurs="0"`<br>` maxOccurs="unbounded">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A single url to a browse image.</xs:documentation>`<br>`  </xs:annotation>`<br>`  </xs:element>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

## Complex Type `ProviderBrowseUrl`

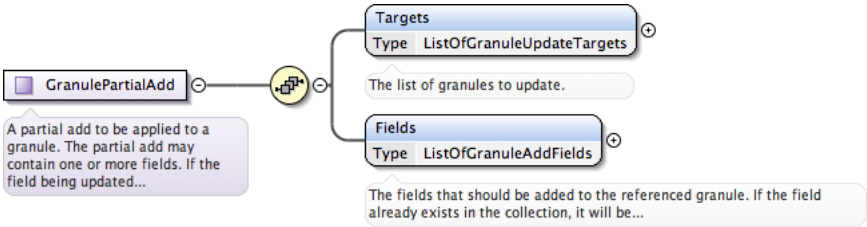
| | |
|---|---|
| Namespace | No namespace |
| Annotations | `The unique url for a browse image from the provider.` |
| Diagram |   |
| Used by | Elements GranuleAddField/BrowseImageUrl, ListOfProviderBrowseUrls/ProviderBrowseUrl, ProviderBrowseElement/ProviderBrowseUrl |
| Model | URL , FileSize{0,1} , Description{0,1} , MimeType{0,1} |
| Children | Description, FileSize, MimeType, URL |
| Source | `<xs:complexType name="ProviderBrowseUrl">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The unique url for a browse image from the provider.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element name="URL">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The URL of the browse.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:simpleType>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:maxLength value="1024"/>`<br>`  <xs:minLength value="1"/>`<br>`  </xs:restriction>`<br>`  </xs:simpleType>`<br>`  </xs:element>`<br>`  <xs:element name="FileSize" type="xs:long" minOccurs="0">`<br>`  <xs:annotation>` |

```
        <xs:documentation>The size of the browse file.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="Description" minOccurs="0">
      <xs:annotation>
        <xs:documentation>The description of the browse url.</xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:maxLength value="4000"/>
          <xs:minLength value="1"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
    <xs:element minOccurs="0" name="MimeType">
      <xs:annotation>
        <xs:documentation>The mime type of the browse record.</xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:maxLength value="50"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

## Complex Type `ListOfGranulePartialAdds`

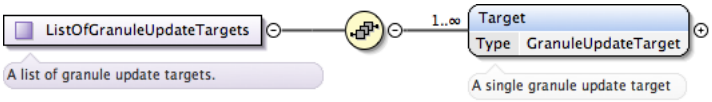
| | |
|---|---|
| Namespace | No namespace |
| Annotations | `A list of granule partial metadata adds.` |
| Diagram |   |
| Used by | Element GranuleMetaDataFile/GranulePartialAdds |
| Model | GranulePartialAdd* |
| Children | GranulePartialAdd |
| Source | `<xs:complexType name="ListOfGranulePartialAdds">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A list of granule partial metadata adds.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element name="GranulePartialAdd" type="GranulePartialAdd" minOccurs="0"`<br>` maxOccurs="unbounded">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A single granule partial metadata add.</xs:documentation>`<br>`  </xs:annotation>`<br>`  </xs:element>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

## Complex Type `GranulePartialAdd`

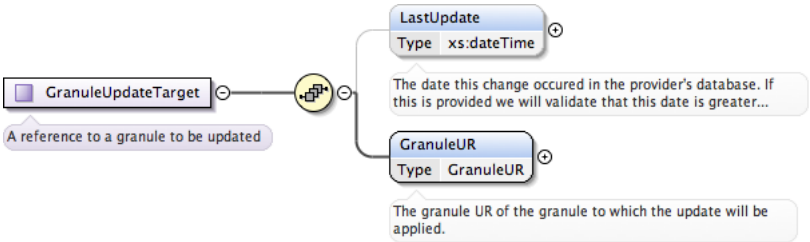
| | |
|---|---|
| Namespace | No namespace |
| Annotations | `A partial add to be applied to a granule. The partial add may contain one or more fields. If the field being updated contains a unique key and the field already exists, it will be updated or replaced, otherwise it will be added. Refer to the individual field documentation for details.` |
| Diagram |   |

| | |
|---|---|
| Used by | Elements GranulePartialAdd, ListOfGranulePartialAdds/GranulePartialAdd |
| Model | Targets , Fields |
| Children | Fields, Targets |
| Source | `<xs:complexType name="GranulePartialAdd">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A partial add to be applied to a granule. The partial add may contain one or more fields. If the field being updated contains a unique key and the field already exists, it will be updated or replaced, otherwise it will be added. Refer to the individual field documentation for details.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element name="Targets" type="ListOfGranuleUpdateTargets">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The list of granules to update.</xs:documentation>`<br>`  </xs:annotation>`<br>`  </xs:element>`<br>`  <xs:element name="Fields" type="ListOfGranuleAddFields">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The fields that should be added to the referenced granule. If the field already exists in the collection, it will be updated or replaced.</xs:documentation>`<br>`  </xs:annotation>`<br>`  </xs:element>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

## Complex Type `ListOfGranuleUpdateTargets`

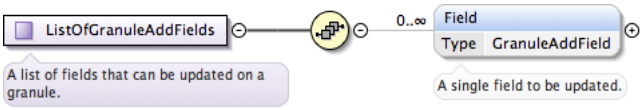
| | |
|---|---|
| Namespace | No namespace |
| Annotations | A list of granule update targets. |
| Diagram |  |
| Used by | Elements GranulePartialAdd/Targets, GranulePartialDelete/Targets |
| Model | Target+ |
| Children | Target |
| Source | `<xs:complexType name="ListOfGranuleUpdateTargets">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A list of granule update targets.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element name="Target" type="GranuleUpdateTarget" maxOccurs="unbounded">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A single granule update target</xs:documentation>`<br>`  </xs:annotation>`<br>`  </xs:element>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

## Complex Type `GranuleUpdateTarget`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | A reference to a granule to be updated |
| Diagram |  |
| Used by | Element ListOfGranuleUpdateTargets/Target |
| Model | LastUpdate{0,1} , GranuleUR |
| Children | GranuleUR, LastUpdate |

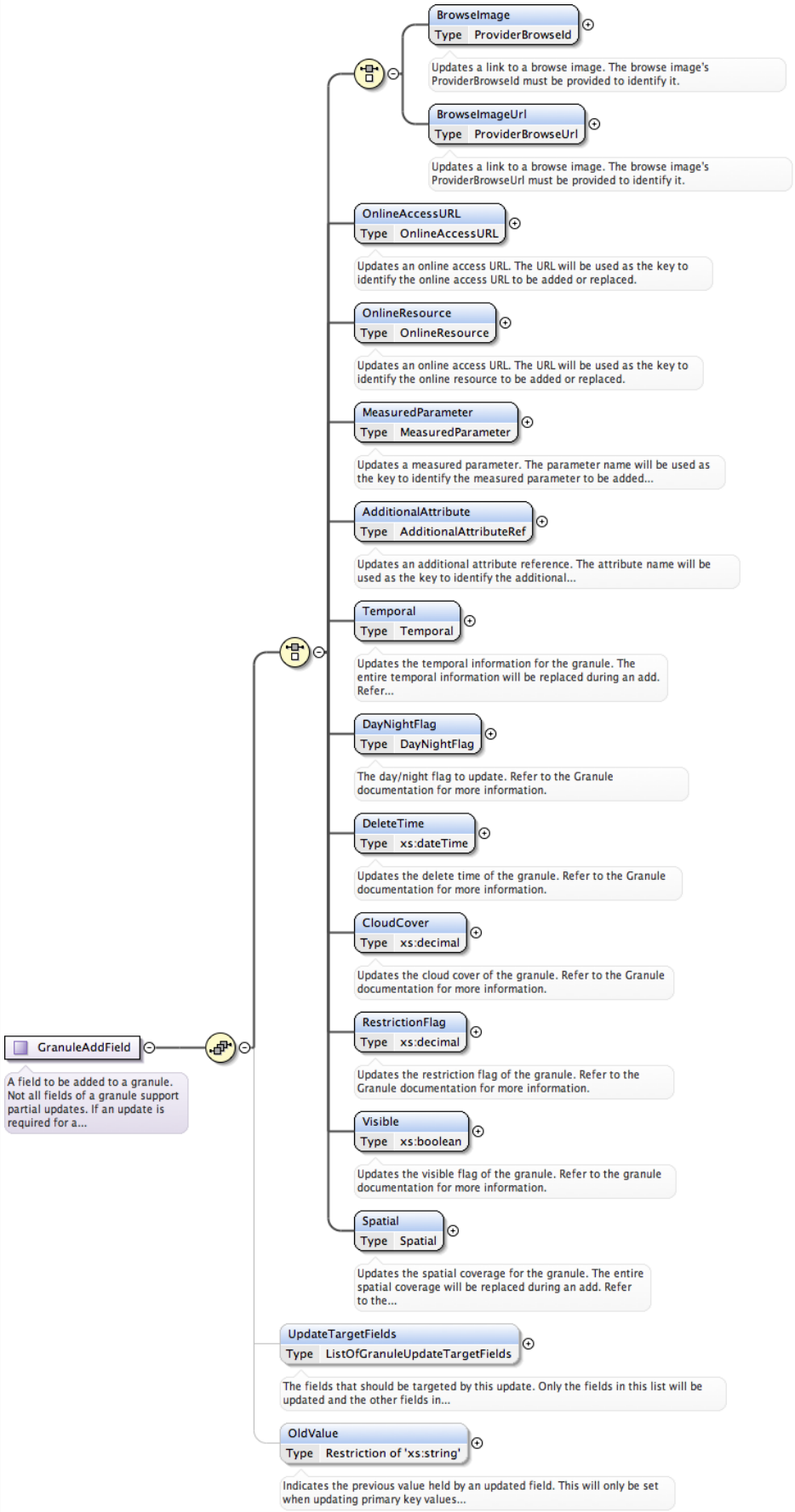
| | |
|---|---|
| Source | <xs:complexType name="GranuleUpdateTarget"><br>  <xs:annotation><br>  <xs:documentation>A reference to a granule to be updated</xs:documentation><br>  </xs:annotation><br>  <xs:sequence><br>  <xs:element name="LastUpdate" type="xs:dateTime" minOccurs="0"><br>  <xs:annotation><br>  <xs:documentation>The date this change occured in the provider's database. If this is provided we will validate that this date is greater than or equal to the date in the granule. The granule's last update data will be updated with this value.</xs:documentation><br>  </xs:annotation><br>  </xs:element><br>  <xs:element name="GranuleUR" type="GranuleUR"><br>  <xs:annotation><br>  <xs:documentation>The granule UR of the granule to which the update will be applied.</xs:documentation><br>  </xs:annotation><br>  </xs:element><br>  </xs:sequence><br></xs:complexType> |

## Complex Type `ListOfGranuleAddFields`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | A list of fields that can be updated on a granule. |
| Diagram |  |
| Used by | Element GranulePartialAdd/Fields |
| Model | Field* |
| Children | Field |
| Source | <xs:complexType name="ListOfGranuleAddFields">  <xs:annotation>  <xs:documentation>A list of fields that can be updated on a granule.</xs:documentation>  </xs:annotation>  <xs:sequence>  <xs:element name="Field" type="GranuleAddField" minOccurs="0" maxOccurs="unbounded">  <xs:annotation>  <xs:documentation>A single field to be updated.</xs:documentation>  </xs:annotation>  </xs:element>  </xs:sequence> </xs:complexType> |

## Complex Type `GranuleAddField`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | A field to be added to a granule. Not all fields of a granule support partial updates. If an update is required for a non-supported field, perform a complete granule replacement rather than a partial metadata update. |

| | |
|---|---|
| Diagram |  |
| Used by | Element ListOfGranuleAddFields/Field |

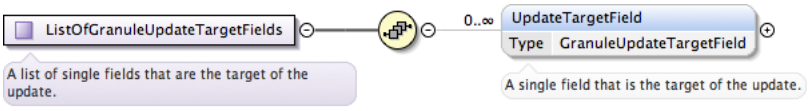
| | |
|---|---|
| Model | (BrowseImage \| BrowseImageUrl \| OnlineAccessURL \| OnlineResource \| MeasuredParameter \| AdditionalAttribute \| Temporal \| DayNightFlag \| DeleteTime \| CloudCover \| RestrictionFlag \| Visible \| Spatial) , UpdateTargetFields{0,1} , OldValue{0,1} |
| Children | AdditionalAttribute, BrowseImage, BrowseImageUrl, CloudCover, DayNightFlag, DeleteTime, MeasuredParameter, OldValue, OnlineAccessURL, OnlineResource, RestrictionFlag, Spatial, Temporal, UpdateTargetFields, Visible |

Source

```
<xs:complexType name="GranuleAddField">
  <xs:annotation>
    <xs:documentation>A field to be added to a granule. Not all fields of a granule support partial
 updates. If an update is required for a non-supported field, perform a complete granule replacement
 rather than a partial metadata update.</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:choice>
      <xs:choice>
        <xs:element name="BrowseImage" type="ProviderBrowseId">
          <xs:annotation>
            <xs:documentation>Updates a link to a browse image. The browse image's ProviderBrowseId
 must be provided to identify it.</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="BrowseImageUrl" type="ProviderBrowseUrl">
          <xs:annotation>
            <xs:documentation>Updates a link to a browse image. The browse image's ProviderBrowseUrl
 must be provided to identify it.</xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:choice>
      <xs:element name="OnlineAccessURL" type="OnlineAccessURL">
        <xs:annotation>
          <xs:documentation>Updates an online access URL. The URL will be used as the key to
 identify the online access URL to be added or replaced.</xs:documentation>
        </xs:annotation>
      </xs:element>
      <xs:element name="OnlineResource" type="OnlineResource">
        <xs:annotation>
          <xs:documentation>Updates an online access URL. The URL will be used as the key to
 identify the online resource to be added or replaced.</xs:documentation>
        </xs:annotation>
      </xs:element>
      <xs:element name="MeasuredParameter" type="MeasuredParameter">
        <xs:annotation>
          <xs:documentation>Updates a measured parameter. The parameter name will be used as the key
 to identify the measured parameter to be added or replaced.The entire measured parameter will be
 added or replaced.</xs:documentation>
        </xs:annotation>
      </xs:element>
      <xs:element name="AdditionalAttribute" type="AdditionalAttributeRef">
        <xs:annotation>
          <xs:documentation>Updates an additional attribute reference. The attribute name will be
 used as the key to identify the additional attribute reference to be added or replaced.The entire
 additional attribute reference will be added or replaced.</xs:documentation>
        </xs:annotation>
      </xs:element>
      <xs:element name="Temporal" type="Temporal">
        <xs:annotation>
          <xs:documentation>Updates the temporal information for the granule. The entire
 temporal information will be replaced during an add. Refer to the Granule documentation for more
 information.</xs:documentation>
        </xs:annotation>
      </xs:element>
      <xs:element name="DayNightFlag" type="DayNightFlag">
        <xs:annotation>
          <xs:documentation>The day/night flag to update. Refer to the Granule documentation for
 more information.</xs:documentation>
        </xs:annotation>
      </xs:element>
      <xs:element name="DeleteTime" type="xs:dateTime">
        <xs:annotation>
          <xs:documentation>Updates the delete time of the granule. Refer to the Granule
 documentation for more information.</xs:documentation>
        </xs:annotation>
      </xs:element>
      <xs:element name="CloudCover" type="xs:decimal">
        <xs:annotation>
          <xs:documentation>Updates the cloud cover of the granule. Refer to the Granule
 documentation for more information.</xs:documentation>
        </xs:annotation>
      </xs:element>
      <xs:element name="RestrictionFlag" type="xs:decimal">
        <xs:annotation>
          <xs:documentation>Updates the restriction flag of the granule. Refer to the Granule
 documentation for more information.</xs:documentation>
```

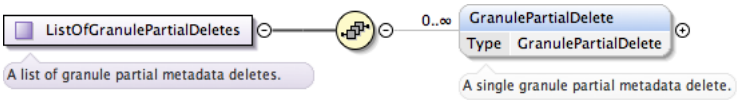
```
        </xs:annotation>
      </xs:element>
      <xs:element name="Visible" type="xs:boolean">
        <xs:annotation>
          <xs:documentation>Updates the visible flag of the granule. Refer to the granule
 documentation for more information.</xs:documentation>
        </xs:annotation>
      </xs:element>
      <xs:element name="Spatial" type="Spatial">
        <xs:annotation>
          <xs:documentation>Updates the spatial coverage for the granule. The entire spatial
 coverage will be replaced during an add. Refer to the Granule documentation for more information.</
xs:documentation>
        </xs:annotation>
      </xs:element>
    </xs:choice>
    <xs:element name="UpdateTargetFields" type="ListOfGranuleUpdateTargetFields" minOccurs="0">
      <xs:annotation>
        <xs:documentation>The fields that should be targeted by this update. Only the fields in
 this list will be updated and the other fields in the added element will be ignored. This element
 is only for backward compatibility and should not be used for new development. This field will be
 removed in the future.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="OldValue" minOccurs="0">
      <xs:annotation>
        <xs:documentation>Indicates the previous value held by an updated field. This will only be
 set when updating primary key values explicitly using the UpdateTargetFields. This element is only
 for backward compatibility and should not be used for new development. This field will be removed
 in the future.</xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:minLength value="1"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

## Complex Type `ListOfGranuleUpdateTargetFields`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | A list of single fields that are the target of the update. |
| Diagram |   |
| Used by | Element GranuleAddField/UpdateTargetFields |
| Model | UpdateTargetField* |
| Children | UpdateTargetField |
| Source | |

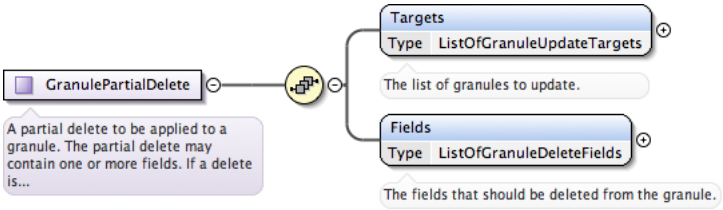
```
<xs:complexType name="ListOfGranuleUpdateTargetFields">
  <xs:annotation>
    <xs:documentation>A list of single fields that are the target of the update.</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="UpdateTargetField" type="GranuleUpdateTargetField" minOccurs="0"
 maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>A single field that is the target of the update.</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

## Complex Type `ListOfGranulePartialDeletes`

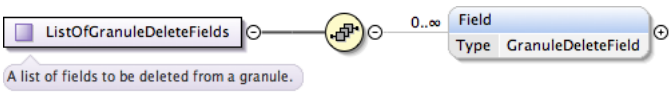
| | |
|---|---|
| Namespace | No namespace |
| Annotations | A list of granule partial metadata deletes. |
| Diagram |   |

| | |
|---|---|
| Used by | Element GranuleMetaDataFile/GranulePartialDeletes |
| Model | GranulePartialDelete* |
| Children | GranulePartialDelete |
| Source | `<xs:complexType name="ListOfGranulePartialDeletes">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A list of granule partial metadata deletes.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element name="GranulePartialDelete" type="GranulePartialDelete" minOccurs="0" maxOccurs="unbounded">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A single granule partial metadata delete.</xs:documentation>`<br>`  </xs:annotation>`<br>`  </xs:element>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

## Complex Type `GranulePartialDelete`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | A partial delete to be applied to a granule. The partial delete may contain one or more fields. If a delete is attempted the field will be set to a default value. Refer to the individual field documentation for details. |
| Diagram |  |
| Used by | Elements GranulePartialDelete, ListOfGranulePartialDeletes/GranulePartialDelete |
| Model | Targets , Fields |
| Children | Fields, Targets |
| Source | `<xs:complexType name="GranulePartialDelete">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A partial delete to be applied to a granule. The partial delete may contain one or more fields. If a delete is attempted the field will be set to a default value. Refer to the individual field documentation for details.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element name="Targets" type="ListOfGranuleUpdateTargets">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The list of granules to update.</xs:documentation>`<br>`  </xs:annotation>`<br>`  </xs:element>`<br>`  <xs:element name="Fields" type="ListOfGranuleDeleteFields">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The fields that should be deleted from the granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`  </xs:element>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

## Complex Type `ListOfGranuleDeleteFields`

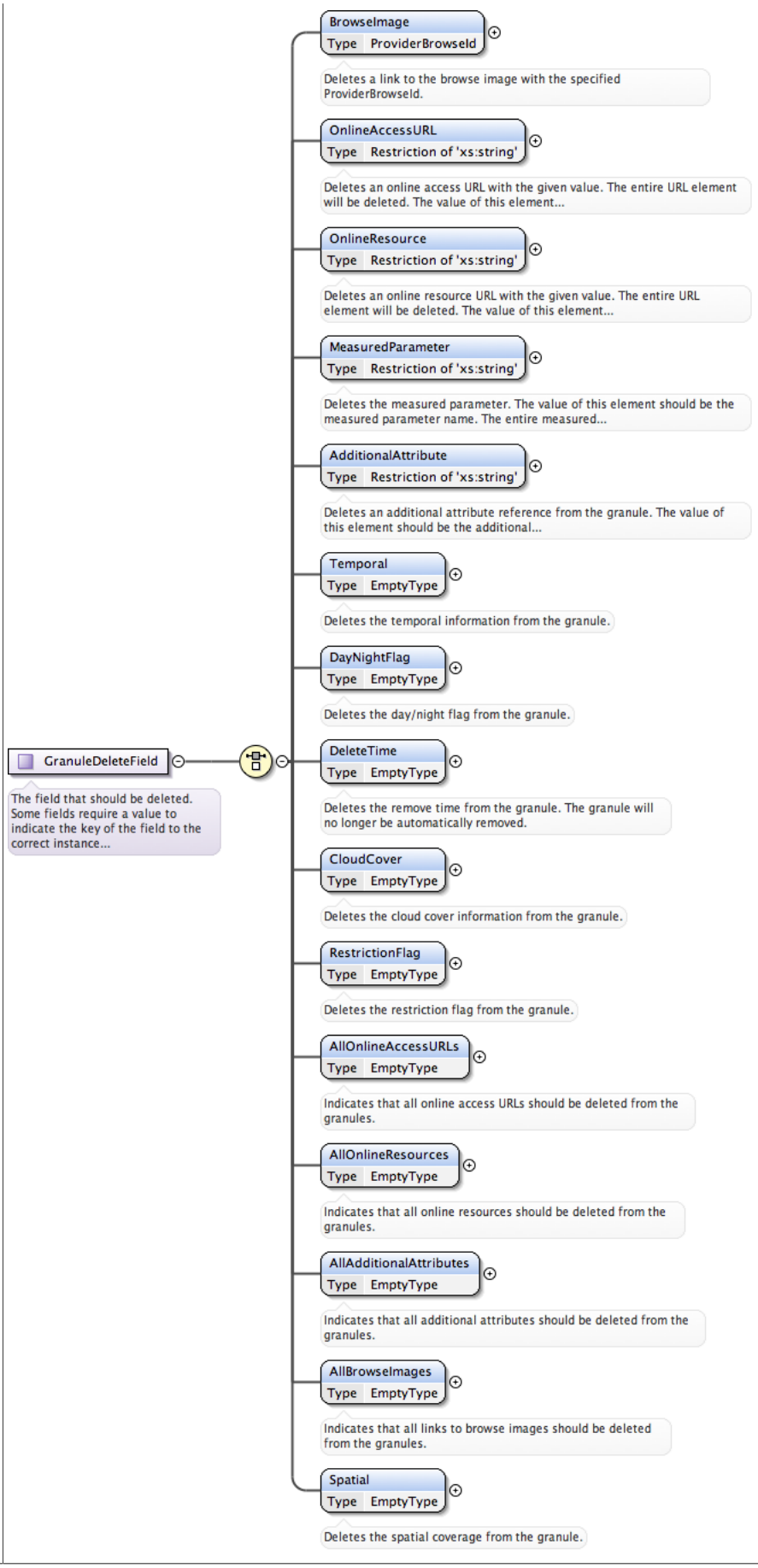
| | |
|---|---|
| Namespace | No namespace |
| Annotations | A list of fields to be deleted from a granule. |
| Diagram |  |
| Used by | Element GranulePartialDelete/Fields |
| Model | Field* |

| | |
|---|---|
| Children | Field |
| Source | `<xs:complexType name="ListOfGranuleDeleteFields">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A list of fields to be deleted from a granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element name="Field" type="GranuleDeleteField" minOccurs="0" maxOccurs="unbounded"/>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

## Complex Type `GranuleDeleteField`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | The field that should be deleted. Some fields<br>require a value to<br>indicate the key of the field to the correct<br>instance can be<br>identified. |

Diagram


GranuleDeleteField
The field that should be deleted. Some fields require a value to indicate the key of the field to the correct instance...
BrowseImage
Type ProviderBrowseId
Deletes a link to the browse image with the specified ProviderBrowseId.
OnlineAccessURL
Type Restriction of 'xs:string'
Deletes an online access URL with the given value. The entire URL element will be deleted. The value of this element...
OnlineResource
Type Restriction of 'xs:string'
Deletes an online resource URL with the given value. The entire URL element will be deleted. The value of this element...
MeasuredParameter
Type Restriction of 'xs:string'
Deletes the measured parameter. The value of this element should be the measured parameter name. The entire measured...
AdditionalAttribute
Type Restriction of 'xs:string'
Deletes an additional attribute reference from the granule. The value of this element should be the additional...
Temporal
Type EmptyType
Deletes the temporal information from the granule.
DayNightFlag
Type EmptyType
Deletes the day/night flag from the granule.
DeleteTime
Type EmptyType
Deletes the remove time from the granule. The granule will no longer be automatically removed.
CloudCover
Type EmptyType
Deletes the cloud cover information from the granule.
RestrictionFlag
Type EmptyType
Deletes the restriction flag from the granule.
AllOnlineAccessURLs
Type EmptyType
Indicates that all online access URLs should be deleted from the granules.
AllOnlineResources
Type EmptyType
Indicates that all online resources should be deleted from the granules.
AllAdditionalAttributes
Type EmptyType
Indicates that all additional attributes should be deleted from the granules.
AllBrowseImages
Type EmptyType
Indicates that all links to browse images should be deleted from the granules.
Spatial
Type EmptyType
Deletes the spatial coverage from the granule.

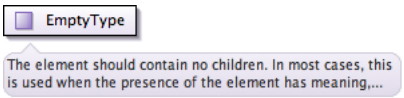
| | |
|---|---|
| Used by | Element ListOfGranuleDeleteFields/Field |
| Model | BrowseImage \| OnlineAccessURL \| OnlineResource \| MeasuredParameter \| AdditionalAttribute \| Temporal \| DayNightFlag \| DeleteTime \| CloudCover \| RestrictionFlag \| AllOnlineAccessURLs \| AllOnlineResources \| AllAdditionalAttributes \| AllBrowseImages \| Spatial |
| Children | AdditionalAttribute, AllAdditionalAttributes, AllBrowseImages, AllOnlineAccessURLs, AllOnlineResources, BrowseImage, CloudCover, DayNightFlag, DeleteTime, MeasuredParameter, OnlineAccessURL, OnlineResource, RestrictionFlag, Spatial, Temporal |

Source

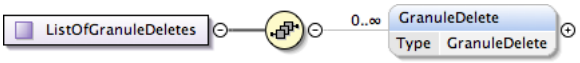
```
<xs:complexType name="GranuleDeleteField">
  <xs:annotation>
    <xs:documentation>The field that should be deleted. Some fields require a value to indicate the
 key of the field to the correct instance can be identified.</xs:documentation>
  </xs:annotation>
  <xs:choice>
    <xs:element name="BrowseImage" type="ProviderBrowseId">
      <xs:annotation>
        <xs:documentation>Deletes a link to the browse image with the specified ProviderBrowseId.</
xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="OnlineAccessURL">
      <xs:annotation>
        <xs:documentation>Deletes an online access URL with the given value. The entire URL element
 will be deleted. The value of this element should be the URL.</xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:minLength value="1"/>
          <xs:maxLength value="1024"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
    <xs:element name="OnlineResource">
      <xs:annotation>
        <xs:documentation>Deletes an online resource URL with the given value. The entire URL
 element will be deleted. The value of this element should be the URL.</xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:minLength value="1"/>
          <xs:maxLength value="1024"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
    <xs:element name="MeasuredParameter">
      <xs:annotation>
        <xs:documentation>Deletes the measured parameter. The value of this element should be the
 measured parameter name. The entire measured parameter will be deleted.</xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:minLength value="1"/>
          <xs:maxLength value="250"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
    <xs:element name="AdditionalAttribute">
      <xs:annotation>
        <xs:documentation>Deletes an additional attribute reference from the granule. The value of
 this element should be the additional attribute name.</xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:minLength value="1"/>
          <xs:maxLength value="80"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
    <xs:element name="Temporal" type="EmptyType">
      <xs:annotation>
        <xs:documentation>Deletes the temporal information from the granule.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="DayNightFlag" type="EmptyType">
      <xs:annotation>
        <xs:documentation>Deletes the day/night flag from the granule.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="DeleteTime" type="EmptyType">
      <xs:annotation>
```

```
        <xs:documentation>Deletes the remove time from the granule. The granule will no longer be
 automatically removed.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="CloudCover" type="EmptyType">
      <xs:annotation>
        <xs:documentation>Deletes the cloud cover information from the granule.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="RestrictionFlag" type="EmptyType">
      <xs:annotation>
        <xs:documentation>Deletes the restriction flag from the granule.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="AllOnlineAccessURLs" type="EmptyType">
      <xs:annotation>
        <xs:documentation>Indicates that all online access URLs should be deleted from the
 granules.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="AllOnlineResources" type="EmptyType">
      <xs:annotation>
        <xs:documentation>Indicates that all online resources should be deleted from the granules.</
xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="AllAdditionalAttributes" type="EmptyType">
      <xs:annotation>
        <xs:documentation>Indicates that all additional attributes should be deleted from the
 granules.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="AllBrowseImages" type="EmptyType">
      <xs:annotation>
        <xs:documentation>Indicates that all links to browse images should be deleted from the
 granules.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="Spatial" type="EmptyType">
      <xs:annotation>
        <xs:documentation>Deletes the spatial coverage from the granule.</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:choice>
</xs:complexType>
```

## Complex Type `EmptyType`

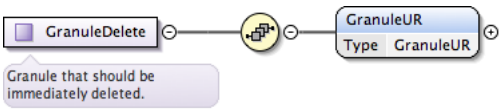
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The element should contain no children. In most cases, this is used when the presence of the element has meaning, however the element itself does not required data. |
| Diagram |   |
| Used by | Elements: GranuleDeleteField/AllAdditionalAttributes, GranuleDeleteField/AllBrowseImages, GranuleDeleteField/AllOnlineAccessURLs, GranuleDeleteField/AllOnlineResources, GranuleDeleteField/CloudCover, GranuleDeleteField/DayNightFlag, GranuleDeleteField/DeleteTime, GranuleDeleteField/RestrictionFlag, GranuleDeleteField/Spatial, GranuleDeleteField/Temporal |
| Source | `<xs:complexType name="EmptyType">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The element should contain no children. In most cases, this is used when the presence of the element has meaning, however the element itself does not required data.</xs:documentation>`<br>`  </xs:annotation>`<br>`</xs:complexType>` |

## Complex Type `ListOfGranuleDeletes`

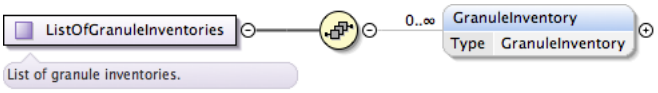
| | |
|---|---|
| Namespace | No namespace |
| Diagram |   |
| Used by | Element: GranuleMetaDataFile/GranuleDeletes |

| | |
|---|---|
| Model | GranuleDelete* |
| Children | GranuleDelete |
| Source | `<xs:complexType name="ListOfGranuleDeletes">`<br>`  <xs:sequence>`<br>`  <xs:element maxOccurs="unbounded" name="GranuleDelete" type="GranuleDelete" minOccurs="0"/>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

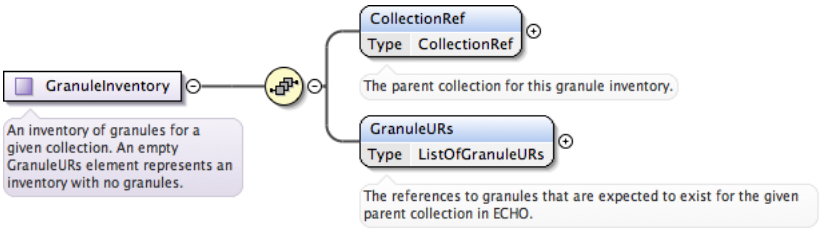
## Complex Type `GranuleDelete`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | `Granule that should be immediately deleted.` |
| Diagram |  |
| Used by | Elements GranuleDelete, ListOfGranuleDeletes/GranuleDelete |
| Model | GranuleUR |
| Children | GranuleUR |
| Source | `<xs:complexType name="GranuleDelete">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Granule that should be immediately deleted.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element name="GranuleUR" type="GranuleUR"/>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

## Complex Type `ListOfGranuleInventories`

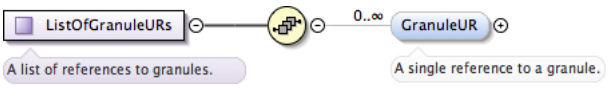
| | |
|---|---|
| Namespace | No namespace |
| Annotations | `List of granule inventories.` |
| Diagram |  |
| Used by | Element GranuleMetaDataFile/GranuleInventories |
| Model | GranuleInventory* |
| Children | GranuleInventory |
| Source | `<xs:complexType name="ListOfGranuleInventories">`<br>`  <xs:annotation>`<br>`  <xs:documentation>List of granule inventories.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element maxOccurs="unbounded" name="GranuleInventory" type="GranuleInventory" minOccurs="0"/`<br>`>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

## Complex Type `GranuleInventory`

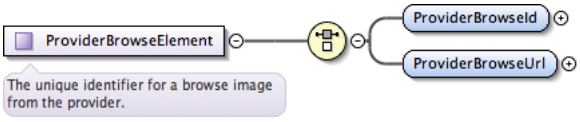
| | |
|---|---|
| Namespace | No namespace |
| Annotations | `An inventory of granules for a given collection. An empty GranuleURs element represents an inventory with no granules.` |
| Diagram |  |
| Used by | Element ListOfGranuleInventories/GranuleInventory |

| | |
|---|---|
| Model | CollectionRef , GranuleURs |
| Children | CollectionRef, GranuleURs |
| Source | `<xs:complexType name="GranuleInventory">`<br>`  <xs:annotation>`<br>`  <xs:documentation>An inventory of granules for a given collection. An empty GranuleURs element represents an inventory with no granules.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element name="CollectionRef" type="CollectionRef">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The parent collection for this granule inventory.</xs:documentation>`<br>`  </xs:annotation>`<br>`  </xs:element>`<br>`  <xs:element name="GranuleURs" type="ListOfGranuleURs">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The references to granules that are expected to exist for the given parent collection in ECHO.</xs:documentation>`<br>`  </xs:annotation>`<br>`  </xs:element>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

## Complex Type `ListOfGranuleURs`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | `A list of references to granules.` |
| Diagram |  |
| Used by | Element GranuleInventory/GranuleURs |
| Model | GranuleUR* |
| Children | GranuleUR |
| Source | `<xs:complexType name="ListOfGranuleURs">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A list of references to granules.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element name="GranuleUR" type="GranuleUR" minOccurs="0" maxOccurs="unbounded">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A single reference to a granule.</xs:documentation>`<br>`  </xs:annotation>`<br>`  </xs:element>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

## Complex Type `ProviderBrowseElement`

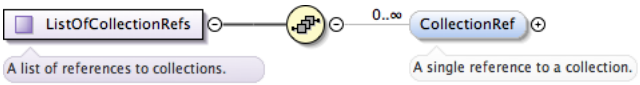
| | |
|---|---|
| Namespace | No namespace |
| Annotations | `The unique identifier for a browse image from the provider.` |
| Diagram |  |
| Model | ProviderBrowseId \| ProviderBrowseUrl |
| Children | ProviderBrowseId, ProviderBrowseUrl |
| Source | `<xs:complexType name="ProviderBrowseElement">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The unique identifier for a browse image from the provider.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:choice>`<br>`  <xs:element name="ProviderBrowseId" type="ProviderBrowseId"/>`<br>`  <xs:element name="ProviderBrowseUrl" type="ProviderBrowseUrl"/>`<br>`  </xs:choice>`<br>`</xs:complexType>` |

## Complex Type `ListOfStrings`

| | |
|---|---|
| Namespace | No namespace |

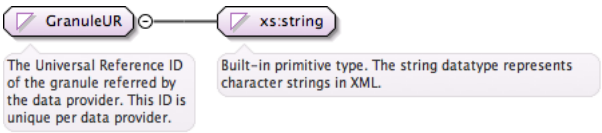
| | |
|---|---|
| Diagram | |
| Model | Item* |
| Children | Item |
| Source | `<xs:complexType name="ListOfStrings">`<br>`  <xs:sequence>`<br>`  <xs:element minOccurs="0" maxOccurs="unbounded" name="Item" type="xs:string"/>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

### Complex Type `ListOfCollectionRefs`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | A list of references to collections. |
| Diagram |  |
| Model | CollectionRef* |
| Children | CollectionRef |
| Source | `<xs:complexType name="ListOfCollectionRefs">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A list of references to collections.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:sequence>`<br>`  <xs:element name="CollectionRef" type="CollectionRef" minOccurs="0" maxOccurs="unbounded">`<br>`  <xs:annotation>`<br>`  <xs:documentation>A single reference to a collection.</xs:documentation>`<br>`  </xs:annotation>`<br>`  </xs:element>`<br>`  </xs:sequence>`<br>`</xs:complexType>` |

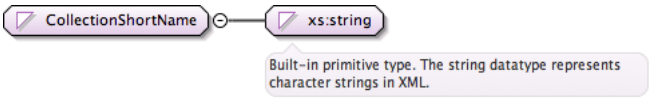
## Simple Type(s)

### Simple Type `GranuleUR`

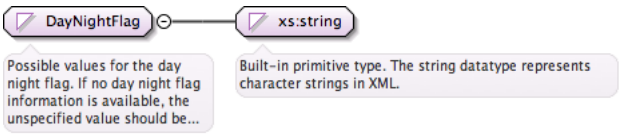
| | |
|---|---|
| Namespace | No namespace |
| Annotations | The Universal Reference ID of the granule referred by the data provider. This ID is unique per data provider. |
| Diagram |  |
| Type | restriction of xs:string |
| Facets | minLength: 1<br>maxLength: 250 |
| Used by | Elements: Granule/GranuleUR, GranuleDelete/GranuleUR, GranuleUR, GranuleUpdateTarget/GranuleUR, ListOfGranuleURs/GranuleUR |
| Source | `<xs:simpleType name="GranuleUR">`<br>`  <xs:annotation>`<br>`  <xs:documentation>The Universal Reference ID of the granule referred by the data provider. This ID is unique per data provider.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:maxLength value="250"/>`<br>`  <xs:minLength value="1"/>`<br>`  </xs:restriction>`<br>`</xs:simpleType>` |

### Simple Type `CollectionShortName`

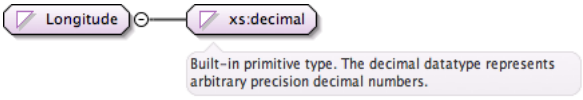
| | |
|---|---|
| Namespace | No namespace |

| | |
|---|---|
| Diagram |  |
| Type | restriction of xs:string |
| Facets | minLength 1<br>maxLength 85 |
| Used by | Element CollectionRef/ShortName |
| Source | `<xs:simpleType name="CollectionShortName">`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:maxLength value="85"/>`<br>`  <xs:minLength value="1"/>`<br>`  </xs:restriction>`<br>`</xs:simpleType>` |

## Simple Type DayNightFlag

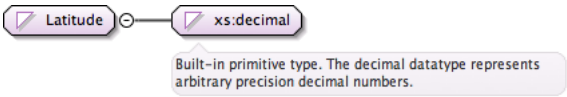
| | |
|---|---|
| Namespace | No namespace |
| Annotations | Possible values for the day night flag. If no day night flag information is available, the unspecified value should be used. |
| Diagram |  |
| Type | restriction of xs:string |
| Facets | enumeration DAY<br>enumeration NIGHT<br>enumeration BOTH<br>enumeration UNSPECIFIED |
| Used by | Elements DataGranule/DayNightFlag, GranuleAddField/DayNightFlag |
| Source | `<xs:simpleType name="DayNightFlag">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Possible values for the day night flag. If no day night flag information is available, the unspecified value should be used.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:enumeration value="DAY"/>`<br>`  <xs:enumeration value="NIGHT"/>`<br>`  <xs:enumeration value="BOTH"/>`<br>`  <xs:enumeration value="UNSPECIFIED"/>`<br>`  </xs:restriction>`<br>`</xs:simpleType>` |

## Simple Type Longitude

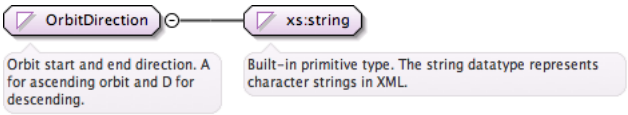
| | |
|---|---|
| Namespace | No namespace |
| Diagram |  |
| Type | restriction of xs:decimal |
| Facets | maxInclusive 180.0<br>minInclusive -180.0 |
| Used by | Elements BoundingRectangle/EastBoundingCoordinate, BoundingRectangle/WestBoundingCoordinate, OrbitCalculatedSpatialDomain/EquatorCrossingLongitude, Point/PointLongitude |
| Source | `<xs:simpleType name="Longitude">`<br>`  <xs:restriction base="xs:decimal">`<br>`  <xs:minInclusive value="-180.0"/>`<br>`  <xs:maxInclusive value="180.0"/>` |

```
  </xs:restriction>
</xs:simpleType>
```

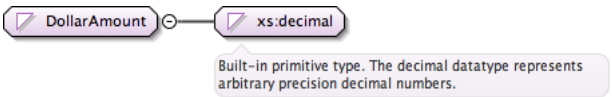
## Simple Type `Latitude`

| | |
|---|---|
| Namespace | No namespace |
| Diagram |  |
| Type | restriction of xs:decimal |
| Facets | maxInclusive `90.0`<br>minInclusive `-90.0` |
| Used by | Elements BoundingRectangle/NorthBoundingCoordinate, BoundingRectangle/SouthBoundingCoordinate, Orbit/EndLat, Orbit/StartLat, Point/PointLatitude |
| Source | `<xs:simpleType name="Latitude">`<br>`  <xs:restriction base="xs:decimal">`<br>`  <xs:minInclusive value="-90.0"/>`<br>`  <xs:maxInclusive value="90.0"/>`<br>`  </xs:restriction>`<br>`</xs:simpleType>` |

## Simple Type `OrbitDirection`

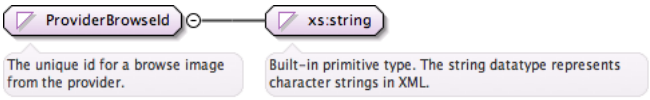
| | |
|---|---|
| Namespace | No namespace |
| Annotations | `Orbit start and end direction. A for ascending orbit and D for descending.` |
| Diagram |  |
| Type | restriction of xs:string |
| Facets | enumeration `A`<br>enumeration `D` |
| Used by | Elements Orbit/EndDirection, Orbit/StartDirection |
| Source | `<xs:simpleType name="OrbitDirection">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Orbit start and end direction. A for ascending orbit and D for descending.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:enumeration value="A"/>`<br>`  <xs:enumeration value="D"/>`<br>`  </xs:restriction>`<br>`</xs:simpleType>` |

## Simple Type `DollarAmount`

| | |
|---|---|
| Namespace | No namespace |
| Diagram |  |
| Type | restriction of xs:decimal |
| Facets | totalDigits `9`<br>fractionDigits `2` |
| Used by | Element Granule/Price |
| Source | `<xs:simpleType name="DollarAmount">`<br>`  <xs:restriction base="xs:decimal">`<br>`  <xs:totalDigits value="9"/>`<br>`  <xs:fractionDigits value="2"/>` |

```
  </xs:restriction>
</xs:simpleType>
```

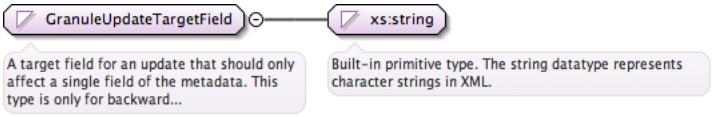
## Simple Type `ProviderBrowseId`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | `The unique id for a browse image from the provider.` |
| Diagram |   |
| Type | restriction of xs:string |
| Facets | minLength `1`<br>maxLength `255` |
| Used by | Elements GranuleAddField/BrowseImage, GranuleDeleteField/BrowseImage, ListOfProviderBrowseIds/ProviderBrowseId, ProviderBrowseElement/ProviderBrowseId |

Source

```
<xs:simpleType name="ProviderBrowseId">
  <xs:annotation>
    <xs:documentation>The unique id for a browse image from the provider.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xs:string">
    <xs:maxLength value="255"/>
    <xs:minLength value="1"/>
  </xs:restriction>
</xs:simpleType>
```

## Simple Type `GranuleUpdateTargetField`

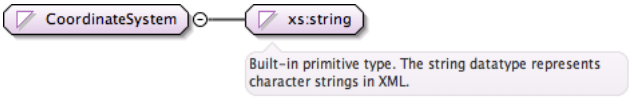
| | |
|---|---|
| Namespace | No namespace |
| Annotations | `A target field for an update that should only affect a single field of the metadata. This type is only for backward compatibility and should not be used for new development.` |
| Diagram |   |
| Type | restriction of xs:string |
| Facets | enumeration `URL`<br>enumeration `VALUE`<br>enumeration `NAME`<br>enumeration `MIME_TYPE`<br>enumeration `DESCRIPTION`<br>enumeration `TYPE`<br>enumeration `AUTO_QUALITY_FLAG`<br>enumeration `AUTO_QUALITY_FLAG_EX`<br>enumeration `OP_QUALITY_FLAG`<br>enumeration `OP_QUALITY_FLAG_EX`<br>enumeration `SCIENCE_QUALITY_FLAG`<br>enumeration `SCIENCE_QUALITY_FLAG_EX` |
| Used by | Element ListOfGranuleUpdateTargetFields/UpdateTargetField |

Source

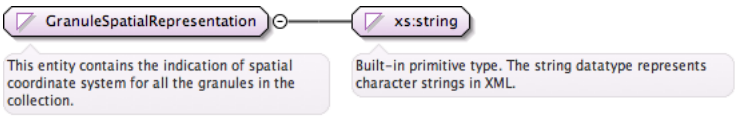
```
<xs:simpleType name="GranuleUpdateTargetField">
  <xs:annotation>
    <xs:documentation>A target field for an update that should only affect a single field of
 the metadata. This type is only for backward compatibility and should not be used for new
 development.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xs:string">
    <xs:enumeration value="URL"/>
    <xs:enumeration value="VALUE"/>
    <xs:enumeration value="NAME"/>
```

```
    <xs:enumeration value="MIME_TYPE"/>
    <xs:enumeration value="DESCRIPTION"/>
    <xs:enumeration value="TYPE"/>
    <xs:enumeration value="AUTO_QUALITY_FLAG"/>
    <xs:enumeration value="AUTO_QUALITY_FLAG_EX"/>
    <xs:enumeration value="OP_QUALITY_FLAG"/>
    <xs:enumeration value="OP_QUALITY_FLAG_EX"/>
    <xs:enumeration value="SCIENCE_QUALITY_FLAG"/>
    <xs:enumeration value="SCIENCE_QUALITY_FLAG_EX"/>
  </xs:restriction>
</xs:simpleType>
```

## Simple Type `CoordinateSystem`

| | |
|---|---|
| Namespace | No namespace |
| Diagram |   |
| Type | restriction of xs:string |
| Facets | enumeration `CARTESIAN` Indicates a cartesian coordinate system.<br>enumeration `GEODETIC` Indicates a geodetic coordinate system. |
| Source | `<xs:simpleType name="CoordinateSystem">`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:enumeration value="CARTESIAN">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Indicates a cartesian coordinate system.</xs:documentation>`<br>`  </xs:annotation>`<br>`  </xs:enumeration>`<br>`  <xs:enumeration value="GEODETIC">`<br>`  <xs:annotation>`<br>`  <xs:documentation>Indicates a geodetic coordinate system.</xs:documentation>`<br>`  </xs:annotation>`<br>`  </xs:enumeration>`<br>`  </xs:restriction>`<br>`</xs:simpleType>` |

## Simple Type `GranuleSpatialRepresentation`

| | |
|---|---|
| Namespace | No namespace |
| Annotations | This entity contains the indication of spatial coordinate system for all the granules in the collection. |
| Diagram |   |
| Type | restriction of xs:string |
| Facets | enumeration `CARTESIAN`<br>enumeration `GEODETIC`<br>enumeration `ORBIT`<br>enumeration `NO_SPATIAL` |
| Source | `<xs:simpleType name="GranuleSpatialRepresentation">`<br>`  <xs:annotation>`<br>`  <xs:documentation>This entity contains the indication of spatial coordinate system for all the granules in the collection.</xs:documentation>`<br>`  </xs:annotation>`<br>`  <xs:restriction base="xs:string">`<br>`  <xs:enumeration value="CARTESIAN">`<br>`  <xs:annotation>`<br>`  <xs:documentation/>`<br>`  </xs:annotation>`<br>`  </xs:enumeration>`<br>`  <xs:enumeration value="GEODETIC">`<br>`  <xs:annotation>`<br>`  <xs:documentation/>`<br>`  </xs:annotation>`<br>`  </xs:enumeration>`<br>`  <xs:enumeration value="ORBIT">`<br>`  <xs:annotation>` |

```
        <xs:documentation/>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="NO_SPATIAL">
      <xs:annotation>
        <xs:documentation/>
      </xs:annotation>
    </xs:enumeration>
  </xs:restriction>
</xs:simpleType>
```