



Provision of Engineering and Management Support for the Earth Observation Payload Data Systems

**in support of the
European Space Agency (ESA)**

End-to-End use of Catalogue Identifier Technical Note

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Table 2 – Version Control

Version	Date	By	Reason
1.0	25 th October 2010	M. Nota	First Issue
1.1	03 th November 2010	M.Nota	GetRecordByld action name clarification
1.2	05 th November 2010	M.Nota	GetRecordByld action name further clarification

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1. INTRODUCTION

1.1 Purpose

The purpose of this technical note is to clarify the principles that rule the use of the Earth Observation Product (EOP) identifier: **EOP identifier** within the EO DAIL system integrated with the HMA GCM Catalogues, in the frame of the GSCDA system.

1.2 Reference Documents

<i>Document</i>	<i>Reference</i>	<i>Version</i>	<i>Date</i>
[R1] GML 3.1.1 Application schema for Earth Observation products	OGC 06-080r4	0.9.3	21-07-2008
[R2] EO Products Extension Package for ebRIM (ISO/TS 15000-3) Profile of CSW 2.0	OGC 06-131	0.2.2 ¹	23-10-2008
[R3] Ordering Services for Earth Observation Products	OGC 06-141	0.9.4	05-09-2008
[R4] User Management Interfaces for Earth Observation Services	OGC 07-118r4	0.0.6	29-01-2010
[R5] Top Level ICD for GCM	OSME-GSCDA-SEDA-IS-08-0019	3.0	03-06-2010
[R6] GSC Data Access System Operational Scenarios for GMES Contributing Missions	GMES-GSEG-EOPG-TN-08-0005	1.5	

¹ The clarification also holds for version 0.2.4, that is functionally compatible with the 0.2.2 spec wrt. DAIL

2. EOP IDENTIFIER IN THE DAIL AND THEIR INTEGRATED CATALOGUES

2.1 Use of the Registry Package ID in GetRecordById, GetOptions, Submit

The EOP identifier shall allow to univocally identifying a single EOP in the several inquiry and ordering operations allowed by the HMA protocol.

With reference to the RegistryPackage data structure defined in [R2] §8.3, returned from a catalogue query **GetRecords** request, that includes all the ExtrinsicObjects to record the metadata pertinent to an EOP, it is necessary to state that:

The **EOP identifier** used by a client in a subsequent catalogue operation **GetRecordById** request shall be the **RegistryPackage ID**.

The **EOP identifier** used by a client in a subsequent ordering operations (**GetOptions**, **Submit**) shall be the **RegistryPackage ID**.

The RegistryPackage ID is returned by the GetRecordsResponse message after a previous GetRecords request ([R2]).

Example

With reference to the GetRecordsResponse example in Annex 1, below is reported the initial part:

```
<GetRecordsResponse xmlns:rim="urn:oasis:names:tc:ebxml-regrep:xsd:rim:3.0"
xmlns:helpers="http://www.esa.int/helpers" xmlns:gml="http://www.opengis.net/gml"
xmlns:ogc="http://www.opengis.net/ogc" xmlns:csw="http://www.opengis.net/cat/csw/2.0.2"
xmlns="http://www.opengis.net/cat/csw/2.0.2">
<csw:SearchStatus status="complete"/>
<csw:RequestId>urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m-[]-0</csw:RequestId>
<csw:SearchResults nextRecord="5" numberOfRecordsMatched="4"
numberOfRecordsReturned="4">
<rim:RegistryPackage
id="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:eop:RP"
objectType="urn:oasis:names:tc:ebxml-regrep:ObjectType:RegistryObject:RegistryPackage"
xmlns="http://www.opengis.net/cat/csw/2.0.2" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance" xmlns:wrs="http://www.opengis.net/cat/wrs/1.0">
...

```

The first product returned is encapsulated in the relative RegistryPackage and it is identified by the RegistryPackage's attribute "id":

```
id = "urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:eop:RP"
```

The RegistryPackage id shall be used to inquire product information via GetRecordByID as showed in the following example:

GetRecordById example
<pre><GetRecordById xmlns="http://www.opengis.net/cat/csw/2.0.2" xmlns:wrs="http://www.opengis.net/cat/wrs/1.0" xmlns:rim="urn:oasis:names:tc:ebxml- regrep:xsd:rim:3.0" outputSchema="urn:oasis:names:tc:ebxml-regrep:xsd:rim:3.0" service="CSW" version="2.0.2"> <Id>urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:eop:RP</Id> <ElementSetName typeName="rim:RegistryPackage">summary</ElementSetName> </GetRecordById></pre>

It shall be noticed that tag **<ElementSetName>** and in particular its attribute **"typeName"** shall address the request to the RegistryPackage:

typeName = "rim:RegistryPackage"

As far as the Ordering protocol is concerned, below are reported respectively an example of GetOptions and an example of Submit per product. Even in these cases the EOP identifier to be used (reported in bold) is the RegistryPackage id.

GetOptions example
<pre><n1:GetOptions xmlns:n1="http://earth.esa.int/hma/ordering" xmlns:sch="http://www.ascc.net/xml/schematron" xmlns:gml="http://www.opengis.net/gml" xmlns:ows="http://www.opengis.net/ows" xmlns:sps="http://www.opengis.net/sps/0" xmlns:swe="http://www.opengis.net/swe/0.0" xmlns:wms="http://www.opengis.net/wms" xmlns:xlink="http://www.w3.org/1999/xlink" xmlns:smil20="http://www.w3.org/2001/SMIL20/" xmlns:smil20lang="http://www.w3.org/2001/SMIL20/Language" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://earth.esa.int/hma/ordering ../Order.xsd" service="OS" version="0.9.4"> <n1:timeStamp>2001-12-17T09:30:47.0Z</n1:timeStamp> <n1:identifier codeSpace="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:eop:RP"> urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:eop:RP</n1:identifi er> </n1:GetOptions></pre>

Submit example
<pre><n1:Submit xmlns:n1="http://earth.esa.int/hma/ordering" xmlns:sps="http://www.opengis.net/sps/0" xmlns:sch="http://www.ascc.net/xml/schematron" xmlns:gml="http://www.opengis.net/gml" xmlns:ows="http://www.opengis.net/ows" xmlns:swe="http://www.opengis.net/swe/0.0" xmlns:wms="http://www.opengis.net/wms" xmlns:xlink="http://www.w3.org/1999/xlink" xmlns:smil20="http://www.w3.org/2001/SMIL20/" xmlns:smil20lang="http://www.w3.org/2001/SMIL20/Language" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://earth.esa.int/hma/ordering ../Order.xsd" service="OS" version="0.9.4"> <n1:timeStamp>2001-12-17T09:30:47.0Z</n1:timeStamp> <n1:orderSpecification> <n1:orderReference>submit_001</n1:orderReference> <n1:orderRemark>HMA Order</n1:orderRemark> <n1:deliveryInformation> <n1:mail> <n1:recipient>DanieleMarchionni</n1:recipient> <n1:companyRef>companyName</n1:companyRef> <n1:postalAddress></pre>

Submit example

```

760</n1:streetAddress>
                                <n1:streetAddress>Via Laurentina
                                <n1:city>Roma</n1:city>
                                <n1:state>Roma</n1:state>
                                <n1:postalCode>00100</n1:postalCode>
                                <n1:country>IT</n1:country>
                                <n1:postBox>-</n1:postBox>
                                </n1:postalAddress>
                                <n1:telephoneNumber>06
50274593</n1:telephoneNumber>
                                </n1:mail>
                                </n1:deliveryInformation>
                                <n1:invoiceAddress>
                                <n1:recipient>DanieleMarchionni</n1:recipient>
                                <n1:companyRef>companyName</n1:companyRef>
                                <n1:postalAddress>
                                <n1:streetAddress>Via Laurentina
760</n1:streetAddress>
                                <n1:city>Roma</n1:city>
                                <n1:state>Roma</n1:state>
                                <n1:postalCode>-</n1:postalCode>
                                <n1:country>IT</n1:country>
                                <n1:postBox>-</n1:postBox>
                                </n1:postalAddress>
                                <n1:telephoneNumber>06 50274593</n1:telephoneNumber>
                                </n1:invoiceAddress>
                                <n1:orderType>PRODUCT_ORDER</n1:orderType>
                                <n1:orderItem>
                                <n1:itemId>ITEM_0001</n1:itemId>
                                <n1:productOrderOptionsId>Standard</n1:productOrderOptionsId>
                                <n1:orderItemRemark>Example</n1:orderItemRemark>
                                <n1:options>
                                <sps:Parameter parameterID="Processing">
                                <sps:value>
                                <swe:Category>
                                <swe:value>L1
(ASA_GM1_1P)</swe:value>
                                </swe:Category>
                                </sps:value>
                                </sps:Parameter>
                                </n1:options>
                                <n1:options>
                                <sps:Parameter parameterID="ProductResolution">
                                <sps:value>
                                <swe:Category>
                                <swe:value>MEDIUM</swe:value>
                                </swe:Category>
                                </sps:value>
                                </sps:Parameter>
                                </n1:options>
                                <n1:deliveryMethod>mail</n1:deliveryMethod>
                                <n1:packageMedium>DVD</n1:packageMedium>
                                <n1:numberOfCopies>1</n1:numberOfCopies>

```

```

Submit example
<n1:payment>
  <n1:paymentMethod>quota</n1:paymentMethod>
  <n1:orderAccount>project01</n1:orderAccount>
</n1:payment>
<n1:productId>
  <n1:identifier
codeSpace="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:eop:RP">
urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:eop:RP</n1:identi
fier>

  <n1:collectionId>urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M</n1:collectionId>
  <n1:productId>
    <n1:orderItem>
      <n1:orderSpecification>
        <n1:statusNotification>All</n1:statusNotification>
    </n1:orderItem>
  </n1:productId>
</n1:Submit>

```

2.2 EOP Registry Package id (EOP RP-ID) naming conventions

Basically each EOP RP-ID should contain the collection id as prefix separated by “:” from the EOP identifier itself.

```

<collection id>":"<product id>

```

Table 2-1: EOP RP-ID Basic Rule

The naming convention to be applied for the <product id> is up to the GCM organization or data provider.

However, in the frame of the GSCDA system, two possible rules are applied to obtain the identifier. The first one is defined in the [R5] “Top Level ICD for GCM” §3.3.2 “GSCDA Product unique identifier naming convention” reported hereafter:

```

"urn:eop": [GS:] [CollectionId:] <ProductId> [:"V"<revisionId>]

```

Table 2-2: GSCDA Product unique identifier naming convention

The table below describes each field composing the Product identifier:

GSCDA Product unique identifier fields	Description
"urn:eop"	mandatory prefix
GS	Ground Segment or the GCM identifier. Its use is recommended
CollectionId	Represents the GCM collection which the product belongs. Its use is recommended.

ProductId	Original product identifier. Its use is mandatory
"V"<revisionId>	It represents the revision of a product due, for instance, to a successive reprocessing. The use of this field is optional.

Table 2-3: GSCDA Product unique identifier fields' description

This rule shall be applied for all EOP expressly requested circulated and/or delivered in the frame of the GSCDA as ruled by the [R6] "GSC Data Access System Operational Scenarios for GMES Contributing Missions".

We can identify this rule from its mandatory prefix "urn:eop".

The second rule describes the collection naming convention and it is defined at the HMA level; it typically concerns those data put at disposal of the GSCDA by the GCM organizations simply integrating their existing catalogues to the DAIL. This rule is described in [R2] at §10.1 "Use of ParentIdentifier". Hereafter we report the salient part:

The convention for the parentIdentifier is as defined in "Definition identifier URNs in OGC namespace" [OGC 06-023r1] i.e.
urn:ogc:def:objectType:authority:version:code. where the registered namespace authority is ogc, the objectType is EOP, the authority representing the Ground Segment i.e ESA, SPOT, EUM etc... The version is optional.
 The code is a unique identifier specified by the authority which corresponds here to the collection name. The ":" will delimit the start of the collection name. The collection name can be defined as required by the Ground Segment but to ensure unique names the following representation is proposed:
programme.satellite_instrument_processing
 example of parentIdentifier: urn:ogc:def:EOP:ESA:EECF.ENVISAT_ASA_APx_xS.

Hence, the product identifier is composed as described in the

Table 2-1: EOP RP-ID Basic Rule, namely adding the separator ":" plus the <product id>.

With reference to the description above, we can identify this rule from the prefix "urn:ogc:def:EOP"

2.3 Determination of the collection name from the EOP RP-ID in the DAIL

One of the main tasks of the DAIL system is to route a catalogue or ordering request to the correct endpoint offering that service. One of the techniques could be to associate to a configured collection the relative endpoint. In this way, when the DAIL receives a GetRecordById, it shall be able to univocally extract the collection name from the EOP RP-ID, obtaining the unique endpoint associated to that collection, and routing the request to the obtained endpoint.

Obtain the collection when a double rule is applied as described in the previous section, that is:

- "urn:eop" prefix rule
- "urn:ogc:def:EOP" prefix rule

is difficult because not univocal due to the following aspects:

- searching the collection-product separator ":" from the left it should be guaranteed the fix number of ":" before the right one; it is not guaranteed because one of two rules foreseen optional fields
- searching the collection-product separator ":" from the right it is not guaranteed that the first one ":" is the real collection-product separator and not part of the <product id>; in fact at GSCDA – HMA level, it is not prevented the use of the colon ":" inside the identifier.

To identify the <collection id> inside the EOP RP-ID, the rule to be applied is:

the DAIL shall compare for all the collection identifiers configured the collection id with the first part of the EOP RP-ID, starting from the longest; the first collection matching is the right one.

Example:
considering the following EOP RP-ID:

urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:eop:RP

considering the following list the complete list of collection configured in the DAIL:

N.	Collection name	End Point
1	urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m	<SPOT End Point>
2	urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M+l	<SPOT End Point>
3	urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M	<SPOT End Point>
4	urn:ogc:def:EOP:ESA:ESA.EECF.ERS_SAR_xS	<ESA End Point>

Applying the algorithm described the comparison start from the collection 2 (failing), continuing with the collection 3 (succeeding and stopping). A possible GetRecordById request for the EOP-RP-ID in the example will be routed to the <SPOT End Point> because belonging to the collection 3 (urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M).

2.4 GetRecordById Action name clarification for SOAP 1.1 version

The [R2] Annex F “SOAP 1.1 Implementation” clarifies the SOAP Action’s names for each SOAP operations in the frame of the HMA Catalogue service. Basically the SOAP Action name should be composed by the prefix <http://www.opengis.net/cat/csw/2.0.2/requests#> plus the SOAP Operation name. However, as far as the **GetRecordById** operation is concerned, the Action name specified after the prefix differs from the operation name, probably due to a typo. The following table shows the list of the action’s names as specified in [R2] Annex F highlighting in bold reverse the GetRecordById one:

SOAP Action name specified in [R2] Annex F
http://www.opengis.net/cat/csw/2.0.2/requests#GetCapabilities
http://www.opengis.net/cat/csw/2.0.2/requests#DescribeRecord
http://www.opengis.net/cat/csw/2.0.2/requests#GetRepositoryItem
http://www.opengis.net/cat/csw/2.0.2/requests#GetRecords
http://www.opengis.net/cat/csw/2.0.2/requests#GetRecordsById
http://www.opengis.net/cat/csw/2.0.2/requests#Harvest

In fact, it is possible to notice that the difference is the “s” after the “GetRecord” in the action name.

The present technical note clarifies that also the GetRecordById operation shall be unified to the other catalogue operations as far as the SOAP Action name is concerned for the version 1.1 of the SOAP protocol.

Then, the SOAP Action name to be set in case of GetRecordById operation is the following:

<http://www.opengis.net/cat/csw/2.0.2/requests#GetRecordById>

ANNEX 1. GET_RECORDS_RESPONSE EXAMPLE

GetRecordsResponse example

```

<GetRecordsResponse xmlns:rim="urn:oasis:names:tc:ebxml-regrep:xsd:rim:3.0"
  xmlns:helpers="http://www.esa.int/helpers" xmlns:gml="http://www.opengis.net/gml"
  xmlns:ogc="http://www.opengis.net/ogc" xmlns:csw="http://www.opengis.net/cat/csw/2.0.2"
  xmlns="http://www.opengis.net/cat/csw/2.0.2">
  <csw:SearchStatus status="complete"/>
  <csw:RequestId>urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m-[]-0</csw:RequestId>
  <csw:SearchResults nextRecord="5" numberOfRecordsMatched="4" numberOfRecordsReturned="4">
  <rim:RegistryPackage id="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:eop:RP"
    objectType="urn:oasis:names:tc:ebxml-regrep:ObjectType:RegistryObject:RegistryPackage"
    xmlns="http://www.opengis.net/cat/csw/2.0.2" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns:wrs="http://www.opengis.net/cat/wrs/1.0">
    <rim:Name>
      <rim:LocalizedString xml:lang="en-US" charset="UTF-8" value="RegistryPackage name"
        xmlns:xml="http://www.w3.org/XML/1998/namespace"/>
    </rim:Name>
    <rim:RegistryObjectList>
      <wrs:ExtrinsicObject id="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:eop"
        objectType="urn:x-ogc:specification:csw-ebRIM:ObjectType:EO:EOPProduct">
        <rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:doi" slotType="string">
          <rim:ValueList>
            <rim:Value>urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:eop</rim:Value>
          </rim:ValueList>
          <rim:Slot>
            <rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:illuminationAzimuthAngle" slotType="double">
              <rim:ValueList>
                <rim:Value>145.3000030517578</rim:Value>
              </rim:ValueList>
            </rim:Slot>
            <rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:status" slotType="string">
              <rim:ValueList>
                <rim:Value>ACQUIRED</rim:Value>
              </rim:ValueList>
            </rim:Slot>
            <rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:imageQualityDegradation" slotType="double">
              <rim:ValueList>
                <rim:Value>75.0</rim:Value>
              </rim:ValueList>
            </rim:Slot>
            <rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:beginPosition" slotType="dateTime">
              <rim:ValueList>
                <rim:Value>2010-09-08T08:36:51Z</rim:Value>
              </rim:ValueList>
            </rim:Slot>
            <rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:lastOrbitNumber" slotType="int">
              <rim:ValueList>
                <rim:Value>368</rim:Value>
              </rim:ValueList>
            </rim:Slot>
            <rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:acquisitionStation" slotType="string">
              <rim:ValueList>
                <rim:Value>56</rim:Value>
              </rim:ValueList>
            </rim:Slot>
            <rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:snowCoverPercentage" slotType="double">
              <rim:ValueList>
                <rim:Value>0.0</rim:Value>
              </rim:ValueList>
            </rim:Slot>
            <rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:endPosition" slotType="dateTime">
              <rim:ValueList>
                <rim:Value>2010-09-08T08:37:00Z</rim:Value>
              </rim:ValueList>
            </rim:Slot>
            <rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:wrsLatitudeGrid" slotType="string">
              <rim:ValueList>
                <rim:Value>269</rim:Value>
              </rim:ValueList>
            </rim:Slot>
          </wrs:ExtrinsicObject>
        </rim:Slot>
      </rim:ValueList>
    </rim:RegistryObjectList>
  </rim:RegistryPackage>
  </csw:SearchResults>
</csw:SearchStatus>
</GetRecordsResponse>

```

GetRecordsResponse example

```

<rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:multiExtentOf" slotType="geometry">
  <wrs:ValueList>
    <wrs:AnyValue>
      <gml:MultiPolygon srsName="urn:ogc:def:crs:EPSG:6.15:4326">
        <gml:polygonMember>
          <gml:Polygon srsName="urn:ogc:def:crs:EPSG:6.15:4326">
            <gml:exterior>
              <gml:LinearRing srsName="urn:ogc:def:crs:EPSG:6.15:4326">
                <gml:pos>40.06399917602539 28.634700000000002</gml:pos>
                <gml:pos>39.96590042114258 29.3625</gml:pos>
                <gml:pos>40.4921989440918 29.5238</gml:pos>
                <gml:pos>40.59090042114258 28.7904</gml:pos>
                <gml:pos>40.06399917602539 28.634700000000002</gml:pos>
              </gml:LinearRing>
            </gml:exterior>
          </gml:Polygon>
        </gml:polygonMember>
      </gml:MultiPolygon>
    </wrs:AnyValue>
  </wrs:ValueList>
</rim:Slot>
<rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:orbitDirection" slotType="string">
  <rim:ValueList>
    <rim:Value>DESCENDING</rim:Value>
  </rim:ValueList>
</rim:Slot>
<rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:wrsLongitudeGrid" slotType="string">
  <rim:ValueList>
    <rim:Value>101</rim:Value>
  </rim:ValueList>
</rim:Slot>
<rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:productType" slotType="string">
  <rim:ValueList>
    <rim:Value>IMAGE</rim:Value>
  </rim:ValueList>
</rim:Slot>
<rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:acquisitionType" slotType="string">
  <rim:ValueList>
    <rim:Value>NOMINAL</rim:Value>
  </rim:ValueList>
</rim:Slot>
<rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:alongTrackPointingAngle" slotType="double">
  <rim:ValueList>
    <rim:Value>0.0</rim:Value>
  </rim:ValueList>
</rim:Slot>
<rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:vendorSpecificValues" slotType="string">
  <rim:ValueList>
    <rim:Value>0.0</rim:Value>
    <rim:Value>EEEE</rim:Value>
    <rim:Value>00000000</rim:Value>
    <rim:Value>AAAAAAA</rim:Value>
    <rim:Value>21</rim:Value>
    <rim:Value>125</rim:Value>
  </rim:ValueList>
</rim:Slot>
<rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:orbitNumber" slotType="int">
  <rim:ValueList>
    <rim:Value>368</rim:Value>
  </rim:ValueList>
</rim:Slot>
<rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:vendorSpecificAttributes" slotType="string">
  <rim:ValueList>
    <rim:Value>saturationPercentage</rim:Value>
    <rim:Value>qualityQuotes</rim:Value>
    <rim:Value>snowCoverQuotes</rim:Value>
    <rim:Value>cloudCoverQuotes</rim:Value>
    <rim:Value>minDynThreshold</rim:Value>
    <rim:Value>maxDynThreshold</rim:Value>
  </rim:ValueList>
</rim:Slot>

```

GetRecordsResponse example

```

</rim:Slot>
<rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:illuminationElevationAngle" slotType="double">
  <rim:ValueList>
    <rim:Value>50.900001525878906</rim:Value>
  </rim:ValueList>
</rim:Slot>
<rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:acrossTrackPointingAngle" slotType="double">
  <rim:ValueList>
    <rim:Value>-13.406172999999999</rim:Value>
  </rim:ValueList>
</rim:Slot>
<rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:incidenceAngle" slotType="string">
  <rim:ValueList>
    <rim:Value>-13.406172999999999</rim:Value>
  </rim:ValueList>
</rim:Slot>
<rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:cloudCoverPercentage" slotType="double">
  <rim:ValueList>
    <rim:Value>0.0</rim:Value>
  </rim:ValueList>
</rim:Slot>
<rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:centerOf" slotType="geometry">
  <wrs:ValueList>
    <wrs:AnyValue>
      <gml:Point srsName="urn:ogc:def:crs:EPSG:6.15:4326">
        <gml:pos>40.278499603271484 29.081200000000003</gml:pos>
      </gml:Point>
    </wrs:AnyValue>
  </wrs:ValueList>
</rim:Slot>
<rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:parentIdentifier" slotType="string">
  <rim:ValueList>
    <rim:Value>urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M</rim:Value>
  </rim:ValueList>
</rim:Slot>
<rim:Classification
  id="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:classification_opt"
  objectType="urn:oasis:names:tc:ebxml-regrep:ObjectType:RegistryObject:Classification"
  classifiedObject="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:eop"
  classificationNode="urn:x-ogc:specification:csw-ebRim:EO:EOPProductTypes:OPT" classificationScheme="urn:x-ogc:specification:csw-ebRim:EO:EOPProductTypes">
  </rim:Classification>
  <rim:ExternalIdentifier
    id="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:extrenalid"
    objectType="urn:oasis:names:tc:ebxml-regrep:ObjectType:RegistryObject:ExternalIdentifier"
    registryObject="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:eop"
    identificationScheme="urn:x-ogc:specification:csw-ebRim:EO:UnknownIdentifiers"
    value="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:eop">
    <rim:Name>
      <rim:LocalizedString xml:lang="en-US" charset="UTF-8" value="SPOT_SCENE"
    </rim:LocalizedString>
    </rim:Name>
  </rim:ExternalIdentifier>
</wrs:ExtrinsicObject>
<rim:Classification
  id="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:classification_opt"
  objectType="urn:oasis:names:tc:ebxml-regrep:ObjectType:RegistryObject:Classification"
  classifiedObject="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:eop"
  classificationNode="urn:x-ogc:specification:csw-ebRim:EO:EOPProductTypes:OPT" classificationScheme="urn:x-ogc:specification:csw-ebRim:EO:EOPProductTypes">
  </rim:Classification>
  <rim:ExternalIdentifier
    id="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:extrenalid"
    objectType="urn:oasis:names:tc:ebxml-regrep:ObjectType:RegistryObject:ExternalIdentifier"
    registryObject="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:eop"
    identificationScheme="urn:x-ogc:specification:csw-ebRim:EO:UnknownIdentifiers"
    value="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:eop">

```

GetRecordsResponse example

```

<rim:Name>
  <rim:LocalizedString xml:lang="en-US" charset="UTF-8" value="SPOT_SCENE"
xmlns:xml="http://www.w3.org/XML/1998/namespace"/>
</rim:Name>
</rim:ExternalIdentifier>
<wrs:ExtrinsicObject id="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:archive"
objectType="urn:x-ogc:specification:csw-ebrim:ObjectType:EO:EOArchivingInformation">
  <rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:archivingDate" slotType="dateTime">
    <rim:ValueList>
      <rim:Value>2010-09-08T08:39:54Z</rim:Value>
    </rim:ValueList>
  </rim:Slot>
  <rim:Name>
    <rim:LocalizedString xml:lang="en-US" charset="UTF-8" value="56"
xmlns:xml="http://www.w3.org/XML/1998/namespace"/>
  </rim:Name>
</wrs:ExtrinsicObject>
<rim:Association
id="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:archive_association"
objectType="urn:oasis:names:tc:ebxml-regrep:ObjectType:RegistryObject:Association" associationType="urn:x-
ogc:specification:csw-ebrim:AssociationType:EO:ArchivedIn"
sourceObject="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:eop"
targetObject="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:archive">
  </rim:Association>
<wrs:ExtrinsicObject
id="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:browse_quick"
objectType="urn:x-ogc:specification:csw-ebrim:ObjectType:EO:EOBrowseInformation">
  <rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:fileName" slotType="string">
    <rim:ValueList>
      <rim:Value>http://daliog.spotimage.fr/catalog/spot/img/getImage.aspx?ST=S&SN=31869728&IT=QL&
mp;CP=N&SD=T&FT=BMP&CM=75</rim:Value>
    </rim:ValueList>
  </rim:Slot>
  <rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:referenceSystemIdentifier" slotType="string">
    <rim:ValueList>
      <rim:Value>urn:ogc:def:crs:EPSG:6.3:4326</rim:Value>
    </rim:ValueList>
  </rim:Slot>
  <rim:Name>
    <rim:LocalizedString xml:lang="en-US" charset="UTF-8" value="QUICKLOOK"
xmlns:xml="http://www.w3.org/XML/1998/namespace"/>
  </rim:Name>
</wrs:ExtrinsicObject>
<rim:Association
id="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:browse_association:QL"
objectType="urn:oasis:names:tc:ebxml-regrep:ObjectType:RegistryObject:Association" associationType="urn:x-
ogc:specification:csw-ebrim:AssociationType:EO:HasBrowseInformation"
sourceObject="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:eop"
targetObject="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:browse_quick">
  </rim:Association>
<wrs:ExtrinsicObject
id="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:browse_thumb"
objectType="urn:x-ogc:specification:csw-ebrim:ObjectType:EO:EOBrowseInformation">
  <rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:fileName" slotType="string">
    <rim:ValueList>
      <rim:Value>http://daliog.spotimage.fr/catalog/spot/img/getImage.aspx?ST=S&SN=31869728&IT=QK&
amp;CP=N&SD=T&FT=BMP&CM=75</rim:Value>
    </rim:ValueList>
  </rim:Slot>
  <rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:referenceSystemIdentifier" slotType="string">
    <rim:ValueList>
      <rim:Value>urn:ogc:def:crs:EPSG:6.3:4326</rim:Value>
    </rim:ValueList>
  </rim:Slot>

```

GetRecordsResponse example

```

<rim:Name>
  <rim:LocalizedString xml:lang="en-US" charset="UTF-8" value="THUMBNAIL"
xmlns:xm1="http://www.w3.org/XML/1998/namespace"/>
</rim:Name>
</wrs:ExtrinsicObject>
<rim:Association
id="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:browse_association:QK"
objectType="urn:oasis:names:tc:ebxml-regrep:ObjectType:RegistryObject:Association" associationType="urn:x-
ogc:specification:csw-ebrim:AssociationType:EO:HasBrowseInformation"
sourceObject="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:eop"
targetObject="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:browse_thumb">
  </rim:Association>
  <wrs:ExtrinsicObject id="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:mask"
objectType="urn:x-ogc:specification:csw-ebrim:ObjectType:EO:EOMaskInformation">
    <rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:fileName" slotType="string">
      <rim:ValueList>
<rim:Value>http://daliog.spotimage.fr/catalog/spot/img/getImage.aspx?ST=S&SN=31869728&IT=CLD
&CP=N&SD=T&FT=BMP&CM=75</rim:Value>
</rim:ValueList>
        </rim:Slot>
        <rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:format" slotType="string">
          <rim:ValueList>
            <rim:Value>RASTER</rim:Value>
          </rim:ValueList>
        </rim:Slot>
        <rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:referenceSystemIdentifier" slotType="string">
          <rim:ValueList>
            <rim:Value>urn:ogc:def:crs:EPSG:6.3:4326</rim:Value>
          </rim:ValueList>
        </rim:Slot>
        <rim:Name>
          <rim:LocalizedString xml:lang="en-US" charset="UTF-8" value="CLOUD"
xmlns:xm1="http://www.w3.org/XML/1998/namespace"/>
        </rim:Name>
      </wrs:ExtrinsicObject>
    <rim:Association
id="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:mask_association"
objectType="urn:oasis:names:tc:ebxml-regrep:ObjectType:RegistryObject:Association" associationType="urn:x-
ogc:specification:csw-ebrim:AssociationType:EO:HasMaskInformation"
sourceObject="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:eop"
targetObject="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:mask">
      </rim:Association>
      <wrs:ExtrinsicObject
id="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:platform" objectType="urn:x-
ogc:specification:csw-ebrim:ObjectType:EO:EOAcquisitionPlatform">
        <rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:sensorOperationalMode" slotType="string">
          <rim:ValueList>
            <rim:Value>M</rim:Value>
          </rim:ValueList>
        </rim:Slot>
        <rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:sensorType" slotType="string">
          <rim:ValueList>
            <rim:Value>OPTICAL</rim:Value>
          </rim:ValueList>
        </rim:Slot>
        <rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:platformOrbitType" slotType="string">
          <rim:ValueList>
            <rim:Value>LEO</rim:Value>
          </rim:ValueList>
        </rim:Slot>
        <rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:instrumentShortName" slotType="string">
          <rim:ValueList>
            <rim:Value>HRVIR-Nb2</rim:Value>
          </rim:ValueList>
        </rim:Slot>
        <rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:sensorResolution" slotType="double">
          <rim:ValueList>
            <rim:Value>10.0</rim:Value>
          </rim:ValueList>
        </rim:Slot>
      </wrs:ExtrinsicObject>
    </rim:Association>
  </rim:Association>

```

GetRecordsResponse example

```
</rim:ValueList>
  </rim:Slot>
  <rim:Slot name="urn:ogc:def:ebRIM-Slot:OGC-06-131:platformSerialIdentifier" slotType="string">
    <rim:ValueList>      <rim:Value>4</rim:Value>
  </rim:ValueList>
  </rim:Slot>
  <rim:Name>
    <rim:LocalizedString xml:lang="en-US" charset="UTF-8" value="SPOT"
xmlns:xml="http://www.w3.org/XML/1998/namespace"/>
  </rim:Name>
</wrs:ExtrinsicObject>
<rim:Association
id="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:platform_association"
objectType="urn:oasis:names:tc:ebxml-regrep:ObjectType:RegistryObject:Association" associationType="urn:x-
ogc:specification:csw-ebRIM:AssociationType:EO:AcquiredBy"
sourceObject="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:eop"
targetObject="urn:ogc:def:EOP:SPOT:PANCHROMATIC_10m_M:S:sn:31869728:sat:Shift0:platform">
  </rim:Association>
</rim:RegistryObjectList>
</rim:RegistryPackage>
... only the first record is reported ...
</csw:SearchResults></GetRecordsResponse>
```