

## SDF / DFDL FUNCTIONALITY MAPPING

SDF		DFDL	
Name	Structure	Name	Structure
Namespace	<pre>&lt;xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:sdf="http://www.gael.fr/2004/12/drb/sdf"&gt;      (...)  &lt;/xs:schema&gt;</pre>	Namespace	<pre>&lt;xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:dfdl="http://www.ogf.org/dfdl/dfdl-1.0/" ... &gt;      (...)  &lt;/xs:schema&gt;</pre>
Block	<pre>&lt;xs:element name="productName" type="xs:string"&gt;   &lt;xs:annotation&gt;     &lt;xs:appinfo&gt;       &lt;sdf:block&gt;         &lt;sdf:encoding&gt;           ASCII         &lt;/sdf:encoding&gt;         &lt;sdf:length&gt;           10         &lt;/sdf:length&gt;       &lt;/sdf:block&gt;     &lt;/xs:appinfo&gt;   &lt;/xs:annotation&gt; &lt;/xs:element&gt;</pre>	Element (Attribute Form)	<pre>&lt;xs:element name="productName" type="xs:string"&gt;   &lt;xs:annotation&gt;     &lt;xs:appinfo source="http://www.ogf.org/dfdl/"&gt;       &lt;dfdl:element representation="text"         textNumberRep="standard" lengthKind="explicit"         length="10"         encoding="ASCII"         .../&gt;     &lt;/xs:appinfo&gt;   &lt;/xs:annotation&gt; &lt;/xs:element&gt;</pre>
Length	<pre>&lt;xs:element name="productName" type="xs:string"&gt;   &lt;xs:annotation&gt;     &lt;xs:appinfo&gt;       &lt;sdf:block&gt;         &lt;sdf:encoding&gt;           ASCII         &lt;/sdf:encoding&gt;         &lt;sdf:length&gt;           10         &lt;/sdf:length&gt;       &lt;/sdf:block&gt;     &lt;/xs:appinfo&gt;   &lt;/xs:annotation&gt; &lt;/xs:element&gt;</pre>	Length (Attribute Form)	<pre>&lt;xs:element name="productName" type="xs:string"&gt;   &lt;xs:annotation&gt;     &lt;xs:appinfo source="http://www.ogf.org/dfdl/"&gt;       &lt;dfdl:element representation="text"         textNumberRep="standard" lengthKind="explicit"         length="10"         encoding="ASCII"         .../&gt;     &lt;/xs:appinfo&gt;   &lt;/xs:annotation&gt; &lt;/xs:element&gt;</pre>
Unit	<pre>&lt;xs:element name="flag" type="xs:unsignedByte"&gt;   &lt;xs:annotation&gt;</pre>	Unit	<pre>&lt;xs:element name="productName" type="xs:unsignedByte"&gt;   &lt;xs:annotation&gt;</pre>

SDF		DFDL	
Name	Structure	Name	Structure
	<pre> &lt;xs:appinfo&gt;   &lt;sdf:block&gt;     &lt;...&gt;     &lt;sdf:length unit="bit"&gt;       2     &lt;/sdf:length&gt;   &lt;/sdf:block&gt; &lt;/xs:appinfo&gt; &lt;/xs:annotation&gt; &lt;/xs:element&gt; </pre>	(Attribute Form)	<pre> &lt;xs:appinfo source="http://www.ogf.org/dfdl/"&gt;   &lt;dfdl:element representation="text"     ...     lengthUnits="bits"     lengthKind="explicit"     length="2"     encoding="ASCII"     .../&gt; &lt;/xs:appinfo&gt; &lt;/xs:annotation&gt; &lt;/xs:element&gt; </pre>
Occurance	<pre> &lt;xs:element name="line"&gt; &lt;xs:complexType&gt;   &lt;xs:sequence&gt;     &lt;xs:element name="pixel" type="pixelType"       minOccurs="1024" maxOccurs="1024"&gt;       &lt;xs:annotation&gt;         &lt;xs:appinfo&gt;           &lt;sdf:block&gt;             &lt;sdf:occurrence&gt;               1024             &lt;/sdf:occurrence&gt;           &lt;/sdf:block&gt;         &lt;/xs:appinfo&gt;       &lt;/xs:annotation&gt;     &lt;/xs:element&gt;   &lt;/xs:sequence&gt; &lt;/xs:complexType&gt; &lt;/xs:element&gt; </pre>	(Attribute Form)	<pre> &lt;xs:element name="line"&gt; &lt;xs:complexType&gt;   &lt;xs:sequence&gt;     &lt;xs:element name="pixel" type="pixelType"       minOccurs="1024" maxOccurs="1024"&gt;       &lt;xs:annotation&gt;         &lt;xs:appinfo source="http://www.ogf.org/dfdl/"&gt;           &lt;dfdl:element             ...             occursCountKind="fixed"             ... /&gt;         &lt;/xs:appinfo&gt;       &lt;/xs:annotation&gt;     &lt;/xs:element&gt;   &lt;/xs:sequence&gt; &lt;/xs:complexType&gt; &lt;/xs:element&gt; </pre>
Encoding (Binary)	<pre> &lt;xs:element name="recordCount" type="xs:integer"&gt;   &lt;xs:annotation&gt;     &lt;xs:appinfo&gt;       &lt;sdf:block&gt;         &lt;sdf:encoding&gt;BINARY&lt;/sdf:encoding&gt;         &lt;sdf:length&gt;4&lt;/sdf:length&gt;       &lt;/sdf:block&gt;     &lt;/xs:appinfo&gt;   &lt;/xs:annotation&gt; &lt;/xs:element&gt; </pre>	Representation (Attribute Form)	<pre> &lt;xs:element name="recordCount" type="xs:integer"&gt;   &lt;xs:annotation&gt;     &lt;xs:appinfo&gt;       &lt;dfdl:element representation="binary"         .../&gt;     &lt;/xs:appinfo&gt;   &lt;/xs:annotation&gt; &lt;/xs:element&gt; </pre>
Offset	<pre> &lt;xs:element name="latitude" type="xs:double"&gt; &lt;xs:annotation&gt; </pre>	Offset (default)	<pre> &lt;xs:element name="specificationIdentifier" type="xs:string"&gt; &lt;xs:annotation&gt; </pre>

SDF		DFDL	
Name	Structure	Name	Structure
	<pre> &lt;xs:appinfo&gt;   &lt;sdf:block&gt;     &lt;sdf:offset&gt;       100     &lt;/sdf:offset&gt;     &lt;sdf:encoding&gt;BINARY&lt;/sdf:encoding&gt;     &lt;sdf:length&gt;8&lt;/sdf:length&gt;   &lt;/sdf:block&gt; &lt;/xs:appinfo&gt; &lt;/xs:annotation&gt; &lt;/xs:element&gt; </pre>	option)	<pre> &lt;xs:appinfo&gt;   &lt;dfdl:element representation="binary"     lengthKind="explicit" length="8"     leadingSkip="100"   /&gt; &lt;/xs:appinfo&gt; &lt;/xs:annotation&gt; &lt;/xs:element&gt; </pre>
Padding	<pre> &lt;xs:element name="specificationIdentifier"   type="xs:string"&gt; &lt;xs:annotation&gt;   &lt;xs:appinfo&gt;     &lt;sdf:block&gt;       &lt;sdf:padding type="header"&gt;12&lt;/sdf:padding&gt;       &lt;sdf:encoding&gt;ASCII&lt;/sdf:encoding&gt;       &lt;sdf:length&gt;15&lt;/sdf:length&gt;       &lt;sdf:padding type="footer"&gt;3&lt;/sdf:padding&gt;     &lt;/sdf:block&gt;   &lt;/xs:appinfo&gt; &lt;/xs:annotation&gt; &lt;/xs:element&gt; </pre>	Element Form	<pre> &lt;xs:element name="specificationIdentifier" type="xs:string"&gt; &lt;xs:annotation&gt;   &lt;xs:appinfo&gt;     &lt;dfdl:element       leadingSkip="12"       trailingSkip="2"       alignmentUnits="bytes"       encoding="ASCII"       length="15"     /&gt;   &lt;/xs:appinfo&gt; &lt;/xs:annotation&gt; &lt;/xs:element&gt; </pre>
Array	<pre> &lt;xs:element name="pixel"&gt; &lt;xs:annotation&gt;   &lt;xs:appinfo&gt;     &lt;sdf:block&gt;       &lt;sdf:array&gt;         &lt;sdf:occurrence&gt;1000&lt;/sdf:occurrence&gt;         &lt;sdf:length&gt;2&lt;/sdf:length&gt;       &lt;/sdf:array&gt;     &lt;/sdf:block&gt;   &lt;/xs:appinfo&gt; &lt;/xs:annotation&gt; &lt;xs:simpleType&gt;   &lt;xs:list itemType="xs:unsignedShort"/&gt; &lt;/xs:simpleType&gt; &lt;/xs:element&gt; </pre>	(Short Form)	<pre> &lt;xs:element   name=pixel xs:nimOccurs="1000"   xs:maxOccurs="1000"   dfdl:length="2" dfdl:occursCountKind="fixed" /&gt; </pre>
		(Attribute Form)	<pre> &lt;xs:element name="pixel" xs:minOccurs="1000"   maxOccurs="1000"&gt; </pre>

SDF		DFDL	
Name	Structure	Name	Structure
			<pre>&lt;xs:annotation&gt;   &lt;xs:appinfo&gt;     &lt;dfdl:element       length="2"       occursCountKind="fixed"     /&gt;   &lt;/xs:appinfo&gt; &lt;/xs:annotation&gt; &lt;/xs:element&gt;</pre>
Array Signature	<pre>&lt;xs:element name="pixel"&gt;   &lt;xs:annotation&gt;     &lt;xs:appinfo&gt;       &lt;sdf:block&gt;         &lt;sdf:array&gt;           &lt;sdf:occurrence&gt;1000&lt;/sdf:occurrence&gt;           &lt;sdf:length&gt;2&lt;/sdf:length&gt;         &lt;/sdf:array&gt;       &lt;/sdf:block&gt;     &lt;/xs:appinfo&gt;   &lt;/xs:annotation&gt;   &lt;xs:simpleType&gt;     &lt;xs:list itemType="xs:unsignedShort"/&gt;   &lt;/xs:simpleType&gt; &lt;/xs:element&gt; &lt; xs:complexType name="majorFrame"&gt; &lt;xs:sequence&gt;   &lt;xs:element name="auxiliaryData" type="xs:unsignedByte"&gt;   &lt;xs:annotation&gt;     &lt;xs:appinfo&gt;       &lt;sdf:block&gt;         &lt;sdf:length&gt;1&lt;/sdf:length&gt;       &lt;/sdf:block&gt;     &lt;/xs:appinfo&gt;   &lt;/xs:annotation&gt; &lt;/xs:element&gt;   &lt;xs:choice&gt;     &lt;xs:element name="dayModeMeasurementData" type="dayModeMeasurementData"&gt;     &lt;xs:annotation&gt;       &lt;xs:appinfo&gt;         &lt;sdf:block&gt;           &lt;sdf:signature&gt;</pre>	Discriminator	<pre>&lt; xs:complexType name="majorFrame"&gt; &lt;xs:sequence&gt;   &lt;xs:element name="auxiliaryData" type="xs:unsignedByte"&gt;     &lt;xs:annotation&gt;       &lt;xs:appinfo&gt;         &lt;dfdl:element length="1" /&gt;       &lt;/xs:appinfo&gt;     &lt;/xs:annotation&gt;   &lt;/xs:element&gt;   &lt;xs:choice&gt;     &lt;xs:element name="dayModeMeasurementData" type="dayModeMeasurementData"&gt;     &lt;xs:annotation&gt;       &lt;xs:appinfo&gt;         &lt;dfdl:element&gt;           &lt;dfdl:discriminator test="{../auxiliaryData = 0 }"/&gt;         &lt;/dfdl:element&gt;       &lt;/xs:appinfo&gt;     &lt;/xs:annotation&gt;   &lt;/xs:element&gt;     &lt;xs:element name="nightModeMeasurementData" type="nightModeMeasurementData"&gt;     &lt;xs:annotation&gt;       &lt;xs:appinfo&gt;         &lt;dfdl:element&gt;           &lt;dfdl:discriminator test="{../auxiliaryData = 1 }"/&gt;         &lt;/dfdl:element&gt;       &lt;/xs:appinfo&gt;     &lt;/xs:annotation&gt;   &lt;/xs:element&gt;   &lt;/xs:choice&gt; &lt;/xs:sequence&gt;</pre>

SDF		DFDL	
Name	Structure	Name	Structure
	<pre>                 ../auxiliaryData = 0             &lt;/sdf:signature&gt;         &lt;/sdf:block&gt;     &lt;/xs:appinfo&gt; &lt;/xs:annotation&gt; &lt;/xs:element&gt; &lt;xs:element name="nightModeMeasurementData" type="nightModeMeasurementData"&gt;     &lt;xs:annotation&gt;         &lt;xs:appinfo&gt;             &lt;sdf:block&gt;                 &lt;sdf:signature&gt;                     ../auxiliaryData = 1                 &lt;/sdf:signature&gt;             &lt;/sdf:block&gt;         &lt;/xs:appinfo&gt;     &lt;/xs:annotation&gt; &lt;/xs:element&gt; &lt;/xs:choice&gt; &lt;/xs:sequence&gt; &lt;/xs:complexType&gt;             </pre>		<pre> &lt;/xs:complexType&gt;             </pre>

SDF		DFDL	
Name	Structure	Name	Structure
SDF query attribute for occurrence	<pre>&lt;xs:element name="record" type="anyDefinedType"&gt;   &lt;xs:annotation&gt;     &lt;xs:documentation xml:lang="en"&gt;       An example of query     &lt;/xs:documentation&gt;   &lt;/xs:annotation&gt;   &lt;xs:appinfo&gt;     &lt;sdf:block&gt;       &lt;sdf:occurrence query="drb:xml- doc(&amp;quot;manifest.safe&amp;quot;)/XFDU/metadataSection/   metadataObject[@ID=&amp;quot;biasFittingWindowsPhysicalInformation&amp;quot;]   /metadataWrap/xmlData/componentPhysicalInformation/dataSet[@name='0-H2O']/record/count"/&gt;     &lt;/sdf:block&gt;   &lt;/xs:appinfo&gt; &lt;/xs:element&gt;</pre>		<pre>&lt;dfdl:defineVariable name="aVariable" type="xs:string"&gt;   &lt;![CDATA["drb:xml- doc(&amp;quot;manifest.safe&amp;quot;)/XFDU/metadataSection/   metadataObject[@ID=&amp;quot;biasFittingWindowsPhysicalInformation&amp;quot;]   /metadataWrap/xmlData/componentPhysicalInformation/dataSet[@name='0-H2O']/record/count"]]]&gt; &lt;/dfdl:defineVariable&gt;  ...  &lt;xs:element name="pixel" xs:minOccurs="{dfdl:aVariable}"   maxOccurs="{dfdl:aVariable}"&gt;   &lt;xs:annotation&gt;     &lt;xs:appinfo&gt;       &lt;dfdl:element         occursCountKind="fixed"/&gt;     &lt;/xs:appinfo&gt;   &lt;/xs:annotation&gt; &lt;/xs:element&gt;</pre>