

Schema documentation for sms.xsd

september 19, 2012

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Namespace: "http://www.ime.iiasa.ac.at/model/spec"

Schema(s)

Main schema sms.xsd

Namespace	http://www.ime.iiasa.ac.at/model/spec	
Properties	attribute form default:	unqualified
	element form default:	unqualified

Complex Type(s)

Complex Type `m:modelSpec`

Namespace	http://www.ime.iiasa.ac.at/model/spec
Diagram	
Model	id , shortName , name{0,1} , description{0,1} , status , setSpec+ , entitySpec+
Children	description, entitySpec, id, name, setSpec, shortName, status
Source	<pre> <xs:complexType name="modelSpec"> <xs:sequence> <xs:element name="id" type="xs:int" /> <xs:element name="shortName" type="m:shortName" /> <xs:element name="name" type="m:name" minOccurs="0" maxOccurs="1" /> <xs:element name="description" type="m:description" minOccurs="0" maxOccurs="1" /> <xs:element name="status" type="m:status" /> <xs:element name="setSpec" type="m:setSpec" maxOccurs="unbounded" /> <xs:element name="entitySpec" type="m:entitySpec" maxOccurs="unbounded" /> </xs:sequence> </xs:complexType> </pre>

Complex Type `m:setSpec`

Namespace	http://www.ime.iiasa.ac.at/model/spec
Diagram	

Used by	Element m:modelSpec/setSpec
Model	id , idParent{0,1} , shortName , name{0,1} , description{0,1} , type , idx{0,1} , iteratorContainer{0,1}
Children	description, id, idParent, idx, iteratorContainer, name, shortName, type
Source	<pre> <xs:complexType name="setSpec"> <xs:sequence> <xs:element name="id" type="xs:int"/> <xs:element name="idParent" type="xs:int" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>only for sub set</xs:documentation> </xs:annotation> </xs:element> <xs:element name="shortName" type="m:shortName"/> <xs:element name="name" type="m:name" minOccurs="0" maxOccurs="1"/> <xs:element name="description" type="m:description" minOccurs="0" maxOccurs="1"/> <xs:element name="type" type="m:setSpecType"/> <xs:element name="idx" type="xs:string" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>default index name (for main set only)</xs:documentation> </xs:annotation> </xs:element> <xs:element name="iteratorContainer" type="m:iteratorContainer" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>for index set only</xs:documentation> </xs:annotation> </xs:element> </xs:sequence> </xs:complexType> </pre>

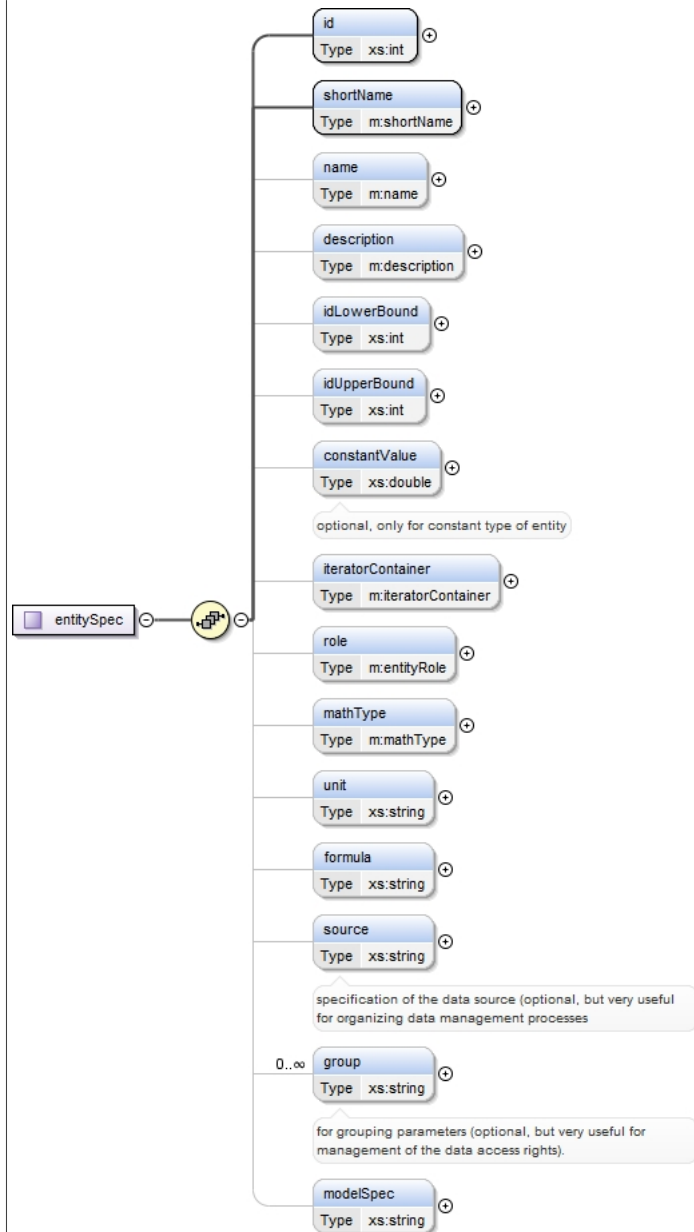
Complex Type m:iteratorContainer

Namespace	http://www.ime.iiasa.ac.at/model/spec
Diagram	
Used by	Elements m:entitySpec/iteratorContainer, m:setSpec/iteratorContainer
Model	idSetSpec+
Children	idSetSpec
Source	<pre> <xs:complexType name="iteratorContainer"> <xs:sequence> <xs:element name="idSetSpec" type="xs:int" minOccurs="1" maxOccurs="unbounded"/> </xs:sequence> </xs:complexType> </pre>

Complex Type m:entitySpec

Namespace	http://www.ime.iiasa.ac.at/model/spec
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Diagram



Used by	Element m:modelSpec/entitySpec
Model	id , shortName , name{0,1} , description{0,1} , idLowerBound{0,1} , idUpperBound{0,1} , constantValue{0,1} , iteratorContainer{0,1} , role{0,1} , mathType{0,1} , unit{0,1} , formula{0,1} , source{0,1} , group*, modelSpec{0,1}
Children	constantValue, description, unit, formula, group, id, idLowerBound, idUpperBound, iteratorContainer, mathType, modelSpec, name, role, shortName, source, unit
Source	<pre> <xs:complexType name="entitySpec"> <xs:sequence> <xs:element name="id" type="xs:int"/> <xs:element name="shortName" type="m:shortName"/> <xs:element name="name" type="m:name" minOccurs="0" maxOccurs="1"/> <xs:element name="description" type="m:description" minOccurs="0" maxOccurs="1"/> <xs:element name="idLowerBound" type="xs:int" minOccurs="0" maxOccurs="1"/> <xs:element name="idUpperBound" type="xs:int" minOccurs="0" maxOccurs="1"/> <xs:element name="constantValue" type="xs:double" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>optional, only for constant type of entity</xs:documentation> </xs:annotation> </xs:element> <xs:element name="iteratorContainer" type="m:iteratorContainer" minOccurs="0" maxOccurs="1"/> <xs:element name="role" type="m:entityRole" minOccurs="0" maxOccurs="1"/> <xs:element name="mathType" type="m:mathType" minOccurs="0" maxOccurs="1"/> <xs:element name="unit" type="xs:string" minOccurs="0" maxOccurs="1"/> <xs:element name="formula" type="xs:string" minOccurs="0" maxOccurs="1"/> <xs:element name="source" type="xs:string" minOccurs="0" maxOccurs="1"/> <xs:element name="group" type="xs:string" minOccurs="0" maxOccurs="1"/> <xs:element name="modelSpec" type="xs:string" minOccurs="0" maxOccurs="1"/> </xs:sequence> </xs:complexType> </pre>

```

<xs:annotation>
  <xs:documentation>specification of the data source (optional, but very useful for organizing
data management processes</xs:documentation>
</xs:annotation>
</xs:element>
<xs:element name="group" type="xs:string" minOccurs="0" maxOccurs="unbounded">
  <xs:annotation>
    <xs:documentation>for grouping parameters (optional, but very useful for management of the
data access rights).</xs:documentation>
  </xs:annotation>
</xs:element>
<xs:element name="modelSpec" type="xs:string" minOccurs="0" maxOccurs="1"/>
</xs:sequence>
</xs:complexType>

```

Simple Type(s)

Simple Type **m:shortName**

Namespace	http://www.ime.iiasa.ac.at/model/spec				
Diagram					
Type	restriction of xs:string				
Facets	<table> <tr> <td>minLength</td><td>1</td></tr> <tr> <td>maxLength</td><td>8</td></tr> </table>	minLength	1	maxLength	8
minLength	1				
maxLength	8				
Used by	Elements m:entitySpec/shortName, m:modelSpec/shortName, m:setSpec/shortName				
Source	<pre> <xs:simpleType name="shortName"> <xs:restriction base="xs:string"> <xs:minLength value="1"/> <xs:maxLength value="8"/> </xs:restriction> </xs:simpleType> </pre>				

Simple Type **m:name**

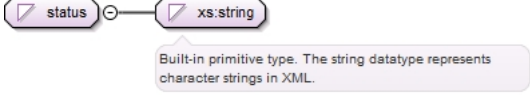
Namespace	http://www.ime.iiasa.ac.at/model/spec				
Diagram					
Type	restriction of xs:string				
Facets	<table> <tr> <td>minLength</td><td>1</td></tr> <tr> <td>maxLength</td><td>32</td></tr> </table>	minLength	1	maxLength	32
minLength	1				
maxLength	32				
Used by	Elements m:entitySpec/name, m:modelSpec/name, m:setSpec/name				
Source	<pre> <xs:simpleType name="name"> <xs:restriction base="xs:string"> <xs:minLength value="1"/> <xs:maxLength value="32"/> </xs:restriction> </xs:simpleType> </pre>				

Simple Type **m:description**

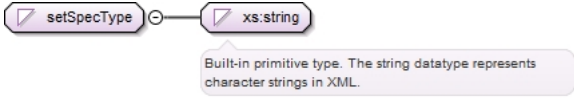
Namespace	http://www.ime.iiasa.ac.at/model/spec				
Diagram					
Type	restriction of xs:string				
Facets	<table> <tr> <td>minLength</td><td>1</td></tr> <tr> <td>maxLength</td><td>512</td></tr> </table>	minLength	1	maxLength	512
minLength	1				
maxLength	512				

Used by	Elements m:entitySpec/description, m:modelSpec/description, m:setSpec/description
Source	<pre> <xs:simpleType name="description"> <xs:restriction base="xs:string"> <xs:minLength value="1" /> <xs:maxLength value="512" /> </xs:restriction> </xs:simpleType> </pre>

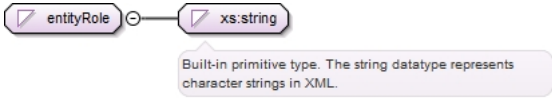
Simple Type m:status

Namespace	http://www.ime.iiasa.ac.at/model/spec						
Diagram							
Type	restriction of xs:string						
Facets	<table> <tr><td>enumeration</td><td>EDIT</td></tr> <tr><td>enumeration</td><td>TEST</td></tr> <tr><td>enumeration</td><td>COMMITTED</td></tr> </table>	enumeration	EDIT	enumeration	TEST	enumeration	COMMITTED
enumeration	EDIT						
enumeration	TEST						
enumeration	COMMITTED						
Used by	Element m:modelSpec/status						
Source	<pre> <xs:simpleType name="status"> <xs:restriction base="xs:string"> <xs:enumeration value="EDIT" /> <xs:enumeration value="TEST" /> <xs:enumeration value="COMMITTED" /> </xs:restriction> </xs:simpleType> </pre>						

Simple Type m:setSpecType

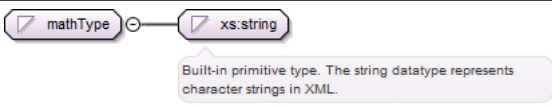
Namespace	http://www.ime.iiasa.ac.at/model/spec				
Diagram					
Type	restriction of xs:string				
Facets	<table> <tr><td>enumeration</td><td>COLLECTION</td></tr> <tr><td>enumeration</td><td>SEQUENCE</td></tr> </table>	enumeration	COLLECTION	enumeration	SEQUENCE
enumeration	COLLECTION				
enumeration	SEQUENCE				
Used by	Element m:setSpec/type				
Source	<pre> <xs:simpleType name="setSpecType"> <xs:restriction base="xs:string"> <xs:enumeration value="COLLECTION" /> <xs:enumeration value="SEQUENCE" /> </xs:restriction> </xs:simpleType> </pre>				

Simple Type m:entityRole

Namespace	http://www.ime.iiasa.ac.at/model/spec												
Diagram													
Type	restriction of xs:string												
Facets	<table> <tr><td>enumeration</td><td>CONSTANT</td></tr> <tr><td>enumeration</td><td>PARAMETER</td></tr> <tr><td>enumeration</td><td>DECISION_VAR</td></tr> <tr><td>enumeration</td><td>EXTERNAL_DECISION_VAR</td></tr> <tr><td>enumeration</td><td>OUTCOME_VAR</td></tr> <tr><td>enumeration</td><td>AUXILIARY_VAR</td></tr> </table>	enumeration	CONSTANT	enumeration	PARAMETER	enumeration	DECISION_VAR	enumeration	EXTERNAL_DECISION_VAR	enumeration	OUTCOME_VAR	enumeration	AUXILIARY_VAR
enumeration	CONSTANT												
enumeration	PARAMETER												
enumeration	DECISION_VAR												
enumeration	EXTERNAL_DECISION_VAR												
enumeration	OUTCOME_VAR												
enumeration	AUXILIARY_VAR												

	enumeration	ASSIGNMENT	
	enumeration	CONSTRAINT	
	enumeration	A_VARIABLE	any type of variable: DECISION_VAR, EXTERNAL_DECISION_VAR, OUTCOME_VAR, or AUXILIARY_VAR
	enumeration	A_FORMULA	any type of formula: ASSIGNMENT or CONSTRAINT
Used by	Element	m:entitySpec/role	
Source	<pre> <xs:simpleType name="entityRole"> <xs:restriction base="xs:string"> <xs:enumeration value="CONSTANT" /> <xs:enumeration value="PARAMETER" /> <xs:enumeration value="DECISION_VAR" /> <xs:enumeration value="EXTERNAL_DECISION_VAR" /> <xs:enumeration value="OUTCOME_VAR" /> <xs:enumeration value="AUXILIARY_VAR" /> <xs:enumeration value="ASSIGNMENT" /> <xs:enumeration value="CONSTRAINT" /> <xs:enumeration value="A_VARIABLE"> <xs:annotation> <xs:documentation>any type of variable: DECISION_VAR, EXTERNAL_DECISION_VAR, OUTCOME_VAR, or AUXILIARY_VAR</xs:documentation> </xs:annotation> </xs:enumeration> <xs:enumeration value="A_FORMULA"> <xs:annotation> <xs:documentation>any type of formula: ASSIGNMENT or CONSTRAINT</xs:documentation> </xs:annotation> </xs:enumeration> </xs:restriction> </xs:simpleType> </pre>		

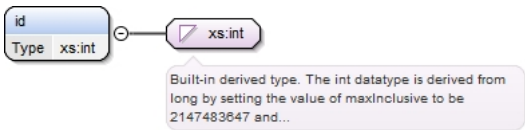
Simple Type m:mathType

Namespace	http://www.ime.iiasa.ac.at/model/spec		
Diagram			
Type	restriction of xs:string		
Facets	enumeration	INTEGER	
	enumeration	BINARY	
	enumeration	REAL	
Used by	Element	m:entitySpec/mathType	
Source	<pre> <xs:simpleType name="mathType"> <xs:restriction base="xs:string"> <xs:enumeration value="INTEGER" /> <xs:enumeration value="BINARY" /> <xs:enumeration value="REAL" /> </xs:restriction> </xs:simpleType> </pre>		

Namespace: ""

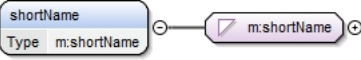
Element(s)

Element m:modelSpec / id

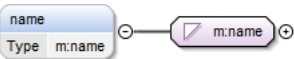
Namespace	No namespace		
Diagram			
Type	xs:int		
Properties	content:	simple	

Source	<code><xs:element name="id" type="xs:int"/></code>
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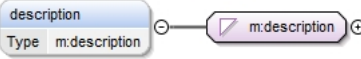
Element m:modelSpec / shortName

Namespace	No namespace				
Diagram					
Type	m:shortName				
Properties	content: simple				
Facets	<table> <tr> <td>minLength</td><td>1</td></tr> <tr> <td>maxLength</td><td>8</td></tr> </table>	minLength	1	maxLength	8
minLength	1				
maxLength	8				
Source	<code><xs:element name="shortName" type="m:shortName"/></code>				

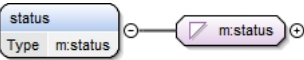
Element m:modelSpec / name

Namespace	No namespace						
Diagram							
Type	m:name						
Properties	<table> <tr> <td>content:</td><td>simple</td></tr> <tr> <td>minOccurs:</td><td>0</td></tr> <tr> <td>maxOccurs:</td><td>1</td></tr> </table>	content:	simple	minOccurs:	0	maxOccurs:	1
content:	simple						
minOccurs:	0						
maxOccurs:	1						
Facets	<table> <tr> <td>minLength</td><td>1</td></tr> <tr> <td>maxLength</td><td>32</td></tr> </table>	minLength	1	maxLength	32		
minLength	1						
maxLength	32						
Source	<code><xs:element name="name" type="m:name" minOccurs="0" maxOccurs="1"/></code>						

Element m:modelSpec / description

Namespace	No namespace						
Diagram							
Type	m:description						
Properties	<table> <tr> <td>content:</td><td>simple</td></tr> <tr> <td>minOccurs:</td><td>0</td></tr> <tr> <td>maxOccurs:</td><td>1</td></tr> </table>	content:	simple	minOccurs:	0	maxOccurs:	1
content:	simple						
minOccurs:	0						
maxOccurs:	1						
Facets	<table> <tr> <td>minLength</td><td>1</td></tr> <tr> <td>maxLength</td><td>512</td></tr> </table>	minLength	1	maxLength	512		
minLength	1						
maxLength	512						
Source	<code><xs:element name="description" type="m:description" minOccurs="0" maxOccurs="1"/></code>						

Element m:modelSpec / status

Namespace	No namespace						
Diagram							
Type	m:status						
Properties	content: simple						
Facets	<table> <tr> <td>enumeration</td><td>EDIT</td></tr> <tr> <td>enumeration</td><td>TEST</td></tr> <tr> <td>enumeration</td><td>COMMITTED</td></tr> </table>	enumeration	EDIT	enumeration	TEST	enumeration	COMMITTED
enumeration	EDIT						
enumeration	TEST						
enumeration	COMMITTED						
Source	<code><xs:element name="status" type="m:status"/></code>						

Element `m:modelSpec` / `setSpec`

Namespace	No namespace
Diagram	
Type	<code>m:setSpec</code>
Properties	content: complex maxOccurs: unbounded
Model	<code>id</code> , <code>idParent{0,1}</code> , <code>shortName</code> , <code>name{0,1}</code> , <code>description{0,1}</code> , <code>type</code> , <code>idx{0,1}</code> , <code>iteratorContainer{0,1}</code>
Children	<code>description</code> , <code>id</code> , <code>idParent</code> , <code>idx</code> , <code>iteratorContainer</code> , <code>name</code> , <code>shortName</code> , <code>type</code>
Instance	<pre> <setSpec> <id>{1,1}</id> <idParent>{0,1}</idParent> <shortName>{1,1}</shortName> <name>{0,1}</name> <description>{0,1}</description> <type>{1,1}</type> <idx>{0,1}</idx> <iteratorContainer>{0,1}</iteratorContainer> </setSpec> </pre>
Source	<code><xs:element name="setSpec" type="m:setSpec" maxOccurs="unbounded" /></code>

Element `m:setSpec` / `id`

Namespace	No namespace
Diagram	
Type	<code>xs:int</code>
Properties	content: simple
Source	<code><xs:element name="id" type="xs:int" /></code>

Element `m:setSpec` / `idParent`

Namespace	No namespace
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Annotations	only for sub set						
Diagram							
Type	xs:int						
Properties	<table> <tr> <td>content:</td><td>simple</td></tr> <tr> <td>minOccurs:</td><td>0</td></tr> <tr> <td>maxOccurs:</td><td>1</td></tr> </table>	content:	simple	minOccurs:	0	maxOccurs:	1
content:	simple						
minOccurs:	0						
maxOccurs:	1						
Source	<pre><xs:element name="idParent" type="xs:int" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>only for sub set</xs:documentation> </xs:annotation> </xs:element></pre>						

Element m:setSpec / shortName

Namespace	No namespace				
Diagram					
Type	m:shortName				
Properties	<table> <tr> <td>content:</td><td>simple</td></tr> </table>	content:	simple		
content:	simple				
Facets	<table> <tr> <td>minLength</td><td>1</td></tr> <tr> <td>maxLength</td><td>8</td></tr> </table>	minLength	1	maxLength	8
minLength	1				
maxLength	8				
Source	<pre><xs:element name="shortName" type="m:shortName" /></pre>				

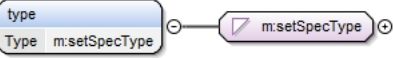
Element m:setSpec / name

Namespace	No namespace						
Diagram							
Type	m:name						
Properties	<table> <tr> <td>content:</td><td>simple</td></tr> <tr> <td>minOccurs:</td><td>0</td></tr> <tr> <td>maxOccurs:</td><td>1</td></tr> </table>	content:	simple	minOccurs:	0	maxOccurs:	1
content:	simple						
minOccurs:	0						
maxOccurs:	1						
Facets	<table> <tr> <td>minLength</td><td>1</td></tr> <tr> <td>maxLength</td><td>32</td></tr> </table>	minLength	1	maxLength	32		
minLength	1						
maxLength	32						
Source	<pre><xs:element name="name" type="m:name" minOccurs="0" maxOccurs="1" /></pre>						

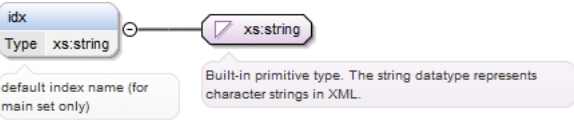
Element m:setSpec / description

Namespace	No namespace						
Diagram							
Type	m:description						
Properties	<table> <tr> <td>content:</td><td>simple</td></tr> <tr> <td>minOccurs:</td><td>0</td></tr> <tr> <td>maxOccurs:</td><td>1</td></tr> </table>	content:	simple	minOccurs:	0	maxOccurs:	1
content:	simple						
minOccurs:	0						
maxOccurs:	1						
Facets	<table> <tr> <td>minLength</td><td>1</td></tr> <tr> <td>maxLength</td><td>512</td></tr> </table>	minLength	1	maxLength	512		
minLength	1						
maxLength	512						
Source	<pre><xs:element name="description" type="m:description" minOccurs="0" maxOccurs="1" /></pre>						

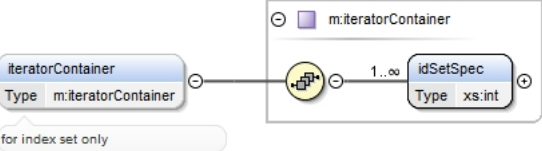
Element m:setSpec / type

Namespace	No namespace
Diagram	
Type	m:setSpecType
Properties	content: simple
Facets	enumeration COLLECTION
	enumeration SEQUENCE
Source	<pre><xs:element name="type" type="m:setSpecType" /></pre>

Element m:setSpec / idx

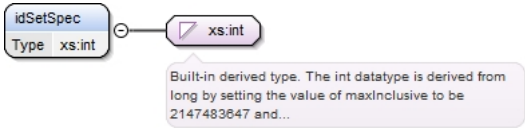
Namespace	No namespace
Annotations	default index name (for main set only)
Diagram	
Type	xs:string
Properties	content: simple
	minOccurs: 0
	maxOccurs: 1
Source	<pre><xs:element name="idx" type="xs:string" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>default index name (for main set only)</xs:documentation> </xs:annotation> </xs:element></pre>

Element m:setSpec / iteratorContainer

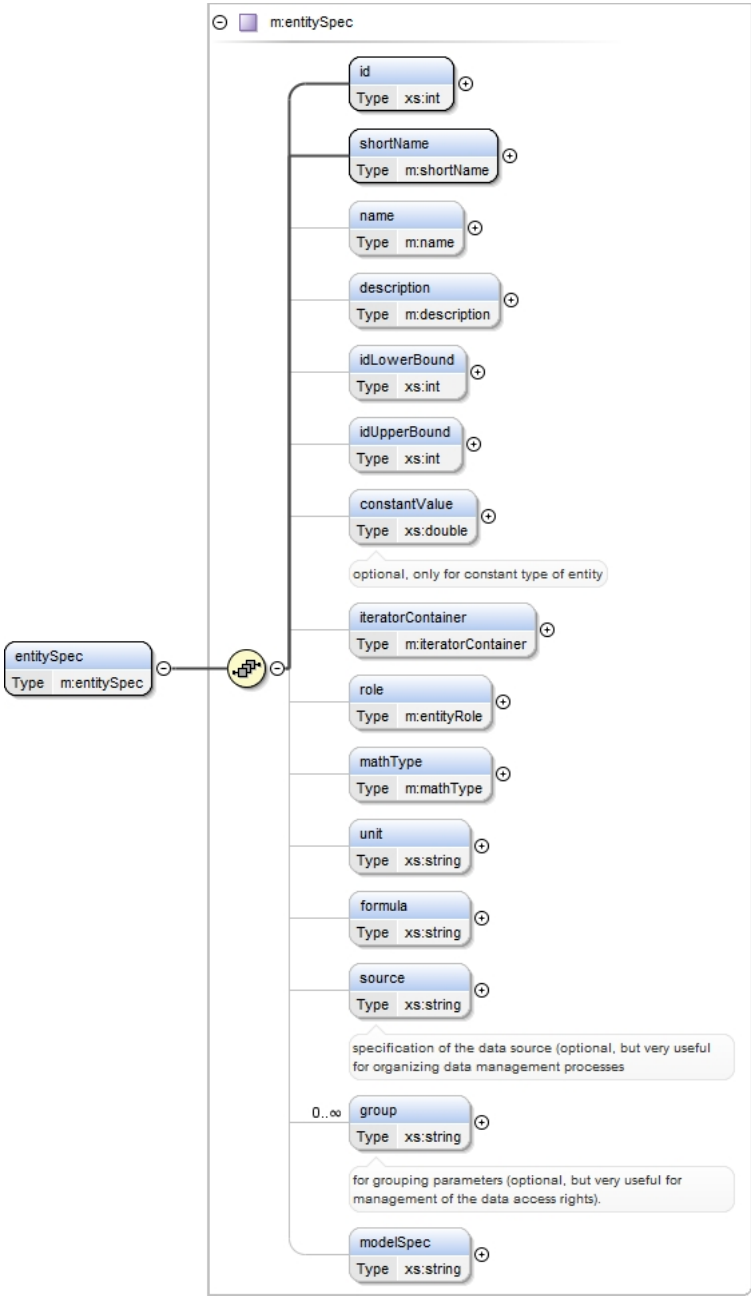
Namespace	No namespace
Annotations	for index set only
Diagram	
Type	m:iteratorContainer
Properties	content: complex
	minOccurs: 0
	maxOccurs: 1
Model	idSetSpec+
Children	idSetSpec
Instance	<pre><iteratorContainer> <idSetSpec>{1,unbounded}</idSetSpec> </iteratorContainer></pre>
Source	<pre><xs:element name="iteratorContainer" type="m:iteratorContainer" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>for index set only</xs:documentation> </xs:annotation> </xs:element></pre>

Element m:iteratorContainer / idSetSpec

Namespace	No namespace
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Diagram	 <p>idSetSpec Type xs:int</p> <p>xs:int</p> <p>Built-in derived type. The int datatype is derived from long by setting the value of maxInclusive to be 2147483647 and...</p>						
Type	xs:int						
Properties	<table> <tr> <td>content:</td><td>simple</td></tr> <tr> <td>minOccurs:</td><td>1</td></tr> <tr> <td>maxOccurs:</td><td>unbounded</td></tr> </table>	content:	simple	minOccurs:	1	maxOccurs:	unbounded
content:	simple						
minOccurs:	1						
maxOccurs:	unbounded						
Source	<code><xs:element name="idSetSpec" type="xs:int" minOccurs="1" maxOccurs="unbounded" /></code>						

Element m:modelSpec / entitySpec

Namespace	No namespace		
Diagram	 <p>m:entitySpec</p> <p>entitySpec Type m:entitySpec</p> <p>id Type xs:int</p> <p>shortName Type m:shortName</p> <p>name Type m:name</p> <p>description Type m:description</p> <p>idLowerBound Type xs:int</p> <p>idUpperBound Type xs:int</p> <p>constantValue Type xs:double</p> <p>optional, only for constant type of entity</p> <p>iteratorContainer Type m:iteratorContainer</p> <p>role Type m:entityRole</p> <p>mathType Type m:mathType</p> <p>unit Type xs:string</p> <p>formula Type xs:string</p> <p>source Type xs:string</p> <p>specification of the data source (optional, but very useful for organizing data management processes)</p> <p>0..∞ group Type xs:string</p> <p>for grouping parameters (optional, but very useful for management of the data access rights).</p> <p>modelSpec Type xs:string</p>		
Type	m:entitySpec		
Properties	<table> <tr> <td>content:</td><td>complex</td></tr> </table>	content:	complex
content:	complex		

	maxOccurs: unbounded
Model	id , shortName , name{0,1} , description{0,1} , idLowerBound{0,1} , idUpperBound{0,1} , constantValue{0,1} , iteratorContainer{0,1} , role{0,1} , mathType{0,1} , unit{0,1} , formula{0,1} , source{0,1} , group* , modelSpec{0,1}
Children	constantValue, description, formula, group, id, idLowerBound, idUpperBound, iteratorContainer, mathType, modelSpec, name, role, shortName, source, unit
Instance	<pre> <entitySpec> <id>{1,1}</id> <shortName>{1,1}</shortName> <name>{0,1}</name> <description>{0,1}</description> <idLowerBound>{0,1}</idLowerBound> <idUpperBound>{0,1}</idUpperBound> <constantValue>{0,1}</constantValue> <iteratorContainer>{0,1}</iteratorContainer> <role>{0,1}</role> <mathType>{0,1}</mathType> <unit>{0,1}</unit> <formula>{0,1}</formula> <source>{0,1}</source> <group>{0,unbounded}</group> <modelSpec>{0,1}</modelSpec> </entitySpec> </pre>
Source	<code><xs:element name="entitySpec" type="m:entitySpec" maxOccurs="unbounded"/></code>

Element m:entitySpec / id

Namespace	No namespace
Diagram	
Type	xs:int
Properties	content: simple
Source	<code><xs:element name="id" type="xs:int"/></code>

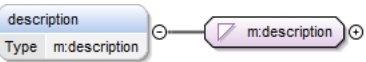
Element m:entitySpec / shortName

Namespace	No namespace
Diagram	
Type	m:shortName
Properties	content: simple
Facets	minLength 1 maxLength 8
Source	<code><xs:element name="shortName" type="m:shortName"/></code>

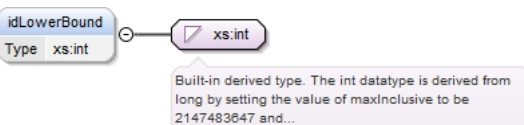
Element m:entitySpec / name

Namespace	No namespace
Diagram	
Type	m:name
Properties	content: simple minOccurs: 0 maxOccurs: 1
Facets	minLength 1 maxLength 32
Source	<code><xs:element name="name" type="m:name" minOccurs="0" maxOccurs="1"/></code>

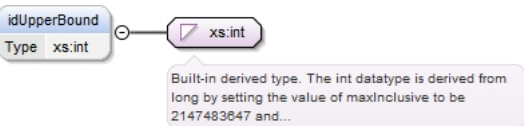
Element m:entitySpec / description

Namespace	No namespace	
Diagram		
Type	m:description	
Properties	content:	simple
	minOccurs:	0
	maxOccurs:	1
Facets	minLength	1
	maxLength	512
Source	<pre><xs:element name="description" type="m:description" minOccurs="0" maxOccurs="1"/></pre>	

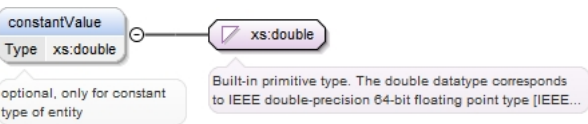
Element m:entitySpec / idLowerBound

Namespace	No namespace	
Diagram		
Type	xs:int	
Properties	content:	simple
	minOccurs:	0
	maxOccurs:	1
Source	<pre><xs:element name="idLowerBound" type="xs:int" minOccurs="0" maxOccurs="1"/></pre>	

Element m:entitySpec / idUpperBound

Namespace	No namespace	
Diagram		
Type	xs:int	
Properties	content:	simple
	minOccurs:	0
	maxOccurs:	1
Source	<pre><xs:element name="idUpperBound" type="xs:int" minOccurs="0" maxOccurs="1"/></pre>	

Element m:entitySpec / constantValue

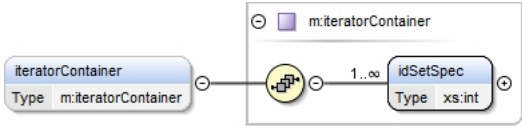
Namespace	No namespace	
Annotations	optional, only for constant type of entity	
Diagram		
Type	xs:double	
Properties	content:	simple
	minOccurs:	0
	maxOccurs:	1
Source	<pre><xs:element name="constantValue" type="xs:double" minOccurs="0" maxOccurs="1"></pre>	

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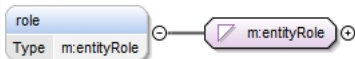
<xs:annotation>
  <xs:documentation>optional, only for constant type of entity</xs:documentation>
</xs:annotation>
</xs:element>

```

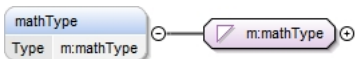
Element **m:entitySpec** / **iteratorContainer**

Namespace	No namespace						
Diagram							
Type	m:iteratorContainer						
Properties	<table> <tr><td>content:</td><td>complex</td></tr> <tr><td>minOccurs:</td><td>0</td></tr> <tr><td>maxOccurs:</td><td>1</td></tr> </table>	content:	complex	minOccurs:	0	maxOccurs:	1
content:	complex						
minOccurs:	0						
maxOccurs:	1						
Model	idSetSpec+						
Children	idSetSpec						
Instance	<pre> <iteratorContainer> <idSetSpec>{1,unbounded}</idSetSpec> </iteratorContainer> </pre>						
Source	<code><xs:element name="iteratorContainer" type="m:iteratorContainer" minOccurs="0" maxOccurs="1"/></code>						

Element **m:entitySpec** / **role**

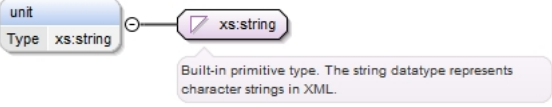
Namespace	No namespace			
Diagram				
Type	m:entityRole			
Properties	content:	simple		
	minOccurs:	0		
	maxOccurs:	1		
Facets	enumeration	CONSTANT		
	enumeration	PARAMETER		
	enumeration	DECISION_VAR		
	enumeration	EXTERNAL_DECISION_VAR		
	enumeration	OUTCOME_VAR		
	enumeration	AUXILIARY_VAR		
	enumeration	ASSIGNMENT		
	enumeration	CONSTRAINT		
	enumeration	A_VARIABLE	any type of variable: DECISION_VAR, EXTERNAL_DECISION_VAR, OUTCOME_VAR, or AUXILIARY_VAR	
	enumeration	A_FORMULA	any type of formula: ASSIGNMENT or CONSTRAINT	
Source	<xs:element name="role" type="m:entityRole" minOccurs="0" maxOccurs="1"/>			

Element **m:entitySpec** / **mathType**

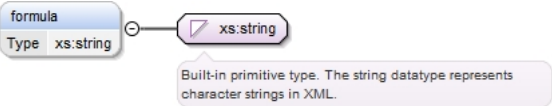
Namespace	No namespace				
Diagram					
Type	m:mathType				
Properties	<table> <tr><td>content:</td><td>simple</td></tr> <tr><td>minOccurs:</td><td>0</td></tr> </table>	content:	simple	minOccurs:	0
content:	simple				
minOccurs:	0				

	maxOccurs:	1
Facets	enumeration	INTEGER
	enumeration	BINARY
	enumeration	REAL
Source	<code><xs:element name="mathType" type="m:mathType" minOccurs="0" maxOccurs="1"/></code>	

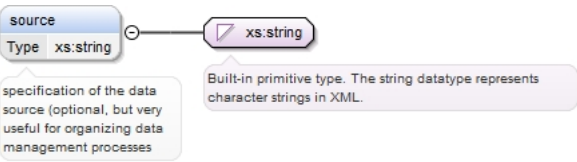
Element m:entitySpec / unit

Namespace	No namespace	
Diagram		
Type	xs:string	
Properties	content:	simple
	minOccurs:	0
	maxOccurs:	1
Source	<code><xs:element name="unit" type="xs:string" minOccurs="0" maxOccurs="1"/></code>	

Element m:entitySpec / formula

Namespace	No namespace	
Diagram		
Type	xs:string	
Properties	content:	simple
	minOccurs:	0
	maxOccurs:	1
Source	<code><xs:element name="formula" type="xs:string" minOccurs="0" maxOccurs="1"/></code>	

Element m:entitySpec / source

Namespace	No namespace	
Annotations	specification of the data source (optional, but very useful for organizing data management processes)	
Diagram		
Type	xs:string	
Properties	content:	simple
	minOccurs:	0
	maxOccurs:	1
Source	<pre><xs:element name="source" type="xs:string" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>specification of the data source (optional, but very useful for organizing data management processes</xs:documentation> </xs:annotation> </xs:element></pre>	

Element m:entitySpec / group

Namespace	No namespace
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Annotations	for grouping parameters (optional, but very useful for management of the data access rights).						
Diagram	<p>Diagram illustrating the 'group' element (Type: xs:string) and its relationship to the 'xs:string' primitive type. The 'group' element is described as being for grouping parameters (optional, but very useful for management of the data access rights). The 'xs:string' type is described as a built-in primitive type representing character strings in XML.</p>						
Type	xs:string						
Properties	<table> <tr> <td>content:</td><td>simple</td></tr> <tr> <td>minOccurs:</td><td>0</td></tr> <tr> <td>maxOccurs:</td><td>unbounded</td></tr> </table>	content:	simple	minOccurs:	0	maxOccurs:	unbounded
content:	simple						
minOccurs:	0						
maxOccurs:	unbounded						
Source	<pre><xs:element name="group" type="xs:string" minOccurs="0" maxOccurs="unbounded"> <xs:annotation> <xs:documentation>for grouping parameters (optional, but very useful for management of the data access rights).</xs:documentation> </xs:annotation> </xs:element></pre>						

Element m:entitySpec / modelSpec

Namespace	No namespace						
Diagram	<p>Diagram illustrating the 'modelSpec' element (Type: xs:string) and its relationship to the 'xs:string' primitive type. The 'xs:string' type is described as a built-in primitive type representing character strings in XML.</p>						
Type	xs:string						
Properties	<table> <tr> <td>content:</td><td>simple</td></tr> <tr> <td>minOccurs:</td><td>0</td></tr> <tr> <td>maxOccurs:</td><td>1</td></tr> </table>	content:	simple	minOccurs:	0	maxOccurs:	1
content:	simple						
minOccurs:	0						
maxOccurs:	1						
Source	<pre><xs:element name="modelSpec" type="xs:string" minOccurs="0" maxOccurs="1"/></pre>						