

Schema documentation for sms.xsd

september 11, 2012

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

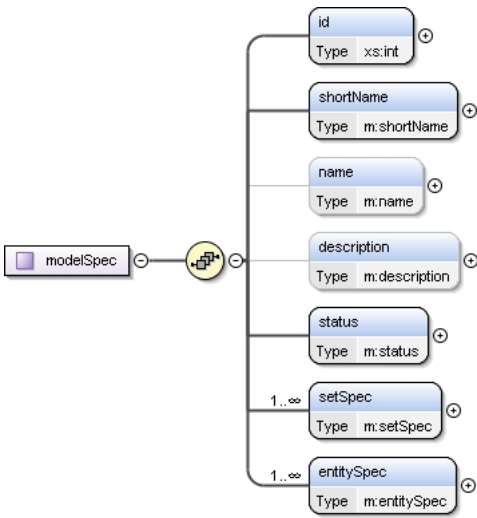
Schema(s)

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></pre> |

```

<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>


```

Complex Type m:setSpec

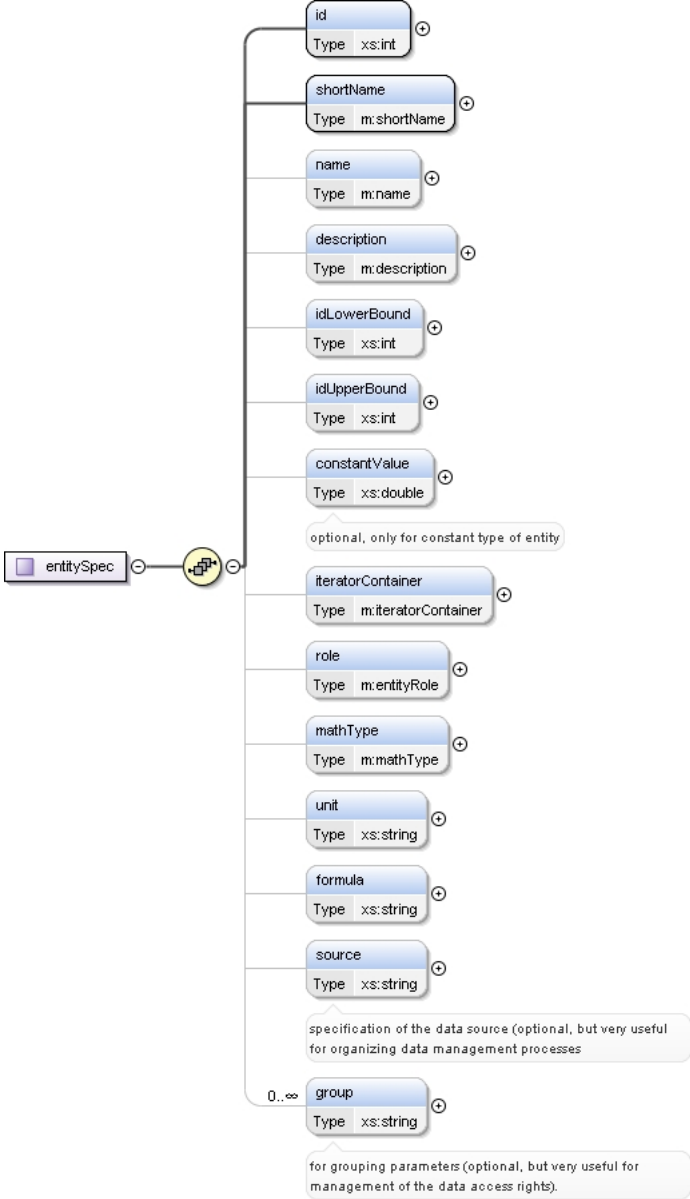
| | |
|-----------|--|
| Namespace | http://www.ime.iiasa.ac.at/model/spec |
| Diagram | |
| Used by | Element m:modelSpec/setSpec |
| Model | id , idParent , shortName , name{0,1} , description{0,1} , type , idx{0,1} , iteratorContainer{0,1} |
| Children | description, id, idParent, idx, iteratorContainer, 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"> <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 <code>m:entitySpec/iteratorContainer</code> , <code>m:setSpec/iteratorContainer</code> |
| Model | <code>idSetSpec+</code> |
| Children | <code>idSetSpec</code> |
| 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 | <code>http://www.ime.iiasa.ac.at/model/spec</code> |
| Diagram |  <p>The diagram shows the structure of the <code>m:entitySpec</code> complex type. It is a container for various elements, each with its own type and cardinality. The elements are:</p> <ul style="list-style-type: none"> <code>id</code>: Type <code>xs:int</code>, cardinality 1..∞. <code>shortName</code>: Type <code>m:shortName</code>, cardinality 1..∞. <code>name</code>: Type <code>m:name</code>, cardinality 1..∞. <code>description</code>: Type <code>m:description</code>, cardinality 1..∞. <code>idLowerBound</code>: Type <code>xs:int</code>, cardinality 1..∞. <code>idUpperBound</code>: Type <code>xs:int</code>, cardinality 1..∞. <code>constantValue</code>: Type <code>xs:double</code>, cardinality 1..∞. A note indicates it is optional, only for constant type of entity. <code>iteratorContainer</code>: Type <code>m:iteratorContainer</code>, cardinality 1..∞. <code>role</code>: Type <code>m:entityRole</code>, cardinality 1..∞. <code>mathType</code>: Type <code>m:mathType</code>, cardinality 1..∞. <code>unit</code>: Type <code>xs:string</code>, cardinality 1..∞. <code>formula</code>: Type <code>xs:string</code>, cardinality 1..∞. <code>source</code>: Type <code>xs:string</code>, cardinality 1..∞. A note indicates it is optional, but very useful for organizing data management processes. <code>group</code>: Type <code>xs:string</code>, cardinality 0..∞. A note indicates it is optional, but very useful for grouping parameters (optional, but very useful for management of the data access rights). |
| Used by | Element <code>m:modelSpec/entitySpec</code> |
| Model | <code>id</code> , <code>shortName</code> , <code>name{0,1}</code> , <code>description{0,1}</code> , <code>idLowerBound{0,1}</code> , <code>idUpperBound{0,1}</code> , <code>constantValue{0,1}</code> , <code>iteratorContainer{0,1}</code> , <code>role{0,1}</code> , <code>mathType{0,1}</code> , <code>unit{0,1}</code> , <code>formula{0,1}</code> , <code>source{0,1}</code> , <code>group*</code> |
| Children | <code>constantValue</code> , <code>description</code> , <code>formula</code> , <code>group</code> , <code>id</code> , <code>idLowerBound</code> , <code>idUpperBound</code> , <code>iteratorContainer</code> , <code>mathType</code> , <code>name</code> , <code>role</code> , <code>shortName</code> , <code>source</code> , <code>unit</code> |

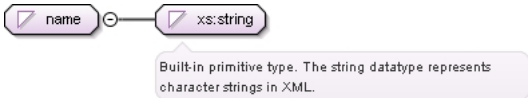
| | |
|--------|---|
| Source | <pre> <xs:complexType name="entitySpec"> <xs:sequence> <xs:element name="id" type="xs:int"/> <xs:element name="shortName" type="m:shortName"/> <xs:element name="name" type="m:name" minOccurs="0" maxOccurs="1"/> <xs:element name="description" type="m:description" minOccurs="0" 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: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:sequence> </xs:complexType> </pre> |
|--------|---|

Simple Type(s)

Simple Type m:shortName

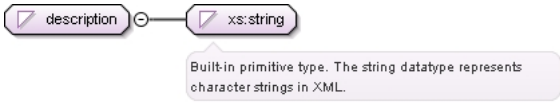
| | | | | | |
|-----------|--|-----------|---|-----------|---|
| Namespace | http://www.ime.iiasa.ac.at/model/spec | | | | |
| Diagram |  | | | | |
| Type | restriction of xs:string | | | | |
| Facets | <table> <tr> <td>minLength</td><td>1</td></tr> <tr> <td>maxLength</td><td>8</td></tr> </table> | minLength | 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> | | | | |

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

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**

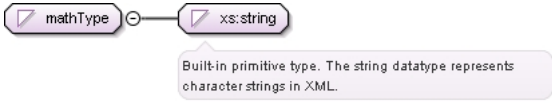
| | | | | | |
|-------------|--|-------------|------------|-------------|----------|
| Namespace | http://www.ime.iiasa.ac.at/model/spec | | | | |
| Diagram |  | | | | |
| Type | restriction of xs:string | | | | |
| Facets | <table> <tr> <td>enumeration</td><td>COLLECTION</td></tr> <tr> <td>enumeration</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 | 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> | |