Schema documentation for ana.xsd

september 11, 2012

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Resource hierarchy:

Legend: ⊡ *Import,* ⊡ *Include,* ⊡ *Redefine,* 🔁 *Cycle detected*

ana.xsd

   ↳ ⊡ data.xsd

      ↳ ⊡ sms.xsd

   ↳ ⊡ sms.xsd

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

Schema(s)

Main schema `ana.xsd`

Namespace	http://www.ime.iiasa.ac.at/model/analysis

Properties	attribute form default:	unqualified
	element form default:	unqualified

Complex Type(s)

Complex Type `a:analysis`

Namespace	http://www.ime.iiasa.ac.at/model/analysis
Diagram	
Model	id , idModelInstance , shortName , name{0,1} , description{0,1}
Children	description, id, idModelInstance, name, shortName

Source	`<xs:complexType name="analysis">`
	`  <xs:sequence>`
	`    <xs:element name="id" type="xs:int"/>`
	`    <xs:element name="idModelInstance" type="xs:int" minOccurs="1" maxOccurs="1"/>`
	`    <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:sequence>`
	`</xs:complexType>`

Complex Type `a:preference`

Namespace	http://www.ime.iiasa.ac.at/model/analysis
Annotations	need to be discussed within the developers group
Diagram	
Model	idEntitySpec , preferenceType , prefValue
Children	idEntitySpec, prefValue, preferenceType

Source	`<xs:complexType name="preference">`
	`  <xs:annotation>`
	`    <xs:documentation>need to be discussed within the developers group</xs:documentation>`
	`  </xs:annotation>`
	`  <xs:sequence>`
	`    <xs:element name="idEntitySpec" type="xs:int" minOccurs="1" maxOccurs="1"/>`
	`    <xs:element name="preferenceType" type="a:preferenceType" minOccurs="1" maxOccurs="1"/>`
	`    <xs:element name="prefValue" type="xs:double" minOccurs="1" maxOccurs="1"/>`
	`  </xs:sequence>`
	`</xs:complexType>`

Complex Type `a:task`

Namespace	http://www.ime.iiasa.ac.at/model/analysis
Annotations	need to be discussed within the developers group

Diagram	
Model	id , idAnalysis , idSolver , name{0,1} , description{0,1} , process
Children	description, id, idAnalysis, idSolver, name, process
| Source | ```xml
<xs:complexType name="task">
  <xs:annotation>
    <xs:documentation>need to be discussed within the developers group</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="id" type="xs:int"/>
    <xs:element name="idAnalysis" type="xs:int" minOccurs="1" maxOccurs="1"/>
    <xs:element name="idSolver" type="xs:int" minOccurs="1" maxOccurs="1"/>
    <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="process" type="xs:string" minOccurs="1" maxOccurs="1"/>
  </xs:sequence>
</xs:complexType>
``` |

Simple Type(s)

Simple Type `a:preferenceType`

Namespace	http://www.ime.iiasa.ac.at/model/analysis
Annotations	need to be discussed within the developers group
Diagram	
Type	restriction of xs:string
Facets	enumeration MIN
	enumeration MAX
	enumeration LOWER_BND
	enumeration UPPER_BND
Used by	Element a:preference/preferenceType
| Source | ```xml
<xs:simpleType name="preferenceType">
  <xs:annotation>
    <xs:documentation>need to be discussed within the developers group</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xs:string">
    <xs:enumeration value="MIN"/>
    <xs:enumeration value="MAX"/>
    <xs:enumeration value="LOWER_BND"/>
    <xs:enumeration value="UPPER_BND"/>
  </xs:restriction>
</xs:simpleType>
``` |

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

Schema(s)

Imported schema `data.xsd`

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

Element(s)

Element `i:dataSet`

Namespace	http://www.ime.iiasa.ac.at/model/instance
Annotations	`only for mockup`
Diagram	
Properties	content: `complex`
Model	setMembers+ , entityValues+
Children	entityValues, setMembers

Instance	```xml
	<i:dataSet xmlns:i="http://www.ime.iiasa.ac.at/model/instance">
	  <setMembers>{1,unbounded}</setMembers>
	  <entityValues>{1,unbounded}</entityValues>
	</i:dataSet>
	``

Source	```xml
	<xs:element name="dataSet">
	  <xs:annotation>
	    <xs:documentation>only for mockup</xs:documentation>
	  </xs:annotation>
	  <xs:complexType>
	    <xs:sequence>
	      <xs:element name="setMembers" type="i:setMembers" minOccurs="1" maxOccurs="unbounded"/>
	      <xs:element name="entityValues" type="i:entityValues" minOccurs="1" maxOccurs="unbounded"/>
	    </xs:sequence>
	  </xs:complexType>
	</xs:element>
	``

Complex Type(s)

Complex Type `i:modelData`

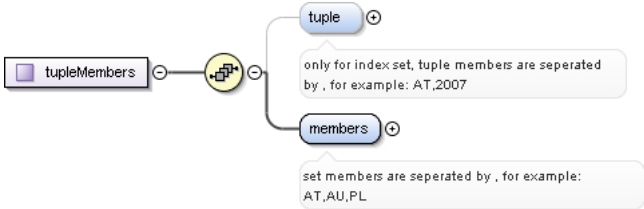| Namespace	http://www.ime.iiasa.ac.at/model/instance
Diagram	
Model	id , idModelSpec+ , idParent{0,1} , description{0,1} , locked
Children	description, id, idModelSpec, idParent, locked

Source	```xml
	<xs:complexType name="modelData">
	  <xs:sequence>
	    <xs:element name="id" type="xs:int"/>
	    <xs:element name="idModelSpec" type="xs:int" minOccurs="1" maxOccurs="unbounded"/>
	    <xs:element name="idParent" type="xs:int" minOccurs="0" maxOccurs="1"/>
	    <xs:element name="description" type="m:description" minOccurs="0" maxOccurs="1"/>
	    <xs:element name="locked" type="xs:boolean" minOccurs="1" maxOccurs="1"/>
	  </xs:sequence>
	``

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

Complex Type `i:modelInstance`

Namespace	http://www.ime.iiasa.ac.at/model/instance
Diagram	
Model	id , idModelSpec , idModelData , shortName{0,1} , name{0,1} , description{0,1} , status
Children	description, id, idModelData, idModelSpec, name, shortName, status

Source	`<xs:complexType name="modelInstance">`
	`  <xs:sequence>`
	`    <xs:element name="id" type="xs:int"/>`
	`    <xs:element name="idModelSpec" type="xs:int" minOccurs="1" maxOccurs="1"/>`
	`    <xs:element name="idModelData" type="xs:int" minOccurs="1" maxOccurs="1"/>`
	`    <xs:element name="shortName" type="m:shortName" minOccurs="0" maxOccurs="1"/>`
	`    <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" minOccurs="1" maxOccurs="1"/>`
	`  </xs:sequence>`
	`</xs:complexType>`

Complex Type `i:memberDic`

Namespace	http://www.ime.iiasa.ac.at/model/instance
Diagram	
Used by	Element i:tupleValue/tupleMember
Model	id , code , description{0,1}
Children	code, description, id

Source	`<xs:complexType name="memberDic">`
	`  <xs:sequence>`
	`    <xs:element name="id" type="xs:int"/>`
	`    <xs:element name="code" type="xs:string"/>`
	`    <xs:element name="description" type="m:description" minOccurs="0" maxOccurs="1"/>`
	`  </xs:sequence>`
	`</xs:complexType>`

Complex Type `i:tupleValue`

Namespace	http://www.ime.iiasa.ac.at/model/instance
Diagram	
Model	tupleMember* , value
Children	tupleMember, value

Source	`<xs:complexType name="tupleValue">`
	`  <xs:sequence>`
	`    <xs:element name="tupleMember" type="i:memberDic" minOccurs="0" maxOccurs="unbounded"/>`
	`    <xs:element name="value" type="xs:double"/>`
	`  </xs:sequence>`
	`</xs:complexType>`

Complex Type `i:setMembers`

Namespace	http://www.ime.iiasa.ac.at/model/instance
Diagram	
Used by	Element i:dataSet/setMembers
Model	setShortName , tupleMembers*
Children	setShortName, tupleMembers
Source	

```xml
<xs:complexType name="setMembers">
  <xs:sequence>
    <xs:element name="setShortName" type="xs:string"/>
    <xs:element name="tupleMembers" type="i:tupleMembers" minOccurs="0" maxOccurs="unbounded"/>
  </xs:sequence>
</xs:complexType>
```
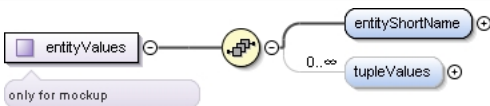
Complex Type `i:tupleMembers`

Namespace	http://www.ime.iiasa.ac.at/model/instance
Diagram	
Used by	Element i:setMembers/tupleMembers
Model	tuple{0,1} , members
Children	members, tuple
Source	

```xml
<xs:complexType name="tupleMembers">
  <xs:sequence>
    <xs:element name="tuple" type="xs:string" minOccurs="0" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>only for index set, tuple members are seperated by , for example: AT,2007</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="members" type="xs:string" minOccurs="1" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>set members are seperated by , for example: AT,AU,PL</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

Complex Type `i:entityValues`

Namespace	http://www.ime.iiasa.ac.at/model/instance
Annotations	only for mockup
Diagram	
Used by	Element i:dataSet/entityValues
Model	entityShortName , tupleValues*
Children	entityShortName, tupleValues
Source	

```xml
<xs:complexType name="entityValues">
  <xs:annotation>
    <xs:documentation>only for mockup</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="entityShortName" type="xs:string"/>
    <xs:element name="tupleValues" type="i:tupleValues" minOccurs="0" maxOccurs="unbounded"/>
```

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

Complex Type `i:tupleValues`

Namespace	http://www.ime.iiasa.ac.at/model/instance
Annotations	only for mockup
Diagram	
Used by	Element i:entityValues/tupleValues
Model	tuple{0,1} , value
Children	tuple, value

Source	`<xs:complexType name="tupleValues">`
	`  <xs:annotation>`
	`    <xs:documentation>only for mockup</xs:documentation>`
	`  </xs:annotation>`
	`  <xs:sequence>`
	`    <xs:element name="tuple" type="xs:string" minOccurs="0" maxOccurs="1">`
	`      <xs:annotation>`
	`        <xs:documentation>tuple members are seperated by , for example: AT,2007</xs:documentation>`
	`      </xs:annotation>`
	`    </xs:element>`
	`    <xs:element name="value" type="xs:double"/>`
	`  </xs:sequence>`
	`</xs:complexType>`

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

Schema(s)

Imported schema `sms.xsd`

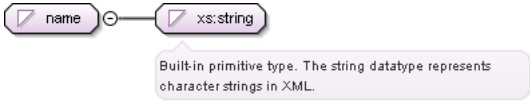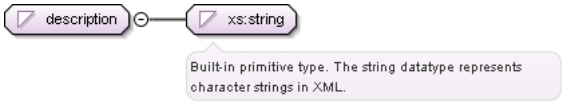|		
Namespace	http://www.ime.iiasa.ac.at/model/spec	
Properties	attribute form default:	unqualified
	element form default:	unqualified

Simple Type(s)

Simple Type `m:shortName`

Namespace	http://www.ime.iiasa.ac.at/model/spec	
Diagram		
Type	restriction of xs:string	
Facets	minLength	1
	maxLength	8
Used by	Elements	a:analysis/shortName, i:modelInstance/shortName, m:entitySpec/shortName, m:modelSpec/shortName, m:setSpec/shortName

Source	`<xs:simpleType name="shortName">`
	`  <xs:restriction base="xs:string">`
	`    <xs:minLength value="1"/>`
	`    <xs:maxLength value="8"/>`
	`  </xs:restriction>`
	`</xs:simpleType>`	

Simple Type `m:name`
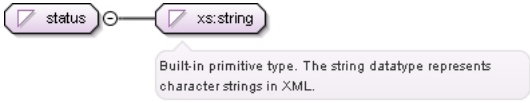
Namespace	http://www.ime.iiasa.ac.at/model/spec

Diagram	
Type	restriction of xs:string

Facets	minLength	1
	maxLength	32

Used by	Elements	a:analysis/name, a:task/name, i:modelInstance/name, m:entitySpec/name, m:modelSpec/name, m:setSpec/name

Source	`<xs:simpleType name="name">`
	  `<xs:restriction base="xs:string">`
	    `<xs:minLength value="1"/>`
	    `<xs:maxLength value="32"/>`
	  `</xs:restriction>`
	`</xs:simpleType>`
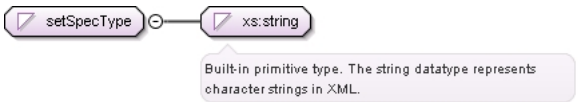
Simple Type `m:description`

Namespace	http://www.ime.iiasa.ac.at/model/spec
Diagram	
Type	restriction of xs:string

Facets	minLength	1
	maxLength	512

Used by	Elements	a:analysis/description, a:task/description, i:memberDic/description, i:modelData/description, i:modelInstance/description, m:entitySpec/description, m:modelSpec/description, m:setSpec/description

Source	`<xs:simpleType name="description">`
	  `<xs:restriction base="xs:string">`
	    `<xs:minLength value="1"/>`
	    `<xs:maxLength value="512"/>`
	  `</xs:restriction>`
	`</xs:simpleType>`

Simple Type `m:status`

Namespace	http://www.ime.iiasa.ac.at/model/spec
Diagram	
Type	restriction of xs:string

Facets	enumeration	EDIT
	enumeration	TEST
	enumeration	COMMITTED

Used by	Elements	i:modelInstance/status, m:modelSpec/status

Source	`<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>`

Simple Type `m:setSpecType`

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

Type	restriction of xs:string		
Facets	enumeration	COLLECTION	
	enumeration	SEQUENCE	
Used by	Element	m:setSpec/type	

Source	```xml
	<xs:simpleType name="setSpecType">
	  <xs:restriction base="xs:string">
	    <xs:enumeration value="COLLECTION"/>
	    <xs:enumeration value="SEQUENCE"/>
	  </xs:restriction>
	</xs:simpleType>
	``		

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	```xml
	<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>
	``		

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	``` <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> ```

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	``` <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> ```

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 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

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*
Children	constantValue, description, formula, group, id, idLowerBound, idUpperBound, iteratorContainer, mathType, name, role, shortName, source, unit
Source	(see code below)

```xml
<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>
```