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# XSD Reference For EXPRESS XML language

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## 1. Introduction


This document describes the XSD representation of EXPRESS XML language (EXPRESS XML). EXPRESS XML language enables to represent EXPRESS (ISO-10303-11) information in XML. The original DTD was defined by EuroSTEP Limited. The EXPRESS XML is used for the intermediate XML Meta Model format in the EXC (EXPRESS to XML Schema Converter).

## 2. EXPRESS XML language reference

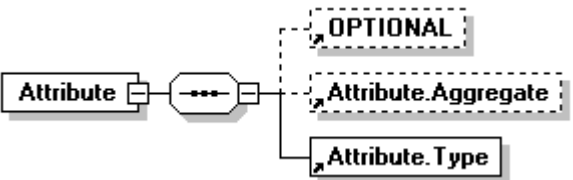
Elements

[ABSTRACT](#)  
[Attribute](#)  
[Attribute.Aggregate](#)  
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[ENTITY.Attributes](#)  
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### 2.1 element ABSTRACT

Diagram	
used by	element <a href="#">ENTITY.Supertypes</a>
source	<pre>&lt;xs:element name="ABSTRACT"&gt;   &lt;xs:complexType/&gt; &lt;/xs:element&gt;</pre>

### 2.2 element Attribute

diagram					
children	<a href="#">OPTIONAL</a> <a href="#">Attribute.Aggregate</a> <a href="#">Attribute.Type</a>				
used by	element <a href="#">ENTITY.Attributes</a>				
attributes	Name	Type	Use	Default	Fixed
	Name	xs:NMTOKEN	required		
source	<pre>&lt;xs:element name="Attribute"&gt;   &lt;xs:complexType&gt;     &lt;xs:sequence&gt;       &lt;xs:element ref="OPTIONAL" minOccurs="0"/&gt;       &lt;xs:element ref="Attribute.Aggregate" minOccurs="0"/&gt;       &lt;xs:element ref="Attribute.Type"/&gt;     &lt;/xs:sequence&gt;     &lt;xs:attribute name="Name" type="xs:NMTOKEN" use="required"/&gt;   &lt;/xs:complexType&gt; &lt;/xs:element&gt;</pre>				

## 2.3 element Attribute.Aggregate

diagram	<b>Attribute.Aggregate</b>				
used by	elements <a href="#">Attribute Inverse</a>				
attributes	Name	Type	Use	Default	Fixed
	Type	xs:NMTOKEN	required		
	Lower	xs:string	required		
	Upper	xs:string	required		
source	<pre> &lt;xs:element name="Attribute.Aggregate"&gt;   &lt;xs:complexType&gt;     &lt;xs:attribute name="Type" use="required"&gt;       &lt;xs:simpleType&gt;         &lt;xs:restriction base="xs:NMTOKEN"&gt;           &lt;xs:enumeration value="LIST"/&gt;           &lt;xs:enumeration value="SET"/&gt;         &lt;/xs:restriction&gt;       &lt;/xs:simpleType&gt;     &lt;/xs:attribute&gt;     &lt;xs:attribute name="Lower" type="xs:string" use="required"/&gt;     &lt;xs:attribute name="Upper" type="xs:string" use="required"/&gt;   &lt;/xs:complexType&gt; &lt;/xs:element&gt; </pre>				

## 2.4 element Attribute.Type

diagram	<b>Attribute.Type</b>				
used by	element <a href="#">Attribute</a>				
attributes	Name	Type	Use	Default	Fixed
	Name	xs:NMTOKEN	required		
	Width	xs:int			
	Fixed	xs:boolean			
source	<pre> &lt;xs:element name="Attribute.Type"&gt;   &lt;xs:complexType&gt;     &lt;xs:attribute name="Name" use="required"&gt;       &lt;xs:simpleType&gt;         &lt;xs:restriction base="xs:NMTOKEN"&gt;           &lt;xs:enumeration value="BOOLEAN"/&gt;           &lt;xs:enumeration value="INTEGER"/&gt;           &lt;xs:enumeration value="LOGICAL"/&gt;           &lt;xs:enumeration value="REAL"/&gt;           &lt;xs:enumeration value="STRING"/&gt;         &lt;/xs:restriction&gt;       &lt;/xs:simpleType&gt;     &lt;/xs:attribute&gt;     &lt;xs:attribute name="Width" type="xs:int"/&gt;     &lt;xs:attribute name="Fixed" type="xs:boolean"/&gt;   &lt;/xs:complexType&gt; &lt;/xs:element&gt; </pre>				

## 2.5 element Comment

diagram	<b>Comment</b>				
type	xs:string				
used by	element <a href="#">Express</a>				
source	<pre> &lt;xs:element name="Comment" type="xs:string"/&gt; </pre>				

### 2.6 element ENTITY

diagram					
children	<a href="#">ENTITY.Attributes</a> <a href="#">Inverses</a> <a href="#">ENTITY.Supertypes</a>				
used by	element	<a href="#">SCHEMA</a>			
attributes	Name	Type	Use	Default	Fixed
	Name	xs:NMTOKEN	required		
source	<pre> &lt;xs:element name="ENTITY"&gt;   &lt;xs:complexType&gt;     &lt;xs:sequence&gt;       &lt;xs:element ref="ENTITY.Attributes" minOccurs="0"/&gt;       &lt;xs:element ref="Inverses" minOccurs="0"/&gt;       &lt;xs:element ref="ENTITY.Supertypes" minOccurs="0"/&gt;       &lt;xs:element ref="ENTITY.Attributes" minOccurs="0"/&gt;       &lt;xs:element ref="Inverses" minOccurs="0"/&gt;     &lt;/xs:sequence&gt;     &lt;xs:attribute name="Name" type="xs:NMTOKEN" use="required"/&gt;   &lt;/xs:complexType&gt; &lt;/xs:element&gt; </pre>				


### 2.7 element ENTITY.Attributes

diagram					
children	<a href="#">Attribute</a>				
used by	elements	<a href="#">ENTITY</a> <a href="#">ENTITY</a>			
source	<pre> &lt;xs:element name="ENTITY.Attributes"&gt;   &lt;xs:complexType&gt;     &lt;xs:sequence&gt;       &lt;xs:element ref="Attribute" maxOccurs="unbounded"/&gt;     &lt;/xs:sequence&gt;   &lt;/xs:complexType&gt; &lt;/xs:element&gt; </pre>				

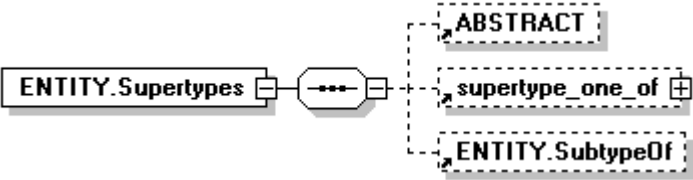
### 2.8 element ENTITY.SubtypeOf

diagram					
used by	element	<a href="#">ENTITY.Supertypes</a>			
attributes	Name	Type	Use	Default	Fixed
	Name	xs:NMTOKEN	required		
source	<pre> &lt;xs:element name="ENTITY.SubtypeOf"&gt;   &lt;xs:complexType&gt;     &lt;xs:attribute name="Name" type="xs:NMTOKEN" use="required"/&gt;   &lt;/xs:complexType&gt; &lt;/xs:element&gt; </pre>				

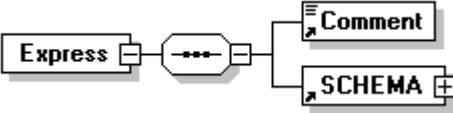
## 2.9 element ENTITY.SupertypeOf

diagram											
used by	element <a href="#">supertype_one_of</a>										
attributes	<table border="1"> <thead> <tr> <th>Name</th> <th>Type</th> <th>Use</th> <th>Default</th> <th>Fixed</th> </tr> </thead> <tbody> <tr> <td>Name</td> <td>xs:NMTOKEN</td> <td>required</td> <td></td> <td></td> </tr> </tbody> </table>	Name	Type	Use	Default	Fixed	Name	xs:NMTOKEN	required		
Name	Type	Use	Default	Fixed							
Name	xs:NMTOKEN	required									
source	<pre>&lt;xs:element name="ENTITY.SupertypeOf"&gt;   &lt;xs:complexType&gt;     &lt;xs:attribute name="Name" type="xs:NMTOKEN" use="required"/&gt;   &lt;/xs:complexType&gt; &lt;/xs:element&gt;</pre>										

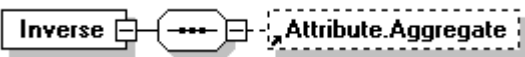
## 2.10 element ENTITY.Supertypes

diagram	
children	<a href="#">ABSTRACT</a> <a href="#">supertype_one_of</a> <a href="#">ENTITY.SubtypeOf</a>
used by	element <a href="#">ENTITY</a>
source	<pre>&lt;xs:element name="ENTITY.Supertypes"&gt;   &lt;xs:complexType&gt;     &lt;xs:sequence&gt;       &lt;xs:element ref="ABSTRACT" minOccurs="0"/&gt;       &lt;xs:element ref="supertype_one_of" minOccurs="0"/&gt;       &lt;xs:element ref="ENTITY.SubtypeOf" minOccurs="0"/&gt;     &lt;/xs:sequence&gt;   &lt;/xs:complexType&gt; &lt;/xs:element&gt;</pre>

## 2.11 element Express

diagram	
children	<a href="#">Comment</a> <a href="#">SCHEMA</a>
source	<pre>&lt;xs:element name="Express"&gt;   &lt;xs:complexType&gt;     &lt;xs:sequence&gt;       &lt;xs:element ref="Comment"/&gt;       &lt;xs:element ref="SCHEMA"/&gt;     &lt;/xs:sequence&gt;   &lt;/xs:complexType&gt; &lt;/xs:element&gt;</pre>

## 2.12 element Inverse

diagram											
children	<a href="#">Attribute.Aggregate</a>										
used by	element <a href="#">Inverses</a>										
attributes	<table border="1"> <thead> <tr> <th>Name</th> <th>Type</th> <th>Use</th> <th>Default</th> <th>Fixed</th> </tr> </thead> <tbody> <tr> <td>Name</td> <td>xs:NMTOKEN</td> <td>required</td> <td></td> <td></td> </tr> </tbody> </table>	Name	Type	Use	Default	Fixed	Name	xs:NMTOKEN	required		
Name	Type	Use	Default	Fixed							
Name	xs:NMTOKEN	required									

	Type For	xs:NMTOKEN xs:NMTOKEN	required required
source	<pre>&lt;xs:element name="Inverse"&gt;   &lt;xs:complexType&gt;     &lt;xs:sequence&gt;       &lt;xs:element ref="Attribute.Aggregate" minOccurs="0"/&gt;     &lt;/xs:sequence&gt;     &lt;xs:attribute name="Name" type="xs:NMTOKEN" use="required"/&gt;     &lt;xs:attribute name="Type" type="xs:NMTOKEN" use="required"/&gt;     &lt;xs:attribute name="For" type="xs:NMTOKEN" use="required"/&gt;   &lt;/xs:complexType&gt; &lt;/xs:element&gt;</pre>		

### 2.13 element Inverses

diagram			
children	<a href="#">Inverse</a>		
used by	elements	<a href="#">ENTITY ENTITY</a>	
source	<pre>&lt;xs:element name="Inverses"&gt;   &lt;xs:complexType&gt;     &lt;xs:sequence&gt;       &lt;xs:element ref="Inverse" maxOccurs="unbounded"/&gt;     &lt;/xs:sequence&gt;   &lt;/xs:complexType&gt; &lt;/xs:element&gt;</pre>		

### 2.14 element OPTIONAL

diagram			
used by	element	<a href="#">Attribute</a>	
source	<pre>&lt;xs:element name="OPTIONAL"&gt;   &lt;xs:complexType/&gt; &lt;/xs:element&gt;</pre>		

### 2.15 element SCHEMA

diagram			
children	<a href="#">SCHEMA.Comment</a> <a href="#">SCHEMA.Name</a> <a href="#">TYPE</a> <a href="#">ENTITY</a>		
used by	element	<a href="#">Express</a>	
source	<pre>&lt;xs:element name="SCHEMA"&gt;   &lt;xs:complexType&gt;     &lt;xs:sequence&gt;       &lt;xs:element ref="SCHEMA.Comment"/&gt;       &lt;xs:element ref="SCHEMA.Name"/&gt;       &lt;xs:element ref="TYPE" maxOccurs="unbounded"/&gt;       &lt;xs:element ref="ENTITY" maxOccurs="unbounded"/&gt;     &lt;/xs:sequence&gt;   &lt;/xs:complexType&gt; &lt;/xs:element&gt;</pre>		

	<pre>&lt;/xs:complexType&gt; &lt;/xs:element&gt;</pre>
--	--

### 2.16 element SCHEMA.Comment

diagram	
used by	element <a href="#">SCHEMA</a>
source	<pre>&lt;xs:element name="SCHEMA.Comment"&gt;   &lt;xs:complexType/&gt; &lt;/xs:element&gt;</pre>

### 2.17 element SCHEMA.Name

diagram	
type	xs:string
used by	element <a href="#">SCHEMA</a>
source	<pre>&lt;xs:element name="SCHEMA.Name" type="xs:string"/&gt;</pre>

### 2.18 element supertype\_one\_of

diagram	
children	<a href="#">ENTITY.SupertypeOf</a>
used by	element <a href="#">ENTITY.Supertypes</a>
source	<pre>&lt;xs:element name="supertype_one_of"&gt;   &lt;xs:complexType&gt;     &lt;xs:sequence&gt;       &lt;xs:element ref="ENTITY.SupertypeOf" maxOccurs="unbounded"/&gt;     &lt;/xs:sequence&gt;   &lt;/xs:complexType&gt; &lt;/xs:element&gt;</pre>

### 2.19 element TYPE

diagram																
children	<a href="#">TYPE.SelectList</a> <a href="#">TYPE.EnumList</a> <a href="#">TYPE.Aggregate</a> <a href="#">TYPE.Type</a>															
used by	element <a href="#">SCHEMA</a>															
attributes	<table border="1"> <thead> <tr> <th>Name</th> <th>Type</th> <th>Use</th> <th>Default</th> <th>Fixed</th> </tr> </thead> <tbody> <tr> <td>Name</td> <td>xs:NMTOKEN</td> <td>required</td> <td></td> <td></td> </tr> <tr> <td>Kind</td> <td>xs:NMTOKEN</td> <td>required</td> <td></td> <td></td> </tr> </tbody> </table>	Name	Type	Use	Default	Fixed	Name	xs:NMTOKEN	required			Kind	xs:NMTOKEN	required		
Name	Type	Use	Default	Fixed												
Name	xs:NMTOKEN	required														
Kind	xs:NMTOKEN	required														
source	<pre>&lt;xs:element name="TYPE"&gt;   &lt;xs:complexType&gt;     &lt;xs:sequence&gt;       &lt;xs:element ref="TYPE.SelectList" minOccurs="0"/&gt;       &lt;xs:element ref="TYPE.EnumList" minOccurs="0"/&gt;       &lt;xs:element ref="TYPE.Aggregate" minOccurs="0"/&gt;     &lt;/xs:sequence&gt;   &lt;/xs:complexType&gt; &lt;/xs:element&gt;</pre>															

	<pre> &lt;xs:element ref="TYPE.Type" minOccurs="0"/&gt; &lt;/xs:sequence&gt; &lt;xs:attribute name="Name" type="xs:NMTOKEN" use="required"/&gt; &lt;xs:attribute name="Kind" use="required"&gt;   &lt;xs:simpleType&gt;     &lt;xs:restriction base="xs:NMTOKEN"&gt;       &lt;xs:enumeration value="Defined"/&gt;       &lt;xs:enumeration value="ENUMERATION"/&gt;       &lt;xs:enumeration value="SELECT"/&gt;     &lt;/xs:restriction&gt;   &lt;/xs:simpleType&gt; &lt;/xs:attribute&gt; &lt;/xs:complexType&gt; &lt;/xs:element&gt; </pre>
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## 2.20 element TYPE.Aggregate

diagram					
used by	element <a href="#">TYPE</a>				
attributes	Name	Type	Use	Default	Fixed
	Type	xs:string	required		
	Lower	xs:byte	required		
	Upper	xs:byte	required		
source	<pre> &lt;xs:element name="TYPE.Aggregate"&gt;   &lt;xs:complexType&gt;     &lt;xs:attribute name="Type" type="xs:string" use="required"/&gt;     &lt;xs:attribute name="Lower" type="xs:byte" use="required"/&gt;     &lt;xs:attribute name="Upper" type="xs:byte" use="required"/&gt;   &lt;/xs:complexType&gt; &lt;/xs:element&gt; </pre>				

## 2.21 element TYPE.EnumItem

diagram					
type	xs:NMTOKEN				
used by	element <a href="#">TYPE.EnumList</a>				
source	<pre> &lt;xs:element name="TYPE.EnumItem" type="xs:NMTOKEN"/&gt; </pre>				

## 2.22 element TYPE.EnumList

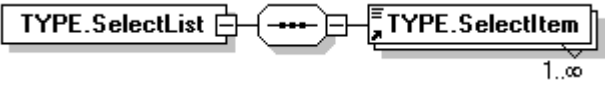
diagram					
children	<a href="#">TYPE.EnumItem</a>				
used by	element <a href="#">TYPE</a>				
source	<pre> &lt;xs:element name="TYPE.EnumList"&gt;   &lt;xs:complexType&gt;     &lt;xs:sequence&gt;       &lt;xs:element ref="TYPE.EnumItem" maxOccurs="unbounded"/&gt;     &lt;/xs:sequence&gt;   &lt;/xs:complexType&gt; &lt;/xs:element&gt; </pre>				

## 2.23 element TYPE.SelectItem


diagram					
---------	--	--	--	--	--

type	xs:NMTOKEN
used by	element <a href="#">TYPE.SelectList</a>
source	<code>&lt;xs:element name="TYPE.SelectItem" type="xs:NMTOKEN"/&gt;</code>

## 2.24 element TYPE.SelectList

diagram	
children	<a href="#">TYPE.SelectItem</a>
used by	element <a href="#">TYPE</a>
source	<code>&lt;xs:element name="TYPE.SelectList"&gt;   &lt;xs:complexType&gt;     &lt;xs:sequence&gt;       &lt;xs:element ref="TYPE.SelectItem" maxOccurs="unbounded"/&gt;     &lt;/xs:sequence&gt;   &lt;/xs:complexType&gt; &lt;/xs:element&gt;</code>

## 2.25 element TYPE.Type

diagram																					
used by	element <a href="#">TYPE</a>																				
attributes	<table border="1"> <thead> <tr> <th>Name</th> <th>Type</th> <th>Use</th> <th>Default</th> <th>Fixed</th> </tr> </thead> <tbody> <tr> <td>Name</td> <td>xs:NMTOKEN</td> <td>required</td> <td></td> <td></td> </tr> <tr> <td>Width</td> <td>xs:int</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Fixed</td> <td>xs:boolean</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Name	Type	Use	Default	Fixed	Name	xs:NMTOKEN	required			Width	xs:int				Fixed	xs:boolean			
Name	Type	Use	Default	Fixed																	
Name	xs:NMTOKEN	required																			
Width	xs:int																				
Fixed	xs:boolean																				
source	<code>&lt;xs:element name="TYPE.Type"&gt;   &lt;xs:complexType&gt;     &lt;xs:attribute name="Name" use="required"&gt;       &lt;xs:simpleType&gt;         &lt;xs:restriction base="xs:NMTOKEN"&gt;           &lt;xs:enumeration value="BINARY"/&gt;           &lt;xs:enumeration value="BOOLEAN"/&gt;           &lt;xs:enumeration value="INTEGER"/&gt;           &lt;xs:enumeration value="NUMBER"/&gt;           &lt;xs:enumeration value="REAL"/&gt;           &lt;xs:enumeration value="STRING"/&gt;         &lt;/xs:restriction&gt;       &lt;/xs:simpleType&gt;     &lt;/xs:attribute&gt;     &lt;xs:attribute name="Width" type="xs:int"/&gt;     &lt;xs:attribute name="Fixed" type="xs:boolean"/&gt;   &lt;/xs:complexType&gt; &lt;/xs:element&gt;</code>																				

### 3. XSD Source Code

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" elementFormDefault="qualified">
  <xs:element name="ABSTRACT">
    <xs:complexType/>
  </xs:element>
  <xs:element name="Attribute">
    <xs:complexType>
      <xs:sequence>
        <xs:element ref="OPTIONAL" minOccurs="0"/>
        <xs:element ref="Attribute.Aggregate" minOccurs="0"/>
        <xs:element ref="Attribute.Type"/>
      </xs:sequence>
      <xs:attribute name="Name" type="xs:NMTOKEN" use="required"/>
    </xs:complexType>
  </xs:element>
  <xs:element name="Attribute.Aggregate">
    <xs:complexType>
      <xs:attribute name="Type" use="required">
        <xs:simpleType>
          <xs:restriction base="xs:NMTOKEN">
            <xs:enumeration value="LIST"/>
            <xs:enumeration value="SET"/>
          </xs:restriction>
        </xs:simpleType>
      </xs:attribute>
      <xs:attribute name="Lower" type="xs:string" use="required"/>
      <xs:attribute name="Upper" type="xs:string" use="required"/>
    </xs:complexType>
  </xs:element>
  <xs:element name="Attribute.Type">
    <xs:complexType>
      <xs:attribute name="Name" use="required">
        <xs:simpleType>
          <xs:restriction base="xs:NMTOKEN">
            <xs:enumeration value="BOOLEAN"/>
            <xs:enumeration value="INTEGER"/>
            <xs:enumeration value="LOGICAL"/>
            <xs:enumeration value="REAL"/>
            <xs:enumeration value="STRING"/>
          </xs:restriction>
        </xs:simpleType>
      </xs:attribute>
      <xs:attribute name="Width" type="xs:int"/>
      <xs:attribute name="Fixed" type="xs:boolean"/>
    </xs:complexType>
  </xs:element>
  <xs:element name="Comment" type="xs:string"/>
  <xs:element name="ENTITY">
    <xs:complexType>
      <xs:sequence>
        <xs:element ref="ENTITY.Attributes" minOccurs="0"/>
        <xs:element ref="Inverses" minOccurs="0"/>
        <xs:element ref="ENTITY.Supertypes" minOccurs="0"/>
        <xs:element ref="ENTITY.Attributes" minOccurs="0"/>
        <xs:element ref="Inverses" minOccurs="0"/>
      </xs:sequence>
      <xs:attribute name="Name" type="xs:NMTOKEN" use="required"/>
    </xs:complexType>
  </xs:element>
  <xs:element name="ENTITY.Attributes">
    <xs:complexType>
      <xs:sequence>
        <xs:element ref="Attribute" maxOccurs="unbounded"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>

```

```

<xs:element name="ENTITY.SubtypeOf">
  <xs:complexType>
    <xs:attribute name="Name" type="xs:NMTOKEN" use="required"/>
  </xs:complexType>
</xs:element>
<xs:element name="ENTITY.SupertypeOf">
  <xs:complexType>
    <xs:attribute name="Name" type="xs:NMTOKEN" use="required"/>
  </xs:complexType>
</xs:element>
<xs:element name="ENTITY.Supertypes">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="ABSTRACT" minOccurs="0"/>
      <xs:element ref="supertype_one_of" minOccurs="0"/>
      <xs:element ref="ENTITY.SubtypeOf" minOccurs="0"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:element name="Express">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="Comment"/>
      <xs:element ref="SCHEMA"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:element name="Inverse">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="Attribute.Aggregate" minOccurs="0"/>
    </xs:sequence>
    <xs:attribute name="Name" type="xs:NMTOKEN" use="required"/>
    <xs:attribute name="Type" type="xs:NMTOKEN" use="required"/>
    <xs:attribute name="For" type="xs:NMTOKEN" use="required"/>
  </xs:complexType>
</xs:element>
<xs:element name="Inverses">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="Inverse" maxOccurs="unbounded"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:element name="OPTIONAL">
  <xs:complexType/>
</xs:element>
<xs:element name="SCHEMA">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="SCHEMA.Comment"/>
      <xs:element ref="SCHEMA.Name"/>
      <xs:element ref="TYPE" maxOccurs="unbounded"/>
      <xs:element ref="ENTITY" maxOccurs="unbounded"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:element name="SCHEMA.Comment">
  <xs:complexType/>
</xs:element>
<xs:element name="SCHEMA.Name" type="xs:string"/>
<xs:element name="TYPE">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="TYPE.SelectList" minOccurs="0"/>
      <xs:element ref="TYPE.EnumList" minOccurs="0"/>
      <xs:element ref="TYPE.Aggregate" minOccurs="0"/>
      <xs:element ref="TYPE.Type" minOccurs="0"/>
    </xs:sequence>
    <xs:attribute name="Name" type="xs:NMTOKEN" use="required"/>
    <xs:attribute name="Kind" use="required">
      <xs:simpleType>
        <xs:restriction base="xs:NMTOKEN">

```

```

        <xs:enumeration value="Defined"/>
        <xs:enumeration value="ENUMERATION"/>
        <xs:enumeration value="SELECT"/>
    </xs:restriction>
</xs:simpleType>
</xs:attribute>
</xs:complexType>
</xs:element>
<xs:element name="TYPE.Aggregate">
    <xs:complexType>
        <xs:attribute name="Type" type="xs:string" use="required"/>
        <xs:attribute name="Lower" type="xs:byte" use="required"/>
        <xs:attribute name="Upper" type="xs:byte" use="required"/>
    </xs:complexType>
</xs:element>
<xs:element name="TYPE.EnumItem" type="xs:NMTOKEN"/>
<xs:element name="TYPE.EnumList">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="TYPE.EnumItem" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="TYPE.SelectItem" type="xs:NMTOKEN"/>
<xs:element name="TYPE.SelectList">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="TYPE.SelectItem" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
<xs:element name="TYPE.Type">
    <xs:complexType>
        <xs:attribute name="Name" use="required">
            <xs:simpleType>
                <xs:restriction base="xs:NMTOKEN">
                    <xs:enumeration value="BINARY"/>
                    <xs:enumeration value="BOOLEAN"/>
                    <xs:enumeration value="INTEGER"/>
                    <xs:enumeration value="NUMBER"/>
                    <xs:enumeration value="REAL"/>
                    <xs:enumeration value="STRING"/>
                </xs:restriction>
            </xs:simpleType>
        </xs:attribute>
        <xs:attribute name="Width" type="xs:int"/>
        <xs:attribute name="Fixed" type="xs:boolean"/>
    </xs:complexType>
</xs:element>
<xs:element name="supertype_one_of">
    <xs:complexType>
        <xs:sequence>
            <xs:element ref="ENTITY.SupertypeOf" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>
</xs:element>
</xs:schema>

```

## 4. References

- 1) VTT-TEC-ADA-02: Overview of Meta Model Definition in XML for EXPRESS Representation, Yoshinobu Adachi, IFC Model Server Project, VTT  
URL: <http://cic.vtt.fi/projects/ifcsvr/tec/VTT-TEC-ADA-02.pdf>
- 2) VTT-TEC-ADA-03: DTD Specification of Intermediate XML Meta Model, Yoshinobu Adachi, IFC Model Server Project, VTT  
URL: <http://cic.vtt.fi/projects/ifcsvr/tec/VTT-TEC-ADA-03.pdf>
- 3) EXPRESS to XML mapping, EuroSTEP  
URL: <http://www.eurostep.com>