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TECHNICAL CORRIGENDUM 1

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Information technology — Multimedia content description interface —

Part 5: Multimedia description schemes

TECHNICAL CORRIGENDUM 1

Technologies de l'information — Interface de description du contenu multimédia —

Partie 5: Schémas de description multimédia

RECTIFICATIF TECHNIQUE 1

Technical Corrigendum 1 to ISO/IEC 15938-5:2003 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture*, *multimedia and hypermedia information*.

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Replace the text of 4.3 with:

4.3 Root element

4.3.1 Introduction

This subclause specifies the root type and the root element. The root element shall be used as the topmost element in a description. The root type provides metadata about the description as well as information that is

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common to the description, such as the language of the text and the convention for specifying time. The root element provides a choice of elements for creating either a complete description or a description unit, which are defined as follows:

- **Complete Description**: describes multimedia content using the top-level types. For example, the description of an image is a complete description.
- **Description Unit**: describes an instance of a D, DS, or header. A description unit can be used to represent partial information from a complete description. For example, the description of a shape or color is a description unit.

Root element syntax

```
<!-- ################################################ -->
<!--  Definition of MPEG-7 root element (4.3)         -->
<!-- ################################################ -->
<!-- Definition of Mpeg7 Type-->
<complexType name="Mpeg7Type" abstract="true">
      <sequence>
            <element                                    name="DescriptionProfile"
type="mpeg7:DescriptionProfileType"
                  minOccurs="0"/>
            <element                                   name="DescriptionMetadata"
type="mpeg7:DescriptionMetadataType"
                  minOccurs="0"/>
      </sequence>
      <attribute ref="xml:lang" use="optional"/>
      <attributeGroup ref="mpeg7:timePropertyGrp"/>
      <attributeGroup ref="mpeg7:mediaTimePropertyGrp"/>
</complexType>

<!-- Definition of DescriptionProfileType -->
<complexType name="DescriptionProfileType">
    <attribute name="profileAndLevelIndication" use="required">
        <simpleType>
            <list itemType="anyURI"/>
        </simpleType>
    </attribute>
</complexType>

<!-- Definition of Mpeg7 Element -->
<element name="Mpeg7">
      <complexType>
            <complexContent>
                  <extension base="mpeg7:Mpeg7Type">
                        <choice>
                              <element                      name="DescriptionUnit"
type="mpeg7:Mpeg7BaseType"/>
                              <element                          name="Description"
type="mpeg7:CompleteDescriptionType"
                                    minOccurs="1" maxOccurs="unbounded"/>
                        </choice>
                  </extension>
            </complexContent>
      </complexType>
</element>
```


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Root element semantics

Semantics of the `Mpeg7Type`:

Name	*Definition*
`Mpeg7Type`	The type of the root element.
`DescriptionProfile`	Identifies set(s) of constraints or rules that the description syntax and semantics conform to (optional). Includes an indicator of the profile and level to which the description conforms. The absence of this (optional) element indicates that the description may contain instantiations of any description tool specified in Parts 2, 3, 4 and 5 of ISO/IEC 15938, without constraint. In particular, the absence of this element indicates that the description does not necessarily conform to any profile and level specified in ISO/IEC 15938.
`DescriptionMetadata`	Describes the metadata for the descriptions contained within the instance of the root type (optional). The description metadata applies to the elements contained within the instance of the root element unless new description metadata is described for those elements. `DescriptionMetadataType` is defined in 4.5.3.
`xml:lang`	Identifies the language of the textual content in the description (optional). If not specified, the language is unknown. `xml:lang` is defined in (XML).
`timePropertyGrp`	Describes the properties of a time line associated with AV content (optional). `timePropertyGrp` is defined in 6.4.8.
`mediaTimePropertyGrp`	Describes the properties of a time line associated with AV media (optional). `mediaTimePropertyGrp` is defined in 6.4.16.

Semantics of DescriptionProfileType:

Name	*Definition*
`DescriptionProfileType`	Identifies set(s) of constraints or rules that the description syntax and semantics conform to (optional). Includes an indicator of the profile and level to which the description conforms.
`profileAndLevelIndication`	Indicates the profile and level to which the description conforms. Profiles and levels are defined subsets of the syntax and semantics specified in ISO/IEC 15938. The values of this attribute, and the corresponding profiles and levels, are specified in Part 9 of ISO/IEC 15938.

Semantics of the `Mpeg7` root element:

Name	*Definition*
`Mpeg7`	Serves as the root element of the description. `Mpeg7` shall be used as the topmost element in a description.
`DescriptionUnit`	Describes an instance of one of a D, DS, or header (optional). A description unit can be used to represent partial information from a complete description. For example, `DescriptionUnit` can be used to describe a shape using the `RegionShape D` (defined in ISO/IEC 15938-3).
`Description`	Describes multimedia content using the top-level types (optional). For example, `Description` can be used to describe an image using `ContentEntityType`, where `MultimediaContent` is of type `ImageType`.

Root element examples (informative)

The following example shows the use of the root element for describing an instance of the `ScalableColor D` (defined in ISO/IEC 15398-3) using `DescriptionUnit`.

```
<Mpeg7>
      <DescriptionMetadata>
            <Version>1.0</Version>
```

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```
            <PrivateIdentifier>descriptionUnitExample</PrivateIdentifier>
      </DescriptionMetadata>
      <DescriptionUnit xsi:type="ScalableColorType" numOfCoeff="16"
            numOfBitplanesDiscarded="0">
            <Coeff> 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 </Coeff>
      </DescriptionUnit>
</Mpeg7>
```

The following example shows the use of root element for describing an image using `Description`.

```
<Mpeg7>
      <DescriptionMetadata>
            <Confidence>1.0</Confidence>
            <Version>1.1</Version>
            <LastUpdate>2001-09-20T03:20:25+09:00</LastUpdate>
            <PublicIdentifier type="UUID">
                  098f2470-bae0-11cd-b579-08002b30bfeb
            </PublicIdentifier>
            <PrivateIdentifier>completeDescriptionExample</PrivateIdentifier>
            <Creator>
                  <Role href="creatorCS"><Name>Creator</Name></Role>
                  <Agent xsi:type="PersonType">
                        <Name>
                              <GivenName>Yoshiaki</GivenName>
                              <FamilyName>Shibata</FamilyName>
                        </Name>
                  </Agent>
            </Creator>
            <CreationLocation>
                  <Region>jp</Region>
                  <AdministrativeUnit>Tokyo</AdministrativeUnit>
            </CreationLocation>
            <CreationTime>2000-10-10T19:45:00+09:00</CreationTime>
            <Instrument>
                  <Tool>
                        <Name>Wizzo Extracto ver. 2</Name>
                  </Tool>
                  <Setting name="sensitivity" value="0.5"/>
            </Instrument>
            <Rights>
                  <RightsID>RID#</RightsID>
            </Rights>
      </DescriptionMetadata>
      <Description xsi:type="ContentEntityType">
            <MultimediaContent xsi:type="ImageType">
                  <Image>
                        <!-- more elements here -->
                  </Image>
            </MultimediaContent>
      </Description>
</Mpeg7>
```


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The following example shows the use of root element for signalling that the description conforms to two different levels within a UDP profile.

```
<Mpeg7>
      <DescriptionProfile
     profileAndLevelIndication="urn:mpeg:mpeg7:profiles:2003:UDP-L1
     urn:mpeg:mpeg7:profiles:2003:UDP-L2"/>
      <Description xsi:type="UserDescriptionType">
            <User xsi:type="PersonType">
                  <Name>
                        <GivenName> John </GivenName>
                        <FamilyName> Johnson </FamilyName>
                  </Name>
            </User>
      </Description>
</Mpeg7>
```

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Replace the following text from 7.3.6.2:

```
<!-- Definition of DependencyStructurePhrase datatype -->
<complexType name="DependencyStructurePhraseType">
      <sequence>
            <choice minOccurs="0" maxOccurs="unbounded">
                  <element name="Quotation"
type="mpeg7:DependencyStructurePhraseType"/>
                  <element name="Phrase"
type="mpeg7:DependencyStructurePhraseType"/>
            </choice>
            <choice>
                  <element name="Head" type="mpeg7:WordFormType"/>
                  <element name="CompoundHead"
                        type="mpeg7:NonDependencyStructurePhraseType"/>
            </choice>
            <choice minOccurs="0" maxOccurs="unbounded">
                  <element name="Quotation"
type="mpeg7:DependencyStructurePhraseType"/>
                  <element name="Phrase"
type="mpeg7:DependencyStructurePhraseType"/>
            </choice>
      </sequence>
      <attribute name="id" type="ID" use="optional"/>
      <attribute name="equal" type="IDREF" use="optional"/>
      <attribute name="operator" use="optional">
            <simpleType>
                  <union memberTypes="mpeg7:dependencyOperatorType
mpeg7:termReferenceType"/>
            </simpleType>
      </attribute>
      <attribute name="functionWord" type="string" use="optional"/>
      <attribute name="synthesis" type="NMTOKEN" use="optional"
fixed="dependency"/>
</complexType>
```

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with:

```
<!-- Definition of DependencyStructurePhrase datatype -->
<complexType name="DependencyStructurePhraseType">
      <sequence>
            <choice minOccurs="0" maxOccurs="unbounded">
                  <element name="Quotation"
type="mpeg7:DependencyStructurePhraseType"/>
                  <element name="Phrase"
type="mpeg7:DependencyStructurePhraseType"/>
            </choice>
            <choice>
                  <element name="Head" type="mpeg7:WordFormType"/>
                  <element name="CompoundHead"
                        type="mpeg7:NonDependencyStructurePhraseType"/>
            </choice>
            <choice minOccurs="0" maxOccurs="unbounded">
                  <element name="Quotation"
type="mpeg7:DependencyStructurePhraseType"/>
                  <element name="Phrase"
type="mpeg7:DependencyStructurePhraseType"/>
            </choice>
      </sequence>
      <attribute name="id" type="ID" use="optional"/>
      <attribute name="equal" type="IDREF" use="optional"/>
      <attribute name="operator" use="optional">
            <simpleType>
                  <union memberTypes="mpeg7:dependencyOperatorType
mpeg7:termAliasReferenceType mpeg7:termURIReferenceType"/>
            </simpleType>
      </attribute>
      <attribute name="functionWord" type="string" use="optional"/>
      <attribute name="synthesis" type="NMTOKEN" use="optional"
fixed="dependency"/>
</complexType>
```

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Replace 7.4.6.2 and 7.4.6.3 with:

7.4.6.2 termReference datatype syntax

```
      <!-- ################################################ -->
      <!--  Definition of termReferenceType datatype (7.4.6)  -->
      <!-- ################################################ -->
      <!-- Definition of termReference datatype  -->
      <simpleType name="termReferenceType">
            <union>
                  <simpleType>
                        <restriction base="mpeg7:termAliasReferenceType" />
                  </simpleType>
                  <simpleType>
                        <restriction base="mpeg7:termURIReferenceType" />
                  </simpleType>
```


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```
            </union>
      </simpleType>
      <simpleType name="termAliasReferenceType">
            <restriction base="NMTOKEN">
                  <whiteSpace value="collapse" />
                  <pattern value=":[^:]+:[^:]+" />
            </restriction>
      </simpleType>
      <simpleType name="termURIReferenceType">
            <restriction base="anyURI" />
      </simpleType>
```

7.4.6.3 termReference datatype semantics

Semantics of the `termReferenceType`:

Name	*Definition*
`termReferenceType`	Describes a reference to a term. The `termReferenceType` supports two forms for referencing terms: "aliased term references" (`termAliasReferenceType`) and URIs (`termURIReferenceType`). Whether a `termReference` is determined an alias or URI is determined by whether it satisifies the regular expression given in the pattern facet above. Aliased term references are used to reference terms in classification schemes that have been assigned an alias using a `ClassificationSchemeAlias`. These references have the lexical form "`:aliasname:termid`". Note: this form is not a valid URI, which allows the use of aliases to be syntactically distinguished from a full URI. An alias must be resolved to a classification scheme alias and converted into a URI for the term reference as follows: • Resolve alias. When a term reference is an alias, a corresponding instance of `ClassificationSchemeAlias` having a value of its `alias` attribute exactly equal to that specified in the `termReference` shall exist in the description. The alias is said to be *resolved* to that `ClassificationSchemeAlias` instance. • Compute URI. The value of the `termReference` URI is defined to be the value of the `href` attribute of the resolved `ClassificationSchemeAlias` instance concatenated with the string "`:termid`" from the `termReferenceValue`. • The aliased `termReference` is then treated as if the URI obtained in the previous step had been used as the value of the `termReference`. If the `termReference's` value is a URI, then it shall be a syntactically valid URI.
`termAliasReferenceType`	Describes an alias referenced term.
`termURIReferenceType`	Describes a URI referenced term.

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Replace the following text from 11.2.2.2:

```
<!-- ################################### -->
<!--  Definition of Segment DS (11.2.2)  -->
<!-- ################################### -->

<!-- Definition of Segment DS -->
<complexType name="SegmentType" abstract="true">
      <complexContent>
            <extension base="mpeg7:DSType">
                  <sequence>
                        <choice minOccurs="0">
                              <element name="MediaInformation"
type="mpeg7:MediaInformationType"/>
                              <element name="MediaInformationRef"
type="mpeg7:ReferenceType"/>
                              <element name="MediaLocator"
type="mpeg7:MediaLocatorType"/>
                        </choice>
                        <element name="StructuralUnit"
type="mpeg7:ControlledTermUseType"
                                          minOccurs="0"/>
                        <choice minOccurs="0">
                              <element name="CreationInformation"
                                    type="mpeg7:CreationInformationType"/>
                              <element name="CreationInformationRef"
type="mpeg7:ReferenceType"/>
                        </choice>
                        <choice minOccurs="0">
                              <element name="UsageInformation"
type="mpeg7:UsageInformationType"/>
                              <element name="UsageInformationRef"
type="mpeg7:ReferenceType"/>
                        </choice>
                        <element name="TextAnnotation" minOccurs="0"
maxOccurs="unbounded">
                              <complexType>
                                    <complexContent>
                                          <extension
base="mpeg7:TextAnnotationType">
                                                <attribute name="type"
use="optional">
                                                      <simpleType>
                                                            <union memberTypes=

      "mpeg7:termReferenceType string"/>
                                                      </simpleType>
                                                </attribute>
                                          </extension>
                                    </complexContent>
                              </complexType>
                        </element>
                        <choice minOccurs="0" maxOccurs="unbounded">
```

--`,,```,,,,````-`-`,,`,,`,`,,`---

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```
                              <element name="Semantic"
type="mpeg7:SemanticType"/>
                              <element name="SemanticRef"
type="mpeg7:ReferenceType"/>
                        </choice>
                        <element name="MatchingHint"
type="mpeg7:MatchingHintType"
                                          minOccurs="0" maxOccurs="unbounded"/>
                        <element name="PointOfView" type="mpeg7:PointOfViewType"
                                          minOccurs="0" maxOccurs="unbounded"/>
                        <element name="Relation" type="mpeg7:RelationType"
                                          minOccurs="0" maxOccurs="unbounded"/>
                  </sequence>
            </extension>
      </complexContent>
</complexType>
```

with:

```
<!-- ################################### -->
<!--  Definition of Segment DS (11.2.2)  -->
<!-- ################################### -->

<!-- Definition of Segment DS -->
<complexType name="SegmentType" abstract="true">
      <complexContent>
            <extension base="mpeg7:DSType">
                  <sequence>
                        <choice minOccurs="0">
                              <element name="MediaInformation"
type="mpeg7:MediaInformationType"/>
                              <element name="MediaInformationRef"
type="mpeg7:ReferenceType"/>
                              <element name="MediaLocator"
type="mpeg7:MediaLocatorType"/>
                        </choice>
                        <element name="StructuralUnit"
type="mpeg7:ControlledTermUseType"
                                          minOccurs="0"/>
                        <choice minOccurs="0">
                              <element name="CreationInformation"
                                    type="mpeg7:CreationInformationType"/>
                              <element name="CreationInformationRef"
type="mpeg7:ReferenceType"/>
                        </choice>
                        <choice minOccurs="0">
                              <element name="UsageInformation"
type="mpeg7:UsageInformationType"/>
                              <element name="UsageInformationRef"
type="mpeg7:ReferenceType"/>
                        </choice>
                        <element name="TextAnnotation" minOccurs="0"
maxOccurs="unbounded">
                              <complexType>
                                    <complexContent>
```

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```
                                          <extension
base="mpeg7:TextAnnotationType">
                                                <attribute name="type"
use="optional">
                                                      <simpleType>
                                                            <union
memberTypes="mpeg7:termAliasReferenceType

      mpeg7:termURIReferenceType string" />
                                                      </simpleType>
                                                </attribute>
                                          </extension>
                                    </complexContent>
                              </complexType>
                        </element>
                        <choice minOccurs="0" maxOccurs="unbounded">
                              <element name="Semantic"
type="mpeg7:SemanticType"/>
                              <element name="SemanticRef"
type="mpeg7:ReferenceType"/>
                        </choice>
                        <element name="MatchingHint"
type="mpeg7:MatchingHintType"
                                          minOccurs="0" maxOccurs="unbounded"/>
                        <element name="PointOfView" type="mpeg7:PointOfViewType"
                                          minOccurs="0" maxOccurs="unbounded"/>
                        <element name="Relation" type="mpeg7:RelationType"
                                          minOccurs="0" maxOccurs="unbounded"/>
                  </sequence>
            </extension>
      </complexContent>
</complexType>
```

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Replace the following text from 14.4.5.2:

```
<!-- Definition of GaussianMixtureModel DS -->
<complexType name="GaussianMixtureModelType">
      <complexContent>
            <extension base="mpeg7:ContinuousDistributionType">
                  <sequence maxOccurs="1" maxOccurs="unbounded">
                        <element name="Weight" type="mpeg7:nonNegativeReal"/>
                        <element name="GaussianDistribution"
                              type="mpeg7:GaussianDistributionType"/>
                  </sequence>
            </extension>
      </complexContent>
</complexType>
```


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with:

```
<!-- Definition of GaussianMixtureModel DS -->
<complexType name="GaussianMixtureModelType">
      <complexContent>
            <extension base="mpeg7:ContinuousDistributionType">
                  <sequence minOccurs="1" maxOccurs="unbounded">
                        <element name="Weight" type="mpeg7:nonNegativeReal"/>
                        <element name="GaussianDistribution"
                              type="mpeg7:GaussianDistributionType"/>
                  </sequence>
            </extension>
      </complexContent>
</complexType>
```

Various places throughout the document

Replace all instances of the following text in ISO/IEC 15938-5:

```
<simpleType>
      <restriction base="mpeg7:termReferenceType" />
</simpleType>
```

with:

```
<simpleType>
      <restriction base="mpeg7:termAliasReferenceType" />
</simpleType>
<simpleType>
      <restriction base="mpeg7:termURIReferenceType" />
</simpleType>
```

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