
1 Restrictions and Facets for leaf elements

1.1 Introduction

The following rules have been defined for the handling of restrictions and facets for Core Component Types (CCT), Basic Core Components (BCCs) and Basic Business Information Entities (BBIEs). Basic Core Components and Basic Business Information Entities are leaf elements.

1.2 Rules

[R 1] A Core Component Type without any restriction of the Content Component *must* be defined by a complexType. This complexType includes a simpleContent group with an extension for all relevant global and local attributes (Supplementary Components) of this Core Component Type. The base type definition of this extension *must* be based on one of the decided built-in datatypes (see section Core Components).

For Example:

```
<xsd:complexType name="AmountType">
  <xsd:simpleContent>
    <xsd:extension base="xsd:decimal">
      <xsd:attribute name="currencyId" type="xsd:token"
        use="required"/>
      <xsd:attributeGroup ref="cct:commonAttributes"/>
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>
```

[R 2] If the Content Component of a Core Component Type is restricted by any kind of facet, this Content Component *must* be a restriction of a simpleType. The name of the simpleType *must* end with the suffix "Content".

For Example:

```
<xsd:simpleType name="AmountContent">
  <xsd:restriction base="xsd:decimal">
    <xsd:fractionDigits value="14"/>
    <xsd:totalDigits value="31"/>
  </xsd:restriction>
</xsd:simpleType>
```

[R 3] The Core Component Type with the restricted Content Component *must* refer to the relevant named simpleType.

For Example:

```
<xsd:complexType name="AmountType">
  <xsd:simpleContent>
    <xsd:extension base="cct:AmountContent">
      <xsd:attribute name="currencyId" type="xsd:token"
        use="required"/>
      <xsd:attributeGroup ref="cct:commonAttributes"/>
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>
```

[R 4] A restricted Supplementary Component (local attribute) within a Core Component Type must have a restriction of its simpleType. The base type definition of the restriction *must* refer

to one of the decided built-in datatypes (see section Core Components). The restriction itself *should* have all relevant facets (see section Core Components)

For Example:

```
<xsd:complexType name="AmountType">
  <xsd:simpleContent>
    <xsd:extension base="cct:AmountContent">
      <xsd:attribute name="currencyId" use="required">
        <xsd:simpleType>
          <xsd:restriction base="xsd:token">
            <xsd:length value="3"/>
          </xsd:restriction>
        </xsd:simpleType>
      </xsd:attribute>
      <xsd:attributeGroup ref="cct:commonAttributes"/>
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>
```

[R 5] A complexType of a Basic Core Component as well as Basic Business Information Entity without any additional restrictions *must* be an extension of a simpleContent. The base type definition of the extension must refer to the complexType of the relevant Core Component Type.

For Example:

```
<xsd:complexType name="TaxAmountType">
  <xsd:simpleContent>
    <xsd:extension base="cct:AmountType"/>
  </xsd:simpleContent>
</xsd:complexType>
```

[R 6] A complexType of a Basic Core Component as well as Basic Business Information Entity with any additional restrictions *must* be a restriction of a simpleContent. The base type definition of the restriction *must* refer to the complexType of the relevant Core Component Type. The element group of the restriction includes all required facets.

For Example:

```
<xsd:complexType name="PriceAmountType">
  <xsd:simpleContent>
    <xsd:restriction base="cct:AmountType">
      <xsd:minInclusive value="10.00"/>
      <xsd:maxInclusive value="1000.00"/>
    </xsd:restriction>
  </xsd:simpleContent>
</xsd:complexType>
```

[R 7] If a global attribute or a Supplementary Component (local attribute) should be restricted within a Basic Core Component as well as a Basic Business Information Entity, there *must* be a restriction of a simpleContent. The base type definition of the restriction *must* refer to the complexType of the relevant Core Component Type. This restriction includes the attribute or attributes, which should be restricted. The simpleType of each attribute *must* be a restriction, again. This restriction includes all relevant facets. See section Core Components.

For Example:

```
<xsd:complexType name="DiscountAmountType">
  <xsd:simpleContent>
    <xsd:restriction base="cct:AmountType">
      <xsd:attribute name="currencyId">
        <xsd:simpleType>
          <xsd:restriction
            base="xsd:token">
            <xsd:enumeration
```

```

value="EUR"/>
<xsd:enumeration
value="GBP"/>
<xsd:enumeration
value="USD"/>
</xsd:restriction>
</xsd:simpleType>
</xsd:attribute>
</xsd:restriction>
</xsd:simpleContent>
</xsd:complexType>

```

[R 8] If a Basic Core Component as well as a Basic Business Information Entity has one or more restricted Supplementary Components (local attributes) and a restricted Content Component, the simpleContent of the complexType *must* be a restriction. This base type definition of the restriction *must* refer to the complexType of the relevant Core Component Type. This restriction *must* include all facets and restricted attributes. The simpleType of each attribute *must* be a restriction, too. This restriction should have all relevant facets of each restricted attribute.

For Example:

```

<xsd:complexType name="ProfitAmountType">
  <xsd:simpleContent>
    <xsd:restriction base="cct:AmountType">
      <xsd:minInclusive value="10.00"/>
      <xsd:maxInclusive value="1000.00"/>
      <xsd:attribute name="currencyId">
        <xsd:simpleType>
          <xsd:restriction base="xsd:token">
            <xsd:enumeration
              value="EUR"/>
          </xsd:restriction>
        </xsd:simpleType>
      </xsd:attribute>
    </xsd:restriction>
  </xsd:simpleContent>
</xsd:complexType>

```

2 Rules for Context

For an overview of current thinking on Context Rules, consult the Specialization Architecture position paper from the Context Methodology Subcommittee.