



# Position Paper: Facets for Content Components

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**Abstract:**

This position paper outlines the using for .

**Status:**

This is V01 of the facets position paper intended for consideration by the OASIS UBL Naming and Design Rules subcommittee and other interested parties.

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# 1 Summary

The using of facets for each component content type is necessary. It will be helpful for defining system restrictions or user specific restrictions respectively. As well as it will be useful, if some basic core components as well as basic business information entities might be have some specific restrictions for value space or lexical space respectively, like narrowed ranges or reduced alternatives.

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# 2 Problem Description

According the w3c schema specification it is necessary to use a `<simpleContent>` for describing a leaf-element which includes some attributes. When the `<simpleContent>` is chosen, the elements `<restriction>` or `<extension>` must be chosen as the content of `<simpleContent>`.

If the specific basic core component includes one or more attributes, the the use of element `<extension>` for defining the attributes (like following example) is possible only. Since, as facets are restrictions only, it isn't possible restrict the element value by any facets in the existing construct of `<simpleContent>` additionally.

Example:

```
<xsd:complexType name="Amount" id="000105">
  <xsd:simpleContent>
    <xsd:extension base="xsd:decimal">
      <xsd:attribute name="currencyId" use="required" id="000107">
        <xsd:simpleType>
          <xsd:restriction base="token">
            <xsd:length value="3"/>
          </xsd:restriction>
        </xsd:simpleType>
      </xsd:attribute>
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>
```

If the content of the specific core component restricted by any facets, the element `<restriction>` must be chosen inside of `<simpleContent>` (like following example). It is not possible to define any attributes inside of that construct.

Example:

```
<complexType name="Amount">
  <simpleContent>
    <restriction base="xsd:decimal">
      <totalDigits value="31"/>
      <fractionDigits value="14"/>
    </restriction>
  </simpleContent>
</complexType>
```

Any combination of `<restriction>` and `<extension>` inside of `<simpleContent>` is not allowed.

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## 3 Options

There are the following options possible:

### 3.1 Option 1: simpleType with facets and complexType with attributes

Every basic core component as well as basic business information entities which includes some content components needs to user defined types. The first user defined type defines the content component, like "AmountContent". This content component type can have some restrictions for defining any facets.

Example:

```
<xsd:simpleType name="AmountContent" id="000106">
  <xsd:restriction base="decimal">
    <xsd:totalDigits value="31"/>
  </xsd:restriction>
</xsd:simpleType>
```

The user defined <complexType> refers to the appropriate <simpleContent> inside of the element <extension>. This <extension> includes all the specific attributes for that core component.

Example:

```
<xsd:complexType name="Amount" id="000105">
  <xsd:simpleContent>
    <xsd:extension base="A">
      <xsd:attribute name="currencyId" use="required" id="000107">
        <xsd:simpleType>
          <xsd:restriction base="token">
            <xsd:length value="3"/>
          </xsd:restriction>
        </xsd:simpleType>
      </xsd:attribute>
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>
```

#### 3.1.1 Advantage

Every basic core component as well as basic business information entity can have both: attributes and specific restrictions for content component.

#### 3.1.2 Disadvantage

It is necessary to define for all basic core component as well as basic business information entity, which have content components and attributes two types: a <simpleType> for the content component and the <complexType> for the core component itself with all attributes included.

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## 4 Recommendation

I have to collect some more options.

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## Appendix A. Notices

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